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National Solar Radiation Database 1991–2010 Update: User's Manual

Stephen Wilcox

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

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August 2012

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Stephen Wilcox

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Preface

The 1991–2010 National Solar Radiation Database was produced by the National Renewable Energy Laboratory under the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy in collaboration with these partners:

- Atmospheric Sciences Research Center, State University of New York at Albany
- Climate Systems Branch, National Aeronautics and Space Administration
- Clean Power Research
- National Climatic Data Center, U.S. Department of Commerce
- Northeast Regional Climate Center, Cornell University
- Solar Consulting Services, Colebrook, New Hampshire
- Solar Radiation Monitoring Laboratory, University of Oregon.

Most of the modeled solar radiation data were generously provided by Clean Power Research under special arrangement with the National Renewable Energy Laboratory. This arrangement allows release of their satellite-modeled SolarAnywhere® data product (version 2.2) for public use as part of the National Solar Radiation Database. The SolarAnywhere® data set is produced using an updated model from the State University of New York at Albany.

All meteorological data were provided by the National Climatic Data Center from its Integrated Surface Database. This work would not have been possible without this extraordinary data set and frequent assistance from experts at the National Climatic Data Center.

The measured solar radiation data came from:

- Atmospheric Radiation Measurement Program, Department of Energy
- Florida Solar Energy Center, State of Florida
- Integrated Surface Irradiance Study and Surface Radiation Budget Measurement Networks, National Oceanic and Atmospheric Administration Air Resources Laboratory and Earth System Research Laboratory Global Monitoring Division
- Measurement and Instrumentation Data Center, National Renewable Energy Laboratory
- University of Oregon Solar Radiation Monitoring Laboratory Network
- University of Texas Solar Energy Laboratory.

We gratefully acknowledge these organizations and the many individuals involved in the collection and maintenance of these valuable solar data sets. Their dedication and efforts go far beyond description in the short space available here.

We also acknowledge the extensive work and vision of Gene Maxwell, who headed the National Renewable Energy Laboratory project to create the original 1961–1990 National Solar Radiation Database.

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Acronyms

AOD	aerosol optical depth
ARM	Atmospheric Radiation Measurement
ASCII	American Standard Code for Information Interchange
ASOS	Automated Surface Observing System
BAOD	broadband aerosol optical depthDNI direct normal irradiance
DQMS	Data Quality Management System
FSEC	Florida Solar Energy Center
GHI	global horizontal irradiance
GMT	Greenwich Mean Time
GOES	Geostationary Operational Environmental Satellite
ISD	Integrated Surface Database (formerly ISH, Integrated Surface Hourly)
ISIS	Integrated Surface Irradiance Study
MBE	mean bias error
METSTAT	Meteorological-Statistical (solar model)
MISR	Multi-Angle Imaging SpectroRadiometer
MMDT	monthly mean daily total
MODIS	Moderate Resolution Imaging Spectroradiometer
NARR	North American Regional Reanalysis
NASA	National Aeronautics and Space Administration
NCDC	National Climatic Data Center
NOAA	National Oceanic and Atmospheric Administration
NREL	National Renewable Energy Laboratory
NSRDB	National Solar Radiation Database
NVAP	NASA Water Vapor Project
NWS	National Weather Service
RMS	root mean square
RMSE	root mean square error
SAMSON	Solar and Meteorological Observation Network
SI	International System (of Units)
SOLRAD	Solar Radiation (network)
SUNY	State University of New York at Albany
SURFRAD	Surface Radiation Budget Measurement
TOMS	Total Ozone Mapping Scanner
TZ	time zone
UO	University of Oregon Solar Radiation Monitoring Laboratory
USAF	United States Air Force
UT	University of Texas Solar Energy Laboratory
WBAN	Weather Bureau Army Navy

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1 How To Use This Manual

This manual describes how to obtain and interpret the data products from the updated 1991–2010 National Solar Radiation Database (NSRDB). This is an update of the original 1961–1990 NSRDB released in 1992 (NREL 1995) and the 1991–2005 NSRDB released in 2007.

Important

Nearly all of the solar data in the original and updated versions of the NSRDB are modeled. The intent of the modeled data is to present hourly solar radiation values that, in the aggregate, possess statistical properties (e.g., means, standard deviations, and cumulative frequency distributions) that are as close as possible to the statistical properties of measured solar data over the period of a month or year. *These data do not represent each specific hourly value of solar radiation to the same or equivalent accuracy as the long-term statistics*. One must read sections 2.1.5, 2.2, and 2.3 to understand the content of the database and its applicability.

Users are also encouraged to fully understand the uncertainty of the data in order to gauge the impact on subsequent analyses. See Section 1.4.5.1

1.1 Introduction

In 2003, the National Renewable Energy Laboratory (NREL) investigated the feasibility of updating the NSRDB and began collaborative work with several agencies, including the National Aeronautics and Space Administration (NASA), the National Climatic Data Center (NCDC), the Northeast Regional Climate Center, the State University of New York at Albany (SUNY), the University of Oregon, the University of Wisconsin, and the private firm Solar Consulting Services (Wilcox 2004).

The original NSRDB held a serially complete data set for all sun-up hours for 239 stations. Because of expected changes in the roster of National Weather Service (NWS) sites, as well as the potential for adding NSRDB sites, the updated list of stations was not restricted to those same 239. Instead, it included as many stations and as much data as possible to increase the usefulness of the data set. This update therefore provides data for 1,454 stations.

In addition to the expanded station list, this update differs from the original NSRDB in several ways. It contains:

- New or modified solar models
- New gridded data product
- New station identification numbers
- New station classification scheme
- New data formats
- Different meteorological fields
- Revised uncertainty estimates.

Each of these topics is discussed later. *Users are encouraged to carefully consider the sections on modeled data and data uncertainty to better understand the applicability of the NSRDB for specific work.*

1.1.1 New Models

Nearly all of the solar data in the original NSRDB and this update were produced using solar radiation models. *Less than 1% of the records in this update contain measured data.* See the important note at the top of Page 1.

The original NSRDB (NREL 1995) was produced using the Meteorological-Statistical (METSTAT) model (Maxwell 1998), which, in turn, was developed using NWS observations of total and opaque cloud cover and measured solar data from the SOLRAD (Solar Radiation) network. In the early 1990s, the NWS began supplementing or replacing its conventional manual weather observations with the Automated Surface Observing System (ASOS). For many aviation applications, the ASOS data are comparable with the manual observations. However, for some climatological applications, including solar radiation modeling, the manual and automatic cloud observations are not comparable, as discussed in this manual. Full sky total and opaque cloud cover observations from trained personnel were replaced with cloud estimates from ceilometers, which rely on a temporal evaluation of clouds passing directly above the instrument. The ceilometer has a 12,000-ft reach in altitude and can neither detect high clouds nor distinguish between total and opaque clouds. In addition, the resolution of the reported sky cover went from tenths or oktas to a coded scheme that at times yields only four values of sky cover (i.e., clear, scattered, broken, and overcast). This compares with eleven values for units of tenths (0–10 tenths) or nine for units of oktas (0–8 oktas).

To compensate for this change, NCDC's ASOS Cloud Data Set (Graumann 2003), also called the ASOS Supplemental Cloud Product, was used to derive cloud cover values compatible with the METSTAT model. The Supplemental Cloud Product uses satellite imagery for total cloud cover estimates that include cloud height information. From this, total and opaque cloud estimates were developed in tenths, with cloud height distinguishing between them (Wilcox 2005). (Opaque clouds predominantly occur at lower heights.) See Section 2.1.2.

In addition to the NREL METSTAT model, SUNY developed a model that uses Geostationary Operational Environmental Satellite (GOES) imagery to estimate solar radiation. This model has been regularly updated and produces data for the SolarAnywhere® data set used for much of the NSRDB. In simple terms, this satellite model uses the inverse relationship between reflected irradiance (that reflected by clouds and atmosphere back to space and the satellite sensor) and ground irradiance (that transmitted through the atmosphere to the Earth's surface). In model-evaluation work conducted as part of the NSRDB project, this satellite model proved comparable with meteorological-based models. (The project also evaluated a model from the Northeast Regional Climate Center that uses ASOS data. It was also found comparable with other models; however, the METSTAT meteorological-based model was chosen because of its NSRDB legacy.)

Based on simplicity and consistency, the SUNY model would have replaced the METSTAT model but for its limited period of record. GOES imagery for the project was archived starting in 1998, leaving the period of 1991–1997 without coverage. Hence, a hybrid production effort that uses both models was designed. (The distribution of model data is explained in Section 1.1.5.)

1.1.2 Gridded Data Product

The 2005 and 2010 updates not only contain far more stations than the original NSRDB but also include a 10-km gridded database taken from the SolarAnywhere® version 2.2 data set produced by the SUNY model. One very attractive feature of that model is its ability to create a high-resolution gridded data set (Perez 2002). Whereas the METSTAT model relies on scattered and sometimes sparse point-source ground meteorological observations, the SUNY model runs on the virtually seamless GOES satellite images. Although GOES images provide up to 1-km resolution, in the SUNY model these data are down-sampled to 10-km resolution (0.1˚ x 0.1˚). This resolution is adequate for most solar radiation resource applications and represents a practical trade-off between resolution and processing and data storage considerations. An enhanced SolarAnywhere® product provides some solar data at 1 km resolution, but those data are not used in the NSRDB. The model uses both GOES-East and GOES-West satellites for the best coverage of the United States.

The SUNY model produces estimates of global and direct irradiance at hourly intervals on the 10-km grid for all states, excluding Alaska, where the geostationary satellites cannot resolve cloud cover with necessary detail.

The hourly NSRDB records hold hour-ending irradiance values that represent an integration of the previous hour's irradiance. GOES satellite imagery is a snapshot of the earth disk, and, hence, the irradiance values in the SolarAnywhere® grid represent an instant in time rather than an integrated value. Further, the GOES-West satellite images are produced on the hour, and the GOES-East images are produced at 15 minutes past the hour. To make the satellite model data conform to the top-of-hour time convention, the SolarAnywhere® data set includes irradiance values shifted in time to better represent the characteristics of hourly integrated values. This approach also allows the gridded data to be used for existing applications that expect a top-of-hour timestamp.

Note: Because the SUNY model derives solar radiation measurements from image brightness data and (averaged) ancillary data, it represents a "snapshot" solar radiation value for a particular hour that may be significantly different from METSTAT data, which is based on estimates from meteorological data and the attendant statistical modifications included in the METSTAT model, particularly under variable atmospheric conditions. Source flags for the solar radiation modeled data indicate the source of the estimated solar radiation data. See sections 2.1.6 and 2.3.5.

1.1.3 Station Identification Numbers

Station identification numbers in the 1961–1990 NSRDB were based on the five-digit Weather Bureau Army Navy (WBAN) numbering scheme, which was used by NCDC at the

time for its station list. Since then, NCDC began using the six-digit United States Air Force (USAF) numbering system in addition to the WBAN system, and to conform, the NSRDB also uses the USAF scheme. Appendix A lists all stations and identifiers ordered alphabetically by state and site name, along with site location information. Table A-1 lists all sites ordered by USAF identifier. Appendix B provides a translation from the WBAN numbers of the 239 stations in the 1961–1990 NSRDB to their equivalent USAF identifiers in this 1991–2010 update.

1.1.4 New Station Classification Scheme

The 1961–1990 NSRDB had two station classifications: primary and secondary, so designated by whether the station's data included measured (versus modeled) solar radiation values. Fifty-six sites were designated as primary; the rest (183) were secondary.

For the 1991–2005 and 1991-2010 NSRDB updates, that classification method was dropped and replaced with a classification based on data quality and completeness (see Section 2.3.7). Further, the original NSRDB convention of merging measured data with modeled data when it was available was dropped in favor of separate fields for measured and modeled data. This decision hinged on differences between measured and modeled data. The nature of solar energy measurements often results in values slightly or even grossly inconsistent among coupled parameters, and measured data sets are rarely serially complete. This fact results in an impossibly complex circumstance of sorting out which parameters are correct and which are in error and how to bring parameters into compliance. Modeled data, on the other hand, cannot accurately reproduce a variable solar time series required by some system performance applications. (This is because of a lack of definitive information about the spatial relationship among the sun, clouds, and a ground observer—in other words, whether any clouds in a one-dimensional sky cover observation are occluding the sun.) Thus, the two sets of output fields afford users the consistency of modeled data while accommodating applications that demand measured data.

The Supplemental Cloud Product used for more accurate cloud estimates as described above is complete neither in time nor space for the update period. That and other variations in cloud observations, and the use of the SUNY satellite model output where and when it was available, led to different levels of uncertainty in the modeled data. From this, the three-class scheme for categorizing sites was developed to best convey to users variations in the quality of data. This scheme is detailed in Section 2.3.7.

Although 40 stations include some measured solar data (though none with a complete period of record), the inclusion of measured data is not a factor in the new station classification. Stations in all three classifications may include measured data. See Appendix C for a list of stations with measured solar data and the instrumentation used for measurements.

Figure 1 shows the distribution of the NSRDB update sites by class and includes the locations of the 1961–1990 NSRDB sites.

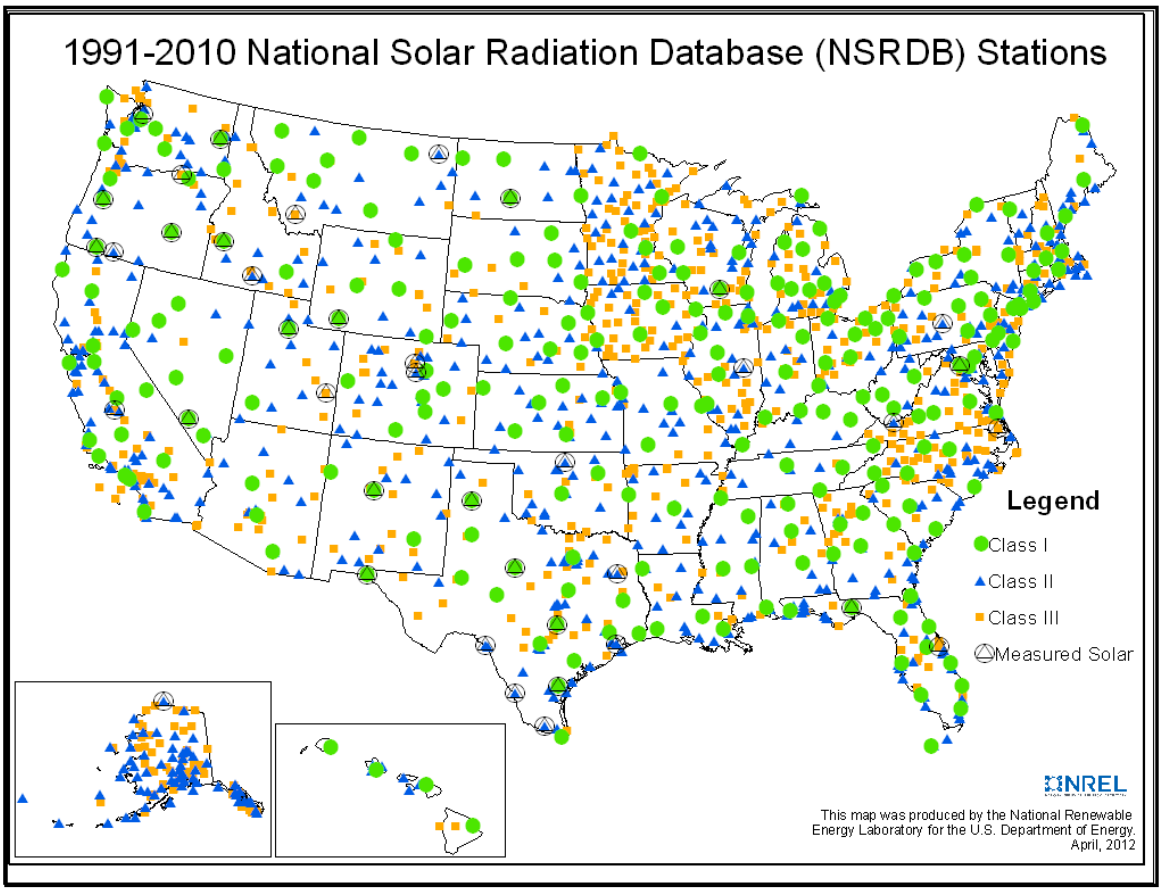

Figure 1. Distribution of NSRDB sites by class and measured solar data

1.1.5 Data Formats

The 1961–1990 NSRDB was distributed in two formats: the NSRDB Synoptic format (used in the NCDC Solar and Meteorological Observation Network, or SAMSON, disks) and the NCDC TD3282 format. Because of immense changes in data distribution methods and efficiencies since the first release in 1992, NCDC distributes the NSRDB via the Internet.

The NSRDB is also distributed by NREL without the meteorological fields. Although it doesn't have meteorological fields, it has many other solar-related fields that are of interest to researchers, such as separate fields for METSTAT and SolarAnywhere® modeled data, clear sky modeled values, and the measured data. The NREL data set also includes some ancillary data fields, such as aerosols, water vapor, and ground albedo. The 10-km gridded product is distributed by NCDC at no cost. (This product does not contain any meteorological data.)

See Section 1.3.3 for a summary of the data availability options.

1.1.6 Meteorological Fields

Relative to the 1961–1990 NSRDB, one measurement pair was added to NSRDB update records starting with the 1991-2005 update, and three were removed.

- A pair of fields for liquid precipitation was added. This measurement was not in the original NSRDB but was subsequently added to the NCDC SAMSON data set as hourly values. This measurement is included in the updated NSRDB as two fields of magnitude and time, according to the Integrated Surface Database (ISD) convention.
- Snow cover and days since last snowfall were removed from the update because of a lack of consistent snow cover data in the ISD data set. These parameters were used to modify the albedo input to the METSTAT model during periods of snow cover. However, the new ground albedo data sets used for the update include the effects of snow (although based on climatological monthly averages rather than daily resolution).
- The present weather field was removed. This field was originally used by the METSTAT model to modify the multiple-reflectance algorithm. The model has subsequently been modified to use ceiling height for this purpose.

1.1.7 Uncertainty Estimates

The uncertainty estimates in the 1961–1990 NSRDB were based on the uncertainties of the input data sets. Starting with the updated 1991–2005 NSRDB, base uncertainty estimates are founded in model evaluation results that use high-quality model input data and compare the model output with measured data. This base uncertainty was then modified for the increased uncertainty of filled or the ASOS data when such input data were used. With the SUNY model, a base uncertainty was similarly determined in the model evaluation and then increased for periods of snow cover or high latitude—circumstances known to degrade model performance.

From even the early stages of planning, the uncertainty of the 1991–2005 NSRDB was expected to be greater than that of the 1961–1990 NSRDB because of changes in cloud observations that reduced the accuracy of the cloud estimates. A critical part of the production plan was to conspicuously include realistic estimates of data uncertainty in the data to afford users the opportunity to evaluate the applicability of the database to any application or pass through uncertainties to derivative data sets. Hourly uncertainties for modeled data range from 8% under optimal conditions to more than 25% for less-than-optimal input data.

The METSTAT model, and to a lesser extent the SUNY model, can have hourly uncertainties that far exceed even the extreme uncertainties quoted above. This follows from a lack of information about the spatial relation among the sun, clouds, and a target measurement on the ground. For example, a cloud amount of 50% does not convey whether the sun is fully visible between scattered clouds or is entirely blocked by a cloud. Further, the METSTAT model (not the SUNY model) deliberately randomizes cloud cover to better produce long-term statistics. Hence, the uncertainty should be in the context of the model's design objective of reproducing the statistical characteristics of a solar data set rather than any specific hourly value. As stated in the 1961–1990 NSRDB user's manual:

> Given this objective, the assignment of uncertainties with reference to the true solar radiation for specific hours would not provide the user with useful

> information. It was decided, therefore, that the uncertainty of individual hourly values estimated by METSTAT should be interpreted to mean that the *true* mean of measured hourly values under *fixed atmospheric conditions* lies within the range established by the estimated mean plus or minus the uncertainty, 95% of the time. (NREL 1993)

This observation underscores model evaluation findings that the modeled data may have large root mean square (RMS) errors relative to measured data but much smaller bias errors. *This also indicates that NSRDB-modeled data may introduce unexpected errors if used for applications that require accurate hourly tracking of true solar irradiance, such as photovoltaic system performance analyses.* This caveat is less critical under cloudless (0% cloud cover) or completely overcast (100% cloud cover) conditions, in which a cloud observation leaves no ambiguity. However, even under these conditions, other atmospheric constituents (particularly aerosols, see Section 2.2.1.2) or varying cloud opacity can have significant effects on the measured irradiance values.

1.1.8 Changes from the 1991-2005 NSRDB Update

- Updated Satellite data—Clean Power Research has implemented several model refinements in SolarAnywhere® since the SUNY data set used in the 1991-2005 update.
- Changed cloud cover input to the METSTAT model—The ASOS cloud algorithm for the METSTAT model was changed after research showed that ASOS tends to overestimate cloud cover at cloudy sites. See Section 2.1.2.

Note that no new measured solar radiation data were added to the database. Future updates are expected to have additional measured data available after 2005.

1.2 How To Use and Interpret Database Products

The NSRDB 1991–2010 update is a serially complete collection of hourly values of the three most common measurements of solar radiation (i.e., global horizontal, direct normal, and diffuse horizontal) over a period of time adequate to establish means and extremes and at a sufficient number or locations to represent regional solar radiation climates. *Nearly all of the solar data in the NSRDB are modeled, and only 40 sites have measured solar data—none of them with a complete period of record (see Appendix C).*

The updated NSRDB is distributed in two formats; one format is distributed by NCDC and the other by NREL. (See the discussion under Section 1.1.5). The solar radiation and meteorological elements in the NCDC data sets are listed in Table 2. The data elements distributed in the NREL data set are listed in Table 3.

The 1991–2010 NSRDB contains data for 1,454 sites, which are subdivided into three classes of stations.

- **Class I Stations** have a complete period of record (all hours 1991–2010) for solar and key meteorological fields and have the highest-quality solar modeled data (242 sites).

- **Class II Stations** have a complete period of record but significant periods of interpolated, filled, or otherwise lower-quality input data for the solar models (618 sites).
- **Class III Stations** have some gaps in the period of record but have at least 3 years of data that might be useful for some applications (594 sites).

  Note: Completeness in period of record for station classification is based on solar, dry-bulb, and dew-point temperatures; humidity; wind and wind direction; aerosol optical depth (AOD); precipitable water; and station pressure. Other fields in Class I and II stations may not be serially complete.

Because of the data-filling methods used to accomplish the goal of serial completeness for the solar data, NSRDB meteorological data may not be suitable for climatological work. The meteorological fields in the NSRDB should be used only as ancillary data for solar deployment and sizing applications. Filled/interpolated meteorological data should not *be used for climatic applications. (All such data are flagged.) ISD data are better for such applications and are available at http://cdo.ncdc.noaa.gov.*

See Section 2.3.7 for the method used to assign station classifications. The stations and their classifications are listed in Appendix A, along with plots that show the proportion of modeled solar data by year and the amount of measured solar data included in a station's data set. Appendix C lists sites that include measured solar radiation data.

International system (SI) units are used for all elements in the database except for atmospheric pressure. Atmospheric pressure is reported in millibars because these units are commonly used in computer models to estimate solar radiation and are consistent with standard NWS reporting practices. However, one millibar is equivalent to one hecto pascal, which is an SI unit.

All data are referenced to local standard time according to the United States official time zone descriptions (Shanks 1996). The solar radiation elements represent radiant energy integrated over the hour preceding the designated time. Meteorological elements are values observed at or near the designated time according to meteorological measurement practices.

The goal of the updated NSRDB is to provide users with accurate, reliable, and up-to-date solar resource information to support the objective of national energy independence. The need for an update arose from several considerations:

- Most recent resource data may best represent future conditions.
- Interannual and interdecadal variability and trends are of increasing importance to industry, which requires continuous updating of records.
- There were numerous requests for an update.
- Quality and completeness of information needs to grow along with a growing industry.

Although growing interest in climate trends also provided impetus for an update, the uncertainties in the modeled solar data likely make the data inadequate to discern the small annual or even decadal changes caused by climate change. The measured solar data, if at sites with sufficient quantity and quality, may offer value for climate change research. (See Appendix C for station instrumentation and period-of-record information.)

1.3 Database Product Options

Current products available for the NSRDB 1991–2010 update are described here. These products are intended to meet the needs of most solar resource assessment applications.

Product options include:

- Serial hourly data in three formats (one of which is an hourly gridded product)
- Hourly, daily, and persistence summary products for solar radiation and several meteorological elements (Class I and II stations only).

1.3.1 Hourly Data

The serially complete hourly data provided in the NSRDB update are distributed in three formats available from two sources:

- **NCDC data sets**
  NCDC distributes a ground-based solar and meteorological data set with fields most useful for general solar resource assessment. The 10-km SolarAnywhere® gridded data set produced by the SUNY model for years 1998–2009 is also distributed by NCDC. The solar fields are also included in the NCDC Climate Data Online service, merged with existing meteorological data in the ISD product (but without the data filling).
- **NREL data set**
  NREL distributes a research solar radiation data set that includes a superset of fields related to solar radiation (i.e., both ground-based and satellite-based solar radiation estimates) but no meteorological data. (See the discussion under Section 1.1.5.)

Format descriptions are located in sections 1.4.1 to 1.4.3.

1.3.2 Statistical Summaries

The NSRDB update contains statistical summaries computed from the hourly data for the entire period of record for Class I and II stations. Gaps in the record for Class III stations make a statistical comparison of those stations inconsistent with the other two classes of stations and prevent the provision of statistical summaries for Class III sites. For the solar radiation data, these statistics include the average and standard deviation of the daily total solar energy (direct normal, diffuse horizontal, and global horizontal) for each station-year-month and each station-year. The 20-year averages and the standard deviations of monthly and annual means from 1991–2010 are also provided. For the meteorological elements, only monthly, annual, and 20-year averages were computed. Future work includes a merging of the old and updated NSRDBs for 30-year statistical summaries (for those sites with an appropriate period of record).

The hourly statistical product provides yearly files that include monthly and annual averages and standard deviations for each hour of the day for global horizontal, direct normal, and diffuse horizontal solar radiation. The averages can be used to prepare average diurnal profiles of hourly solar energy. The hourly values have also been binned in 24 50-Wh/m^2 bins from 0 to 1,200 Wh/m^2. The mean number of hourly values falling into each bin has been determined for each station-month for the period of record from 1991–2010. These statistics can be used to plot histograms and determine cumulative frequency distributions.

A solar radiation persistence product exists for each station-month by calculating the number of times the daily total solar radiation energy persisted above or below set thresholds for periods from 1 to 15 days. These calculations were performed for the entire period 1991–2010.

The 1961–1990 NSRDB also included quality summary files, which are not reproduced for the 1991–2010 NSRDB update. Instead, a quality summary with additional information for each site in the NSRDB update is included in Appendix A, where plots indicate the relative quality of a site's data for each year.

1.3.3 Data Availability

Data described in sections 1.3.1 and 1.3.2 are accessible from the sources listed in Table 1.

Table 1. NSRDB Data Access Options

Data Set	Distributor	URL
NSRDB solar and filled meteorological fields	NCDC	ftp://ftp.ncdc.noaa.gov/pub/data/nsrdb-solar/ http://www1.ncdc.noaa.gov/pub/data/nsrdb-solar/
NSRDB solar and ISD meteorological fields (no data filling)	NCDC	http://cdo.ncdc.noaa.gov http://gis.ncdc.noaa.gov/map/cdo/?thm=themeHourly&select=true
SUNY 10-km gridded data	NCDC	ftp://ftp.ncdc.noaa.gov/pub/data/nsrdb-solar http://www1.ncdc.noaa.gov/pub/data/nsrdb-solar/
NSRDB statistical summaries	NCDC	ftp://ftp.ncdc.noaa.gov/pub/data/nsrdb-solar http://www1.ncdc.noaa.gov/pub/data/nsrdb-solar/
NSRDB research solar fields; no meteorological	NREL	http://rredc.nrel.gov/solar/old_data/nsrdb/1991-2005

1.4 Reading and Understanding Database Products

This section provides the information necessary to use the products developed for the NSRDB 1991–2010 update. This includes an explanation of the flags and uncertainty fields.

1.4.1 NCDC Format

The primary provider for ground-based NSRDB data is NCDC, and data appear in site-year files in comma-separated value American Standard Code for Information Interchange (ASCII) format.

Table 2 describes the fields in the NCDC data set. See Section 1.4.3 for the 10-km gridded data sets also distributed by NCDC.

Table 2. NSRDB Data Fields Distributed by NCDC

Field	Element	Unit	Resolution	Description
1	Date	YYYY-MM-DD	--	Date of data record
2	Time	HH:MM	--	Time of data record (local standard time)
3	Hourly mean zenith angle (for sunup periods)	Decimal degree	0.1˚	Solar zenith angle (angle between sun and the zenith) as the mean of all 1-minute sunup zenith angle values for the 60-minute period ending at the timestamp
4	Hourly mean azimuth angle (for sunup periods)	Decimal degree	0.1˚	Solar azimuth angle (angle between sun and north) as the mean of all 1-minute sunup azimuth angle values for the 60-minute period ending at the timestamp
5	Hourly extraterrestrial radiation on a horizontal surface	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation received on a horizontal surface at the top of the atmosphere during the 60-minute period ending at the timestamp
6	Hourly extraterrestrial radiation normal to the sun	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation received on a surface normal to the sun at the top of the atmosphere during the 60-minute period ending at the timestamp
7	Modeled global horizontal	Watt-hour per square meter	1 Wh/m^2	Total amount of direct and diffuse solar radiation (modeled) received on a horizontal surface during the 60-minute period ending at the timestamp
8	Modeled global horizontal uncertainty	±%	1%	See Section 1.4.5.1

Field	Element	Unit	Resolution	Description
9	Modeled global horizontal source flag		--	See Table 7
10	Modeled direct normal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (modeled) received in a collimated beam on a surface normal to the sun during the 60-minute period ending at the timestamp
11	Modeled direct normal uncertainty	±%	1%	See Section 1.4.5.1
12	Modeled direct normal source flag		--	See Table 8
13	Modeled diffuse horizontal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (modeled) received from the sky (excluding the solar disk) on a horizontal surface during the 60-minute period ending at the timestamp
14	Modeled diffuse horizontal uncertainty	±%	1%	See Section 1.4.5.1
15	Modeled diffuse horizontal source flag		--	See Table 8
16	Measured global horizontal	Watt-hour per square meter	1 Wh/m^2	Total amount of direct and diffuse solar radiation received on a horizontal surface during the 60-minute period ending at the timestamp
17	Measured global horizontal quality flag	SERI-QC	--	See Table 11
18	Measured direct normal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation received in a collimated beam on a surface normal to the sun during the 60-minute period ending at the timestamp
19	Measured direct normal quality flag	SERI-QC	--	See Table 11
20	Measured diffuse horizontal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation received from the sky (excluding the solar disk) on a horizontal surface during the 60-minute period ending at the timestamp

Field	Element	Unit	Resolution	Description
21	Measured diffuse horizontal quality flag	SERI-QC	--	See Table 11
22	*Total sky cover	Tenth of sky	1 tenth	Amount of sky dome covered by clouds or obscuring phenomena at the time indicated
23	*Total sky cover flag		--	See Section 1.4.5.2
24	*Opaque sky cover	Tenth of sky	1 tenth	Amount of sky dome covered by clouds or obscuring phenomena that prevent observing the sky or higher cloud layers at the time indicated
25	*Opaque sky cover flag		--	See Section 1.4.5.2
26	*Dry-bulb temperature	Degree C	0.1˚	Dry-bulb temperature at the time indicated
27	*Dry-bulb temperature flag		--	See Section 1.4.5.2
28	*Dew-point temperature	Degree C	0.1˚	Dew-point temperature at the time indicated
29	*Dew-point temperature flag		--	See Section 1.4.5.2
30	*Relative humidity	Percent	1%	Relative humidity at the time indicated
31	*Relative humidity flag		--	See Section 1.4.5.2
32	*Station pressure	Millibar	1 mbar	Station pressure at the time indicated
33	*Station pressure flag		--	See Section 1.4.5.2
34	*Wind speed	Meter/second	0.1 m/s	Wind speed at the time indicated
35	*Wind speed flag		--	See Section 1.4.5.2
36	*Wind direction	Degrees from north (360˚ = north; 0˚ = undefined)	10˚	Wind direction at the time indicated
37	*Wind direction flag		--	See S Section 1.4.5.2
38	Horizontal visibility	Meter	1 m	Distance to discernible remote objects at the time indicated
39	Horizontal visibility flag		--	See Section 1.4.5.2
40	*Ceiling height	Meter	1 m	Height of the cloud base above local terrain

Field	Element	Unit	Resolution	Description
41	*Ceiling height flag		--	See Section 1.4.5.2
42	Liquid precipitation depth	Millimeter	1 mm	The amount of liquid precipitation observed at the indicated time for the period indicated in the liquid precipitation quantity field
43	Liquid precipitation depth flag		--	See Section 1.4.5.2
44	Liquid precipitation quantity	Hour	1 hr	The period of accumulation for the liquid precipitation depth field
45	Liquid precipitation quantity flag		--	See Section 1.4.5.2
46	*Precipitable water	Centimeter	0.1 cm	The total precipitable water contained in a column of unit cross section extending all of the way from the earth's surface to the "top" of the atmosphere. See Section 2.2.1.4
47	*Precipitable water flag		--	See Section 1.4.5.2 and Table 13
48	*Aerosol optical depth, broadband	[Unitless]	0.001	The broadband optical depth per unit of airmass due to extinction by the aerosol component of the atmosphere (randomly perturbed). See Section 2.2.1.2
49	*Aerosol optical depth flag		--	See Section 1.4.5.2 and Table 13

*Asterisks indicate a field is subject to data filling and is used for station classification (see Section 2.3.7). Completeness of these fields is used to determine if a site has a "complete period of record." Other fields may have gaps even if these fields are complete.

Data are stored on the NCDC server (see Table 1) in .tar files that hold yearly files in a compressed gzip (.gz) format. Files are named according to the station identifier. Several utilities exist to uncompress .tar and .gz files. Among them (with no implied endorsement) are tar and gzip on unix and linux computers, WinZip and 7-Zip on Windows, and WinZip and Stuffit on the Macintosh. *Files must be transferred from the server using a binary protocol (not ASCII), or the uncompression step will fail.*

1.4.2 NREL Format

A secondary source of NSRDB data is NREL, which distributes a full set of solar radiation fields but no meteorological fields (see discussion under Section 1.1.5). Data sets are distributed in comma-separated value ASCII format in site-year files. Table 3 describes the NREL data set.

Table 3. NSRDB Data Fields Distributed by NREL

Field	Element	Unit	Resolution	Description
1	Date	YYYY-MM-DD	--	Date of data record
2	Time	HH:MM	--	Time of data record (local standard time)
3	Hourly mean zenith angle (for sunup periods)	Decimal degree	0.1˚	Solar zenith angle (angle between sun and the zenith) as the mean of all 1-minute sunup zenith angle values for the 60-minute period ending at the timestamp
4	Hourly mean azimuth angle (for sunup periods)	Decimal degree	0.1˚	Solar azimuth angle (angle between sun and north) as the mean of all 1-minute sunup azimuth angle values for the 60-minute period ending at the timestamp
5	Hourly extraterrestrial radiation on a horizontal surface	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation received on a horizontal surface at the top of the atmosphere during the 60-minute period ending at the timestamp
6	Hourly extraterrestrial radiation normal to the sun	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation received on a surface normal to the sun at the top of the atmosphere during the 60-minute period ending at the timestamp
7	SUNY-modeled global horizontal	Watt-hour per square meter	1 Wh/m^2	Total amount of direct and diffuse solar radiation (SUNY-modeled) received on a horizontal surface during the 60-minute period ending at the timestamp
8	SUNY-modeled global horizontal flag	--	--	See Table 5
9	SUNY-modeled global horizontal uncertainty	±%	1%	See Section 1.4.5.1
10	SUNY-modeled direct normal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (SUNY-modeled) received in a collimated beam on a surface normal to the sun during the 60-minute period ending at the timestamp
11	SUNY -modeled direct horizontal flag	--	--	See Table 5
12	SUNY-modeled direct normal uncertainty	±%	1%	See Section 1.4.5.1

Field	Element	Unit	Resolution	Description
13	SUNY-modeled diffuse horizontal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (SUNY-modeled) received from the sky (excluding the solar disk) on a horizontal surface during the 60-minute period ending at the timestamp
14	SUNY -modeled diffuse horizontal flag	--	--	See Table 5
15	SUNY-modeled diffuse horizontal uncertainty	±%	1%	See Section 1.4.5.1
16	METSTAT-modeled global horizontal	Watt-hour per square meter	1 Wh/m^2	Total amount of direct and diffuse solar radiation (METSTAT-modeled) received on a horizontal surface during the 60-minute period ending at the timestamp
17	METSTAT-modeled global horizontal uncertainty	±%	1%	See Section 1.4.5.1
18	METSTAT-modeled direct normal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (METSTAT-modeled) received in a collimated beam on a surface normal to the sun during the 60-minute period ending at the timestamp
19	METSTAT-modeled direct normal uncertainty	±%	1%	See Section 1.4.5.1
20	METSTAT-modeled diffuse horizontal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (METSTAT-modeled) received from the sky (excluding the solar disk) on a horizontal surface during the 60-minute period ending at the timestamp
21	METSTAT-modeled diffuse horizontal uncertainty	±%	1%	See Section 1.4.5.1
22	METSTAT-modeled clear sky global horizontal	Watt-hour per square meter	1 Wh/m^2	Total amount of direct and diffuse solar radiation (METSTAT-modeled with cloud cover set to zero) received on a horizontal surface during the 60-minute period ending at the timestamp
23	METSTAT-modeled clear sky global horizontal uncertainty	±%	1%	See Section 1.4.5.1
24	METSTAT-modeled clear sky direct normal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (METSTAT-modeled with cloud cover set to zero) received in a collimated beam on a surface normal to the sun during the 60-minute period ending at the timestamp

Field	Element	Unit	Resolution	Description
25	METSTAT-modeled clear sky direct normal uncertainty	±%	1%	See Section 1.4.5.1
26	METSTAT-modeled clear sky diffuse horizontal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (METSTAT-modeled with cloud cover set to zero) received from the sky (excluding the solar disk) on a horizontal surface during the 60-minute period ending at the timestamp
27	METSTAT-modeled clear sky diffuse horizontal uncertainty	±%	1%	See Section 1.4.5.1
28	Measured global horizontal	Watt-hour per square meter	1 Wh/m^2	Total amount of measured direct and diffuse solar radiation received on a horizontal surface during the 60-minute period ending at the timestamp
29	Measured global horizontal quality flag	SERI-QC	--	See Table 11
30	Measured direct normal	Watt-hour per square meter	1 Wh/m^2	Amount of measured solar radiation received in a collimated beam on a surface normal to the sun during the 60-minute period ending at the timestamp
31	Measured direct normal quality flag	SERI-QC	--	See Table 11
32	Measured diffuse horizontal	Watt-hour per square meter	1 Wh/m^2	Amount of measured solar radiation received from the sky (excluding the solar disk) on a horizontal surface during the 60-minute period ending at the timestamp
33	Measured diffuse horizontal quality flag	SERI-QC	--	See Table 11
34	Precipitable water	Centimeter	0.1 cm	The total precipitable water contained in a column of unit cross section extending from the earth's surface to the top of the atmosphere. See Section 2.2.1.4.
35	Precipitable water flag		--	See Section 1.4.5.2 and Table 13
36	Aerosol optical depth, broadband	[Unitless]	0.001	The broadband aerosol optical depth per unit of air mass due to extinction by the aerosol component of the atmosphere. See Section 2.2.1.4.
37	Aerosol optical depth flag		--	See Section 1.4.5.2 and Table 13
38	Aerosol optical depth broadband randomized (see Section 2.3.5)	[Unitless]	0.001	Broadband aerosol optical depth value randomized by the METSTAT model (see Section 2.3.3)

Field	Element	Unit	Resolution	Description
39	Aerosol optical depth broadband randomized flag		--	See Section 1.4.5.2 and Table 13
40	Ozone	Centimeter	0.001 cm	The total amount of ozone present in a column of unit cross section extending from the earth's surface to the top of the atmosphere. See Section 2.2.1.3.
41	Ozone flag		--	See Section 1.4.5.2 and Table 15
42	Albedo	[Unitless]	0.01	The ratio of reflected solar irradiance to global horizontal irradiance (GHI). See Section 2.2.1.5.
43	Albedo flag		--	--

The first line of each file contains a comma-separated value header that documents the field names.

1.4.3 SolarAnywhere® Format

The gridded data set produced by the SUNY model is also available from NCDC.

1.4.3.1 Data Format

Table 4 describes the SolarAnywhere® format. Note that the format has changed since the 2005 update and no longer contains the unshifted data fields.

Table 4. SolarAnywhere® Gridded Data Elements

Field	Element	Unit	Resolution	Description
1	Date	YYYY-MM-DD	--	Date of data record
2	Time	HH:MM	--	Time of the data record
3	Hourly mean zenith angle (for sunup periods)	Decimal degree	0.1˚	Solar zenith angle (angle between sun and the zenith) as the mean of all 1-minute sunup zenith angle values for the 60-minute period ending at the timestamp
4	SUNY-modeled global horizontal	Watt-hour per square meter	1 Wh/m^2	Total amount of direct and diffuse solar radiation (modeled) received on a horizontal surface during the 60-minute period ending at the timestamp
5	SUNY-modeled direct normal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (modeled) received in a collimated beam on a surface normal to the sun during the 60-minute period ending at the timestamp
6	SUNY-modeled diffuse horizontal	Watt-hour per square meter	1 Wh/m^2	Amount of solar radiation (modeled) received from the sky (excluding the solar disk) on a horizontal surface during the 60-minute period ending at the timestamp
7	Data flag	--	--	See Table 5.

Data flags have been added to the SolarAnywhere® data by NREL. These flags are documented in Table 5.

Table 5. SolarAnywhere® Data Flags Added by NREL

Flag	Description
0	Global and direct unmodified; diffuse calculated by NREL (see Section 2.1.6
1	Data have been added at high zenith angles by NREL (see Section 2.1.6)
2	Diffuse has been set to clear sky minimum and direct recalculated (see Section 2.1.6)
3	Data have been filled (see Section 2.1.6)

1.4.3.2 Finding Data for a Specific Location

Data files are accessed from the links in Table 1. To find data for a specific location:

1. Determine the name of the file that holds the desired data.
2. Find the file in the directory structure.

1.4.3.2.1 Determining the File Name

Each file is explicitly named with latitude and longitude coordinates. For example:

NSRDB_SolarAnyWhere10km_19910101_20091231_lat34.05lon-109.75.csv.gz

These coordinates represent the center of a pixel that is one-tenth of a degree on each side. In the example above, the data therein represent geographical coordinates from latitude 34.00 to 34.10 and longitude -109.70 to -109.80.

The proper file name is constructed by truncating (not rounding) the latitude and longitude values to tenth-of-a-degree resolution and adding 0.05. For example, to find data for Lat=34.01 and Lon=-109.79:

1. Truncate 34.01 to 34.00 and add 0.05 degrees for 34.05.
2. Truncate -109.79 to -109.7 and add 0.05 degrees for -109.75.

Look for the file with these coordinates in the name.

1.4.3.2.2 Finding Specific Files in the Directory Structure

Files are organized in directories with names that are coded and labeled by latitude and longitude in the following five-digit format:

TTNNN
(where TT is a two-digit integer latitude and NNN is a three-digit integer longitude).

These latitude and longitude coordinates represent the southwest corner of a 2-by-2 degree box, and all files in that directory fall within the geographical box. The longitude is actually negative, but the negative sign is not used in the directory coding; however, *it is used to determine the southwest corner*. Another way of stating this is that the directory latitude and longitude numbers are the lowest coordinate values of the 2-by-2 box. The coded directory coordinates are always even numbers.

For example, to find the directory holding the file named with latitude 34.05 and longitude -109.75:

1. Take the integer portion of both the latitude (34) and longitude (-109). Determine the next even number less than or equal to the integers, which in this example would be:

   34 and -110 (remember that -110 is arithmetically less than -109)

2. Drop the negative sign, and put them together in latitude-longitude order to form the directory:

   34110

3. Open that directory, and you will find the correct file:

   NSRDB_SolarAnyWhere10km_19910101_20091231_lat34.05lon-109.75.csv.gz

1.4.3.2.3 Extracting the Data

Data are in a comma-separated value format and have been compressed using the gzip utility, thus giving them a .gz file extension. Several utilities exist to uncompress a .gz file. Among them (no implied endorsement) are gzip on unix and linux computers, WinZip and 7-Zip on Windows, and WinZip and Stuffit on the Macintosh. *Files must be transferred from the server using a binary protocol (not ASCII), or the uncompression step will fail.*

1.4.4 Statistical Summaries

This section details the information required to view and use the statistical products from the NSRDB.

1.4.4.1 Daily Statistics

Figure 2 is an example of a daily statistics file. The header identifies the station using the six-digit USAF identifier, station name (the first 22 characters), and state code. The header identifies the time zone (TZ) for the station as the number of hours by which the local standard time lags (minus) or leads (plus) Universal Time (e.g., Eastern Standard Time is designated as -5). Latitude and longitude for the station are given in degrees and minutes, station elevation is in meters, and the mean atmospheric pressure is given in millibars.

The next line in each file identifies the year(s) for which the next section of data applies. In each file, the first group of data provides daily statistics for the 20 years 1991–2010. Statistics for each year for the entire period of record follow. As an example, Figure 2 gives 20-year statistics for Albuquerque, New Mexico. Monthly and annual statistics are given for 1991 to 2010, followed by similar monthly statistics for each year. The Fortran formats for reading the header, year(s), and data records are given at the bottom of Figure 2.

The standard deviations of solar radiation elements (e.g., SDGLO) for individual years and for the period of record (1991–2010) are not the same. *For individual years, the standard deviations provide a measure of daily variability. For the period of record, the standard deviations provide a measure of the interannual variability of monthly and annual averages.*

The NSRDB mean values for meteorological elements may not be identical to the means published by NCDC. Small differences are expected as the result of different computational methods and differences in methods to replace missing data, but these differences have not been quantified.

Two flags define the quality of each solar radiation element in the daily statistics files. The first flag gives the user information about the source of each hourly value for each solar radiation element, including the methods and input data used to derive model estimates. The flags are based on the hourly data and, in this context, represent the dominant category of source data for the period. Solar radiation source flags are defined in Table 6. The flags are ranked roughly from the highest- to the lowest-quality data. The first eight table entries (flags A–H) pertain to the 1961–1990 NSRDB and do not occur in the 1991–2010 update but are included here for historical completeness. Entries I–K (in bold) were added to denote the improved aerosol estimates used for the NSRDB updates.

Table 6. Source Codes Solar Radiation Elements

Flag	Definition
A	Post-1976 measured solar radiation data as received from NCDC or other sources
B	Same as ”A” except the global horizontal data underwent a calibration correction
C	Pre-1976 measured global horizontal data (direct and diffuse were not measured before 1976) adjusted from solar to local time, usually with a calibration correction
D	Data derived from the other two elements of solar radiation using the relation $K_t = K_n + K_d$
E	Modeled solar radiation data using inputs of *observed* sky cover (cloud amount) and aerosol optical depths derived from direct normal data collected at the same location
F	Modeled solar radiation using *interpolated* sky cover and aerosol optical depths derived from direct normal data collected at the same location
G	Modeled solar radiation data using *observed* sky cover and aerosol optical depths *estimated* from geographical relationships
H	Modeled solar radiation data using *interpolated* sky cover and *estimated* aerosol optical depths
I	**Modeled solar radiation data using ground *observed* sky cover and revised aerosols**
J	**Modeled solar radiation data using *filled* sky cover and revised aerosols**
K	**Modeled solar radiation data using satellite imagery and revised aerosols**
?	Source does not fit any of the above categories.

The second flag designates the uncertainty attached to the value. Uncertainty, as used here, provides an estimate of the interval around a measured or modeled value within which the true value will fall 95% of the time. The flags are based on the individual hourly data and, in this context, represent the average uncertainty for the period. The uncertainty flags are defined in Table 7.

Table 7. Uncertainty Ranges for Daily Statistics Files

Flag	Uncertainty (±%)
1	0–2
2	2–4
3	4–6
4	6–9
5	9–13
6	13–18
7	18–25
8	25–35
9	35–50
0	Not Applicable

1.4.4.2 Hourly Means, Standard Deviations, and Distributions

The hourly statistics are presented in the form of means and standard deviations of the hourly values for each hour (from which diurnal profiles can be formed) and distributions generated by binning hourly values to determine the number of hours for which the radiation fell within 24 50-Wh/m^2 ranges (e.g., 0–50, 50–100, 100–150, … 1100–1150, 1150–1200). The bin data have been normalized to indicate the percentage (in tenths) of all daytime hours for which the radiation fell within each bin. Figure 3 provides an example of these hourly statistics. The header information is the same as that used for the daily statistics, except that the year(s) represented by each file has been added as the last field of the header.

Following the header, the next record identifies the solar radiation element (e.g., global horizontal radiation in Wh/m^2) and the statistics (e.g., arithmetic means) for which the following data records apply. Each file contains data for all three solar radiation elements and each of the three statistics, as indicated in Figure 3.

The first two fields in each data record designate the month (13 indicates *annual* statistics) and the source and uncertainty flags that apply to each monthly profile and distribution.

The data fields for means and standard deviations contain these hourly statistics in Wh/m^2 for each of the 24 hours of the day. For example, values for hour 01 represent the mean or standard deviation of the total radiant energy measured from midnight (2400) to 1 a.m. (0100). The data fields for the distributions designate the percentage of hours, in tenths of one percent, for which the average radiation fell within the 50-Wh/m^2 bins described above.

The Fortran formats for reading the header, statistic identification, and data records are given at the bottom of Figure 3.

1.4.4.3 Daily Persistence Data

The persistence of weather events and the effect this has on the availability of solar radiation energy can affect many solar energy applications. In particular, the persistence of solar energy can affect energy storage requirements and the need for backup energy sources.

The persistence statistic calculated for the NSRDB is the number of sequential days (runs) in a month during which the daily total energy exceeded or fell below 12 energy thresholds (see Figure 4). The run lengths vary from 1 to 15 or more days. The total number of runs over the entire 20-year period of 1991–2010 was determined for each month. The decision to compute persistence on a monthly (rather than perpetual) basis resulted in the truncation of runs at the end of each month and, possibly, in an underestimation of longer runs. Although this procedure caused some distortion of the statistics, it provided important information about seasonal changes in persistence.

An example of the persistence statistic is shown in Figure 4. The thresholds for diffuse horizontal radiation (0–5,000 Wh/m^2 in 11 steps) are one-half those used for global horizontal and direct normal radiation (0–10,000 Wh/m^2 in 11 steps). The header information gives the USAF number, station name, state code, month, and solar radiation element.

Each number in the matrices on the left of Figure 4 is the number of times the daily total solar energy exceeded the threshold indicated for that row for no more or no less than the number of days indicated for that column. Each number in the matrices on the right is the number of times the daily total solar energy was less than the threshold indicated for that row for no more or no less than the number of days indicated for that column.

The numbers in these matrices can be used various ways. For example, the sum of all the numbers in the sector enclosed by the dotted line indicates that the daily total global horizontal energy fell below 6,000 Wh/m^2 for 4 or more days 27 times (the sum of all numbers in the sector) during 1991–2010. These matrices can be sectored in any manner that produces information useful to specific applications.

The Fortran formats for reading the headers, number of days, thresholds, and number of events are given at the bottom of Figure 4.

1.4.5 Hourly Quality Flags

Quality flags are attached to each hourly solar radiation and meteorological element. Each solar radiation element has a source flag and an uncertainty value, and each meteorological element has a source flag. These flags provide information about the source and uncertainty of a data element to allow users to evaluate its usefulness. The flags are further described in the following sections.

1.4.5.1 Source Flags, Quality Flags, and Estimated Uncertainty for Solar Radiation Elements

For the modeled solar elements, the source flags are described in Table 8.

Table 8. Modeled Solar Radiation Source Flags

Flag	Description
1	Value modeled from the METSTAT model
2	Value from time-shifted SolarAnywhere®; diffuse calculated by NREL (see Section 2.1.6)
3	Value from SolarAnywhere®, adjusted to a minimum low-diffuse envelope (see Section 2.1.6)
4	Value from SolarAnywhere®, filled by NREL (see Section 2.1.6)
99	Missing data (associated data field is filled with -9900)

The uncertainty flags (±%) are based on model type and quality of input data. The uncertainty is calculated based on model evaluation (Myers 2005) that compared predictions with measured ground data that have been averaged to monthly mean daily totals (MMDT). Since the release of the 1991–2005 NSRDB update, Clean Power Research, in partnership with SUNY, updated the SUNY model and released updated data sets, of which Version 2.2 is incorporated in the NSRDB. No independent analysis has been published to quantify the changes and presumed improvements. Until such time, the NSRDB will continue to use the results of Myers 2005 for the uncertainty analysis.

The approach is based on the International Bureau of Weights and Measures and ISO GUM (International Bureau of Weights and Measures 1993). From this evaluation, an optimal uncertainty, U_{opt}, for each parameter was calculated using the best available sky cover or satellite image input data.

$$U_{opt} = (U_{meas}^2 + U_{mod}^2 + U_{bias}^2)^{1/2} \ (\pm\%)$$

where

– U_{meas} is the uncertainty of the measured data (±%)
– U_{mod} is the RMSE of the model (±%)
– U_{bias} is the mean bias error of the model (±%).

U_{meas} (±%) is set as follows:

Global	Direct	Diffuse
6	5	6

These values are approximately double the ideal measurement uncertainty for the instrumentation and include additional uncertainties attributable to common operational problems at even well-maintained sites.

U_{mod} and U_{bias} (±%) for each model and parameter are listed below.

Model	Glo/Dif RMS (U_{mod})	Glo/Dif MBE (U_{bias})	Dir RMS (U_{mod})	Dir MBE (U_{bias})
METSTAT	8	2	15	4
SUNY	5	0	14	1

Notes:
MBE – mean bias error
RMS – root mean square error

Finally, the calculated U_{opt} (±%) for each model is listed below.

Model	Glo/Dif	Dir
METSTAT	10	16
SUNY	8	15

These optimal uncertainties reflect model performance using the highest quality input cloud data and include the uncertainty of the ground measurements used for validation. For the METSTAT model, optimal cloud cover consists of a set of total and opaque cloud values derived using the NCDC Supplemental Cloud Product. Manual cloud observations, when available, are presumed to be as good or better than those derived from the Supplemental

Cloud Product but were not used in the model evaluation. For the SUNY model, optimal inputs are GOES pixels without snow cover and below 50˚ latitude.

To these optimal uncertainties, more uncertainty is added for an uncertainty, U, under non-optimal conditions.

$$U = (U_{opt}{}^{2} + U_{add1}{}^{2} + U_{add2}{}^{2} \ldots)^{1/2} \ (\pm\%)$$

where

– $U_{add\,i}$ are additional sources of uncertainty.

Additional uncertainties for each model are shown in the tables below.

Table 9. METSTAT Additional Uncertainties (±%)

Condition	Additional Uncertainty	Comments
Short- and medium-term data filling	4	Data derived from close time proximity
Long-term filling	14	Based on interannual variability—data come from like dates in other years
Cloud probability derivation	4	Differences in total and opaque average less than 1 okta
Cloud probability from nearby site	4	Differences in total and opaque average less than 1 okta
ASOS-only	22	Limited okta resolution afforded by the coded ASOS-only data—a cloud measurement value could be in error by two oktas

Data filling is explained in Section 2.2.2.

Table 10. SUNY Additional Uncertainties (±%)

Condition	Additional Uncertainty	Comments
Time shifting	2	Shifting from satellite time to hourly local time causes some error in the hourly values or daily totals.
Ground snow cover	5	High ground albedo compresses the dynamic range of the model. Periods of snow cover were estimated for 5˚ latitude and longitude cells on a monthly basis using snow cover probability contours for the United States (Dickerson 1967). If the probability of snow for a given location was greater than 25%, the additional uncertainty was added to the data.

The source flag for the SolarAnywhere® data are described in Table 5. (See section 2.1.6)
For the measured solar radiation fields, the flag fields hold SERI-QC flags (NREL 1993). A brief summary of the SERI-QC flags appears in Table 11.

Table 11. SERI-QC Flag Descriptions

Flag	Description
00	Untested (raw data)
01	Passed one-component test; data fall within min-max limits of K_t, K_n, or K_d
02	Passed two-component test; data fall within 0.03 of the Gompertz boundaries
03	Passed three-component test; data come within 0.03 of satisfying $K_t = K_n + K_d$
04	Passed visual inspection; *not used* by SERI-QC
05	Failed visual inspection; *not used* by SERI-QC
06	Value estimated; passes all pertinent SERI-QC test
07	Failed one-component test; lower than allowed minimum
08	Failed one-component test; higher than allowed maximum
09	Passed three-component test but failed two-component test by >0.05
10-93	Failed two- or three-component tests in one of four ways. To determine the test failed and the manner of failure (high or low), examine the remainder of the calculation (flag + 2)/4. **REM** — **Failure** 0 — Parameter too low by three-component test ($K_t = K_n + K_d$) 1 — Parameter too high by three-component test ($K_t = K_n + K_d$) 2 — Parameter too low by two-component test (Gompertz boundaries) 3 — Parameter too high by two-component test (Gompertz boundaries) The magnitude of the test failure (distance in K-units) is determined from: d = (INT (flag +2)/4)/100.
94-97	Data fall into a physically impossible region where $K_n > K_t$ by K-space distances of 0.05–0.10 (94), 0.10–0.15 (95), 0.15–0.20 (96), or ±0.20 (97).
98	Not used
99	Missing data (associated data field is filled with -9900)

SERI-QC flags of 6 were used when filling a missing solar value using two other solar components. The quality of these data can be estimated from the SERI-QC flag of either of the other two components.

Note: No effort was made to filter the measured data based on quality to allow the user the opportunity to optimize the data set according to quality specifications demanded by a particular application.

1.4.5.2 Quality Flags for Meteorological and Other Elements

Meteorological data came from NCDC's ISD data (Lott 2001). The flags that accompanied the ISD data were carried through to the NSRDB data fields (NCDC 2004). If a value was modified or filled, additional flags specific to the NSRDB data set were added. ISD data with flags indicating questionable data were excluded from the NSRDB. An extensive hand inspection of anomalous data in the 2005 update found that many such data points were flagged as questionable. Thus the decision was made to exclude all such data and allow the subsequent data filling routines to populate those fields. Table 12 describes flags on the meteorological data.

Table 12. Meteorological Data Flags

Flag	Description
0-9	ISD data flags (unmodified data)
51	Value from short-term data filling or interpolation
52	Value from medium-term data filling
53	Value from long-term data filling
54	Value is calculated: • Relative humidity calculated from dry-bulb and dew-point temperatures • Station pressure calculated from sea-level pressure, altimeter, and dry-bulb • Data point undefined by convention (e.g., wind direction at zero speed)
55	Value from last-ditch data filling
56	Value statistically derived (cloud amounts based on probability tables)
61	Value modeled (total and opaque cloud derived from Supplemental Cloud Product; ceiling height as linear function of opaque cloud amount); pressure modeled from elevation
99	Value missing (associated data field is filled with -9900)

The flags attached to the aerosol optical depth data are described in Table 13. See Section 2.2.1.2.

Table 13. Aerosol Optical Depth Flags

Flag	Description
1	Direct normal irradiance (DNI) measurements used with inverted Climatological Solar Radiation model (1995)
2	From Southwest United States study by George and Gueymard (2001) using spectral data from ground-based sun photometers
3	Gridded data from Multi-Angle Imaging SpectroRadiometer spaceborne instrument and altitude corrections (Gueymard and George 2005)
51	Value from short-term data filling or interpolation
52	Value from medium-term data filling
53	Value from long-term data filling
55	Value from last-ditch data filling

The precipitable water data flags are described in Table 14. See Section 2.2.1.4.

Table 14. Precipitable Water Flags

Flag	Description
1	From National Aeronautics and Space Administration Water Vapor Project (NVAP) once daily from 1˚ x 1˚ grid
2	NVAP twice daily from 0.5˚ x 0.5˚ grid
3	From North American Regional Reanalysis (NARR) eight times daily from 32-km grid
4	From twice daily radiosonde
51	Value from short-term data filling or interpolation
52	Value from medium-term data filling
53	Value from long-term data filling
55	Value from last-ditch data filling

The ozone data flags are described in Table 15. See Section 2.2.1.3.

Table 15. Ozone Flags

Flag	Description
1	Total Ozone Mapping Scanner (TOMS) on a grid 1˚ in latitude and 1.25˚ in longitude
2	Ozone Monitoring Instrument (OMI) on a 1º x 1º grid
51	Value from short-term data filling or interpolation
52	Value from medium-term data filling
53	Value from long-term data filling
55	Value from last-ditch data filling

```
USAF   CITY                STATE  TZ    LAT    LONG    ELEV   PRES
723650 ALBUQUERQUE INTL ARPT  NM  -7  N35  2  W106 37  1619   836
 1991-2005
 MO AVGLO FL SDGLO AVDIR FL SDDIR AVDIF FL SDDIF AVETR AETRN  TOT  OPQ   H2O   TAU  MAX_T  MIN_T  AVG_T  AVGDT  RH  HTDD  CLDD AVWS
  1  3001 K5   305  5119 K7  1123   891 K5   156  5150 14218  4.1  3.4  0.64  0.06   9.20  -2.21   3.21   5.49  51   460     0  3.1
  2  3869 K5   385  5482 K7  1304  1199 K5   234  6566 15262  4.8  4.0  0.64  0.08  12.07  -0.22   5.78   7.87  45   351     0  3.6
  3  5178 K5   455  6266 K7  1307  1515 K5   282  8386 16499  4.2  3.6  0.65  0.11  16.21   2.40   9.25  11.50  38   280     0  3.9
  4  6538 K5   394  7134 K6  1018  1862 K5   264 10053 17704  3.9  3.2  0.73  0.13  20.72   6.48  13.76  15.74  31   147     5  4.4
  5  7304 K5   627  7433 K6  1522  2059 K5   399 11142 18664  3.8  3.1  1.03  0.14  26.71  12.09  19.62  21.65  29    30    63  4.2
  6  7829 K5   375  8255 K6   920  1962 K5   267 11554 19101  3.3  2.8  1.35  0.13  31.48  16.63  24.23  25.90  29     2   174  4.0
  7  7258 K5   400  7210 K6   991  2038 K5   321 11288 18770  4.7  4.1  2.03  0.14  32.71  19.35  25.70  27.63  40     0   239  3.6
  8  6453 K5   301  6450 K6   714  2005 K5   181 10359 17837  5.1  4.5  2.18  0.11  31.04  18.48  24.30  26.19  46     0   199  3.3
  9  5694 K5   341  6788 K6   823  1529 K5   182  8878 16675  3.8  3.4  1.60  0.09  27.59  14.73  20.98  22.94  43    11    96  3.3
 10  4487 K5   283  6300 K7   758  1167 K5   139  7080 15465  3.5  3.0  0.99  0.08  21.08   8.04  14.37  16.72  44   124     7  3.4
 11  3337 K5   255  5706 K7   910   894 K5   136  5476 14378  3.5  3.0  0.73  0.05  13.32   1.48   7.12   9.02  46   328     0  3.3
 12  2794 K5   321  5269 K7  1220   751 K5   148  4705 13832  3.8  3.3  0.61  0.05   8.51  -2.59   2.67   4.83  50   476     0  3.0
 13  5312 K5   225  6451 K7   723  1489 K5   169  8386 16534  4.0  3.4  1.10  0.10  20.89   7.89  14.25  16.29  41  2207   782  3.6
 1991
  1  2958 I5   958  5063 I6  3018   841 I5   354  5144 14214  4.2  3.3  0.62  0.04   7.41  -3.36   1.39   3.73  54   505     0  3.9
  2  4013 I5   832  5720 I6  2451  1207 I5   468  6548 15247  4.6  2.9  0.60  0.06  14.38  -0.40   6.84   9.63  39   317     0  4.1
  3  4863 I5  1354  5457 I6  3065  1643 I5   581  8359 16481  5.1  4.0  0.64  0.09  15.10   0.78   7.74  10.29  35   322     0  5.0
  4  6935 I5   911  8298 I6  2145  1536 I5   562 10032 17685  2.7  1.7  0.60  0.11  21.56   5.00  13.78  16.24  20   152     0  5.0
  5  7370 I5  1492  7914 I6  3027  1874 I5   696 11130 18650  2.7  1.9  0.91  0.12  27.15  10.35  19.24  21.86  22    34    47  5.4
  6  7194 I5  1256  6935 I6  2896  2189 I5   732 11553 19099  4.3  3.5  1.56  0.12  30.65  15.04  22.97  24.83  36     7   143  4.3
  7  7005 I5   826  6310 I6  2220  2389 I5   677 11297 18781  5.2  4.4  2.36  0.14  31.65  18.06  24.25  26.38  46     0   202  3.7
  8  6294 I5   673  5735 I6  1644  2258 I5   549 10378 17856  5.2  4.0  2.53  0.14  30.58  17.50  23.50  25.83  52     0   177  2.8
  9  5303 I5   992  5529 I6  2325  1816 I5   509  8903 16694  4.7  3.7  1.82  0.15  26.29  13.48  19.37  21.62  51    13    60  3.3
 10  4472 I5  1090  5747 I6  2287  1335 I5   324  7106 15484  2.8  1.9  0.96  0.17  23.21   7.49  14.99  18.26  36   105    13  3.8
 11  3002 I5   805  3833 I6  2116  1229 I5   300  5494 14390  4.2  3.3  0.88  0.17  12.25   0.20   5.95   8.14  53   363     0  4.2
 12  2216 I5   789  2779 I6  2180  1073 I5   286  4707 13834  5.3  4.2  0.81  0.19   7.97  -2.02   2.40   4.70  63   476     0  3.1
 13  5135 I5  1832  5777 I6  1537  1616 I5   499  8388 16535  4.2  3.2  1.19  0.13  20.68   6.84  13.53  15.96  42  2295   642  4.1
 1992
  1  2648 I5   876  3205 I6  2102  1211 I5   288  5136 14212  3.8  3.0  0.60  0.22   5.74  -4.87   0.09   2.35  62   555     0  2.3
  2  3282 I5  1097  2948 I6  2049  1706 I5   381  6563 15259  5.6  4.6  0.76  0.26  11.94  -0.28   5.67   8.03  51   362     0  2.3
  3  4407 I5  1212  3567 I6  2529  2218 I5   613  8404 16509  5.0  3.9  0.79  0.28  16.27   2.32   9.19  11.79  44   280     0  2.3 .
  .
.
```

Notes:

1. **BOLD TEXT** is not part of the daily statistics file but is included to identify header elements. The third record (line) in the file identifies the MOnth, quality FLag, and data elements (see definitions below).

   - AVGLO/DIR/DIF – Average daily total solar radiation for the GLObal horizontal, DIRect normal, and DIFfuse horizontal elements (Wh/m^2)
   - SDGLO/DIR/DIF – Standard deviation of daily total global, direct, and diffuse solar radiation (see Note 2) (Wh/m^2)
   - AVETR & AETRN – Average daily total global horizontal (AVETR) and direct normal (AETRN) extraterrestrial solar radiation (Wh/m^2)
   - TOT, OPQ, H2O, TAU – Average TOTal and OPaQue sky cover (tenths), precipitable water (cm), and broadband aerosol optical depth (unitless)
   - MAX_T, MIN_T, AVG_T, AVGDT – Average maximum, minimum, 24-hour, and daylight temperatures (^{o}C)
   - RH, HTDD, CLDD, AVWS – Average relative humidity (%), heating (HTDD) and cooling (CLDD) degree (^{o}C) days (base 18.3ºC), and wind speed (m/s).

2. The standard deviations of solar radiation elements (e.g., SDGLO) for individual years and for the period of record (1991–2009) *are not the same*. For individual years, the standard deviation provides a measure of daily variability. For the period of record, the standard deviations provide a measure of the interannual variability of monthly and annual averages.

HEADER FORMAT	(I6, 1X, A22, 1X, A2, I4, 2X, A1, I2, I3, 2X, A1, 2I3, 2I6)
YEAR(S) FORMAT	(1X, A11)
DATA FORMAT	(1X, I2, 3(I6, 1X, A1, I1, I6), 2I6, 2F5.1, 2F6.2, 4F7.2, I4, 2I6, F5.1)

Figure 2. Part of the daily statistics file for Albuquerque, New Mexico

USAF	CITY	STATE	TZ	LAT	LONG	ELEV	PRES	YEAR(S)
723650	ALBUQUERQUE INTL ARPT	NM	-7	N35 2	W106 37	1619	836	1998

STATISTIC I.D.

GLOBAL MEANS

MO	FL	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	K5	0	0	0	0	0	0	0	7	203	356	466	544	559	513	398	270	105	0	0	0	0	0	0	0
2	K5	0	0	0	0	0	0	0	71	275	417	540	579	584	557	467	320	162	24	0	0	0	0	0	0
3	K4	0	0	0	0	0	0	5	196	370	525	645	691	731	666	571	434	253	84	0	0	0	0	0	0
4	K4	0	0	0	0	0	2	156	359	535	688	782	860	869	826	723	558	362	169	9	0	0	0	0	0
5	K4	0	0	0	0	0	9	242	444	640	812	933	994	936	844	734	582	394	213	51	0	0	0	0	0
6	K4	0	0	0	0	0	73	277	475	661	826	942	992	995	911	787	640	459	261	88	0	0	0	0	0
7	K4	0	0	0	0	0	1	204	359	529	686	819	876	894	825	639	497	316	157	84	0	0	0	0	0
8	K4	0	0	0	0	0	2	160	332	515	708	825	890	907	845	708	516	334	150	32	0	0	0	0	0
9	K4	0	0	0	0	0	0	90	300	500	657	783	821	830	773	622	454	253	78	0	0	0	0	0	0
10	K5	0	0	0	0	0	0	2	187	345	502	554	661	631	564	481	314	134	6	0	0	0	0	0	0
11	K5	0	0	0	0	0	0	0	103	265	406	490	532	515	460	357	219	51	0	0	0	0	0	0	0
12	K5	0	0	0	0	0	0	0	2	204	348	463	512	541	471	353	197	42	0	0	0	0	0	0	0
13	K4	0	0	0	0	0	7	95	236	420	578	687	746	749	688	570	417	239	95	22	0	0	0	0	0

GLOBAL STANDARD DEVIATIONS

1	K5	0	0	0	0	0	0	0	7	52	86	124	119	112	102	93	71	33	0	0	0	0	0	0	0
2	K5	0	0	0	0	0	0	0	65	82	126	142	187	185	169	137	111	75	18	0	0	0	0	0	0
3	K4	0	0	0	0	0	0	11	77	132	178	211	274	251	230	214	162	102	40	0	0	0	0	0	0
4	K4	0	0	0	0	0	3	46	80	130	170	235	229	233	187	142	112	72	38	9	0	0	0	0	0
5	K4	0	0	0	0	0	22	41	50	79	78	99	113	226	232	191	154	133	68	16	0	0	0	0	0
6	K4	0	0	0	0	0	21	15	25	52	48	91	136	128	184	183	132	97	68	14	0	0	0	0	0
7	K4	0	0	0	0	0	2	53	100	164	172	189	227	217	230	264	231	169	97	27	0	0	0	0	0
8	K4	0	0	0	0	0	3	34	68	95	58	105	131	115	98	132	154	124	71	21	0	0	0	0	0
9	K4	0	0	0	0	0	0	47	33	37	52	63	151	108	112	133	117	88	39	0	0	0	0	0	0
10	K5	0	0	0	0	0	0	3	86	144	174	249	202	233	199	148	119	69	9	0	0	0	0	0	0
11	K5	0	0	0	0	0	0	0	46	92	130	150	171	165	154	107	66	20	0	0	0	0	0	0	0
12	K5	0	0	0	0	0	0	0	4	50	98	109	122	75	75	71	54	8	0	0	0	0	0	0	0
13	K4	0	0	0	0	0	21	108	165	163	173	181	181	175	167	155	149	139	93	34	0	0	0	0	0

GLOBAL DISTRIBUTIONS

1	K5	188	53	50	38	103	59	32	85	67	44	94	103	62	23	0	0	0	0	0	0	0	0	0	0
2	K5	172	43	71	58	55	52	58	52	55	77	43	58	74	58	40	28	6	0	0	0	0	0	0	0
3	K4	178	64	67	57	27	57	42	42	32	37	37	42	37	44	57	27	74	47	32	0	0	0	0	0
4	K4	148	7	43	69	50	31	29	45	74	7	29	45	60	31	31	48	57	33	55	57	52	0	0	0
5	K4	153	48	15	13	65	65	9	11	41	87	4	9	35	78	20	11	65	46	35	94	68	28	0	0
6	K4	129	108	19	8	12	92	33	6	10	69	46	4	6	83	29	8	60	50	19	94	92	21	0	0
7	K4	156	60	83	21	77	34	36	23	51	23	21	19	53	30	19	47	32	26	85	45	58	0	0	0
8	K4	152	36	32	84	27	18	32	61	25	25	23	68	27	32	57	57	41	70	84	52	0	0	0	0
9	K4	154	51	78	2	17	59	54	15	20	64	64	22	32	69	54	61	81	69	34	0	0	0	0	0
10	K5	188	40	67	62	59	70	19	46	54	35	27	48	67	51	73	54	32	8	0	0	0	0	0	0
11	K5	190	91	61	47	70	67	47	64	47	53	73	88	58	41	3	0	0	0	0	0	0	0	0	0
12	K5	196	47	19	41	149	9	25	146	32	63	133	139	0	0	0	0	0	0	0	0	0	0	0	0
13	K4	167	54	50	42	59	51	35	50	42	49	49	54	43	45	32	28	37	29	29	28	22	4	0	0

Notes:

1. **BOLD TEXT** is not part of the hourly statistic file but is included to identify header and data information.
2. For the means and standard deviations blocks, the bold column numbers 1 to 24 represent the hours of the day. For the distributions, these numbers times 50 give the upper value of the bin range in watt-hour per square meter. The lower value of the range for each bin is 50 Wh/m^2 less.
3. Each hourly statistic file contains similar statistics for the direct normal and diffuse horizontal elements.

HEADER FORMAT	(I6, 1X, A22, 1X, A2, I4, 2X, A1, I2, I3, 2X, A1, 2I3, 2I6, I7)
STATISTIC I.D. FORMAT	(A30)
DATA FORMAT	(X, I2, 1X, A1, I1, 24I5)

Figure 3. Part of the hourly statistics file for Albuquerque, New Mexico

MONTHLY PERSISTENCE REPORT, SITE #723650, ALBUQUERQUE INTL ARPT (NM), MONTH 9, GLOBAL

Number of runs of days solar energy EXCEEDED threshold (Run length in DAYS)																Number of runs of days solar energy LESS THAN threshold (Run length in DAYS)														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	Wh/m2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
13	1	1	1	0	0	0	0	0	0	0	0	0	0	0	7000	3	5	3	2	1	0	0	0	0	0	0	0	0	0	15
22	24	10	6	3	4	1	1	1	0	1	0	1	0	0	6000	31	15	8	6	6	3	3	1	2	0	1	0	0	0	1
13	13	9	6	4	4	6	1	2	2	1	2	2	1	3	5000	39	11	3	3	0	1	0	0	0	0	0	0	0	0	0
4	6	2	1	5	7	4	2	1	4	2	3	1	2	6	4000	28	6	1	0	0	0	0	0	0	0	0	0	0	0	0
2	1	2	1	0	2	1	0	2	0	2	3	1	2	11	3000	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	1	0	0	15	2000	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MONTHLY PERSISTENCE REPORT, SITE #723650, ALBUQUERQUE INTL ARPT (NM), MONTH 9, DIRECT

Number of runs of days solar energy EXCEEDED threshold (Run length in DAYS)																Number of runs of days solar energy LESS THAN threshold (Run length in DAYS)														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	Wh/m2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+
6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	10000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
32	9	5	4	0	0	0	0	0	0	0	0	0	0	0	9000	12	9	8	3	6	2	2	2	2	5	2	1	2	2	4
41	18	7	9	0	3	1	1	1	0	0	0	0	0	0	8000	27	18	7	8	7	8	4	1	0	0	1	0	0	0	1
27	17	9	9	6	4	4	1	2	0	1	0	1	0	0	7000	38	12	10	5	7	1	2	1	0	0	0	0	0	0	1
22	16	9	7	4	3	4	2	2	2	1	1	2	1	1	6000	41	15	5	4	3	2	2	0	0	0	0	0	0	0	0
17	12	11	7	3	5	5	3	1	1	2	2	2	1	2	5000	37	17	5	3	1	0	0	0	0	0	0	0	0	0	0
10	9	7	5	6	5	4	3	0	5	3	2	0	2	3	4000	36	9	5	0	0	0	0	0	0	0	0	0	0	0	0
3	6	2	2	6	8	4	3	1	2	2	4	1	2	5	3000	29	7	0	0	0	0	0	0	0	0	0	0	0	0	0
2	3	2	0	0	3	1	2	2	1	3	5	1	2	9	2000	19	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	2	0	0	0	0	1	0	2	2	2	1	2	13	1000	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	1	2	1	0	1	14	500	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MONTHLY PERSISTENCE REPORT, SITE #723650, ALBUQUERQUE INTL ARPT (NM), MONTH 9, DIFFUSE

Number of runs of days solar energy EXCEEDED threshold (Run length in DAYS)																Number of runs of days solar energy LESS THAN threshold (Run length in DAYS)														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	Wh/m2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3000	0	0	1	0	0	0	0	0	0	0	1	0	0	0	15
16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2500	1	1	1	1	1	2	2	3	0	2	1	2	0	2	12
28	12	6	2	1	0	1	0	0	0	0	0	0	0	0	2000	11	8	8	6	2	7	4	2	0	5	1	0	1	2	5
44	13	10	9	4	2	3	0	0	0	0	0	0	0	1	1500	32	21	10	6	7	4	4	2	0	0	1	0	0	0	0
11	10	4	3	2	4	3	1	1	4	3	1	1	1	8	1000	38	4	2	3	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The boxed data are discussed in Section 1.4.4.3.

HEADER FORMAT (A132) Note: For eight lines before the data, including three blank lines.
DATA FORMAT (1X, 15I4, I7, 2X, 15I4)

Figure 4. The persistence statistics file for Albuquerque, New Mexico, for September

2 How the 1991–2010 NSRDB Update Was Produced

2.1 Update History

In 1992, NREL released the 1961–1990 NSRDB, a 30-year data set of measured and modeled solar radiation and accompanying meteorological data with solar estimates based on the METSTAT solar radiation model, also developed at NREL. In recent years, interest has grown in a NSRDB update that includes the decades beyond 1990.

In April 2003, NREL convened a meeting of experts to investigate the feasibility and desirability of an NSRDB update. Meeting participants concluded that the greatest challenge was a change in the measurements of cloud cover by the NWS. During the 1990s, the NWS migrated from a manual (human) system of full-sky cloud observations to the ASOS, which derives cloud cover from laser ceilometer observations at the zenith. The ASOS cloud observations are not compatible with the necessary inputs for the METSTAT model, which makes it impossible to create an updated NSRDB by simple METSTAT model runs using currently available meteorological data.

Meeting participants agreed that an update was desirable to provide constituents with the most recent climatology and, possibly, a data set with enhanced spatial resolution. Recent advances in satellite-based techniques for modeling solar irradiance and cloud algorithms provided further incentive.

A 1991–2005 NSRDB update was released by NREL in 2007, according to the methods listed below. Except as noted, these methods were also used for the 1991–2010 update.

2.1.1 Update Planning

From the 2003 meeting of experts came a multi-stage plan, and collaborative work began with several agencies, including the National Aeronautics and Space Administration, the NCDC, the Northeast Regional Climate Center, SUNY, the University of Oregon, the University of Wisconsin, and the private firm Solar Consulting Services. The first stage produced a small-scale evaluation database that enabled the investigation of database production issues, the assessment of input data availability and quality, and the development modeling alternatives. From this evaluation came a full-scale plan for a multi-year update.

Among the issues that needed to be resolved were:

- Cloud cover observations
- Aerosols, water vapor, and ozone
- A ground-measured evaluation data set
- Solar model selection
- Satellite-based modeled irradiance data.

2.1.2 Cloud Cover Observations

The difficulty of changing from manual to automated cloud observations in the 1990s was exacerbated by significant changes in the operation of several solar radiation networks during the same period. This removed a consistent reference for studying the effects of changing

inputs to solar models. Although the changes from manual to automated cloud observations were well supported by cost savings and exploitation of new technology, the effect on solar modelers—particularly in this project—has been a large discontinuity in the cloud observation data record and consistency. (In addition, cloud reporting since the ASOS deployment has been found to be inconsistent from station to station because of the use of augmented human-based observation at several sites.)

As previously discussed, the recent switch to automatic weather stations eliminated the human-observed total and opaque sky cover amounts used for inputs to the METSTAT model. The approach devised for the NSRDB update derived equivalent sky cover inputs (total and opaque cloud cover) for use with the METSTAT model from a combination of ASOS data and the NCDC ASOS Supplemental Cloud Product. ASOS detects clouds to 12,000 ft, and the ASOS supplemental cloud measurements provide cloud information, including heights more than 12,000 ft, for an area that is 50 km x 50 km centered on the ASOS station.

To minimize inconsistencies from station to station because of augmented human-based observations (Perez 2001), the ISD ASOS GD fields were used instead of the GF1 total sky cover field (NCDC 2004) to assign sky cover amounts below 12,000 ft for low clouds. The GD fields are sky cover summation fields that denote the portion of the celestial dome covered by all layers of clouds below a given height. Typically, as many as three GD fields might be present. For this work, the GD field with the greatest cloud-based height not exceeding 12,000 ft (3,657 m) was used for the total sky cover below 12,000 ft. GD fields with cloud base heights that exceeded 12,000 ft were ignored because they were assumed to be from human-based observations. GD sky cover amounts are integer values from 0 to 4 based on the few-scattered-broken reporting methodology. The representation in oktas, and the conversion to hundredths that was used to be consistent with sky cover amounts for heights above 12,000 ft, is shown in Table 16.

Table 16. GD Field Sky Cover Amounts and Their Representation in Oktas and Hundredths

GD Field Value	Reported	Oktas	Hundredths
0	Clear	0	0
1	Few	2 or less	25
2	Scattered	3–4	44
3	Broken	5–7	75
4	Overcast	8	100

For heights above 12,000 ft, the ASOS supplemental cloud data were used to determine sky cover amounts representing middle and high clouds. These data include three five-by-five matrices that provide cloud type (high, middle, or low), cloud top pressure, and effective cloud amount (percent or hundredths). If the cloud top pressure indicated that the cloud top was below 12,000 ft, the sky cover for the matrix element was assumed zero, and the ground measurement was used. Otherwise, cloud amounts were summed and then divided by 25 to give an average total sky cover amount. Opaque sky cover amounts were determined in a similar fashion after applying opacity factors to the individual cloud amounts based on cloud

type (low clouds opacity factor = 1.00; middle clouds opacity factor = 0.93; and high clouds opacity factor = 0.44). See Figure 5.

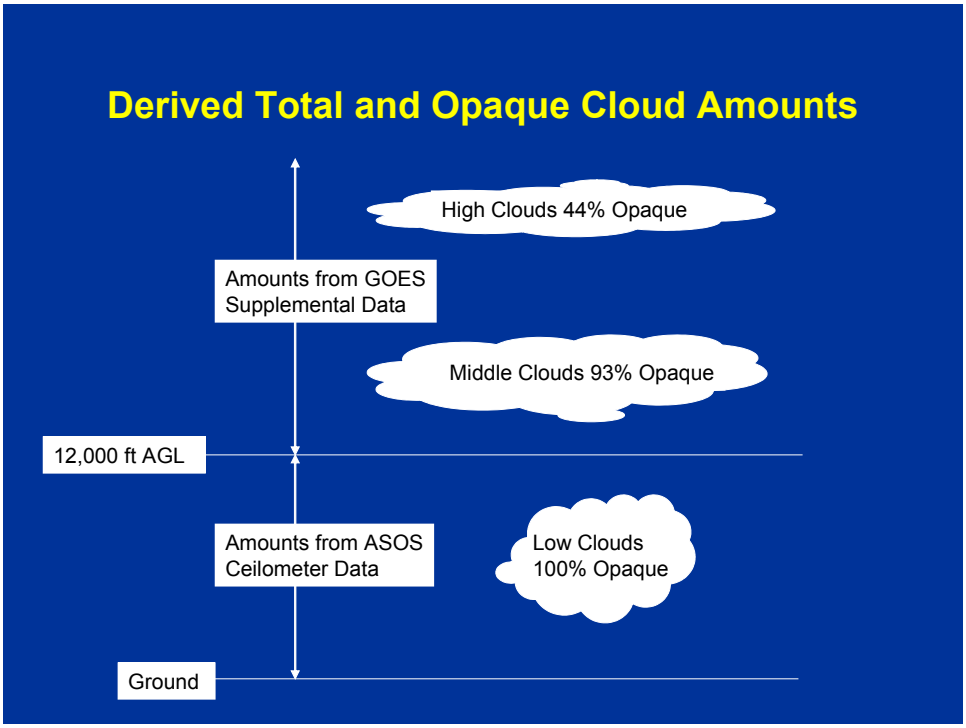

Figure 5. Pictorial description of the cloud derivation method

The low cloud amounts determined from the ASOS data and the middle and high cloud amounts determined from the ASOS supplemental data are combined using a random overlap equation to account for the low clouds overlapping the high and middle clouds.

Sky Cover (hundredths) = 100 – [(100 – low amount) x (100 – high and middle amount)]/100

This procedure appears to work reasonably well to minimize inconsistencies from station to station because of augmented human-based observations.

In subsequent NSRDB tasks, we discovered the ASOS Supplemental Cloud Product was not available for several hundred of the candidate NSRDB sites, including all sites in Alaska and most in Hawaii. This placed significant restrictions on the geographical coverage and number of sites in the new NSRDB. To address this situation, a statistical method of estimating cloud cover was developed by computing probability distributions of total cloud cover (oktas) relative to opaque cloud cover amounts for every site where both total and opaque measurements were available from either human observations or the supplemental cloud method. These site-specific monthly distributions derive from the relative number of occurrences of each of the nine total cloud amounts for each of the nine opaque cloud amounts (in oktas as an integer range from 0 to 8). An example of the resulting distributions for the first 2 months of the year is shown in Table 17. For a given value of opaque for each

month, the resulting probabilities of each okta of total cloud cover are shown in the columns across the table. The total count of samples used to create the table is in the Count column.

Table 17. Sample Total to Opaque Probability Table for January and February

Month	Opaque	p-tot0	p-tot1	p-tot2	p-tot3	p-tot4	p-tot5	p-tot6	p-tot7	p-tot8	Count
1	0	0.90	0.03	0.06	0.01	0.00	0.00	0.00	0.00	0.00	1005
1	1	0.00	0.36	0.40	0.12	0.04	0.02	0.05	0.00	0.01	282
1	2	0.00	0.00	0.41	0.19	0.06	0.13	0.15	0.01	0.05	767
1	3	0.00	0.00	0.00	0.14	0.15	0.11	0.30	0.15	0.15	313
1	4	0.00	0.00	0.00	0.00	0.18	0.15	0.41	0.08	0.18	158
1	5	0.00	0.00	0.00	0.00	0.00	0.08	0.61	0.12	0.19	252
1	6	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.27	0.53	603
1	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.86	288
1	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	819
2	0	0.85	0.05	0.08	0.01	0.00	0.01	0.00	0.00	0.00	1011
2	1	0.00	0.30	0.54	0.08	0.03	0.03	0.02	0.00	0.00	225
2	2	0.00	0.00	0.31	0.19	0.08	0.14	0.18	0.05	0.05	486
2	3	0.00	0.00	0.00	0.09	0.14	0.11	0.28	0.19	0.19	180
2	4	0.00	0.00	0.00	0.00	0.06	0.21	0.41	0.08	0.24	107
2	5	0.00	0.00	0.00	0.00	0.00	0.04	0.52	0.15	0.29	226
2	6	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.34	0.45	545
2	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.88	243
2	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	728
…	…	…	…	…	…	…	…	…	…	…	…

For this method, the ASOS total cloud report was considered primarily as a measurement of opaque clouds for certain sites (see paragraph below) because the ASOS cloud measurement is limited to 12,000 ft and most translucent clouds occur above that altitude. At those times when only ASOS data are available, a total cloud amount for a particular hour is derived by randomly selecting a total cloud cover value based on the probability distribution derived from the ensemble of reported ASOS values. For sites that have neither the ASOS Supplemental Cloud Product nor the manual cloud observations necessary to create the probability distributions, the process uses the distribution table from the geographically nearest site. Better pairings of sites for this purpose could be possible if based on climatology, but project resource restrictions prevented the evaluation of each site based on climate.

Further research for the 1991–2010 update revealed that ASOS tends to *overestimate* clouds at relatively cloudy locations and *underestimate* clouds at relatively clear locations. This is shows in Figure 6, where ASOS error is plotted against ASOS percent clear sky. The error as ASOS minus the human observation was derived not from concurrent human and ASOS data, but from multi-year averages from each observation type for each station that had significant periods of record for both human and ASOS observations. The physics of these observations was not thoroughly probed but could be related to a possible preponderance of low clouds at sites with abundant clouds and a significant percentage of high cirrus clouds that occur beyond the range of the ASOS ceilometers at clearer locations.

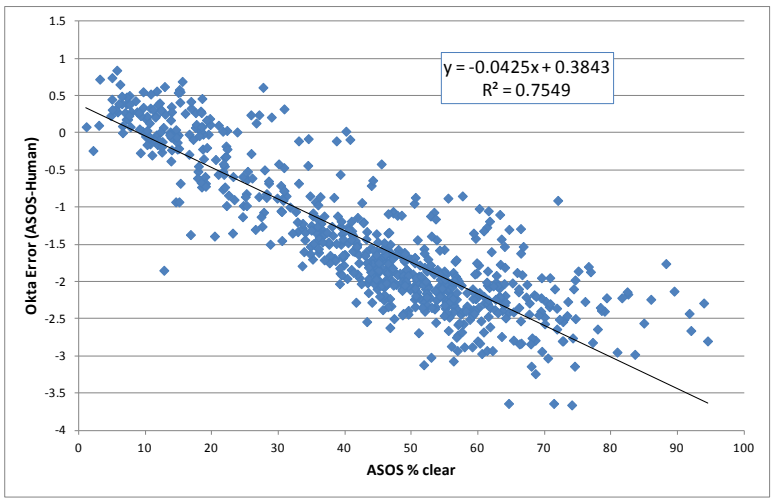

Figure 6. ASOS Error vs. ASOS clear sky. Error as ASOS minus Human, multi-year averages. Each point represents average data for one NSRDB station.

Based on the apparent errors in ASOS data, the method of inserting the total cloud amount into the opaque field was modified for this most recent update to minimize over-correction. The percentage of ASOS clear sky records (zero cloud cover) was determined for each site, and sites with less than 30% clear sky observations were excluded from the method of inserting the total cloud measurement in the opaque field, as described above. For these cloudier sites, an opaque cloud cover was statistically derived from the total measurement, as described for human observations later in this section. Other methods were attempted to correct hourly ASOS cloud cover based on a regression such as that apparent in Figure 6, but were unsuccessful because they imposed unnatural characteristics in the data.

For Caribbean sites, no nearby sites with cloud tables exist. Sites in Florida were chosen for the pairings according to Table 18 based on an examination of the geography surrounding the sites using aerial photography.

Table 18. Special Site Cloud Pairings for Caribbean Sites

Caribbean Site ID	Site Name	Paired Site ID	Site Name
785145	Eugenio, PR	722110	Tampa, FL
785260	San Juan, PR	722020	Miami, FL
785263	San Juan, PR	722020	Miami, FL
785350	Roosevelt, PR	722020	Miami, FL
785430	Charlotte Amalie, VI	722010	Key West, FL

A similar process was developed to derive opaque clouds from total cloud data for sites where human cloud observations included total but not opaque cloud observations (a common situation at military sites). This method was also used for ASOS sites with less than 30% clear sky observations, as described above in this section.

Although the effectiveness of this technique may be diminished by interannual variability of distributions, the difference between total and opaque clouds is typically less than one okta.

Thus, the derivation of total cloud values and possible errors are secondary to the dominant ASOS measurement.

2.1.3 Aerosol, Water Vapor, and Ozone Estimates

Both the METSTAT and SUNY models require input aerosols, water vapor, and ozone. The 1961–1990 NSRDB used only DNI measurements to estimate broadband aerosol optical depth (BAOD). Today, much less measured DNI data are available, but much more aerosol data are available from other sources, including sun photometers and satellite-based estimates. The compilation of these data sets is described in sections 2.2.1.2, 2.2.1.3, and 2.2.1.4.

2.1.4 Solar Measurements and the Evaluation Data Set

Solar model validation relies on high-quality solar radiation measurements to evaluate model performance. A significant part of the update effort was to find, acquire, and quality-assess surface solar measurements to form an evaluation data set. These data sets would also be used in the measured solar data fields of the completed NSRDB. Thirty-three measurement sites were considered for the evaluation project based on their instrumentation, period of record, and proximity to NWS sites (see Table 19). Most data were available from data distribution websites maintained by network operators. Data were downloaded to NREL computers, imported to a database, and then evaluated with several quality-assessment tools, including SERI-QC (NREL 1993). Because of processing limitations, no additional measured solar radiation was added to the 1991–2010 NSRDB update. NREL expects to include additional available measured solar data in future updates.

Table 19. Measurement Sites Used for NSRDB Model Evaluation (by State)

Site	Network	Site	Network	Site	Network
Barrow, AK	ARM	Albany, NY	SUNY	Corpus Christi, TX	UT
Hanford, CA	ISIS	ARM-SGP, OK	ARM	Del Rio, TX	UT
Golden, CO	NREL	Burns, OR	UO	Edinburg, TX	UT
FSEC, FL	FSEC	Eugene, OR	UO	El Paso, TX	UT
Tallahassee, FL	ISIS	Hermiston, OR	UO	Laredo, TX	UT
Bondville, IL	SURFRAD	Klamath Falls, OR	UO	Overton, TX	UT
Ft. Peck, MT	SURFRAD	Pennsylvania State College, PA	SURFRAD	Salt Lake City, UT	ISIS
Elizabeth City, NC	NREL	Abilene, TX	UT	Sterling, VA	ISIS
Bismarck, ND	ISIS	Austin, TX	UT	Seattle, WA	ISIS
Albuquerque, NM	ISIS	Canyon, TX	UT	Madison, WI	ISIS
Desert Rock, NV	SURFRAD	Clear Lake, TX	UT	Bluefield State College, WV	NREL

Notes:
ARM – Atmospheric Radiation Measurement
FSEC – Florida Solar Energy Center
ISIS – Integrated Surface Irradiance Study
NREL – National Renewable Energy Laboratory Measurement and Instrumentation Data Center
SUNY – State University of New York at Albany
SURFRAD – Surface Radiation Budget Measurement
UT – University of Texas Solar Energy Laboratory
UO – University of Oregon Solar Radiation Monitoring Laboratory

A data analyst used a rough scoring technique to evaluate data quality for each station-month, where 0 = missing or unacceptable, 1 = conditionally acceptable, and 2 = acceptable. A monthly mean score across all stations was calculated, and Figure 7 shows the moving 12-month average of these monthly means for the period of available data (1996–2003). A peak in data quality/availability is evident between 1999 and 2000—the 2 years ultimately chosen for the test-case evaluation data set.

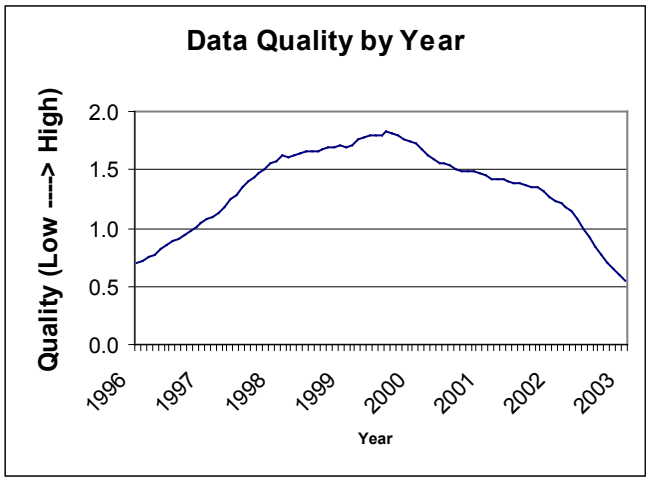

Figure 7. Solar radiation data quality/availability by year (12-month moving average)

Note: The plot in Figure 7 should not be misinterpreted as indicating the absolute quality of solar measurements in the United States. The scale is arbitrary and mixes missing data with data quality—two distinct and not comparably scaled characteristics of data. Further, not all data from all stations were available at the time of the evaluation. The plot is presented only as an indicator of the best years to consider for the NSRDB model evaluation.

2.1.5 Selection of the NSRDB Model

Three models were evaluated for modeling NSRDB data: the NREL METSTAT model; a model developed by the Northeast Regional Climate Center for the American Society of Heating, Refrigerating and Air-Conditioning Engineers (Belcher 2004); and the SUNY-developed satellite model (Perez 2002).

Several modifications have been made to the METSTAT model since its use for the original NSRDB.

- The multiple-reflectance algorithm was modified for better performance under overcast skies by using ceiling height as an input rather than present weather (Vignola 1997, Myers 2002).
- A software switch that adjusts for the human perception of cloud amounts nearer the horizon being greater than actual was added for the perspective function. This function was turned off when the model was running on ASOS-based data, which is determined by examining only clouds directly overhead.
- When running the model with the statistics "on," cloud cover amounts were not randomized if the total sky cover was 0 or opaque sky cover was ten-tenths. (If opaque sky cover is ten-tenths, the opaque sky cover should not be randomized to a value less than 10, which results in direct normal values greater than zero for overcast skies. Similarly, if the total sky cover is zero-tenths, it should not be randomized to a greater value). Also eliminated was the procedure that modifies the random number for consecutive clear or cloudy hours.
- Cloud indexing was changed to allow for fractional cloud amounts.

The analysis of the MMDT test data sets and the evaluation of the results are treated more thoroughly elsewhere (Myers 2005). The analysis data set included those hours from all sites for which measured and modeled output data for all models were concurrent. This process eliminated two sites from the analysis because there were no overlapping data (Barrow, Alaska, and Hermiston, Oregon). The analysis compares the measured data to the output for each model using the statistical measures of root mean square error (RMSE), MBE, frequency distributions, probability distributions, correlation, and autocorrelation.

The analysis reveals few significant differences among the three candidate models (i.e., Northeast Regional Climate Center, SUNY, and METSTAT). The GHI monthly mean daily total MBE for all models ranged from -0.06% to 1.73%, and the RMSE ranged from 5% to 8%. The uncertainty of the validation data is estimated to be about 5%–10%, which easily encompasses these errors. The DNI MMDT RMSE was somewhat larger, but all models were very close and ranged from 13.7% to 15%. Figure 8, which shows errors for hourly global irradiance, illustrates not only the closeness of the model performance but also the similarity of excursions for all models in site-to-site variability. These excursions may indicate a common bias in the models or input data or an error in the ground validation data. Whatever the cause, it is important in this context to note that all models perform similarly. Figure 9 shows measured versus modeled DNI MMDT.

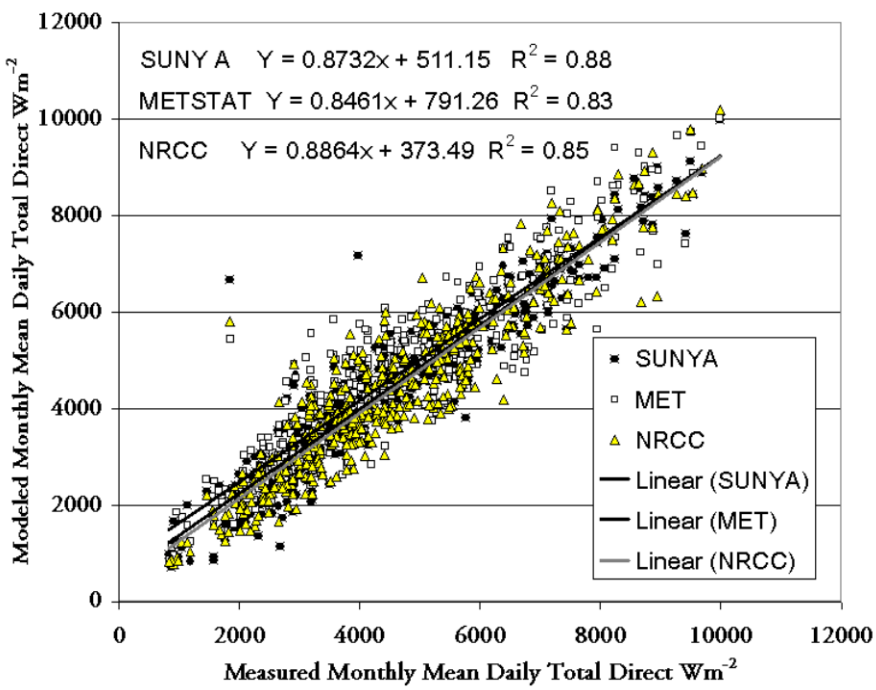

Figure 8. MBE (lines, left scale) and RMSE (bars, right scale) for modeled hourly total GHI by site and model (Myers 2005)

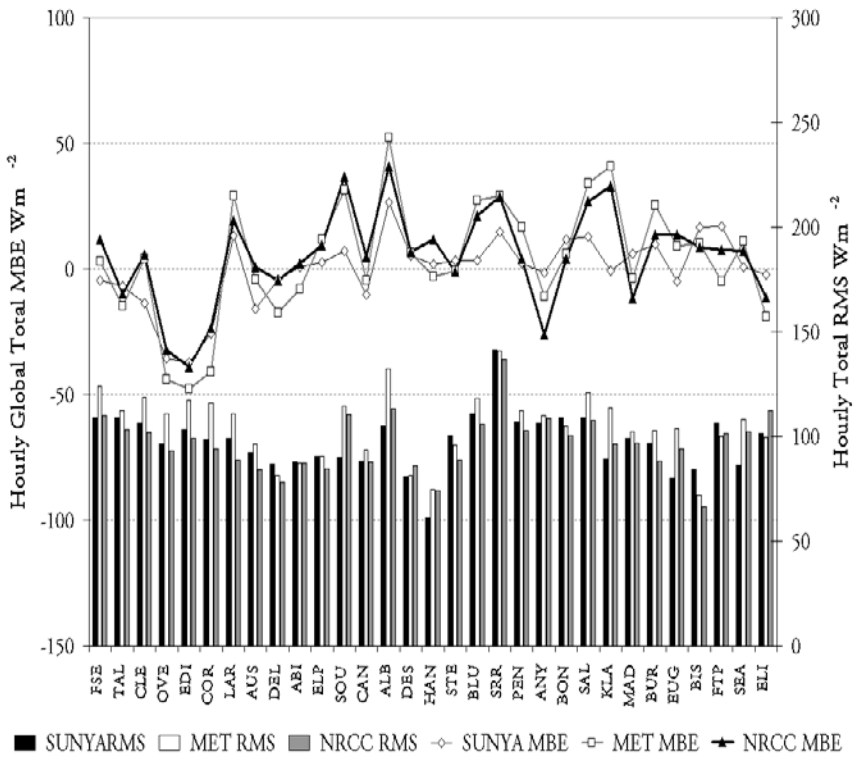

Figure 9. Modeled versus measured DNI MMDTs, regression fit, and correlation coefficients by model

The study concluded that each model performed comparably in comparisons with measured ground data, and the decision for which model to use rested less with technical considerations and more with those of convenience. In that context, the METSTAT model, which is already deployed at NREL and with which NREL has considerable experience, was chosen. Also, because of its use with the original NSRDB, METSTAT may provide greater consistency with the older data set.

2.1.6 Satellite Data Set

The high-resolution SolarAnywhere® gridded data set derived from the SUNY model provides a consistency in modeled output data for its period of record that is not available from the METSTAT model during the same period because of the cloud observation issues discussed in Section 2.1.2 and elsewhere. The SUNY model covers only the years from 1998 to the present, the period for which necessary GOES imagery was archived by the project. Acquiring older imagery is beyond the financial resources of the project, and other input data sets (such as snow cover) required by the SUNY model do not exist prior to 1998.

The output from the SUNY model is not suited for direct inclusion in the conventional NSRDB ground-based data scheme, yet it is desirable that it be included at those times when METSTAT model input data are not available or are of lesser quality. The satellite data are pixel-oriented and based in a different hourly time realm. The pixels in the gridded data carry latitude-longitude location information, so it is a simple matter of selecting a corresponding pixel using the coordinates of a ground station. (Although more sophisticated methods of selecting pixel values, such as pixel interpolation, could have been used, it was believed that

the 10-km resolution of the pixels was high enough that uncertainty in the final product could not be significantly improved for most locations.)

The issue of converting the gridded data to the NSRDB time realm was more difficult, but the SolarAnywhere® data set provides as an option a time-shifted product that simulates hour-ending solar data. These time-shifted data are used in the NSRDB.

Time shifting can introduce errors primarily because of diurnal cloud patterns, day length, and the temporal magnitude of the shift.

- Day length affects the error because of shifting partial sunrise or sunset hours for which data may be either discarded or fabricated.
- Cloud patterns affect error because they can cause asymmetric profiles. Errors in the morning will be opposite those in the afternoon, and these errors cancel nicely in a symmetrical day. However, if the morning and afternoon profiles are not balanced, an error in the daily total occurs. (These errors are also presumed present in the unshifted satellite data because instantaneously sampling at different times can result in different daily totals, whereas changing the time slices of integrated data will not alter the daily totals.)
- The error because of the magnitude of the shift occurs as an imperfect model increases the distance from its anchor with the measured data point.

Although the errors in hourly values, and even daily totals, can be significant (ranging to more than 600 Wh/m^2), they tend to cancel throughout the year leaving small residual bias errors. These residual errors are accounted for in the data uncertainty (see Section 1.4.5.1).

The SUNY model produces only values for global and direct solar radiation, and the diffuse radiation is calculated in the SolarAnywhere® data set. NREL added solar zenith angle calculations to the SolarAnywhere® data set for the convenience of NSRDB users, and because of apparent small differences between the NREL and SUNY solar geometry, NREL recalculated diffuse irradiance to maintain consistency with the solar geometry. As with the 2005 update of the NSRDB, NREL checked the diffuse values for reasonable physical limits and occasionally altered some values that fell below minimum values. These data records with identified low diffuse were adjusted to conform to a minimum clear-sky diffuse envelope, DIF_{min}, based on aerosols and water vapor according to this formula (Ineichen 2004):

$$DIF_{min} = GHI \cdot (0.1 \cdot (1 - 2 \cdot \exp(-(11.2 \cdot AOD + 0.333 \cdot \ln(W) + 2.106)))) \cdot (1/(0.1 + 0.9 \cdot 0.98/(\exp(-ALT/8000))))$$

where

– GHI is the modeled global horizontal irradiance (Wh/m^2)
– AOD is the BAOD
– W is the precipitable water vapor (cm)
– ALT is the station altitude (m).

In cases in which the calculated diffuse irradiance is less than 85% of DIF_{min}, the calculated diffuse value is set to DIF_{min}, and the direct beam value, DNI, is replaced with:

$$DNI = (GHI - DIF_{min}) / \cos(ZEN)$$

where ZEN is the solar zenith angle.

The SUNY model often produces irradiance values of zero within a few minutes after sunrise or a few minutes before sunset. For the NSRDB distributions, NREL added extrapolated data for these records to make them consistent with the solar geometry.

Unlike the SUNY data set used for the 2005 NSRDB update, the SolarAnywhere® data set has data gaps when satellite imagery is not available for modeling. To ensure a serially complete data set conforming to NSRDB specifications, NREL filled missing data in a manner similar to the *Long Fill* method for meteorological data as described in Section 2.2.2. In essence, data were pulled from other years for the same date and time and used to fill the gap. The endpoints of the filled data were adjusted for smooth connection to the existing data on either side of the gap. In all cases, gaps due to missing satellite imagery affected all pixels in either the GOES East or GOES West regions. However, pixels were processed independently rather than as a linked group, and no effort was made to enforce homogeneity in fill data among adjacent pixels. As a result, data filled in this manner may exhibit unusual spatial characteristics (e.g., large irradiance gradients from one pixel to another for the same point in time) because data in the affected cells may have come from different years and likely different sky conditions.

These modified model data are flagged in the station-based NSRDB according to Table 8 and in the gridded data set according to Table 5.

2.2 Sources of Solar Radiation and Meteorological Data

This section describes the sources of solar radiation and meteorological data that were used to produce the updated NSRDB. No additional measured solar data beyond 2005 were included in the 1991–2010 update.

2.2.1 Data Acquisition

NCDC provided all of the surface meteorological data for the entire period of record. Measured solar radiation data were collected from several sources:

- ARM Program Network, run by the Department of Energy
- FSEC, run by the State of Florida
- Historically Black Colleges and Universities Network, run by NREL
- Integrated Surface Irradiance Study (ISIS) Network, run by the National Oceanic and Atmospheric Administration
- SURFRAD Network, run by the National Oceanic and Atmospheric Administration
- University of Oregon Solar Radiation Monitoring Laboratory network
- University of Texas Solar Energy Laboratory.

See Section 2.3.6 for details of how measured solar radiation data were processed for the NSRDB update.

2.2.1.1 Meteorological Data

The meteorological data were available from the NCDC ISD data set (Lott 2001), which provided all model input data except for precipitable water, aerosols, ground albedo, and ozone. The sources used for these special inputs are detailed below.

2.2.1.2 Aerosols

Cloud cover is the dominant input for solar models (excluding solar geometry). Next are aerosols, which under clear skies are *the* dominant meteorological input, which makes them a critical factor for estimating the resource for solar power applications. The 1961–1990 NSRDB used only DNI measurements to estimate BAOD, values that were subsequently hand-contoured for the United States and fitted to a seasonal cosine function. Today, much less measured DNI data are available, but aerosol data from other sources, including sun photometers and satellite-based estimates, are more abundant. These sources produce spectral rather than broadband data, so massaging of the data became necessary to make them usable by the METSTAT and SUNY models, both of which use BAOD as inputs.

A combination of surface sun photometry, satellite data from the NASA Multi-Angle Imaging SpectroRadiometer (MISR) and Moderate Resolution Imaging Spectroradiometer (MODIS) satellite-based instruments, and legacy DNI estimates of BAOD allowed creation of monthly mean estimates of BAOD for all locations in the United States. Spectral AOD data were converted into BAOD using estimated Ångström Alpha parameters from sun photometry (Gueymard and George 2005). Using monthly mean BAOD values rather than specific daily or hourly values is likely to introduce significant errors in direct and diffuse hourly irradiance predictions under clear skies. Limitations in existing data and budget constraints prevented the derivation of more detailed datasets. Still, it is emphasized that the approach used here is conducive to overall better accuracy than what was done for the 1961–1990 NSRDB.

All BAOD data were merged, interpolated, and adjusted to local elevation through use of an exponential function (Figure 10) and regridded if necessary. These monthly values were finally smoothly fit to daily values using a mean-preserving interpolation method (Rymes 2001). Values in the period of July 11, 1991, through Dec. 31, 1994, were adjusted with an additive factor, AOD_{strat}, to represent the effect of additional stratospheric aerosols from the Mount Pinatubo eruption using a double function of date with site-specific latitude parameters. The first is a ramp-up function, starting with July 11, 1991.

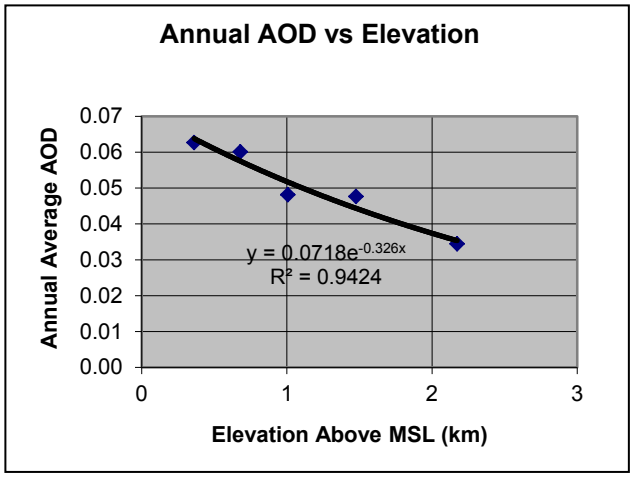

Figure 10. Measured BAOD plotted against elevation for five stations: Maricopa, Rogers Lake, Desert Rock, Sevilleta, and Flagstaff

$$AOD_{strat} = (AOD_{max} / Norm) \bullet (1.0 - \exp(-T/T1))$$

where

– AOD_{max} is the function limit (set to 0.2 for all sites)
– Norm is a normalizing parameter
– T is the number of days since Jan. 1, 1991
– T1 is the last day of the ramp function (days since Jan 1, 1991).

The second is a decay function that starts at the end of the ramp-up function (T1), a site-specific parameter:

$$AOD_{strat} = AOD_{max} \bullet \exp(-(T-T1) / T2)$$

where

– T2 is a daily decay constant (250 for all sites).

A sample plot of the AOD additive functions appears in Figure 11.

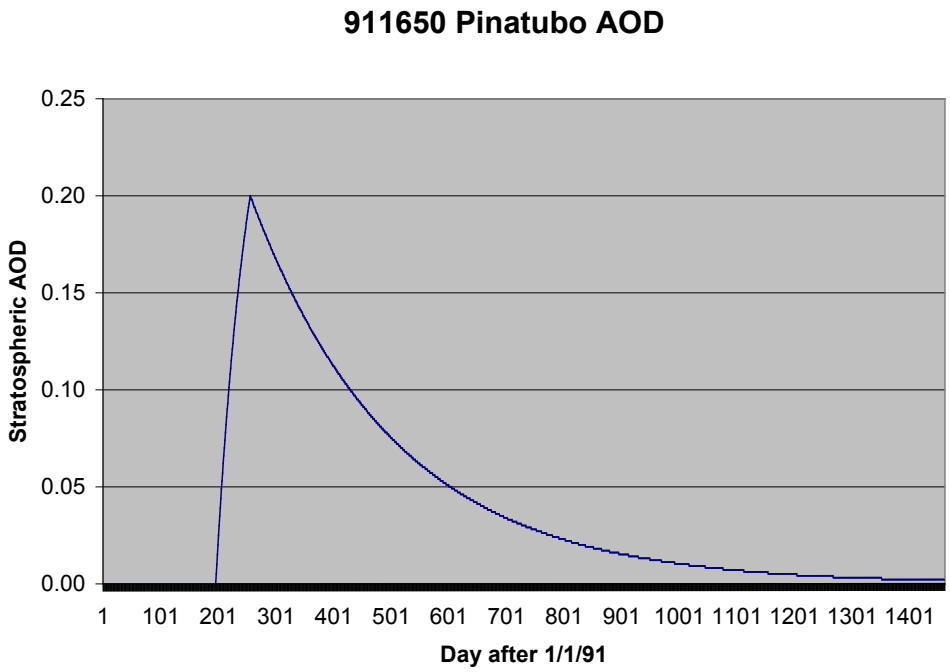

Figure 11. Pinatubo AOD function for Lihue, Hawaii

2.2.1.3 Ozone

Total column ozone is derived from daily satellite observations from the Total Ozone Mapping Scanner (TOMS). Scans occur once per day on a grid with spatial resolution of 1˚ in latitude and 1.25˚ in longitude. The missing data are replaced with long-term mean values for that location. Ozone has only a second-order effect on broadband irradiance; hence, the uncertainty in the TOMS measurements or their replacement is not of concern. These data were used through 2004 in the 1991–2010 NSRDB update. For years 2005–1010, the newer Ozone Monitoring Instrument (OMI) data set was used. This data set also provided once-per-day input on a 1º x 1º grid.

2.2.1.4 Precipitable Water

NREL used the NASA Water Vapor Project (NVAP) data set for daily estimates of water vapor on a 1º x 1º grid. NVAP integrates sounding data with satellite measurements of atmospheric water vapor. For the years 1988–1999, NVAP provides once-daily estimates of water vapor on a 1º x 1º worldwide grid. For years 2000 and 2001, NVAP provides the data on a 0.5º x 0.5º grid twice daily. These data were interpolated in space to the location of each of the NSRDB stations and interpolated in time to provide hourly data for all stations for the years 1991–2001.

Because of the limited period of record for the NVAP data set, the years 2002–2010 required a new source of data. For this, the recently released North American Regional Reanalysis (NARR) was chosen. This data source provides column water vapor every 3 hours on a nominal 32-km grid. This data product uses a data assimilation model derived from National Center for Environmental Prediction weather prediction models to interpolate weather observations onto a numerical grid. The data observations for precipitable water include

radiosondes, dropsondes from airplanes, and the infrared radiance data from the Television Infrared Observation Satellite Operational Vertical Sounder-1B satellite (over water).

Geographic information system analysis techniques were used to match each of the NSRDB stations with its nearest NARR grid point. Then, data from the NARR grids for each 3-hour period were downloaded and interpolated to hourly data files for each station.

2.2.1.5 Albedo

Albedo data are from the Earth Radiation Budget Experiment (ERBE) Monthly Albedo data set, a satellite product delivered on a 1° x 1° grid. Each station was assigned albedo values based on the 1° x 1° pixel that includes the station. Monthly mean albedo values were assembled based on multiple years of data. Those monthly mean values were assigned for each hour of the month. The albedo values include the enhanced effects of snow cover on a monthly interval. Unlike the 1961–1990 NSRDB, snow cover data were not used to estimate a daily enhanced albedo.

2.2.2 Derived Input Meteorological Data (Data Filling)

When the 1961–1990 NSRDB was designed, serially complete solar data was a primary goal of the project. Rather than attempting to fill gaps in the measured or modeled solar radiation data, the solar model input parameters were filled and the solar irradiance was modeled based on the filled input parameters. Filling input metrological data for the model is preferred over filling output solar data because of the statistical nature of METSTAT, which imposes pseudo-natural variability on the output data (while still conforming to long-term means). Other meteorological parameters were also filled at the same time in an effort to produce a more complete output data set that is suitable for other applications.

Important note: The data-filling methods described here were not designed to maintain climatological characteristics but rather to accomplish the goal of serial completeness with representative and realistic solar data. Thus, NSRDB filled meteorological data are not suitable for climatological work and should be used only as support data for solar technology applications.

A criticism of the 1961–1990 NSRDB was that missing nighttime data were not filled (nighttime input data were not necessary for solar model operation). This approach had the benefit of increasing the population of sites in the NSRDB because many NWS sites routinely closed down at night—an operational constraint that would have eliminated them from a serially complete database. However, applications that required serially complete meteorological data were hampered by this approach.

In the context of the above discussion, significant value would be derived from an updated NSRDB with both serially complete solar and meteorological data. However, stricter requirements for serially complete data will increase the probability of a site's exclusion from the data set. (Even at full-time sites, there can be gaps of days, weeks, or months.) To determine if the design goal of serial completeness was reasonable, other data-filling methods were investigated.

The following methods were used in the 1961–1990 NSRDB:

- Short-term filling – For gaps of 5 hours or less, linear interpolation
- Medium-term filling – For gaps of 6–23 hours, substitution of data from the same hours of adjacent days
- Long-term filling – For gaps of 1 day to 1 year, substitution of data from the same calendar days from another similar year.

Additional techniques were employed to fill missing data when NREL developed the Typical Meteorological Year 2 data sets (for those data gaps that still existed after NSRDB methods were applied).

- Cloud cover was linearly interpolated over a nighttime-only gap.
- Dry-bulb temperature was linearly interpolated over a nighttime-only gap and modified for expected non-linearities, such as more rapid changes near sunrise or sunset.
- Dew-point temperature (which was not filled by NSRDB methods) was filled using psychrometric relationships with dry-bulb and relative humidity values (which were filled).
- Missing nighttime relative humidity was filled using psychrometric relationships with dry-bulb and dew-point temperatures.
- Wind speed and direction (up to 47 hours) were filled with linear interpolation and (wind speed) adjusted for expected diurnal non-linearities.
- Precipitable water (up to 47 hours) was filled with linear interpolation.

Another technique used for other projects is the Linacre method, which characterizes measurements from a nearby station to form a constant relationship with like measurements from the target site (Linacre 1992). Data at the target site are then filled with data from the nearby station and adjusted according to the relationship. This method was investigated but not used for the updated NSRDB because of various constraints. Rather, the method described below was used.

Most meteorological data were extracted from the ISD data set. The following parameters were filled in the NSRDB production database:

- Total and opaque cloud cover
- Dry-bulb and dew-point temperatures
- Relative humidity
- Ceiling height
- Barometric pressure
- Wind speed and direction
- Aerosol optical depth

- Precipitable water
- Ozone.

Relative humidity was not present in the ISD data set and was calculated using psychrometric relations of dry-bulb and dew-point temperatures after the completion of all data filling.

A primary goal of the complete hourly data for the period of record is to form the basis for climatological normals and means. Although short gaps of 4 or 5 hours can easily be filled with interpolation, over a multi-year period there may be operational circumstances that create larger gaps, sometimes of several months. Even one gap violates the goal of serial completeness; therefore, by developing methods to fill both large and small gaps, the number of sites included in the updated NSRDB (balanced against the downside of increased uncertainty attributable to the filling processes) was greatly increased.

Data-filling methods were categorized in four levels:

1. **Short-term interpolation**
   Data gaps of up to 5 hours were filled with linear interpolation or, in the case of temperatures, a site- and month-specific diurnal profile imposed on a linear interpolation. Gaps that extended through the night were also filled with this method.
2. **Medium-term filling**
   Gaps of up to 24 hours were filled by building an average profile from the same hours of previous and subsequent days and attaching that profile to the end points of the gap.
3. **Long-term filling**
   Gaps of up to 1 year were filled by characterizing the data before and after the gap and then seeking the most similar data from other years to fill the gap. The first and last 12 hours of the fill data were scaled to fit the end points of the gap, and the rest of the fill data were used without modification. When filling dependent parameters (e.g., dry-bulb and dew-point temperature and total and opaque cloud and ceiling height), fill data were pulled from the same source dates when possible. If this could not be accomplished, coupling limits were enforced between the parameters.
4. **Last-ditch filling**
   In a few cases, the above methods left gaps because of insufficient data before and after the gap for developing a diurnal profile or characterization. In these cases, data from the same days were examined from other years in random order to find an uninterrupted run of source data to fill the gap. In addition, if barometric pressure could not otherwise be filled, it was modeled from site elevation (resulting in a static value). If ceiling height could not be filled, it was modeled from a simple regression with opaque cloud cover.

The data-filling process creates log files for methods 3 and 4 to document the source year of the fill data. The type and density of data filling are used to determine the uncertainty of the modeled data.

These methods created serially complete model input data for more than half of the NSRDB sites. The sites for which the process was not successful typically had several years of missing data. Many were new sites that began operations only in the latter years of the NSRDB update period of record. These sites, in particular, have the potential for an expanded and more significant period of record in the future as data collection continues.

Because of the potential use of even incomplete data sets for some applications, the station classification system described in Section 2.3.7 was developed.

2.3 The Production Process

In the development of the software for the NSRDB update, most resources were dedicated to data preparation—collecting, organizing, filling, and storing data such that the solar modeling could be completed in a simple input-process-output production run. After completion of the production database, additional work was required to produce summary statistics products, format the data for distribution, and create NSRDB documentation.

Data (both measured and modeled) were stored in a flat-file production database that holds one station-year per file and 106 fields, including measurement values and associated flags, per record. For speed of processing, the fixed-length data records were stored in the file as a binary image of the program's data structure, and all production software included a library of database access routines for reading and writing the production files. An NSRDB extractor tool was developed to convert the binary data to ASCII comma-separated value format to facilitate viewing or ancillary processing of the data by the production and reviewing teams.

During processes, backup copies of the database files were kept at each stage to guard against data loss or corruption and support easy modifications to processes. As software was developed, tested, and modified, this scheme allowed the production team to easily revert to a previous step and commence processing with modified software without having to reconstruct the entire database from the first step.

The production database was initially created by filling only fields for the date and time, the calculated extraterrestrial solar radiation, and the solar geometry (solar zenith and azimuth angles). The remaining data fields were flagged as missing. Each significant step in the process to complete the database is detailed below.

2.3.1 Meteorological Data Ingest

For the 1961–1990 NSRDB, all hourly meteorological data were supplied to the project in the NCDC TD-3280 format (NCDC 1991), which consisted of simple hourly records with a top-of-hour timestamp. This was imminently compatible with the hourly records of the NSRDB.

The newer NCDC ISD format (NCDC 2004) has the ability to hold data with minute-resolution timestamps. Many observations with an on-the-hour timestamp in TD-3280 are actually taken at other times of the hour, and these data are represented in ISD at the actual time of observation. Further, some observations are recorded multiple times during an hour in the ISD data set. This required sorting and time-shifting of the meteorological data to conform to the NSRDB top-of-hour realm.

During reading of records from the ISD data file, each field of interest was identified, its timestamp recorded, and a validity score assigned based on its proximity to the top of the hour. Values with a timestamp more than 15 minutes before or after the top of the hour were discarded as non-representative of the NSRDB timestamp. From these candidate values for each parameter, the one closest to the top of the hour was chosen to be included in the NSRDB as that hour's value. Fields for which no value was found were marked as missing. All ISD flags were transferred to the NSRDB flag fields. (When fields were missing and subsequently filled, the ISD flag for missing data was replaced with an NSRDB filled-data flag.)

Special consideration was given to these fields:

- **Station pressure**
  If station barometric pressure was missing, the field was calculated from sea level pressure, dry-bulb temperature, and ISD altimeter setting if those fields were present.

- **Wind direction**
  With a wind speed of 0, ISD uses a missing value flag for the wind direction field (as the vector value is undefined at magnitude 0). To avoid the appearance of missing data in the NSRDB, a convention was adopted that placed 0 in the NSRDB field when wind speed is 0. To avoid ambiguity with measured vector values, winds from the north are given a direction value of 360º in the NSRDB.

2.3.2 Cloud Derivations

The supplemental cloud data from NCDC was processed with the ISD data and converted to values of percent cloud cover for total and opaque cloud cover (see Section 2.1.2). These results were placed in the NSRDB production database. These percent values were converted to the nearest tenths for running the METSTAT model and inclusion in the NSRDB distribution files.

A process was run to create the cloud distribution probability tables, which were kept in files external to the NSRDB database for use in the subsequent process to fill total or opaque cloud fields when one of the two observations was missing (see Section 2.1.2).

2.3.3 Aerosols, Albedo, Water Vapor, and Ozone

- **Aerosols**
  Using the methods described in Section 2.2.1.2, monthly mean aerosol values for each pixel in the SUNY grid were produced. For each ground station in the NSRDB, the 12 monthly mean values were extracted from the corresponding cell and then duplicated for each of the 20 years in the 1991–2010 NSRDB update period of record. The 20-year time series of monthly mean values were then interpolated using a mean-preserving smoothing algorithm (Rymes 2001) that produced daily values. These values were then adjusted for the effects of the Mount Pinatubo eruption for years 1991–1994. The final daily values were then duplicated for the 24 hours in each day. The smoothed daily values were subsequently randomly perturbed by the METSTAT model.

- **Albedo**
  A climatological monthly mean albedo value for each station in the NSRDB was

calculated according to the procedure in Section 2.2.1.5. These monthly mean values were then duplicated for each hour in the month to create a complete time series. No daily interpolation was performed.

- **Water vapor**
  A time series of hourly water vapor values was produced for the period of record according to the methods described in Section 2.2.1.4 and then added to the production database.

- **Ozone**
  A time series of daily ozone values was produced using the methods described in Section 2.2.1.3 and then added to the production database.

2.3.4 Data Filling

A single program performed the data-filling methods described in Section 2.2.2. The fields filled are listed in Table 20. For Method 1 (short-term interpolation), the table lists the maximum number of hours for interpolated data.

Table 20. Filled Parameters and Short-Term Filling Limits

Parameter	Maximum Interpolation (Hours)
Total and opaque cloud cover	5
Dry-bulb and dew-point temperatures, daytime	5
Dry-bulb and dew-point temperatures, nighttime	One night
Relative humidity	5
Ceiling height	5
Barometric pressure	47
Wind speed and direction	5
Aerosol optical depth	5
Precipitable water	5
Ozone	23

For the long-term filling process, which filled gaps using a continuous data series from the same dates in other years, a dividing line was determined between automated and manual cloud observations at each site. Mixing of these types of cloud data was prevented during filling. Further, when dependent parameters were subjected to long-term filling, the selection algorithm attempted to pull fill data for the related fields from the same records.

Dependent parameters are those for which a change in one can cause a direct change in another. These are:

- Total and opaque clouds and ceiling height
- Dry-bulb and dew-point temperatures
- Wind speed and wind direction.

In all filling methods for clouds, ceiling height, and temperatures, physical relationships were artificially enforced such that values for opaque cloud cover remain less than or equal to total

cloud cover, ceiling height is unlimited with 0 cloud cover, and dew-point temperature remains less than or equal to dry-bulb temperature.

2.3.5 Solar Modeling

The SolarAnywhere® data set was transferred to NREL, where data gaps were filled based on methods outlined in Section 2.2.2. When performing short-term data filling, solar data were interpolated along a cosine-zenith angle curve taking into account airmass. Global and DNI were interpolated thusly, and diffuse was then calculated. Additionally, the diffuse was adjusted and flagged in this process according to the diffuse Rayleigh limit described in Section 2.1.6.

NREL ran the METSTAT model for each site using model input data drawn from each record in the production database and wrote the resulting solar values back to the database. The process also saved to the database the aerosol values randomized by the model. When the process encountered missing input parameters, the METSTAT solar fields were not filled. The model also was run with cloud cover set unconditionally to zero to produce solar data for the clear sky fields (NREL distribution described in Section 1.4.2).

2.3.6 Adding Measured Solar Data

Few solar measurement sites are co-located with meteorological sites. Because of the need for meteorological data to model a complete period of record and the sensitivity of solar geometry to geographic location, *all NSRDB sites with measured solar radiation take on the coordinates of the measurement site rather than the meteorological site*. However, the site name and identifier remain that of the meteorological site (with a bracketed annotation in the name that refers to the measurement site and network). This is necessary to accommodate accurate solar geometry and existing identifiers for cataloging.

All such pairings were within 45 km of each other, and most were much closer. This may lead to some confusion among users who map site coordinates and find a named major international airport located, for example, at a nearby university campus or farm. To mitigate this confusion, NSRDB station metadata list both the meteorological and solar coordinates (see Appendix A), but all solar data are based on the solar site coordinates.

The measured solar data were obtained from the sources shown in Section 2.2.1. A variety of formats included measurements with time resolutions of 1, 3, 5, 15, and 60 minutes. Instrumentation included various makes and models of thermopile instruments, silicon-sensor instruments, and rotating shadowband instruments (also silicon-based).

Several processes were necessary prior to including the solar data in the NSRDB production database:

- The rotating shadowband radiometer data were corrected for spectral biases.
- The data were imported into the Data Quality Management System (DQMS) (Augustyn + Company 2004) for analysis.
- The data were quality-assessed using SERI-QC software (NREL 1993).

- The data were integrated to hourly values (for sub-hourly sampled data sets).
- The hourly data were quality-assessed using SERI-QC.
- The data were exported from DQMS to the NSRDB database.

Each step is described below.

2.3.6.1 Correcting the Rotating Shadowband Radiometer Data

Several sites employ rotating shadowband radiometers as a low-cost method of collecting data. These instruments have known deficiencies related to a nonlinear spectral sensitivity of the sensor, a silicon-based device with a spectral response significantly different from the absorption characteristics of thermal-based solar technologies (Augustyn 2002). This is more apparent for clear-sky conditions and particularly for the diffuse measurement, under which the sensor sees a deep blue sky, a portion of the spectrum for which the device is less sensitive.

Some newer models of the instrument have compensation built in to the data acquisition system, but no data used for the NSRDB had this feature. Using a correction method refined by the University of Oregon (Vignola 2006), all rotating shadowband data were processed and the files created with corrected data to minimize the spectral bias. The original uncorrected data were not used for the NSRDB.

2.3.6.2 Importing to DQMS

Each data set was imported to the DQMS software in its native time resolution to provide a common format-independent platform for all solar measurements. This required special reformatting software for each data source to put the data in a form easily ingested by DQMS.

2.3.6.3 Quality-Assessing the Data

DQMS includes the SERI-QC quality assessment program, and SERI-QC boundaries of expected values were determined for each site-month of data using the QC-FIT program (a SERI-QC utility). Each data set was then subjected to SERI-QC to determine its overall quality and filter data with egregious errors from the subsequent process to integrate the hourly values. Only measured fields were imported, as some data sets include calculated parameters based on two other components. This excluded all of the rotating shadowband DNI data, as it is a calculated field. The SERI-QC software produces a better analysis of data quality without the use of calculated fields. (The direct component was later calculated for the hourly NSRDB values.)

2.3.6.4 Integrating and Quality-Assessing the Hourly Data Values

The sub-hourly resolution data were exported from DQMS, integrated in a separate process, and then re-imported to DQMS as new hourly data sets. New SERI-QC boundaries were determined for each site-month of the hourly data and all data flagged in DQMS.

2.3.6.5 Exporting Hourly Data for the NSRDB

Hourly data files with SERI-QC flags were exported from DQMS and prepared for importing to the NSRDB. The process to add the data and flags to the NSRDB included functions to fill missing solar values of global, direct, or diffuse if the other two components were present.

This included all of the rotating shadowband radiometer data, other sites that routinely recorded only two components, and occasional fields missing in three-component sites because of operational or data quality problems. All calculated data were specifically flagged in the NSRDB (see Section 1.4.5.1).

2.3.7 Statistical Summaries and Site Classification

Software was created to produce the statistics and threshold files (see Section 1.4.4) according to specifications for the 1961–1990 NSRDB, with minor format changes to accommodate different years and a longer station identifier. This process also created tables of percent missing and data quality for each site. These were used for the plots in Appendix A. Based on an analysis of these data, the software also assigned site classifications. A Visual Basic program developed for Microsoft Excel and Word automated the creation of Appendix A.

The site classification assignments are an important conformance to specifications that data quality be communicated to users. Classifications were based on the uncertainty of the data and its completeness. Because of plans to create value-added data sets, such as Typical Meteorological Year, Class I and II stations were required to have no missing data in the following fields:

- Solar (global, direct, diffuse)
- Temperature (dry-bulb, dew-point)
- Humidity
- Wind speed
- Aerosol optical depth
- Precipitable water
- Station pressure.

If any data were missing in these fields, the station was designated Class III. If a station had less than 3 years of significant data density, it was not included in the NSRDB. (About half of the approximately 3,000 ISD stations in the United States were excluded for this reason.)

The algorithm distinguishes between Class I and II stations by examining the uncertainty for each hourly modeled value in the global field. If less than 25% of the data for the period of record exceeds an uncertainty of 11%, the station receives a Class I designation. Otherwise, it receives a Class II designation. Although the 11% threshold between high and low uncertainty may seem arbitrary, based on the uncertainty calculations in Section 1.4.5.1, this value easily discriminates between the data modeled with good human-observed or satellite-derived cloud cover and the filled or statistically derived cloud cover. It is important to note that because of the changes in NWS cloud observations, *all* sites had significant periods of high uncertainty data in the middle 1990s. But, in this sense, the user can more easily identify the best available data (not to imply or be confused with perfect data) and be alerted to data with higher uncertainty. The plots of high and low uncertainties in Appendix A allow users to further refine thresholds for station quality based on the requirements of specific applications.

2.3.8 Distribution Data Extraction

Extraction software was written to create the files to transfer the distribution fields to NCDC. The NCDC data set is a subset of the production database and contains those fields deemed most valuable to a broad range of users.

A different version of the production database was created for distribution at NREL. This data set contains all fields except for the meteorological fields, but it adds more solar fields.

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Appendix A – Station Quality

This section contains location and data quality information for all sites in the NSRDB listed in order by state and station name. At the end of the appendix, Table A-1 lists all sites ordered by site ID and includes the class designation, whether the site holds measured data, and the page number for the quality plots in this appendix. The annotated figure below describes the format for station information.

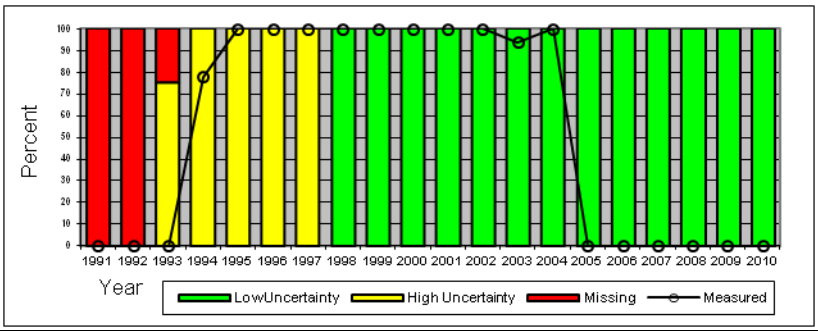
Station ID
The six-digit USAF site code

Station Name/State If a site contains measured data, the name of the affiliated network appears in square brackets as part of the station name. Abbreviations for the networks are:

- ARM – Atmospheric Radiation Measurement, DOE
- FSEC – Florida Solar Energy Center, State of Florida
- ISIS – Integrated Surface Irradiance Study (NOAA)
- NREL – Measurement and Instrumentation Data Center, NREL
- SURFRAD – Surface Radiation Budget Network (NOAA)
- UO – University of Oregon Solar Radiation Monitoring Laboratory
- UT – University of Texas Solar Energy Laboratory

If the name of the measurement site is dissimilar from the meteorological site, that name appears in the brackets also. In this example, the solar site is similar to the measurement site name (Moab, UT), and only the network affiliation abbreviation appears in brackets (University of Oregon Solar Radiation Monitoring Laboratory).

724776	MOAB/CANYONLANDS [UO], UT
Class III (with some measured)	
Solar Coordinates	
Latitude: 38.58˚	
Longitude: -109.54˚	
Elevation: 1000 m	
Meteorological Coordinates	
Latitude: 38.75˚	
Longitude: -109.75˚	
Elevation: 1388 m	
Time Zone: -7	



Station Information

Class Designation – If the site holds measured data (as this one does), the class designation is followed by a notation that measured data are included.

Solar Coordinates – These coordinates correspond to those used for the modeled or measured *solar radiation* data.

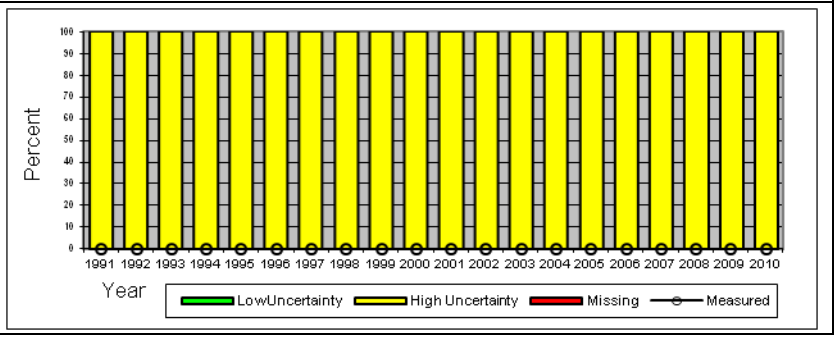
Meteorological Coordinates – These are the coordinates of the station collecting the *meteorological* data. If the station holds no measured solar data, these will match the solar coordinates. Because of the sensitivity of solar measurements to geographic location, coordinates for sites with measured solar data default to those of the solar measurement site. In such cases, the meteorological coordinates are included for purposes of documentation.

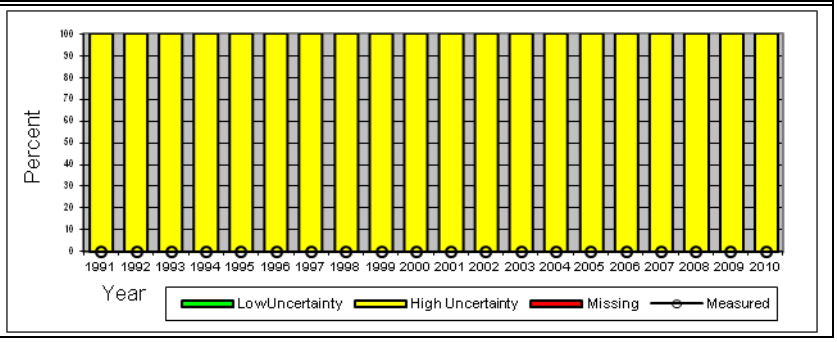
Latitude and Longitude – These are in decimal degrees—negative indicates west of the prime meridian. Elevation is the site altitude above mean sea level (meters). Time zone is the hourly offset from GMT (negative is west of GMT).

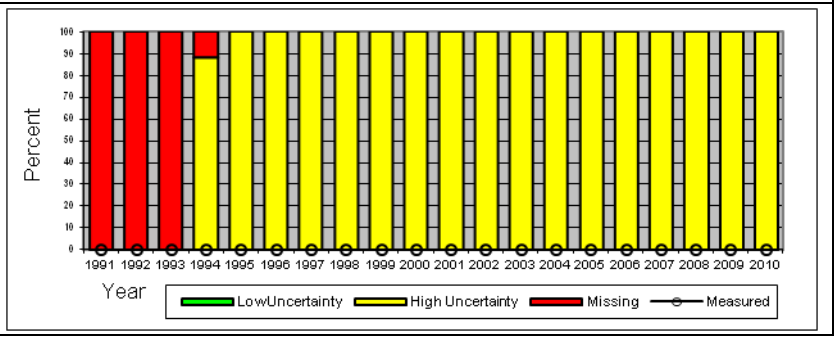
Data Quality Plot

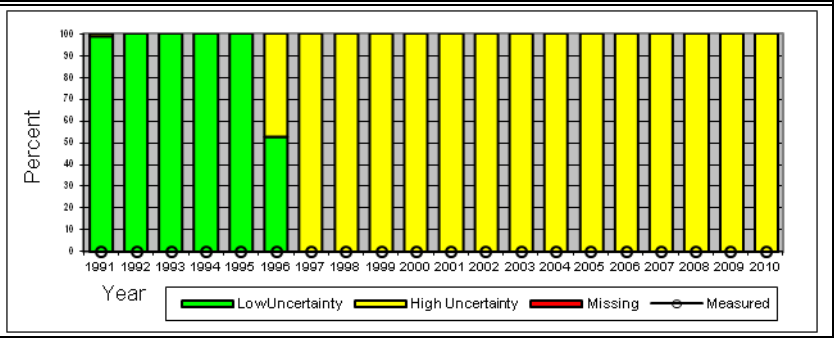
This plot shows three aspects of data quality on the same plot:

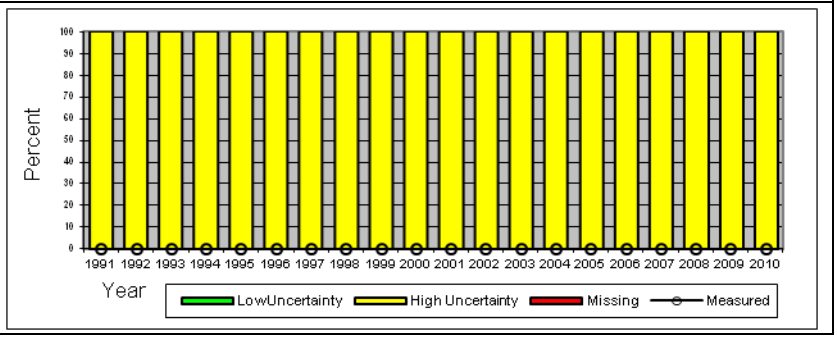
- Proportion of low and high uncertainty data as green and yellow stacked bars respectively
- Proportion of missing data as red bars
- Percent of measured data present in the data set as the black line graph with circle markers.

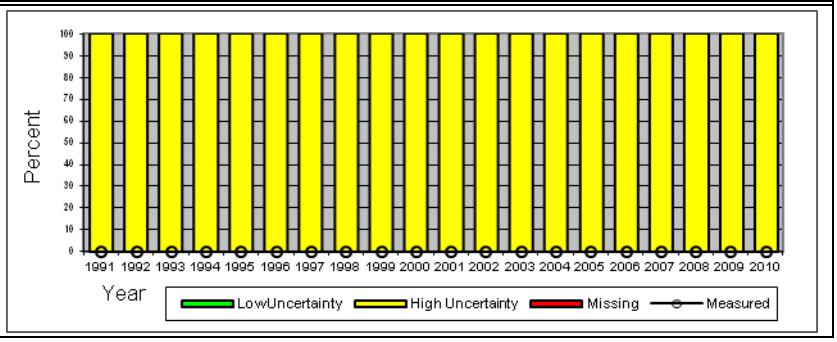
704540	ADAK NAS, AK
Class II	
Solar Coordinates	
Latitude: 51.883˚	
Longitude: -176.65˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 51.883˚	
Longitude: -176.65˚	
Elevation: 5 m	
Time Zone: -10	

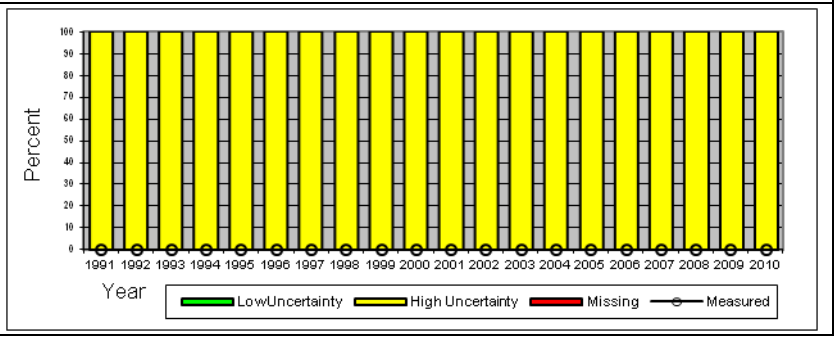
701718	AMBLER, AK
Class II	
Solar Coordinates	
Latitude: 67.1˚	
Longitude: -157.85˚	
Elevation: 88 m	
Meteorological Coordinates	
Latitude: 67.1˚	
Longitude: -157.85˚	
Elevation: 88 m	
Time Zone: -9	

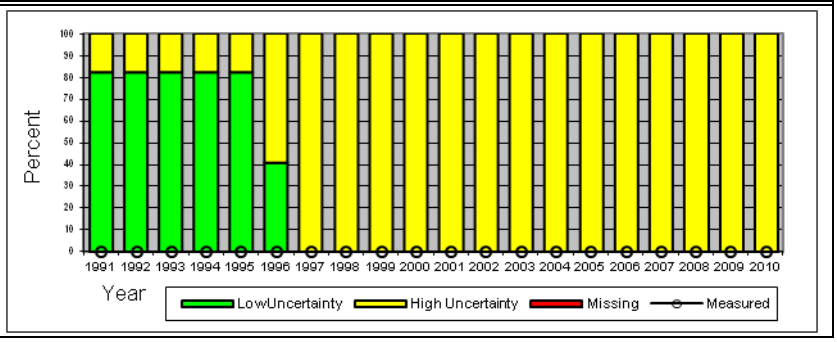
701625	ANAKTUVUK PASS, AK
Class III	
Solar Coordinates	
Latitude: 68.133˚	
Longitude: -151.733˚	
Elevation: 657 m	
Meteorological Coordinates	
Latitude: 68.133˚	
Longitude: -151.733˚	
Elevation: 657 m	
Time Zone: -9	

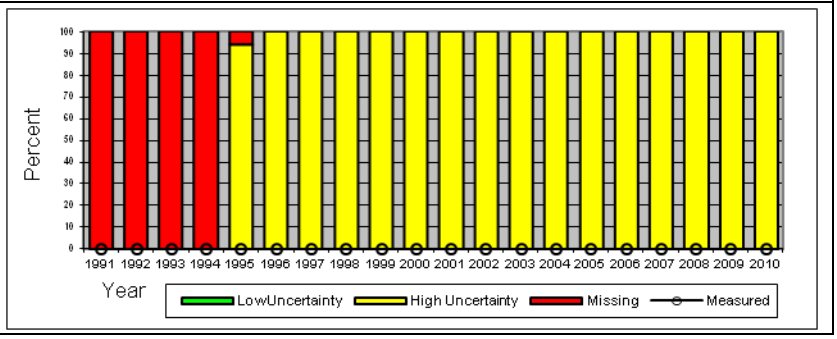
702730	ANCHORAGE INTL AP, AK
Class II	
Solar Coordinates	
Latitude: 61.183˚	
Longitude: -150˚	
Elevation: 35 m	
Meteorological Coordinates	
Latitude: 61.183˚	
Longitude: -150˚	
Elevation: 35 m	
Time Zone: -9	

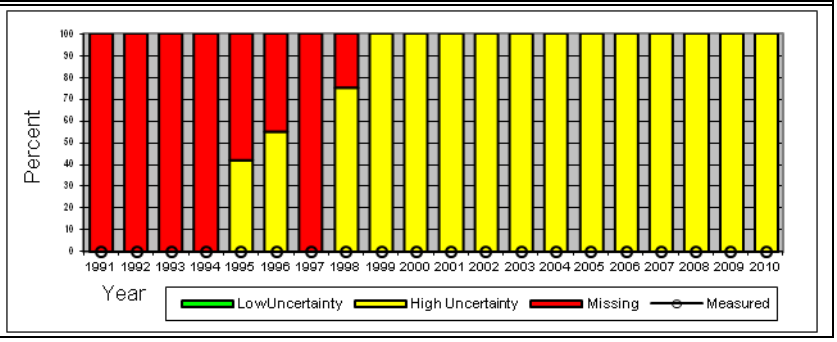
702735	ANCHORAGE MERRILL FIELD, AK
Class II	
Solar Coordinates	
Latitude: 61.217˚	
Longitude: -149.85˚	
Elevation: 42 m	
Meteorological Coordinates	
Latitude: 61.217˚	
Longitude: -149.85˚	
Elevation: 42 m	
Time Zone: -9	

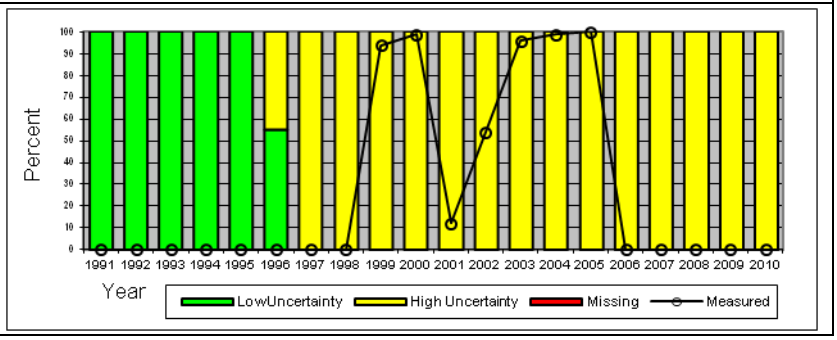
702720	ANCHORAGE/ELMENDORF, AK
Class II	
Solar Coordinates	
Latitude: 61.25˚	
Longitude: -149.8˚	
Elevation: 59 m	
Meteorological Coordinates	
Latitude: 61.25˚	
Longitude: -149.8˚	
Elevation: 59 m	
Time Zone: -9	

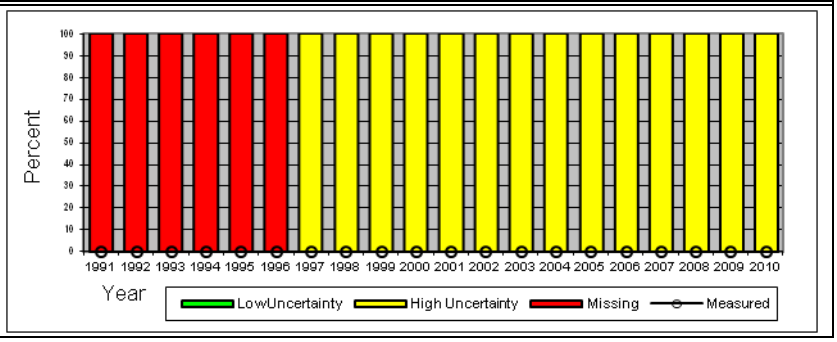
702320	ANIAK AIRPORT, AK
Class II	
Solar Coordinates	
Latitude: 61.583˚	
Longitude: -159.533˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 61.583˚	
Longitude: -159.533˚	
Elevation: 26 m	
Time Zone: -9	

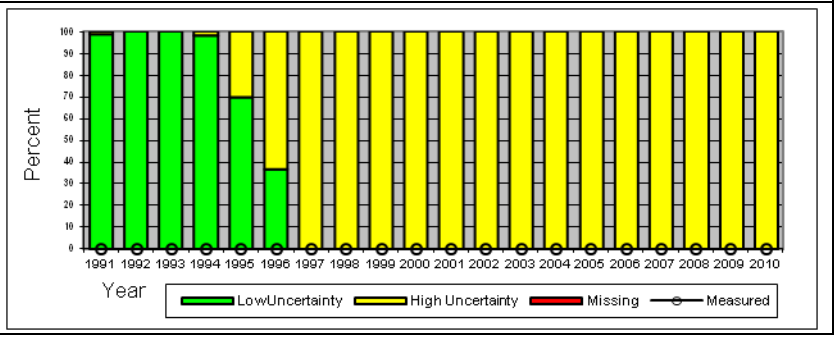
703980	ANNETTE ISLAND AP, AK
Class II	
Solar Coordinates	
Latitude: 55.05˚	
Longitude: -131.567˚	
Elevation: 33 m	
Meteorological Coordinates	
Latitude: 55.05˚	
Longitude: -131.567˚	
Elevation: 33 m	
Time Zone: -9	

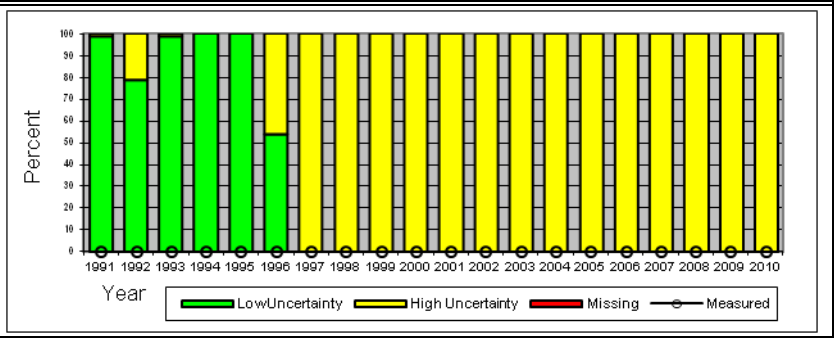
702075	ANVIK, AK
Class III	
Solar Coordinates	
Latitude: 62.65˚	
Longitude: -160.183˚	
Elevation: 99 m	
Meteorological Coordinates	
Latitude: 62.65˚	
Longitude: -160.183˚	
Elevation: 99 m	
Time Zone: -9	

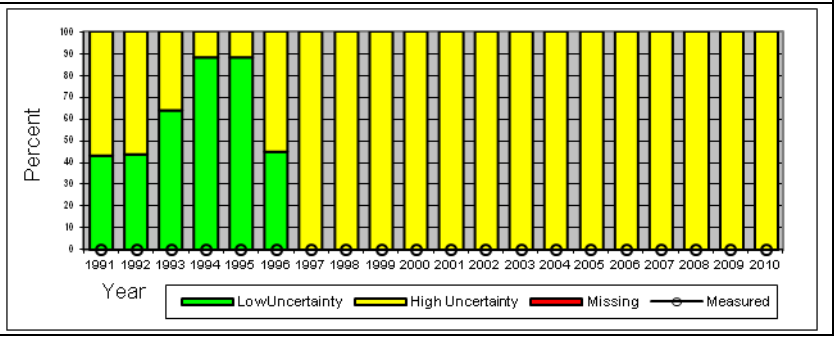
701945	ARCTIC VILLAGE, AK
Class III	
Solar Coordinates	
Latitude: 68.117˚	
Longitude: -145.567˚	
Elevation: 636 m	
Meteorological Coordinates	
Latitude: 68.117˚	
Longitude: -145.567˚	
Elevation: 636 m	
Time Zone: -9	

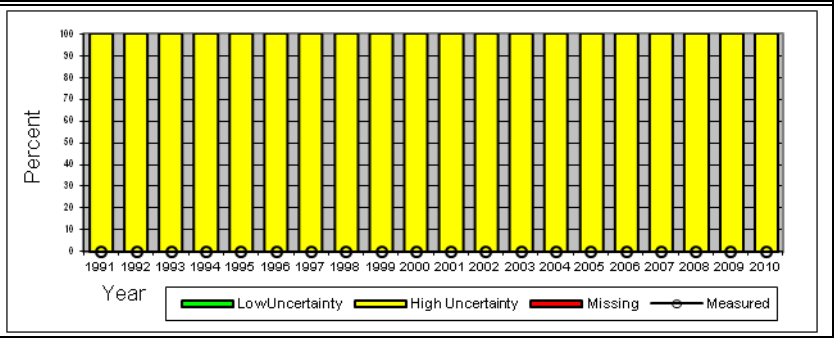
700260	BARROW W POST-W ROGERS ARPT [NSA - ARM], AK
Class II (with some measured)	
Solar Coordinates	
Latitude: 71.32˚	
Longitude: -156.62˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 71.283˚	
Longitude: -156.767˚	
Elevation: 9 m	
Time Zone: -9	

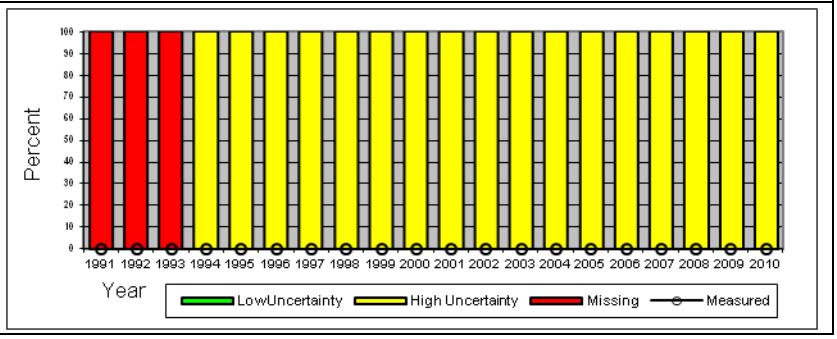
700860	BARTER IS WSO AP, AK
Class III	
Solar Coordinates	
Latitude: 70.133˚	
Longitude: -143.633˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 70.133˚	
Longitude: -143.633˚	
Elevation: 12 m	
Time Zone: -9	

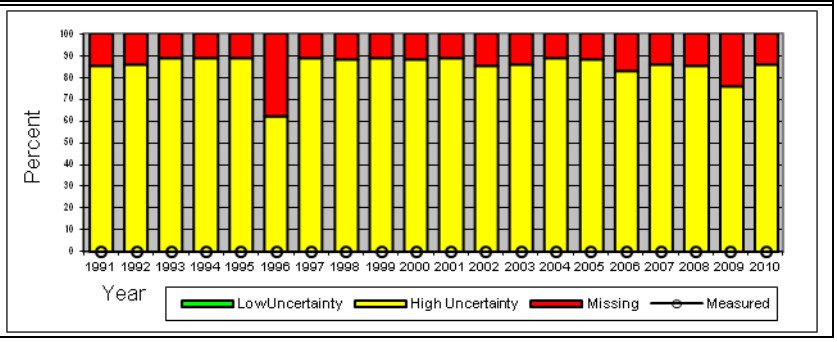
702190	BETHEL AIRPORT, AK
Class II	
Solar Coordinates	
Latitude: 60.783˚	
Longitude: -161.833˚	
Elevation: 38 m	
Meteorological Coordinates	
Latitude: 60.783˚	
Longitude: -161.833˚	
Elevation: 38 m	
Time Zone: -9	

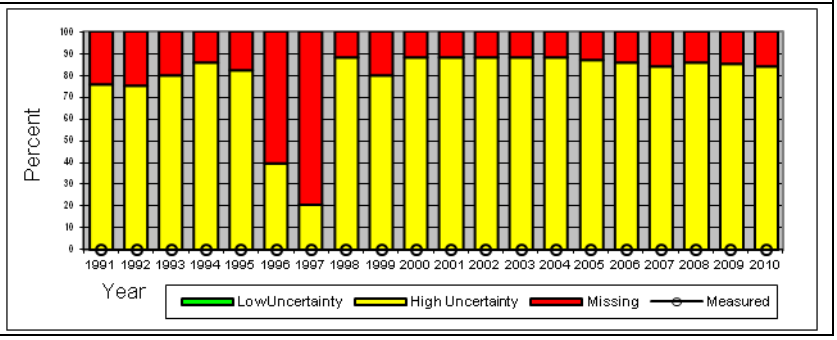
701740	BETTLES FIELD, AK
Class II	
Solar Coordinates	
Latitude: 66.917˚	
Longitude: -151.517˚	
Elevation: 196 m	
Meteorological Coordinates	
Latitude: 66.917˚	
Longitude: -151.517˚	
Elevation: 196 m	
Time Zone: -9	

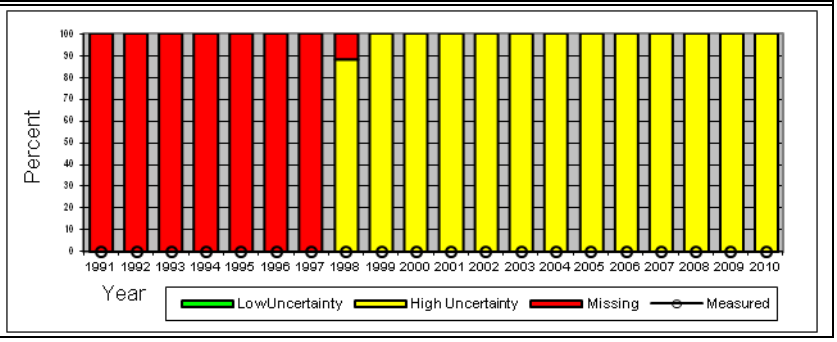
702670	BIG DELTA ALLEN AAF, AK
Class II	
Solar Coordinates	
Latitude: 64˚	
Longitude: -145.717˚	
Elevation: 386 m	
Meteorological Coordinates	
Latitude: 64˚	
Longitude: -145.717˚	
Elevation: 386 m	
Time Zone: -9	

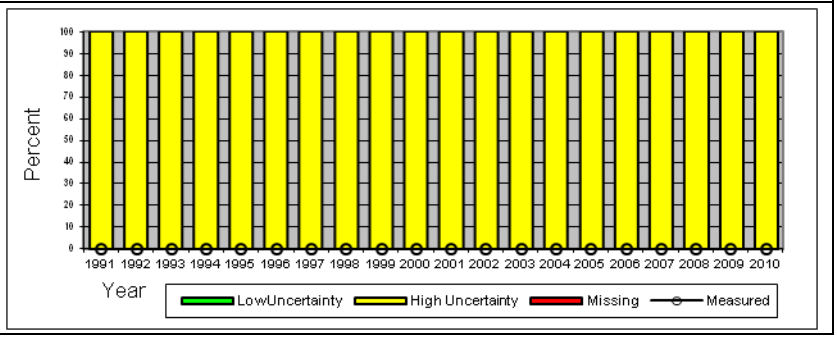
702986	BIG RIVER LAKE, AK
Class II	
Solar Coordinates	
Latitude: 60.817˚	
Longitude: -152.3˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 60.817˚	
Longitude: -152.3˚	
Elevation: 12 m	
Time Zone: -9	

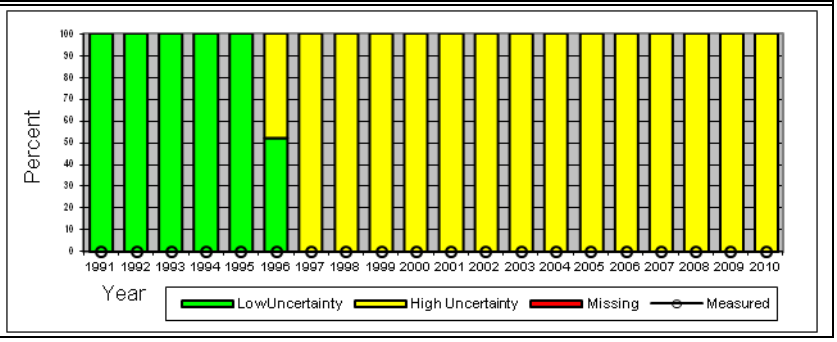
702746	BIRCHWOOD, AK
Class III	
Solar Coordinates	
Latitude: 61.417˚	
Longitude: -149.517˚	
Elevation: 30 m	
Meteorological Coordinates	
Latitude: 61.417˚	
Longitude: -149.517˚	
Elevation: 30 m	
Time Zone: -9	

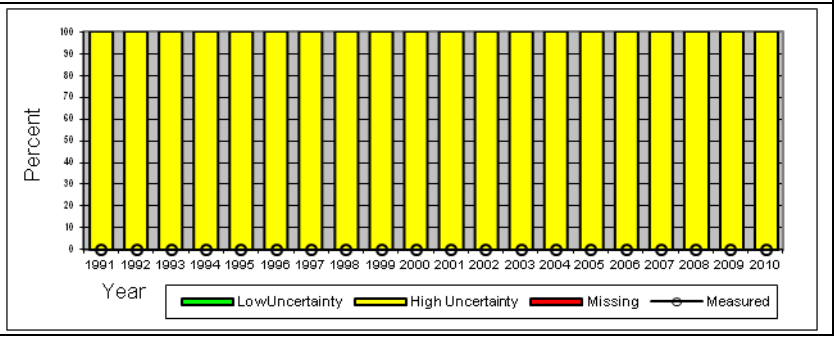
702648	CANTWELL, AK
Class III	
Solar Coordinates	
Latitude: 63.4˚	
Longitude: -148.95˚	
Elevation: 668 m	
Meteorological Coordinates	
Latitude: 63.4˚	
Longitude: -148.95˚	
Elevation: 668 m	
Time Zone: -9	

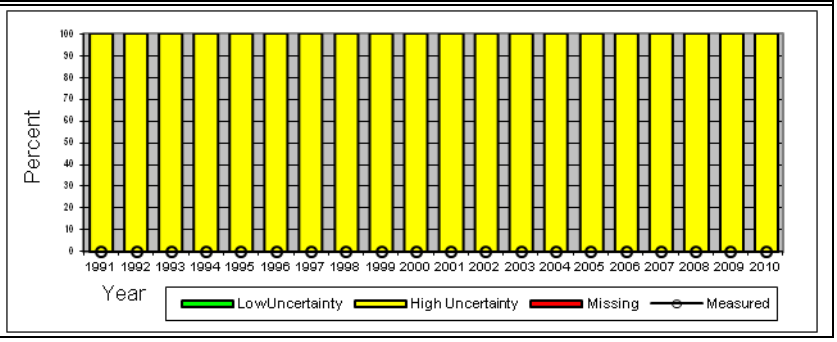
701745	CHANDALAR LAKE, AK
Class III	
Solar Coordinates	
Latitude: 67.5˚	
Longitude: -148.483˚	
Elevation: 585 m	
Meteorological Coordinates	
Latitude: 67.5˚	
Longitude: -148.483˚	
Elevation: 585 m	
Time Zone: -9	

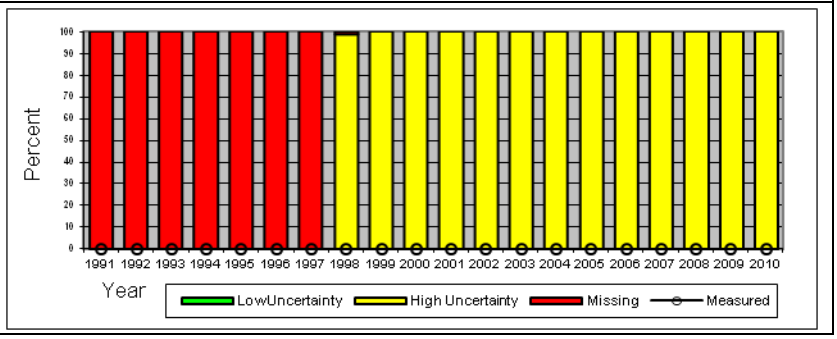
703333	CHIGNIK, AK
Class III	
Solar Coordinates	
Latitude: 56.2˚	
Longitude: -158.233˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 56.2˚	
Longitude: -158.233˚	
Elevation: 15 m	
Time Zone: -9	

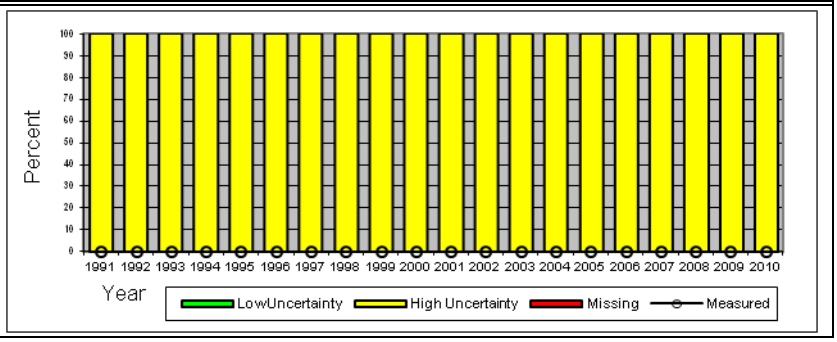
702606	CHULITNA, AK
Class II	
Solar Coordinates	
Latitude: 62.883˚	
Longitude: -149.833˚	
Elevation: 381 m	
Meteorological Coordinates	
Latitude: 62.883˚	
Longitude: -149.833˚	
Elevation: 381 m	
Time Zone: -9	

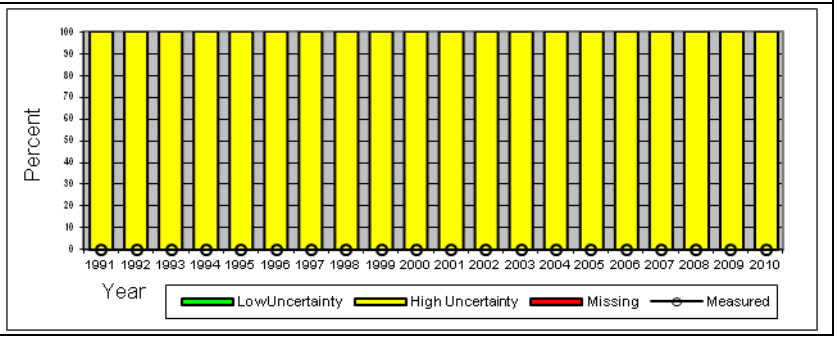
703160	COLD BAY ARPT, AK
Class II	
Solar Coordinates	
Latitude: 55.2˚	
Longitude: -162.717˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 55.2˚	
Longitude: -162.717˚	
Elevation: 29 m	
Time Zone: -9	

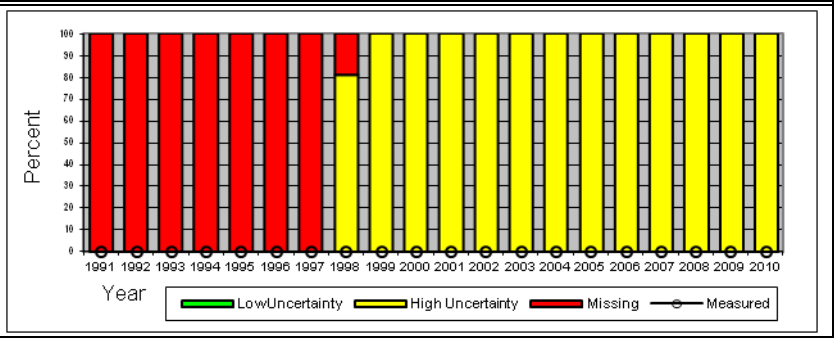
702960	CORDOVA, AK
Class II	
Solar Coordinates	
Latitude: 60.5˚	
Longitude: -145.5˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 60.5˚	
Longitude: -145.5˚	
Elevation: 12 m	
Time Zone: -9	

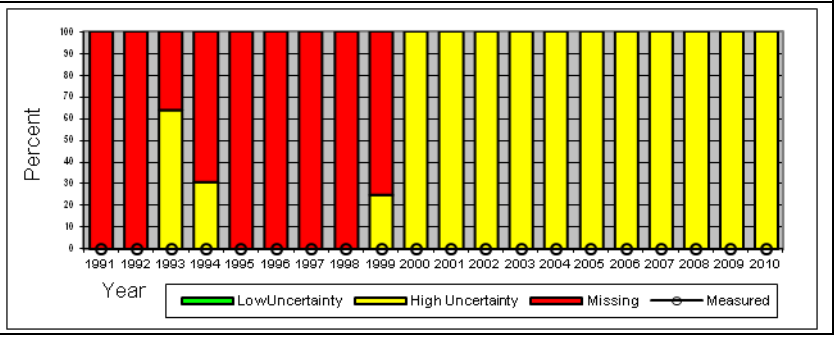
700637	DEADHORSE, AK
Class II	
Solar Coordinates	
Latitude: 70.2˚	
Longitude: -148.483˚	
Elevation: 23 m	
Meteorological Coordinates	
Latitude: 70.2˚	
Longitude: -148.483˚	
Elevation: 23 m	
Time Zone: -9	

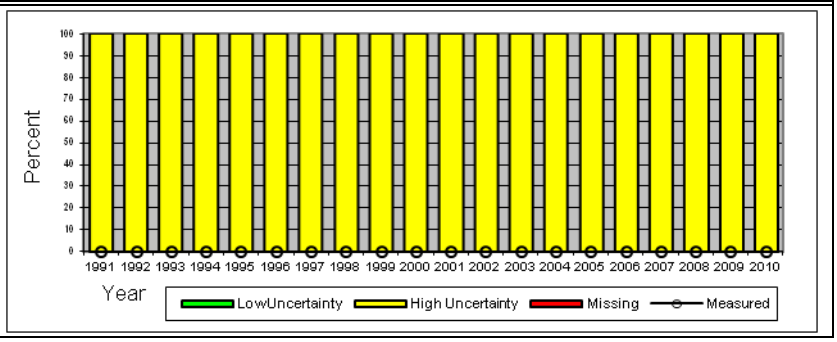
701333	DEERING, AK
Class III	
Solar Coordinates	
Latitude: 66.083˚	
Longitude: -162.75˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 66.083˚	
Longitude: -162.75˚	
Elevation: 9 m	
Time Zone: -9	

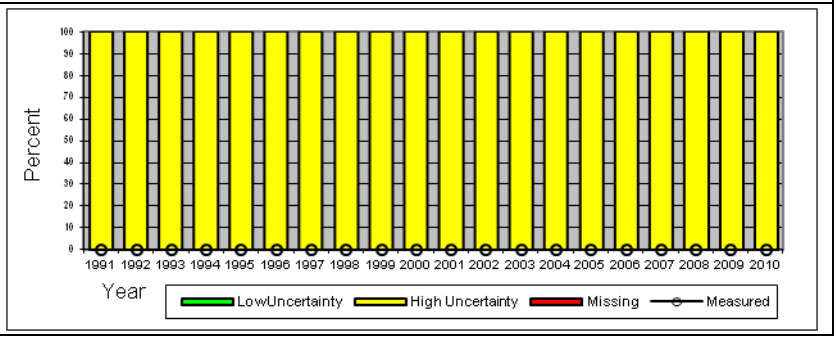
703210	DILLINGHAM (AMOS), AK
Class II	
Solar Coordinates	
Latitude: 59.05˚	
Longitude: -158.517˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 59.05˚	
Longitude: -158.517˚	
Elevation: 29 m	
Time Zone: -9	

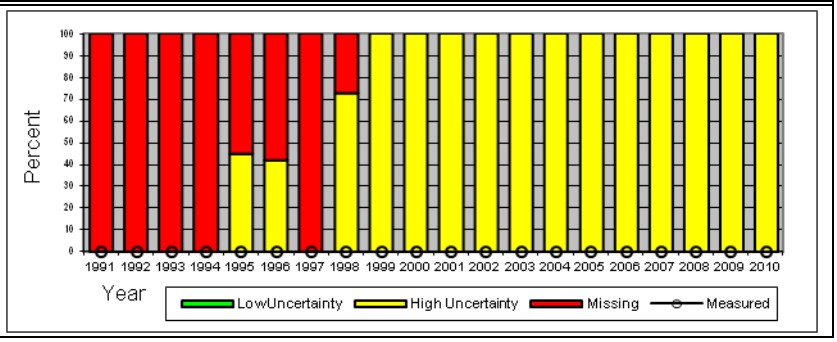
704890	DUTCH HARBOR, AK
Class II	
Solar Coordinates	
Latitude: 53.9˚	
Longitude: -166.55˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 53.9˚	
Longitude: -166.55˚	
Elevation: 4 m	
Time Zone: -9	

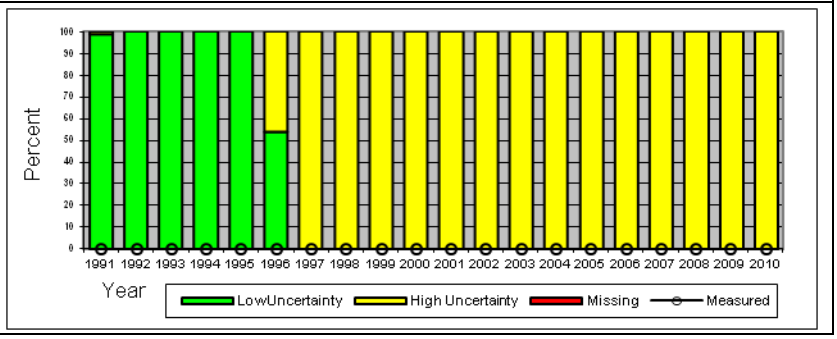
701975	EAGLE, AK
Class III	
Solar Coordinates	
Latitude: 64.783˚	
Longitude: -141.167˚	
Elevation: 268 m	
Meteorological Coordinates	
Latitude: 64.783˚	
Longitude: -141.167˚	
Elevation: 268 m	
Time Zone: -9	

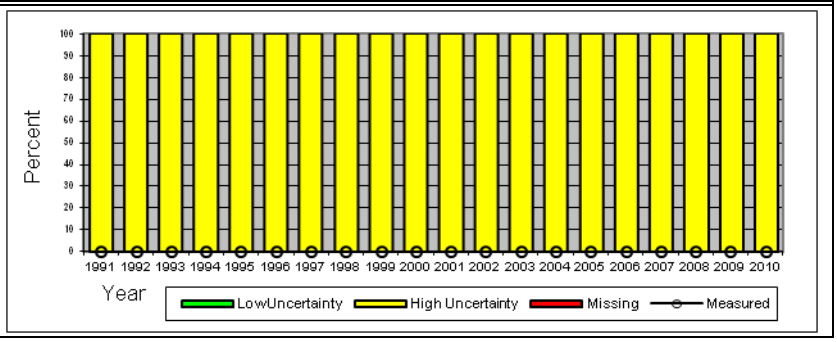
703334	EGEGIK(AWOS), AK
Class III	
Solar Coordinates	
Latitude: 58.417˚	
Longitude: -157.367˚	
Elevation: 119 m	
Meteorological Coordinates	
Latitude: 58.417˚	
Longitude: -157.367˚	
Elevation: 119 m	
Time Zone: -9	

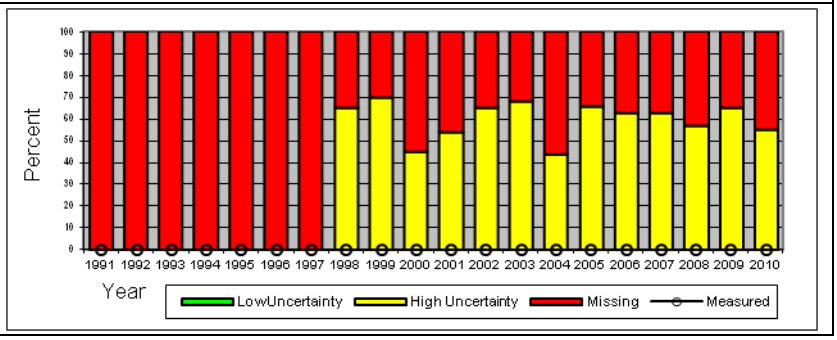
703817	ELFIN COVE SEAPLANE, AK
Class III	
Solar Coordinates	
Latitude: 58.2˚	
Longitude: -136.35˚	
Elevation: 0 m	
Meteorological Coordinates	
Latitude: 58.2˚	
Longitude: -136.35˚	
Elevation: 0 m	
Time Zone: -9	

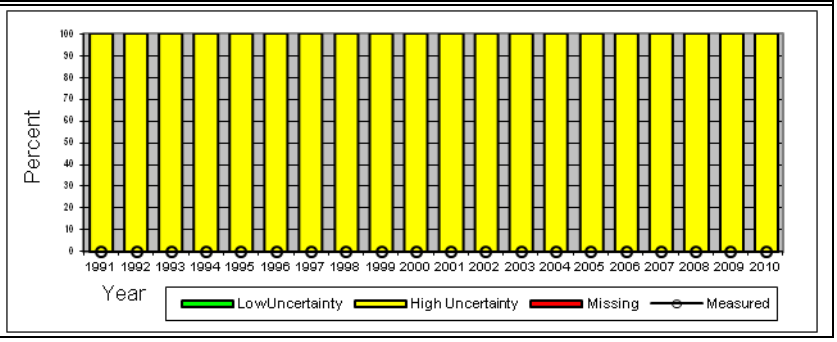
702084	EMMONAK, AK
Class II	
Solar Coordinates	
Latitude: 62.783˚	
Longitude: -164.5˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 62.783˚	
Longitude: -164.5˚	
Elevation: 4 m	
Time Zone: -9	

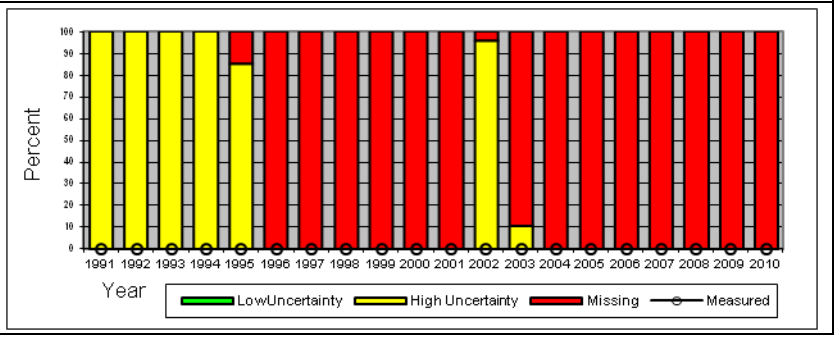
702715	EUREKA, AK
Class III	
Solar Coordinates	
Latitude: 61.933˚	
Longitude: -147.167˚	
Elevation: 1002 m	
Meteorological Coordinates	
Latitude: 61.933˚	
Longitude: -147.167˚	
Elevation: 1002 m	
Time Zone: -9	

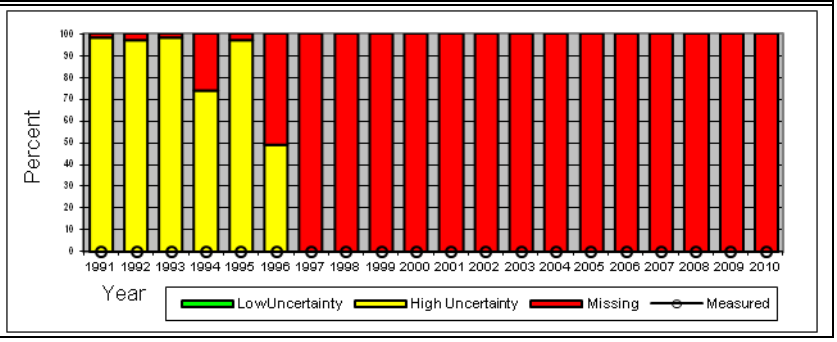
702610	FAIRBANKS INTL ARPT, AK
Class II	
Solar Coordinates	
Latitude: 64.817˚	
Longitude: -147.85˚	
Elevation: 133 m	
Meteorological Coordinates	
Latitude: 64.817˚	
Longitude: -147.85˚	
Elevation: 133 m	
Time Zone: -9	

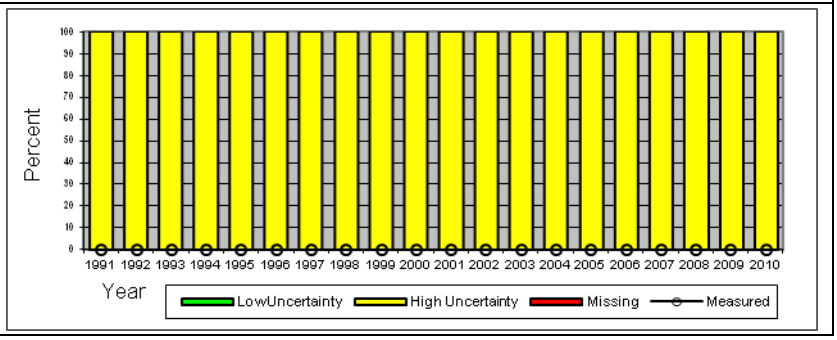
702650	FAIRBANKS/EIELSON A, AK
Class II	
Solar Coordinates	
Latitude: 64.65˚	
Longitude: -147.1˚	
Elevation: 167 m	
Meteorological Coordinates	
Latitude: 64.65˚	
Longitude: -147.1˚	
Elevation: 167 m	
Time Zone: -9	

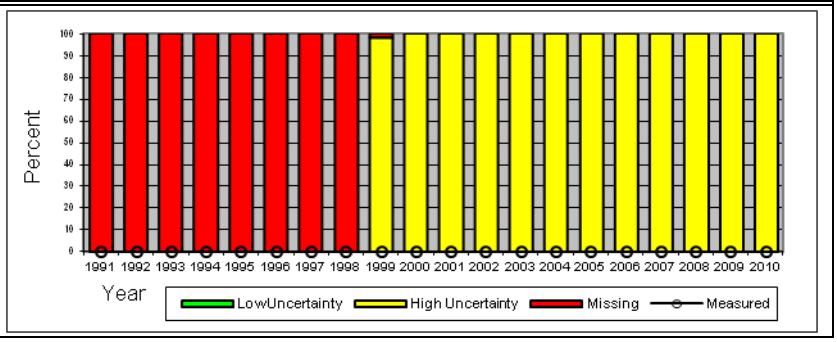
702312	FAREWELL FAA AP, AK
Class III	
Solar Coordinates	
Latitude: 62.517˚	
Longitude: -153.883˚	
Elevation: 458 m	
Meteorological Coordinates	
Latitude: 62.517˚	
Longitude: -153.883˚	
Elevation: 458 m	
Time Zone: -9	

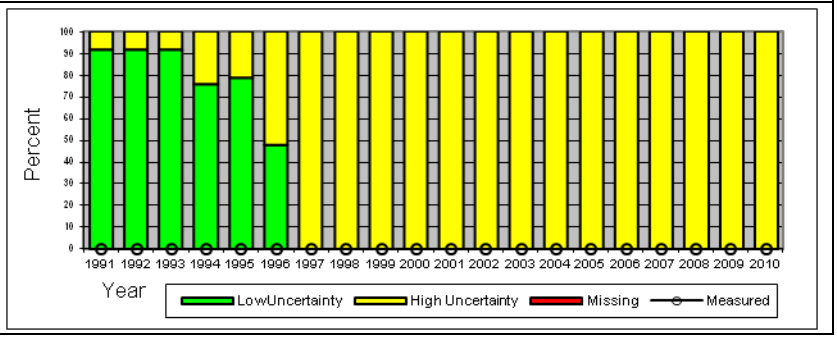
701940	FORT YUKON, AK
Class II	
Solar Coordinates	
Latitude: 66.567˚	
Longitude: -145.267˚	
Elevation: 136 m	
Meteorological Coordinates	
Latitude: 66.567˚	
Longitude: -145.267˚	
Elevation: 136 m	
Time Zone: -9	

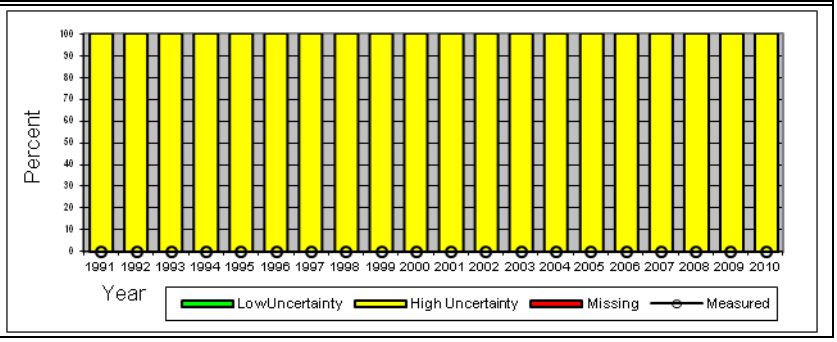
702700	FT. RICHARDSON/BRYA, AK
Class III	
Solar Coordinates	
Latitude: 61.267˚	
Longitude: -149.65˚	
Elevation: 115 m	
Meteorological Coordinates	
Latitude: 61.267˚	
Longitude: -149.65˚	
Elevation: 115 m	
Time Zone: -9	

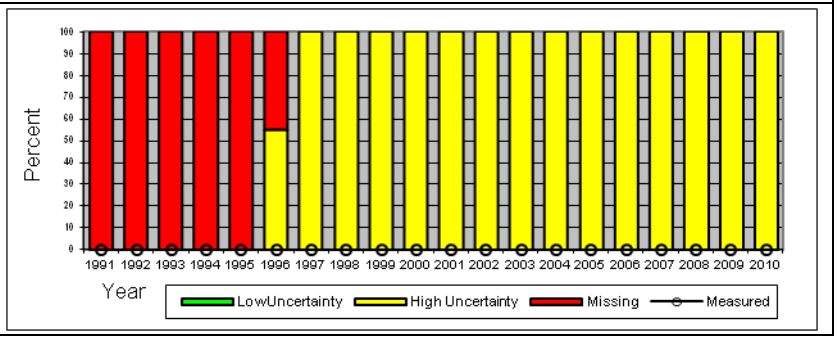
703816	FUNTER BAY SEAPLANE, AK
Class III	
Solar Coordinates	
Latitude: 58.25˚	
Longitude: -134.9˚	
Elevation: 0 m	
Meteorological Coordinates	
Latitude: 58.25˚	
Longitude: -134.9˚	
Elevation: 0 m	
Time Zone: -9	

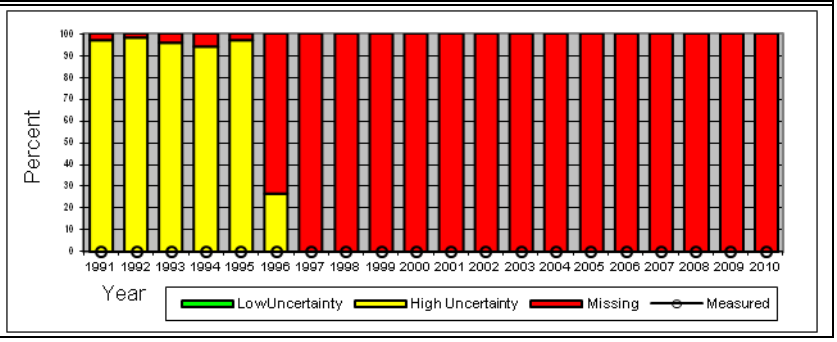
702040	GAMBELL, AK
Class II	
Solar Coordinates	
Latitude: 63.783˚	
Longitude: -171.75˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 63.783˚	
Longitude: -171.75˚	
Elevation: 8 m	
Time Zone: -9	

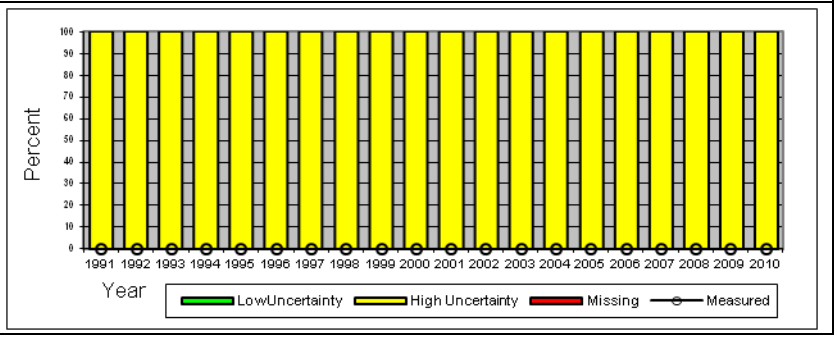
701995	GOLOVIN, AK
Class III	
Solar Coordinates	
Latitude: 64.55˚	
Longitude: -163.05˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 64.55˚	
Longitude: -163.05˚	
Elevation: 8 m	
Time Zone: -9	

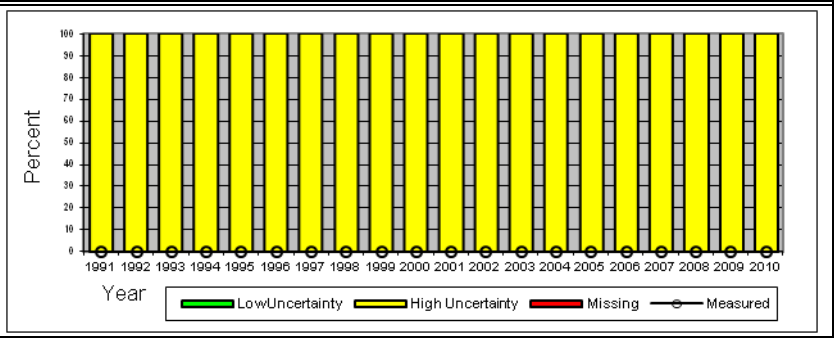
702710	GULKANA INTERMEDIATE FIELD, AK
Class II	
Solar Coordinates	
Latitude: 62.15˚	
Longitude: -145.45˚	
Elevation: 478 m	
Meteorological Coordinates	
Latitude: 62.15˚	
Longitude: -145.45˚	
Elevation: 478 m	
Time Zone: -9	

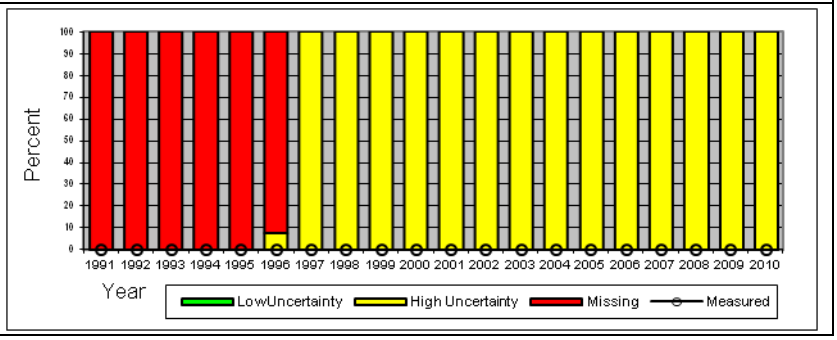
703670	GUSTAVUS, AK
Class II	
Solar Coordinates	
Latitude: 58.417˚	
Longitude: -135.7˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 58.417˚	
Longitude: -135.7˚	
Elevation: 12 m	
Time Zone: -9	

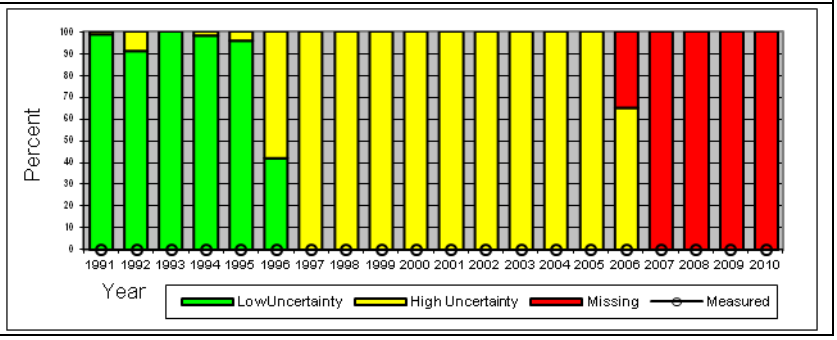
703626	HAINES, AK
Class III	
Solar Coordinates	
Latitude: 59.233˚	
Longitude: -135.433˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 59.233˚	
Longitude: -135.433˚	
Elevation: 9 m	
Time Zone: -9	

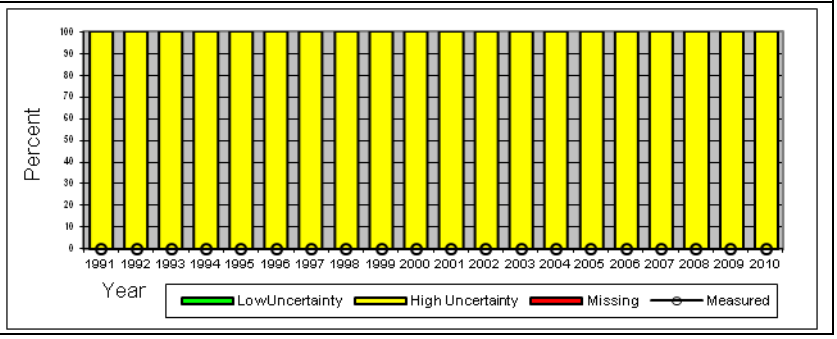
703625	HAINES BOAT HARBOR, AK
Class III	
Solar Coordinates	
Latitude: 59.233˚	
Longitude: -135.433˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 59.233˚	
Longitude: -135.433˚	
Elevation: 10 m	
Time Zone: -9	

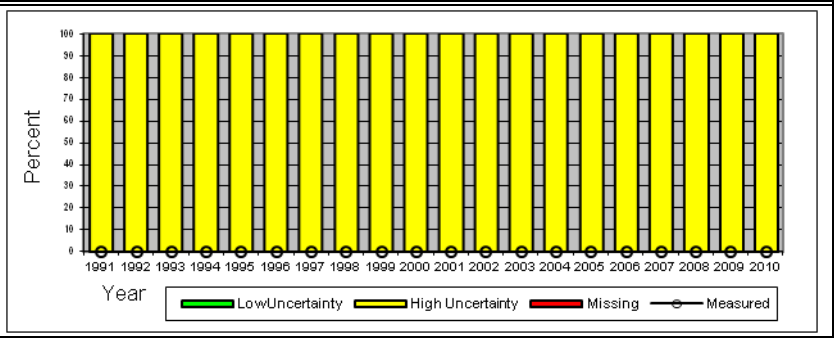
702495	HAYES RIVER, AK
Class II	
Solar Coordinates	
Latitude: 61.983˚	
Longitude: -152.083˚	
Elevation: 305 m	
Meteorological Coordinates	
Latitude: 61.983˚	
Longitude: -152.083˚	
Elevation: 305 m	
Time Zone: -9	

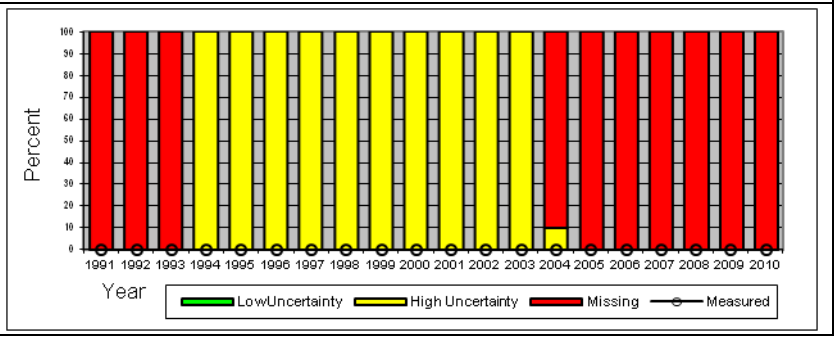
702647	HEALY RIVER AIRPORT, AK
Class II	
Solar Coordinates	
Latitude: 63.883˚	
Longitude: -149.017˚	
Elevation: 396 m	
Meteorological Coordinates	
Latitude: 63.883˚	
Longitude: -149.017˚	
Elevation: 396 m	
Time Zone: -9	

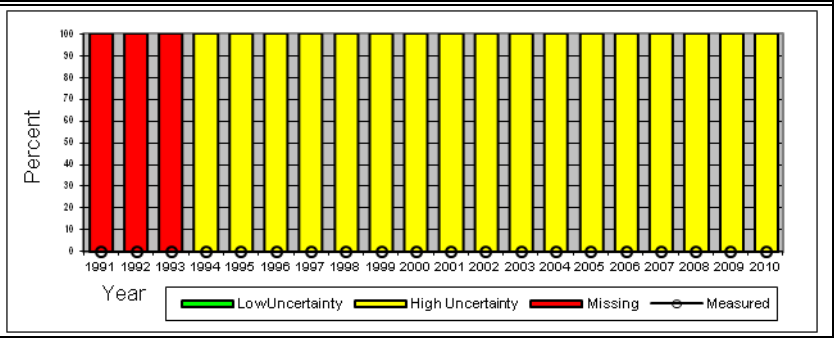
703604	HOMER, AK
Class III	
Solar Coordinates	
Latitude: 59.633˚	
Longitude: -151.483˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 59.633˚	
Longitude: -151.483˚	
Elevation: 26 m	
Time Zone: -9	

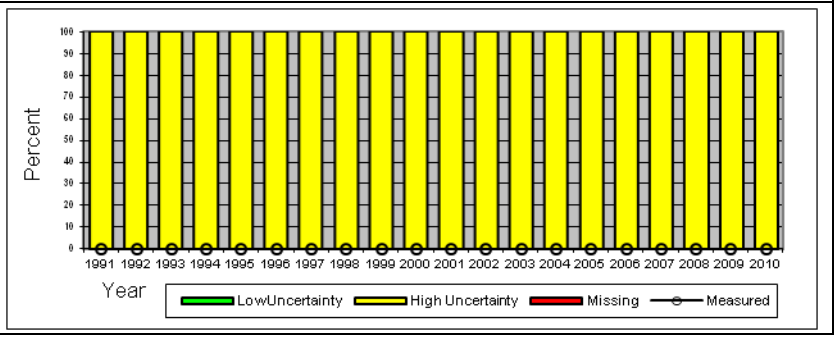
703410	HOMER ARPT, AK
Class III	
Solar Coordinates	
Latitude: 59.65˚	
Longitude: -151.483˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 59.65˚	
Longitude: -151.483˚	
Elevation: 27 m	
Time Zone: -9	

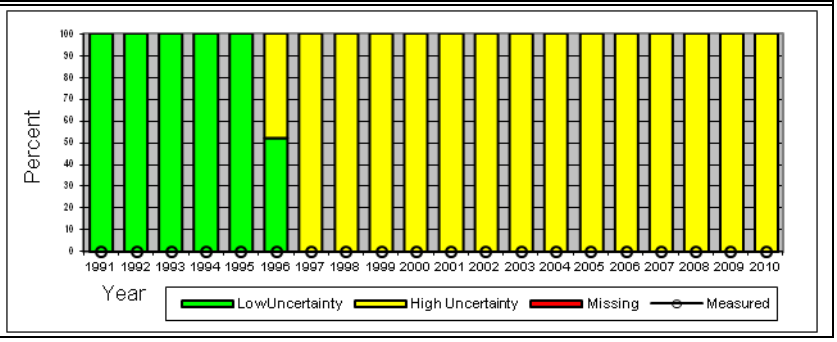
702607	HOONAH, AK
Class II	
Solar Coordinates	
Latitude: 58.083˚	
Longitude: -135.45˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 58.083˚	
Longitude: -135.45˚	
Elevation: 6 m	
Time Zone: -9	

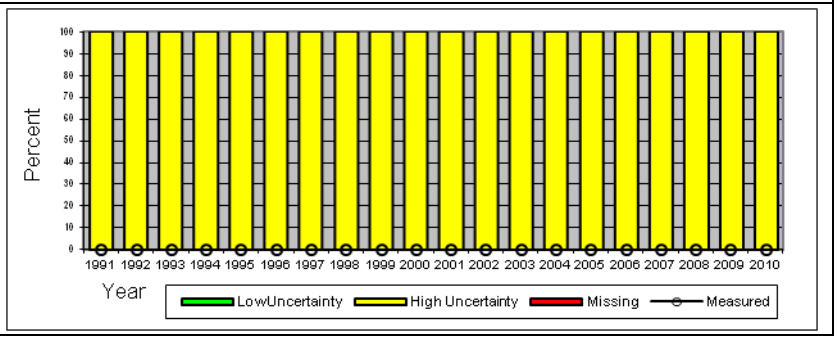
702186	HOOPER BAY, AK
Class II	
Solar Coordinates	
Latitude: 61.517˚	
Longitude: -166.15˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 61.517˚	
Longitude: -166.15˚	
Elevation: 6 m	
Time Zone: -9	

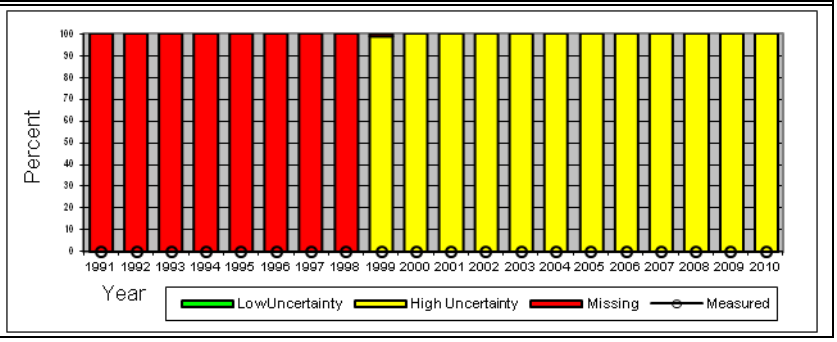
702225	HUSLIA, AK
Class III	
Solar Coordinates	
Latitude: 65.7˚	
Longitude: -156.383˚	
Elevation: 55 m	
Meteorological Coordinates	
Latitude: 65.7˚	
Longitude: -156.383˚	
Elevation: 55 m	
Time Zone: -9	

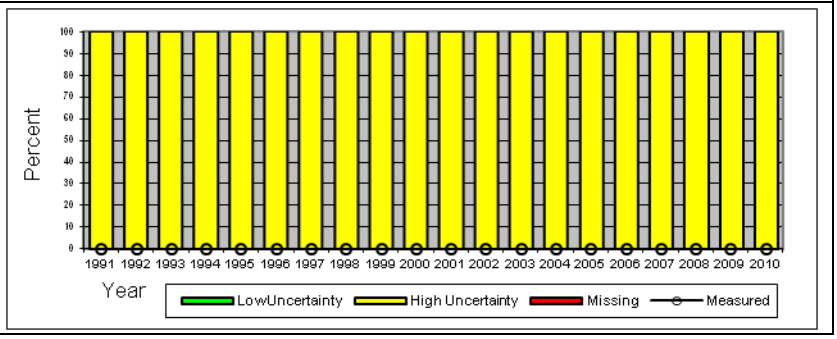
703884	HYDABURG SEAPLANE, AK
Class III	
Solar Coordinates	
Latitude: 55.2˚	
Longitude: -132.833˚	
Elevation: 0 m	
Meteorological Coordinates	
Latitude: 55.2˚	
Longitude: -132.833˚	
Elevation: 0 m	
Time Zone: -9	

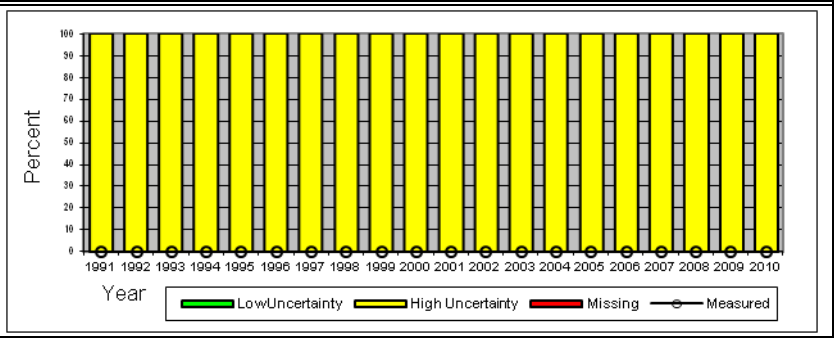
703400	ILIAMNA ARPT, AK
Class II	
Solar Coordinates	
Latitude: 59.75˚	
Longitude: -154.917˚	
Elevation: 57 m	
Meteorological Coordinates	
Latitude: 59.75˚	
Longitude: -154.917˚	
Elevation: 57 m	
Time Zone: -9	

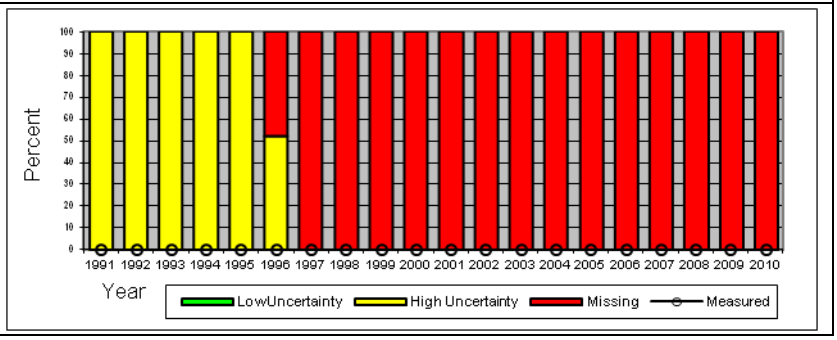
703810	JUNEAU INT'L ARPT, AK
Class II	
Solar Coordinates	
Latitude: 58.35˚	
Longitude: -134.583˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 58.35˚	
Longitude: -134.583˚	
Elevation: 4 m	
Time Zone: -9	

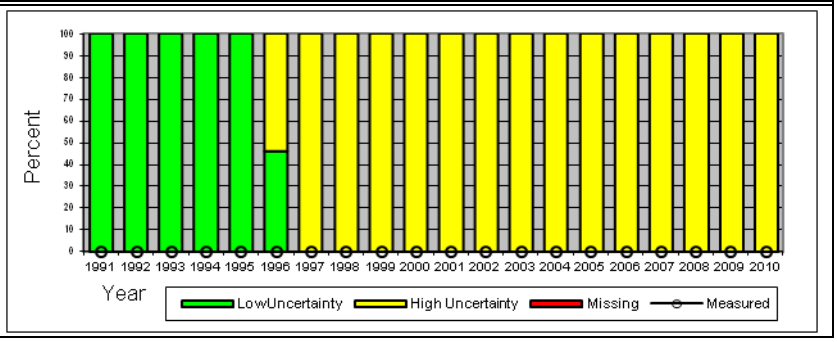
703855	KAKE SEAPLANE BASE, AK
Class II	
Solar Coordinates	
Latitude: 56.967˚	
Longitude: -133.95˚	
Elevation: 0 m	
Meteorological Coordinates	
Latitude: 56.967˚	
Longitude: -133.95˚	
Elevation: 0 m	
Time Zone: -9	

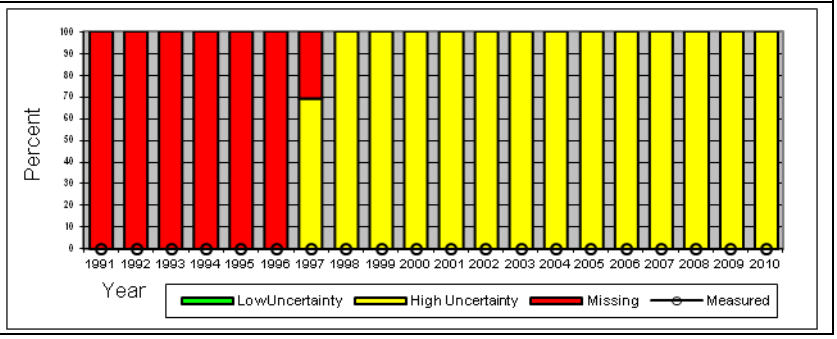
702006	KALTAG, AK
Class III	
Solar Coordinates	
Latitude: 64.316˚	
Longitude: -158.733˚	
Elevation: 60 m	
Meteorological Coordinates	
Latitude: 64.316˚	
Longitude: -158.733˚	
Elevation: 60 m	
Time Zone: -9	

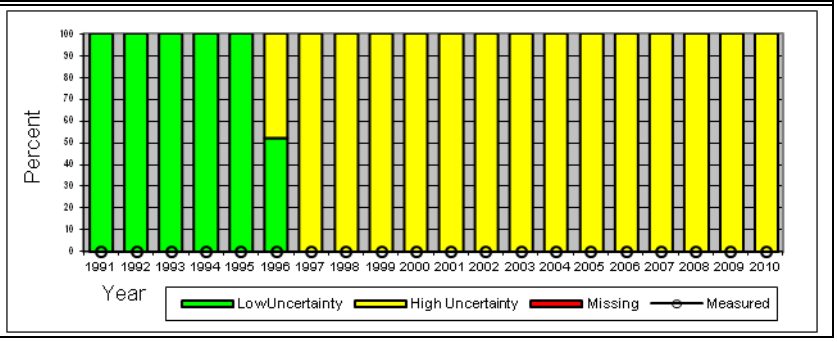
702590	KENAI MUNICIPAL AP, AK
Class II	
Solar Coordinates	
Latitude: 60.583˚	
Longitude: -151.233˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 60.583˚	
Longitude: -151.233˚	
Elevation: 26 m	
Time Zone: -9	

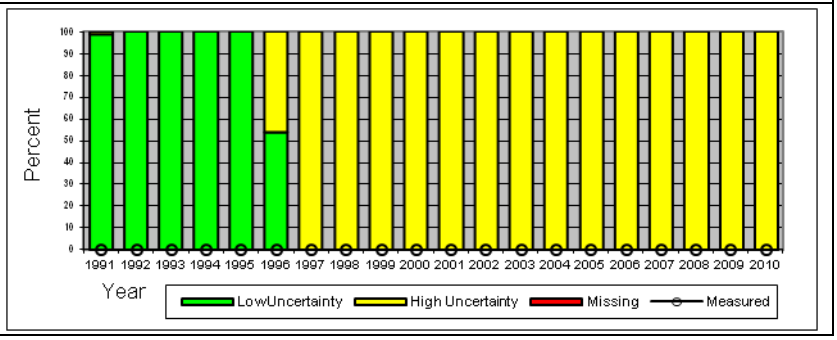
703950	KETCHIKAN INTL AP, AK
Class II	
Solar Coordinates	
Latitude: 55.367˚	
Longitude: -131.717˚	
Elevation: 23 m	
Meteorological Coordinates	
Latitude: 55.367˚	
Longitude: -131.717˚	
Elevation: 23 m	
Time Zone: -9	

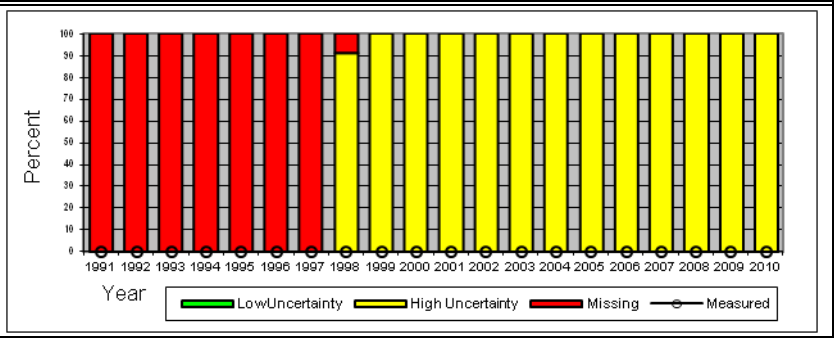
703263	KING SALMON, AK
Class III	
Solar Coordinates	
Latitude: 58.683˚	
Longitude: -156.683˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 58.683˚	
Longitude: -156.683˚	
Elevation: 17 m	
Time Zone: -9	

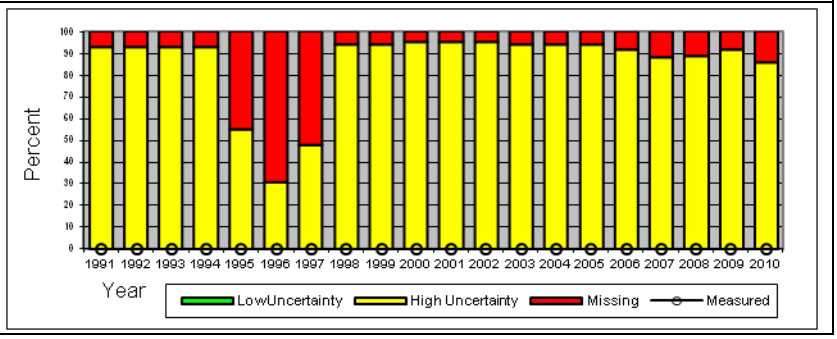
703260	KING SALMON ARPT, AK
Class II	
Solar Coordinates	
Latitude: 58.683˚	
Longitude: -156.65˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 58.683˚	
Longitude: -156.65˚	
Elevation: 15 m	
Time Zone: -9	

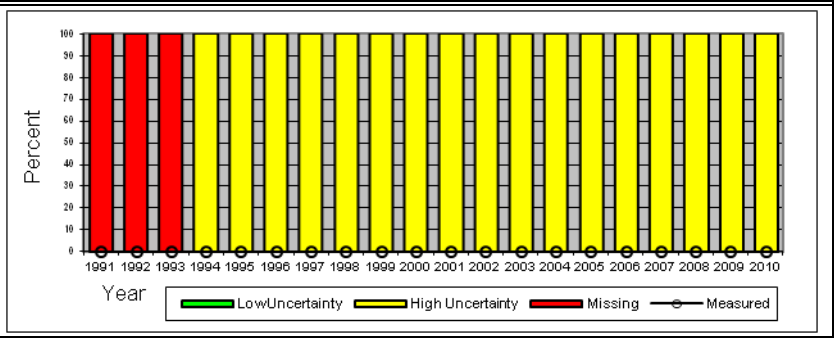
703894	KLAWOCK, AK
Class III	
Solar Coordinates	
Latitude: 55.583˚	
Longitude: -133.083˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 55.583˚	
Longitude: -133.083˚	
Elevation: 15 m	
Time Zone: -9	

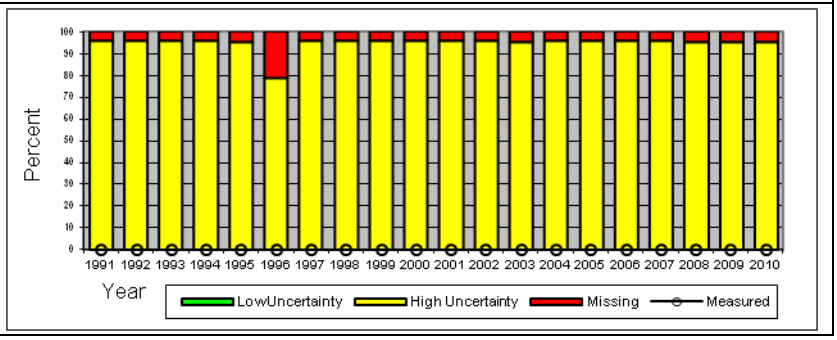
703500	KODIAK AIRPORT, AK
Class II	
Solar Coordinates	
Latitude: 57.75˚	
Longitude: -152.5˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 57.75˚	
Longitude: -152.5˚	
Elevation: 5 m	
Time Zone: -9	

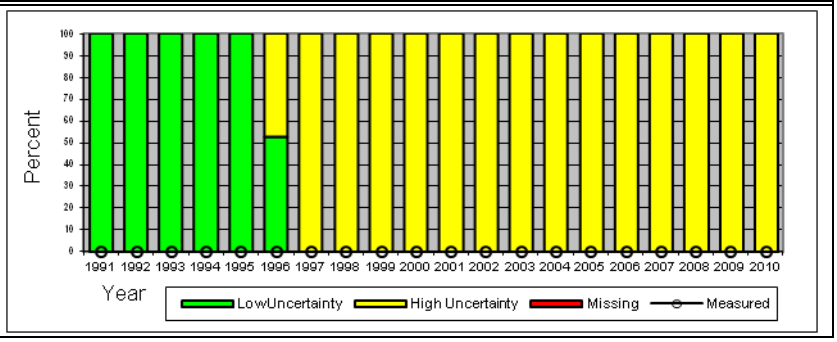
701330	KOTZEBUE RALPH WEIN MEMORIAL, AK
Class II	
Solar Coordinates	
Latitude: 66.883˚	
Longitude: -162.6˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 66.883˚	
Longitude: -162.6˚	
Elevation: 3 m	
Time Zone: -9	

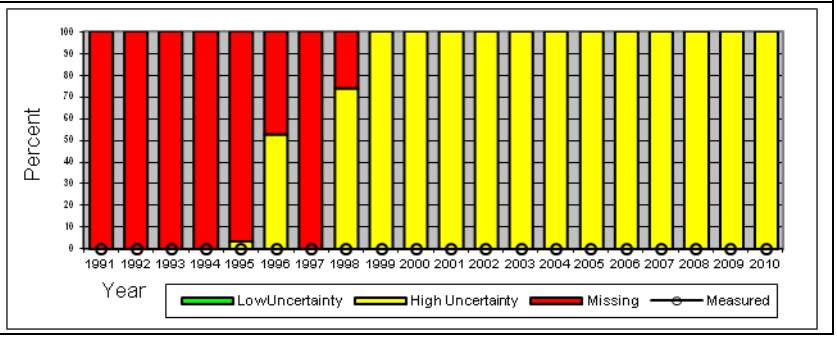
702223	KOYUK, AK
Class III	
Solar Coordinates	
Latitude: 64.933˚	
Longitude: -161.15˚	
Elevation: 38 m	
Meteorological Coordinates	
Latitude: 64.933˚	
Longitude: -161.15˚	
Elevation: 38 m	
Time Zone: -9	

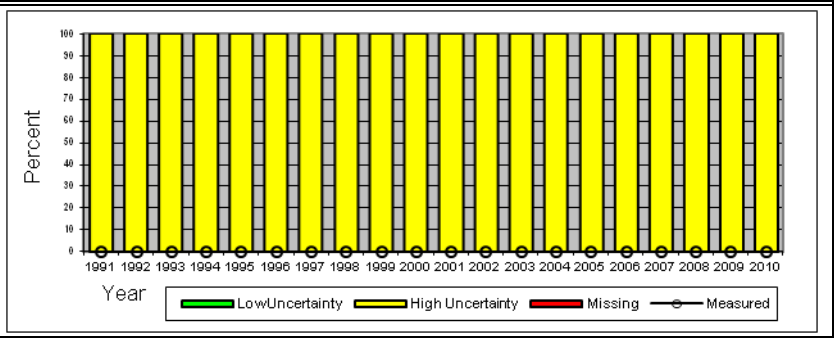
700634	KUPARUK AIRPORT, AK
Class III	
Solar Coordinates	
Latitude: 70.317˚	
Longitude: -149.583˚	
Elevation: 20 m	
Meteorological Coordinates	
Latitude: 70.317˚	
Longitude: -149.583˚	
Elevation: 20 m	
Time Zone: -9	

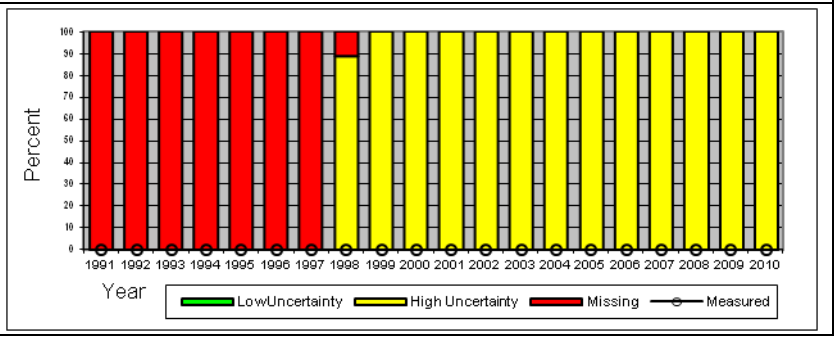
702725	LAKE HOOD SEAPLANE, AK
Class III	
Solar Coordinates	
Latitude: 61.183˚	
Longitude: -149.967˚	
Elevation: 22 m	
Meteorological Coordinates	
Latitude: 61.183˚	
Longitude: -149.967˚	
Elevation: 22 m	
Time Zone: -9	

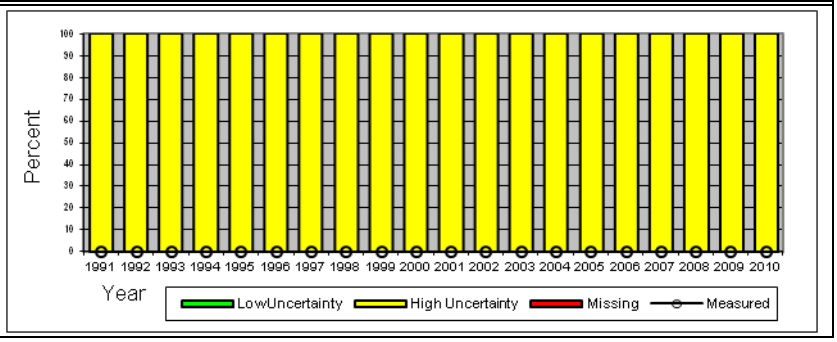
702755	MCCARTHY, AK
Class III	
Solar Coordinates	
Latitude: 61.433˚	
Longitude: -142.933˚	
Elevation: 455 m	
Meteorological Coordinates	
Latitude: 61.433˚	
Longitude: -142.933˚	
Elevation: 455 m	
Time Zone: -9	

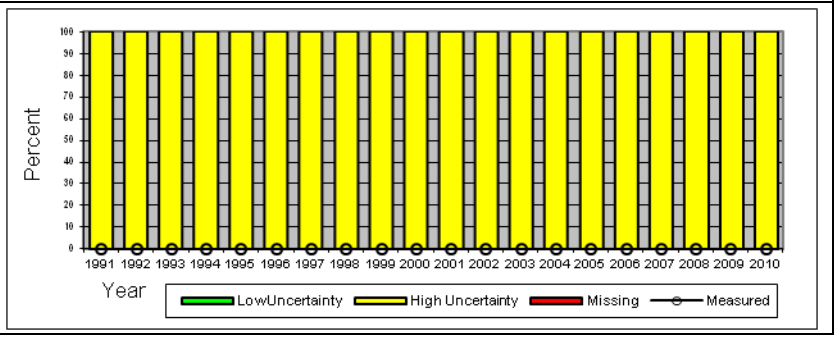
702310	MCGRATH ARPT, AK
Class II	
Solar Coordinates	
Latitude: 62.95˚	
Longitude: -155.6˚	
Elevation: 105 m	
Meteorological Coordinates	
Latitude: 62.95˚	
Longitude: -155.6˚	
Elevation: 105 m	
Time Zone: -9	

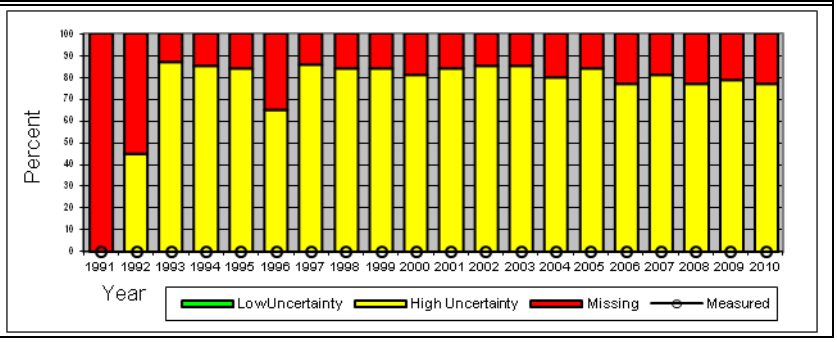
702645	MCKINLEY PARK, AK
Class III	
Solar Coordinates	
Latitude: 63.733˚	
Longitude: -148.917˚	
Elevation: 524 m	
Meteorological Coordinates	
Latitude: 63.733˚	
Longitude: -148.917˚	
Elevation: 524 m	
Time Zone: -9	

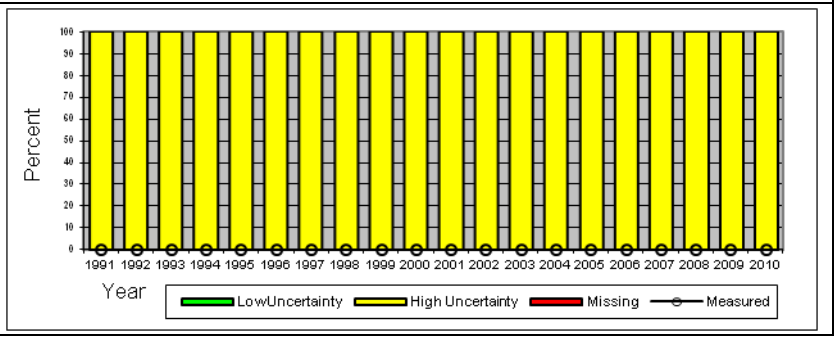
702185	MEKORYUK, AK
Class II	
Solar Coordinates	
Latitude: 60.367˚	
Longitude: -166.267˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 60.367˚	
Longitude: -166.267˚	
Elevation: 15 m	
Time Zone: -9	

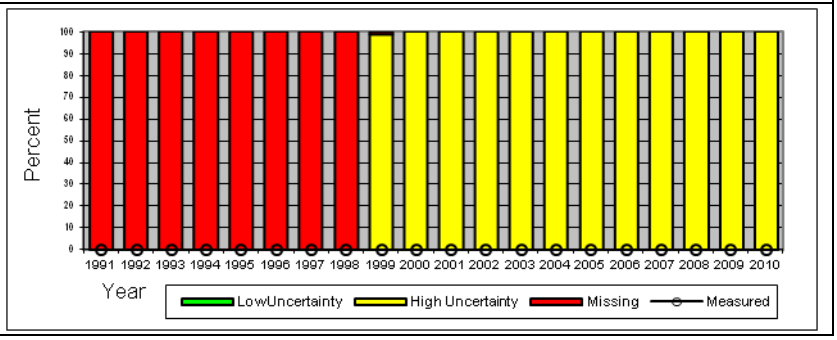
703985	METLA KATLA, AK
Class III	
Solar Coordinates	
Latitude: 55.133˚	
Longitude: -131.583˚	
Elevation: 0 m	
Meteorological Coordinates	
Latitude: 55.133˚	
Longitude: -131.583˚	
Elevation: 0 m	
Time Zone: -9	

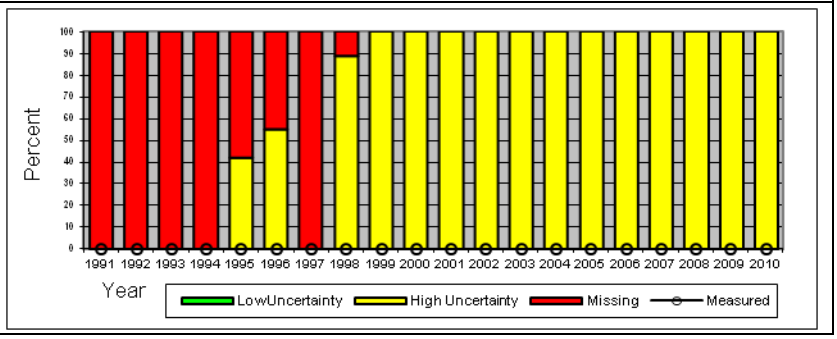
703430	MIDDLETON ISLAND AUT, AK
Class II	
Solar Coordinates	
Latitude: 59.467˚	
Longitude: -146.317˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 59.467˚	
Longitude: -146.317˚	
Elevation: 14 m	
Time Zone: -9	

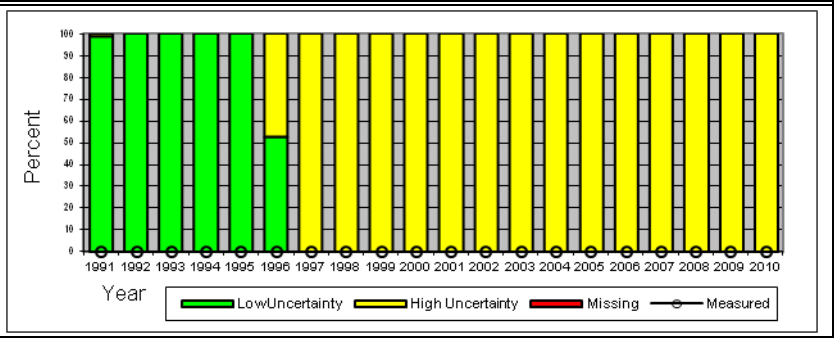
702460	MINCHUMINA, AK
Class II	
Solar Coordinates	
Latitude: 63.883˚	
Longitude: -152.283˚	
Elevation: 213 m	
Meteorological Coordinates	
Latitude: 63.883˚	
Longitude: -152.283˚	
Elevation: 213 m	
Time Zone: -9	

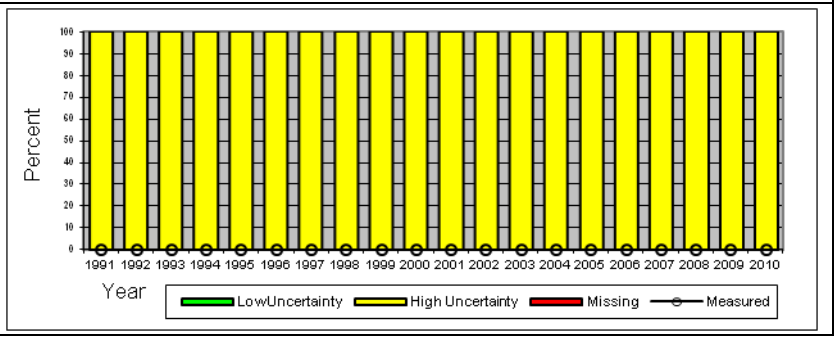
702913	NABESNA/DEVIL MTN, AK
Class III	
Solar Coordinates	
Latitude: 62.4˚	
Longitude: -143˚	
Elevation: 882 m	
Meteorological Coordinates	
Latitude: 62.4˚	
Longitude: -143˚	
Elevation: 882 m	
Time Zone: -9	

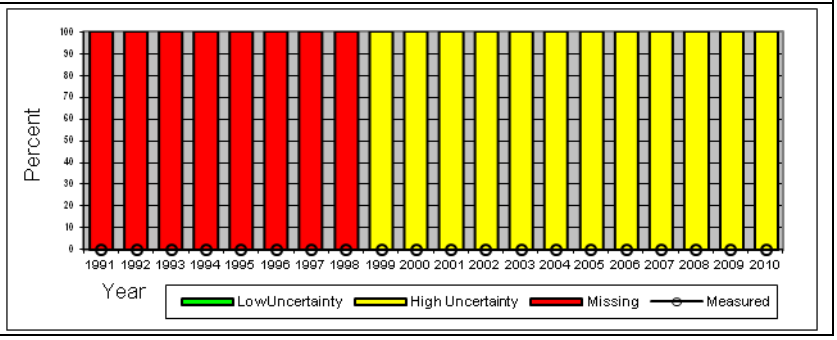
702600	NENANA MUNICIPAL AP, AK
Class II	
Solar Coordinates	
Latitude: 64.55˚	
Longitude: -149.1˚	
Elevation: 109 m	
Meteorological Coordinates	
Latitude: 64.55˚	
Longitude: -149.1˚	
Elevation: 109 m	
Time Zone: -9	

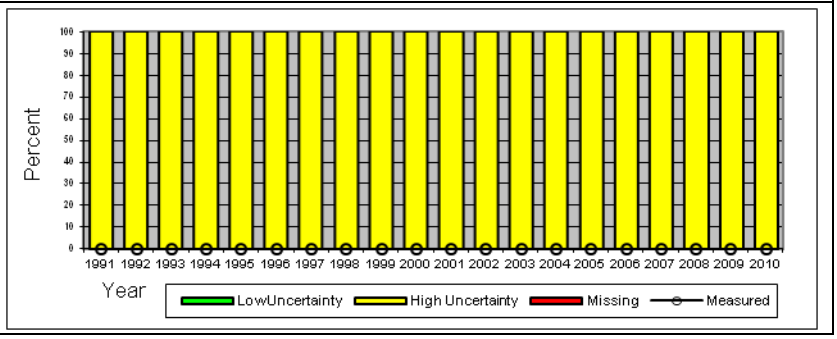
701486	NIVALINA, AK
Class III	
Solar Coordinates	
Latitude: 67.733˚	
Longitude: -164.55˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 67.733˚	
Longitude: -164.55˚	
Elevation: 3 m	
Time Zone: -9	

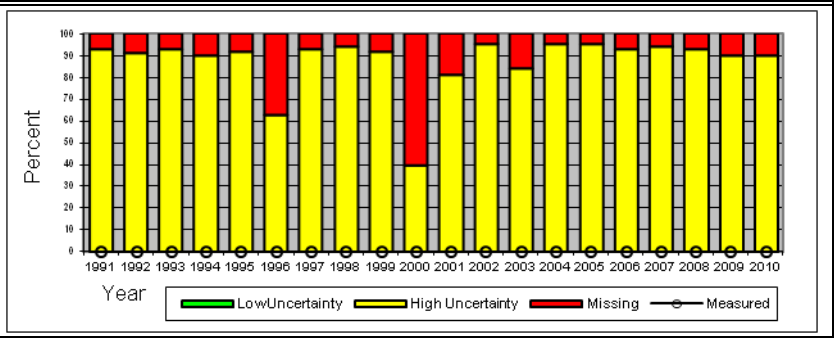
701335	NOATAK, AK
Class III	
Solar Coordinates	
Latitude: 67.55˚	
Longitude: -162.983˚	
Elevation: 28 m	
Meteorological Coordinates	
Latitude: 67.55˚	
Longitude: -162.983˚	
Elevation: 28 m	
Time Zone: -9	

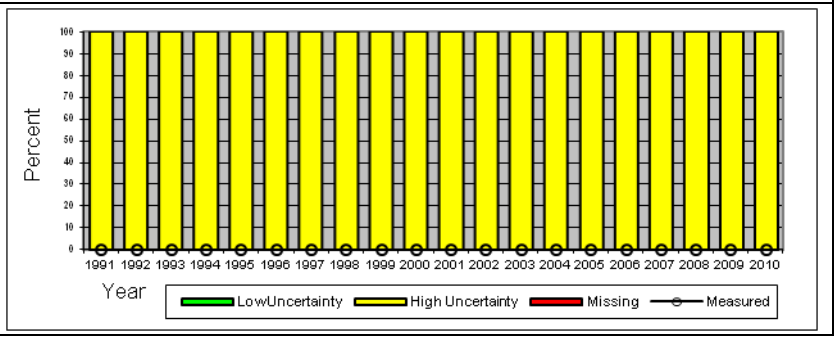
702000	NOME MUNICIPAL ARPT, AK
Class II	
Solar Coordinates	
Latitude: 64.517˚	
Longitude: -165.45˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 64.517˚	
Longitude: -165.45˚	
Elevation: 4 m	
Time Zone: -9	

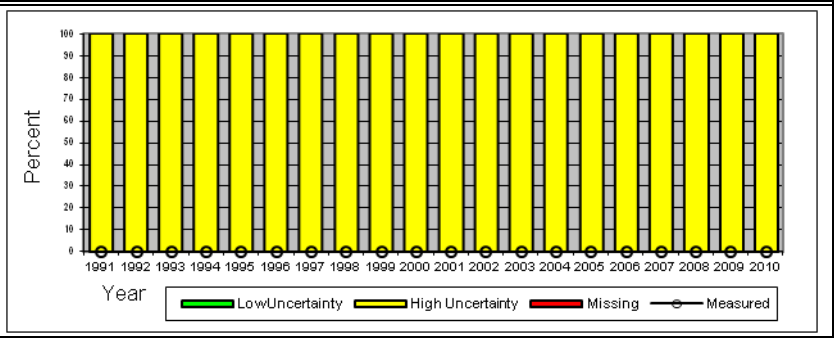
702910	NORTHWAY AIRPORT, AK
Class II	
Solar Coordinates	
Latitude: 62.967˚	
Longitude: -141.933˚	
Elevation: 522 m	
Meteorological Coordinates	
Latitude: 62.967˚	
Longitude: -141.933˚	
Elevation: 522 m	
Time Zone: -9	

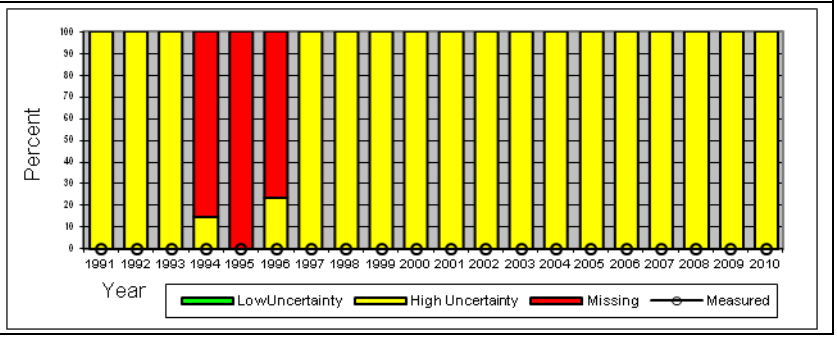
703644	NUIQSUT, AK
Class III	
Solar Coordinates	
Latitude: 70.217˚	
Longitude: -150.983˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 70.217˚	
Longitude: -150.983˚	
Elevation: 17 m	
Time Zone: -9	

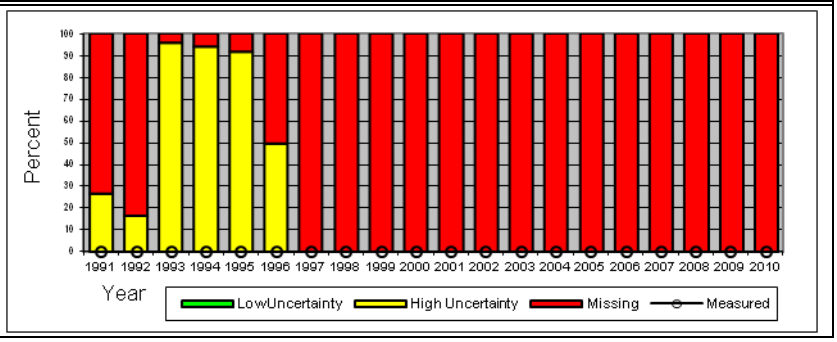
702740	PALMER MUNICIPAL, AK
Class II	
Solar Coordinates	
Latitude: 61.6˚	
Longitude: -149.083˚	
Elevation: 71 m	
Meteorological Coordinates	
Latitude: 61.6˚	
Longitude: -149.083˚	
Elevation: 71 m	
Time Zone: -9	

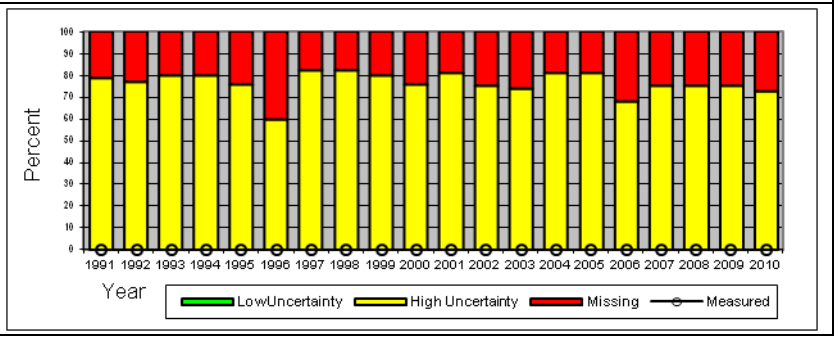
702675	PAXSON, AK
Class III	
Solar Coordinates	
Latitude: 63.033˚	
Longitude: -145.5˚	
Elevation: 809 m	
Meteorological Coordinates	
Latitude: 63.033˚	
Longitude: -145.5˚	
Elevation: 809 m	
Time Zone: -9	

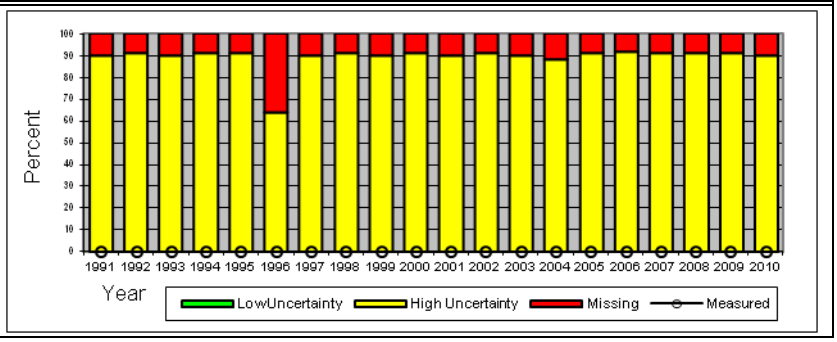
703860	PETERSBURG, AK
Class II	
Solar Coordinates	
Latitude: 56.8˚	
Longitude: -132.95˚	
Elevation: 33 m	
Meteorological Coordinates	
Latitude: 56.8˚	
Longitude: -132.95˚	
Elevation: 33 m	
Time Zone: -9	

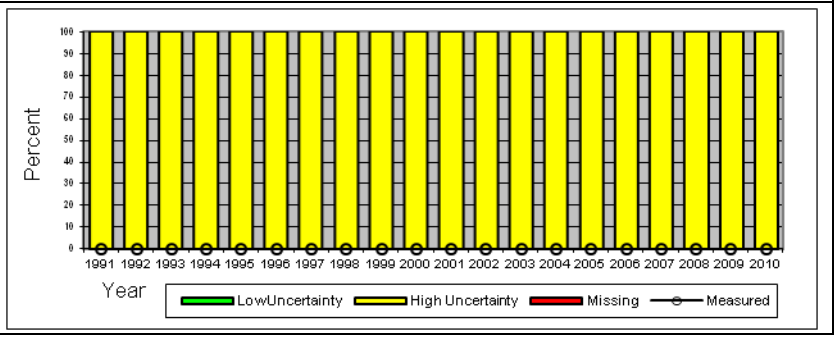
701043	POINT HOPE (AWOS), AK
Class II	
Solar Coordinates	
Latitude: 68.35˚	
Longitude: -166.8˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 68.35˚	
Longitude: -166.8˚	
Elevation: 4 m	
Time Zone: -9	

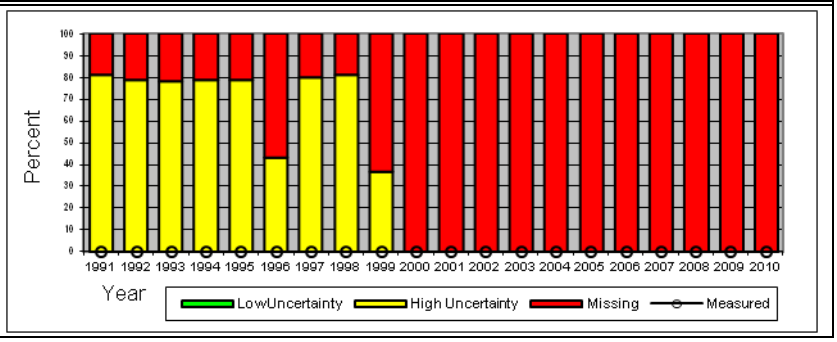
701210	POINT LAY (DEW), AK
Class III	
Solar Coordinates	
Latitude: 69.817˚	
Longitude: -162.917˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 69.817˚	
Longitude: -162.917˚	
Elevation: 6 m	
Time Zone: -9	

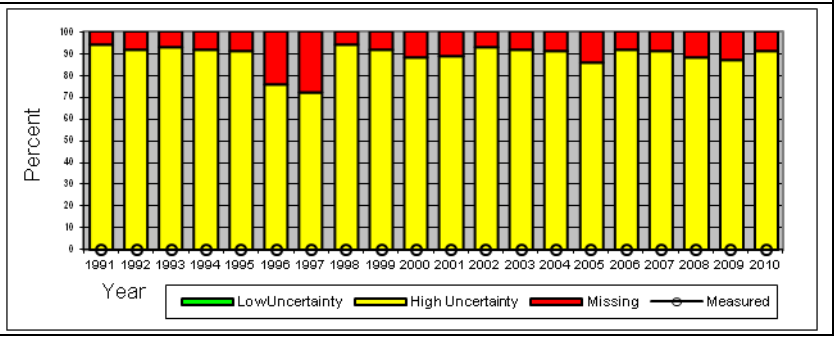
701213	POINT LAY LIZ 2, AK
Class III	
Solar Coordinates	
Latitude: 69.733˚	
Longitude: -163.017˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 69.733˚	
Longitude: -163.017˚	
Elevation: 6 m	
Time Zone: -9	

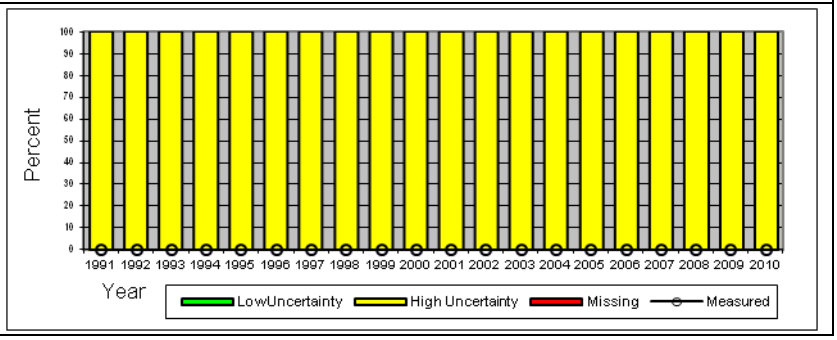
703886	PORT ALEXANDER, AK
Class III	
Solar Coordinates	
Latitude: 56.25˚	
Longitude: -134.65˚	
Elevation: 1 m	
Meteorological Coordinates	
Latitude: 56.25˚	
Longitude: -134.65˚	
Elevation: 1 m	
Time Zone: -9	

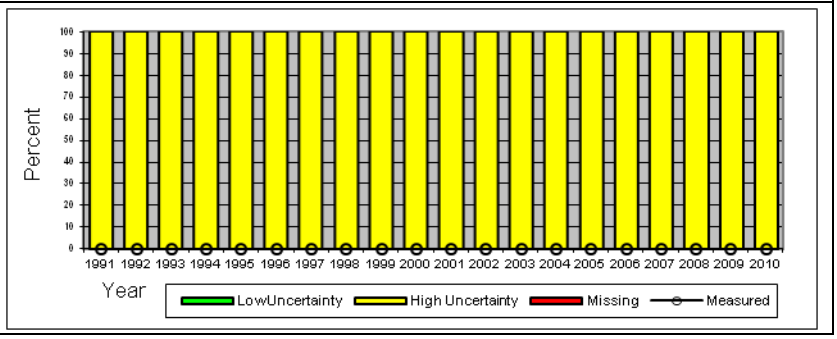
703406	PORT ALSWORTH, AK
Class III	
Solar Coordinates	
Latitude: 60.2˚	
Longitude: -154.317˚	
Elevation: 85 m	
Meteorological Coordinates	
Latitude: 60.2˚	
Longitude: -154.317˚	
Elevation: 85 m	
Time Zone: -9	

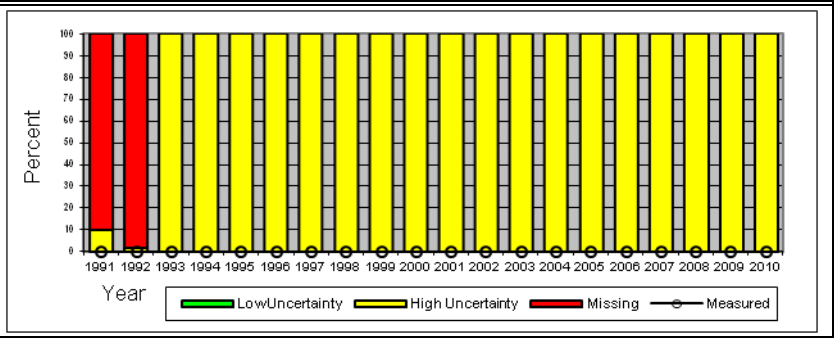
703330	PORT HEIDEN, AK
Class II	
Solar Coordinates	
Latitude: 56.95˚	
Longitude: -158.617˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 56.95˚	
Longitude: -158.617˚	
Elevation: 29 m	
Time Zone: -9	

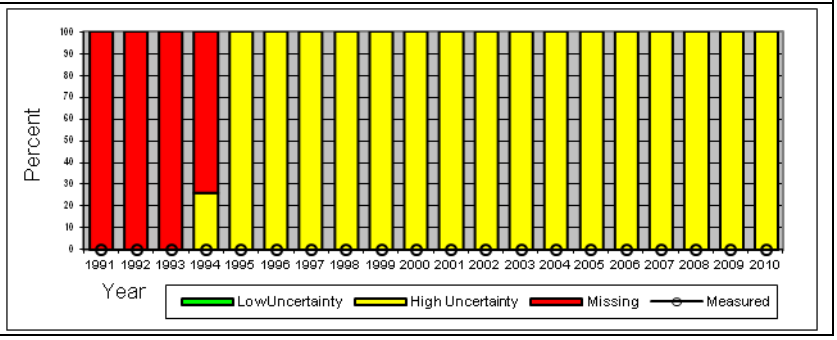
700636	PRUDHOE BAY, AK
Class III	
Solar Coordinates	
Latitude: 70.25˚	
Longitude: -148.333˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 70.25˚	
Longitude: -148.333˚	
Elevation: 14 m	
Time Zone: -9	

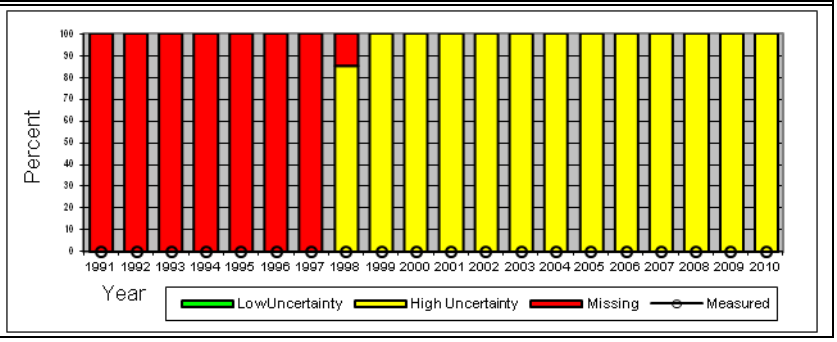
702490	PUNTILLA, AK
Class III	
Solar Coordinates	
Latitude: 62.1˚	
Longitude: -152.75˚	
Elevation: 560 m	
Meteorological Coordinates	
Latitude: 62.1˚	
Longitude: -152.75˚	
Elevation: 560 m	
Time Zone: -9	

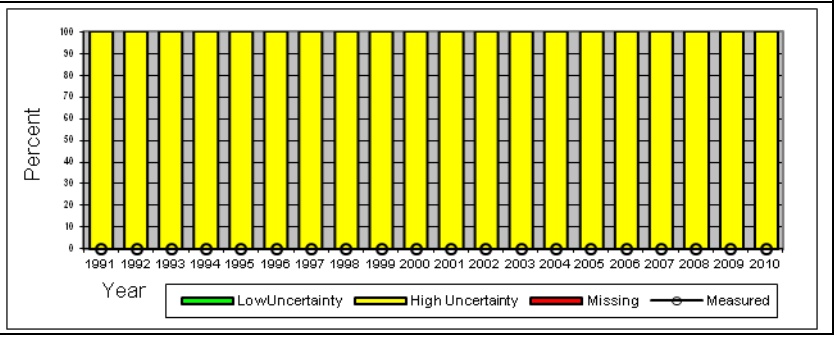
702005	SAINT MARY`S (AWOS), AK
Class II	
Solar Coordinates	
Latitude: 62.067˚	
Longitude: -163.3˚	
Elevation: 95 m	
Meteorological Coordinates	
Latitude: 62.067˚	
Longitude: -163.3˚	
Elevation: 95 m	
Time Zone: -9	

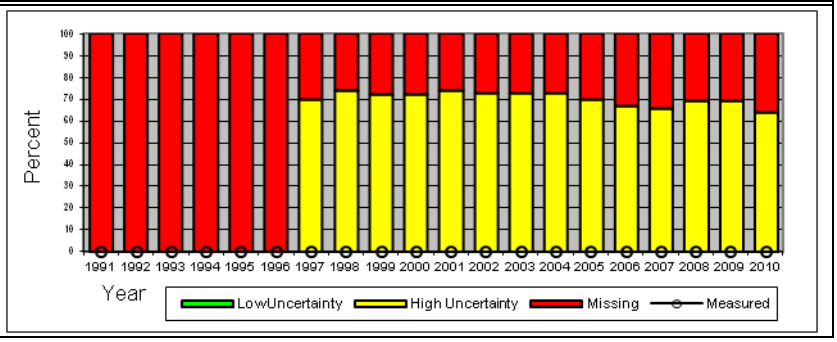
703165	SAND POINT, AK
Class II	
Solar Coordinates	
Latitude: 55.317˚	
Longitude: -160.517˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 55.317˚	
Longitude: -160.517˚	
Elevation: 7 m	
Time Zone: -9	

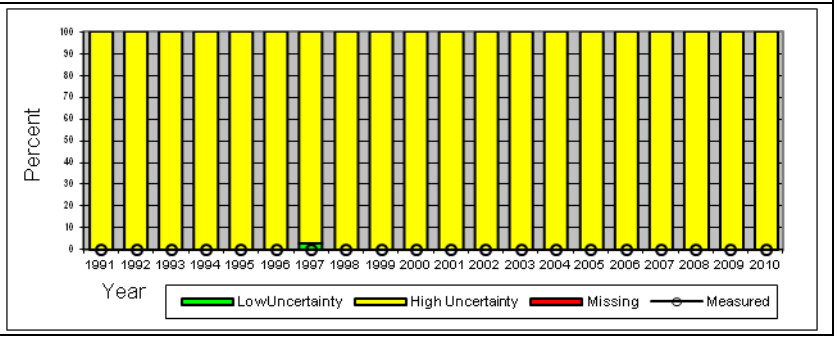
702035	SAVOONGA, AK
Class III	
Solar Coordinates	
Latitude: 63.683˚	
Longitude: -170.5˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 63.683˚	
Longitude: -170.5˚	
Elevation: 17 m	
Time Zone: -9	

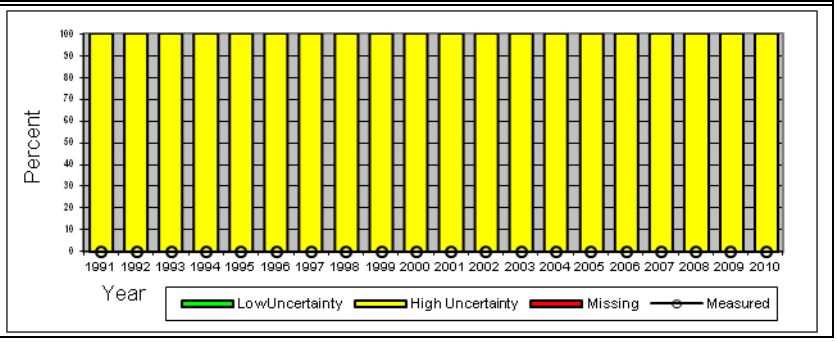
700197	SELAWIK, AK
Class III	
Solar Coordinates	
Latitude: 66.6˚	
Longitude: -160˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 66.6˚	
Longitude: -160˚	
Elevation: 8 m	
Time Zone: -9	

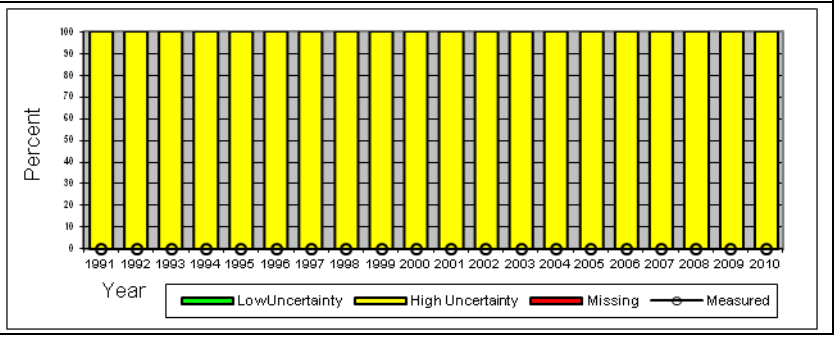
703621	SELDOVIA ARPT, AK
Class III	
Solar Coordinates	
Latitude: 59.45˚	
Longitude: -151.7˚	
Elevation: 95 m	
Meteorological Coordinates	
Latitude: 59.45˚	
Longitude: -151.7˚	
Elevation: 95 m	
Time Zone: -9	

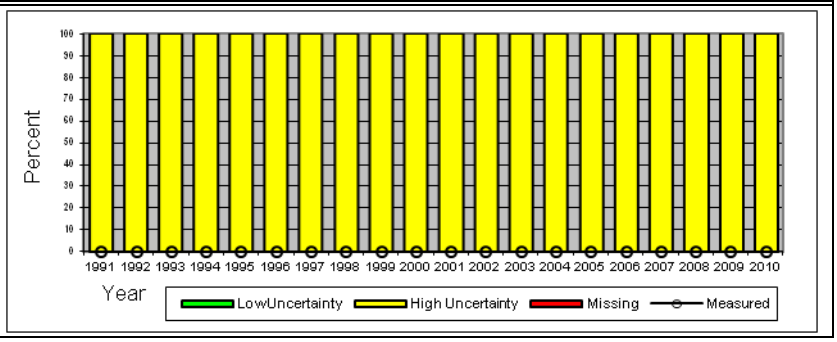
702770	SEWARD, AK
Class II	
Solar Coordinates	
Latitude: 60.117˚	
Longitude: -149.45˚	
Elevation: 18 m	
Meteorological Coordinates	
Latitude: 60.117˚	
Longitude: -149.45˚	
Elevation: 18 m	
Time Zone: -9	

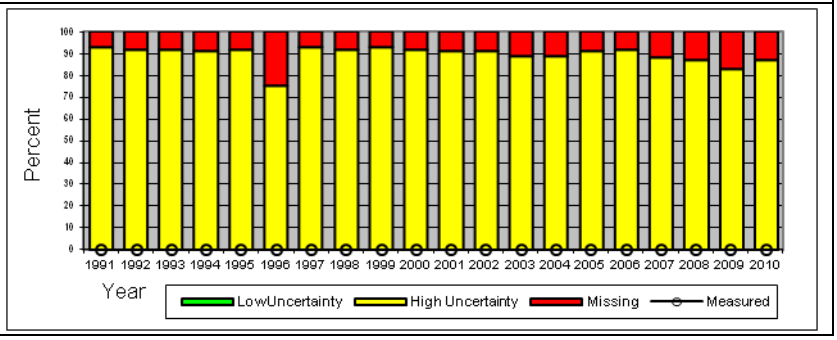
702711	SHEEP MTN, AK
Class III	
Solar Coordinates	
Latitude: 61.817˚	
Longitude: -158.383˚	
Elevation: 2959 m	
Meteorological Coordinates	
Latitude: 61.817˚	
Longitude: -158.383˚	
Elevation: 2959 m	
Time Zone: -9	

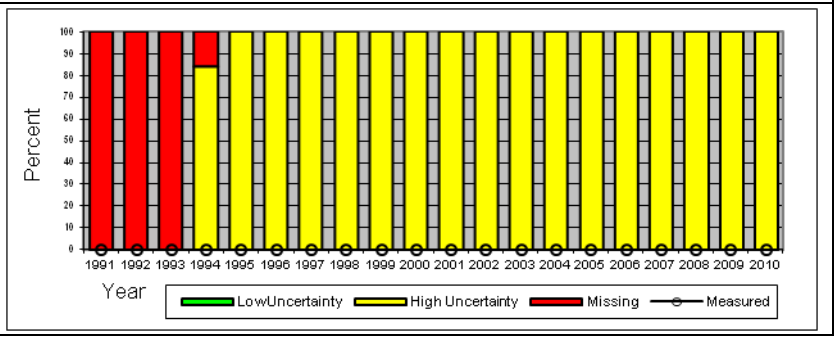
704140	SHEMYA AFB, AK
Class II	
Solar Coordinates	
Latitude: 52.717˚	
Longitude: 174.117˚	
Elevation: 31 m	
Meteorological Coordinates	
Latitude: 52.717˚	
Longitude: 174.117˚	
Elevation: 31 m	
Time Zone: -10	

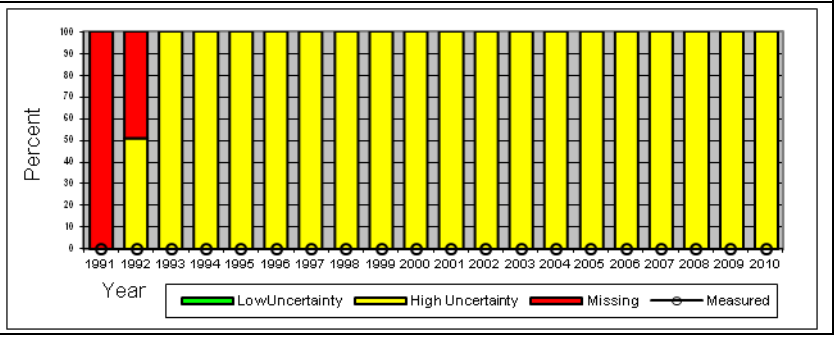
701195	SHISHMAREF (AWOS), AK
Class II	
Solar Coordinates	
Latitude: 66.267˚	
Longitude: -166.05˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 66.267˚	
Longitude: -166.05˚	
Elevation: 2 m	
Time Zone: -9	

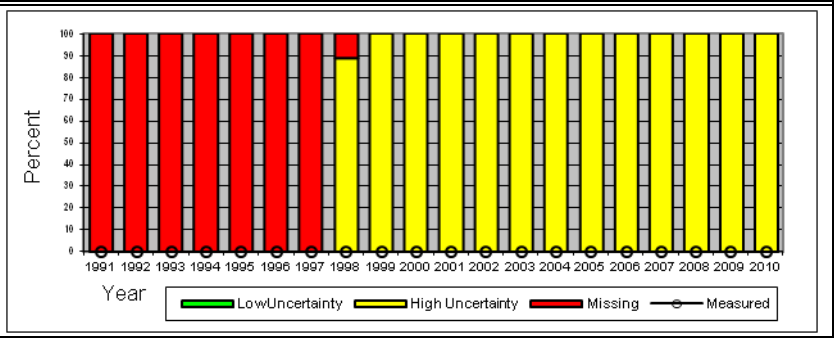
703710	SITKA JAPONSKI AP, AK
Class II	
Solar Coordinates	
Latitude: 57.05˚	
Longitude: -135.367˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 57.05˚	
Longitude: -135.367˚	
Elevation: 4 m	
Time Zone: -9	

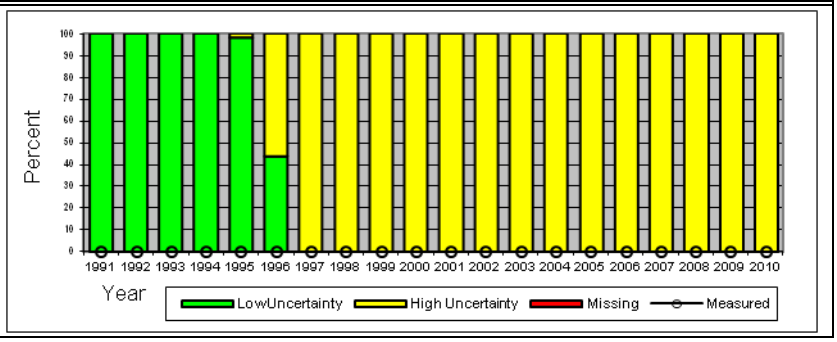
703620	SKAGWAY AIRPORT, AK
Class II	
Solar Coordinates	
Latitude: 59.467˚	
Longitude: -135.3˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 59.467˚	
Longitude: -135.3˚	
Elevation: 9 m	
Time Zone: -9	

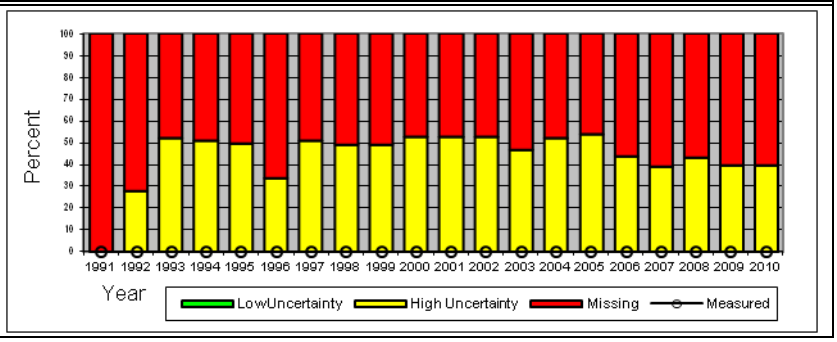
702915	SLANA AIRPORT, AK
Class III	
Solar Coordinates	
Latitude: 62.7˚	
Longitude: -143.983˚	
Elevation: 730 m	
Meteorological Coordinates	
Latitude: 62.7˚	
Longitude: -143.983˚	
Elevation: 730 m	
Time Zone: -9	

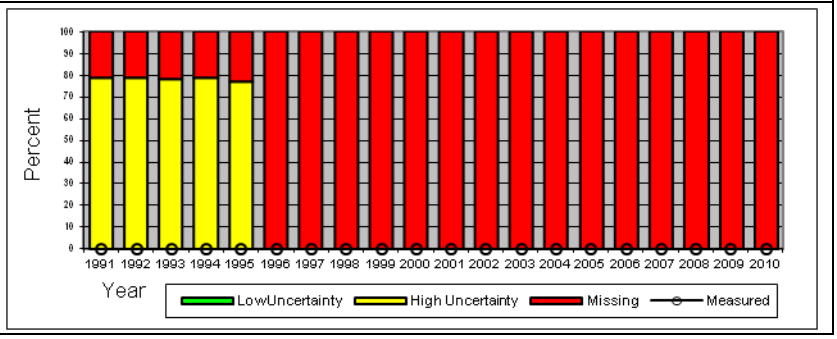
703407	SLEETMUTE, AK
Class III	
Solar Coordinates	
Latitude: 61.717˚	
Longitude: -157.15˚	
Elevation: 54 m	
Meteorological Coordinates	
Latitude: 61.717˚	
Longitude: -157.15˚	
Elevation: 54 m	
Time Zone: -9	

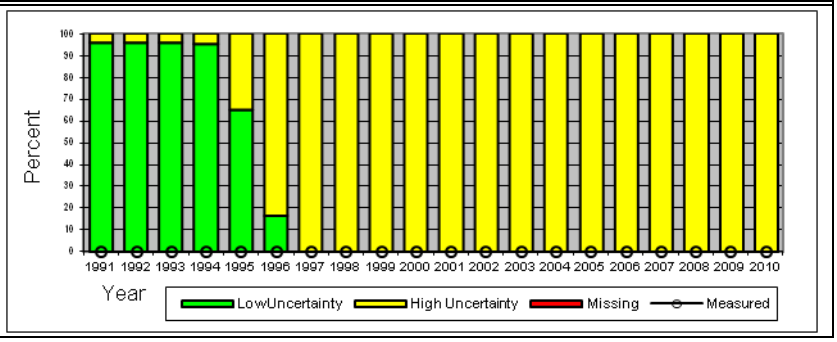
702595	SOLDOTNA, AK
Class III	
Solar Coordinates	
Latitude: 60.467˚	
Longitude: -151.033˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 60.467˚	
Longitude: -151.033˚	
Elevation: 34 m	
Time Zone: -9	

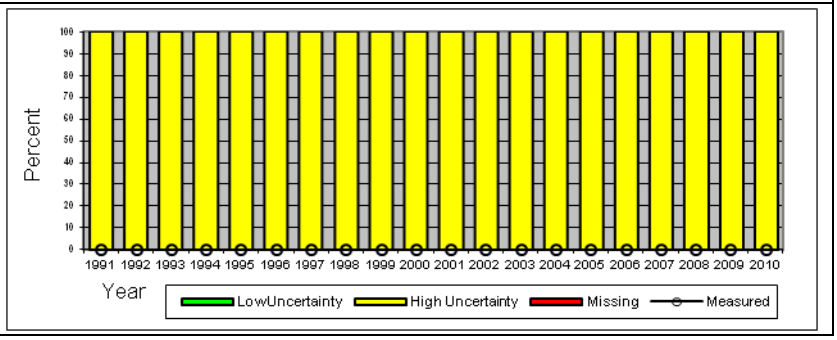
703835	ST GEORGE ISLAND, AK
Class III	
Solar Coordinates	
Latitude: 56.35˚	
Longitude: -169.4˚	
Elevation: 38 m	
Meteorological Coordinates	
Latitude: 56.35˚	
Longitude: -169.4˚	
Elevation: 38 m	
Time Zone: -9	

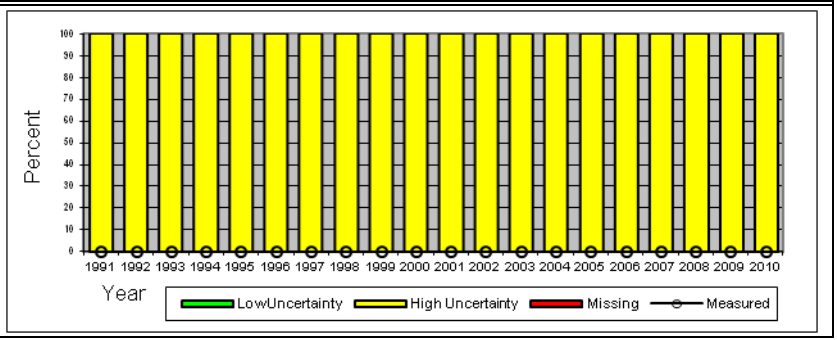
703080	ST PAUL ISLAND ARPT, AK
Class II	
Solar Coordinates	
Latitude: 57.167˚	
Longitude: -170.217˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 57.167˚	
Longitude: -170.217˚	
Elevation: 7 m	
Time Zone: -9	

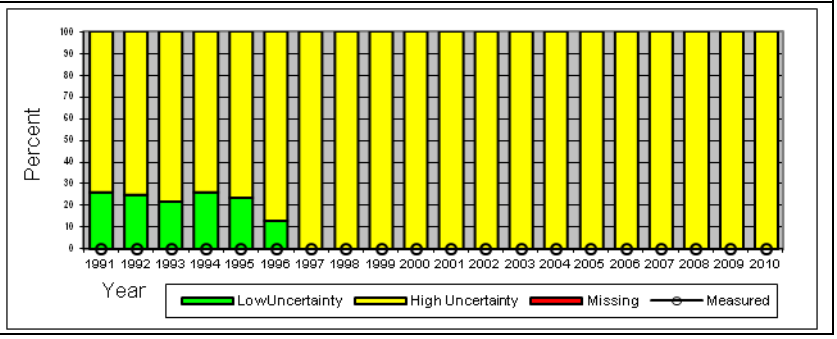
702695	SUTTON, AK
Class III	
Solar Coordinates	
Latitude: 61.717˚	
Longitude: -148.883˚	
Elevation: 265 m	
Meteorological Coordinates	
Latitude: 61.717˚	
Longitude: -148.883˚	
Elevation: 265 m	
Time Zone: -9	

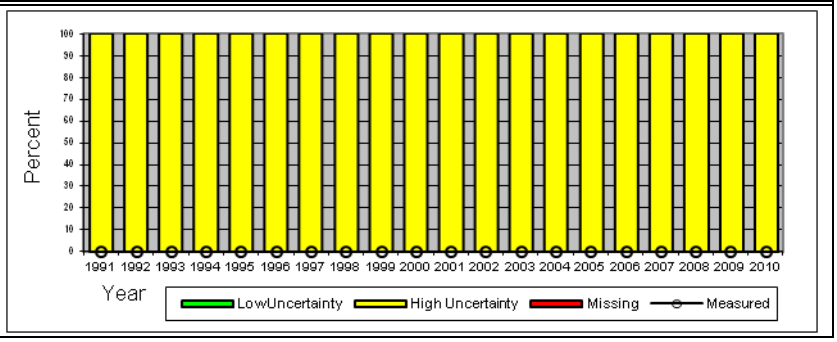
702716	TAHNETA PASS, AK
Class III	
Solar Coordinates	
Latitude: 61.817˚	
Longitude: -147.55˚	
Elevation: 900 m	
Meteorological Coordinates	
Latitude: 61.817˚	
Longitude: -147.55˚	
Elevation: 900 m	
Time Zone: -9	

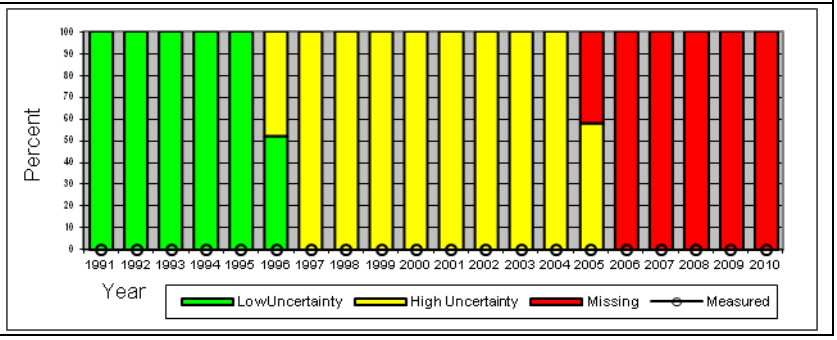
702510	TALKEETNA STATE ARPT, AK
Class II	
Solar Coordinates	
Latitude: 62.317˚	
Longitude: -150.1˚	
Elevation: 105 m	
Meteorological Coordinates	
Latitude: 62.317˚	
Longitude: -150.1˚	
Elevation: 105 m	
Time Zone: -9	

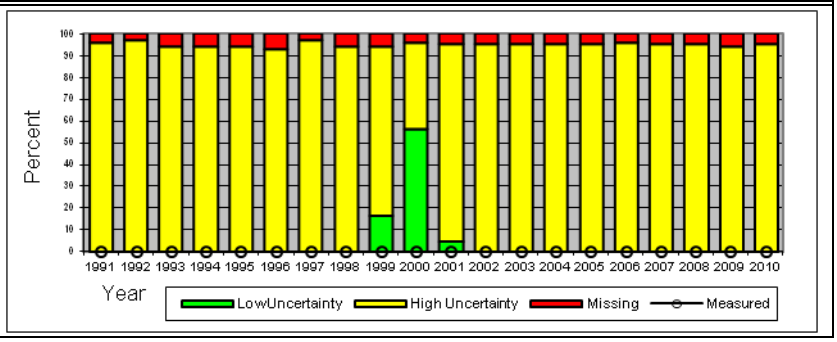
701780	TANANA RALPH M CALHOUN MEM AP, AK
Class II	
Solar Coordinates	
Latitude: 65.167˚	
Longitude: -152.1˚	
Elevation: 71 m	
Meteorological Coordinates	
Latitude: 65.167˚	
Longitude: -152.1˚	
Elevation: 71 m	
Time Zone: -9	

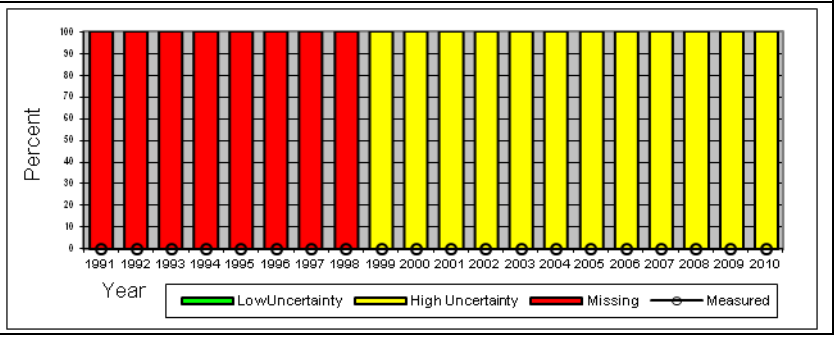
703606	TOGIAC VILLAGE AWOS, AK
Class II	
Solar Coordinates	
Latitude: 59.05˚	
Longitude: -160.4˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 59.05˚	
Longitude: -160.4˚	
Elevation: 6 m	
Time Zone: -9	

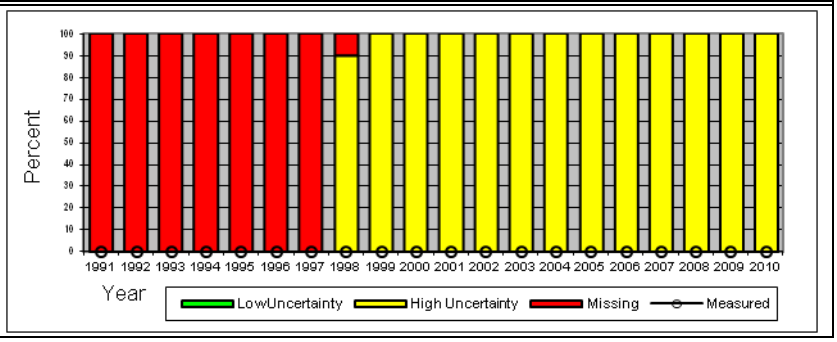
702070	UNALAKLEET FIELD, AK
Class II	
Solar Coordinates	
Latitude: 63.883˚	
Longitude: -160.8˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 63.883˚	
Longitude: -160.8˚	
Elevation: 5 m	
Time Zone: -9	

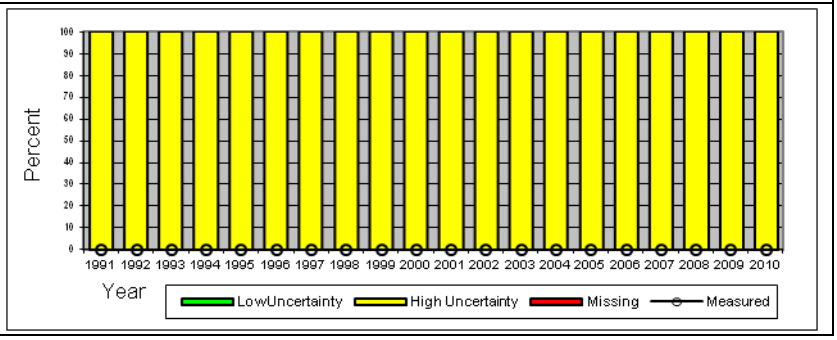
702756	VALDEZ PIONEER FIEL, AK
Class II	
Solar Coordinates	
Latitude: 61.133˚	
Longitude: -146.267˚	
Elevation: 38 m	
Meteorological Coordinates	
Latitude: 61.133˚	
Longitude: -146.267˚	
Elevation: 38 m	
Time Zone: -9	

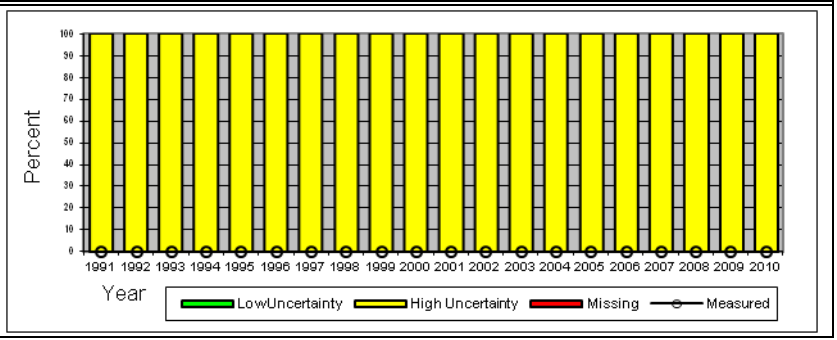
702750	VALDEZ WSO, AK
Class III	
Solar Coordinates	
Latitude: 61.133˚	
Longitude: -146.35˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 61.133˚	
Longitude: -146.35˚	
Elevation: 7 m	
Time Zone: -9	

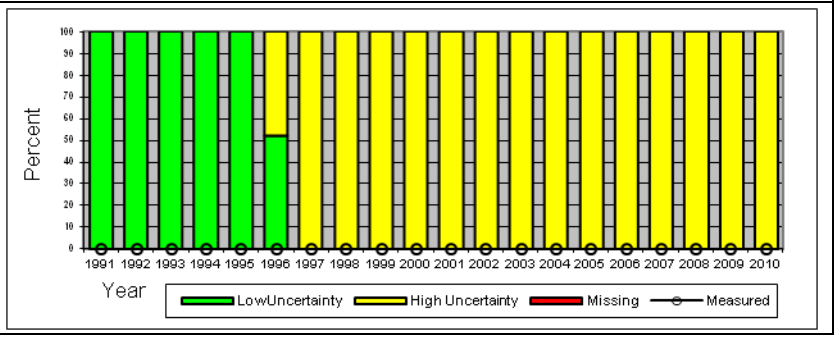
702615	WAINWRIGHT AAF, AK
Class III	
Solar Coordinates	
Latitude: 64.833˚	
Longitude: -147.617˚	
Elevation: 142 m	
Meteorological Coordinates	
Latitude: 64.833˚	
Longitude: -147.617˚	
Elevation: 142 m	
Time Zone: -9	

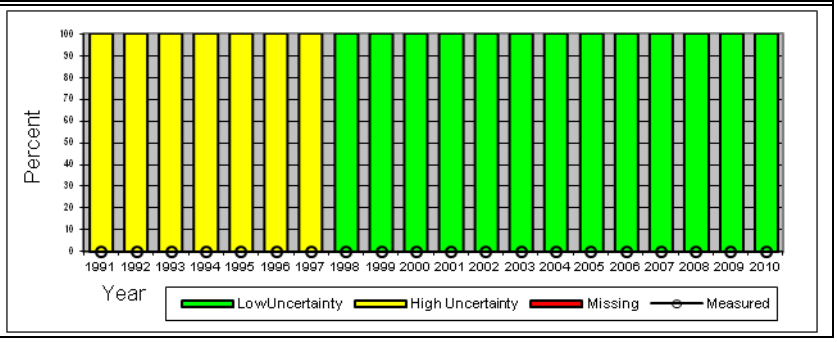
700300	WAINWRIGHT LIZ 3, AK
Class III	
Solar Coordinates	
Latitude: 70.617˚	
Longitude: -159.85˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 70.617˚	
Longitude: -159.85˚	
Elevation: 27 m	
Time Zone: -9	

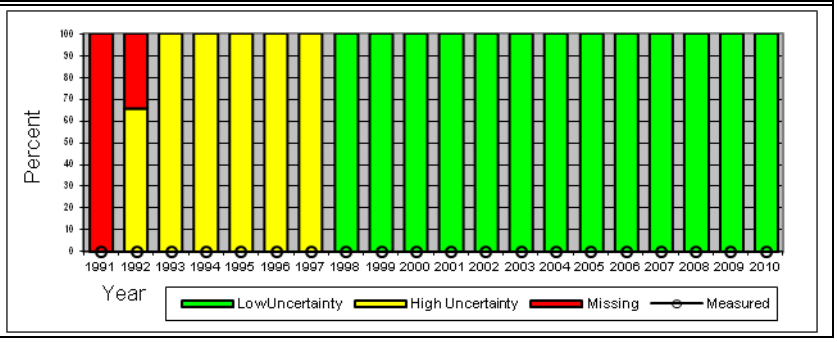
702325	WASILLA, AK
Class III	
Solar Coordinates	
Latitude: 61.567˚	
Longitude: -149.45˚	
Elevation: 111 m	
Meteorological Coordinates	
Latitude: 61.567˚	
Longitude: -149.45˚	
Elevation: 111 m	
Time Zone: -9	

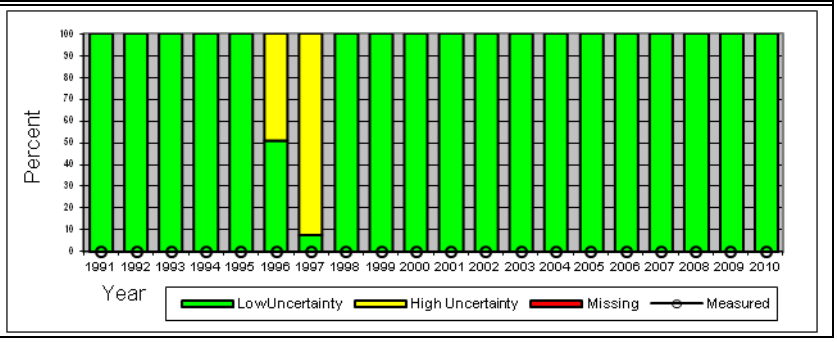
702757	WHITTIER, AK
Class II	
Solar Coordinates	
Latitude: 60.767˚	
Longitude: -148.683˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 60.767˚	
Longitude: -148.683˚	
Elevation: 9 m	
Time Zone: -9	

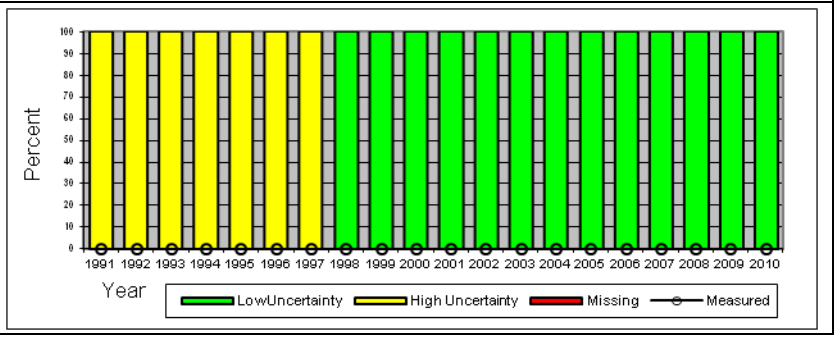
703870	WRANGELL, AK
Class II	
Solar Coordinates	
Latitude: 56.483˚	
Longitude: -132.367˚	
Elevation: 13 m	
Meteorological Coordinates	
Latitude: 56.483˚	
Longitude: -132.367˚	
Elevation: 13 m	
Time Zone: -9	

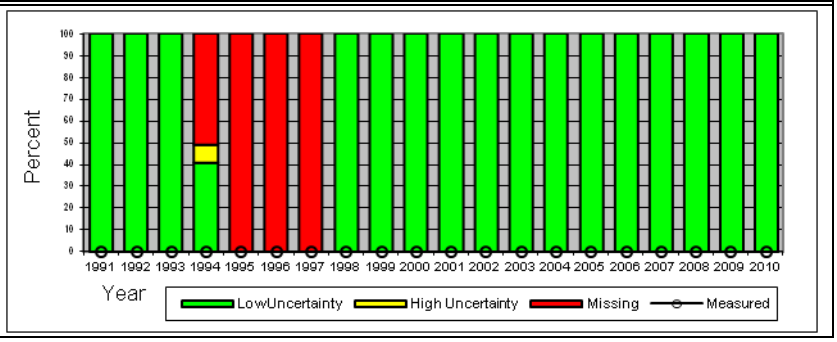
703610	YAKUTAT STATE ARPT, AK
Class II	
Solar Coordinates	
Latitude: 59.517˚	
Longitude: -139.633˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 59.517˚	
Longitude: -139.633˚	
Elevation: 8 m	
Time Zone: -9	

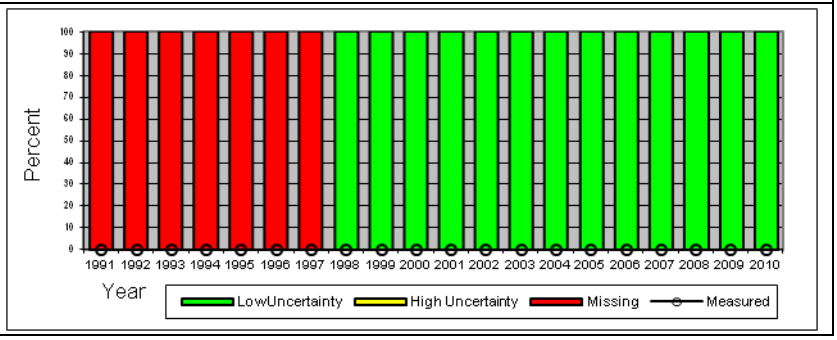
722287	ANNISTON METROPOLITAN AP, AL
Class II	
Solar Coordinates	
Latitude: 33.583˚	
Longitude: -85.85˚	
Elevation: 186 m	
Meteorological Coordinates	
Latitude: 33.583˚	
Longitude: -85.85˚	
Elevation: 186 m	
Time Zone: -6	

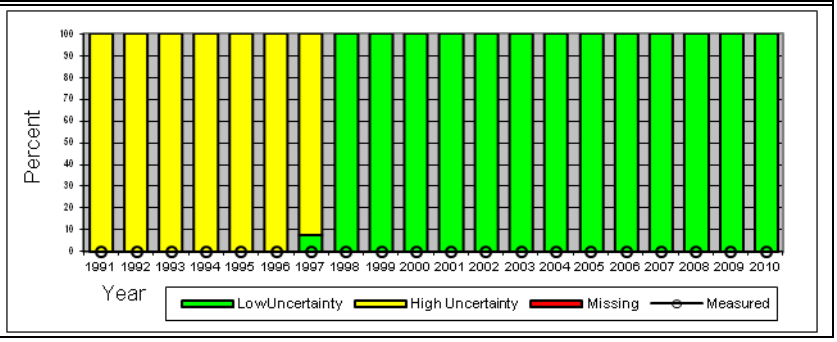
722284	AUBURN-OPELIKA APT, AL
Class III	
Solar Coordinates	
Latitude: 32.616˚	
Longitude: -85.433˚	
Elevation: 236 m	
Meteorological Coordinates	
Latitude: 32.616˚	
Longitude: -85.433˚	
Elevation: 236 m	
Time Zone: -6	

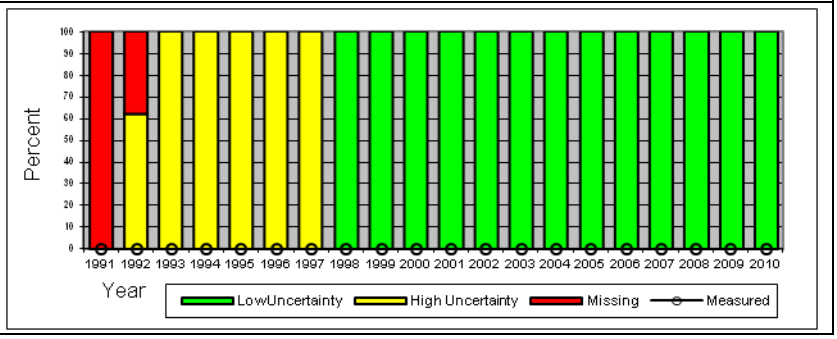
722280	BIRMINGHAM MUNICIPAL AP, AL
Class I	
Solar Coordinates	
Latitude: 33.567˚	
Longitude: -86.75˚	
Elevation: 189 m	
Meteorological Coordinates	
Latitude: 33.567˚	
Longitude: -86.75˚	
Elevation: 189 m	
Time Zone: -6	

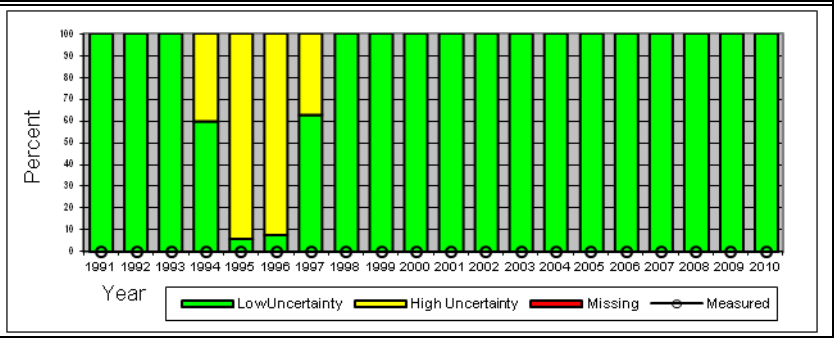
722269	CAIRNS FIELD FORT RUCKER, AL
Class II	
Solar Coordinates	
Latitude: 31.267˚	
Longitude: -85.717˚	
Elevation: 91 m	
Meteorological Coordinates	
Latitude: 31.267˚	
Longitude: -85.717˚	
Elevation: 91 m	
Time Zone: -6	

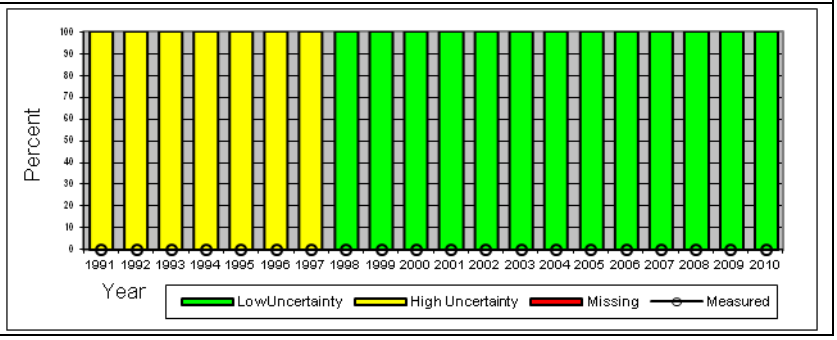
722290	CENTREVILLE WSMO, AL
Class III	
Solar Coordinates	
Latitude: 32.9˚	
Longitude: -87.25˚	
Elevation: 140 m	
Meteorological Coordinates	
Latitude: 32.9˚	
Longitude: -87.25˚	
Elevation: 140 m	
Time Zone: -6	

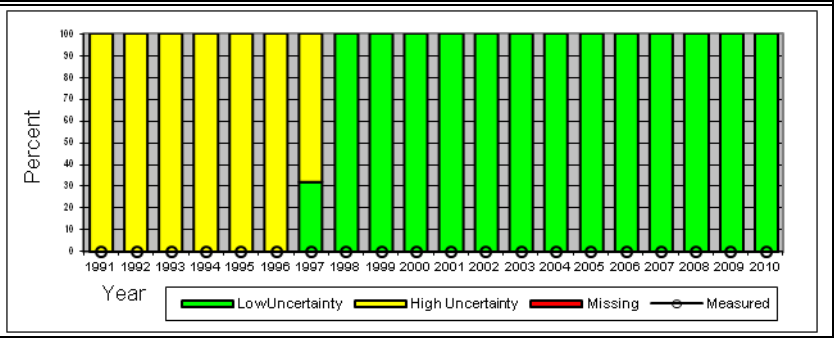
722279	DECATUR, AL
Class III	
Solar Coordinates	
Latitude: 34.65˚	
Longitude: -86.95˚	
Elevation: 180 m	
Meteorological Coordinates	
Latitude: 34.65˚	
Longitude: -86.95˚	
Elevation: 180 m	
Time Zone: -6	

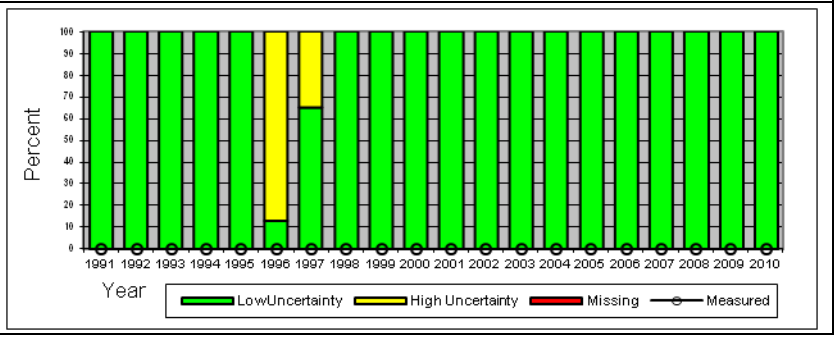
722268	DOTHAN MUNICIPAL AP, AL
Class II	
Solar Coordinates	
Latitude: 31.233˚	
Longitude: -85.433˚	
Elevation: 98 m	
Meteorological Coordinates	
Latitude: 31.233˚	
Longitude: -85.433˚	
Elevation: 98 m	
Time Zone: -6	

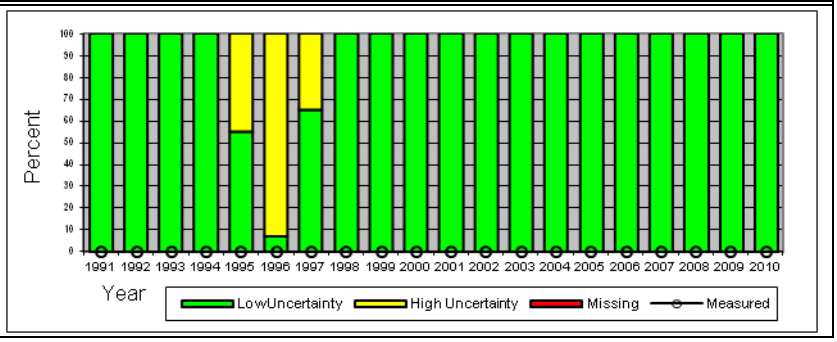
722285	GADSEN MUNI (AWOS), AL
Class III	
Solar Coordinates	
Latitude: 33.967˚	
Longitude: -86.083˚	
Elevation: 173 m	
Meteorological Coordinates	
Latitude: 33.967˚	
Longitude: -86.083˚	
Elevation: 173 m	
Time Zone: -6	

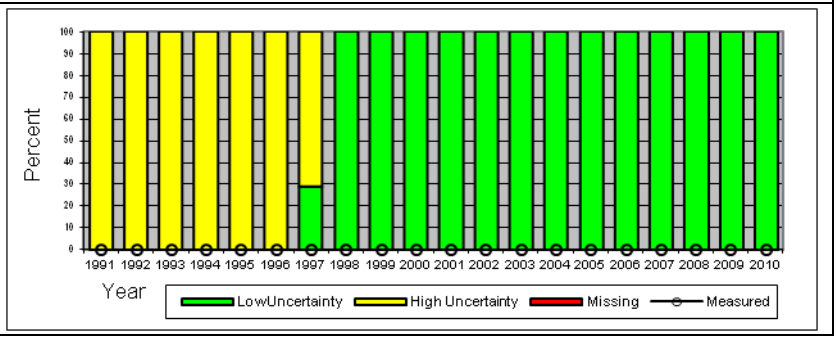
723230	HUNTSVILLE INTL/JONES FIELD, AL
Class I	
Solar Coordinates	
Latitude: 34.65˚	
Longitude: -86.783˚	
Elevation: 190 m	
Meteorological Coordinates	
Latitude: 34.65˚	
Longitude: -86.783˚	
Elevation: 190 m	
Time Zone: -6	

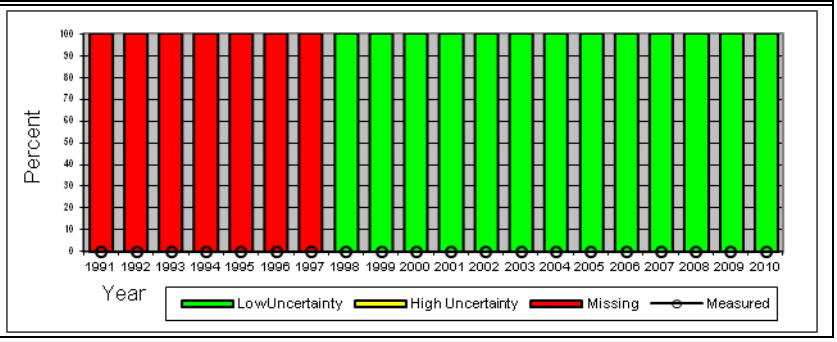
722265	MAXWELL AFB, AL
Class II	
Solar Coordinates	
Latitude: 32.383˚	
Longitude: -86.35˚	
Elevation: 53 m	
Meteorological Coordinates	
Latitude: 32.383˚	
Longitude: -86.35˚	
Elevation: 53 m	
Time Zone: -6	

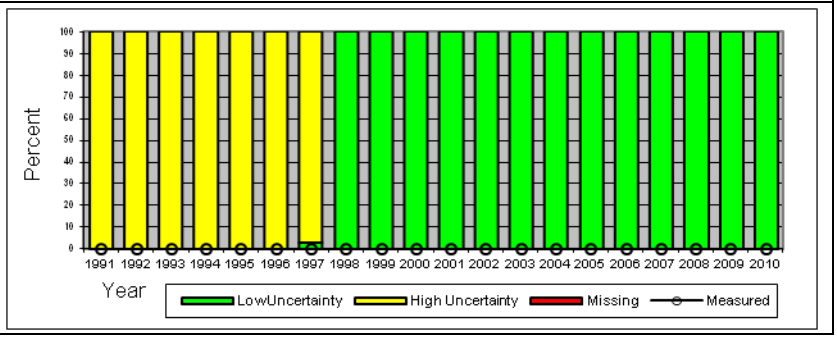
722235	MOBILE DOWNTOWN AP, AL
Class II	
Solar Coordinates	
Latitude: 30.633˚	
Longitude: -88.067˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 30.633˚	
Longitude: -88.067˚	
Elevation: 8 m	
Time Zone: -6	

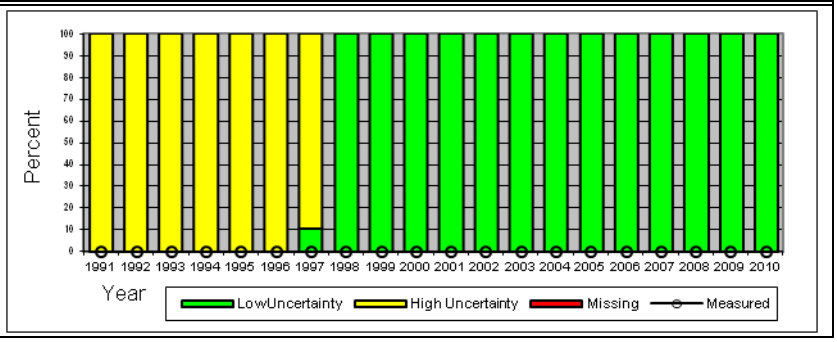
722230	MOBILE REGIONAL AP, AL
Class I	
Solar Coordinates	
Latitude: 30.683˚	
Longitude: -88.25˚	
Elevation: 66 m	
Meteorological Coordinates	
Latitude: 30.683˚	
Longitude: -88.25˚	
Elevation: 66 m	
Time Zone: -6	

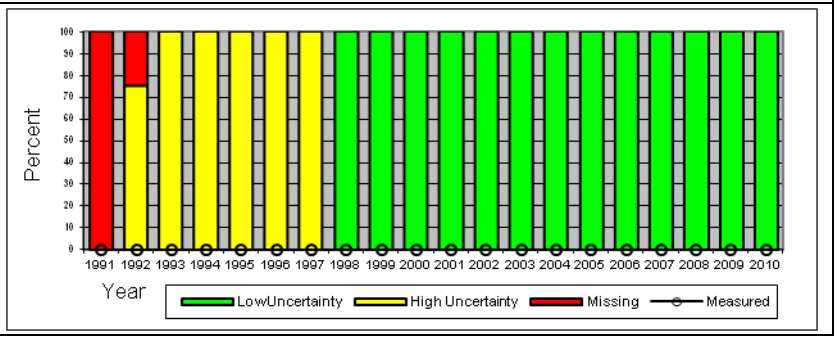
722260	MONTGOMERY DANNELLY FIELD, AL
Class I	
Solar Coordinates	
Latitude: 32.3˚	
Longitude: -86.4˚	
Elevation: 62 m	
Meteorological Coordinates	
Latitude: 32.3˚	
Longitude: -86.4˚	
Elevation: 62 m	
Time Zone: -6	

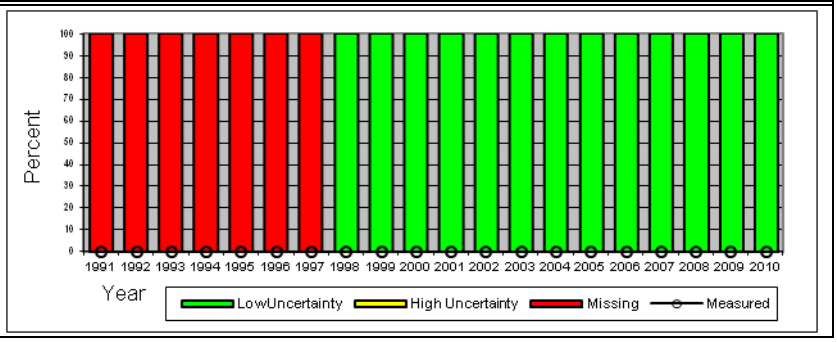
723235	MUSCLE SHOALS REGIONAL AP, AL
Class II	
Solar Coordinates	
Latitude: 34.75˚	
Longitude: -87.6˚	
Elevation: 165 m	
Meteorological Coordinates	
Latitude: 34.75˚	
Longitude: -87.6˚	
Elevation: 165 m	
Time Zone: -6	

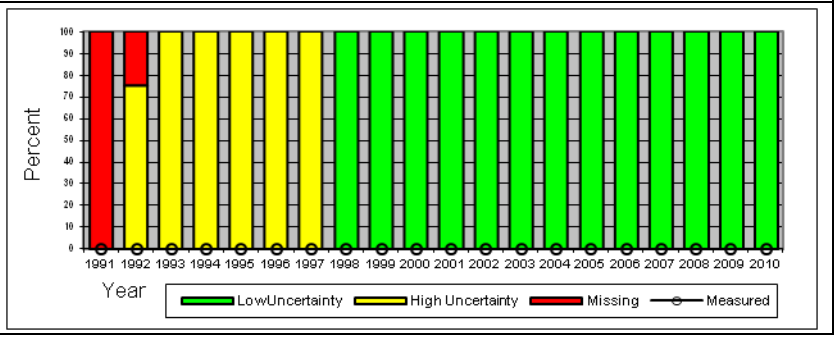
722300	SHELBY CO ARPT, AL
Class III	
Solar Coordinates	
Latitude: 33.167˚	
Longitude: -86.767˚	
Elevation: 178 m	
Meteorological Coordinates	
Latitude: 33.167˚	
Longitude: -86.767˚	
Elevation: 178 m	
Time Zone: -6	

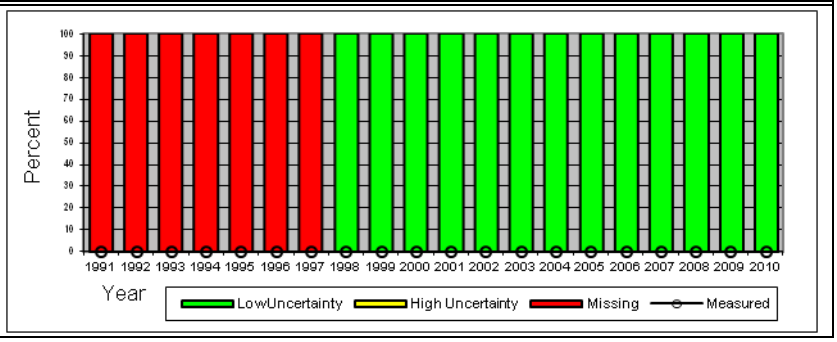
722267	TROY AF, AL
Class II	
Solar Coordinates	
Latitude: 31.867˚	
Longitude: -86.017˚	
Elevation: 120 m	
Meteorological Coordinates	
Latitude: 31.867˚	
Longitude: -86.017˚	
Elevation: 120 m	
Time Zone: -6	

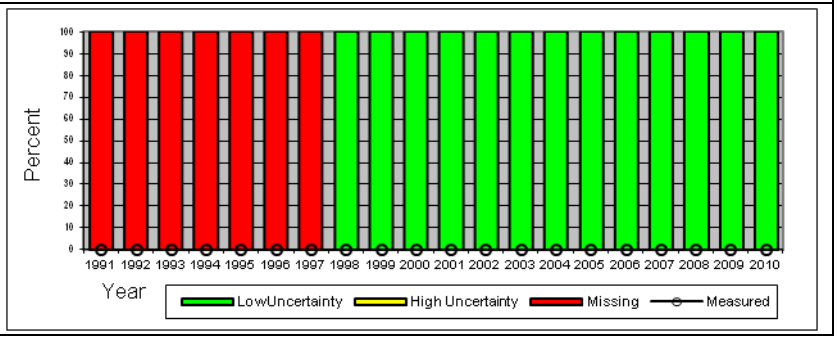
722286	TUSCALOOSA MUNICIPAL AP, AL
Class II	
Solar Coordinates	
Latitude: 33.217˚	
Longitude: -87.617˚	
Elevation: 51 m	
Meteorological Coordinates	
Latitude: 33.217˚	
Longitude: -87.617˚	
Elevation: 51 m	
Time Zone: -6	

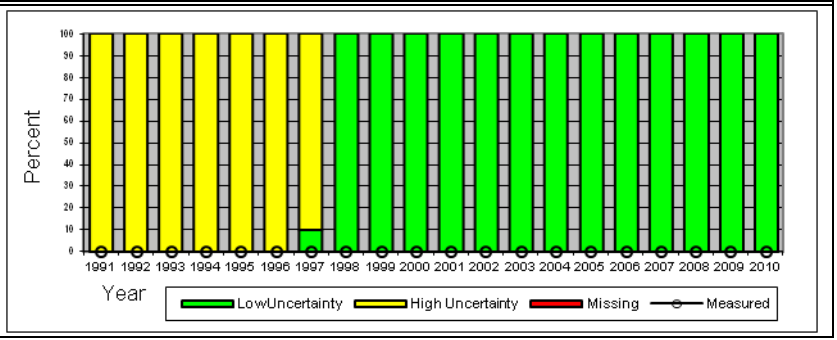
723448	BATESVILLE (AWOS), AR
Class III	
Solar Coordinates	
Latitude: 35.733˚	
Longitude: -91.65˚	
Elevation: 141 m	
Meteorological Coordinates	
Latitude: 35.733˚	
Longitude: -91.65˚	
Elevation: 141 m	
Time Zone: -6	

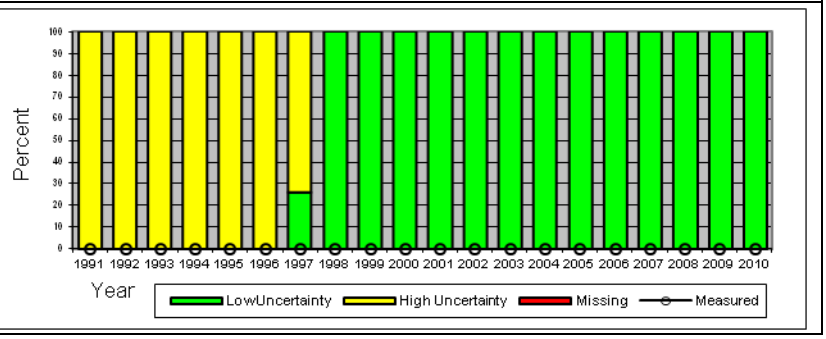
723439	BAXTER CO RGNL APT, AR
Class III	
Solar Coordinates	
Latitude: 36.367˚	
Longitude: -92.467˚	
Elevation: 283 m	
Meteorological Coordinates	
Latitude: 36.367˚	
Longitude: -92.467˚	
Elevation: 283 m	
Time Zone: -6	

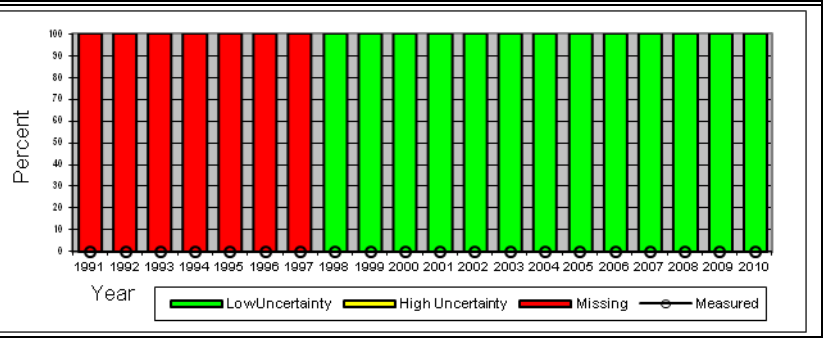
723444	BENTONVILLE (AWOS), AR
Class III	
Solar Coordinates	
Latitude: 36.35˚	
Longitude: -94.217˚	
Elevation: 395 m	
Meteorological Coordinates	
Latitude: 36.35˚	
Longitude: -94.217˚	
Elevation: 395 m	
Time Zone: -6	

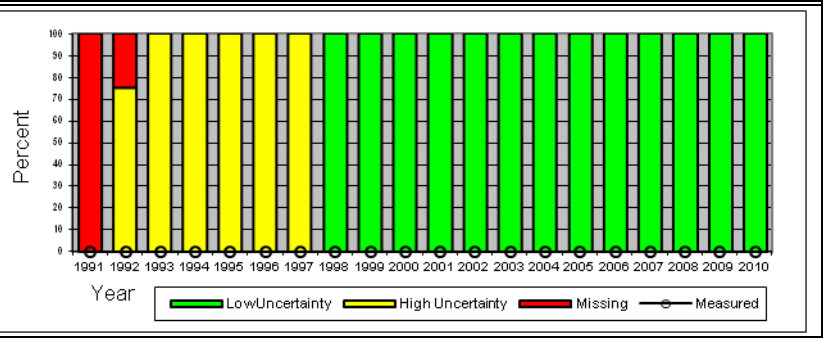
723409	BLYTHEVILLE MUNI, AR
Class III	
Solar Coordinates	
Latitude: 35.933˚	
Longitude: -89.817˚	
Elevation: 78 m	
Meteorological Coordinates	
Latitude: 35.933˚	
Longitude: -89.817˚	
Elevation: 78 m	
Time Zone: -6	

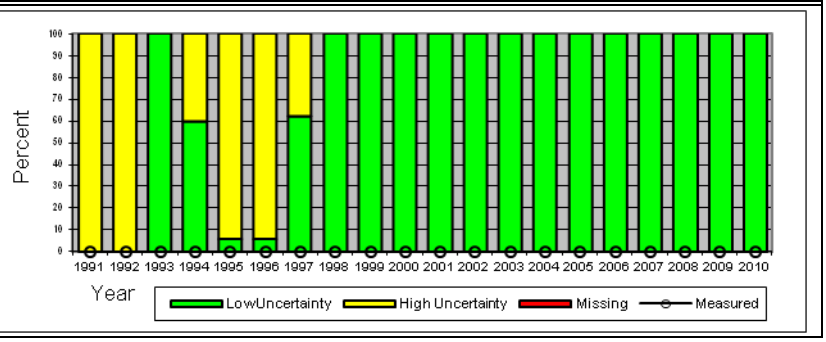
743312	DE QUEEN, AR
Class III	
Solar Coordinates	
Latitude: 34.05˚	
Longitude: -94.4˚	
Elevation: 107 m	
Meteorological Coordinates	
Latitude: 34.05˚	
Longitude: -94.4˚	
Elevation: 107 m	
Time Zone: -6	

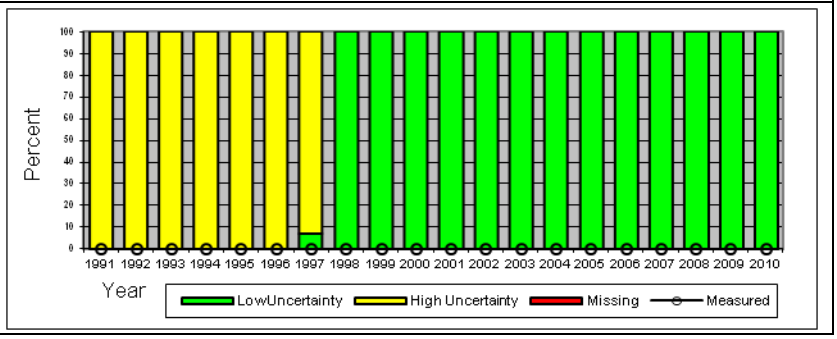
723419	EL DORADO GOODWIN FIELD, AR
Class II	
Solar Coordinates	
Latitude: 33.217˚	
Longitude: -92.817˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 33.217˚	
Longitude: -92.817˚	
Elevation: 77 m	
Time Zone: -6	

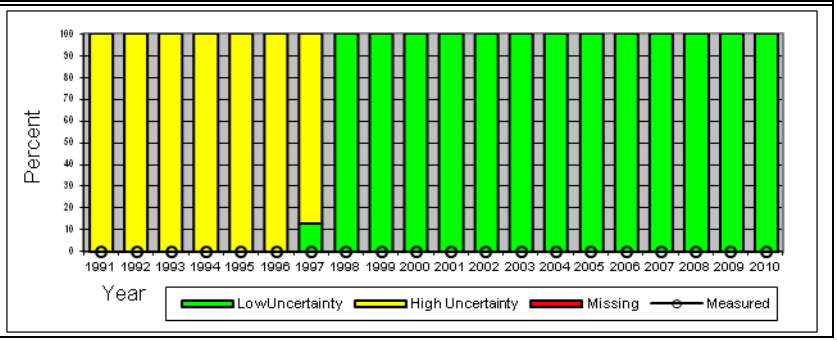
723445	FAYETTEVILLE DRAKE FIELD, AR
Class II	
Solar Coordinates	
Latitude: 36˚	
Longitude: -94.167˚	
Elevation: 381 m	
Meteorological Coordinates	
Latitude: 36˚	
Longitude: -94.167˚	
Elevation: 381 m	
Time Zone: -6	

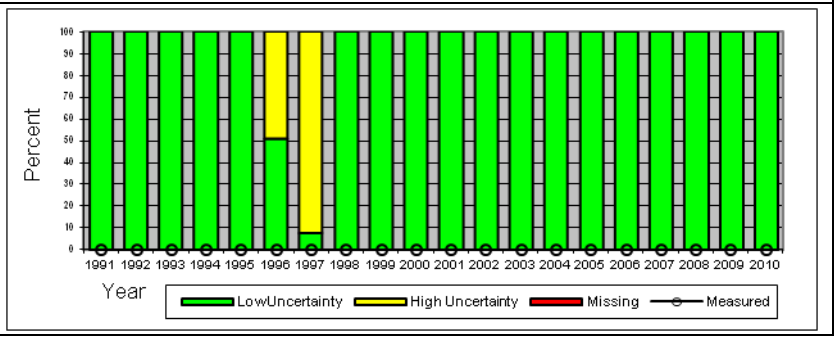
723436	FAYETTEVILLE/SPRING, AR
Class III	
Solar Coordinates	
Latitude: 36.267˚	
Longitude: -94.3˚	
Elevation: 392 m	
Meteorological Coordinates	
Latitude: 36.267˚	
Longitude: -94.3˚	
Elevation: 392 m	
Time Zone: -6	

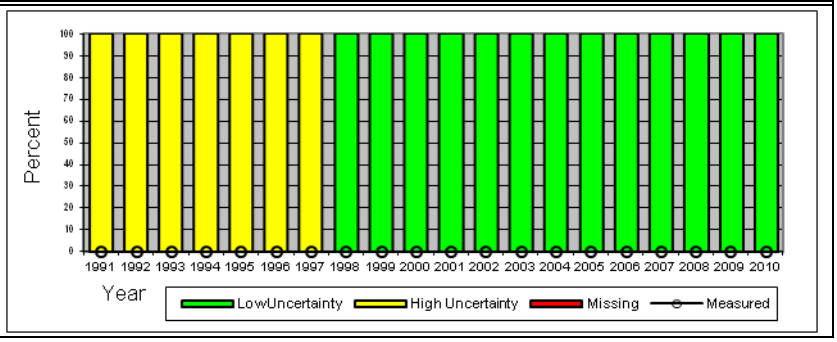
723447	FLIPPIN (AWOS), AR
Class III	
Solar Coordinates	
Latitude: 36.3˚	
Longitude: -92.467˚	
Elevation: 350 m	
Meteorological Coordinates	
Latitude: 36.3˚	
Longitude: -92.467˚	
Elevation: 350 m	
Time Zone: -6	

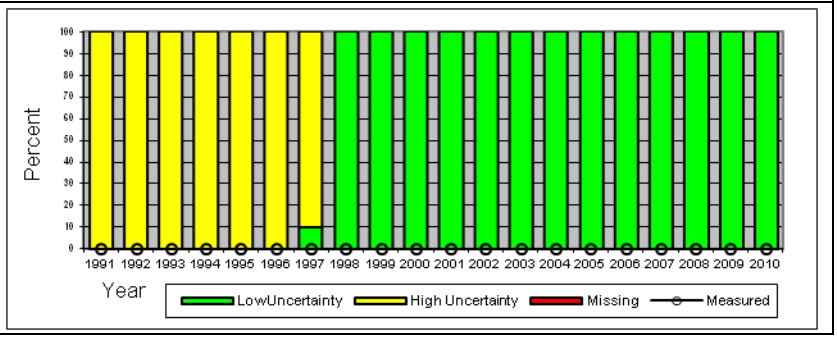
723440	FORT SMITH REGIONAL AP, AR
Class I	
Solar Coordinates	
Latitude: 35.333˚	
Longitude: -94.367˚	
Elevation: 137 m	
Meteorological Coordinates	
Latitude: 35.333˚	
Longitude: -94.367˚	
Elevation: 137 m	
Time Zone: -6	

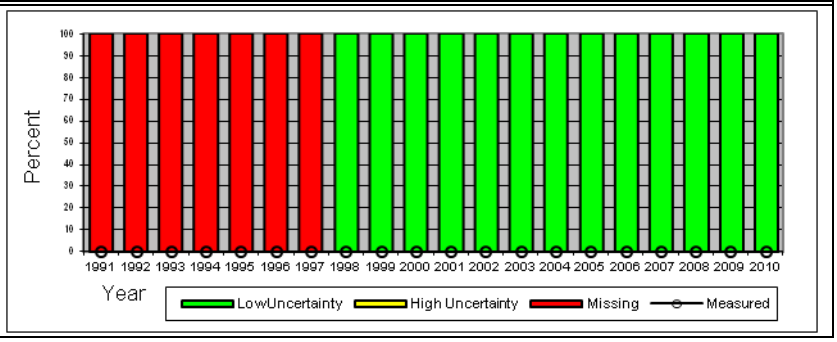
723446	HARRISON FAA AP, AR
Class II	
Solar Coordinates	
Latitude: 36.267˚	
Longitude: -93.15˚	
Elevation: 419 m	
Meteorological Coordinates	
Latitude: 36.267˚	
Longitude: -93.15˚	
Elevation: 419 m	
Time Zone: -6	

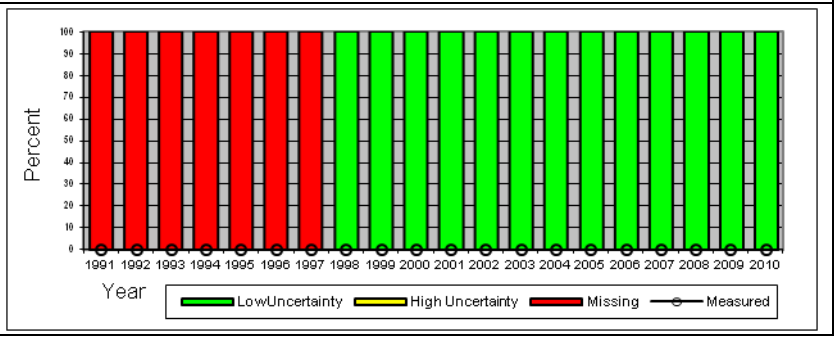
723407	JONESBORO MUNI, AR
Class II	
Solar Coordinates	
Latitude: 35.833˚	
Longitude: -90.65˚	
Elevation: 82 m	
Meteorological Coordinates	
Latitude: 35.833˚	
Longitude: -90.65˚	
Elevation: 82 m	
Time Zone: -6	

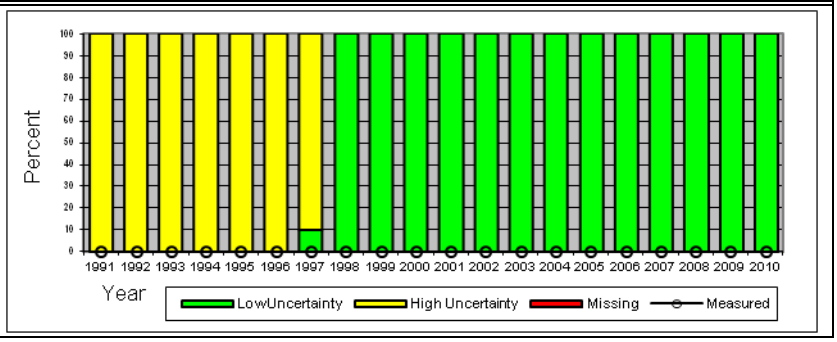
723403	LITTLE ROCK ADAMS FIELD, AR
Class I	
Solar Coordinates	
Latitude: 34.75˚	
Longitude: -92.233˚	
Elevation: 78 m	
Meteorological Coordinates	
Latitude: 34.75˚	
Longitude: -92.233˚	
Elevation: 78 m	
Time Zone: -6	

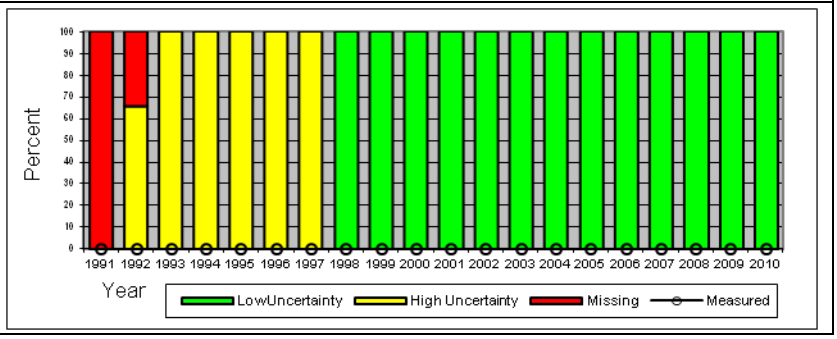
723405	LITTLE ROCK AFB, AR
Class II	
Solar Coordinates	
Latitude: 34.917˚	
Longitude: -92.15˚	
Elevation: 103 m	
Meteorological Coordinates	
Latitude: 34.917˚	
Longitude: -92.15˚	
Elevation: 103 m	
Time Zone: -6	

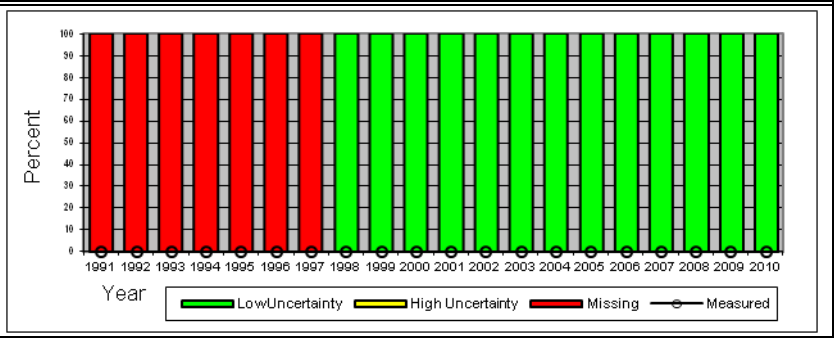
723415	MEMORIAL FLD, AR
Class II	
Solar Coordinates	
Latitude: 34.467˚	
Longitude: -93.1˚	
Elevation: 169 m	
Meteorological Coordinates	
Latitude: 34.467˚	
Longitude: -93.1˚	
Elevation: 169 m	
Time Zone: -6	

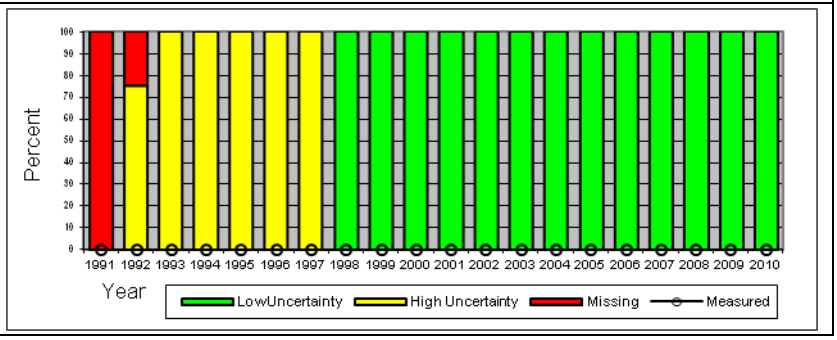
723435	MENA INTERMTN MUNI, AR
Class III	
Solar Coordinates	
Latitude: 34.55˚	
Longitude: -94.217˚	
Elevation: 325 m	
Meteorological Coordinates	
Latitude: 34.55˚	
Longitude: -94.217˚	
Elevation: 325 m	
Time Zone: -6	

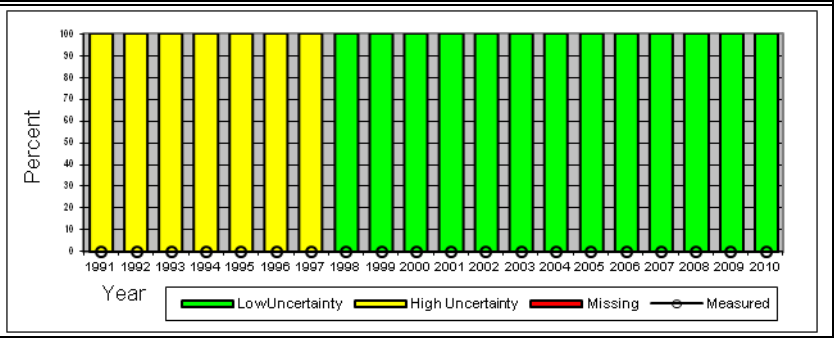
723424	MONTICELLO MUNI, AR
Class III	
Solar Coordinates	
Latitude: 33.567˚	
Longitude: -91.717˚	
Elevation: 36 m	
Meteorological Coordinates	
Latitude: 33.567˚	
Longitude: -91.717˚	
Elevation: 36 m	
Time Zone: -6	

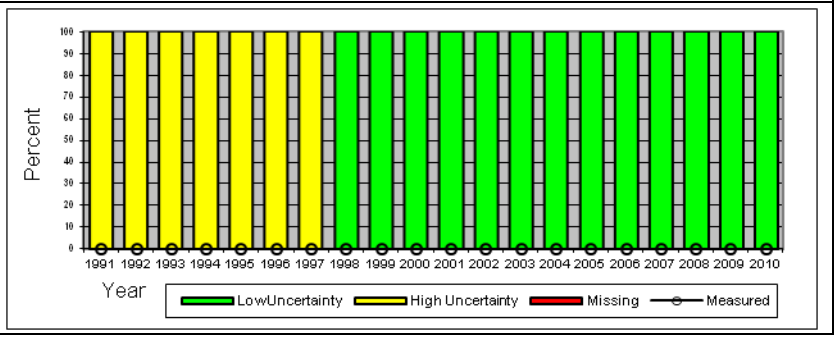
723417	PINE BLUFF FAA AP, AR
Class II	
Solar Coordinates	
Latitude: 34.167˚	
Longitude: -91.933˚	
Elevation: 63 m	
Meteorological Coordinates	
Latitude: 34.167˚	
Longitude: -91.933˚	
Elevation: 63 m	
Time Zone: -6	

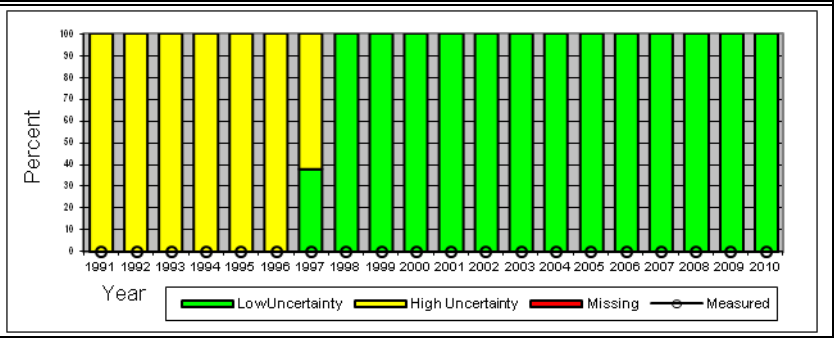
723449	ROGERS (AWOS), AR
Class III	
Solar Coordinates	
Latitude: 36.367˚	
Longitude: -94.1˚	
Elevation: 415 m	
Meteorological Coordinates	
Latitude: 36.367˚	
Longitude: -94.1˚	
Elevation: 415 m	
Time Zone: -6	

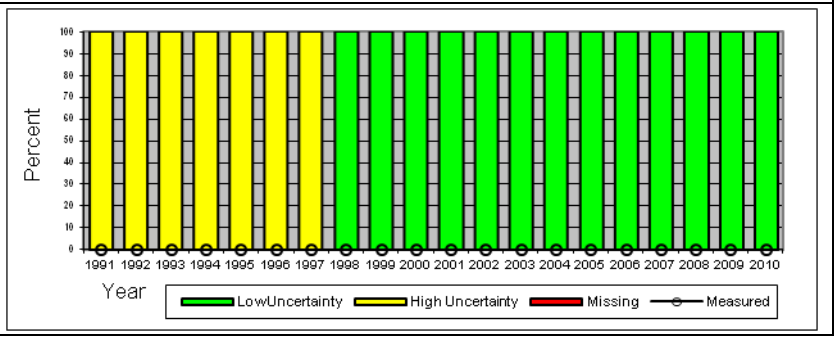
723429	RUSSELLVILLE MUNI A, AR
Class III	
Solar Coordinates	
Latitude: 35.25˚	
Longitude: -93.083˚	
Elevation: 123 m	
Meteorological Coordinates	
Latitude: 35.25˚	
Longitude: -93.083˚	
Elevation: 123 m	
Time Zone: -6	

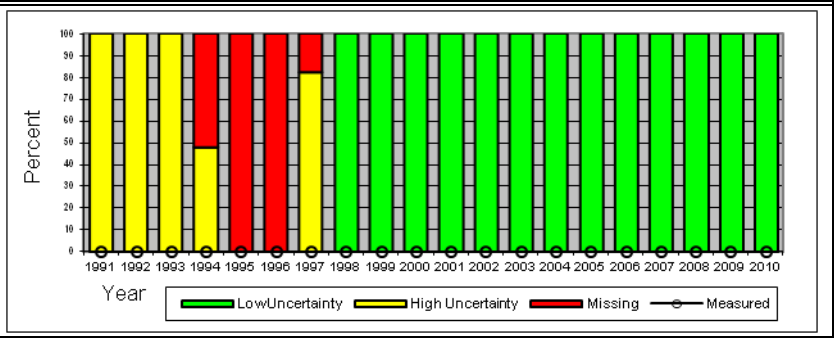
723443	SILOAM SPRING(AWOS), AR
Class III	
Solar Coordinates	
Latitude: 36.183˚	
Longitude: -94.483˚	
Elevation: 364 m	
Meteorological Coordinates	
Latitude: 36.183˚	
Longitude: -94.483˚	
Elevation: 364 m	
Time Zone: -6	

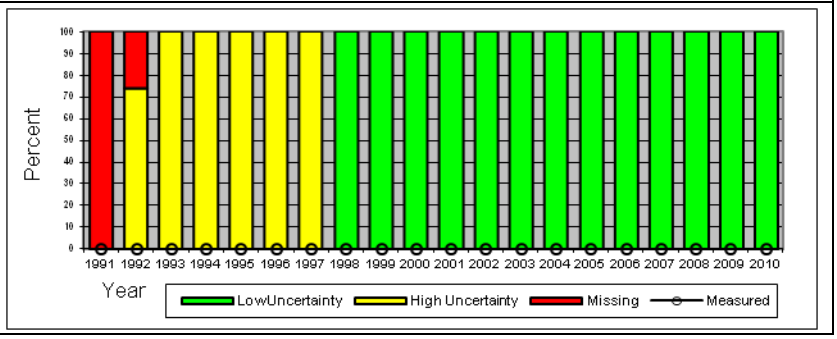
723434	SPRINGDALE MUNI, AR
Class III	
Solar Coordinates	
Latitude: 36.183˚	
Longitude: -94.117˚	
Elevation: 412 m	
Meteorological Coordinates	
Latitude: 36.183˚	
Longitude: -94.117˚	
Elevation: 412 m	
Time Zone: -6	

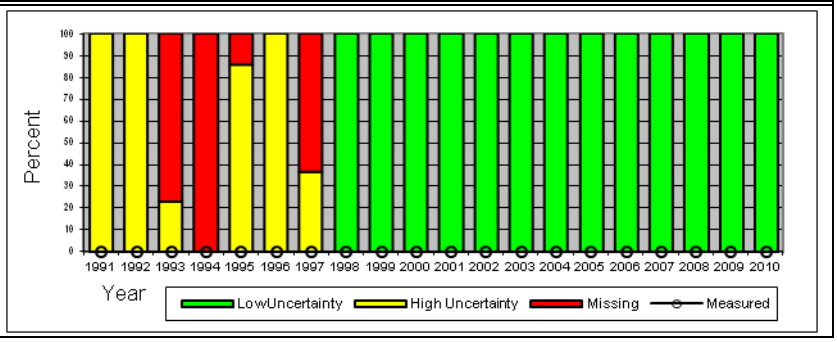
723416	STUTTGART (AWOS), AR
Class II	
Solar Coordinates	
Latitude: 34.6˚	
Longitude: -91.567˚	
Elevation: 68 m	
Meteorological Coordinates	
Latitude: 34.6˚	
Longitude: -91.567˚	
Elevation: 68 m	
Time Zone: -6	

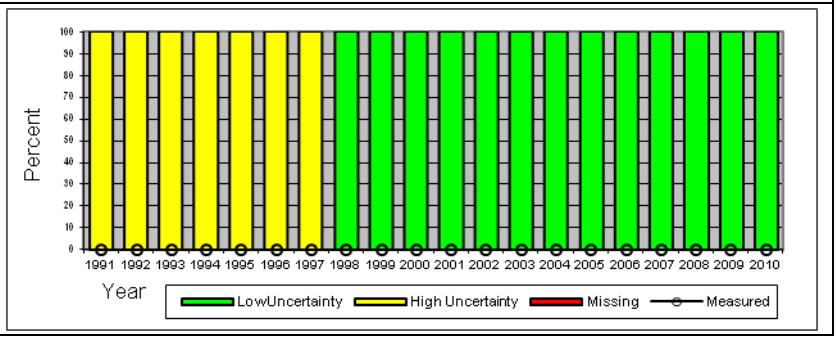
723418	TEXARKANA WEBB FIELD, AR
Class II	
Solar Coordinates	
Latitude: 33.45˚	
Longitude: -94˚	
Elevation: 110 m	
Meteorological Coordinates	
Latitude: 33.45˚	
Longitude: -94˚	
Elevation: 110 m	
Time Zone: -6	

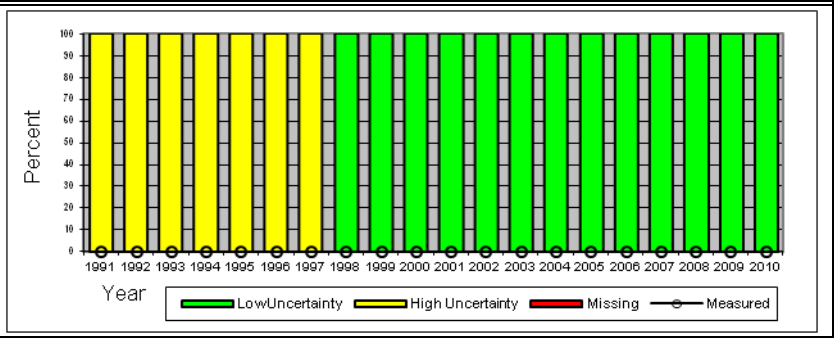
723406	WALNUT RIDGE (AWOS), AR
Class II	
Solar Coordinates	
Latitude: 36.133˚	
Longitude: -90.917˚	
Elevation: 83 m	
Meteorological Coordinates	
Latitude: 36.133˚	
Longitude: -90.917˚	
Elevation: 83 m	
Time Zone: -6	

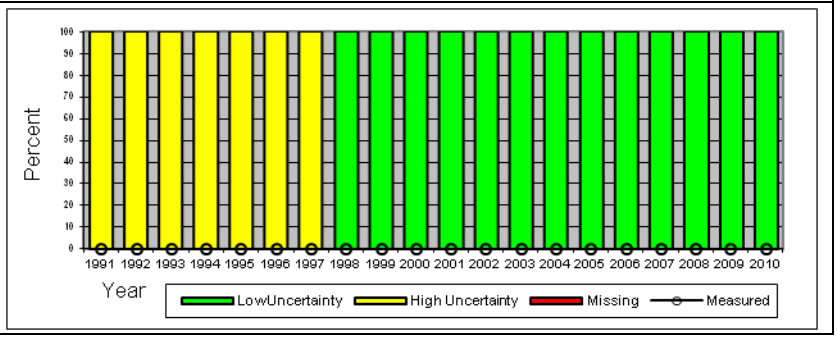
723788	BULLHEAD CITY, AZ
Class III	
Solar Coordinates	
Latitude: 35.167˚	
Longitude: -114.567˚	
Elevation: 167 m	
Meteorological Coordinates	
Latitude: 35.167˚	
Longitude: -114.567˚	
Elevation: 167 m	
Time Zone: -8	

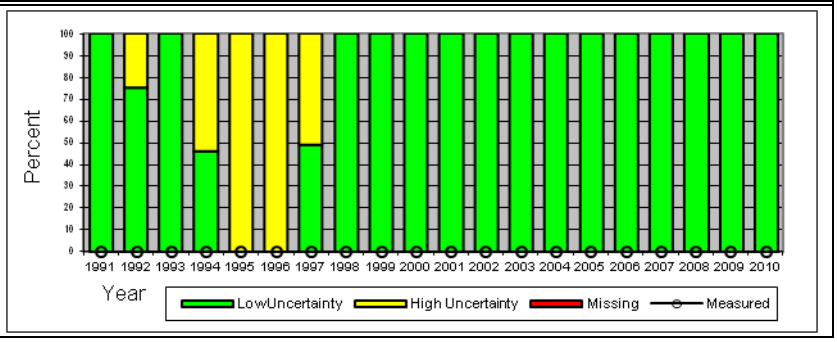
722748	CASA GRANDA (AWOS), AZ
Class III	
Solar Coordinates	
Latitude: 32.95˚	
Longitude: -111.767˚	
Elevation: 446 m	
Meteorological Coordinates	
Latitude: 32.95˚	
Longitude: -111.767˚	
Elevation: 446 m	
Time Zone: -7	

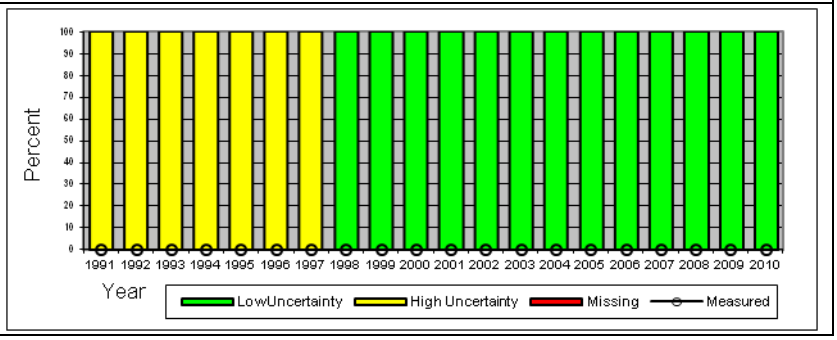
722786	CHANDLER WILLIAMS AFB, AZ
Class III	
Solar Coordinates	
Latitude: 33.3˚	
Longitude: -111.667˚	
Elevation: 412 m	
Meteorological Coordinates	
Latitude: 33.3˚	
Longitude: -111.667˚	
Elevation: 412 m	
Time Zone: -7	

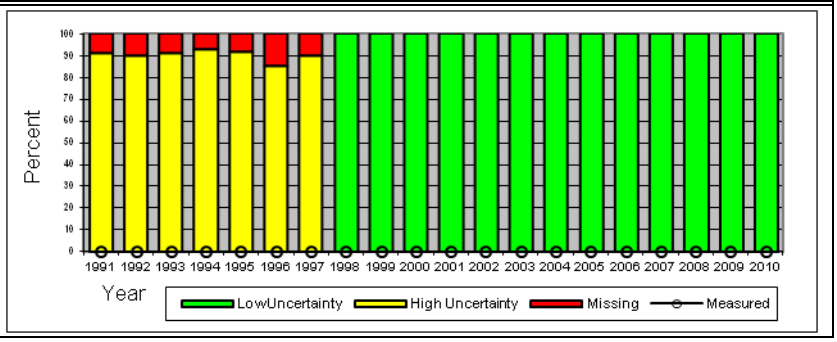
722745	DAVIS MONTHAN AFB, AZ
Class II	
Solar Coordinates	
Latitude: 32.167˚	
Longitude: -110.883˚	
Elevation: 809 m	
Meteorological Coordinates	
Latitude: 32.167˚	
Longitude: -110.883˚	
Elevation: 809 m	
Time Zone: -7	

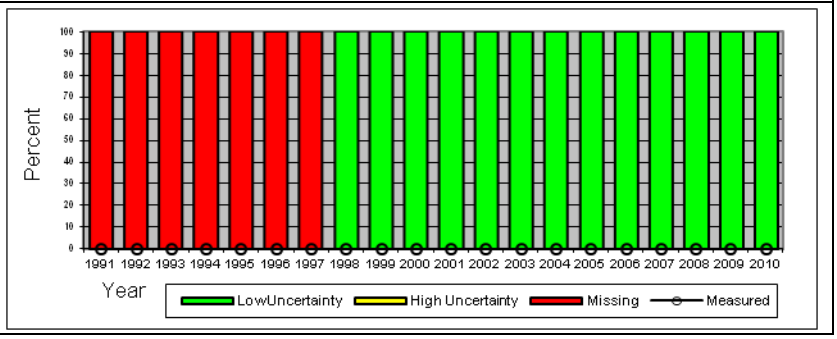
722784	DEER VALLEY/PHOENIX, AZ
Class II	
Solar Coordinates	
Latitude: 33.683˚	
Longitude: -112.083˚	
Elevation: 450 m	
Meteorological Coordinates	
Latitude: 33.683˚	
Longitude: -112.083˚	
Elevation: 450 m	
Time Zone: -7	

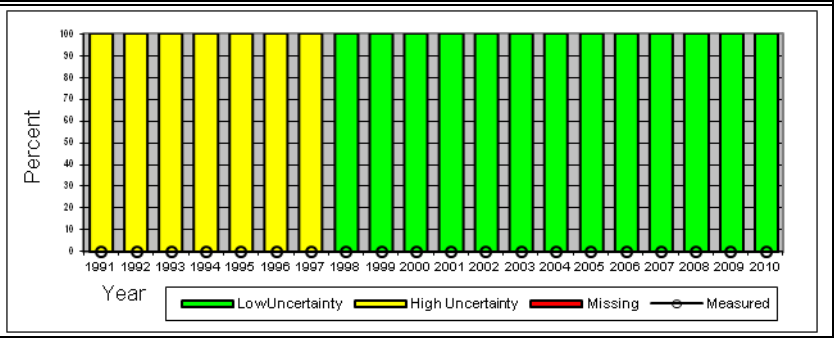
722735	DOUGLAS BISBEE-DOUGLAS INTL A, AZ
Class II	
Solar Coordinates	
Latitude: 31.467˚	
Longitude: -109.6˚	
Elevation: 1249 m	
Meteorological Coordinates	
Latitude: 31.467˚	
Longitude: -109.6˚	
Elevation: 1249 m	
Time Zone: -7	

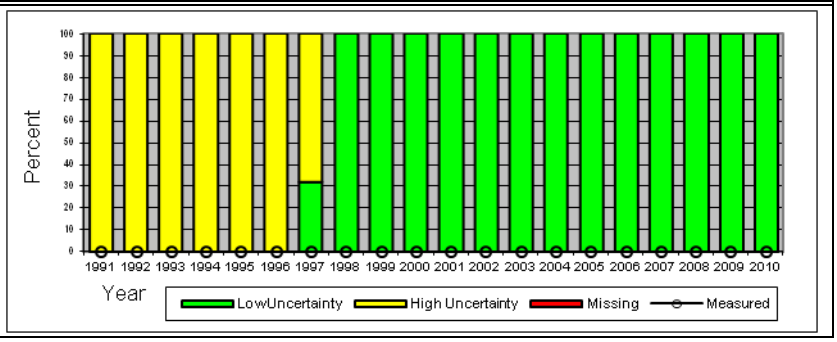
723755	FLAGSTAFF PULLIAM ARPT, AZ
Class III	
Solar Coordinates	
Latitude: 35.133˚	
Longitude: -111.667˚	
Elevation: 2132 m	
Meteorological Coordinates	
Latitude: 35.133˚	
Longitude: -111.667˚	
Elevation: 2132 m	
Time Zone: -7	

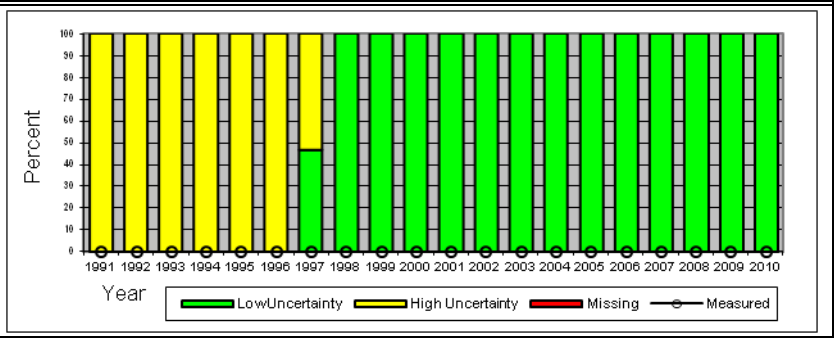
722730	FORT HUACHUCA, AZ
Class II	
Solar Coordinates	
Latitude: 31.567˚	
Longitude: -110.333˚	
Elevation: 1422 m	
Meteorological Coordinates	
Latitude: 31.567˚	
Longitude: -110.333˚	
Elevation: 1422 m	
Time Zone: -7	

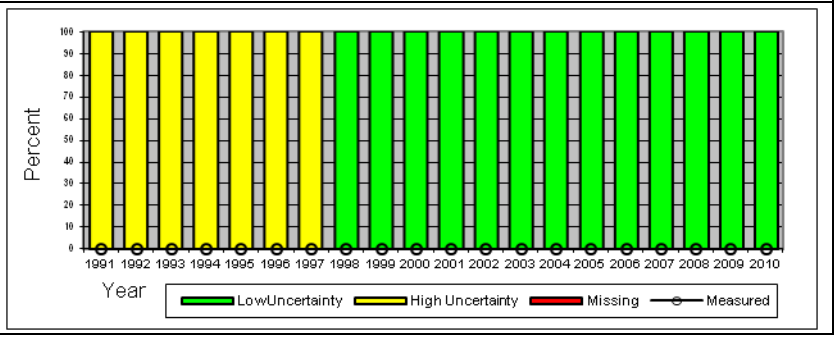
747240	GILA BEND AIRPORT, AZ
Class III	
Solar Coordinates	
Latitude: 32.883˚	
Longitude: -112.717˚	
Elevation: 260 m	
Meteorological Coordinates	
Latitude: 32.883˚	
Longitude: -112.717˚	
Elevation: 260 m	
Time Zone: -7	

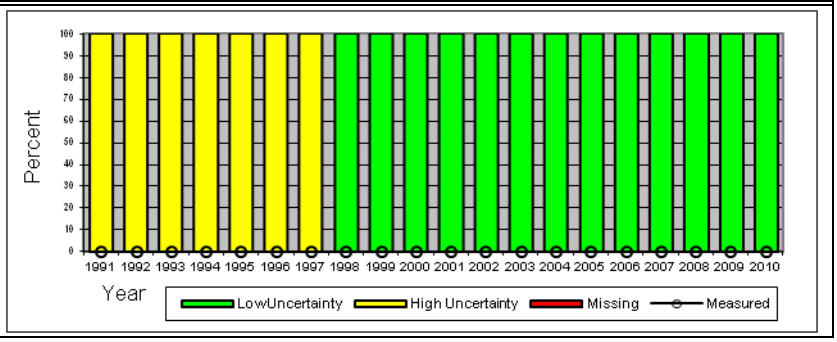
722787	GLENDALE, AZ
Class III	
Solar Coordinates	
Latitude: 33.533˚	
Longitude: -112.3˚	
Elevation: 325 m	
Meteorological Coordinates	
Latitude: 33.533˚	
Longitude: -112.3˚	
Elevation: 325 m	
Time Zone: -7	

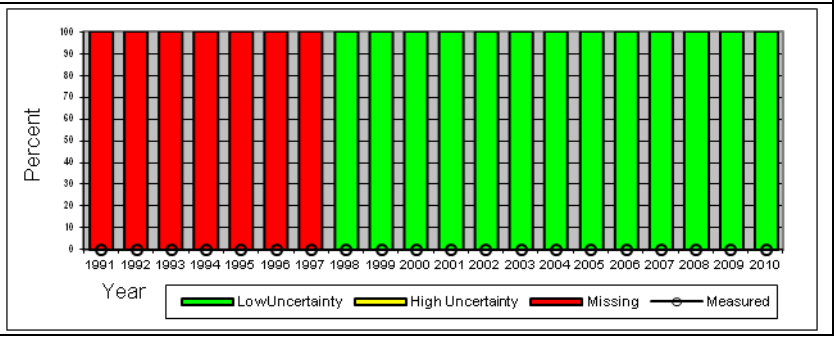
722788	GOODYEAR MUNICIPAL, AZ
Class III	
Solar Coordinates	
Latitude: 33.417˚	
Longitude: -112.383˚	
Elevation: 295 m	
Meteorological Coordinates	
Latitude: 33.417˚	
Longitude: -112.383˚	
Elevation: 295 m	
Time Zone: -7	

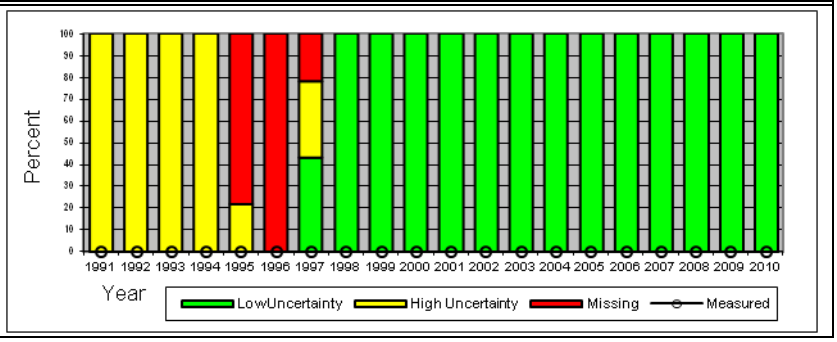
723783	GRAND CANYON NATL P, AZ
Class II	
Solar Coordinates	
Latitude: 35.95˚	
Longitude: -112.15˚	
Elevation: 2065 m	
Meteorological Coordinates	
Latitude: 35.95˚	
Longitude: -112.15˚	
Elevation: 2065 m	
Time Zone: -7	

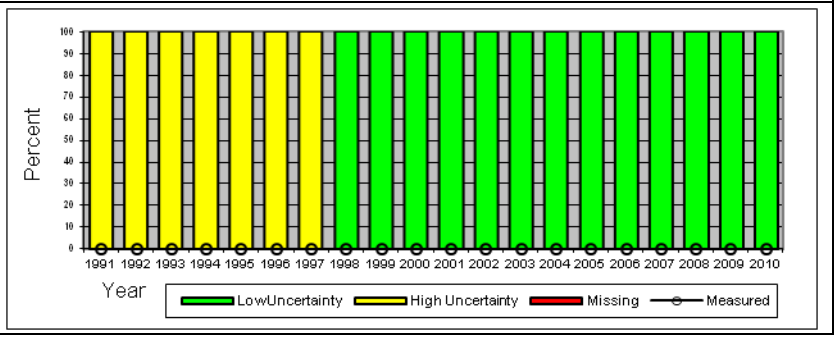
723700	KINGMAN (AMOS), AZ
Class II	
Solar Coordinates	
Latitude: 35.267˚	
Longitude: -113.95˚	
Elevation: 1033 m	
Meteorological Coordinates	
Latitude: 35.267˚	
Longitude: -113.95˚	
Elevation: 1033 m	
Time Zone: -7	

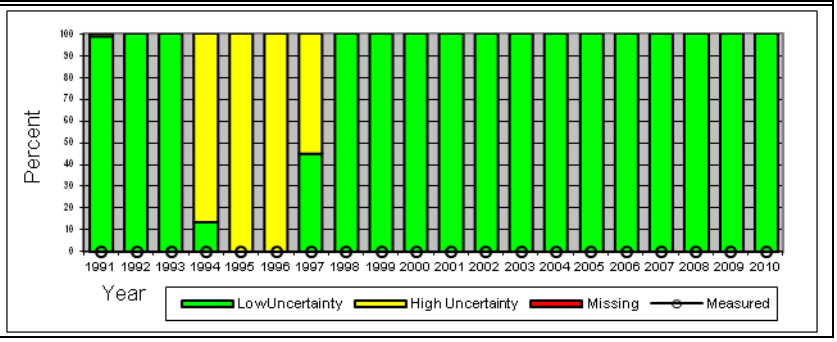
722785	LUKE AFB, AZ
Class II	
Solar Coordinates	
Latitude: 33.55˚	
Longitude: -112.367˚	
Elevation: 331 m	
Meteorological Coordinates	
Latitude: 33.55˚	
Longitude: -112.367˚	
Elevation: 331 m	
Time Zone: -7	

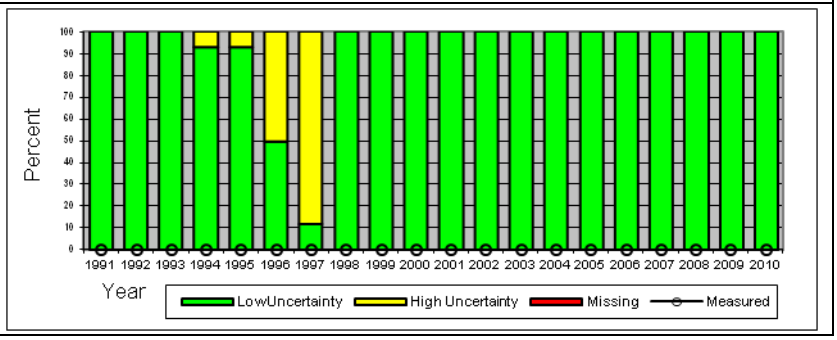
722783	MESA/FALCON FIELD, AZ
Class III	
Solar Coordinates	
Latitude: 33.467˚	
Longitude: -111.733˚	
Elevation: 424 m	
Meteorological Coordinates	
Latitude: 33.467˚	
Longitude: -111.733˚	
Elevation: 424 m	
Time Zone: -7	

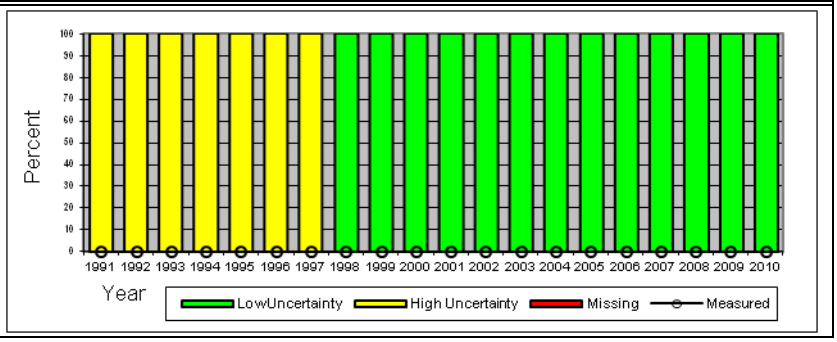
722728	NOGALES INTL, AZ
Class III	
Solar Coordinates	
Latitude: 31.417˚	
Longitude: -110.85˚	
Elevation: 1236 m	
Meteorological Coordinates	
Latitude: 31.417˚	
Longitude: -110.85˚	
Elevation: 1236 m	
Time Zone: -7	

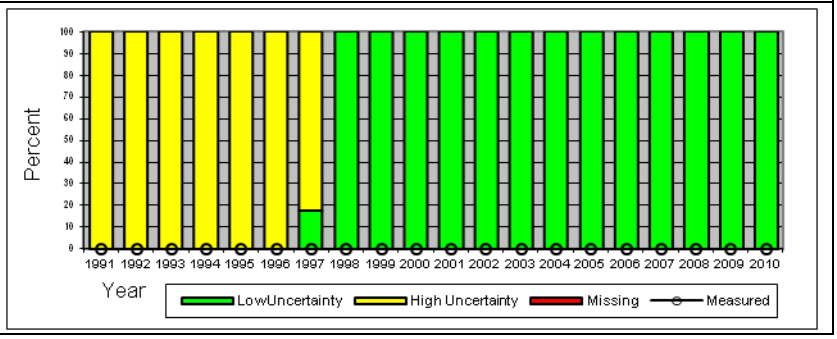
723710	PAGE MUNI (AMOS), AZ
Class III	
Solar Coordinates	
Latitude: 36.933˚	
Longitude: -111.45˚	
Elevation: 1304 m	
Meteorological Coordinates	
Latitude: 36.933˚	
Longitude: -111.45˚	
Elevation: 1304 m	
Time Zone: -7	

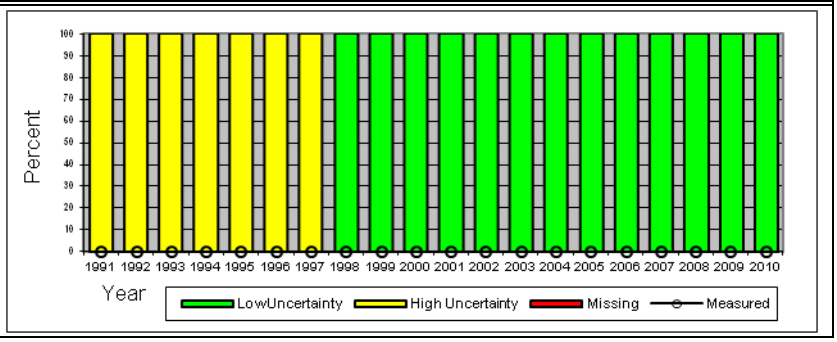
723745	PAYSON, AZ
Class III	
Solar Coordinates	
Latitude: 34.233˚	
Longitude: -111.333˚	
Elevation: 1498 m	
Meteorological Coordinates	
Latitude: 34.233˚	
Longitude: -111.333˚	
Elevation: 1498 m	
Time Zone: -7	

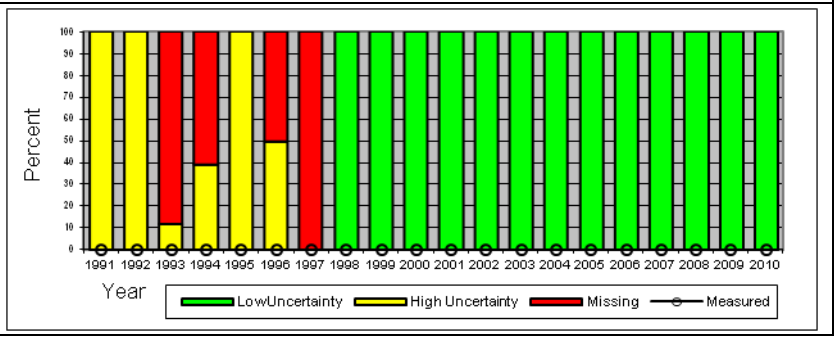
722780	PHOENIX SKY HARBOR INTL AP, AZ
Class I	
Solar Coordinates	
Latitude: 33.45˚	
Longitude: -111.983˚	
Elevation: 337 m	
Meteorological Coordinates	
Latitude: 33.45˚	
Longitude: -111.983˚	
Elevation: 337 m	
Time Zone: -7	

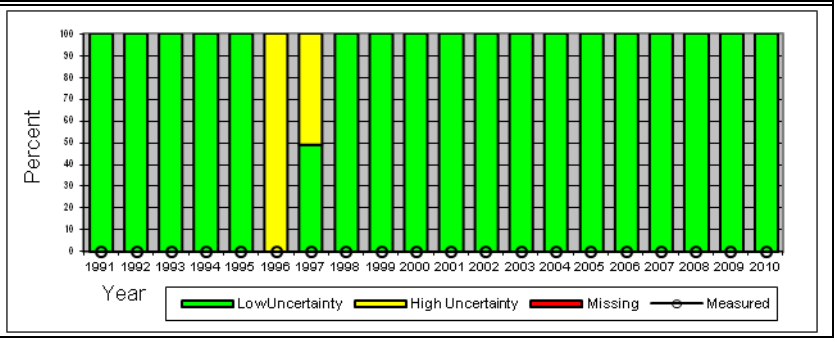
723723	PRESCOTT LOVE FIELD, AZ
Class I	
Solar Coordinates	
Latitude: 34.65˚	
Longitude: -112.417˚	
Elevation: 1537 m	
Meteorological Coordinates	
Latitude: 34.65˚	
Longitude: -112.417˚	
Elevation: 1537 m	
Time Zone: -7	

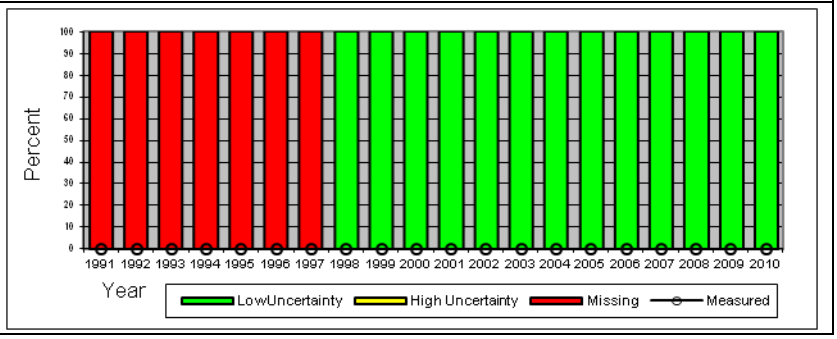
722747	SAFFORD (AMOS), AZ
Class III	
Solar Coordinates	
Latitude: 32.817˚	
Longitude: -109.683˚	
Elevation: 950 m	
Meteorological Coordinates	
Latitude: 32.817˚	
Longitude: -109.683˚	
Elevation: 950 m	
Time Zone: -7	

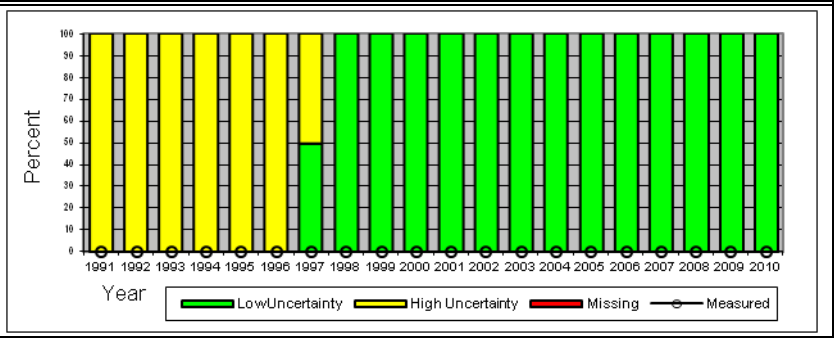
722789	SCOTTSDALE MUNI, AZ
Class II	
Solar Coordinates	
Latitude: 33.617˚	
Longitude: -111.917˚	
Elevation: 460 m	
Meteorological Coordinates	
Latitude: 33.617˚	
Longitude: -111.917˚	
Elevation: 460 m	
Time Zone: -7	

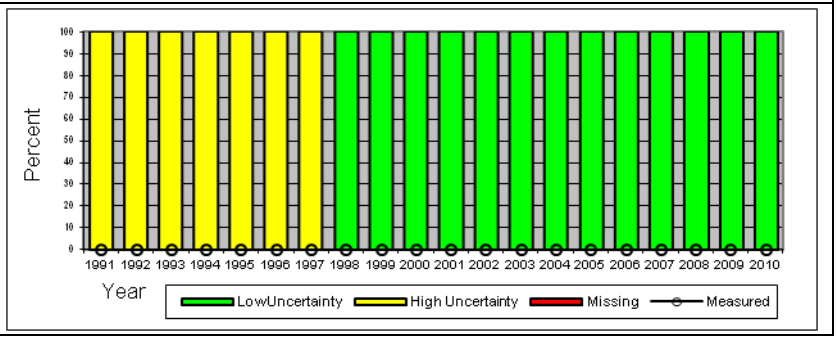
723747	SHOW LOW MUNICIPAL, AZ
Class II	
Solar Coordinates	
Latitude: 34.267˚	
Longitude: -110˚	
Elevation: 1954 m	
Meteorological Coordinates	
Latitude: 34.267˚	
Longitude: -110˚	
Elevation: 1954 m	
Time Zone: -7	

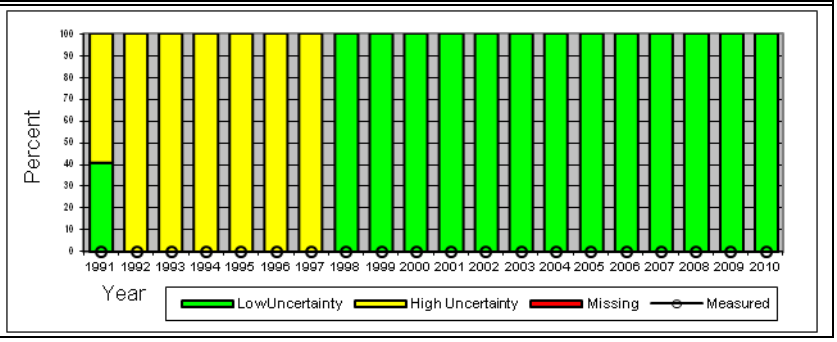
723754	ST. JOHNS AIR PARK, AZ
Class III	
Solar Coordinates	
Latitude: 34.517˚	
Longitude: -109.383˚	
Elevation: 1747 m	
Meteorological Coordinates	
Latitude: 34.517˚	
Longitude: -109.383˚	
Elevation: 1747 m	
Time Zone: -7	

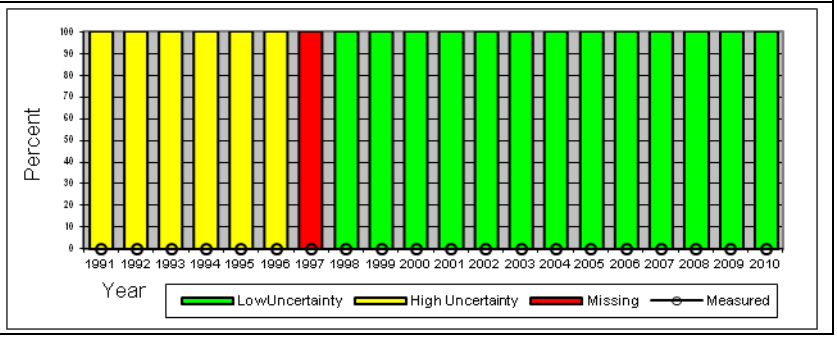
722740	TUCSON INTERNATIONAL AP, AZ
Class I	
Solar Coordinates	
Latitude: 32.133˚	
Longitude: -110.95˚	
Elevation: 777 m	
Meteorological Coordinates	
Latitude: 32.133˚	
Longitude: -110.95˚	
Elevation: 777 m	
Time Zone: -7	

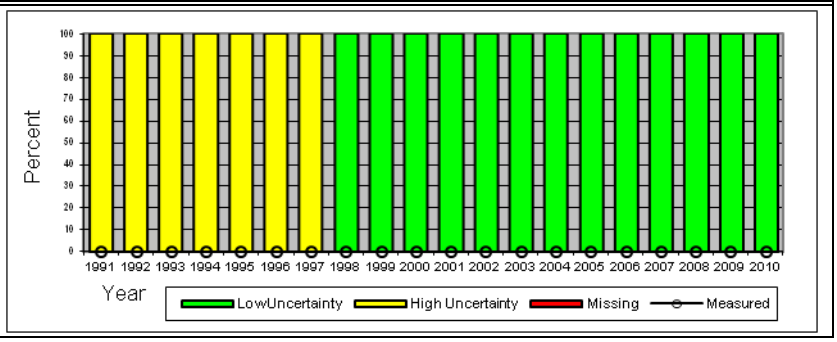
722764	WINDOW ROCK, AZ
Class III	
Solar Coordinates	
Latitude: 35.65˚	
Longitude: -109.067˚	
Elevation: 2054 m	
Meteorological Coordinates	
Latitude: 35.65˚	
Longitude: -109.067˚	
Elevation: 2054 m	
Time Zone: -7	

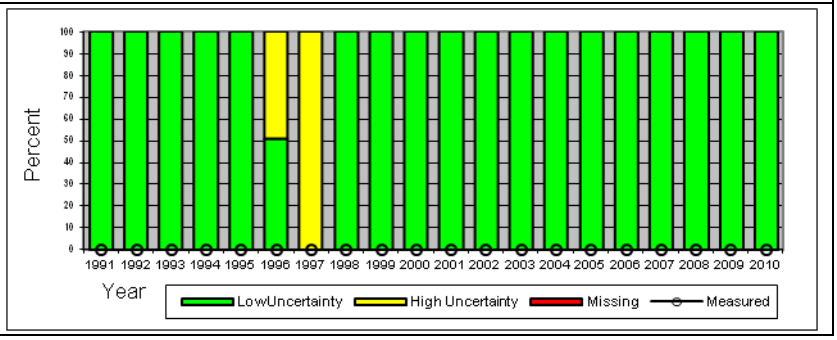
723740	WINSLOW MUNICIPAL AP, AZ
Class II	
Solar Coordinates	
Latitude: 35.033˚	
Longitude: -110.717˚	
Elevation: 1490 m	
Meteorological Coordinates	
Latitude: 35.033˚	
Longitude: -110.717˚	
Elevation: 1490 m	
Time Zone: -7	

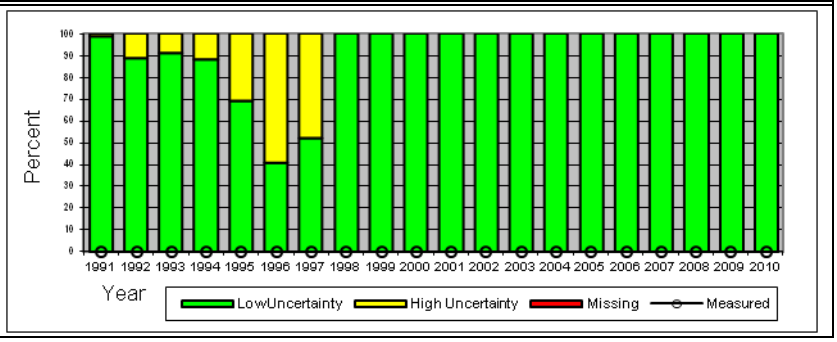
722800	YUMA INTL ARPT, AZ
Class III	
Solar Coordinates	
Latitude: 32.667˚	
Longitude: -114.6˚	
Elevation: 63 m	
Meteorological Coordinates	
Latitude: 32.667˚	
Longitude: -114.6˚	
Elevation: 63 m	
Time Zone: -7	

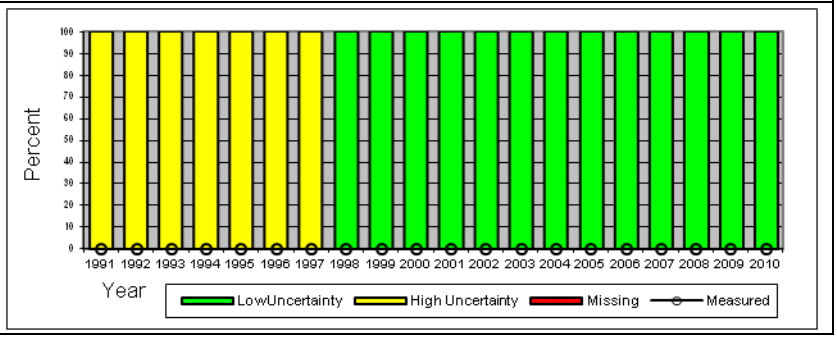
699604	YUMA MCAS, AZ
Class III	
Solar Coordinates	
Latitude: 32.65˚	
Longitude: -114.617˚	
Elevation: 65 m	
Meteorological Coordinates	
Latitude: 32.65˚	
Longitude: -114.617˚	
Elevation: 65 m	
Time Zone: -7	

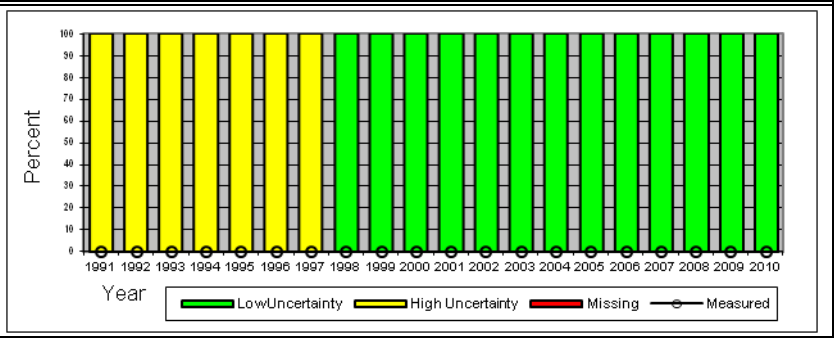
745060	ALAMEDA NAS, CA
Class III	
Solar Coordinates	
Latitude: 37.733˚	
Longitude: -122.317˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 37.733˚	
Longitude: -122.317˚	
Elevation: 5 m	
Time Zone: -8	

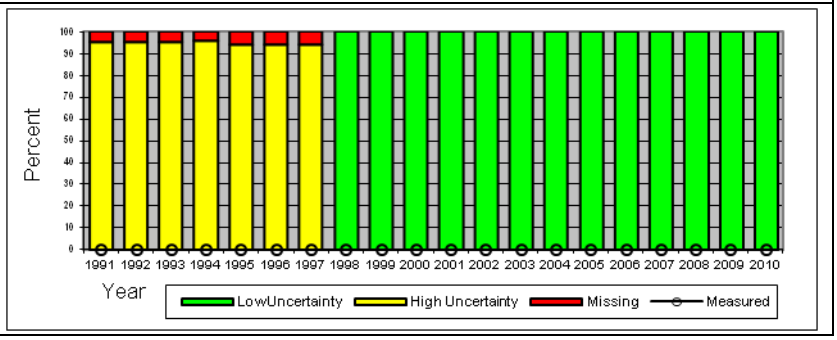
725958	ALTURAS, CA
Class II	
Solar Coordinates	
Latitude: 41.5˚	
Longitude: -120.533˚	
Elevation: 1341 m	
Meteorological Coordinates	
Latitude: 41.5˚	
Longitude: -120.533˚	
Elevation: 1341 m	
Time Zone: -8	

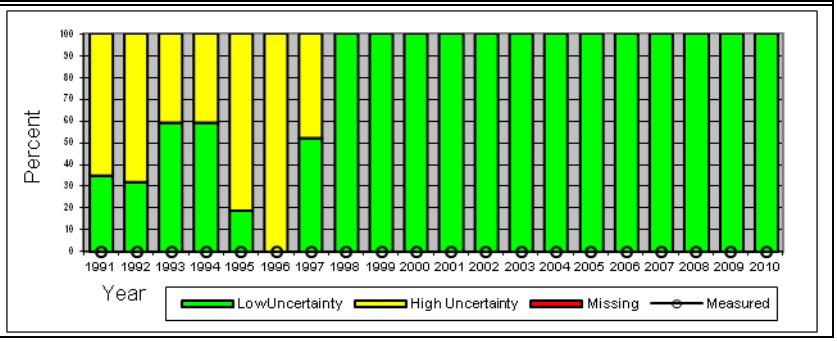
725945	ARCATA AIRPORT, CA
Class I	
Solar Coordinates	
Latitude: 40.983˚	
Longitude: -124.1˚	
Elevation: 62 m	
Meteorological Coordinates	
Latitude: 40.983˚	
Longitude: -124.1˚	
Elevation: 62 m	
Time Zone: -8	

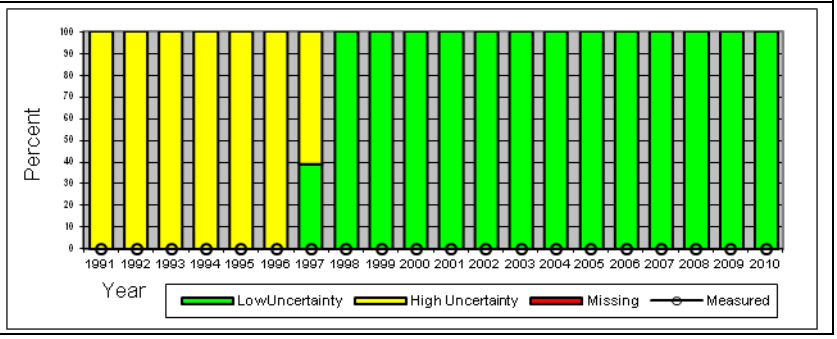
723840	BAKERSFIELD MEADOWS FIELD, CA
Class I	
Solar Coordinates	
Latitude: 35.433˚	
Longitude: -119.05˚	
Elevation: 149 m	
Meteorological Coordinates	
Latitude: 35.433˚	
Longitude: -119.05˚	
Elevation: 149 m	
Time Zone: -8	

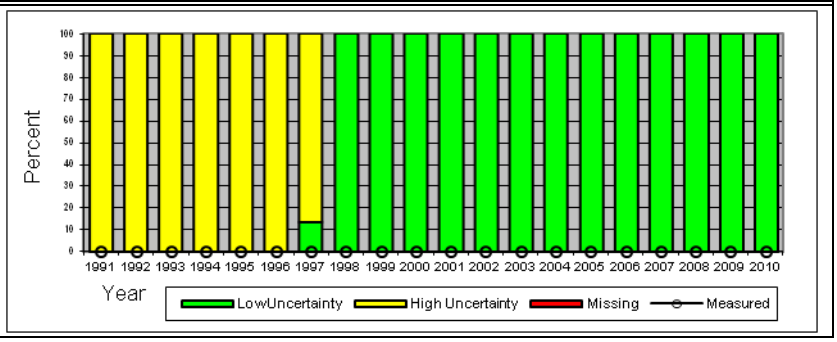
724837	BEALE AFB, CA
Class II	
Solar Coordinates	
Latitude: 39.133˚	
Longitude: -121.433˚	
Elevation: 38 m	
Meteorological Coordinates	
Latitude: 39.133˚	
Longitude: -121.433˚	
Elevation: 38 m	
Time Zone: -8	

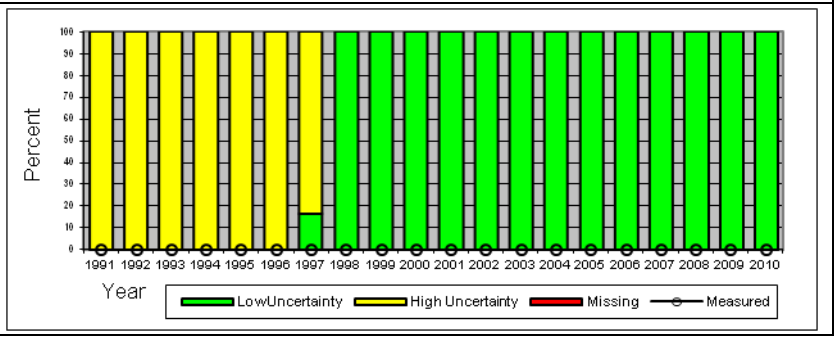
722867	BEAUMONT 1 E, CA
Class III	
Solar Coordinates	
Latitude: 33.933˚	
Longitude: -116.967˚	
Elevation: 792 m	
Meteorological Coordinates	
Latitude: 33.933˚	
Longitude: -116.967˚	
Elevation: 792 m	
Time Zone: -8	

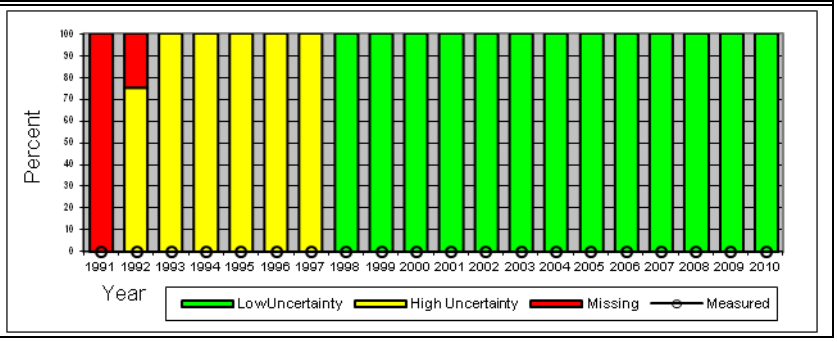
746110	BICYCLE LAKE (AAF), CA
Class III	
Solar Coordinates	
Latitude: 35.283˚	
Longitude: -116.617˚	
Elevation: 716 m	
Meteorological Coordinates	
Latitude: 35.283˚	
Longitude: -116.617˚	
Elevation: 716 m	
Time Zone: -8	

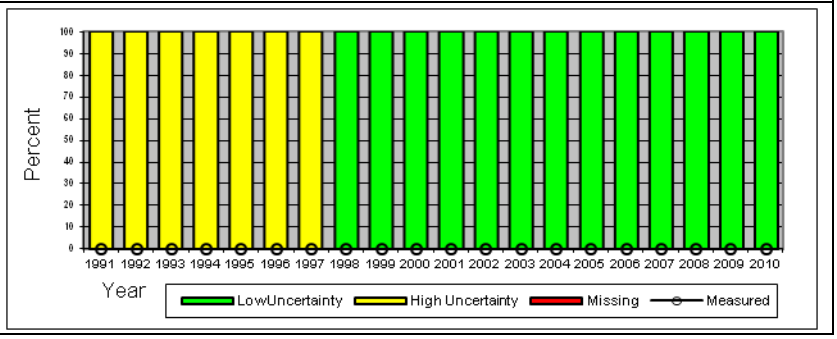
724800	BISHOP AIRPORT, CA
Class I	
Solar Coordinates	
Latitude: 37.367˚	
Longitude: -118.35˚	
Elevation: 1250 m	
Meteorological Coordinates	
Latitude: 37.367˚	
Longitude: -118.35˚	
Elevation: 1250 m	
Time Zone: -8	

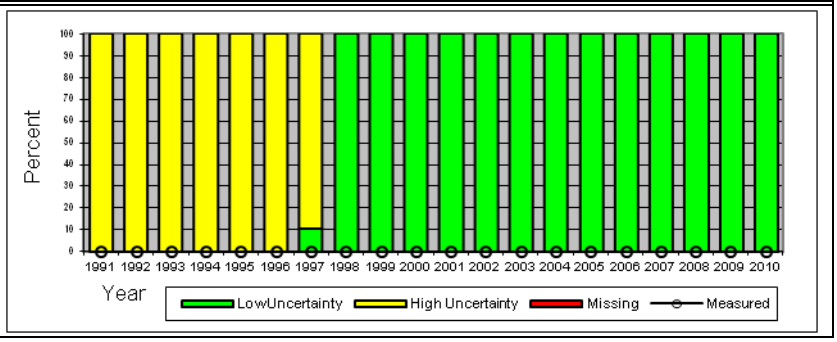
725845	BLUE CANYON AP, CA
Class II	
Solar Coordinates	
Latitude: 39.3˚	
Longitude: -120.717˚	
Elevation: 1609 m	
Meteorological Coordinates	
Latitude: 39.3˚	
Longitude: -120.717˚	
Elevation: 1609 m	
Time Zone: -8	

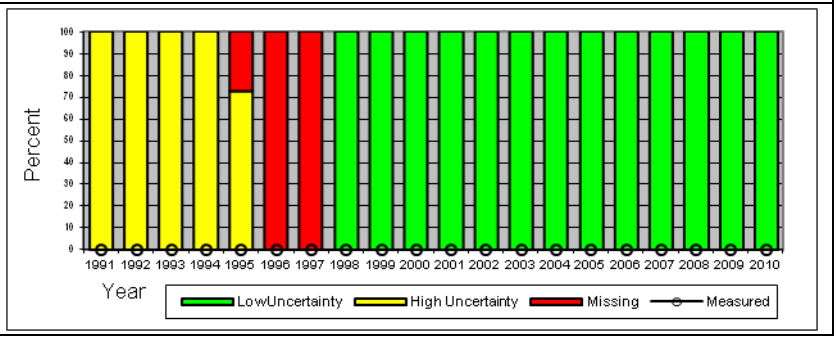
747188	BLYTHE RIVERSIDE CO ARPT, CA
Class II	
Solar Coordinates	
Latitude: 33.617˚	
Longitude: -114.717˚	
Elevation: 119 m	
Meteorological Coordinates	
Latitude: 33.617˚	
Longitude: -114.717˚	
Elevation: 119 m	
Time Zone: -8	

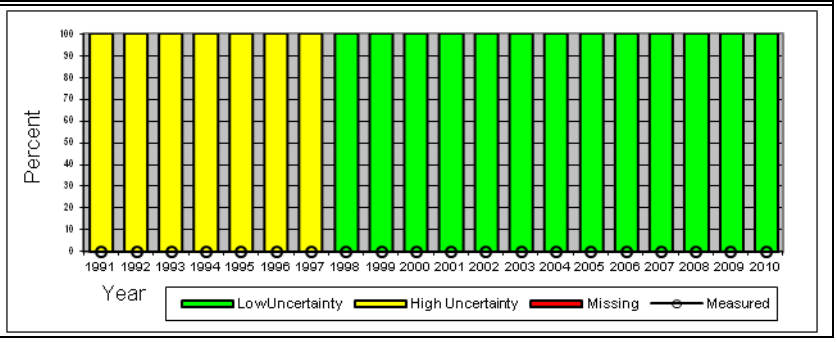
722880	BURBANK-GLENDALE-PASSADENA AP, CA
Class II	
Solar Coordinates	
Latitude: 34.2˚	
Longitude: -118.35˚	
Elevation: 226 m	
Meteorological Coordinates	
Latitude: 34.2˚	
Longitude: -118.35˚	
Elevation: 226 m	
Time Zone: -8	

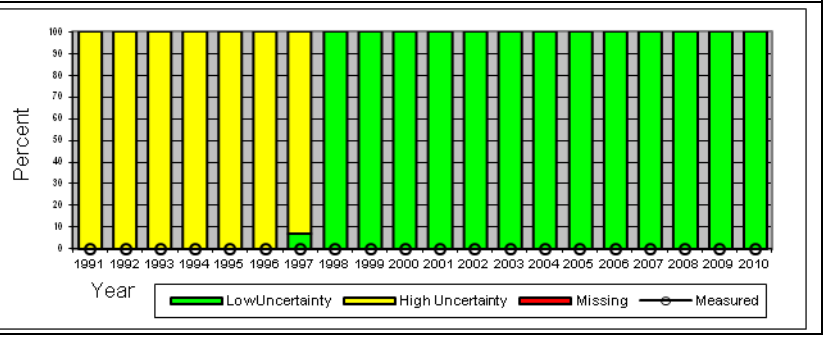
723926	CAMARILLO (AWOS), CA
Class III	
Solar Coordinates	
Latitude: 34.217˚	
Longitude: -119.083˚	
Elevation: 23 m	
Meteorological Coordinates	
Latitude: 34.217˚	
Longitude: -119.083˚	
Elevation: 23 m	
Time Zone: -8	

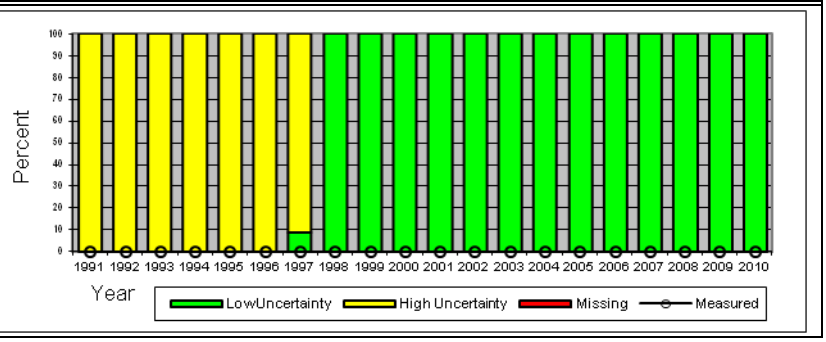
722926	CAMP PENDLETON MCAS, CA
Class II	
Solar Coordinates	
Latitude: 33.3˚	
Longitude: -117.35˚	
Elevation: 23 m	
Meteorological Coordinates	
Latitude: 33.3˚	
Longitude: -117.35˚	
Elevation: 23 m	
Time Zone: -8	

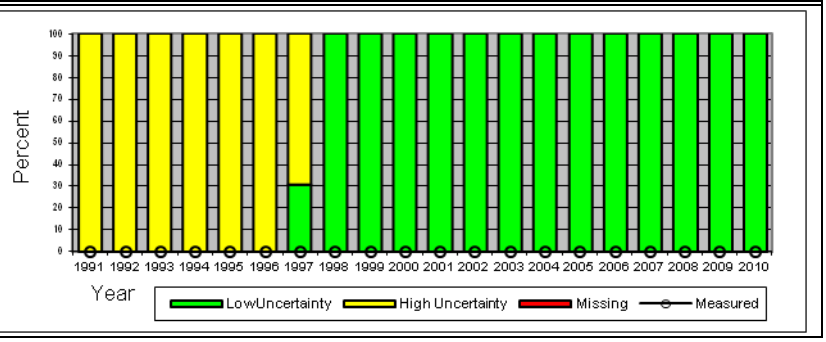
722927	CARLSBAD/PALOMAR, CA
Class II	
Solar Coordinates	
Latitude: 33.133˚	
Longitude: -117.283˚	
Elevation: 100 m	
Meteorological Coordinates	
Latitude: 33.133˚	
Longitude: -117.283˚	
Elevation: 100 m	
Time Zone: -8	

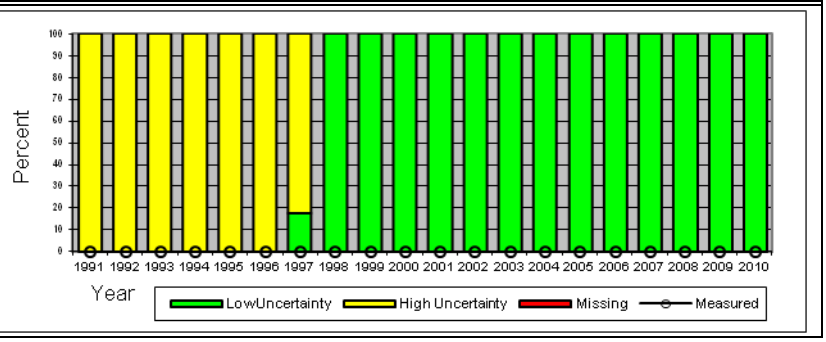
724810	CASTLE AFB, CA
Class III	
Solar Coordinates	
Latitude: 37.383˚	
Longitude: -120.567˚	
Elevation: 60 m	
Meteorological Coordinates	
Latitude: 37.383˚	
Longitude: -120.567˚	
Elevation: 60 m	
Time Zone: -8	

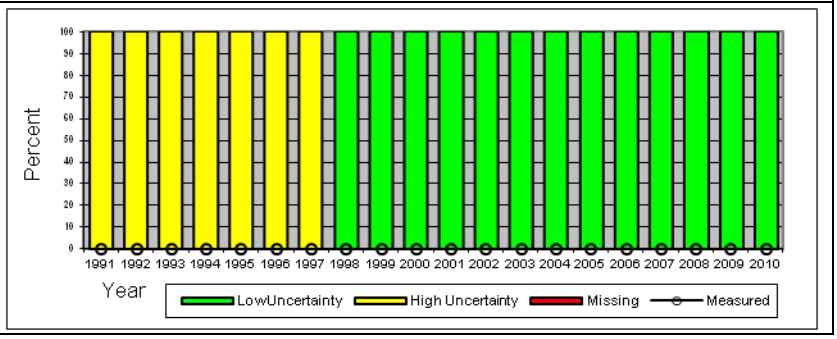
724973	CHICO MUNICIPAL, CA
Class III	
Solar Coordinates	
Latitude: 39.8˚	
Longitude: -121.85˚	
Elevation: 73 m	
Meteorological Coordinates	
Latitude: 39.8˚	
Longitude: -121.85˚	
Elevation: 73 m	
Time Zone: -8	

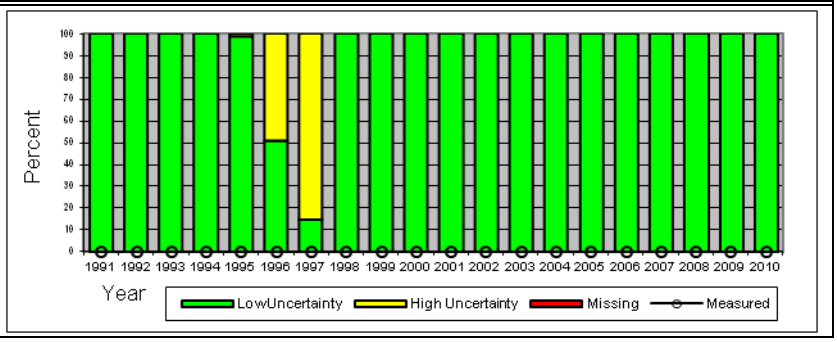
746120	CHINA LAKE NAF, CA
Class II	
Solar Coordinates	
Latitude: 35.683˚	
Longitude: -117.683˚	
Elevation: 677 m	
Meteorological Coordinates	
Latitude: 35.683˚	
Longitude: -117.683˚	
Elevation: 677 m	
Time Zone: -8	

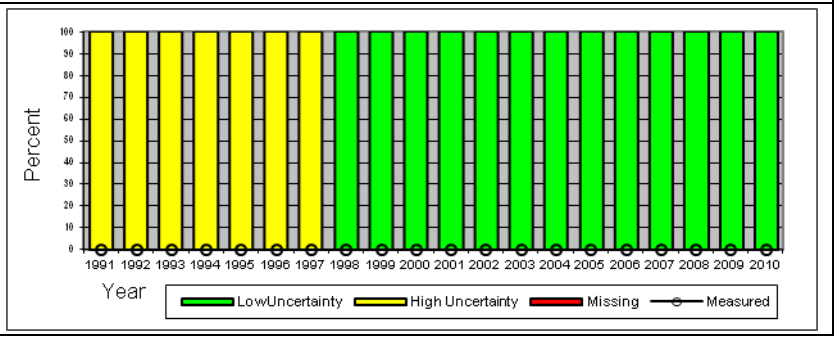
722899	CHINO AIRPORT, CA
Class III	
Solar Coordinates	
Latitude: 33.967˚	
Longitude: -117.633˚	
Elevation: 198 m	
Meteorological Coordinates	
Latitude: 33.967˚	
Longitude: -117.633˚	
Elevation: 198 m	
Time Zone: -8	

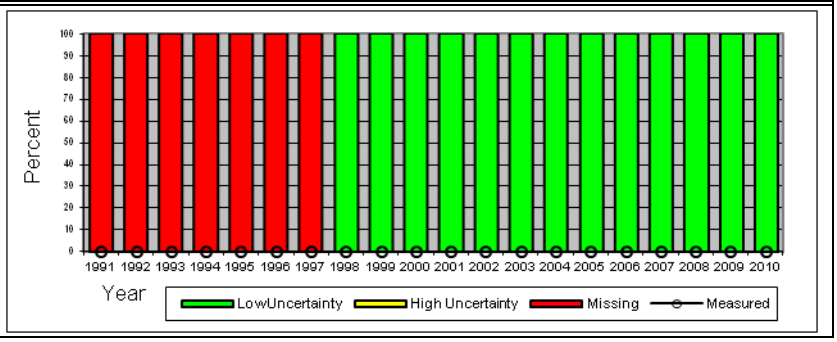
722904	CHULA VISTA BROWN FIELD NAAS, CA
Class II	
Solar Coordinates	
Latitude: 32.583˚	
Longitude: -116.983˚	
Elevation: 159 m	
Meteorological Coordinates	
Latitude: 32.583˚	
Longitude: -116.983˚	
Elevation: 159 m	
Time Zone: -8	

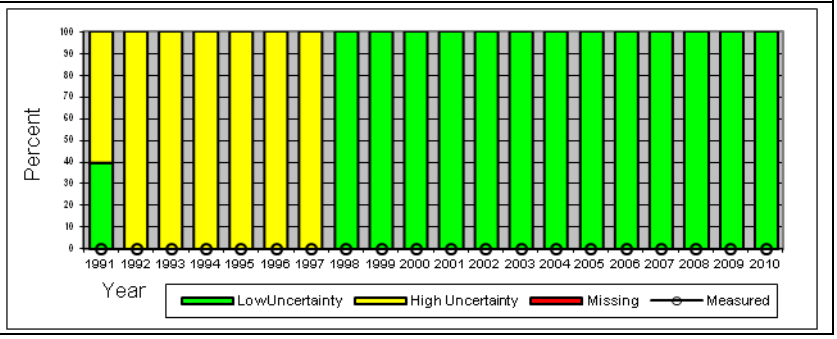
724936	CONCORD CONCORD-BUCHANAN FIEL, CA
Class II	
Solar Coordinates	
Latitude: 38˚	
Longitude: -122.05˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 38˚	
Longitude: -122.05˚	
Elevation: 7 m	
Time Zone: -8	

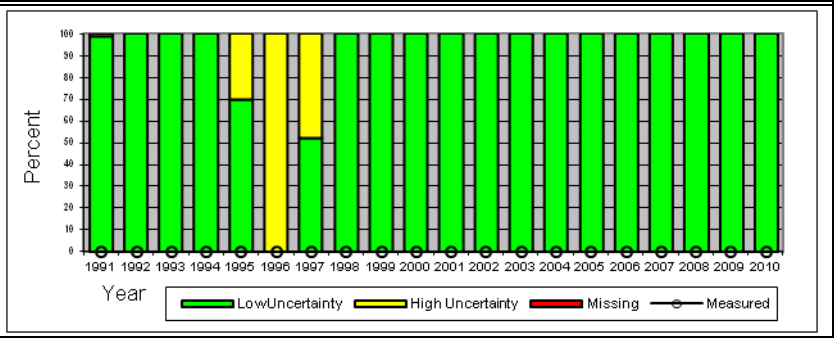
725946	CRESCENT CITY FAA AI, CA
Class II	
Solar Coordinates	
Latitude: 41.783˚	
Longitude: -124.233˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 41.783˚	
Longitude: -124.233˚	
Elevation: 17 m	
Time Zone: -8	

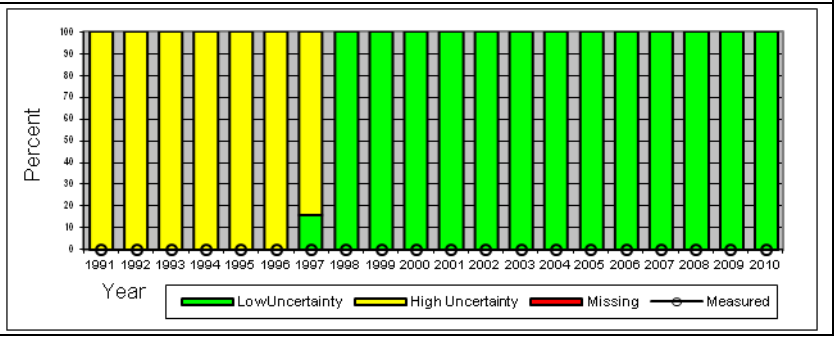
723815	DAGGETT BARSTOW-DAGGETT AP, CA
Class I	
Solar Coordinates	
Latitude: 34.85˚	
Longitude: -116.8˚	
Elevation: 586 m	
Meteorological Coordinates	
Latitude: 34.85˚	
Longitude: -116.8˚	
Elevation: 586 m	
Time Zone: -8	

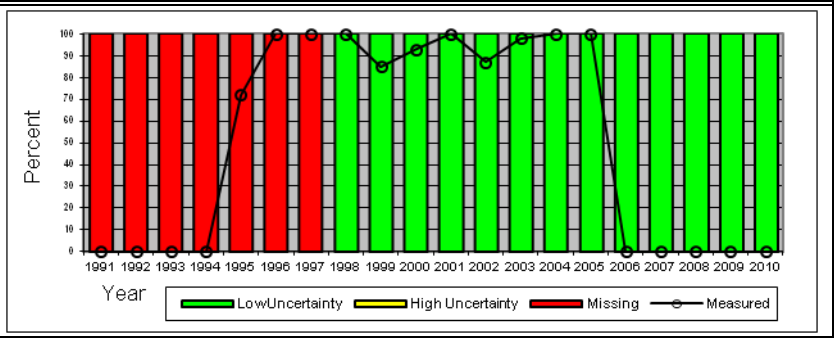
723810	EDWARDS AFB, CA
Class II	
Solar Coordinates	
Latitude: 34.9˚	
Longitude: -117.867˚	
Elevation: 706 m	
Meteorological Coordinates	
Latitude: 34.9˚	
Longitude: -117.867˚	
Elevation: 706 m	
Time Zone: -8	

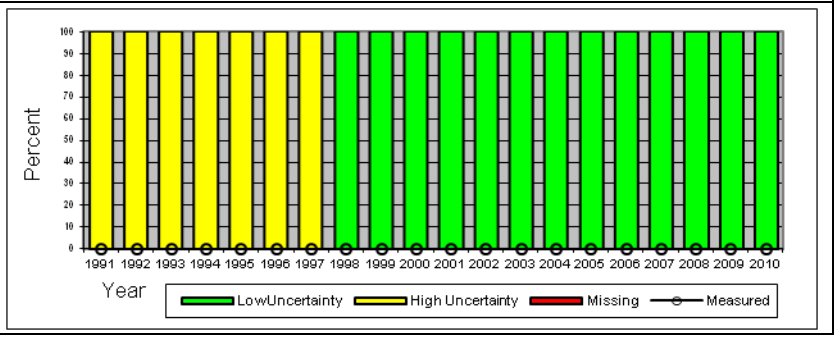
747040	EL MONTE EMSU, CA
Class III	
Solar Coordinates	
Latitude: 34.083˚	
Longitude: -118.033˚	
Elevation: 91 m	
Meteorological Coordinates	
Latitude: 34.083˚	
Longitude: -118.033˚	
Elevation: 91 m	
Time Zone: -8	

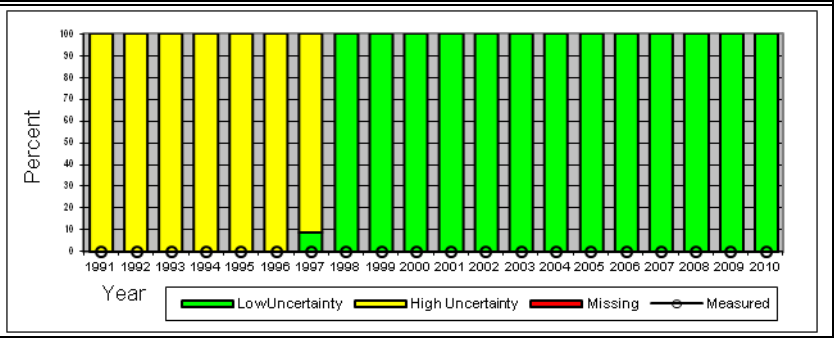
690140	EL TORO MCAS, CA
Class III	
Solar Coordinates	
Latitude: 33.667˚	
Longitude: -117.733˚	
Elevation: 116 m	
Meteorological Coordinates	
Latitude: 33.667˚	
Longitude: -117.733˚	
Elevation: 116 m	
Time Zone: -8	

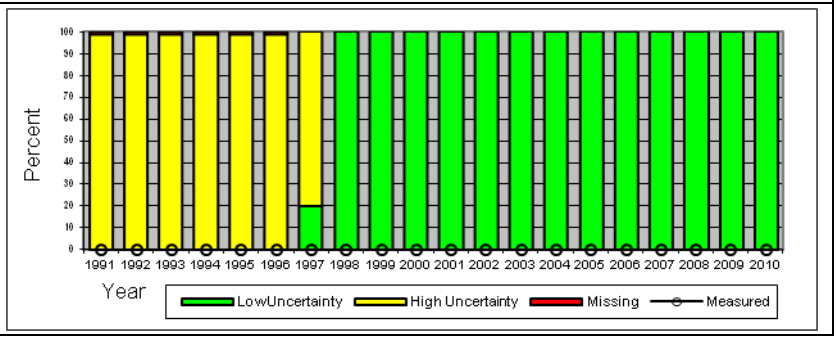
723890	FRESNO YOSEMITE INTL AP, CA
Class I	
Solar Coordinates	
Latitude: 36.783˚	
Longitude: -119.717˚	
Elevation: 102 m	
Meteorological Coordinates	
Latitude: 36.783˚	
Longitude: -119.717˚	
Elevation: 102 m	
Time Zone: -8	

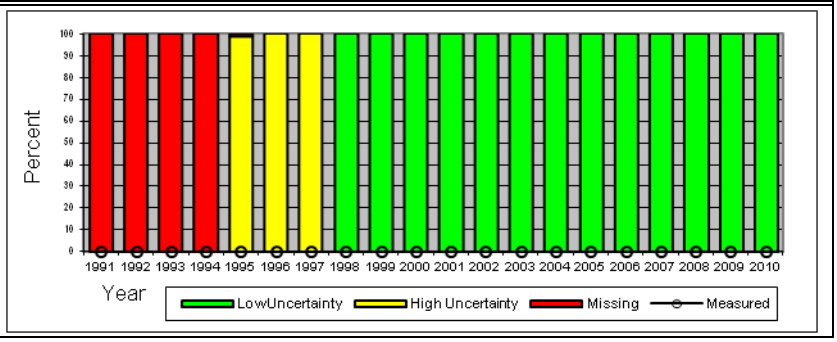
722976	FULLERTON MUNICIPAL, CA
Class II	
Solar Coordinates	
Latitude: 33.867˚	
Longitude: -117.983˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 33.867˚	
Longitude: -117.983˚	
Elevation: 29 m	
Time Zone: -8	

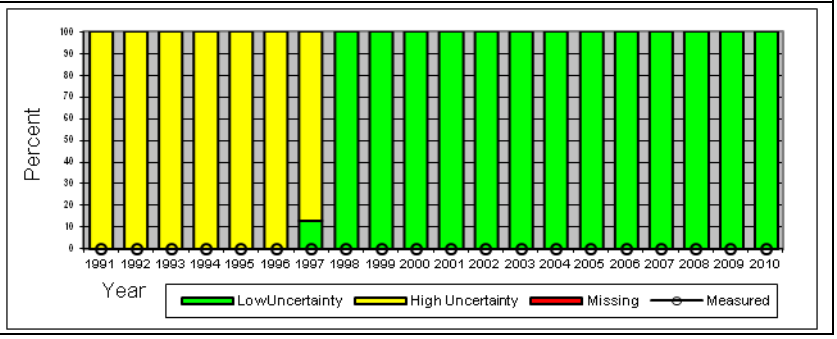
723898	HANFORD MUNI ARPT [ISIS], CA
Class III (with some measured)	
Solar Coordinates	
Latitude: 36.31˚	
Longitude: -119.63˚	
Elevation: 73 m	
Meteorological Coordinates	
Latitude: 36.317˚	
Longitude: -119.617˚	
Elevation: 75 m	
Time Zone: -8	

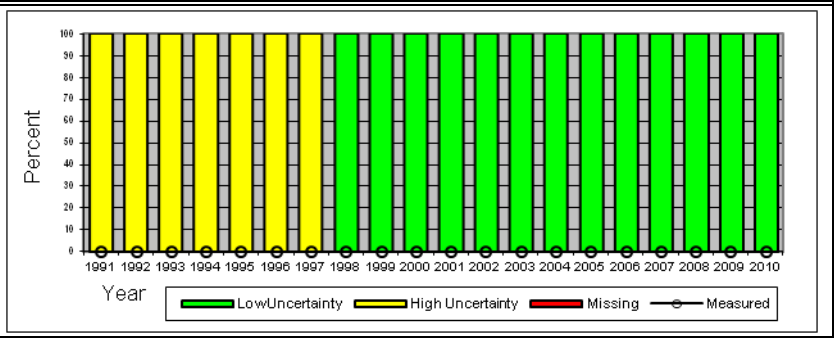
724935	HAYWARD AIR TERM, CA
Class II	
Solar Coordinates	
Latitude: 37.667˚	
Longitude: -122.117˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 37.667˚	
Longitude: -122.117˚	
Elevation: 14 m	
Time Zone: -8	

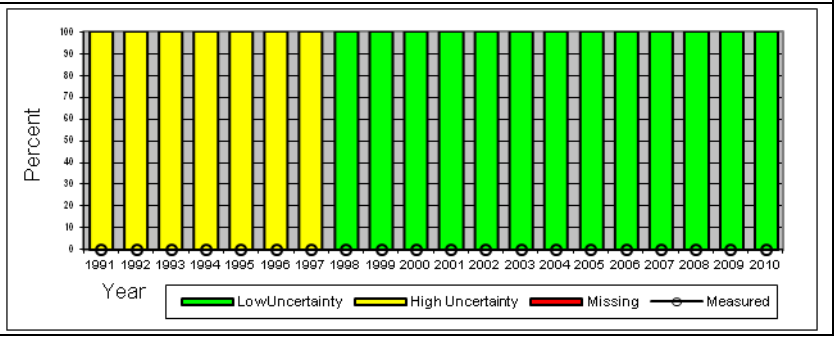
747185	IMPERIAL, CA
Class II	
Solar Coordinates	
Latitude: 32.833˚	
Longitude: -115.583˚	
Elevation: -17 m	
Meteorological Coordinates	
Latitude: 32.833˚	
Longitude: -115.583˚	
Elevation: -17 m	
Time Zone: -8	

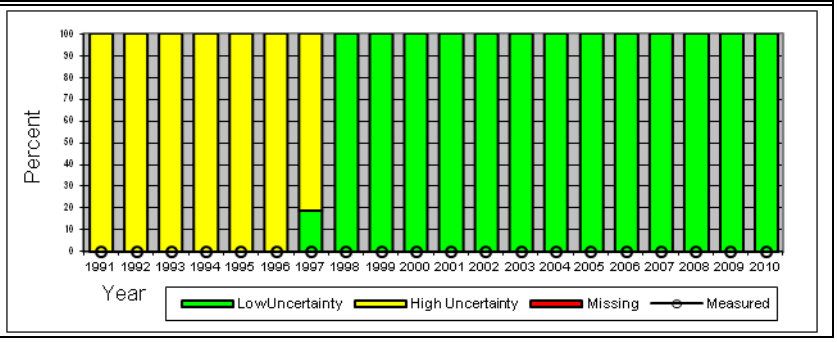
722909	IMPERIAL BEACH REAM FIELD NAS, CA
Class III	
Solar Coordinates	
Latitude: 32.567˚	
Longitude: -117.117˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 32.567˚	
Longitude: -117.117˚	
Elevation: 6 m	
Time Zone: -8	

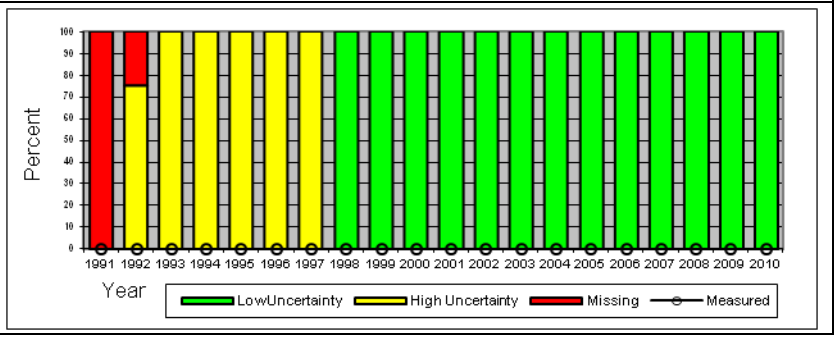
723826	INYOKERN, CA
Class III	
Solar Coordinates	
Latitude: 35.667˚	
Longitude: -117.833˚	
Elevation: 749 m	
Meteorological Coordinates	
Latitude: 35.667˚	
Longitude: -117.833˚	
Elevation: 749 m	
Time Zone: -8	

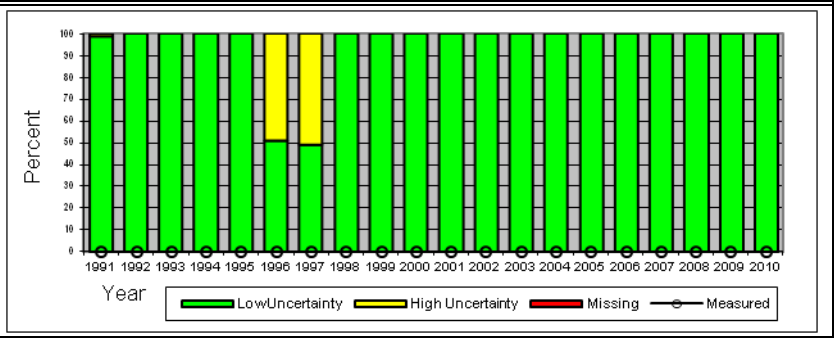
722956	JACK NORTHROP FLD H, CA
Class II	
Solar Coordinates	
Latitude: 33.917˚	
Longitude: -118.333˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 33.917˚	
Longitude: -118.333˚	
Elevation: 21 m	
Time Zone: -8	

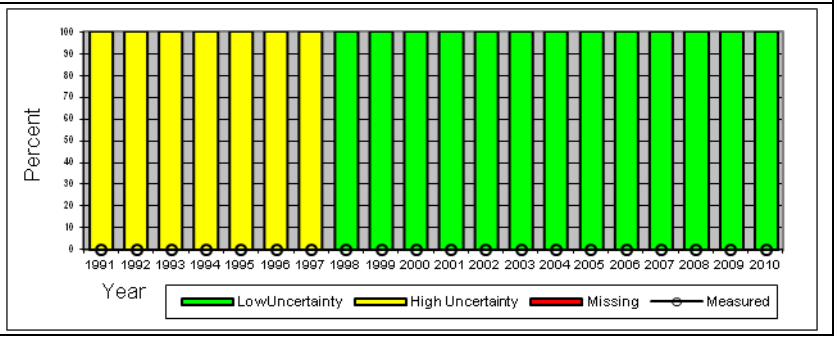
723816	LANCASTER GEN WM FOX FIELD, CA
Class II	
Solar Coordinates	
Latitude: 34.733˚	
Longitude: -118.217˚	
Elevation: 713 m	
Meteorological Coordinates	
Latitude: 34.733˚	
Longitude: -118.217˚	
Elevation: 713 m	
Time Zone: -8	

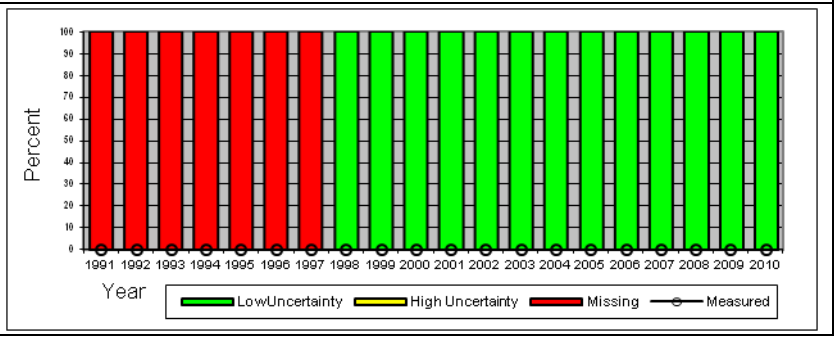
747020	LEMOORE REEVES NAS, CA
Class II	
Solar Coordinates	
Latitude: 36.333˚	
Longitude: -119.95˚	
Elevation: 73 m	
Meteorological Coordinates	
Latitude: 36.333˚	
Longitude: -119.95˚	
Elevation: 73 m	
Time Zone: -8	

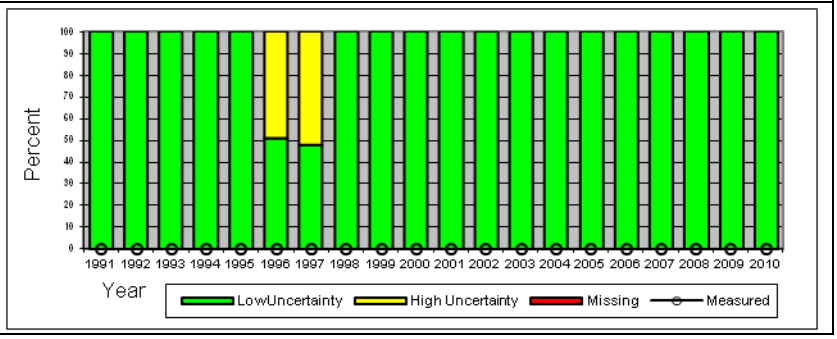
724927	LIVERMORE MUNICIPAL, CA
Class II	
Solar Coordinates	
Latitude: 37.7˚	
Longitude: -121.817˚	
Elevation: 121 m	
Meteorological Coordinates	
Latitude: 37.7˚	
Longitude: -121.817˚	
Elevation: 121 m	
Time Zone: -8	

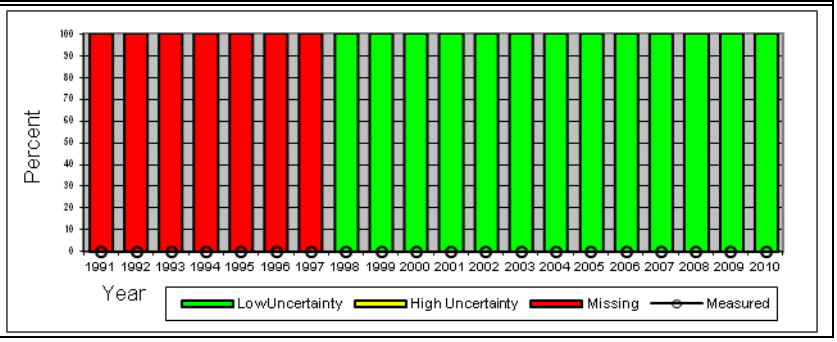
722895	LOMPOC (AWOS), CA
Class III	
Solar Coordinates	
Latitude: 34.667˚	
Longitude: -120.467˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 34.667˚	
Longitude: -120.467˚	
Elevation: 27 m	
Time Zone: -8	

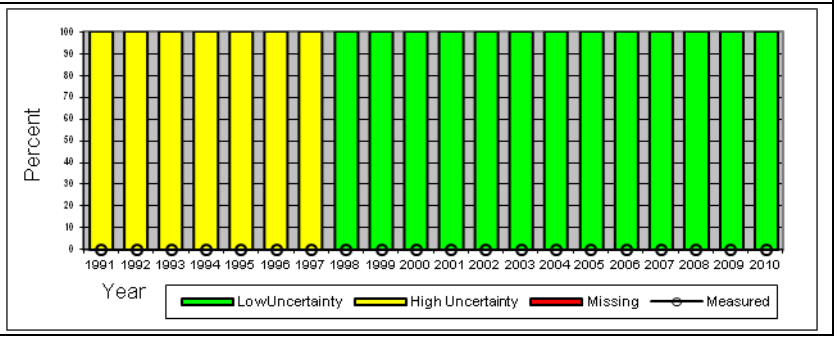
722970	LONG BEACH DAUGHERTY FLD, CA
Class I	
Solar Coordinates	
Latitude: 33.833˚	
Longitude: -118.167˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 33.833˚	
Longitude: -118.167˚	
Elevation: 8 m	
Time Zone: -8	

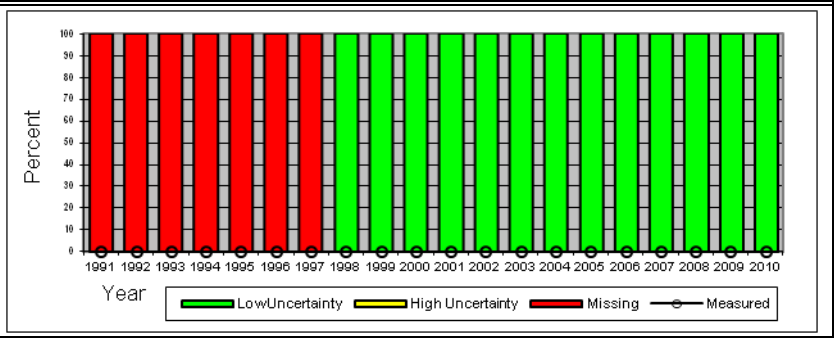
722975	LOS ALAMITOS, CA
Class III	
Solar Coordinates	
Latitude: 33.783˚	
Longitude: -118.05˚	
Elevation: 11 m	
Meteorological Coordinates	
Latitude: 33.783˚	
Longitude: -118.05˚	
Elevation: 11 m	
Time Zone: -8	

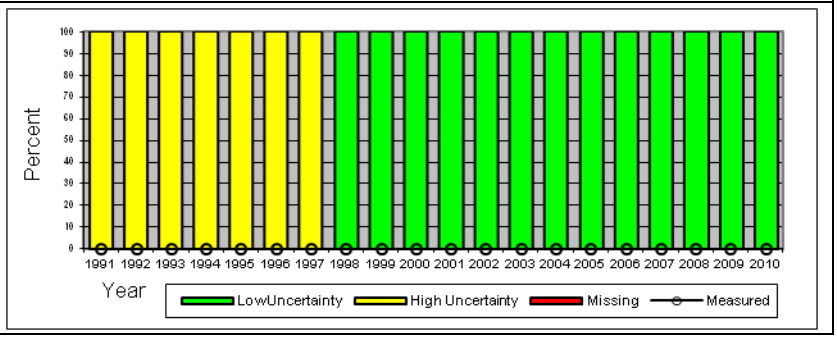
722874	LOS ANGELES DOWNTOWN USC CAMP, CA
Class III	
Solar Coordinates	
Latitude: 34.05˚	
Longitude: -118.233˚	
Elevation: 82 m	
Meteorological Coordinates	
Latitude: 34.05˚	
Longitude: -118.233˚	
Elevation: 82 m	
Time Zone: -8	

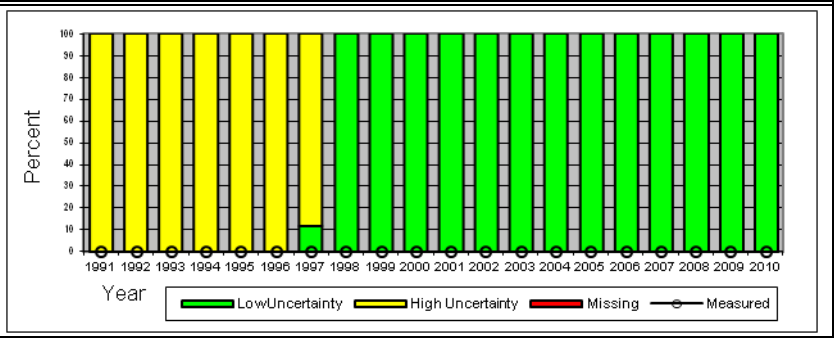
722950	LOS ANGELES INTL ARPT, CA
Class I	
Solar Coordinates	
Latitude: 33.933˚	
Longitude: -118.4˚	
Elevation: 30 m	
Meteorological Coordinates	
Latitude: 33.933˚	
Longitude: -118.4˚	
Elevation: 30 m	
Time Zone: -8	

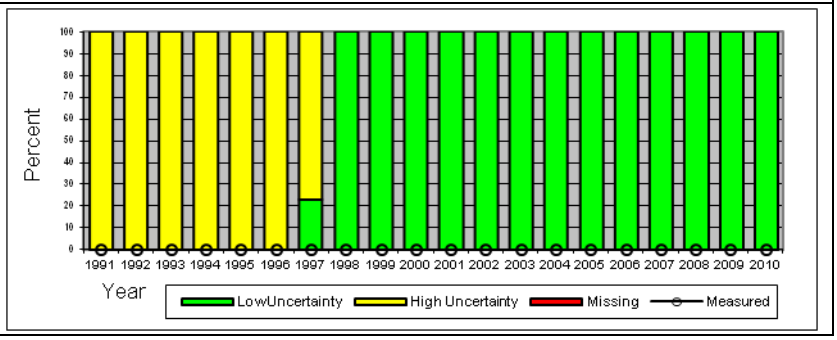
745046	MADERA, CA
Class III	
Solar Coordinates	
Latitude: 36.983˚	
Longitude: -120.117˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 36.983˚	
Longitude: -120.117˚	
Elevation: 77 m	
Time Zone: -8	

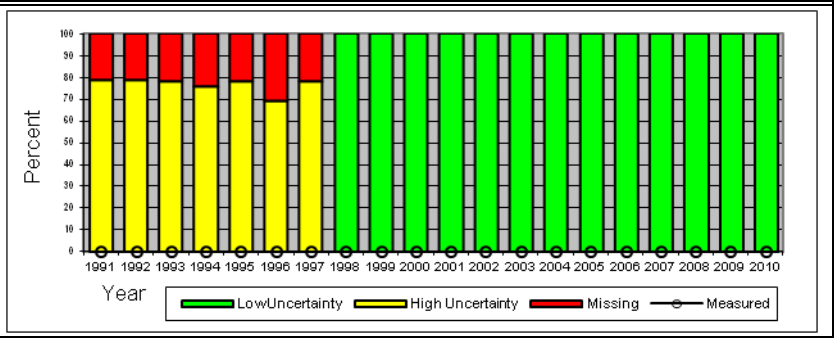
722860	MARCH AFB, CA
Class II	
Solar Coordinates	
Latitude: 33.9˚	
Longitude: -117.25˚	
Elevation: 462 m	
Meteorological Coordinates	
Latitude: 33.9˚	
Longitude: -117.25˚	
Elevation: 462 m	
Time Zone: -8	

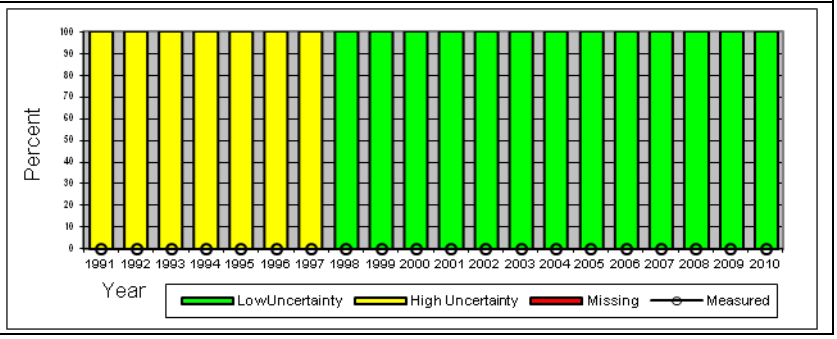
724833	MATHER FIELD, CA
Class III	
Solar Coordinates	
Latitude: 38.55˚	
Longitude: -121.3˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 38.55˚	
Longitude: -121.3˚	
Elevation: 29 m	
Time Zone: -8	

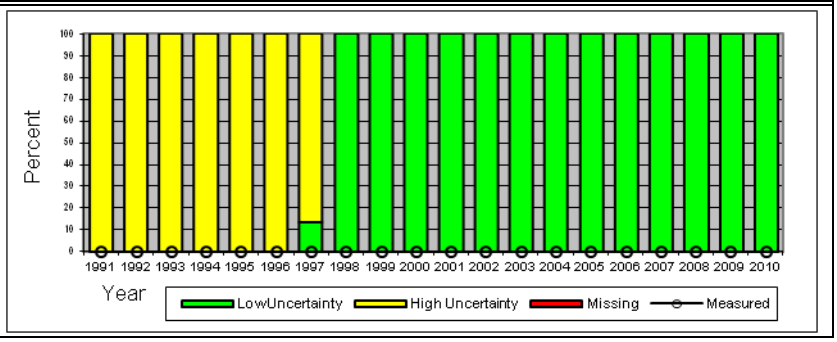
724836	MCCLELLAN AFB, CA
Class III	
Solar Coordinates	
Latitude: 38.667˚	
Longitude: -121.4˚	
Elevation: 25 m	
Meteorological Coordinates	
Latitude: 38.667˚	
Longitude: -121.4˚	
Elevation: 25 m	
Time Zone: -8	

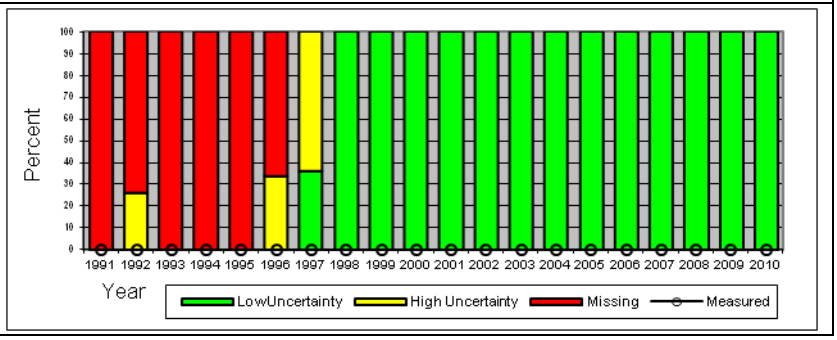
724815	MERCED/MACREADY FLD, CA
Class II	
Solar Coordinates	
Latitude: 37.283˚	
Longitude: -120.517˚	
Elevation: 47 m	
Meteorological Coordinates	
Latitude: 37.283˚	
Longitude: -120.517˚	
Elevation: 47 m	
Time Zone: -8	

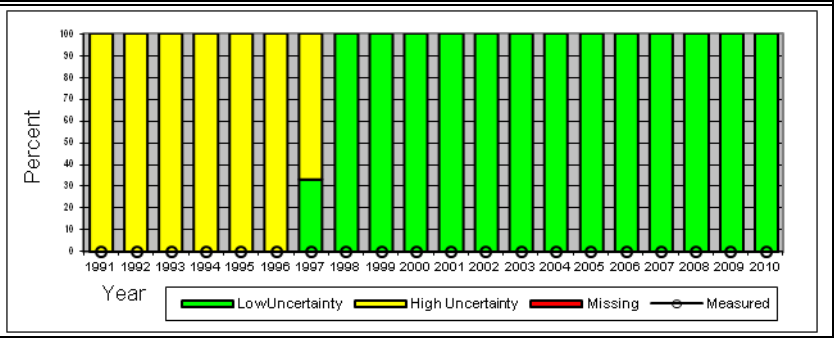
724926	MODESTO CITY-COUNTY AP, CA
Class II	
Solar Coordinates	
Latitude: 37.633˚	
Longitude: -120.95˚	
Elevation: 30 m	
Meteorological Coordinates	
Latitude: 37.633˚	
Longitude: -120.95˚	
Elevation: 30 m	
Time Zone: -8	

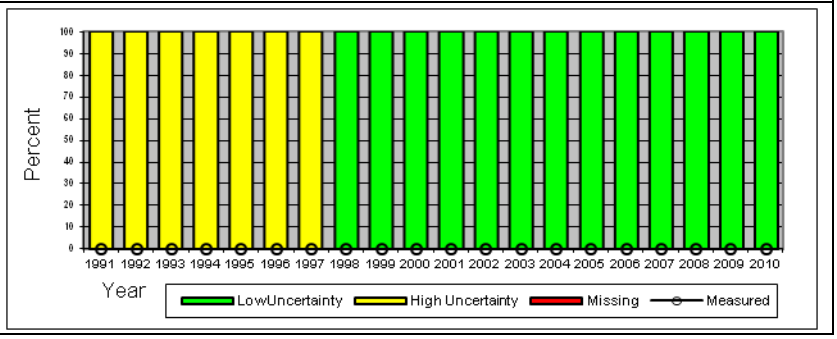
722953	MOJAVE, CA
Class III	
Solar Coordinates	
Latitude: 35.067˚	
Longitude: -118.15˚	
Elevation: 849 m	
Meteorological Coordinates	
Latitude: 35.067˚	
Longitude: -118.15˚	
Elevation: 849 m	
Time Zone: -8	

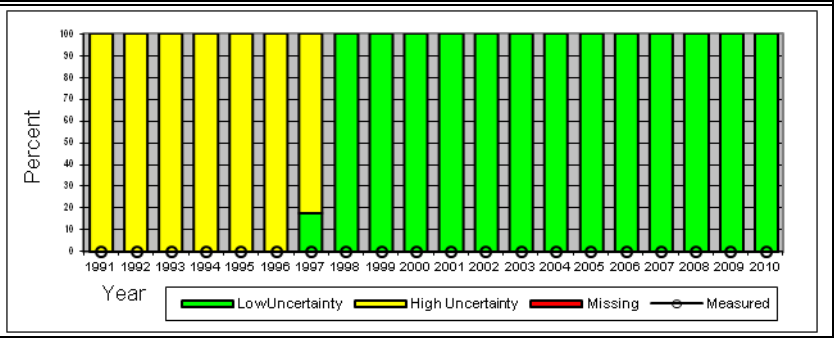
725955	MONTAGUE SISKIYOU COUNTY AP, CA
Class II	
Solar Coordinates	
Latitude: 41.783˚	
Longitude: -122.467˚	
Elevation: 803 m	
Meteorological Coordinates	
Latitude: 41.783˚	
Longitude: -122.467˚	
Elevation: 803 m	
Time Zone: -8	

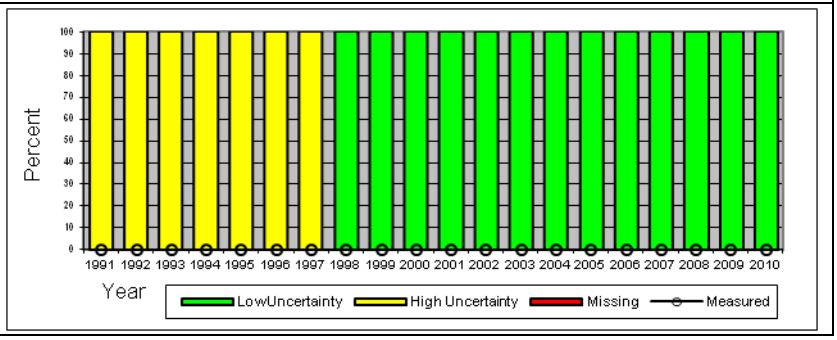
724915	MONTEREY NAF, CA
Class II	
Solar Coordinates	
Latitude: 36.6˚	
Longitude: -121.867˚	
Elevation: 50 m	
Meteorological Coordinates	
Latitude: 36.6˚	
Longitude: -121.867˚	
Elevation: 50 m	
Time Zone: -8	

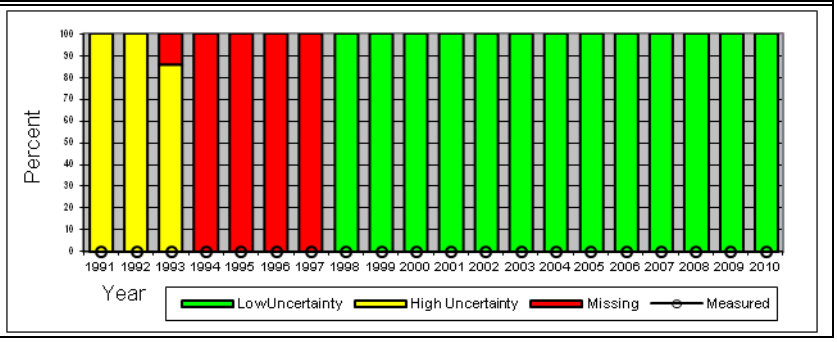
725957	MOUNT SHASTA, CA
Class III	
Solar Coordinates	
Latitude: 41.333˚	
Longitude: -122.333˚	
Elevation: 1078 m	
Meteorological Coordinates	
Latitude: 41.333˚	
Longitude: -122.333˚	
Elevation: 1078 m	
Time Zone: -8	

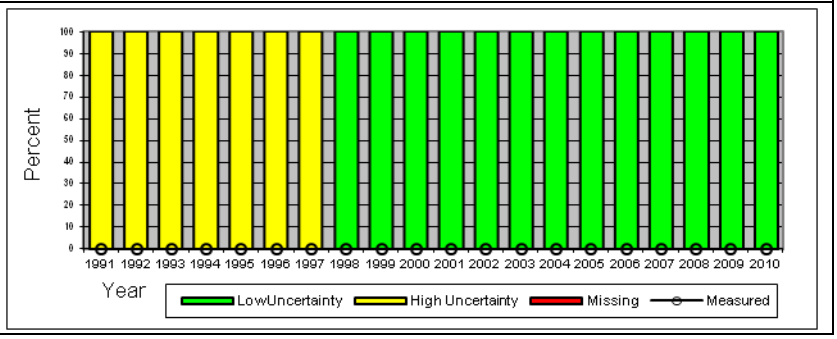
745090	MOUNTAIN VIEW MOFFETT FLD NAS, CA
Class II	
Solar Coordinates	
Latitude: 37.4˚	
Longitude: -122.05˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 37.4˚	
Longitude: -122.05˚	
Elevation: 12 m	
Time Zone: -8	

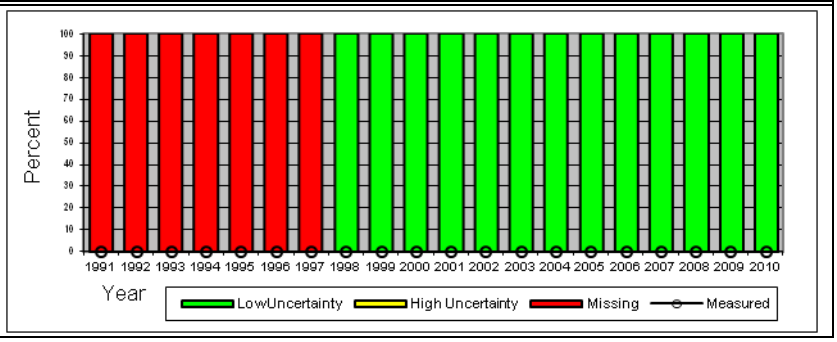
722810	NAF, CA
Class II	
Solar Coordinates	
Latitude: 32.817˚	
Longitude: -115.683˚	
Elevation: -13 m	
Meteorological Coordinates	
Latitude: 32.817˚	
Longitude: -115.683˚	
Elevation: -13 m	
Time Zone: -8	

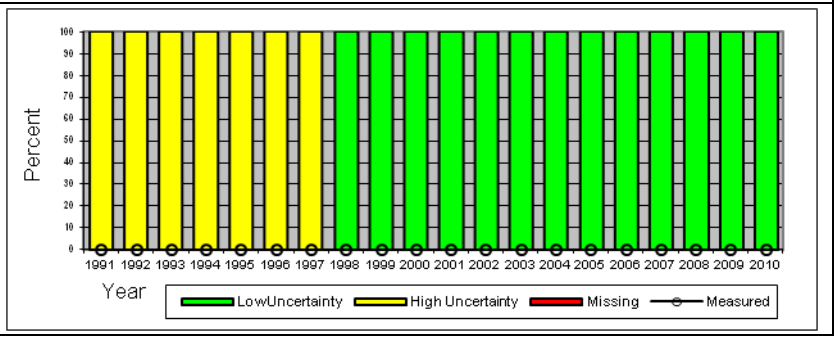
724955	NAPA CO. AIRPORT, CA
Class II	
Solar Coordinates	
Latitude: 38.217˚	
Longitude: -122.283˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 38.217˚	
Longitude: -122.283˚	
Elevation: 10 m	
Time Zone: -8	

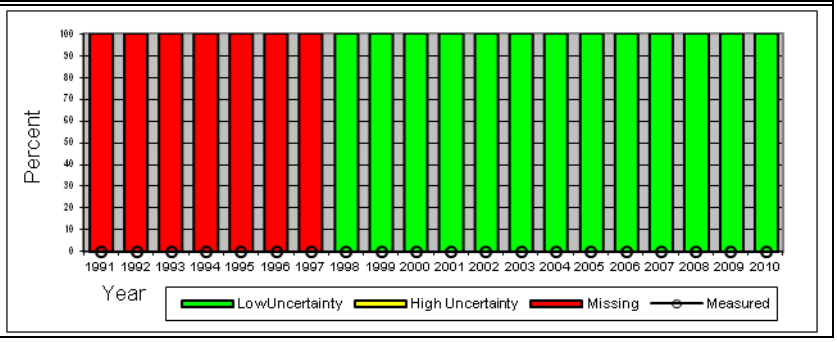
723805	NEEDLES AIRPORT, CA
Class II	
Solar Coordinates	
Latitude: 34.767˚	
Longitude: -114.617˚	
Elevation: 279 m	
Meteorological Coordinates	
Latitude: 34.767˚	
Longitude: -114.617˚	
Elevation: 279 m	
Time Zone: -8	

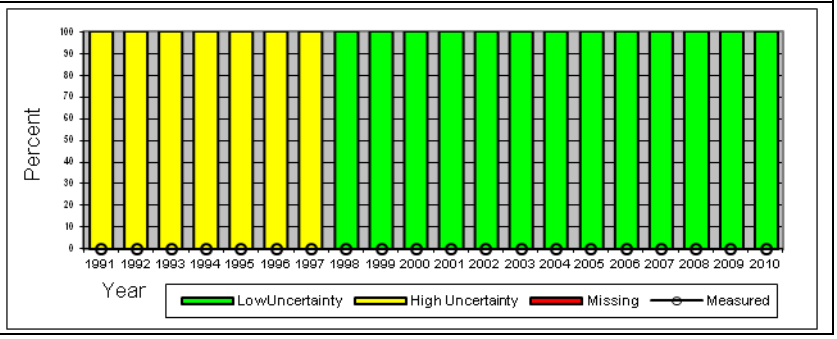
722866	NORTON AFB/SAN BERN, CA
Class III	
Solar Coordinates	
Latitude: 34.1˚	
Longitude: -117.233˚	
Elevation: 353 m	
Meteorological Coordinates	
Latitude: 34.1˚	
Longitude: -117.233˚	
Elevation: 353 m	
Time Zone: -8	

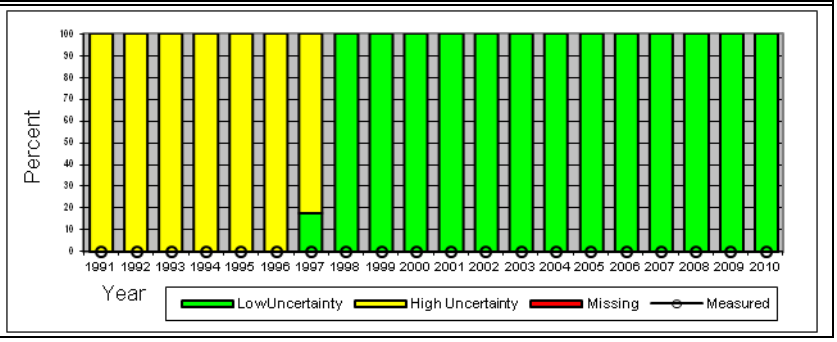
724930	OAKLAND METROPOLITAN ARPT, CA
Class II	
Solar Coordinates	
Latitude: 37.717˚	
Longitude: -122.217˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 37.717˚	
Longitude: -122.217˚	
Elevation: 2 m	
Time Zone: -8	

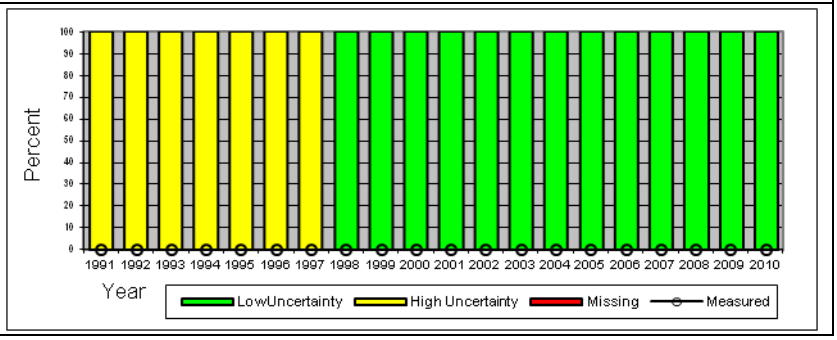
722934	OCEANSIDE MUNICIPAL, CA
Class III	
Solar Coordinates	
Latitude: 33.217˚	
Longitude: -117.35˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 33.217˚	
Longitude: -117.35˚	
Elevation: 9 m	
Time Zone: -8	

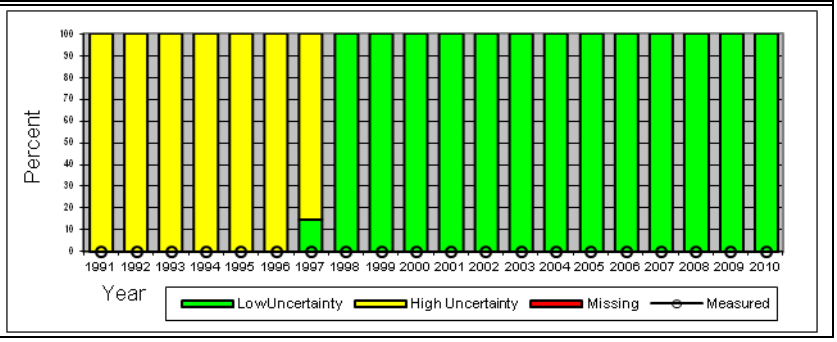
722865	ONTARIO, CA
Class III	
Solar Coordinates	
Latitude: 34.067˚	
Longitude: -117.65˚	
Elevation: 304 m	
Meteorological Coordinates	
Latitude: 34.067˚	
Longitude: -117.65˚	
Elevation: 304 m	
Time Zone: -8	

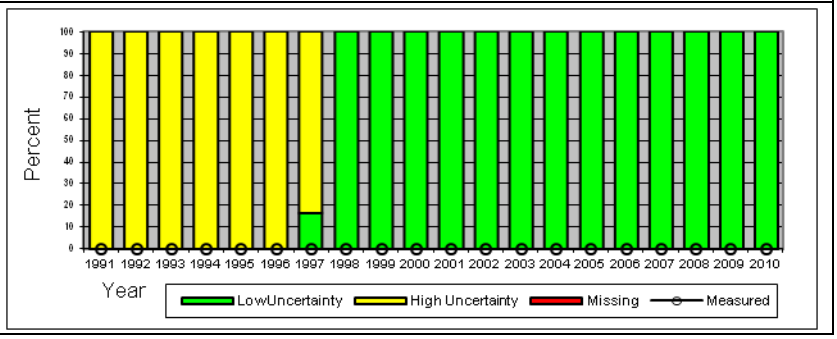
745048	OROVILLE, CA
Class III	
Solar Coordinates	
Latitude: 39.5˚	
Longitude: -121.617˚	
Elevation: 57 m	
Meteorological Coordinates	
Latitude: 39.5˚	
Longitude: -121.617˚	
Elevation: 57 m	
Time Zone: -8	

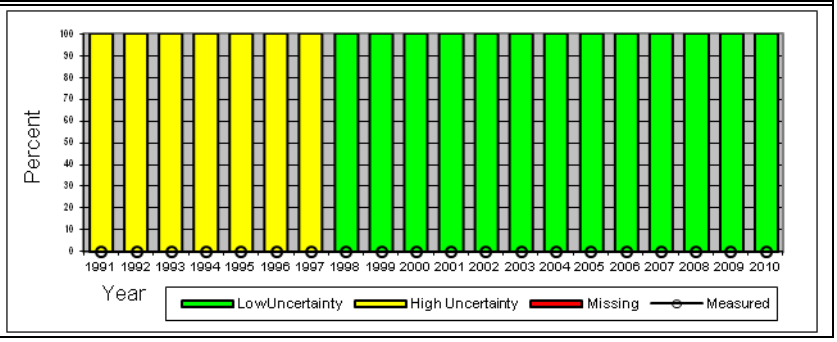
723927	OXNARD AIRPORT, CA
Class II	
Solar Coordinates	
Latitude: 34.2˚	
Longitude: -119.2˚	
Elevation: 11 m	
Meteorological Coordinates	
Latitude: 34.2˚	
Longitude: -119.2˚	
Elevation: 11 m	
Time Zone: -8	

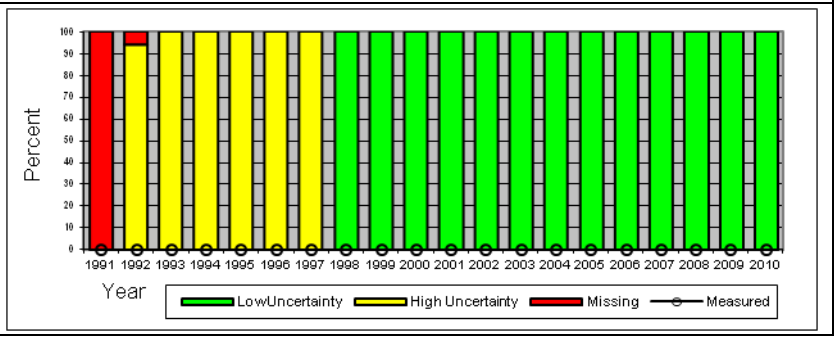
722868	PALM SPRINGS INTL, CA
Class II	
Solar Coordinates	
Latitude: 33.833˚	
Longitude: -116.5˚	
Elevation: 145 m	
Meteorological Coordinates	
Latitude: 33.833˚	
Longitude: -116.5˚	
Elevation: 145 m	
Time Zone: -8	

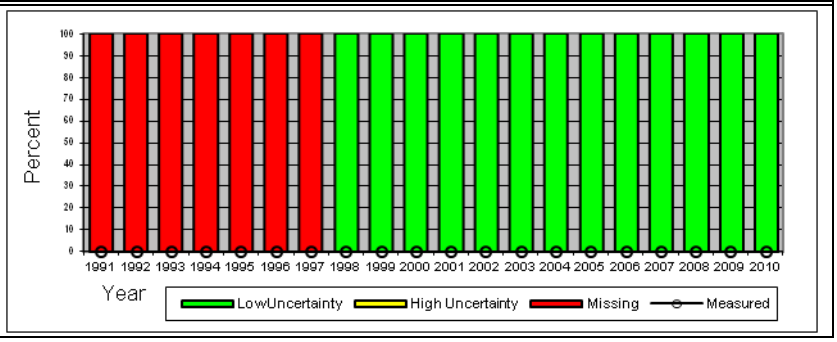
747187	PALM SPRINGS THERMAL AP, CA
Class II	
Solar Coordinates	
Latitude: 33.633˚	
Longitude: -116.167˚	
Elevation: -34 m	
Meteorological Coordinates	
Latitude: 33.633˚	
Longitude: -116.167˚	
Elevation: -34 m	
Time Zone: -8	

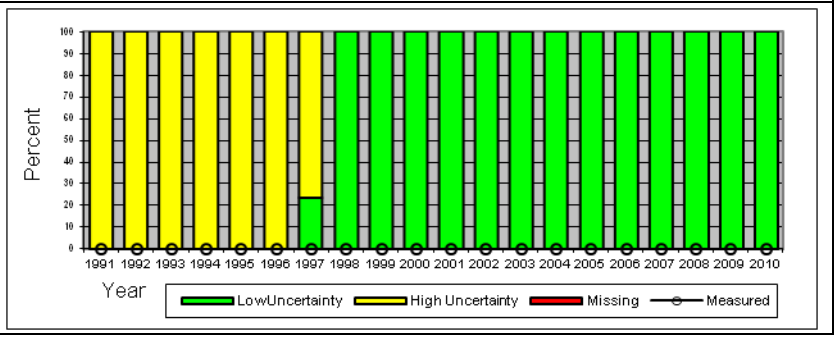
723820	PALMDALE AIRPORT, CA
Class II	
Solar Coordinates	
Latitude: 34.633˚	
Longitude: -118.083˚	
Elevation: 769 m	
Meteorological Coordinates	
Latitude: 34.633˚	
Longitude: -118.083˚	
Elevation: 769 m	
Time Zone: -8	

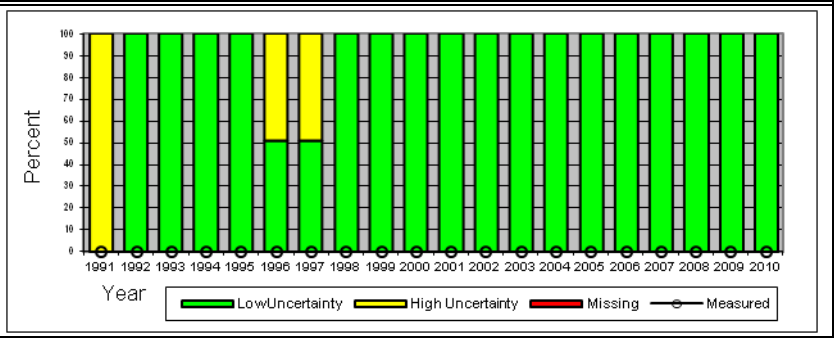
723965	PASO ROBLES MUNICIPAL ARPT, CA
Class II	
Solar Coordinates	
Latitude: 35.667˚	
Longitude: -120.633˚	
Elevation: 244 m	
Meteorological Coordinates	
Latitude: 35.667˚	
Longitude: -120.633˚	
Elevation: 244 m	
Time Zone: -8	

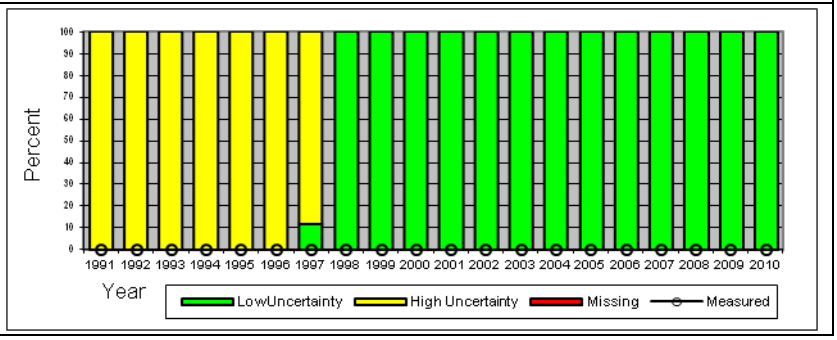
723910	POINT MUGU NF, CA
Class II	
Solar Coordinates	
Latitude: 34.117˚	
Longitude: -119.117˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 34.117˚	
Longitude: -119.117˚	
Elevation: 3 m	
Time Zone: -8	

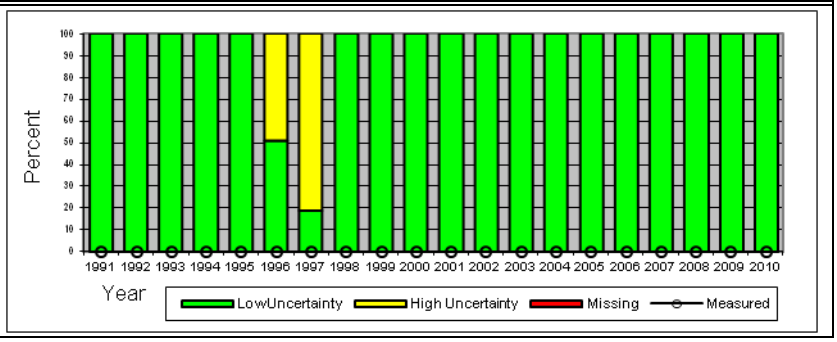
723895	PORTERVILLE (AWOS), CA
Class III	
Solar Coordinates	
Latitude: 36.033˚	
Longitude: -119.067˚	
Elevation: 135 m	
Meteorological Coordinates	
Latitude: 36.033˚	
Longitude: -119.067˚	
Elevation: 135 m	
Time Zone: -8	

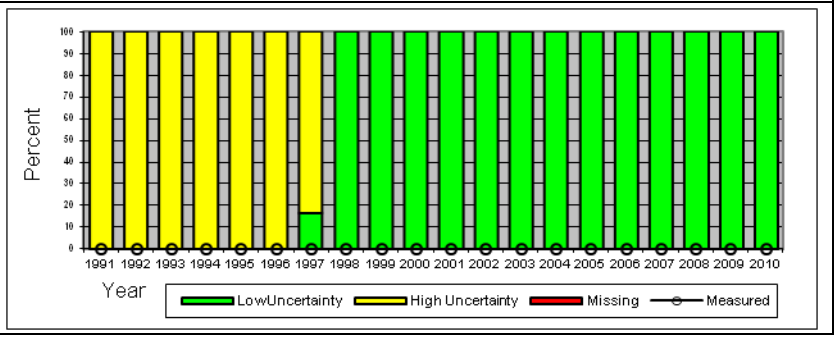
745056	RAMONA, CA
Class III	
Solar Coordinates	
Latitude: 33.033˚	
Longitude: -116.917˚	
Elevation: 424 m	
Meteorological Coordinates	
Latitude: 33.033˚	
Longitude: -116.917˚	
Elevation: 424 m	
Time Zone: -8	

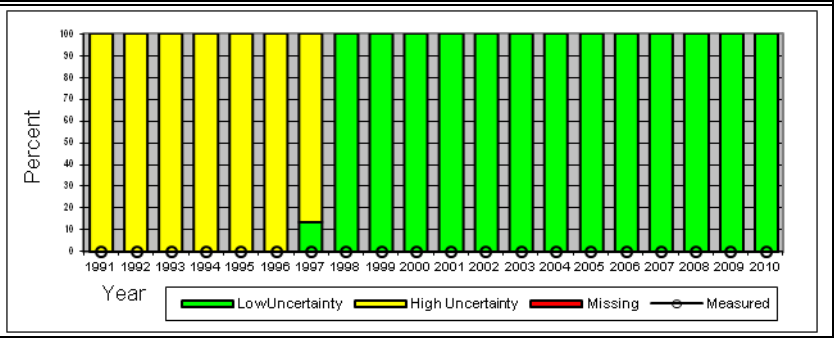
725910	RED BLUFF MUNICIPAL ARPT, CA
Class II	
Solar Coordinates	
Latitude: 40.15˚	
Longitude: -122.25˚	
Elevation: 106 m	
Meteorological Coordinates	
Latitude: 40.15˚	
Longitude: -122.25˚	
Elevation: 106 m	
Time Zone: -8	

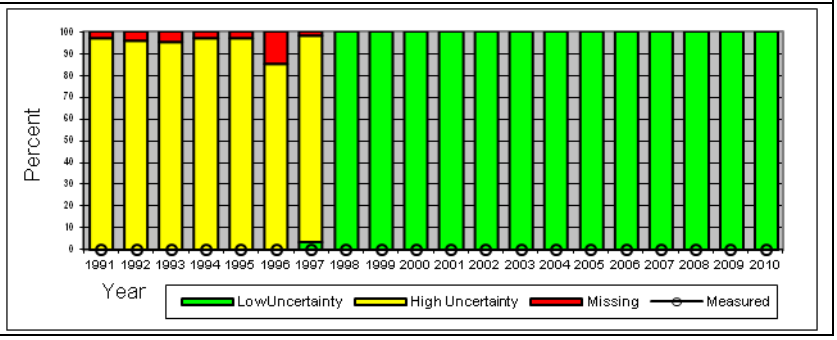
725920	REDDING MUNICIPAL ARPT, CA
Class I	
Solar Coordinates	
Latitude: 40.517˚	
Longitude: -122.317˚	
Elevation: 153 m	
Meteorological Coordinates	
Latitude: 40.517˚	
Longitude: -122.317˚	
Elevation: 153 m	
Time Zone: -8	

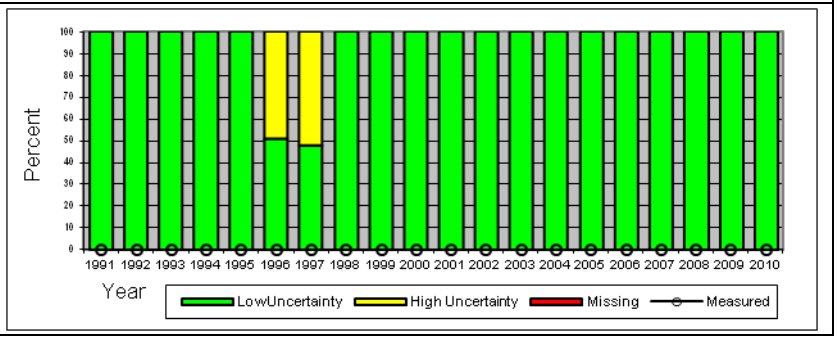
722869	RIVERSIDE MUNI, CA
Class III	
Solar Coordinates	
Latitude: 33.95˚	
Longitude: -117.45˚	
Elevation: 256 m	
Meteorological Coordinates	
Latitude: 33.95˚	
Longitude: -117.45˚	
Elevation: 256 m	
Time Zone: -8	

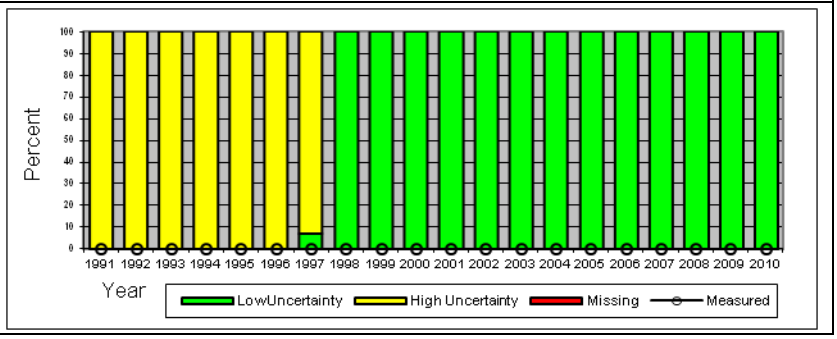
724830	SACRAMENTO EXECUTIVE ARPT, CA
Class I	
Solar Coordinates	
Latitude: 38.5˚	
Longitude: -121.5˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 38.5˚	
Longitude: -121.5˚	
Elevation: 5 m	
Time Zone: -8	

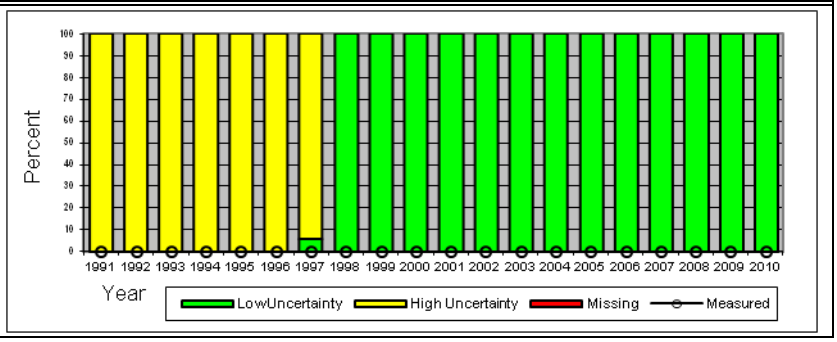
724839	SACRAMENTO METROPOLITAN AP, CA
Class II	
Solar Coordinates	
Latitude: 38.7˚	
Longitude: -121.583˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 38.7˚	
Longitude: -121.583˚	
Elevation: 7 m	
Time Zone: -8	

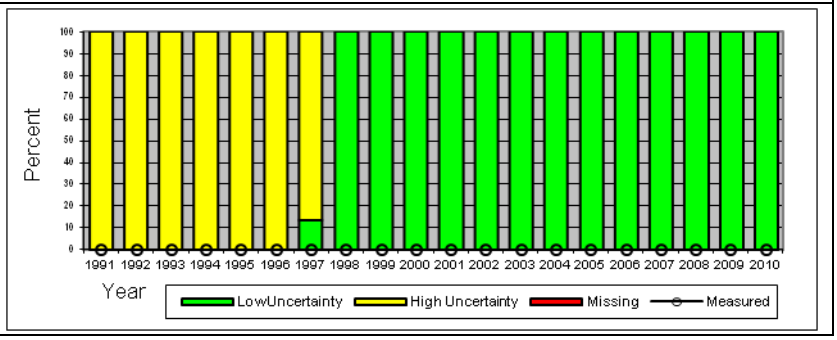
724917	SALINAS MUNICIPAL AP, CA
Class II	
Solar Coordinates	
Latitude: 36.667˚	
Longitude: -121.6˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 36.667˚	
Longitude: -121.6˚	
Elevation: 21 m	
Time Zone: -8	

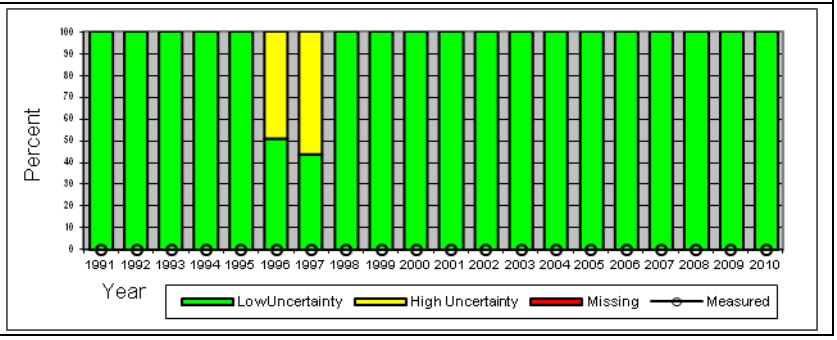
722925	SAN CLEMENTE IS NAAS, CA
Class III	
Solar Coordinates	
Latitude: 33.017˚	
Longitude: -118.583˚	
Elevation: 52 m	
Meteorological Coordinates	
Latitude: 33.017˚	
Longitude: -118.583˚	
Elevation: 52 m	
Time Zone: -8	

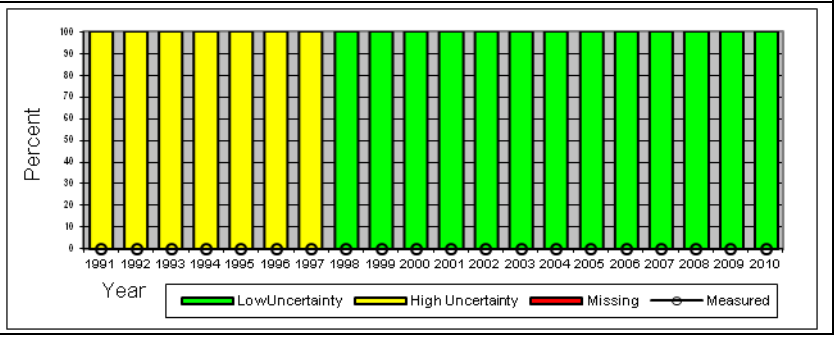
722900	SAN DIEGO LINDBERGH FIELD, CA
Class I	
Solar Coordinates	
Latitude: 32.733˚	
Longitude: -117.167˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 32.733˚	
Longitude: -117.167˚	
Elevation: 4 m	
Time Zone: -8	

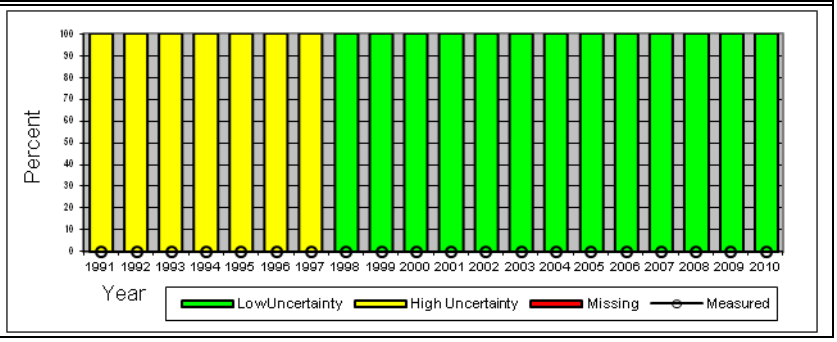
722930	SAN DIEGO MIRAMAR NAS, CA
Class III	
Solar Coordinates	
Latitude: 32.867˚	
Longitude: -117.133˚	
Elevation: 140 m	
Meteorological Coordinates	
Latitude: 32.867˚	
Longitude: -117.133˚	
Elevation: 140 m	
Time Zone: -8	

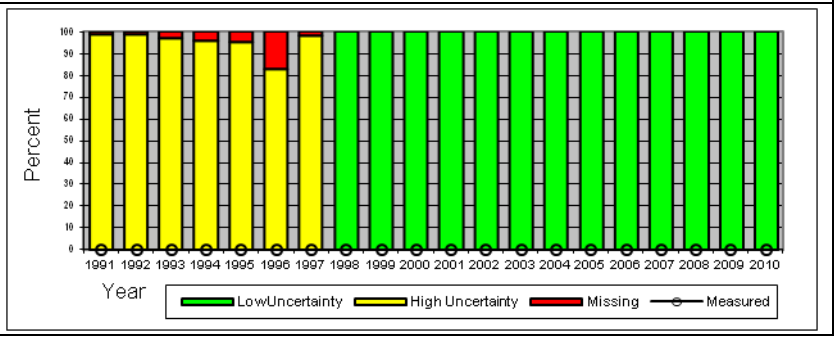
722906	SAN DIEGO NORTH ISLAND NAS, CA
Class II	
Solar Coordinates	
Latitude: 32.7˚	
Longitude: -117.2˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 32.7˚	
Longitude: -117.2˚	
Elevation: 15 m	
Time Zone: -8	

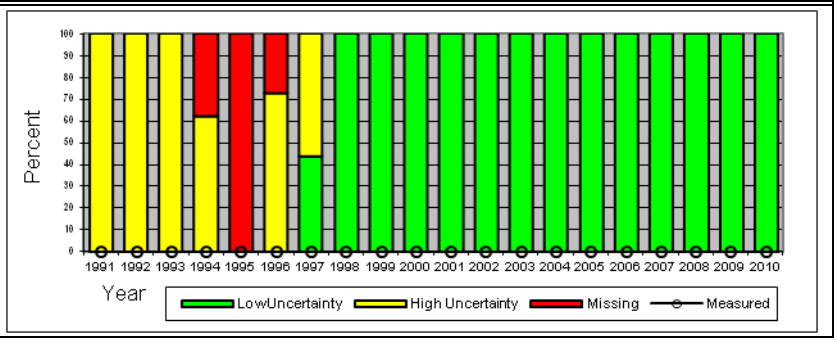
722903	SAN DIEGO/MONTGOMER, CA
Class II	
Solar Coordinates	
Latitude: 32.817˚	
Longitude: -117.133˚	
Elevation: 129 m	
Meteorological Coordinates	
Latitude: 32.817˚	
Longitude: -117.133˚	
Elevation: 129 m	
Time Zone: -8	

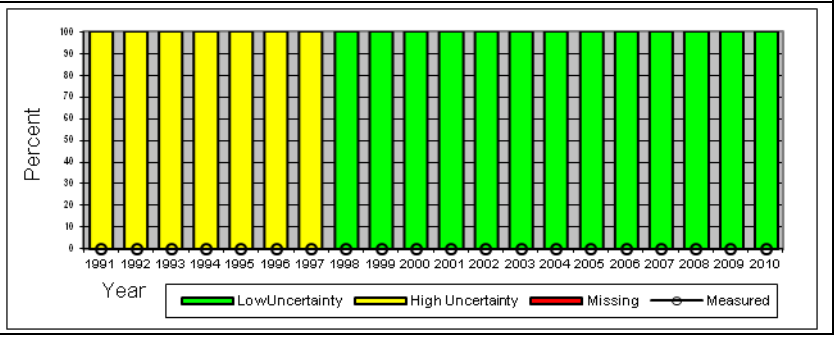
724940	SAN FRANCISCO INTL AP, CA
Class I	
Solar Coordinates	
Latitude: 37.617˚	
Longitude: -122.4˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 37.617˚	
Longitude: -122.4˚	
Elevation: 2 m	
Time Zone: -8	

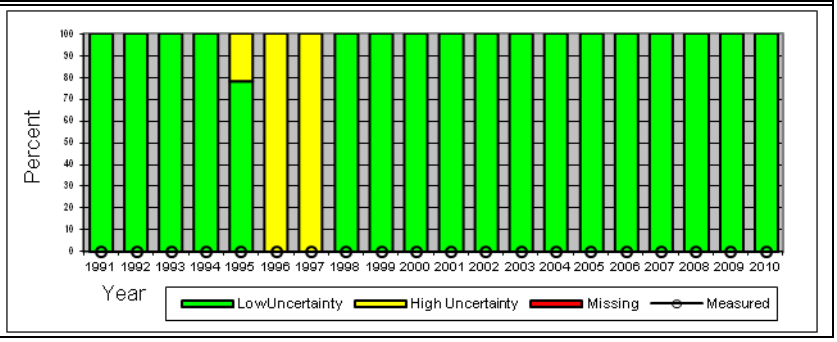
724945	SAN JOSE INTL AP, CA
Class II	
Solar Coordinates	
Latitude: 37.367˚	
Longitude: -121.933˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 37.367˚	
Longitude: -121.933˚	
Elevation: 16 m	
Time Zone: -8	

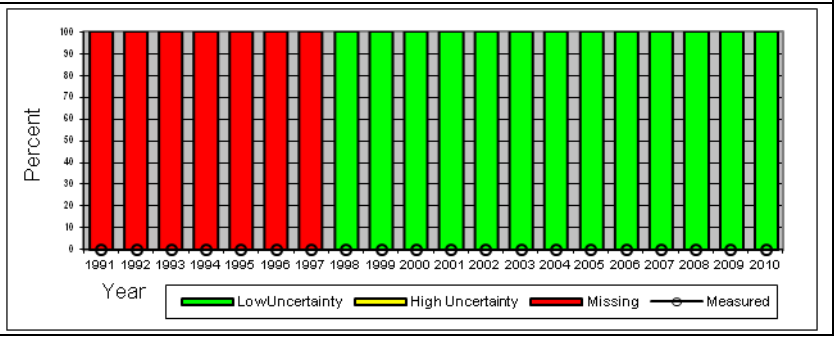
722897	SAN LUIS CO RGNL, CA
Class II	
Solar Coordinates	
Latitude: 35.233˚	
Longitude: -120.633˚	
Elevation: 66 m	
Meteorological Coordinates	
Latitude: 35.233˚	
Longitude: -120.633˚	
Elevation: 66 m	
Time Zone: -8	

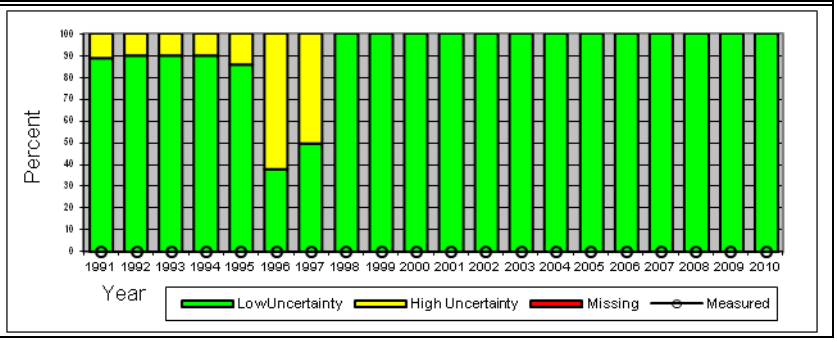
722910	SAN NICHOLAS ISLAND, CA
Class III	
Solar Coordinates	
Latitude: 33.25˚	
Longitude: -119.45˚	
Elevation: 173 m	
Meteorological Coordinates	
Latitude: 33.25˚	
Longitude: -119.45˚	
Elevation: 173 m	
Time Zone: -8	

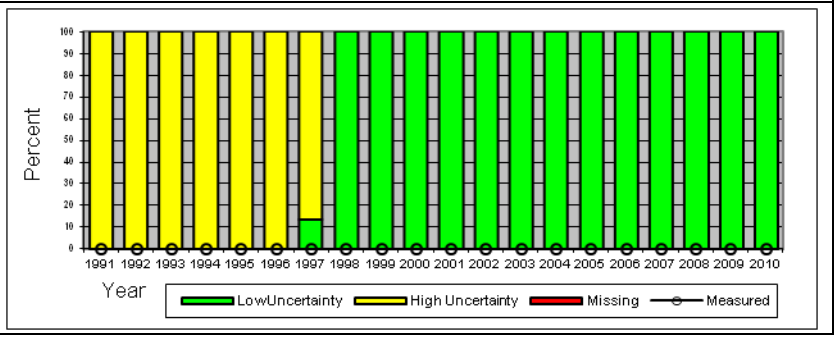
723830	SANDBERG, CA
Class III	
Solar Coordinates	
Latitude: 34.75˚	
Longitude: -118.717˚	
Elevation: 1377 m	
Meteorological Coordinates	
Latitude: 34.75˚	
Longitude: -118.717˚	
Elevation: 1377 m	
Time Zone: -8	

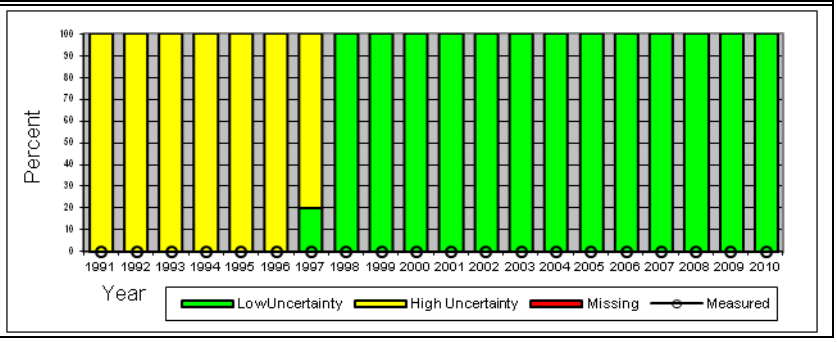
722977	SANTA ANA JOHN WAYNE AP, CA
Class II	
Solar Coordinates	
Latitude: 33.683˚	
Longitude: -117.867˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 33.683˚	
Longitude: -117.867˚	
Elevation: 16 m	
Time Zone: -8	

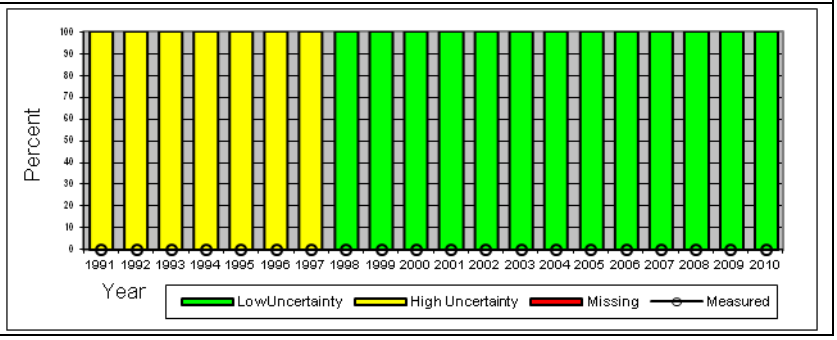
723925	SANTA BARBARA MUNICIPAL AP, CA
Class I	
Solar Coordinates	
Latitude: 34.433˚	
Longitude: -119.85˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 34.433˚	
Longitude: -119.85˚	
Elevation: 3 m	
Time Zone: -8	

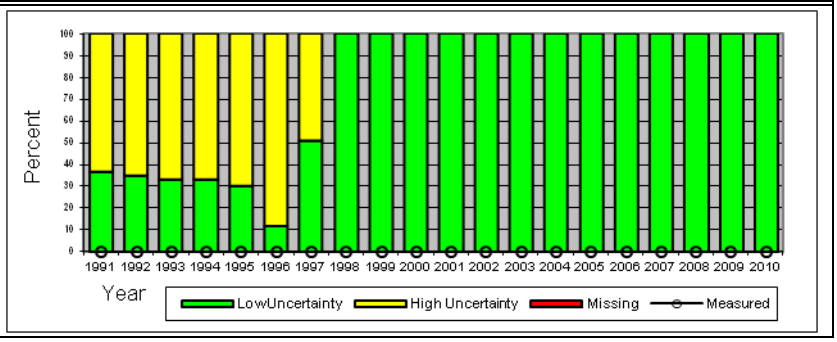
722920	SANTA CATALINA CATALINA ARPT, CA
Class III	
Solar Coordinates	
Latitude: 33.4˚	
Longitude: -118.417˚	
Elevation: 482 m	
Meteorological Coordinates	
Latitude: 33.4˚	
Longitude: -118.417˚	
Elevation: 482 m	
Time Zone: -8	

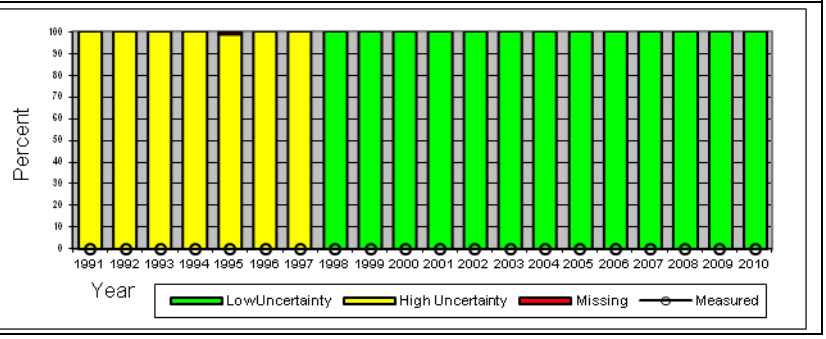
723940	SANTA MARIA PUBLIC ARPT, CA
Class I	
Solar Coordinates	
Latitude: 34.917˚	
Longitude: -120.467˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 34.917˚	
Longitude: -120.467˚	
Elevation: 77 m	
Time Zone: -8	

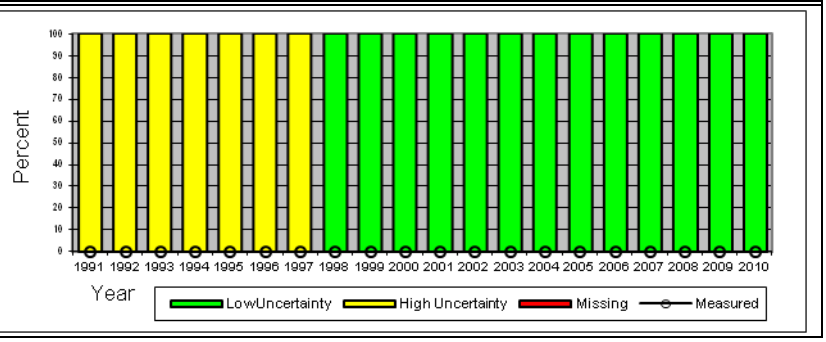
722885	SANTA MONICA MUNI, CA
Class II	
Solar Coordinates	
Latitude: 34.017˚	
Longitude: -118.45˚	
Elevation: 53 m	
Meteorological Coordinates	
Latitude: 34.017˚	
Longitude: -118.45˚	
Elevation: 53 m	
Time Zone: -8	

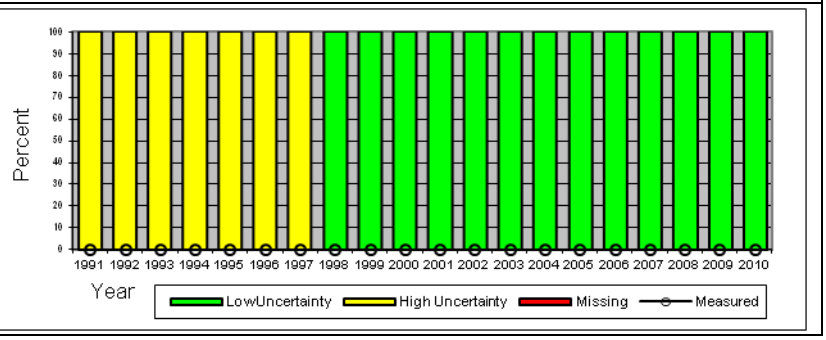
724957	SANTA ROSA (AWOS), CA
Class II	
Solar Coordinates	
Latitude: 38.517˚	
Longitude: -122.817˚	
Elevation: 38 m	
Meteorological Coordinates	
Latitude: 38.517˚	
Longitude: -122.817˚	
Elevation: 38 m	
Time Zone: -8	

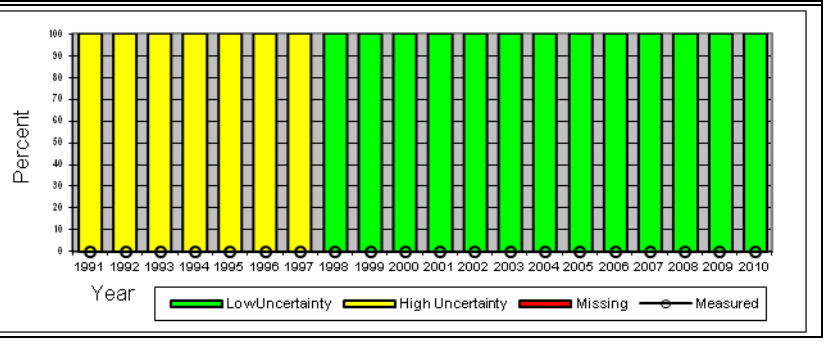
725847	SOUTH LAKE TAHOE, CA
Class II	
Solar Coordinates	
Latitude: 38.9˚	
Longitude: -120˚	
Elevation: 1909 m	
Meteorological Coordinates	
Latitude: 38.9˚	
Longitude: -120˚	
Elevation: 1909 m	
Time Zone: -8	

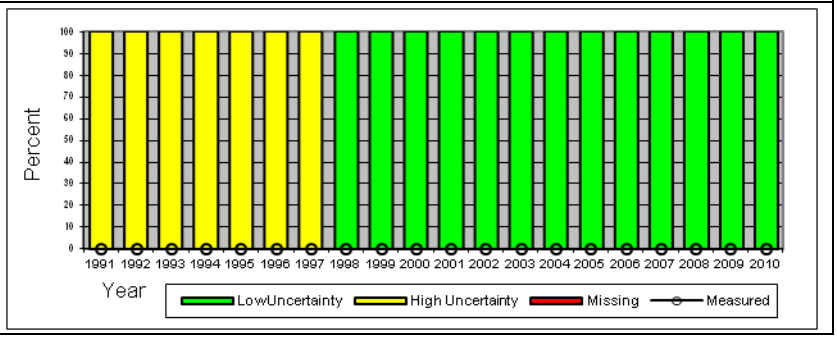
724920	STOCKTON METROPOLITAN ARPT, CA
Class I	
Solar Coordinates	
Latitude: 37.9˚	
Longitude: -121.233˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 37.9˚	
Longitude: -121.233˚	
Elevation: 7 m	
Time Zone: -8	

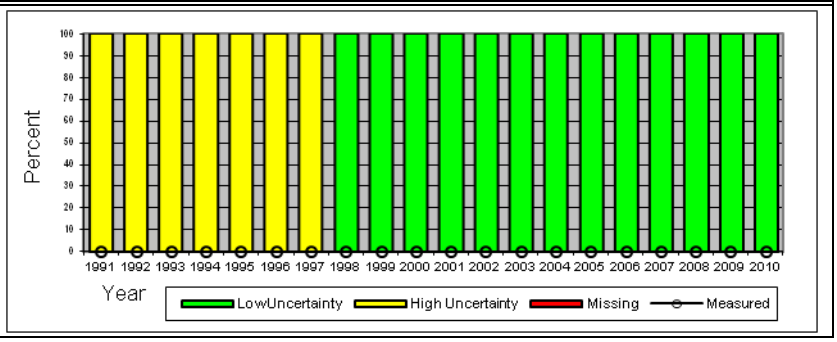
722955	TORRANCE MUNICIPAL ARPT, CA
Class III	
Solar Coordinates	
Latitude: 33.8˚	
Longitude: -118.333˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 33.8˚	
Longitude: -118.333˚	
Elevation: 27 m	
Time Zone: -8	

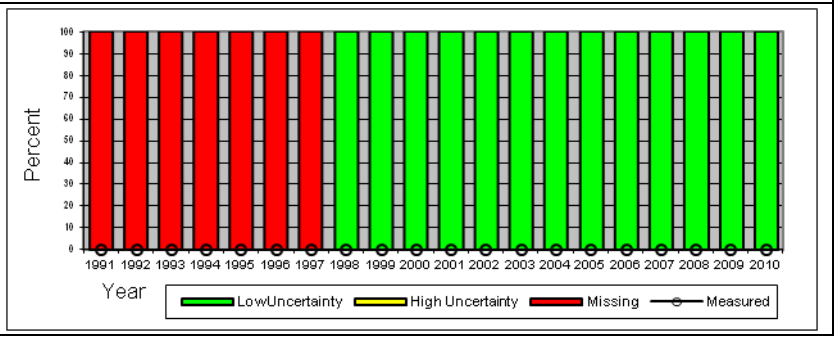
745160	TRAVIS FIELD AFB, CA
Class II	
Solar Coordinates	
Latitude: 38.267˚	
Longitude: -121.933˚	
Elevation: 18 m	
Meteorological Coordinates	
Latitude: 38.267˚	
Longitude: -121.933˚	
Elevation: 18 m	
Time Zone: -8	

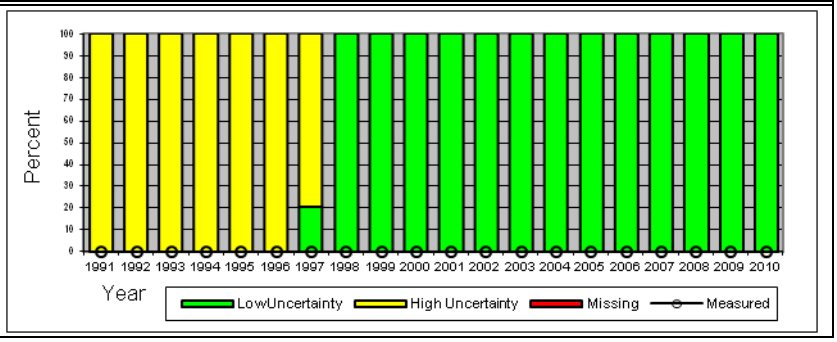
725846	TRUCKEE-TAHOE, CA
Class II	
Solar Coordinates	
Latitude: 39.317˚	
Longitude: -120.133˚	
Elevation: 1798 m	
Meteorological Coordinates	
Latitude: 39.317˚	
Longitude: -120.133˚	
Elevation: 1798 m	
Time Zone: -8	

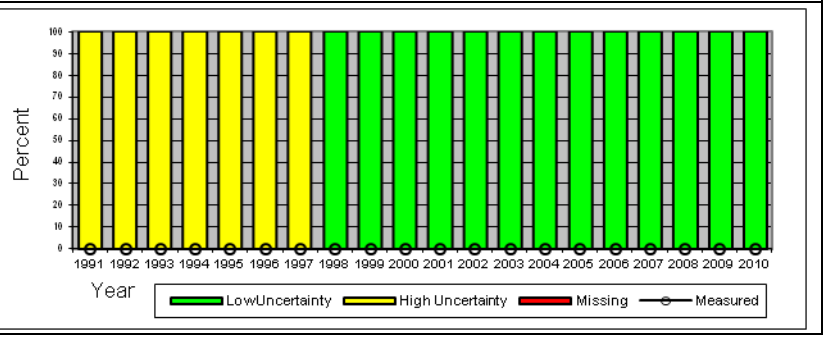
690160	TUSTIN MCAF, CA
Class III	
Solar Coordinates	
Latitude: 33.7˚	
Longitude: -117.833˚	
Elevation: 18 m	
Meteorological Coordinates	
Latitude: 33.7˚	
Longitude: -117.833˚	
Elevation: 18 m	
Time Zone: -8	

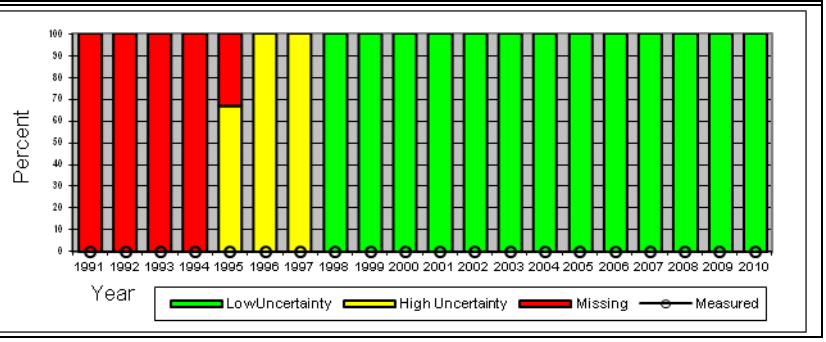
690150	TWENTYNINE PALMS, CA
Class III	
Solar Coordinates	
Latitude: 34.3˚	
Longitude: -116.167˚	
Elevation: 626 m	
Meteorological Coordinates	
Latitude: 34.3˚	
Longitude: -116.167˚	
Elevation: 626 m	
Time Zone: -8	

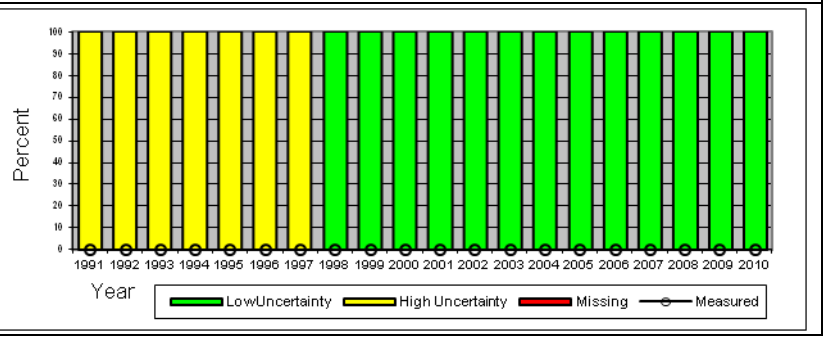
725905	UKIAH MUNICIPAL AP, CA
Class II	
Solar Coordinates	
Latitude: 39.133˚	
Longitude: -123.2˚	
Elevation: 189 m	
Meteorological Coordinates	
Latitude: 39.133˚	
Longitude: -123.2˚	
Elevation: 189 m	
Time Zone: -8	

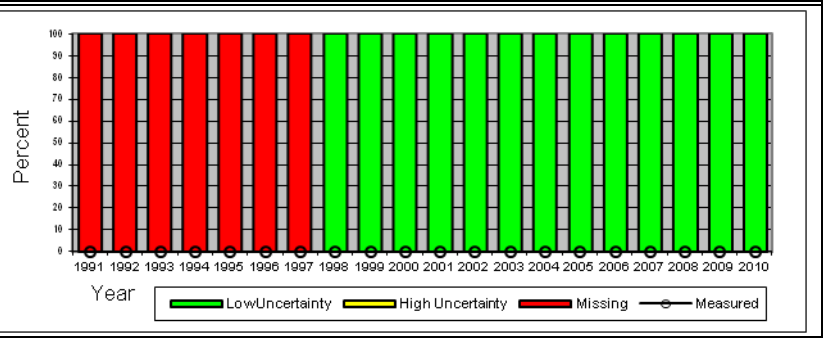
724828	VACAVILLE NUT TREE, CA
Class III	
Solar Coordinates	
Latitude: 38.367˚	
Longitude: -121.95˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 38.367˚	
Longitude: -121.95˚	
Elevation: 34 m	
Time Zone: -8	

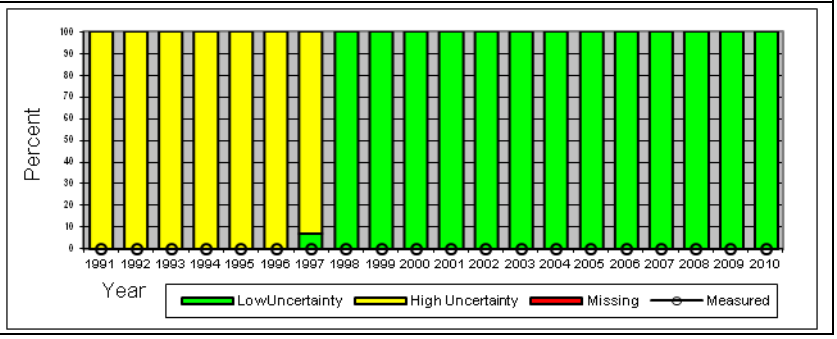
722886	VAN NUYS AIRPORT, CA
Class II	
Solar Coordinates	
Latitude: 34.217˚	
Longitude: -118.483˚	
Elevation: 235 m	
Meteorological Coordinates	
Latitude: 34.217˚	
Longitude: -118.483˚	
Elevation: 235 m	
Time Zone: -8	

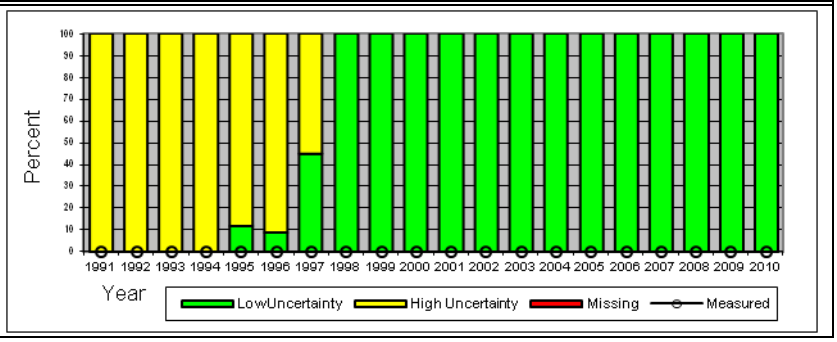
723930	VANDENBERG AFB, CA
Class II	
Solar Coordinates	
Latitude: 34.75˚	
Longitude: -120.583˚	
Elevation: 112 m	
Meteorological Coordinates	
Latitude: 34.75˚	
Longitude: -120.583˚	
Elevation: 112 m	
Time Zone: -8	

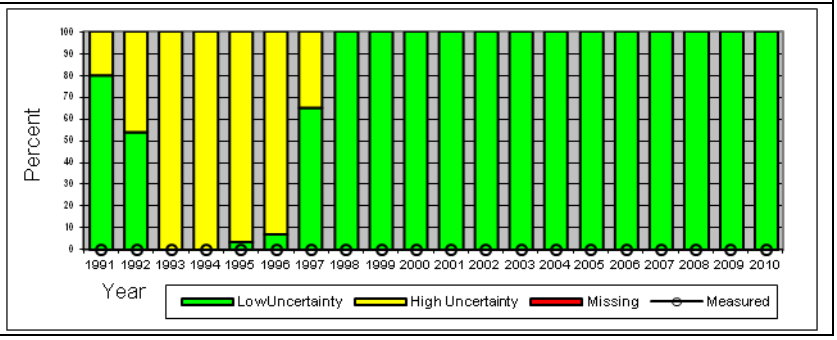
723935	VANDENBERG RANGE, CA
Class III	
Solar Coordinates	
Latitude: 34.717˚	
Longitude: -120.567˚	
Elevation: 100 m	
Meteorological Coordinates	
Latitude: 34.717˚	
Longitude: -120.567˚	
Elevation: 100 m	
Time Zone: -8	

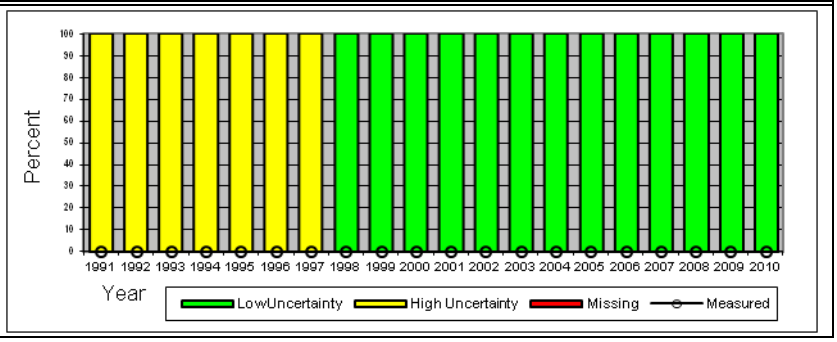
723896	VISALIA MUNI (AWOS), CA
Class II	
Solar Coordinates	
Latitude: 36.317˚	
Longitude: -119.4˚	
Elevation: 89 m	
Meteorological Coordinates	
Latitude: 36.317˚	
Longitude: -119.4˚	
Elevation: 89 m	
Time Zone: -8	

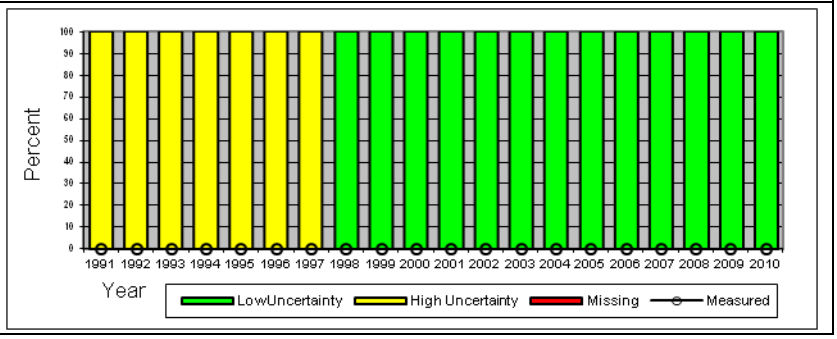
745058	WATSONVILLE, CA
Class III	
Solar Coordinates	
Latitude: 36.933˚	
Longitude: -121.783˚	
Elevation: 48 m	
Meteorological Coordinates	
Latitude: 36.933˚	
Longitude: -121.783˚	
Elevation: 48 m	
Time Zone: -8	

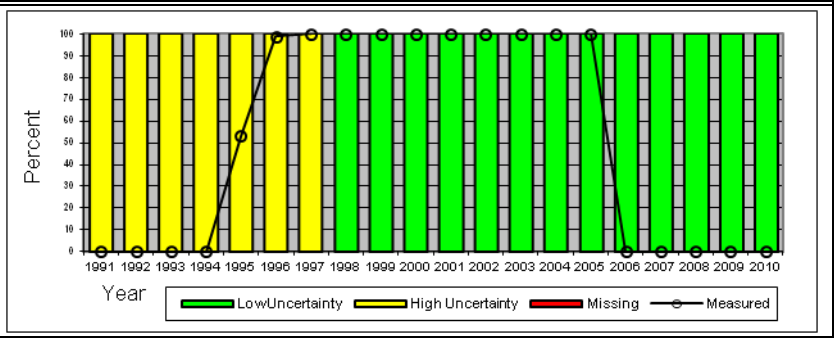
724838	YUBA CO, CA
Class II	
Solar Coordinates	
Latitude: 39.1˚	
Longitude: -121.567˚	
Elevation: 19 m	
Meteorological Coordinates	
Latitude: 39.1˚	
Longitude: -121.567˚	
Elevation: 19 m	
Time Zone: -8	

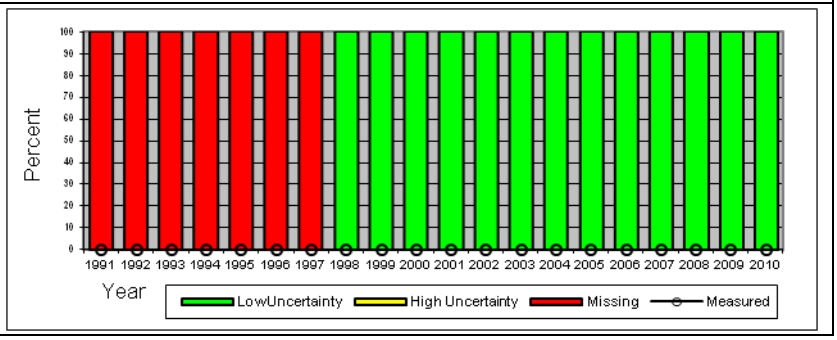
724698	AKRON WASHINGTON CO AP, CO
Class II	
Solar Coordinates	
Latitude: 40.167˚	
Longitude: -103.233˚	
Elevation: 1421 m	
Meteorological Coordinates	
Latitude: 40.167˚	
Longitude: -103.233˚	
Elevation: 1421 m	
Time Zone: -7	

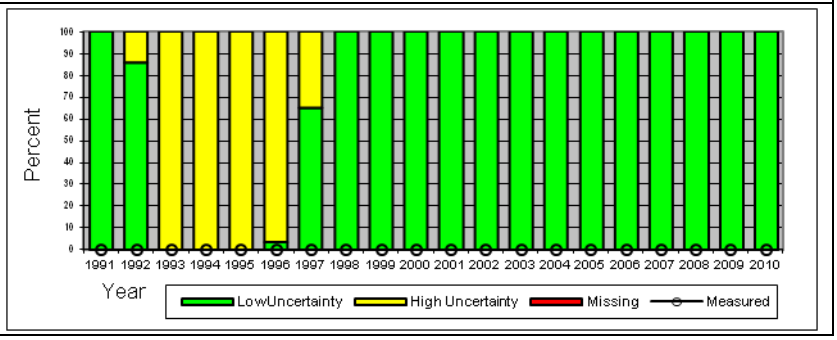
724620	ALAMOSA SAN LUIS VALLEY RGNL, CO
Class I	
Solar Coordinates	
Latitude: 37.433˚	
Longitude: -105.867˚	
Elevation: 2296 m	
Meteorological Coordinates	
Latitude: 37.433˚	
Longitude: -105.867˚	
Elevation: 2296 m	
Time Zone: -7	

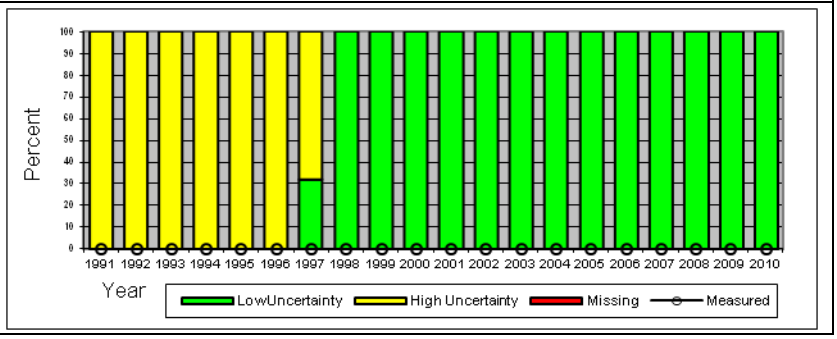
724676	ASPEN PITKIN CO SAR, CO
Class II	
Solar Coordinates	
Latitude: 39.217˚	
Longitude: -106.867˚	
Elevation: 2444 m	
Meteorological Coordinates	
Latitude: 39.217˚	
Longitude: -106.867˚	
Elevation: 2444 m	
Time Zone: -7	

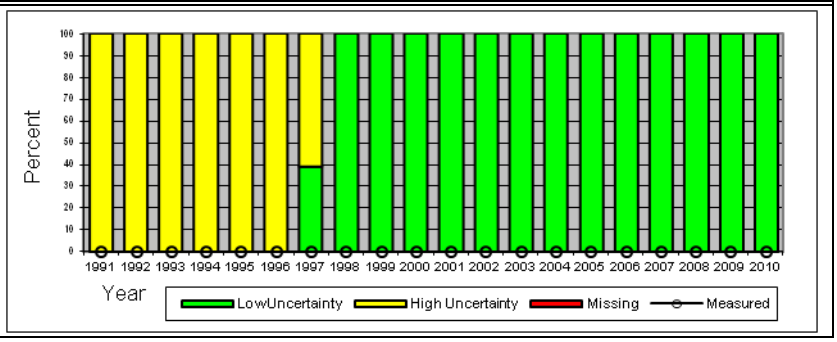
724695	AURORA BUCKLEY FIELD ANGB, CO
Class II	
Solar Coordinates	
Latitude: 39.717˚	
Longitude: -104.75˚	
Elevation: 1726 m	
Meteorological Coordinates	
Latitude: 39.717˚	
Longitude: -104.75˚	
Elevation: 1726 m	
Time Zone: -7	

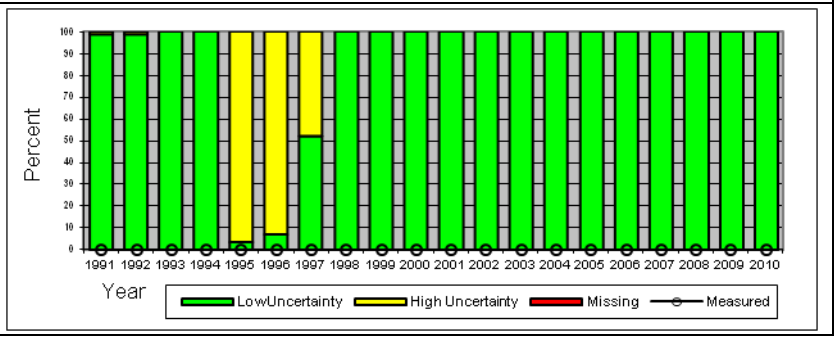
724699	BROOMFIELD/JEFFCO [BOULDER - SURFRAD], CO
Class III (with some measured)	
Solar Coordinates	
Latitude: 40.13˚	
Longitude: -105.24˚	
Elevation: 1689 m	
Meteorological Coordinates	
Latitude: 39.917˚	
Longitude: -105.117˚	
Elevation: 1724 m	
Time Zone: -7	

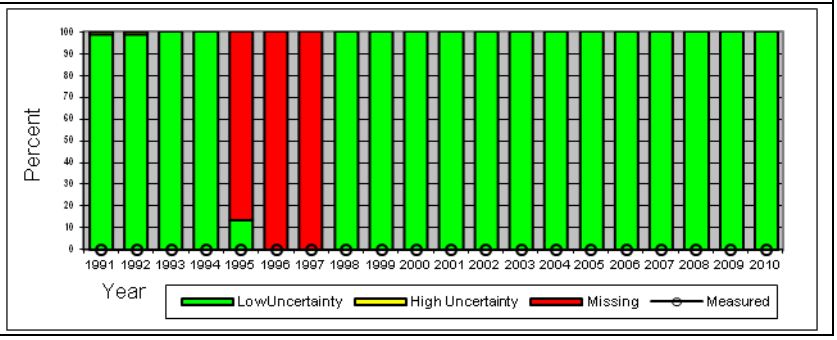
724689	BURLINGTON, CO
Class III	
Solar Coordinates	
Latitude: 39.25˚	
Longitude: -102.283˚	
Elevation: 1285 m	
Meteorological Coordinates	
Latitude: 39.25˚	
Longitude: -102.283˚	
Elevation: 1285 m	
Time Zone: -7	

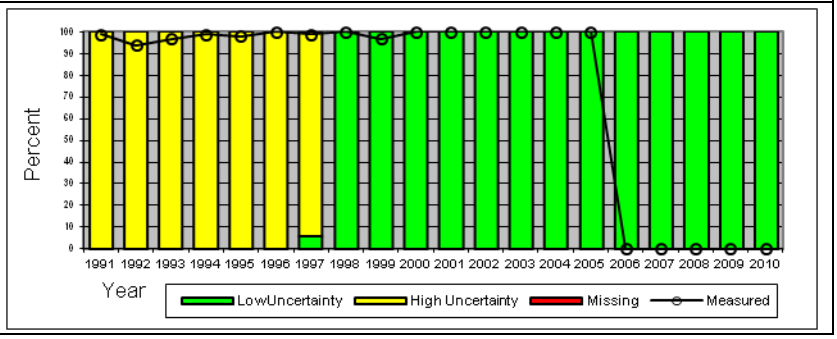
724660	COLORADO SPRINGS MUNI AP, CO
Class I	
Solar Coordinates	
Latitude: 38.817˚	
Longitude: -104.717˚	
Elevation: 1872 m	
Meteorological Coordinates	
Latitude: 38.817˚	
Longitude: -104.717˚	
Elevation: 1872 m	
Time Zone: -7	

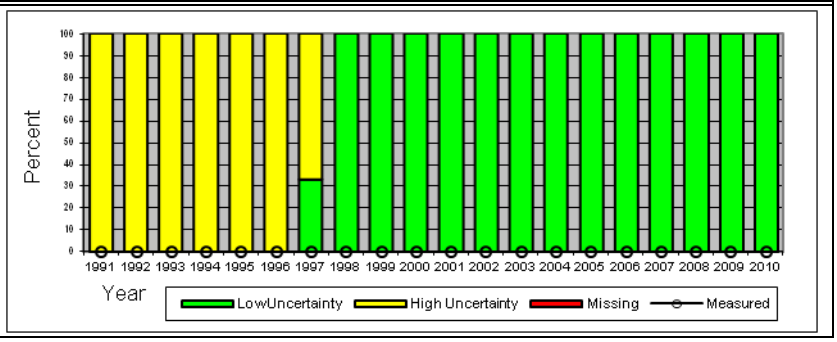
724767	CORTEZ/MONTEZUMA CO, CO
Class II	
Solar Coordinates	
Latitude: 37.3˚	
Longitude: -108.633˚	
Elevation: 1803 m	
Meteorological Coordinates	
Latitude: 37.3˚	
Longitude: -108.633˚	
Elevation: 1803 m	
Time Zone: -7	

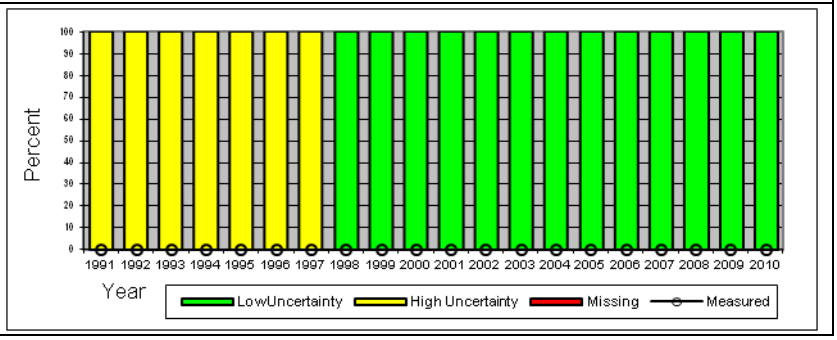
725700	CRAIG-MOFFAT, CO
Class II	
Solar Coordinates	
Latitude: 40.5˚	
Longitude: -107.533˚	
Elevation: 1915 m	
Meteorological Coordinates	
Latitude: 40.5˚	
Longitude: -107.533˚	
Elevation: 1915 m	
Time Zone: -7	

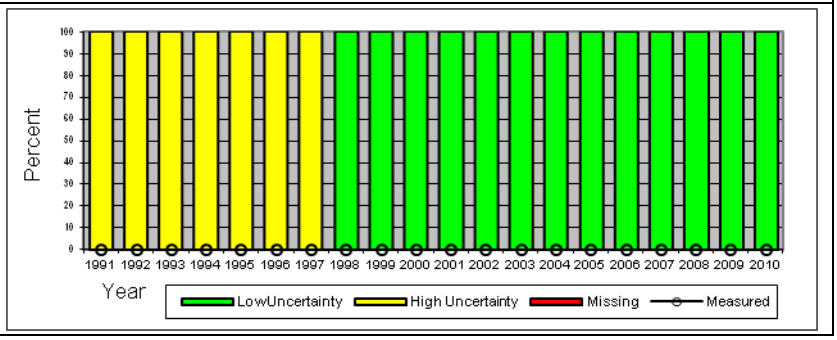
725650	DENVER INTL AP, CO
Class I	
Solar Coordinates	
Latitude: 39.833˚	
Longitude: -104.65˚	
Elevation: 1650 m	
Meteorological Coordinates	
Latitude: 39.833˚	
Longitude: -104.65˚	
Elevation: 1650 m	
Time Zone: -7	

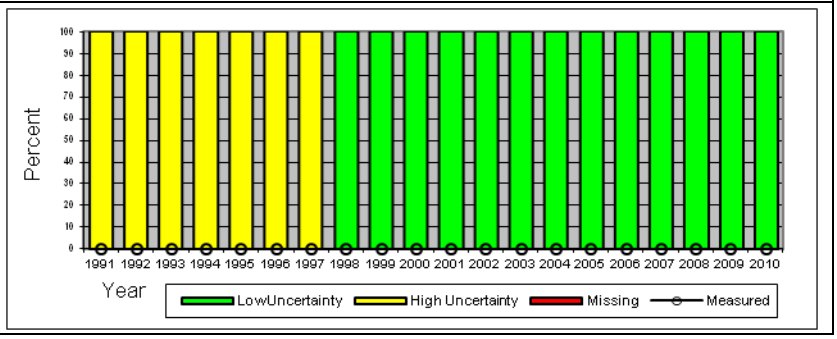
724690	DENVER STAPLETON INT'L ARPT, CO
Class III	
Solar Coordinates	
Latitude: 39.767˚	
Longitude: -104.867˚	
Elevation: 1611 m	
Meteorological Coordinates	
Latitude: 39.767˚	
Longitude: -104.867˚	
Elevation: 1611 m	
Time Zone: -7	

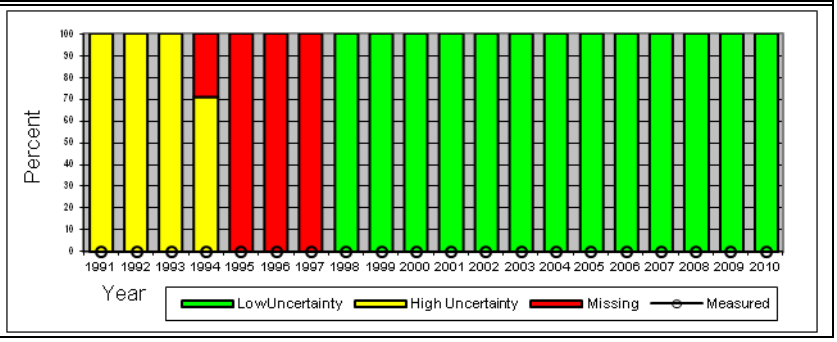
724666	DENVER/CENTENNIAL [GOLDEN - NREL], CO
Class II (with some measured)	
Solar Coordinates	
Latitude: 39.742˚	
Longitude: -105.179˚	
Elevation: 1829 m	
Meteorological Coordinates	
Latitude: 39.567˚	
Longitude: -104.85˚	
Elevation: 1793 m	
Time Zone: -7	

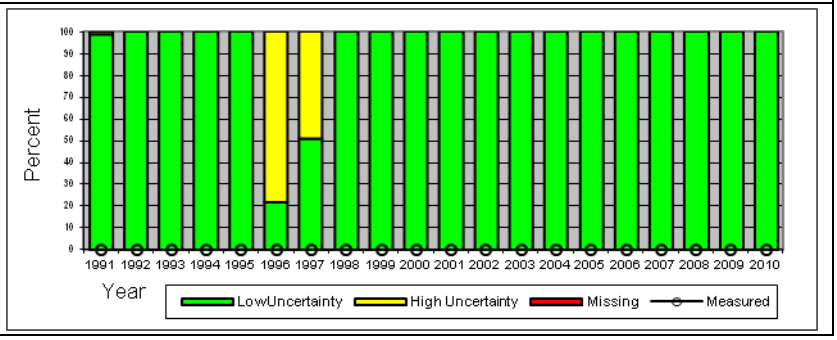
724625	DURANGO/LA PLATA CO, CO
Class II	
Solar Coordinates	
Latitude: 37.15˚	
Longitude: -107.75˚	
Elevation: 2038 m	
Meteorological Coordinates	
Latitude: 37.15˚	
Longitude: -107.75˚	
Elevation: 2038 m	
Time Zone: -7	

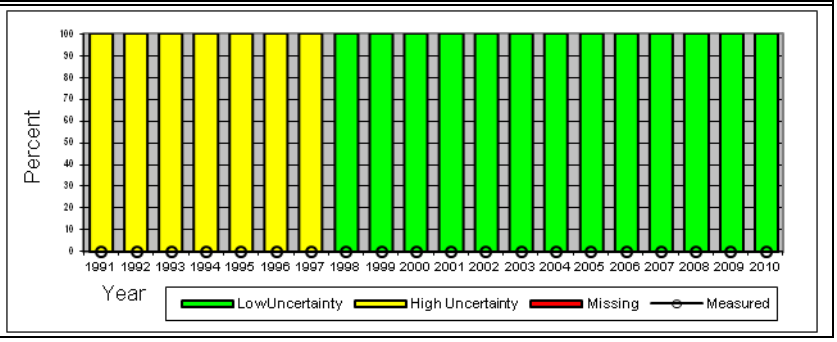
724675	EAGLE COUNTY AP, CO
Class II	
Solar Coordinates	
Latitude: 39.65˚	
Longitude: -106.917˚	
Elevation: 1980 m	
Meteorological Coordinates	
Latitude: 39.65˚	
Longitude: -106.917˚	
Elevation: 1980 m	
Time Zone: -7	

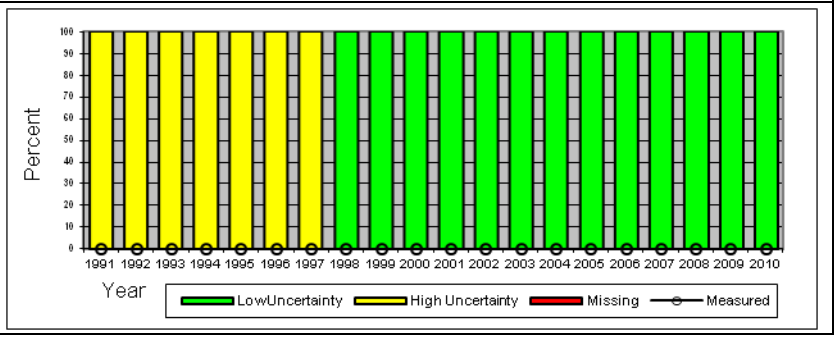
724680	FORT CARSON BUTTS AAF, CO
Class II	
Solar Coordinates	
Latitude: 38.683˚	
Longitude: -104.767˚	
Elevation: 1790 m	
Meteorological Coordinates	
Latitude: 38.683˚	
Longitude: -104.767˚	
Elevation: 1790 m	
Time Zone: -7	

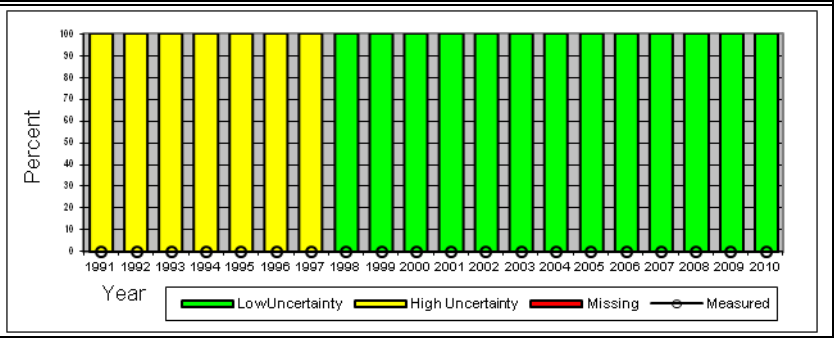
724769	FORT COLLINS (AWOS), CO
Class II	
Solar Coordinates	
Latitude: 40.45˚	
Longitude: -105.017˚	
Elevation: 1529 m	
Meteorological Coordinates	
Latitude: 40.45˚	
Longitude: -105.017˚	
Elevation: 1529 m	
Time Zone: -7	

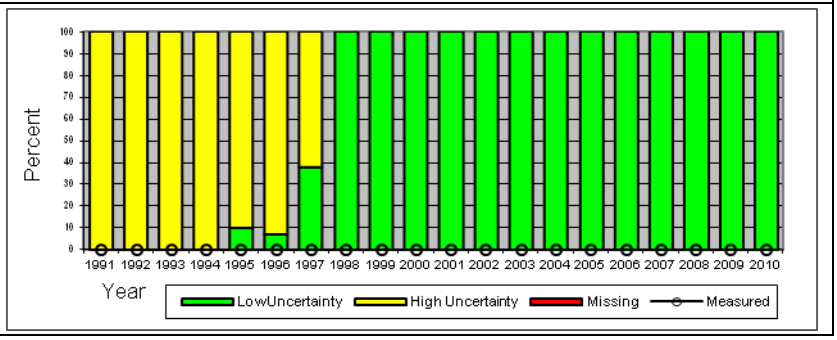
724697	FORT COLLINS(SAWRS), CO
Class III	
Solar Coordinates	
Latitude: 40.583˚	
Longitude: -105.083˚	
Elevation: 1525 m	
Meteorological Coordinates	
Latitude: 40.583˚	
Longitude: -105.083˚	
Elevation: 1525 m	
Time Zone: -7	

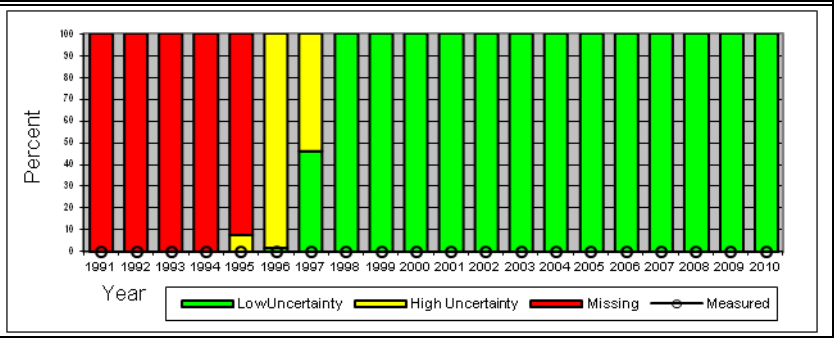
724760	GRAND JUNCTION WALKER FIELD, CO
Class I	
Solar Coordinates	
Latitude: 39.133˚	
Longitude: -108.533˚	
Elevation: 1475 m	
Meteorological Coordinates	
Latitude: 39.133˚	
Longitude: -108.533˚	
Elevation: 1475 m	
Time Zone: -7	

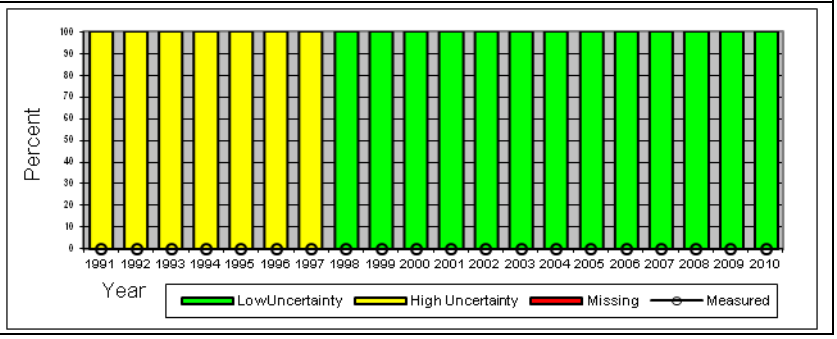
724768	GREELEY/WELD (AWOS), CO
Class II	
Solar Coordinates	
Latitude: 40.433˚	
Longitude: -104.633˚	
Elevation: 1420 m	
Meteorological Coordinates	
Latitude: 40.433˚	
Longitude: -104.633˚	
Elevation: 1420 m	
Time Zone: -7	

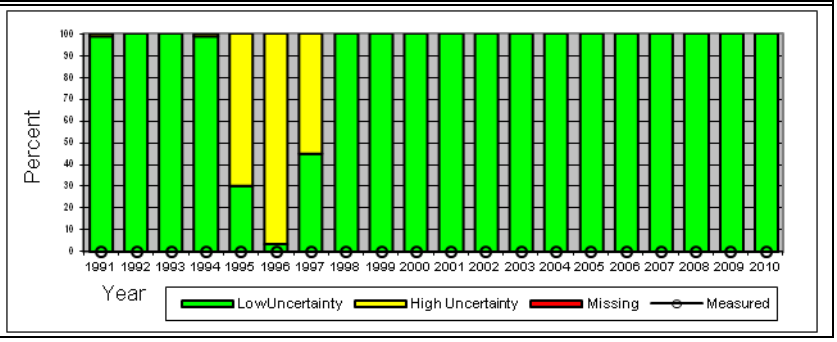
724677	GUNNISON CO. (AWOS), CO
Class II	
Solar Coordinates	
Latitude: 38.533˚	
Longitude: -106.933˚	
Elevation: 2339 m	
Meteorological Coordinates	
Latitude: 38.533˚	
Longitude: -106.933˚	
Elevation: 2339 m	
Time Zone: -7	

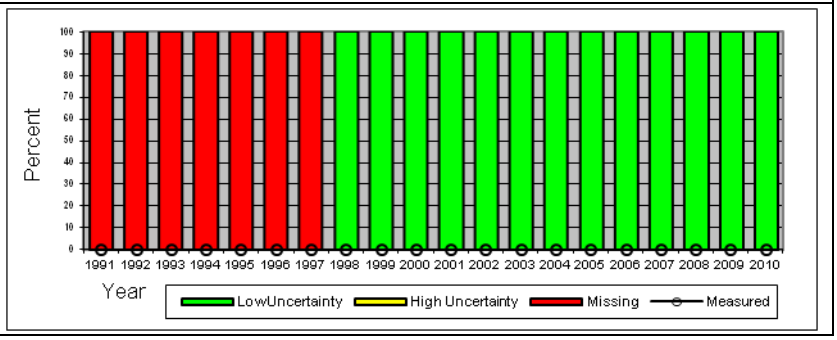
725715	HAYDEN/YAMPA (AWOS), CO
Class II	
Solar Coordinates	
Latitude: 40.483˚	
Longitude: -107.217˚	
Elevation: 2012 m	
Meteorological Coordinates	
Latitude: 40.483˚	
Longitude: -107.217˚	
Elevation: 2012 m	
Time Zone: -7	

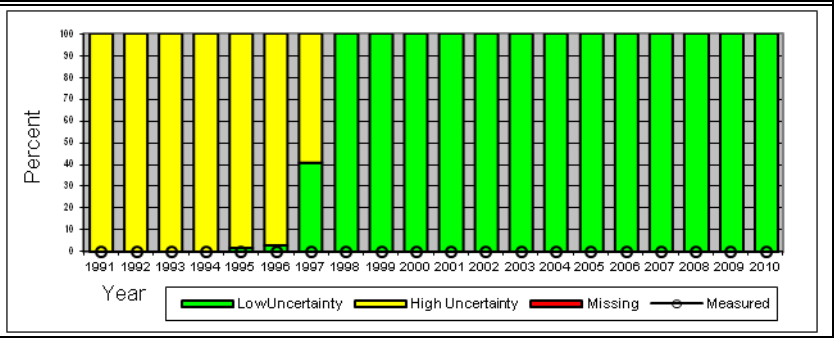
724635	LA JUNTA MUNICIPAL AP, CO
Class II	
Solar Coordinates	
Latitude: 38.05˚	
Longitude: -103.533˚	
Elevation: 1281 m	
Meteorological Coordinates	
Latitude: 38.05˚	
Longitude: -103.533˚	
Elevation: 1281 m	
Time Zone: -7	

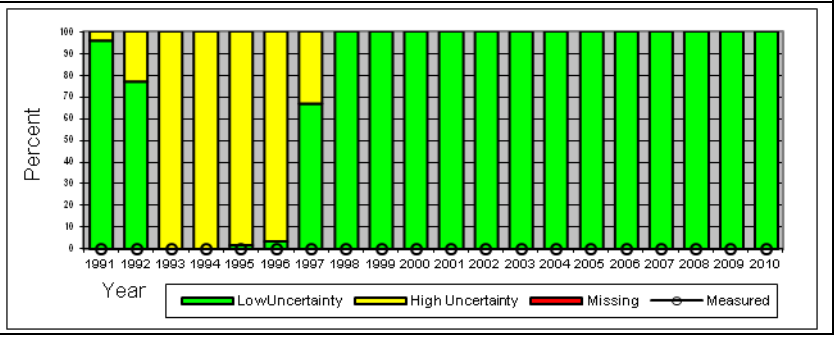
724636	LAMAR MUNICIPAL, CO
Class III	
Solar Coordinates	
Latitude: 38.067˚	
Longitude: -102.683˚	
Elevation: 1129 m	
Meteorological Coordinates	
Latitude: 38.067˚	
Longitude: -102.683˚	
Elevation: 1129 m	
Time Zone: -7	

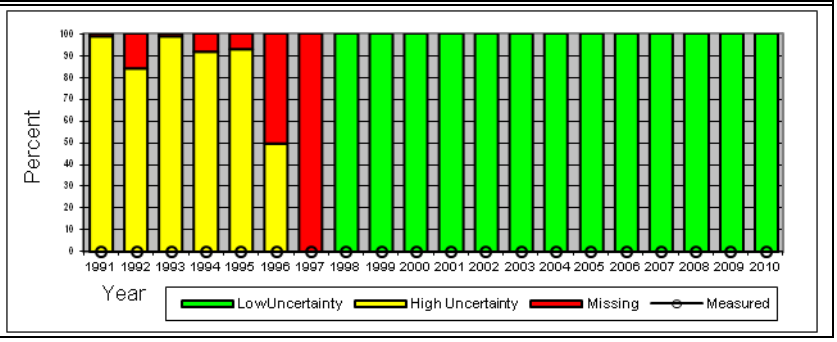
724673	LEADVILLE/LAKE CO., CO
Class II	
Solar Coordinates	
Latitude: 39.217˚	
Longitude: -106.317˚	
Elevation: 3026 m	
Meteorological Coordinates	
Latitude: 39.217˚	
Longitude: -106.317˚	
Elevation: 3026 m	
Time Zone: -7	

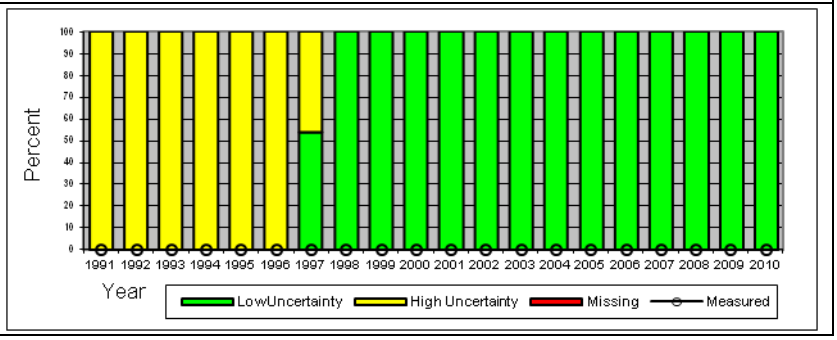
724665	LIMON, CO
Class I	
Solar Coordinates	
Latitude: 39.183˚	
Longitude: -103.717˚	
Elevation: 1695 m	
Meteorological Coordinates	
Latitude: 39.183˚	
Longitude: -103.717˚	
Elevation: 1695 m	
Time Zone: -7	

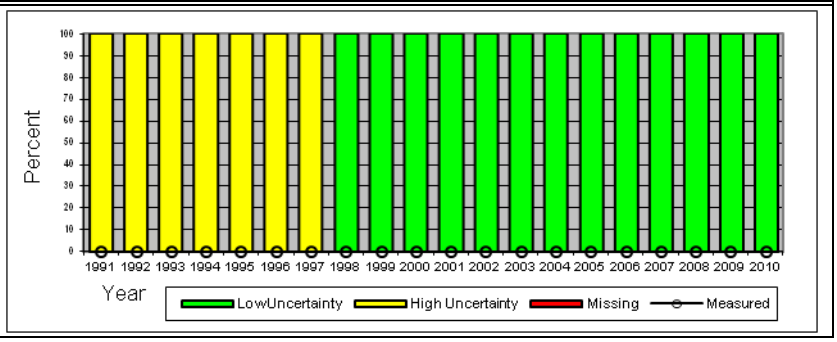
724674	MEEKER, CO
Class III	
Solar Coordinates	
Latitude: 40.05˚	
Longitude: -107.9˚	
Elevation: 1948 m	
Meteorological Coordinates	
Latitude: 40.05˚	
Longitude: -107.9˚	
Elevation: 1948 m	
Time Zone: -7	

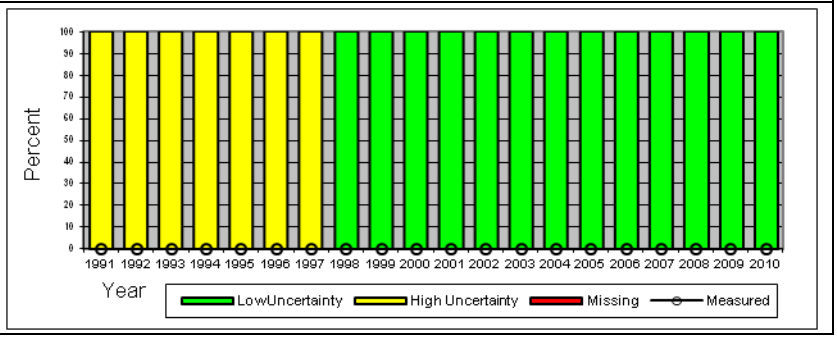
724765	MONTROSE CO. ARPT, CO
Class II	
Solar Coordinates	
Latitude: 38.5˚	
Longitude: -107.9˚	
Elevation: 1755 m	
Meteorological Coordinates	
Latitude: 38.5˚	
Longitude: -107.9˚	
Elevation: 1755 m	
Time Zone: -7	

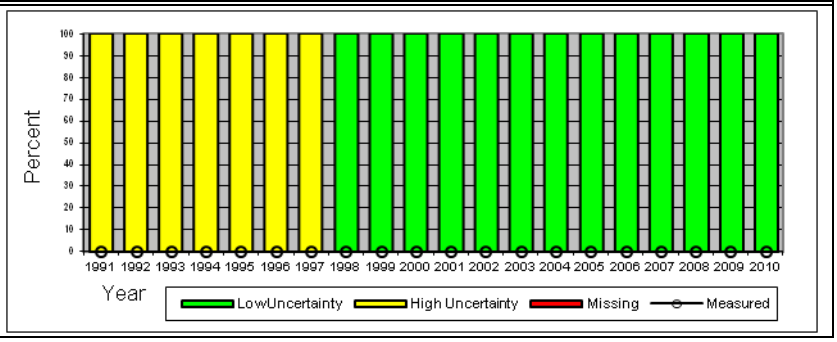
724640	PUEBLO MEMORIAL AP, CO
Class I	
Solar Coordinates	
Latitude: 38.283˚	
Longitude: -104.5˚	
Elevation: 1428 m	
Meteorological Coordinates	
Latitude: 38.283˚	
Longitude: -104.5˚	
Elevation: 1428 m	
Time Zone: -7	

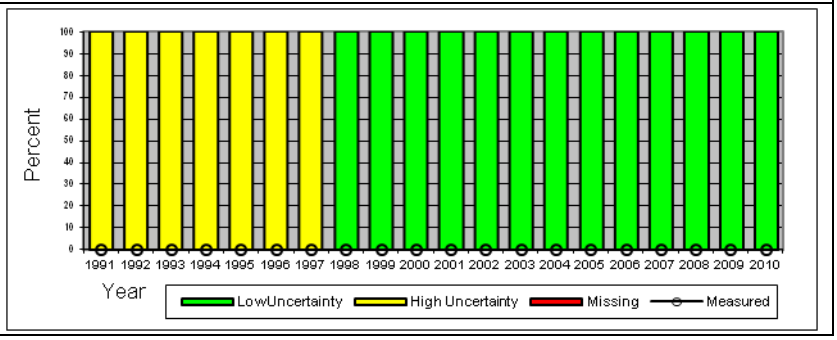
725716	RIFLE (AWRS), CO
Class III	
Solar Coordinates	
Latitude: 39.533˚	
Longitude: -107.8˚	
Elevation: 1622 m	
Meteorological Coordinates	
Latitude: 39.533˚	
Longitude: -107.8˚	
Elevation: 1622 m	
Time Zone: -7	

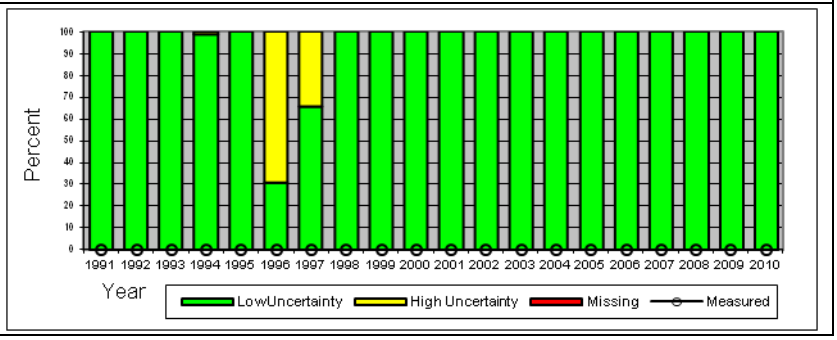
725717	RIFLE/GARFIELD RGNL, CO
Class III	
Solar Coordinates	
Latitude: 39.533˚	
Longitude: -107.717˚	
Elevation: 1691 m	
Meteorological Coordinates	
Latitude: 39.533˚	
Longitude: -107.717˚	
Elevation: 1691 m	
Time Zone: -7	

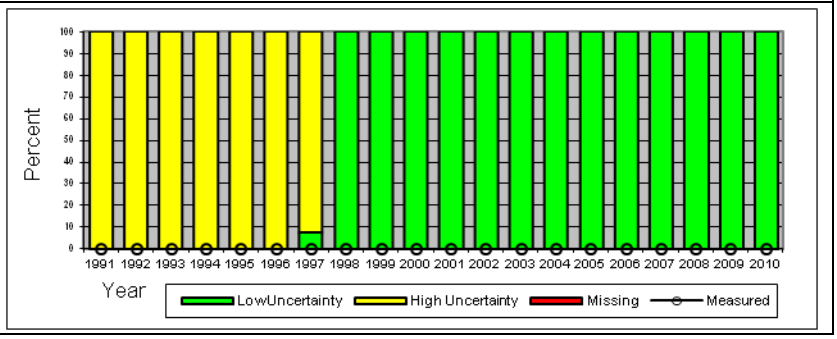
724678	STEAMBOAT SPRINGS B, CO
Class III	
Solar Coordinates	
Latitude: 40.517˚	
Longitude: -106.867˚	
Elevation: 2149 m	
Meteorological Coordinates	
Latitude: 40.517˚	
Longitude: -106.867˚	
Elevation: 2149 m	
Time Zone: -7	

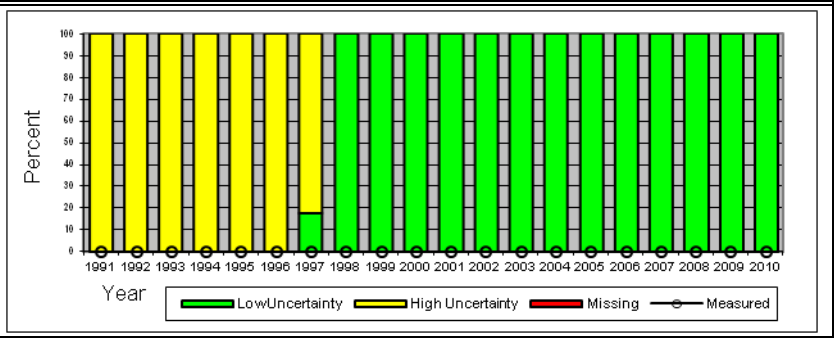
724627	TELLURIDE REGIONAL, CO
Class III	
Solar Coordinates	
Latitude: 37.95˚	
Longitude: -107.9˚	
Elevation: 2769 m	
Meteorological Coordinates	
Latitude: 37.95˚	
Longitude: -107.9˚	
Elevation: 2769 m	
Time Zone: -7	

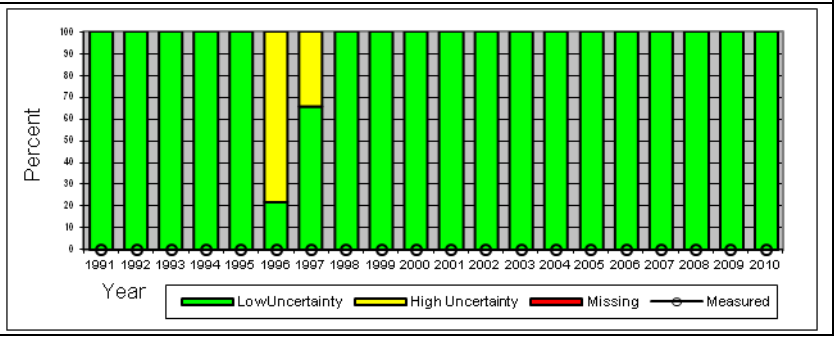
724645	TRINIDAD LAS ANIMAS COUNTY AP, CO
Class II	
Solar Coordinates	
Latitude: 37.267˚	
Longitude: -104.333˚	
Elevation: 1751 m	
Meteorological Coordinates	
Latitude: 37.267˚	
Longitude: -104.333˚	
Elevation: 1751 m	
Time Zone: -7	

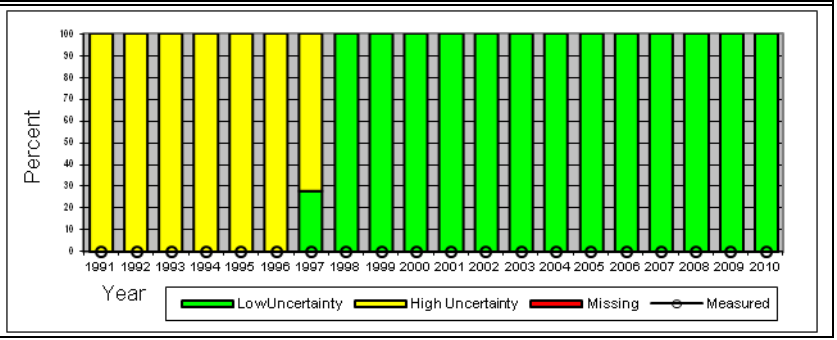
745310	USAF ACADEMY AF, CO
Class II	
Solar Coordinates	
Latitude: 38.967˚	
Longitude: -104.817˚	
Elevation: 2003 m	
Meteorological Coordinates	
Latitude: 38.967˚	
Longitude: -104.817˚	
Elevation: 2003 m	
Time Zone: -7	

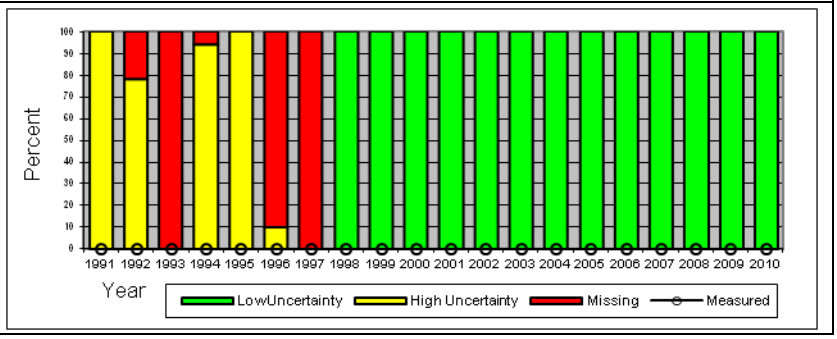
725040	BRIDGEPORT SIKORSKY MEMORIAL, CT
Class I	
Solar Coordinates	
Latitude: 41.183˚	
Longitude: -73.15˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 41.183˚	
Longitude: -73.15˚	
Elevation: 3 m	
Time Zone: -5	

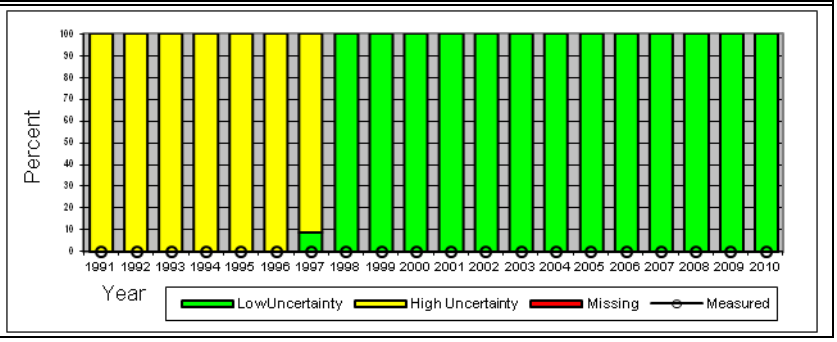
725086	DANBURY MUNICIPAL, CT
Class II	
Solar Coordinates	
Latitude: 41.367˚	
Longitude: -73.483˚	
Elevation: 139 m	
Meteorological Coordinates	
Latitude: 41.367˚	
Longitude: -73.483˚	
Elevation: 139 m	
Time Zone: -5	

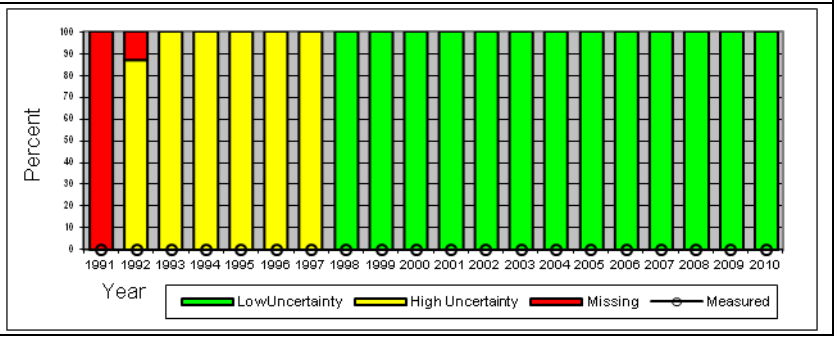
725046	GROTON NEW LONDON AP, CT
Class II	
Solar Coordinates	
Latitude: 41.333˚	
Longitude: -72.05˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 41.333˚	
Longitude: -72.05˚	
Elevation: 3 m	
Time Zone: -5	

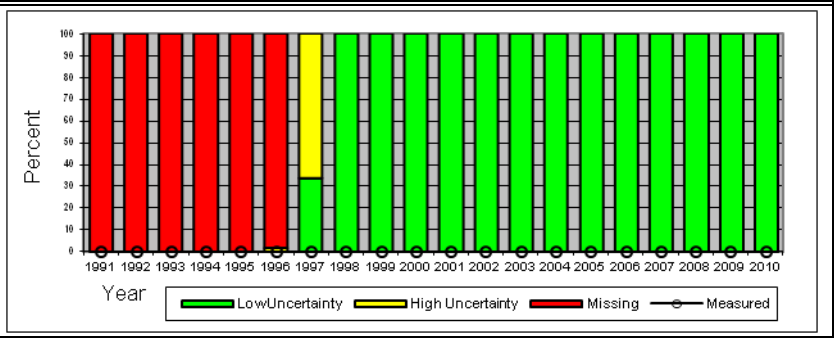
725080	HARTFORD BRADLEY INTL AP, CT
Class I	
Solar Coordinates	
Latitude: 41.933˚	
Longitude: -72.683˚	
Elevation: 49 m	
Meteorological Coordinates	
Latitude: 41.933˚	
Longitude: -72.683˚	
Elevation: 49 m	
Time Zone: -5	

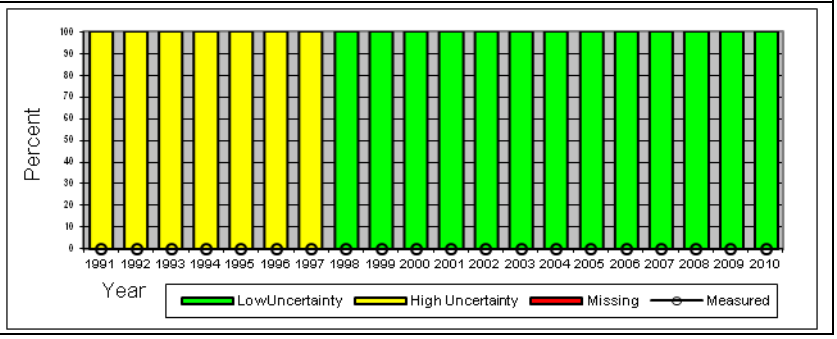
725087	HARTFORD BRAINARD FD, CT
Class II	
Solar Coordinates	
Latitude: 41.733˚	
Longitude: -72.65˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 41.733˚	
Longitude: -72.65˚	
Elevation: 6 m	
Time Zone: -5	

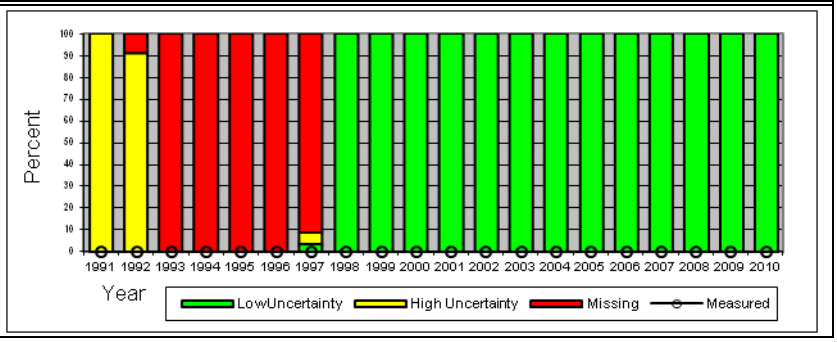
725027	MERIDEN/MARKHAM MUN, CT
Class III	
Solar Coordinates	
Latitude: 41.5˚	
Longitude: -72.817˚	
Elevation: 31 m	
Meteorological Coordinates	
Latitude: 41.5˚	
Longitude: -72.817˚	
Elevation: 31 m	
Time Zone: -5	

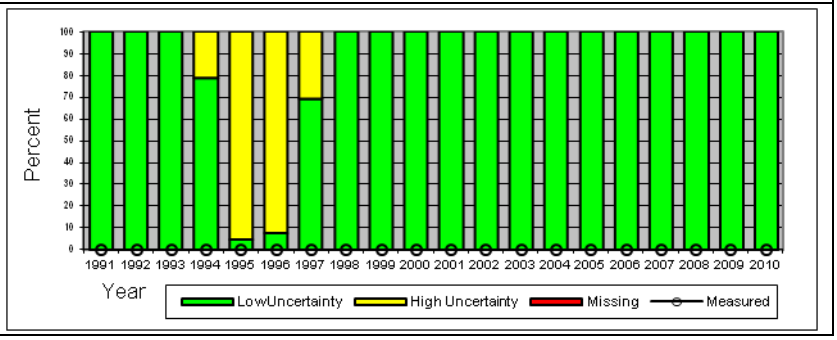
725045	NEW HAVEN TWEED AIRPORT, CT
Class II	
Solar Coordinates	
Latitude: 41.267˚	
Longitude: -72.883˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 41.267˚	
Longitude: -72.883˚	
Elevation: 2 m	
Time Zone: -5	

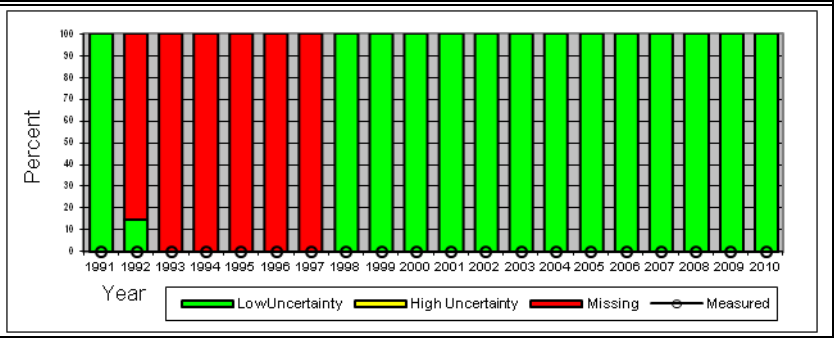
725029	OXFORD (AWOS), CT
Class III	
Solar Coordinates	
Latitude: 41.483˚	
Longitude: -73.133˚	
Elevation: 222 m	
Meteorological Coordinates	
Latitude: 41.483˚	
Longitude: -73.133˚	
Elevation: 222 m	
Time Zone: -5	

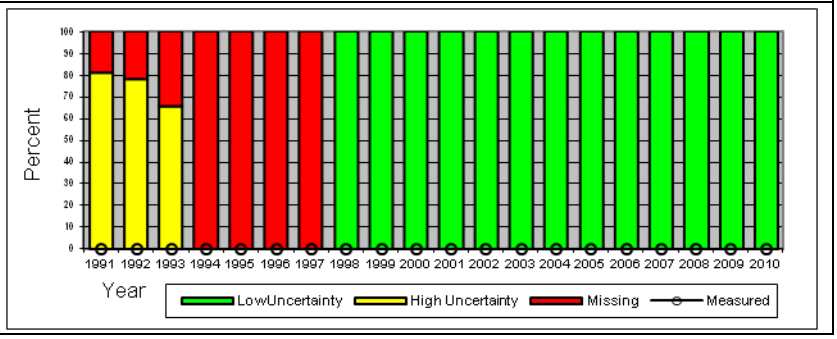
725084	WILLIMANTIC (ASOS), CT
Class III	
Solar Coordinates	
Latitude: 41.733˚	
Longitude: -72.183˚	
Elevation: 76 m	
Meteorological Coordinates	
Latitude: 41.733˚	
Longitude: -72.183˚	
Elevation: 76 m	
Time Zone: -5	

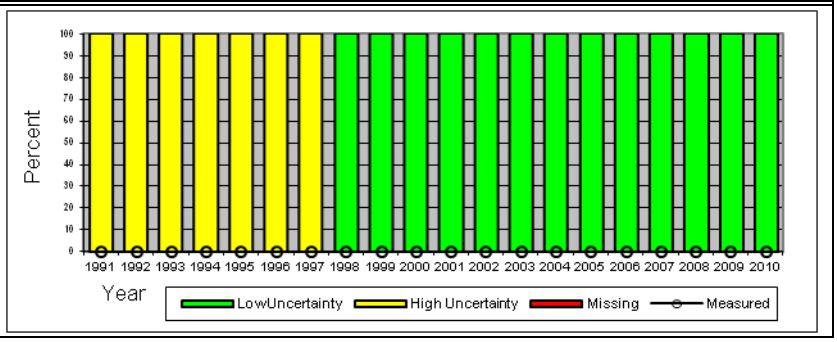
724088	DOVER AFB, DE
Class II	
Solar Coordinates	
Latitude: 39.133˚	
Longitude: -75.467˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 39.133˚	
Longitude: -75.467˚	
Elevation: 7 m	
Time Zone: -5	

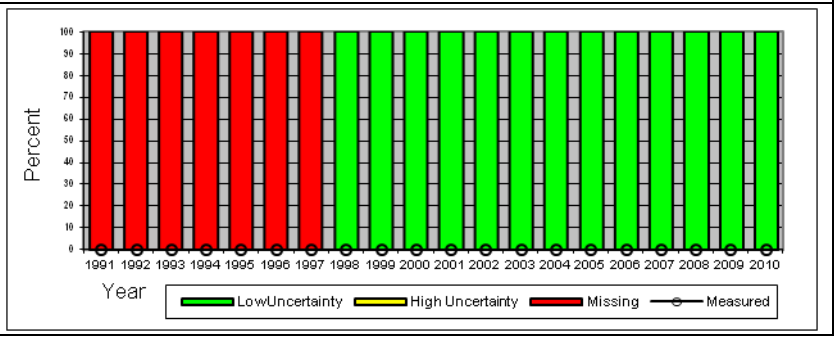
724093	GEORGETOWN/SUSSEX, DE
Class III	
Solar Coordinates	
Latitude: 38.683˚	
Longitude: -75.367˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 38.683˚	
Longitude: -75.367˚	
Elevation: 16 m	
Time Zone: -5	

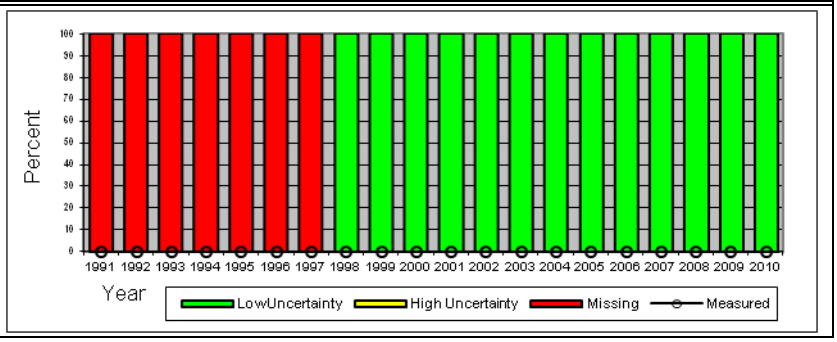
724089	WILMINGTON NEW CASTLE CNTY AP, DE
Class I	
Solar Coordinates	
Latitude: 39.667˚	
Longitude: -75.6˚	
Elevation: 23 m	
Meteorological Coordinates	
Latitude: 39.667˚	
Longitude: -75.6˚	
Elevation: 23 m	
Time Zone: -5	

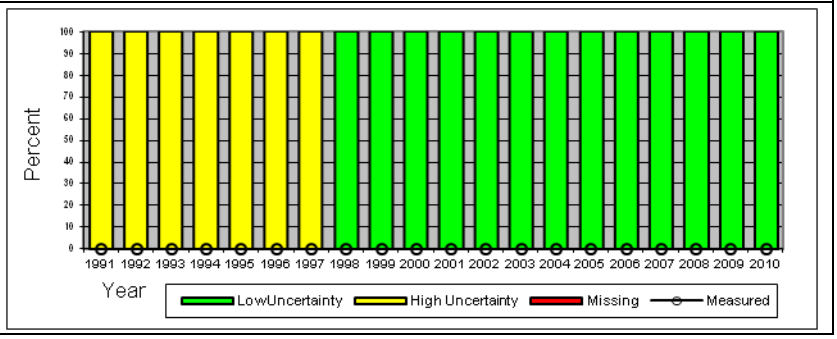
722200	APALACHICOLA MUNI AP, FL
Class III	
Solar Coordinates	
Latitude: 29.733˚	
Longitude: -85.033˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 29.733˚	
Longitude: -85.033˚	
Elevation: 6 m	
Time Zone: -5	

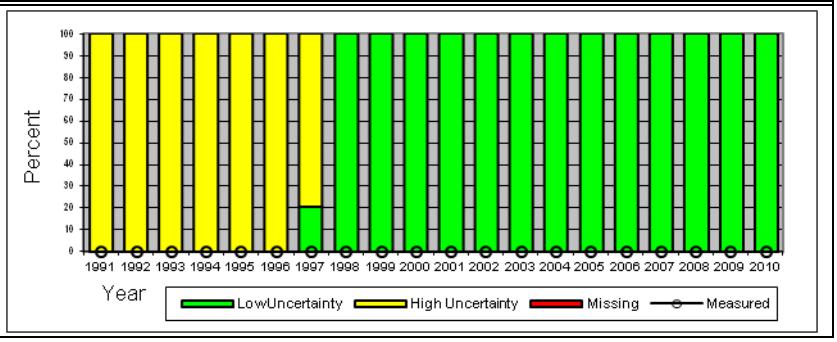
747960	AVON PARK GUNNERY RANGE, FL
Class III	
Solar Coordinates	
Latitude: 27.65˚	
Longitude: -81.333˚	
Elevation: 20 m	
Meteorological Coordinates	
Latitude: 27.65˚	
Longitude: -81.333˚	
Elevation: 20 m	
Time Zone: -5	

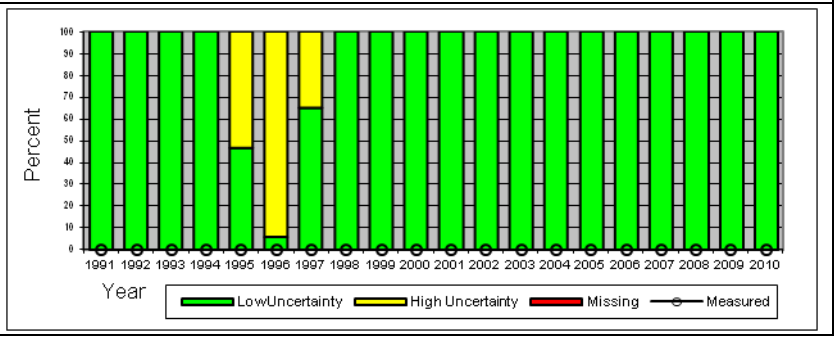
722123	BARTOW MUNICIPAL, FL
Class III	
Solar Coordinates	
Latitude: 27.95˚	
Longitude: -81.783˚	
Elevation: 39 m	
Meteorological Coordinates	
Latitude: 27.95˚	
Longitude: -81.783˚	
Elevation: 39 m	
Time Zone: -5	

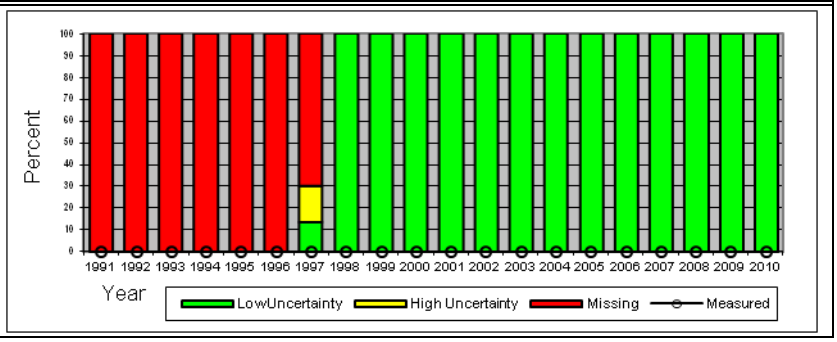
722022	BOCA RATON, FL
Class III	
Solar Coordinates	
Latitude: 26.367˚	
Longitude: -80.1˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 26.367˚	
Longitude: -80.1˚	
Elevation: 4 m	
Time Zone: -5	

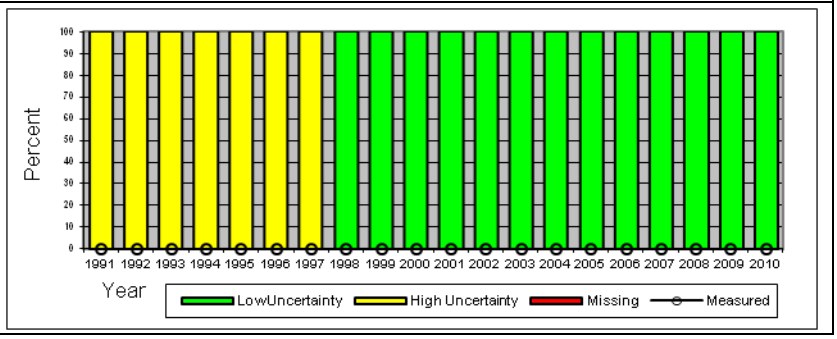
722014	BROOKSVILLE, FL
Class III	
Solar Coordinates	
Latitude: 28.467˚	
Longitude: -82.45˚	
Elevation: 23 m	
Meteorological Coordinates	
Latitude: 28.467˚	
Longitude: -82.45˚	
Elevation: 23 m	
Time Zone: -5	

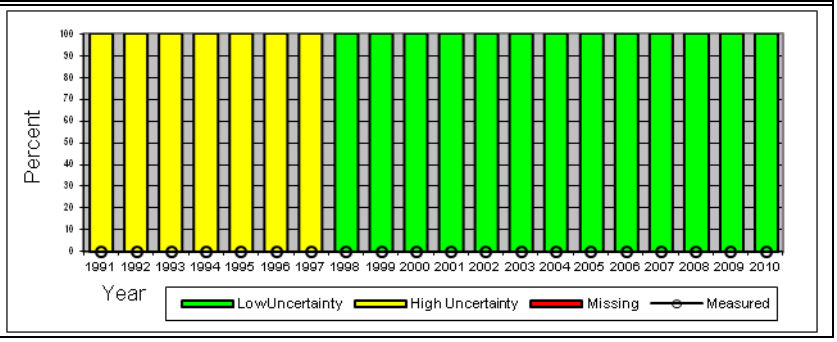
747950	COCOA BEACH PATRICK AFB, FL
Class II	
Solar Coordinates	
Latitude: 28.233˚	
Longitude: -80.6˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 28.233˚	
Longitude: -80.6˚	
Elevation: 3 m	
Time Zone: -5	

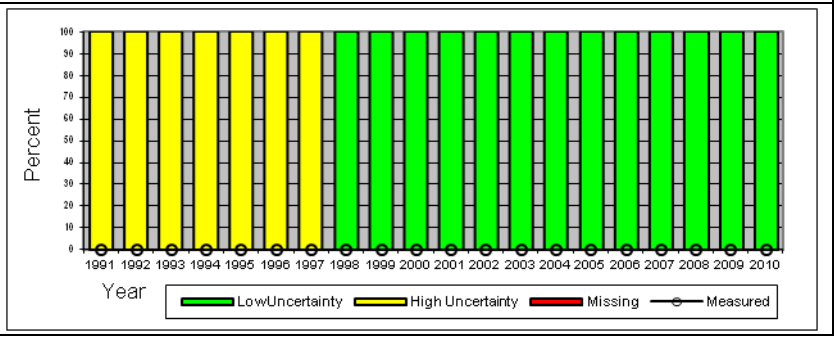
722215	CRESTVIEW BOB SIKES AP, FL
Class II	
Solar Coordinates	
Latitude: 30.783˚	
Longitude: -86.517˚	
Elevation: 58 m	
Meteorological Coordinates	
Latitude: 30.783˚	
Longitude: -86.517˚	
Elevation: 58 m	
Time Zone: -6	

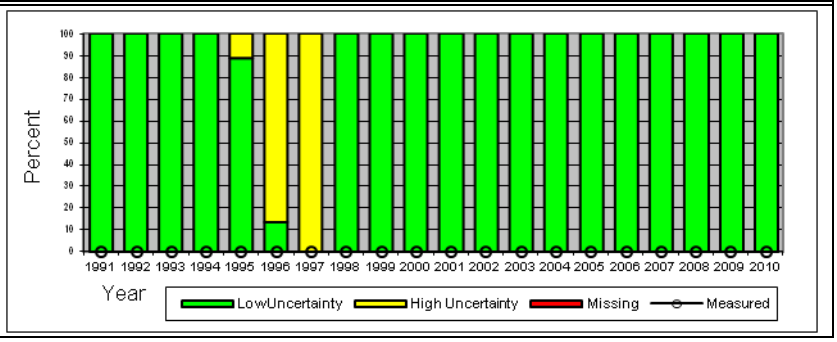
722056	DAYTONA BEACH INTL AP, FL
Class I	
Solar Coordinates	
Latitude: 29.183˚	
Longitude: -81.067˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 29.183˚	
Longitude: -81.067˚	
Elevation: 9 m	
Time Zone: -5	

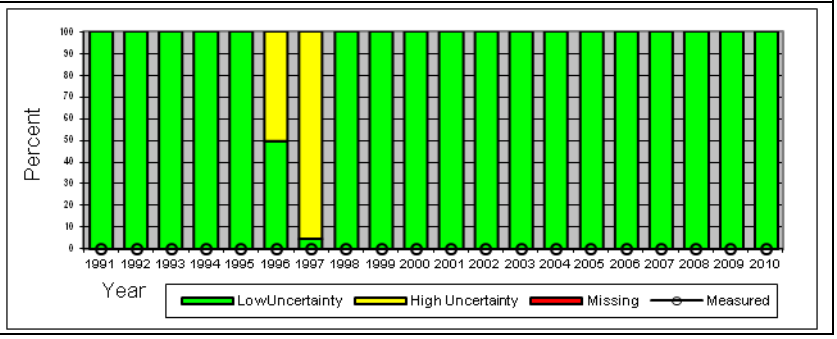
722069	DESTIN FT. WALTON, FL
Class III	
Solar Coordinates	
Latitude: 30.4˚	
Longitude: -86.467˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 30.4˚	
Longitude: -86.467˚	
Elevation: 7 m	
Time Zone: -6	

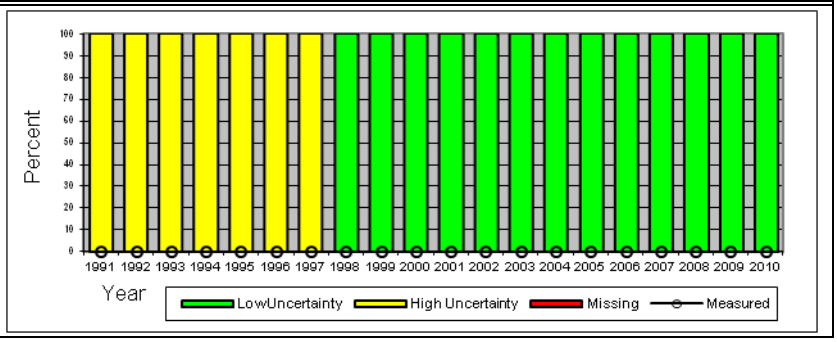
722246	DUKE FIELD AAFB, FL
Class II	
Solar Coordinates	
Latitude: 30.65˚	
Longitude: -86.533˚	
Elevation: 58 m	
Meteorological Coordinates	
Latitude: 30.65˚	
Longitude: -86.533˚	
Elevation: 58 m	
Time Zone: -6	

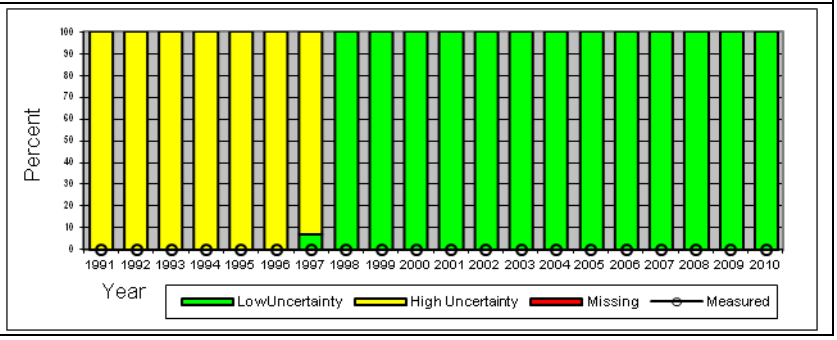
722039	FORT LAUDERDALE, FL
Class II	
Solar Coordinates	
Latitude: 26.2˚	
Longitude: -80.167˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 26.2˚	
Longitude: -80.167˚	
Elevation: 4 m	
Time Zone: -5	

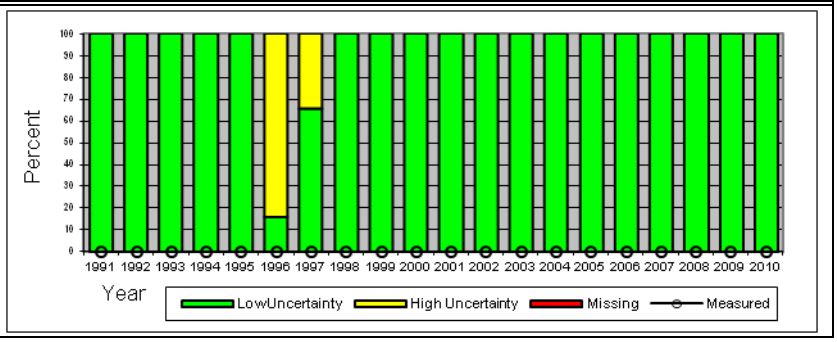
722025	FORT LAUDERDALE HOLLYWOOD INT, FL
Class II	
Solar Coordinates	
Latitude: 26.067˚	
Longitude: -80.15˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 26.067˚	
Longitude: -80.15˚	
Elevation: 3 m	
Time Zone: -5	

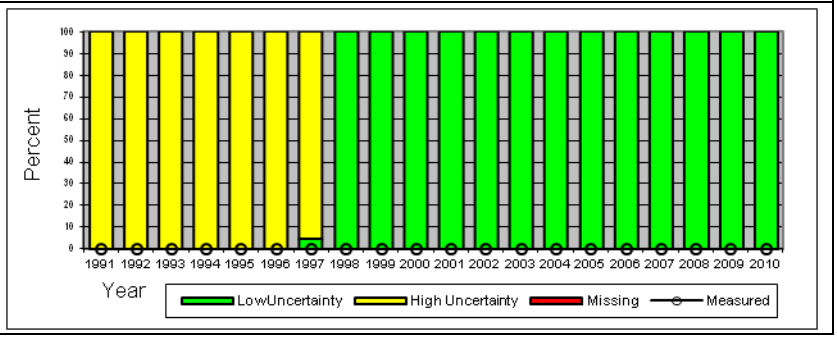
722106	FORT MYERS PAGE FIELD, FL
Class I	
Solar Coordinates	
Latitude: 26.583˚	
Longitude: -81.867˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 26.583˚	
Longitude: -81.867˚	
Elevation: 5 m	
Time Zone: -5	

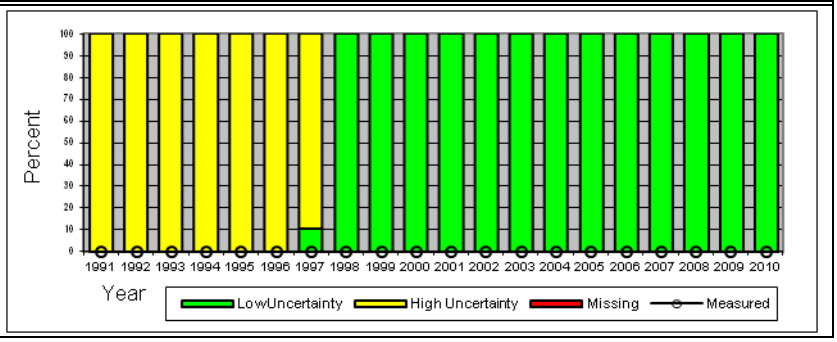
722146	GAINESVILLE REGIONAL AP, FL
Class I	
Solar Coordinates	
Latitude: 29.7˚	
Longitude: -82.283˚	
Elevation: 41 m	
Meteorological Coordinates	
Latitude: 29.7˚	
Longitude: -82.283˚	
Elevation: 41 m	
Time Zone: -5	

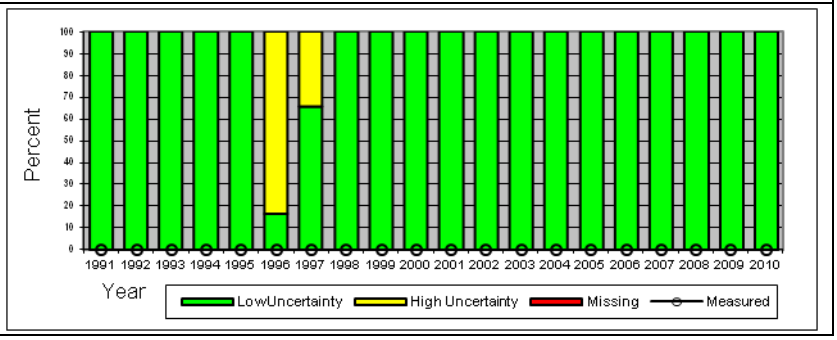
722026	HOMESTEAD AFB, FL
Class II	
Solar Coordinates	
Latitude: 25.483˚	
Longitude: -80.383˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 25.483˚	
Longitude: -80.383˚	
Elevation: 5 m	
Time Zone: -5	

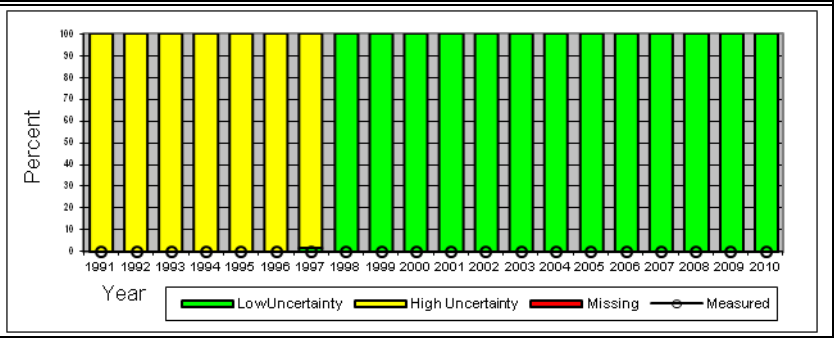
722067	JACKSONVILLE CECIL FLD NAS, FL
Class III	
Solar Coordinates	
Latitude: 30.217˚	
Longitude: -81.883˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 30.217˚	
Longitude: -81.883˚	
Elevation: 27 m	
Time Zone: -5	

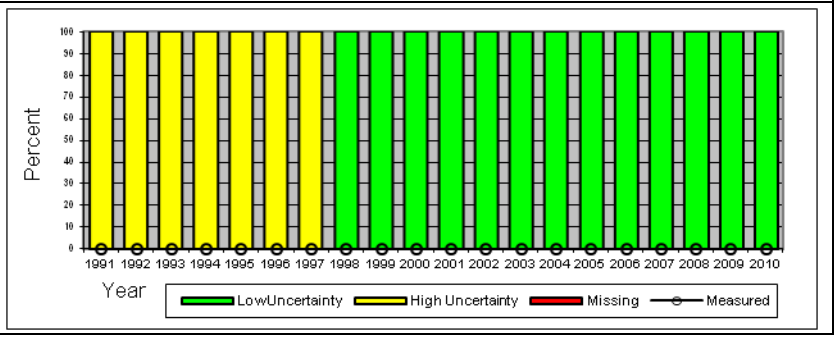
722060	JACKSONVILLE INTL ARPT, FL
Class I	
Solar Coordinates	
Latitude: 30.5˚	
Longitude: -81.7˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 30.5˚	
Longitude: -81.7˚	
Elevation: 8 m	
Time Zone: -5	

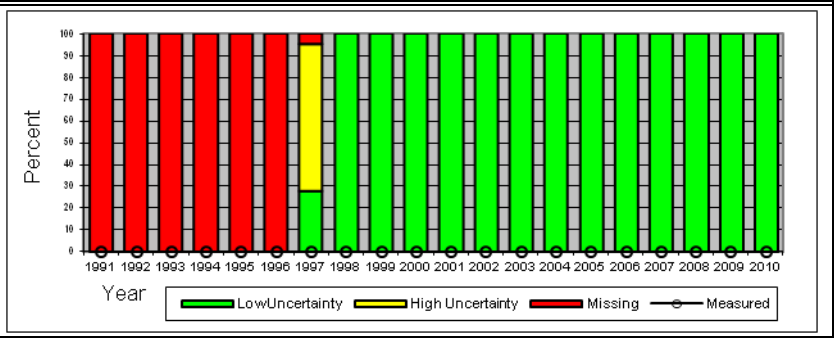
722065	JACKSONVILLE NAS, FL
Class II	
Solar Coordinates	
Latitude: 30.233˚	
Longitude: -81.667˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 30.233˚	
Longitude: -81.667˚	
Elevation: 9 m	
Time Zone: -5	

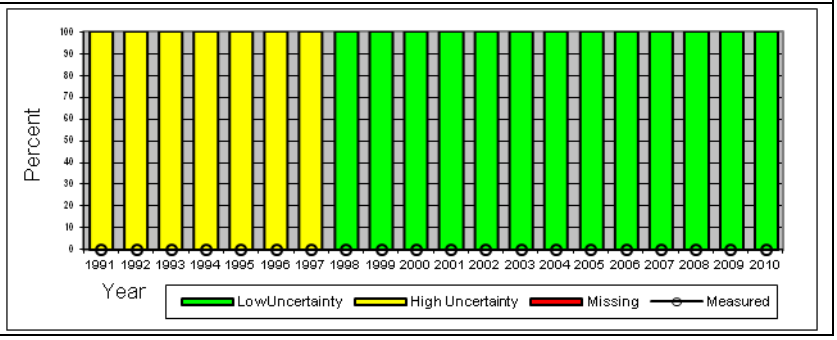
722068	JACKSONVILLE/CRAIG, FL
Class II	
Solar Coordinates	
Latitude: 30.333˚	
Longitude: -81.517˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 30.333˚	
Longitude: -81.517˚	
Elevation: 12 m	
Time Zone: -5	

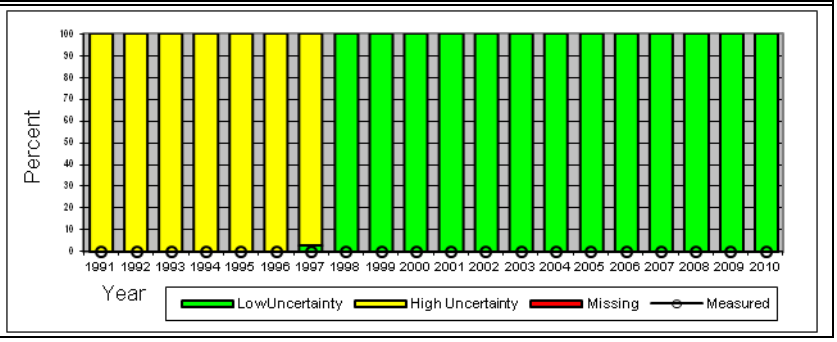
722010	KEY WEST INTL ARPT, FL
Class I	
Solar Coordinates	
Latitude: 24.55˚	
Longitude: -81.75˚	
Elevation: 1 m	
Meteorological Coordinates	
Latitude: 24.55˚	
Longitude: -81.75˚	
Elevation: 1 m	
Time Zone: -5	

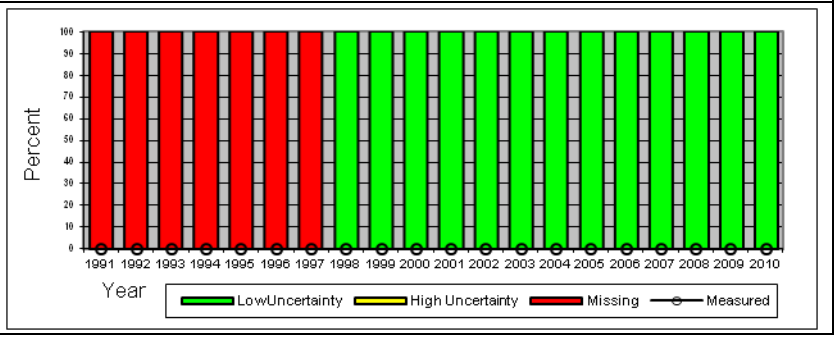
722015	KEY WEST NAS, FL
Class II	
Solar Coordinates	
Latitude: 24.583˚	
Longitude: -81.683˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 24.583˚	
Longitude: -81.683˚	
Elevation: 7 m	
Time Zone: -5	

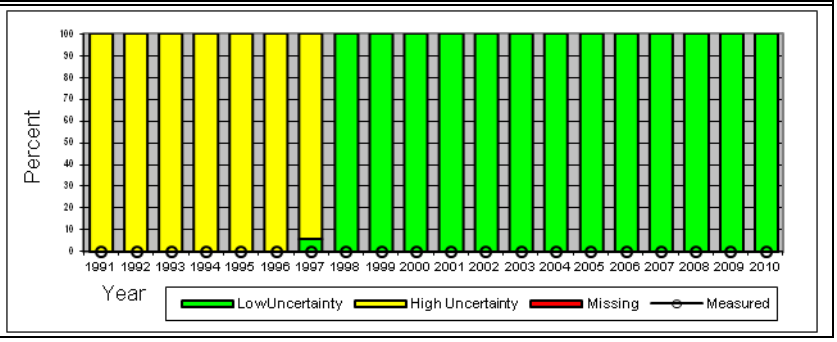
722119	LAKELAND LINDER RGN, FL
Class II	
Solar Coordinates	
Latitude: 27.983˚	
Longitude: -82.017˚	
Elevation: 43 m	
Meteorological Coordinates	
Latitude: 27.983˚	
Longitude: -82.017˚	
Elevation: 43 m	
Time Zone: -5	

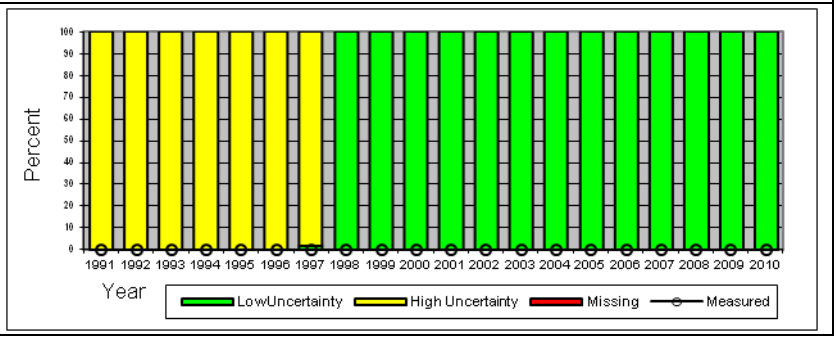
722213	LEESBURG MUNI ARPT, FL
Class III	
Solar Coordinates	
Latitude: 28.817˚	
Longitude: -81.8˚	
Elevation: 125 m	
Meteorological Coordinates	
Latitude: 28.817˚	
Longitude: -81.8˚	
Elevation: 125 m	
Time Zone: -5	

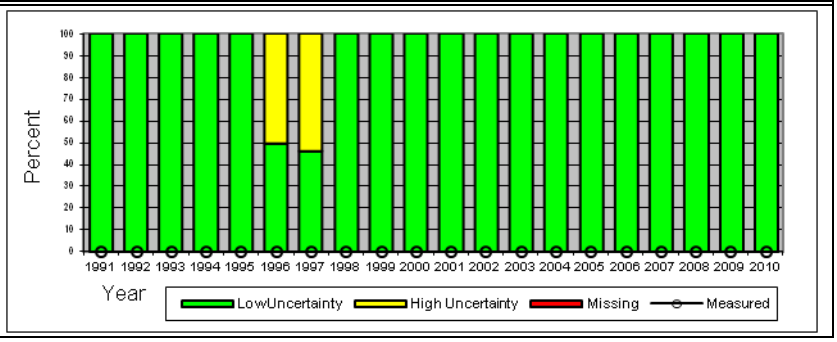
747880	MACDILL AFB, FL
Class II	
Solar Coordinates	
Latitude: 27.85˚	
Longitude: -82.517˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 27.85˚	
Longitude: -82.517˚	
Elevation: 8 m	
Time Zone: -5	

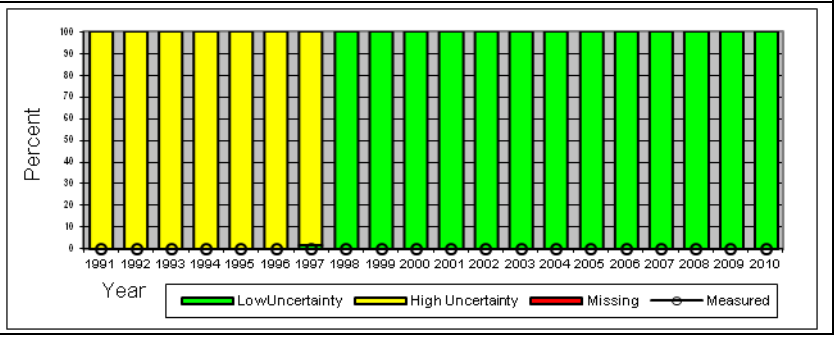
722016	MARATHON AIRPORT, FL
Class II	
Solar Coordinates	
Latitude: 24.733˚	
Longitude: -81.05˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 24.733˚	
Longitude: -81.05˚	
Elevation: 2 m	
Time Zone: -5	

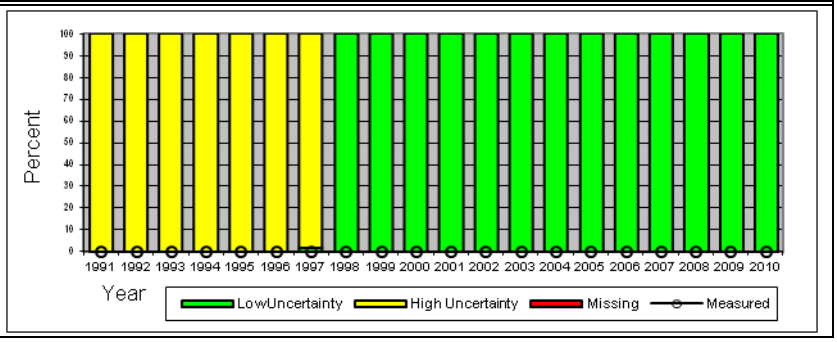
747760	MARIANNA, FL
Class III	
Solar Coordinates	
Latitude: 30.533˚	
Longitude: -85.183˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 30.533˚	
Longitude: -85.183˚	
Elevation: 34 m	
Time Zone: -6	

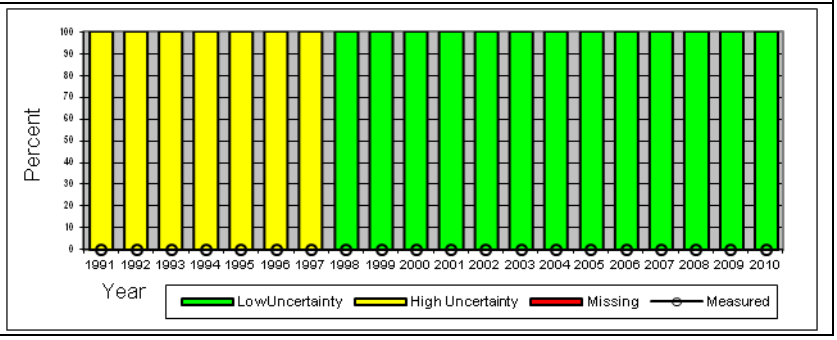
722066	MAYPORT NS, FL
Class II	
Solar Coordinates	
Latitude: 30.4˚	
Longitude: -81.417˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 30.4˚	
Longitude: -81.417˚	
Elevation: 5 m	
Time Zone: -5	

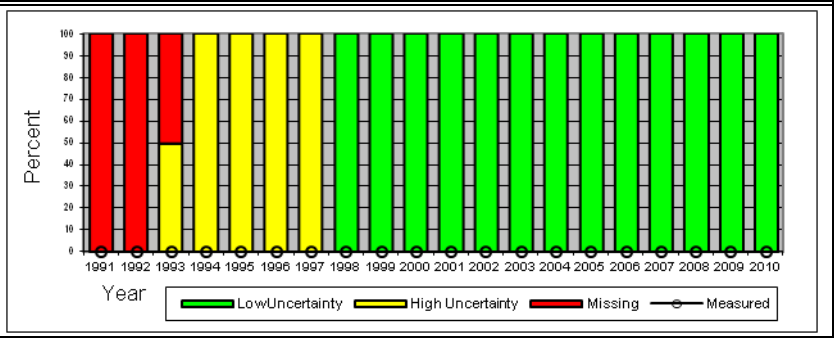
722040	MELBOURNE REGIONAL AP, FL
Class II	
Solar Coordinates	
Latitude: 28.117˚	
Longitude: -80.65˚	
Elevation: 11 m	
Meteorological Coordinates	
Latitude: 28.117˚	
Longitude: -80.65˚	
Elevation: 11 m	
Time Zone: -5	

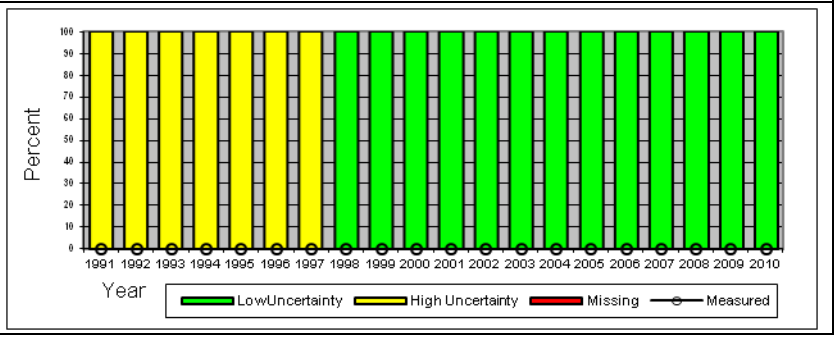
722020	MIAMI INTL AP, FL
Class I	
Solar Coordinates	
Latitude: 25.817˚	
Longitude: -80.3˚	
Elevation: 11 m	
Meteorological Coordinates	
Latitude: 25.817˚	
Longitude: -80.3˚	
Elevation: 11 m	
Time Zone: -5	

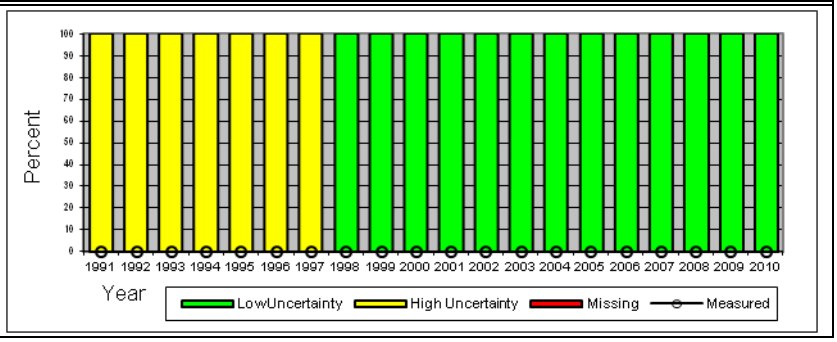
722029	MIAMI/KENDALL-TAMIA, FL
Class II	
Solar Coordinates	
Latitude: 25.65˚	
Longitude: -80.433˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 25.65˚	
Longitude: -80.433˚	
Elevation: 3 m	
Time Zone: -5	

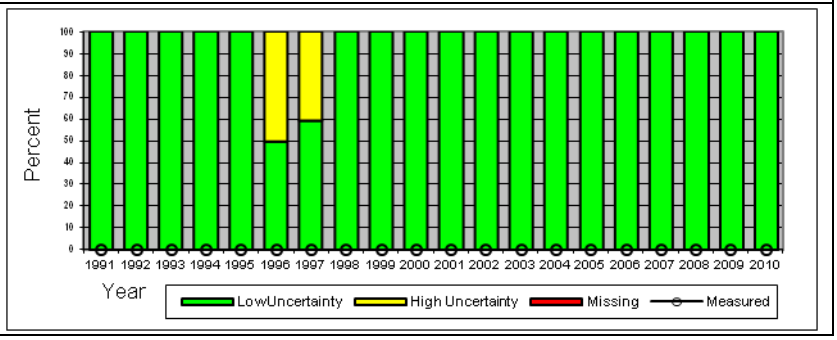
722024	MIAMI/OPA LOCKA, FL
Class II	
Solar Coordinates	
Latitude: 25.9˚	
Longitude: -80.283˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 25.9˚	
Longitude: -80.283˚	
Elevation: 3 m	
Time Zone: -5	

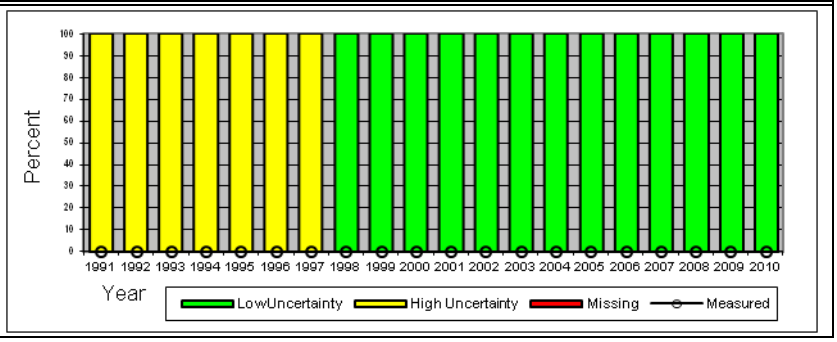
722038	NAPLES MUNICIPAL, FL
Class II	
Solar Coordinates	
Latitude: 26.15˚	
Longitude: -81.767˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 26.15˚	
Longitude: -81.767˚	
Elevation: 3 m	
Time Zone: -5	

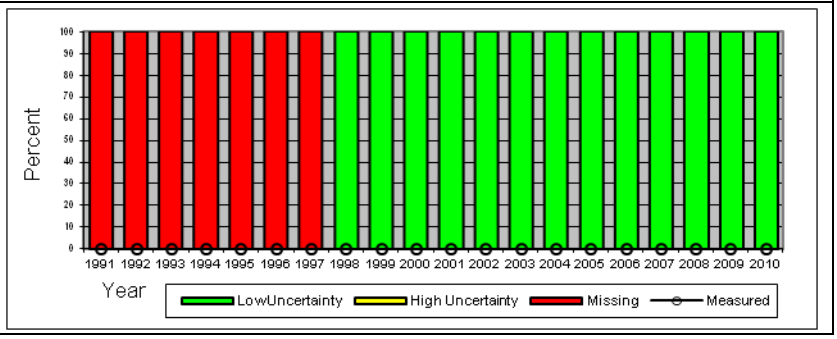
747946	NASA SHUTTLE FCLTY, FL
Class III	
Solar Coordinates	
Latitude: 28.617˚	
Longitude: -80.717˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 28.617˚	
Longitude: -80.717˚	
Elevation: 3 m	
Time Zone: -5	

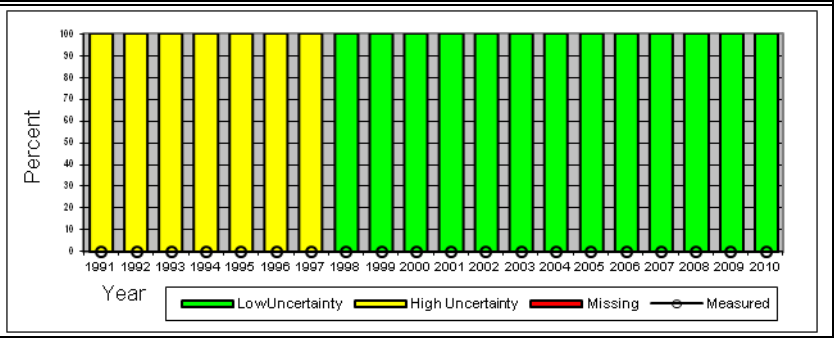
722055	OCALA MUNI (AWOS), FL
Class II	
Solar Coordinates	
Latitude: 29.167˚	
Longitude: -82.217˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 29.167˚	
Longitude: -82.217˚	
Elevation: 27 m	
Time Zone: -5	

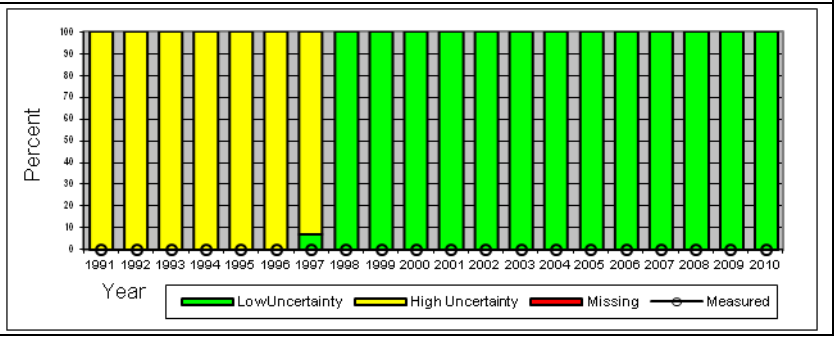
722053	ORLANDO EXECUTIVE AP, FL
Class II	
Solar Coordinates	
Latitude: 28.55˚	
Longitude: -81.333˚	
Elevation: 33 m	
Meteorological Coordinates	
Latitude: 28.55˚	
Longitude: -81.333˚	
Elevation: 33 m	
Time Zone: -5	

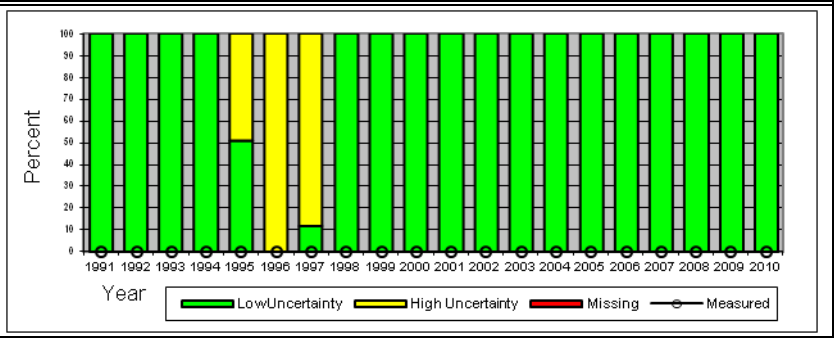
722050	ORLANDO INTL ARPT, FL
Class I	
Solar Coordinates	
Latitude: 28.433˚	
Longitude: -81.333˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 28.433˚	
Longitude: -81.333˚	
Elevation: 29 m	
Time Zone: -5	

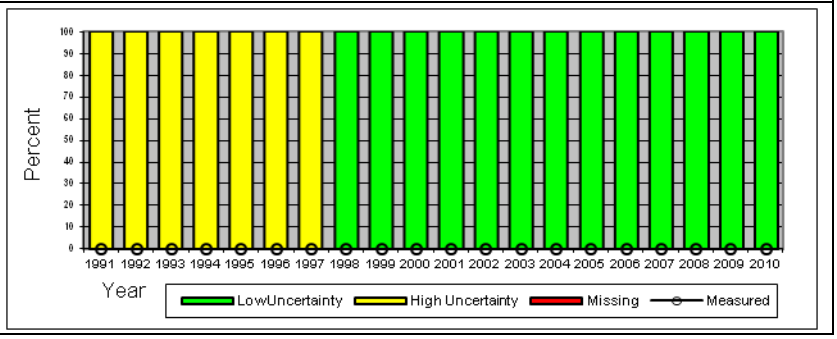
722057	ORLANDO SANFORD AIRPORT, FL
Class II	
Solar Coordinates	
Latitude: 28.783˚	
Longitude: -81.25˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 28.783˚	
Longitude: -81.25˚	
Elevation: 17 m	
Time Zone: -5	

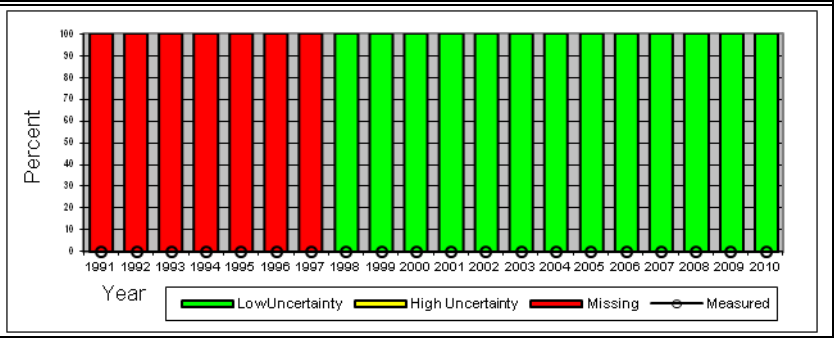
722011	ORLANDO/KISSIMMEE, FL
Class III	
Solar Coordinates	
Latitude: 28.283˚	
Longitude: -81.433˚	
Elevation: 25 m	
Meteorological Coordinates	
Latitude: 28.283˚	
Longitude: -81.433˚	
Elevation: 25 m	
Time Zone: -5	

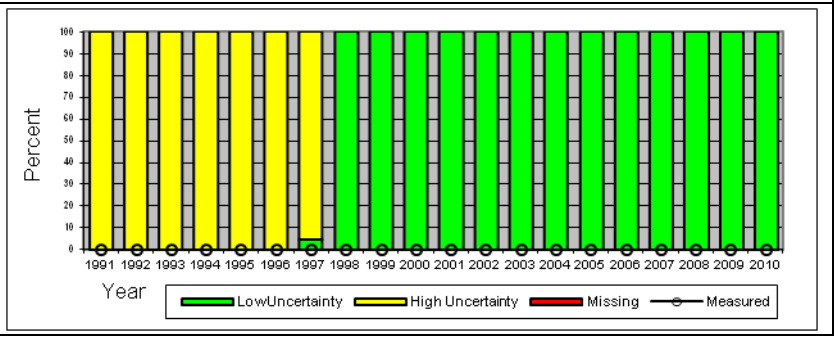
722245	PANAMA CITY BAY CO, FL
Class II	
Solar Coordinates	
Latitude: 30.2˚	
Longitude: -85.683˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 30.2˚	
Longitude: -85.683˚	
Elevation: 6 m	
Time Zone: -6	

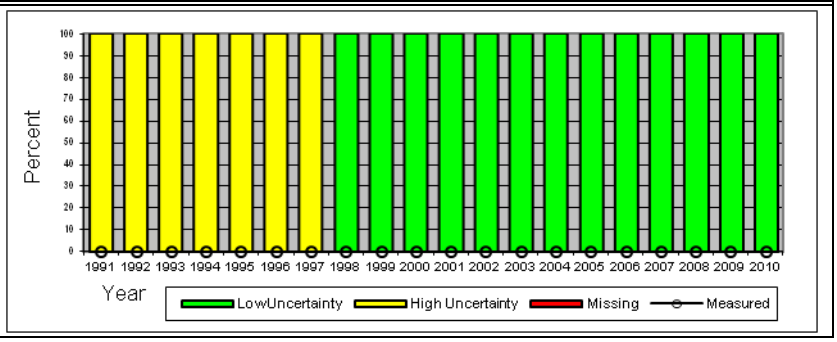
722225	PENSACOLA FOREST SHERMAN NAS, FL
Class II	
Solar Coordinates	
Latitude: 30.35˚	
Longitude: -87.317˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 30.35˚	
Longitude: -87.317˚	
Elevation: 10 m	
Time Zone: -6	

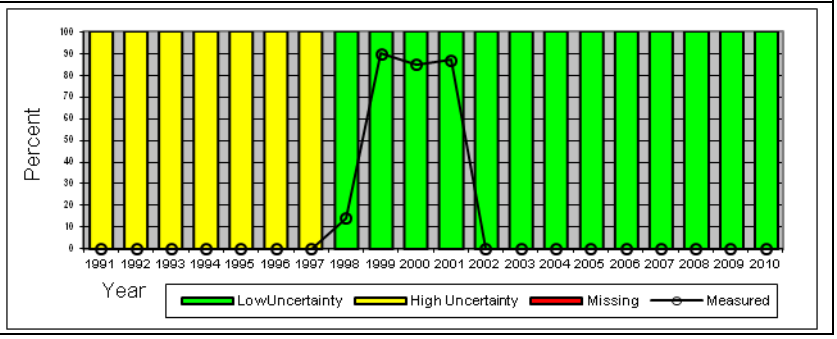
722223	PENSACOLA REGIONAL AP, FL
Class I	
Solar Coordinates	
Latitude: 30.483˚	
Longitude: -87.183˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 30.483˚	
Longitude: -87.183˚	
Elevation: 34 m	
Time Zone: -6	

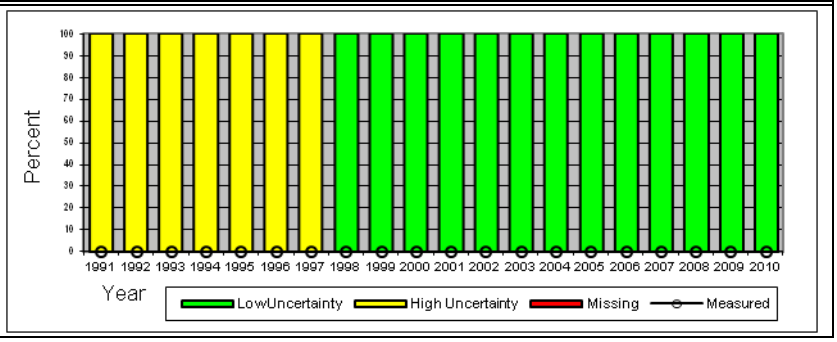
722049	POMPANO BEACH, FL
Class III	
Solar Coordinates	
Latitude: 26.233˚	
Longitude: -80.1˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 26.233˚	
Longitude: -80.1˚	
Elevation: 6 m	
Time Zone: -5	

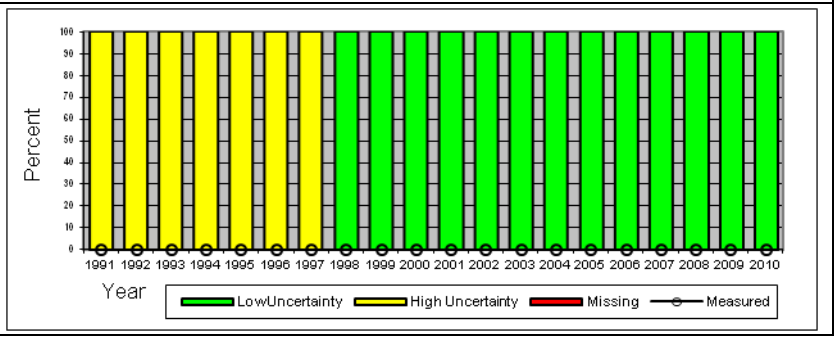
722034	PUNTA GORDA, FL
Class III	
Solar Coordinates	
Latitude: 26.917˚	
Longitude: -82˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 26.917˚	
Longitude: -82˚	
Elevation: 7 m	
Time Zone: -5	

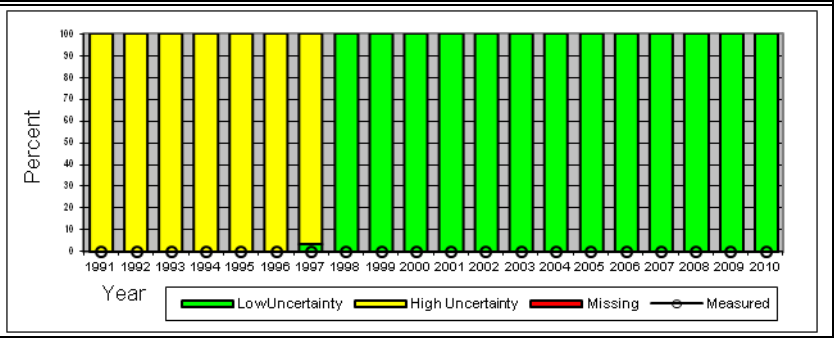
722115	SARASOTA BRADENTON, FL
Class II	
Solar Coordinates	
Latitude: 27.383˚	
Longitude: -82.55˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 27.383˚	
Longitude: -82.55˚	
Elevation: 10 m	
Time Zone: -5	

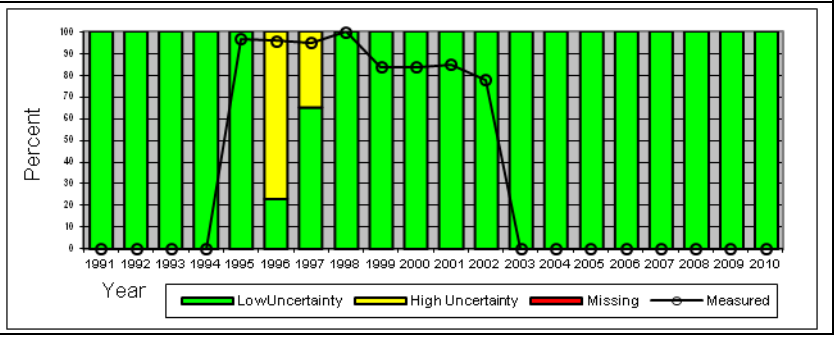
722108	SOUTHWEST FLORIDA I, FL
Class II	
Solar Coordinates	
Latitude: 26.533˚	
Longitude: -81.75˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 26.533˚	
Longitude: -81.75˚	
Elevation: 9 m	
Time Zone: -5	

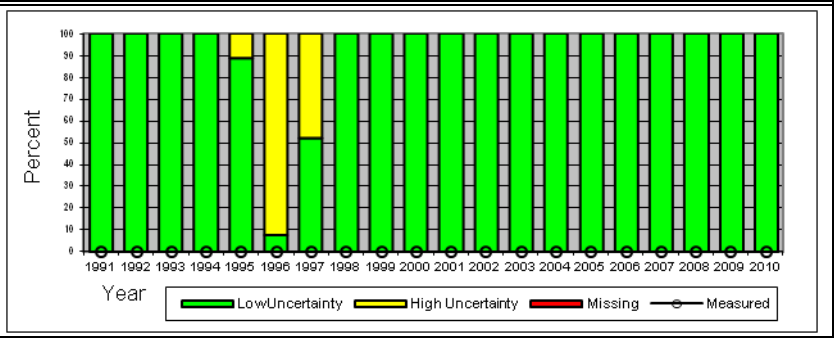
722046	SPACE COAST RGNL [FSEC], FL
Class III (with some measured)	
Solar Coordinates	
Latitude: 28.39˚	
Longitude: -80.76˚	
Elevation: 18 m	
Meteorological Coordinates	
Latitude: 28.517˚	
Longitude: -80.8˚	
Elevation: 11 m	
Time Zone: -5	

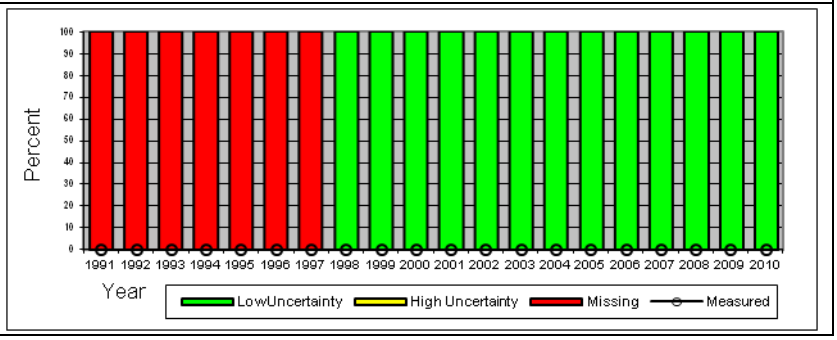
722103	ST LUCIE CO INTL, FL
Class II	
Solar Coordinates	
Latitude: 27.483˚	
Longitude: -80.367˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 27.483˚	
Longitude: -80.367˚	
Elevation: 7 m	
Time Zone: -5	

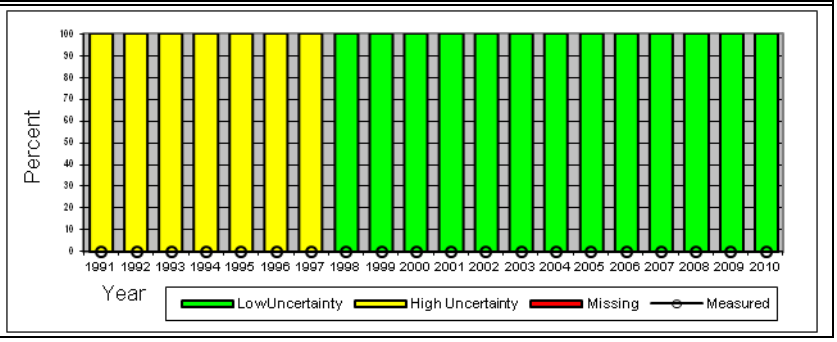
722104	ST PETERSBURG ALBERT WHITTED, FL
Class II	
Solar Coordinates	
Latitude: 27.767˚	
Longitude: -82.633˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 27.767˚	
Longitude: -82.633˚	
Elevation: 2 m	
Time Zone: -5	

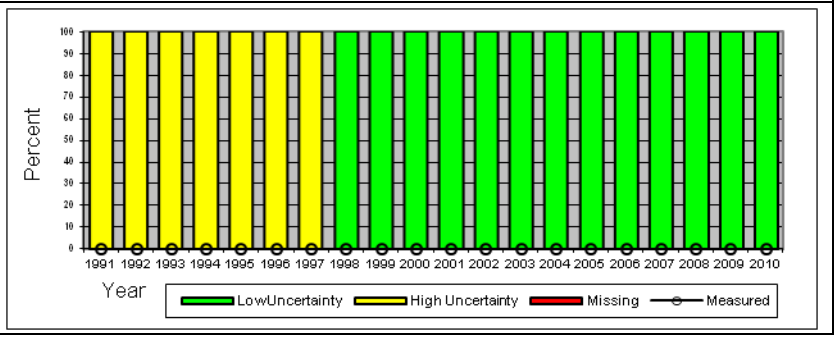
722116	ST PETERSBURG CLEAR, FL
Class II	
Solar Coordinates	
Latitude: 27.9˚	
Longitude: -82.683˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 27.9˚	
Longitude: -82.683˚	
Elevation: 3 m	
Time Zone: -5	

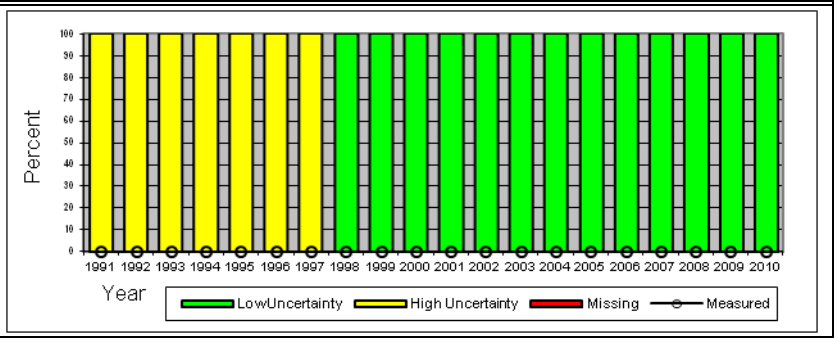
722140	TALLAHASSEE REGIONAL AP [ISIS], FL
Class I (with some measured)	
Solar Coordinates	
Latitude: 30.38˚	
Longitude: -84.37˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 30.4˚	
Longitude: -84.35˚	
Elevation: 17 m	
Time Zone: -5	

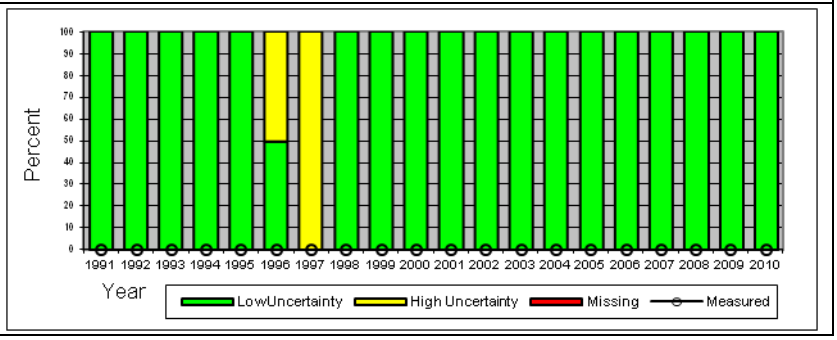
722110	TAMPA INTERNATIONAL AP, FL
Class I	
Solar Coordinates	
Latitude: 27.967˚	
Longitude: -82.533˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 27.967˚	
Longitude: -82.533˚	
Elevation: 6 m	
Time Zone: -5	

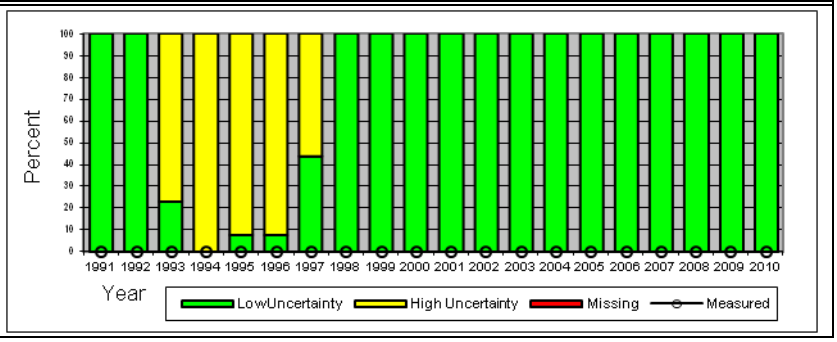
722021	TAMPA/VANDENBURG, FL
Class III	
Solar Coordinates	
Latitude: 28.017˚	
Longitude: -82.35˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 28.017˚	
Longitude: -82.35˚	
Elevation: 7 m	
Time Zone: -5	

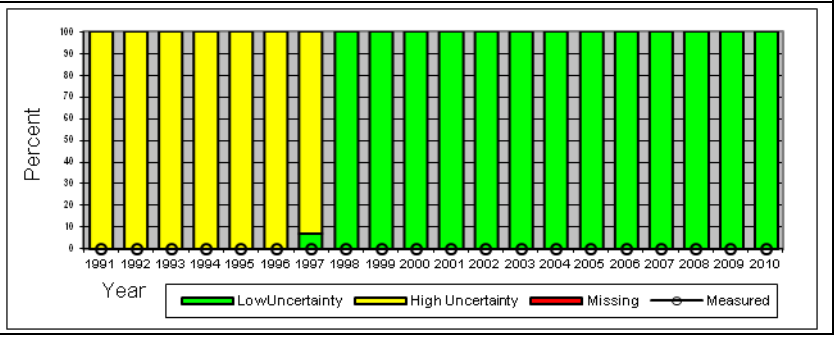
747750	TYNDALL AFB, FL
Class II	
Solar Coordinates	
Latitude: 30.067˚	
Longitude: -85.583˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 30.067˚	
Longitude: -85.583˚	
Elevation: 7 m	
Time Zone: -6	

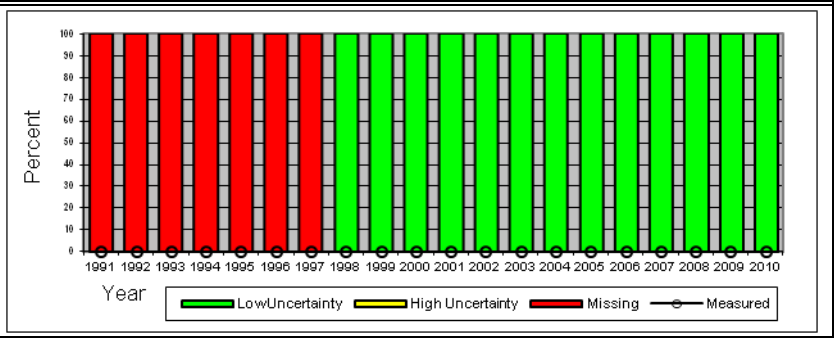
722210	VALPARAISO ELGIN AFB, FL
Class II	
Solar Coordinates	
Latitude: 30.483˚	
Longitude: -86.517˚	
Elevation: 20 m	
Meteorological Coordinates	
Latitude: 30.483˚	
Longitude: -86.517˚	
Elevation: 20 m	
Time Zone: -6	

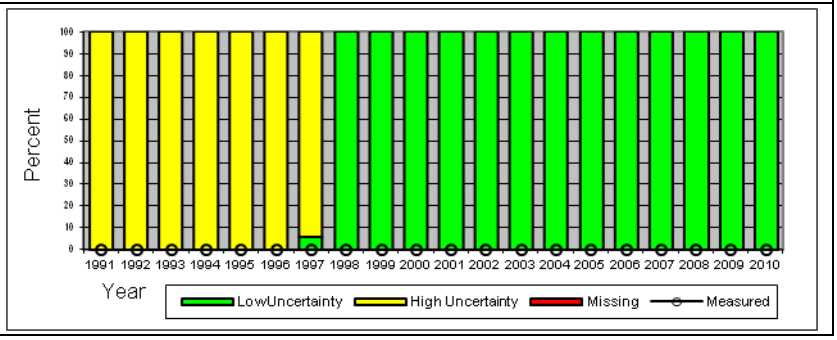
747770	VALPARAISO HURLBURT, FL
Class II	
Solar Coordinates	
Latitude: 30.417˚	
Longitude: -86.683˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 30.417˚	
Longitude: -86.683˚	
Elevation: 12 m	
Time Zone: -6	

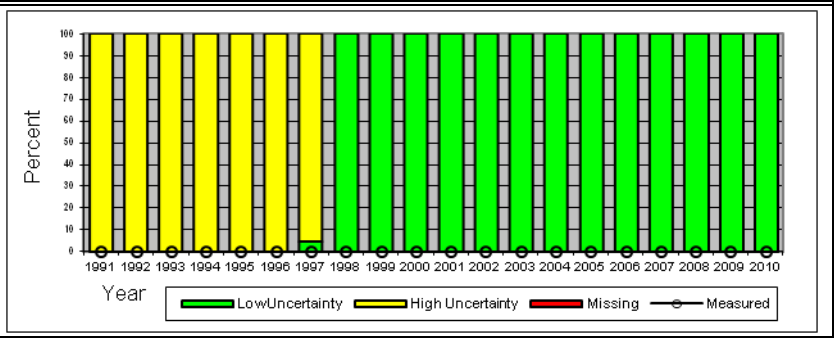
722045	VERO BEACH MUNICIPAL ARPT, FL
Class I	
Solar Coordinates	
Latitude: 27.65˚	
Longitude: -80.417˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 27.65˚	
Longitude: -80.417˚	
Elevation: 7 m	
Time Zone: -5	

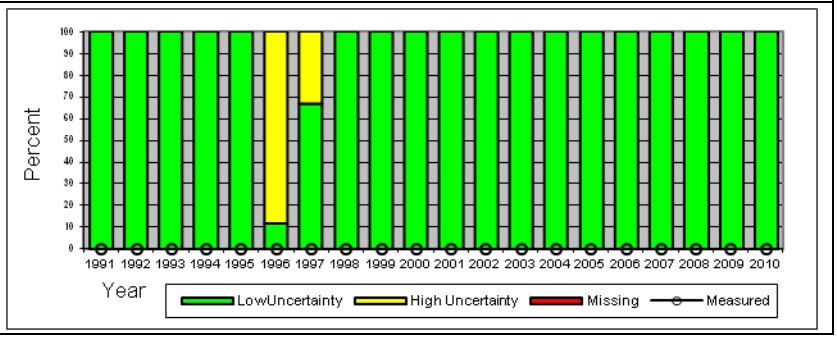
722030	WEST PALM BEACH INTL ARPT, FL
Class I	
Solar Coordinates	
Latitude: 26.683˚	
Longitude: -80.1˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 26.683˚	
Longitude: -80.1˚	
Elevation: 6 m	
Time Zone: -5	

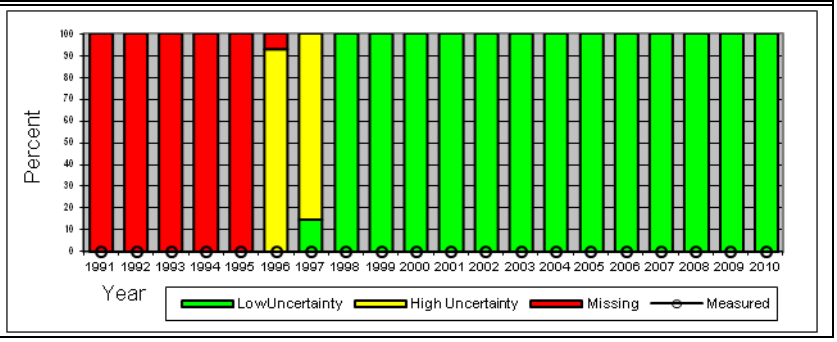
722226	WHITING FIELD NAAS, FL
Class II	
Solar Coordinates	
Latitude: 30.717˚	
Longitude: -87.017˚	
Elevation: 54 m	
Meteorological Coordinates	
Latitude: 30.717˚	
Longitude: -87.017˚	
Elevation: 54 m	
Time Zone: -6	

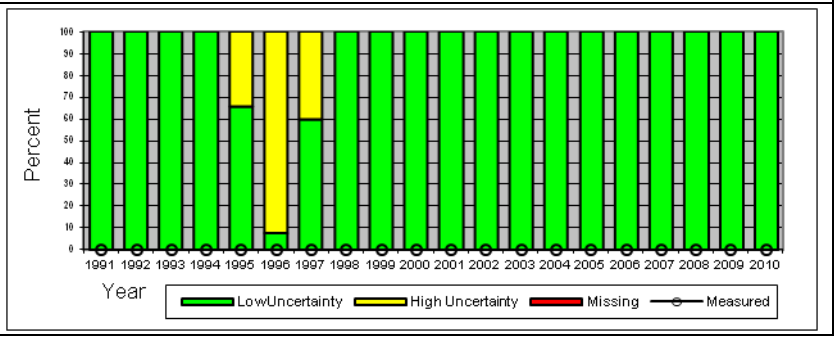
747930	WINTERHAVEN, FL
Class III	
Solar Coordinates	
Latitude: 28.05˚	
Longitude: -81.75˚	
Elevation: 44 m	
Meteorological Coordinates	
Latitude: 28.05˚	
Longitude: -81.75˚	
Elevation: 44 m	
Time Zone: -5	

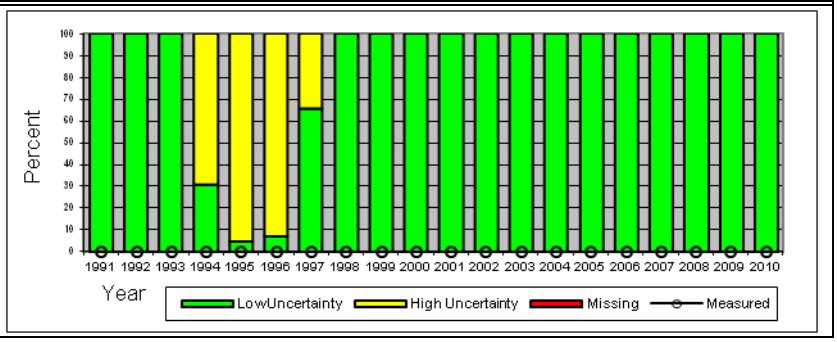
722160	ALBANY DOUGHERTY COUNTY AP, GA
Class II	
Solar Coordinates	
Latitude: 31.533˚	
Longitude: -84.183˚	
Elevation: 58 m	
Meteorological Coordinates	
Latitude: 31.533˚	
Longitude: -84.183˚	
Elevation: 58 m	
Time Zone: -5	

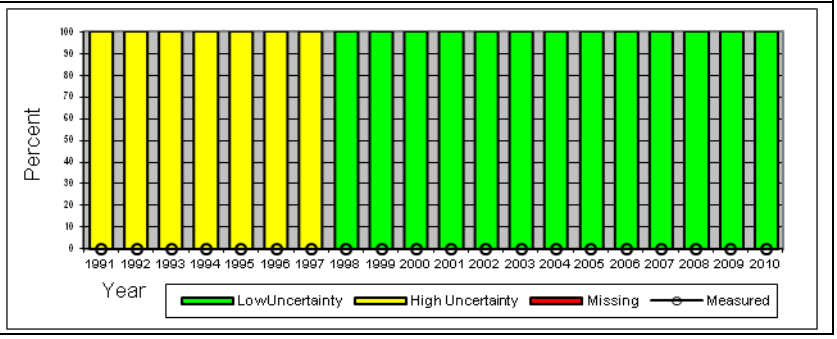
722135	ALMA BACON COUNTY AP, GA
Class II	
Solar Coordinates	
Latitude: 31.533˚	
Longitude: -82.5˚	
Elevation: 63 m	
Meteorological Coordinates	
Latitude: 31.533˚	
Longitude: -82.5˚	
Elevation: 63 m	
Time Zone: -5	

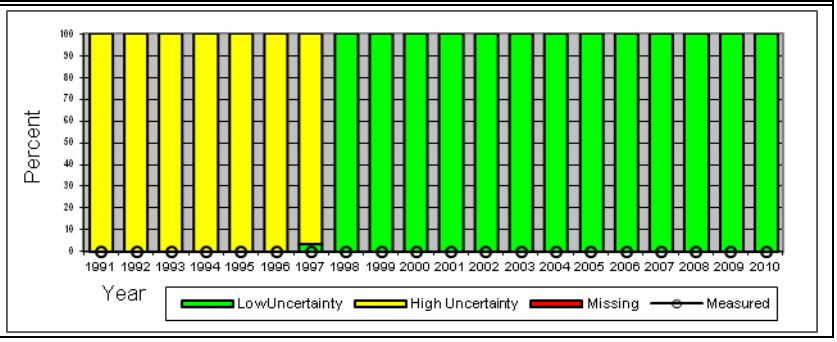
723110	ATHENS BEN EPPS AP, GA
Class I	
Solar Coordinates	
Latitude: 33.95˚	
Longitude: -83.333˚	
Elevation: 244 m	
Meteorological Coordinates	
Latitude: 33.95˚	
Longitude: -83.333˚	
Elevation: 244 m	
Time Zone: -5	

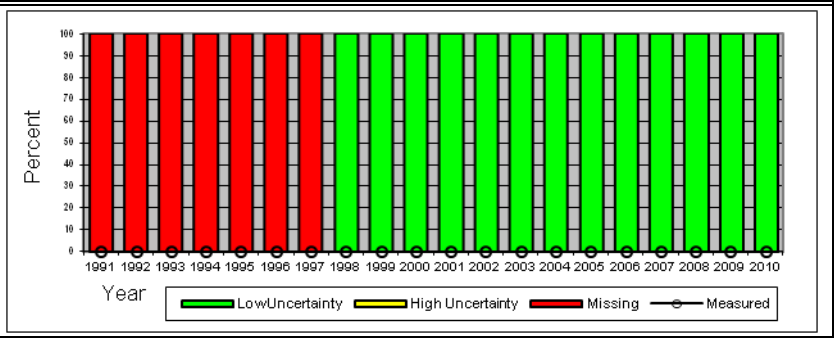
722197	ATLANTA (NEXRAD), GA
Class III	
Solar Coordinates	
Latitude: 33.367˚	
Longitude: -84.55˚	
Elevation: 296 m	
Meteorological Coordinates	
Latitude: 33.367˚	
Longitude: -84.55˚	
Elevation: 296 m	
Time Zone: -5	

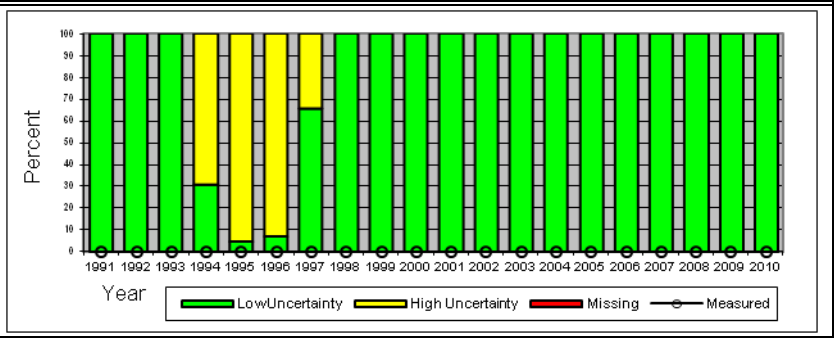
722190	ATLANTA HARTSFIELD INTL AP, GA
Class I	
Solar Coordinates	
Latitude: 33.633˚	
Longitude: -84.433˚	
Elevation: 308 m	
Meteorological Coordinates	
Latitude: 33.633˚	
Longitude: -84.433˚	
Elevation: 308 m	
Time Zone: -5	

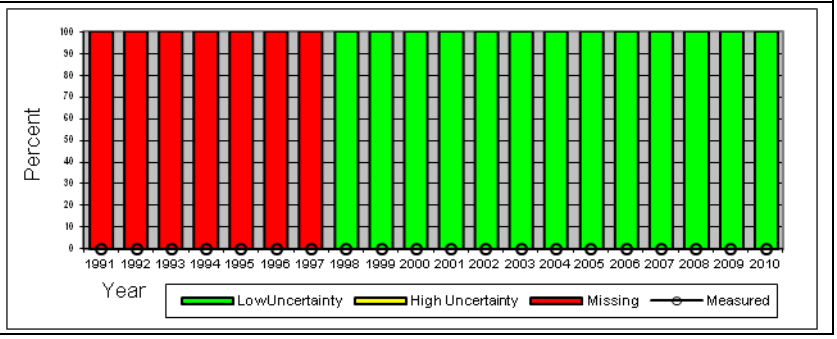
722180	AUGUSTA BUSH FIELD, GA
Class I	
Solar Coordinates	
Latitude: 33.367˚	
Longitude: -81.967˚	
Elevation: 40 m	
Meteorological Coordinates	
Latitude: 33.367˚	
Longitude: -81.967˚	
Elevation: 40 m	
Time Zone: -5	

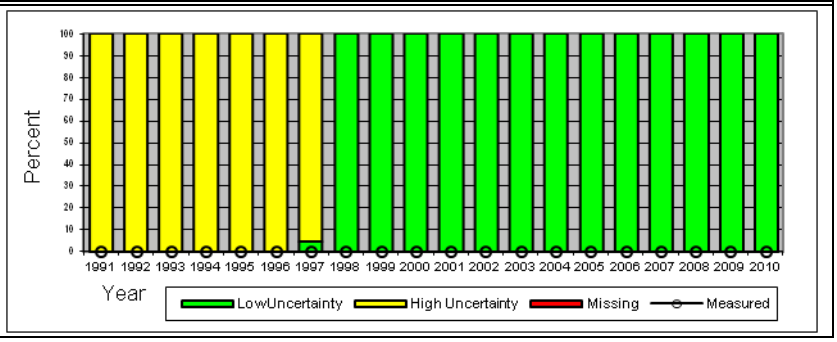
722136	BRUNSWICK GOLDEN IS, GA
Class II	
Solar Coordinates	
Latitude: 31.25˚	
Longitude: -81.467˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 31.25˚	
Longitude: -81.467˚	
Elevation: 8 m	
Time Zone: -5	

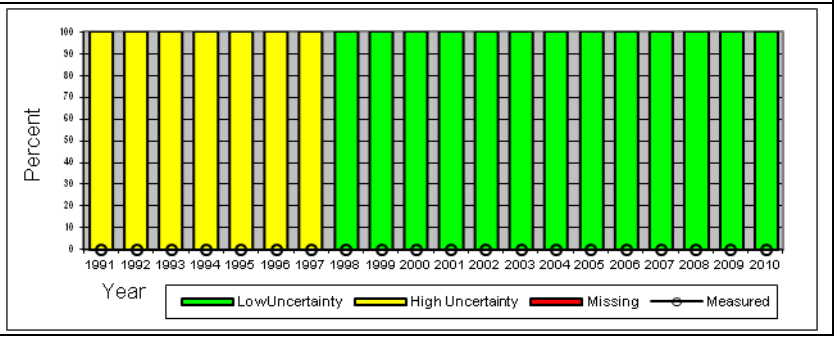
722137	BRUNSWICK MALCOLM MCKINNON AP, GA
Class II	
Solar Coordinates	
Latitude: 31.15˚	
Longitude: -81.383˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 31.15˚	
Longitude: -81.383˚	
Elevation: 4 m	
Time Zone: -5	

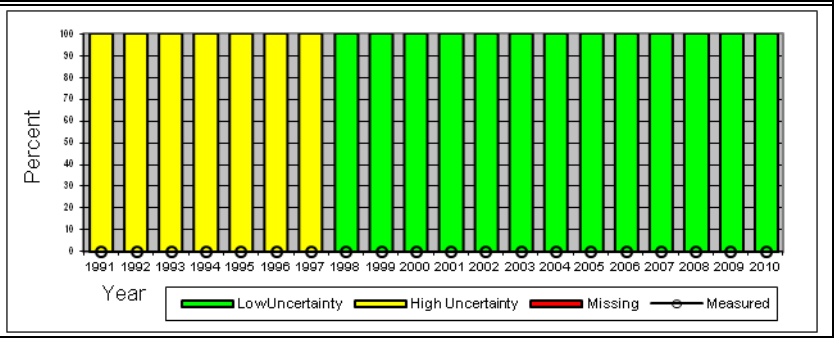
722156	CARTERSVILLE AIRPRT, GA
Class III	
Solar Coordinates	
Latitude: 34.117˚	
Longitude: -84.533˚	
Elevation: 229 m	
Meteorological Coordinates	
Latitude: 34.117˚	
Longitude: -84.533˚	
Elevation: 229 m	
Time Zone: -5	

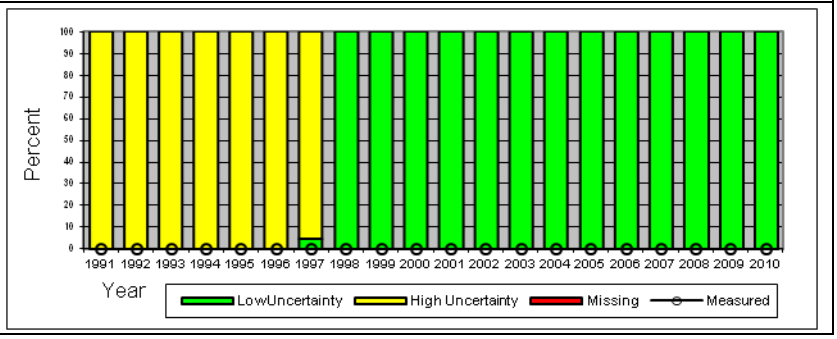
722255	COLUMBUS METROPOLITAN ARPT, GA
Class I	
Solar Coordinates	
Latitude: 32.517˚	
Longitude: -84.95˚	
Elevation: 120 m	
Meteorological Coordinates	
Latitude: 32.517˚	
Longitude: -84.95˚	
Elevation: 120 m	
Time Zone: -6	

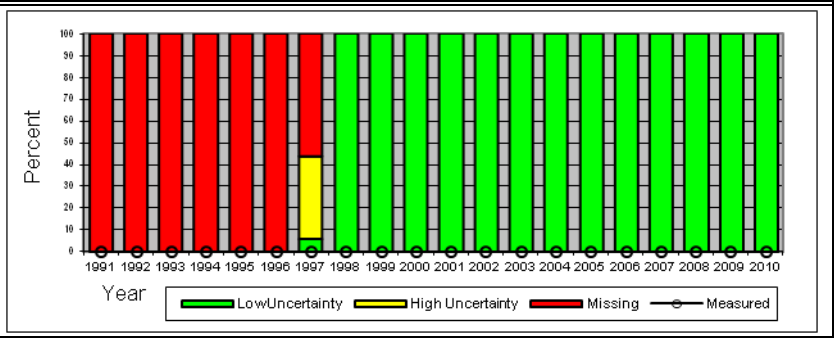
722154	DALTON, GA
Class III	
Solar Coordinates	
Latitude: 34.717˚	
Longitude: -84.867˚	
Elevation: 216 m	
Meteorological Coordinates	
Latitude: 34.717˚	
Longitude: -84.867˚	
Elevation: 216 m	
Time Zone: -5	

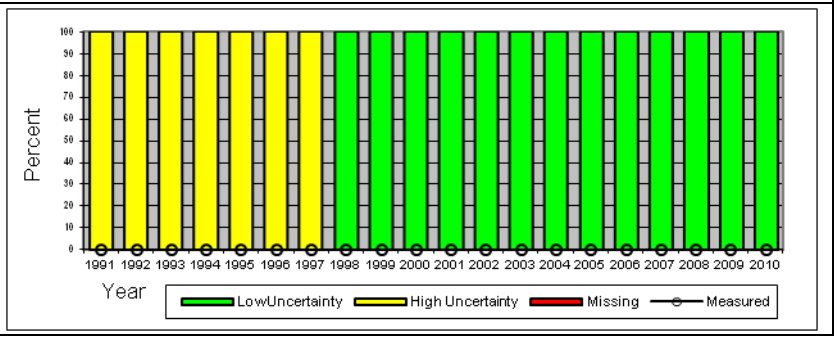
722196	DEKALB PEACHTREE, GA
Class II	
Solar Coordinates	
Latitude: 33.867˚	
Longitude: -84.3˚	
Elevation: 313 m	
Meteorological Coordinates	
Latitude: 33.867˚	
Longitude: -84.3˚	
Elevation: 313 m	
Time Zone: -5	

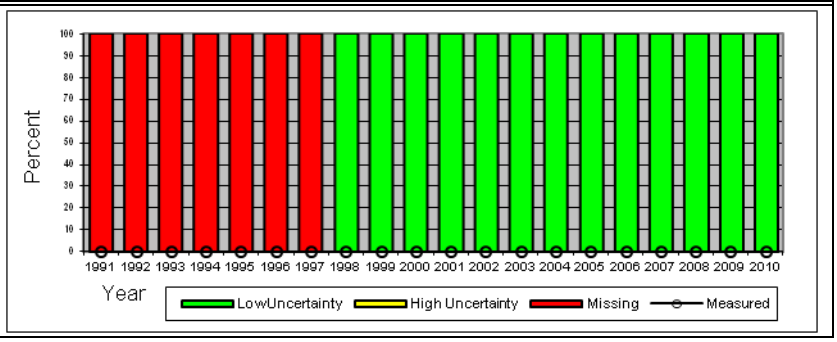
722250	FORT BENNING LAWSON, GA
Class II	
Solar Coordinates	
Latitude: 32.35˚	
Longitude: -85˚	
Elevation: 88 m	
Meteorological Coordinates	
Latitude: 32.35˚	
Longitude: -85˚	
Elevation: 88 m	
Time Zone: -6	

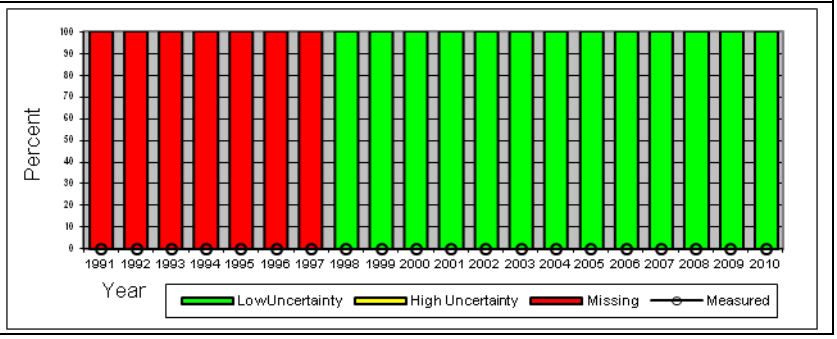
722090	FT STEWART/WRIGHT, GA
Class II	
Solar Coordinates	
Latitude: 31.883˚	
Longitude: -81.567˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 31.883˚	
Longitude: -81.567˚	
Elevation: 14 m	
Time Zone: -5	

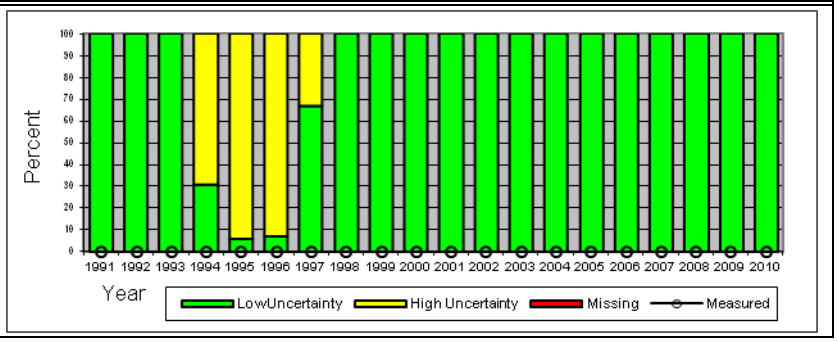
722195	FULTON CO ARPT BROW, GA
Class II	
Solar Coordinates	
Latitude: 33.767˚	
Longitude: -84.517˚	
Elevation: 263 m	
Meteorological Coordinates	
Latitude: 33.767˚	
Longitude: -84.517˚	
Elevation: 263 m	
Time Zone: -5	

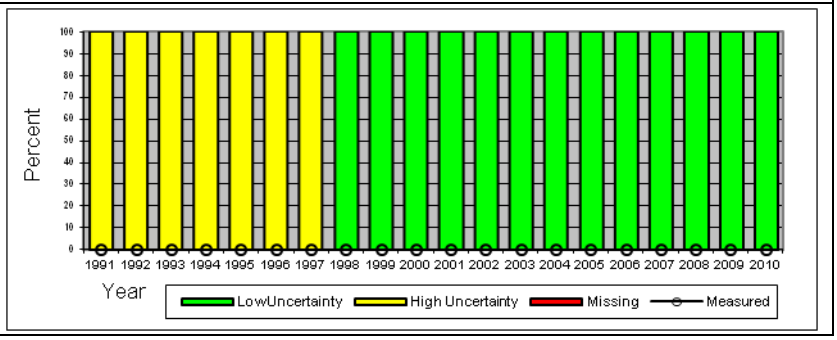
722185	GAINESVILLE\LEE GIL, GA
Class III	
Solar Coordinates	
Latitude: 34.267˚	
Longitude: -83.833˚	
Elevation: 389 m	
Meteorological Coordinates	
Latitude: 34.267˚	
Longitude: -83.833˚	
Elevation: 389 m	
Time Zone: -5	

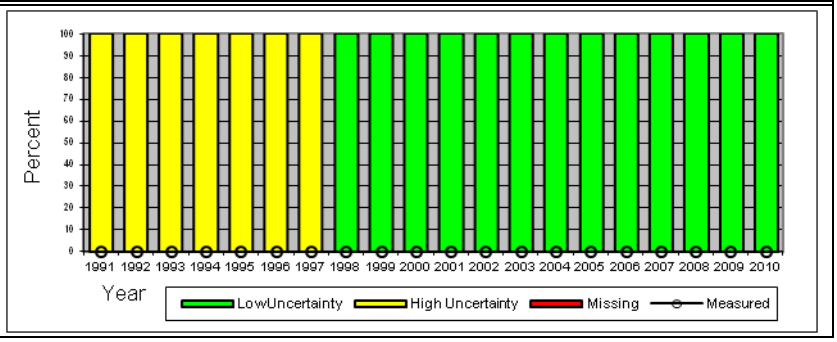
747804	HUNTER AAF, GA
Class II	
Solar Coordinates	
Latitude: 32˚	
Longitude: -81.15˚	
Elevation: 13 m	
Meteorological Coordinates	
Latitude: 32˚	
Longitude: -81.15˚	
Elevation: 13 m	
Time Zone: -5	

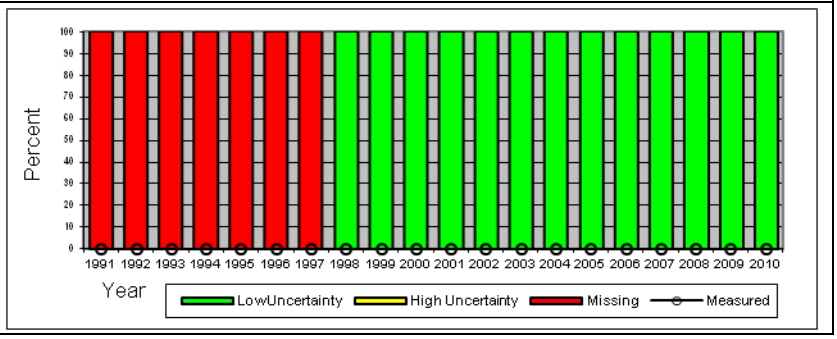
747807	LA GRANGE, GA
Class III	
Solar Coordinates	
Latitude: 33.017˚	
Longitude: -85.067˚	
Elevation: 211 m	
Meteorological Coordinates	
Latitude: 33.017˚	
Longitude: -85.067˚	
Elevation: 211 m	
Time Zone: -5	

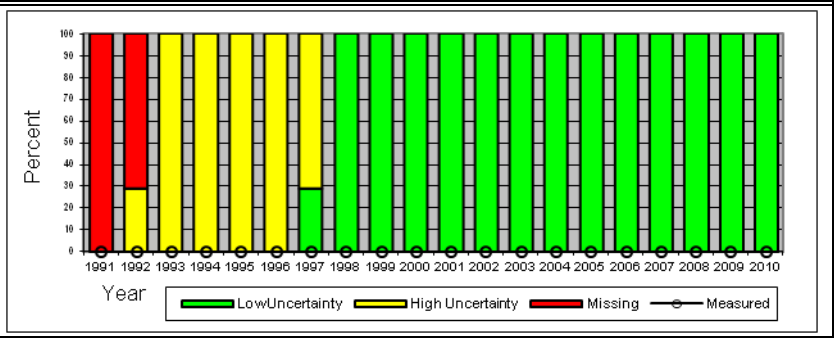
747808	LAWRENCEVILLE, GA
Class III	
Solar Coordinates	
Latitude: 33.983˚	
Longitude: -83.967˚	
Elevation: 323 m	
Meteorological Coordinates	
Latitude: 33.983˚	
Longitude: -83.967˚	
Elevation: 323 m	
Time Zone: -5	

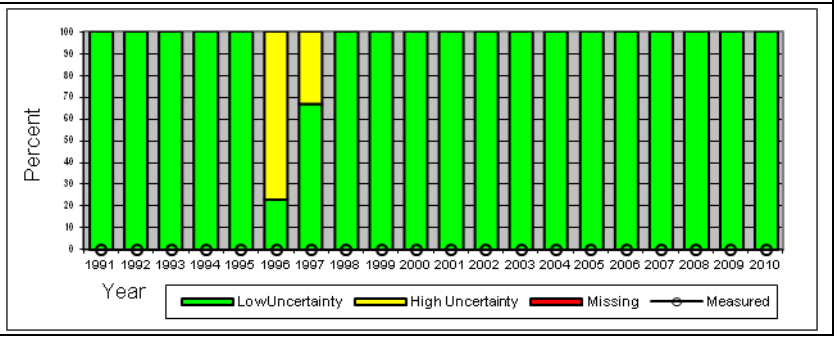
722170	MACON MIDDLE GA REGIONAL AP, GA
Class I	
Solar Coordinates	
Latitude: 32.683˚	
Longitude: -83.65˚	
Elevation: 108 m	
Meteorological Coordinates	
Latitude: 32.683˚	
Longitude: -83.65˚	
Elevation: 108 m	
Time Zone: -5	

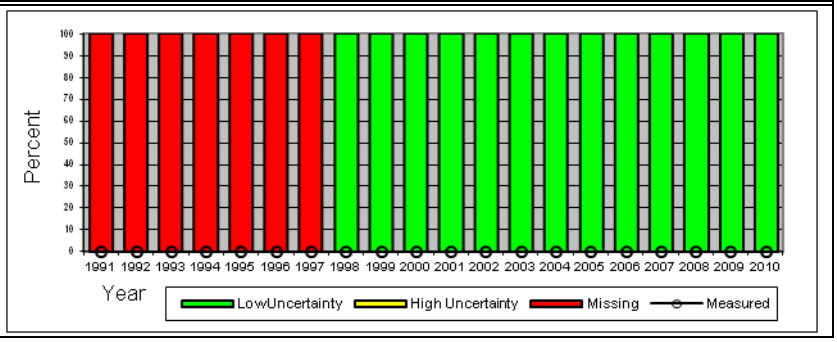
722270	MARIETTA DOBBINS AFB, GA
Class II	
Solar Coordinates	
Latitude: 33.917˚	
Longitude: -84.517˚	
Elevation: 330 m	
Meteorological Coordinates	
Latitude: 33.917˚	
Longitude: -84.517˚	
Elevation: 330 m	
Time Zone: -5	

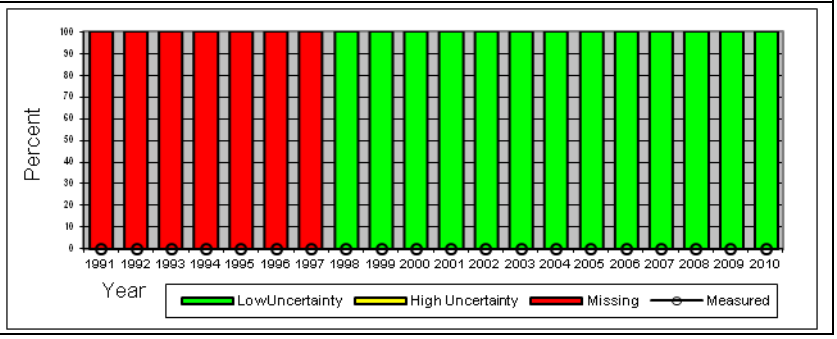
747810	MOODY AFB/VALDOSTA, GA
Class II	
Solar Coordinates	
Latitude: 30.967˚	
Longitude: -83.2˚	
Elevation: 71 m	
Meteorological Coordinates	
Latitude: 30.967˚	
Longitude: -83.2˚	
Elevation: 71 m	
Time Zone: -5	

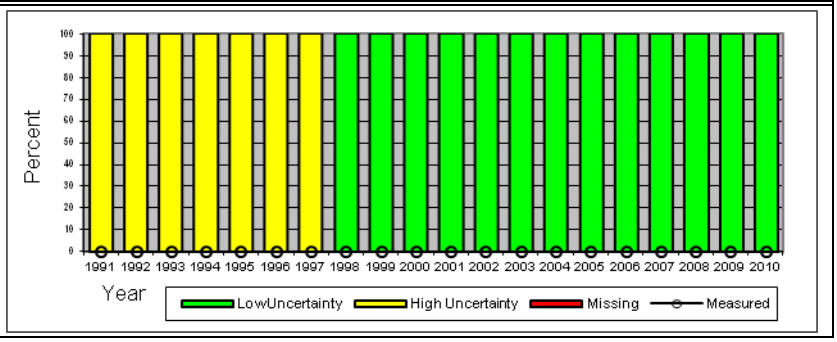
722176	NEWNAN, GA
Class III	
Solar Coordinates	
Latitude: 33.317˚	
Longitude: -84.767˚	
Elevation: 296 m	
Meteorological Coordinates	
Latitude: 33.317˚	
Longitude: -84.767˚	
Elevation: 296 m	
Time Zone: -5	

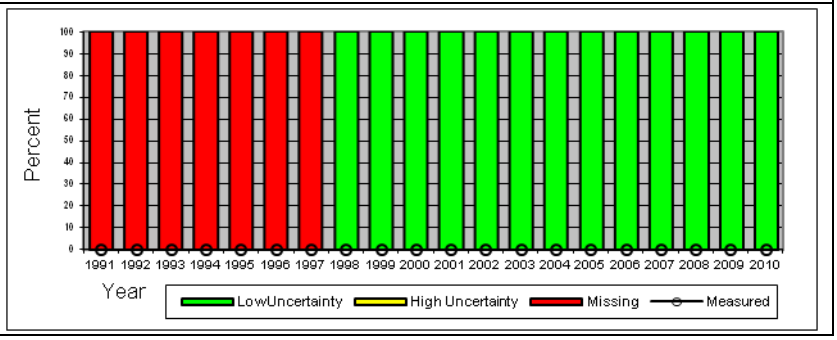
723200	ROME R B RUSSELL AP, GA
Class III	
Solar Coordinates	
Latitude: 34.35˚	
Longitude: -85.167˚	
Elevation: 195 m	
Meteorological Coordinates	
Latitude: 34.35˚	
Longitude: -85.167˚	
Elevation: 195 m	
Time Zone: -5	

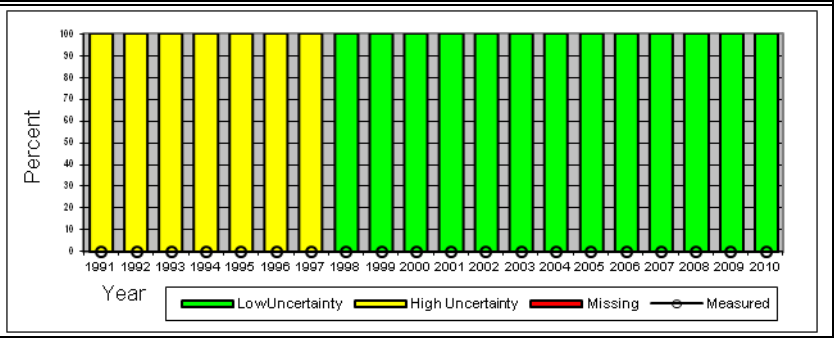
722070	SAVANNAH INTL AP, GA
Class I	
Solar Coordinates	
Latitude: 32.117˚	
Longitude: -81.2˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 32.117˚	
Longitude: -81.2˚	
Elevation: 14 m	
Time Zone: -5	

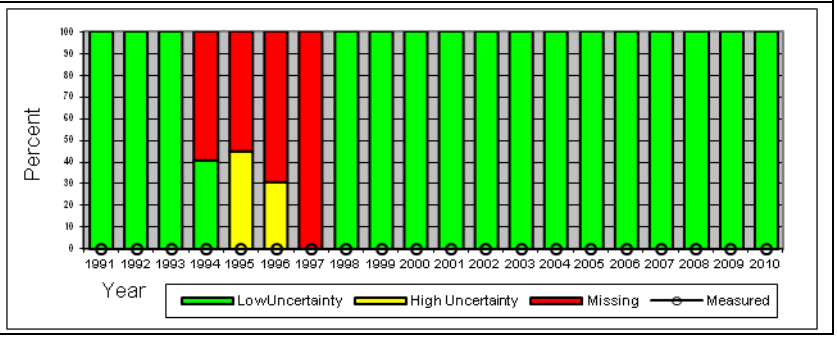
747805	STATESBORO, GA
Class III	
Solar Coordinates	
Latitude: 32.482˚	
Longitude: -81.733˚	
Elevation: 57 m	
Meteorological Coordinates	
Latitude: 32.482˚	
Longitude: -81.733˚	
Elevation: 57 m	
Time Zone: -5	

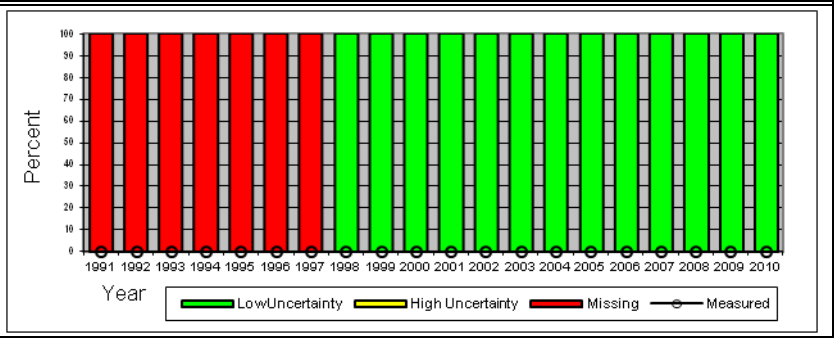
747806	THOMASTON, GA
Class III	
Solar Coordinates	
Latitude: 32.95˚	
Longitude: -84.267˚	
Elevation: 243 m	
Meteorological Coordinates	
Latitude: 32.95˚	
Longitude: -84.267˚	
Elevation: 243 m	
Time Zone: -5	

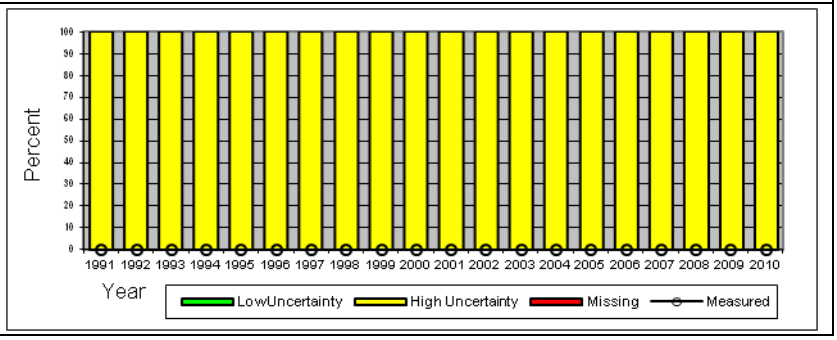
722166	VALDOSTA WB AIRPORT, GA
Class II	
Solar Coordinates	
Latitude: 30.783˚	
Longitude: -83.283˚	
Elevation: 61 m	
Meteorological Coordinates	
Latitude: 30.783˚	
Longitude: -83.283˚	
Elevation: 61 m	
Time Zone: -5	

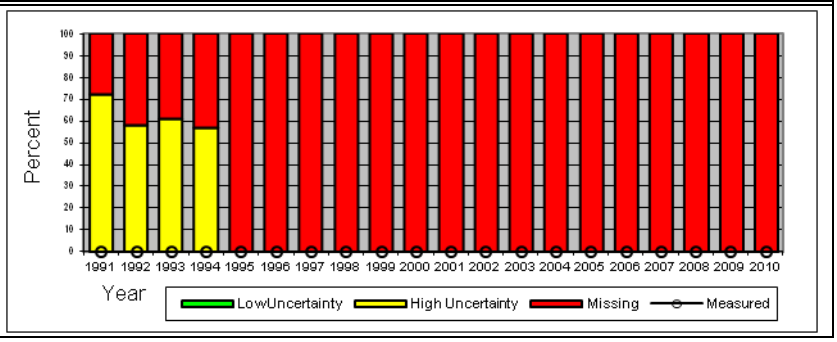
722134	VIDALIA MUNI ARPT, GA
Class III	
Solar Coordinates	
Latitude: 32.183˚	
Longitude: -82.367˚	
Elevation: 84 m	
Meteorological Coordinates	
Latitude: 32.183˚	
Longitude: -82.367˚	
Elevation: 84 m	
Time Zone: -5	

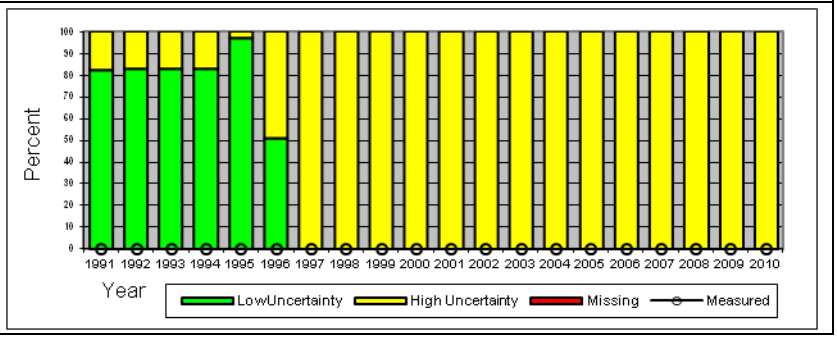
722175	WARNER ROBINS AFB, GA
Class II	
Solar Coordinates	
Latitude: 32.633˚	
Longitude: -83.6˚	
Elevation: 92 m	
Meteorological Coordinates	
Latitude: 32.633˚	
Longitude: -83.6˚	
Elevation: 92 m	
Time Zone: -5	

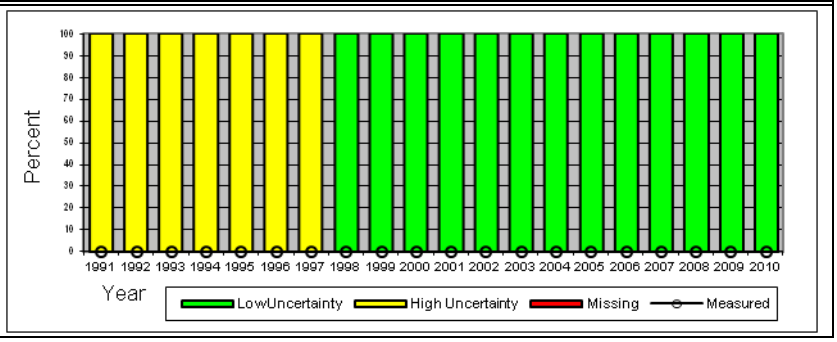
722130	WAYCROSS WARE CO AP, GA
Class III	
Solar Coordinates	
Latitude: 31.25˚	
Longitude: -82.4˚	
Elevation: 43 m	
Meteorological Coordinates	
Latitude: 31.25˚	
Longitude: -82.4˚	
Elevation: 43 m	
Time Zone: -5	

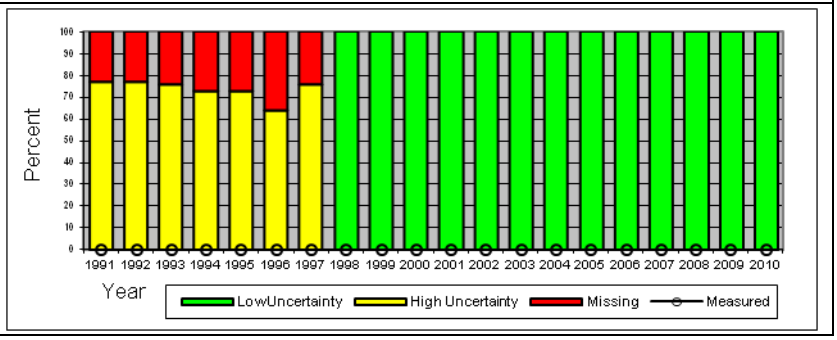
747809	WINDER, GA
Class III	
Solar Coordinates	
Latitude: 33.983˚	
Longitude: -83.667˚	
Elevation: 287 m	
Meteorological Coordinates	
Latitude: 33.983˚	
Longitude: -83.667˚	
Elevation: 287 m	
Time Zone: -5	

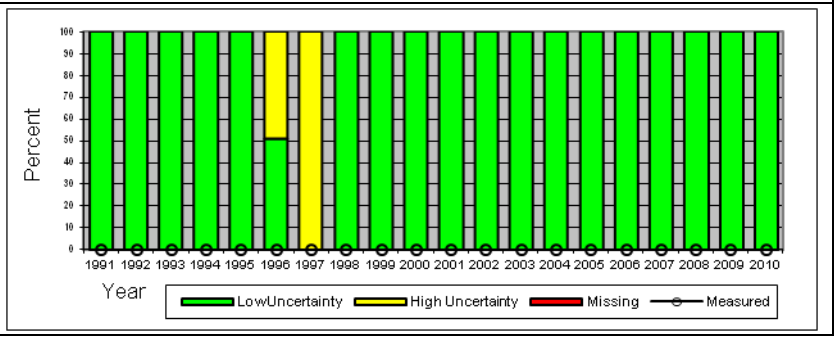
912180	ANDERSEN AFB, GU
Class II	
Solar Coordinates	
Latitude: 13.567˚	
Longitude: 144.917˚	
Elevation: 162 m	
Meteorological Coordinates	
Latitude: 13.567˚	
Longitude: 144.917˚	
Elevation: 162 m	
Time Zone: 10	

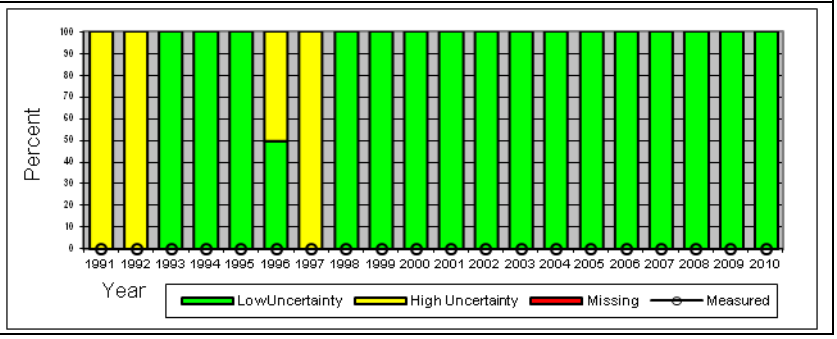
912170	GUAM MARIANA IS, GU
Class III	
Solar Coordinates	
Latitude: 13.55˚	
Longitude: 144.833˚	
Elevation: 111 m	
Meteorological Coordinates	
Latitude: 13.55˚	
Longitude: 144.833˚	
Elevation: 111 m	
Time Zone: 10	

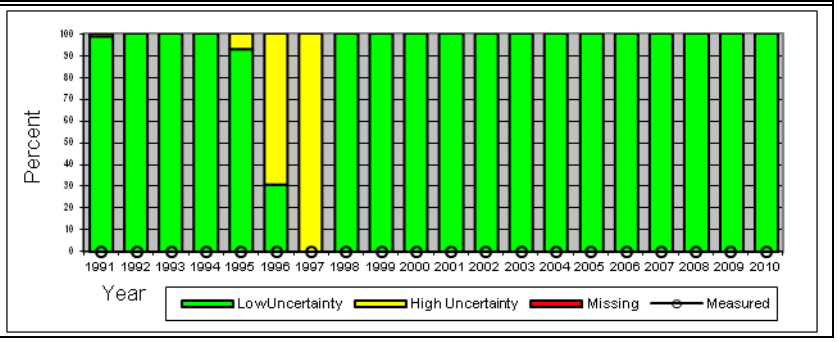
912120	GUAM WFO, GU
Class II	
Solar Coordinates	
Latitude: 13.483˚	
Longitude: 144.8˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 13.483˚	
Longitude: 144.8˚	
Elevation: 77 m	
Time Zone: 10	

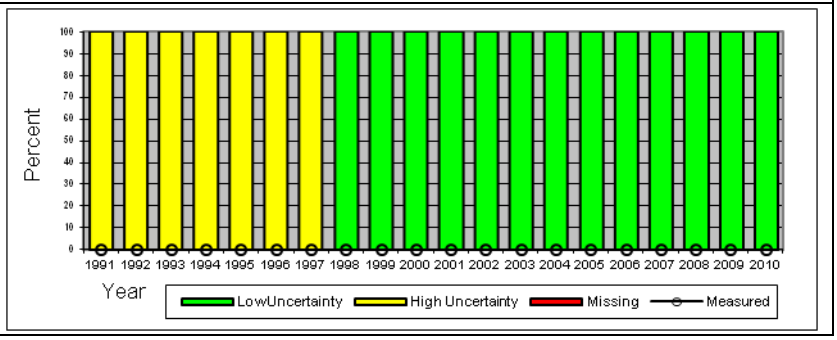
911780	BARBERS POINT NAS, HI
Class II	
Solar Coordinates	
Latitude: 21.317˚	
Longitude: -158.067˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 21.317˚	
Longitude: -158.067˚	
Elevation: 15 m	
Time Zone: -10	

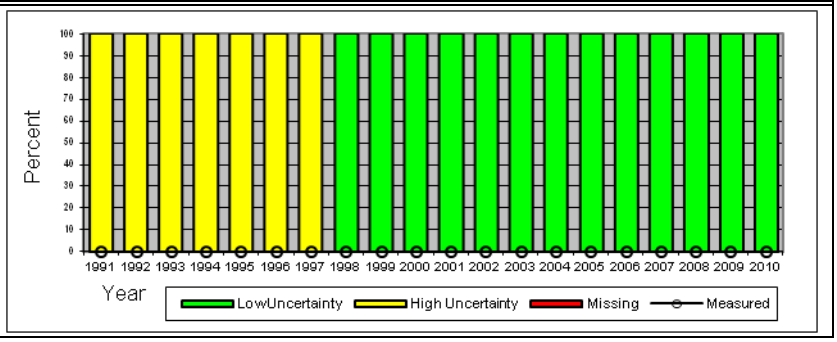
911977	BRADSHAW AAF, HI
Class III	
Solar Coordinates	
Latitude: 19.75˚	
Longitude: -155.55˚	
Elevation: 1934 m	
Meteorological Coordinates	
Latitude: 19.75˚	
Longitude: -155.55˚	
Elevation: 1934 m	
Time Zone: -10	

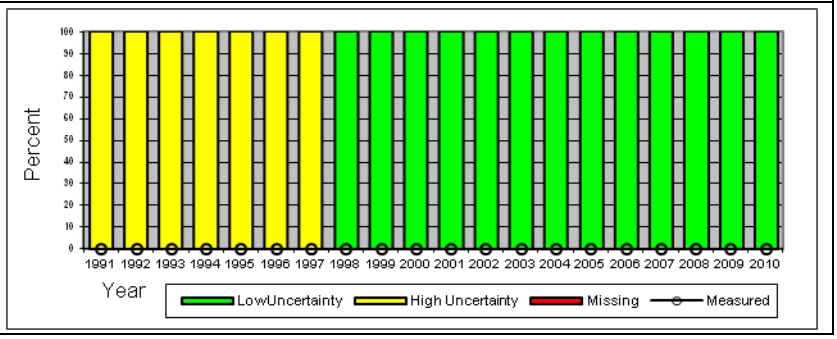
912850	HILO INTERNATIONAL AP, HI
Class I	
Solar Coordinates	
Latitude: 19.717˚	
Longitude: -155.05˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 19.717˚	
Longitude: -155.05˚	
Elevation: 9 m	
Time Zone: -10	

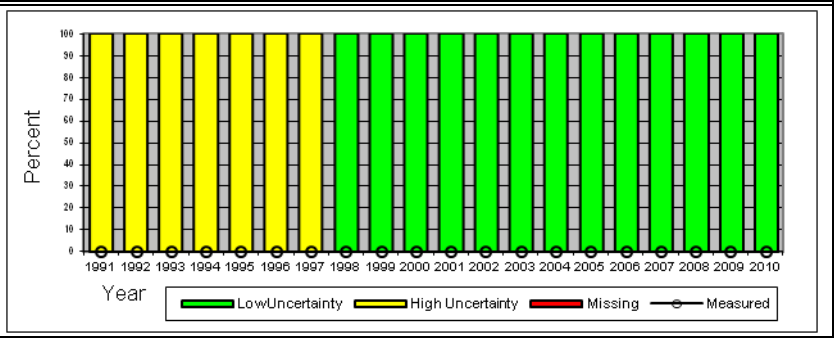
911820	HONOLULU INTL ARPT, HI
Class I	
Solar Coordinates	
Latitude: 21.317˚	
Longitude: -157.933˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 21.317˚	
Longitude: -157.933˚	
Elevation: 2 m	
Time Zone: -10	

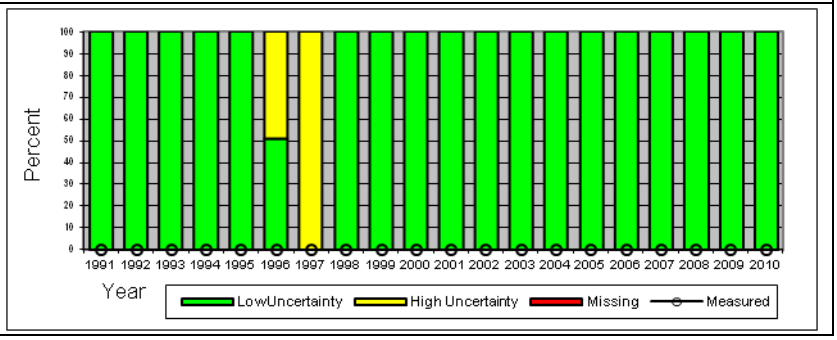
911900	KAHULUI AIRPORT, HI
Class I	
Solar Coordinates	
Latitude: 20.9˚	
Longitude: -156.433˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 20.9˚	
Longitude: -156.433˚	
Elevation: 16 m	
Time Zone: -10	

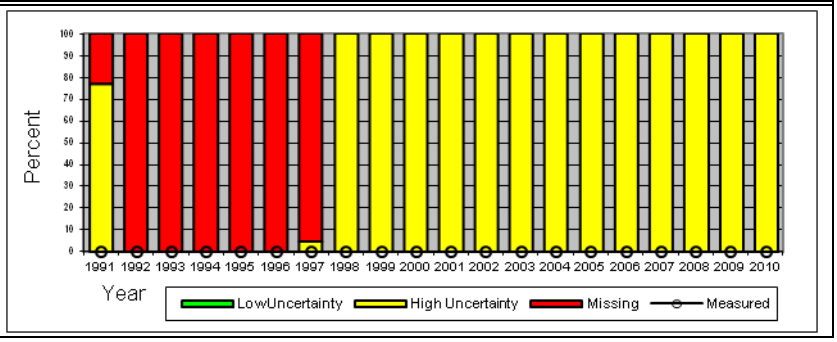
911760	KANEOHE BAY MCAS, HI
Class II	
Solar Coordinates	
Latitude: 21.45˚	
Longitude: -157.783˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 21.45˚	
Longitude: -157.783˚	
Elevation: 3 m	
Time Zone: -10	

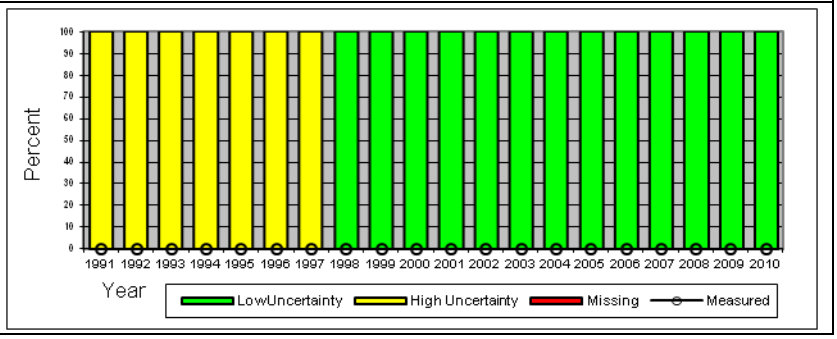
911904	KAPALUA, HI
Class II	
Solar Coordinates	
Latitude: 20.95˚	
Longitude: -156.633˚	
Elevation: 80 m	
Meteorological Coordinates	
Latitude: 20.95˚	
Longitude: -156.633˚	
Elevation: 80 m	
Time Zone: -10	

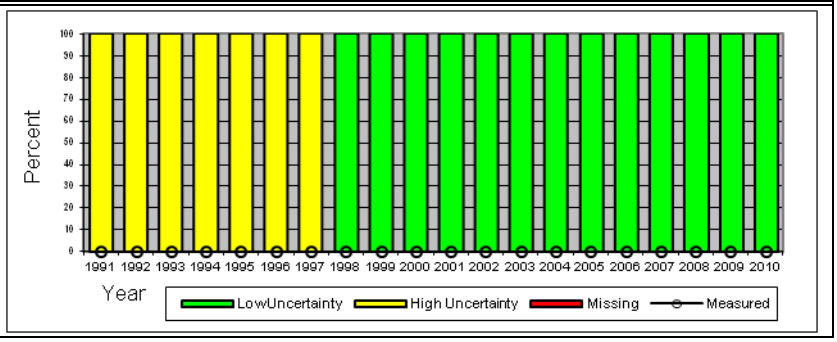
911975	KONA INTL AT KEAHOL, HI
Class III	
Solar Coordinates	
Latitude: 19.733˚	
Longitude: -156.05˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 19.733˚	
Longitude: -156.05˚	
Elevation: 15 m	
Time Zone: -10	

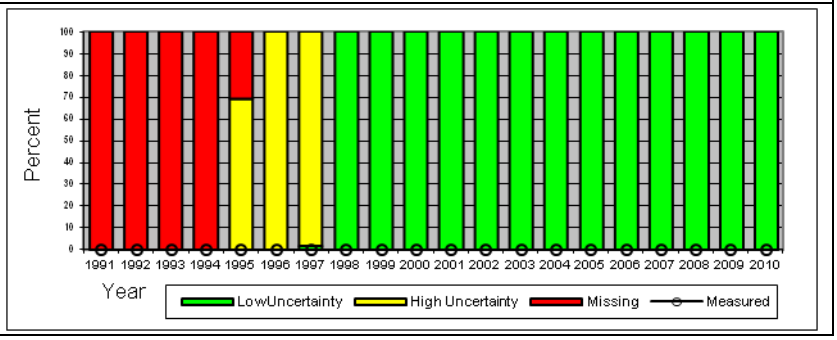
911905	LANAI, HI
Class II	
Solar Coordinates	
Latitude: 20.783˚	
Longitude: -156.95˚	
Elevation: 409 m	
Meteorological Coordinates	
Latitude: 20.783˚	
Longitude: -156.95˚	
Elevation: 409 m	
Time Zone: -10	

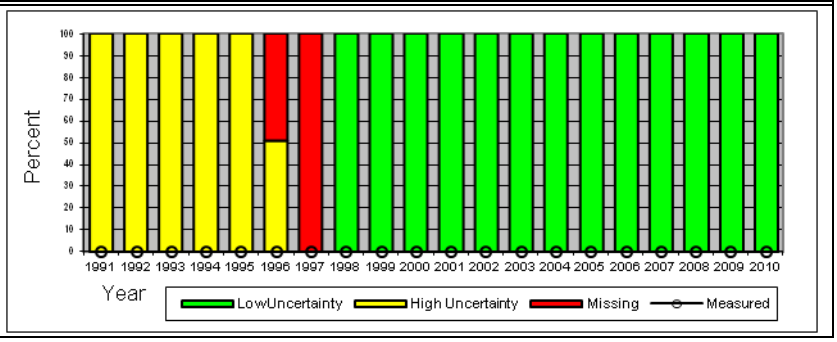
911650	LIHUE AIRPORT, HI
Class I	
Solar Coordinates	
Latitude: 21.983˚	
Longitude: -159.333˚	
Elevation: 31 m	
Meteorological Coordinates	
Latitude: 21.983˚	
Longitude: -159.333˚	
Elevation: 31 m	
Time Zone: -10	

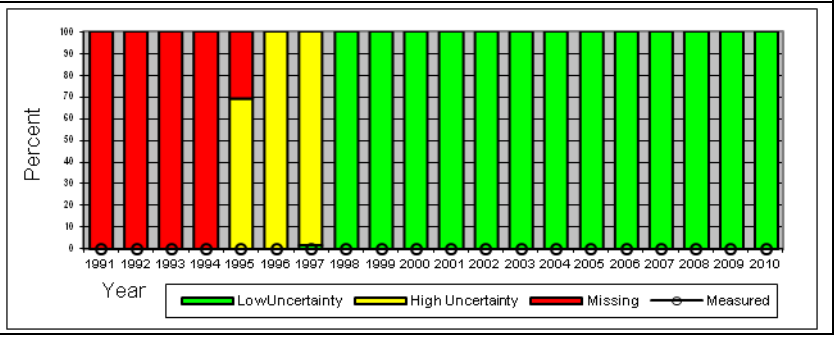
910660	MIDWAY ISLAND NAS, HI
Class III	
Solar Coordinates	
Latitude: 28.2˚	
Longitude: -177.383˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 28.2˚	
Longitude: -177.383˚	
Elevation: 7 m	
Time Zone: -10	

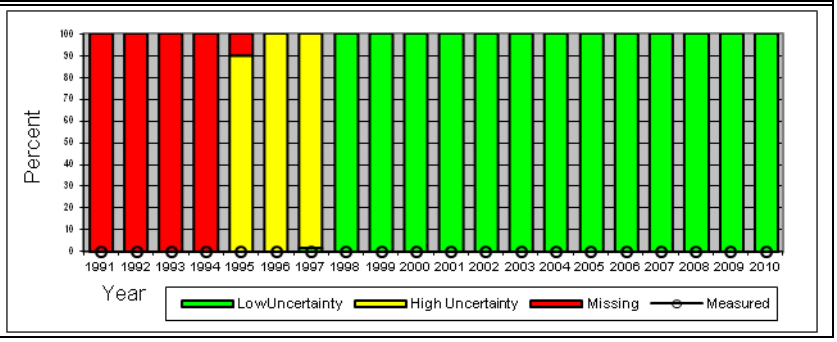
911860	MOLOKAI (AMOS), HI
Class II	
Solar Coordinates	
Latitude: 21.15˚	
Longitude: -157.1˚	
Elevation: 137 m	
Meteorological Coordinates	
Latitude: 21.15˚	
Longitude: -157.1˚	
Elevation: 137 m	
Time Zone: -10	

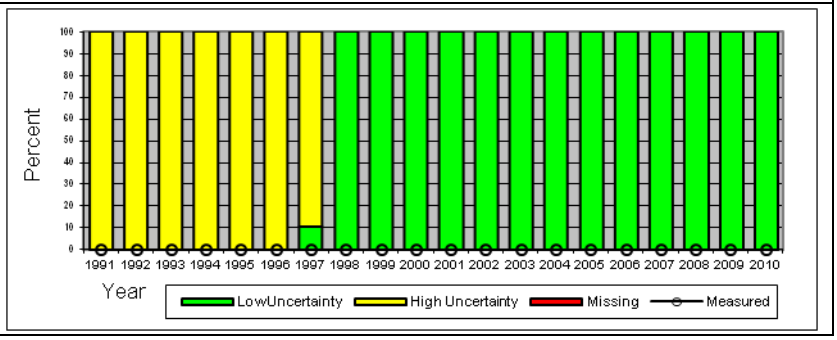
911700	WHEELER AFB 810.1, HI
Class II	
Solar Coordinates	
Latitude: 21.483˚	
Longitude: -158.033˚	
Elevation: 252 m	
Meteorological Coordinates	
Latitude: 21.483˚	
Longitude: -158.033˚	
Elevation: 252 m	
Time Zone: -10	

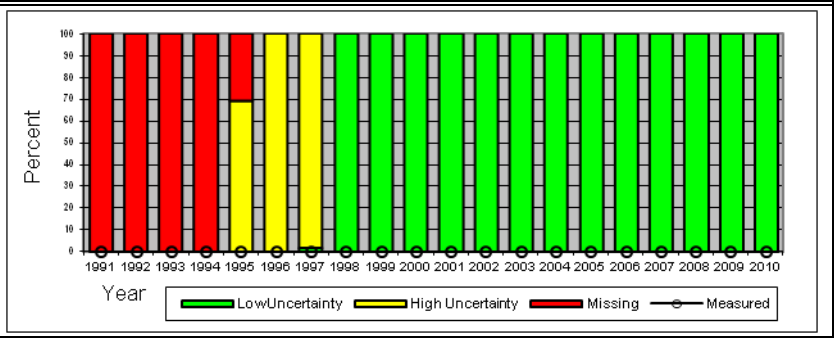
725457	ALGONA, IA
Class III	
Solar Coordinates	
Latitude: 43.083˚	
Longitude: -94.267˚	
Elevation: 372 m	
Meteorological Coordinates	
Latitude: 43.083˚	
Longitude: -94.267˚	
Elevation: 372 m	
Time Zone: -6	

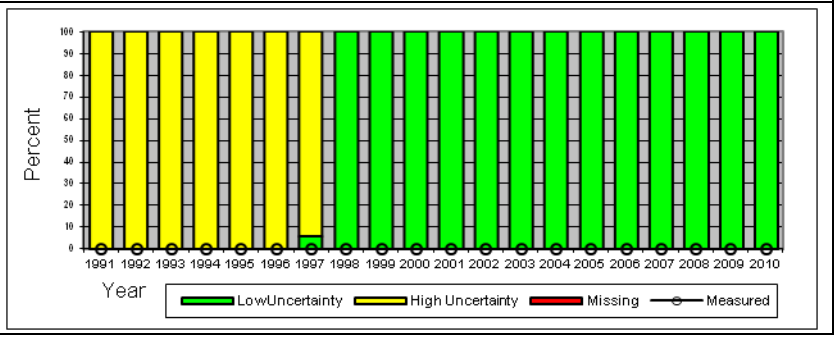
725466	ANKENY REGIONAL ARP, IA
Class III	
Solar Coordinates	
Latitude: 41.683˚	
Longitude: -93.55˚	
Elevation: 275 m	
Meteorological Coordinates	
Latitude: 41.683˚	
Longitude: -93.55˚	
Elevation: 275 m	
Time Zone: -6	

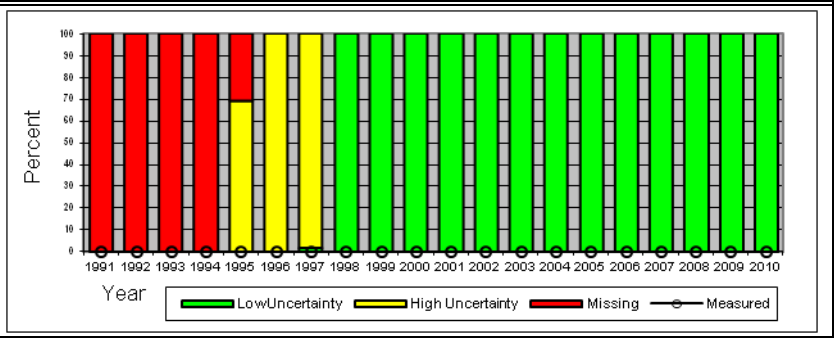
725453	ATLANTIC, IA
Class III	
Solar Coordinates	
Latitude: 41.4˚	
Longitude: -95.05˚	
Elevation: 360 m	
Meteorological Coordinates	
Latitude: 41.4˚	
Longitude: -95.05˚	
Elevation: 360 m	
Time Zone: -6	

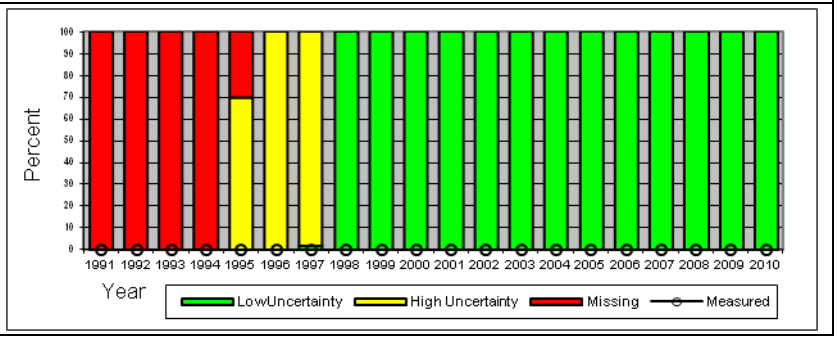
725486	BOONE MUNI, IA
Class III	
Solar Coordinates	
Latitude: 42.05˚	
Longitude: -93.85˚	
Elevation: 354 m	
Meteorological Coordinates	
Latitude: 42.05˚	
Longitude: -93.85˚	
Elevation: 354 m	
Time Zone: -6	

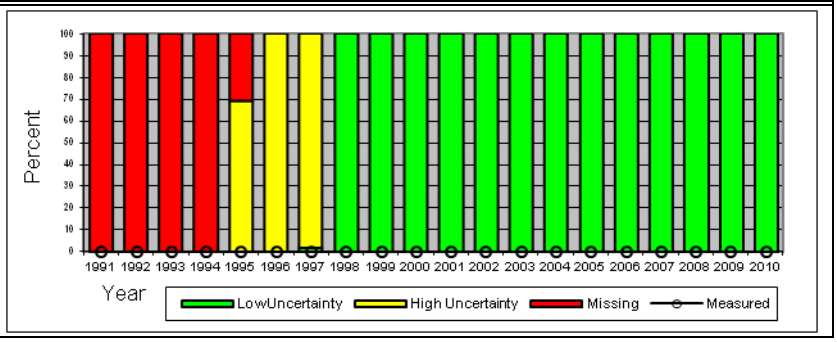
725455	BURLINGTON MUNICIPAL AP, IA
Class II	
Solar Coordinates	
Latitude: 40.783˚	
Longitude: -91.117˚	
Elevation: 211 m	
Meteorological Coordinates	
Latitude: 40.783˚	
Longitude: -91.117˚	
Elevation: 211 m	
Time Zone: -6	

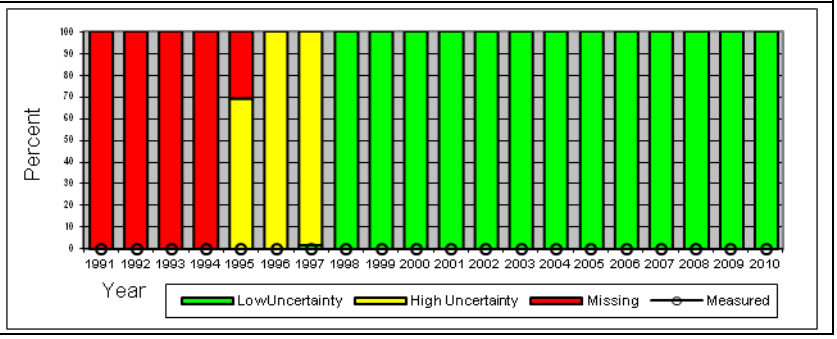
725468	CARROLL, IA
Class III	
Solar Coordinates	
Latitude: 42.05˚	
Longitude: -94.783˚	
Elevation: 375 m	
Meteorological Coordinates	
Latitude: 42.05˚	
Longitude: -94.783˚	
Elevation: 375 m	
Time Zone: -6	

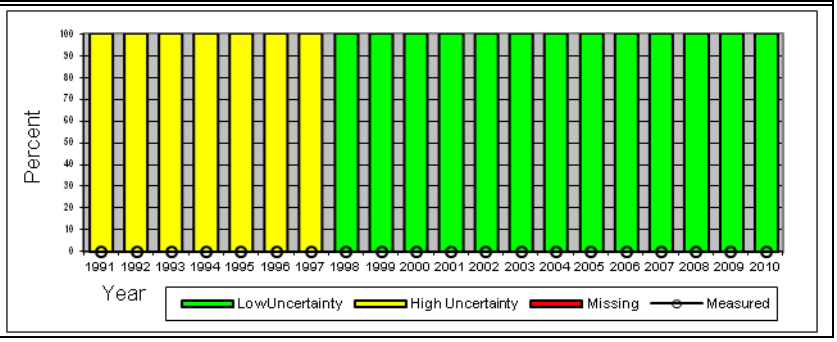
725450	CEDAR RAPIDS MUNICIPAL AP, IA
Class II	
Solar Coordinates	
Latitude: 41.883˚	
Longitude: -91.717˚	
Elevation: 256 m	
Meteorological Coordinates	
Latitude: 41.883˚	
Longitude: -91.717˚	
Elevation: 256 m	
Time Zone: -6	

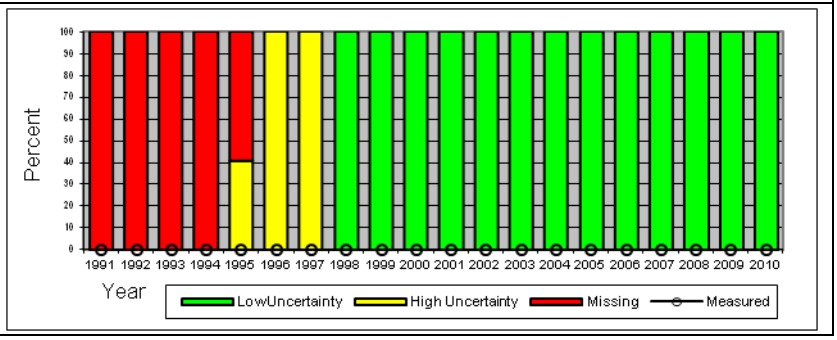
725469	CHARITON, IA
Class III	
Solar Coordinates	
Latitude: 41.033˚	
Longitude: -93.367˚	
Elevation: 320 m	
Meteorological Coordinates	
Latitude: 41.033˚	
Longitude: -93.367˚	
Elevation: 320 m	
Time Zone: -6	

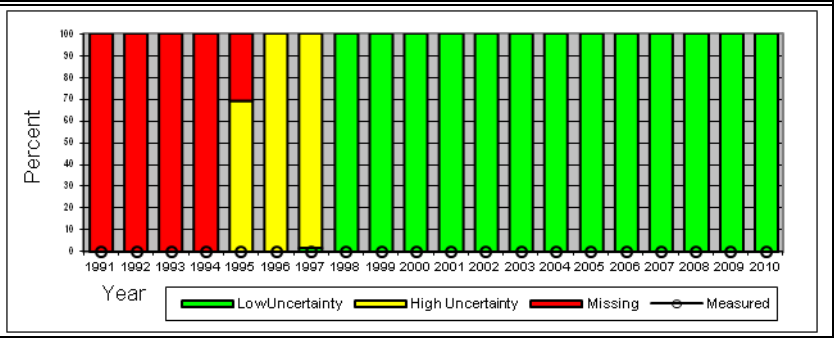
725463	CHARLES CITY, IA
Class III	
Solar Coordinates	
Latitude: 43.067˚	
Longitude: -92.617˚	
Elevation: 343 m	
Meteorological Coordinates	
Latitude: 43.067˚	
Longitude: -92.617˚	
Elevation: 343 m	
Time Zone: -6	

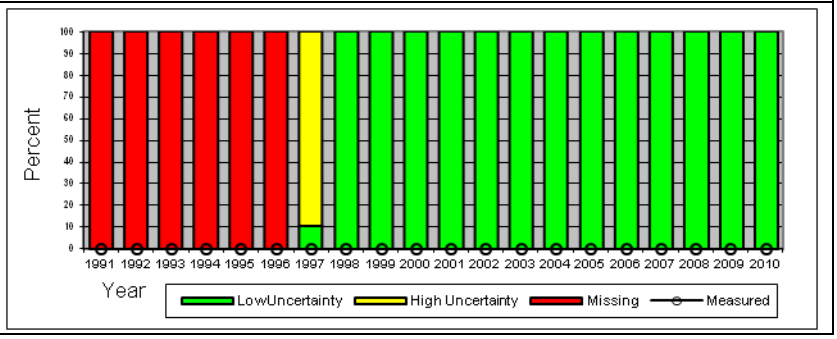
725479	CLARINDA, IA
Class III	
Solar Coordinates	
Latitude: 40.717˚	
Longitude: -95.033˚	
Elevation: 303 m	
Meteorological Coordinates	
Latitude: 40.717˚	
Longitude: -95.033˚	
Elevation: 303 m	
Time Zone: -6	

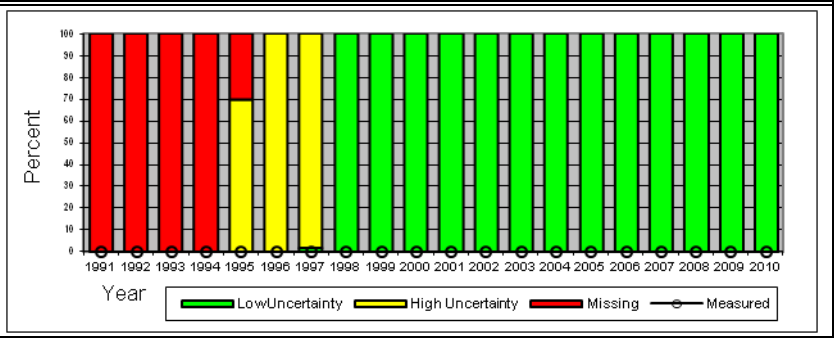
725458	CLARION, IA
Class III	
Solar Coordinates	
Latitude: 42.75˚	
Longitude: -93.767˚	
Elevation: 354 m	
Meteorological Coordinates	
Latitude: 42.75˚	
Longitude: -93.767˚	
Elevation: 354 m	
Time Zone: -6	

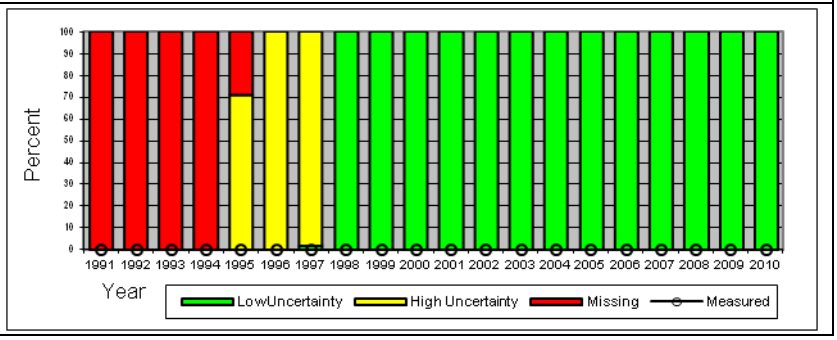
725473	CLINTON MUNI (AWOS), IA
Class II	
Solar Coordinates	
Latitude: 41.833˚	
Longitude: -90.333˚	
Elevation: 216 m	
Meteorological Coordinates	
Latitude: 41.833˚	
Longitude: -90.333˚	
Elevation: 216 m	
Time Zone: -6	

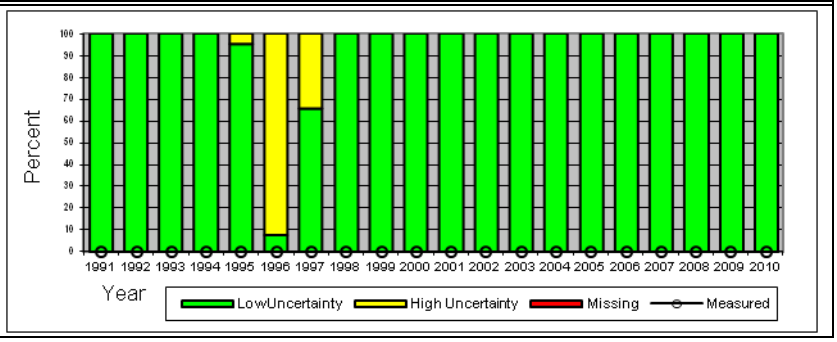
725497	COUNCIL BLUFFS, IA
Class III	
Solar Coordinates	
Latitude: 41.267˚	
Longitude: -95.767˚	
Elevation: 382 m	
Meteorological Coordinates	
Latitude: 41.267˚	
Longitude: -95.767˚	
Elevation: 382 m	
Time Zone: -6	

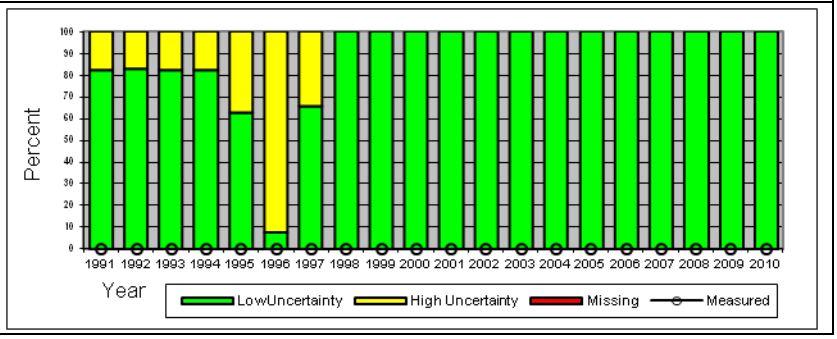
725474	CRESTON, IA
Class III	
Solar Coordinates	
Latitude: 41.017˚	
Longitude: -94.367˚	
Elevation: 394 m	
Meteorological Coordinates	
Latitude: 41.017˚	
Longitude: -94.367˚	
Elevation: 394 m	
Time Zone: -6	

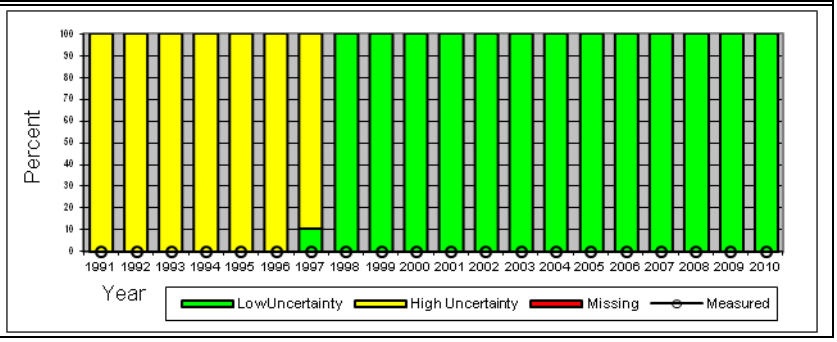
725349	DAVENPORT NEXRAD, IA
Class III	
Solar Coordinates	
Latitude: 41.617˚	
Longitude: -90.583˚	
Elevation: 259 m	
Meteorological Coordinates	
Latitude: 41.617˚	
Longitude: -90.583˚	
Elevation: 259 m	
Time Zone: -6	

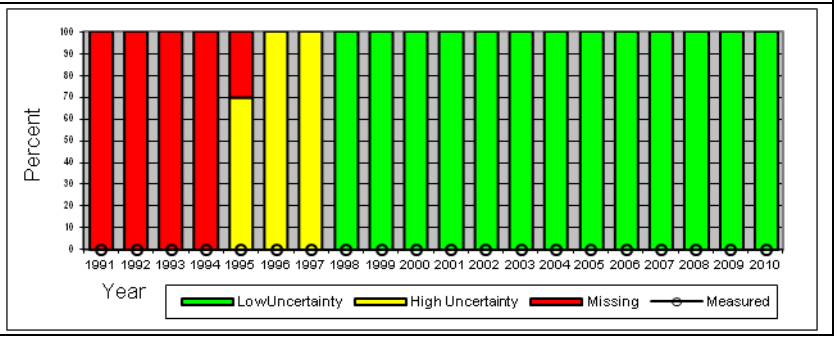
725476	DECORAH, IA
Class III	
Solar Coordinates	
Latitude: 43.283˚	
Longitude: -91.733˚	
Elevation: 353 m	
Meteorological Coordinates	
Latitude: 43.283˚	
Longitude: -91.733˚	
Elevation: 353 m	
Time Zone: -6	

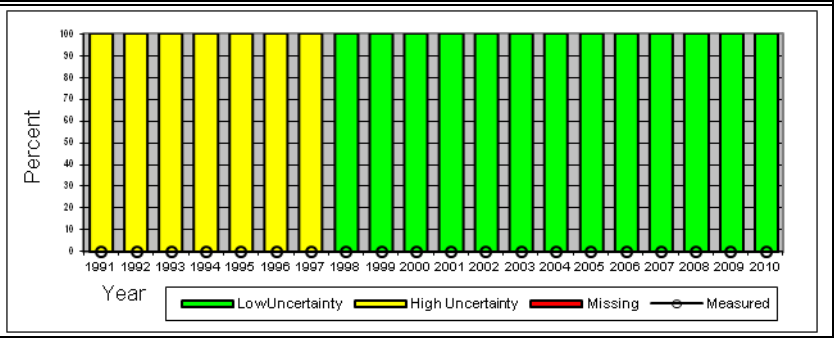
725477	DENISON, IA
Class III	
Solar Coordinates	
Latitude: 41.983˚	
Longitude: -95.383˚	
Elevation: 388 m	
Meteorological Coordinates	
Latitude: 41.983˚	
Longitude: -95.383˚	
Elevation: 388 m	
Time Zone: -6	

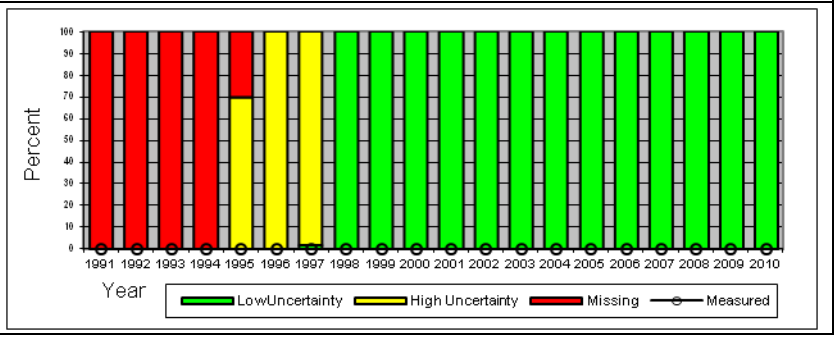
725460	DES MOINES INTL AP, IA
Class I	
Solar Coordinates	
Latitude: 41.533˚	
Longitude: -93.667˚	
Elevation: 292 m	
Meteorological Coordinates	
Latitude: 41.533˚	
Longitude: -93.667˚	
Elevation: 292 m	
Time Zone: -6	

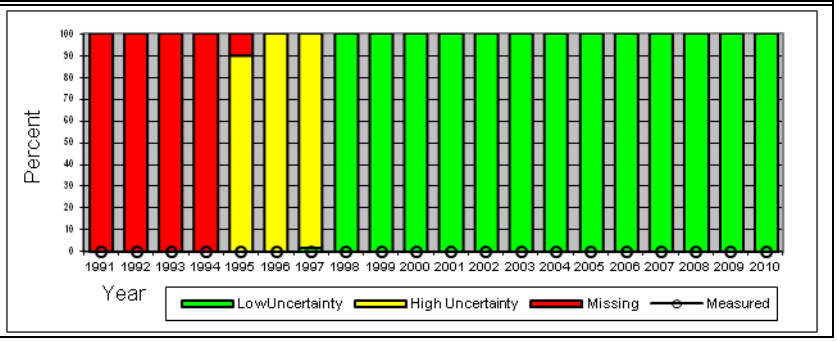
725470	DUBUQUE REGIONAL AP, IA
Class I	
Solar Coordinates	
Latitude: 42.4˚	
Longitude: -90.7˚	
Elevation: 322 m	
Meteorological Coordinates	
Latitude: 42.4˚	
Longitude: -90.7˚	
Elevation: 322 m	
Time Zone: -6	

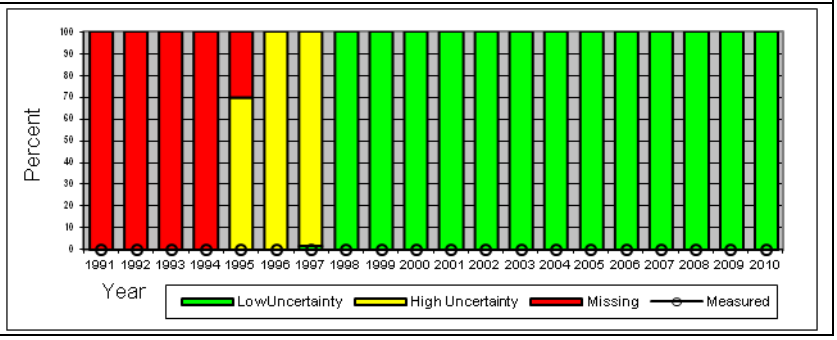
726499	ESTHERVILLE MUNI, IA
Class II	
Solar Coordinates	
Latitude: 43.4˚	
Longitude: -94.75˚	
Elevation: 401 m	
Meteorological Coordinates	
Latitude: 43.4˚	
Longitude: -94.75˚	
Elevation: 401 m	
Time Zone: -6	

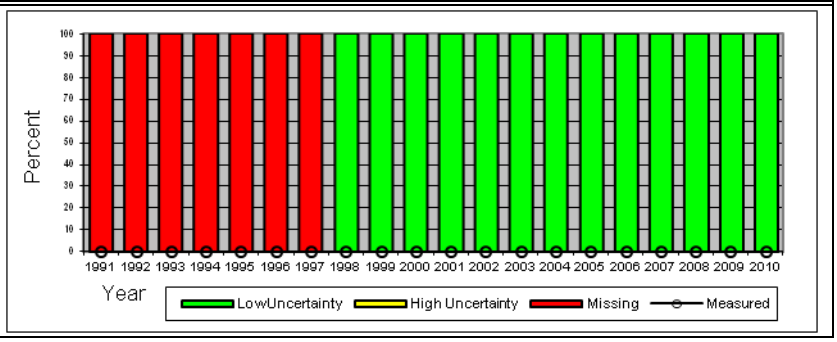
726498	FAIR FIELD, IA
Class III	
Solar Coordinates	
Latitude: 41.05˚	
Longitude: -91.983˚	
Elevation: 244 m	
Meteorological Coordinates	
Latitude: 41.05˚	
Longitude: -91.983˚	
Elevation: 244 m	
Time Zone: -6	

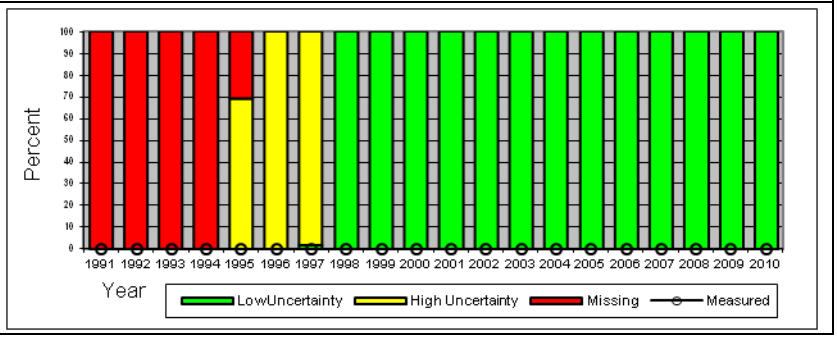
725490	FORT DODGE (AWOS), IA
Class II	
Solar Coordinates	
Latitude: 42.55˚	
Longitude: -94.183˚	
Elevation: 355 m	
Meteorological Coordinates	
Latitude: 42.55˚	
Longitude: -94.183˚	
Elevation: 355 m	
Time Zone: -6	

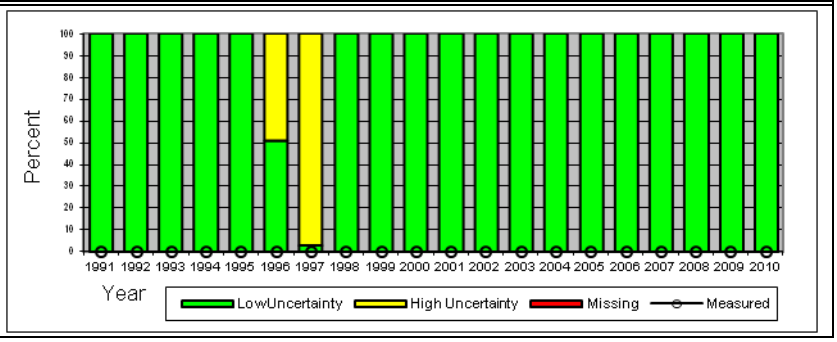
725483	FORT MADISON, IA
Class III	
Solar Coordinates	
Latitude: 40.667˚	
Longitude: -91.333˚	
Elevation: 221 m	
Meteorological Coordinates	
Latitude: 40.667˚	
Longitude: -91.333˚	
Elevation: 221 m	
Time Zone: -6	

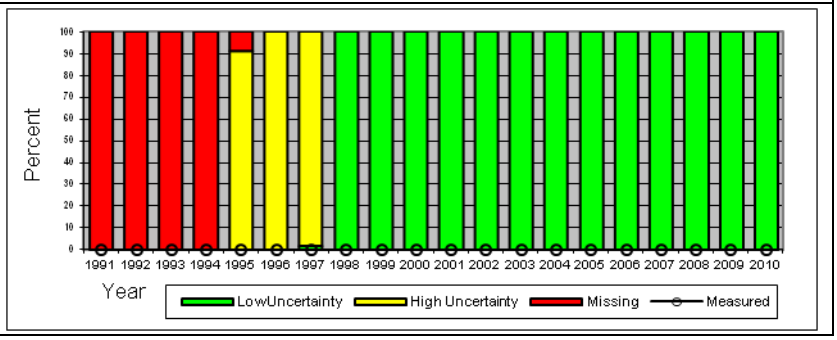
725456	KEOKUK MUNI, IA
Class III	
Solar Coordinates	
Latitude: 40.467˚	
Longitude: -91.433˚	
Elevation: 205 m	
Meteorological Coordinates	
Latitude: 40.467˚	
Longitude: -91.433˚	
Elevation: 205 m	
Time Zone: -6	

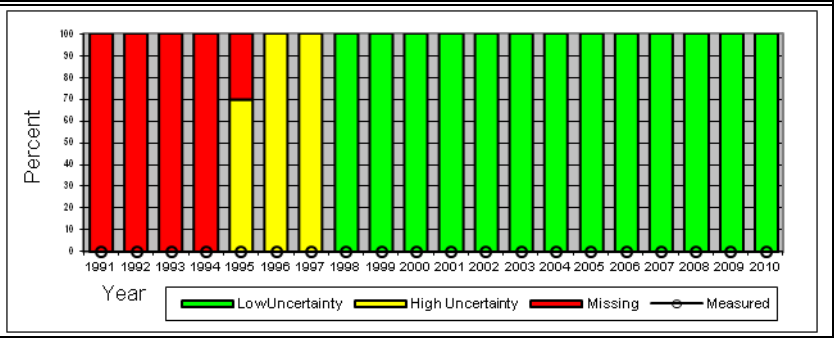
725493	KNOXVILLE, IA
Class III	
Solar Coordinates	
Latitude: 41.3˚	
Longitude: -93.117˚	
Elevation: 283 m	
Meteorological Coordinates	
Latitude: 41.3˚	
Longitude: -93.117˚	
Elevation: 283 m	
Time Zone: -6	

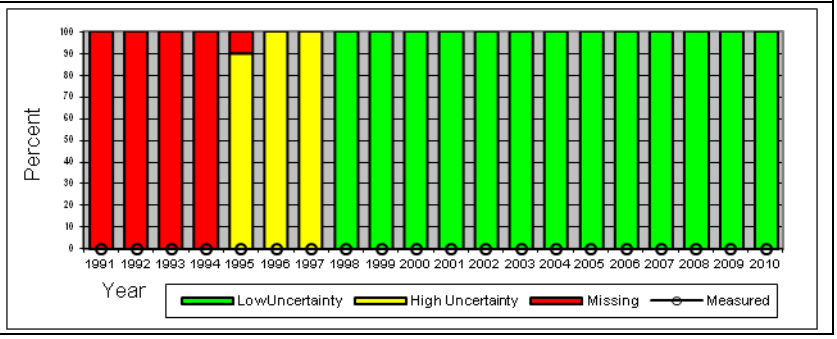
725499	LAMONI, IA
Class III	
Solar Coordinates	
Latitude: 40.617˚	
Longitude: -93.95˚	
Elevation: 342 m	
Meteorological Coordinates	
Latitude: 40.617˚	
Longitude: -93.95˚	
Elevation: 342 m	
Time Zone: -6	

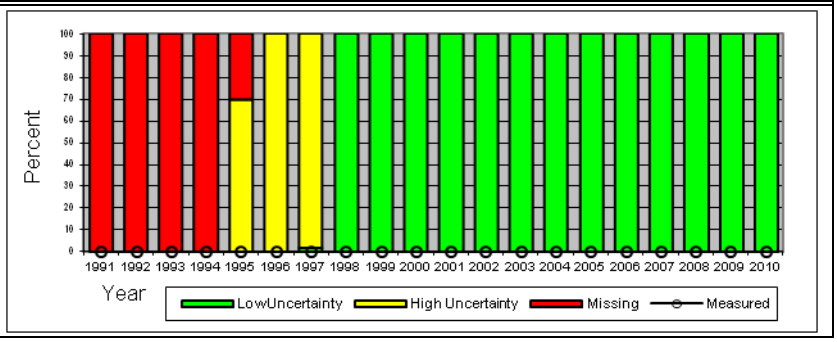
725484	LE MARS, IA
Class III	
Solar Coordinates	
Latitude: 42.783˚	
Longitude: -96.2˚	
Elevation: 365 m	
Meteorological Coordinates	
Latitude: 42.783˚	
Longitude: -96.2˚	
Elevation: 365 m	
Time Zone: -6	

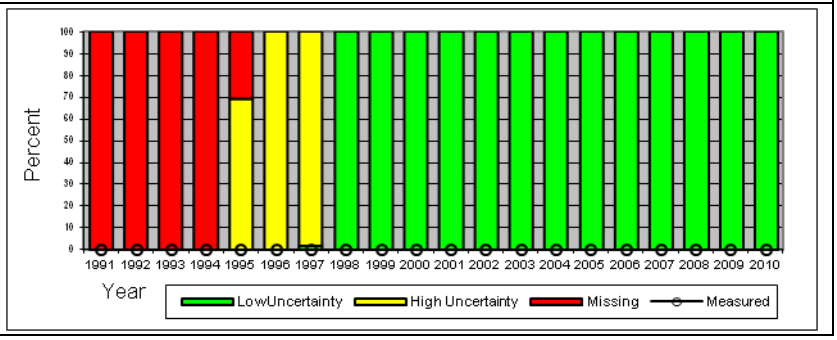
725485	MASON CITY MUNICIPAL ARPT, IA
Class I	
Solar Coordinates	
Latitude: 43.15˚	
Longitude: -93.333˚	
Elevation: 364 m	
Meteorological Coordinates	
Latitude: 43.15˚	
Longitude: -93.333˚	
Elevation: 364 m	
Time Zone: -6	

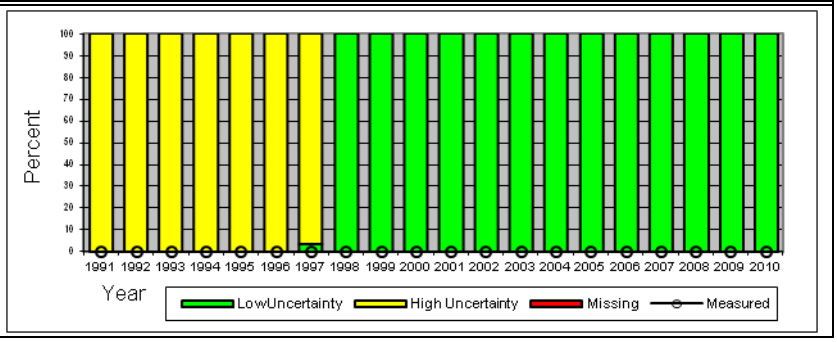
725475	MONTICELLO MUNI, IA
Class III	
Solar Coordinates	
Latitude: 42.233˚	
Longitude: -91.167˚	
Elevation: 259 m	
Meteorological Coordinates	
Latitude: 42.233˚	
Longitude: -91.167˚	
Elevation: 259 m	
Time Zone: -6	

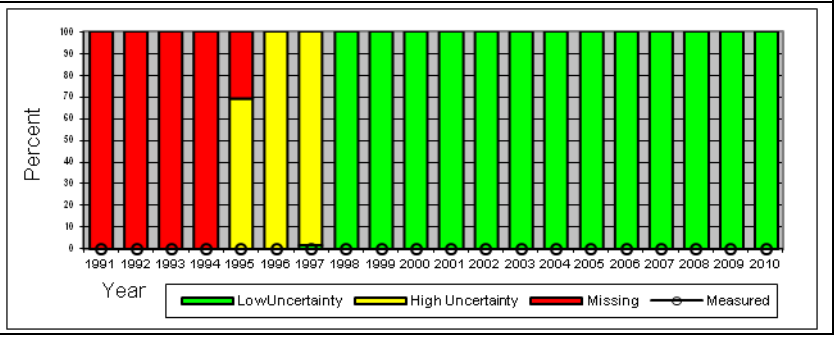
725487	MUSCATINE, IA
Class III	
Solar Coordinates	
Latitude: 41.367˚	
Longitude: -91.15˚	
Elevation: 167 m	
Meteorological Coordinates	
Latitude: 41.367˚	
Longitude: -91.15˚	
Elevation: 167 m	
Time Zone: -6	

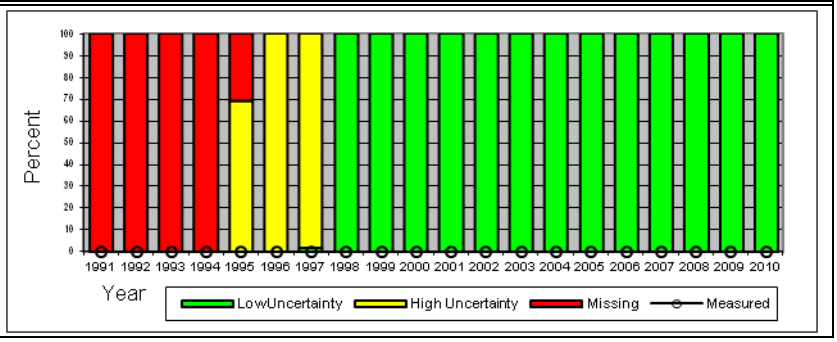
725464	NEWTON MUNI, IA
Class III	
Solar Coordinates	
Latitude: 41.683˚	
Longitude: -93.017˚	
Elevation: 290 m	
Meteorological Coordinates	
Latitude: 41.683˚	
Longitude: -93.017˚	
Elevation: 290 m	
Time Zone: -6	

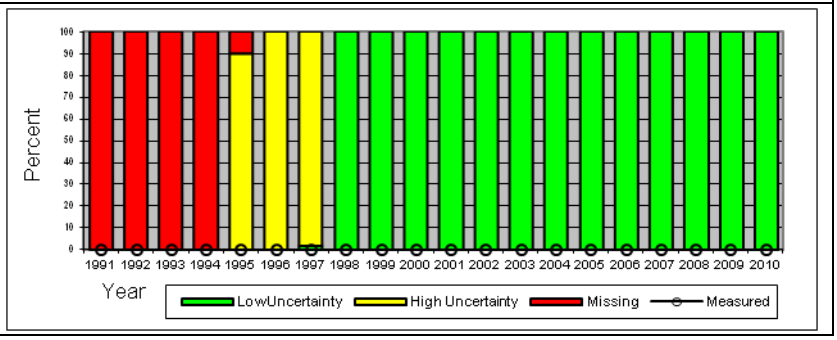
725488	OELWEN, IA
Class III	
Solar Coordinates	
Latitude: 42.683˚	
Longitude: -91.967˚	
Elevation: 328 m	
Meteorological Coordinates	
Latitude: 42.683˚	
Longitude: -91.967˚	
Elevation: 328 m	
Time Zone: -6	

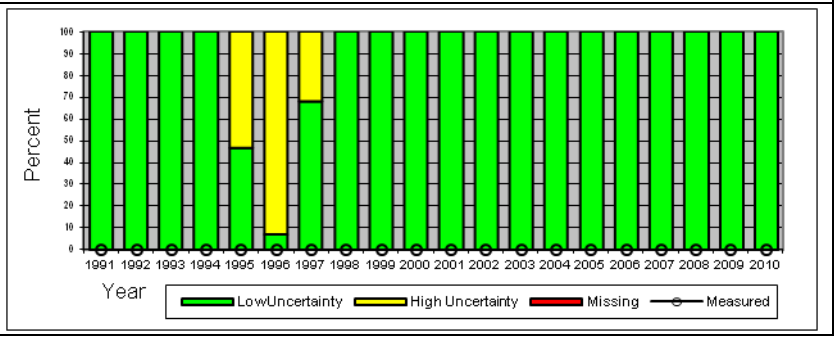
725489	ORANGE CITY, IA
Class III	
Solar Coordinates	
Latitude: 42.983˚	
Longitude: -96.067˚	
Elevation: 431 m	
Meteorological Coordinates	
Latitude: 42.983˚	
Longitude: -96.067˚	
Elevation: 431 m	
Time Zone: -6	

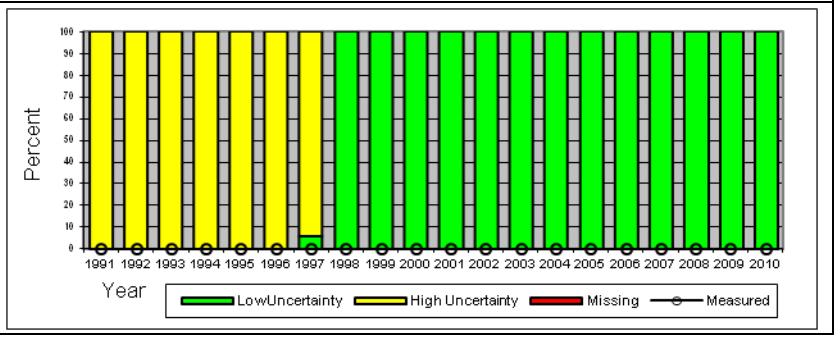
725465	OTTUMWA INDUSTRIAL AP, IA
Class II	
Solar Coordinates	
Latitude: 41.1˚	
Longitude: -92.45˚	
Elevation: 257 m	
Meteorological Coordinates	
Latitude: 41.1˚	
Longitude: -92.45˚	
Elevation: 257 m	
Time Zone: -6	

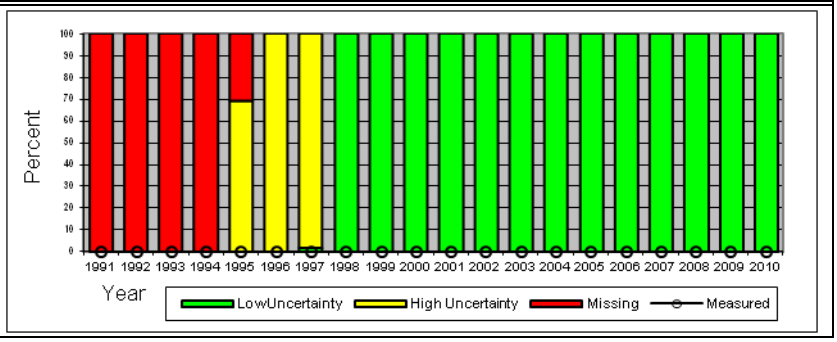
725494	RED OAK, IA
Class III	
Solar Coordinates	
Latitude: 41.017˚	
Longitude: -95.267˚	
Elevation: 318 m	
Meteorological Coordinates	
Latitude: 41.017˚	
Longitude: -95.267˚	
Elevation: 318 m	
Time Zone: -6	

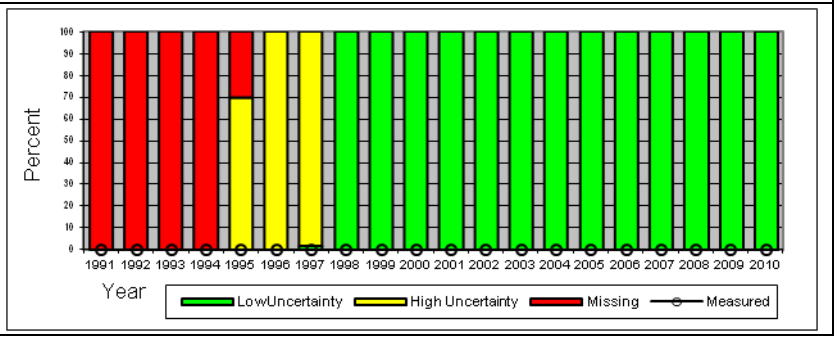
725495	SHELDON, IA
Class III	
Solar Coordinates	
Latitude: 43.217˚	
Longitude: -95.833˚	
Elevation: 432 m	
Meteorological Coordinates	
Latitude: 43.217˚	
Longitude: -95.833˚	
Elevation: 432 m	
Time Zone: -6	

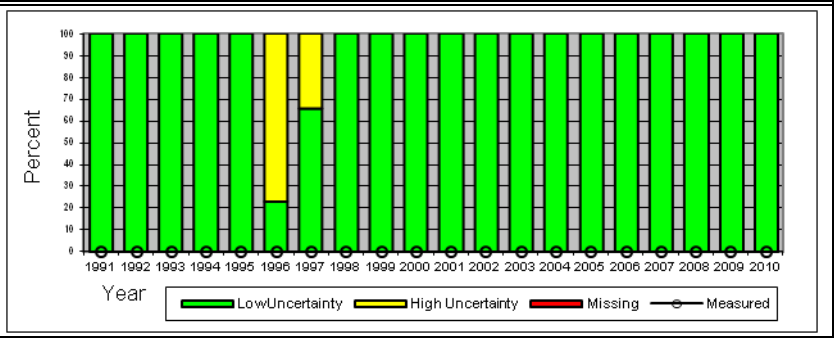
725467	SHENANDOAH MUNI, IA
Class III	
Solar Coordinates	
Latitude: 40.75˚	
Longitude: -95.417˚	
Elevation: 296 m	
Meteorological Coordinates	
Latitude: 40.75˚	
Longitude: -95.417˚	
Elevation: 296 m	
Time Zone: -6	

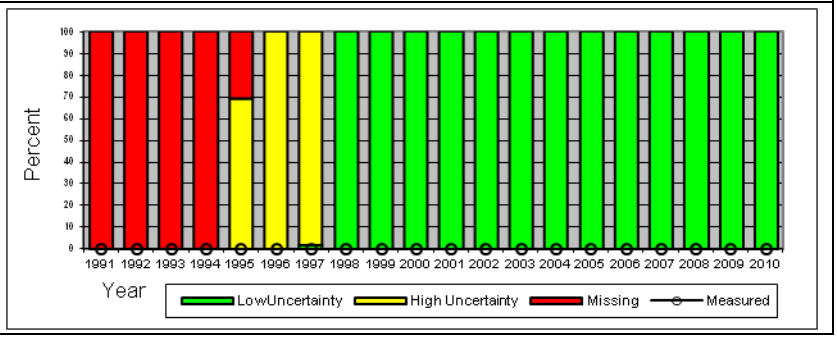
725570	SIOUX CITY SIOUX GATEWAY AP, IA
Class I	
Solar Coordinates	
Latitude: 42.383˚	
Longitude: -96.383˚	
Elevation: 333 m	
Meteorological Coordinates	
Latitude: 42.383˚	
Longitude: -96.383˚	
Elevation: 333 m	
Time Zone: -6	

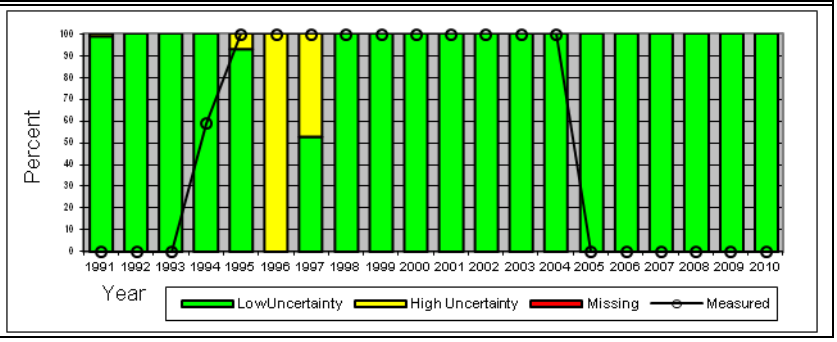
726500	SPENCER, IA
Class II	
Solar Coordinates	
Latitude: 43.167˚	
Longitude: -95.15˚	
Elevation: 408 m	
Meteorological Coordinates	
Latitude: 43.167˚	
Longitude: -95.15˚	
Elevation: 408 m	
Time Zone: -6	

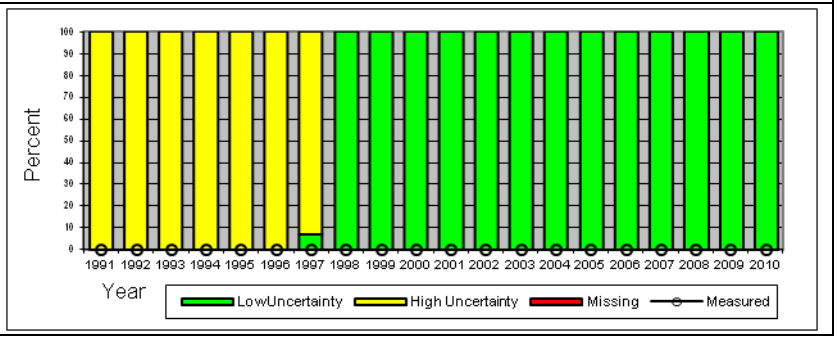
725496	STORM LAKE, IA
Class III	
Solar Coordinates	
Latitude: 42.6˚	
Longitude: -95.233˚	
Elevation: 454 m	
Meteorological Coordinates	
Latitude: 42.6˚	
Longitude: -95.233˚	
Elevation: 454 m	
Time Zone: -6	

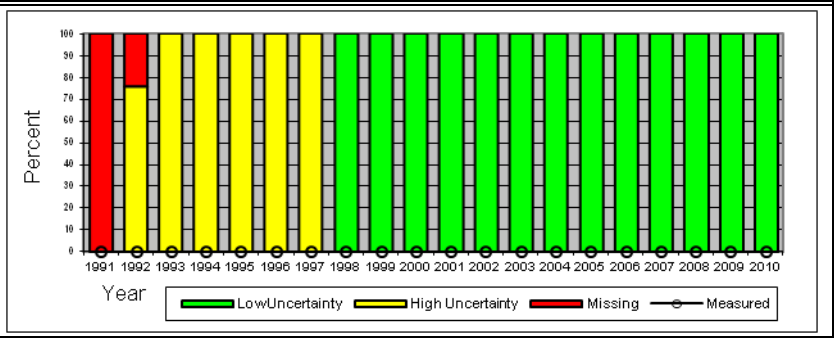
725454	WASHINGTON, IA
Class III	
Solar Coordinates	
Latitude: 41.283˚	
Longitude: -91.667˚	
Elevation: 230 m	
Meteorological Coordinates	
Latitude: 41.283˚	
Longitude: -91.667˚	
Elevation: 230 m	
Time Zone: -6	

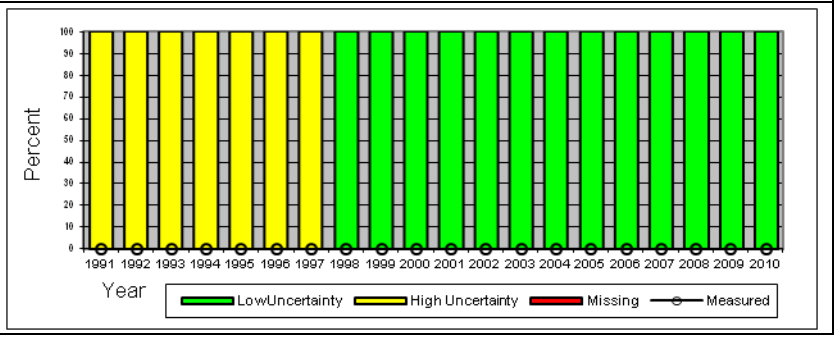
725480	WATERLOO MUNICIPAL AP, IA
Class I	
Solar Coordinates	
Latitude: 42.55˚	
Longitude: -92.4˚	
Elevation: 264 m	
Meteorological Coordinates	
Latitude: 42.55˚	
Longitude: -92.4˚	
Elevation: 264 m	
Time Zone: -6	

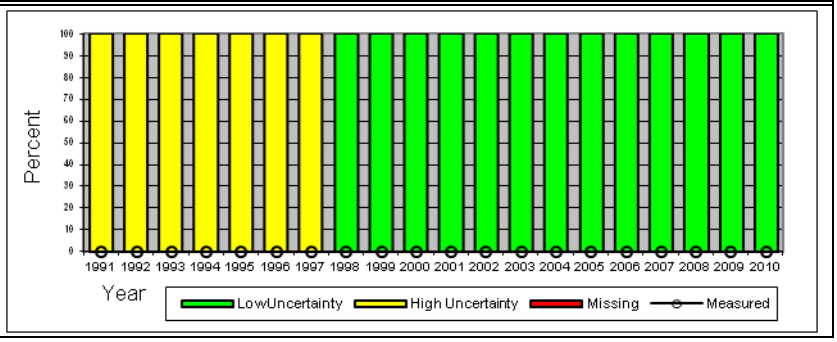
725478	WEBSTER CITY, IA
Class III	
Solar Coordinates	
Latitude: 42.433˚	
Longitude: -93.867˚	
Elevation: 342 m	
Meteorological Coordinates	
Latitude: 42.433˚	
Longitude: -93.867˚	
Elevation: 342 m	
Time Zone: -6	

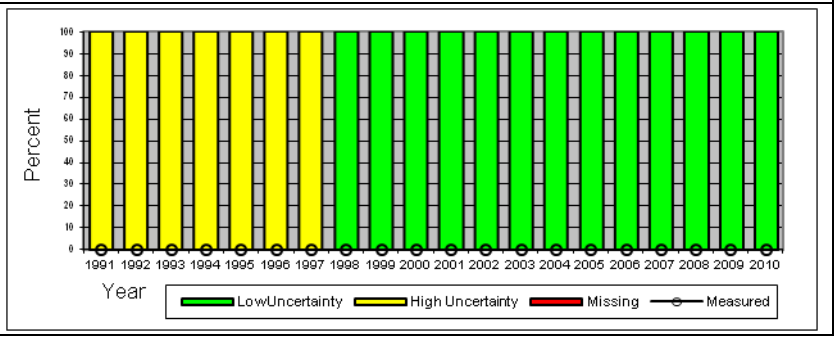
726810	BOISE AIR TERMINAL [UO], ID
Class I (with some measured)	
Solar Coordinates	
Latitude: 43.62˚	
Longitude: -116.21˚	
Elevation: 701 m	
Meteorological Coordinates	
Latitude: 43.567˚	
Longitude: -116.217˚	
Elevation: 865 m	
Time Zone: -7	

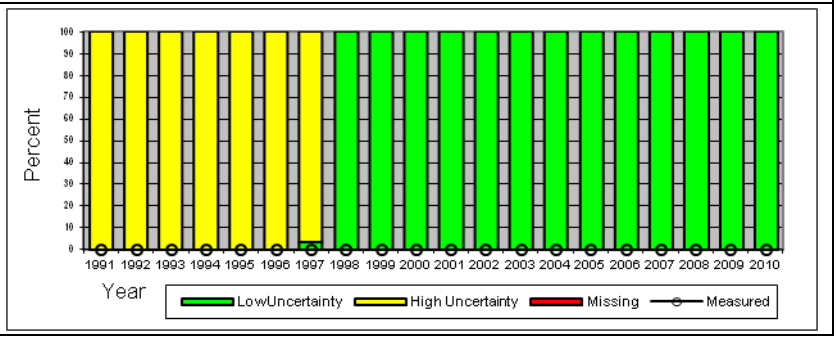
725867	BURLEY MUNICIPAL ARPT, ID
Class II	
Solar Coordinates	
Latitude: 42.533˚	
Longitude: -113.767˚	
Elevation: 1267 m	
Meteorological Coordinates	
Latitude: 42.533˚	
Longitude: -113.767˚	
Elevation: 1267 m	
Time Zone: -7	

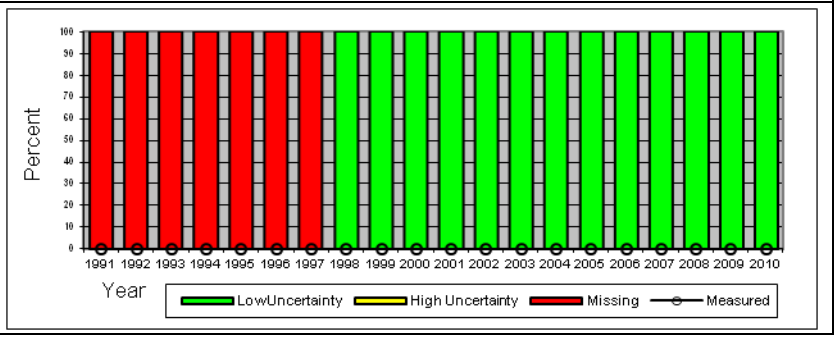
726813	CALDWELL (AWOS), ID
Class III	
Solar Coordinates	
Latitude: 43.633˚	
Longitude: -116.633˚	
Elevation: 740 m	
Meteorological Coordinates	
Latitude: 43.633˚	
Longitude: -116.633˚	
Elevation: 740 m	
Time Zone: -7	

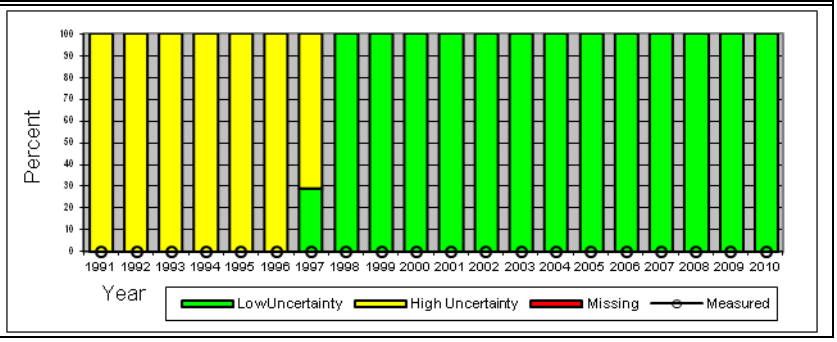
727834	COEUR D`ALENE(AWOS), ID
Class II	
Solar Coordinates	
Latitude: 47.767˚	
Longitude: -116.817˚	
Elevation: 707 m	
Meteorological Coordinates	
Latitude: 47.767˚	
Longitude: -116.817˚	
Elevation: 707 m	
Time Zone: -8	

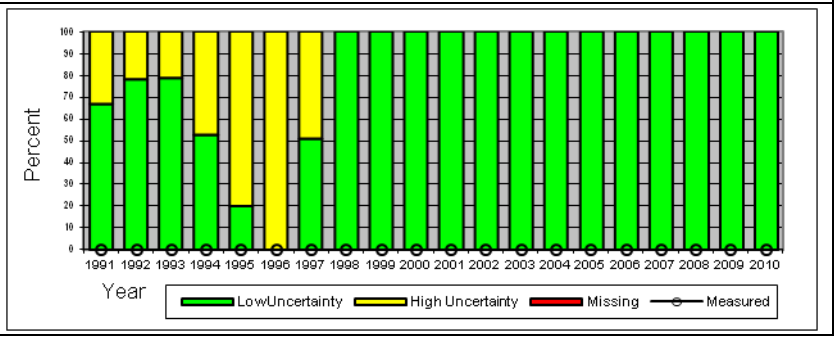
726873	GRANGEVILLE, ID
Class III	
Solar Coordinates	
Latitude: 45.95˚	
Longitude: -116.133˚	
Elevation: 1009 m	
Meteorological Coordinates	
Latitude: 45.95˚	
Longitude: -116.133˚	
Elevation: 1009 m	
Time Zone: -8	

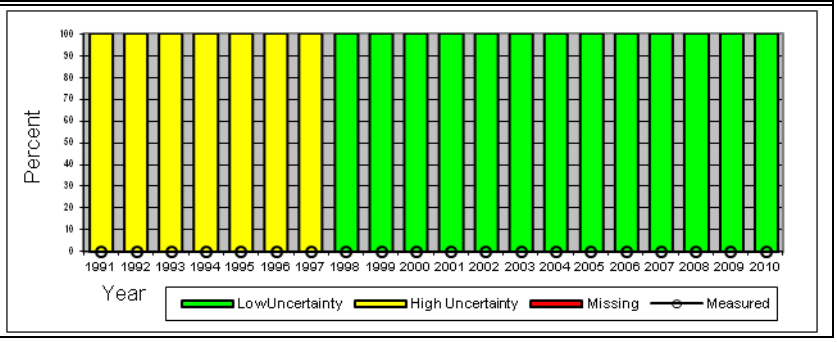
725865	HAILEY/FRIEDMAN MEM, ID
Class II	
Solar Coordinates	
Latitude: 43.5˚	
Longitude: -114.3˚	
Elevation: 1620 m	
Meteorological Coordinates	
Latitude: 43.5˚	
Longitude: -114.3˚	
Elevation: 1620 m	
Time Zone: -7	

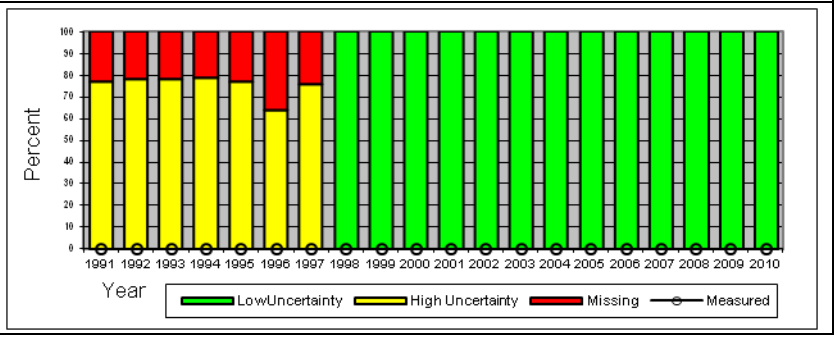
725785	IDAHO FALLS FANNING FIELD, ID
Class II	
Solar Coordinates	
Latitude: 43.517˚	
Longitude: -112.067˚	
Elevation: 1441 m	
Meteorological Coordinates	
Latitude: 43.517˚	
Longitude: -112.067˚	
Elevation: 1441 m	
Time Zone: -7	

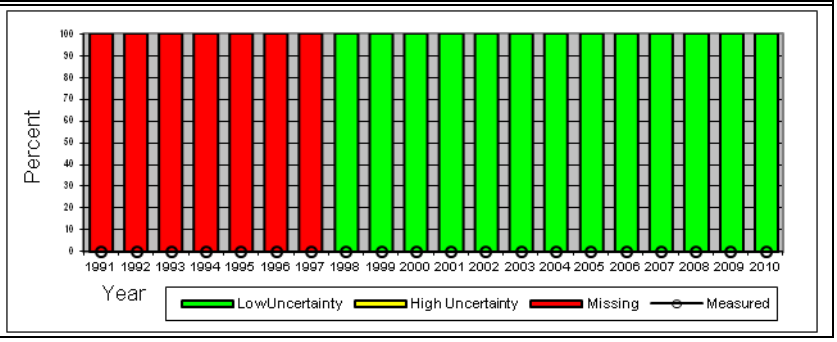
726816	JEROME, ID
Class III	
Solar Coordinates	
Latitude: 42.733˚	
Longitude: -114.45˚	
Elevation: 1233 m	
Meteorological Coordinates	
Latitude: 42.733˚	
Longitude: -114.45˚	
Elevation: 1233 m	
Time Zone: -7	

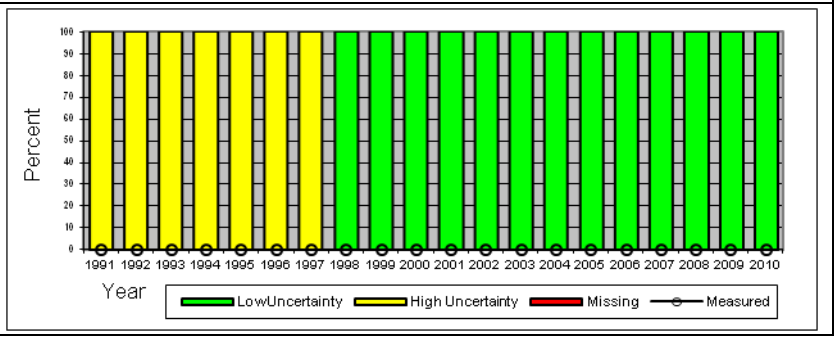
725866	JOSLIN FLD MAGIC VA [TWIN FALLS - OU], ID
Class II (with some measured)	
Solar Coordinates	
Latitude: 42.55˚	
Longitude: -114.35˚	
Elevation: 1200 m	
Meteorological Coordinates	
Latitude: 42.483˚	
Longitude: -114.483˚	
Elevation: 1297 m	
Time Zone: -7	

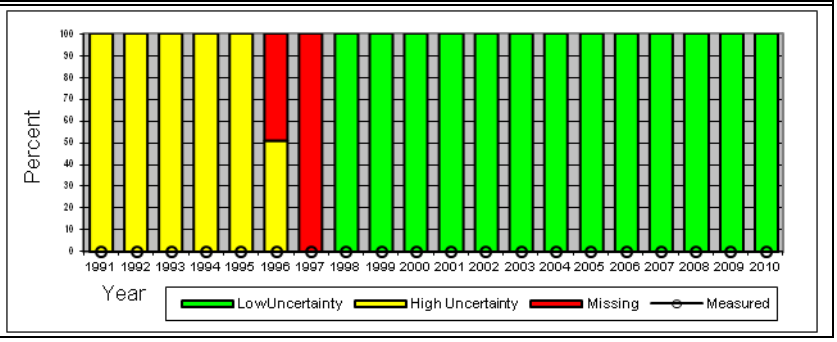
727830	LEWISTON NEZ PERCE CNTY AP, ID
Class I	
Solar Coordinates	
Latitude: 46.367˚	
Longitude: -117.017˚	
Elevation: 438 m	
Meteorological Coordinates	
Latitude: 46.367˚	
Longitude: -117.017˚	
Elevation: 438 m	
Time Zone: -8	

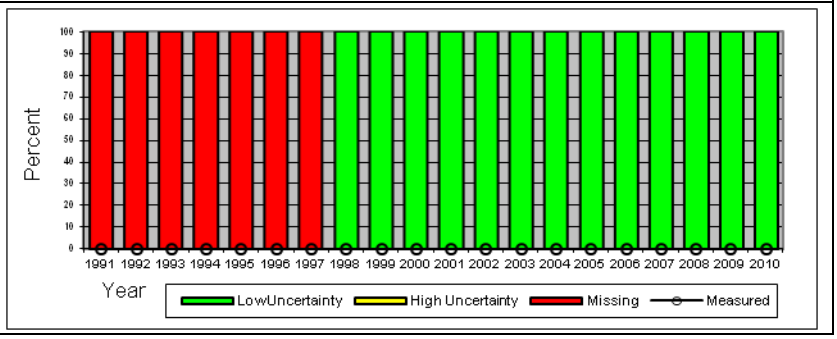
725786	MALAD CITY, ID
Class III	
Solar Coordinates	
Latitude: 42.15˚	
Longitude: -112.283˚	
Elevation: 1362 m	
Meteorological Coordinates	
Latitude: 42.15˚	
Longitude: -112.283˚	
Elevation: 1362 m	
Time Zone: -7	

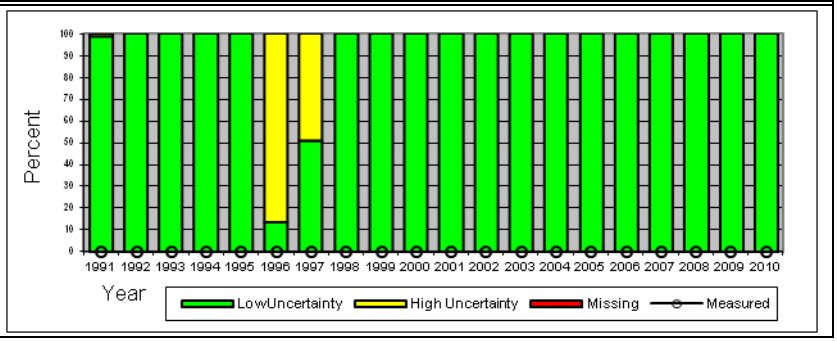
725869	MALTA, ID
Class III	
Solar Coordinates	
Latitude: 42.3˚	
Longitude: -113.333˚	
Elevation: 1384 m	
Meteorological Coordinates	
Latitude: 42.3˚	
Longitude: -113.333˚	
Elevation: 1384 m	
Time Zone: -7	

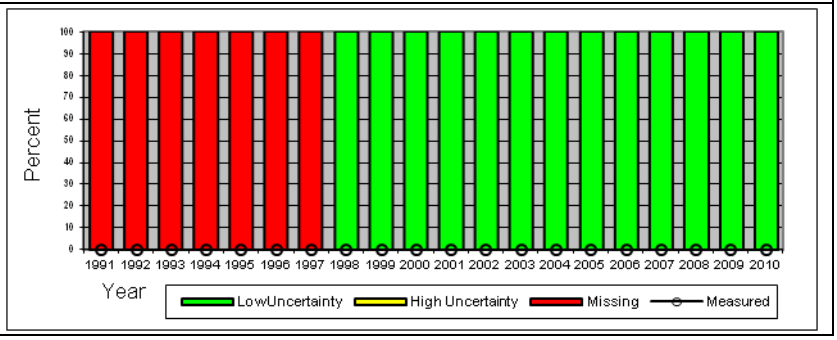
725864	MCCALL ARPT, ID
Class III	
Solar Coordinates	
Latitude: 44.883˚	
Longitude: -116.1˚	
Elevation: 1530 m	
Meteorological Coordinates	
Latitude: 44.883˚	
Longitude: -116.1˚	
Elevation: 1530 m	
Time Zone: -7	

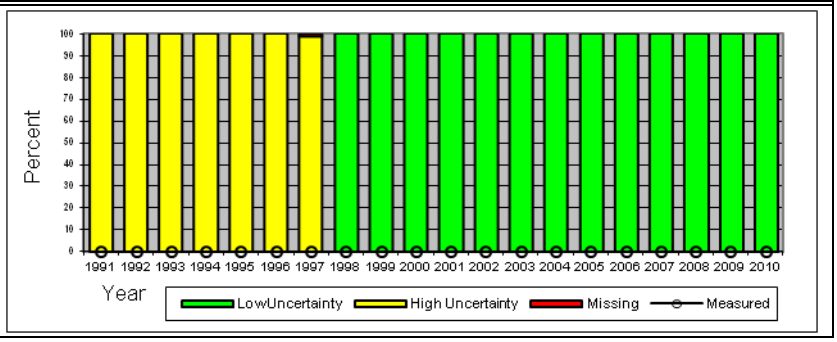
726815	MOUNTAIN HOME AFB, ID
Class II	
Solar Coordinates	
Latitude: 43.05˚	
Longitude: -115.867˚	
Elevation: 912 m	
Meteorological Coordinates	
Latitude: 43.05˚	
Longitude: -115.867˚	
Elevation: 912 m	
Time Zone: -7	

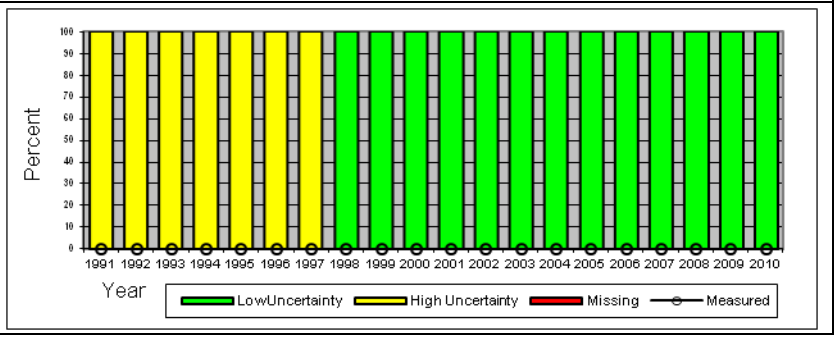
727836	MULLAN (AWRS), ID
Class III	
Solar Coordinates	
Latitude: 47.467˚	
Longitude: -115.8˚	
Elevation: 1011 m	
Meteorological Coordinates	
Latitude: 47.467˚	
Longitude: -115.8˚	
Elevation: 1011 m	
Time Zone: -8	

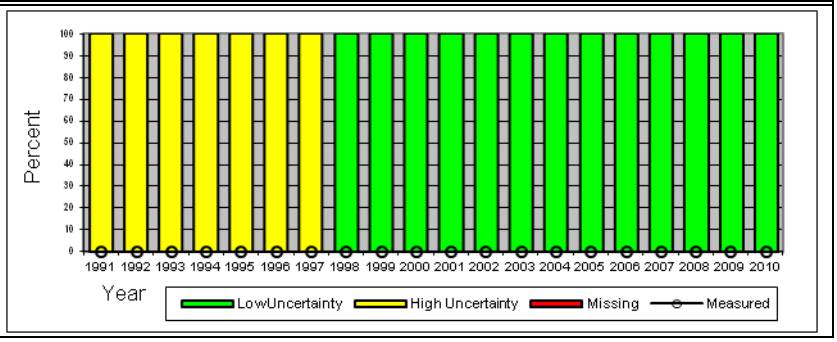
726817	MULLAN PASS, ID
Class III	
Solar Coordinates	
Latitude: 47.45˚	
Longitude: -115.667˚	
Elevation: 1829 m	
Meteorological Coordinates	
Latitude: 47.45˚	
Longitude: -115.667˚	
Elevation: 1829 m	
Time Zone: -8	

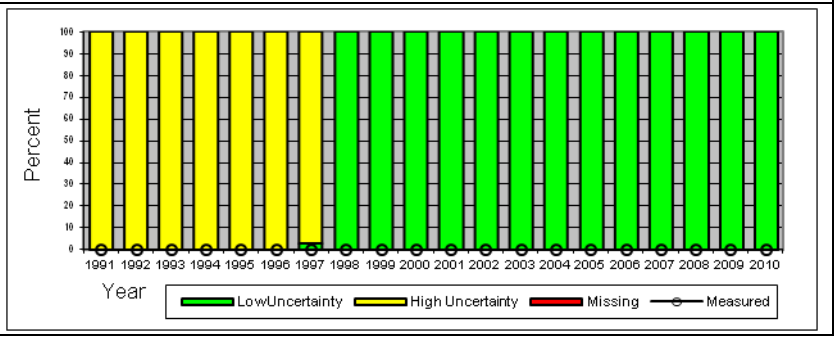
725780	POCATELLO REGIONAL AP, ID
Class I	
Solar Coordinates	
Latitude: 42.917˚	
Longitude: -112.567˚	
Elevation: 1353 m	
Meteorological Coordinates	
Latitude: 42.917˚	
Longitude: -112.567˚	
Elevation: 1353 m	
Time Zone: -7	

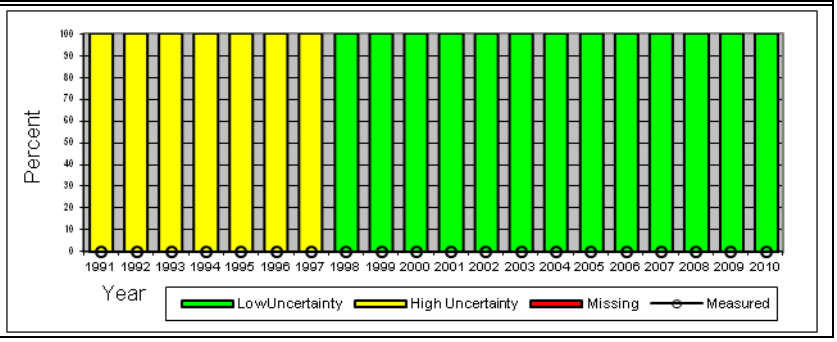
726818	REXBURG, ID
Class III	
Solar Coordinates	
Latitude: 43.833˚	
Longitude: -111.8˚	
Elevation: 1481 m	
Meteorological Coordinates	
Latitude: 43.833˚	
Longitude: -111.8˚	
Elevation: 1481 m	
Time Zone: -7	

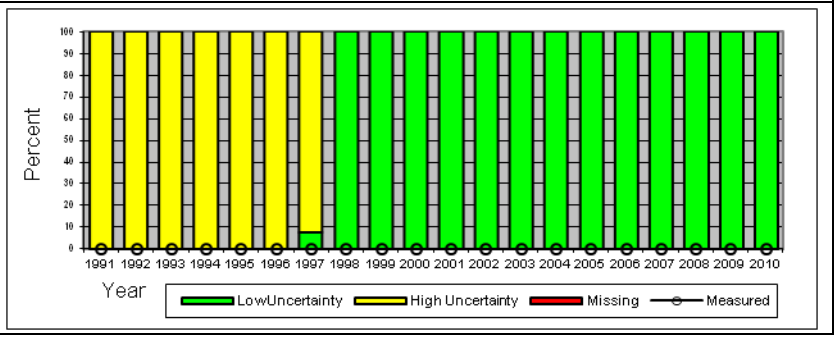
726866	SALMON, ID
Class III	
Solar Coordinates	
Latitude: 45.183˚	
Longitude: -113.9˚	
Elevation: 1210 m	
Meteorological Coordinates	
Latitude: 45.183˚	
Longitude: -113.9˚	
Elevation: 1210 m	
Time Zone: -7	

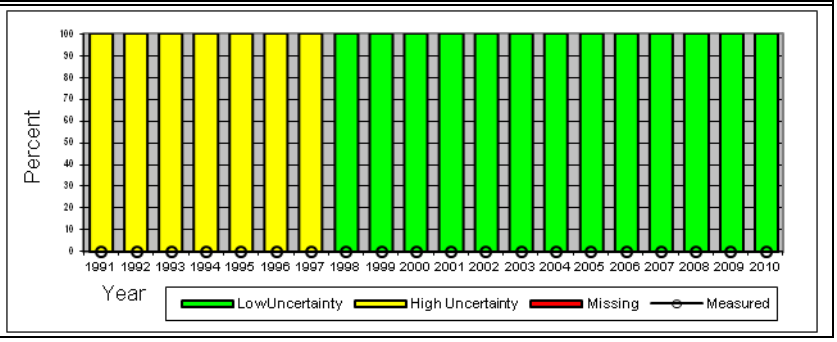
726865	SALMON/LEMHI (AWOS), ID
Class III	
Solar Coordinates	
Latitude: 45.117˚	
Longitude: -113.883˚	
Elevation: 1233 m	
Meteorological Coordinates	
Latitude: 45.117˚	
Longitude: -113.883˚	
Elevation: 1233 m	
Time Zone: -7	

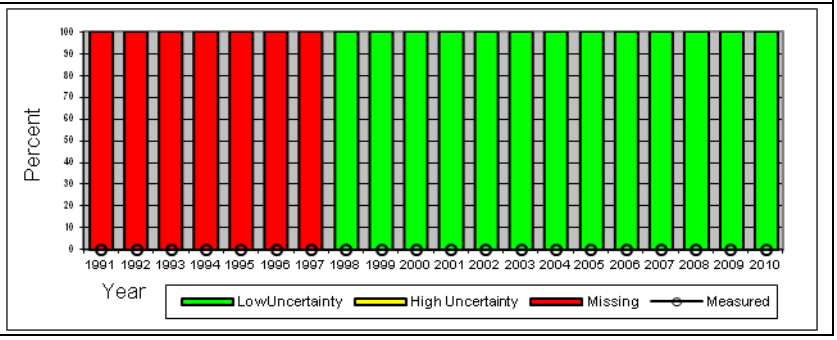
725868	SODA SPRINGS/TIGERT, ID
Class II	
Solar Coordinates	
Latitude: 42.65˚	
Longitude: -111.583˚	
Elevation: 1780 m	
Meteorological Coordinates	
Latitude: 42.65˚	
Longitude: -111.583˚	
Elevation: 1780 m	
Time Zone: -7	

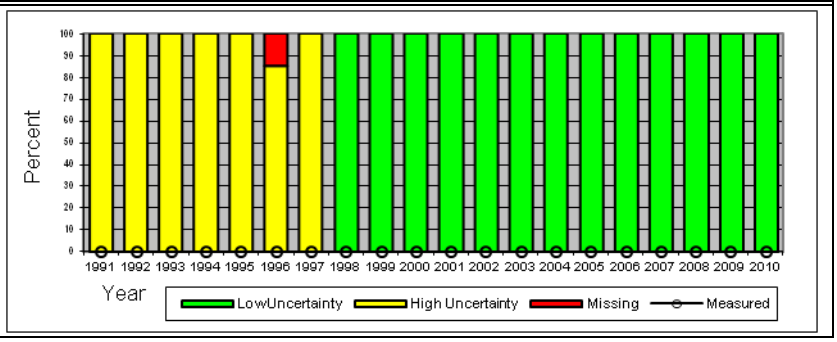
744655	AURORA MUNICIPAL, IL
Class II	
Solar Coordinates	
Latitude: 41.767˚	
Longitude: -88.467˚	
Elevation: 215 m	
Meteorological Coordinates	
Latitude: 41.767˚	
Longitude: -88.467˚	
Elevation: 215 m	
Time Zone: -6	

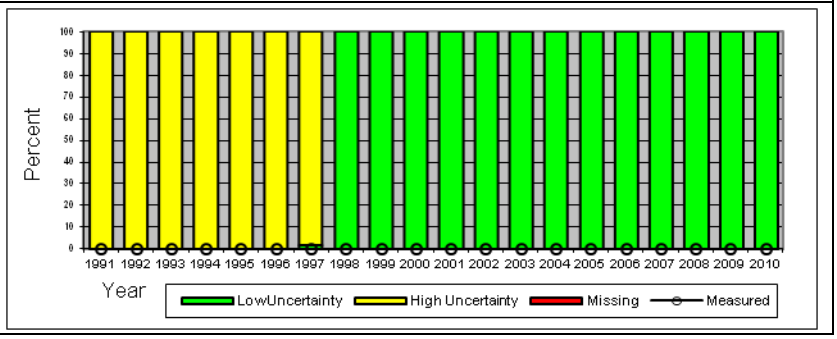
724338	BELLEVILLE SCOTT AFB, IL
Class II	
Solar Coordinates	
Latitude: 38.55˚	
Longitude: -89.85˚	
Elevation: 135 m	
Meteorological Coordinates	
Latitude: 38.55˚	
Longitude: -89.85˚	
Elevation: 135 m	
Time Zone: -6	

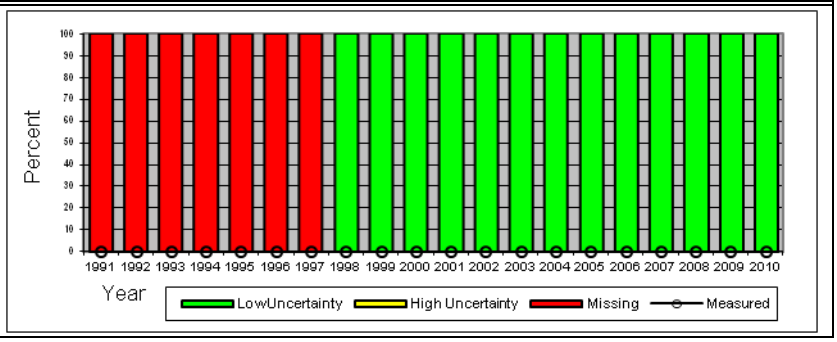
725314	CAHOKIA/ST. LOUIS, IL
Class II	
Solar Coordinates	
Latitude: 38.567˚	
Longitude: -90.15˚	
Elevation: 126 m	
Meteorological Coordinates	
Latitude: 38.567˚	
Longitude: -90.15˚	
Elevation: 126 m	
Time Zone: -6	

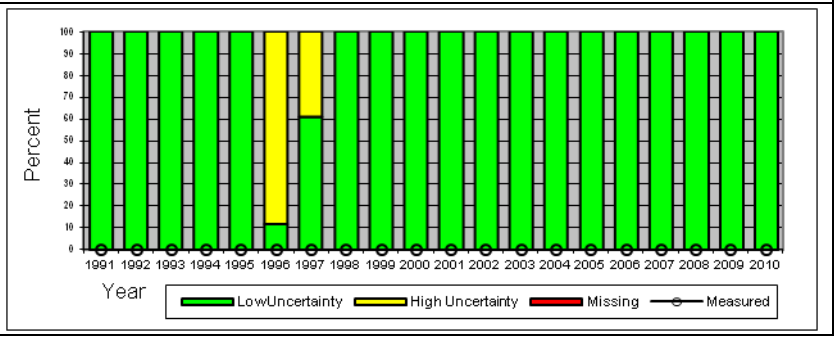
724397	CENTRAL ILLINOIS RG, IL
Class II	
Solar Coordinates	
Latitude: 40.467˚	
Longitude: -88.917˚	
Elevation: 272 m	
Meteorological Coordinates	
Latitude: 40.467˚	
Longitude: -88.917˚	
Elevation: 272 m	
Time Zone: -6	

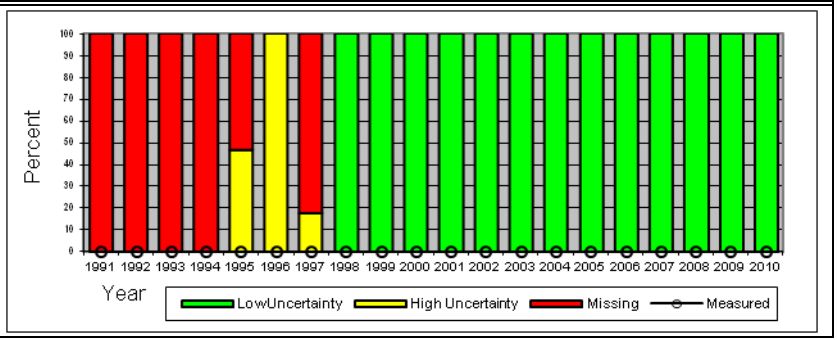
744657	CENTRALIA, IL
Class III	
Solar Coordinates	
Latitude: 38.517˚	
Longitude: -89.1˚	
Elevation: 163 m	
Meteorological Coordinates	
Latitude: 38.517˚	
Longitude: -89.1˚	
Elevation: 163 m	
Time Zone: -6	

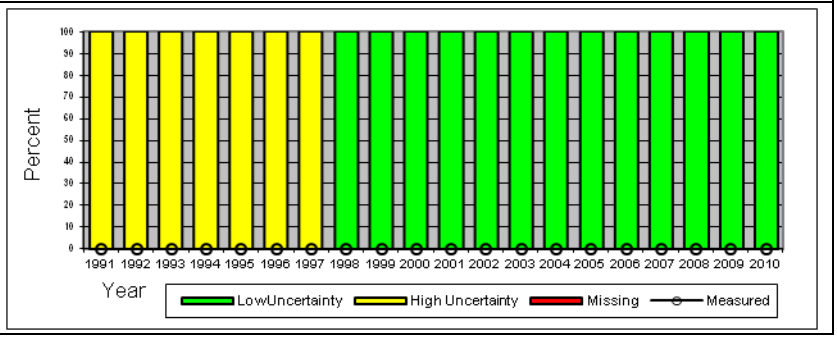
725346	CHICAGO MEIGS FIELD, IL
Class III	
Solar Coordinates	
Latitude: 41.867˚	
Longitude: -87.617˚	
Elevation: 180 m	
Meteorological Coordinates	
Latitude: 41.867˚	
Longitude: -87.617˚	
Elevation: 180 m	
Time Zone: -6	

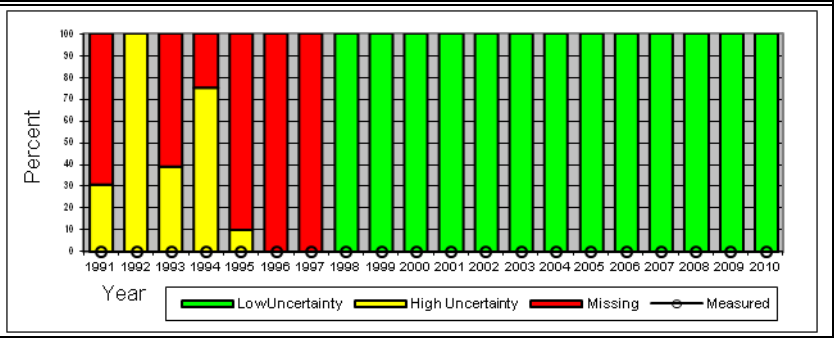
725340	CHICAGO MIDWAY AP, IL
Class II	
Solar Coordinates	
Latitude: 41.783˚	
Longitude: -87.75˚	
Elevation: 186 m	
Meteorological Coordinates	
Latitude: 41.783˚	
Longitude: -87.75˚	
Elevation: 186 m	
Time Zone: -6	

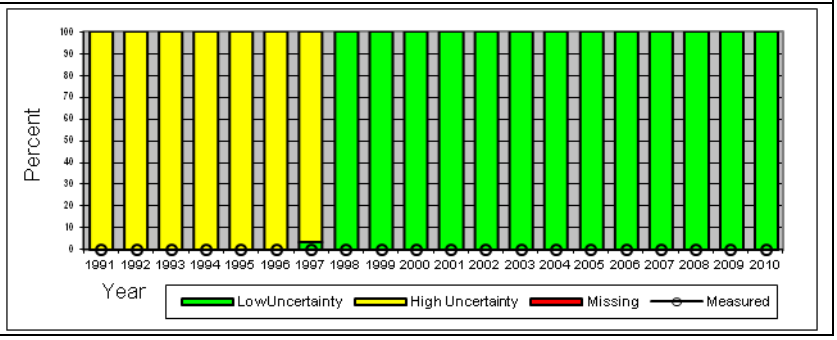
725348	CHICAGO NEXRAD, IL
Class III	
Solar Coordinates	
Latitude: 41.6˚	
Longitude: -88.083˚	
Elevation: 231 m	
Meteorological Coordinates	
Latitude: 41.6˚	
Longitude: -88.083˚	
Elevation: 231 m	
Time Zone: -6	

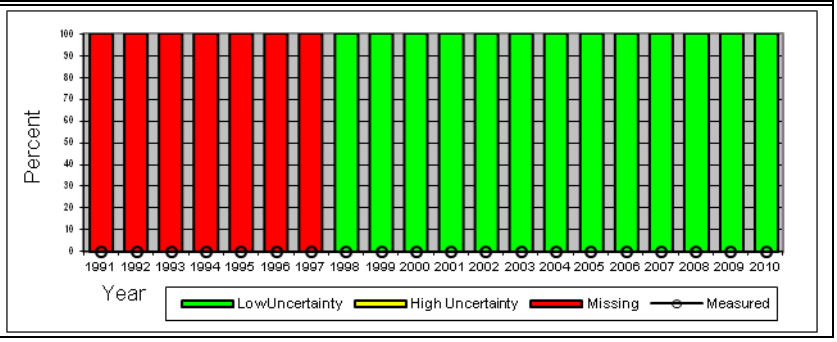
725300	CHICAGO OHARE INTL AP, IL
Class I	
Solar Coordinates	
Latitude: 41.983˚	
Longitude: -87.917˚	
Elevation: 201 m	
Meteorological Coordinates	
Latitude: 41.983˚	
Longitude: -87.917˚	
Elevation: 201 m	
Time Zone: -6	

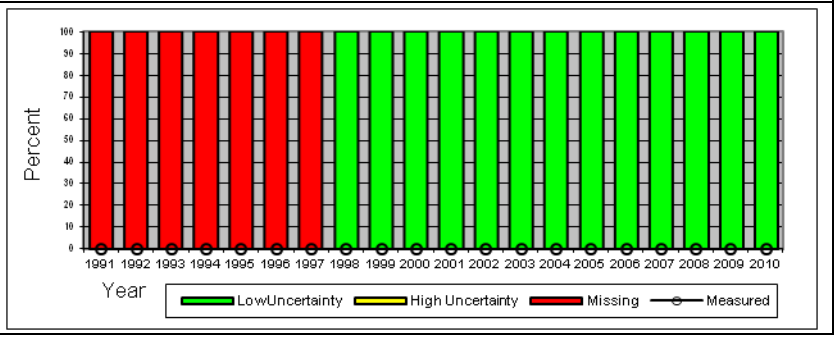
744665	CHICAGO/PALWAUKEE, IL
Class III	
Solar Coordinates	
Latitude: 42.117˚	
Longitude: -87.9˚	
Elevation: 197 m	
Meteorological Coordinates	
Latitude: 42.117˚	
Longitude: -87.9˚	
Elevation: 197 m	
Time Zone: -6	

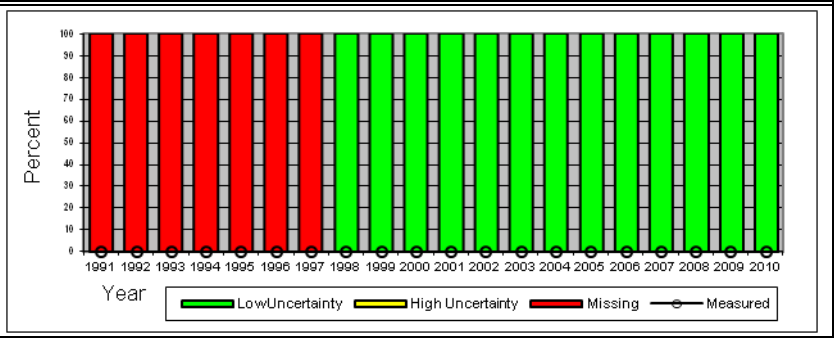
725347	CHICAGO/WAUKEGAN, IL
Class II	
Solar Coordinates	
Latitude: 42.417˚	
Longitude: -87.867˚	
Elevation: 222 m	
Meteorological Coordinates	
Latitude: 42.417˚	
Longitude: -87.867˚	
Elevation: 222 m	
Time Zone: -6	

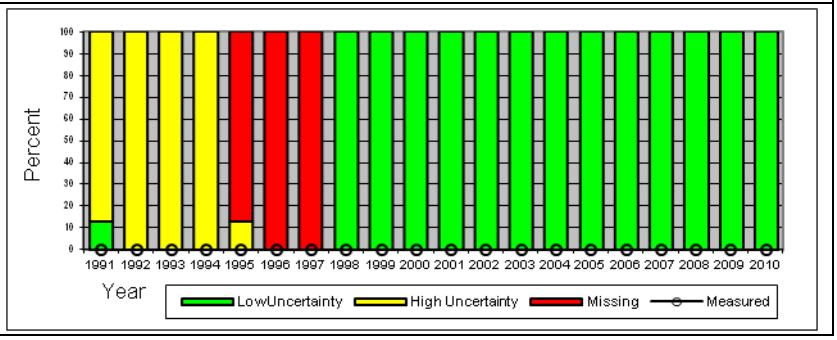
724398	DANVILLE/VERMILION, IL
Class III	
Solar Coordinates	
Latitude: 40.2˚	
Longitude: -87.6˚	
Elevation: 212 m	
Meteorological Coordinates	
Latitude: 40.2˚	
Longitude: -87.6˚	
Elevation: 212 m	
Time Zone: -6	

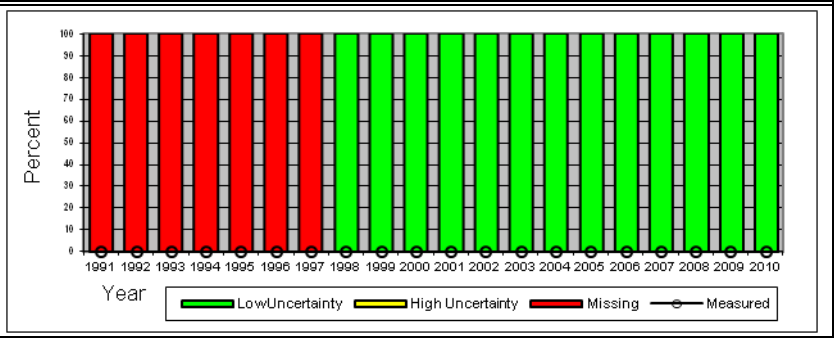
725316	DECATUR, IL
Class II	
Solar Coordinates	
Latitude: 39.833˚	
Longitude: -88.867˚	
Elevation: 213 m	
Meteorological Coordinates	
Latitude: 39.833˚	
Longitude: -88.867˚	
Elevation: 213 m	
Time Zone: -6	

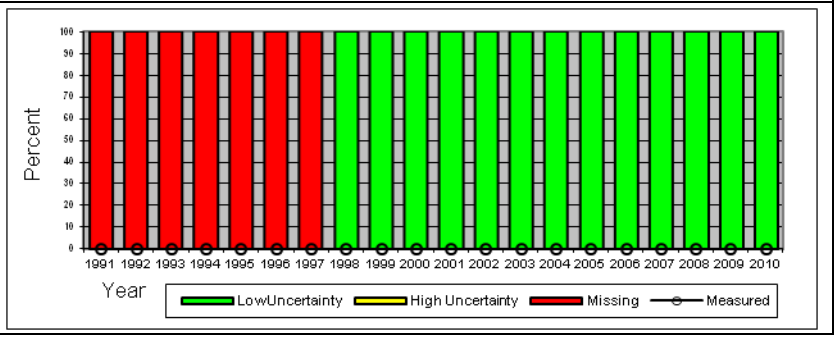
744661	EFFINGHAM, IL
Class III	
Solar Coordinates	
Latitude: 39.067˚	
Longitude: -88.533˚	
Elevation: 179 m	
Meteorological Coordinates	
Latitude: 39.067˚	
Longitude: -88.533˚	
Elevation: 179 m	
Time Zone: -6	

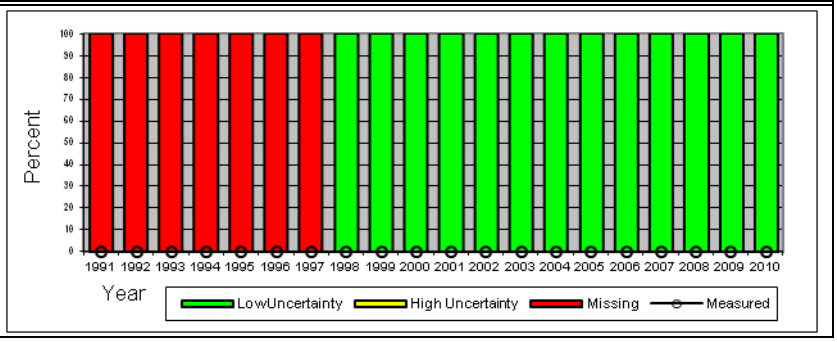
744656	FAIRFIELD, IL
Class III	
Solar Coordinates	
Latitude: 38.417˚	
Longitude: -88.417˚	
Elevation: 133 m	
Meteorological Coordinates	
Latitude: 38.417˚	
Longitude: -88.417˚	
Elevation: 133 m	
Time Zone: -6	

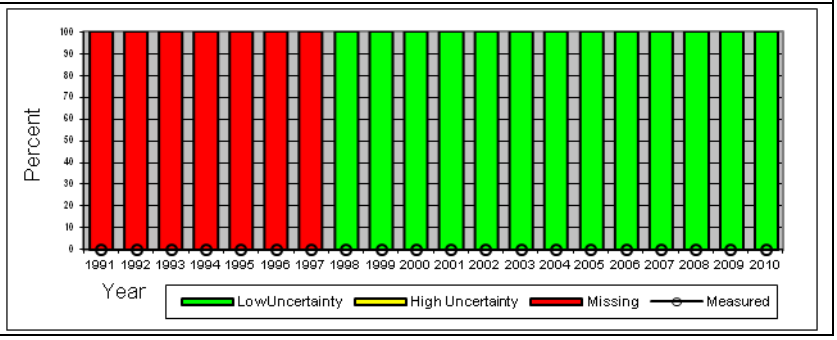
744658	FLORA, IL
Class III	
Solar Coordinates	
Latitude: 38.667˚	
Longitude: -88.45˚	
Elevation: 144 m	
Meteorological Coordinates	
Latitude: 38.667˚	
Longitude: -88.45˚	
Elevation: 144 m	
Time Zone: -6	

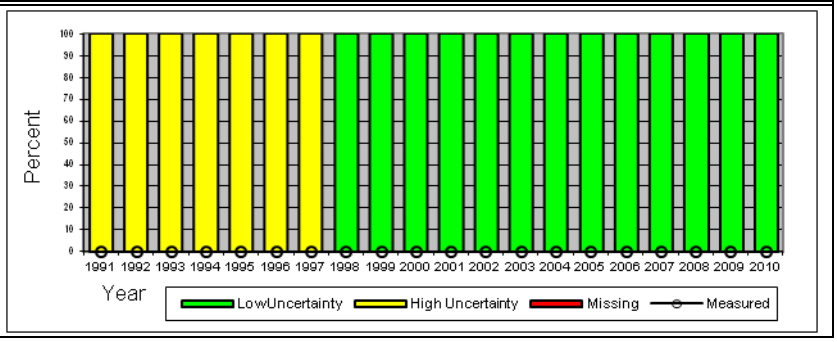
725306	GLENVIEW NAS, IL
Class III	
Solar Coordinates	
Latitude: 42.083˚	
Longitude: -87.833˚	
Elevation: 197 m	
Meteorological Coordinates	
Latitude: 42.083˚	
Longitude: -87.833˚	
Elevation: 197 m	
Time Zone: -6	

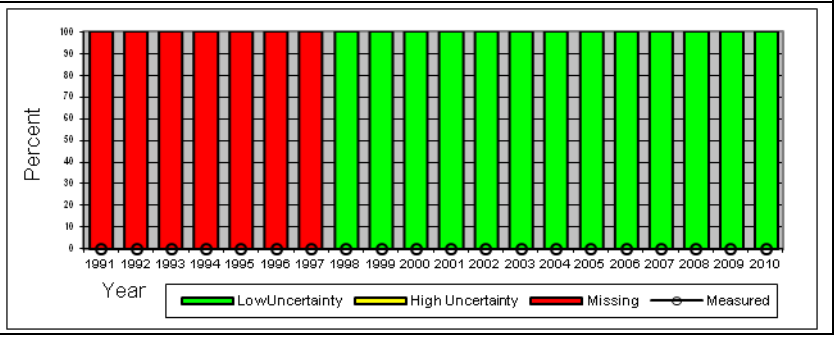
744652	HARRISBURG, IL
Class III	
Solar Coordinates	
Latitude: 37.817˚	
Longitude: -88.55˚	
Elevation: 121 m	
Meteorological Coordinates	
Latitude: 37.817˚	
Longitude: -88.55˚	
Elevation: 121 m	
Time Zone: -6	

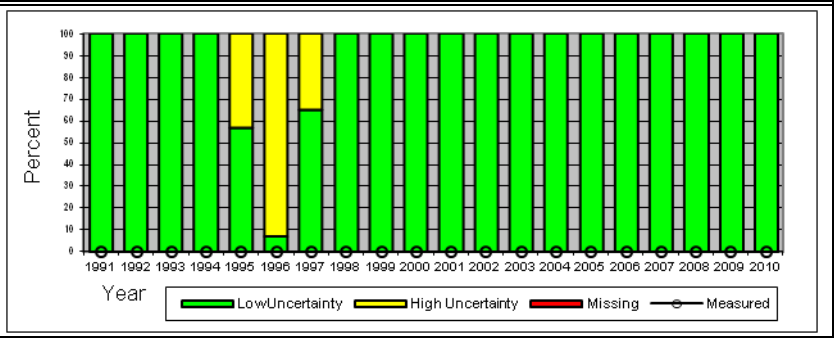
744666	JACKSONVILLE, IL
Class III	
Solar Coordinates	
Latitude: 39.767˚	
Longitude: -90.233˚	
Elevation: 190 m	
Meteorological Coordinates	
Latitude: 39.767˚	
Longitude: -90.233˚	
Elevation: 190 m	
Time Zone: -6	

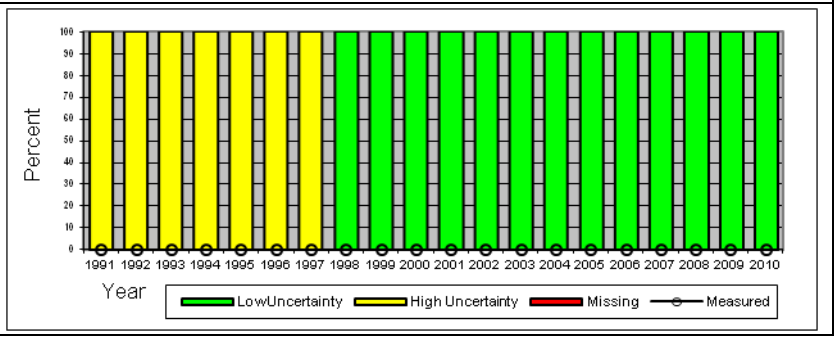
725345	JOLIET PARK DISTRIC, IL
Class III	
Solar Coordinates	
Latitude: 41.517˚	
Longitude: -88.183˚	
Elevation: 177 m	
Meteorological Coordinates	
Latitude: 41.517˚	
Longitude: -88.183˚	
Elevation: 177 m	
Time Zone: -6	

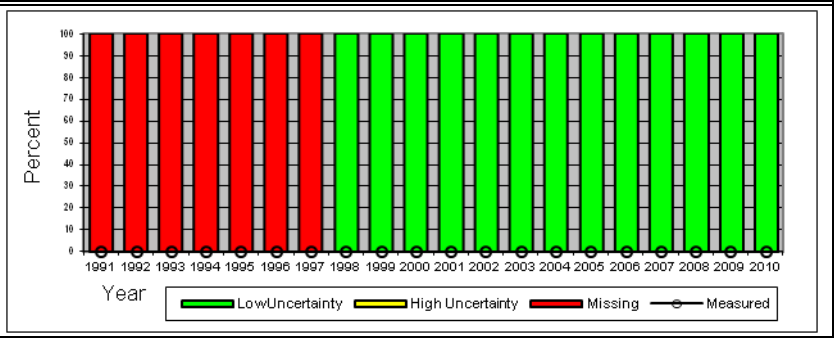
744672	LINCOLN, IL
Class III	
Solar Coordinates	
Latitude: 40.15˚	
Longitude: -89.333˚	
Elevation: 178 m	
Meteorological Coordinates	
Latitude: 40.15˚	
Longitude: -89.333˚	
Elevation: 178 m	
Time Zone: -6	

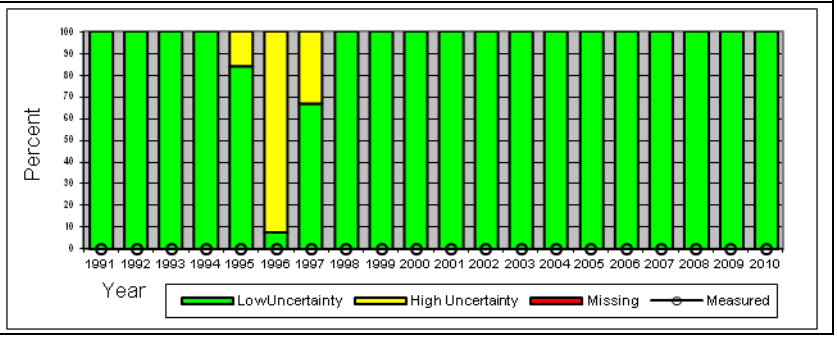
724339	MARION REGIONAL, IL
Class II	
Solar Coordinates	
Latitude: 37.75˚	
Longitude: -89.017˚	
Elevation: 144 m	
Meteorological Coordinates	
Latitude: 37.75˚	
Longitude: -89.017˚	
Elevation: 144 m	
Time Zone: -6	

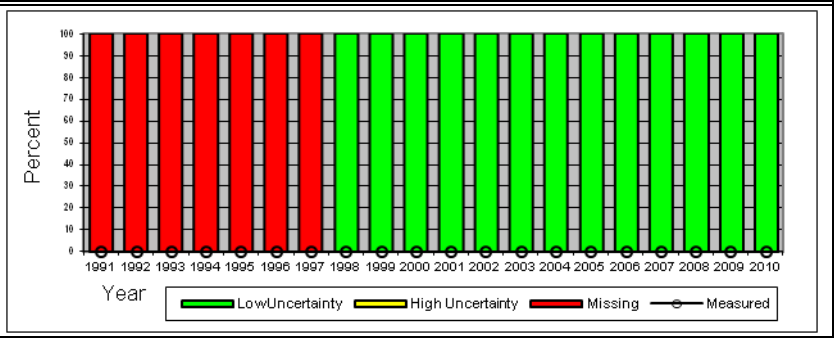
725317	MATTOON/CHARLESTON, IL
Class III	
Solar Coordinates	
Latitude: 39.483˚	
Longitude: -88.283˚	
Elevation: 220 m	
Meteorological Coordinates	
Latitude: 39.483˚	
Longitude: -88.283˚	
Elevation: 220 m	
Time Zone: -6	

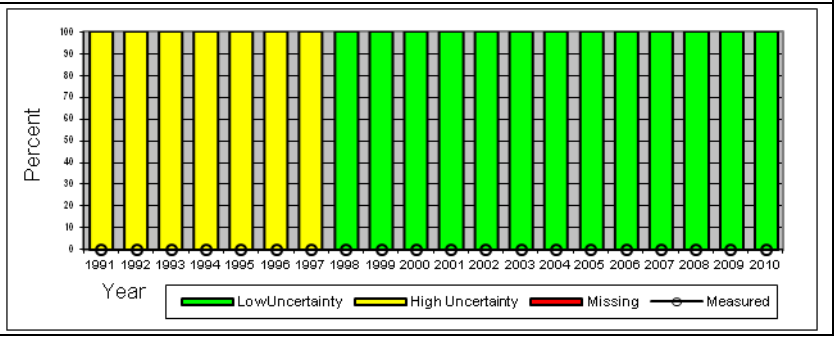
725440	MOLINE QUAD CITY INTL AP, IL
Class I	
Solar Coordinates	
Latitude: 41.467˚	
Longitude: -90.517˚	
Elevation: 180 m	
Meteorological Coordinates	
Latitude: 41.467˚	
Longitude: -90.517˚	
Elevation: 180 m	
Time Zone: -6	

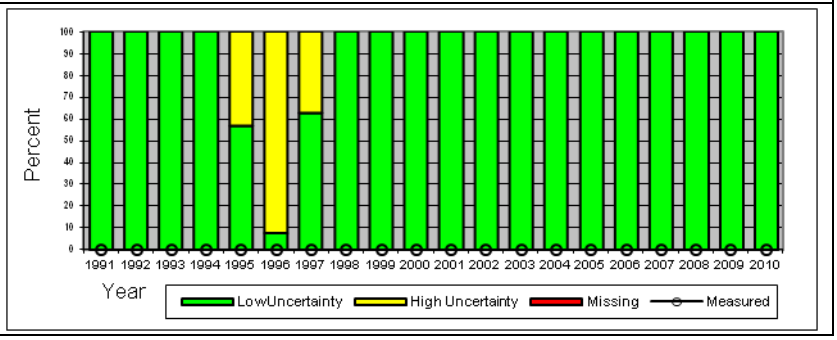
724335	MOUNT VERNON (AWOS), IL
Class II	
Solar Coordinates	
Latitude: 38.317˚	
Longitude: -88.867˚	
Elevation: 146 m	
Meteorological Coordinates	
Latitude: 38.317˚	
Longitude: -88.867˚	
Elevation: 146 m	
Time Zone: -6	

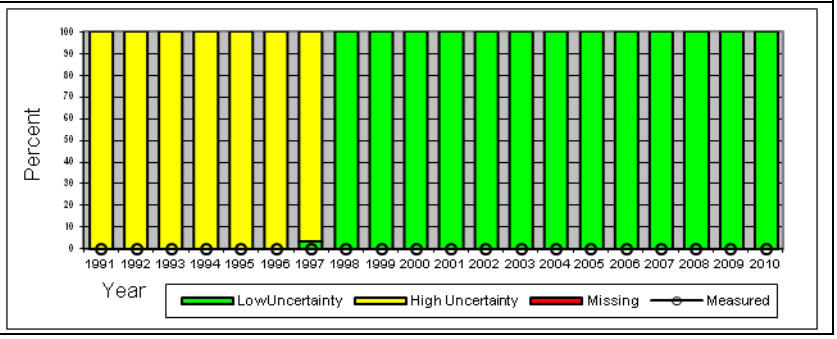
744659	OLNEY-NOBLE, IL
Class III	
Solar Coordinates	
Latitude: 38.717˚	
Longitude: -88.183˚	
Elevation: 147 m	
Meteorological Coordinates	
Latitude: 38.717˚	
Longitude: -88.183˚	
Elevation: 147 m	
Time Zone: -6	

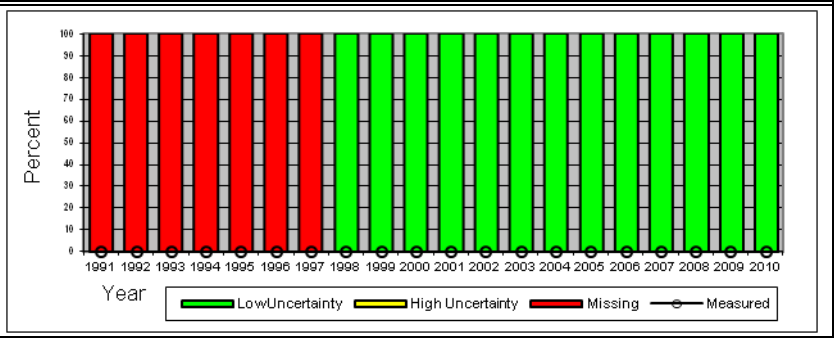
725320	PEORIA GREATER PEORIA AP, IL
Class I	
Solar Coordinates	
Latitude: 40.667˚	
Longitude: -89.683˚	
Elevation: 199 m	
Meteorological Coordinates	
Latitude: 40.667˚	
Longitude: -89.683˚	
Elevation: 199 m	
Time Zone: -6	

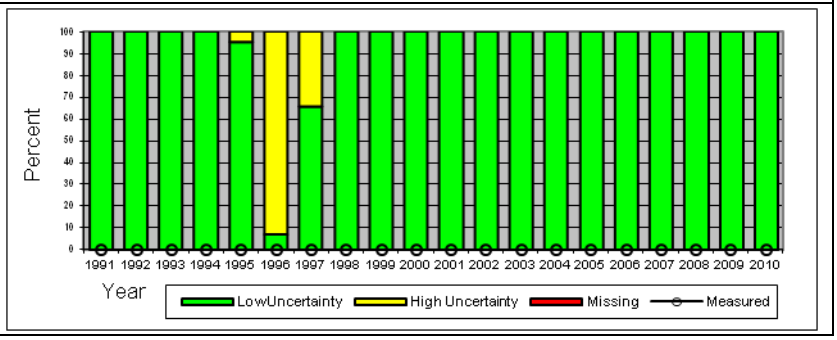
744663	PITTSFIELD, IL
Class III	
Solar Coordinates	
Latitude: 39.633˚	
Longitude: -90.783˚	
Elevation: 216 m	
Meteorological Coordinates	
Latitude: 39.633˚	
Longitude: -90.783˚	
Elevation: 216 m	
Time Zone: -6	

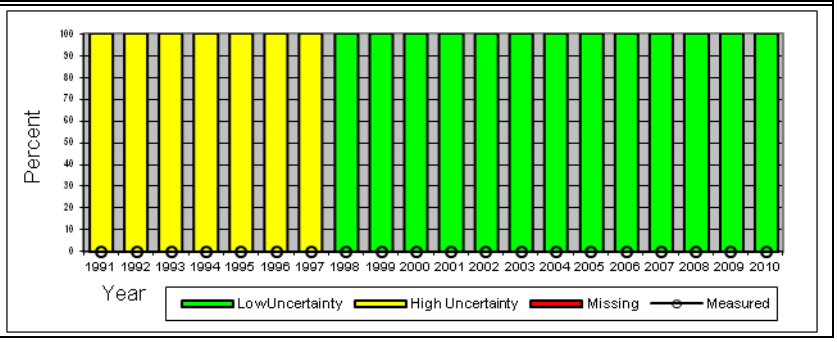
724396	QUINCY MUNI BALDWIN FLD, IL
Class II	
Solar Coordinates	
Latitude: 39.933˚	
Longitude: -91.2˚	
Elevation: 233 m	
Meteorological Coordinates	
Latitude: 39.933˚	
Longitude: -91.2˚	
Elevation: 233 m	
Time Zone: -6	

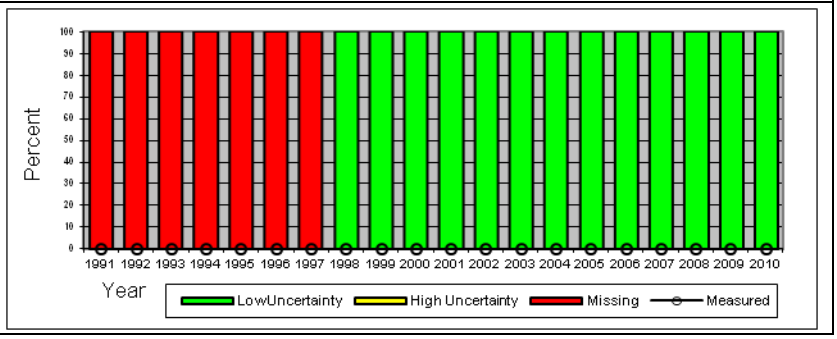
725430	ROCKFORD GREATER ROCKFORD AP, IL
Class I	
Solar Coordinates	
Latitude: 42.2˚	
Longitude: -89.1˚	
Elevation: 223 m	
Meteorological Coordinates	
Latitude: 42.2˚	
Longitude: -89.1˚	
Elevation: 223 m	
Time Zone: -6	

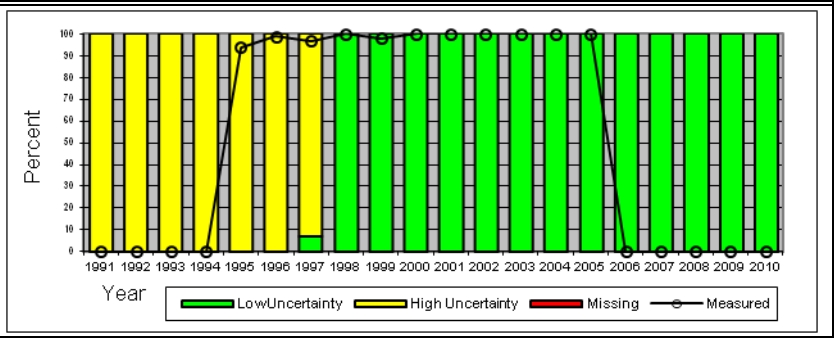
724336	SOUTHERN ILLINOIS, IL
Class II	
Solar Coordinates	
Latitude: 37.767˚	
Longitude: -89.25˚	
Elevation: 128 m	
Meteorological Coordinates	
Latitude: 37.767˚	
Longitude: -89.25˚	
Elevation: 128 m	
Time Zone: -6	

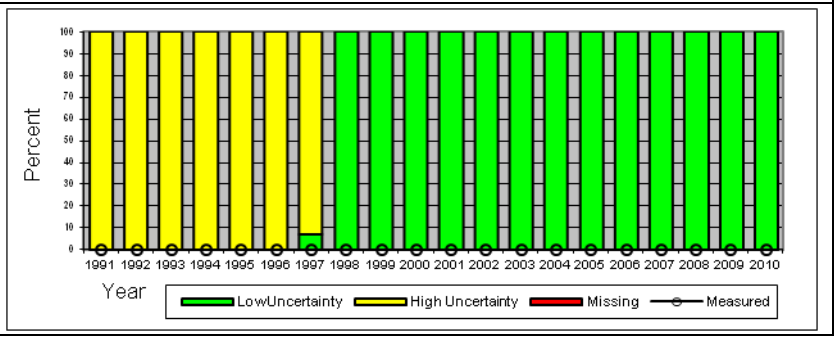
744653	SPARTA, IL
Class III	
Solar Coordinates	
Latitude: 38.15˚	
Longitude: -89.7˚	
Elevation: 164 m	
Meteorological Coordinates	
Latitude: 38.15˚	
Longitude: -89.7˚	
Elevation: 164 m	
Time Zone: -6	

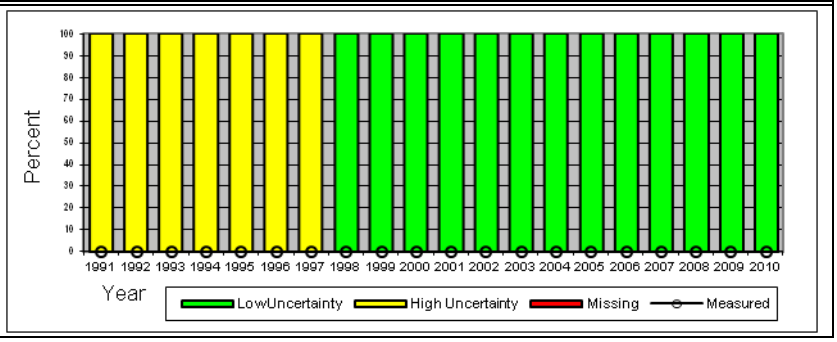
724390	SPRINGFIELD CAPITAL AP, IL
Class I	
Solar Coordinates	
Latitude: 39.85˚	
Longitude: -89.683˚	
Elevation: 179 m	
Meteorological Coordinates	
Latitude: 39.85˚	
Longitude: -89.683˚	
Elevation: 179 m	
Time Zone: -6	

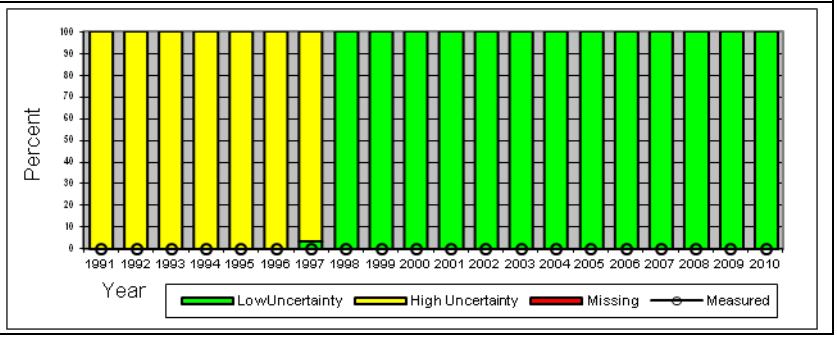
725326	STERLING ROCKFALLS, IL
Class II	
Solar Coordinates	
Latitude: 41.75˚	
Longitude: -89.667˚	
Elevation: 197 m	
Meteorological Coordinates	
Latitude: 41.75˚	
Longitude: -89.667˚	
Elevation: 197 m	
Time Zone: -6	

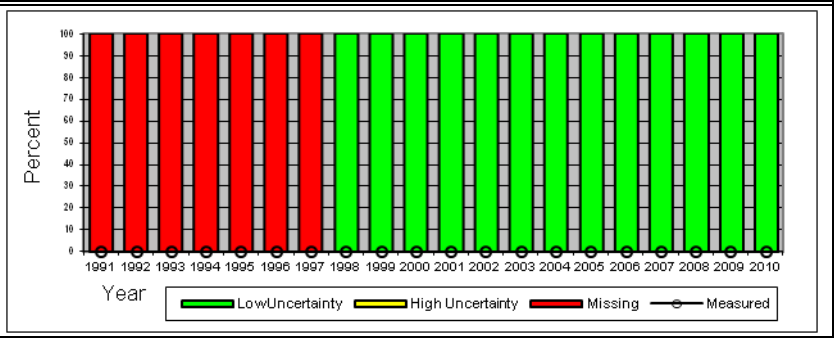
744662	TAYLORSVILLE, IL
Class III	
Solar Coordinates	
Latitude: 39.533˚	
Longitude: -89.333˚	
Elevation: 190 m	
Meteorological Coordinates	
Latitude: 39.533˚	
Longitude: -89.333˚	
Elevation: 190 m	
Time Zone: -6	

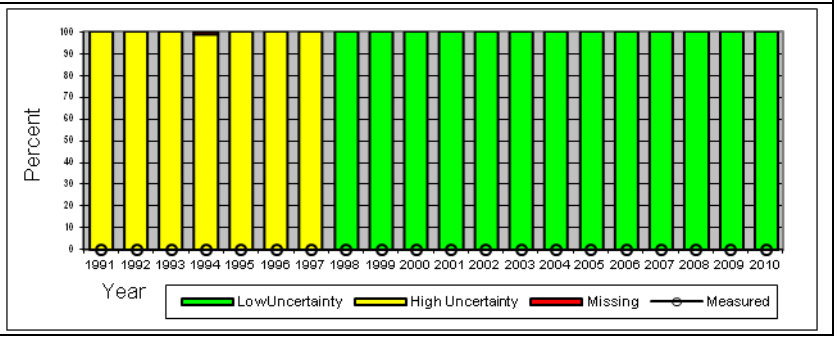
725315	UNIV OF ILLINOIS WI [BONDVILLE - SURFRAD], IL
Class II (with some measured)	
Solar Coordinates	
Latitude: 40.06˚	
Longitude: -88.37˚	
Elevation: 213 m	
Meteorological Coordinates	
Latitude: 40.033˚	
Longitude: -88.283˚	
Elevation: 236 m	
Time Zone: -6	

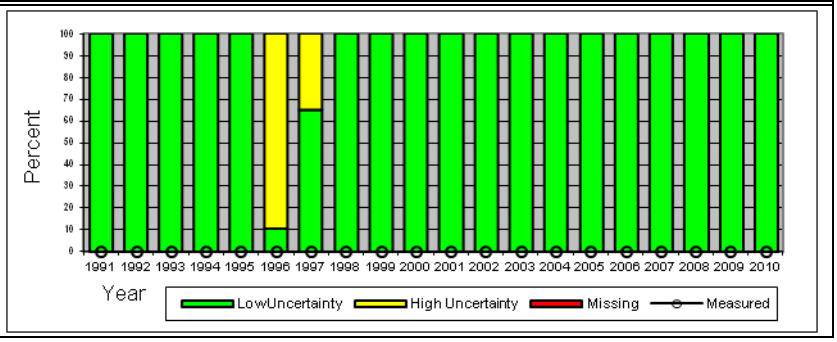
725305	W. CHICAGO/DU PAGE, IL
Class II	
Solar Coordinates	
Latitude: 41.917˚	
Longitude: -88.25˚	
Elevation: 231 m	
Meteorological Coordinates	
Latitude: 41.917˚	
Longitude: -88.25˚	
Elevation: 231 m	
Time Zone: -6	

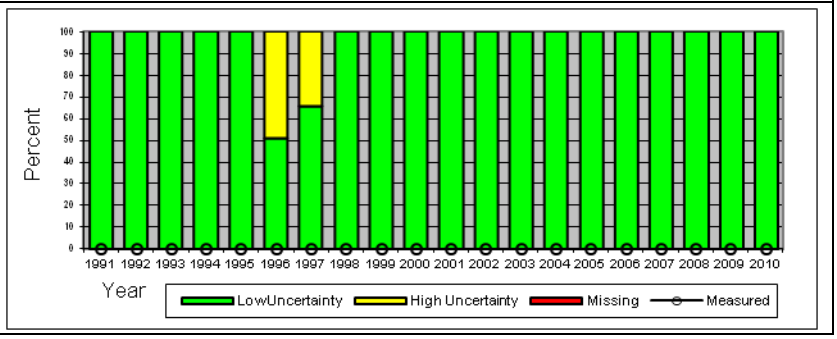
724385	ANDERSON MUNICIPAL, IN
Class III	
Solar Coordinates	
Latitude: 40.117˚	
Longitude: -85.617˚	
Elevation: 280 m	
Meteorological Coordinates	
Latitude: 40.117˚	
Longitude: -85.617˚	
Elevation: 280 m	
Time Zone: -5	

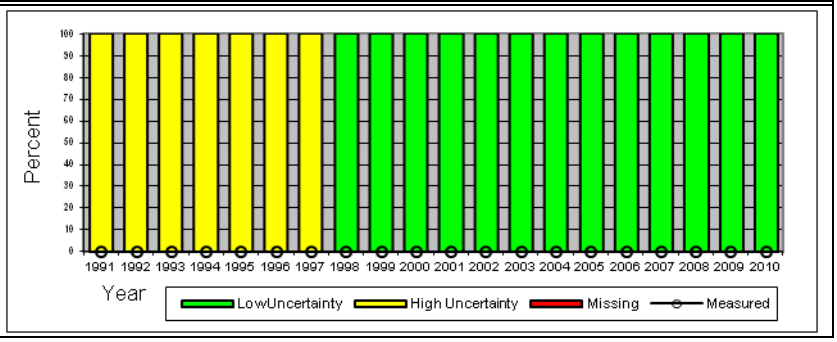
725336	DELAWARE CO JOHNSON, IN
Class II	
Solar Coordinates	
Latitude: 40.233˚	
Longitude: -85.4˚	
Elevation: 293 m	
Meteorological Coordinates	
Latitude: 40.233˚	
Longitude: -85.4˚	
Elevation: 293 m	
Time Zone: -5	

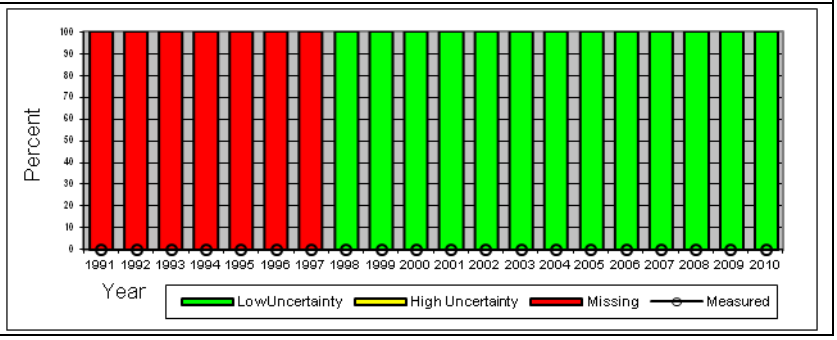
724384	EAGLE CREEK, IN
Class III	
Solar Coordinates	
Latitude: 39.833˚	
Longitude: -86.3˚	
Elevation: 250 m	
Meteorological Coordinates	
Latitude: 39.833˚	
Longitude: -86.3˚	
Elevation: 250 m	
Time Zone: -5	

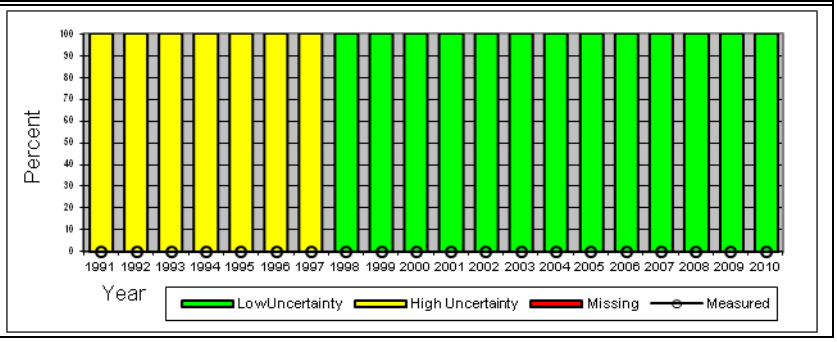
725354	ELKHART MUNI, IN
Class III	
Solar Coordinates	
Latitude: 41.717˚	
Longitude: -86˚	
Elevation: 243 m	
Meteorological Coordinates	
Latitude: 41.717˚	
Longitude: -86˚	
Elevation: 243 m	
Time Zone: -5	

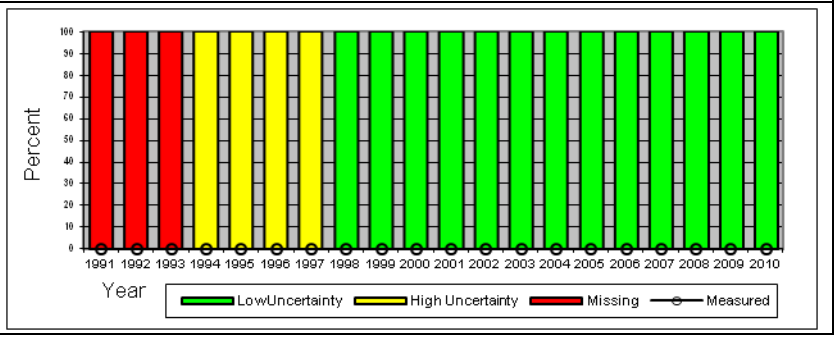
724320	EVANSVILLE REGIONAL AP, IN
Class I	
Solar Coordinates	
Latitude: 38.05˚	
Longitude: -87.533˚	
Elevation: 116 m	
Meteorological Coordinates	
Latitude: 38.05˚	
Longitude: -87.533˚	
Elevation: 116 m	
Time Zone: -6	

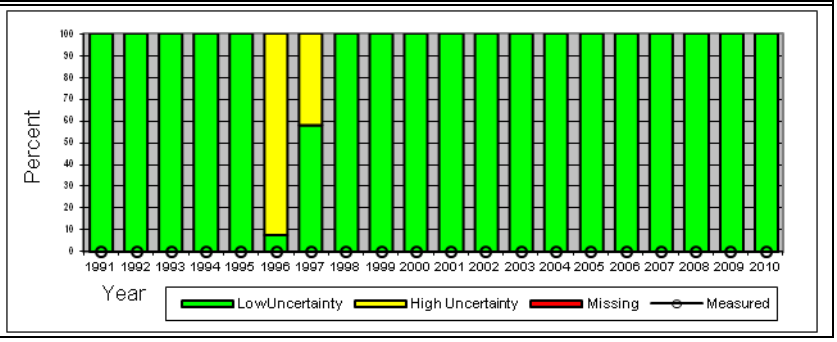
725330	FORT WAYNE INTL AP, IN
Class I	
Solar Coordinates	
Latitude: 41˚	
Longitude: -85.2˚	
Elevation: 241 m	
Meteorological Coordinates	
Latitude: 41˚	
Longitude: -85.2˚	
Elevation: 241 m	
Time Zone: -5	

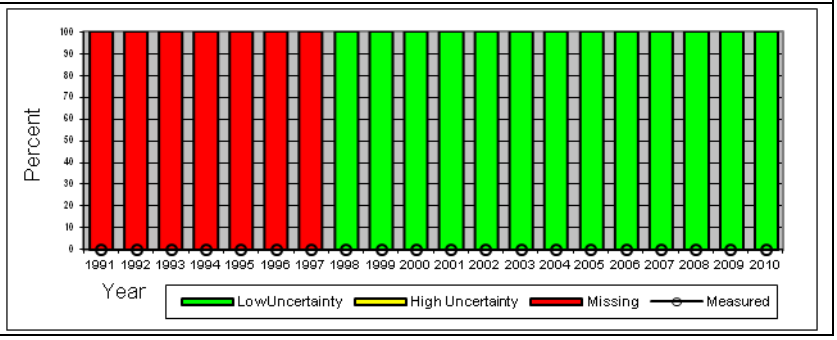
725337	GARY CHICAGO, IN
Class III	
Solar Coordinates	
Latitude: 41.617˚	
Longitude: -87.417˚	
Elevation: 185 m	
Meteorological Coordinates	
Latitude: 41.617˚	
Longitude: -87.417˚	
Elevation: 185 m	
Time Zone: -6	

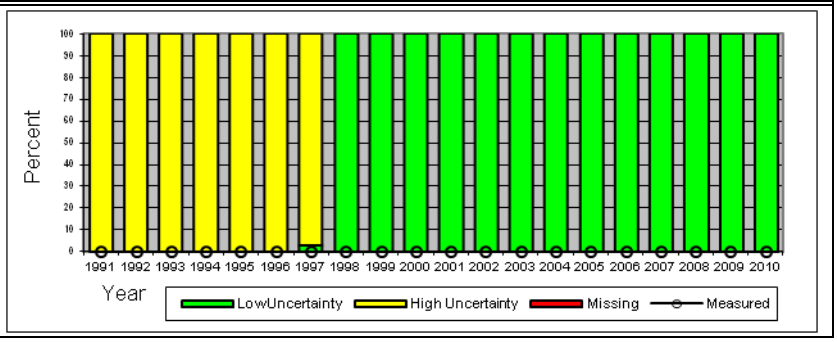
724388	GOSHEN, IN
Class III	
Solar Coordinates	
Latitude: 41.533˚	
Longitude: -85.783˚	
Elevation: 252 m	
Meteorological Coordinates	
Latitude: 41.533˚	
Longitude: -85.783˚	
Elevation: 252 m	
Time Zone: -5	

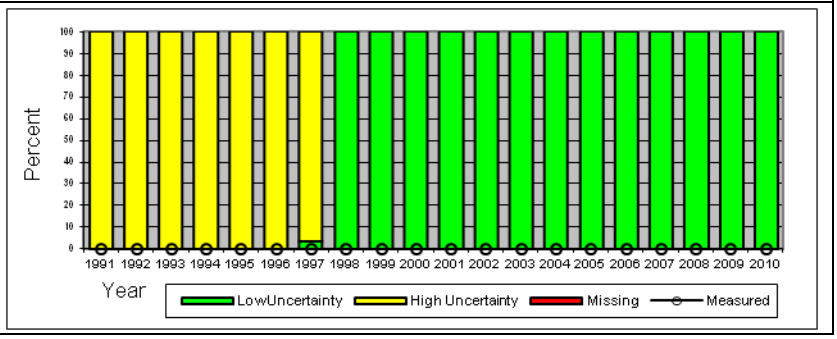
725335	GRISSOM ARB, IN
Class II	
Solar Coordinates	
Latitude: 40.65˚	
Longitude: -86.15˚	
Elevation: 253 m	
Meteorological Coordinates	
Latitude: 40.65˚	
Longitude: -86.15˚	
Elevation: 253 m	
Time Zone: -5	

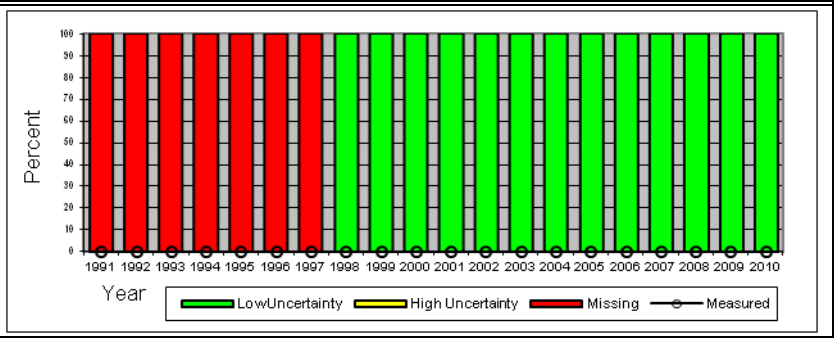
724365	HUNTINGBURG, IN
Class III	
Solar Coordinates	
Latitude: 38.25˚	
Longitude: -86.95˚	
Elevation: 161 m	
Meteorological Coordinates	
Latitude: 38.25˚	
Longitude: -86.95˚	
Elevation: 161 m	
Time Zone: -5	

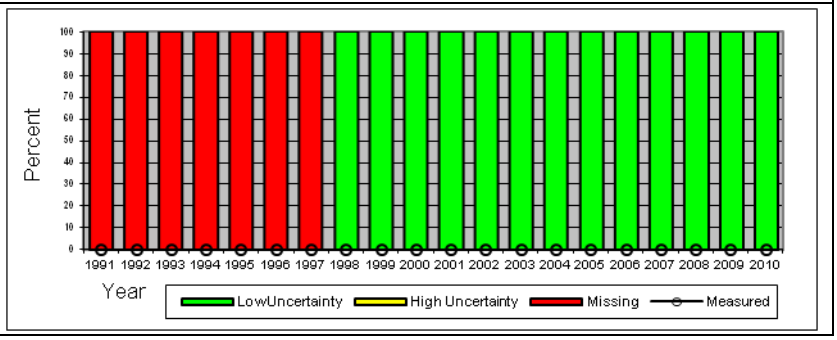
724380	INDIANAPOLIS INTL AP, IN
Class I	
Solar Coordinates	
Latitude: 39.717˚	
Longitude: -86.267˚	
Elevation: 241 m	
Meteorological Coordinates	
Latitude: 39.717˚	
Longitude: -86.267˚	
Elevation: 241 m	
Time Zone: -5	

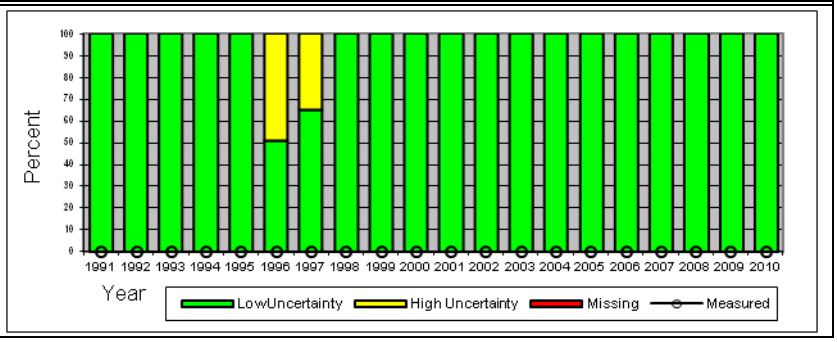
724387	KOKOMO(AWOS), IN
Class III	
Solar Coordinates	
Latitude: 40.533˚	
Longitude: -86.067˚	
Elevation: 253 m	
Meteorological Coordinates	
Latitude: 40.533˚	
Longitude: -86.067˚	
Elevation: 253 m	
Time Zone: -5	

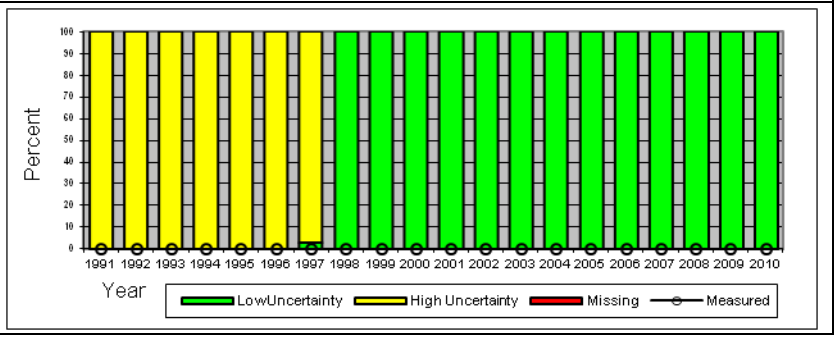
724386	LAFAYETTE PURDUE UNIV AP, IN
Class II	
Solar Coordinates	
Latitude: 40.417˚	
Longitude: -86.933˚	
Elevation: 183 m	
Meteorological Coordinates	
Latitude: 40.417˚	
Longitude: -86.933˚	
Elevation: 183 m	
Time Zone: -5	

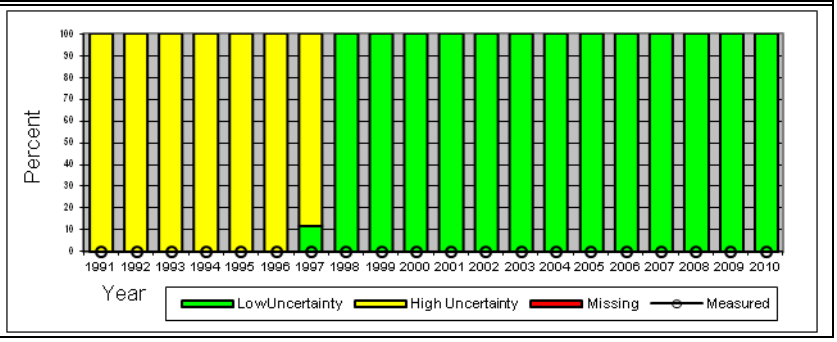
724375	MONROE CO, IN
Class II	
Solar Coordinates	
Latitude: 39.133˚	
Longitude: -86.617˚	
Elevation: 264 m	
Meteorological Coordinates	
Latitude: 39.133˚	
Longitude: -86.617˚	
Elevation: 264 m	
Time Zone: -5	

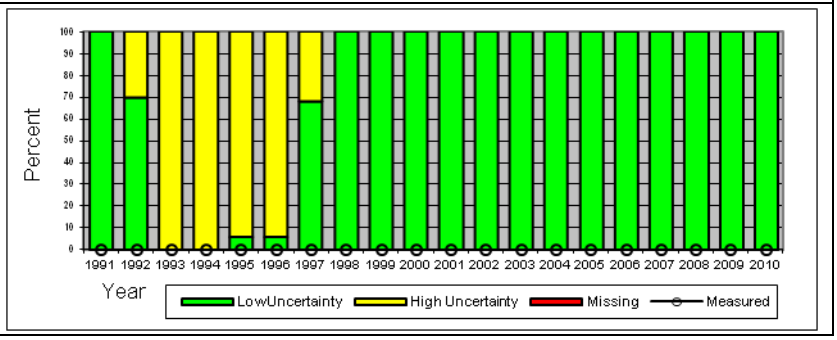
725327	PORTER CO MUNI, IN
Class III	
Solar Coordinates	
Latitude: 41.45˚	
Longitude: -87˚	
Elevation: 241 m	
Meteorological Coordinates	
Latitude: 41.45˚	
Longitude: -87˚	
Elevation: 241 m	
Time Zone: -6	

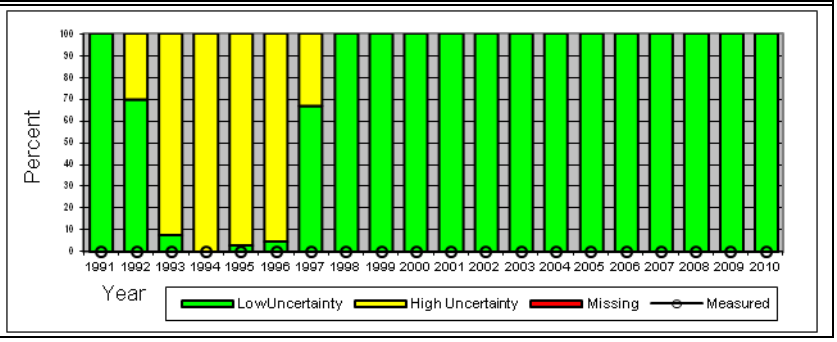
724356	SHELBYVILLE MUNI, IN
Class III	
Solar Coordinates	
Latitude: 39.583˚	
Longitude: -85.8˚	
Elevation: 245 m	
Meteorological Coordinates	
Latitude: 39.583˚	
Longitude: -85.8˚	
Elevation: 245 m	
Time Zone: -5	

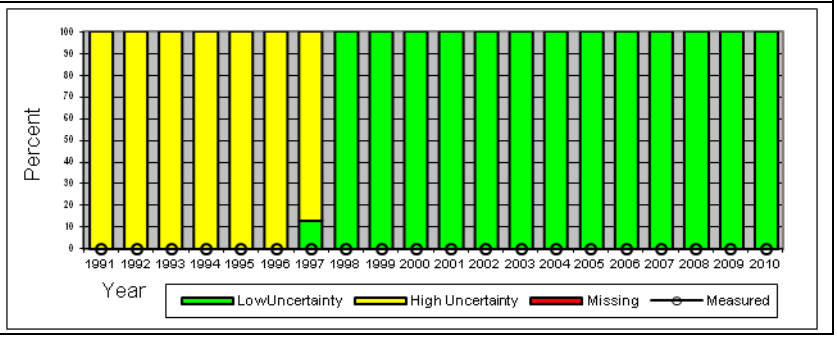
725350	SOUTH BEND MICHIANA RGNL AP, IN
Class I	
Solar Coordinates	
Latitude: 41.7˚	
Longitude: -86.333˚	
Elevation: 236 m	
Meteorological Coordinates	
Latitude: 41.7˚	
Longitude: -86.333˚	
Elevation: 236 m	
Time Zone: -5	

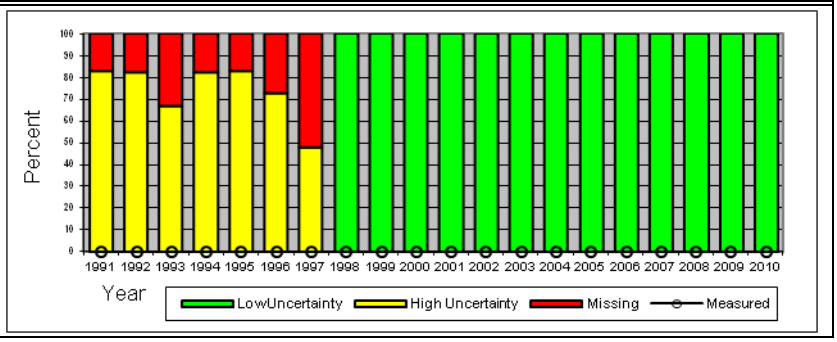
724373	TERRE HAUTE HULMAN REGIONAL A, IN
Class II	
Solar Coordinates	
Latitude: 39.45˚	
Longitude: -87.3˚	
Elevation: 175 m	
Meteorological Coordinates	
Latitude: 39.45˚	
Longitude: -87.3˚	
Elevation: 175 m	
Time Zone: -5	

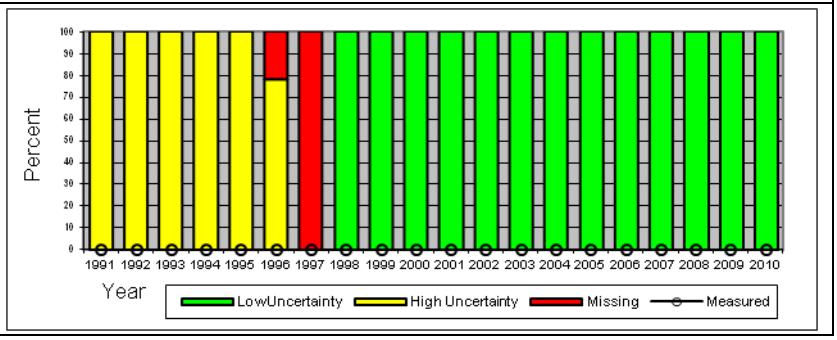
724507	CHANUTE MARTIN JOHNSON AP, KS
Class II	
Solar Coordinates	
Latitude: 37.667˚	
Longitude: -95.483˚	
Elevation: 298 m	
Meteorological Coordinates	
Latitude: 37.667˚	
Longitude: -95.483˚	
Elevation: 298 m	
Time Zone: -6	

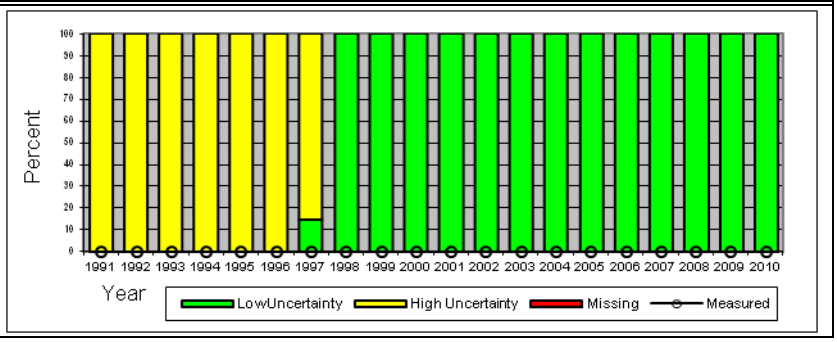
724580	CONCORDIA BLOSSER MUNI AP, KS
Class I	
Solar Coordinates	
Latitude: 39.55˚	
Longitude: -97.65˚	
Elevation: 448 m	
Meteorological Coordinates	
Latitude: 39.55˚	
Longitude: -97.65˚	
Elevation: 448 m	
Time Zone: -6	

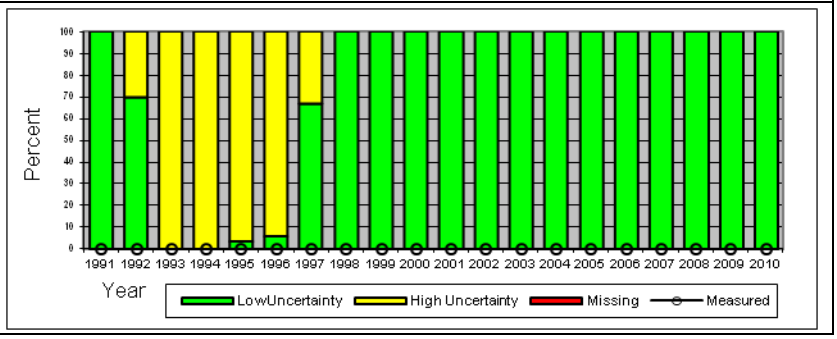
724510	DODGE CITY REGIONAL AP, KS
Class I	
Solar Coordinates	
Latitude: 37.767˚	
Longitude: -99.967˚	
Elevation: 785 m	
Meteorological Coordinates	
Latitude: 37.767˚	
Longitude: -99.967˚	
Elevation: 785 m	
Time Zone: -6	

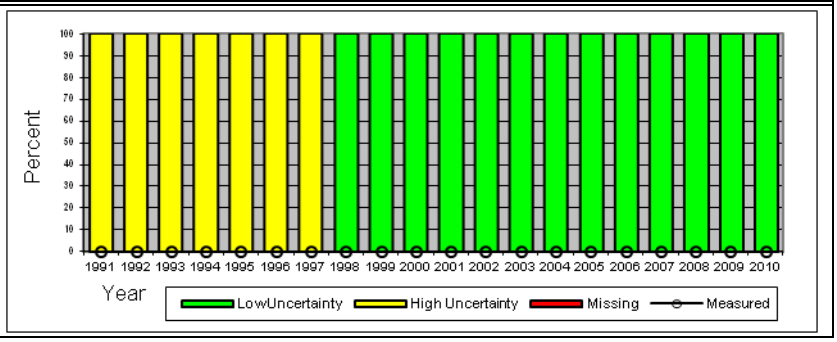
724556	EMPORIA MUNICIPAL AP, KS
Class II	
Solar Coordinates	
Latitude: 38.333˚	
Longitude: -96.183˚	
Elevation: 368 m	
Meteorological Coordinates	
Latitude: 38.333˚	
Longitude: -96.183˚	
Elevation: 368 m	
Time Zone: -6	

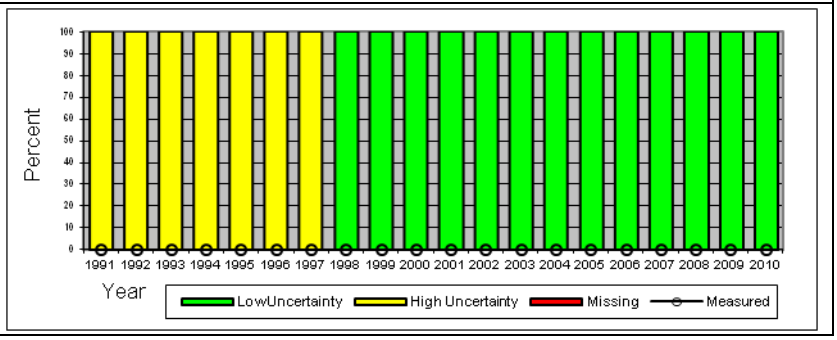
724567	FORT LEAVENWORTH SHERMAN AAF, KS
Class III	
Solar Coordinates	
Latitude: 39.367˚	
Longitude: -94.917˚	
Elevation: 0 m	
Meteorological Coordinates	
Latitude: 39.367˚	
Longitude: -94.917˚	
Elevation: 0 m	
Time Zone: -6	

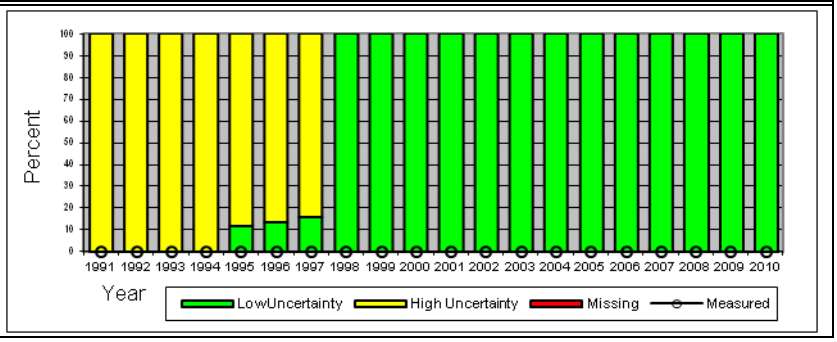
724550	FORT RILEY MARSHALL AAF, KS
Class III	
Solar Coordinates	
Latitude: 39.05˚	
Longitude: -96.767˚	
Elevation: 324 m	
Meteorological Coordinates	
Latitude: 39.05˚	
Longitude: -96.767˚	
Elevation: 324 m	
Time Zone: -6	

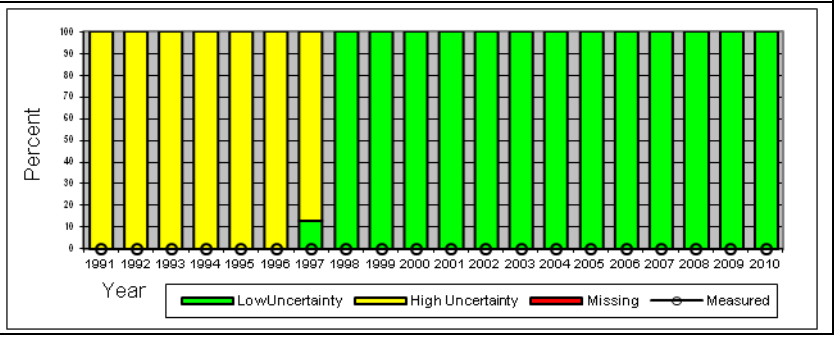
724515	GARDEN CITY MUNICIPAL AP, KS
Class II	
Solar Coordinates	
Latitude: 37.933˚	
Longitude: -100.717˚	
Elevation: 878 m	
Meteorological Coordinates	
Latitude: 37.933˚	
Longitude: -100.717˚	
Elevation: 878 m	
Time Zone: -6	

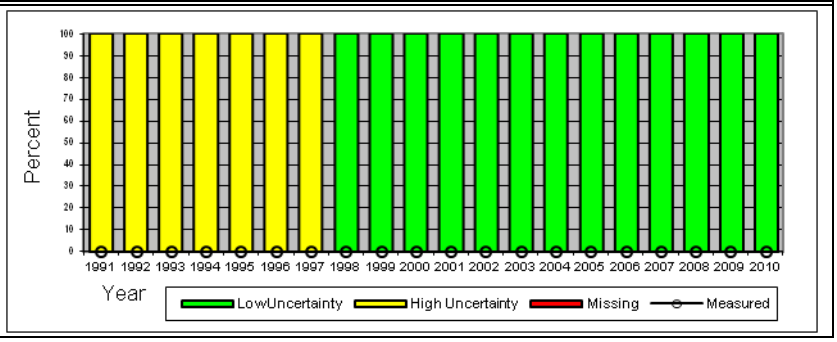
724650	GOODLAND RENNER FIELD, KS
Class I	
Solar Coordinates	
Latitude: 39.367˚	
Longitude: -101.7˚	
Elevation: 1111 m	
Meteorological Coordinates	
Latitude: 39.367˚	
Longitude: -101.7˚	
Elevation: 1111 m	
Time Zone: -7	

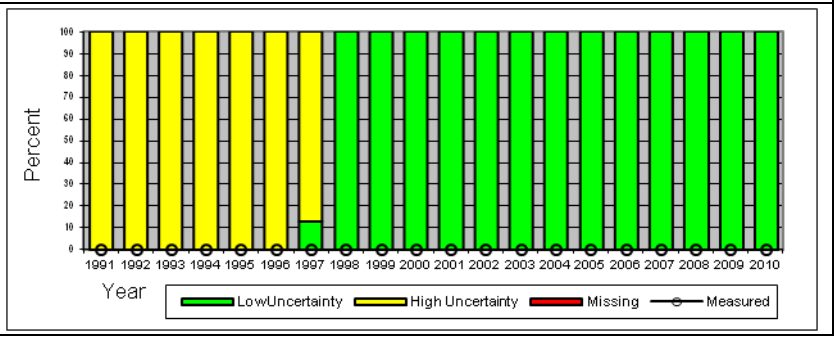
724517	GREAT BEND (AWOS), KS
Class II	
Solar Coordinates	
Latitude: 38.35˚	
Longitude: -98.867˚	
Elevation: 575 m	
Meteorological Coordinates	
Latitude: 38.35˚	
Longitude: -98.867˚	
Elevation: 575 m	
Time Zone: -6	

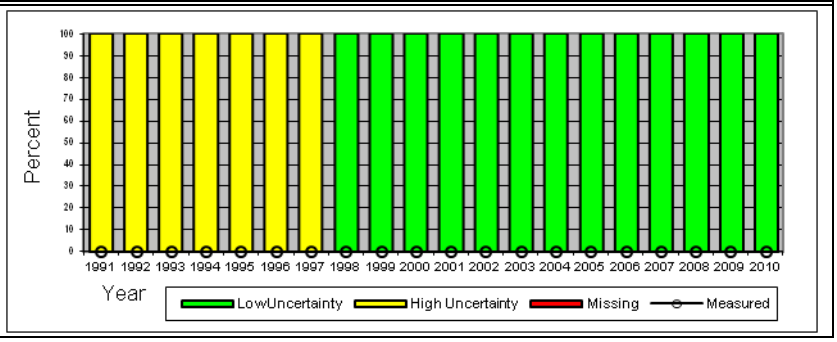
724518	HAYS MUNI (AWOS), KS
Class II	
Solar Coordinates	
Latitude: 38.85˚	
Longitude: -99.267˚	
Elevation: 609 m	
Meteorological Coordinates	
Latitude: 38.85˚	
Longitude: -99.267˚	
Elevation: 609 m	
Time Zone: -6	

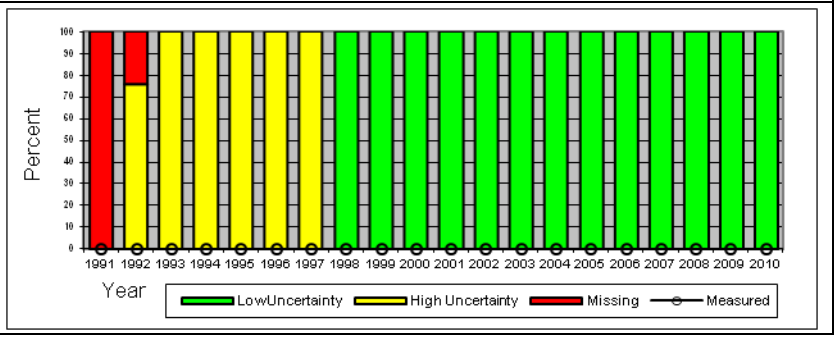
724655	HILL CITY MUNICIPAL AP, KS
Class II	
Solar Coordinates	
Latitude: 39.383˚	
Longitude: -99.833˚	
Elevation: 667 m	
Meteorological Coordinates	
Latitude: 39.383˚	
Longitude: -99.833˚	
Elevation: 667 m	
Time Zone: -6	

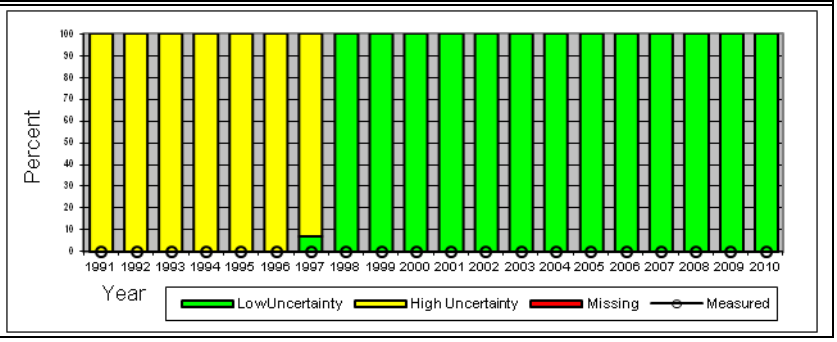
724506	HUTCHINSON MUNICIPAL AP, KS
Class II	
Solar Coordinates	
Latitude: 38.067˚	
Longitude: -97.867˚	
Elevation: 463 m	
Meteorological Coordinates	
Latitude: 38.067˚	
Longitude: -97.867˚	
Elevation: 463 m	
Time Zone: -6	

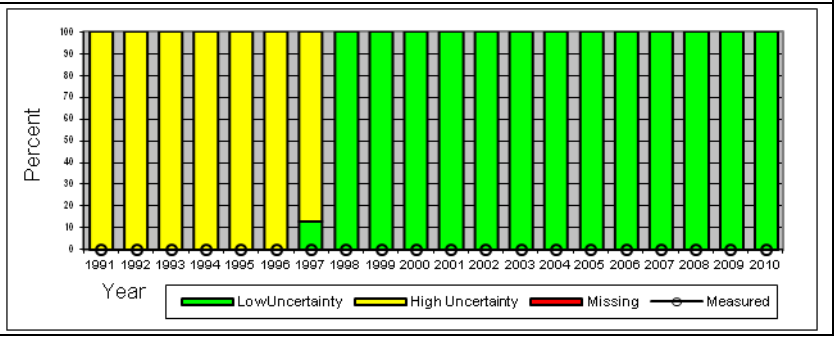
724516	LIBERAL MUNI, KS
Class II	
Solar Coordinates	
Latitude: 37.033˚	
Longitude: -100.967˚	
Elevation: 901 m	
Meteorological Coordinates	
Latitude: 37.033˚	
Longitude: -100.967˚	
Elevation: 901 m	
Time Zone: -6	

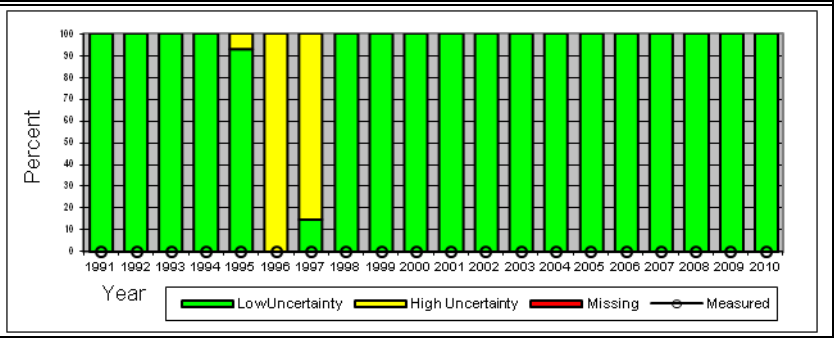
724555	MANHATTAN RGNL, KS
Class II	
Solar Coordinates	
Latitude: 39.133˚	
Longitude: -96.667˚	
Elevation: 330 m	
Meteorological Coordinates	
Latitude: 39.133˚	
Longitude: -96.667˚	
Elevation: 330 m	
Time Zone: -6	

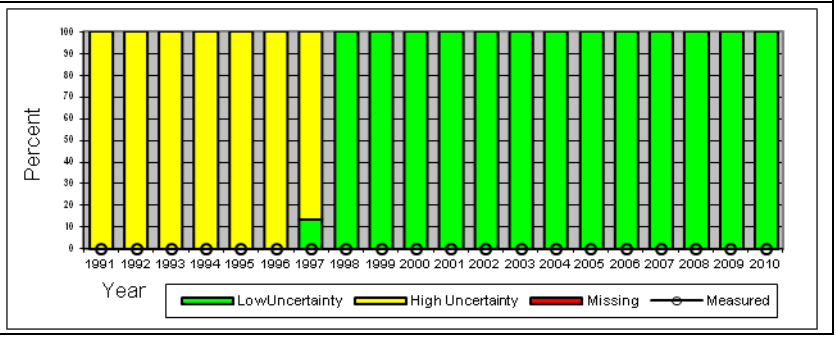
724505	MCCONNELL AFB, KS
Class II	
Solar Coordinates	
Latitude: 37.617˚	
Longitude: -97.267˚	
Elevation: 414 m	
Meteorological Coordinates	
Latitude: 37.617˚	
Longitude: -97.267˚	
Elevation: 414 m	
Time Zone: -6	

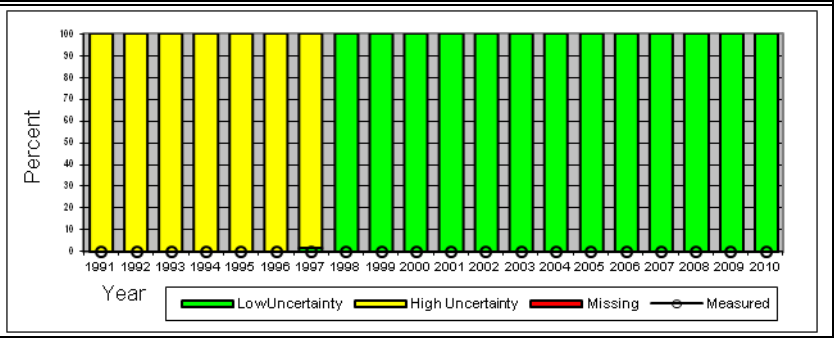
724509	NEWTON (AWOS), KS
Class III	
Solar Coordinates	
Latitude: 38.05˚	
Longitude: -97.283˚	
Elevation: 467 m	
Meteorological Coordinates	
Latitude: 38.05˚	
Longitude: -97.283˚	
Elevation: 467 m	
Time Zone: -6	

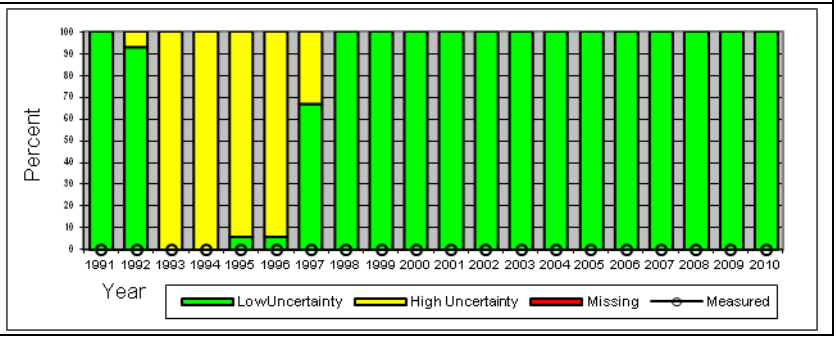
724475	OLATHE JOHNSON CO INDUSTRIAL, KS
Class II	
Solar Coordinates	
Latitude: 38.833˚	
Longitude: -94.883˚	
Elevation: 331 m	
Meteorological Coordinates	
Latitude: 38.833˚	
Longitude: -94.883˚	
Elevation: 331 m	
Time Zone: -6	

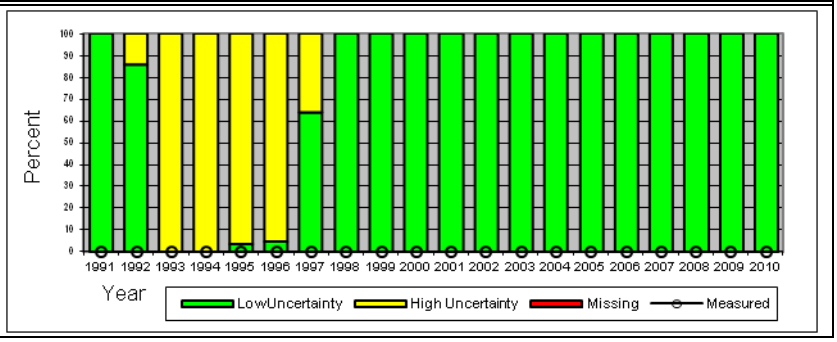
724468	OLATHE/JOHNSON CO., KS
Class II	
Solar Coordinates	
Latitude: 38.85˚	
Longitude: -94.733˚	
Elevation: 334 m	
Meteorological Coordinates	
Latitude: 38.85˚	
Longitude: -94.733˚	
Elevation: 334 m	
Time Zone: -6	

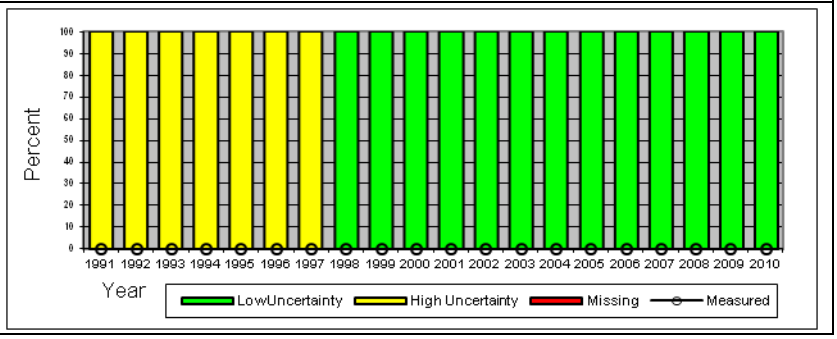
724585	RUSSELL MUNICIPAL AP, KS
Class I	
Solar Coordinates	
Latitude: 38.883˚	
Longitude: -98.817˚	
Elevation: 566 m	
Meteorological Coordinates	
Latitude: 38.883˚	
Longitude: -98.817˚	
Elevation: 566 m	
Time Zone: -6	

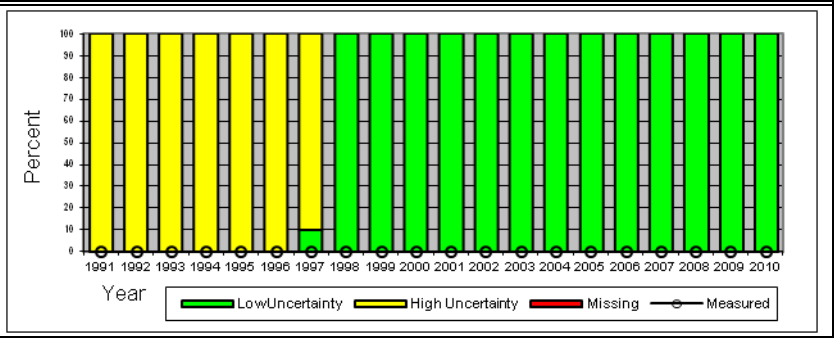
724586	SALINA MUNICIPAL AP, KS
Class II	
Solar Coordinates	
Latitude: 38.817˚	
Longitude: -97.667˚	
Elevation: 385 m	
Meteorological Coordinates	
Latitude: 38.817˚	
Longitude: -97.667˚	
Elevation: 385 m	
Time Zone: -6	

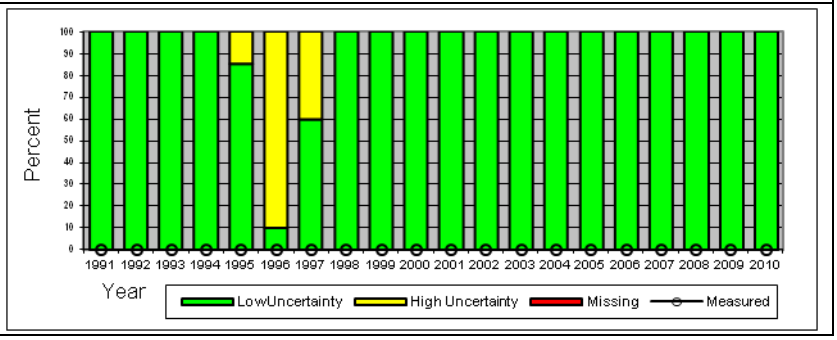
724565	TOPEKA FORBES FIELD, KS
Class II	
Solar Coordinates	
Latitude: 38.95˚	
Longitude: -95.667˚	
Elevation: 325 m	
Meteorological Coordinates	
Latitude: 38.95˚	
Longitude: -95.667˚	
Elevation: 325 m	
Time Zone: -6	

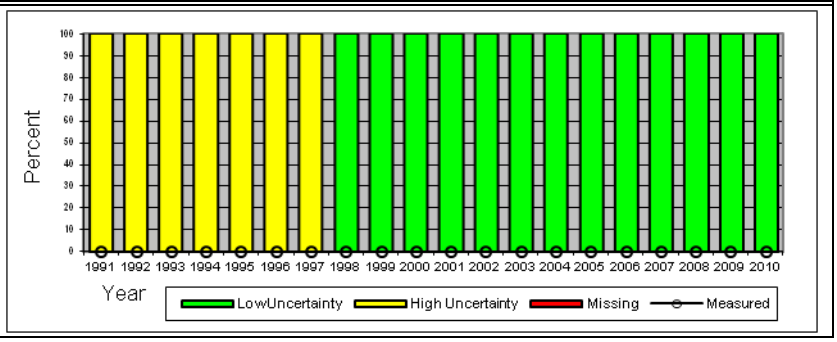
724560	TOPEKA MUNICIPAL AP, KS
Class I	
Solar Coordinates	
Latitude: 39.067˚	
Longitude: -95.633˚	
Elevation: 269 m	
Meteorological Coordinates	
Latitude: 39.067˚	
Longitude: -95.633˚	
Elevation: 269 m	
Time Zone: -6	

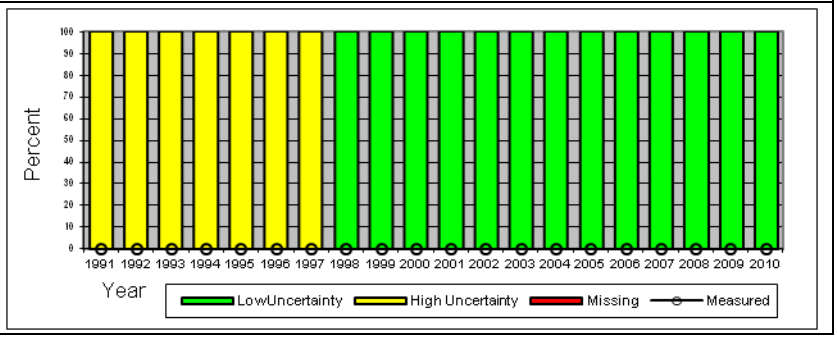
724500	WICHITA MID-CONTINENT AP, KS
Class I	
Solar Coordinates	
Latitude: 37.65˚	
Longitude: -97.433˚	
Elevation: 402 m	
Meteorological Coordinates	
Latitude: 37.65˚	
Longitude: -97.433˚	
Elevation: 402 m	
Time Zone: -6	

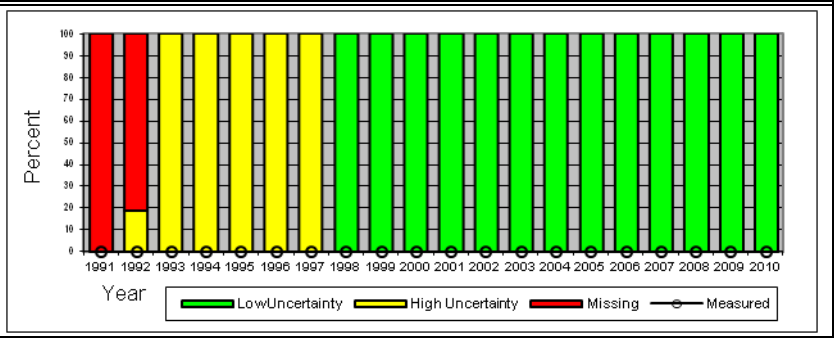
724504	WICHITA/COL. JABARA, KS
Class III	
Solar Coordinates	
Latitude: 37.75˚	
Longitude: -97.217˚	
Elevation: 433 m	
Meteorological Coordinates	
Latitude: 37.75˚	
Longitude: -97.217˚	
Elevation: 433 m	
Time Zone: -6	

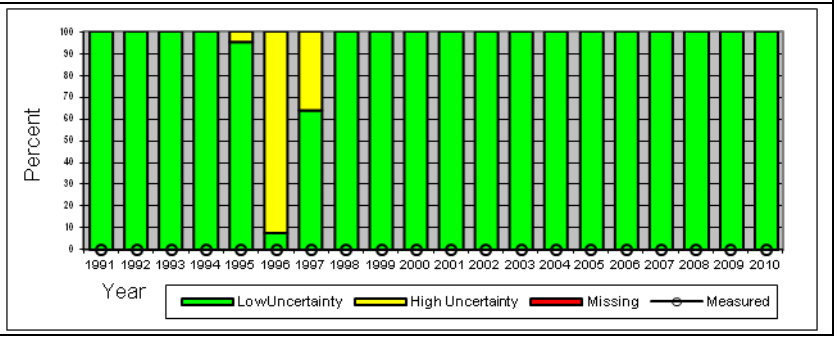
746716	BOWLING GREEN WARREN CO AP, KY
Class II	
Solar Coordinates	
Latitude: 36.983˚	
Longitude: -86.433˚	
Elevation: 161 m	
Meteorological Coordinates	
Latitude: 36.983˚	
Longitude: -86.433˚	
Elevation: 161 m	
Time Zone: -6	

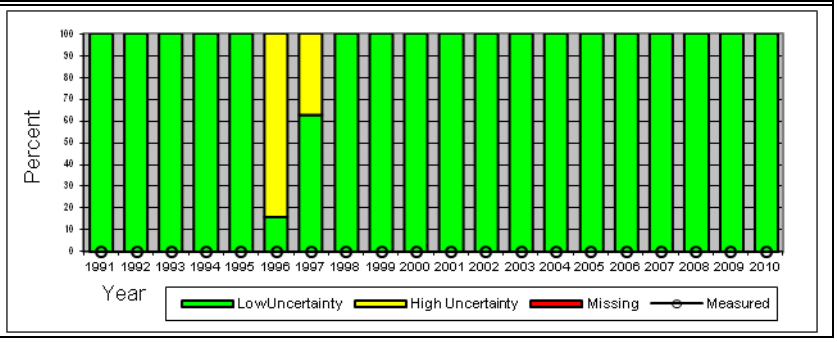
724210	CINCINNATI NORTHERN KY AP, KY
Class I	
Solar Coordinates	
Latitude: 39.05˚	
Longitude: -84.667˚	
Elevation: 265 m	
Meteorological Coordinates	
Latitude: 39.05˚	
Longitude: -84.667˚	
Elevation: 265 m	
Time Zone: -5	

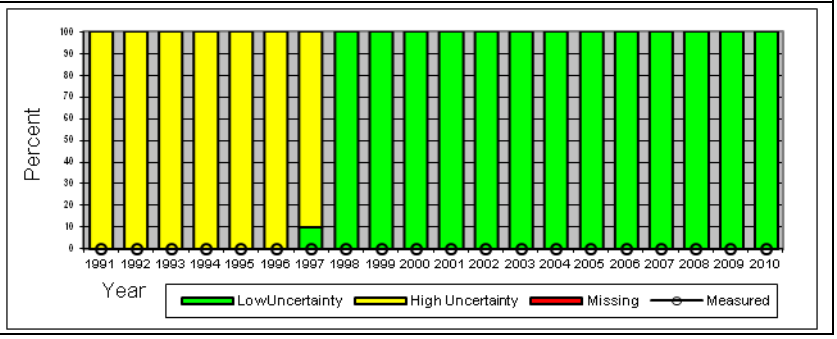
746710	FORT CAMPBELL AAF, KY
Class II	
Solar Coordinates	
Latitude: 36.667˚	
Longitude: -87.483˚	
Elevation: 173 m	
Meteorological Coordinates	
Latitude: 36.667˚	
Longitude: -87.483˚	
Elevation: 173 m	
Time Zone: -6	

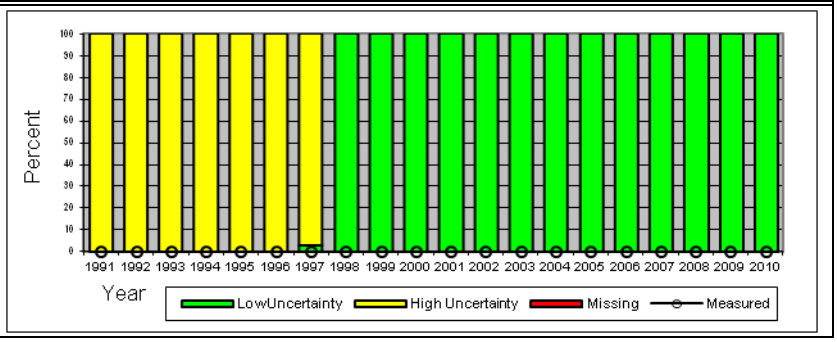
724240	FORT KNOX GODMAN AAF, KY
Class II	
Solar Coordinates	
Latitude: 37.9˚	
Longitude: -85.967˚	
Elevation: 239 m	
Meteorological Coordinates	
Latitude: 37.9˚	
Longitude: -85.967˚	
Elevation: 239 m	
Time Zone: -5	

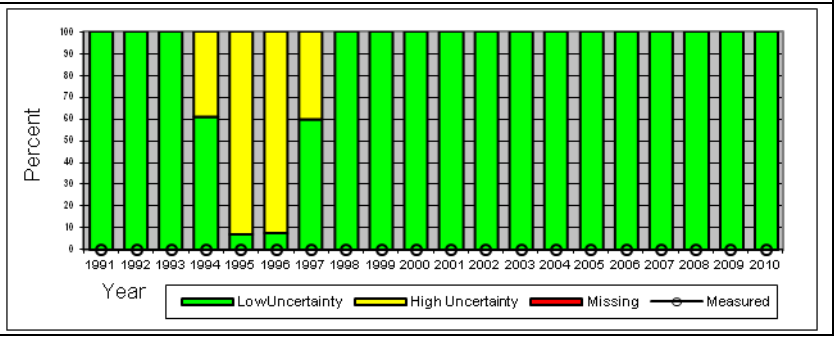
724238	HENDERSON CITY, KY
Class III	
Solar Coordinates	
Latitude: 37.817˚	
Longitude: -87.683˚	
Elevation: 117 m	
Meteorological Coordinates	
Latitude: 37.817˚	
Longitude: -87.683˚	
Elevation: 117 m	
Time Zone: -6	

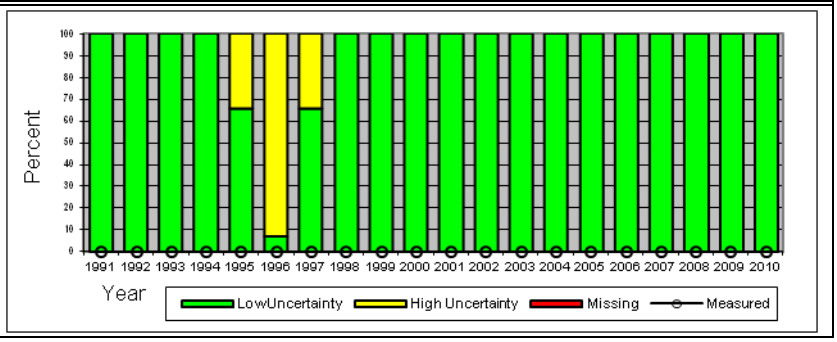
724236	JACKSON JULIAN CARROLL AP, KY
Class I	
Solar Coordinates	
Latitude: 37.583˚	
Longitude: -83.317˚	
Elevation: 416 m	
Meteorological Coordinates	
Latitude: 37.583˚	
Longitude: -83.317˚	
Elevation: 416 m	
Time Zone: -5	

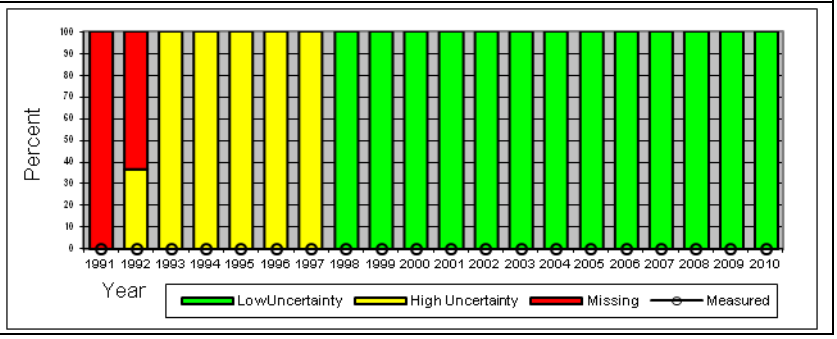
724220	LEXINGTON BLUEGRASS AP, KY
Class I	
Solar Coordinates	
Latitude: 38.033˚	
Longitude: -84.6˚	
Elevation: 294 m	
Meteorological Coordinates	
Latitude: 38.033˚	
Longitude: -84.6˚	
Elevation: 294 m	
Time Zone: -5	

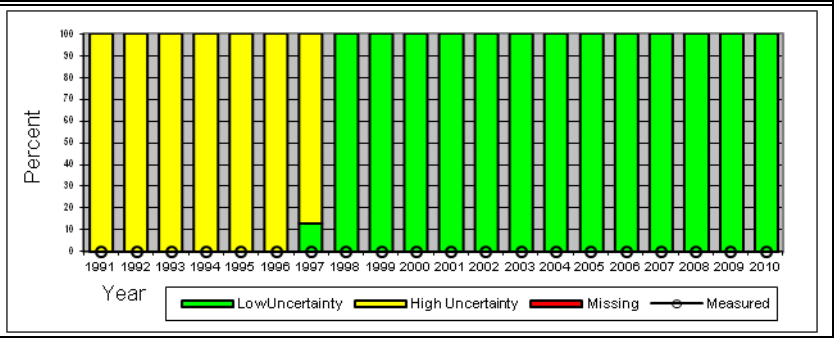
724243	LONDON-CORBIN AP, KY
Class II	
Solar Coordinates	
Latitude: 37.083˚	
Longitude: -84.083˚	
Elevation: 362 m	
Meteorological Coordinates	
Latitude: 37.083˚	
Longitude: -84.083˚	
Elevation: 362 m	
Time Zone: -5	

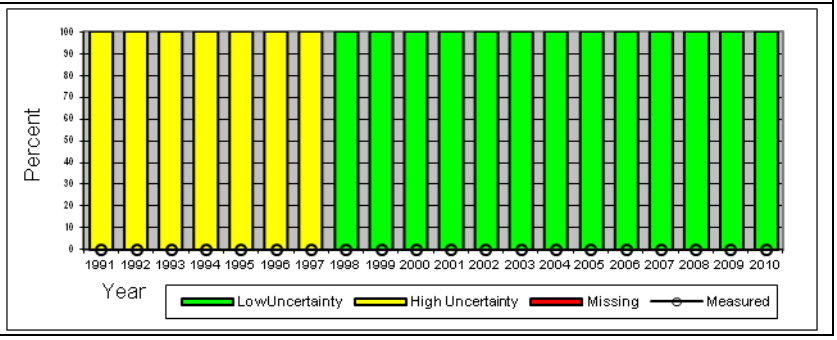
724235	LOUISVILLE BOWMAN FIELD, KY
Class II	
Solar Coordinates	
Latitude: 38.233˚	
Longitude: -85.667˚	
Elevation: 165 m	
Meteorological Coordinates	
Latitude: 38.233˚	
Longitude: -85.667˚	
Elevation: 165 m	
Time Zone: -5	

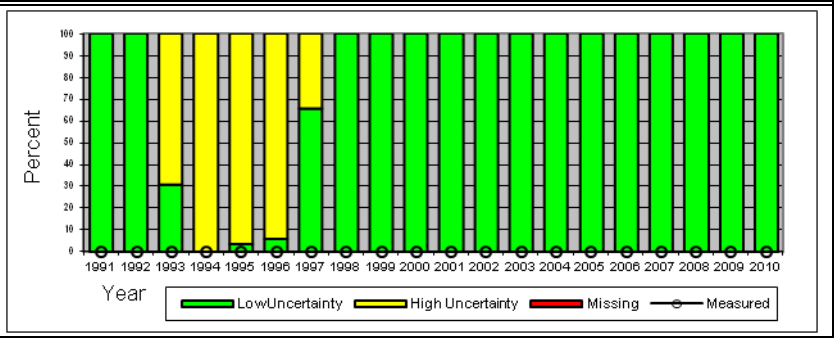
724230	LOUISVILLE STANDIFORD FIELD, KY
Class I	
Solar Coordinates	
Latitude: 38.183˚	
Longitude: -85.733˚	
Elevation: 147 m	
Meteorological Coordinates	
Latitude: 38.183˚	
Longitude: -85.733˚	
Elevation: 147 m	
Time Zone: -5	

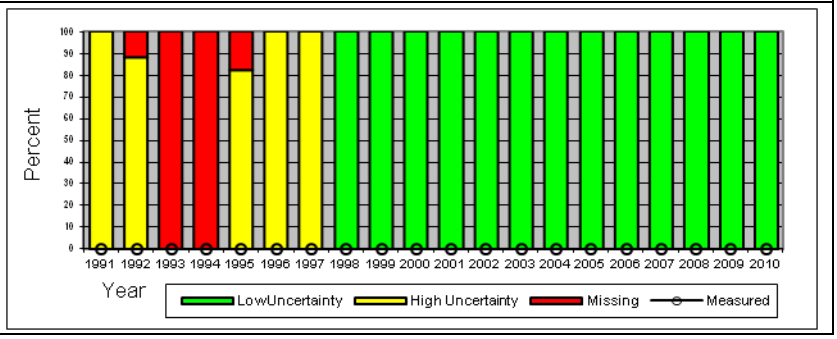
724350	PADUCAH BARKLEY REGIONAL AP, KY
Class I	
Solar Coordinates	
Latitude: 37.05˚	
Longitude: -88.767˚	
Elevation: 124 m	
Meteorological Coordinates	
Latitude: 37.05˚	
Longitude: -88.767˚	
Elevation: 124 m	
Time Zone: -6	

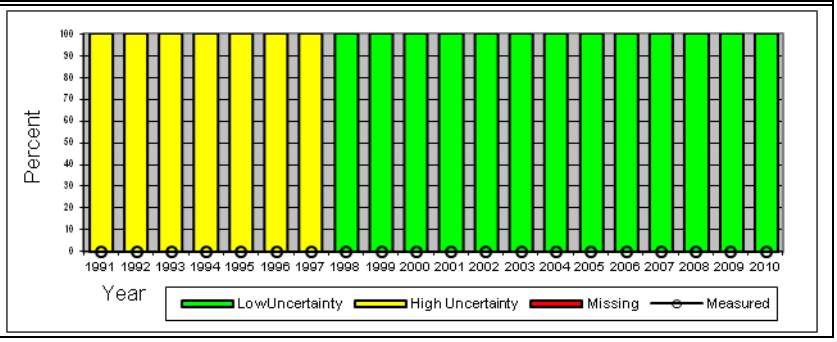
724354	SOMERSET(AWOS), KY
Class III	
Solar Coordinates	
Latitude: 38˚	
Longitude: -84.6˚	
Elevation: 283 m	
Meteorological Coordinates	
Latitude: 38˚	
Longitude: -84.6˚	
Elevation: 283 m	
Time Zone: -5	

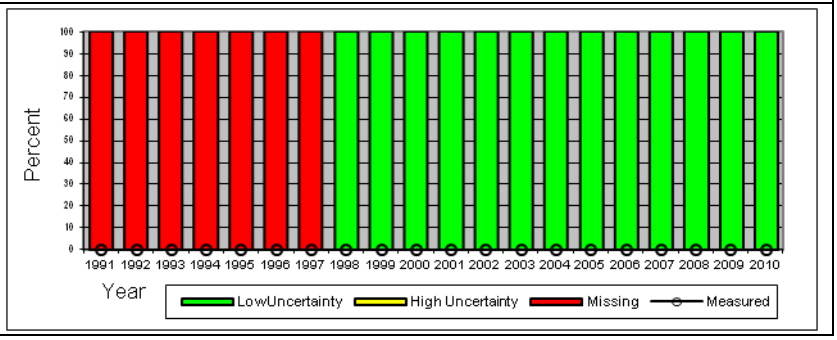
722487	ALEXANDRIA ESLER REGIONAL AP, LA
Class II	
Solar Coordinates	
Latitude: 31.4˚	
Longitude: -92.3˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 31.4˚	
Longitude: -92.3˚	
Elevation: 34 m	
Time Zone: -6	

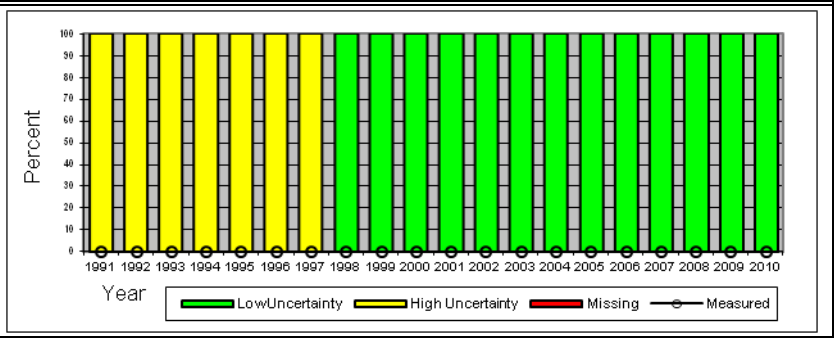
722485	BARKSDALE AFB, LA
Class II	
Solar Coordinates	
Latitude: 32.5˚	
Longitude: -93.667˚	
Elevation: 54 m	
Meteorological Coordinates	
Latitude: 32.5˚	
Longitude: -93.667˚	
Elevation: 54 m	
Time Zone: -6	

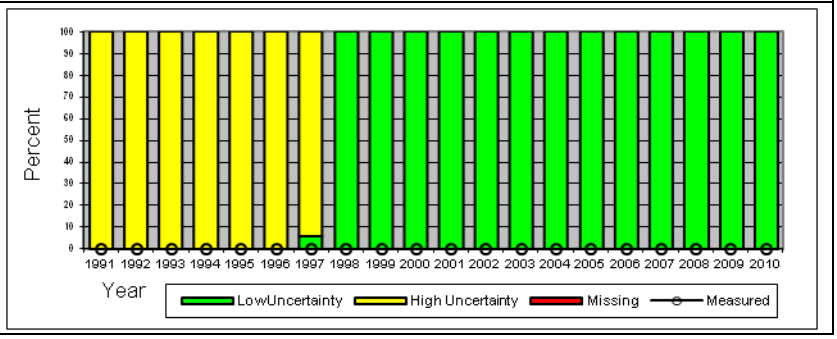
722317	BATON ROUGE RYAN ARPT, LA
Class I	
Solar Coordinates	
Latitude: 30.533˚	
Longitude: -91.15˚	
Elevation: 20 m	
Meteorological Coordinates	
Latitude: 30.533˚	
Longitude: -91.15˚	
Elevation: 20 m	
Time Zone: -6	

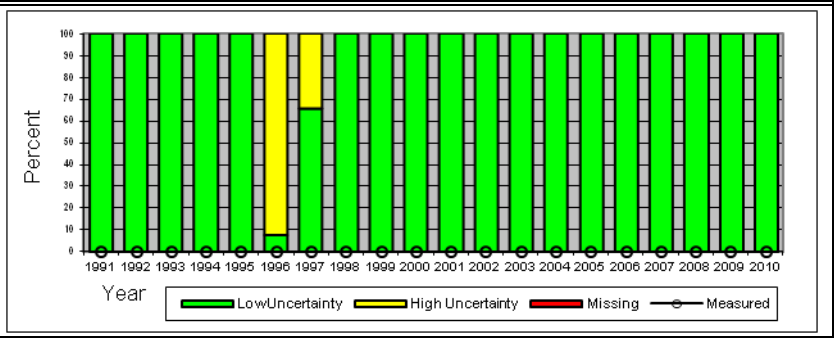
747540	ENGLAND AFB, LA
Class III	
Solar Coordinates	
Latitude: 31.317˚	
Longitude: -92.55˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 31.317˚	
Longitude: -92.55˚	
Elevation: 27 m	
Time Zone: -6	

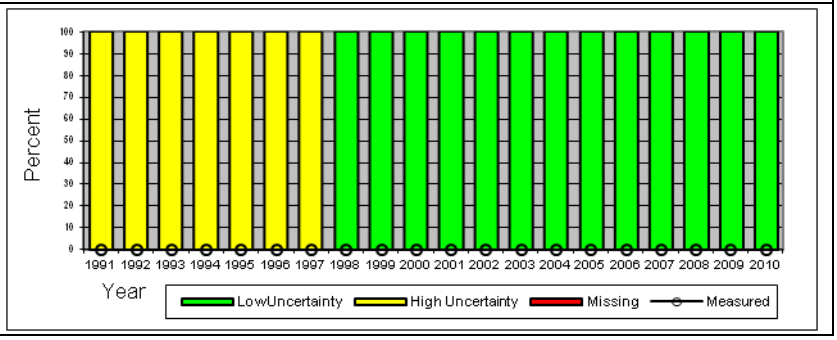
722390	FORT POLK AAF, LA
Class II	
Solar Coordinates	
Latitude: 31.05˚	
Longitude: -93.183˚	
Elevation: 102 m	
Meteorological Coordinates	
Latitude: 31.05˚	
Longitude: -93.183˚	
Elevation: 102 m	
Time Zone: -6	

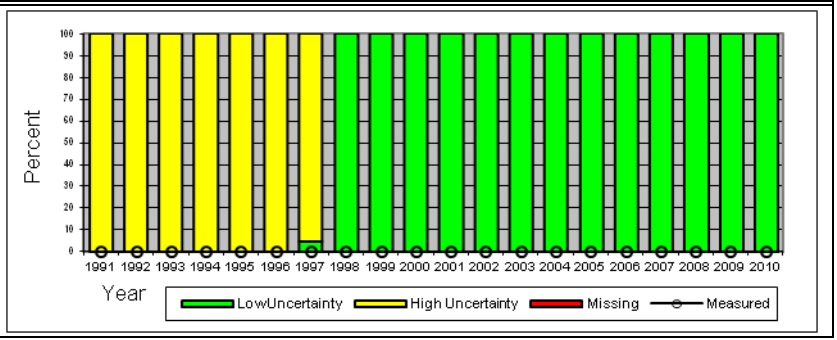
722312	HAMMOND, LA
Class III	
Solar Coordinates	
Latitude: 30.517˚	
Longitude: -90.417˚	
Elevation: 13 m	
Meteorological Coordinates	
Latitude: 30.517˚	
Longitude: -90.417˚	
Elevation: 13 m	
Time Zone: -6	

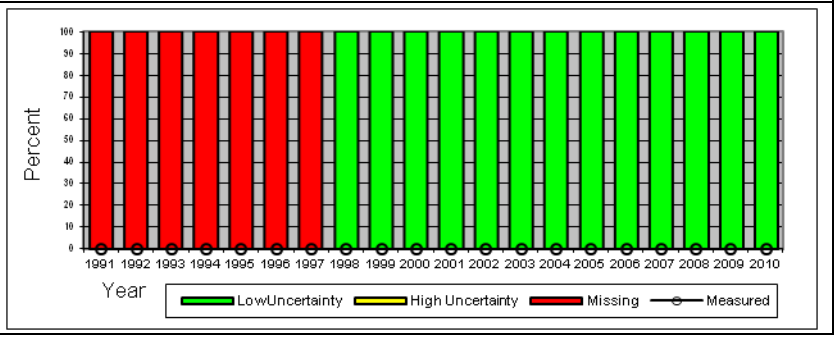
722406	HOUMA-TERREBONNE, LA
Class II	
Solar Coordinates	
Latitude: 29.567˚	
Longitude: -90.667˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 29.567˚	
Longitude: -90.667˚	
Elevation: 3 m	
Time Zone: -6	

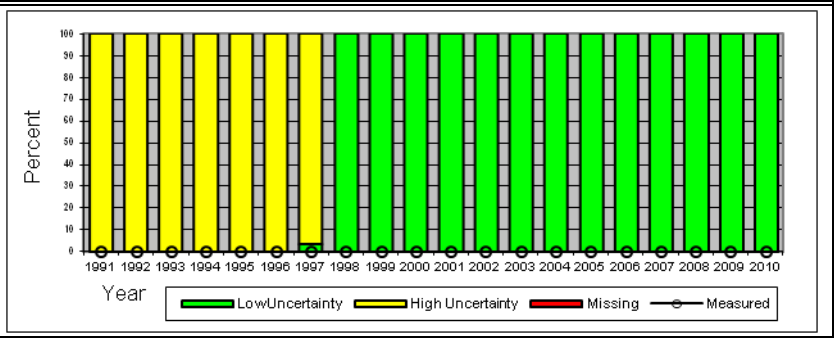
722405	LAFAYETTE REGIONAL AP, LA
Class II	
Solar Coordinates	
Latitude: 30.2˚	
Longitude: -91.983˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 30.2˚	
Longitude: -91.983˚	
Elevation: 12 m	
Time Zone: -6	

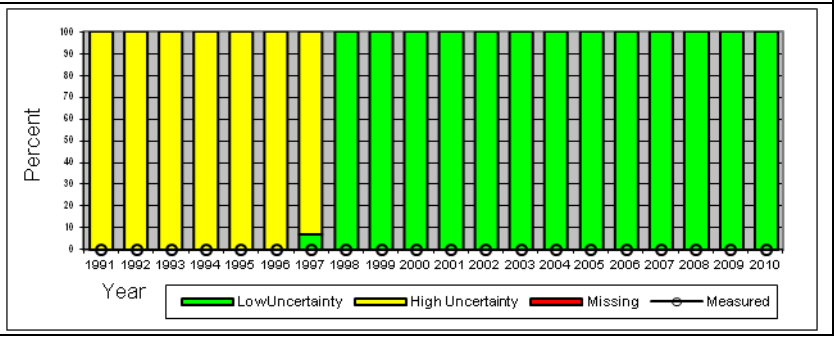
722400	LAKE CHARLES REGIONAL ARPT, LA
Class I	
Solar Coordinates	
Latitude: 30.117˚	
Longitude: -93.233˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 30.117˚	
Longitude: -93.233˚	
Elevation: 5 m	
Time Zone: -6	

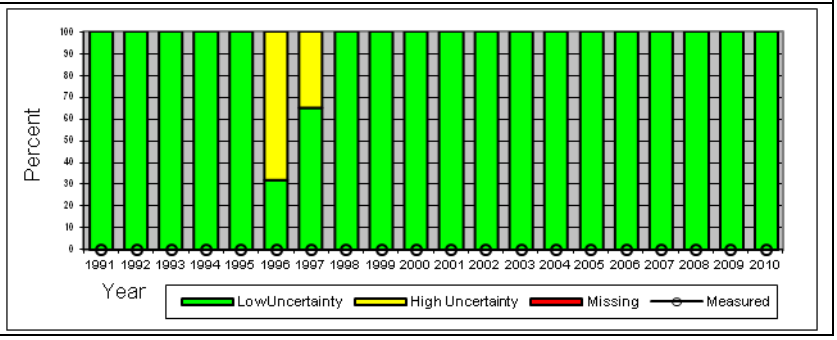
722404	LAKE CHARLES WB AIRP, LA
Class II	
Solar Coordinates	
Latitude: 30.217˚	
Longitude: -93.167˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 30.217˚	
Longitude: -93.167˚	
Elevation: 5 m	
Time Zone: -6	

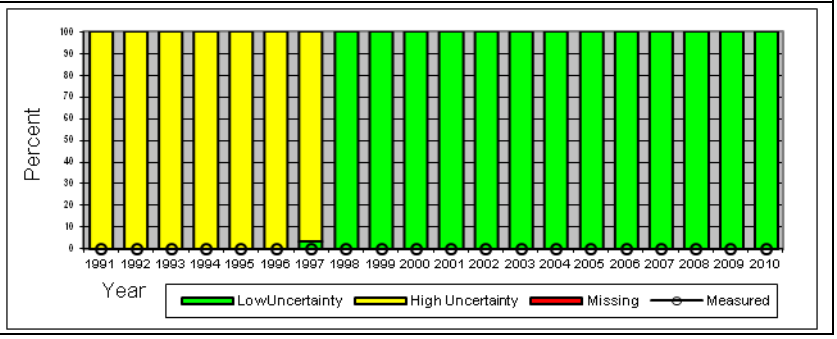
722486	MONROE REGIONAL AP, LA
Class II	
Solar Coordinates	
Latitude: 32.517˚	
Longitude: -92.033˚	
Elevation: 40 m	
Meteorological Coordinates	
Latitude: 32.517˚	
Longitude: -92.033˚	
Elevation: 40 m	
Time Zone: -6	

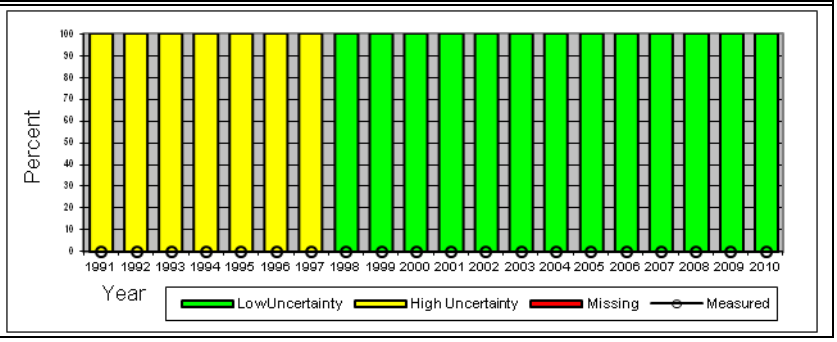
722319	NATCHITOCHES, LA
Class III	
Solar Coordinates	
Latitude: 31.733˚	
Longitude: -93.1˚	
Elevation: 37 m	
Meteorological Coordinates	
Latitude: 31.733˚	
Longitude: -93.1˚	
Elevation: 37 m	
Time Zone: -6	

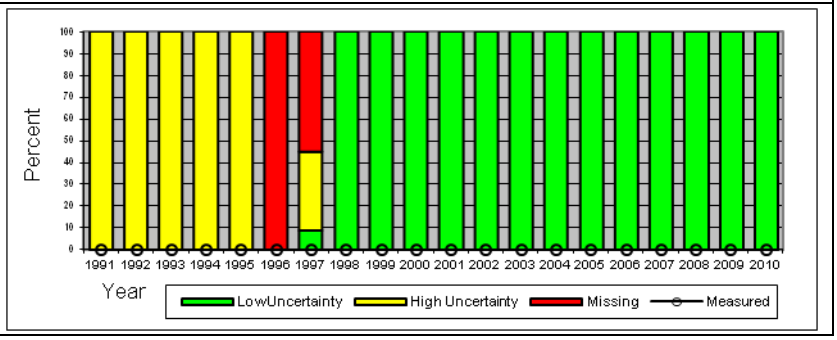
722314	NEW IBERIA NAAS, LA
Class II	
Solar Coordinates	
Latitude: 30.033˚	
Longitude: -91.883˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 30.033˚	
Longitude: -91.883˚	
Elevation: 8 m	
Time Zone: -6	

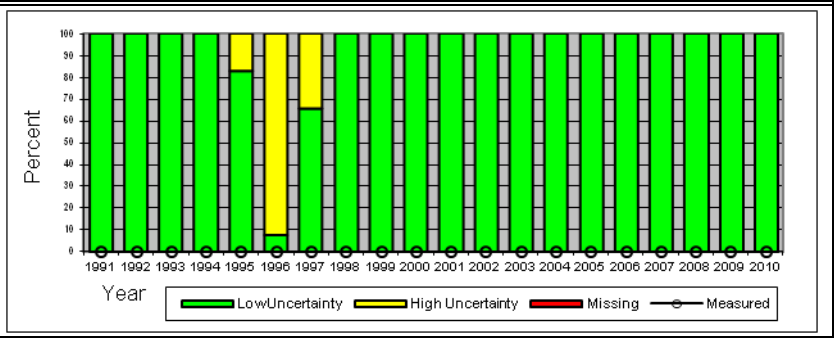
722316	NEW ORLEANS ALVIN CALLENDER F, LA
Class II	
Solar Coordinates	
Latitude: 29.817˚	
Longitude: -90.017˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 29.817˚	
Longitude: -90.017˚	
Elevation: 2 m	
Time Zone: -6	

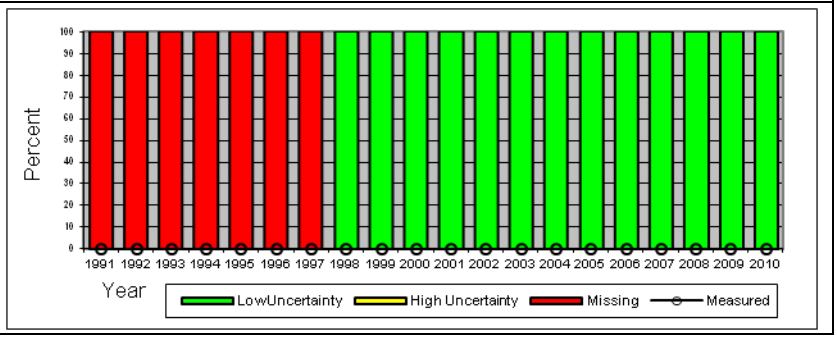
722310	NEW ORLEANS INTL ARPT, LA
Class I	
Solar Coordinates	
Latitude: 30˚	
Longitude: -90.25˚	
Elevation: 1 m	
Meteorological Coordinates	
Latitude: 30˚	
Longitude: -90.25˚	
Elevation: 1 m	
Time Zone: -6	

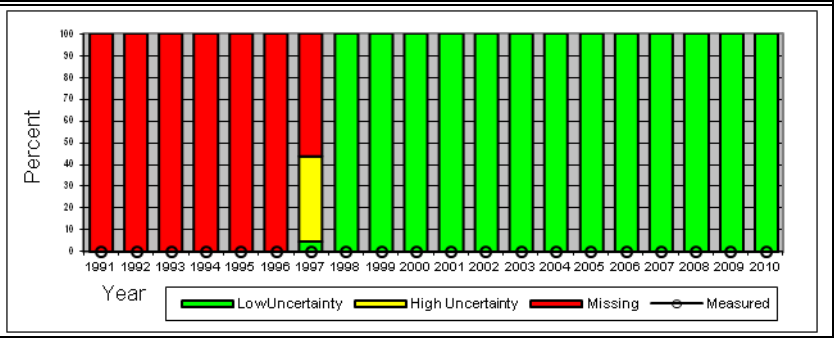
722315	NEW ORLEANS LAKEFRONT AP, LA
Class III	
Solar Coordinates	
Latitude: 30.05˚	
Longitude: -90.033˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 30.05˚	
Longitude: -90.033˚	
Elevation: 3 m	
Time Zone: -6	

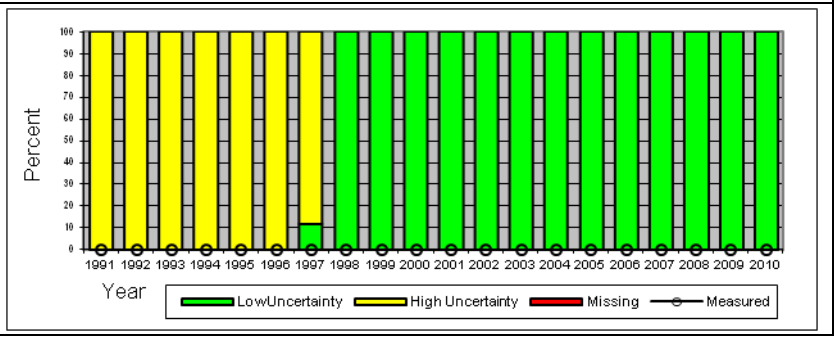
722329	PATTERSON MEMORIAL, LA
Class II	
Solar Coordinates	
Latitude: 29.717˚	
Longitude: -91.333˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 29.717˚	
Longitude: -91.333˚	
Elevation: 3 m	
Time Zone: -6	

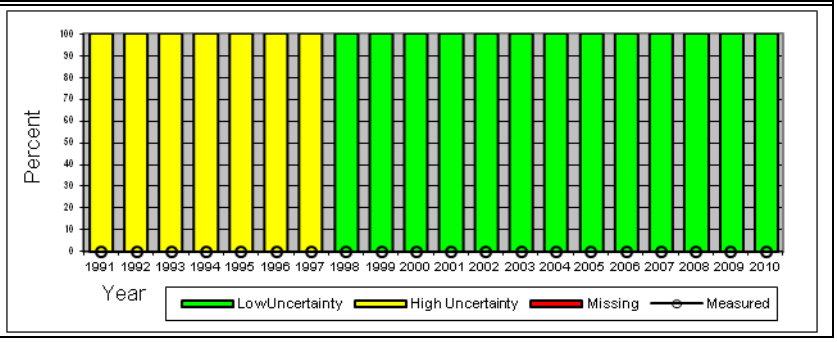
722484	SHREVEPORT DOWNTOWN, LA
Class III	
Solar Coordinates	
Latitude: 32.533˚	
Longitude: -93.75˚	
Elevation: 55 m	
Meteorological Coordinates	
Latitude: 32.533˚	
Longitude: -93.75˚	
Elevation: 55 m	
Time Zone: -6	

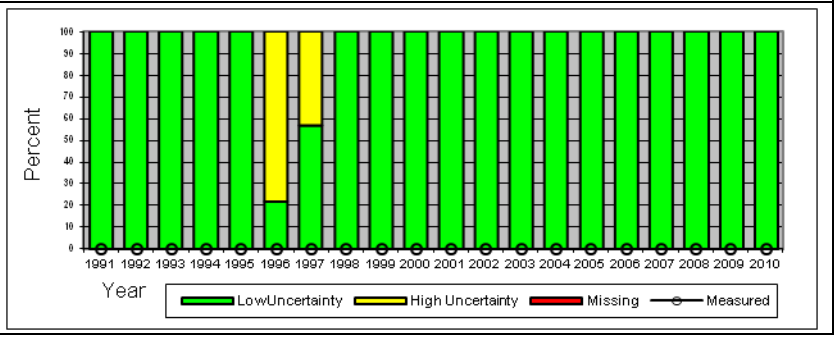
722480	SHREVEPORT REGIONAL ARPT, LA
Class I	
Solar Coordinates	
Latitude: 32.45˚	
Longitude: -93.817˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 32.45˚	
Longitude: -93.817˚	
Elevation: 77 m	
Time Zone: -6	

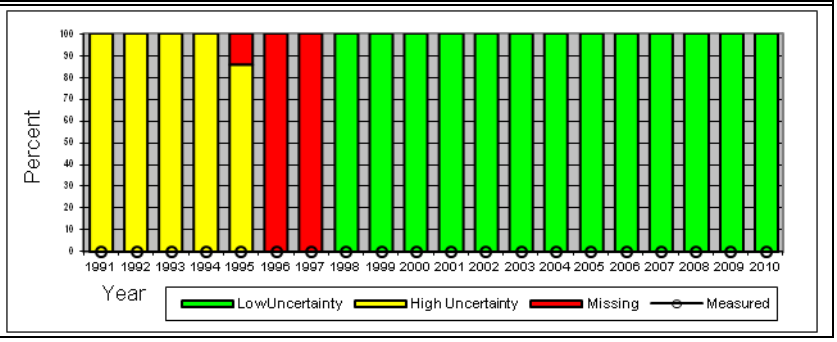
722366	SLIDELL, LA
Class III	
Solar Coordinates	
Latitude: 30.35˚	
Longitude: -89.817˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 30.35˚	
Longitude: -89.817˚	
Elevation: 8 m	
Time Zone: -6	

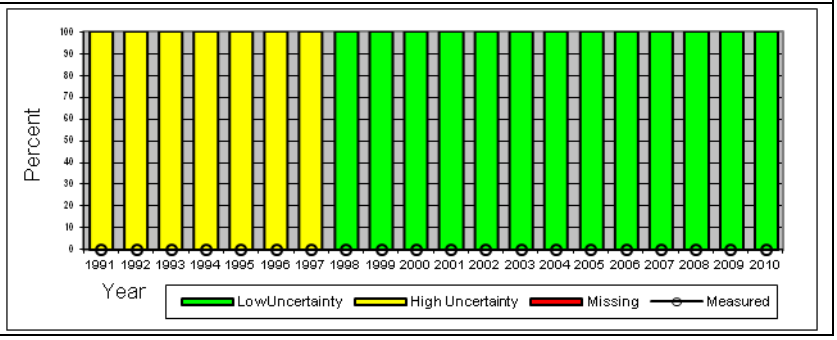
722488	VICKSBURG\TALLULAH, LA
Class III	
Solar Coordinates	
Latitude: 32.25˚	
Longitude: -91.033˚	
Elevation: 23 m	
Meteorological Coordinates	
Latitude: 32.25˚	
Longitude: -91.033˚	
Elevation: 23 m	
Time Zone: -6	

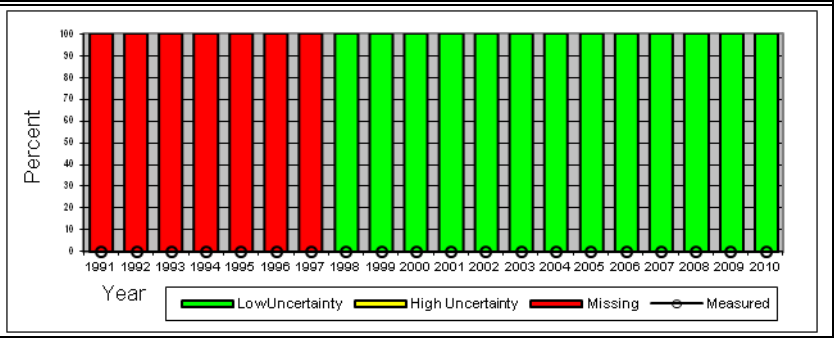
725067	BARNSTABLE MUNI BOA, MA
Class II	
Solar Coordinates	
Latitude: 41.667˚	
Longitude: -70.283˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 41.667˚	
Longitude: -70.283˚	
Elevation: 17 m	
Time Zone: -5	

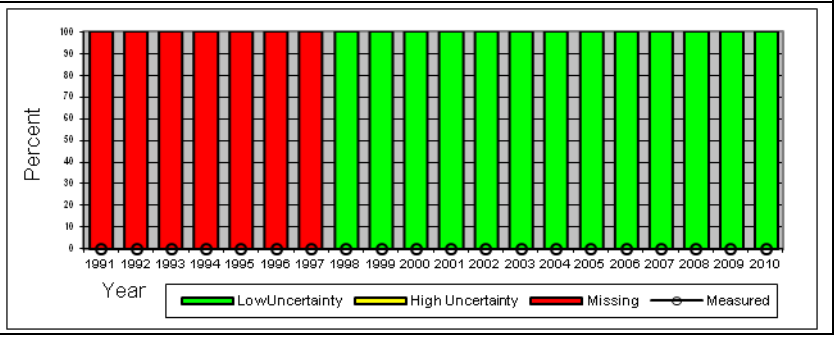
725088	BEVERLY MUNI, MA
Class II	
Solar Coordinates	
Latitude: 42.583˚	
Longitude: -70.917˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 42.583˚	
Longitude: -70.917˚	
Elevation: 34 m	
Time Zone: -5	

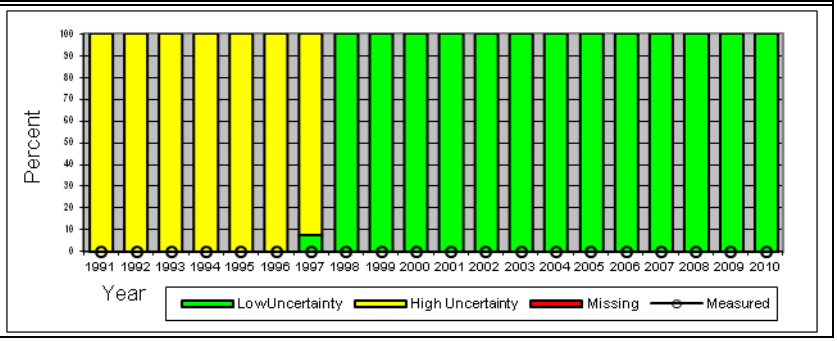
725090	BOSTON LOGAN INT'L ARPT, MA
Class I	
Solar Coordinates	
Latitude: 42.367˚	
Longitude: -71.017˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 42.367˚	
Longitude: -71.017˚	
Elevation: 6 m	
Time Zone: -5	

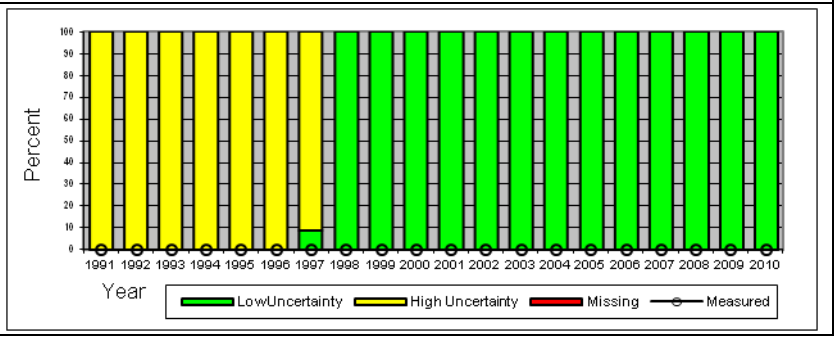
725069	CHATHAM MUNI ARPT, MA
Class III	
Solar Coordinates	
Latitude: 41.683˚	
Longitude: -70˚	
Elevation: 19 m	
Meteorological Coordinates	
Latitude: 41.683˚	
Longitude: -70˚	
Elevation: 19 m	
Time Zone: -5	

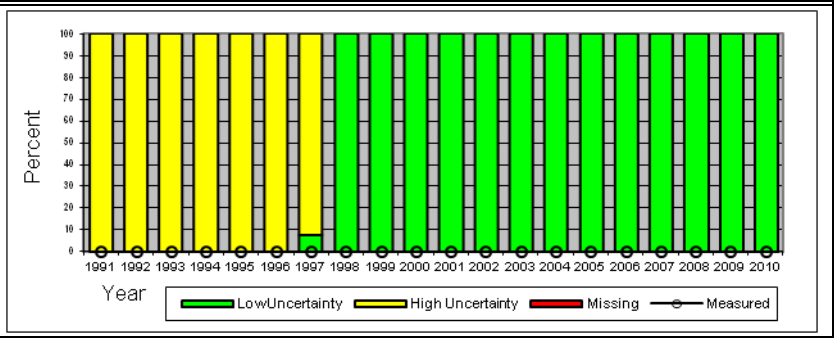
744910	CHICOPEE FALLS WESTO, MA
Class II	
Solar Coordinates	
Latitude: 42.2˚	
Longitude: -72.533˚	
Elevation: 75 m	
Meteorological Coordinates	
Latitude: 42.2˚	
Longitude: -72.533˚	
Elevation: 75 m	
Time Zone: -5	

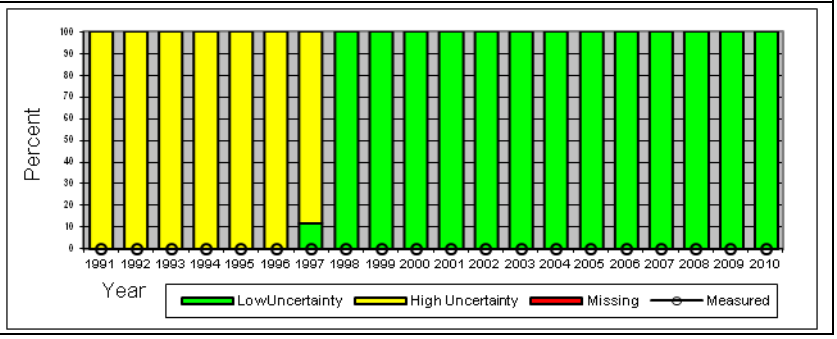
725107	FITCHBURG, MA
Class III	
Solar Coordinates	
Latitude: 42.55˚	
Longitude: -71.75˚	
Elevation: 106 m	
Meteorological Coordinates	
Latitude: 42.55˚	
Longitude: -71.75˚	
Elevation: 106 m	
Time Zone: -5	

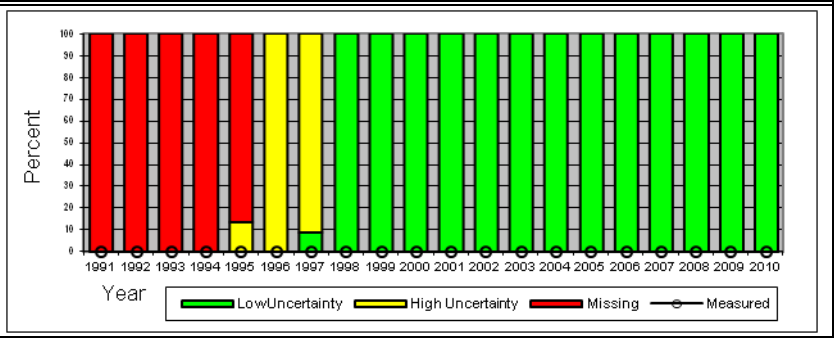
725059	HANSCOM FIELD, MA
Class III	
Solar Coordinates	
Latitude: 42.467˚	
Longitude: -71.283˚	
Elevation: 40 m	
Meteorological Coordinates	
Latitude: 42.467˚	
Longitude: -71.283˚	
Elevation: 40 m	
Time Zone: -5	

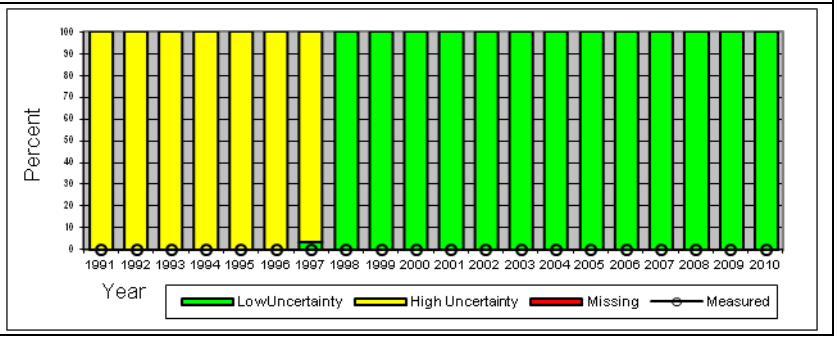
744904	LAWRENCE MUNI, MA
Class II	
Solar Coordinates	
Latitude: 42.717˚	
Longitude: -71.117˚	
Elevation: 46 m	
Meteorological Coordinates	
Latitude: 42.717˚	
Longitude: -71.117˚	
Elevation: 46 m	
Time Zone: -5	

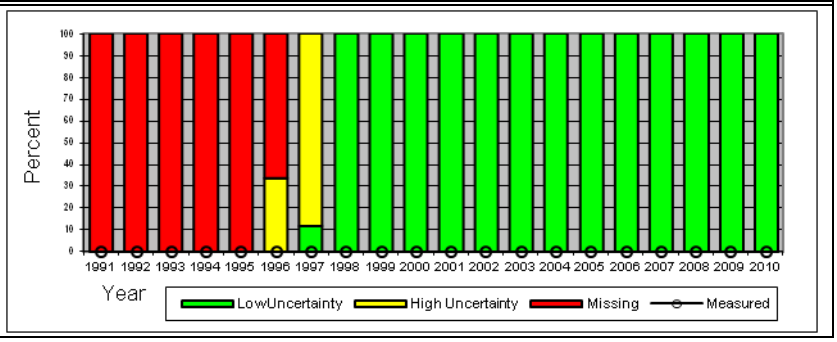
725066	MARTHAS VINEYARD, MA
Class II	
Solar Coordinates	
Latitude: 41.4˚	
Longitude: -70.617˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 41.4˚	
Longitude: -70.617˚	
Elevation: 21 m	
Time Zone: -5	

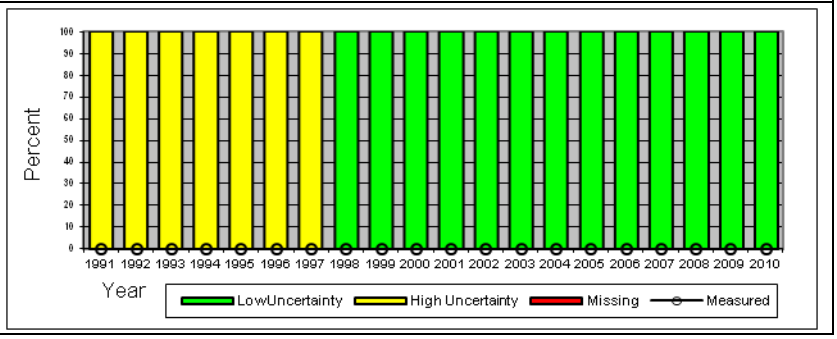
725063	NANTUCKET MEMORIAL AP, MA
Class II	
Solar Coordinates	
Latitude: 41.25˚	
Longitude: -70.067˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 41.25˚	
Longitude: -70.067˚	
Elevation: 14 m	
Time Zone: -5	

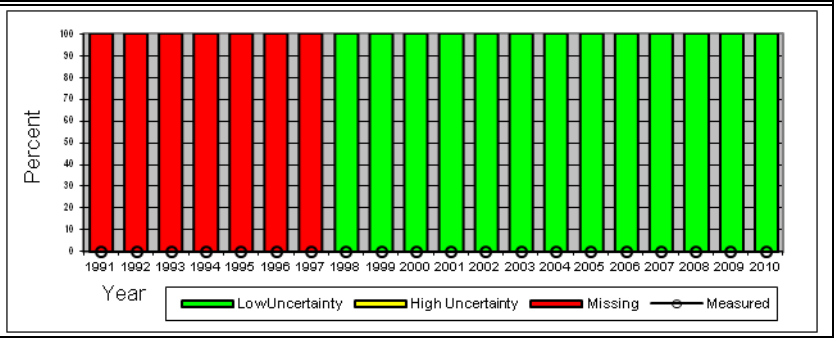
725065	NEW BEDFORD RGNL, MA
Class II	
Solar Coordinates	
Latitude: 41.667˚	
Longitude: -70.95˚	
Elevation: 25 m	
Meteorological Coordinates	
Latitude: 41.667˚	
Longitude: -70.95˚	
Elevation: 25 m	
Time Zone: -5	

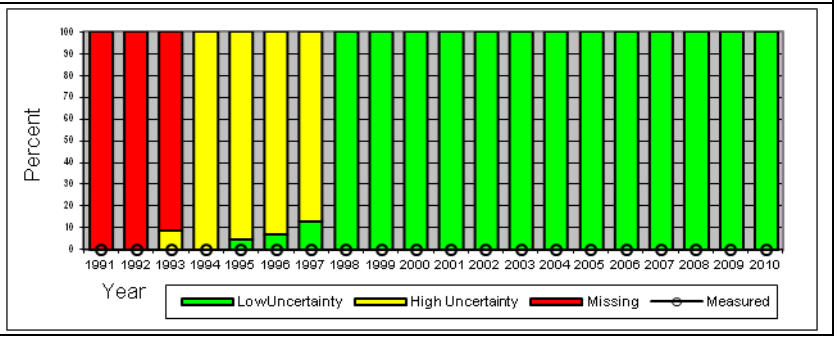
725075	NORTH ADAMS, MA
Class III	
Solar Coordinates	
Latitude: 42.7˚	
Longitude: -73.167˚	
Elevation: 201 m	
Meteorological Coordinates	
Latitude: 42.7˚	
Longitude: -73.167˚	
Elevation: 201 m	
Time Zone: -5	

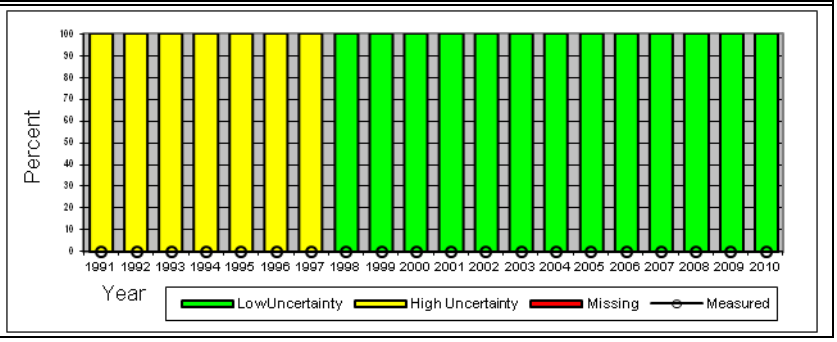
725098	NORWOOD MEMORIAL, MA
Class II	
Solar Coordinates	
Latitude: 42.183˚	
Longitude: -71.183˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 42.183˚	
Longitude: -71.183˚	
Elevation: 15 m	
Time Zone: -5	

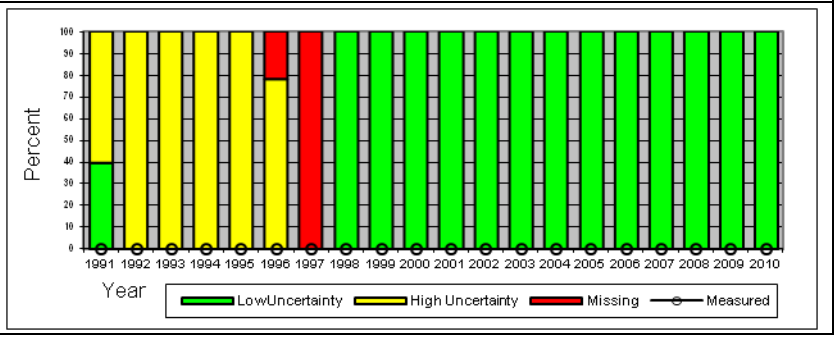
725085	ORANGE MUNICIPAL AP, MA
Class III	
Solar Coordinates	
Latitude: 42.567˚	
Longitude: -72.283˚	
Elevation: 169 m	
Meteorological Coordinates	
Latitude: 42.567˚	
Longitude: -72.283˚	
Elevation: 169 m	
Time Zone: -5	

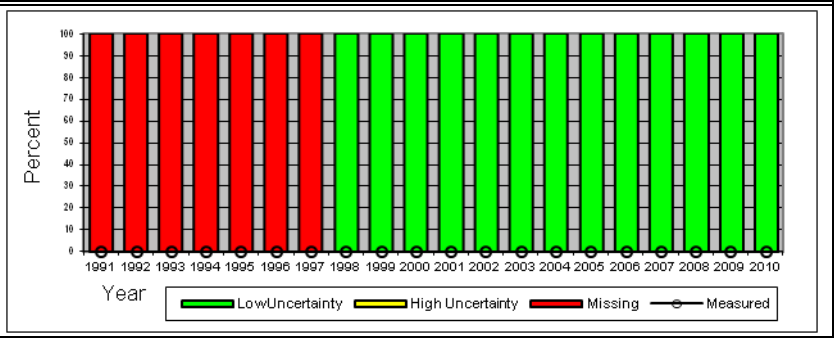
725060	OTIS ANGB, MA
Class II	
Solar Coordinates	
Latitude: 41.65˚	
Longitude: -70.517˚	
Elevation: 40 m	
Meteorological Coordinates	
Latitude: 41.65˚	
Longitude: -70.517˚	
Elevation: 40 m	
Time Zone: -5	

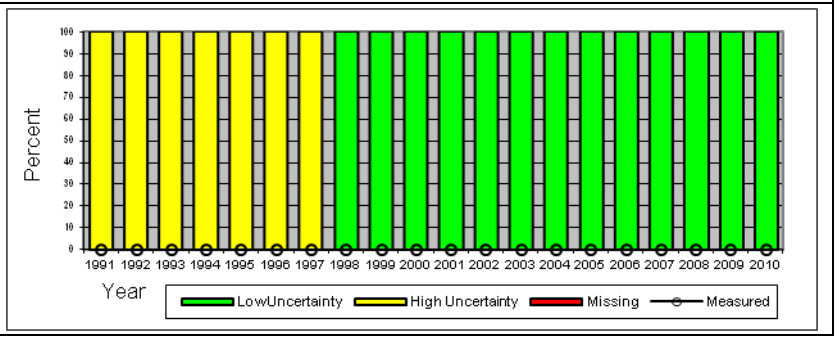
744104	PITTSFIELD MUNI, MA
Class III	
Solar Coordinates	
Latitude: 42.417˚	
Longitude: -73.283˚	
Elevation: 364 m	
Meteorological Coordinates	
Latitude: 42.417˚	
Longitude: -73.283˚	
Elevation: 364 m	
Time Zone: -5	

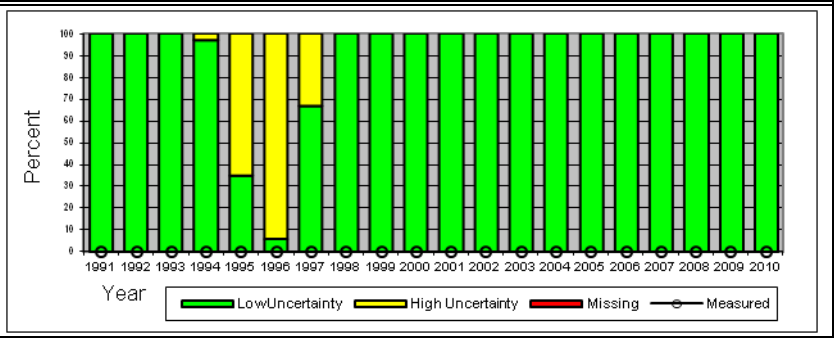
725064	PLYMOUTH MUNICIPAL, MA
Class III	
Solar Coordinates	
Latitude: 41.917˚	
Longitude: -70.733˚	
Elevation: 45 m	
Meteorological Coordinates	
Latitude: 41.917˚	
Longitude: -70.733˚	
Elevation: 45 m	
Time Zone: -5	

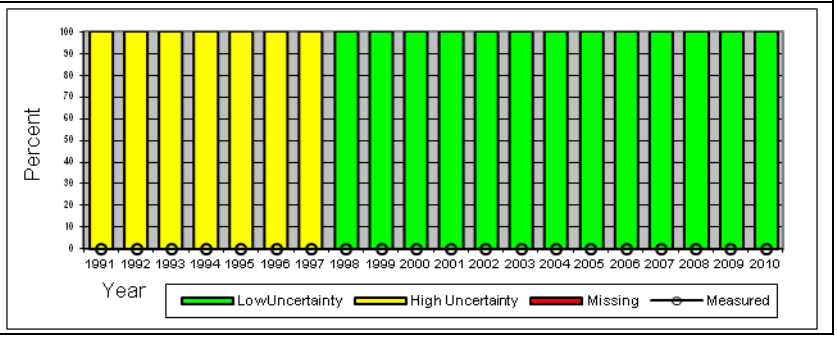
725073	PROVINCETOWN (AWOS), MA
Class II	
Solar Coordinates	
Latitude: 42.067˚	
Longitude: -70.217˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 42.067˚	
Longitude: -70.217˚	
Elevation: 2 m	
Time Zone: -5	

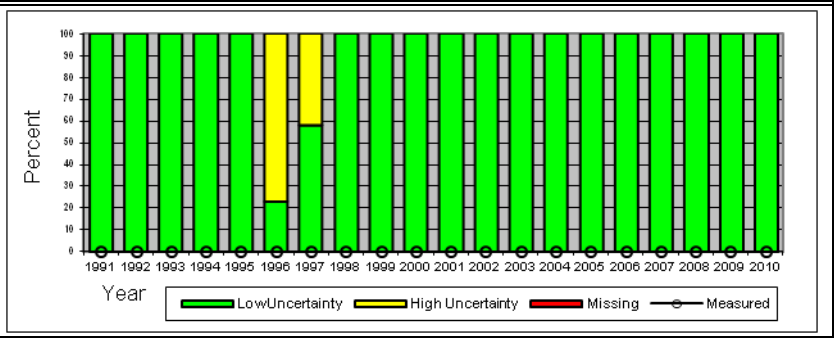
725097	SOUTH WEYMOUTH NAS, MA
Class III	
Solar Coordinates	
Latitude: 42.15˚	
Longitude: -70.933˚	
Elevation: 48 m	
Meteorological Coordinates	
Latitude: 42.15˚	
Longitude: -70.933˚	
Elevation: 48 m	
Time Zone: -5	

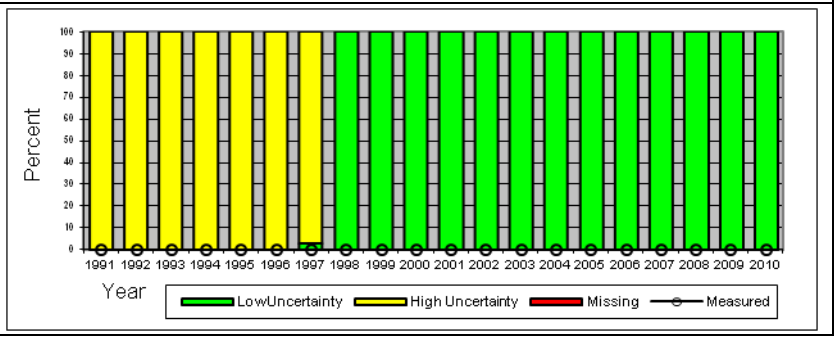
725068	TAUNTON MUNI ARPT, MA
Class III	
Solar Coordinates	
Latitude: 41.867˚	
Longitude: -71.017˚	
Elevation: 13 m	
Meteorological Coordinates	
Latitude: 41.867˚	
Longitude: -71.017˚	
Elevation: 13 m	
Time Zone: -5	

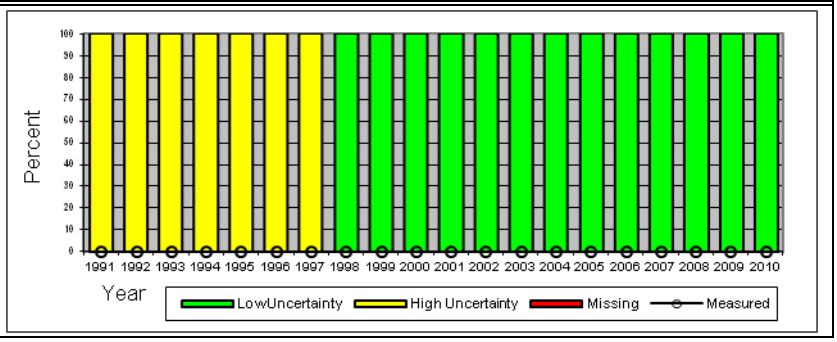
744915	WESTFIELD BARNES MUNI AP, MA
Class II	
Solar Coordinates	
Latitude: 42.15˚	
Longitude: -72.717˚	
Elevation: 83 m	
Meteorological Coordinates	
Latitude: 42.15˚	
Longitude: -72.717˚	
Elevation: 83 m	
Time Zone: -5	

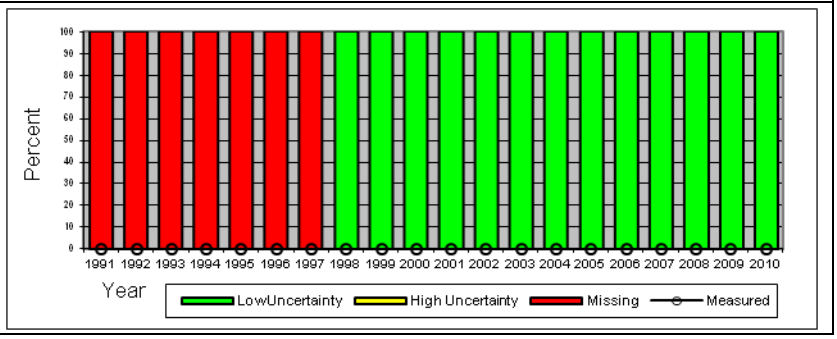
725095	WORCHESTER REGIONAL ARPT, MA
Class I	
Solar Coordinates	
Latitude: 42.267˚	
Longitude: -71.883˚	
Elevation: 300 m	
Meteorological Coordinates	
Latitude: 42.267˚	
Longitude: -71.883˚	
Elevation: 300 m	
Time Zone: -5	

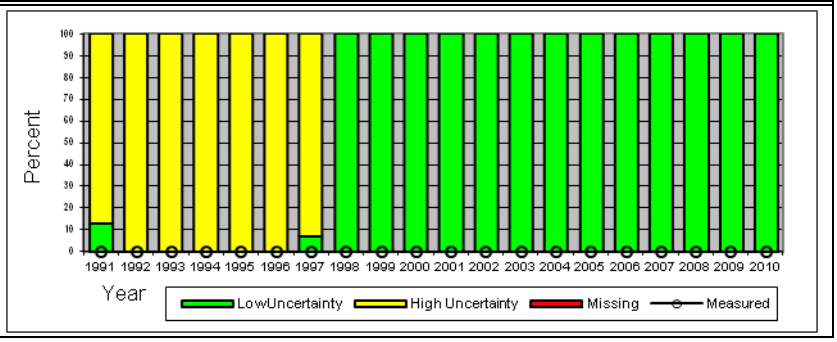
745940	ANDREWS AFB, MD
Class II	
Solar Coordinates	
Latitude: 38.817˚	
Longitude: -76.867˚	
Elevation: 86 m	
Meteorological Coordinates	
Latitude: 38.817˚	
Longitude: -76.867˚	
Elevation: 86 m	
Time Zone: -5	

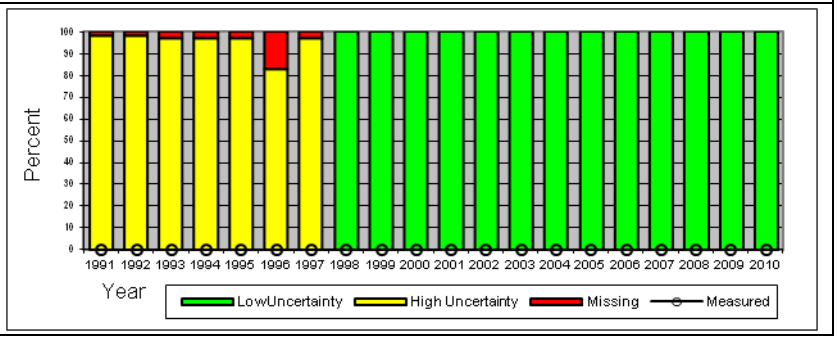
724060	BALTIMORE BLT-WASHNGTN INT'L, MD
Class I	
Solar Coordinates	
Latitude: 39.167˚	
Longitude: -76.683˚	
Elevation: 45 m	
Meteorological Coordinates	
Latitude: 39.167˚	
Longitude: -76.683˚	
Elevation: 45 m	
Time Zone: -5	

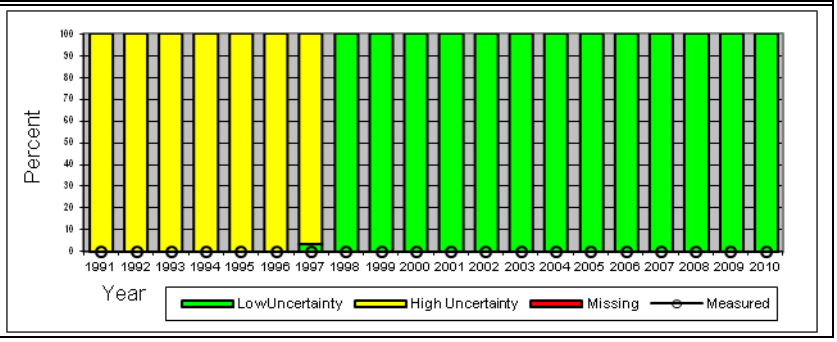
724066	HAGERSTOWN RGNL RIC, MD
Class II	
Solar Coordinates	
Latitude: 39.7˚	
Longitude: -77.733˚	
Elevation: 220 m	
Meteorological Coordinates	
Latitude: 39.7˚	
Longitude: -77.733˚	
Elevation: 220 m	
Time Zone: -5	

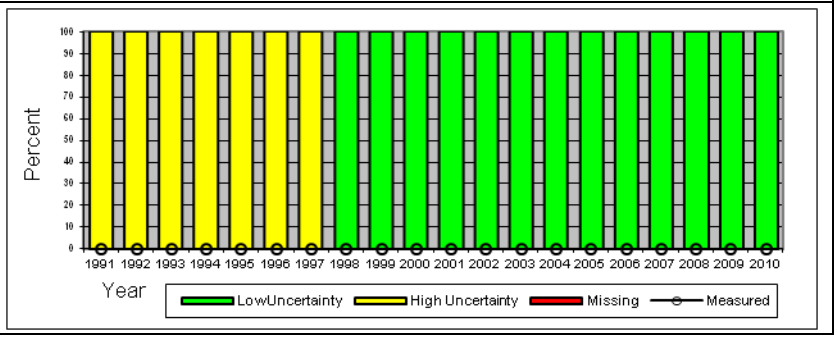
724067	MARTIN STATE, MD
Class II	
Solar Coordinates	
Latitude: 39.317˚	
Longitude: -76.417˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 39.317˚	
Longitude: -76.417˚	
Elevation: 7 m	
Time Zone: -5	

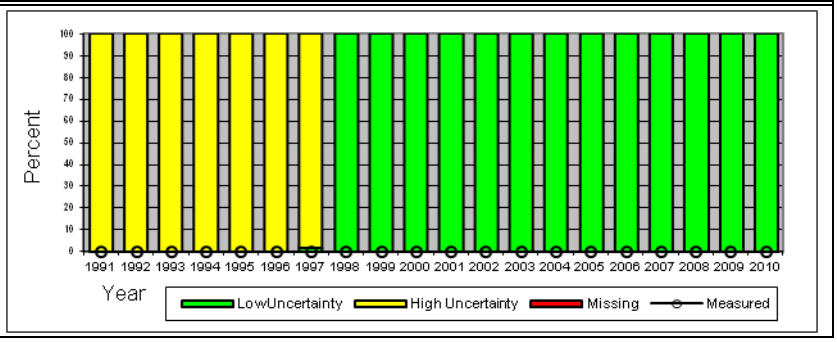
745946	OCEAN CITY MUNI APT, MD
Class III	
Solar Coordinates	
Latitude: 38.317˚	
Longitude: -75.117˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 38.317˚	
Longitude: -75.117˚	
Elevation: 4 m	
Time Zone: -5	

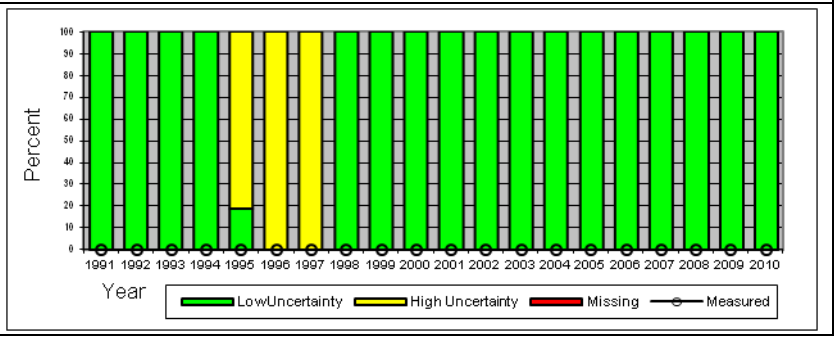
724040	PATUXENT RIVER NAS, MD
Class II	
Solar Coordinates	
Latitude: 38.3˚	
Longitude: -76.417˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 38.3˚	
Longitude: -76.417˚	
Elevation: 14 m	
Time Zone: -5	

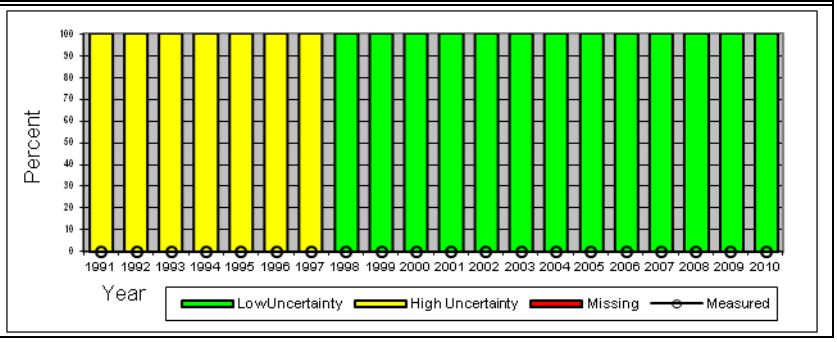
724057	PHILLIPS AAF, MD
Class III	
Solar Coordinates	
Latitude: 39.467˚	
Longitude: -76.167˚	
Elevation: 18 m	
Meteorological Coordinates	
Latitude: 39.467˚	
Longitude: -76.167˚	
Elevation: 18 m	
Time Zone: -5	

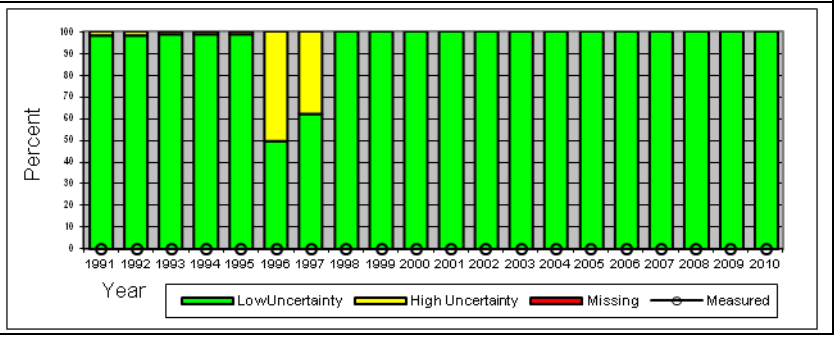
724045	SALISBURY WICOMICO CO AP, MD
Class II	
Solar Coordinates	
Latitude: 38.333˚	
Longitude: -75.517˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 38.333˚	
Longitude: -75.517˚	
Elevation: 15 m	
Time Zone: -5	

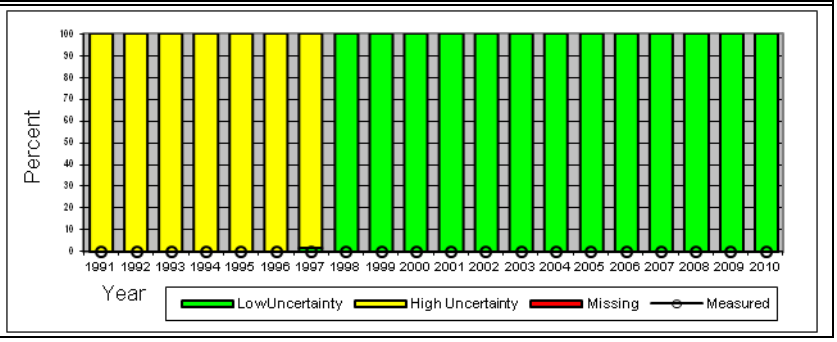
726184	AUBURN-LEWISTON, ME
Class II	
Solar Coordinates	
Latitude: 44.05˚	
Longitude: -70.283˚	
Elevation: 88 m	
Meteorological Coordinates	
Latitude: 44.05˚	
Longitude: -70.283˚	
Elevation: 88 m	
Time Zone: -5	

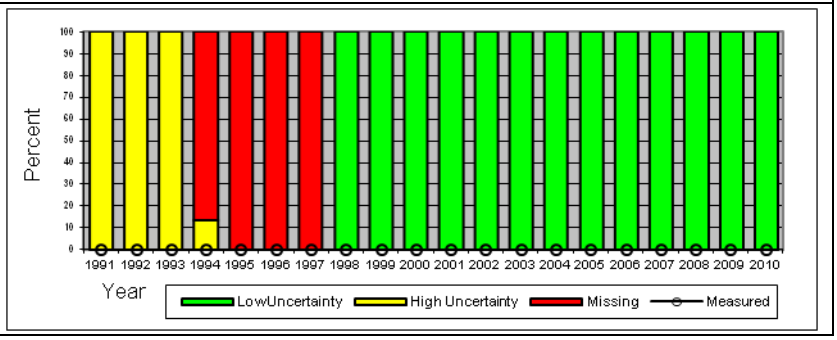
726185	AUGUSTA AIRPORT, ME
Class II	
Solar Coordinates	
Latitude: 44.317˚	
Longitude: -69.8˚	
Elevation: 107 m	
Meteorological Coordinates	
Latitude: 44.317˚	
Longitude: -69.8˚	
Elevation: 107 m	
Time Zone: -5	

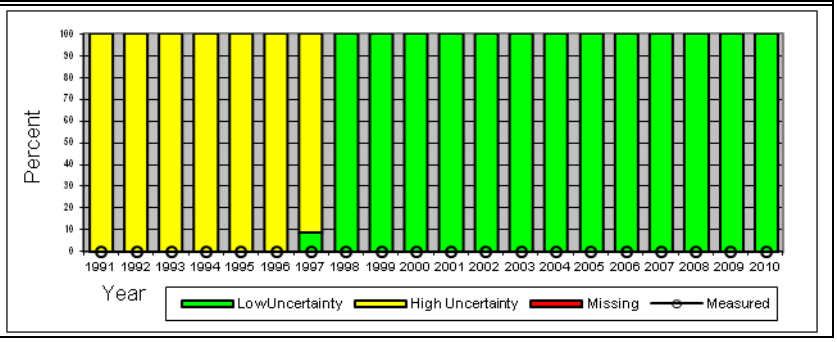
726088	BANGOR INTERNATIONAL AP, ME
Class I	
Solar Coordinates	
Latitude: 44.8˚	
Longitude: -68.817˚	
Elevation: 56 m	
Meteorological Coordinates	
Latitude: 44.8˚	
Longitude: -68.817˚	
Elevation: 56 m	
Time Zone: -5	

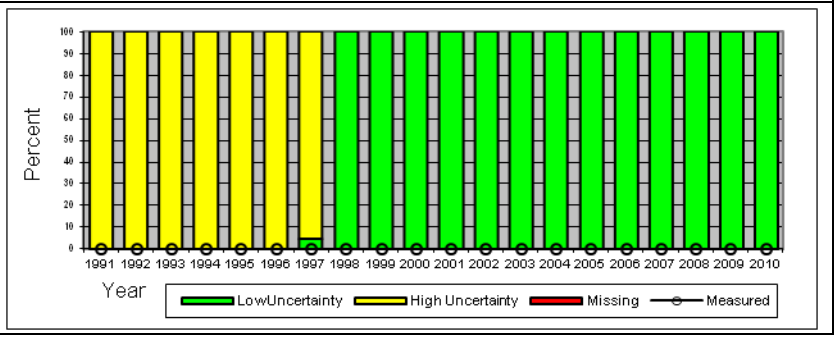
726077	BAR HARBOR (AWOS), ME
Class II	
Solar Coordinates	
Latitude: 44.45˚	
Longitude: -68.367˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 44.45˚	
Longitude: -68.367˚	
Elevation: 26 m	
Time Zone: -5	

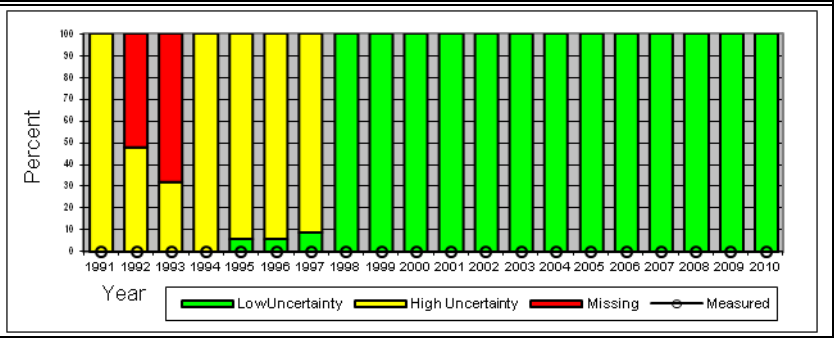
727120	CARIBOU MUNICIPAL ARPT, ME
Class I	
Solar Coordinates	
Latitude: 46.867˚	
Longitude: -68.033˚	
Elevation: 190 m	
Meteorological Coordinates	
Latitude: 46.867˚	
Longitude: -68.033˚	
Elevation: 190 m	
Time Zone: -5	

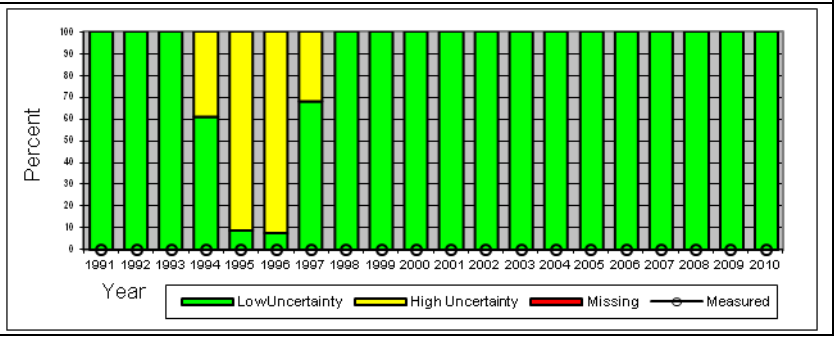
727033	HOULTON INTL ARPT, ME
Class II	
Solar Coordinates	
Latitude: 46.117˚	
Longitude: -67.8˚	
Elevation: 150 m	
Meteorological Coordinates	
Latitude: 46.117˚	
Longitude: -67.8˚	
Elevation: 150 m	
Time Zone: -5	

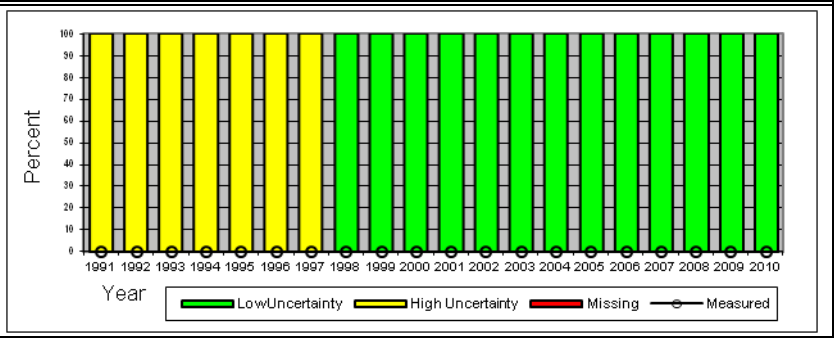
727125	LORING AFB/LIMESTON, ME
Class III	
Solar Coordinates	
Latitude: 46.95˚	
Longitude: -67.883˚	
Elevation: 227 m	
Meteorological Coordinates	
Latitude: 46.95˚	
Longitude: -67.883˚	
Elevation: 227 m	
Time Zone: -5	

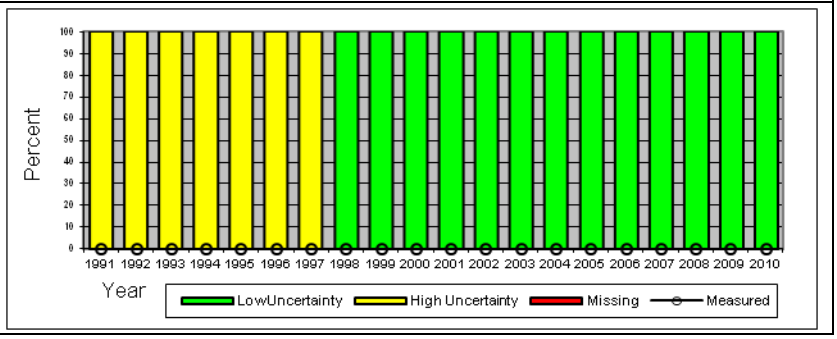
726196	MILLINOCKET MUNICIPAL AP, ME
Class III	
Solar Coordinates	
Latitude: 45.65˚	
Longitude: -68.683˚	
Elevation: 124 m	
Meteorological Coordinates	
Latitude: 45.65˚	
Longitude: -68.683˚	
Elevation: 124 m	
Time Zone: -5	

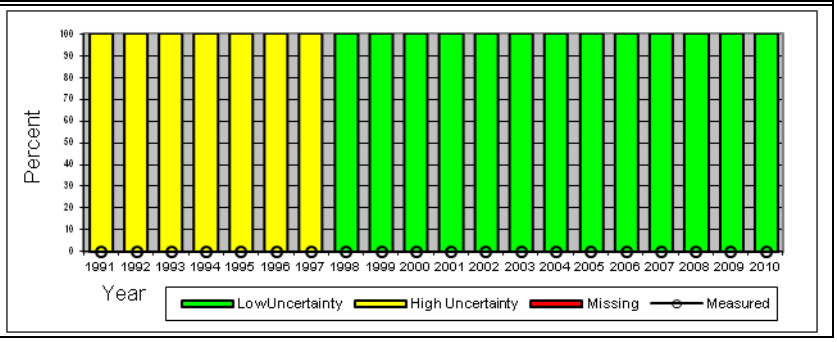
743920	NAVAL AIR STATION, ME
Class II	
Solar Coordinates	
Latitude: 43.9˚	
Longitude: -69.933˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 43.9˚	
Longitude: -69.933˚	
Elevation: 21 m	
Time Zone: -5	

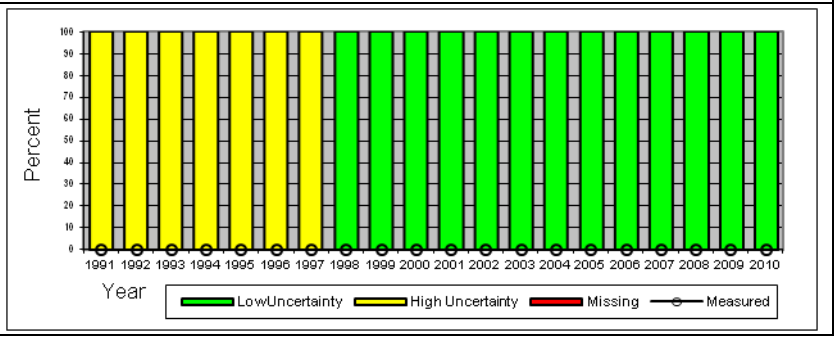
726083	NORTHERN AROOSTOOK, ME
Class III	
Solar Coordinates	
Latitude: 47.283˚	
Longitude: -68.317˚	
Elevation: 309 m	
Meteorological Coordinates	
Latitude: 47.283˚	
Longitude: -68.317˚	
Elevation: 309 m	
Time Zone: -5	

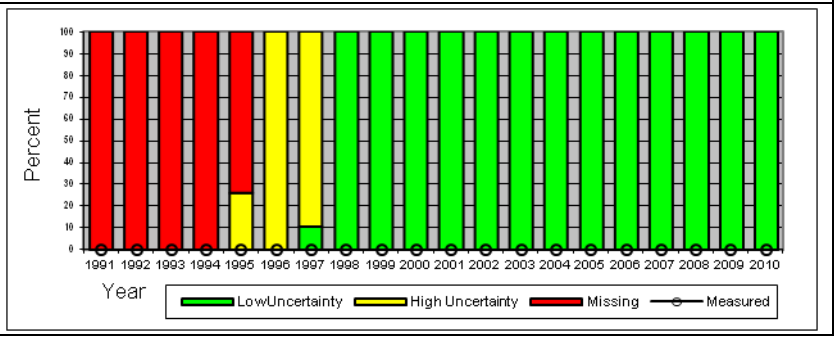
726060	PORTLAND INTL JETPORT, ME
Class I	
Solar Coordinates	
Latitude: 43.65˚	
Longitude: -70.3˚	
Elevation: 14 m	
Meteorological Coordinates	
Latitude: 43.65˚	
Longitude: -70.3˚	
Elevation: 14 m	
Time Zone: -5	

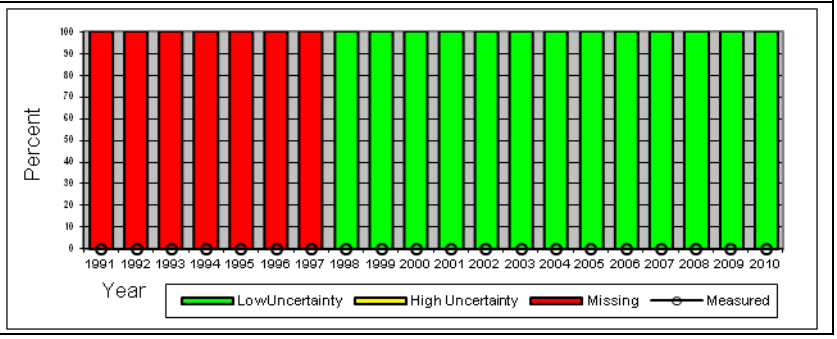
727130	PRESQUE ISLE MUNICIP, ME
Class II	
Solar Coordinates	
Latitude: 46.683˚	
Longitude: -68.05˚	
Elevation: 163 m	
Meteorological Coordinates	
Latitude: 46.683˚	
Longitude: -68.05˚	
Elevation: 163 m	
Time Zone: -5	

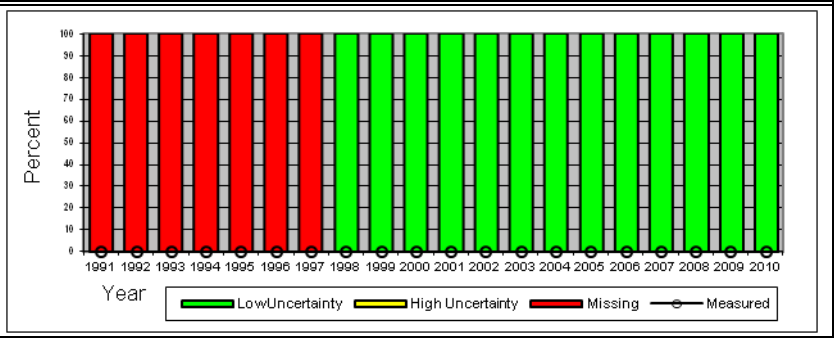
726079	ROCKLAND/KNOX(AWOS), ME
Class II	
Solar Coordinates	
Latitude: 44.067˚	
Longitude: -69.1˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 44.067˚	
Longitude: -69.1˚	
Elevation: 17 m	
Time Zone: -5	

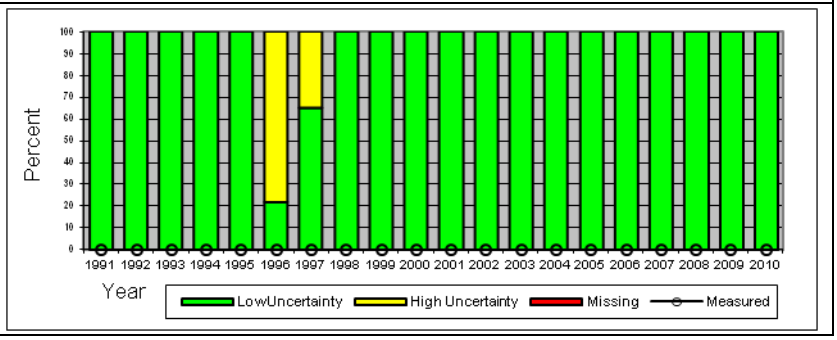
726064	SANFORD MUNI (AWOS), ME
Class II	
Solar Coordinates	
Latitude: 43.4˚	
Longitude: -70.717˚	
Elevation: 74 m	
Meteorological Coordinates	
Latitude: 43.4˚	
Longitude: -70.717˚	
Elevation: 74 m	
Time Zone: -5	

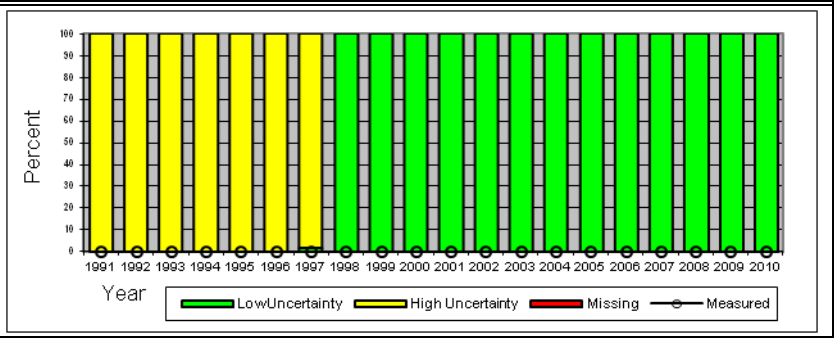
726073	WATERVILLE (AWOS), ME
Class II	
Solar Coordinates	
Latitude: 44.533˚	
Longitude: -69.683˚	
Elevation: 101 m	
Meteorological Coordinates	
Latitude: 44.533˚	
Longitude: -69.683˚	
Elevation: 101 m	
Time Zone: -5	

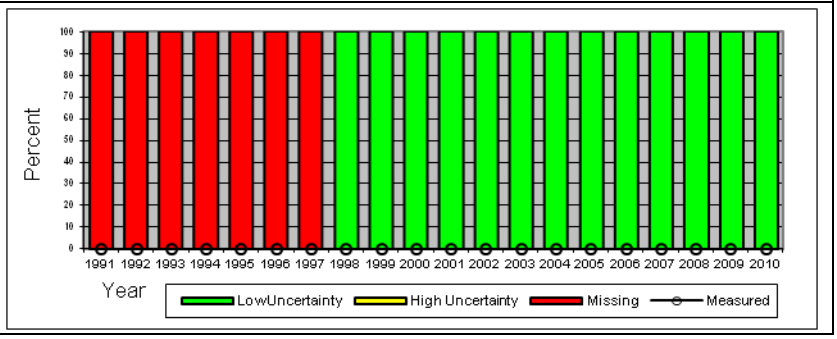
727135	WISCASSET, ME
Class III	
Solar Coordinates	
Latitude: 43.967˚	
Longitude: -69.717˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 43.967˚	
Longitude: -69.717˚	
Elevation: 21 m	
Time Zone: -5	

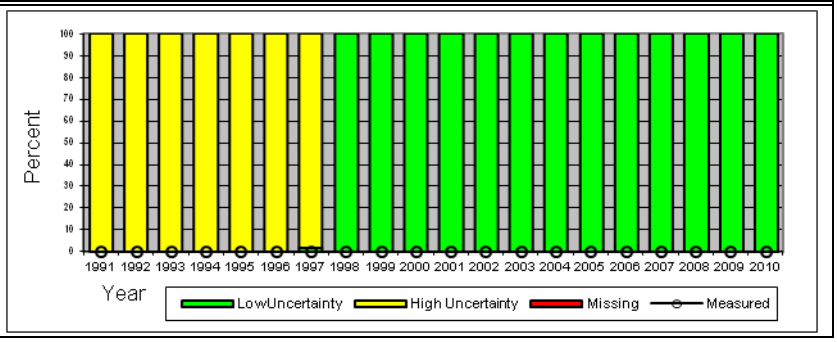
725404	ADRIAN, MI
Class III	
Solar Coordinates	
Latitude: 41.867˚	
Longitude: -84.083˚	
Elevation: 244 m	
Meteorological Coordinates	
Latitude: 41.867˚	
Longitude: -84.083˚	
Elevation: 244 m	
Time Zone: -5	

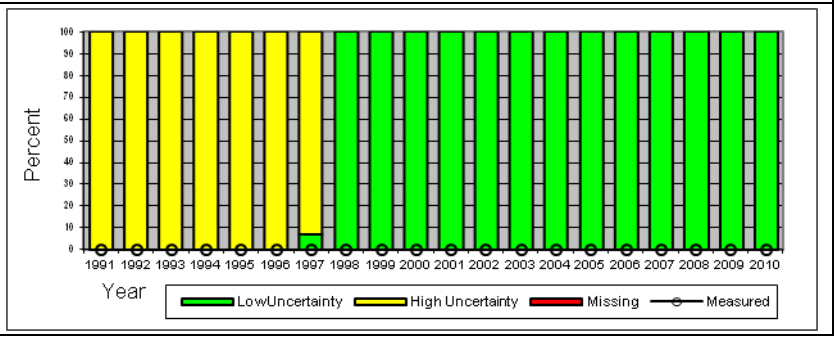
725405	ALMA, MI
Class III	
Solar Coordinates	
Latitude: 43.317˚	
Longitude: -84.683˚	
Elevation: 230 m	
Meteorological Coordinates	
Latitude: 43.317˚	
Longitude: -84.683˚	
Elevation: 230 m	
Time Zone: -5	

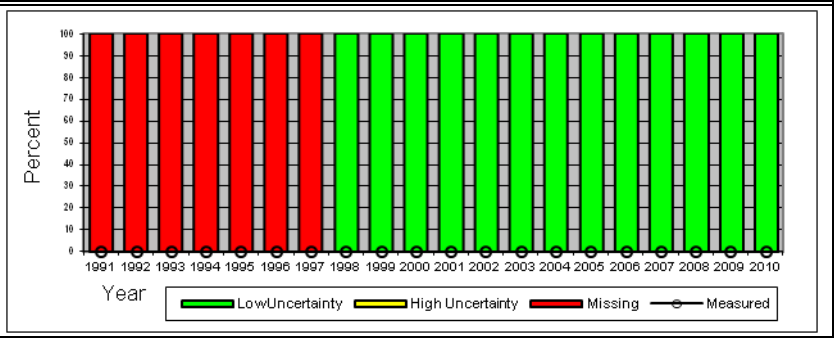
726390	ALPENA COUNTY REGIONAL AP, MI
Class I	
Solar Coordinates	
Latitude: 45.067˚	
Longitude: -83.583˚	
Elevation: 210 m	
Meteorological Coordinates	
Latitude: 45.067˚	
Longitude: -83.583˚	
Elevation: 210 m	
Time Zone: -5	

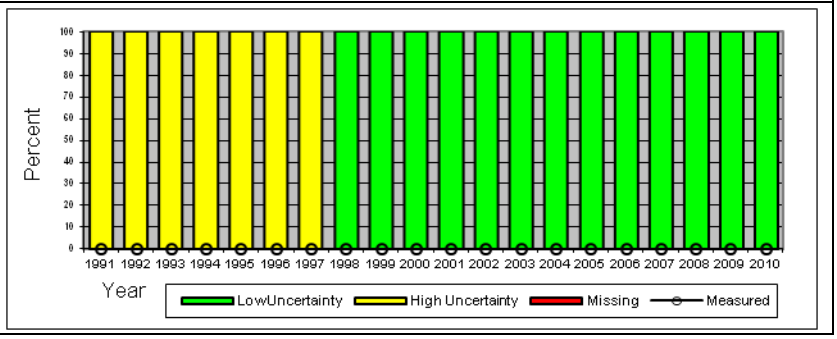
725374	ANN ARBOR MUNICIPAL, MI
Class II	
Solar Coordinates	
Latitude: 42.217˚	
Longitude: -83.75˚	
Elevation: 256 m	
Meteorological Coordinates	
Latitude: 42.217˚	
Longitude: -83.75˚	
Elevation: 256 m	
Time Zone: -5	

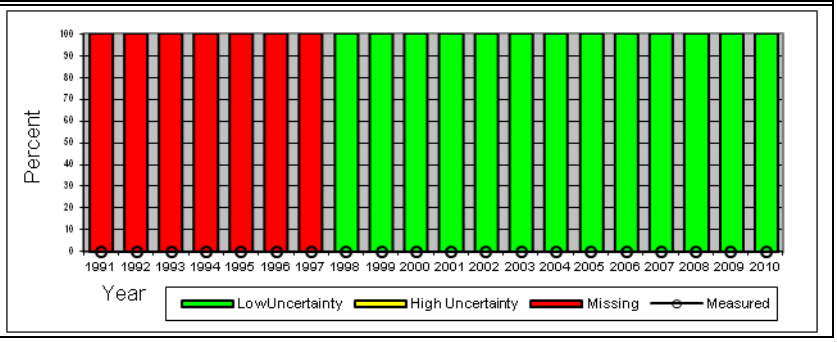
725406	BAD AXE, MI
Class III	
Solar Coordinates	
Latitude: 43.783˚	
Longitude: -82.983˚	
Elevation: 234 m	
Meteorological Coordinates	
Latitude: 43.783˚	
Longitude: -82.983˚	
Elevation: 234 m	
Time Zone: -5	

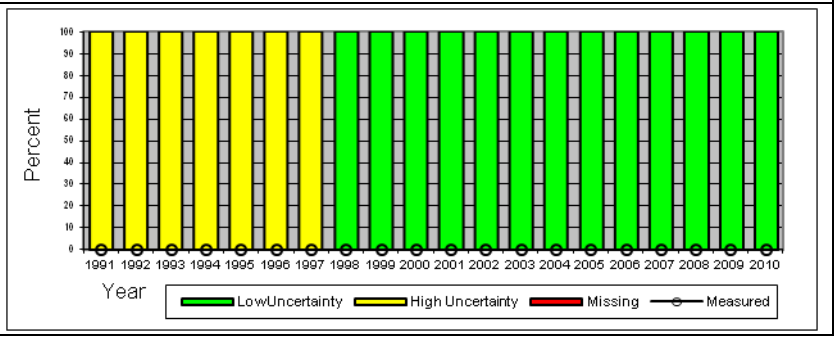
725396	BATTLE CREEK KELLOGG AP, MI
Class II	
Solar Coordinates	
Latitude: 42.3˚	
Longitude: -85.25˚	
Elevation: 283 m	
Meteorological Coordinates	
Latitude: 42.3˚	
Longitude: -85.25˚	
Elevation: 283 m	
Time Zone: -5	

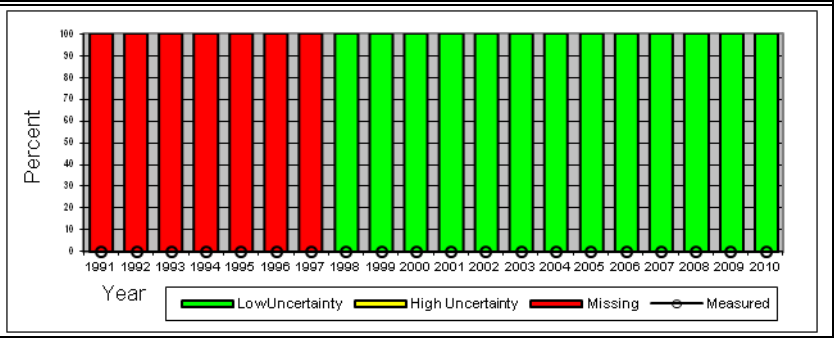
726355	BENTON HARBOR/ROSS, MI
Class II	
Solar Coordinates	
Latitude: 42.133˚	
Longitude: -86.433˚	
Elevation: 196 m	
Meteorological Coordinates	
Latitude: 42.133˚	
Longitude: -86.433˚	
Elevation: 196 m	
Time Zone: -5	

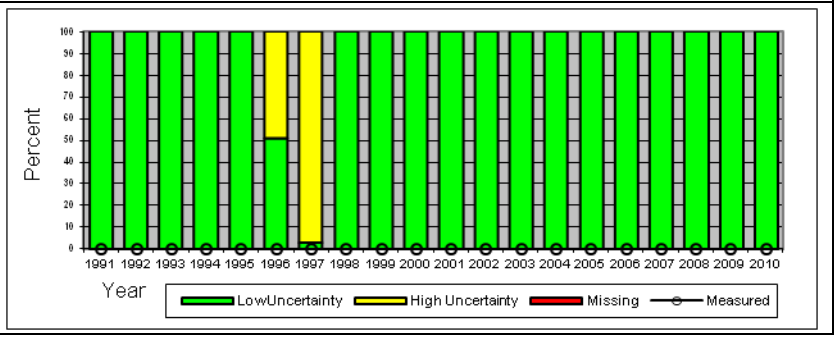
725416	BIG RAPIDS, MI
Class III	
Solar Coordinates	
Latitude: 43.717˚	
Longitude: -85.5˚	
Elevation: 302 m	
Meteorological Coordinates	
Latitude: 43.717˚	
Longitude: -85.5˚	
Elevation: 302 m	
Time Zone: -5	

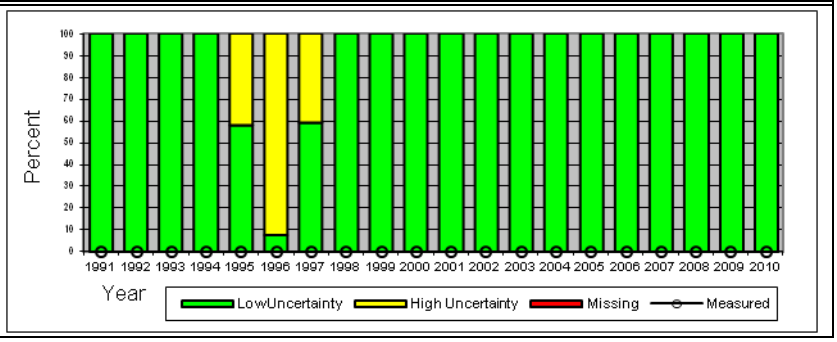
726384	CADILLAC WEXFORD CO AP, MI
Class III	
Solar Coordinates	
Latitude: 44.283˚	
Longitude: -85.417˚	
Elevation: 396 m	
Meteorological Coordinates	
Latitude: 44.283˚	
Longitude: -85.417˚	
Elevation: 396 m	
Time Zone: -5	

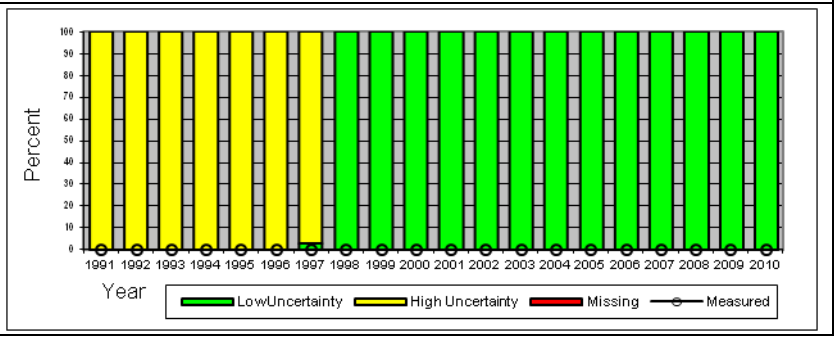
727434	CHARLEVOIX, MI
Class III	
Solar Coordinates	
Latitude: 45.3˚	
Longitude: -85.267˚	
Elevation: 204 m	
Meteorological Coordinates	
Latitude: 45.3˚	
Longitude: -85.267˚	
Elevation: 204 m	
Time Zone: -5	

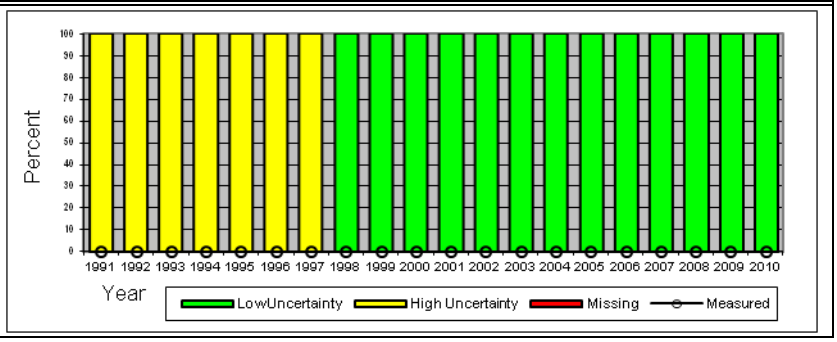
727344	CHIPPEWA CO INTL, MI
Class II	
Solar Coordinates	
Latitude: 46.25˚	
Longitude: -84.467˚	
Elevation: 250 m	
Meteorological Coordinates	
Latitude: 46.25˚	
Longitude: -84.467˚	
Elevation: 250 m	
Time Zone: -5	

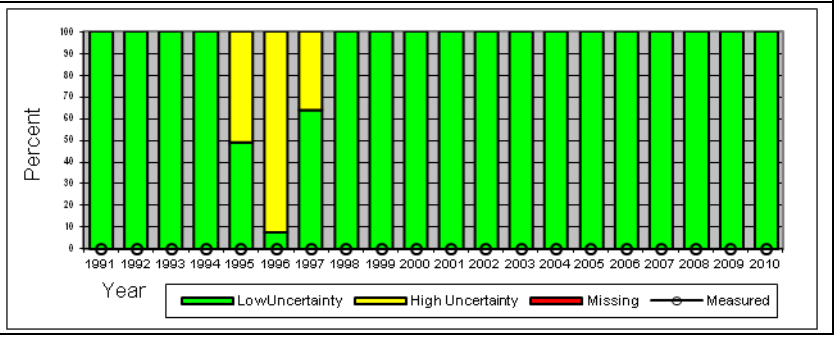
725414	COLDWATER, MI
Class III	
Solar Coordinates	
Latitude: 41.933˚	
Longitude: -85.05˚	
Elevation: 292 m	
Meteorological Coordinates	
Latitude: 41.933˚	
Longitude: -85.05˚	
Elevation: 292 m	
Time Zone: -5	

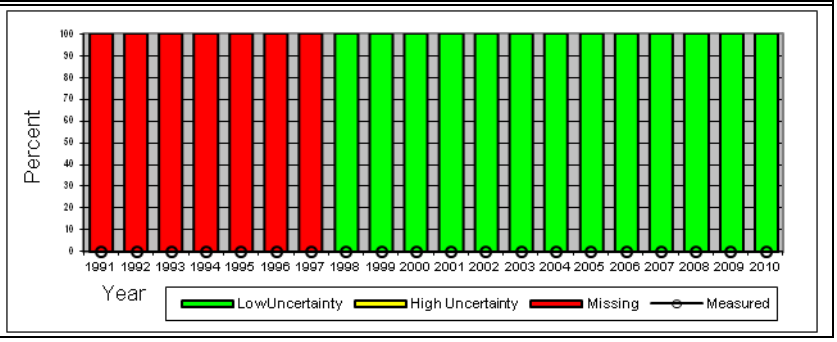
725375	DETROIT CITY AIRPORT, MI
Class I	
Solar Coordinates	
Latitude: 42.4˚	
Longitude: -83˚	
Elevation: 190 m	
Meteorological Coordinates	
Latitude: 42.4˚	
Longitude: -83˚	
Elevation: 190 m	
Time Zone: -5	

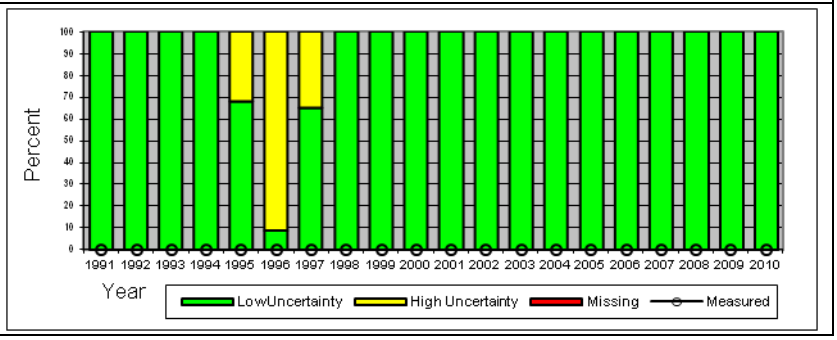
725370	DETROIT METROPOLITAN ARPT, MI
Class I	
Solar Coordinates	
Latitude: 42.217˚	
Longitude: -83.35˚	
Elevation: 194 m	
Meteorological Coordinates	
Latitude: 42.217˚	
Longitude: -83.35˚	
Elevation: 194 m	
Time Zone: -5	

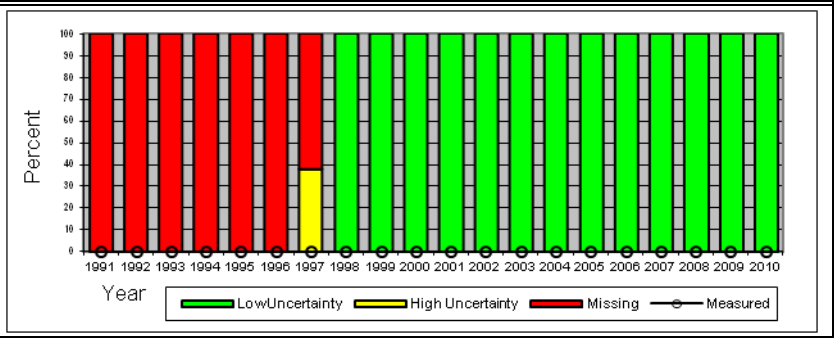
725376	DETROIT WILLOW RUN AP, MI
Class II	
Solar Coordinates	
Latitude: 42.233˚	
Longitude: -83.533˚	
Elevation: 218 m	
Meteorological Coordinates	
Latitude: 42.233˚	
Longitude: -83.533˚	
Elevation: 218 m	
Time Zone: -5	

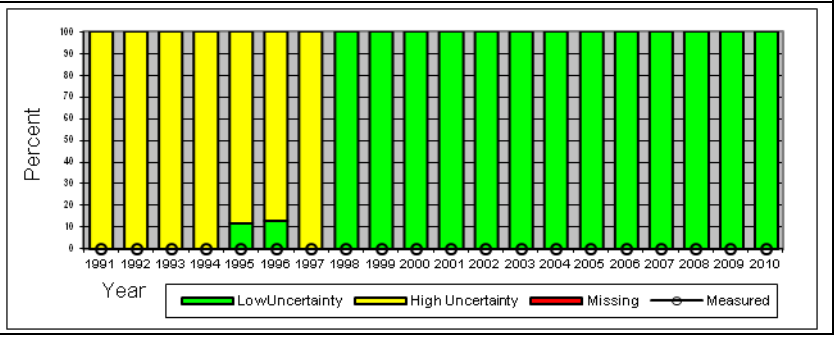
726480	ESCANABA (AWOS), MI
Class II	
Solar Coordinates	
Latitude: 45.75˚	
Longitude: -87.033˚	
Elevation: 187 m	
Meteorological Coordinates	
Latitude: 45.75˚	
Longitude: -87.033˚	
Elevation: 187 m	
Time Zone: -5	

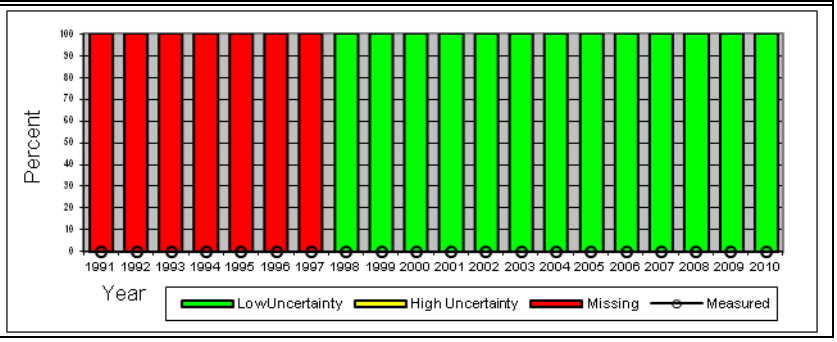
726370	FLINT BISHOP INTL ARPT, MI
Class I	
Solar Coordinates	
Latitude: 42.967˚	
Longitude: -83.75˚	
Elevation: 234 m	
Meteorological Coordinates	
Latitude: 42.967˚	
Longitude: -83.75˚	
Elevation: 234 m	
Time Zone: -5	

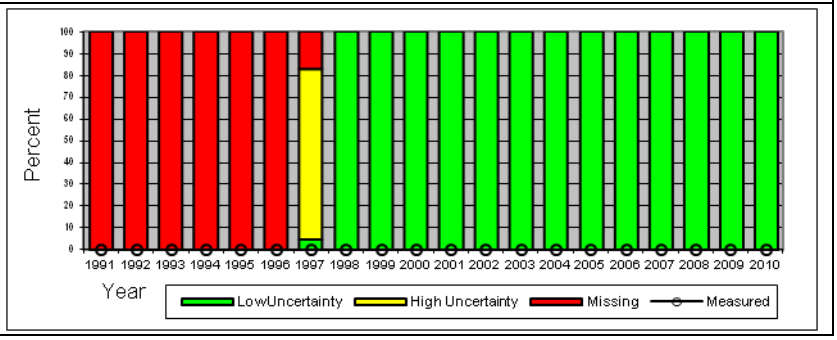
725407	GAYLORD, MI
Class III	
Solar Coordinates	
Latitude: 45.017˚	
Longitude: -84.683˚	
Elevation: 404 m	
Meteorological Coordinates	
Latitude: 45.017˚	
Longitude: -84.683˚	
Elevation: 404 m	
Time Zone: -5	

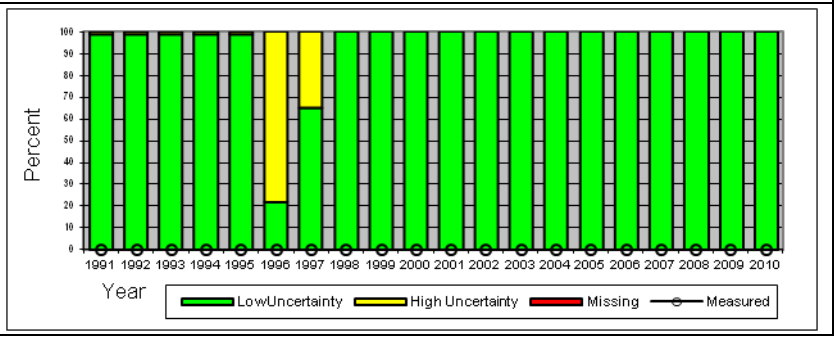
726350	GRAND RAPIDS KENT COUNTY INT', MI
Class I	
Solar Coordinates	
Latitude: 42.883˚	
Longitude: -85.517˚	
Elevation: 242 m	
Meteorological Coordinates	
Latitude: 42.883˚	
Longitude: -85.517˚	
Elevation: 242 m	
Time Zone: -5	

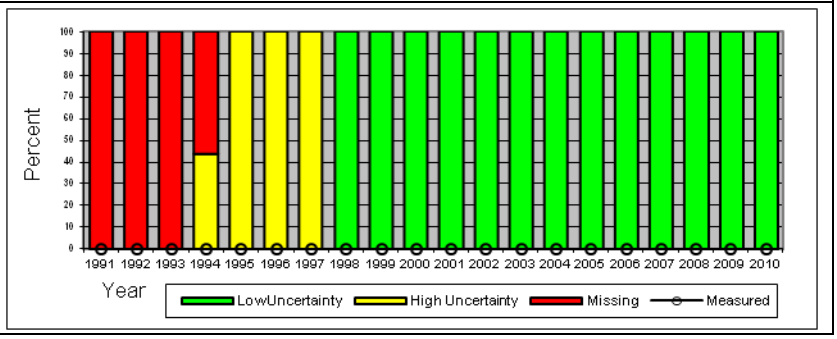
725373	GROSSE ISLE ARPT, MI
Class III	
Solar Coordinates	
Latitude: 42.1˚	
Longitude: -83.15˚	
Elevation: 176 m	
Meteorological Coordinates	
Latitude: 42.1˚	
Longitude: -83.15˚	
Elevation: 176 m	
Time Zone: -5	

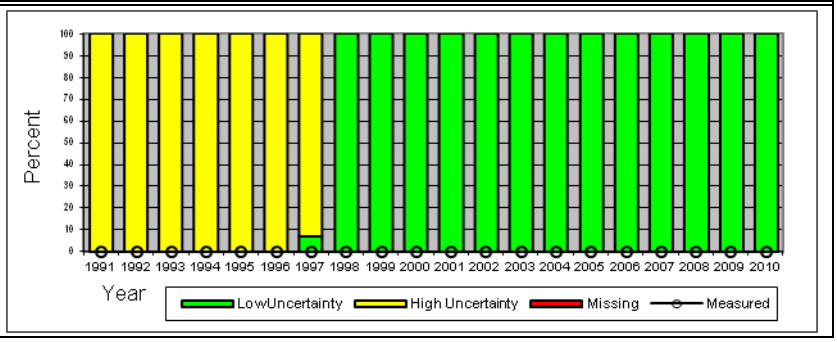
727440	HANCOCK HOUGHTON CO AP, MI
Class II	
Solar Coordinates	
Latitude: 47.167˚	
Longitude: -88.5˚	
Elevation: 327 m	
Meteorological Coordinates	
Latitude: 47.167˚	
Longitude: -88.5˚	
Elevation: 327 m	
Time Zone: -5	

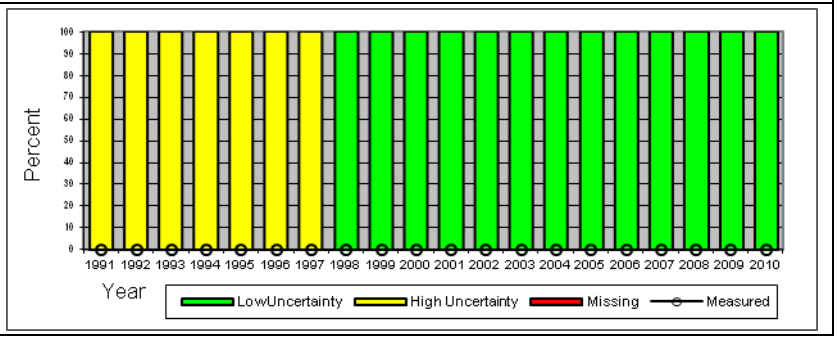
725409	HILLSDALE, MI
Class III	
Solar Coordinates	
Latitude: 41.917˚	
Longitude: -84.583˚	
Elevation: 360 m	
Meteorological Coordinates	
Latitude: 41.917˚	
Longitude: -84.583˚	
Elevation: 360 m	
Time Zone: -5	

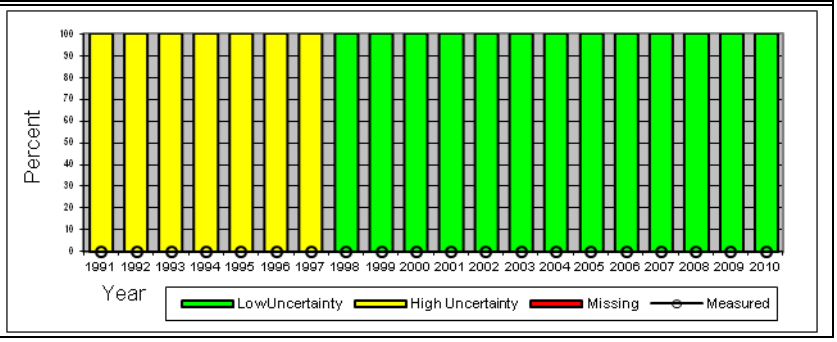
725394	HOLLAND/TULIP CITY, MI
Class III	
Solar Coordinates	
Latitude: 42.75˚	
Longitude: -86.1˚	
Elevation: 210 m	
Meteorological Coordinates	
Latitude: 42.75˚	
Longitude: -86.1˚	
Elevation: 210 m	
Time Zone: -5	

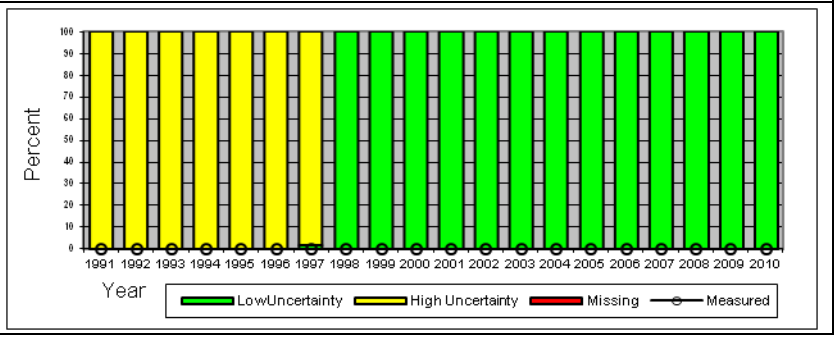
726380	HOUGHTON LAKE ROSCOMMON CO AR, MI
Class I	
Solar Coordinates	
Latitude: 44.367˚	
Longitude: -84.683˚	
Elevation: 351 m	
Meteorological Coordinates	
Latitude: 44.367˚	
Longitude: -84.683˚	
Elevation: 351 m	
Time Zone: -5	

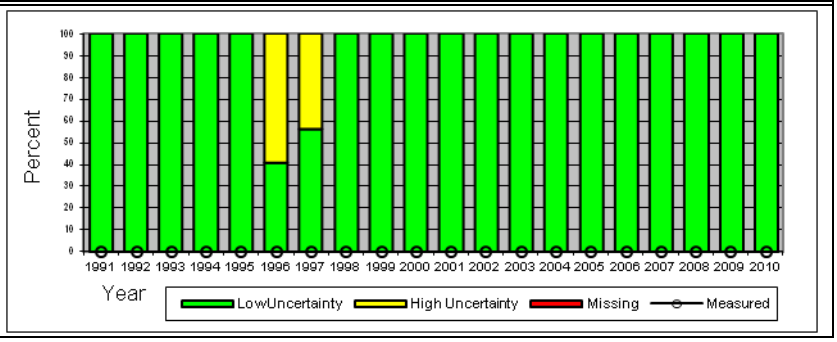
725378	HOWELL, MI
Class III	
Solar Coordinates	
Latitude: 42.633˚	
Longitude: -83.983˚	
Elevation: 293 m	
Meteorological Coordinates	
Latitude: 42.633˚	
Longitude: -83.983˚	
Elevation: 293 m	
Time Zone: -5	

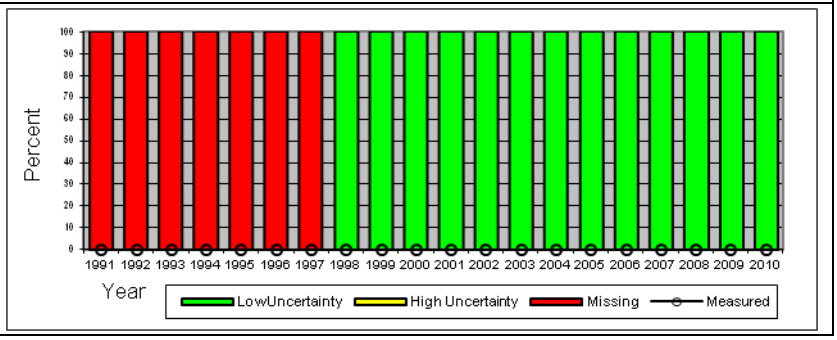
727437	IRON MOUNTAIN/FORD, MI
Class II	
Solar Coordinates	
Latitude: 45.817˚	
Longitude: -88.117˚	
Elevation: 360 m	
Meteorological Coordinates	
Latitude: 45.817˚	
Longitude: -88.117˚	
Elevation: 360 m	
Time Zone: -6	

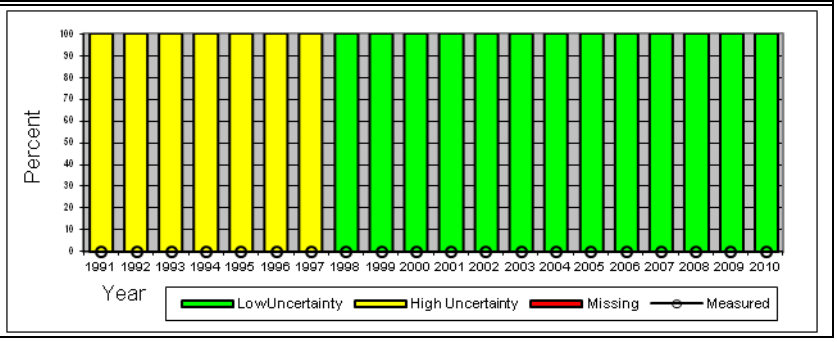
727445	IRONWOOD (AWOS), MI
Class II	
Solar Coordinates	
Latitude: 46.533˚	
Longitude: -90.133˚	
Elevation: 375 m	
Meteorological Coordinates	
Latitude: 46.533˚	
Longitude: -90.133˚	
Elevation: 375 m	
Time Zone: -6	

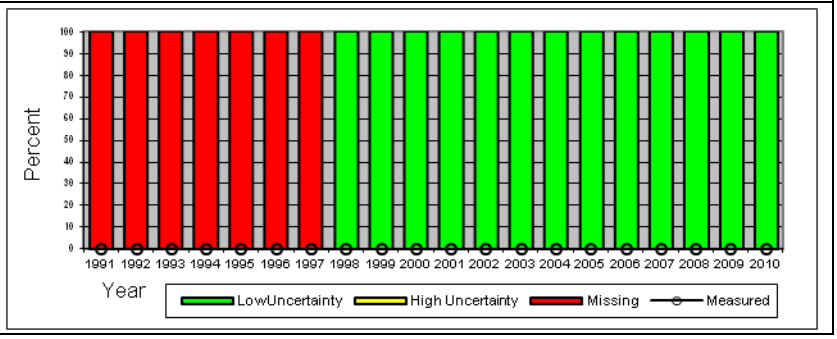
725395	JACKSON REYNOLDS FIELD, MI
Class II	
Solar Coordinates	
Latitude: 42.267˚	
Longitude: -84.467˚	
Elevation: 304 m	
Meteorological Coordinates	
Latitude: 42.267˚	
Longitude: -84.467˚	
Elevation: 304 m	
Time Zone: -5	

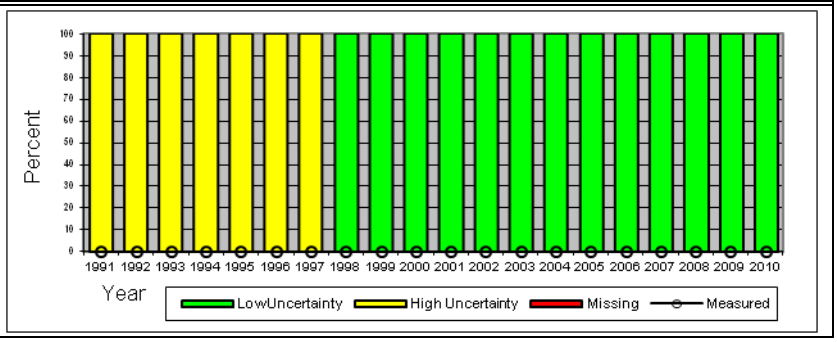
726357	KALAMAZOO BATTLE CR, MI
Class II	
Solar Coordinates	
Latitude: 42.233˚	
Longitude: -85.55˚	
Elevation: 273 m	
Meteorological Coordinates	
Latitude: 42.233˚	
Longitude: -85.55˚	
Elevation: 273 m	
Time Zone: -5	

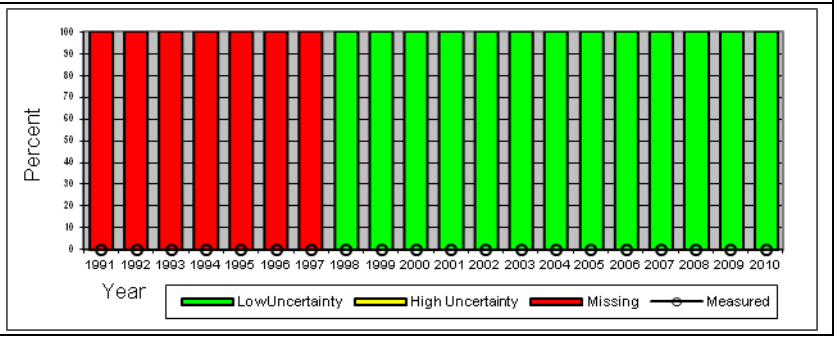
725390	LANSING CAPITAL CITY ARPT, MI
Class I	
Solar Coordinates	
Latitude: 42.783˚	
Longitude: -84.583˚	
Elevation: 256 m	
Meteorological Coordinates	
Latitude: 42.783˚	
Longitude: -84.583˚	
Elevation: 256 m	
Time Zone: -5	

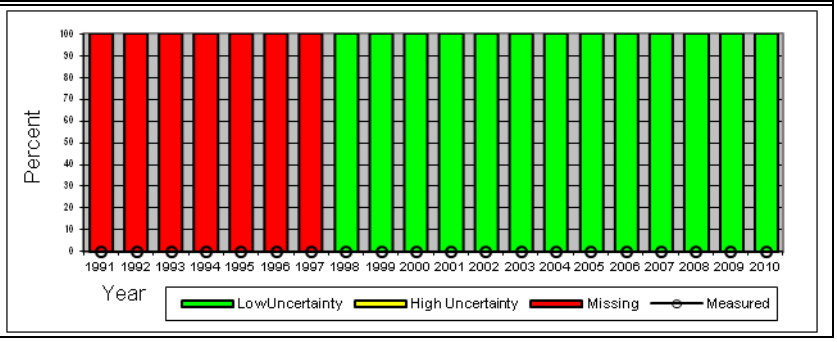
726364	LUDINGTON/MASON, MI
Class III	
Solar Coordinates	
Latitude: 43.967˚	
Longitude: -86.4˚	
Elevation: 197 m	
Meteorological Coordinates	
Latitude: 43.967˚	
Longitude: -86.4˚	
Elevation: 197 m	
Time Zone: -5	

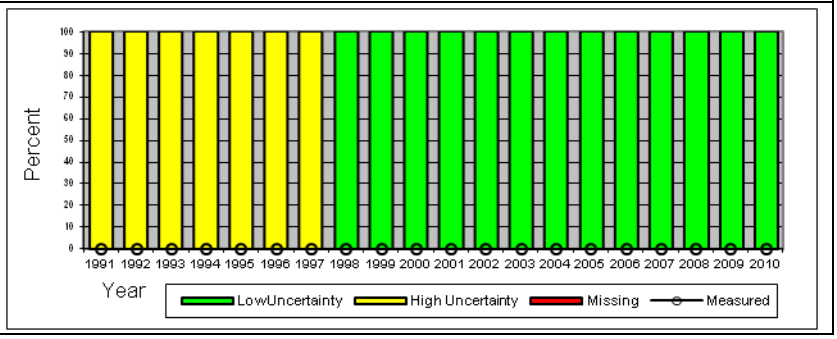
726385	MANISTEE (AWOS), MI
Class II	
Solar Coordinates	
Latitude: 44.267˚	
Longitude: -86.25˚	
Elevation: 189 m	
Meteorological Coordinates	
Latitude: 44.267˚	
Longitude: -86.25˚	
Elevation: 189 m	
Time Zone: -5	

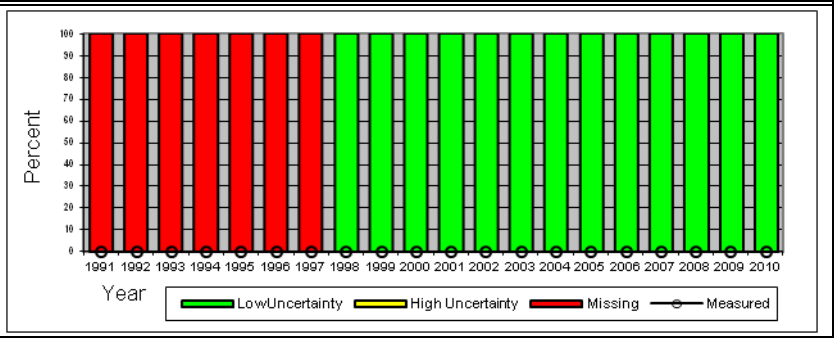
725408	MANISTIQUE, MI
Class III	
Solar Coordinates	
Latitude: 45.967˚	
Longitude: -86.183˚	
Elevation: 209 m	
Meteorological Coordinates	
Latitude: 45.967˚	
Longitude: -86.183˚	
Elevation: 209 m	
Time Zone: -5	

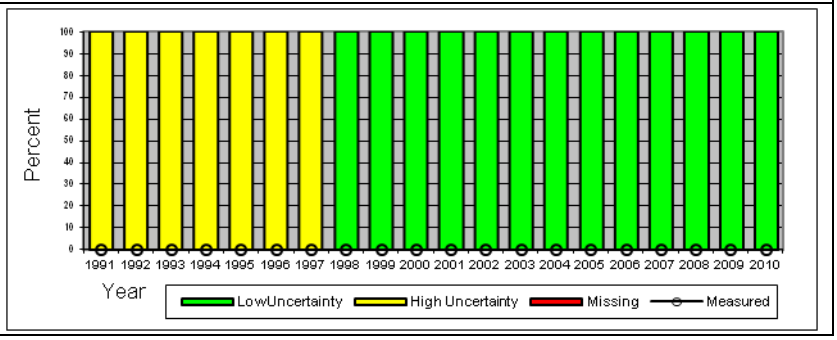
727430	MARQUETTE COUNTY ARPT, MI
Class III	
Solar Coordinates	
Latitude: 46.533˚	
Longitude: -87.55˚	
Elevation: 431 m	
Meteorological Coordinates	
Latitude: 46.533˚	
Longitude: -87.55˚	
Elevation: 431 m	
Time Zone: -5	

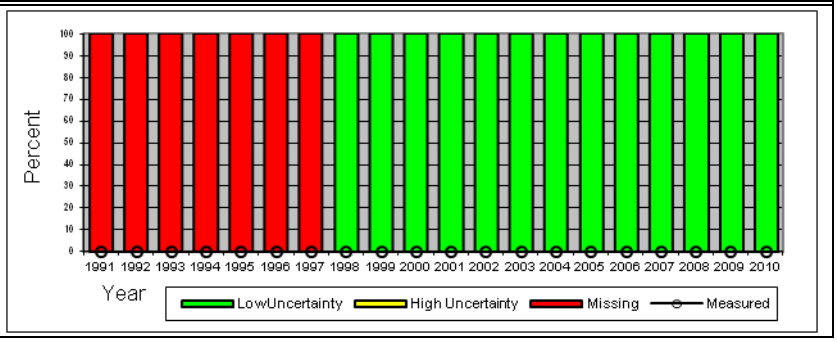
725415	MARSHALL BROOKS, MI
Class III	
Solar Coordinates	
Latitude: 42.25˚	
Longitude: -84.95˚	
Elevation: 287 m	
Meteorological Coordinates	
Latitude: 42.25˚	
Longitude: -84.95˚	
Elevation: 287 m	
Time Zone: -5	

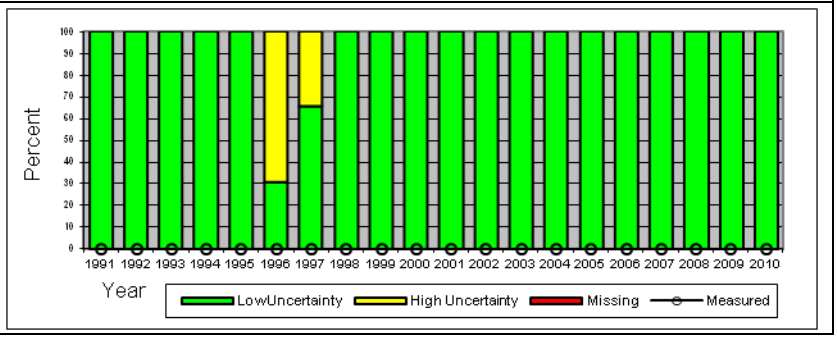
725417	MASON, MI
Class III	
Solar Coordinates	
Latitude: 42.567˚	
Longitude: -84.417˚	
Elevation: 280 m	
Meteorological Coordinates	
Latitude: 42.567˚	
Longitude: -84.417˚	
Elevation: 280 m	
Time Zone: -5	

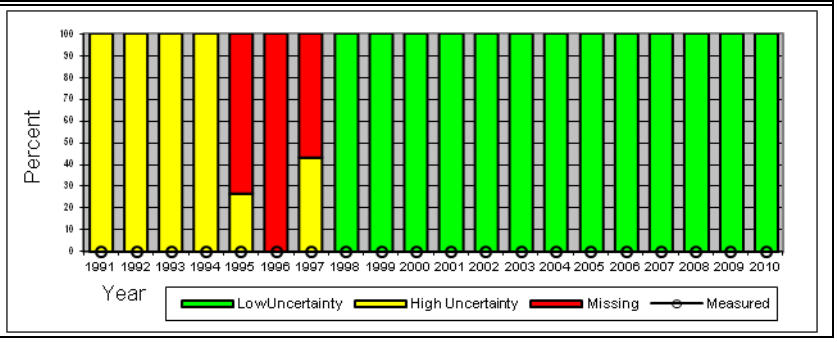
726487	MENOMINEE (AWOS), MI
Class II	
Solar Coordinates	
Latitude: 45.133˚	
Longitude: -87.633˚	
Elevation: 191 m	
Meteorological Coordinates	
Latitude: 45.133˚	
Longitude: -87.633˚	
Elevation: 191 m	
Time Zone: -6	

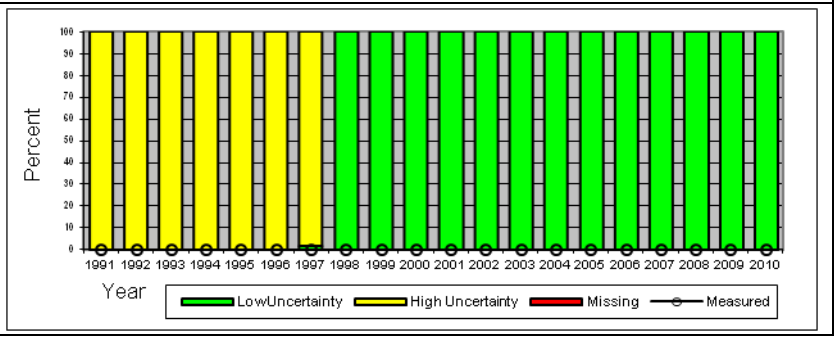
725418	MONROE, MI
Class III	
Solar Coordinates	
Latitude: 41.933˚	
Longitude: -83.433˚	
Elevation: 188 m	
Meteorological Coordinates	
Latitude: 41.933˚	
Longitude: -83.433˚	
Elevation: 188 m	
Time Zone: -5	

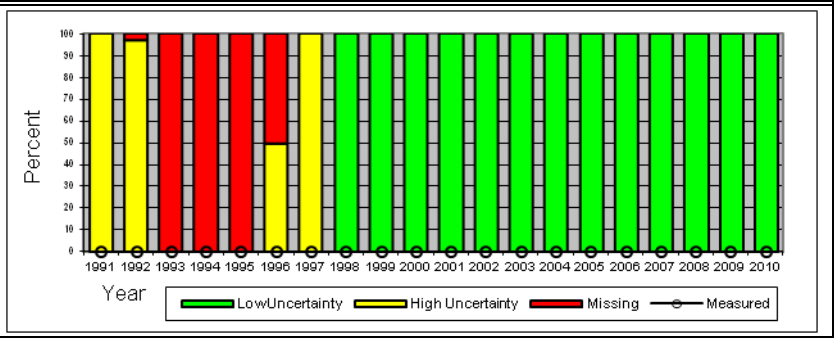
725377	MOUNT CLEMENS SELFRIDGE FLD, MI
Class II	
Solar Coordinates	
Latitude: 42.617˚	
Longitude: -82.833˚	
Elevation: 177 m	
Meteorological Coordinates	
Latitude: 42.617˚	
Longitude: -82.833˚	
Elevation: 177 m	
Time Zone: -5	

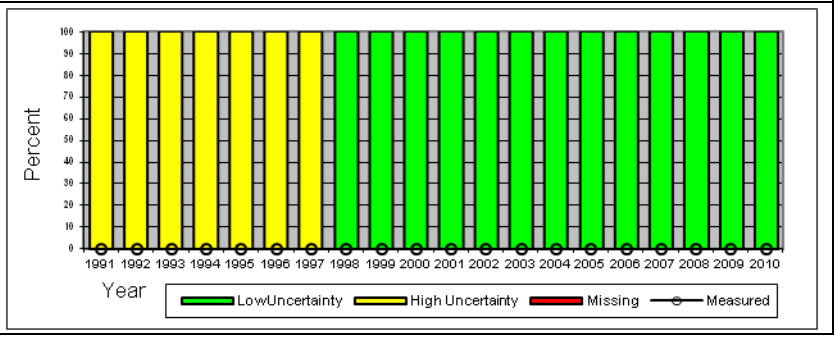
725424	MT PLEASANT MUNI, MI
Class III	
Solar Coordinates	
Latitude: 43.617˚	
Longitude: -84.733˚	
Elevation: 230 m	
Meteorological Coordinates	
Latitude: 43.617˚	
Longitude: -84.733˚	
Elevation: 230 m	
Time Zone: -5	

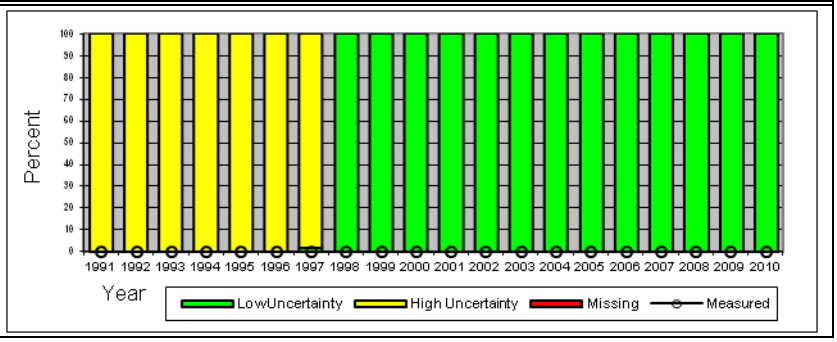
726360	MUSKEGON COUNTY ARPT, MI
Class I	
Solar Coordinates	
Latitude: 43.167˚	
Longitude: -86.233˚	
Elevation: 190 m	
Meteorological Coordinates	
Latitude: 43.167˚	
Longitude: -86.233˚	
Elevation: 190 m	
Time Zone: -5	

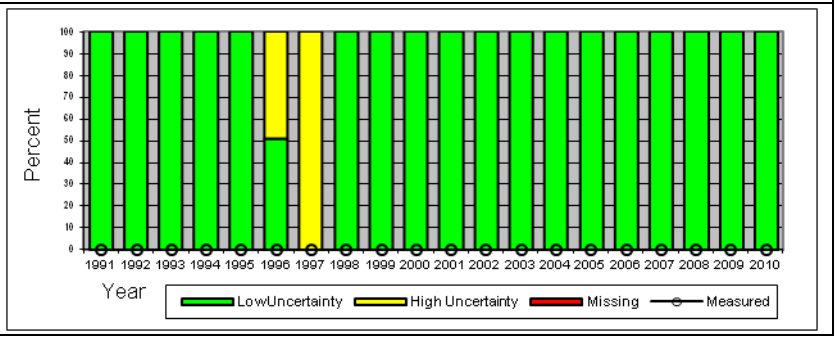
726394	NEWBERRY LUCE CO., MI
Class III	
Solar Coordinates	
Latitude: 46.317˚	
Longitude: -85.467˚	
Elevation: 265 m	
Meteorological Coordinates	
Latitude: 46.317˚	
Longitude: -85.467˚	
Elevation: 265 m	
Time Zone: -5	

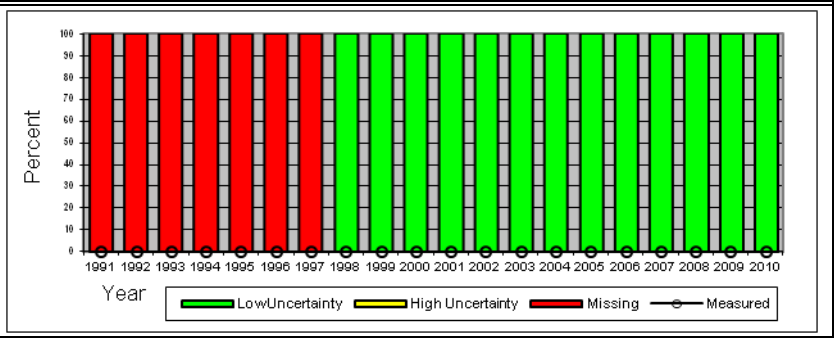
726375	OAKLAND CO INTL, MI
Class II	
Solar Coordinates	
Latitude: 42.667˚	
Longitude: -83.417˚	
Elevation: 306 m	
Meteorological Coordinates	
Latitude: 42.667˚	
Longitude: -83.417˚	
Elevation: 306 m	
Time Zone: -5	

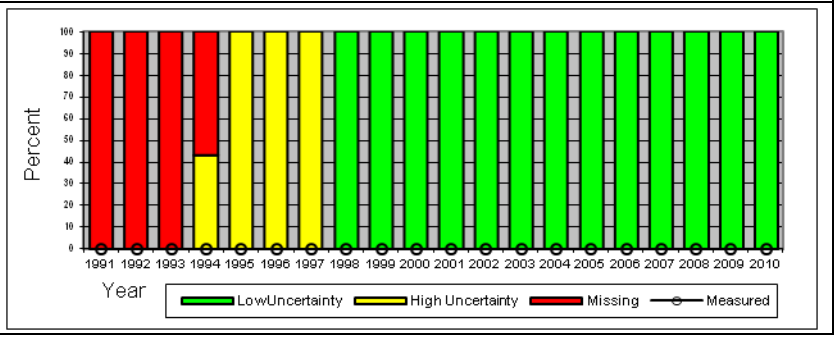
726395	OSCODA WURTSMITH AFB, MI
Class III	
Solar Coordinates	
Latitude: 44.45˚	
Longitude: -83.4˚	
Elevation: 188 m	
Meteorological Coordinates	
Latitude: 44.45˚	
Longitude: -83.4˚	
Elevation: 188 m	
Time Zone: -5	

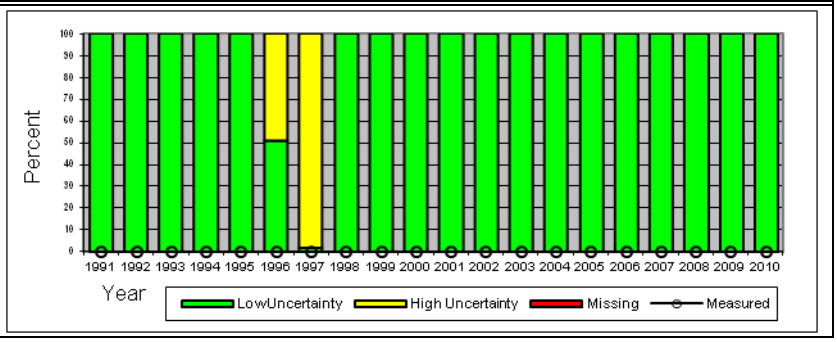
727347	PELLSTON EMMET COUNTY AP, MI
Class II	
Solar Coordinates	
Latitude: 45.567˚	
Longitude: -84.783˚	
Elevation: 218 m	
Meteorological Coordinates	
Latitude: 45.567˚	
Longitude: -84.783˚	
Elevation: 218 m	
Time Zone: -5	

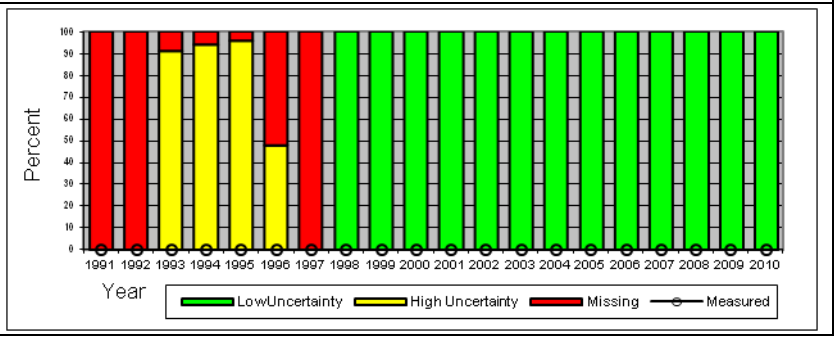
726379	SAGINAW TRI CITY INTL AP, MI
Class II	
Solar Coordinates	
Latitude: 43.533˚	
Longitude: -84.083˚	
Elevation: 201 m	
Meteorological Coordinates	
Latitude: 43.533˚	
Longitude: -84.083˚	
Elevation: 201 m	
Time Zone: -5	

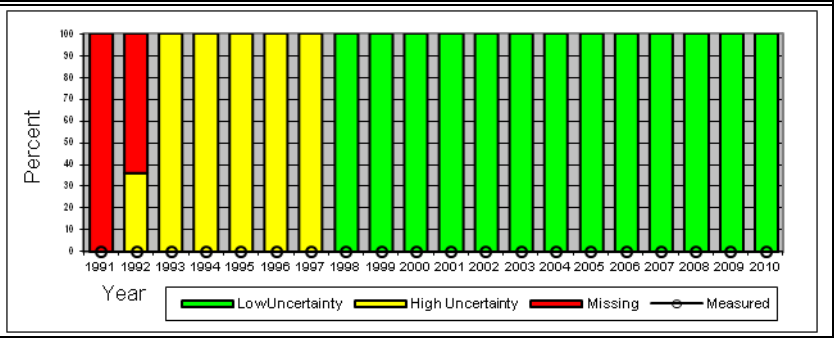
727340	SAULT STE MARIE SANDERSON FIE, MI
Class I	
Solar Coordinates	
Latitude: 46.467˚	
Longitude: -84.35˚	
Elevation: 219 m	
Meteorological Coordinates	
Latitude: 46.467˚	
Longitude: -84.35˚	
Elevation: 219 m	
Time Zone: -5	

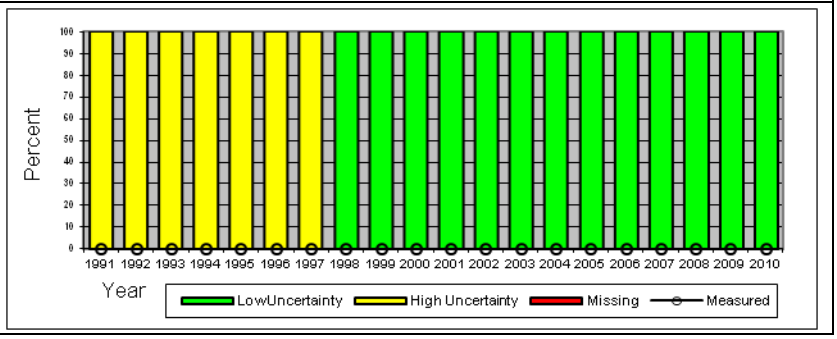
726284	SAWYER INTL, MI
Class III	
Solar Coordinates	
Latitude: 46.35˚	
Longitude: -87.383˚	
Elevation: 382 m	
Meteorological Coordinates	
Latitude: 46.35˚	
Longitude: -87.383˚	
Elevation: 382 m	
Time Zone: -5	

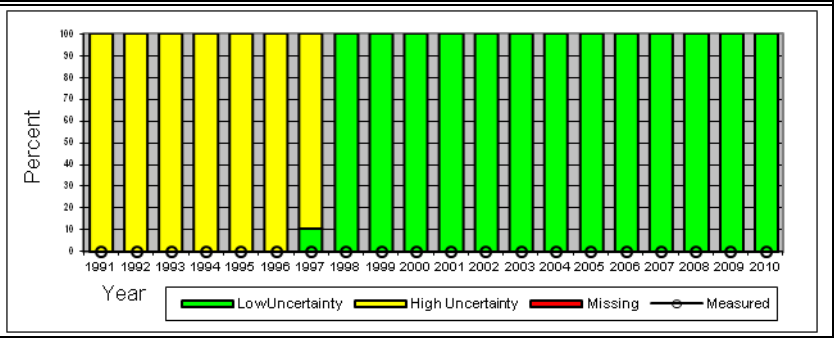
725384	ST.CLAIR COUNTY INT, MI
Class III	
Solar Coordinates	
Latitude: 42.917˚	
Longitude: -82.533˚	
Elevation: 198 m	
Meteorological Coordinates	
Latitude: 42.917˚	
Longitude: -82.533˚	
Elevation: 198 m	
Time Zone: -5	

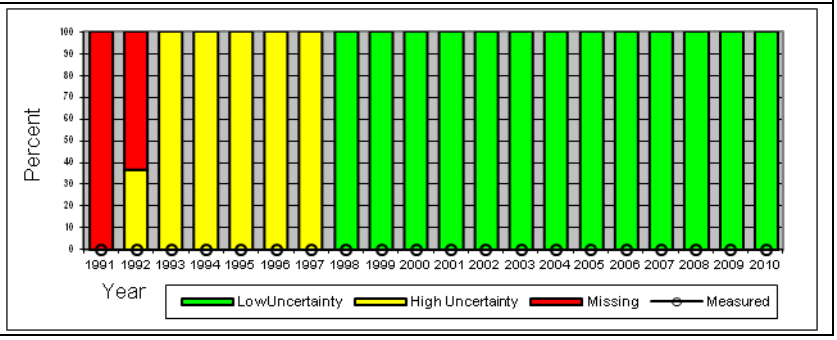
726387	TRAVERSE CITY CHERRY CAPITAL, MI
Class I	
Solar Coordinates	
Latitude: 44.733˚	
Longitude: -85.583˚	
Elevation: 188 m	
Meteorological Coordinates	
Latitude: 44.733˚	
Longitude: -85.583˚	
Elevation: 188 m	
Time Zone: -5	

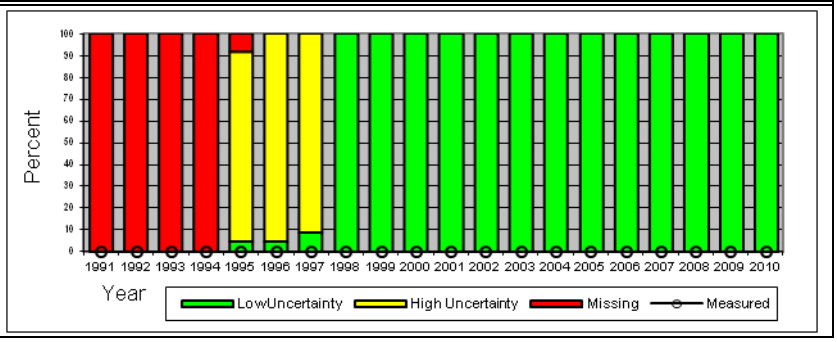
726573	AIRLAKE, MN
Class III	
Solar Coordinates	
Latitude: 44.633˚	
Longitude: -93.233˚	
Elevation: 292 m	
Meteorological Coordinates	
Latitude: 44.633˚	
Longitude: -93.233˚	
Elevation: 292 m	
Time Zone: -6	

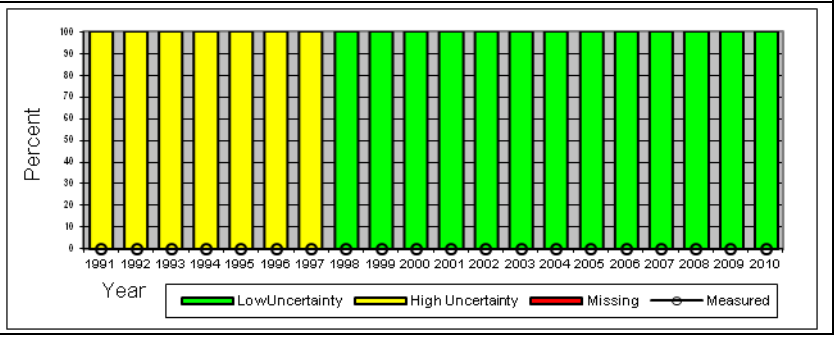
727504	AITKIN NDB(AWOS), MN
Class III	
Solar Coordinates	
Latitude: 46.55˚	
Longitude: -93.683˚	
Elevation: 367 m	
Meteorological Coordinates	
Latitude: 46.55˚	
Longitude: -93.683˚	
Elevation: 367 m	
Time Zone: -6	

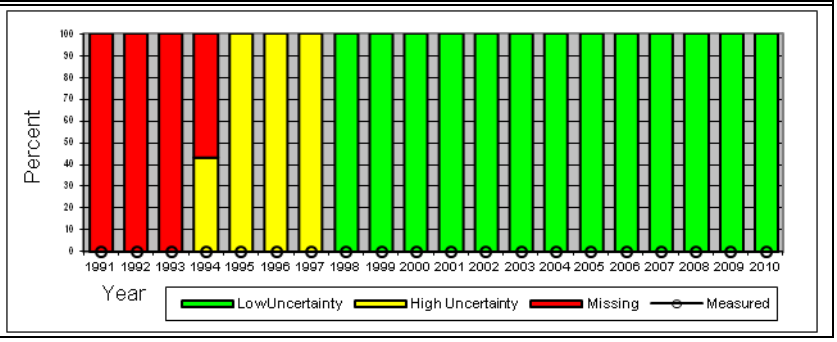
726589	ALBERT LEA (AWOS), MN
Class II	
Solar Coordinates	
Latitude: 43.683˚	
Longitude: -93.367˚	
Elevation: 383 m	
Meteorological Coordinates	
Latitude: 43.683˚	
Longitude: -93.367˚	
Elevation: 383 m	
Time Zone: -6	

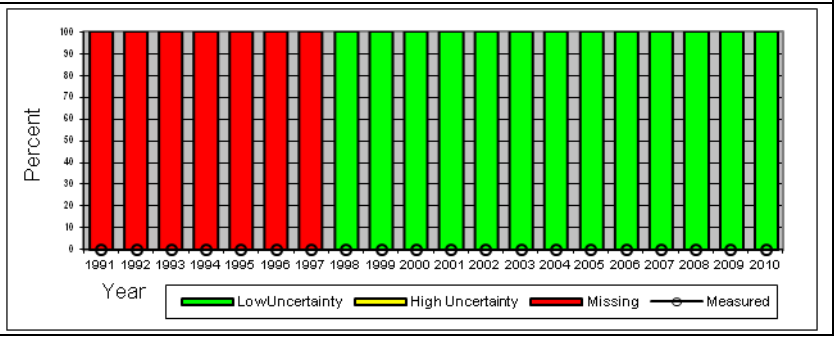
726557	ALEXANDRIA MUNICIPAL AP, MN
Class II	
Solar Coordinates	
Latitude: 45.883˚	
Longitude: -95.4˚	
Elevation: 433 m	
Meteorological Coordinates	
Latitude: 45.883˚	
Longitude: -95.4˚	
Elevation: 433 m	
Time Zone: -6	

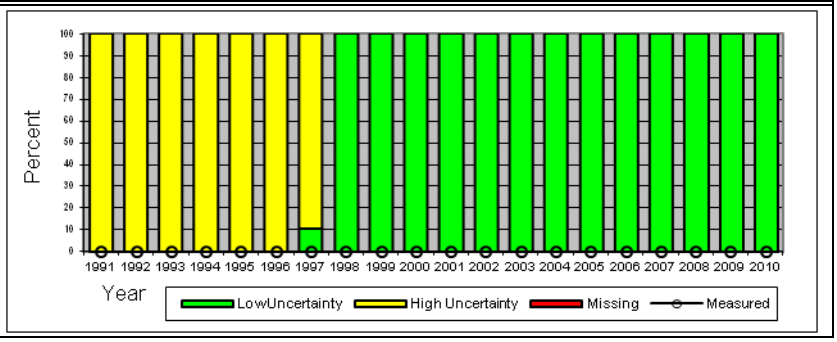
727566	AUSTIN MUNI, MN
Class III	
Solar Coordinates	
Latitude: 43.667˚	
Longitude: -92.933˚	
Elevation: 375 m	
Meteorological Coordinates	
Latitude: 43.667˚	
Longitude: -92.933˚	
Elevation: 375 m	
Time Zone: -6	

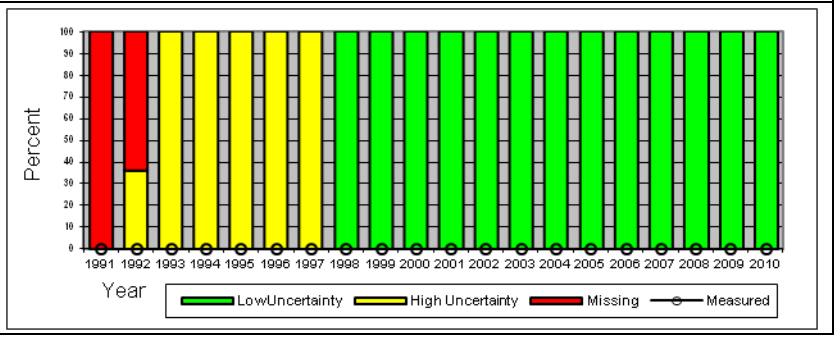
727476	BAUDETTE INTERNATIONAL AP, MN
Class III	
Solar Coordinates	
Latitude: 48.717˚	
Longitude: -94.6˚	
Elevation: 330 m	
Meteorological Coordinates	
Latitude: 48.717˚	
Longitude: -94.6˚	
Elevation: 330 m	
Time Zone: -6	

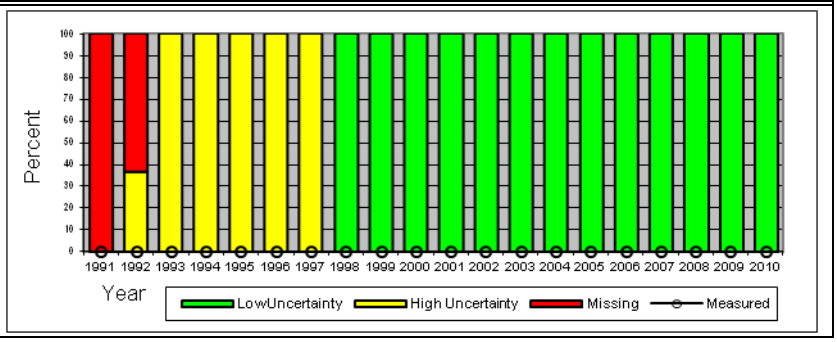
727550	BEMIDJI MUNICIPAL, MN
Class II	
Solar Coordinates	
Latitude: 47.5˚	
Longitude: -94.933˚	
Elevation: 420 m	
Meteorological Coordinates	
Latitude: 47.5˚	
Longitude: -94.933˚	
Elevation: 420 m	
Time Zone: -6	

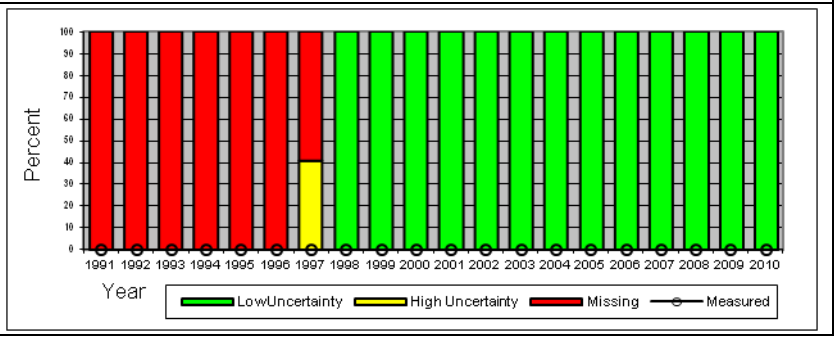
727507	BENSON MUNI, MN
Class III	
Solar Coordinates	
Latitude: 45.317˚	
Longitude: -95.65˚	
Elevation: 317 m	
Meteorological Coordinates	
Latitude: 45.317˚	
Longitude: -95.65˚	
Elevation: 317 m	
Time Zone: -6	

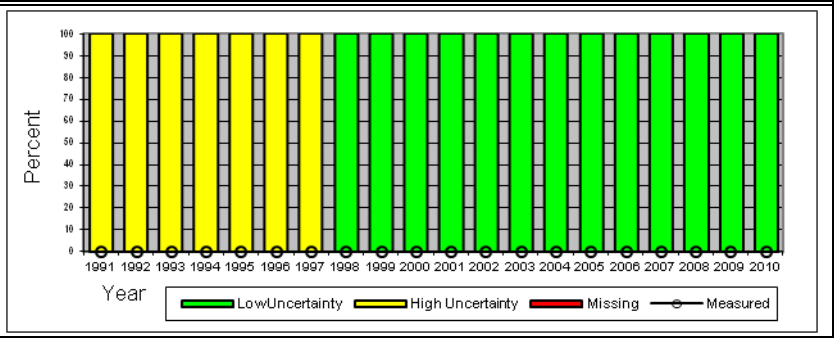
727468	BIGFORK, MN
Class III	
Solar Coordinates	
Latitude: 47.783˚	
Longitude: -93.65˚	
Elevation: 411 m	
Meteorological Coordinates	
Latitude: 47.783˚	
Longitude: -93.65˚	
Elevation: 411 m	
Time Zone: -6	

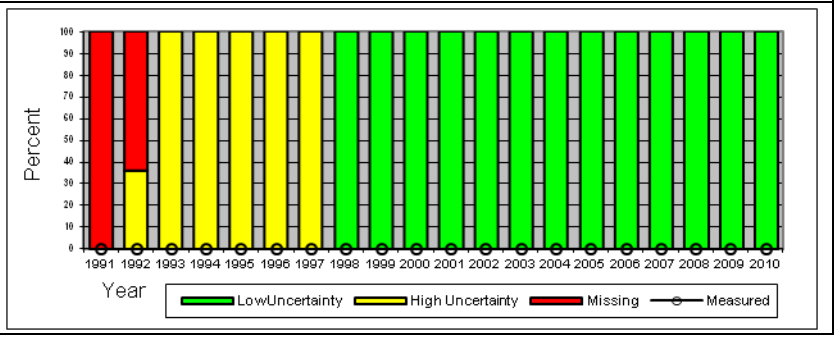
726555	BRAINERD/WIELAND, MN
Class II	
Solar Coordinates	
Latitude: 46.4˚	
Longitude: -94.133˚	
Elevation: 374 m	
Meteorological Coordinates	
Latitude: 46.4˚	
Longitude: -94.133˚	
Elevation: 374 m	
Time Zone: -6	

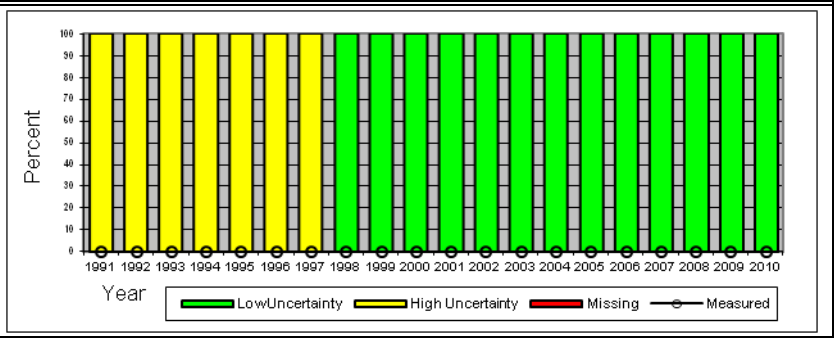
727503	CAMBRIDGE MUNI, MN
Class III	
Solar Coordinates	
Latitude: 45.567˚	
Longitude: -93.267˚	
Elevation: 287 m	
Meteorological Coordinates	
Latitude: 45.567˚	
Longitude: -93.267˚	
Elevation: 287 m	
Time Zone: -6	

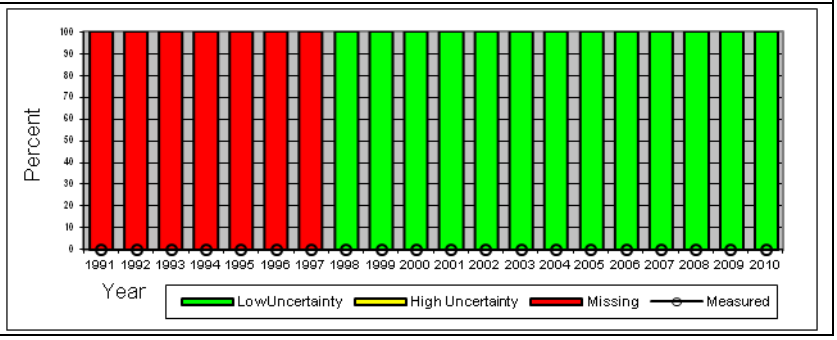
726558	CLOQUET (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 46.7˚	
Longitude: -92.5˚	
Elevation: 390 m	
Meteorological Coordinates	
Latitude: 46.7˚	
Longitude: -92.5˚	
Elevation: 390 m	
Time Zone: -6	

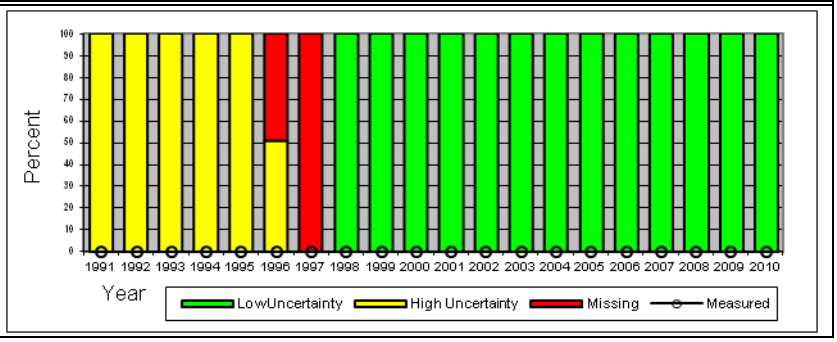
726549	COOK MUNI ARPT, MN
Class III	
Solar Coordinates	
Latitude: 47.817˚	
Longitude: -92.7˚	
Elevation: 402 m	
Meteorological Coordinates	
Latitude: 47.817˚	
Longitude: -92.7˚	
Elevation: 402 m	
Time Zone: -6	

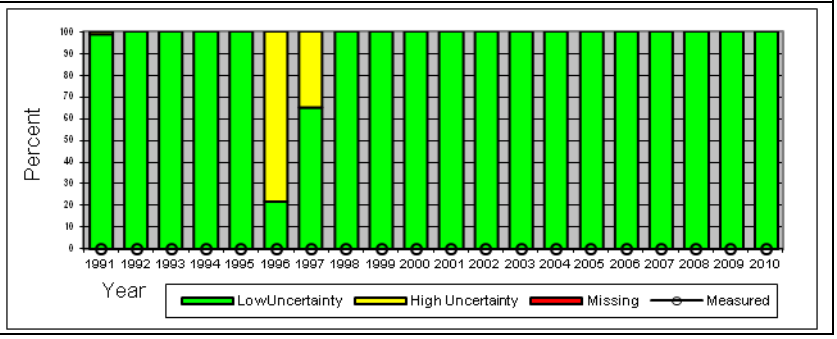
727473	CRANE LAKE (AWOS), MN
Class II	
Solar Coordinates	
Latitude: 46.267˚	
Longitude: -92.567˚	
Elevation: 350 m	
Meteorological Coordinates	
Latitude: 46.267˚	
Longitude: -92.567˚	
Elevation: 350 m	
Time Zone: -6	

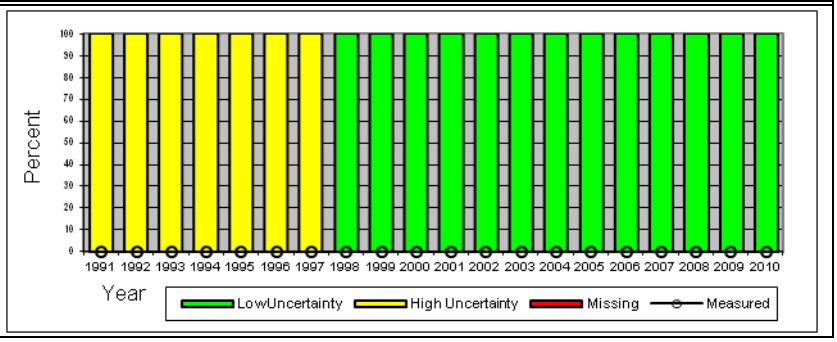
727452	CROOKSTON MUNI FLD, MN
Class III	
Solar Coordinates	
Latitude: 47.85˚	
Longitude: -96.617˚	
Elevation: 273 m	
Meteorological Coordinates	
Latitude: 47.85˚	
Longitude: -96.617˚	
Elevation: 273 m	
Time Zone: -6	

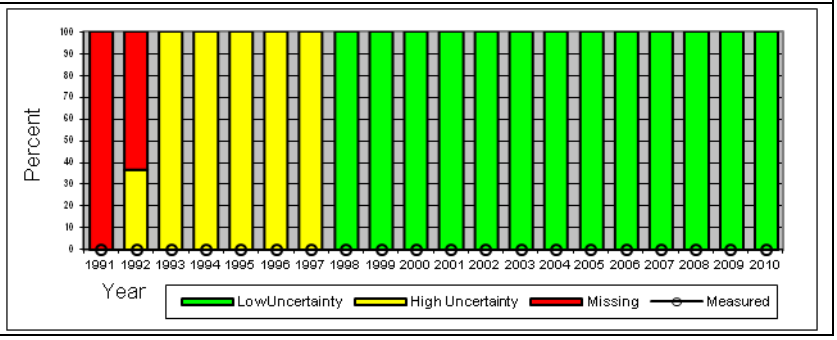
727457	DETROIT LAKES(AWOS), MN
Class II	
Solar Coordinates	
Latitude: 46.833˚	
Longitude: -95.883˚	
Elevation: 426 m	
Meteorological Coordinates	
Latitude: 46.833˚	
Longitude: -95.883˚	
Elevation: 426 m	
Time Zone: -6	

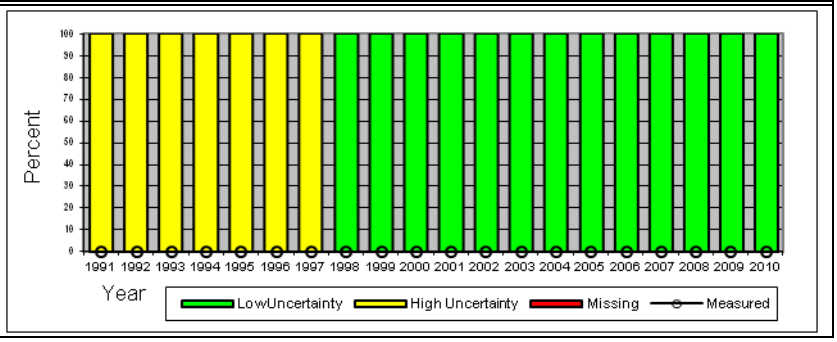
726596	DODGE CENTER AIRPOR, MN
Class III	
Solar Coordinates	
Latitude: 44.017˚	
Longitude: -92.817˚	
Elevation: 398 m	
Meteorological Coordinates	
Latitude: 44.017˚	
Longitude: -92.817˚	
Elevation: 398 m	
Time Zone: -6	

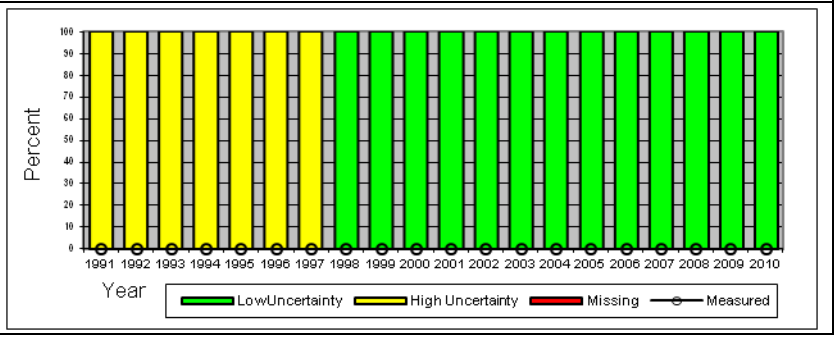
727456	DULUTH HARBOR (CGS), MN
Class III	
Solar Coordinates	
Latitude: 46.767˚	
Longitude: -92.083˚	
Elevation: 186 m	
Meteorological Coordinates	
Latitude: 46.767˚	
Longitude: -92.083˚	
Elevation: 186 m	
Time Zone: -6	

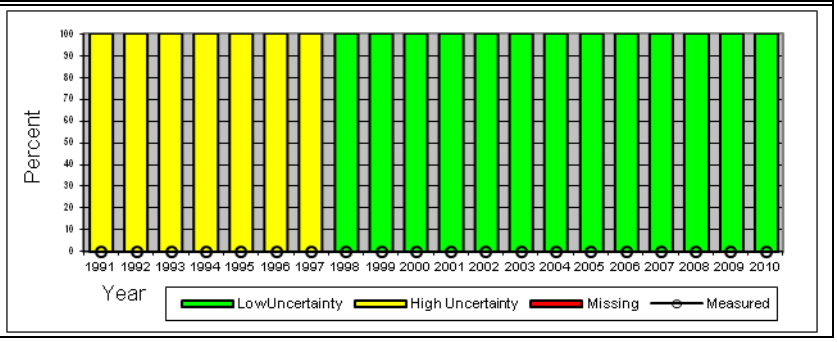
727450	DULUTH INTERNATIONAL ARPT, MN
Class I	
Solar Coordinates	
Latitude: 46.833˚	
Longitude: -92.217˚	
Elevation: 433 m	
Meteorological Coordinates	
Latitude: 46.833˚	
Longitude: -92.217˚	
Elevation: 433 m	
Time Zone: -6	

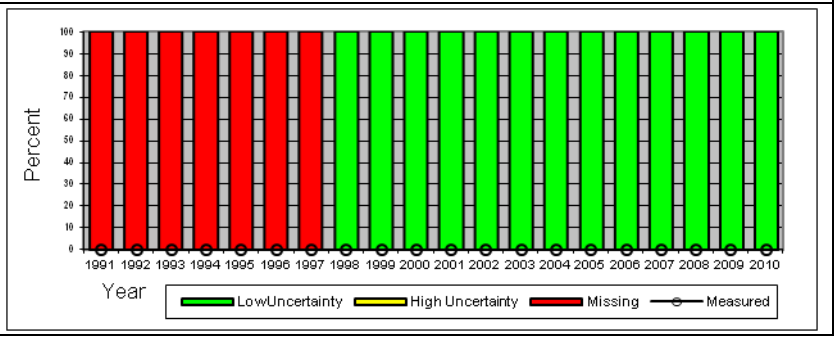
727459	ELY MUNI, MN
Class II	
Solar Coordinates	
Latitude: 47.817˚	
Longitude: -91.833˚	
Elevation: 455 m	
Meteorological Coordinates	
Latitude: 47.817˚	
Longitude: -91.833˚	
Elevation: 455 m	
Time Zone: -6	

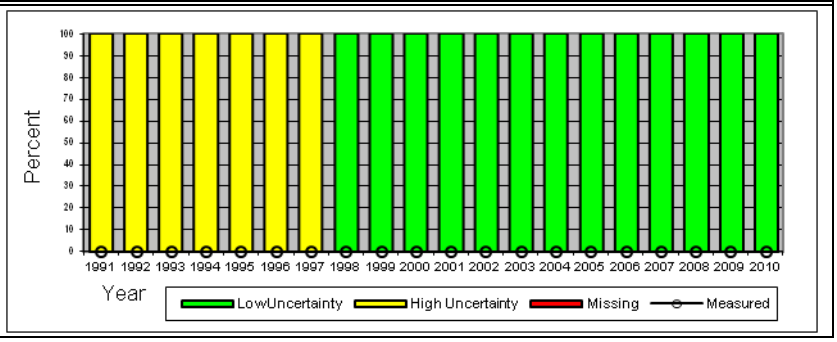
727474	EVELETH MUNI (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 47.4˚	
Longitude: -92.5˚	
Elevation: 421 m	
Meteorological Coordinates	
Latitude: 47.4˚	
Longitude: -92.5˚	
Elevation: 421 m	
Time Zone: -6	

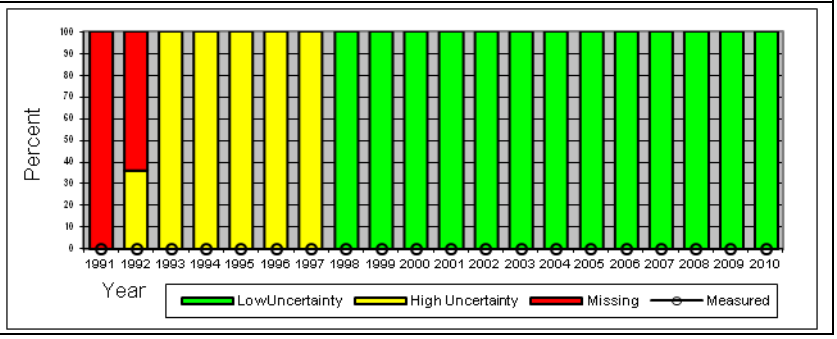
726586	FAIRMONT MUNI(AWOS), MN
Class II	
Solar Coordinates	
Latitude: 43.65˚	
Longitude: -94.417˚	
Elevation: 354 m	
Meteorological Coordinates	
Latitude: 43.65˚	
Longitude: -94.417˚	
Elevation: 354 m	
Time Zone: -6	

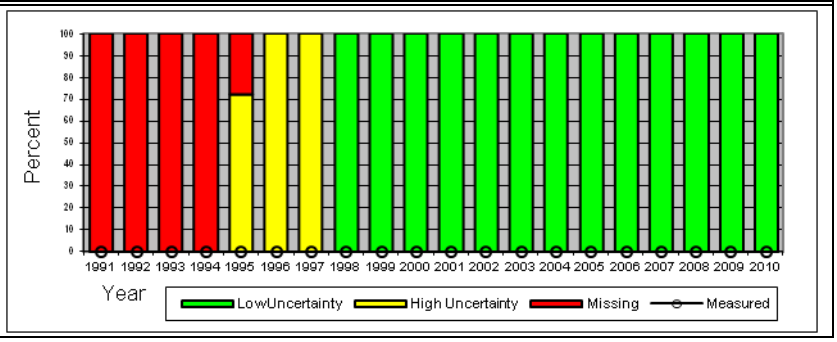
726563	FARIBAULT MUNI AWOS, MN
Class II	
Solar Coordinates	
Latitude: 44.333˚	
Longitude: -93.317˚	
Elevation: 322 m	
Meteorological Coordinates	
Latitude: 44.333˚	
Longitude: -93.317˚	
Elevation: 322 m	
Time Zone: -6	

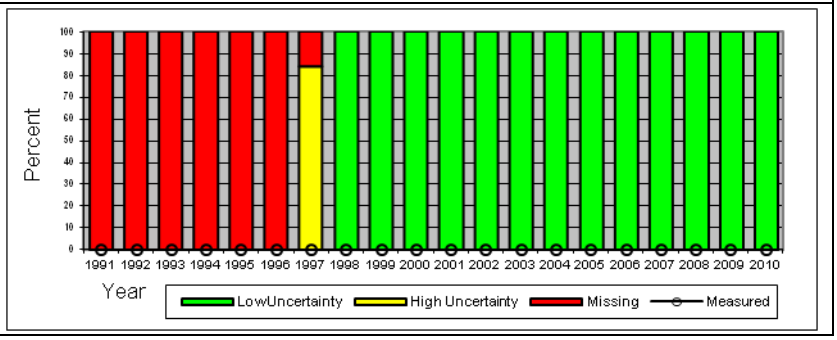
726560	FERGUS FALLS(AWOS), MN
Class II	
Solar Coordinates	
Latitude: 46.283˚	
Longitude: -96.15˚	
Elevation: 361 m	
Meteorological Coordinates	
Latitude: 46.283˚	
Longitude: -96.15˚	
Elevation: 361 m	
Time Zone: -6	

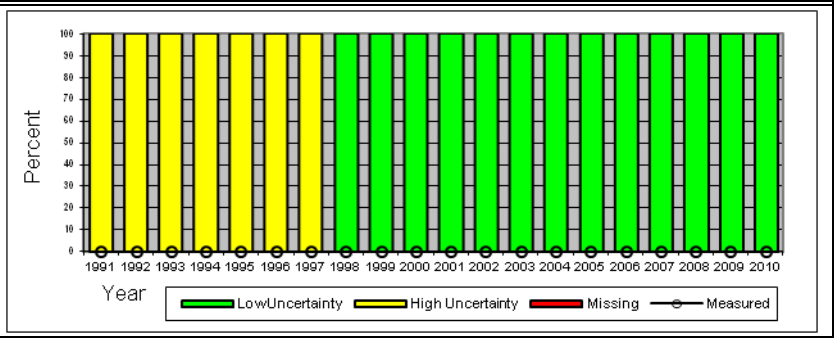
727467	FLAG ISLAND, MN
Class III	
Solar Coordinates	
Latitude: 49.317˚	
Longitude: -94.9˚	
Elevation: 328 m	
Meteorological Coordinates	
Latitude: 49.317˚	
Longitude: -94.9˚	
Elevation: 328 m	
Time Zone: -6	

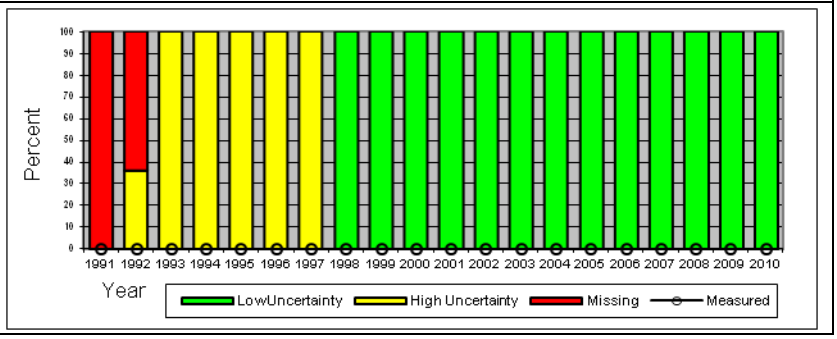
726579	FLYING CLOUD, MN
Class II	
Solar Coordinates	
Latitude: 44.817˚	
Longitude: -93.45˚	
Elevation: 283 m	
Meteorological Coordinates	
Latitude: 44.817˚	
Longitude: -93.45˚	
Elevation: 283 m	
Time Zone: -6	

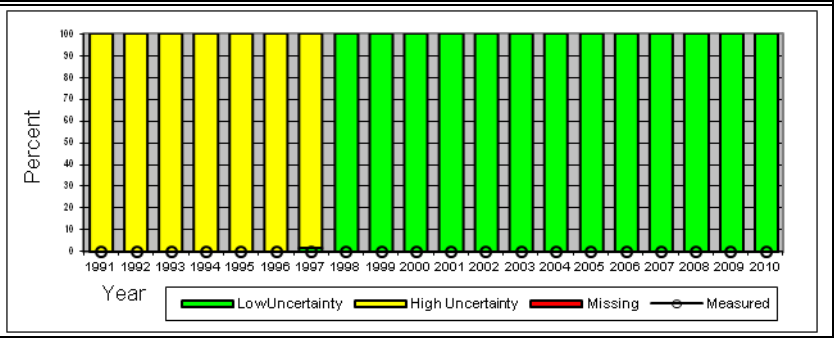
727505	FOSSTON(AWOS), MN
Class III	
Solar Coordinates	
Latitude: 47.583˚	
Longitude: -95.767˚	
Elevation: 388 m	
Meteorological Coordinates	
Latitude: 47.583˚	
Longitude: -95.767˚	
Elevation: 388 m	
Time Zone: -6	

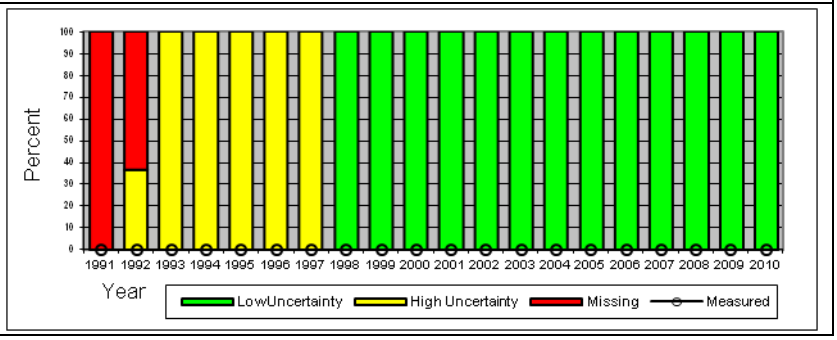
726547	GLENWOOD (ASOS), MN
Class III	
Solar Coordinates	
Latitude: 45.65˚	
Longitude: -95.317˚	
Elevation: 425 m	
Meteorological Coordinates	
Latitude: 45.65˚	
Longitude: -95.317˚	
Elevation: 425 m	
Time Zone: -6	

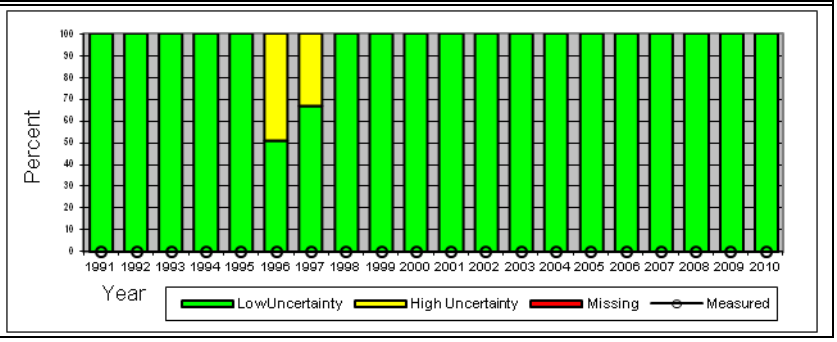
727454	GRAND MARAIS MUNI, MN
Class III	
Solar Coordinates	
Latitude: 47.833˚	
Longitude: -90.383˚	
Elevation: 505 m	
Meteorological Coordinates	
Latitude: 47.833˚	
Longitude: -90.383˚	
Elevation: 505 m	
Time Zone: -6	

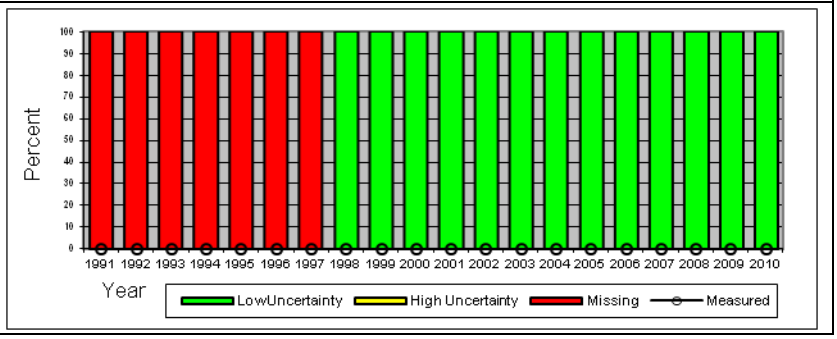
727458	GRAND RAPIDS(AWOS), MN
Class II	
Solar Coordinates	
Latitude: 47.217˚	
Longitude: -93.517˚	
Elevation: 413 m	
Meteorological Coordinates	
Latitude: 47.217˚	
Longitude: -93.517˚	
Elevation: 413 m	
Time Zone: -6	

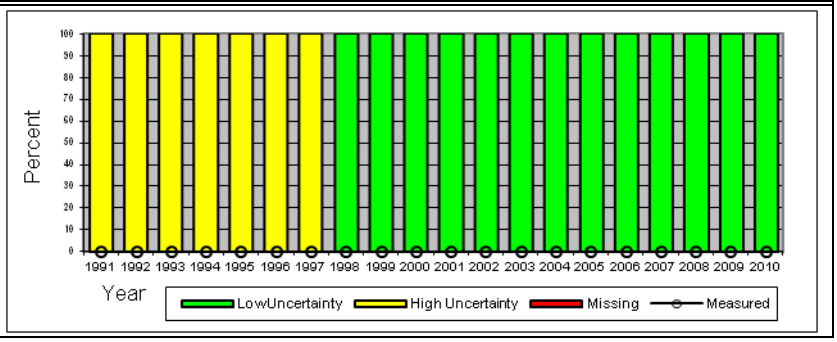
727478	HALLOCK, MN
Class III	
Solar Coordinates	
Latitude: 48.783˚	
Longitude: -96.95˚	
Elevation: 250 m	
Meteorological Coordinates	
Latitude: 48.783˚	
Longitude: -96.95˚	
Elevation: 250 m	
Time Zone: -6	

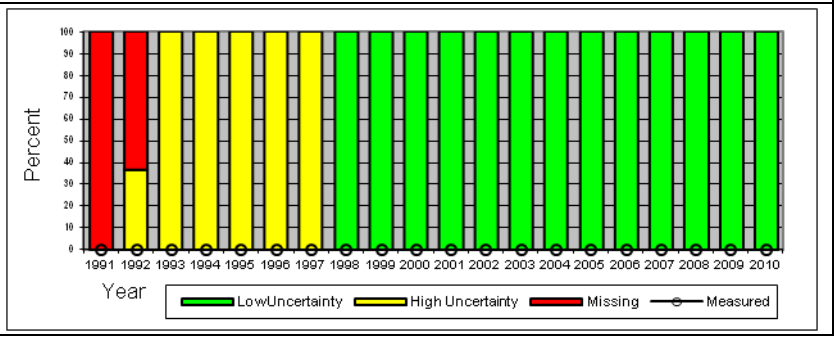
727455	HIBBING CHISHOLM-HIBBING AP, MN
Class II	
Solar Coordinates	
Latitude: 47.383˚	
Longitude: -92.85˚	
Elevation: 411 m	
Meteorological Coordinates	
Latitude: 47.383˚	
Longitude: -92.85˚	
Elevation: 411 m	
Time Zone: -6	

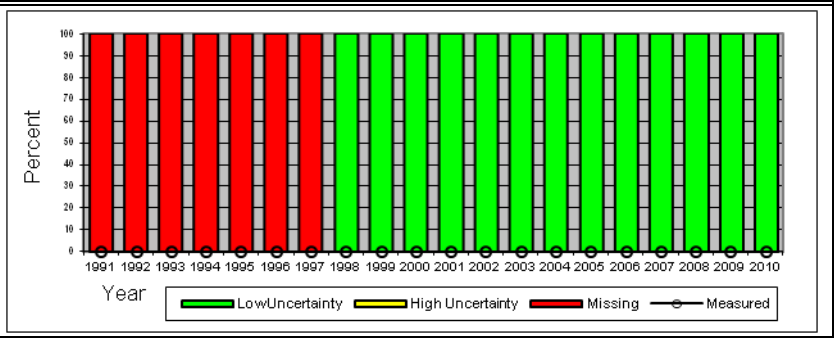
726569	HUTCHINSON (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 44.867˚	
Longitude: -94.383˚	
Elevation: 323 m	
Meteorological Coordinates	
Latitude: 44.867˚	
Longitude: -94.383˚	
Elevation: 323 m	
Time Zone: -6	

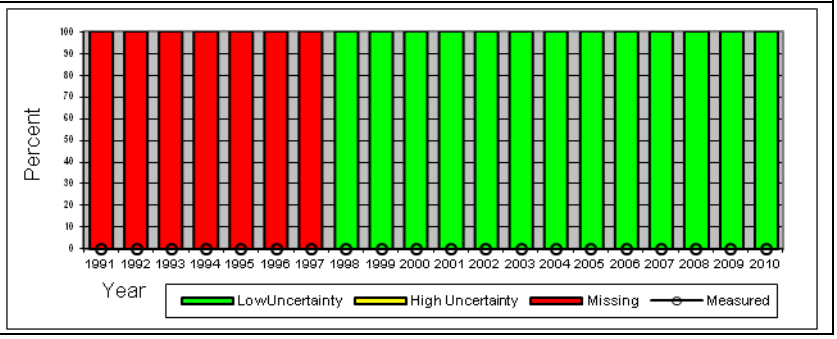
727470	INTERNATIONAL FALLS INTL AP, MN
Class I	
Solar Coordinates	
Latitude: 48.567˚	
Longitude: -93.4˚	
Elevation: 359 m	
Meteorological Coordinates	
Latitude: 48.567˚	
Longitude: -93.4˚	
Elevation: 359 m	
Time Zone: -6	

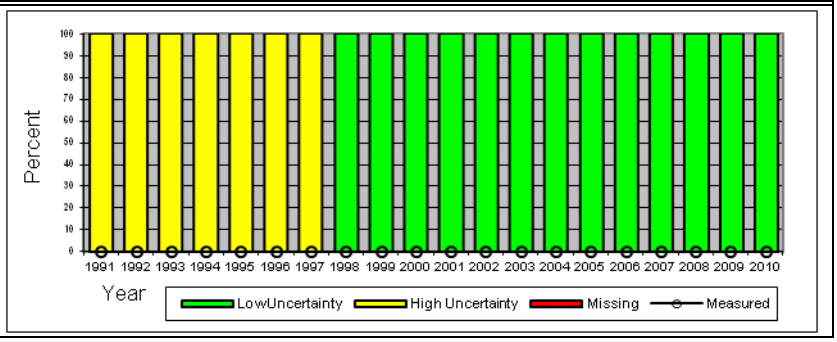
726593	JACKSON MUNI, MN
Class III	
Solar Coordinates	
Latitude: 43.65˚	
Longitude: -94.983˚	
Elevation: 441 m	
Meteorological Coordinates	
Latitude: 43.65˚	
Longitude: -94.983˚	
Elevation: 441 m	
Time Zone: -6	

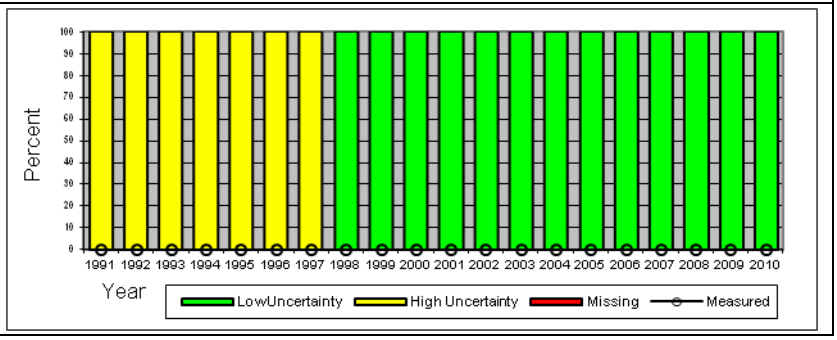
726583	LITCHFIELD MUNI, MN
Class II	
Solar Coordinates	
Latitude: 45.1˚	
Longitude: -94.5˚	
Elevation: 347 m	
Meteorological Coordinates	
Latitude: 45.1˚	
Longitude: -94.5˚	
Elevation: 347 m	
Time Zone: -6	

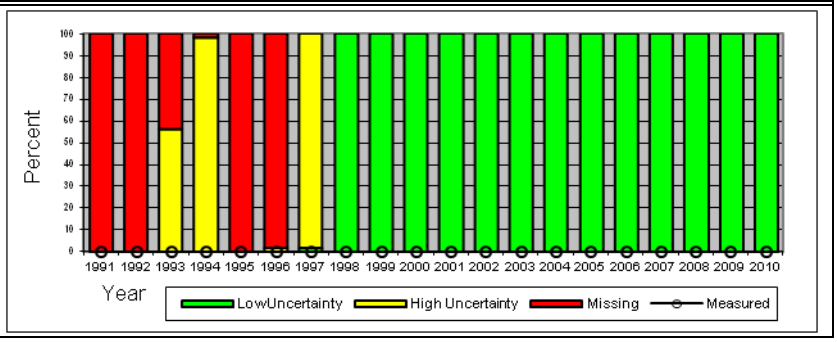
726578	LITTLE FALLS (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 45.95˚	
Longitude: -94.35˚	
Elevation: 342 m	
Meteorological Coordinates	
Latitude: 45.95˚	
Longitude: -94.35˚	
Elevation: 342 m	
Time Zone: -6	

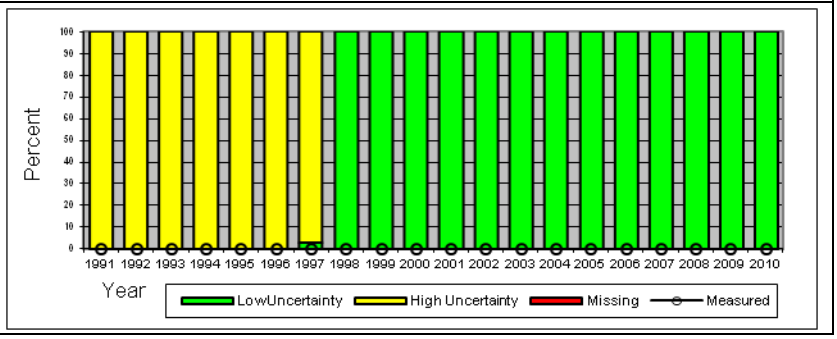
727497	LONGVILLE MUNI AIRP, MN
Class III	
Solar Coordinates	
Latitude: 46.983˚	
Longitude: -94.2˚	
Elevation: 407 m	
Meteorological Coordinates	
Latitude: 46.983˚	
Longitude: -94.2˚	
Elevation: 407 m	
Time Zone: -6	

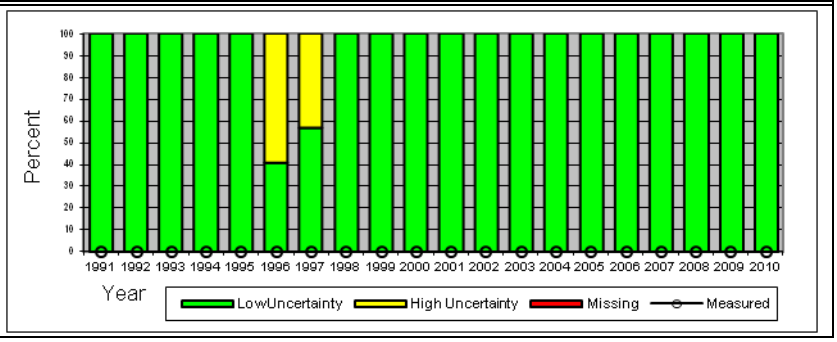
727466	MADISON, MN
Class III	
Solar Coordinates	
Latitude: 44.983˚	
Longitude: -96.183˚	
Elevation: 330 m	
Meteorological Coordinates	
Latitude: 44.983˚	
Longitude: -96.183˚	
Elevation: 330 m	
Time Zone: -6	

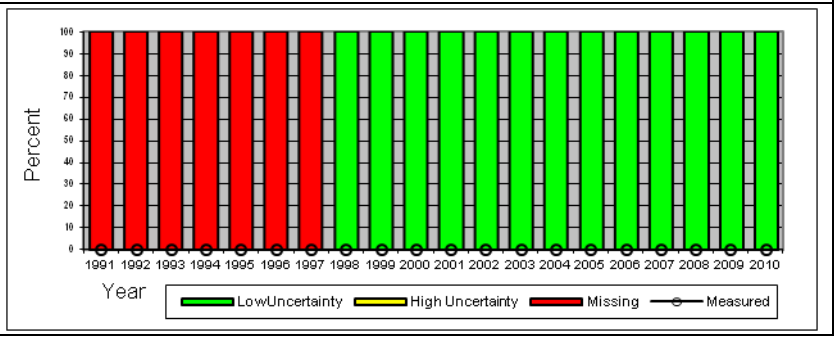
726585	MANKATO(AWOS), MN
Class II	
Solar Coordinates	
Latitude: 44.217˚	
Longitude: -93.917˚	
Elevation: 311 m	
Meteorological Coordinates	
Latitude: 44.217˚	
Longitude: -93.917˚	
Elevation: 311 m	
Time Zone: -6	

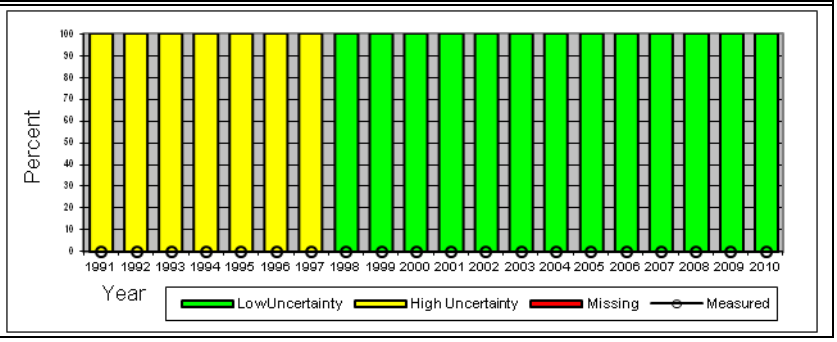
726559	MARSHALL/RYAN(AWOS), MN
Class II	
Solar Coordinates	
Latitude: 44.45˚	
Longitude: -95.817˚	
Elevation: 359 m	
Meteorological Coordinates	
Latitude: 44.45˚	
Longitude: -95.817˚	
Elevation: 359 m	
Time Zone: -6	

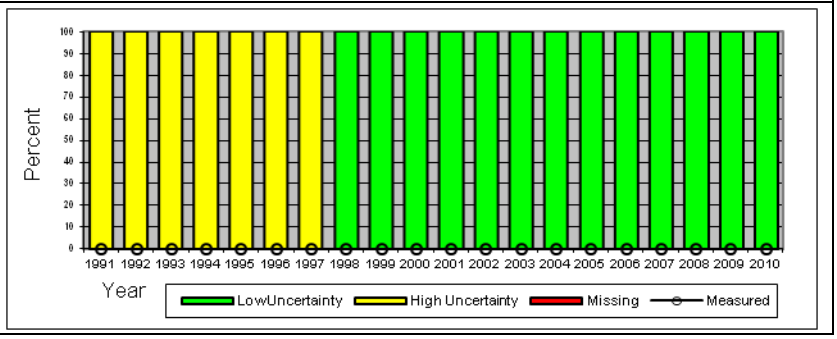
726577	MINNEAPOLIS/BLAINE, MN
Class III	
Solar Coordinates	
Latitude: 45.15˚	
Longitude: -93.217˚	
Elevation: 278 m	
Meteorological Coordinates	
Latitude: 45.15˚	
Longitude: -93.217˚	
Elevation: 278 m	
Time Zone: -6	

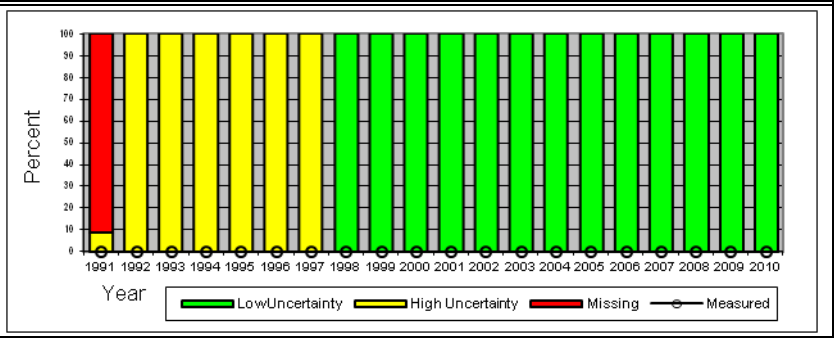
726575	MINNEAPOLIS/CRYSTAL, MN
Class II	
Solar Coordinates	
Latitude: 45.067˚	
Longitude: -93.35˚	
Elevation: 265 m	
Meteorological Coordinates	
Latitude: 45.067˚	
Longitude: -93.35˚	
Elevation: 265 m	
Time Zone: -6	

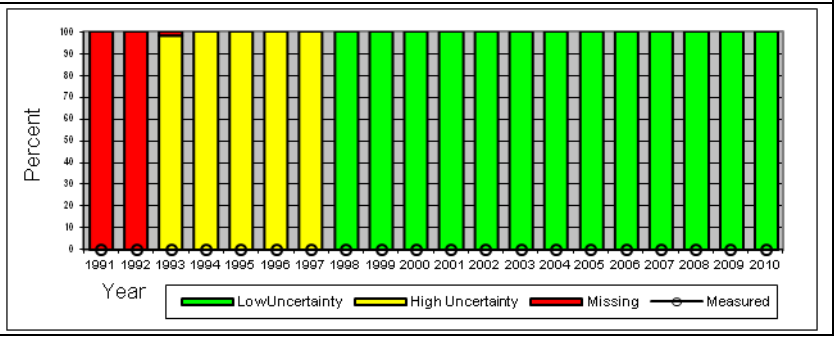
726580	MINNEAPOLIS-ST PAUL INT'L ARP, MN
Class I	
Solar Coordinates	
Latitude: 44.883˚	
Longitude: -93.233˚	
Elevation: 254 m	
Meteorological Coordinates	
Latitude: 44.883˚	
Longitude: -93.233˚	
Elevation: 254 m	
Time Zone: -6	

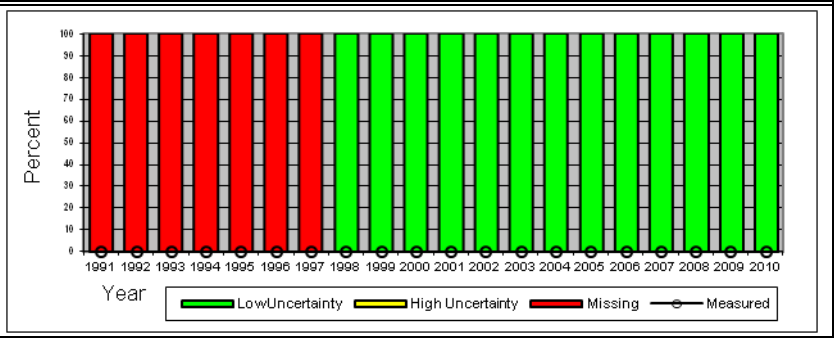
727449	MOOSE LAKE CO ARPT, MN
Class III	
Solar Coordinates	
Latitude: 46.417˚	
Longitude: -92.8˚	
Elevation: 328 m	
Meteorological Coordinates	
Latitude: 46.417˚	
Longitude: -92.8˚	
Elevation: 328 m	
Time Zone: -6	

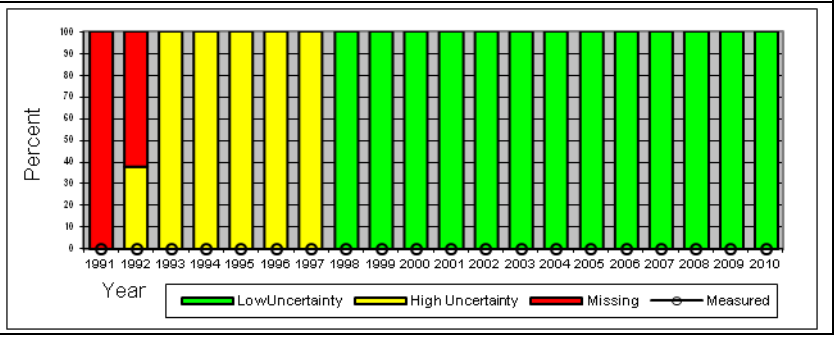
727475	MORA MUNI (AWOS), MN
Class II	
Solar Coordinates	
Latitude: 45.883˚	
Longitude: -93.267˚	
Elevation: 309 m	
Meteorological Coordinates	
Latitude: 45.883˚	
Longitude: -93.267˚	
Elevation: 309 m	
Time Zone: -6	

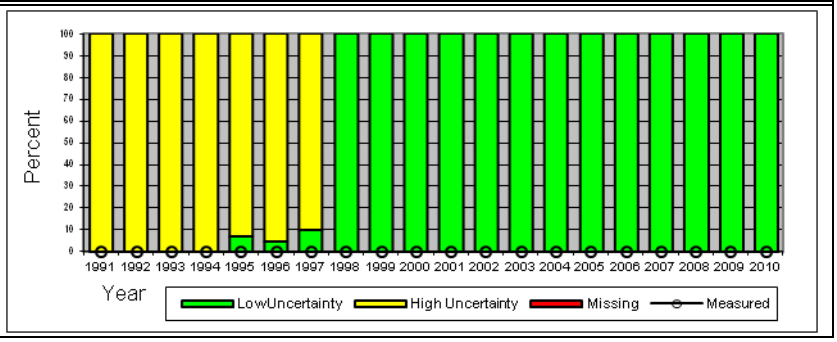
726565	MORRIS MUNI (AWOS), MN
Class II	
Solar Coordinates	
Latitude: 45.567˚	
Longitude: -95.967˚	
Elevation: 344 m	
Meteorological Coordinates	
Latitude: 45.567˚	
Longitude: -95.967˚	
Elevation: 344 m	
Time Zone: -6	

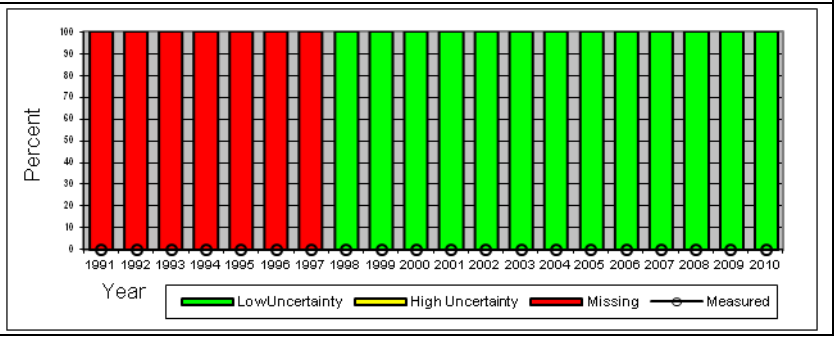
726567	NEW ULM MUNI (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 44.317˚	
Longitude: -94.5˚	
Elevation: 308 m	
Meteorological Coordinates	
Latitude: 44.317˚	
Longitude: -94.5˚	
Elevation: 308 m	
Time Zone: -6	

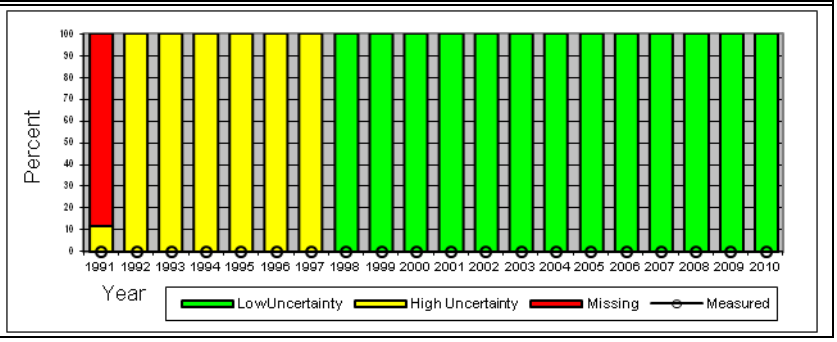
726544	ORR, MN
Class III	
Solar Coordinates	
Latitude: 48.017˚	
Longitude: -92.867˚	
Elevation: 397 m	
Meteorological Coordinates	
Latitude: 48.017˚	
Longitude: -92.867˚	
Elevation: 397 m	
Time Zone: -6	

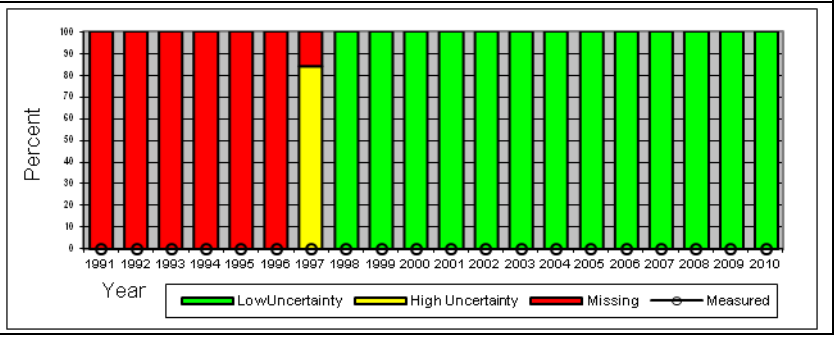
727515	ORTONVILLE, MN
Class III	
Solar Coordinates	
Latitude: 45.3˚	
Longitude: -96.417˚	
Elevation: 335 m	
Meteorological Coordinates	
Latitude: 45.3˚	
Longitude: -96.417˚	
Elevation: 335 m	
Time Zone: -6	

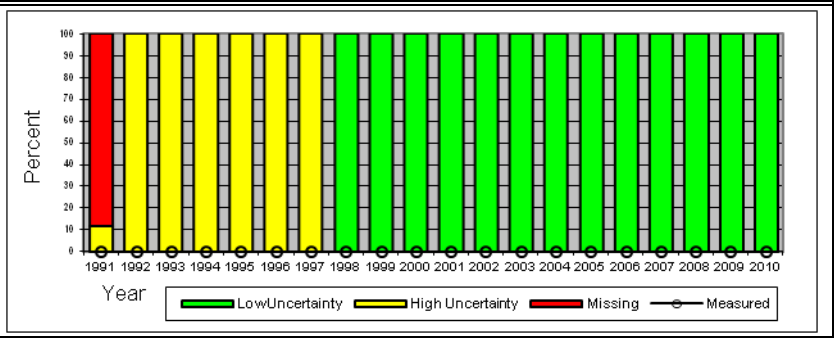
726568	OWATONNA (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 44.117˚	
Longitude: -93.25˚	
Elevation: 350 m	
Meteorological Coordinates	
Latitude: 44.117˚	
Longitude: -93.25˚	
Elevation: 350 m	
Time Zone: -6	

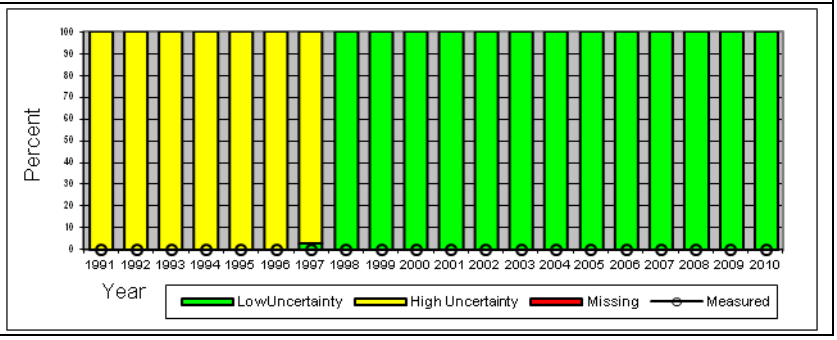
727453	PARK RAPIDS MUNICIPAL AP, MN
Class II	
Solar Coordinates	
Latitude: 46.9˚	
Longitude: -95.067˚	
Elevation: 437 m	
Meteorological Coordinates	
Latitude: 46.9˚	
Longitude: -95.067˚	
Elevation: 437 m	
Time Zone: -6	

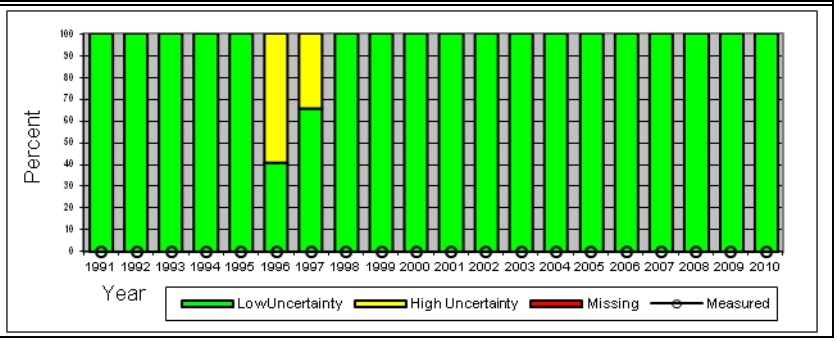
727508	PINE RIVER, MN
Class III	
Solar Coordinates	
Latitude: 46.717˚	
Longitude: -94.383˚	
Elevation: 395 m	
Meteorological Coordinates	
Latitude: 46.717˚	
Longitude: -94.383˚	
Elevation: 395 m	
Time Zone: -6	

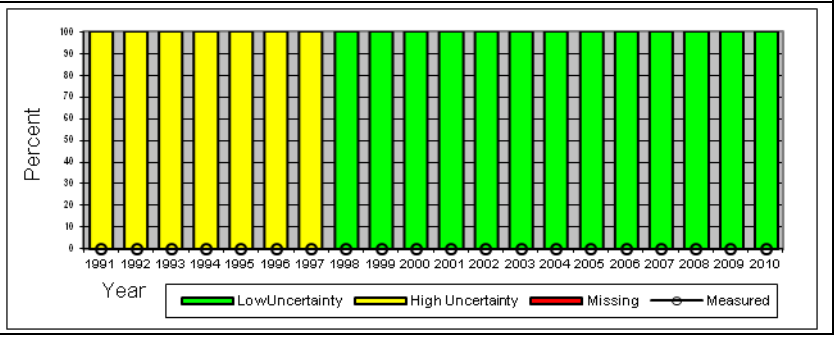
726566	PIPESTONE (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 43.983˚	
Longitude: -96.317˚	
Elevation: 529 m	
Meteorological Coordinates	
Latitude: 43.983˚	
Longitude: -96.317˚	
Elevation: 529 m	
Time Zone: -6	

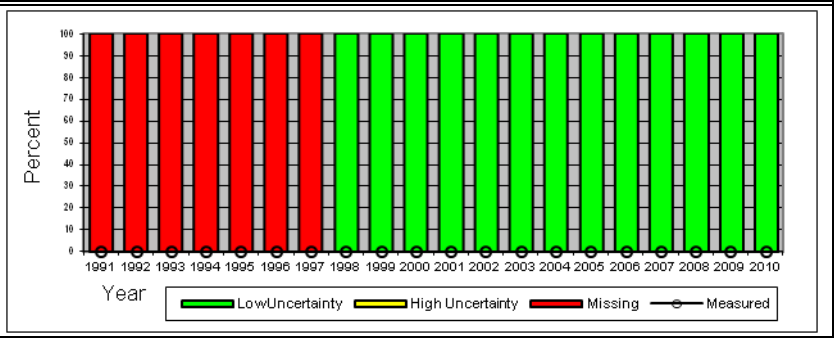
726682	PRINCETON MUNI, MN
Class III	
Solar Coordinates	
Latitude: 45.55˚	
Longitude: -93.6˚	
Elevation: 306 m	
Meteorological Coordinates	
Latitude: 45.55˚	
Longitude: -93.6˚	
Elevation: 306 m	
Time Zone: -6	

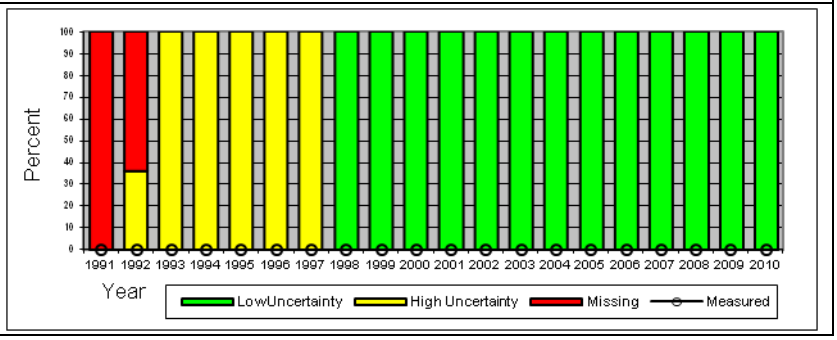
726564	RED WING, MN
Class III	
Solar Coordinates	
Latitude: 44.583˚	
Longitude: -92.483˚	
Elevation: 239 m	
Meteorological Coordinates	
Latitude: 44.583˚	
Longitude: -92.483˚	
Elevation: 239 m	
Time Zone: -6	

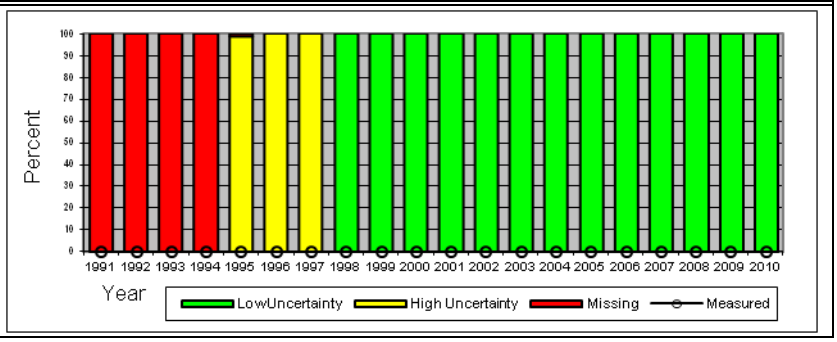
726556	REDWOOD FALLS MUNI, MN
Class II	
Solar Coordinates	
Latitude: 44.55˚	
Longitude: -95.083˚	
Elevation: 312 m	
Meteorological Coordinates	
Latitude: 44.55˚	
Longitude: -95.083˚	
Elevation: 312 m	
Time Zone: -6	

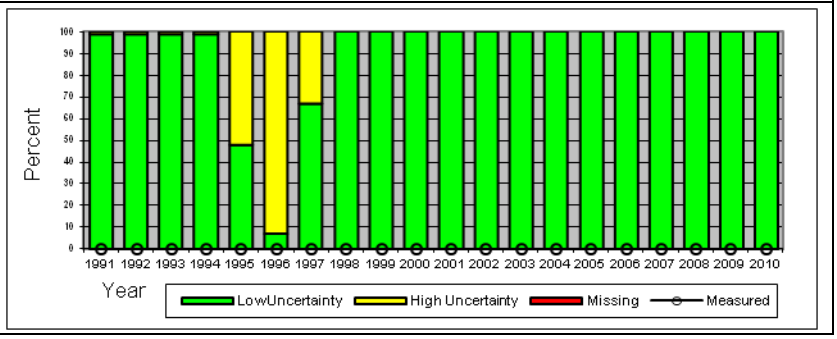
726440	ROCHESTER INTERNATIONAL ARPT, MN
Class I	
Solar Coordinates	
Latitude: 43.9˚	
Longitude: -92.5˚	
Elevation: 398 m	
Meteorological Coordinates	
Latitude: 43.9˚	
Longitude: -92.5˚	
Elevation: 398 m	
Time Zone: -6	

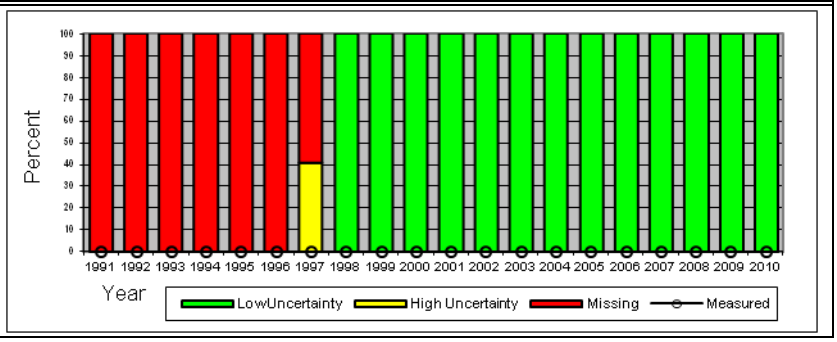
727477	ROSEAU MUNI (AWOS), MN
Class II	
Solar Coordinates	
Latitude: 48.85˚	
Longitude: -95.7˚	
Elevation: 323 m	
Meteorological Coordinates	
Latitude: 48.85˚	
Longitude: -95.7˚	
Elevation: 323 m	
Time Zone: -6	

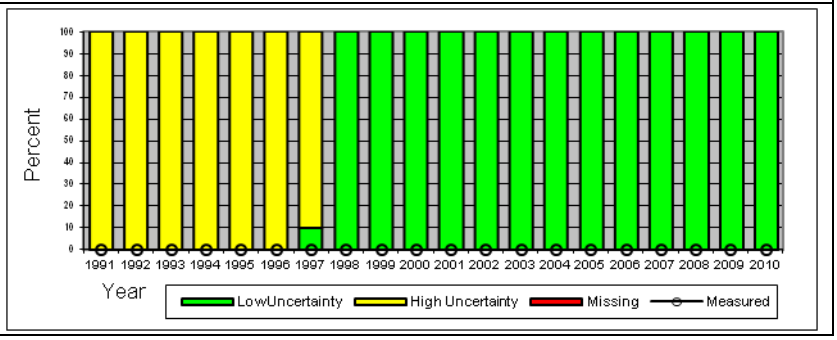
726679	RUSH CITY RGNL ARPT, MN
Class III	
Solar Coordinates	
Latitude: 45.683˚	
Longitude: -92.95˚	
Elevation: 281 m	
Meteorological Coordinates	
Latitude: 45.683˚	
Longitude: -92.95˚	
Elevation: 281 m	
Time Zone: -6	

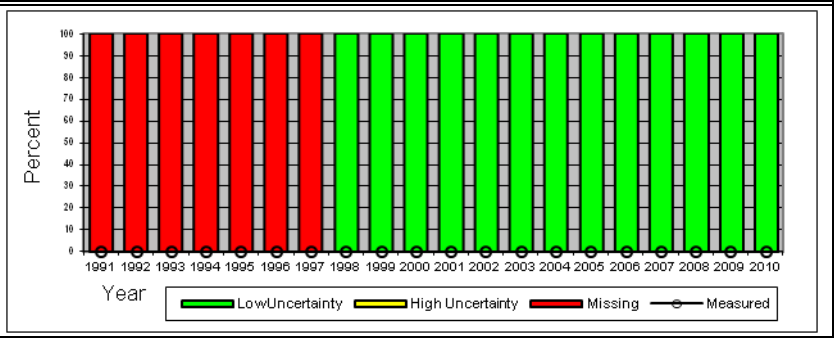
727556	SILVER BAY, MN
Class III	
Solar Coordinates	
Latitude: 47.2˚	
Longitude: -91.4˚	
Elevation: 331 m	
Meteorological Coordinates	
Latitude: 47.2˚	
Longitude: -91.4˚	
Elevation: 331 m	
Time Zone: -6	

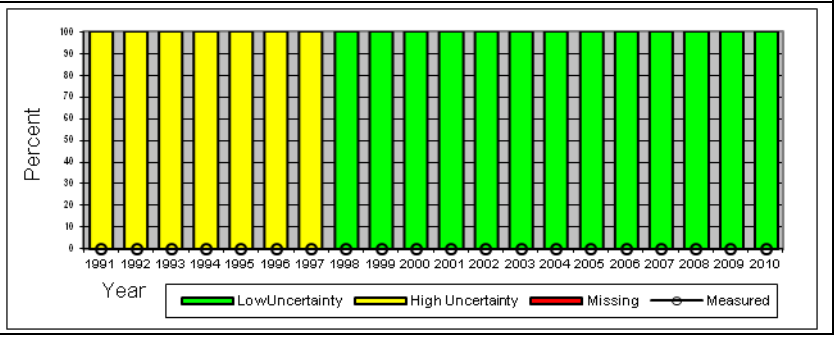
726603	SOUTH ST PAUL MUNI, MN
Class III	
Solar Coordinates	
Latitude: 44.85˚	
Longitude: -93.15˚	
Elevation: 250 m	
Meteorological Coordinates	
Latitude: 44.85˚	
Longitude: -93.15˚	
Elevation: 250 m	
Time Zone: -6	

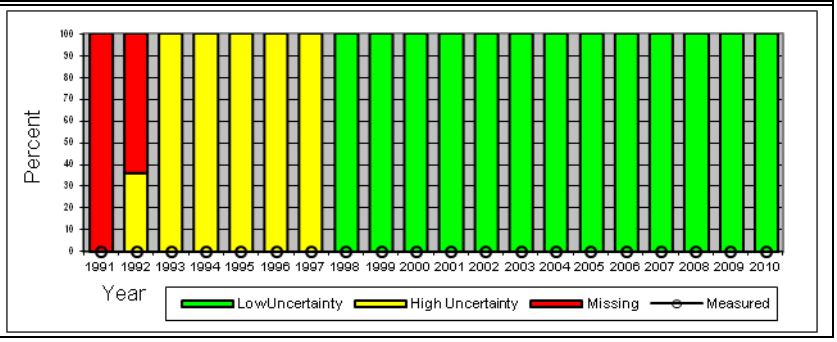
726550	ST CLOUD REGIONAL ARPT, MN
Class I	
Solar Coordinates	
Latitude: 45.55˚	
Longitude: -94.05˚	
Elevation: 311 m	
Meteorological Coordinates	
Latitude: 45.55˚	
Longitude: -94.05˚	
Elevation: 311 m	
Time Zone: -6	

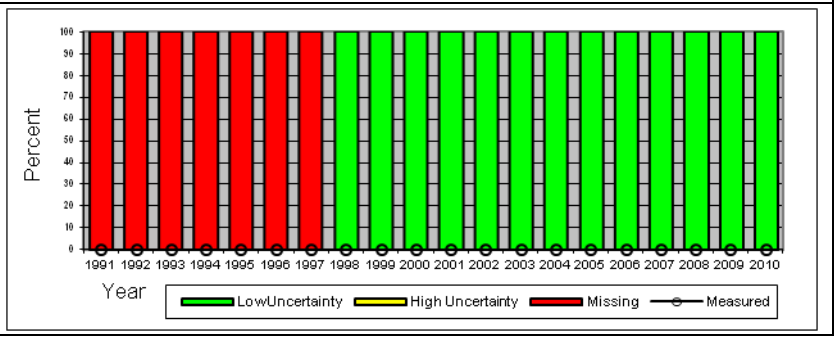
726554	ST JAMES MUNI ARPT, MN
Class III	
Solar Coordinates	
Latitude: 43.983˚	
Longitude: -94.55˚	
Elevation: 325 m	
Meteorological Coordinates	
Latitude: 43.983˚	
Longitude: -94.55˚	
Elevation: 325 m	
Time Zone: -6	

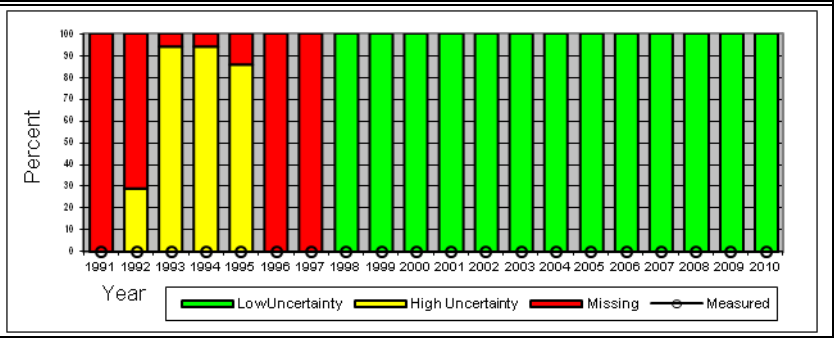
726584	ST PAUL DOWNTOWN AP, MN
Class II	
Solar Coordinates	
Latitude: 44.933˚	
Longitude: -93.05˚	
Elevation: 220 m	
Meteorological Coordinates	
Latitude: 44.933˚	
Longitude: -93.05˚	
Elevation: 220 m	
Time Zone: -6	

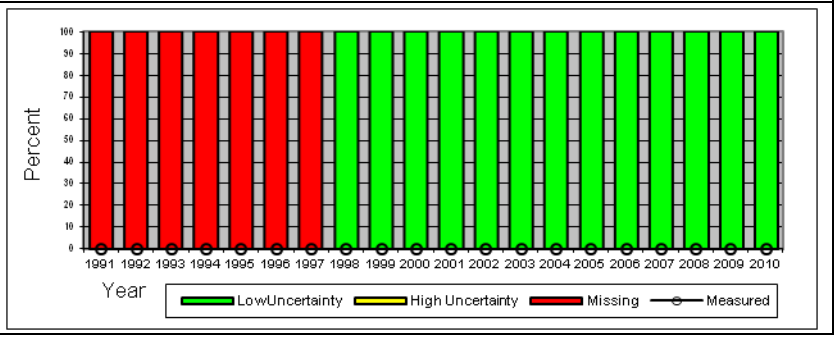
727514	STAPLES, MN
Class III	
Solar Coordinates	
Latitude: 46.383˚	
Longitude: -94.8˚	
Elevation: 392 m	
Meteorological Coordinates	
Latitude: 46.383˚	
Longitude: -94.8˚	
Elevation: 392 m	
Time Zone: -6	

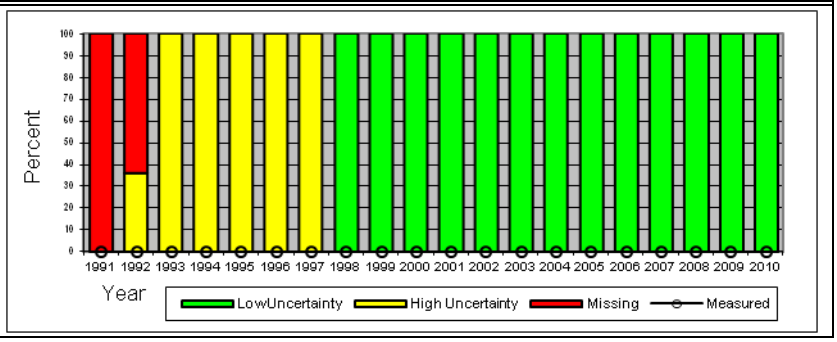
727555	THIEF RIVER(AWOS), MN
Class II	
Solar Coordinates	
Latitude: 48.067˚	
Longitude: -96.183˚	
Elevation: 340 m	
Meteorological Coordinates	
Latitude: 48.067˚	
Longitude: -96.183˚	
Elevation: 340 m	
Time Zone: -6	

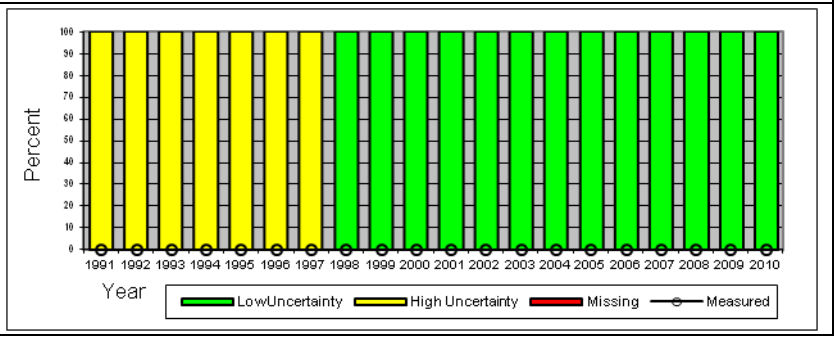
727444	TWO HARBORS, MN
Class III	
Solar Coordinates	
Latitude: 47.05˚	
Longitude: -91.75˚	
Elevation: 328 m	
Meteorological Coordinates	
Latitude: 47.05˚	
Longitude: -91.75˚	
Elevation: 328 m	
Time Zone: -6	

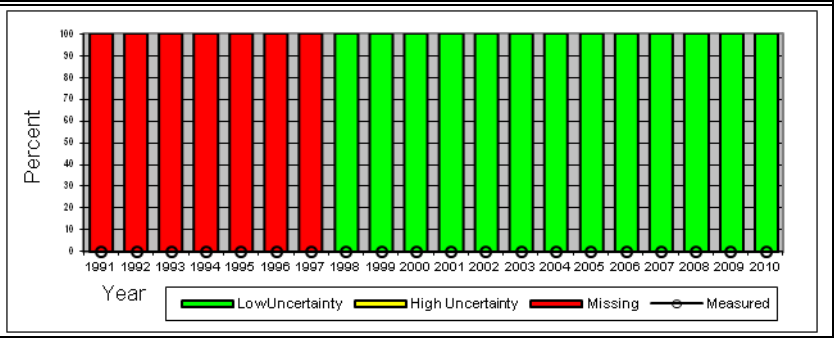
726561	WADENA, MN
Class III	
Solar Coordinates	
Latitude: 46.45˚	
Longitude: -95.217˚	
Elevation: 418 m	
Meteorological Coordinates	
Latitude: 46.45˚	
Longitude: -95.217˚	
Elevation: 418 m	
Time Zone: -6	

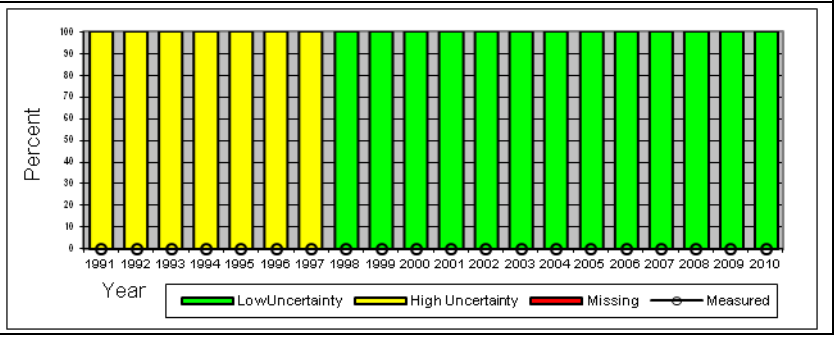
727564	WARROAD(AWOS), MN
Class III	
Solar Coordinates	
Latitude: 48.933˚	
Longitude: -95.333˚	
Elevation: 325 m	
Meteorological Coordinates	
Latitude: 48.933˚	
Longitude: -95.333˚	
Elevation: 325 m	
Time Zone: -6	

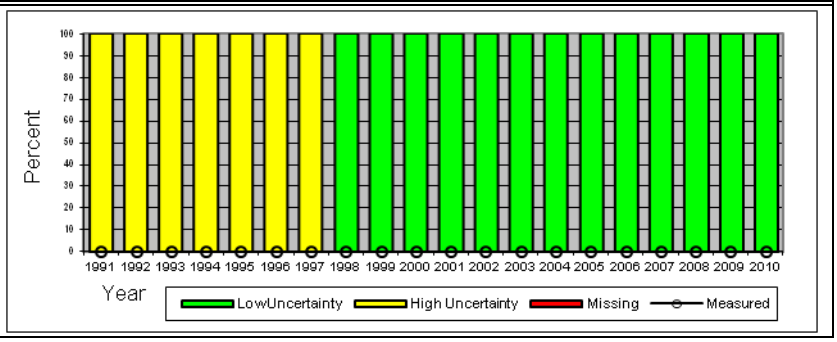
727486	WASKISH MUNI AIRPT, MN
Class III	
Solar Coordinates	
Latitude: 48.15˚	
Longitude: -94.517˚	
Elevation: 360 m	
Meteorological Coordinates	
Latitude: 48.15˚	
Longitude: -94.517˚	
Elevation: 360 m	
Time Zone: -6	

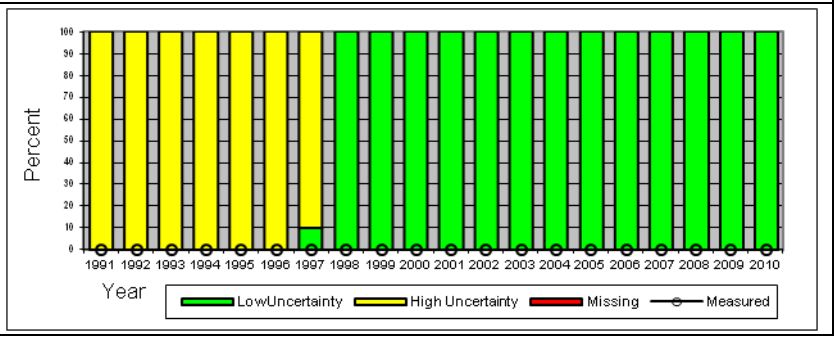
727533	WHEATON NDB (AWOS), MN
Class III	
Solar Coordinates	
Latitude: 45.7˚	
Longitude: -96.5˚	
Elevation: 313 m	
Meteorological Coordinates	
Latitude: 45.7˚	
Longitude: -96.5˚	
Elevation: 313 m	
Time Zone: -6	

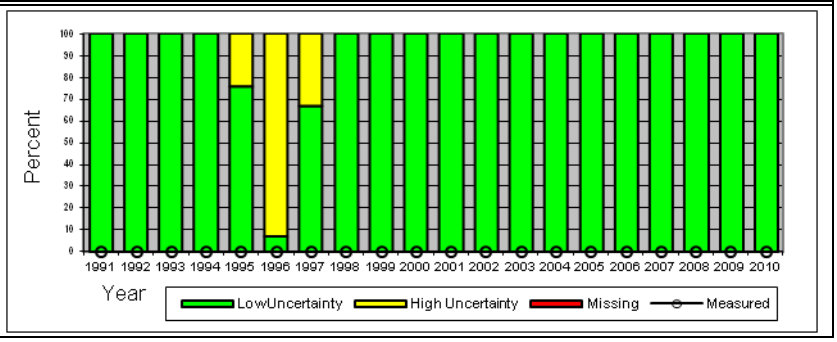
726576	WILLMAR, MN
Class III	
Solar Coordinates	
Latitude: 45.117˚	
Longitude: -95.083˚	
Elevation: 345 m	
Meteorological Coordinates	
Latitude: 45.117˚	
Longitude: -95.083˚	
Elevation: 345 m	
Time Zone: -6	

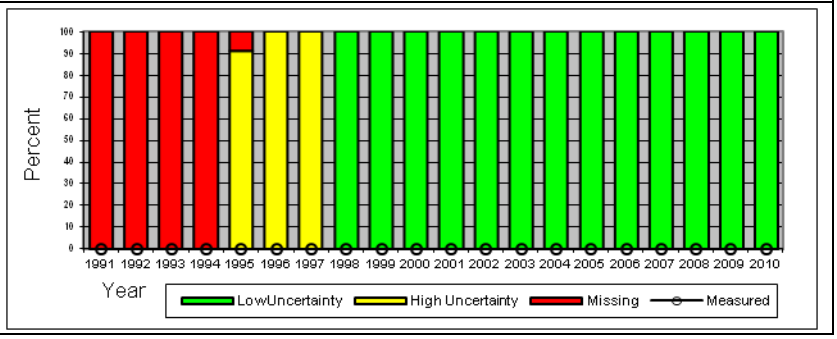
727506	WINDOM, MN
Class III	
Solar Coordinates	
Latitude: 43.917˚	
Longitude: -95.117˚	
Elevation: 410 m	
Meteorological Coordinates	
Latitude: 43.917˚	
Longitude: -95.117˚	
Elevation: 410 m	
Time Zone: -6	

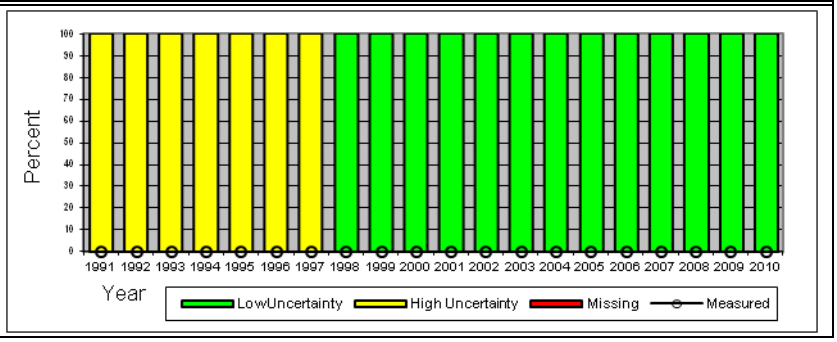
726588	WINONA MUNI (AWOS), MN
Class II	
Solar Coordinates	
Latitude: 44.083˚	
Longitude: -91.7˚	
Elevation: 200 m	
Meteorological Coordinates	
Latitude: 44.083˚	
Longitude: -91.7˚	
Elevation: 200 m	
Time Zone: -6	

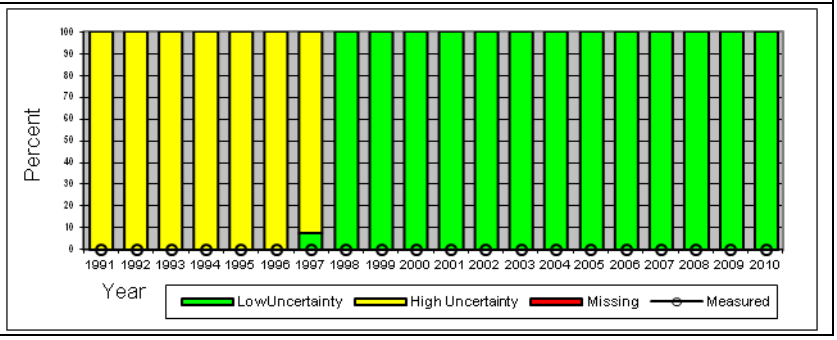
726587	WORTHINGTON (AWOS), MN
Class II	
Solar Coordinates	
Latitude: 43.65˚	
Longitude: -95.583˚	
Elevation: 480 m	
Meteorological Coordinates	
Latitude: 43.65˚	
Longitude: -95.583˚	
Elevation: 480 m	
Time Zone: -6	

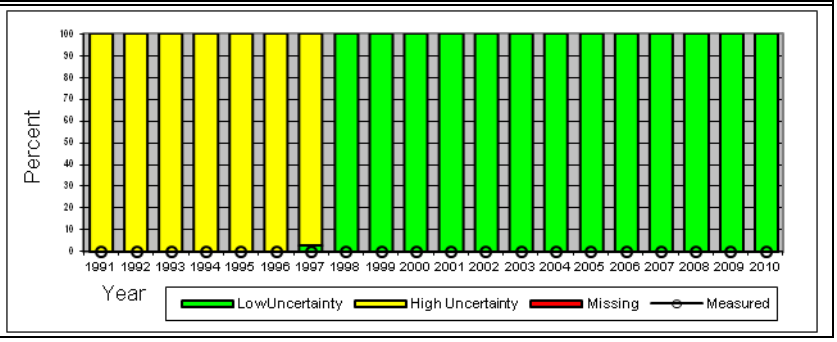
723489	CAPE GIRARDEAU MUNICIPAL AP, MO
Class II	
Solar Coordinates	
Latitude: 37.233˚	
Longitude: -89.567˚	
Elevation: 103 m	
Meteorological Coordinates	
Latitude: 37.233˚	
Longitude: -89.567˚	
Elevation: 103 m	
Time Zone: -6	

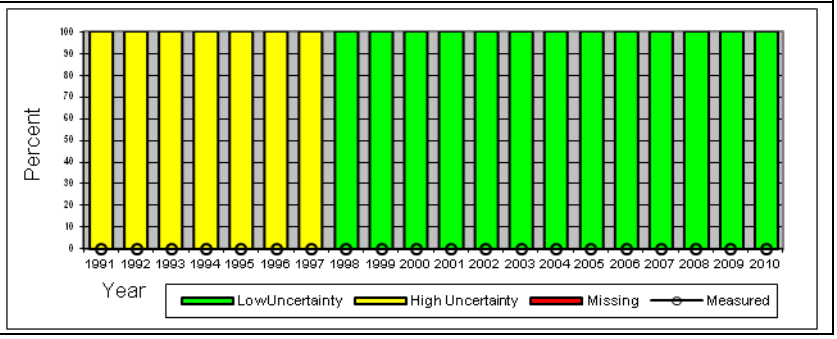
724450	COLUMBIA REGIONAL AIRPORT, MO
Class I	
Solar Coordinates	
Latitude: 38.817˚	
Longitude: -92.217˚	
Elevation: 272 m	
Meteorological Coordinates	
Latitude: 38.817˚	
Longitude: -92.217˚	
Elevation: 272 m	
Time Zone: -6	

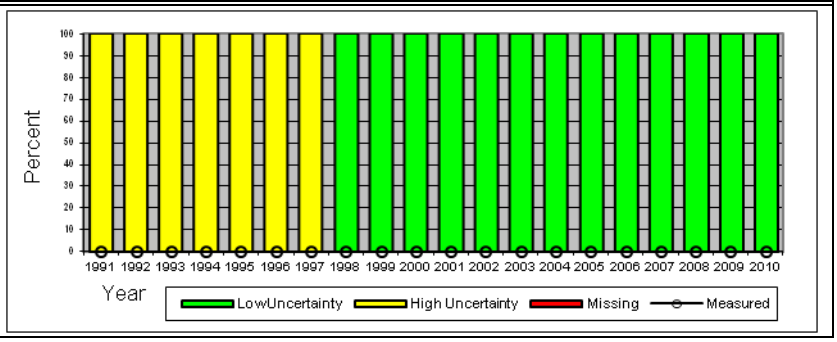
724454	FARMINGTON, MO
Class III	
Solar Coordinates	
Latitude: 37.767˚	
Longitude: -90.4˚	
Elevation: 274 m	
Meteorological Coordinates	
Latitude: 37.767˚	
Longitude: -90.4˚	
Elevation: 274 m	
Time Zone: -6	

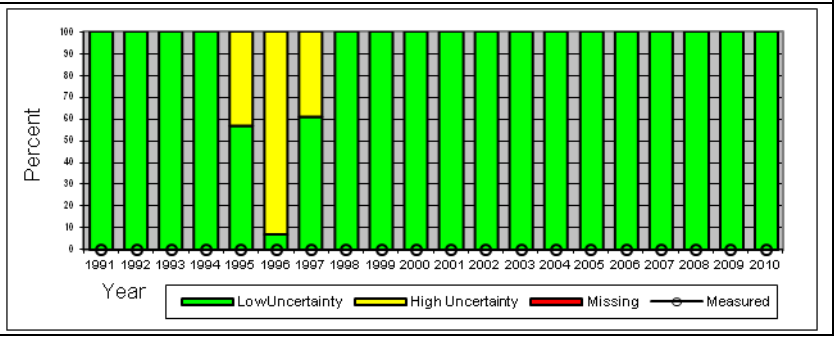
724457	FT LNRD WD AAF, MO
Class II	
Solar Coordinates	
Latitude: 37.75˚	
Longitude: -92.15˚	
Elevation: 351 m	
Meteorological Coordinates	
Latitude: 37.75˚	
Longitude: -92.15˚	
Elevation: 351 m	
Time Zone: -6	

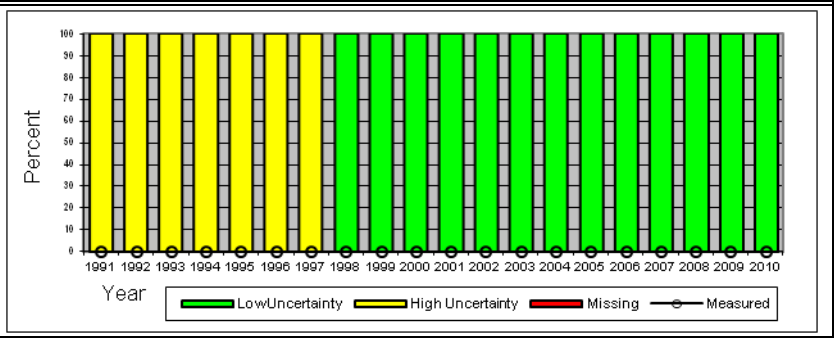
724458	JEFFERSON CITY MEM, MO
Class II	
Solar Coordinates	
Latitude: 38.583˚	
Longitude: -92.15˚	
Elevation: 167 m	
Meteorological Coordinates	
Latitude: 38.583˚	
Longitude: -92.15˚	
Elevation: 167 m	
Time Zone: -6	

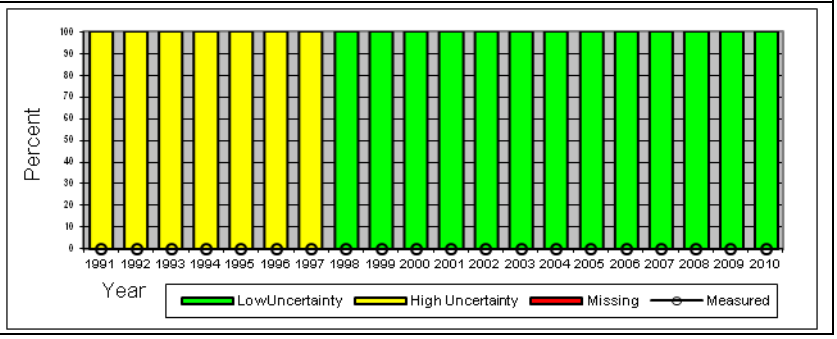
723495	JOPLIN MUNICIPAL AP, MO
Class II	
Solar Coordinates	
Latitude: 37.15˚	
Longitude: -94.5˚	
Elevation: 297 m	
Meteorological Coordinates	
Latitude: 37.15˚	
Longitude: -94.5˚	
Elevation: 297 m	
Time Zone: -6	

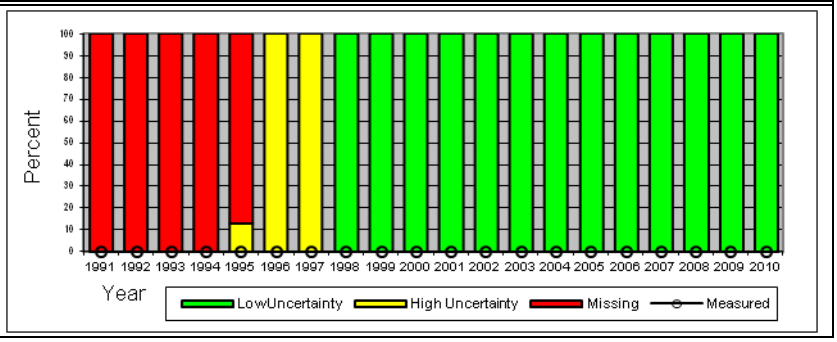
724459	KAISER MEM (AWOS), MO
Class II	
Solar Coordinates	
Latitude: 38.1˚	
Longitude: -92.55˚	
Elevation: 265 m	
Meteorological Coordinates	
Latitude: 38.1˚	
Longitude: -92.55˚	
Elevation: 265 m	
Time Zone: -6	

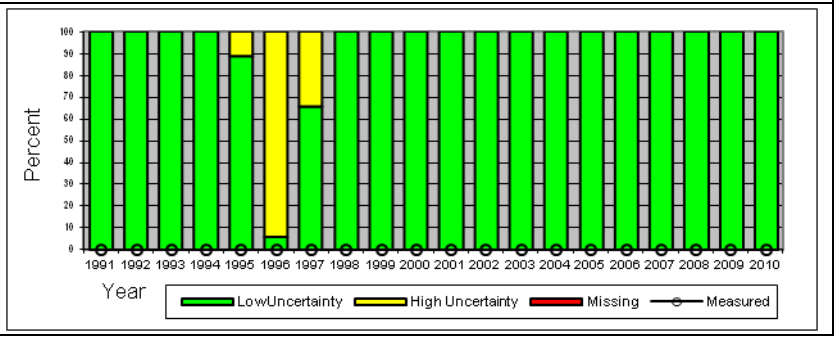
724463	KANSAS CITY DOWNTOWN AP, MO
Class II	
Solar Coordinates	
Latitude: 39.117˚	
Longitude: -94.6˚	
Elevation: 226 m	
Meteorological Coordinates	
Latitude: 39.117˚	
Longitude: -94.6˚	
Elevation: 226 m	
Time Zone: -6	

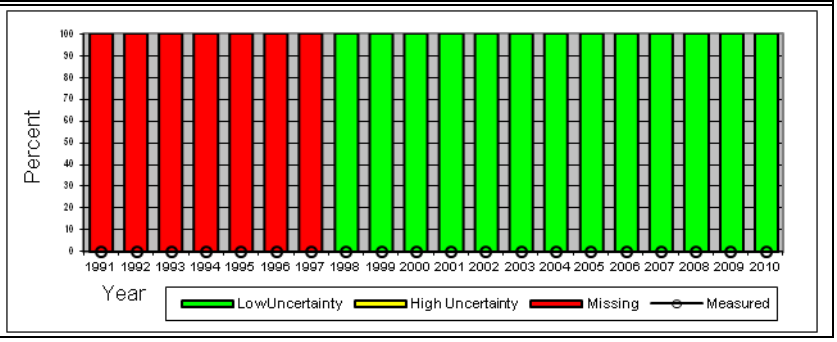
724460	KANSAS CITY INT'L ARPT, MO
Class I	
Solar Coordinates	
Latitude: 39.3˚	
Longitude: -94.717˚	
Elevation: 298 m	
Meteorological Coordinates	
Latitude: 39.3˚	
Longitude: -94.717˚	
Elevation: 298 m	
Time Zone: -6	

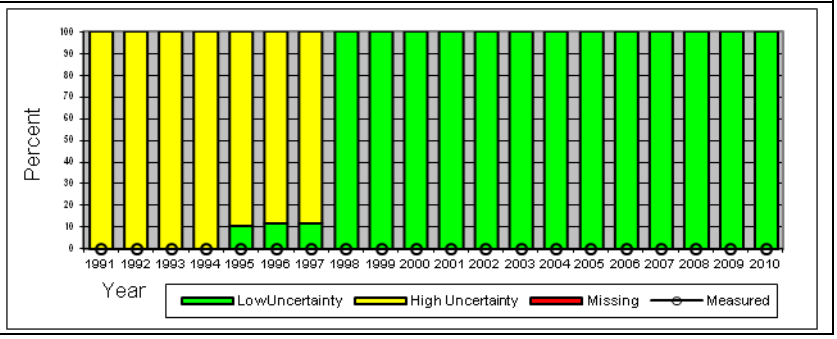
724466	KANSAS CITY RICHARDS-GEBAUR A, MO
Class III	
Solar Coordinates	
Latitude: 38.85˚	
Longitude: -94.567˚	
Elevation: 322 m	
Meteorological Coordinates	
Latitude: 38.85˚	
Longitude: -94.567˚	
Elevation: 322 m	
Time Zone: -6	

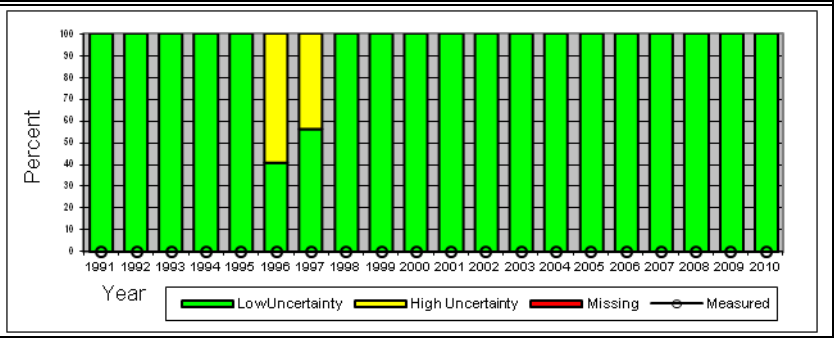
724455	KIRKSVILLE REGIONAL AP, MO
Class II	
Solar Coordinates	
Latitude: 40.1˚	
Longitude: -92.55˚	
Elevation: 294 m	
Meteorological Coordinates	
Latitude: 40.1˚	
Longitude: -92.55˚	
Elevation: 294 m	
Time Zone: -6	

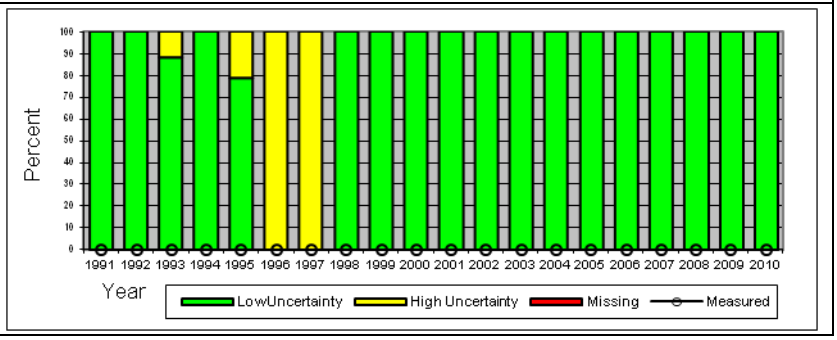
723300	POPLAR BLUFF(AMOS), MO
Class III	
Solar Coordinates	
Latitude: 36.767˚	
Longitude: -90.467˚	
Elevation: 146 m	
Meteorological Coordinates	
Latitude: 36.767˚	
Longitude: -90.467˚	
Elevation: 146 m	
Time Zone: -6	

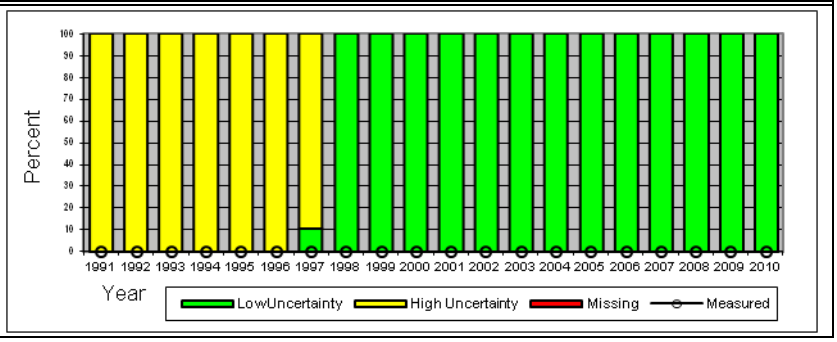
724400	SPRINGFIELD REGIONAL ARPT, MO
Class I	
Solar Coordinates	
Latitude: 37.233˚	
Longitude: -93.383˚	
Elevation: 384 m	
Meteorological Coordinates	
Latitude: 37.233˚	
Longitude: -93.383˚	
Elevation: 384 m	
Time Zone: -6	

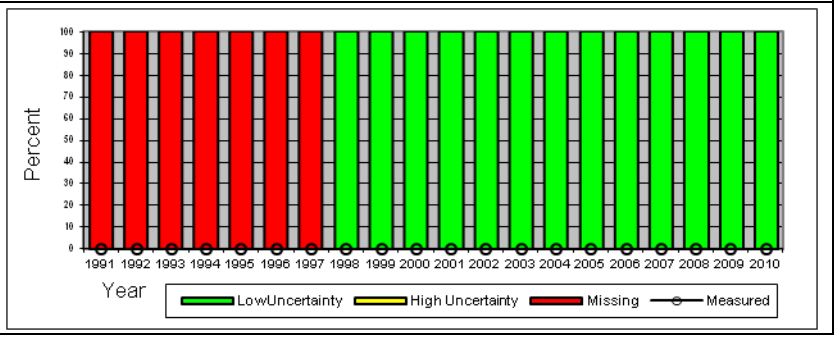
724347	ST CHARLES COUNTY A, MO
Class III	
Solar Coordinates	
Latitude: 38.917˚	
Longitude: -90.417˚	
Elevation: 133 m	
Meteorological Coordinates	
Latitude: 38.917˚	
Longitude: -90.417˚	
Elevation: 133 m	
Time Zone: -6	

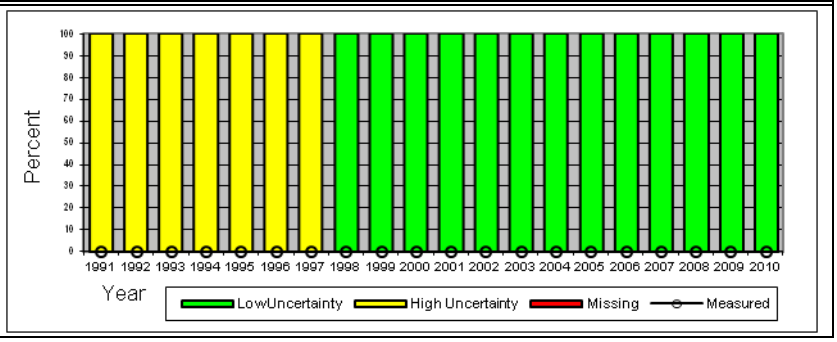
724490	ST JOSEPH ROSECRANS MEMORIAL, MO
Class II	
Solar Coordinates	
Latitude: 39.767˚	
Longitude: -94.9˚	
Elevation: 247 m	
Meteorological Coordinates	
Latitude: 39.767˚	
Longitude: -94.9˚	
Elevation: 247 m	
Time Zone: -6	

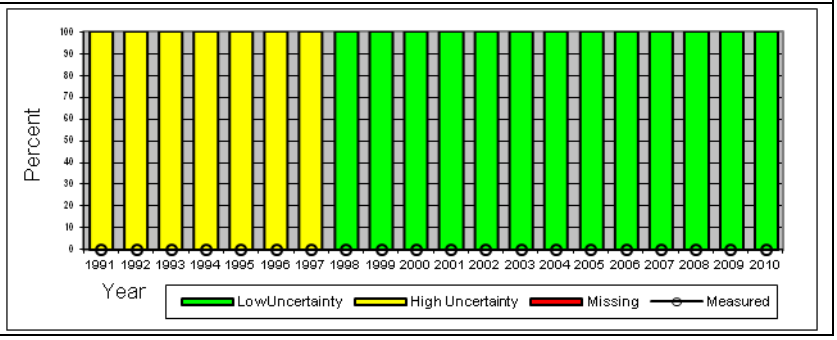
724340	ST LOUIS LAMBERT INT'L ARPT, MO
Class I	
Solar Coordinates	
Latitude: 38.75˚	
Longitude: -90.367˚	
Elevation: 173 m	
Meteorological Coordinates	
Latitude: 38.75˚	
Longitude: -90.367˚	
Elevation: 173 m	
Time Zone: -6	

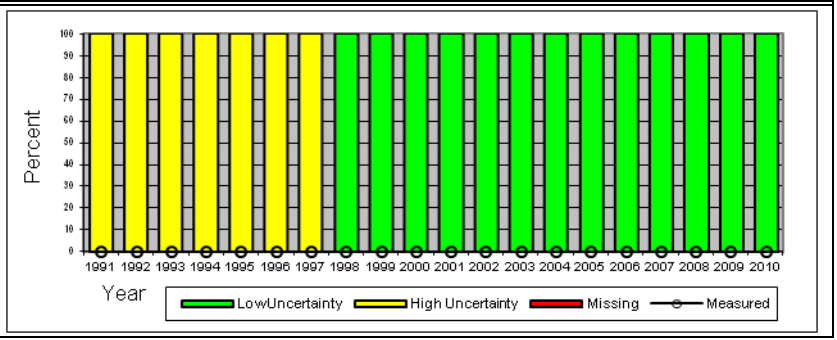
724345	ST LOUIS SPIRIT OF ST LOUIS A, MO
Class I	
Solar Coordinates	
Latitude: 38.65˚	
Longitude: -90.65˚	
Elevation: 141 m	
Meteorological Coordinates	
Latitude: 38.65˚	
Longitude: -90.65˚	
Elevation: 141 m	
Time Zone: -6	

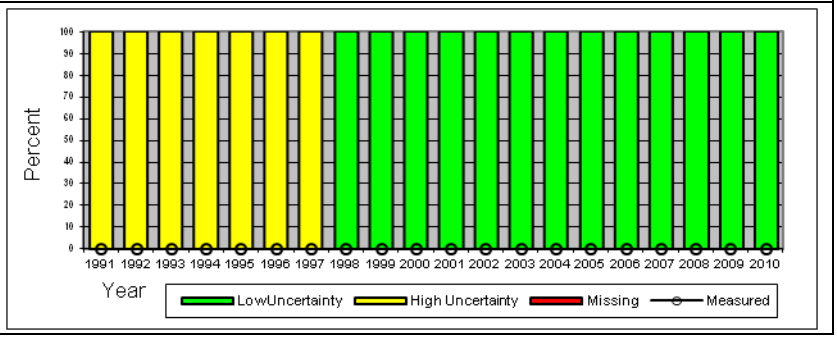
724456	VICHY ROLLA NATL ARPT, MO
Class II	
Solar Coordinates	
Latitude: 38.133˚	
Longitude: -91.767˚	
Elevation: 336 m	
Meteorological Coordinates	
Latitude: 38.133˚	
Longitude: -91.767˚	
Elevation: 336 m	
Time Zone: -6	

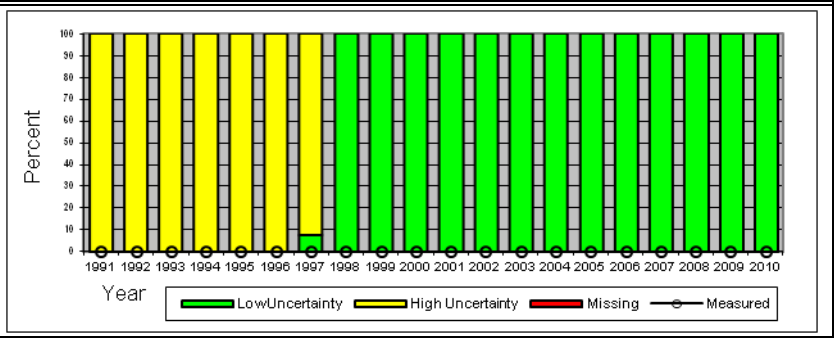
723484	WEST PLAINS - ASOS, MO
Class III	
Solar Coordinates	
Latitude: 36.883˚	
Longitude: -91.9˚	
Elevation: 374 m	
Meteorological Coordinates	
Latitude: 36.883˚	
Longitude: -91.9˚	
Elevation: 374 m	
Time Zone: -6	

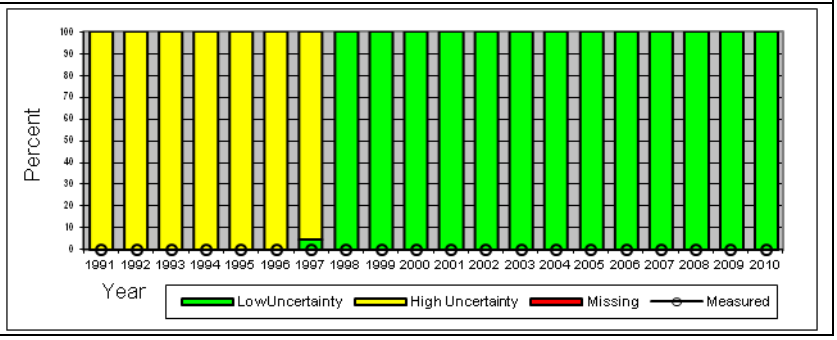
724467	WHITEMAN AFB, MO
Class II	
Solar Coordinates	
Latitude: 38.717˚	
Longitude: -93.55˚	
Elevation: 255 m	
Meteorological Coordinates	
Latitude: 38.717˚	
Longitude: -93.55˚	
Elevation: 255 m	
Time Zone: -6	

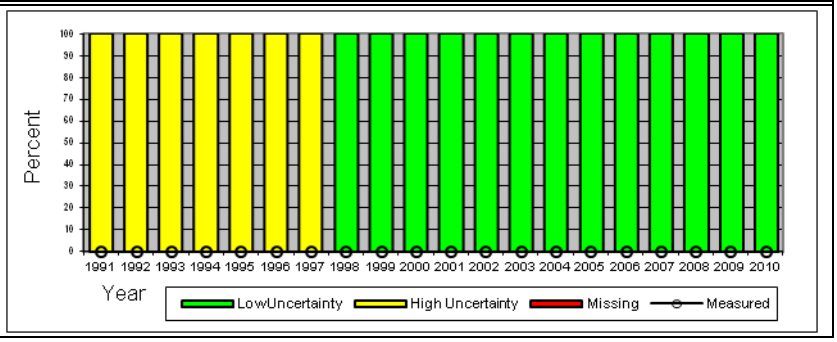
723306	COLUMBUS AFB, MS
Class II	
Solar Coordinates	
Latitude: 33.65˚	
Longitude: -88.45˚	
Elevation: 68 m	
Meteorological Coordinates	
Latitude: 33.65˚	
Longitude: -88.45˚	
Elevation: 68 m	
Time Zone: -6	

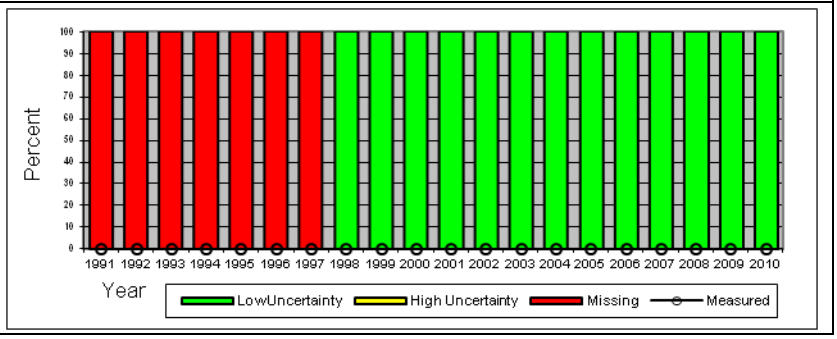
723307	GOLDEN TRI(AWOS), MS
Class II	
Solar Coordinates	
Latitude: 33.45˚	
Longitude: -88.583˚	
Elevation: 80 m	
Meteorological Coordinates	
Latitude: 33.45˚	
Longitude: -88.583˚	
Elevation: 80 m	
Time Zone: -6	

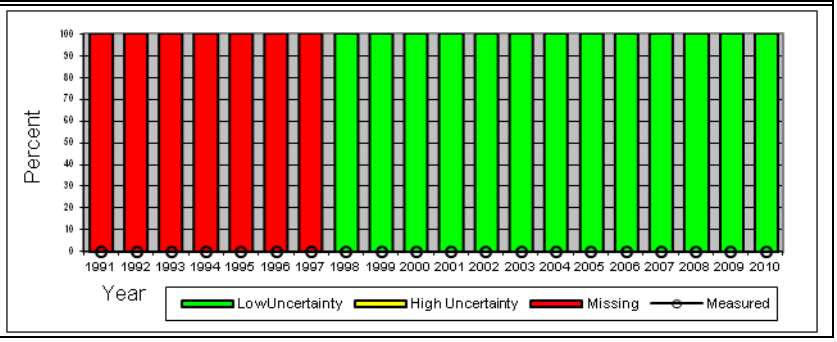
722356	GREENVILLE MUNICIPAL, MS
Class II	
Solar Coordinates	
Latitude: 33.483˚	
Longitude: -90.983˚	
Elevation: 42 m	
Meteorological Coordinates	
Latitude: 33.483˚	
Longitude: -90.983˚	
Elevation: 42 m	
Time Zone: -6	

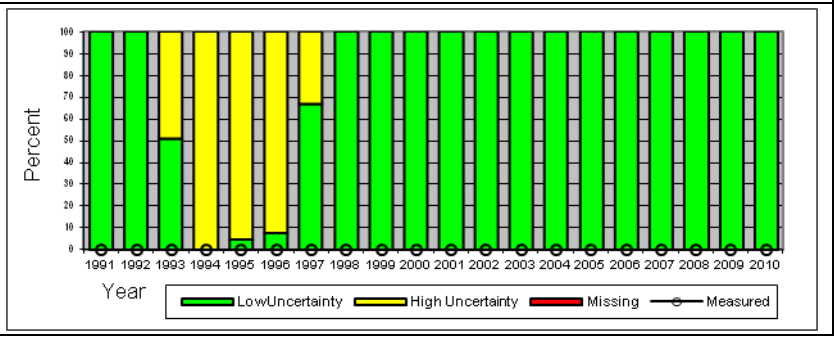
722359	GREENWOOD LEFLORE ARPT, MS
Class II	
Solar Coordinates	
Latitude: 33.5˚	
Longitude: -90.083˚	
Elevation: 47 m	
Meteorological Coordinates	
Latitude: 33.5˚	
Longitude: -90.083˚	
Elevation: 47 m	
Time Zone: -6	

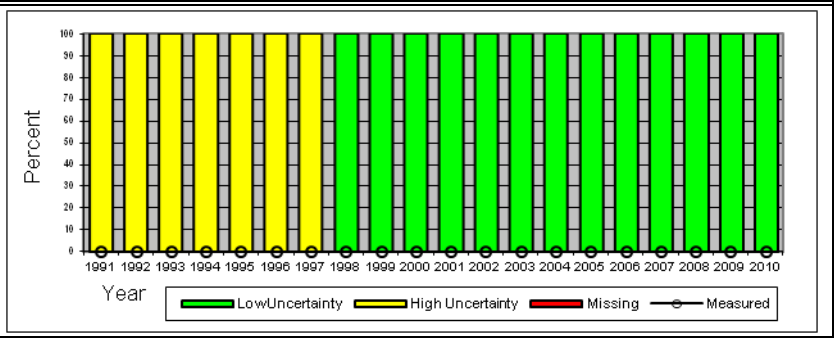
747685	GULFPORT BILOXI INT, MS
Class II	
Solar Coordinates	
Latitude: 30.4˚	
Longitude: -89.067˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 30.4˚	
Longitude: -89.067˚	
Elevation: 9 m	
Time Zone: -6	

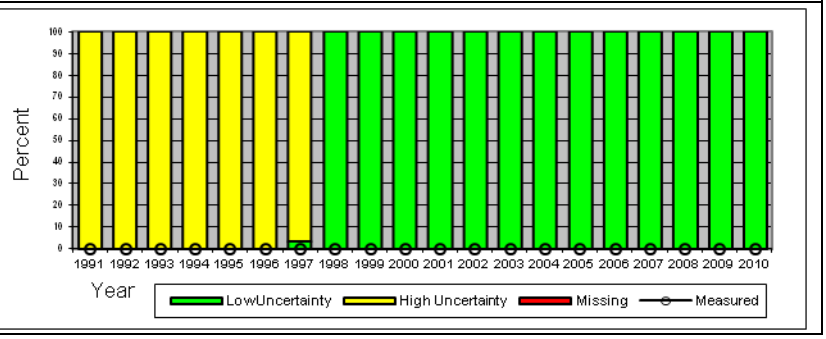
722348	HATTIESBURG LAUREL, MS
Class II	
Solar Coordinates	
Latitude: 31.467˚	
Longitude: -89.333˚	
Elevation: 93 m	
Meteorological Coordinates	
Latitude: 31.467˚	
Longitude: -89.333˚	
Elevation: 93 m	
Time Zone: -6	

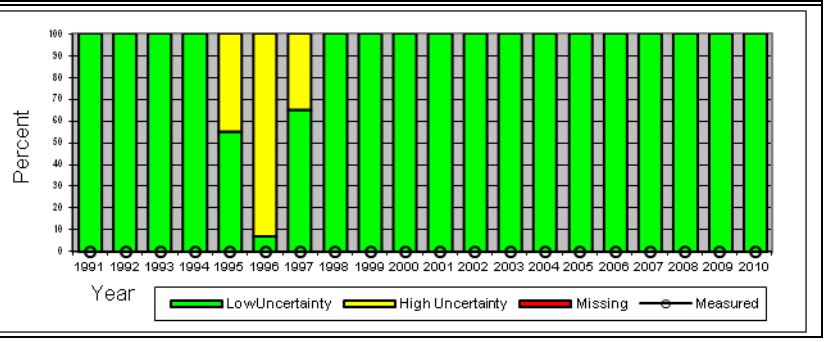
722347	HATTIESBURG MUNI, MS
Class III	
Solar Coordinates	
Latitude: 31.267˚	
Longitude: -89.25˚	
Elevation: 46 m	
Meteorological Coordinates	
Latitude: 31.267˚	
Longitude: -89.25˚	
Elevation: 46 m	
Time Zone: -6	

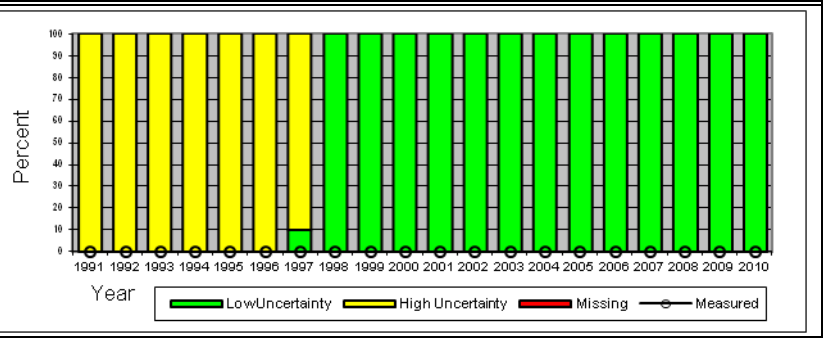
722354	HAWKINS FIELD, MS
Class III	
Solar Coordinates	
Latitude: 32.213˚	
Longitude: -90.217˚	
Elevation: 104 m	
Meteorological Coordinates	
Latitude: 32.213˚	
Longitude: -90.217˚	
Elevation: 104 m	
Time Zone: -6	

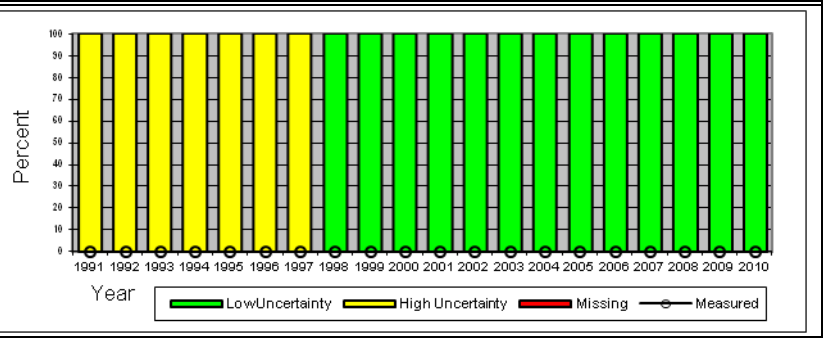
722350	JACKSON INTERNATIONAL AP, MS
Class I	
Solar Coordinates	
Latitude: 32.317˚	
Longitude: -90.083˚	
Elevation: 94 m	
Meteorological Coordinates	
Latitude: 32.317˚	
Longitude: -90.083˚	
Elevation: 94 m	
Time Zone: -6	

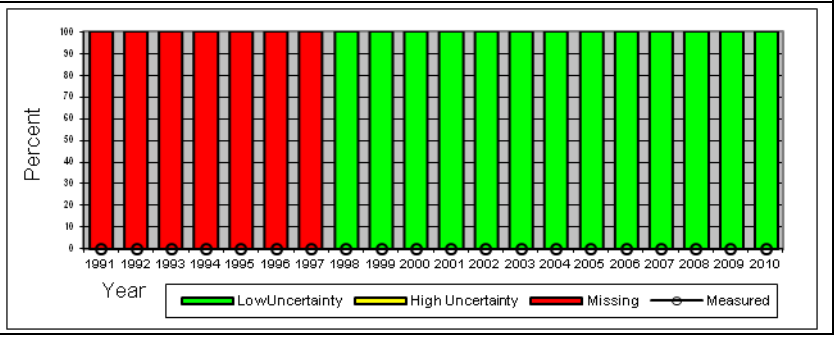
747686	KEESLER AFB, MS
Class II	
Solar Coordinates	
Latitude: 30.417˚	
Longitude: -88.917˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 30.417˚	
Longitude: -88.917˚	
Elevation: 8 m	
Time Zone: -6	

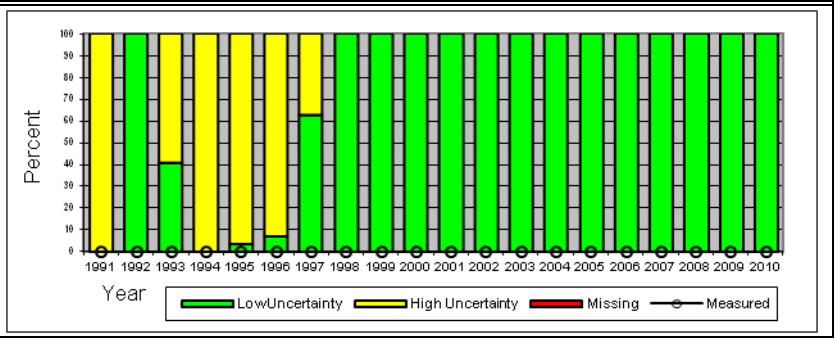
722358	MCCOMB PIKE COUNTY AP, MS
Class II	
Solar Coordinates	
Latitude: 31.233˚	
Longitude: -90.467˚	
Elevation: 126 m	
Meteorological Coordinates	
Latitude: 31.233˚	
Longitude: -90.467˚	
Elevation: 126 m	
Time Zone: -6	

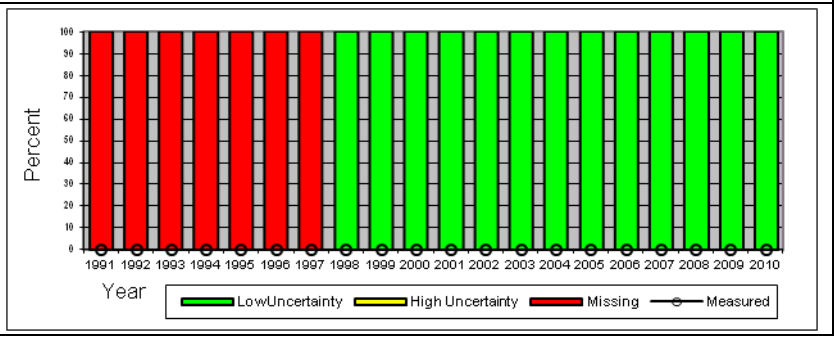
722340	MERIDIAN KEY FIELD, MS
Class I	
Solar Coordinates	
Latitude: 32.333˚	
Longitude: -88.75˚	
Elevation: 90 m	
Meteorological Coordinates	
Latitude: 32.333˚	
Longitude: -88.75˚	
Elevation: 90 m	
Time Zone: -6	

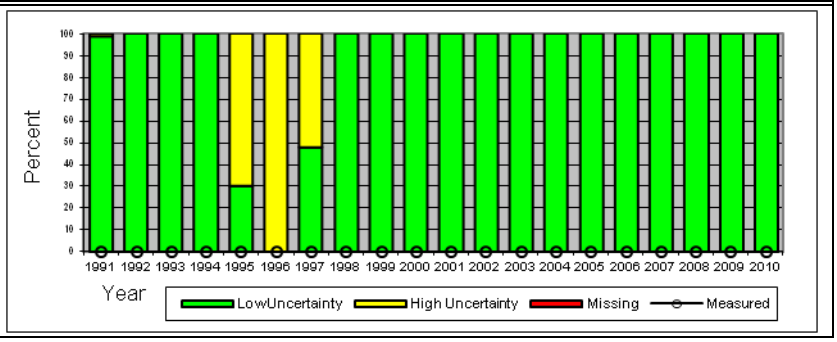
722345	MERIDIAN NAAS, MS
Class II	
Solar Coordinates	
Latitude: 32.55˚	
Longitude: -88.567˚	
Elevation: 83 m	
Meteorological Coordinates	
Latitude: 32.55˚	
Longitude: -88.567˚	
Elevation: 83 m	
Time Zone: -6	

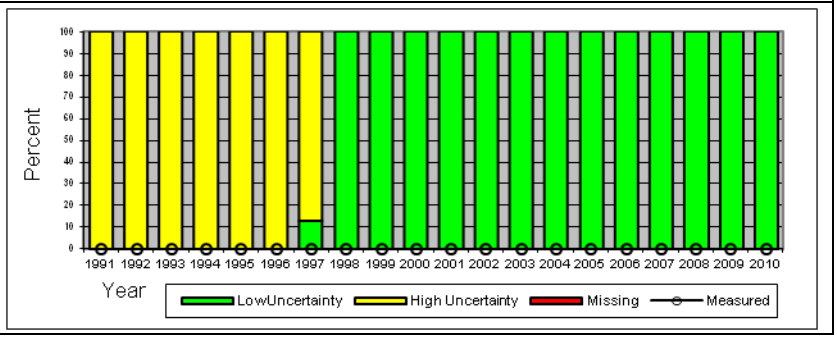
722357	NATCHEZ/HARDY(AWOS), MS
Class II	
Solar Coordinates	
Latitude: 31.617˚	
Longitude: -91.3˚	
Elevation: 83 m	
Meteorological Coordinates	
Latitude: 31.617˚	
Longitude: -91.3˚	
Elevation: 83 m	
Time Zone: -6	

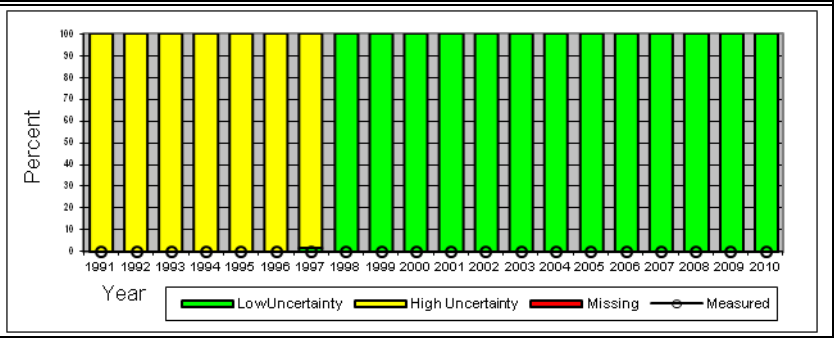
747688	PASCAGOULA, MS
Class III	
Solar Coordinates	
Latitude: 30.467˚	
Longitude: -88.533˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 30.467˚	
Longitude: -88.533˚	
Elevation: 5 m	
Time Zone: -6	

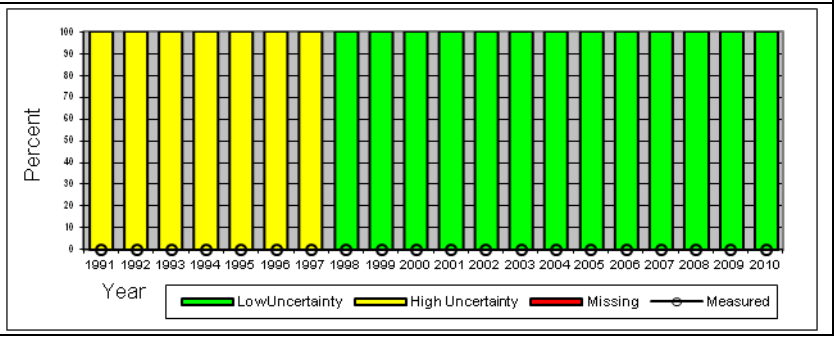
723320	TUPELO C D LEMONS ARPT, MS
Class I	
Solar Coordinates	
Latitude: 34.267˚	
Longitude: -88.767˚	
Elevation: 110 m	
Meteorological Coordinates	
Latitude: 34.267˚	
Longitude: -88.767˚	
Elevation: 110 m	
Time Zone: -6	

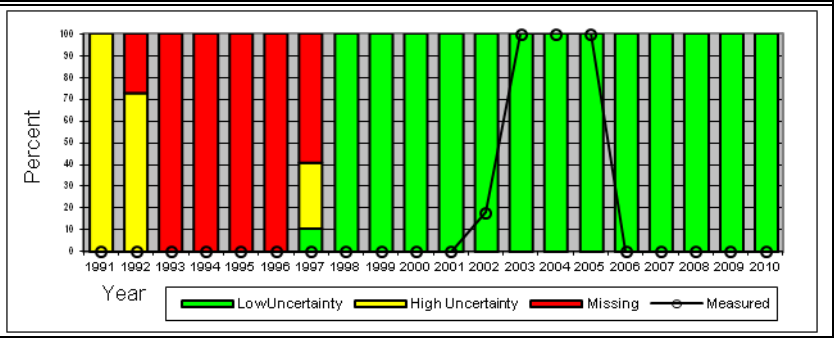
726777	BAKER MUNI ARPT, MT
Class III	
Solar Coordinates	
Latitude: 46.333˚	
Longitude: -104.25˚	
Elevation: 902 m	
Meteorological Coordinates	
Latitude: 46.333˚	
Longitude: -104.25˚	
Elevation: 902 m	
Time Zone: -7	

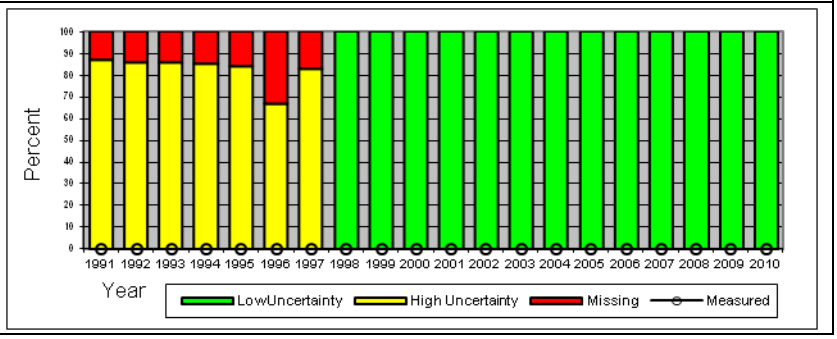
726770	BILLINGS LOGAN INT'L ARPT, MT
Class I	
Solar Coordinates	
Latitude: 45.8˚	
Longitude: -108.55˚	
Elevation: 1087 m	
Meteorological Coordinates	
Latitude: 45.8˚	
Longitude: -108.55˚	
Elevation: 1087 m	
Time Zone: -7	

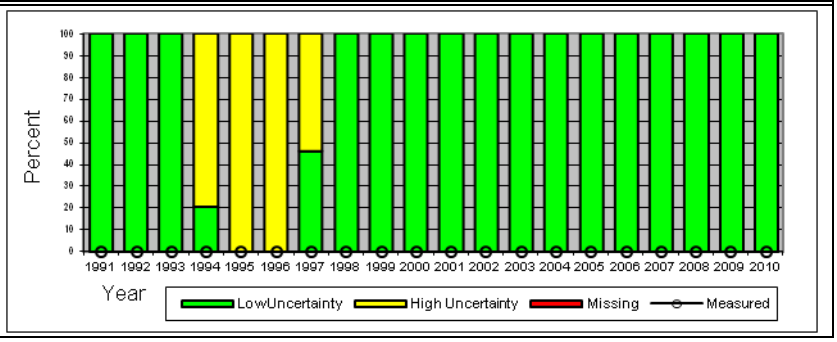
726797	BOZEMAN GALLATIN FIELD, MT
Class II	
Solar Coordinates	
Latitude: 45.8˚	
Longitude: -111.15˚	
Elevation: 1349 m	
Meteorological Coordinates	
Latitude: 45.8˚	
Longitude: -111.15˚	
Elevation: 1349 m	
Time Zone: -7	

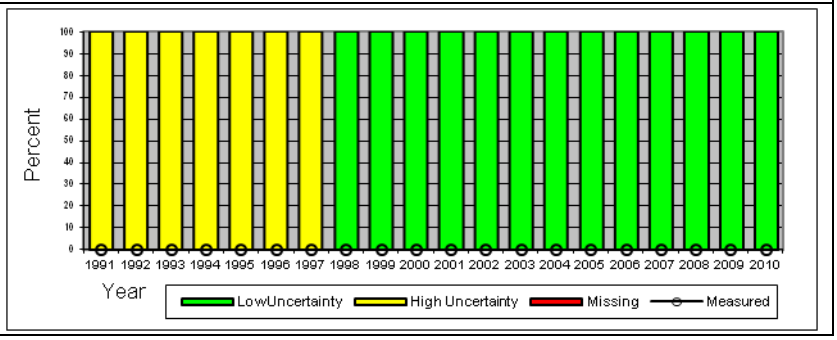
726785	BUTTE BERT MOONEY ARPT, MT
Class II	
Solar Coordinates	
Latitude: 45.95˚	
Longitude: -112.5˚	
Elevation: 1689 m	
Meteorological Coordinates	
Latitude: 45.95˚	
Longitude: -112.5˚	
Elevation: 1689 m	
Time Zone: -7	

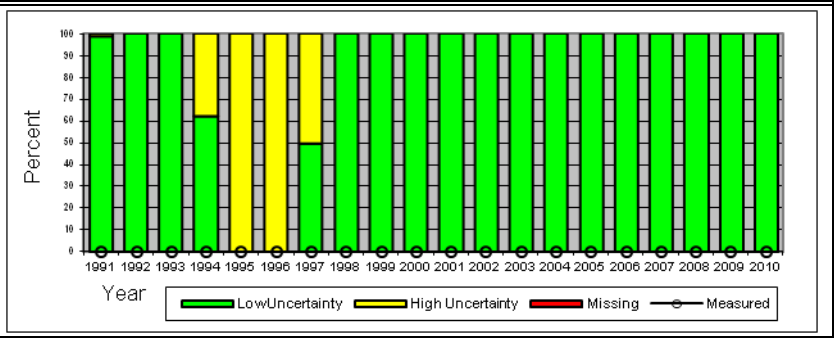
727796	CUT BANK MUNI AP, MT
Class II	
Solar Coordinates	
Latitude: 48.6˚	
Longitude: -112.367˚	
Elevation: 1170 m	
Meteorological Coordinates	
Latitude: 48.6˚	
Longitude: -112.367˚	
Elevation: 1170 m	
Time Zone: -7	

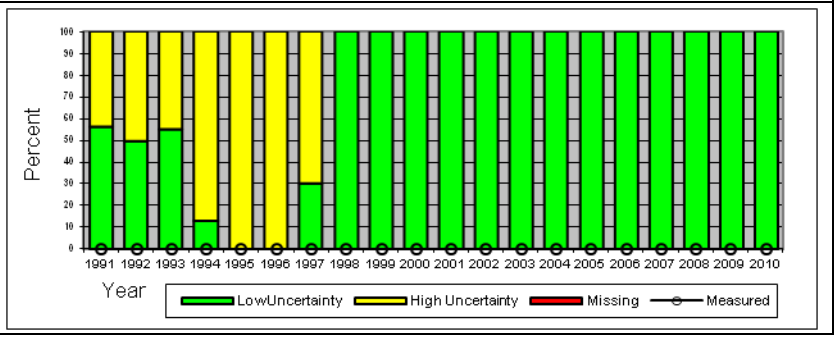
726796	DILLON AIRPORT [UO], MT
Class III (with some measured)	
Solar Coordinates	
Latitude: 45.21˚	
Longitude: -112.64˚	
Elevation: 1590 m	
Meteorological Coordinates	
Latitude: 45.25˚	
Longitude: -112.55˚	
Elevation: 1598 m	
Time Zone: -7	

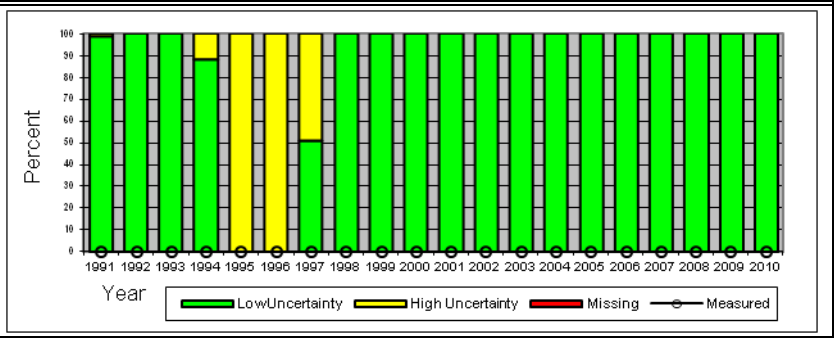
727735	DRUMMOND, MT
Class III	
Solar Coordinates	
Latitude: 46.633˚	
Longitude: -113.183˚	
Elevation: 1219 m	
Meteorological Coordinates	
Latitude: 46.633˚	
Longitude: -113.183˚	
Elevation: 1219 m	
Time Zone: -7	

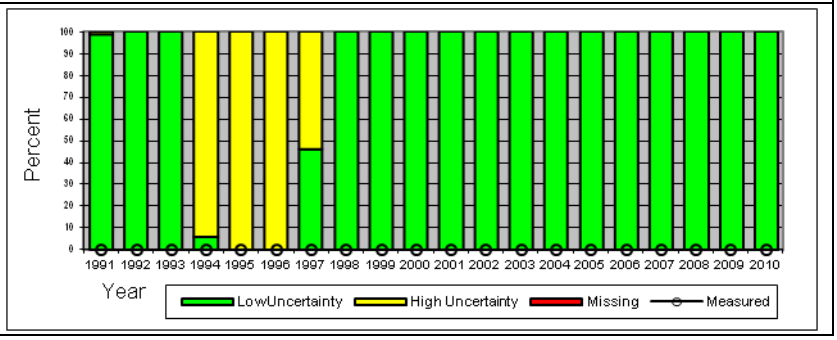
727680	GLASGOW INTL ARPT, MT
Class I	
Solar Coordinates	
Latitude: 48.217˚	
Longitude: -106.617˚	
Elevation: 699 m	
Meteorological Coordinates	
Latitude: 48.217˚	
Longitude: -106.617˚	
Elevation: 699 m	
Time Zone: -7	

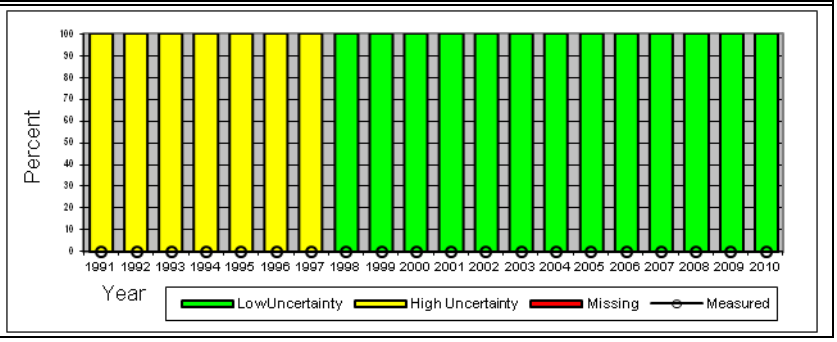
726676	GLENDIVE(AWOS), MT
Class II	
Solar Coordinates	
Latitude: 47.133˚	
Longitude: -104.8˚	
Elevation: 749 m	
Meteorological Coordinates	
Latitude: 47.133˚	
Longitude: -104.8˚	
Elevation: 749 m	
Time Zone: -7	

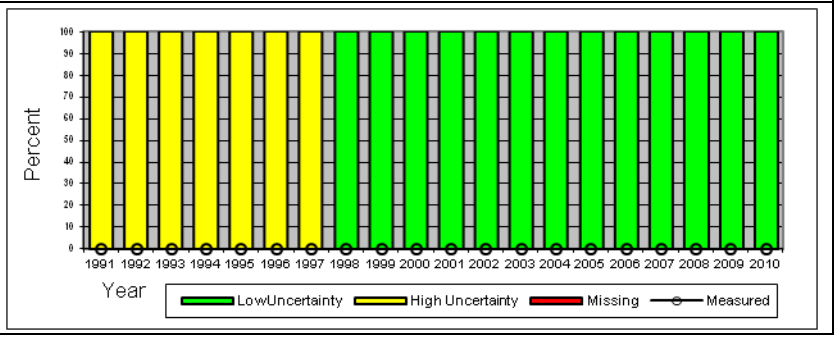
727750	GREAT FALLS INTL ARPT, MT
Class I	
Solar Coordinates	
Latitude: 47.467˚	
Longitude: -111.383˚	
Elevation: 1117 m	
Meteorological Coordinates	
Latitude: 47.467˚	
Longitude: -111.383˚	
Elevation: 1117 m	
Time Zone: -7	

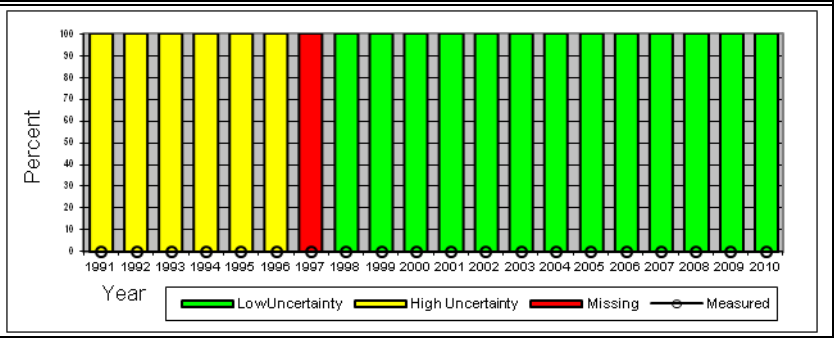
727770	HAVRE CITY-COUNTY AP, MT
Class I	
Solar Coordinates	
Latitude: 48.55˚	
Longitude: -109.767˚	
Elevation: 788 m	
Meteorological Coordinates	
Latitude: 48.55˚	
Longitude: -109.767˚	
Elevation: 788 m	
Time Zone: -7	

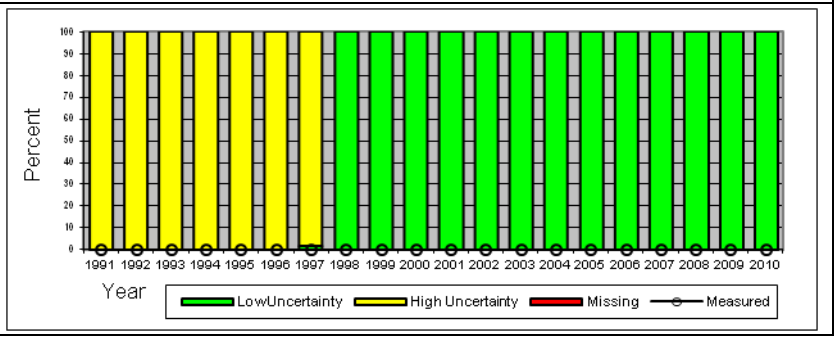
727720	HELENA REGIONAL AIRPORT, MT
Class I	
Solar Coordinates	
Latitude: 46.6˚	
Longitude: -111.967˚	
Elevation: 1167 m	
Meteorological Coordinates	
Latitude: 46.6˚	
Longitude: -111.967˚	
Elevation: 1167 m	
Time Zone: -7	

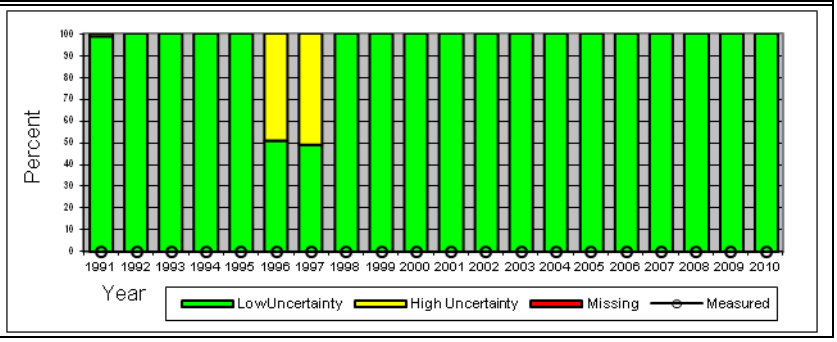
727790	KALISPELL GLACIER PK INT'L AR, MT
Class I	
Solar Coordinates	
Latitude: 48.317˚	
Longitude: -114.25˚	
Elevation: 906 m	
Meteorological Coordinates	
Latitude: 48.317˚	
Longitude: -114.25˚	
Elevation: 906 m	
Time Zone: -7	

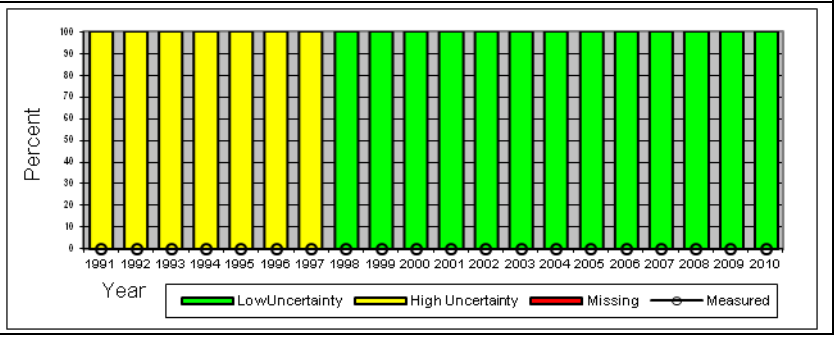
726776	LEWISTOWN MUNICIPAL ARPT, MT
Class II	
Solar Coordinates	
Latitude: 47.05˚	
Longitude: -109.45˚	
Elevation: 1263 m	
Meteorological Coordinates	
Latitude: 47.05˚	
Longitude: -109.45˚	
Elevation: 1263 m	
Time Zone: -7	

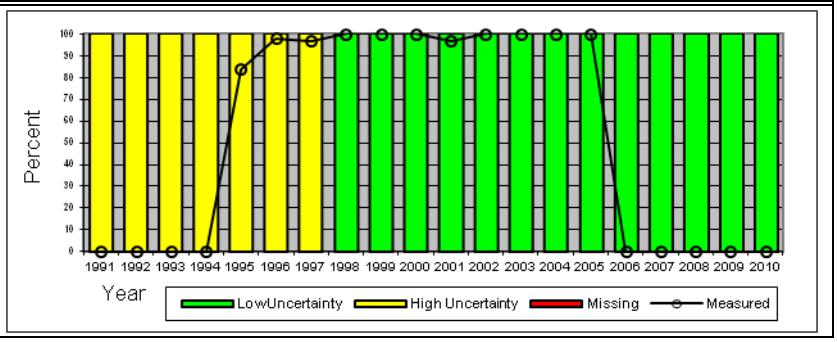
726798	LIVINGSTON MISSION FIELD, MT
Class II	
Solar Coordinates	
Latitude: 45.7˚	
Longitude: -110.45˚	
Elevation: 1418 m	
Meteorological Coordinates	
Latitude: 45.7˚	
Longitude: -110.45˚	
Elevation: 1418 m	
Time Zone: -7	

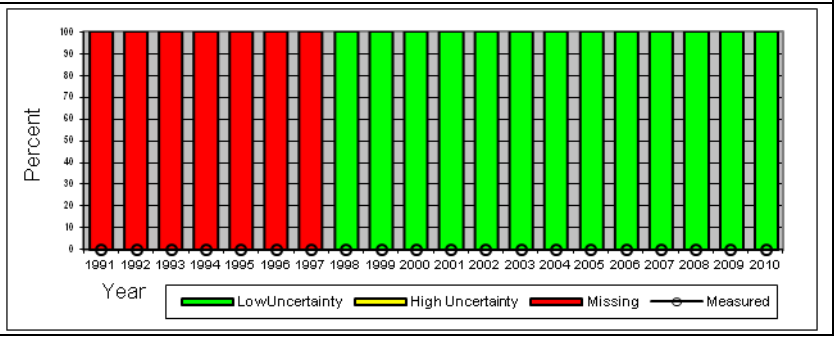
727755	MALMSTROM AFB, MT
Class III	
Solar Coordinates	
Latitude: 47.517˚	
Longitude: -111.183˚	
Elevation: 1056 m	
Meteorological Coordinates	
Latitude: 47.517˚	
Longitude: -111.183˚	
Elevation: 1056 m	
Time Zone: -7	

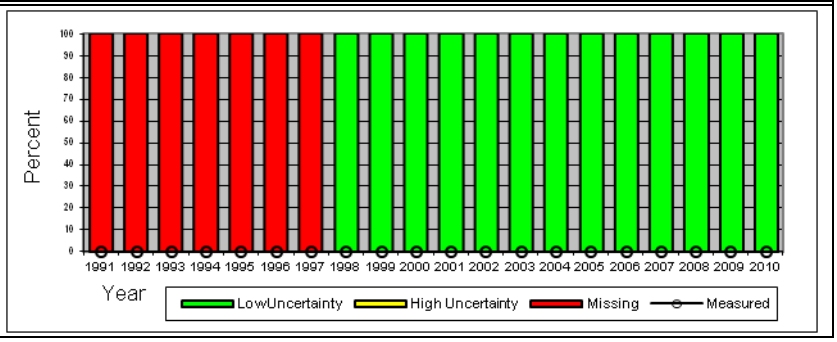
742300	MILES CITY MUNICIPAL ARPT, MT
Class II	
Solar Coordinates	
Latitude: 46.433˚	
Longitude: -105.883˚	
Elevation: 801 m	
Meteorological Coordinates	
Latitude: 46.433˚	
Longitude: -105.883˚	
Elevation: 801 m	
Time Zone: -7	

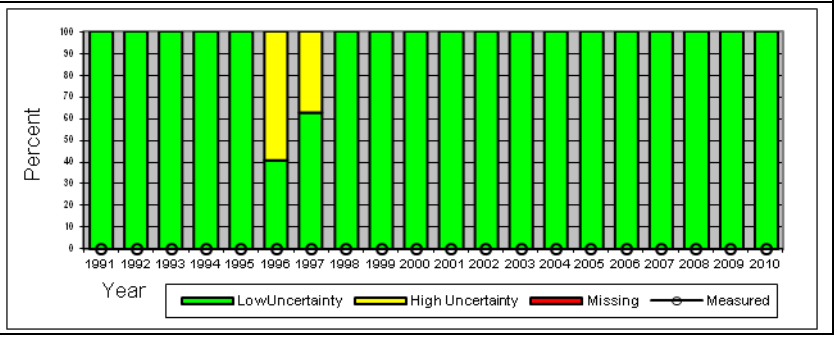
727730	MISSOULA INTERNATIONAL AP, MT
Class I	
Solar Coordinates	
Latitude: 46.917˚	
Longitude: -114.1˚	
Elevation: 973 m	
Meteorological Coordinates	
Latitude: 46.917˚	
Longitude: -114.1˚	
Elevation: 973 m	
Time Zone: -7	

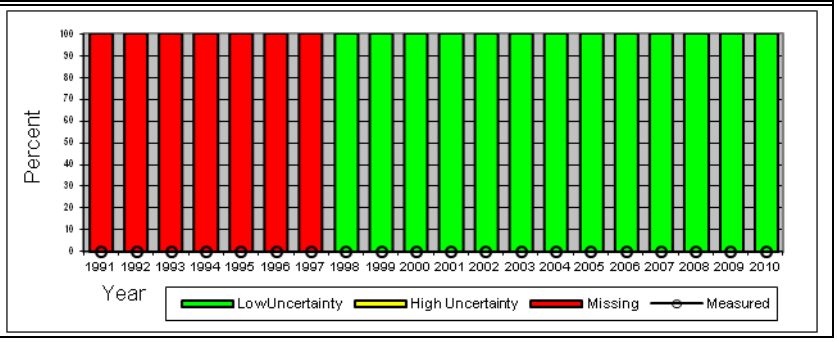
727687	SIDNEY-RICHLAND, MT
Class II	
Solar Coordinates	
Latitude: 47.7˚	
Longitude: -104.2˚	
Elevation: 605 m	
Meteorological Coordinates	
Latitude: 47.7˚	
Longitude: -104.2˚	
Elevation: 605 m	
Time Zone: -7	

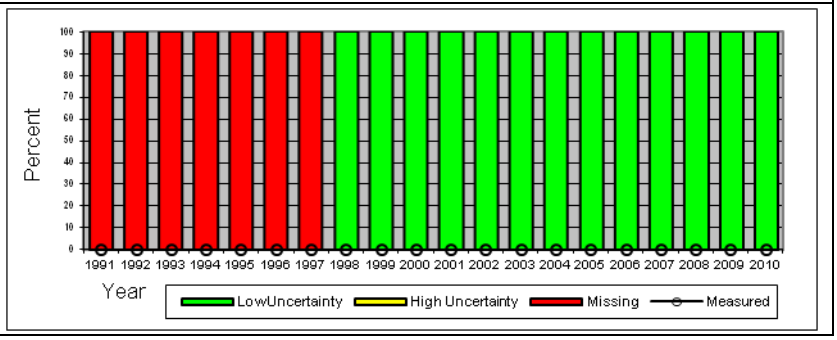
727686	WOLF POINT INTL [FORT PECK - SURFRAD], MT
Class II (with some measured)	
Solar Coordinates	
Latitude: 48.31˚	
Longitude: -105.1˚	
Elevation: 634 m	
Meteorological Coordinates	
Latitude: 48.1˚	
Longitude: -105.583˚	
Elevation: 605 m	
Time Zone: -7	

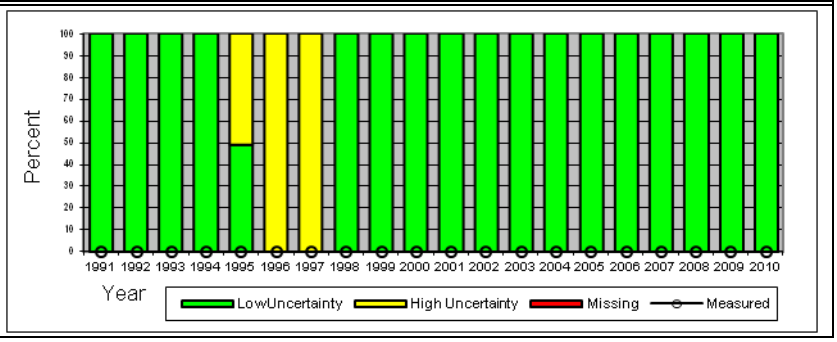
723079	AHOSKIE, NC
Class III	
Solar Coordinates	
Latitude: 36.3˚	
Longitude: -77.167˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 36.3˚	
Longitude: -77.167˚	
Elevation: 21 m	
Time Zone: -5	

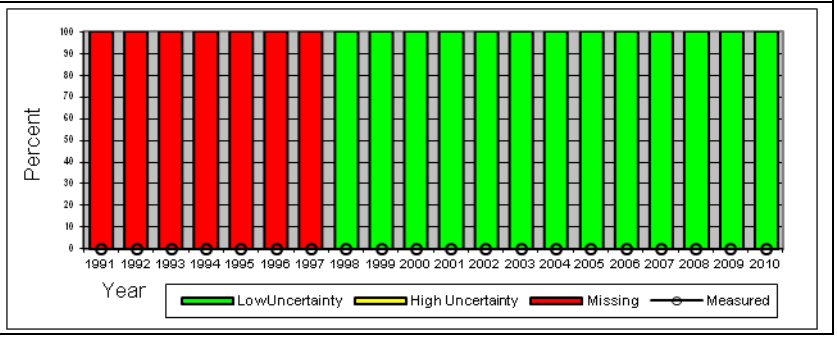
746935	ASHEBORO MUNI, NC
Class III	
Solar Coordinates	
Latitude: 35.65˚	
Longitude: -79.883˚	
Elevation: 205 m	
Meteorological Coordinates	
Latitude: 35.65˚	
Longitude: -79.883˚	
Elevation: 205 m	
Time Zone: -5	

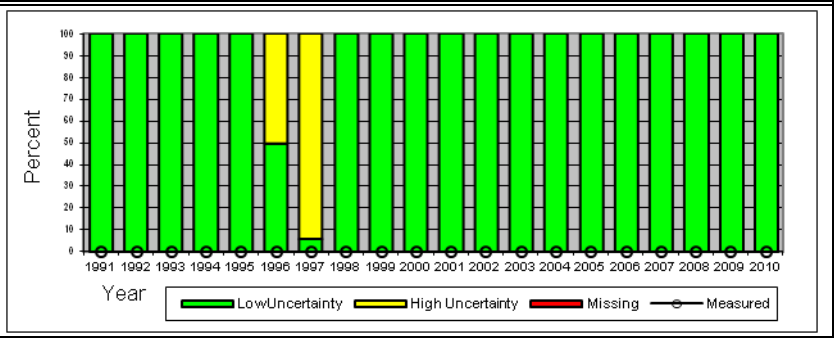
723150	ASHEVILLE REGIONAL ARPT, NC
Class I	
Solar Coordinates	
Latitude: 35.433˚	
Longitude: -82.533˚	
Elevation: 652 m	
Meteorological Coordinates	
Latitude: 35.433˚	
Longitude: -82.533˚	
Elevation: 652 m	
Time Zone: -5	

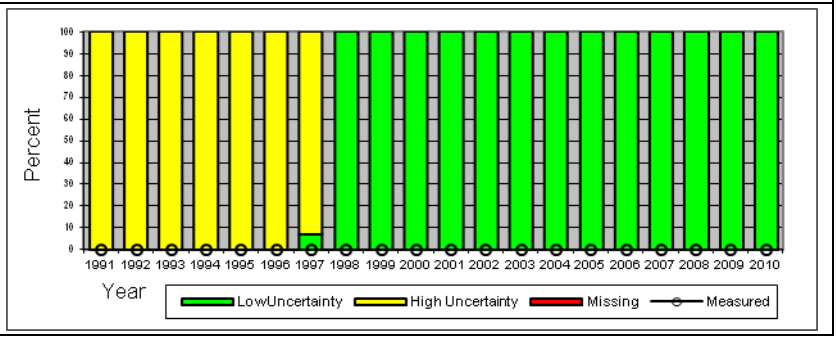
723037	BEAUFORT/SMITH FLD, NC
Class III	
Solar Coordinates	
Latitude: 34.717˚	
Longitude: -76.65˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 34.717˚	
Longitude: -76.65˚	
Elevation: 3 m	
Time Zone: -5	

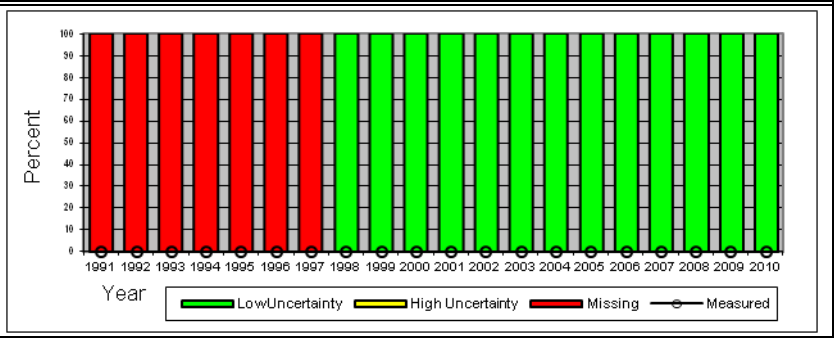
723174	BURLINGTON RGNL ARP, NC
Class III	
Solar Coordinates	
Latitude: 36.05˚	
Longitude: -79.467˚	
Elevation: 188 m	
Meteorological Coordinates	
Latitude: 36.05˚	
Longitude: -79.467˚	
Elevation: 188 m	
Time Zone: -5	

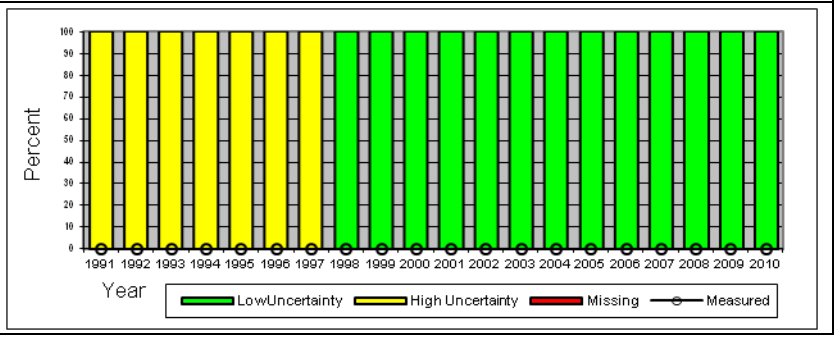
723040	CAPE HATTERAS NWS BLDG, NC
Class III	
Solar Coordinates	
Latitude: 35.267˚	
Longitude: -75.55˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 35.267˚	
Longitude: -75.55˚	
Elevation: 3 m	
Time Zone: -5	

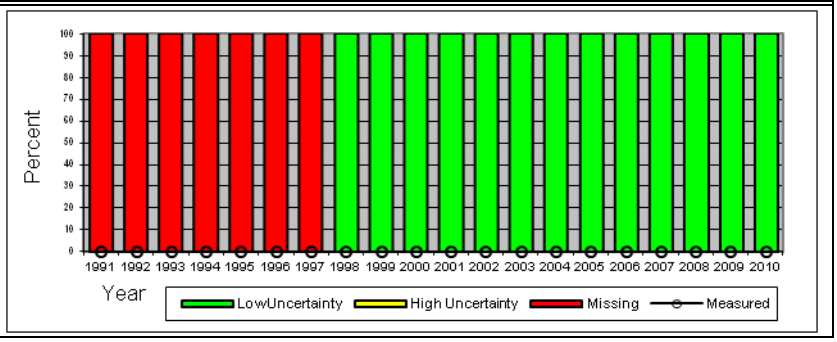
746939	CHAPEL HILL/WILLIAM, NC
Class III	
Solar Coordinates	
Latitude: 35.767˚	
Longitude: -79.05˚	
Elevation: 155 m	
Meteorological Coordinates	
Latitude: 35.767˚	
Longitude: -79.05˚	
Elevation: 155 m	
Time Zone: -5	

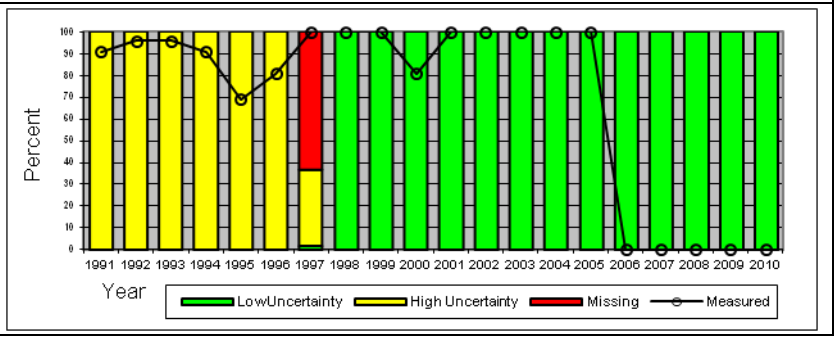
723140	CHARLOTTE DOUGLAS INTL ARPT, NC
Class I	
Solar Coordinates	
Latitude: 35.217˚	
Longitude: -80.95˚	
Elevation: 222 m	
Meteorological Coordinates	
Latitude: 35.217˚	
Longitude: -80.95˚	
Elevation: 222 m	
Time Zone: -5	

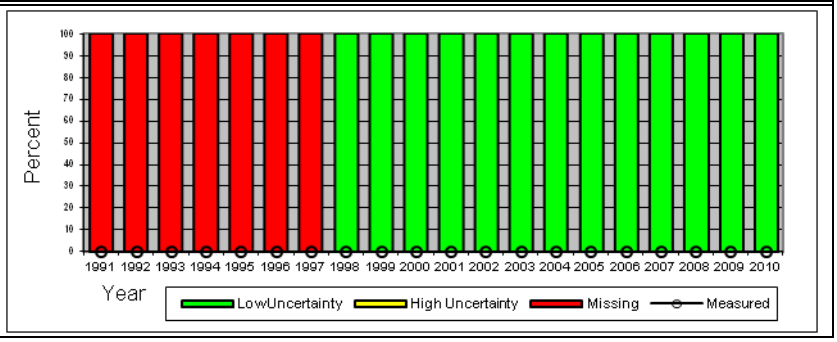
723090	CHERRY POINT MCAS, NC
Class II	
Solar Coordinates	
Latitude: 34.9˚	
Longitude: -76.883˚	
Elevation: 11 m	
Meteorological Coordinates	
Latitude: 34.9˚	
Longitude: -76.883˚	
Elevation: 11 m	
Time Zone: -5	

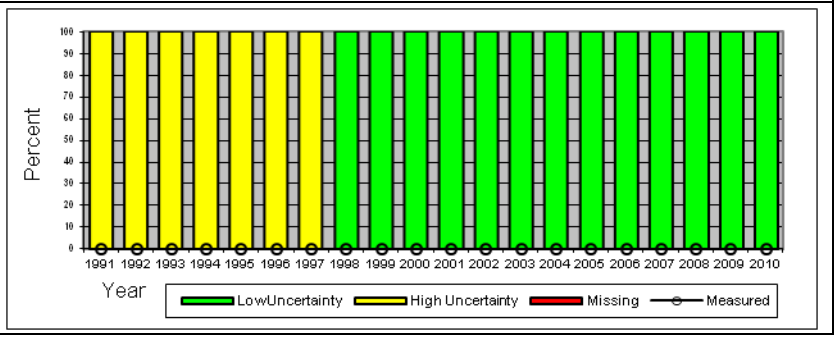
723098	CULPEPER, NC
Class III	
Solar Coordinates	
Latitude: 38.383˚	
Longitude: -77.867˚	
Elevation: 95 m	
Meteorological Coordinates	
Latitude: 38.383˚	
Longitude: -77.867˚	
Elevation: 95 m	
Time Zone: -5	

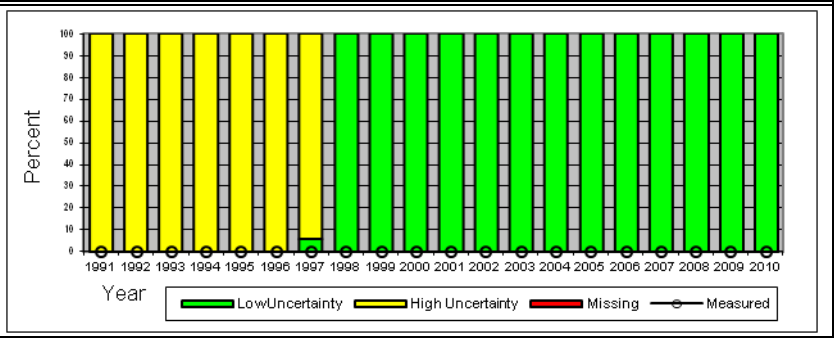
723046	DARE CO RGNL, NC
Class II	
Solar Coordinates	
Latitude: 35.917˚	
Longitude: -75.7˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 35.917˚	
Longitude: -75.7˚	
Elevation: 4 m	
Time Zone: -5	

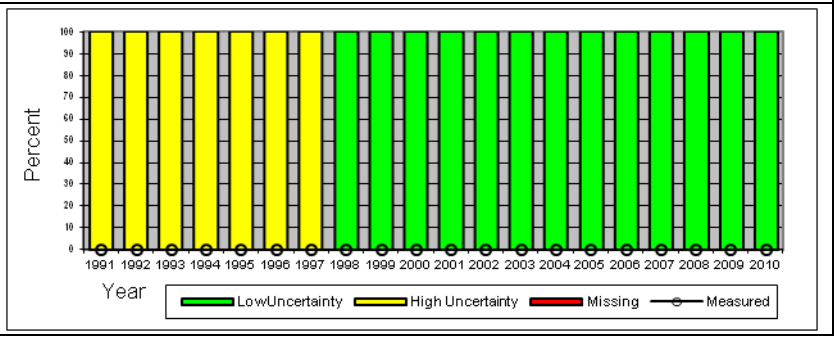
746929	DUPLIN CO ARPT, NC
Class III	
Solar Coordinates	
Latitude: 35.567˚	
Longitude: -77.967˚	
Elevation: 42 m	
Meteorological Coordinates	
Latitude: 35.567˚	
Longitude: -77.967˚	
Elevation: 42 m	
Time Zone: -5	

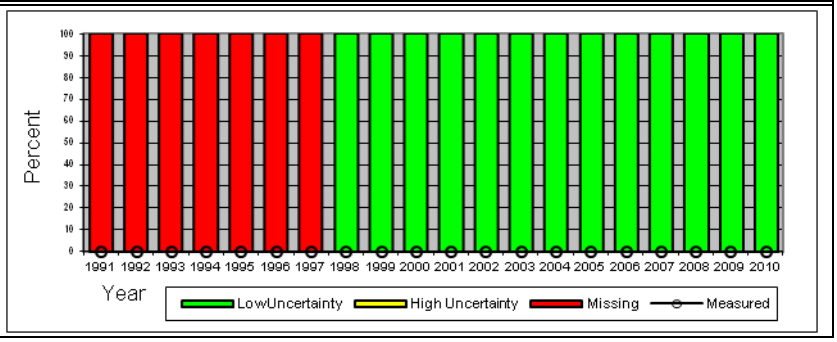
746943	ELIZABETH CITY COAST GUARD AI [NREL], NC
Class III (with some measured)	
Solar Coordinates	
Latitude: 36.3˚	
Longitude: -76.25˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 36.267˚	
Longitude: -76.183˚	
Elevation: 4 m	
Time Zone: -5	

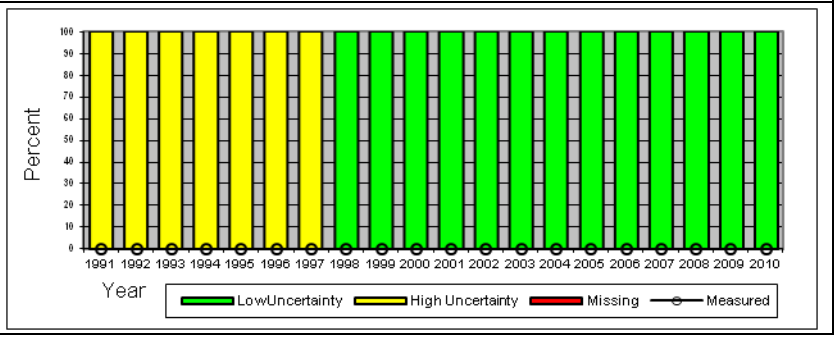
746936	ERWIN/HARNETT ARPT, NC
Class III	
Solar Coordinates	
Latitude: 35.367˚	
Longitude: -78.733˚	
Elevation: 60 m	
Meteorological Coordinates	
Latitude: 35.367˚	
Longitude: -78.733˚	
Elevation: 60 m	
Time Zone: -5	

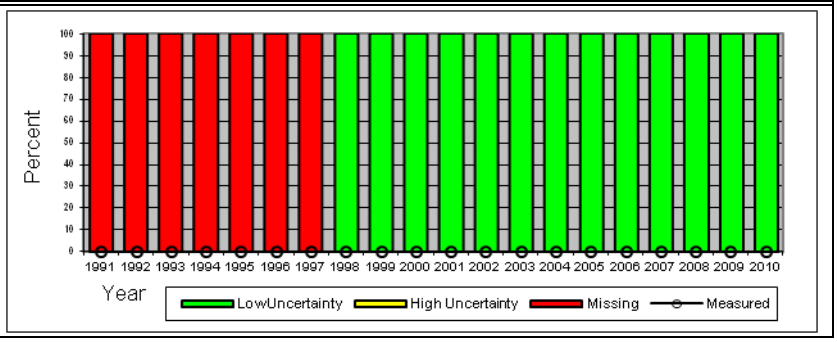
723030	FAYETTEVILLE POPE AFB, NC
Class II	
Solar Coordinates	
Latitude: 35.167˚	
Longitude: -79.017˚	
Elevation: 66 m	
Meteorological Coordinates	
Latitude: 35.167˚	
Longitude: -79.017˚	
Elevation: 66 m	
Time Zone: -5	

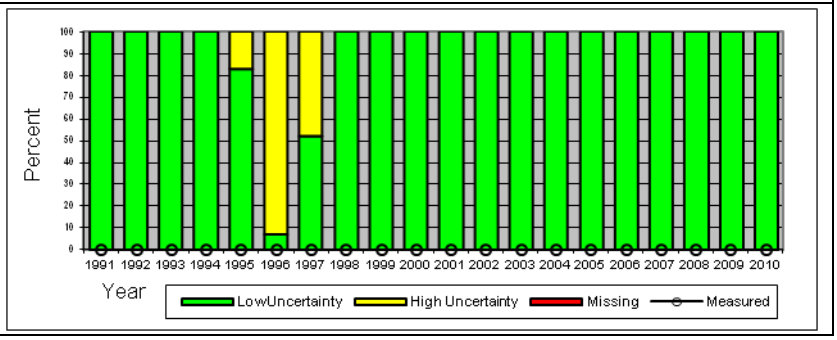
723035	FAYETTEVILLE RGNL G, NC
Class II	
Solar Coordinates	
Latitude: 34.983˚	
Longitude: -78.883˚	
Elevation: 59 m	
Meteorological Coordinates	
Latitude: 34.983˚	
Longitude: -78.883˚	
Elevation: 59 m	
Time Zone: -5	

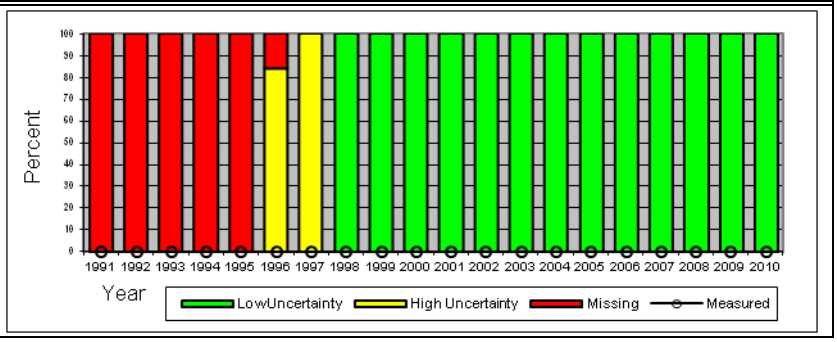
746930	FORT BRAGG SIMMONS AAF, NC
Class II	
Solar Coordinates	
Latitude: 35.133˚	
Longitude: -78.933˚	
Elevation: 93 m	
Meteorological Coordinates	
Latitude: 35.133˚	
Longitude: -78.933˚	
Elevation: 93 m	
Time Zone: -5	

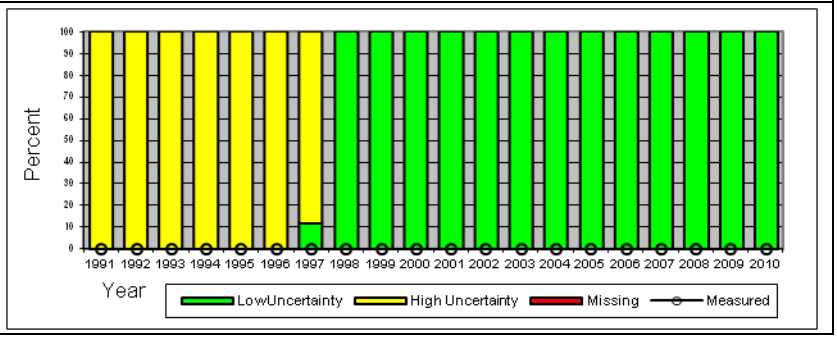
723147	GASTONIA MUNI ARPT, NC
Class III	
Solar Coordinates	
Latitude: 35.183˚	
Longitude: -81.15˚	
Elevation: 243 m	
Meteorological Coordinates	
Latitude: 35.183˚	
Longitude: -81.15˚	
Elevation: 243 m	
Time Zone: -5	

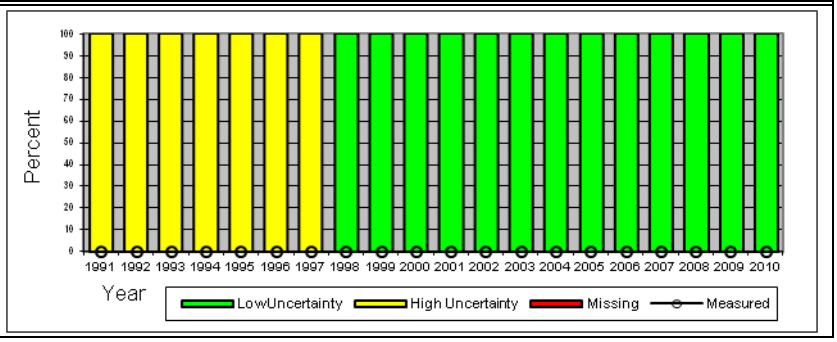
723066	GOLDSBORO SEYMOUR JOHNSON AFB, NC
Class II	
Solar Coordinates	
Latitude: 35.35˚	
Longitude: -77.967˚	
Elevation: 33 m	
Meteorological Coordinates	
Latitude: 35.35˚	
Longitude: -77.967˚	
Elevation: 33 m	
Time Zone: -5	

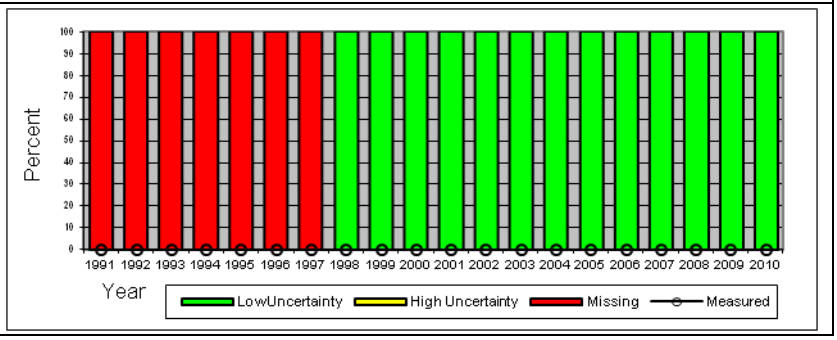
746940	GOLDSBORO/WAYNE, NC
Class III	
Solar Coordinates	
Latitude: 35.467˚	
Longitude: -77.967˚	
Elevation: 41 m	
Meteorological Coordinates	
Latitude: 35.467˚	
Longitude: -77.967˚	
Elevation: 41 m	
Time Zone: -5	

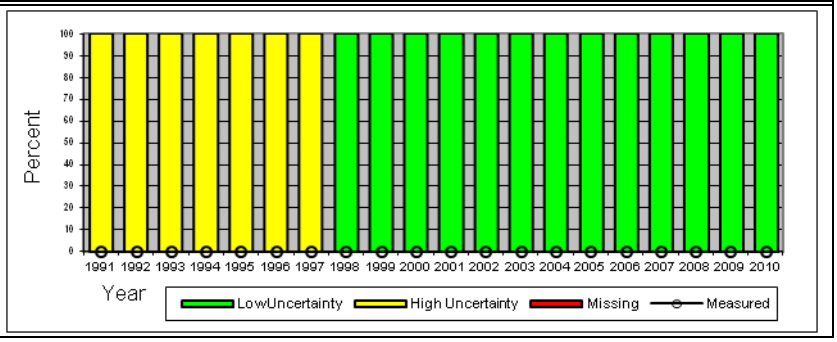
723170	GREENSBORO PIEDMONT TRIAD INT, NC
Class I	
Solar Coordinates	
Latitude: 36.1˚	
Longitude: -79.95˚	
Elevation: 273 m	
Meteorological Coordinates	
Latitude: 36.1˚	
Longitude: -79.95˚	
Elevation: 273 m	
Time Zone: -5	

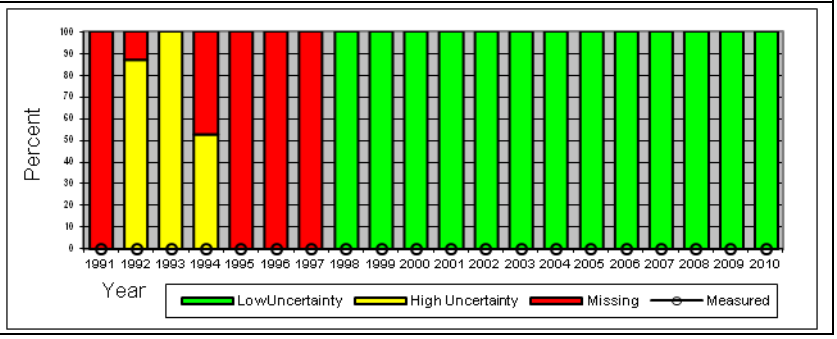
723139	HATTERAS BILLY MITCHELL AP, NC
Class III	
Solar Coordinates	
Latitude: 35.233˚	
Longitude: -75.617˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 35.233˚	
Longitude: -75.617˚	
Elevation: 3 m	
Time Zone: -5	

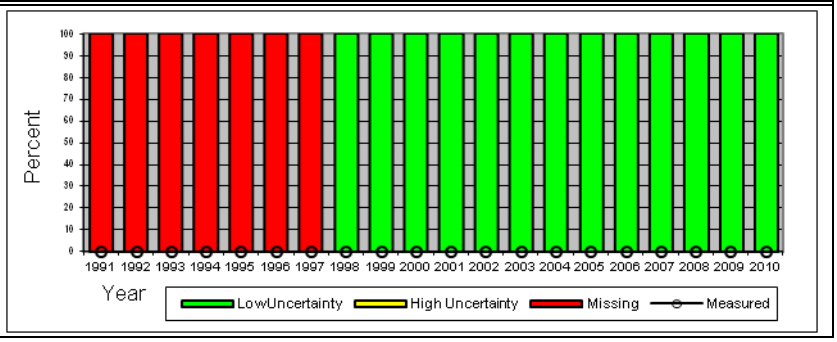
723145	HICKORY REGIONAL AP, NC
Class II	
Solar Coordinates	
Latitude: 35.733˚	
Longitude: -81.383˚	
Elevation: 348 m	
Meteorological Coordinates	
Latitude: 35.733˚	
Longitude: -81.383˚	
Elevation: 348 m	
Time Zone: -5	

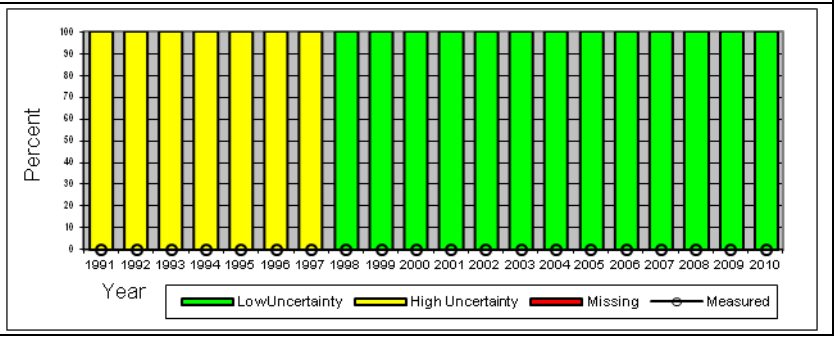
723069	JACKSONVILLE (AWOS), NC
Class II	
Solar Coordinates	
Latitude: 34.833˚	
Longitude: -77.617˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 34.833˚	
Longitude: -77.617˚	
Elevation: 29 m	
Time Zone: -5	

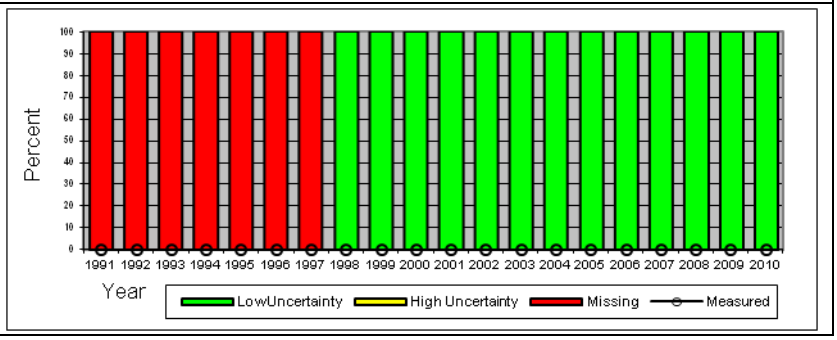
723146	JEFFERSON, NC
Class III	
Solar Coordinates	
Latitude: 36.433˚	
Longitude: -81.417˚	
Elevation: 969 m	
Meteorological Coordinates	
Latitude: 36.433˚	
Longitude: -81.417˚	
Elevation: 969 m	
Time Zone: -5	

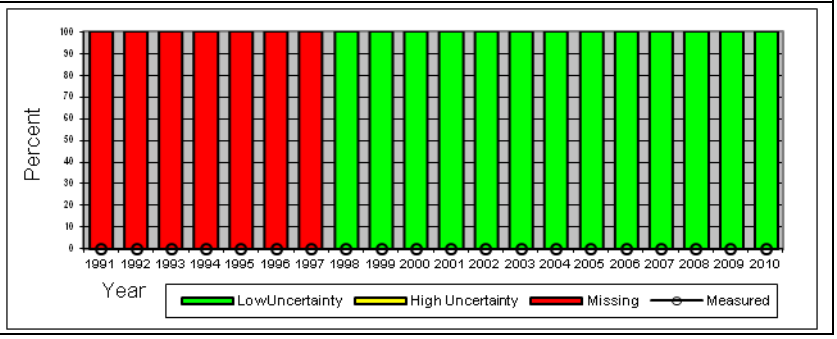
723067	KINSTON STALLINGS AFB, NC
Class II	
Solar Coordinates	
Latitude: 35.317˚	
Longitude: -77.633˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 35.317˚	
Longitude: -77.633˚	
Elevation: 29 m	
Time Zone: -5	

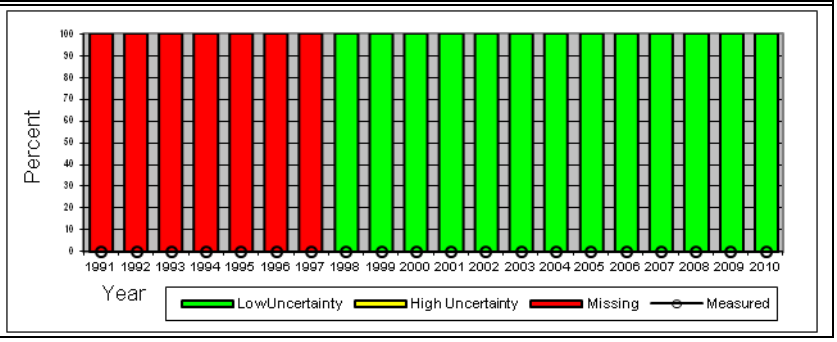
722079	LEXINGTON/DAVIDSON, NC
Class III	
Solar Coordinates	
Latitude: 35.783˚	
Longitude: -80.3˚	
Elevation: 223 m	
Meteorological Coordinates	
Latitude: 35.783˚	
Longitude: -80.3˚	
Elevation: 223 m	
Time Zone: -5	

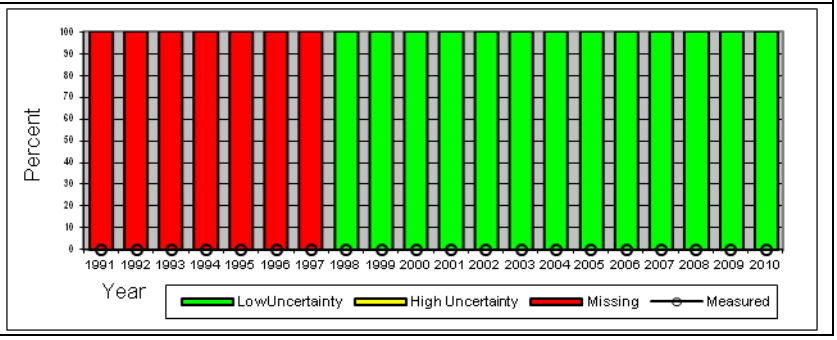
723108	LUMBERTON, NC
Class III	
Solar Coordinates	
Latitude: 34.6˚	
Longitude: -79.067˚	
Elevation: 38 m	
Meteorological Coordinates	
Latitude: 34.6˚	
Longitude: -79.067˚	
Elevation: 38 m	
Time Zone: -5	

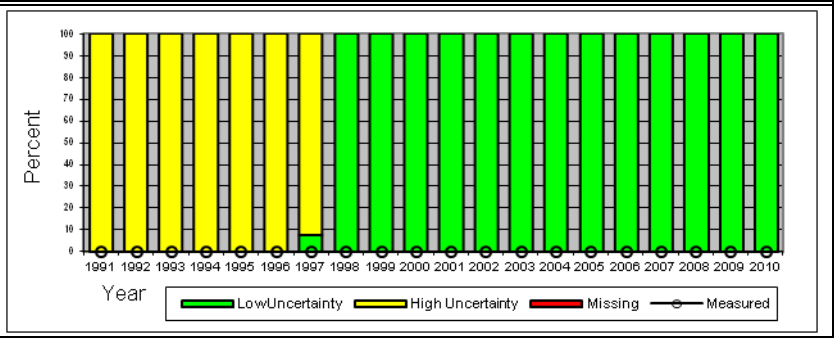
723034	MACKALL AAF, NC
Class II	
Solar Coordinates	
Latitude: 35.033˚	
Longitude: -79.5˚	
Elevation: 115 m	
Meteorological Coordinates	
Latitude: 35.033˚	
Longitude: -79.5˚	
Elevation: 115 m	
Time Zone: -5	

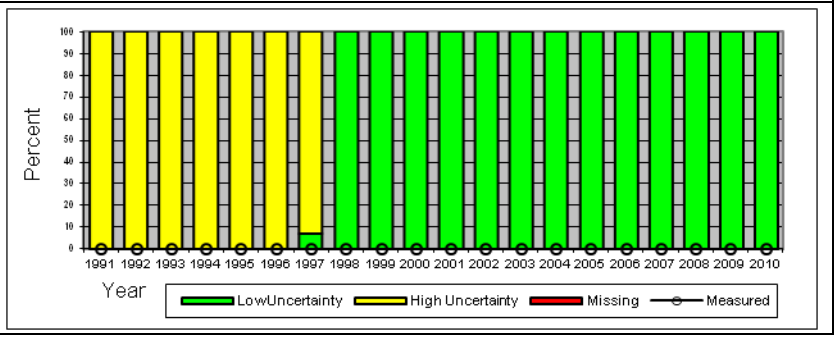
723109	MAXTON, NC
Class III	
Solar Coordinates	
Latitude: 34.783˚	
Longitude: -79.367˚	
Elevation: 67 m	
Meteorological Coordinates	
Latitude: 34.783˚	
Longitude: -79.367˚	
Elevation: 67 m	
Time Zone: -5	

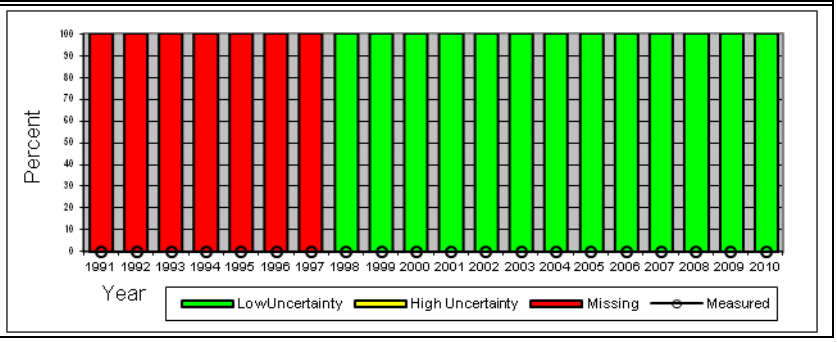
723194	MONROE AIRPORT, NC
Class III	
Solar Coordinates	
Latitude: 35.017˚	
Longitude: -80.617˚	
Elevation: 207 m	
Meteorological Coordinates	
Latitude: 35.017˚	
Longitude: -80.617˚	
Elevation: 207 m	
Time Zone: -5	

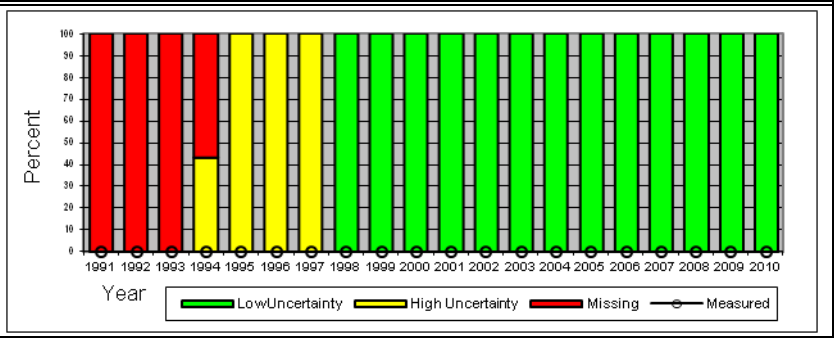
723148	MORGANTON/LENIOR AR, NC
Class III	
Solar Coordinates	
Latitude: 35.817˚	
Longitude: -81.6˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 35.817˚	
Longitude: -81.6˚	
Elevation: 4 m	
Time Zone: -5	

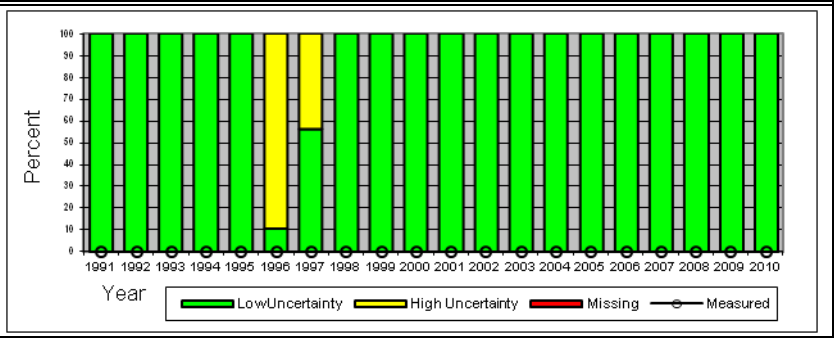
723177	MOUNT AIRY CO ARPT, NC
Class III	
Solar Coordinates	
Latitude: 36.45˚	
Longitude: -80.55˚	
Elevation: 380 m	
Meteorological Coordinates	
Latitude: 36.45˚	
Longitude: -80.55˚	
Elevation: 380 m	
Time Zone: -5	

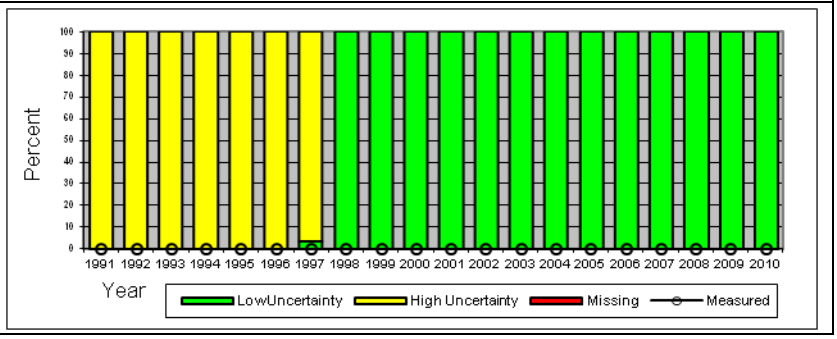
723095	NEW BERN CRAVEN CO REGL AP, NC
Class II	
Solar Coordinates	
Latitude: 35.067˚	
Longitude: -77.05˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 35.067˚	
Longitude: -77.05˚	
Elevation: 5 m	
Time Zone: -5	

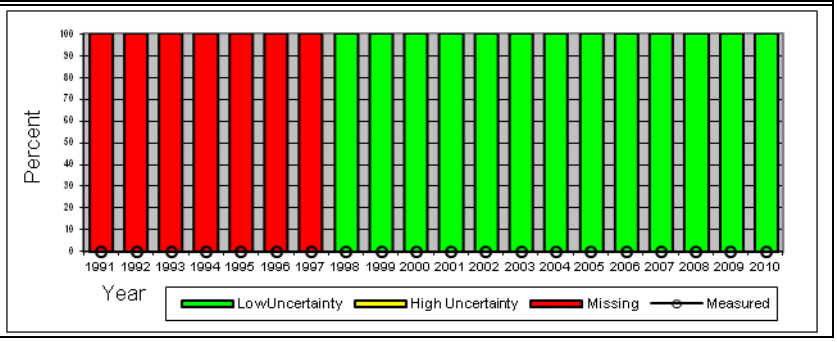
723096	NEW RIVER MCAF, NC
Class II	
Solar Coordinates	
Latitude: 34.7˚	
Longitude: -77.383˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 34.7˚	
Longitude: -77.383˚	
Elevation: 5 m	
Time Zone: -5	

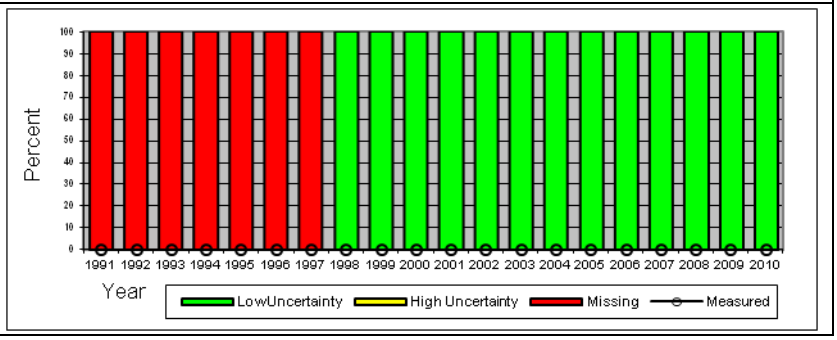
723165	NORTH WILKESBORO, NC
Class III	
Solar Coordinates	
Latitude: 36.217˚	
Longitude: -81.083˚	
Elevation: 396 m	
Meteorological Coordinates	
Latitude: 36.217˚	
Longitude: -81.083˚	
Elevation: 396 m	
Time Zone: -5	

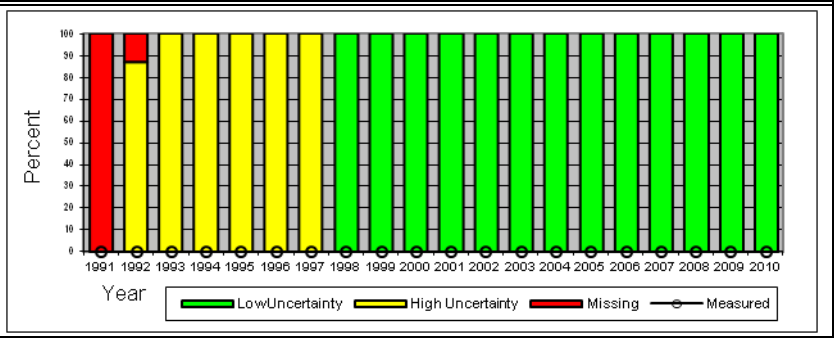
723065	PITT GREENVILLE ARP, NC
Class III	
Solar Coordinates	
Latitude: 35.633˚	
Longitude: -77.4˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 35.633˚	
Longitude: -77.4˚	
Elevation: 8 m	
Time Zone: -5	

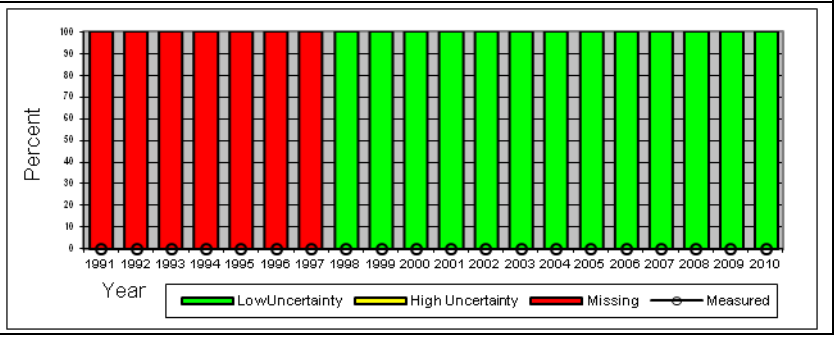
723060	RALEIGH DURHAM INTERNATIONAL, NC
Class I	
Solar Coordinates	
Latitude: 35.867˚	
Longitude: -78.783˚	
Elevation: 127 m	
Meteorological Coordinates	
Latitude: 35.867˚	
Longitude: -78.783˚	
Elevation: 127 m	
Time Zone: -5	

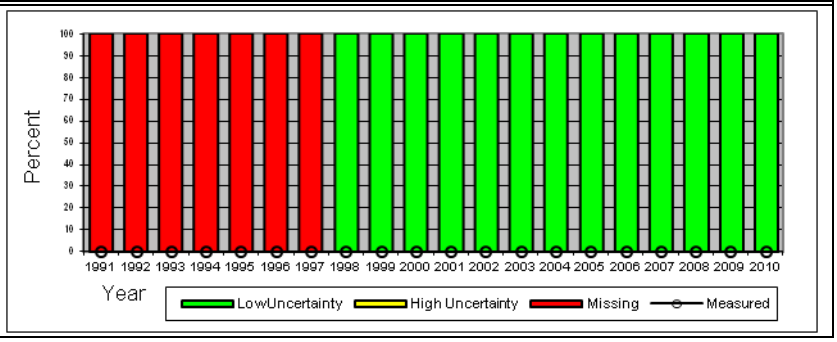
723068	ROCKY MOUNT WILSON, NC
Class II	
Solar Coordinates	
Latitude: 35.85˚	
Longitude: -77.9˚	
Elevation: 50 m	
Meteorological Coordinates	
Latitude: 35.85˚	
Longitude: -77.9˚	
Elevation: 50 m	
Time Zone: -5	

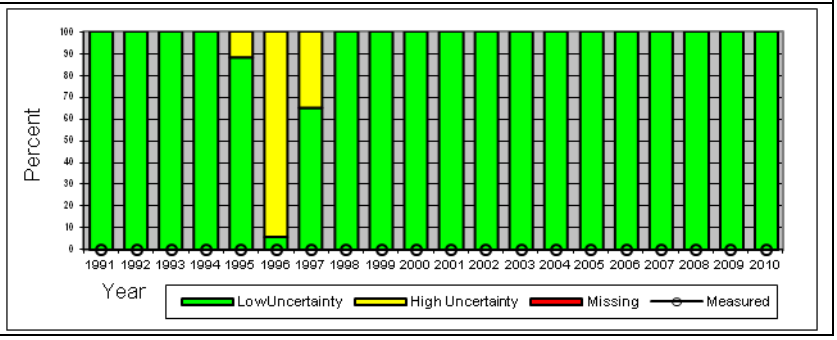
723156	ROWAN COUNTY ARPT, NC
Class III	
Solar Coordinates	
Latitude: 35.65˚	
Longitude: -80.517˚	
Elevation: 236 m	
Meteorological Coordinates	
Latitude: 35.65˚	
Longitude: -80.517˚	
Elevation: 236 m	
Time Zone: -5	

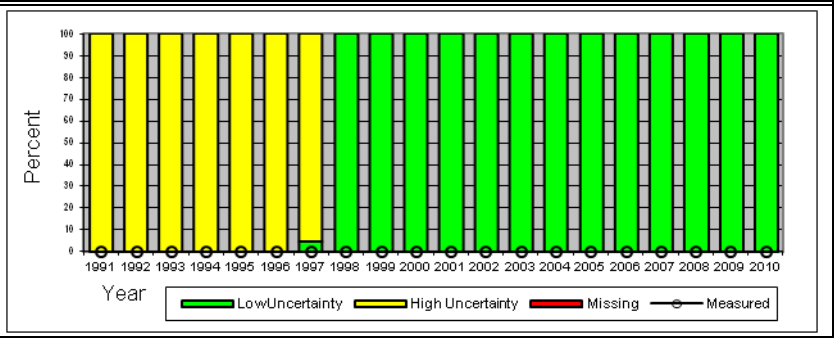
723144	RUTHERFORDTON, NC
Class III	
Solar Coordinates	
Latitude: 35.433˚	
Longitude: -81.933˚	
Elevation: 329 m	
Meteorological Coordinates	
Latitude: 35.433˚	
Longitude: -81.933˚	
Elevation: 329 m	
Time Zone: -5	

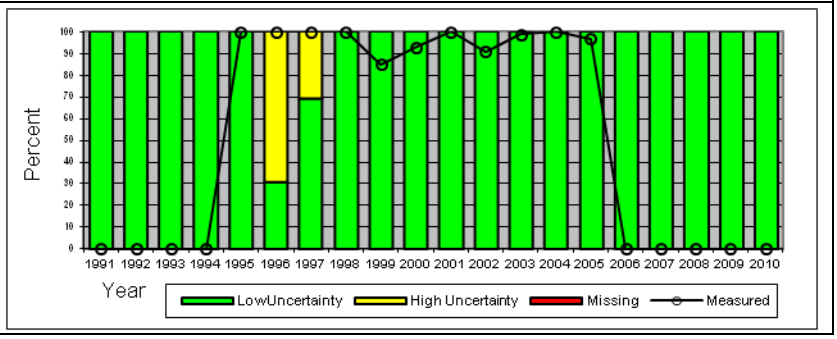
723143	SOUTHERN PINES AWOS, NC
Class III	
Solar Coordinates	
Latitude: 35.233˚	
Longitude: -79.4˚	
Elevation: 141 m	
Meteorological Coordinates	
Latitude: 35.233˚	
Longitude: -79.4˚	
Elevation: 141 m	
Time Zone: -5	

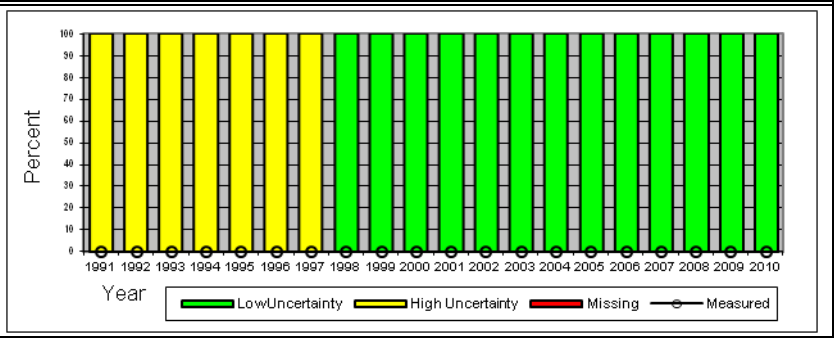
723055	STATESVILLE MUNI AI, NC
Class III	
Solar Coordinates	
Latitude: 35.75˚	
Longitude: -80.95˚	
Elevation: 294 m	
Meteorological Coordinates	
Latitude: 35.75˚	
Longitude: -80.95˚	
Elevation: 294 m	
Time Zone: -5	

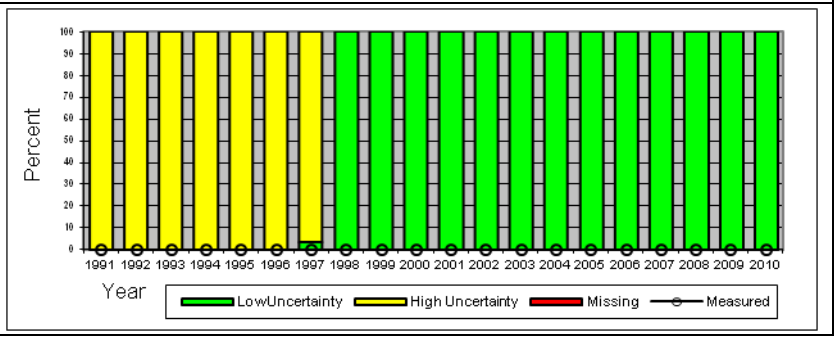
746925	WARREN FIELD ARPT, NC
Class III	
Solar Coordinates	
Latitude: 35.567˚	
Longitude: -77.05˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 35.567˚	
Longitude: -77.05˚	
Elevation: 12 m	
Time Zone: -5	

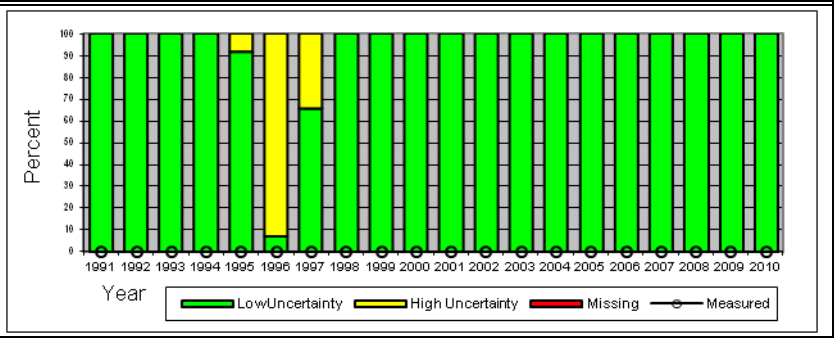
723013	WILMINGTON INTERNATIONAL ARPT, NC
Class I	
Solar Coordinates	
Latitude: 34.267˚	
Longitude: -77.9˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 34.267˚	
Longitude: -77.9˚	
Elevation: 9 m	
Time Zone: -5	

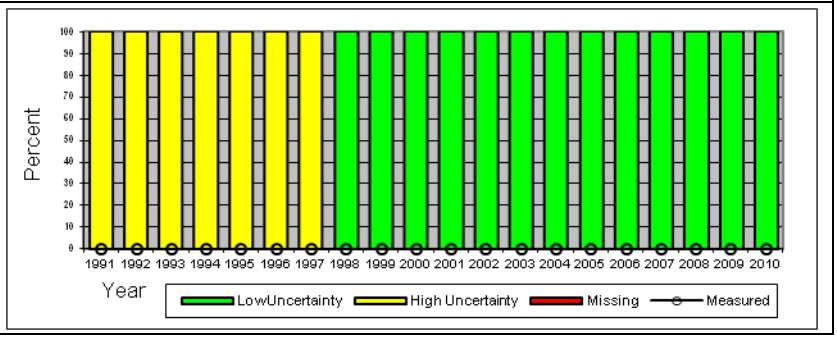
723193	WINSTON-SALEM REYNOLDS AP, NC
Class II	
Solar Coordinates	
Latitude: 36.133˚	
Longitude: -80.217˚	
Elevation: 296 m	
Meteorological Coordinates	
Latitude: 36.133˚	
Longitude: -80.217˚	
Elevation: 296 m	
Time Zone: -5	

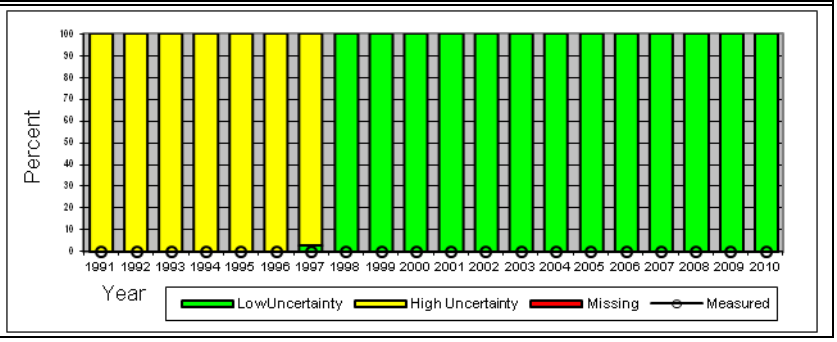
727640	BISMARCK MUNICIPAL ARPT [ISIS], ND
Class I (with some measured)	
Solar Coordinates	
Latitude: 46.77˚	
Longitude: -100.77˚	
Elevation: 502 m	
Meteorological Coordinates	
Latitude: 46.767˚	
Longitude: -100.75˚	
Elevation: 502 m	
Time Zone: -7	

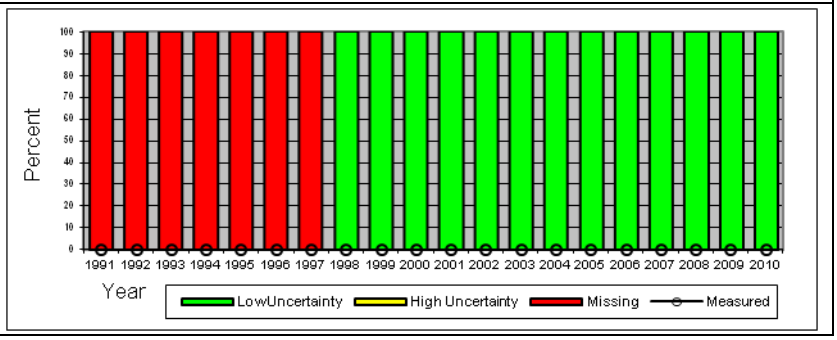
727573	DEVILS LAKE(AWOS), ND
Class II	
Solar Coordinates	
Latitude: 48.117˚	
Longitude: -98.917˚	
Elevation: 443 m	
Meteorological Coordinates	
Latitude: 48.117˚	
Longitude: -98.917˚	
Elevation: 443 m	
Time Zone: -6	

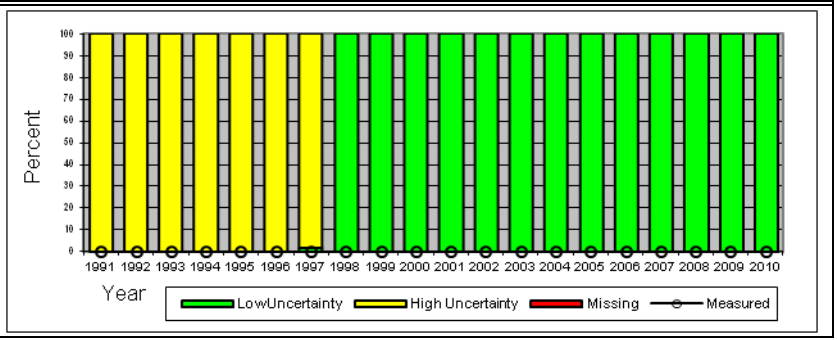
727645	DICKINSON MUNICIPAL AP, ND
Class II	
Solar Coordinates	
Latitude: 46.8˚	
Longitude: -102.8˚	
Elevation: 788 m	
Meteorological Coordinates	
Latitude: 46.8˚	
Longitude: -102.8˚	
Elevation: 788 m	
Time Zone: -7	

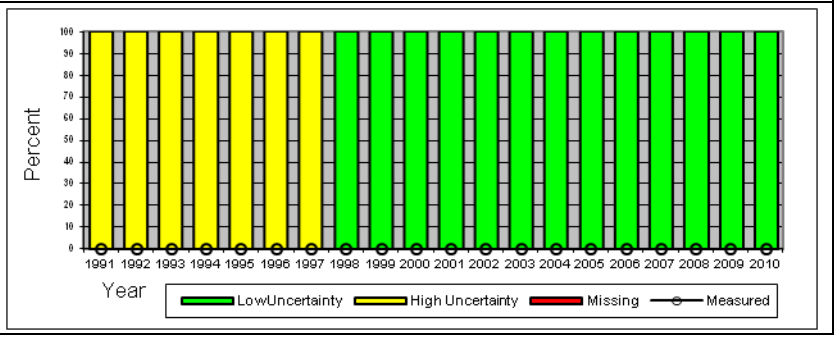
727530	FARGO HECTOR INTERNATIONAL AP, ND
Class I	
Solar Coordinates	
Latitude: 46.933˚	
Longitude: -96.817˚	
Elevation: 274 m	
Meteorological Coordinates	
Latitude: 46.933˚	
Longitude: -96.817˚	
Elevation: 274 m	
Time Zone: -6	

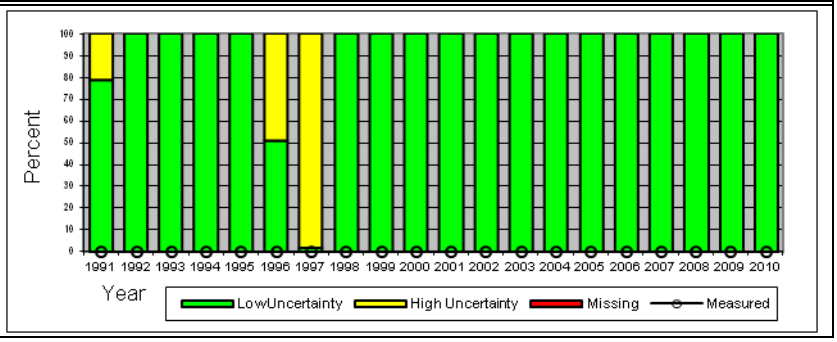
727575	GRAND FORKS AF, ND
Class II	
Solar Coordinates	
Latitude: 47.967˚	
Longitude: -97.4˚	
Elevation: 276 m	
Meteorological Coordinates	
Latitude: 47.967˚	
Longitude: -97.4˚	
Elevation: 276 m	
Time Zone: -6	

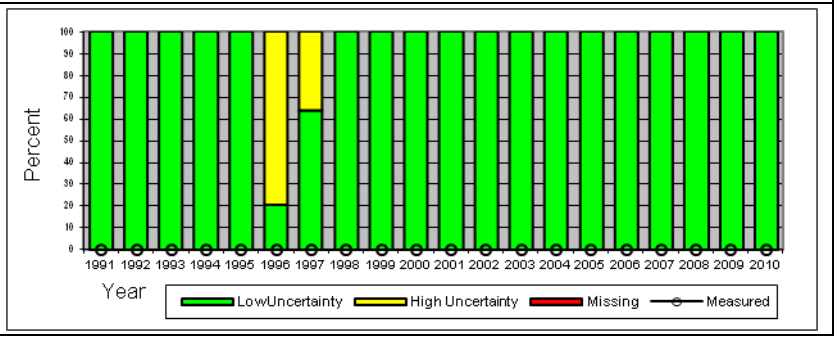
727576	GRAND FORKS INTERNATIONAL AP, ND
Class II	
Solar Coordinates	
Latitude: 47.95˚	
Longitude: -97.183˚	
Elevation: 256 m	
Meteorological Coordinates	
Latitude: 47.95˚	
Longitude: -97.183˚	
Elevation: 256 m	
Time Zone: -6	

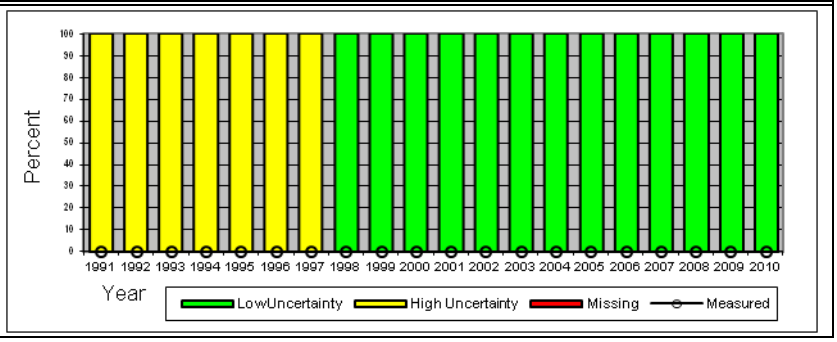
727584	HETTINGER, ND
Class III	
Solar Coordinates	
Latitude: 46.017˚	
Longitude: -102.65˚	
Elevation: 824 m	
Meteorological Coordinates	
Latitude: 46.017˚	
Longitude: -102.65˚	
Elevation: 824 m	
Time Zone: -7	

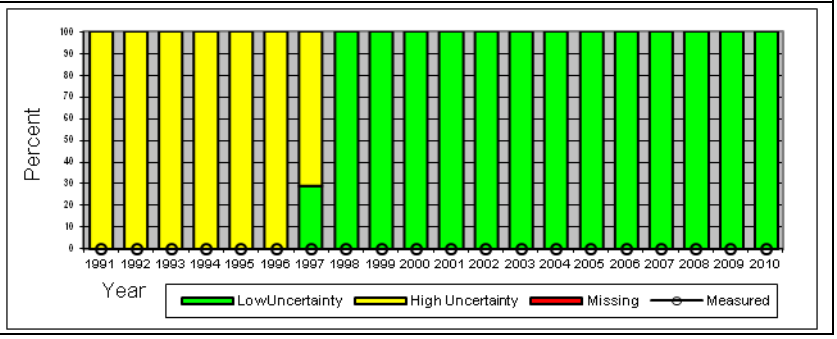
727535	JAMESTOWN MUNICIPAL ARPT, ND
Class II	
Solar Coordinates	
Latitude: 46.917˚	
Longitude: -98.683˚	
Elevation: 455 m	
Meteorological Coordinates	
Latitude: 46.917˚	
Longitude: -98.683˚	
Elevation: 455 m	
Time Zone: -6	

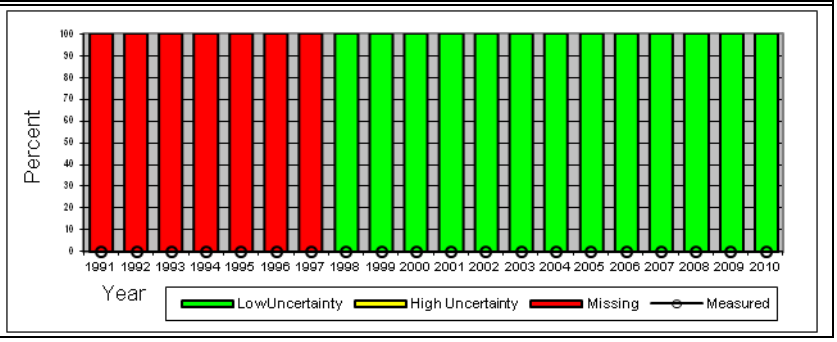
727675	MINOT AFB, ND
Class II	
Solar Coordinates	
Latitude: 48.417˚	
Longitude: -101.35˚	
Elevation: 497 m	
Meteorological Coordinates	
Latitude: 48.417˚	
Longitude: -101.35˚	
Elevation: 497 m	
Time Zone: -6	

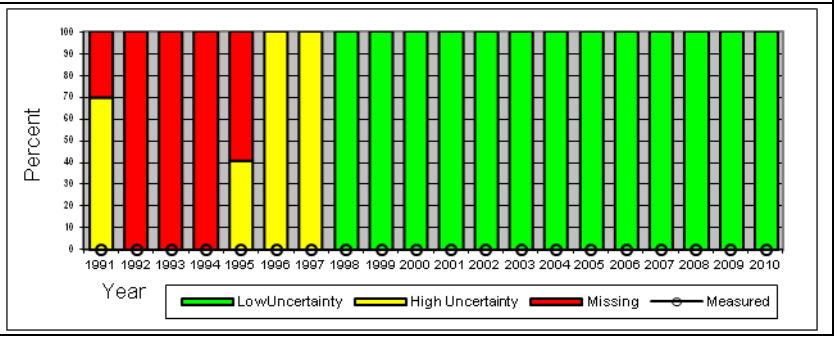
727676	MINOT FAA AP, ND
Class I	
Solar Coordinates	
Latitude: 48.267˚	
Longitude: -101.283˚	
Elevation: 523 m	
Meteorological Coordinates	
Latitude: 48.267˚	
Longitude: -101.283˚	
Elevation: 523 m	
Time Zone: -6	

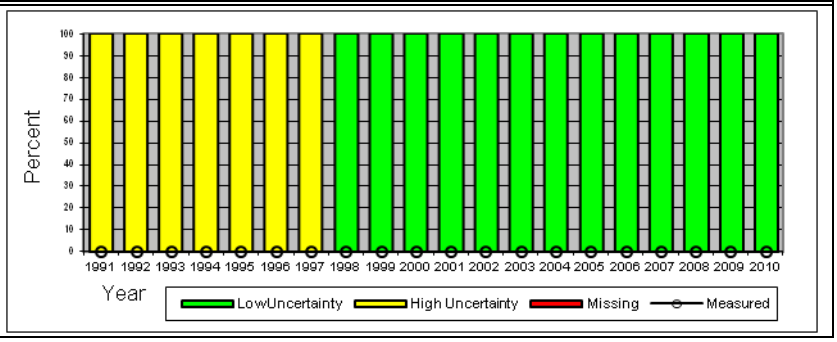
727670	WILLISTON SLOULIN INTL AP, ND
Class I	
Solar Coordinates	
Latitude: 48.2˚	
Longitude: -103.65˚	
Elevation: 580 m	
Meteorological Coordinates	
Latitude: 48.2˚	
Longitude: -103.65˚	
Elevation: 580 m	
Time Zone: -6	

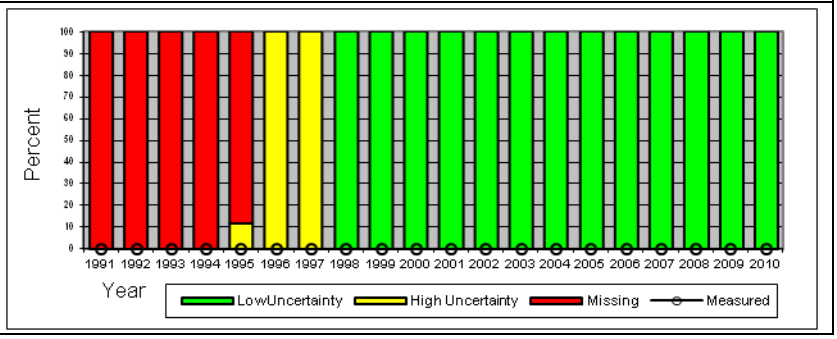
725556	AINSWORTH MUNICIPAL, NE
Class II	
Solar Coordinates	
Latitude: 42.583˚	
Longitude: -100˚	
Elevation: 789 m	
Meteorological Coordinates	
Latitude: 42.583˚	
Longitude: -100˚	
Elevation: 789 m	
Time Zone: -6	

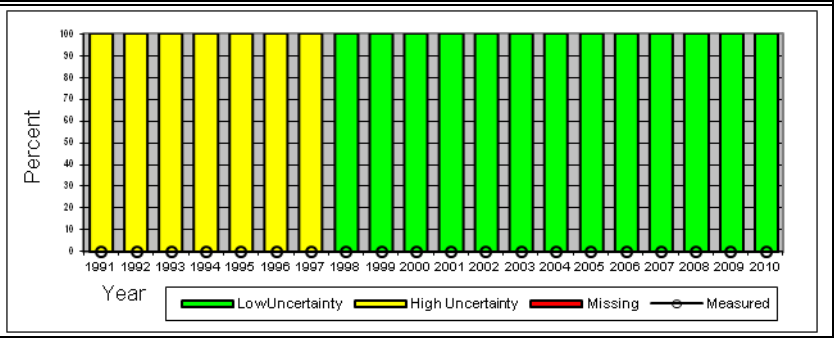
725635	ALLIANCE MUNICIPAL, NE
Class II	
Solar Coordinates	
Latitude: 42.05˚	
Longitude: -102.8˚	
Elevation: 1198 m	
Meteorological Coordinates	
Latitude: 42.05˚	
Longitude: -102.8˚	
Elevation: 1198 m	
Time Zone: -7	

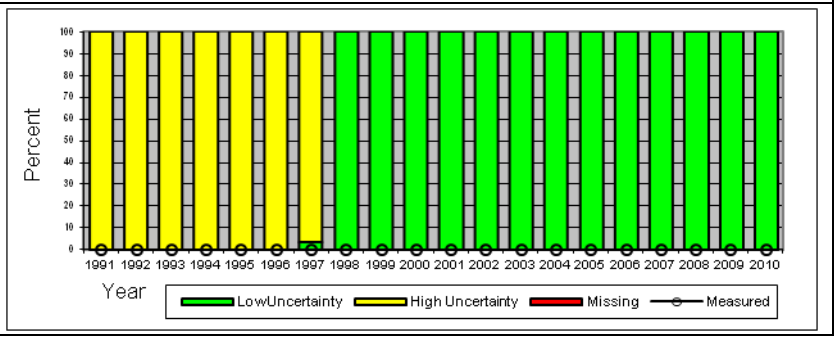
725513	AURORA, NE
Class III	
Solar Coordinates	
Latitude: 40.9˚	
Longitude: -98˚	
Elevation: 548 m	
Meteorological Coordinates	
Latitude: 40.9˚	
Longitude: -98˚	
Elevation: 548 m	
Time Zone: -6	

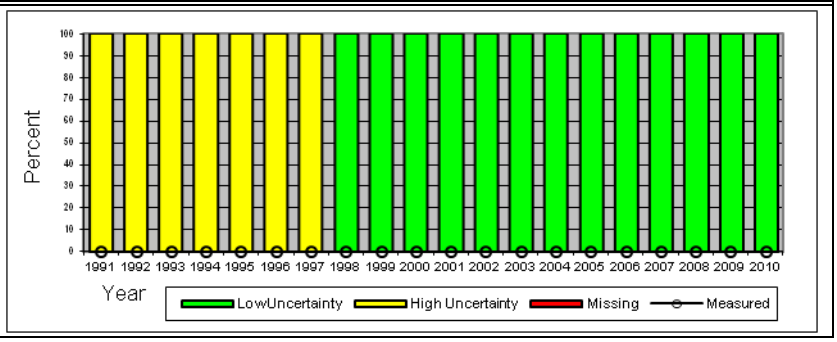
725515	BEATRICE MUNICIPAL, NE
Class III	
Solar Coordinates	
Latitude: 40.3˚	
Longitude: -96.75˚	
Elevation: 403 m	
Meteorological Coordinates	
Latitude: 40.3˚	
Longitude: -96.75˚	
Elevation: 403 m	
Time Zone: -6	

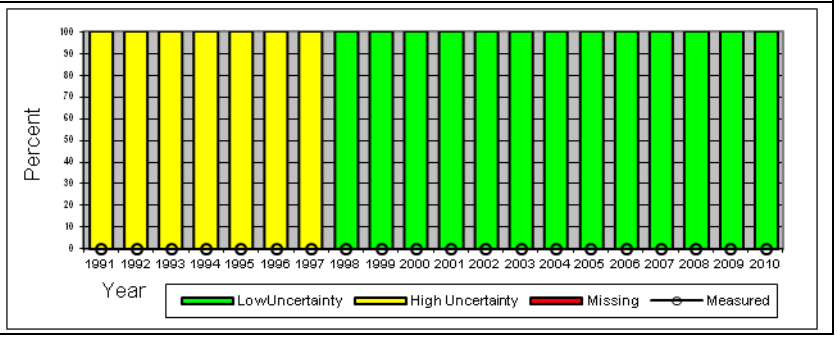
725540	BELLEVUE OFFUTT AFB, NE
Class II	
Solar Coordinates	
Latitude: 41.117˚	
Longitude: -95.917˚	
Elevation: 319 m	
Meteorological Coordinates	
Latitude: 41.117˚	
Longitude: -95.917˚	
Elevation: 319 m	
Time Zone: -6	

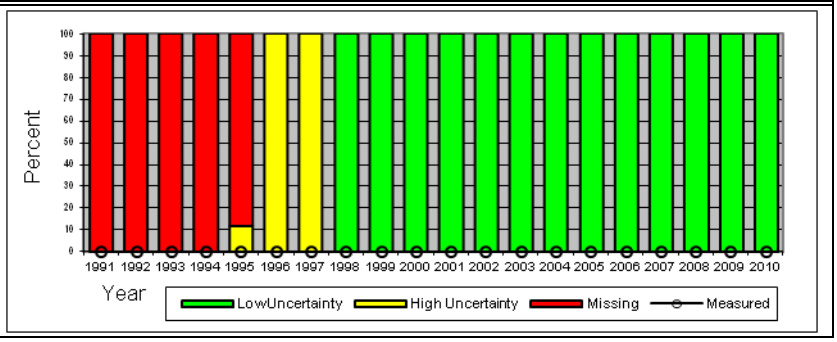
725628	BREWSTER FIELD ARPT, NE
Class III	
Solar Coordinates	
Latitude: 40.45˚	
Longitude: -99.333˚	
Elevation: 704 m	
Meteorological Coordinates	
Latitude: 40.45˚	
Longitude: -99.333˚	
Elevation: 704 m	
Time Zone: -6	

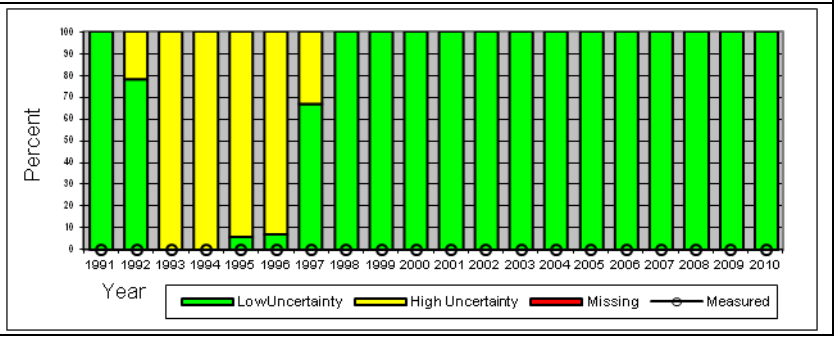
725555	BROKEN BOW MUNI, NE
Class II	
Solar Coordinates	
Latitude: 41.433˚	
Longitude: -99.65˚	
Elevation: 776 m	
Meteorological Coordinates	
Latitude: 41.433˚	
Longitude: -99.65˚	
Elevation: 776 m	
Time Zone: -6	

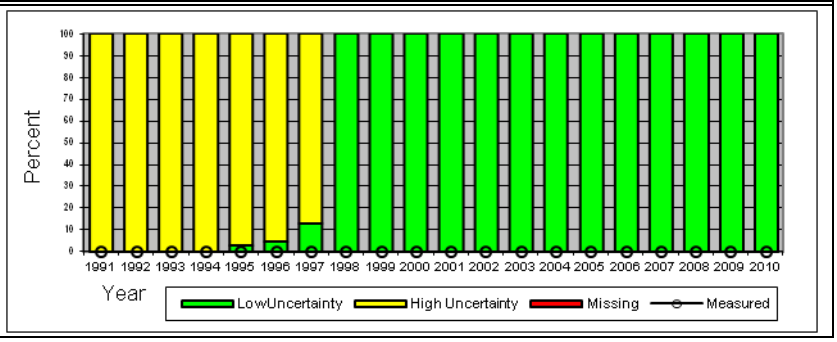
725636	CHADRON MUNICIPAL AP, NE
Class II	
Solar Coordinates	
Latitude: 42.833˚	
Longitude: -103.083˚	
Elevation: 1011 m	
Meteorological Coordinates	
Latitude: 42.833˚	
Longitude: -103.083˚	
Elevation: 1011 m	
Time Zone: -7	

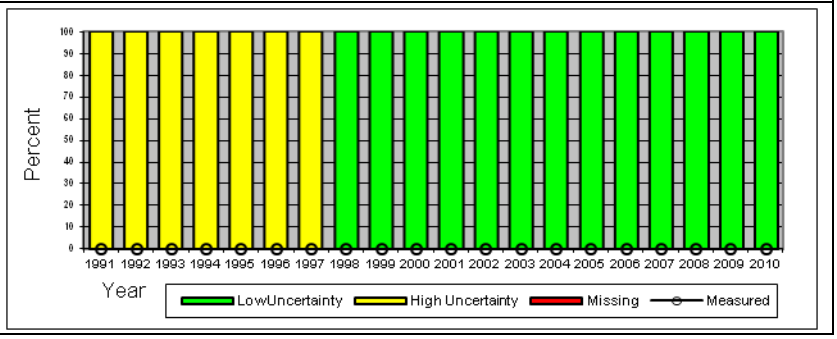
725565	COLUMBUS MUNI, NE
Class II	
Solar Coordinates	
Latitude: 41.45˚	
Longitude: -97.333˚	
Elevation: 451 m	
Meteorological Coordinates	
Latitude: 41.45˚	
Longitude: -97.333˚	
Elevation: 451 m	
Time Zone: -6	

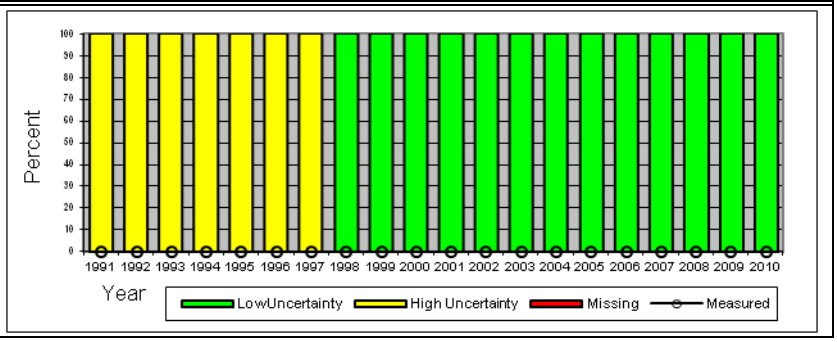
725533	FALLS CITY/BRENNER, NE
Class II	
Solar Coordinates	
Latitude: 40.083˚	
Longitude: -95.6˚	
Elevation: 300 m	
Meteorological Coordinates	
Latitude: 40.083˚	
Longitude: -95.6˚	
Elevation: 300 m	
Time Zone: -6	

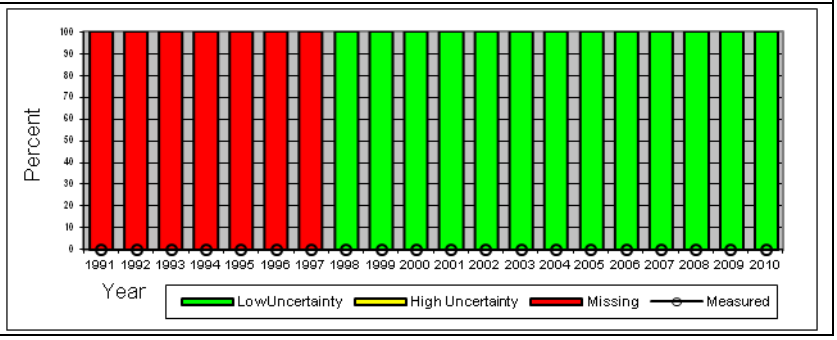
725564	FREMONT MUNI ARPT, NE
Class III	
Solar Coordinates	
Latitude: 41.45˚	
Longitude: -96.517˚	
Elevation: 379 m	
Meteorological Coordinates	
Latitude: 41.45˚	
Longitude: -96.517˚	
Elevation: 379 m	
Time Zone: -6	

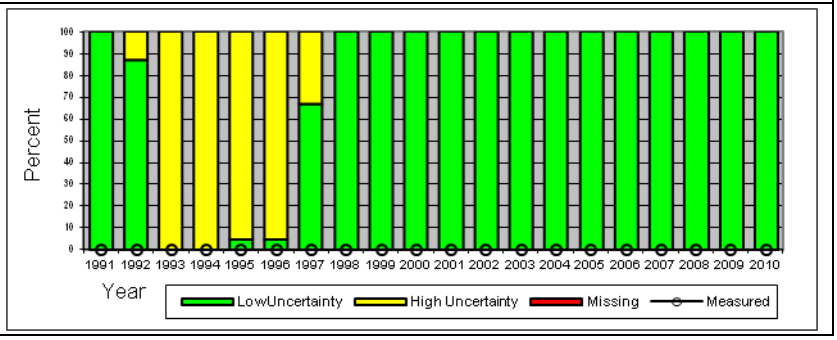
725520	GRAND ISLAND CENTRAL NE REGIO, NE
Class I	
Solar Coordinates	
Latitude: 40.967˚	
Longitude: -98.317˚	
Elevation: 561 m	
Meteorological Coordinates	
Latitude: 40.967˚	
Longitude: -98.317˚	
Elevation: 561 m	
Time Zone: -6	

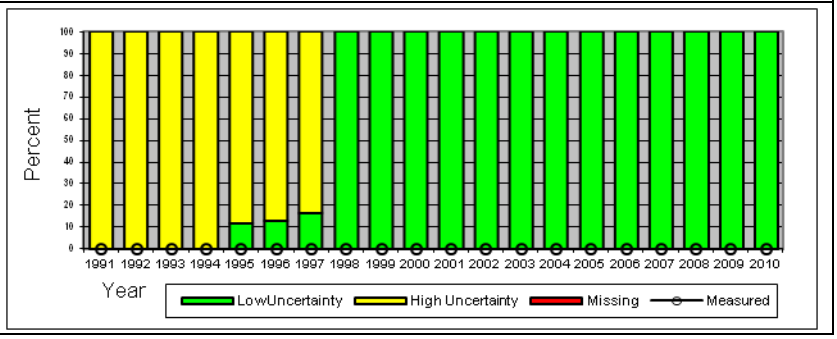
725525	HASTINGS MUNICIPAL, NE
Class II	
Solar Coordinates	
Latitude: 40.6˚	
Longitude: -98.433˚	
Elevation: 596 m	
Meteorological Coordinates	
Latitude: 40.6˚	
Longitude: -98.433˚	
Elevation: 596 m	
Time Zone: -6	

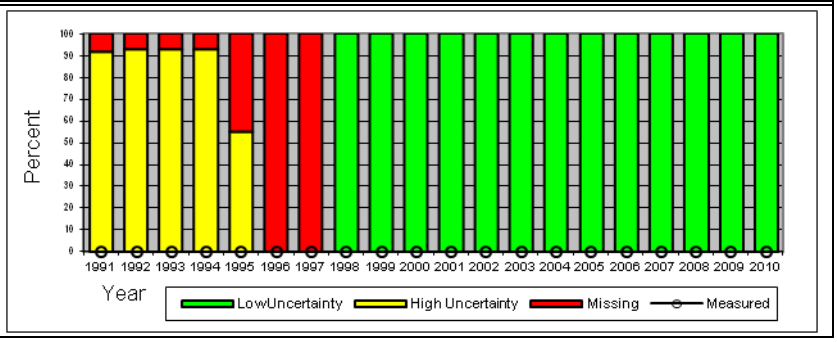
725626	IMPERIAL FAA AP, NE
Class II	
Solar Coordinates	
Latitude: 40.517˚	
Longitude: -101.617˚	
Elevation: 998 m	
Meteorological Coordinates	
Latitude: 40.517˚	
Longitude: -101.617˚	
Elevation: 998 m	
Time Zone: -7	

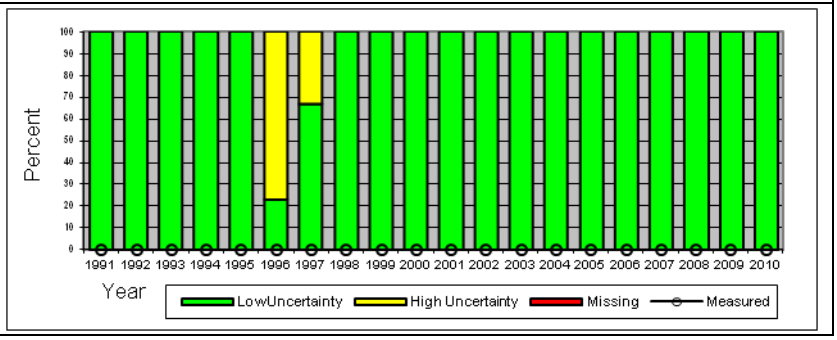
725526	KEARNEY MUNI (AWOS), NE
Class II	
Solar Coordinates	
Latitude: 40.733˚	
Longitude: -99˚	
Elevation: 649 m	
Meteorological Coordinates	
Latitude: 40.733˚	
Longitude: -99˚	
Elevation: 649 m	
Time Zone: -6	

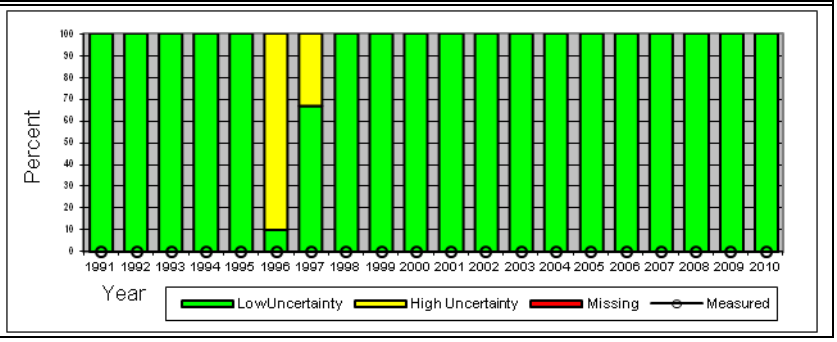
725665	KIMBALL MUNI APT, NE
Class III	
Solar Coordinates	
Latitude: 41.183˚	
Longitude: -103.683˚	
Elevation: 1501 m	
Meteorological Coordinates	
Latitude: 41.183˚	
Longitude: -103.683˚	
Elevation: 1501 m	
Time Zone: -7	

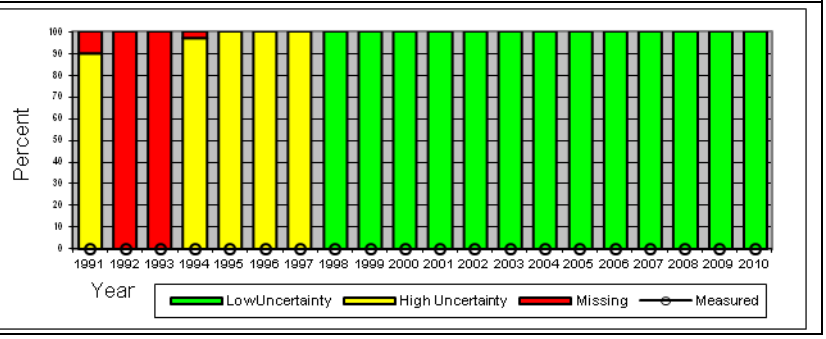
725510	LINCOLN MUNICIPAL ARPT, NE
Class I	
Solar Coordinates	
Latitude: 40.833˚	
Longitude: -96.767˚	
Elevation: 357 m	
Meteorological Coordinates	
Latitude: 40.833˚	
Longitude: -96.767˚	
Elevation: 357 m	
Time Zone: -6	

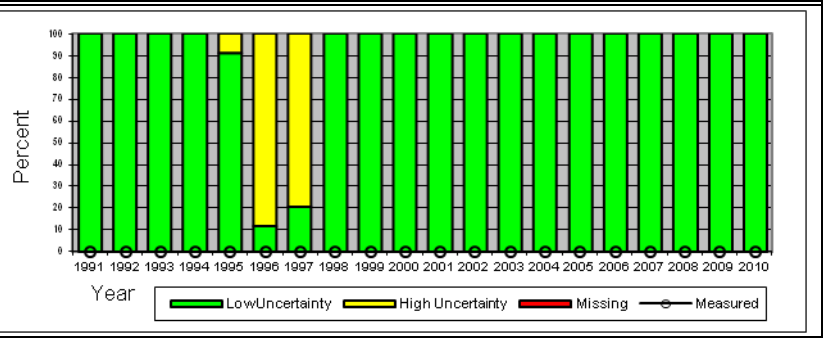
725625	MCCOOK MUNICIPAL, NE
Class II	
Solar Coordinates	
Latitude: 40.2˚	
Longitude: -100.583˚	
Elevation: 786 m	
Meteorological Coordinates	
Latitude: 40.2˚	
Longitude: -100.583˚	
Elevation: 786 m	
Time Zone: -6	

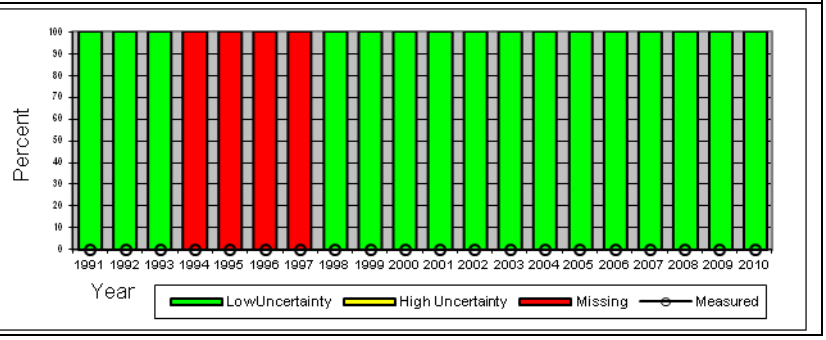
725627	MULLEN/HOOKER CO., NE
Class III	
Solar Coordinates	
Latitude: 42.05˚	
Longitude: -101.067˚	
Elevation: 994 m	
Meteorological Coordinates	
Latitude: 42.05˚	
Longitude: -101.067˚	
Elevation: 994 m	
Time Zone: -7	

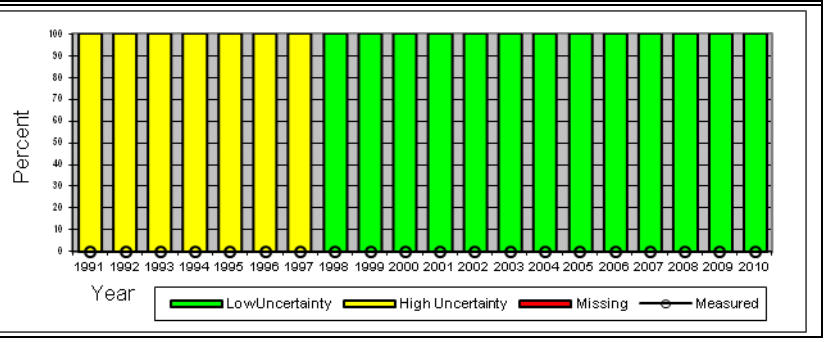
725560	NORFOLK KARL STEFAN MEM ARPT, NE
Class I	
Solar Coordinates	
Latitude: 41.983˚	
Longitude: -97.433˚	
Elevation: 472 m	
Meteorological Coordinates	
Latitude: 41.983˚	
Longitude: -97.433˚	
Elevation: 472 m	
Time Zone: -6	

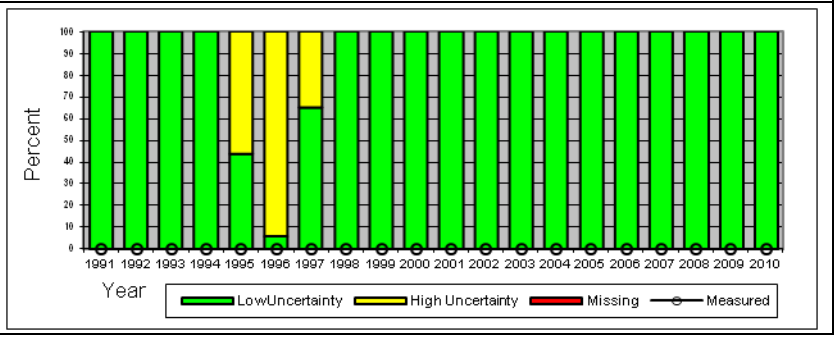
725620	NORTH PLATTE REGIONAL AP, NE
Class I	
Solar Coordinates	
Latitude: 41.117˚	
Longitude: -100.667˚	
Elevation: 847 m	
Meteorological Coordinates	
Latitude: 41.117˚	
Longitude: -100.667˚	
Elevation: 847 m	
Time Zone: -6	

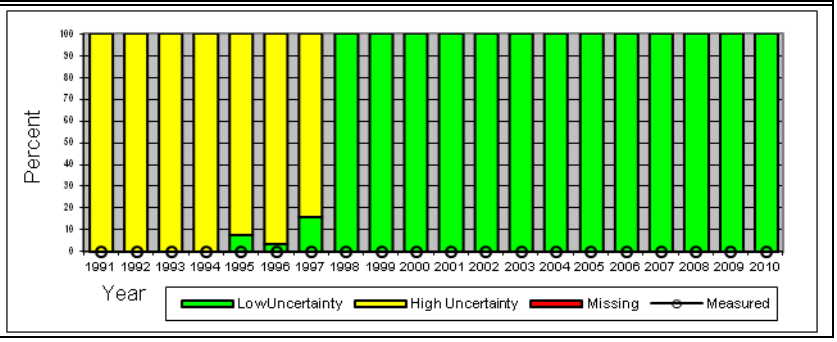
725566	O`NEILL/BAKER FIELD, NE
Class III	
Solar Coordinates	
Latitude: 42.467˚	
Longitude: -98.683˚	
Elevation: 619 m	
Meteorological Coordinates	
Latitude: 42.467˚	
Longitude: -98.683˚	
Elevation: 619 m	
Time Zone: -6	

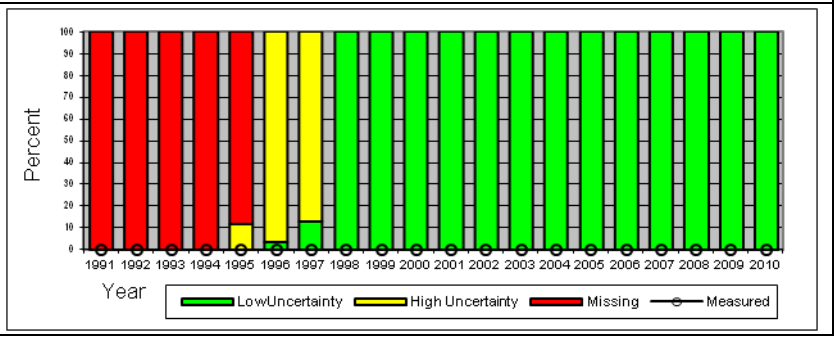
725500	OMAHA EPPLEY AIRFIELD, NE
Class I	
Solar Coordinates	
Latitude: 41.317˚	
Longitude: -95.9˚	
Elevation: 299 m	
Meteorological Coordinates	
Latitude: 41.317˚	
Longitude: -95.9˚	
Elevation: 299 m	
Time Zone: -6	

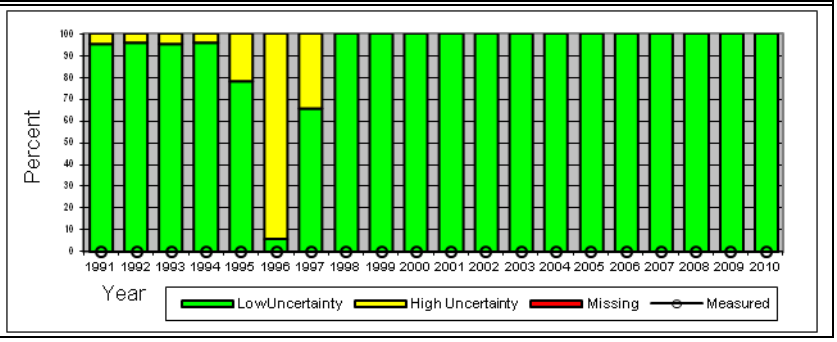
725530	OMAHA WSFO, NE
Class III	
Solar Coordinates	
Latitude: 41.367˚	
Longitude: -96.017˚	
Elevation: 399 m	
Meteorological Coordinates	
Latitude: 41.367˚	
Longitude: -96.017˚	
Elevation: 399 m	
Time Zone: -6	

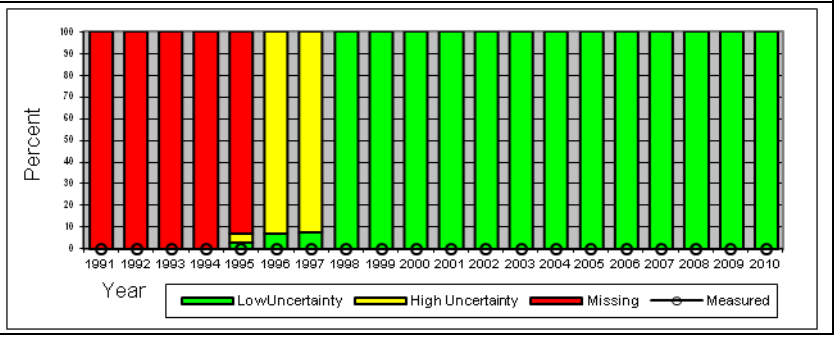
725524	ORD/SHARP FIELD, NE
Class II	
Solar Coordinates	
Latitude: 41.617˚	
Longitude: -98.95˚	
Elevation: 631 m	
Meteorological Coordinates	
Latitude: 41.617˚	
Longitude: -98.95˚	
Elevation: 631 m	
Time Zone: -6	

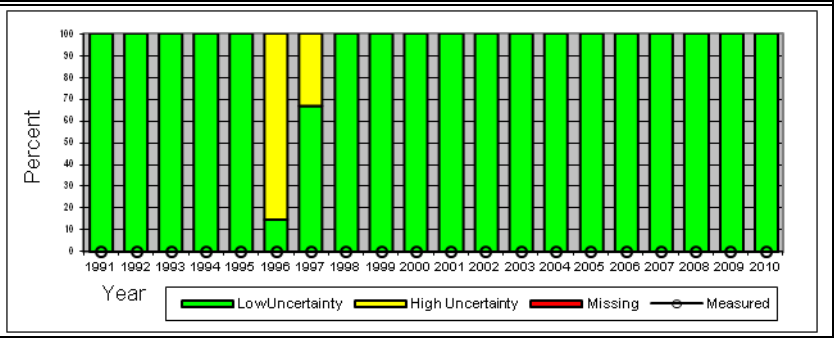
725660	SCOTTSBLUFF W B HEILIG FIELD, NE
Class I	
Solar Coordinates	
Latitude: 41.867˚	
Longitude: -103.6˚	
Elevation: 1202 m	
Meteorological Coordinates	
Latitude: 41.867˚	
Longitude: -103.6˚	
Elevation: 1202 m	
Time Zone: -7	

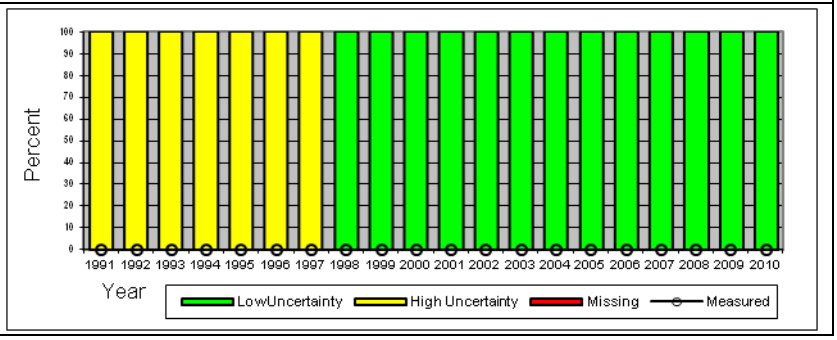
725610	SIDNEY MUNICIPAL AP, NE
Class II	
Solar Coordinates	
Latitude: 41.1˚	
Longitude: -102.983˚	
Elevation: 1313 m	
Meteorological Coordinates	
Latitude: 41.1˚	
Longitude: -102.983˚	
Elevation: 1313 m	
Time Zone: -7	

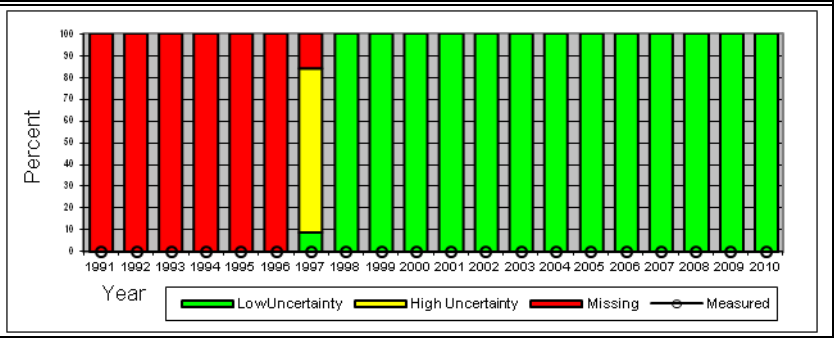
725527	TEKAMAH (ASOS), NE
Class III	
Solar Coordinates	
Latitude: 41.767˚	
Longitude: -96.167˚	
Elevation: 312 m	
Meteorological Coordinates	
Latitude: 41.767˚	
Longitude: -96.167˚	
Elevation: 312 m	
Time Zone: -6	

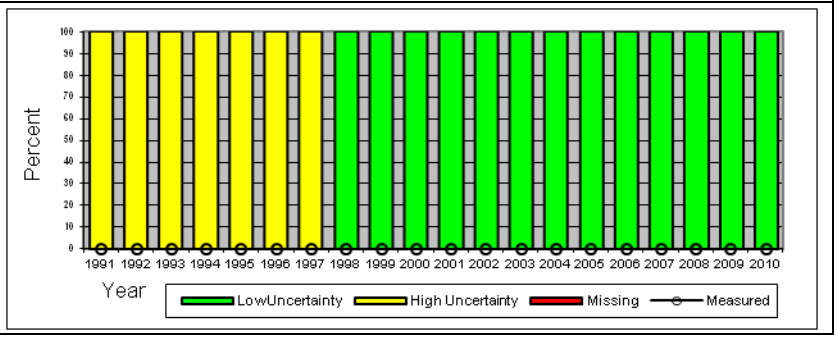
725670	VALENTINE MILLER FIELD, NE
Class I	
Solar Coordinates	
Latitude: 42.867˚	
Longitude: -100.55˚	
Elevation: 789 m	
Meteorological Coordinates	
Latitude: 42.867˚	
Longitude: -100.55˚	
Elevation: 789 m	
Time Zone: -6	

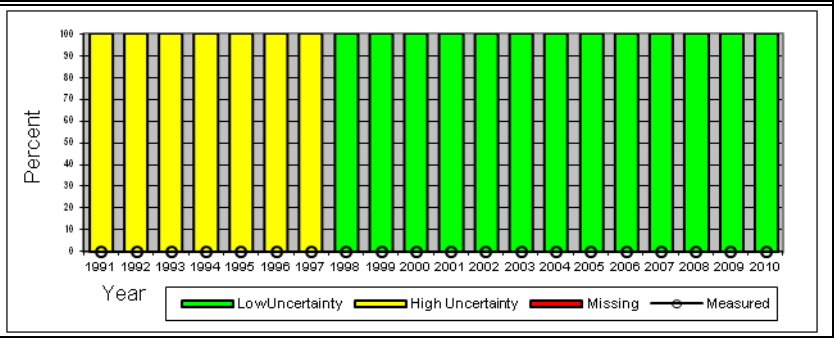
726160	BERLIN MUNICIPAL, NH
Class III	
Solar Coordinates	
Latitude: 44.583˚	
Longitude: -71.183˚	
Elevation: 353 m	
Meteorological Coordinates	
Latitude: 44.583˚	
Longitude: -71.183˚	
Elevation: 353 m	
Time Zone: -5	

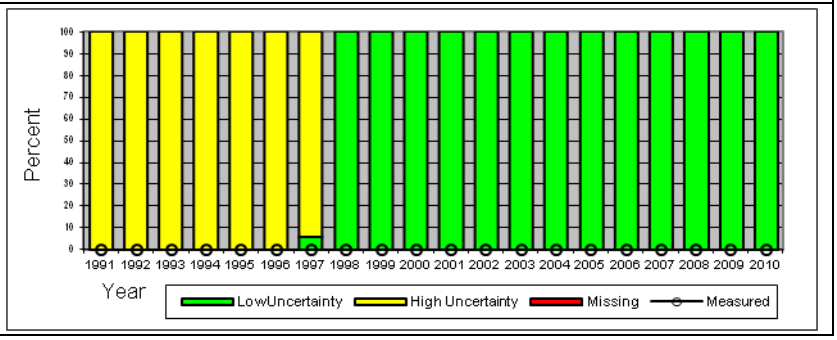
726050	CONCORD MUNICIPAL ARPT, NH
Class I	
Solar Coordinates	
Latitude: 43.2˚	
Longitude: -71.5˚	
Elevation: 106 m	
Meteorological Coordinates	
Latitude: 43.2˚	
Longitude: -71.5˚	
Elevation: 106 m	
Time Zone: -5	

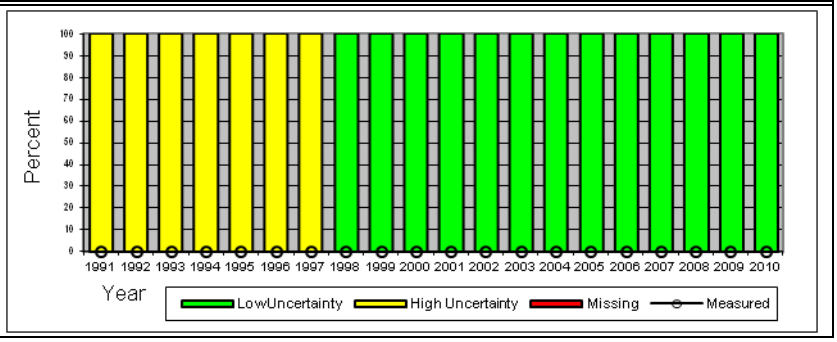
726165	DILLANT HOPKINS, NH
Class II	
Solar Coordinates	
Latitude: 42.9˚	
Longitude: -72.267˚	
Elevation: 153 m	
Meteorological Coordinates	
Latitude: 42.9˚	
Longitude: -72.267˚	
Elevation: 153 m	
Time Zone: -5	

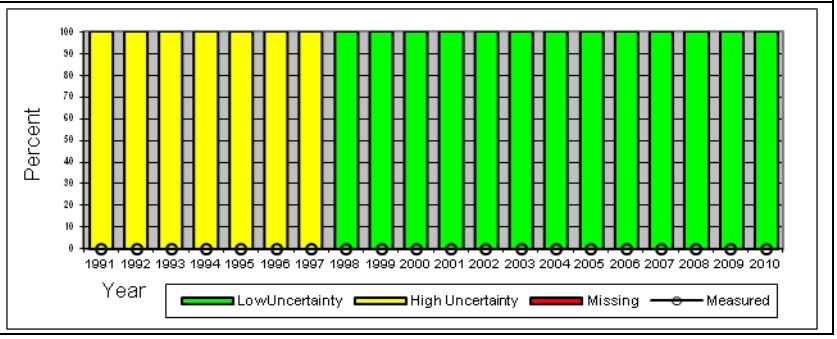
726163	JAFFREY MUNICIPAL, NH
Class III	
Solar Coordinates	
Latitude: 42.8˚	
Longitude: -72˚	
Elevation: 317 m	
Meteorological Coordinates	
Latitude: 42.8˚	
Longitude: -72˚	
Elevation: 317 m	
Time Zone: -5	

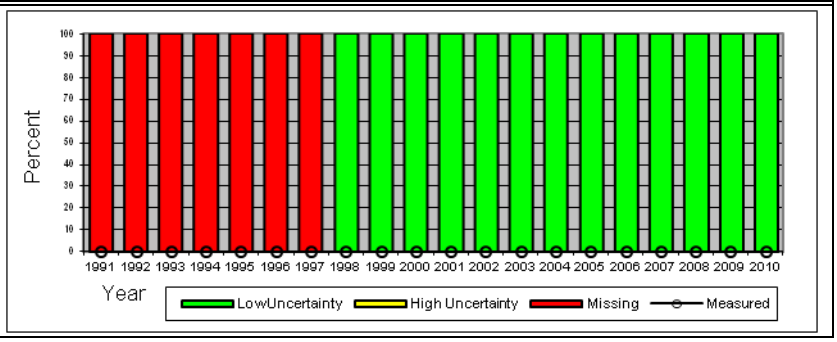
726155	LACONIA MUNI (AWOS), NH
Class II	
Solar Coordinates	
Latitude: 43.567˚	
Longitude: -71.417˚	
Elevation: 166 m	
Meteorological Coordinates	
Latitude: 43.567˚	
Longitude: -71.417˚	
Elevation: 166 m	
Time Zone: -5	

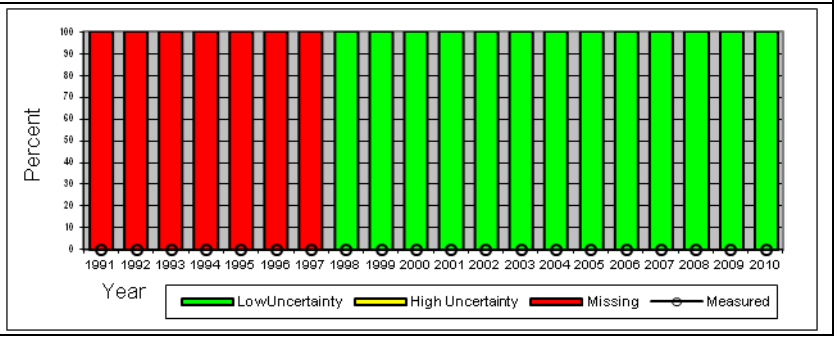
726116	LEBANON MUNICIPAL, NH
Class II	
Solar Coordinates	
Latitude: 43.633˚	
Longitude: -72.3˚	
Elevation: 182 m	
Meteorological Coordinates	
Latitude: 43.633˚	
Longitude: -72.3˚	
Elevation: 182 m	
Time Zone: -5	

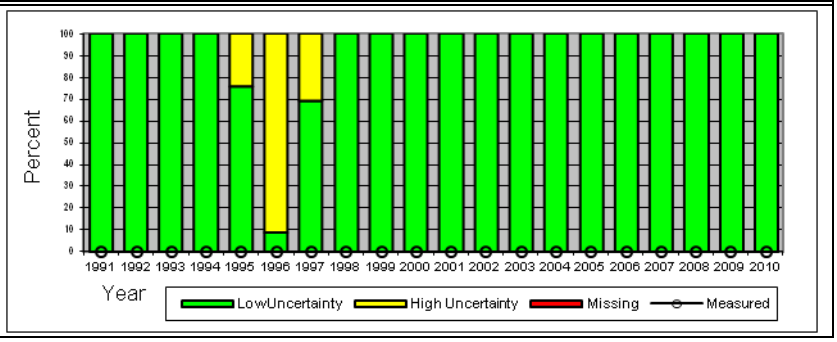
743945	MANCHESTER AIRPORT, NH
Class II	
Solar Coordinates	
Latitude: 42.933˚	
Longitude: -71.433˚	
Elevation: 69 m	
Meteorological Coordinates	
Latitude: 42.933˚	
Longitude: -71.433˚	
Elevation: 69 m	
Time Zone: -5	

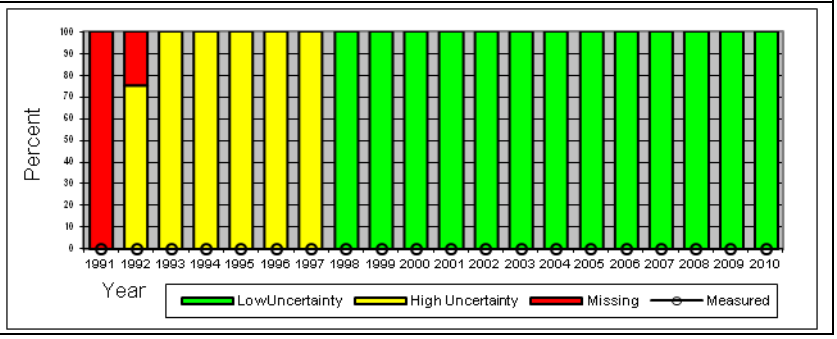
726130	MOUNT WASHINGTON, NH
Class III	
Solar Coordinates	
Latitude: 44.267˚	
Longitude: -71.3˚	
Elevation: 1910 m	
Meteorological Coordinates	
Latitude: 44.267˚	
Longitude: -71.3˚	
Elevation: 1910 m	
Time Zone: -5	

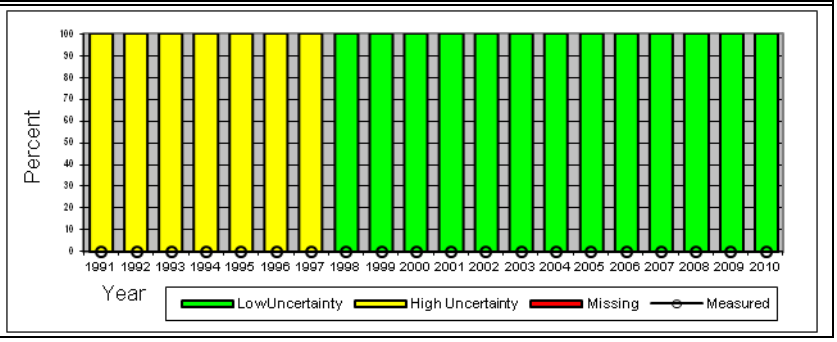
726055	PEASE INTL TRADEPOR, NH
Class II	
Solar Coordinates	
Latitude: 43.083˚	
Longitude: -70.817˚	
Elevation: 31 m	
Meteorological Coordinates	
Latitude: 43.083˚	
Longitude: -70.817˚	
Elevation: 31 m	
Time Zone: -5	

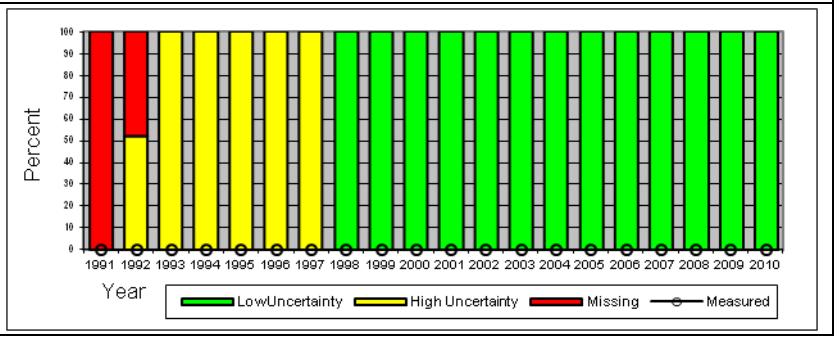
726056	SKYHAVEN ARPT ROCHE, NH
Class III	
Solar Coordinates	
Latitude: 43.267˚	
Longitude: -70.917˚	
Elevation: 98 m	
Meteorological Coordinates	
Latitude: 43.267˚	
Longitude: -70.917˚	
Elevation: 98 m	
Time Zone: -5	

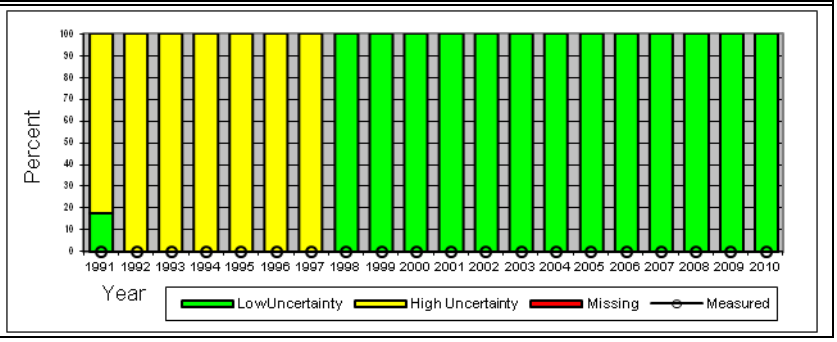
726164	WHITEFIELD, NH
Class III	
Solar Coordinates	
Latitude: 44.367˚	
Longitude: -71.55˚	
Elevation: 327 m	
Meteorological Coordinates	
Latitude: 44.367˚	
Longitude: -71.55˚	
Elevation: 327 m	
Time Zone: -5	

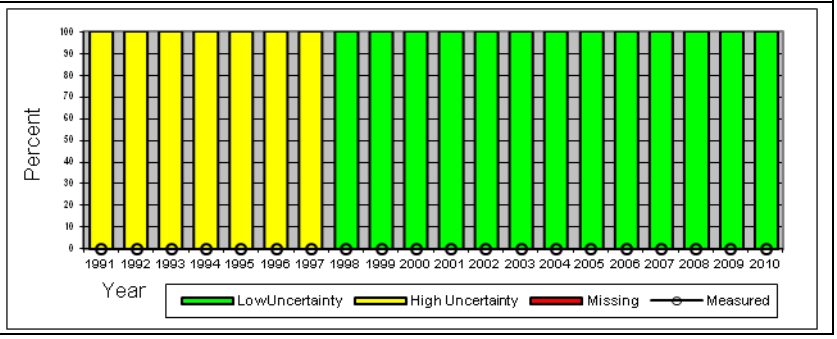
724070	ATLANTIC CITY INTL AP, NJ
Class I	
Solar Coordinates	
Latitude: 39.45˚	
Longitude: -74.567˚	
Elevation: 18 m	
Meteorological Coordinates	
Latitude: 39.45˚	
Longitude: -74.567˚	
Elevation: 18 m	
Time Zone: -5	

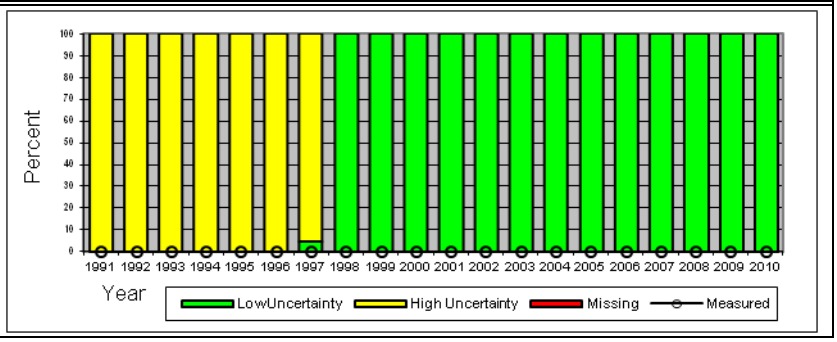
724084	BELMAR ASC, NJ
Class III	
Solar Coordinates	
Latitude: 40.183˚	
Longitude: -74.067˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 40.183˚	
Longitude: -74.067˚	
Elevation: 26 m	
Time Zone: -5	

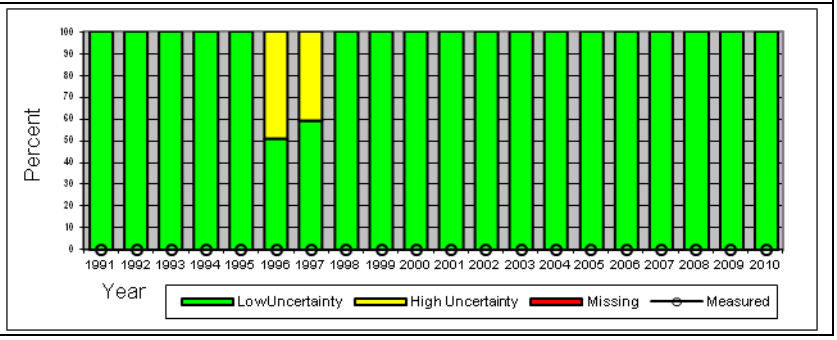
724094	CALDWELL/ESSEX CO., NJ
Class II	
Solar Coordinates	
Latitude: 40.883˚	
Longitude: -74.283˚	
Elevation: 53 m	
Meteorological Coordinates	
Latitude: 40.883˚	
Longitude: -74.283˚	
Elevation: 53 m	
Time Zone: -5	

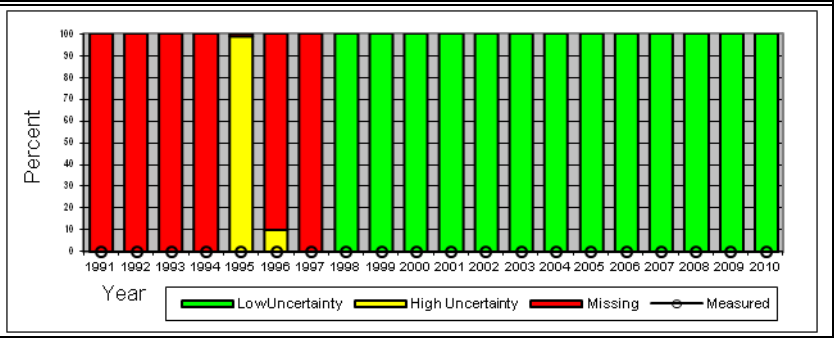
745966	CAPE MAY CO, NJ
Class III	
Solar Coordinates	
Latitude: 39˚	
Longitude: -74.917˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 39˚	
Longitude: -74.917˚	
Elevation: 7 m	
Time Zone: -5	

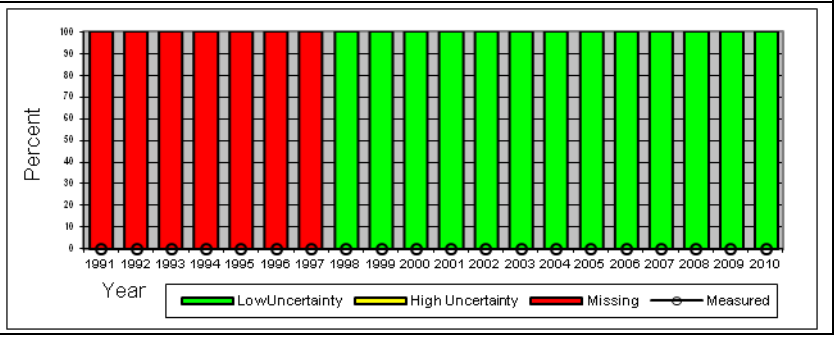
724090	LAKEHURST NAS, NJ
Class III	
Solar Coordinates	
Latitude: 40.033˚	
Longitude: -74.35˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 40.033˚	
Longitude: -74.35˚	
Elevation: 34 m	
Time Zone: -5	

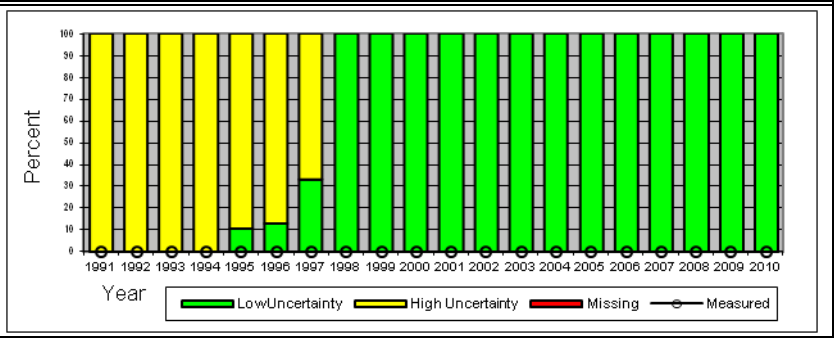
724096	MCGUIRE AFB, NJ
Class II	
Solar Coordinates	
Latitude: 40.017˚	
Longitude: -74.6˚	
Elevation: 45 m	
Meteorological Coordinates	
Latitude: 40.017˚	
Longitude: -74.6˚	
Elevation: 45 m	
Time Zone: -5	

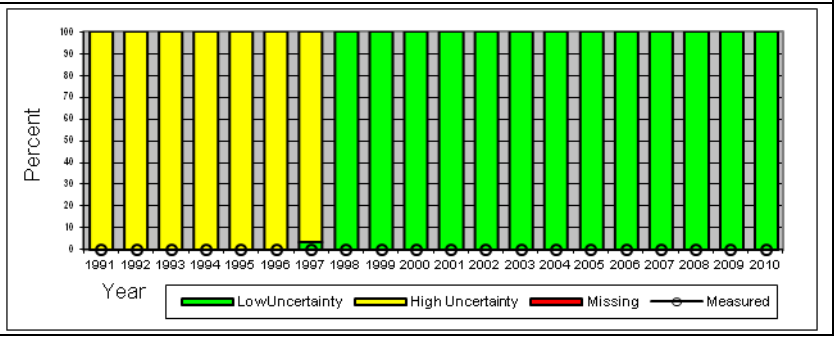
724075	MILLVILLE MUNICIPAL AP, NJ
Class II	
Solar Coordinates	
Latitude: 39.367˚	
Longitude: -75.083˚	
Elevation: 21 m	
Meteorological Coordinates	
Latitude: 39.367˚	
Longitude: -75.083˚	
Elevation: 21 m	
Time Zone: -5	

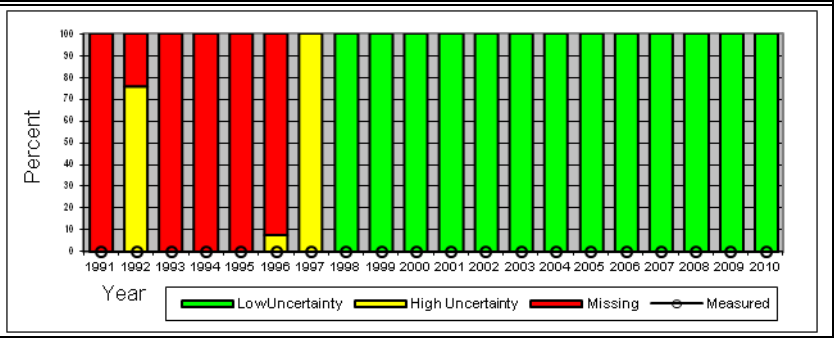
725020	NEWARK INTERNATIONAL ARPT, NJ
Class I	
Solar Coordinates	
Latitude: 40.717˚	
Longitude: -74.183˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 40.717˚	
Longitude: -74.183˚	
Elevation: 3 m	
Time Zone: -5	

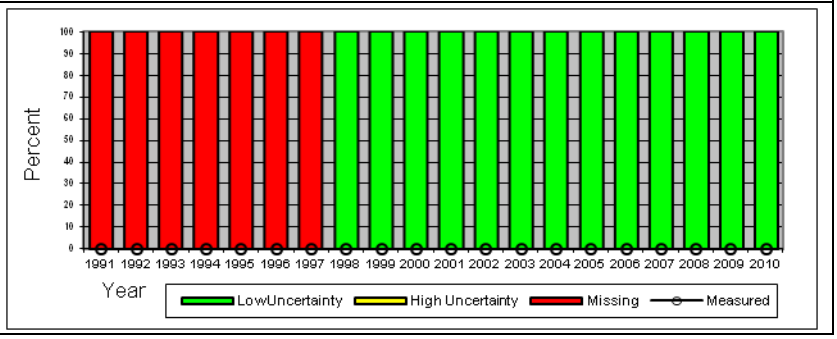
724074	S JERSEY RGNL ARPT, NJ
Class III	
Solar Coordinates	
Latitude: 39.933˚	
Longitude: -74.833˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 39.933˚	
Longitude: -74.833˚	
Elevation: 16 m	
Time Zone: -5	

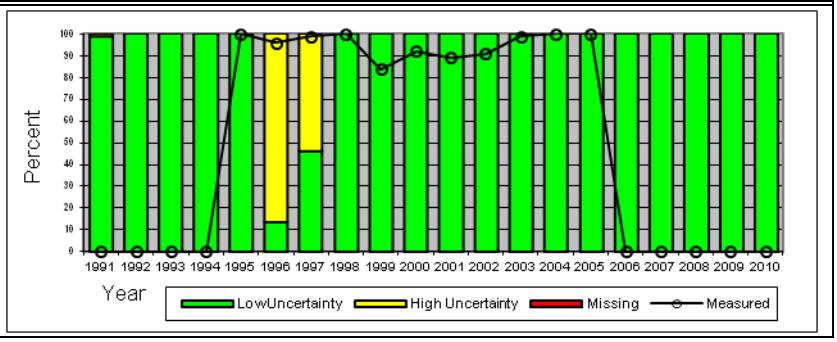
724104	SOMERSET ARPT ASOS, NJ
Class III	
Solar Coordinates	
Latitude: 40.633˚	
Longitude: -74.667˚	
Elevation: 32 m	
Meteorological Coordinates	
Latitude: 40.633˚	
Longitude: -74.667˚	
Elevation: 32 m	
Time Zone: -5	

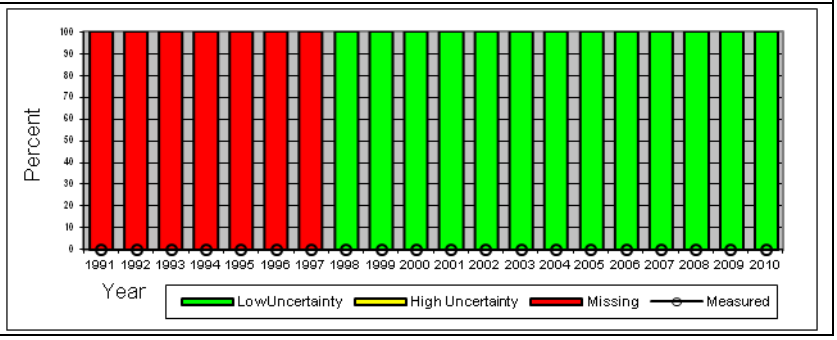
725025	TETERBORO AIRPORT, NJ
Class II	
Solar Coordinates	
Latitude: 40.85˚	
Longitude: -74.067˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 40.85˚	
Longitude: -74.067˚	
Elevation: 3 m	
Time Zone: -5	

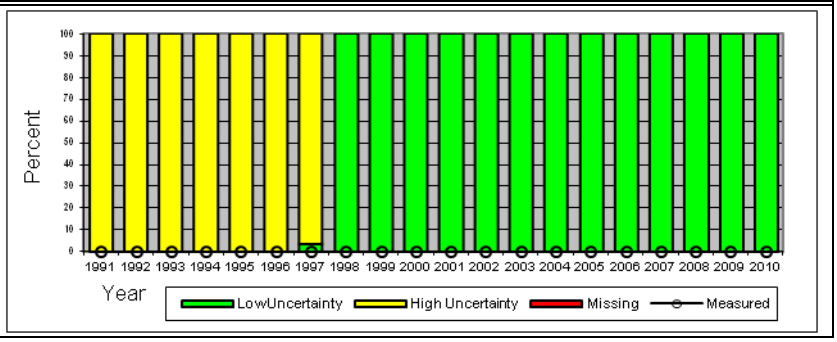
724095	TRENTON MERCER COUNTY AP, NJ
Class II	
Solar Coordinates	
Latitude: 40.283˚	
Longitude: -74.817˚	
Elevation: 65 m	
Meteorological Coordinates	
Latitude: 40.283˚	
Longitude: -74.817˚	
Elevation: 65 m	
Time Zone: -5	

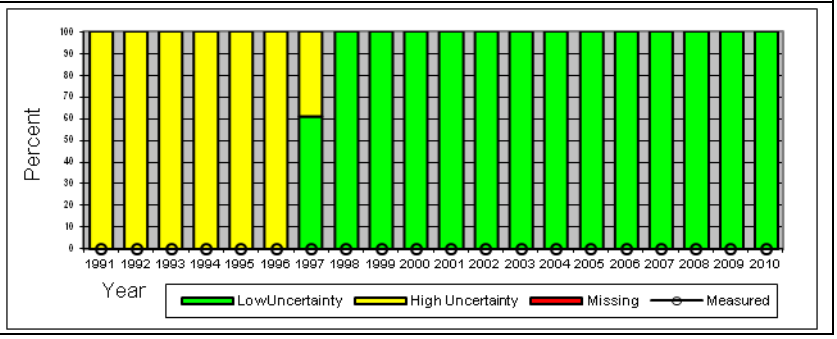
722693	ALAMOGORDO WHITE SA, NM
Class III	
Solar Coordinates	
Latitude: 32.833˚	
Longitude: -105.983˚	
Elevation: 1313 m	
Meteorological Coordinates	
Latitude: 32.833˚	
Longitude: -105.983˚	
Elevation: 1313 m	
Time Zone: -7	

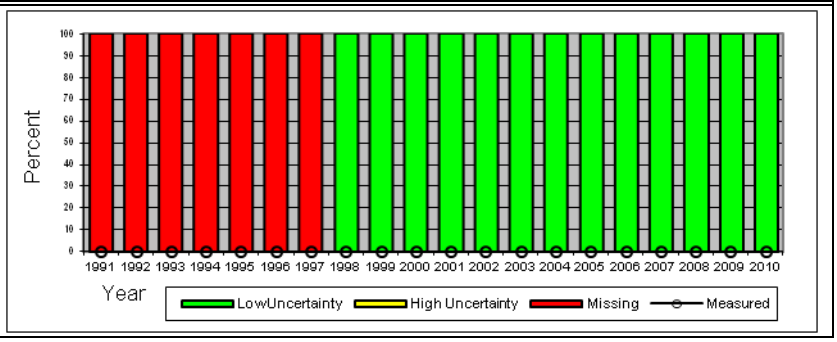
723647	ALBUQUERQUE DOUBLE, NM
Class III	
Solar Coordinates	
Latitude: 35.133˚	
Longitude: -106.783˚	
Elevation: 1779 m	
Meteorological Coordinates	
Latitude: 35.133˚	
Longitude: -106.783˚	
Elevation: 1779 m	
Time Zone: -7	

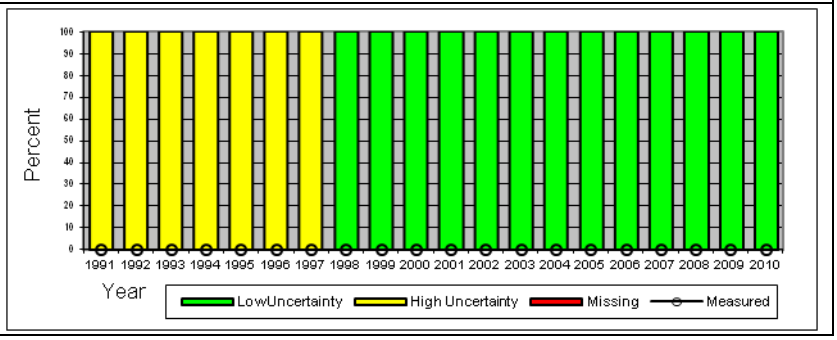
723650	ALBUQUERQUE INTL ARPT [ISIS], NM
Class I (with some measured)	
Solar Coordinates	
Latitude: 35.04˚	
Longitude: -106.62˚	
Elevation: 1619 m	
Meteorological Coordinates	
Latitude: 35.05˚	
Longitude: -106.6˚	
Elevation: 1618 m	
Time Zone: -7	

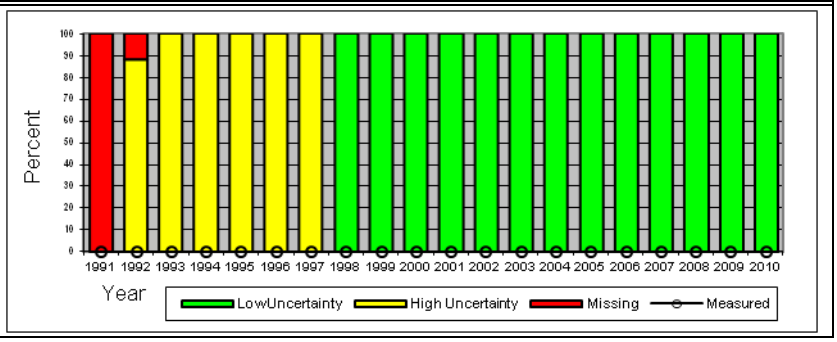
722676	ARTESIA, NM
Class III	
Solar Coordinates	
Latitude: 32.85˚	
Longitude: -104.467˚	
Elevation: 1081 m	
Meteorological Coordinates	
Latitude: 32.85˚	
Longitude: -104.467˚	
Elevation: 1081 m	
Time Zone: -7	

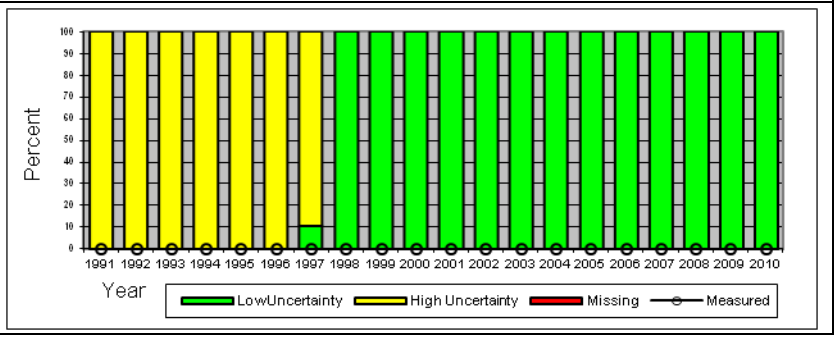
722687	CARLSBAD CAVERN CITY AIR TERM, NM
Class II	
Solar Coordinates	
Latitude: 32.333˚	
Longitude: -104.267˚	
Elevation: 985 m	
Meteorological Coordinates	
Latitude: 32.333˚	
Longitude: -104.267˚	
Elevation: 985 m	
Time Zone: -7	

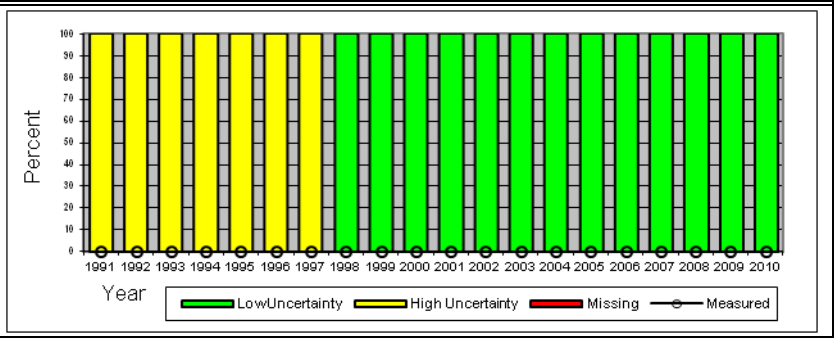
723600	CLAYTON MUNICIPAL AIRPARK, NM
Class II	
Solar Coordinates	
Latitude: 36.45˚	
Longitude: -103.15˚	
Elevation: 1512 m	
Meteorological Coordinates	
Latitude: 36.45˚	
Longitude: -103.15˚	
Elevation: 1512 m	
Time Zone: -7	

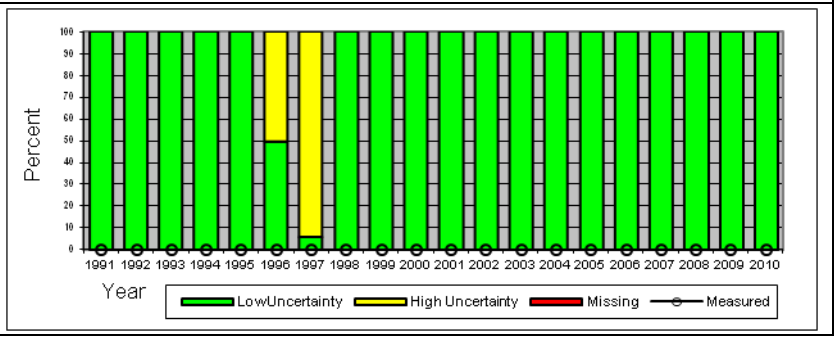
722677	CLINES CORNER, NM
Class III	
Solar Coordinates	
Latitude: 35˚	
Longitude: -105.667˚	
Elevation: 2160 m	
Meteorological Coordinates	
Latitude: 35˚	
Longitude: -105.667˚	
Elevation: 2160 m	
Time Zone: -7	

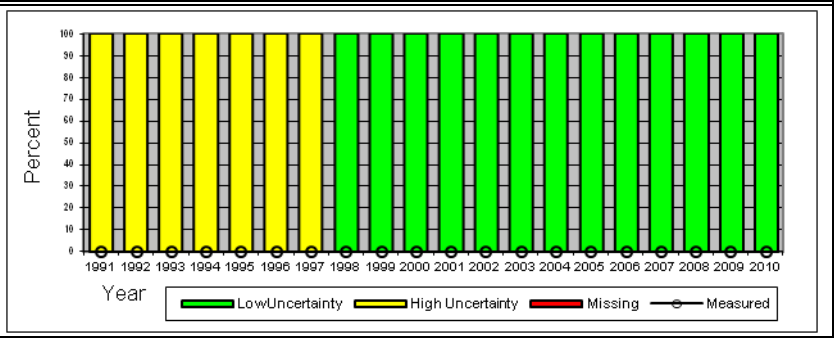
722686	CLOVIS CANNON AFB, NM
Class II	
Solar Coordinates	
Latitude: 34.383˚	
Longitude: -103.317˚	
Elevation: 1309 m	
Meteorological Coordinates	
Latitude: 34.383˚	
Longitude: -103.317˚	
Elevation: 1309 m	
Time Zone: -7	

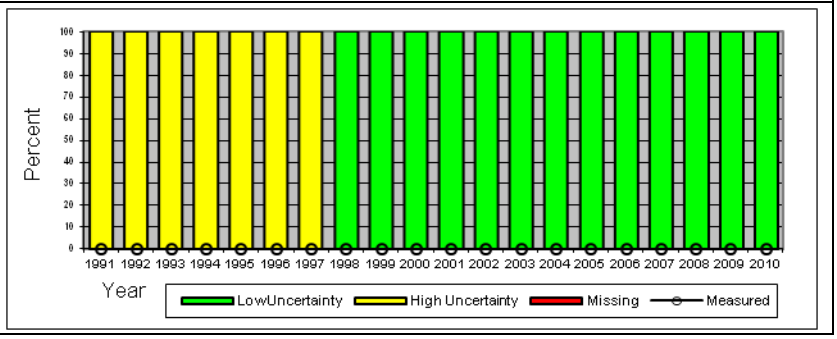
722689	CLOVIS MUNI (AWOS), NM
Class III	
Solar Coordinates	
Latitude: 34.433˚	
Longitude: -103.083˚	
Elevation: 1284 m	
Meteorological Coordinates	
Latitude: 34.433˚	
Longitude: -103.083˚	
Elevation: 1284 m	
Time Zone: -7	

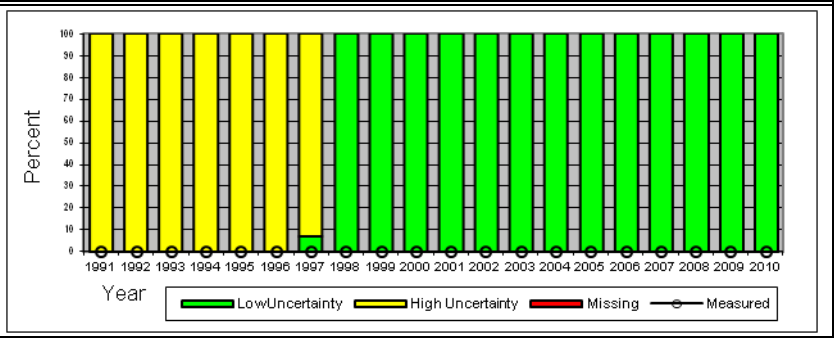
722725	DEMING MUNI, NM
Class II	
Solar Coordinates	
Latitude: 32.25˚	
Longitude: -107.717˚	
Elevation: 1348 m	
Meteorological Coordinates	
Latitude: 32.25˚	
Longitude: -107.717˚	
Elevation: 1348 m	
Time Zone: -7	

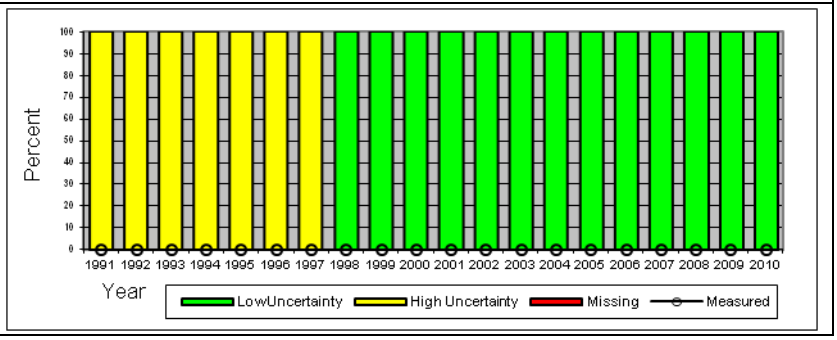
723658	FARMINGTON FOUR CORNERS REGL, NM
Class II	
Solar Coordinates	
Latitude: 36.75˚	
Longitude: -108.233˚	
Elevation: 1675 m	
Meteorological Coordinates	
Latitude: 36.75˚	
Longitude: -108.233˚	
Elevation: 1675 m	
Time Zone: -7	

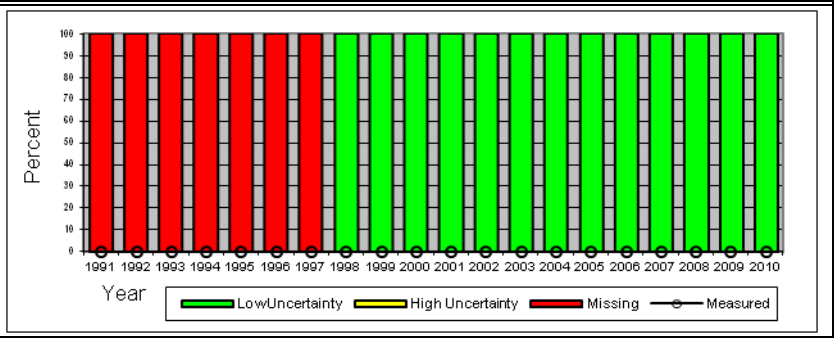
723627	GALLUP SEN CLARKE FLD, NM
Class I	
Solar Coordinates	
Latitude: 35.517˚	
Longitude: -108.783˚	
Elevation: 1971 m	
Meteorological Coordinates	
Latitude: 35.517˚	
Longitude: -108.783˚	
Elevation: 1971 m	
Time Zone: -7	

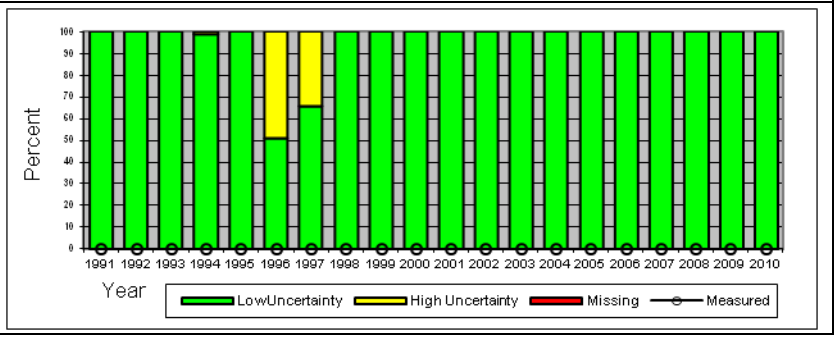
747320	HOLLOMAN AFB, NM
Class II	
Solar Coordinates	
Latitude: 32.85˚	
Longitude: -106.1˚	
Elevation: 1248 m	
Meteorological Coordinates	
Latitude: 32.85˚	
Longitude: -106.1˚	
Elevation: 1248 m	
Time Zone: -7	

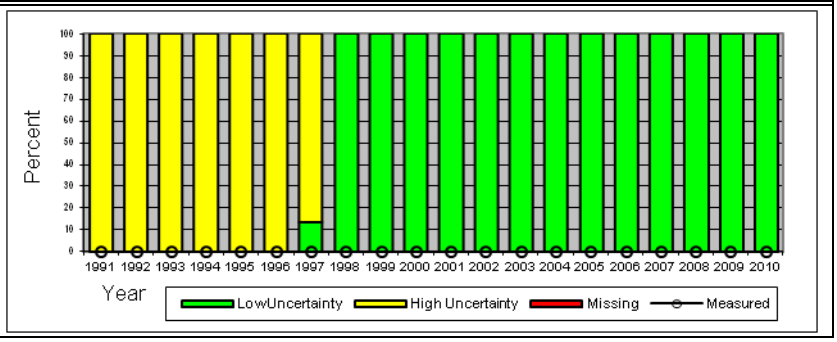
722695	LAS CRUCES INTL, NM
Class II	
Solar Coordinates	
Latitude: 32.283˚	
Longitude: -106.917˚	
Elevation: 1393 m	
Meteorological Coordinates	
Latitude: 32.283˚	
Longitude: -106.917˚	
Elevation: 1393 m	
Time Zone: -7	

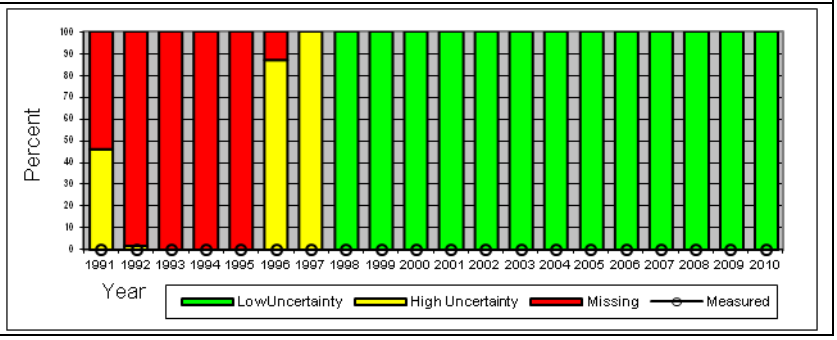
723677	LAS VEGAS MUNICIPAL ARPT, NM
Class II	
Solar Coordinates	
Latitude: 35.65˚	
Longitude: -105.15˚	
Elevation: 2093 m	
Meteorological Coordinates	
Latitude: 35.65˚	
Longitude: -105.15˚	
Elevation: 2093 m	
Time Zone: -7	

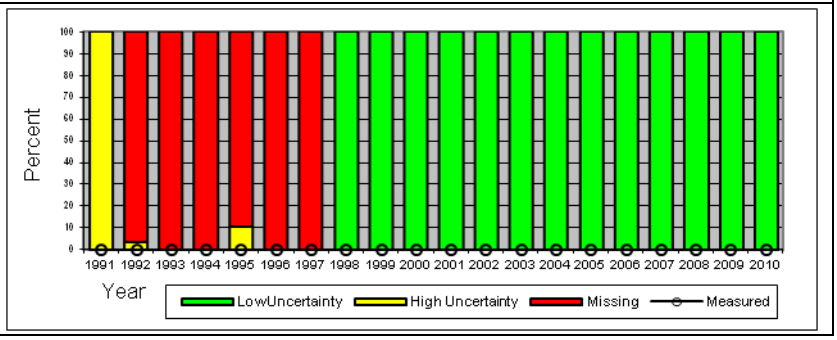
723654	LOS ALAMOS, NM
Class III	
Solar Coordinates	
Latitude: 35.883˚	
Longitude: -106.283˚	
Elevation: 2179 m	
Meteorological Coordinates	
Latitude: 35.883˚	
Longitude: -106.283˚	
Elevation: 2179 m	
Time Zone: -7	

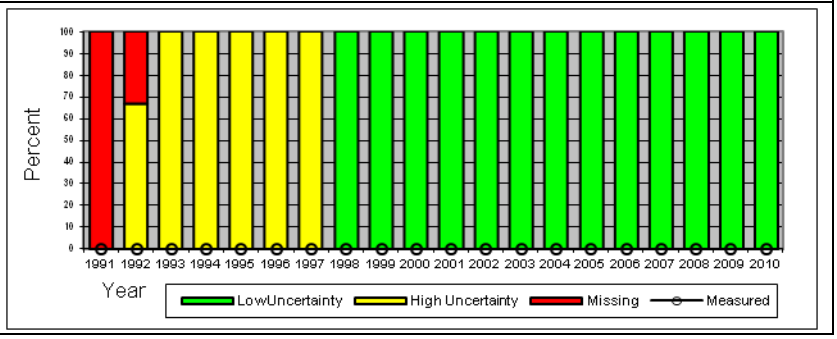
722678	RATON, NM
Class III	
Solar Coordinates	
Latitude: 36.75˚	
Longitude: -104.65˚	
Elevation: 1935 m	
Meteorological Coordinates	
Latitude: 36.75˚	
Longitude: -104.65˚	
Elevation: 1935 m	
Time Zone: -7	

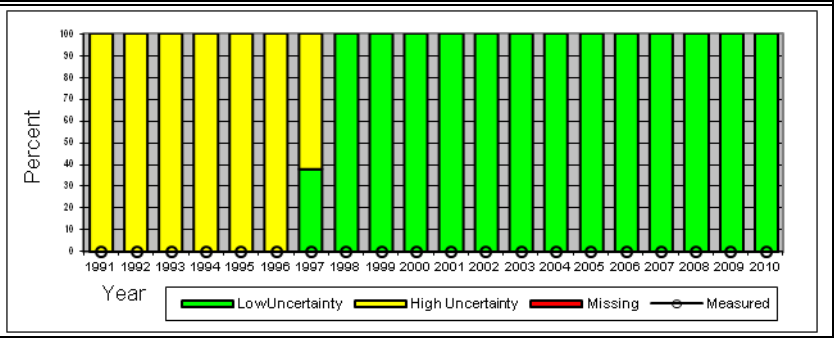
722680	ROSWELL INDUSTRIAL AIR PARK, NM
Class I	
Solar Coordinates	
Latitude: 33.3˚	
Longitude: -104.533˚	
Elevation: 1112 m	
Meteorological Coordinates	
Latitude: 33.3˚	
Longitude: -104.533˚	
Elevation: 1112 m	
Time Zone: -7	

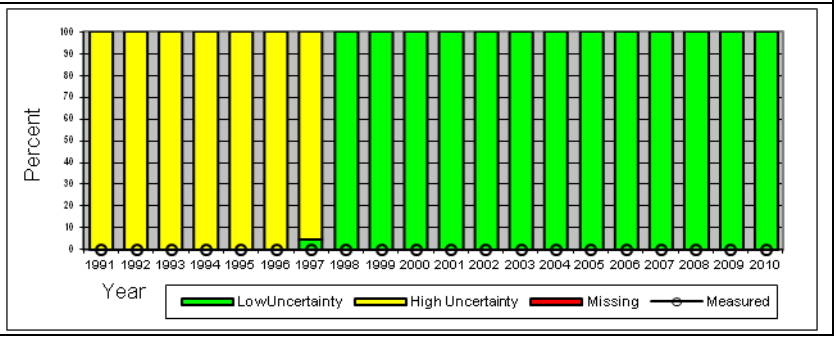
723656	SATA FE COUNTY MUNICIPAL AP, NM
Class II	
Solar Coordinates	
Latitude: 35.617˚	
Longitude: -106.083˚	
Elevation: 1934 m	
Meteorological Coordinates	
Latitude: 35.617˚	
Longitude: -106.083˚	
Elevation: 1934 m	
Time Zone: -7	

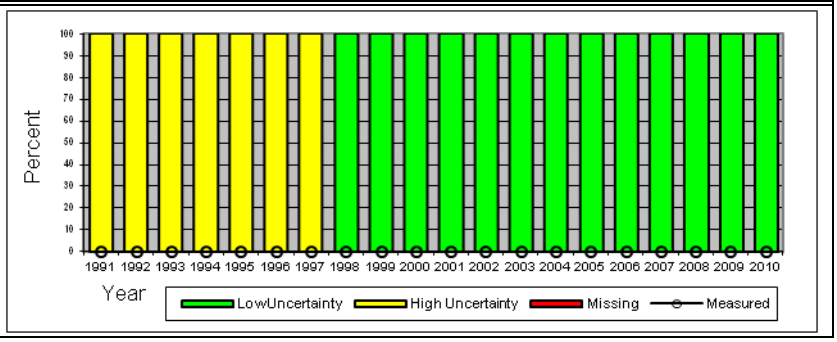
722683	SIERRA BLANCA RGNL, NM
Class III	
Solar Coordinates	
Latitude: 33.467˚	
Longitude: -105.533˚	
Elevation: 2078 m	
Meteorological Coordinates	
Latitude: 33.467˚	
Longitude: -105.533˚	
Elevation: 2078 m	
Time Zone: -7	

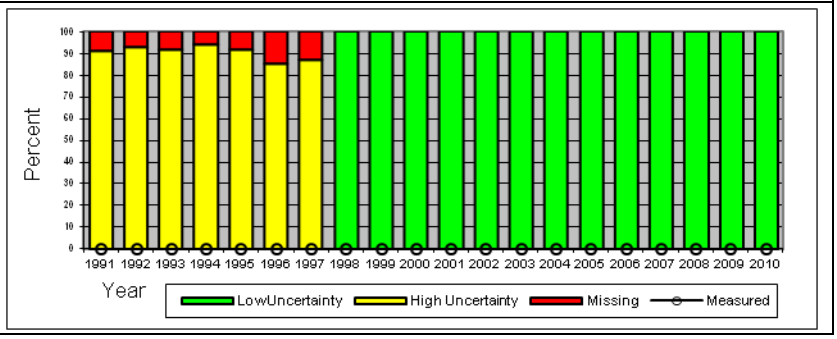
722720	SILVER CITY GRANT CO, NM
Class III	
Solar Coordinates	
Latitude: 32.633˚	
Longitude: -108.167˚	
Elevation: 1639 m	
Meteorological Coordinates	
Latitude: 32.633˚	
Longitude: -108.167˚	
Elevation: 1639 m	
Time Zone: -7	

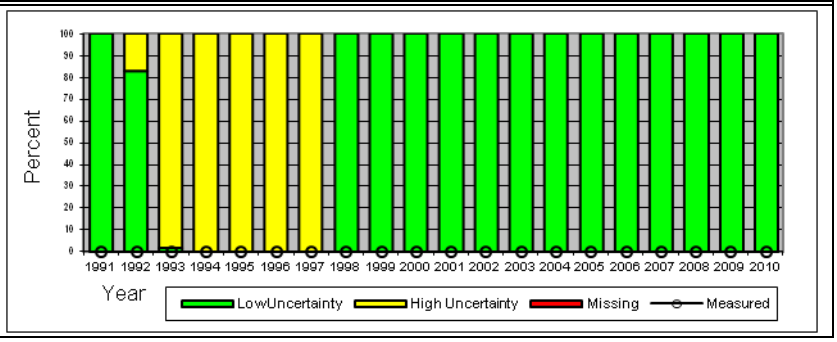
723663	TAOS MUNI APT(AWOS), NM
Class III	
Solar Coordinates	
Latitude: 36.45˚	
Longitude: -105.667˚	
Elevation: 2161 m	
Meteorological Coordinates	
Latitude: 36.45˚	
Longitude: -105.667˚	
Elevation: 2161 m	
Time Zone: -7	

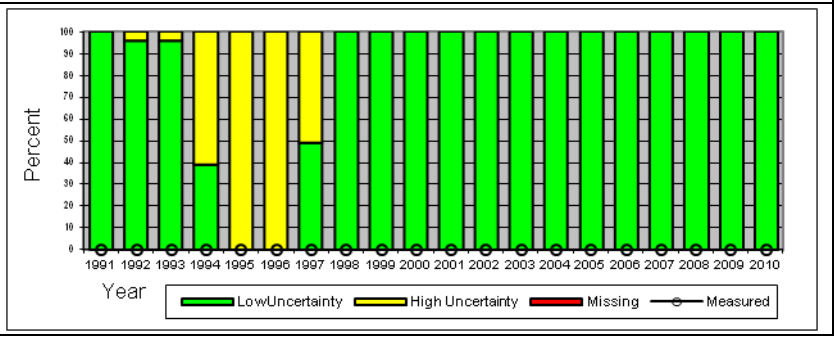
722710	TRUTH OR CONSEQUENCES MUNI AP, NM
Class II	
Solar Coordinates	
Latitude: 33.233˚	
Longitude: -107.267˚	
Elevation: 1478 m	
Meteorological Coordinates	
Latitude: 33.233˚	
Longitude: -107.267˚	
Elevation: 1478 m	
Time Zone: -7	

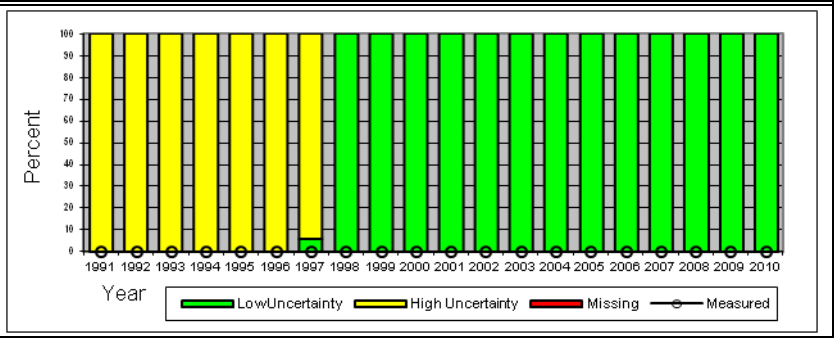
723676	TUCUMCARI FAA AP, NM
Class II	
Solar Coordinates	
Latitude: 35.183˚	
Longitude: -103.6˚	
Elevation: 1235 m	
Meteorological Coordinates	
Latitude: 35.183˚	
Longitude: -103.6˚	
Elevation: 1235 m	
Time Zone: -7	

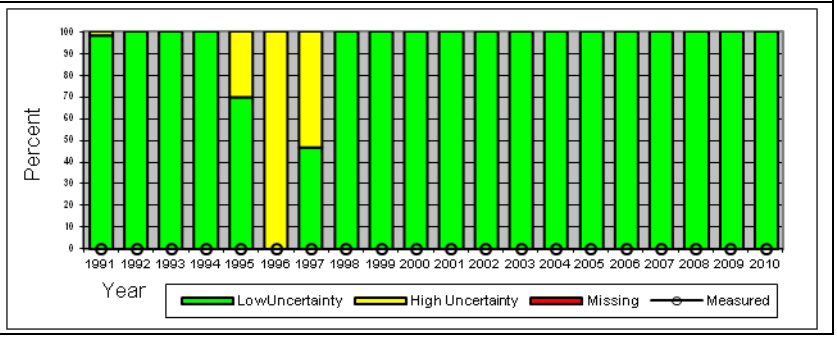
722690	WHITE SANDS TEST RG, NM
Class III	
Solar Coordinates	
Latitude: 32.383˚	
Longitude: -106.483˚	
Elevation: 1244 m	
Meteorological Coordinates	
Latitude: 32.383˚	
Longitude: -106.483˚	
Elevation: 1244 m	
Time Zone: -7	

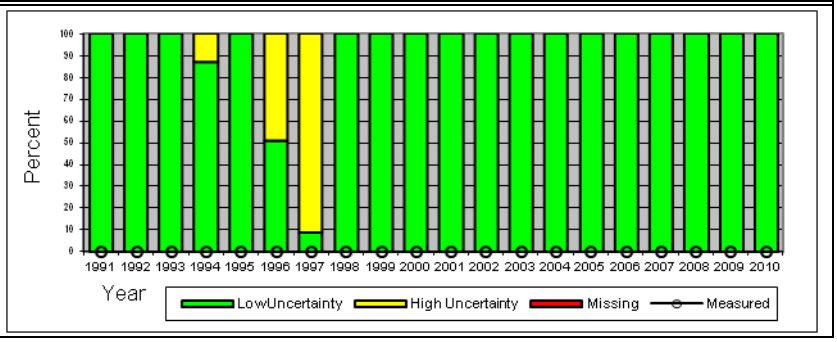
725826	AUSTIN, NV
Class III	
Solar Coordinates	
Latitude: 39.5˚	
Longitude: -117.083˚	
Elevation: 2014 m	
Meteorological Coordinates	
Latitude: 39.5˚	
Longitude: -117.083˚	
Elevation: 2014 m	
Time Zone: -8	

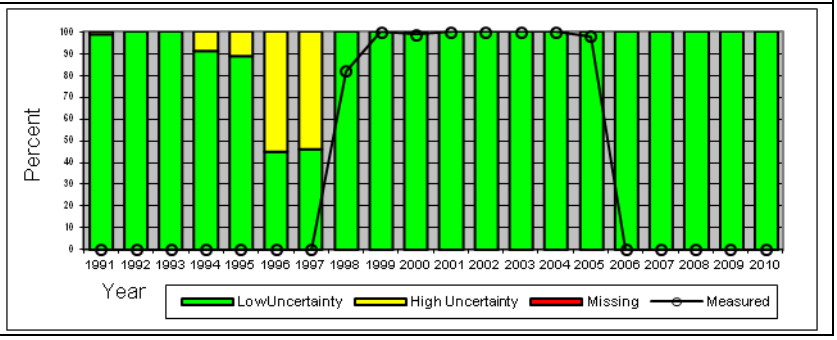
725825	ELKO MUNICIPAL ARPT, NV
Class II	
Solar Coordinates	
Latitude: 40.833˚	
Longitude: -115.8˚	
Elevation: 1548 m	
Meteorological Coordinates	
Latitude: 40.833˚	
Longitude: -115.8˚	
Elevation: 1548 m	
Time Zone: -8	

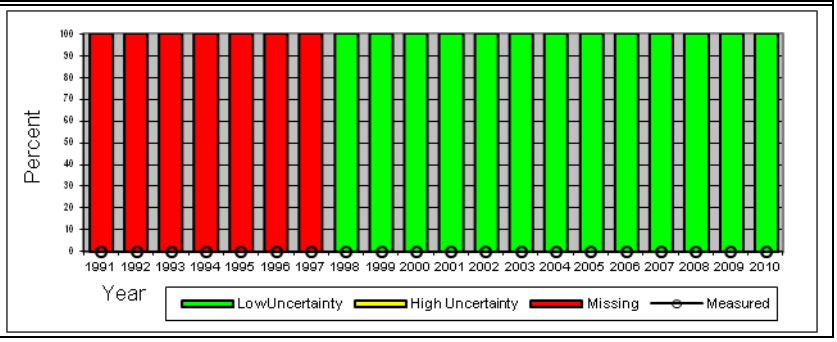
724860	ELY YELLAND FIELD, NV
Class I	
Solar Coordinates	
Latitude: 39.3˚	
Longitude: -114.85˚	
Elevation: 1909 m	
Meteorological Coordinates	
Latitude: 39.3˚	
Longitude: -114.85˚	
Elevation: 1909 m	
Time Zone: -8	

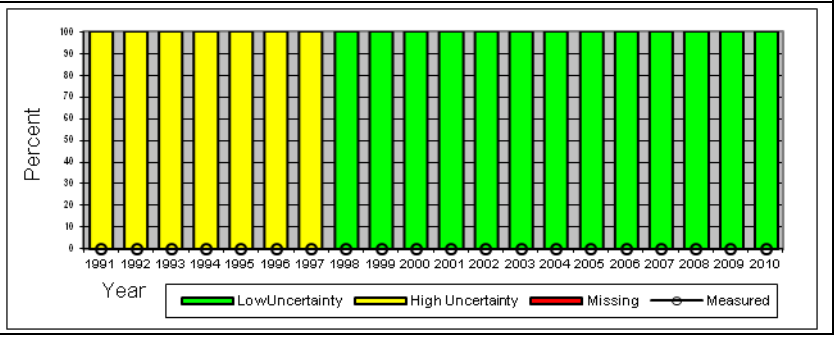
724885	FALLON NAAS, NV
Class II	
Solar Coordinates	
Latitude: 39.417˚	
Longitude: -118.717˚	
Elevation: 1199 m	
Meteorological Coordinates	
Latitude: 39.417˚	
Longitude: -118.717˚	
Elevation: 1199 m	
Time Zone: -8	

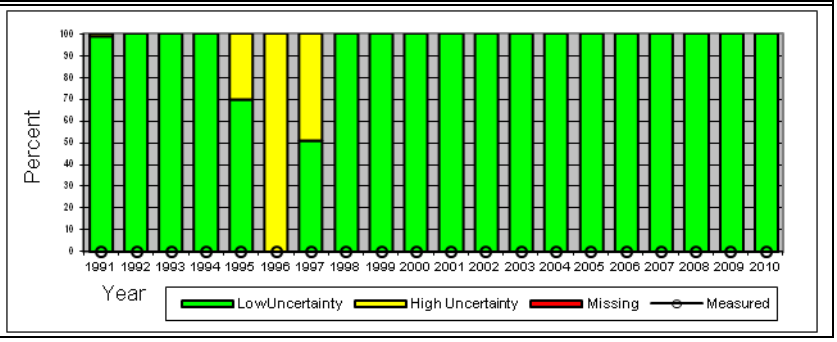
723860	LAS VEGAS MCCARRAN INTL AP, NV
Class I	
Solar Coordinates	
Latitude: 36.083˚	
Longitude: -115.15˚	
Elevation: 648 m	
Meteorological Coordinates	
Latitude: 36.083˚	
Longitude: -115.15˚	
Elevation: 648 m	
Time Zone: -8	

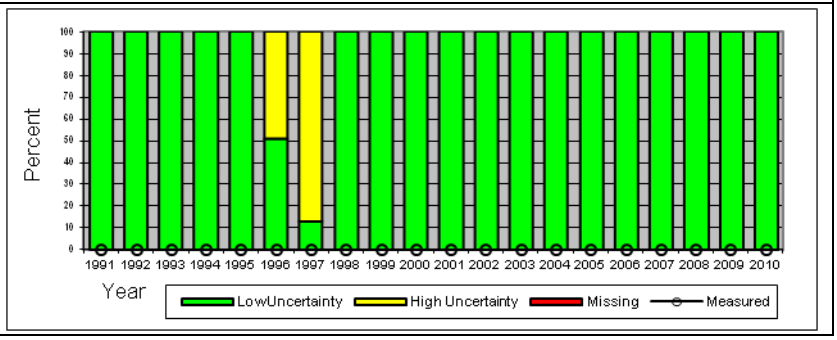
725805	LOVELOCK DERBY FIELD, NV
Class I	
Solar Coordinates	
Latitude: 40.067˚	
Longitude: -118.55˚	
Elevation: 1189 m	
Meteorological Coordinates	
Latitude: 40.067˚	
Longitude: -118.55˚	
Elevation: 1189 m	
Time Zone: -8	

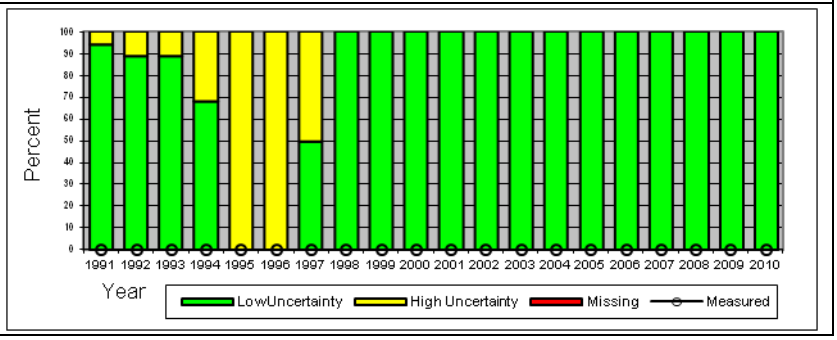
723870	MERCURY DESERT ROCK AP [SURFRAD], NV
Class I (with some measured)	
Solar Coordinates	
Latitude: 36.63˚	
Longitude: -116.02˚	
Elevation: 935 m	
Meteorological Coordinates	
Latitude: 36.617˚	
Longitude: -116.033˚	
Elevation: 1006 m	
Time Zone: -8	

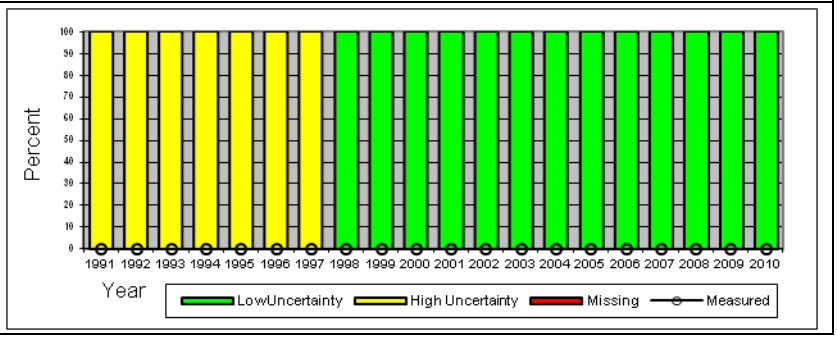
724846	N LAS VEGAS, NV
Class III	
Solar Coordinates	
Latitude: 36.217˚	
Longitude: -115.2˚	
Elevation: 671 m	
Meteorological Coordinates	
Latitude: 36.217˚	
Longitude: -115.2˚	
Elevation: 671 m	
Time Zone: -8	

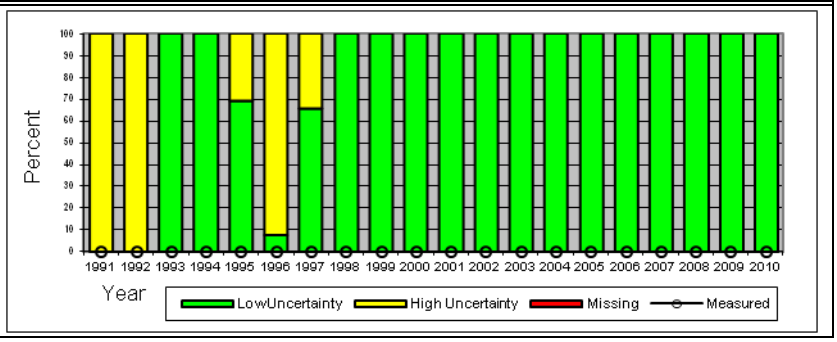
723865	NELLIS AFB, NV
Class II	
Solar Coordinates	
Latitude: 36.25˚	
Longitude: -115.033˚	
Elevation: 573 m	
Meteorological Coordinates	
Latitude: 36.25˚	
Longitude: -115.033˚	
Elevation: 573 m	
Time Zone: -8	

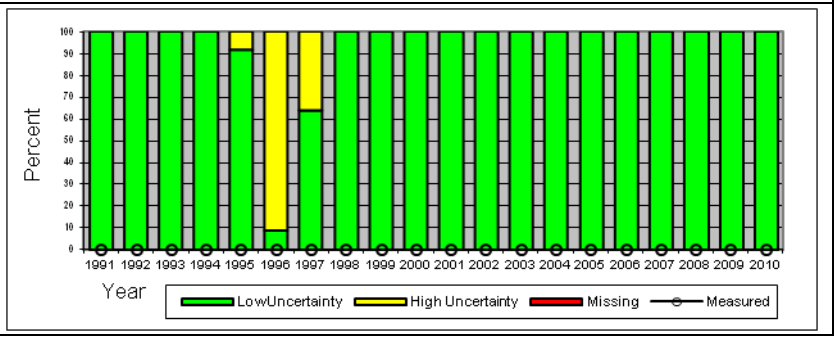
724880	RENO TAHOE INTERNATIONAL AP, NV
Class I	
Solar Coordinates	
Latitude: 39.483˚	
Longitude: -119.767˚	
Elevation: 1342 m	
Meteorological Coordinates	
Latitude: 39.483˚	
Longitude: -119.767˚	
Elevation: 1342 m	
Time Zone: -8	

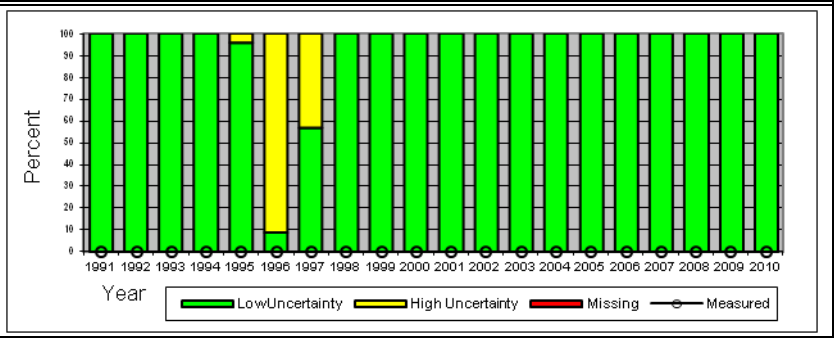
724855	TONOPAH AIRPORT, NV
Class I	
Solar Coordinates	
Latitude: 38.067˚	
Longitude: -117.083˚	
Elevation: 1655 m	
Meteorological Coordinates	
Latitude: 38.067˚	
Longitude: -117.083˚	
Elevation: 1655 m	
Time Zone: -8	

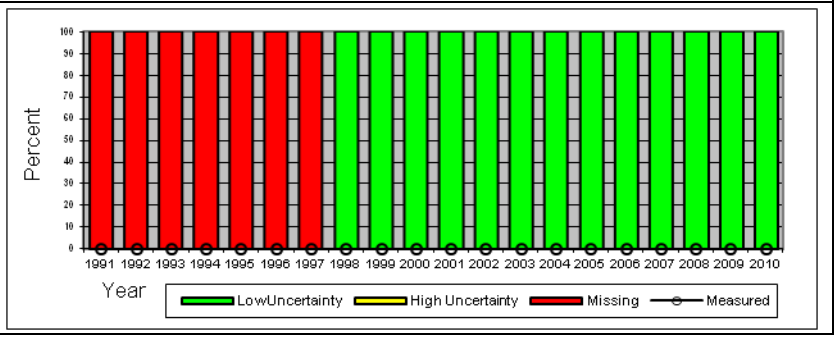
725830	WINNEMUCCA MUNICIPAL ARPT, NV
Class I	
Solar Coordinates	
Latitude: 40.9˚	
Longitude: -117.8˚	
Elevation: 1310 m	
Meteorological Coordinates	
Latitude: 40.9˚	
Longitude: -117.8˚	
Elevation: 1310 m	
Time Zone: -8	

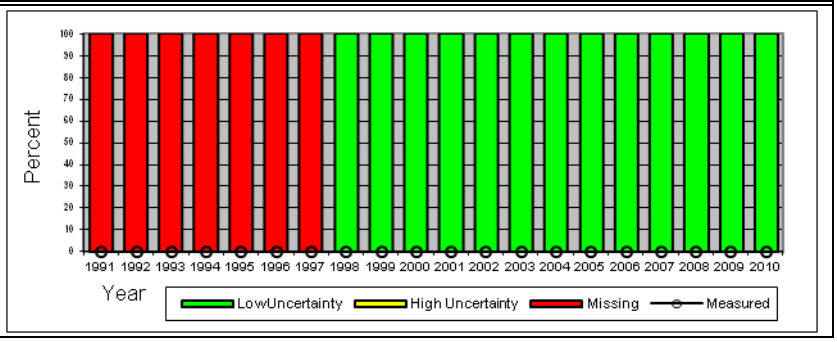
726228	ADIRONDACK RGNL, NY
Class II	
Solar Coordinates	
Latitude: 44.383˚	
Longitude: -74.2˚	
Elevation: 520 m	
Meteorological Coordinates	
Latitude: 44.383˚	
Longitude: -74.2˚	
Elevation: 520 m	
Time Zone: -5	

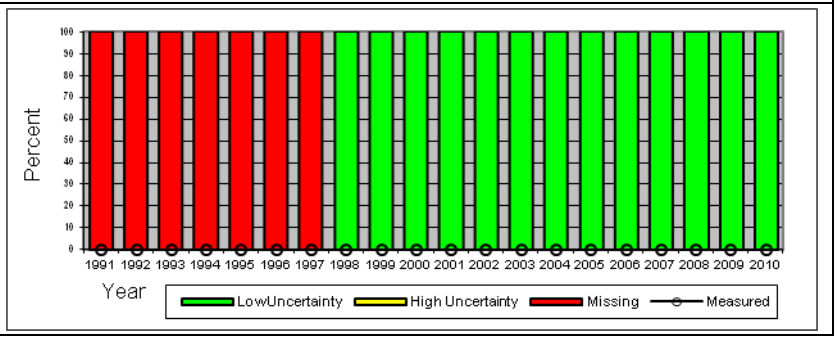
725180	ALBANY COUNTY AP, NY
Class I	
Solar Coordinates	
Latitude: 42.75˚	
Longitude: -73.8˚	
Elevation: 84 m	
Meteorological Coordinates	
Latitude: 42.75˚	
Longitude: -73.8˚	
Elevation: 84 m	
Time Zone: -5	

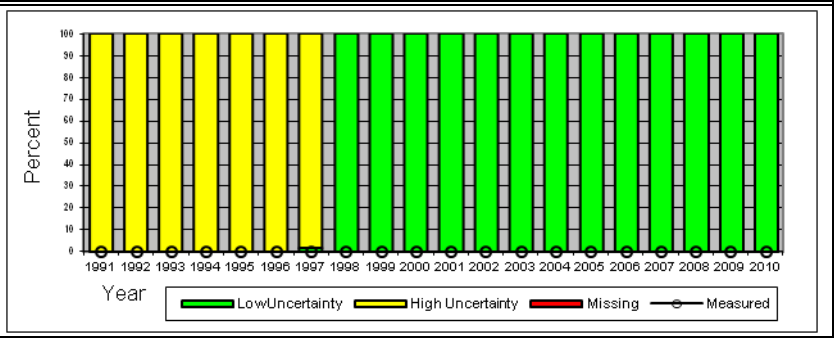
725150	BINGHAMTON EDWIN A LINK FIELD, NY
Class I	
Solar Coordinates	
Latitude: 42.2˚	
Longitude: -75.983˚	
Elevation: 488 m	
Meteorological Coordinates	
Latitude: 42.2˚	
Longitude: -75.983˚	
Elevation: 488 m	
Time Zone: -5	

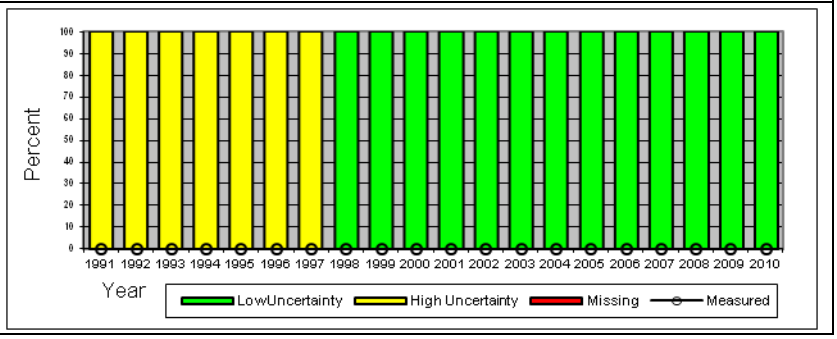
725280	BUFFALO NIAGARA INTL AP, NY
Class I	
Solar Coordinates	
Latitude: 42.933˚	
Longitude: -78.733˚	
Elevation: 215 m	
Meteorological Coordinates	
Latitude: 42.933˚	
Longitude: -78.733˚	
Elevation: 215 m	
Time Zone: -5	

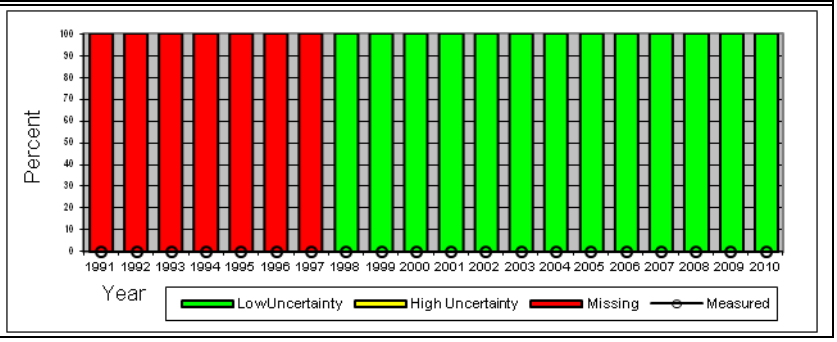
725187	CLINTON CO, NY
Class III	
Solar Coordinates	
Latitude: 44.683˚	
Longitude: -73.533˚	
Elevation: 116 m	
Meteorological Coordinates	
Latitude: 44.683˚	
Longitude: -73.533˚	
Elevation: 116 m	
Time Zone: -5	

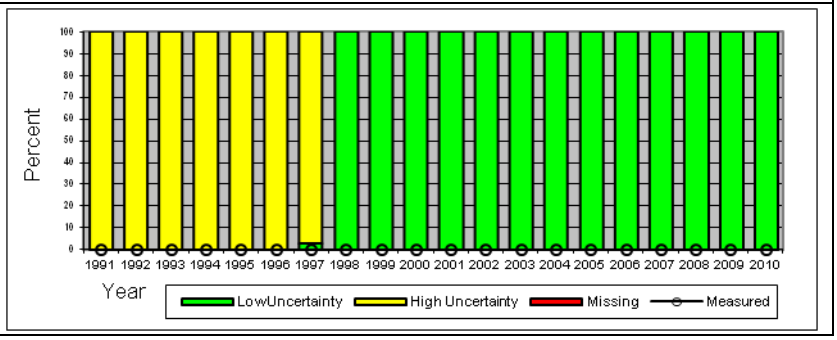
724988	DANSVILLE MUNI ARPT, NY
Class III	
Solar Coordinates	
Latitude: 42.567˚	
Longitude: -77.717˚	
Elevation: 201 m	
Meteorological Coordinates	
Latitude: 42.567˚	
Longitude: -77.717˚	
Elevation: 201 m	
Time Zone: -5	

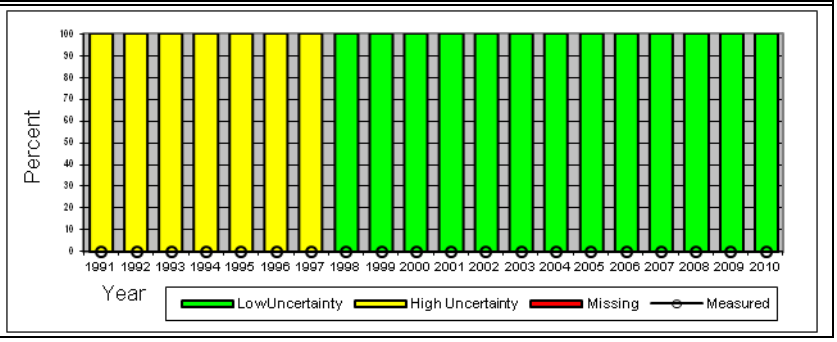
744989	DUNKIRK, NY
Class III	
Solar Coordinates	
Latitude: 42.5˚	
Longitude: -79.283˚	
Elevation: 211 m	
Meteorological Coordinates	
Latitude: 42.5˚	
Longitude: -79.283˚	
Elevation: 211 m	
Time Zone: -5	

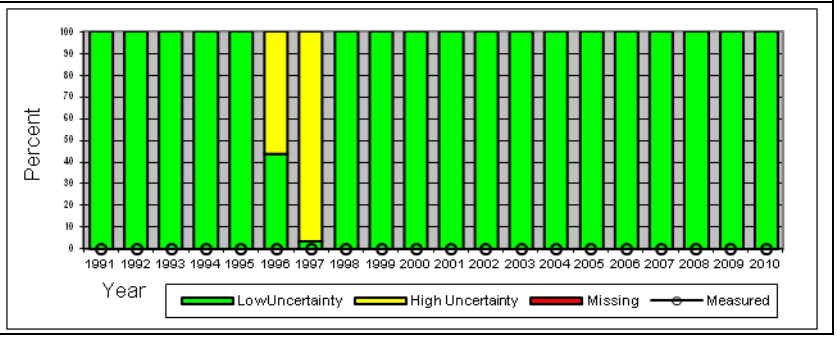
725156	ELMIRA CORNING REGIONAL AP, NY
Class II	
Solar Coordinates	
Latitude: 42.167˚	
Longitude: -76.9˚	
Elevation: 291 m	
Meteorological Coordinates	
Latitude: 42.167˚	
Longitude: -76.9˚	
Elevation: 291 m	
Time Zone: -5	

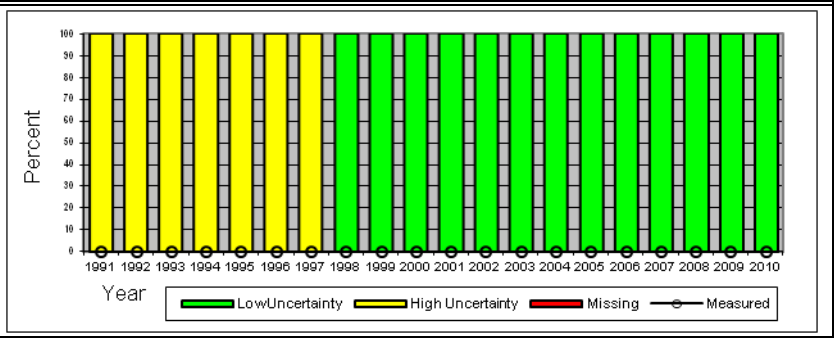
743700	FORT DRUM/WHEELER-S, NY
Class II	
Solar Coordinates	
Latitude: 44.05˚	
Longitude: -75.717˚	
Elevation: 211 m	
Meteorological Coordinates	
Latitude: 44.05˚	
Longitude: -75.717˚	
Elevation: 211 m	
Time Zone: -5	

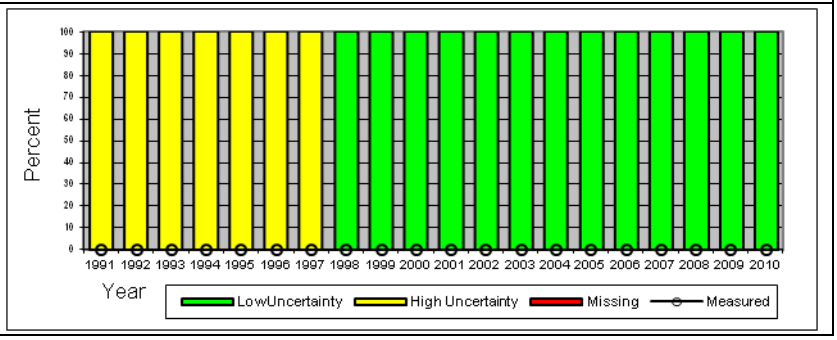
725146	FULTON, NY
Class III	
Solar Coordinates	
Latitude: 43.35˚	
Longitude: -76.383˚	
Elevation: 145 m	
Meteorological Coordinates	
Latitude: 43.35˚	
Longitude: -76.383˚	
Elevation: 145 m	
Time Zone: -5	

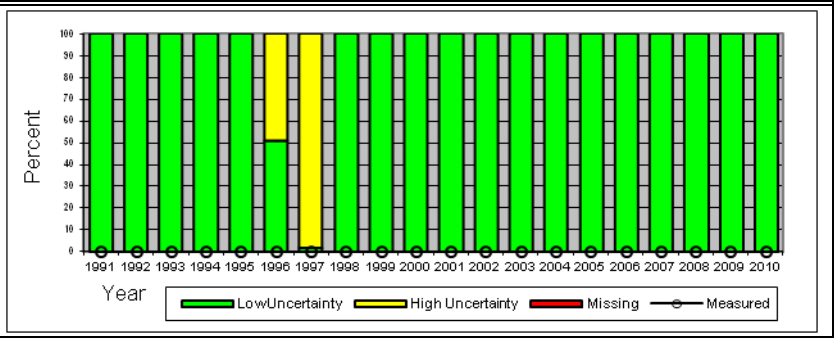
725185	GLENS FALLS AP, NY
Class II	
Solar Coordinates	
Latitude: 43.35˚	
Longitude: -73.617˚	
Elevation: 98 m	
Meteorological Coordinates	
Latitude: 43.35˚	
Longitude: -73.617˚	
Elevation: 98 m	
Time Zone: -5	

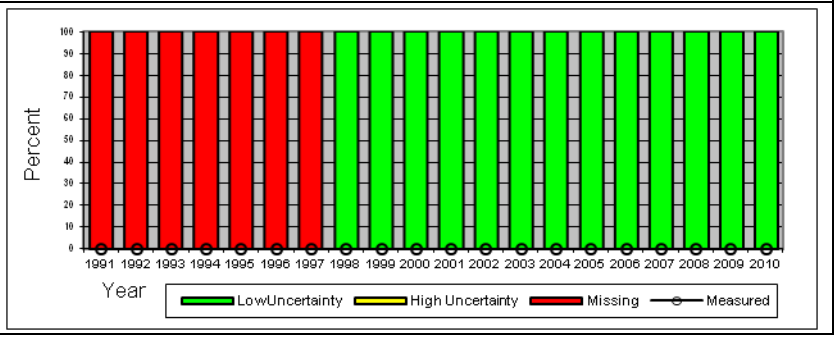
725196	GRIFFISS AFB, NY
Class III	
Solar Coordinates	
Latitude: 43.233˚	
Longitude: -75.4˚	
Elevation: 158 m	
Meteorological Coordinates	
Latitude: 43.233˚	
Longitude: -75.4˚	
Elevation: 158 m	
Time Zone: -5	

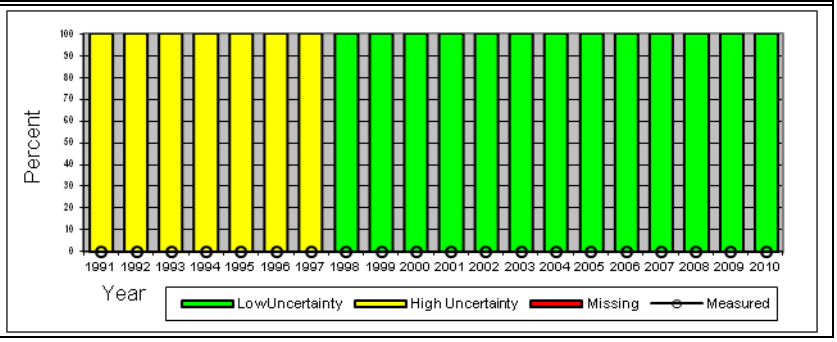
725035	ISLIP LONG ISL MACARTHUR AP, NY
Class I	
Solar Coordinates	
Latitude: 40.783˚	
Longitude: -73.1˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 40.783˚	
Longitude: -73.1˚	
Elevation: 26 m	
Time Zone: -5	

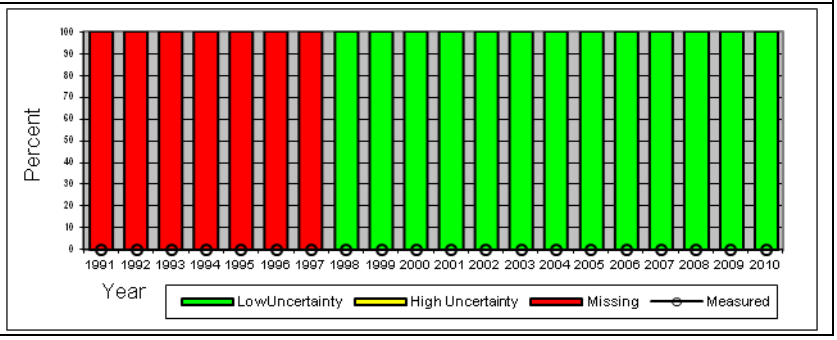
725155	ITHACA/TOMPKINS CO., NY
Class II	
Solar Coordinates	
Latitude: 42.483˚	
Longitude: -76.45˚	
Elevation: 335 m	
Meteorological Coordinates	
Latitude: 42.483˚	
Longitude: -76.45˚	
Elevation: 335 m	
Time Zone: -5	

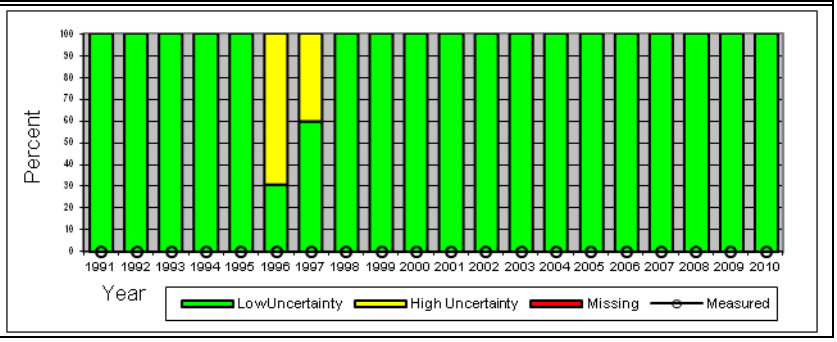
725235	JAMESTOWN (AWOS), NY
Class II	
Solar Coordinates	
Latitude: 42.15˚	
Longitude: -79.267˚	
Elevation: 525 m	
Meteorological Coordinates	
Latitude: 42.15˚	
Longitude: -79.267˚	
Elevation: 525 m	
Time Zone: -5	

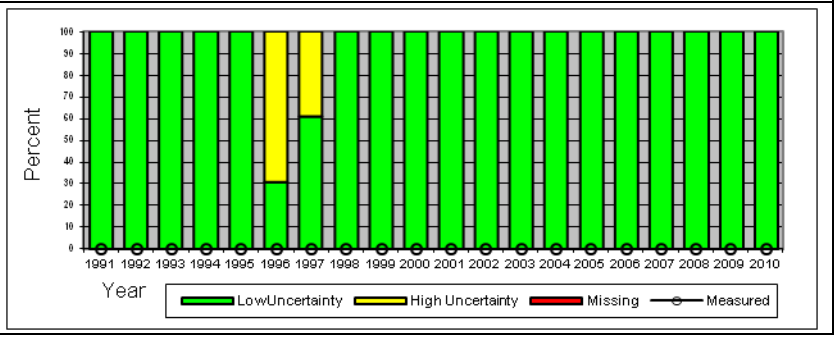
726223	MASSENA AP, NY
Class I	
Solar Coordinates	
Latitude: 44.933˚	
Longitude: -74.85˚	
Elevation: 65 m	
Meteorological Coordinates	
Latitude: 44.933˚	
Longitude: -74.85˚	
Elevation: 65 m	
Time Zone: -5	

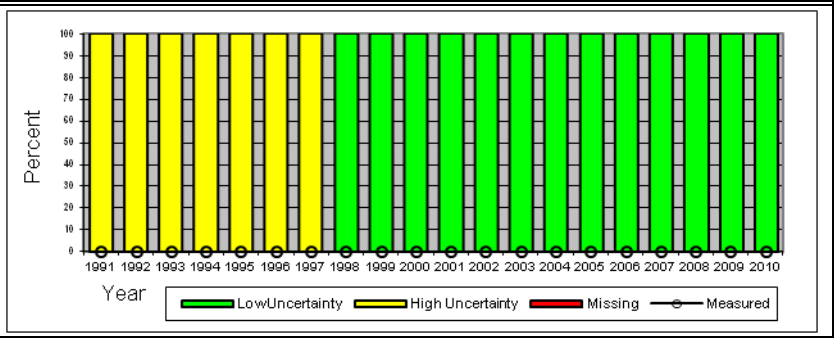
725015	MONTGOMERY, NY
Class III	
Solar Coordinates	
Latitude: 41.517˚	
Longitude: -74.267˚	
Elevation: 111 m	
Meteorological Coordinates	
Latitude: 41.517˚	
Longitude: -74.267˚	
Elevation: 111 m	
Time Zone: -5	

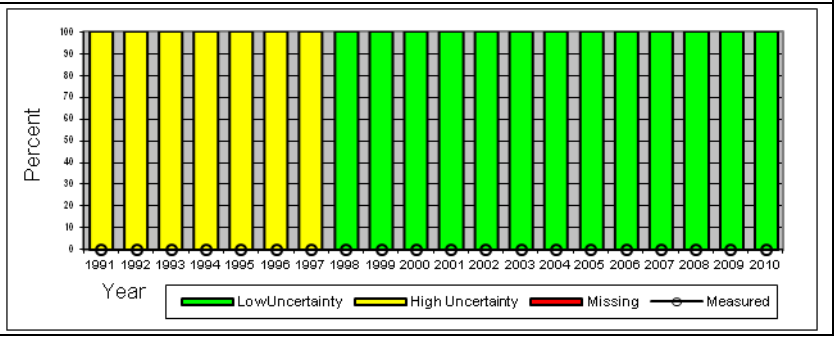
725145	MONTICELLO(AWOS), NY
Class II	
Solar Coordinates	
Latitude: 41.7˚	
Longitude: -74.8˚	
Elevation: 428 m	
Meteorological Coordinates	
Latitude: 41.7˚	
Longitude: -74.8˚	
Elevation: 428 m	
Time Zone: -5	

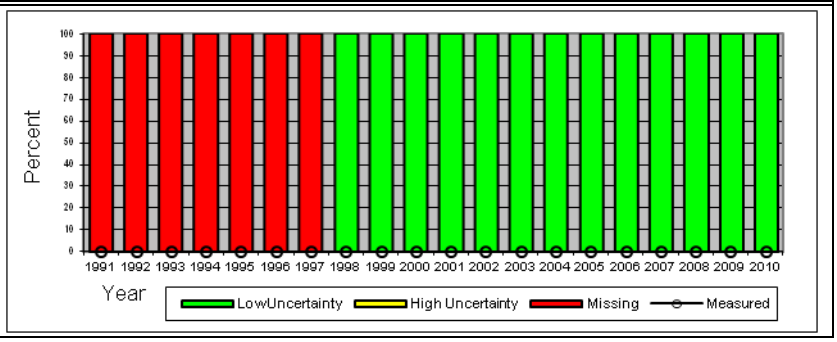
725033	NEW YORK CENTRAL PRK OBS BELV, NY
Class III	
Solar Coordinates	
Latitude: 40.783˚	
Longitude: -73.967˚	
Elevation: 40 m	
Meteorological Coordinates	
Latitude: 40.783˚	
Longitude: -73.967˚	
Elevation: 40 m	
Time Zone: -5	

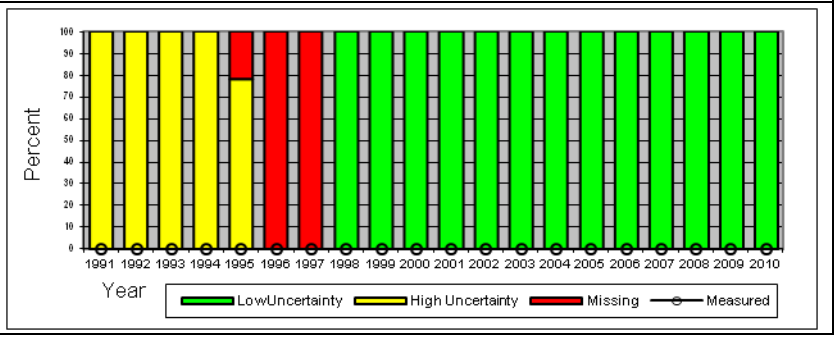
744860	NEW YORK J F KENNEDY INT'L AR, NY
Class I	
Solar Coordinates	
Latitude: 40.65˚	
Longitude: -73.8˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 40.65˚	
Longitude: -73.8˚	
Elevation: 5 m	
Time Zone: -5	

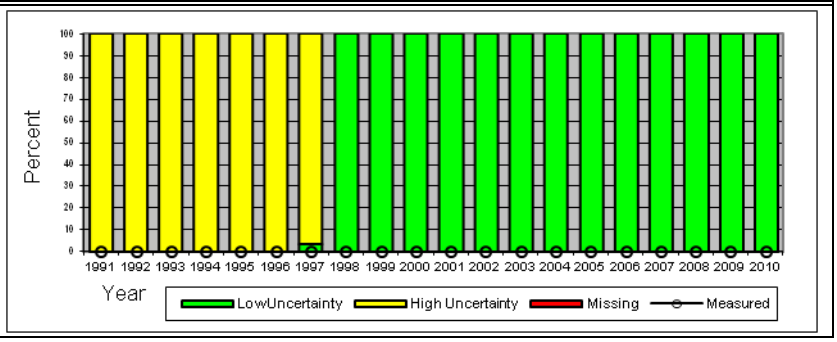
725030	NEW YORK LAGUARDIA ARPT, NY
Class I	
Solar Coordinates	
Latitude: 40.783˚	
Longitude: -73.883˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 40.783˚	
Longitude: -73.883˚	
Elevation: 3 m	
Time Zone: -5	

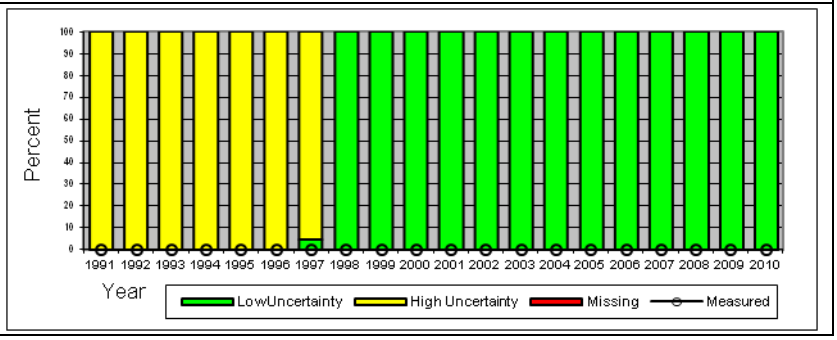
725287	NIAGARA FALLS AF, NY
Class II	
Solar Coordinates	
Latitude: 43.1˚	
Longitude: -78.95˚	
Elevation: 180 m	
Meteorological Coordinates	
Latitude: 43.1˚	
Longitude: -78.95˚	
Elevation: 180 m	
Time Zone: -5	

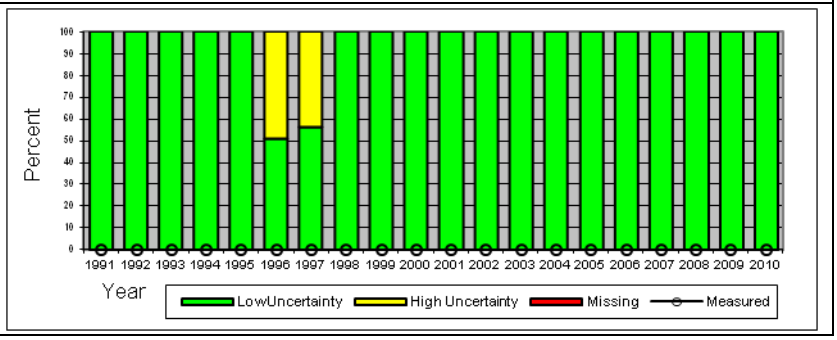
725186	OGDENSBURG INTL, NY
Class III	
Solar Coordinates	
Latitude: 44.683˚	
Longitude: -75.467˚	
Elevation: 91 m	
Meteorological Coordinates	
Latitude: 44.683˚	
Longitude: -75.467˚	
Elevation: 91 m	
Time Zone: -5	

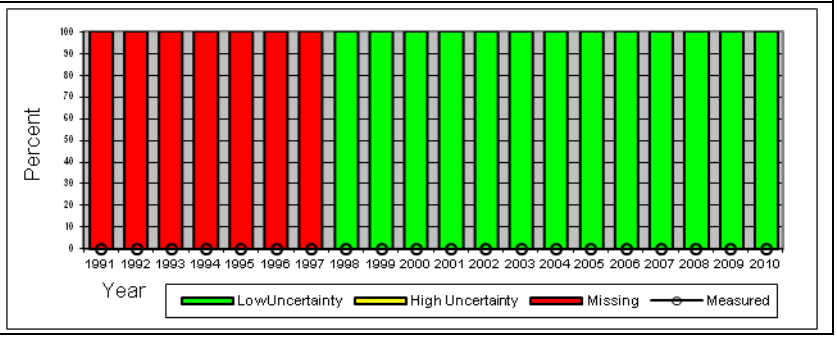
725194	PENN YAN, NY
Class III	
Solar Coordinates	
Latitude: 43.483˚	
Longitude: -77.05˚	
Elevation: 275 m	
Meteorological Coordinates	
Latitude: 43.483˚	
Longitude: -77.05˚	
Elevation: 275 m	
Time Zone: -5	

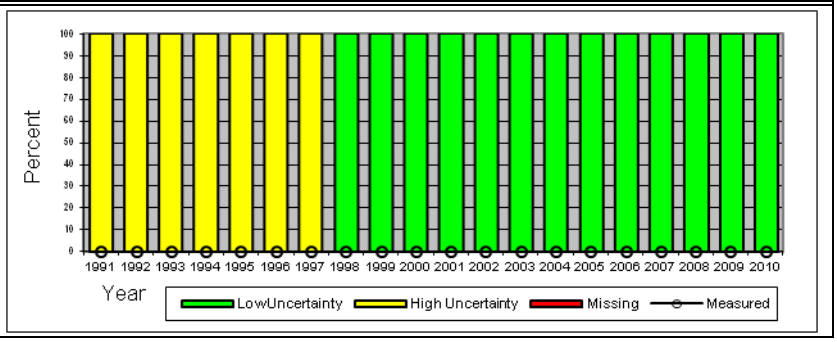
726225	PLATTSBURGH AFB, NY
Class III	
Solar Coordinates	
Latitude: 44.65˚	
Longitude: -73.467˚	
Elevation: 72 m	
Meteorological Coordinates	
Latitude: 44.65˚	
Longitude: -73.467˚	
Elevation: 72 m	
Time Zone: -5	

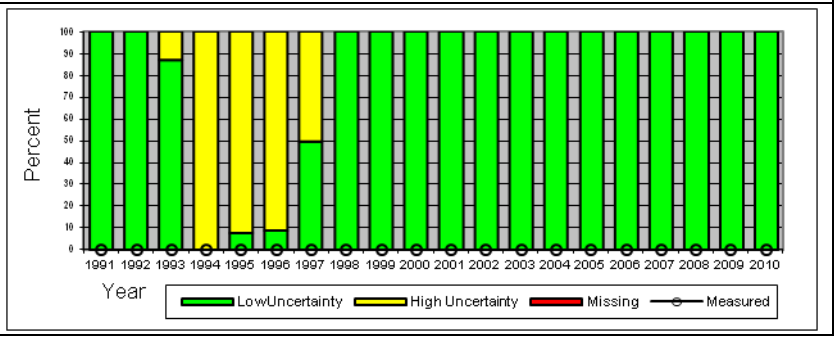
725036	POUGHKEEPSIE DUTCHESS CO AP, NY
Class II	
Solar Coordinates	
Latitude: 41.633˚	
Longitude: -73.883˚	
Elevation: 47 m	
Meteorological Coordinates	
Latitude: 41.633˚	
Longitude: -73.883˚	
Elevation: 47 m	
Time Zone: -5	

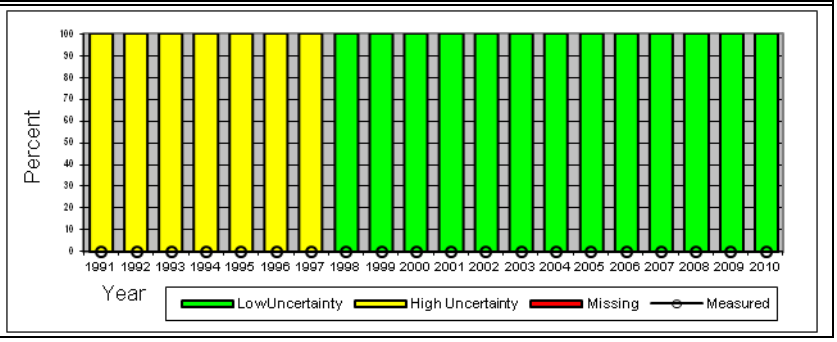
744864	REPUBLIC, NY
Class II	
Solar Coordinates	
Latitude: 40.717˚	
Longitude: -73.417˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 40.717˚	
Longitude: -73.417˚	
Elevation: 26 m	
Time Zone: -5	

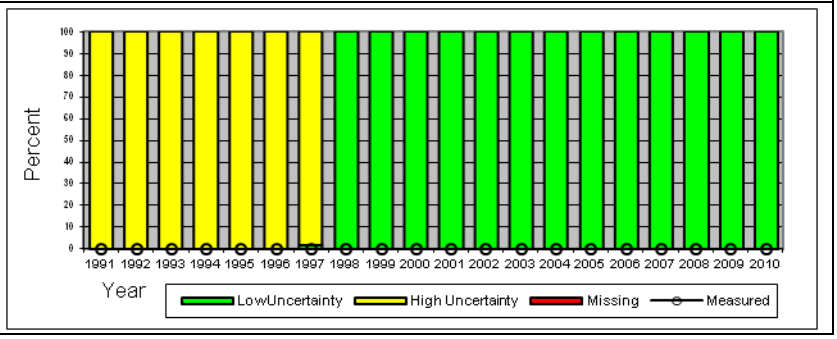
725290	ROCHESTER GREATER ROCHESTER I, NY
Class I	
Solar Coordinates	
Latitude: 43.117˚	
Longitude: -77.683˚	
Elevation: 183 m	
Meteorological Coordinates	
Latitude: 43.117˚	
Longitude: -77.683˚	
Elevation: 183 m	
Time Zone: -5	

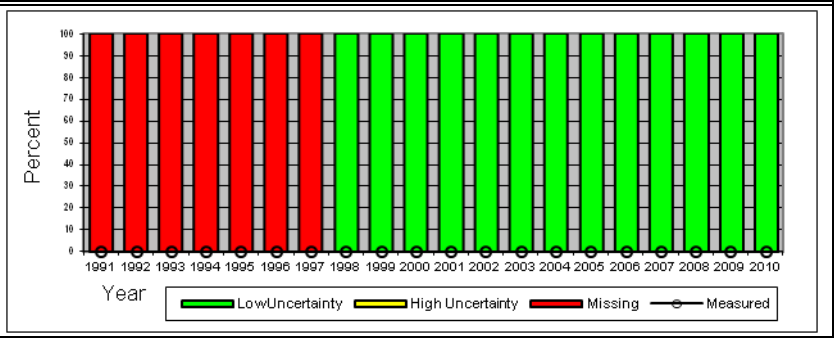
725016	SHIRLEY/BROOKHAVEN, NY
Class III	
Solar Coordinates	
Latitude: 40.817˚	
Longitude: -72.867˚	
Elevation: 25 m	
Meteorological Coordinates	
Latitude: 40.817˚	
Longitude: -72.867˚	
Elevation: 25 m	
Time Zone: -5	

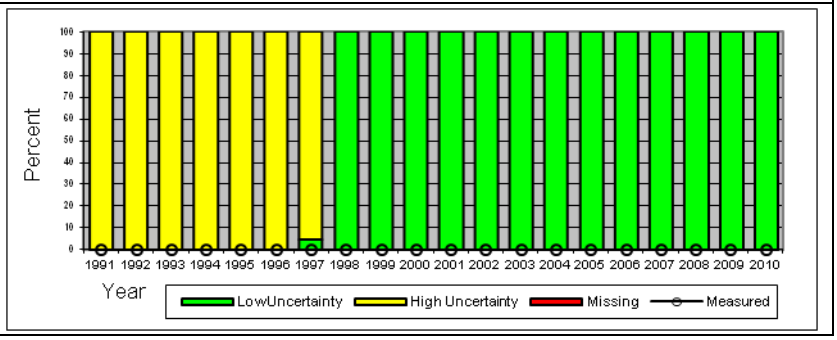
725038	STEWART FIELD, NY
Class II	
Solar Coordinates	
Latitude: 41.5˚	
Longitude: -74.1˚	
Elevation: 177 m	
Meteorological Coordinates	
Latitude: 41.5˚	
Longitude: -74.1˚	
Elevation: 177 m	
Time Zone: -5	

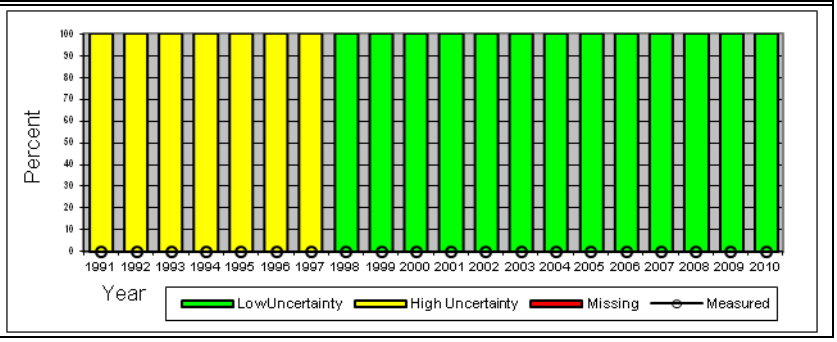
725190	SYRACUSE HANCOCK INT'L ARPT, NY
Class I	
Solar Coordinates	
Latitude: 43.117˚	
Longitude: -76.1˚	
Elevation: 125 m	
Meteorological Coordinates	
Latitude: 43.117˚	
Longitude: -76.1˚	
Elevation: 125 m	
Time Zone: -5	

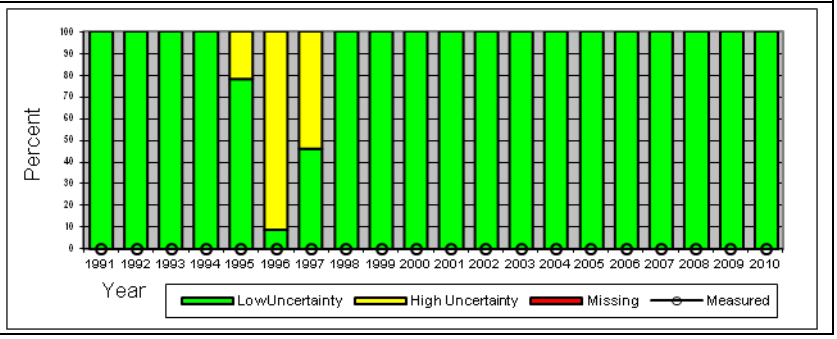
725197	UTICA ONEIDA COUNTY AP, NY
Class III	
Solar Coordinates	
Latitude: 43.15˚	
Longitude: -75.383˚	
Elevation: 217 m	
Meteorological Coordinates	
Latitude: 43.15˚	
Longitude: -75.383˚	
Elevation: 217 m	
Time Zone: -5	

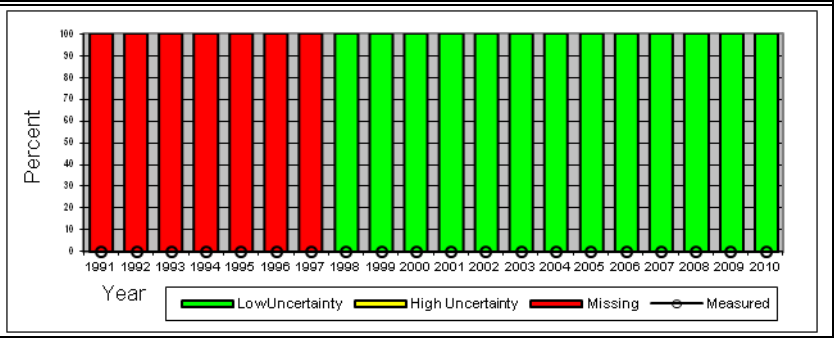
726227	WATERTOWN AP, NY
Class II	
Solar Coordinates	
Latitude: 44˚	
Longitude: -76.017˚	
Elevation: 97 m	
Meteorological Coordinates	
Latitude: 44˚	
Longitude: -76.017˚	
Elevation: 97 m	
Time Zone: -5	

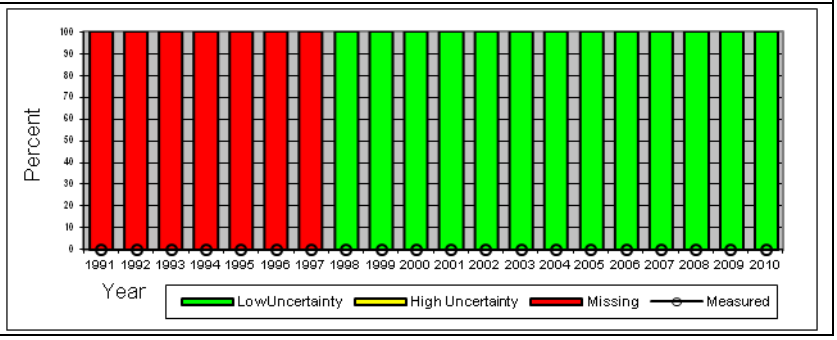
725157	WELLSVILLE MUNICIPA, NY
Class III	
Solar Coordinates	
Latitude: 42.1˚	
Longitude: -77.983˚	
Elevation: 646 m	
Meteorological Coordinates	
Latitude: 42.1˚	
Longitude: -77.983˚	
Elevation: 646 m	
Time Zone: -5	

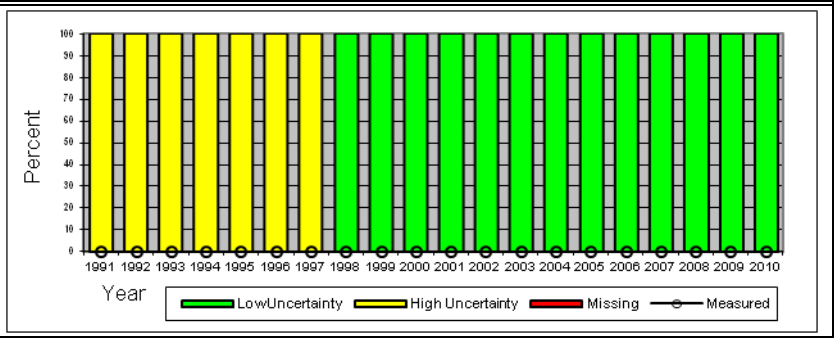
744865	WESTHAMPTON GABRESKI AP, NY
Class II	
Solar Coordinates	
Latitude: 40.85˚	
Longitude: -72.633˚	
Elevation: 20 m	
Meteorological Coordinates	
Latitude: 40.85˚	
Longitude: -72.633˚	
Elevation: 20 m	
Time Zone: -5	

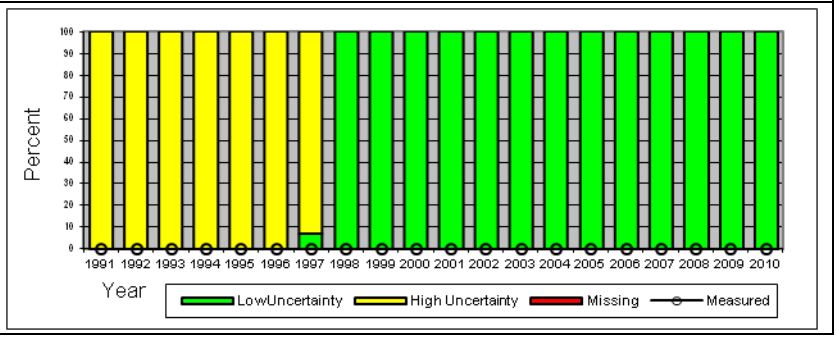
725037	WHITE PLAINS WESTCHESTER CO A, NY
Class II	
Solar Coordinates	
Latitude: 41.067˚	
Longitude: -73.717˚	
Elevation: 122 m	
Meteorological Coordinates	
Latitude: 41.067˚	
Longitude: -73.717˚	
Elevation: 122 m	
Time Zone: -5	

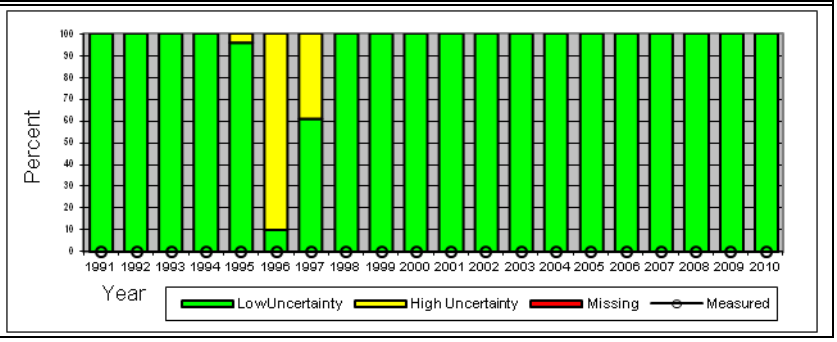
725210	AKRON AKRON-CANTON REG AP, OH
Class I	
Solar Coordinates	
Latitude: 40.917˚	
Longitude: -81.433˚	
Elevation: 368 m	
Meteorological Coordinates	
Latitude: 40.917˚	
Longitude: -81.433˚	
Elevation: 368 m	
Time Zone: -5	

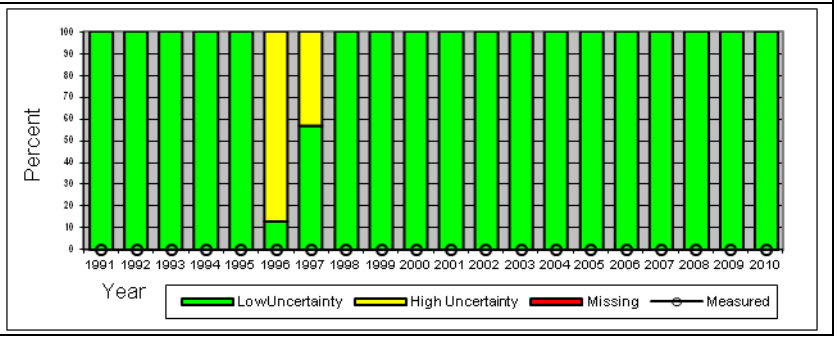
724303	AKRON FULTON ASOS, OH
Class III	
Solar Coordinates	
Latitude: 41.033˚	
Longitude: -81.467˚	
Elevation: 326 m	
Meteorological Coordinates	
Latitude: 41.033˚	
Longitude: -81.467˚	
Elevation: 326 m	
Time Zone: -5	

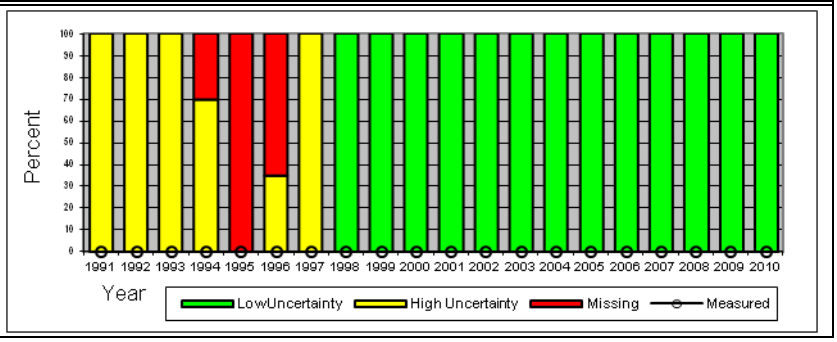
725256	ASHTABULA COUNTY AR, OH
Class III	
Solar Coordinates	
Latitude: 41.767˚	
Longitude: -80.683˚	
Elevation: 281 m	
Meteorological Coordinates	
Latitude: 41.767˚	
Longitude: -80.683˚	
Elevation: 281 m	
Time Zone: -5	

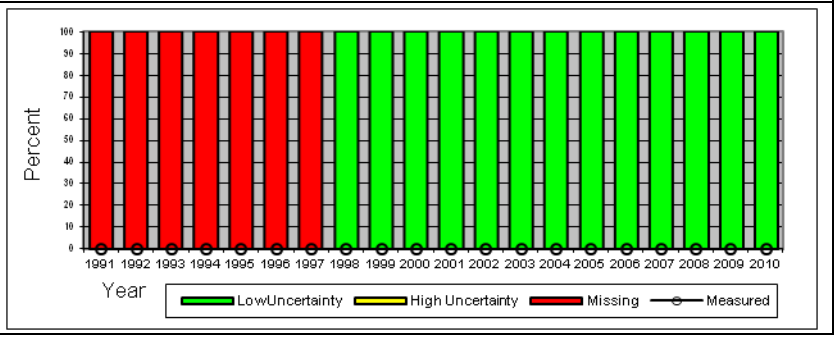
725245	BURKE LAKEFRONT, OH
Class II	
Solar Coordinates	
Latitude: 41.517˚	
Longitude: -81.683˚	
Elevation: 182 m	
Meteorological Coordinates	
Latitude: 41.517˚	
Longitude: -81.683˚	
Elevation: 182 m	
Time Zone: -5	

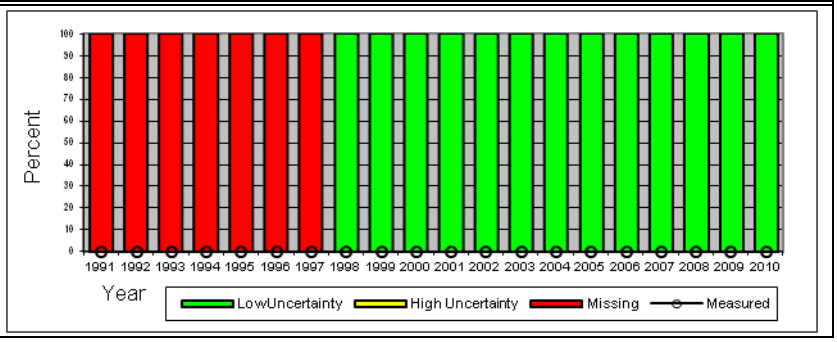
724297	CINCINNATI MUNICIPAL AP LUNKI, OH
Class II	
Solar Coordinates	
Latitude: 39.1˚	
Longitude: -84.417˚	
Elevation: 149 m	
Meteorological Coordinates	
Latitude: 39.1˚	
Longitude: -84.417˚	
Elevation: 149 m	
Time Zone: -5	

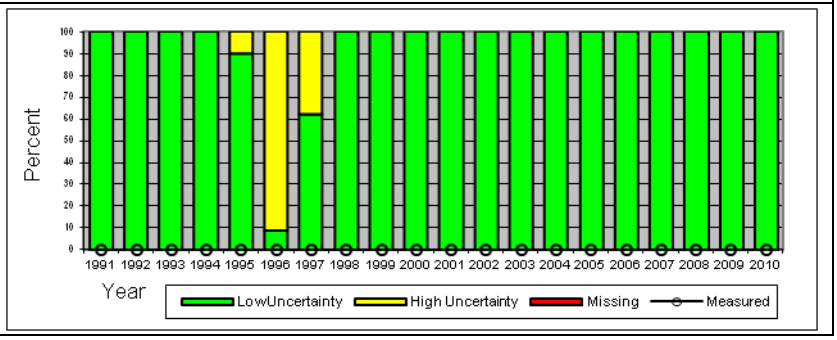
725240	CLEVELAND HOPKINS INTL AP, OH
Class I	
Solar Coordinates	
Latitude: 41.4˚	
Longitude: -81.85˚	
Elevation: 235 m	
Meteorological Coordinates	
Latitude: 41.4˚	
Longitude: -81.85˚	
Elevation: 235 m	
Time Zone: -5	

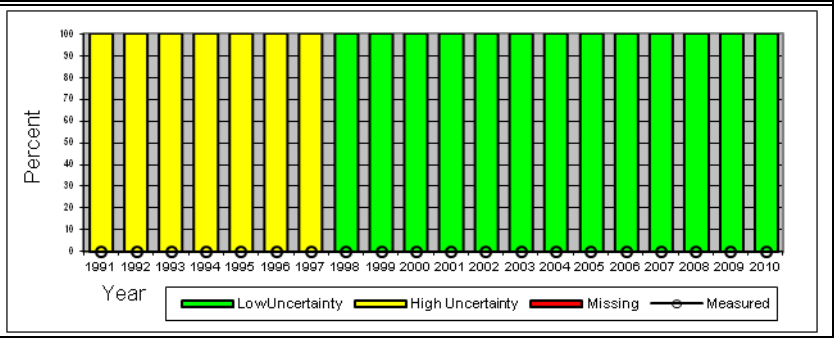
724280	COLUMBUS PORT COLUMBUS INTL A, OH
Class I	
Solar Coordinates	
Latitude: 39.983˚	
Longitude: -82.883˚	
Elevation: 247 m	
Meteorological Coordinates	
Latitude: 39.983˚	
Longitude: -82.883˚	
Elevation: 247 m	
Time Zone: -5	

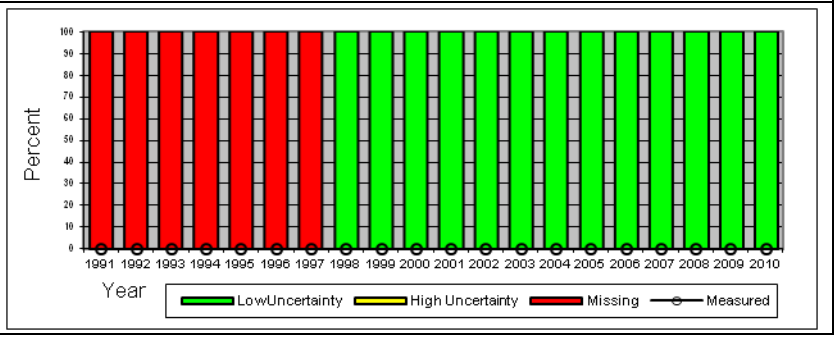
724285	COLUMBUS RICKENBACKE, OH
Class III	
Solar Coordinates	
Latitude: 39.817˚	
Longitude: -82.933˚	
Elevation: 230 m	
Meteorological Coordinates	
Latitude: 39.817˚	
Longitude: -82.933˚	
Elevation: 230 m	
Time Zone: -5	

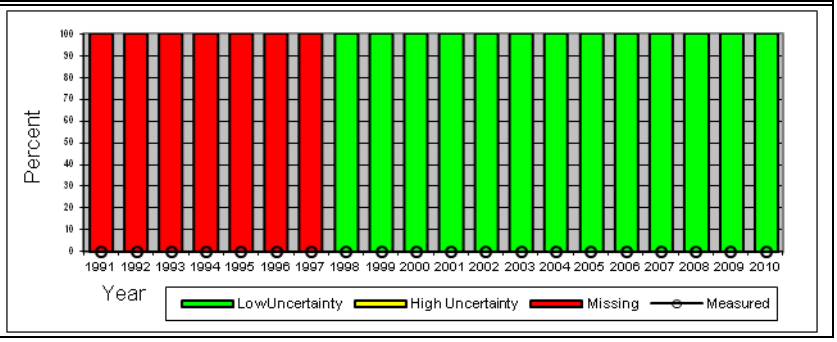
724284	COLUMBUS/BOLTON FLD, OH
Class III	
Solar Coordinates	
Latitude: 39.9˚	
Longitude: -83.133˚	
Elevation: 280 m	
Meteorological Coordinates	
Latitude: 39.9˚	
Longitude: -83.133˚	
Elevation: 280 m	
Time Zone: -5	

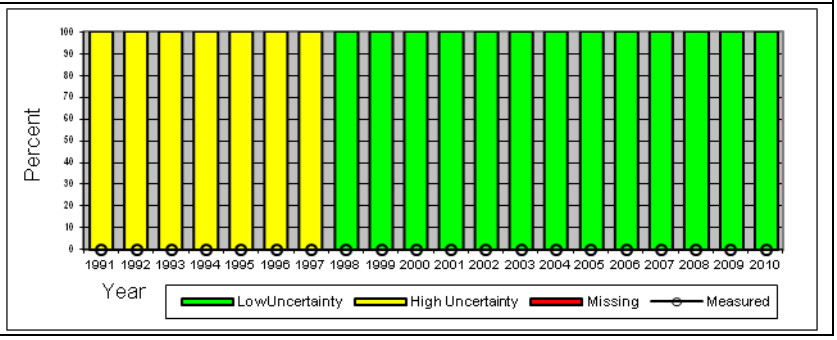
724276	DAYTON GENERL ARPT, OH
Class III	
Solar Coordinates	
Latitude: 39.6˚	
Longitude: -84.233˚	
Elevation: 293 m	
Meteorological Coordinates	
Latitude: 39.6˚	
Longitude: -84.233˚	
Elevation: 293 m	
Time Zone: -5	

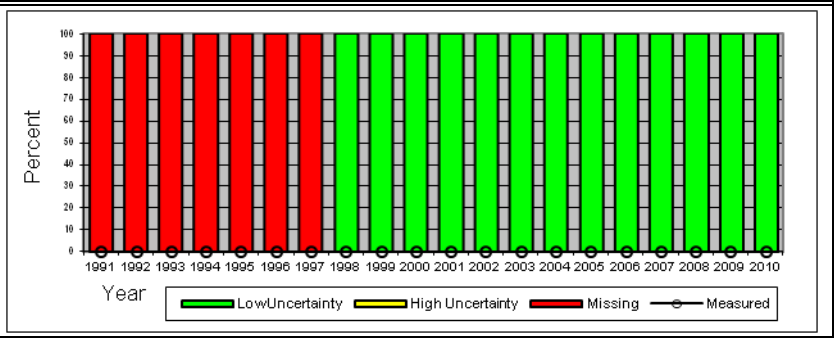
724290	DAYTON INTERNATIONAL AIRPORT, OH
Class I	
Solar Coordinates	
Latitude: 39.9˚	
Longitude: -84.217˚	
Elevation: 305 m	
Meteorological Coordinates	
Latitude: 39.9˚	
Longitude: -84.217˚	
Elevation: 305 m	
Time Zone: -5	

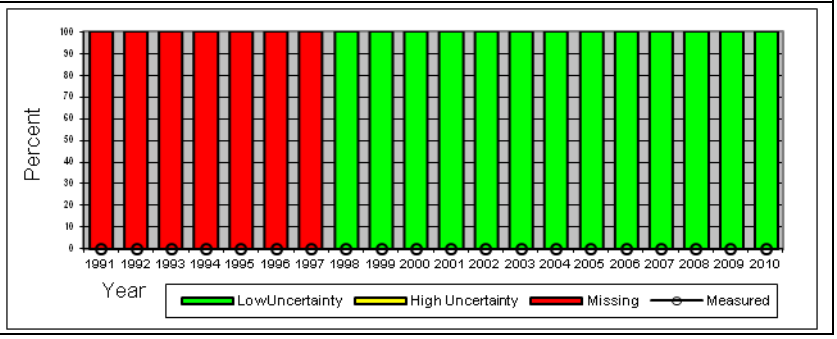
745700	DAYTON WRIGHT PATTERSON AFB, OH
Class II	
Solar Coordinates	
Latitude: 39.833˚	
Longitude: -84.05˚	
Elevation: 250 m	
Meteorological Coordinates	
Latitude: 39.833˚	
Longitude: -84.05˚	
Elevation: 250 m	
Time Zone: -5	

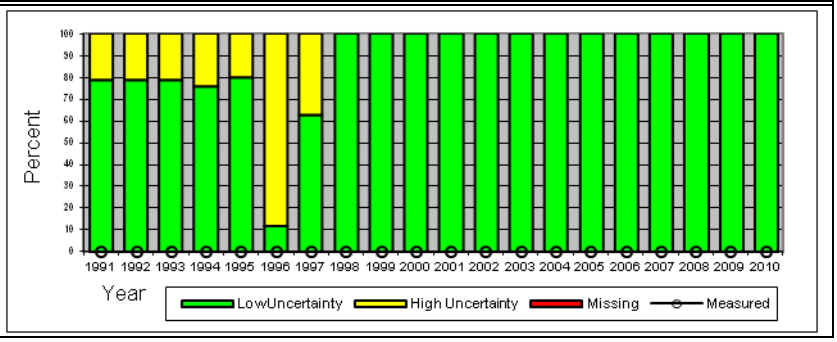
725254	DEFIANCE MEMORIAL, OH
Class III	
Solar Coordinates	
Latitude: 41.333˚	
Longitude: -84.417˚	
Elevation: 219 m	
Meteorological Coordinates	
Latitude: 41.333˚	
Longitude: -84.417˚	
Elevation: 219 m	
Time Zone: -5	

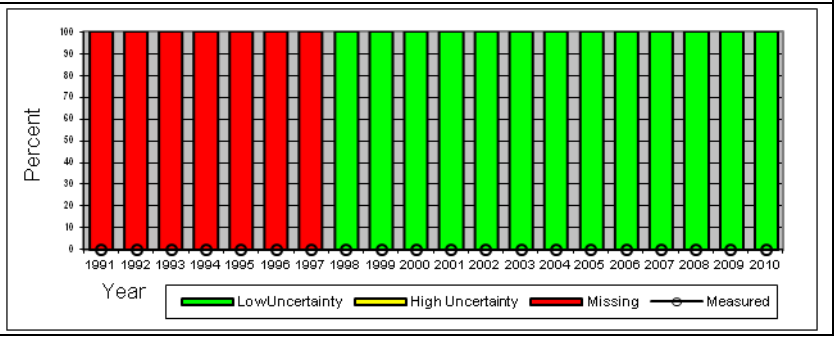
725214	ELYRIA/LORAIN CO., OH
Class III	
Solar Coordinates	
Latitude: 41.35˚	
Longitude: -82.183˚	
Elevation: 242 m	
Meteorological Coordinates	
Latitude: 41.35˚	
Longitude: -82.183˚	
Elevation: 242 m	
Time Zone: -5	

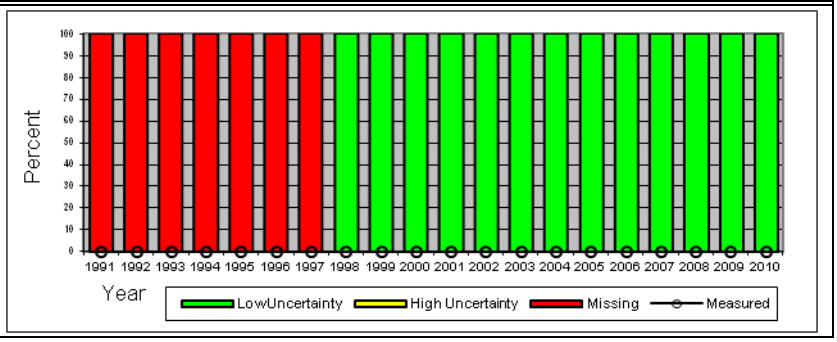
725366	FINDLAY AIRPORT, OH
Class II	
Solar Coordinates	
Latitude: 41.017˚	
Longitude: -83.667˚	
Elevation: 244 m	
Meteorological Coordinates	
Latitude: 41.017˚	
Longitude: -83.667˚	
Elevation: 244 m	
Time Zone: -5	

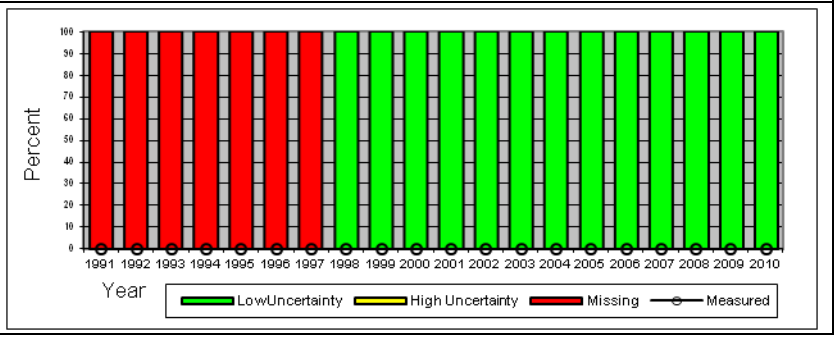
725217	HAMILTON, OH
Class III	
Solar Coordinates	
Latitude: 39.367˚	
Longitude: -84.517˚	
Elevation: 193 m	
Meteorological Coordinates	
Latitude: 39.367˚	
Longitude: -84.517˚	
Elevation: 193 m	
Time Zone: -5	

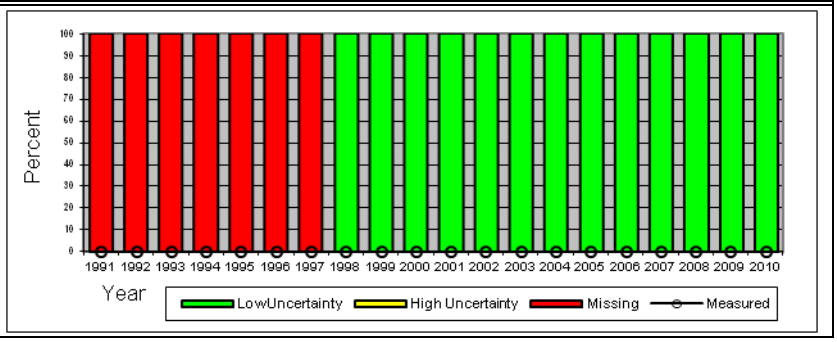
724298	LIMA ALLEN CO ARPT, OH
Class III	
Solar Coordinates	
Latitude: 40.4˚	
Longitude: -84.017˚	
Elevation: 296 m	
Meteorological Coordinates	
Latitude: 40.4˚	
Longitude: -84.017˚	
Elevation: 296 m	
Time Zone: -5	

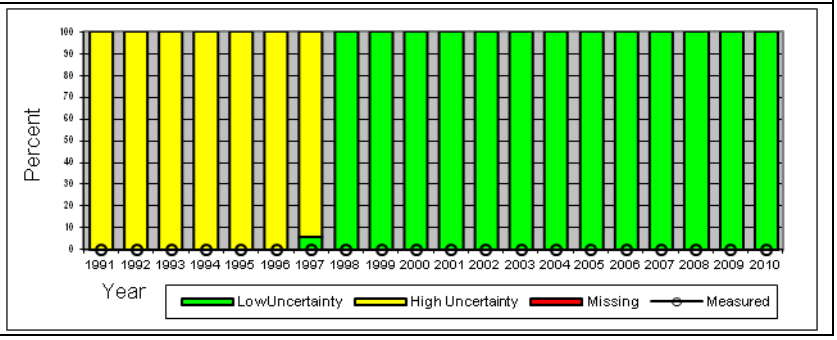
725246	MANSFIELD LAHM MUNICIPAL ARPT, OH
Class I	
Solar Coordinates	
Latitude: 40.817˚	
Longitude: -82.517˚	
Elevation: 395 m	
Meteorological Coordinates	
Latitude: 40.817˚	
Longitude: -82.517˚	
Elevation: 395 m	
Time Zone: -5	

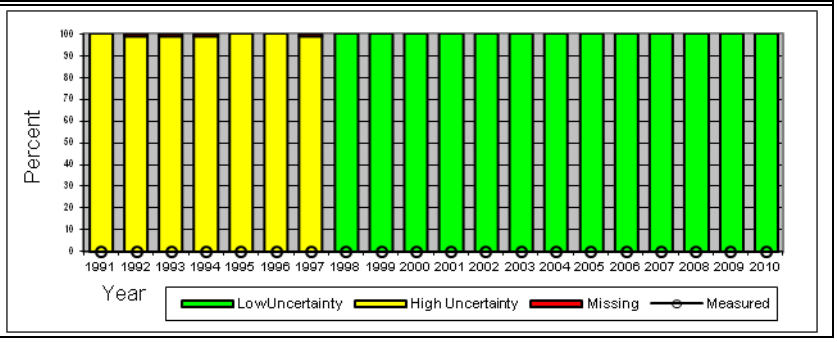
725208	MARION MUNI ARPT, OH
Class III	
Solar Coordinates	
Latitude: 40.617˚	
Longitude: -83.067˚	
Elevation: 303 m	
Meteorological Coordinates	
Latitude: 40.617˚	
Longitude: -83.067˚	
Elevation: 303 m	
Time Zone: -5	

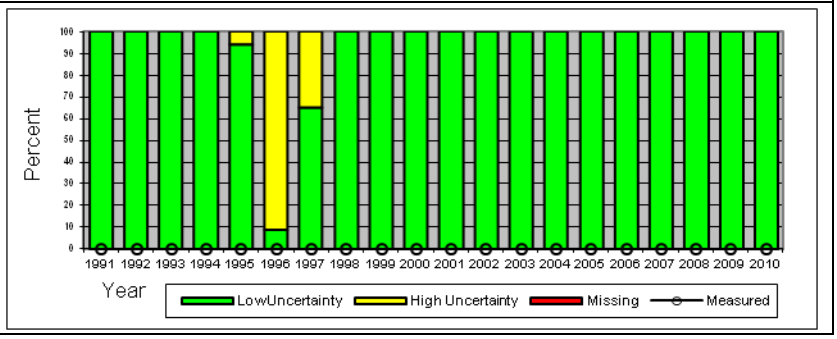
724287	METCALF FIELD, OH
Class III	
Solar Coordinates	
Latitude: 41.55˚	
Longitude: -83.467˚	
Elevation: 189 m	
Meteorological Coordinates	
Latitude: 41.55˚	
Longitude: -83.467˚	
Elevation: 189 m	
Time Zone: -5	

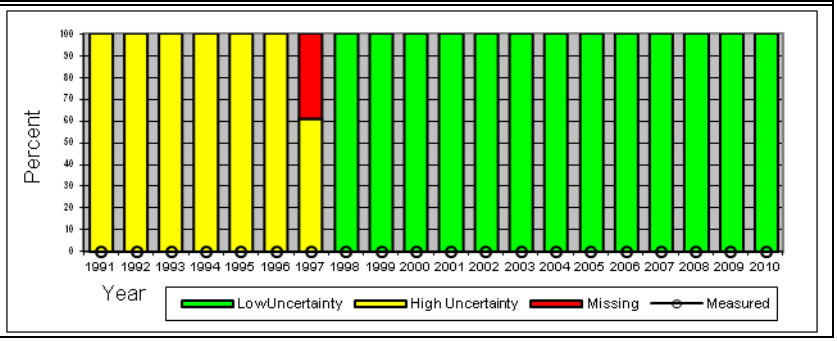
725224	NEW PHILADELPHIA, OH
Class III	
Solar Coordinates	
Latitude: 40.467˚	
Longitude: -81.417˚	
Elevation: 272 m	
Meteorological Coordinates	
Latitude: 40.467˚	
Longitude: -81.417˚	
Elevation: 272 m	
Time Zone: -5	

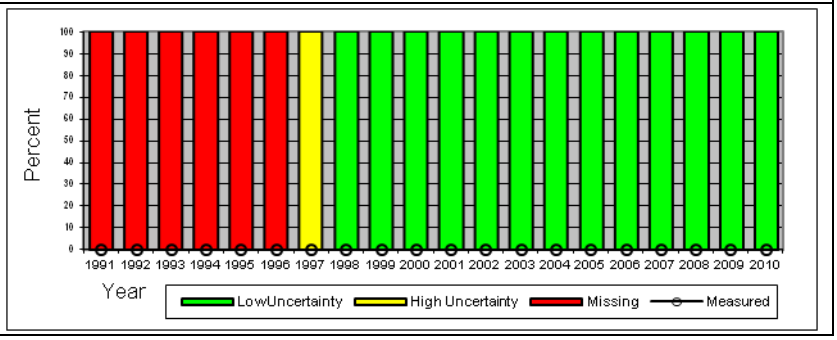
725229	NEWARK/HEATH AIRPRT, OH
Class III	
Solar Coordinates	
Latitude: 40.017˚	
Longitude: -82.45˚	
Elevation: 269 m	
Meteorological Coordinates	
Latitude: 40.017˚	
Longitude: -82.45˚	
Elevation: 269 m	
Time Zone: -5	

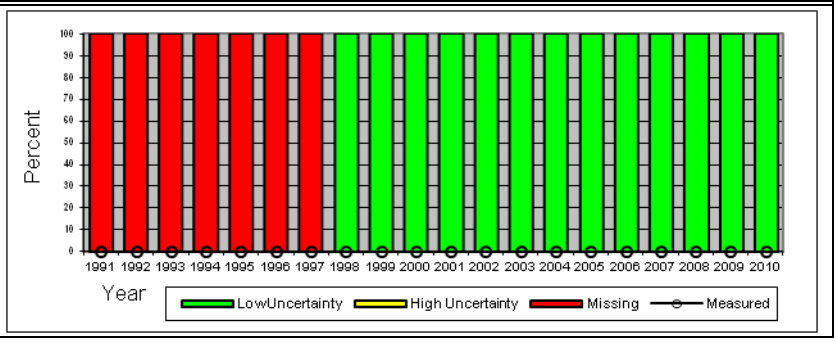
724288	OHIO STATE UNIVERSI, OH
Class II	
Solar Coordinates	
Latitude: 40.067˚	
Longitude: -83.067˚	
Elevation: 283 m	
Meteorological Coordinates	
Latitude: 40.067˚	
Longitude: -83.067˚	
Elevation: 283 m	
Time Zone: -5	

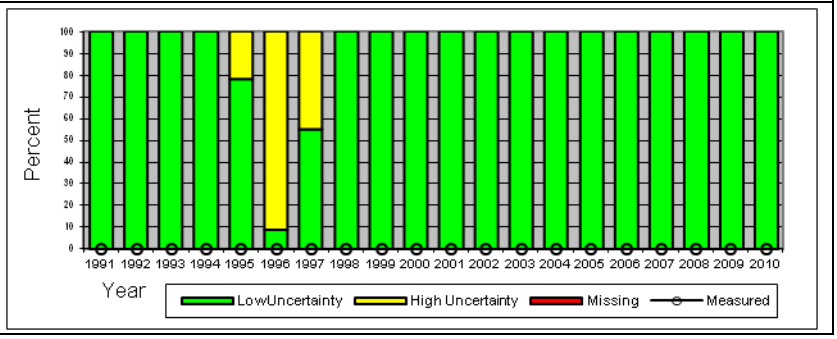
724295	SPRINGFIELD AF, OH
Class III	
Solar Coordinates	
Latitude: 39.85˚	
Longitude: -83.833˚	
Elevation: 323 m	
Meteorological Coordinates	
Latitude: 39.85˚	
Longitude: -83.833˚	
Elevation: 323 m	
Time Zone: -5	

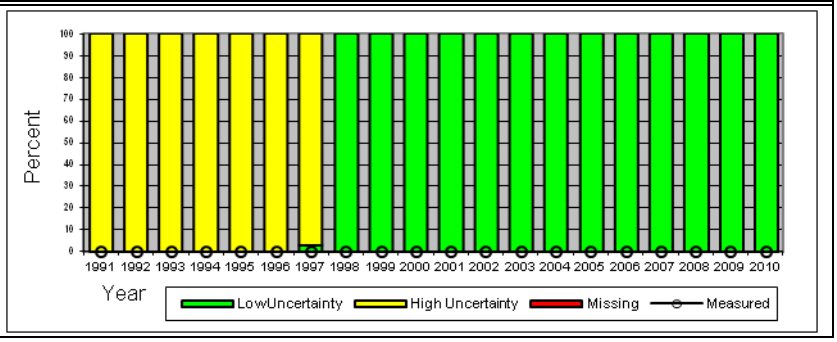
725360	TOLEDO EXPRESS AIRPORT, OH
Class I	
Solar Coordinates	
Latitude: 41.583˚	
Longitude: -83.8˚	
Elevation: 204 m	
Meteorological Coordinates	
Latitude: 41.583˚	
Longitude: -83.8˚	
Elevation: 204 m	
Time Zone: -5	

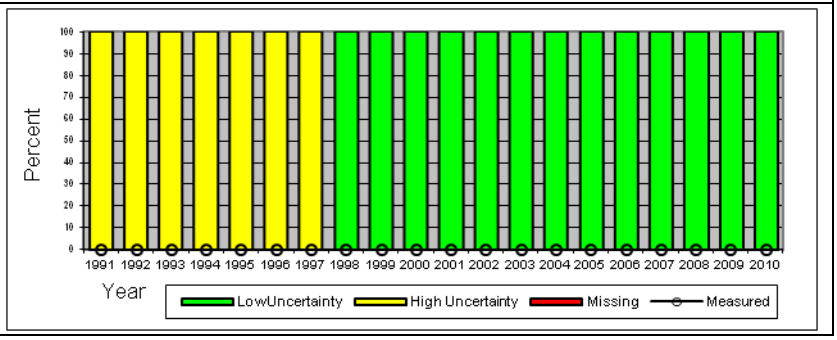
725244	WILLOUGHBY, OH
Class III	
Solar Coordinates	
Latitude: 41.683˚	
Longitude: -81.383˚	
Elevation: 191 m	
Meteorological Coordinates	
Latitude: 41.683˚	
Longitude: -81.383˚	
Elevation: 191 m	
Time Zone: -5	

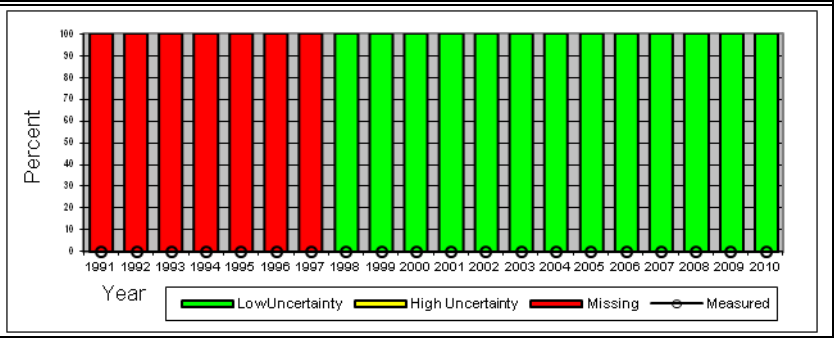
724296	WILMINGTON AIRBORNE PARK, OH
Class III	
Solar Coordinates	
Latitude: 39.417˚	
Longitude: -83.817˚	
Elevation: 328 m	
Meteorological Coordinates	
Latitude: 39.417˚	
Longitude: -83.817˚	
Elevation: 328 m	
Time Zone: -5	

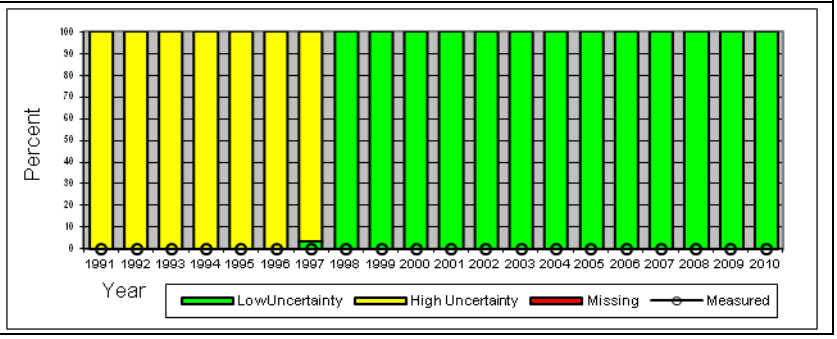
725216	WOOSTER, OH
Class III	
Solar Coordinates	
Latitude: 40.867˚	
Longitude: -81.883˚	
Elevation: 346 m	
Meteorological Coordinates	
Latitude: 40.867˚	
Longitude: -81.883˚	
Elevation: 346 m	
Time Zone: -5	

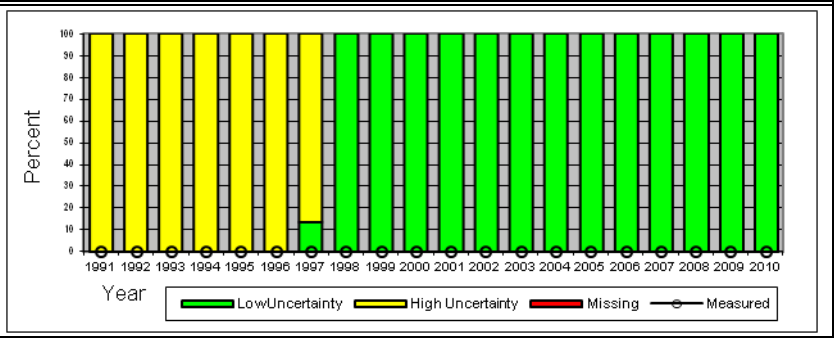
725250	YOUNGSTOWN REGIONAL AIRPORT, OH
Class I	
Solar Coordinates	
Latitude: 41.25˚	
Longitude: -80.667˚	
Elevation: 360 m	
Meteorological Coordinates	
Latitude: 41.25˚	
Longitude: -80.667˚	
Elevation: 360 m	
Time Zone: -5	

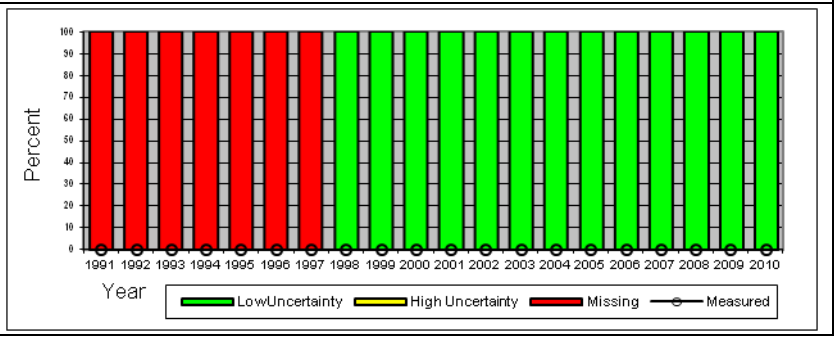
724286	ZANESVILLE MUNICIPAL AP, OH
Class II	
Solar Coordinates	
Latitude: 39.95˚	
Longitude: -81.9˚	
Elevation: 268 m	
Meteorological Coordinates	
Latitude: 39.95˚	
Longitude: -81.9˚	
Elevation: 268 m	
Time Zone: -5	

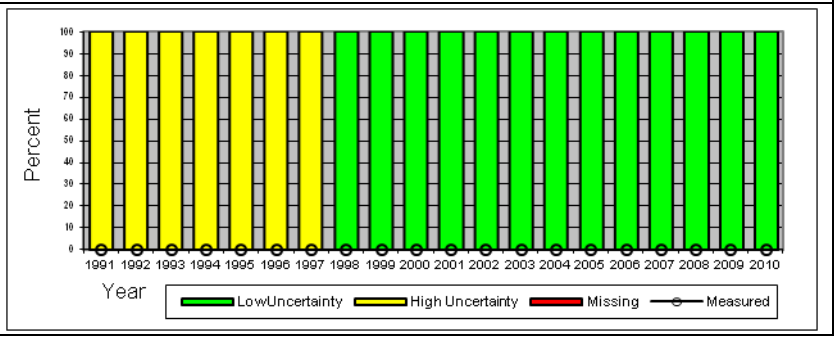
723520	ALTUS AFB, OK
Class II	
Solar Coordinates	
Latitude: 34.65˚	
Longitude: -99.267˚	
Elevation: 414 m	
Meteorological Coordinates	
Latitude: 34.65˚	
Longitude: -99.267˚	
Elevation: 414 m	
Time Zone: -6	

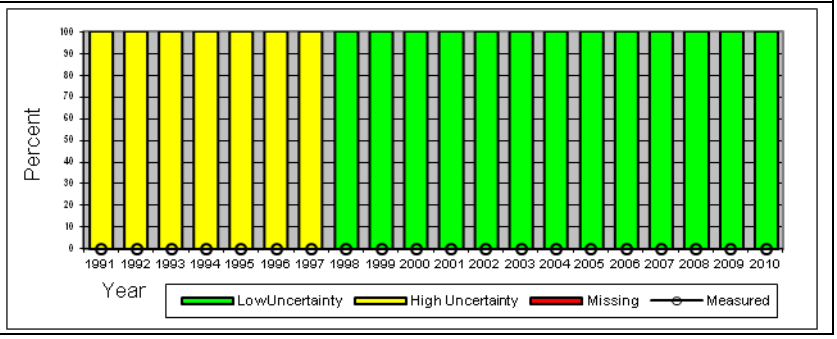
723529	ARDMORE, OK
Class III	
Solar Coordinates	
Latitude: 34.15˚	
Longitude: -97.117˚	
Elevation: 257 m	
Meteorological Coordinates	
Latitude: 34.15˚	
Longitude: -97.117˚	
Elevation: 257 m	
Time Zone: -6	

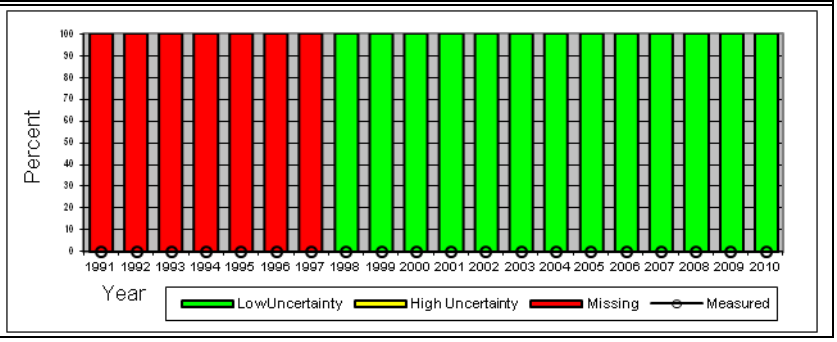
723565	BARTLESVILLE/PHILLI, OK
Class II	
Solar Coordinates	
Latitude: 36.767˚	
Longitude: -96.017˚	
Elevation: 218 m	
Meteorological Coordinates	
Latitude: 36.767˚	
Longitude: -96.017˚	
Elevation: 218 m	
Time Zone: -6	

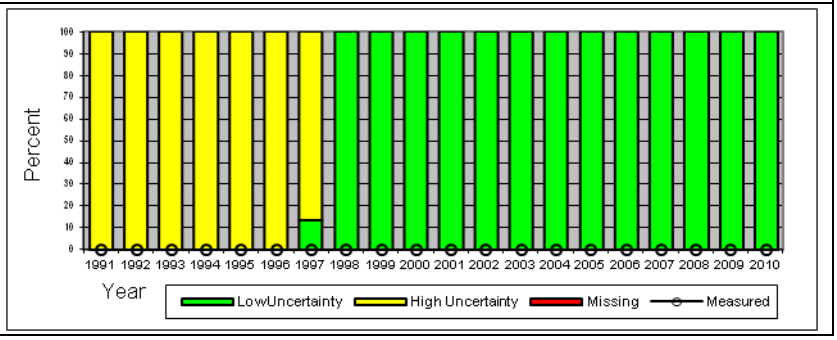
723526	CLINTON-SHERMAN, OK
Class III	
Solar Coordinates	
Latitude: 35.333˚	
Longitude: -99.2˚	
Elevation: 586 m	
Meteorological Coordinates	
Latitude: 35.333˚	
Longitude: -99.2˚	
Elevation: 586 m	
Time Zone: -6	

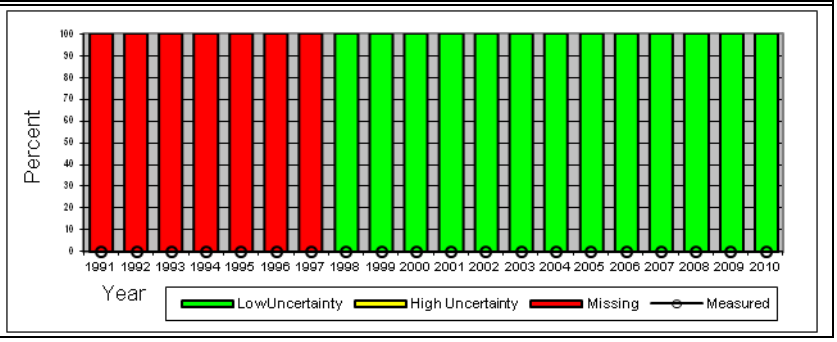
742513	DURANT, OK
Class III	
Solar Coordinates	
Latitude: 33.95˚	
Longitude: -96.4˚	
Elevation: 213 m	
Meteorological Coordinates	
Latitude: 33.95˚	
Longitude: -96.4˚	
Elevation: 213 m	
Time Zone: -6	

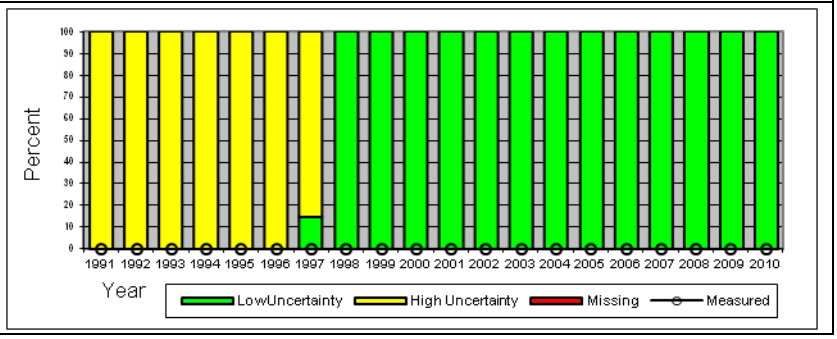
723536	ENID WOODRING RGNL, OK
Class II	
Solar Coordinates	
Latitude: 36.367˚	
Longitude: -97.783˚	
Elevation: 365 m	
Meteorological Coordinates	
Latitude: 36.367˚	
Longitude: -97.783˚	
Elevation: 365 m	
Time Zone: -6	

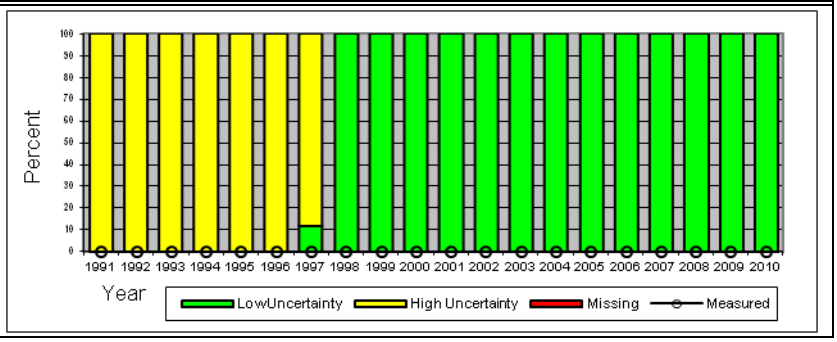
723550	FORT SILL POST FIELD AF, OK
Class II	
Solar Coordinates	
Latitude: 34.65˚	
Longitude: -98.4˚	
Elevation: 369 m	
Meteorological Coordinates	
Latitude: 34.65˚	
Longitude: -98.4˚	
Elevation: 369 m	
Time Zone: -6	

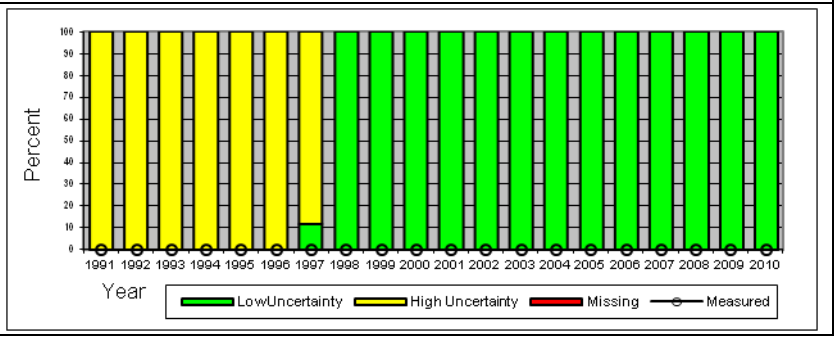
723528	FREDERICK MUNI, OK
Class III	
Solar Coordinates	
Latitude: 34.333˚	
Longitude: -98.983˚	
Elevation: 377 m	
Meteorological Coordinates	
Latitude: 34.333˚	
Longitude: -98.983˚	
Elevation: 377 m	
Time Zone: -6	

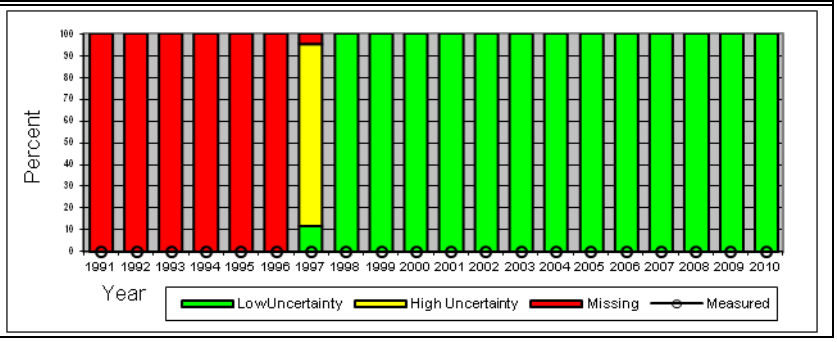
723527	GAGE AIRPORT, OK
Class II	
Solar Coordinates	
Latitude: 36.3˚	
Longitude: -99.767˚	
Elevation: 668 m	
Meteorological Coordinates	
Latitude: 36.3˚	
Longitude: -99.767˚	
Elevation: 668 m	
Time Zone: -6	

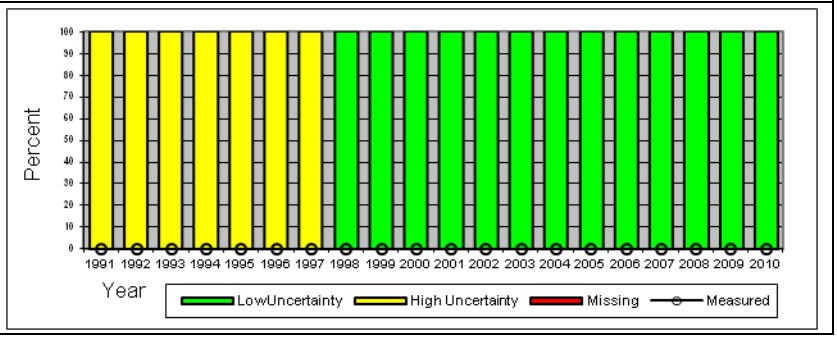
723537	GUTHRIE, OK
Class III	
Solar Coordinates	
Latitude: 35.85˚	
Longitude: -97.4˚	
Elevation: 327 m	
Meteorological Coordinates	
Latitude: 35.85˚	
Longitude: -97.4˚	
Elevation: 327 m	
Time Zone: -6	

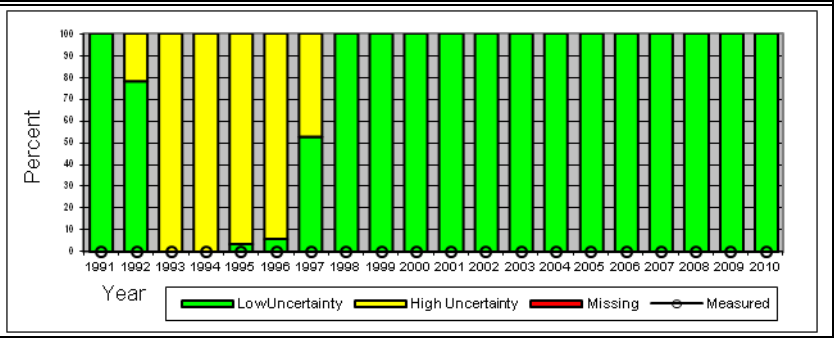
723525	HOBART MUNICIPAL AP, OK
Class II	
Solar Coordinates	
Latitude: 35˚	
Longitude: -99.05˚	
Elevation: 478 m	
Meteorological Coordinates	
Latitude: 35˚	
Longitude: -99.05˚	
Elevation: 478 m	
Time Zone: -6	

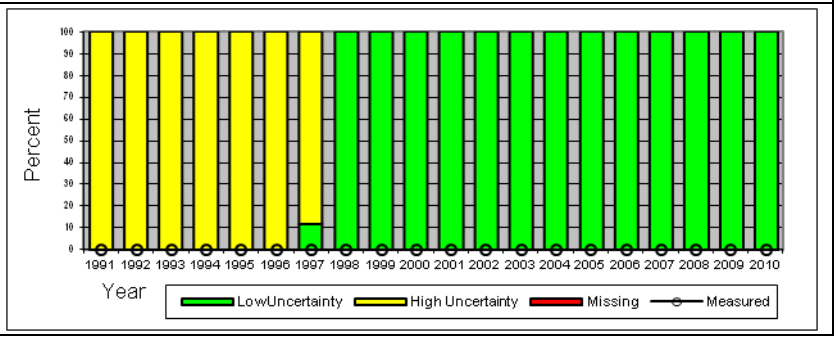
723575	LAWTON MUNICIPAL, OK
Class II	
Solar Coordinates	
Latitude: 34.567˚	
Longitude: -98.417˚	
Elevation: 338 m	
Meteorological Coordinates	
Latitude: 34.567˚	
Longitude: -98.417˚	
Elevation: 338 m	
Time Zone: -6	

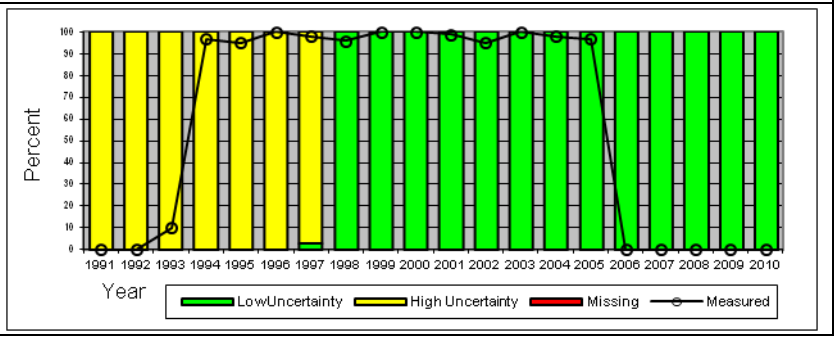
723566	MCALESTER MUNICIPAL AP, OK
Class II	
Solar Coordinates	
Latitude: 34.9˚	
Longitude: -95.783˚	
Elevation: 232 m	
Meteorological Coordinates	
Latitude: 34.9˚	
Longitude: -95.783˚	
Elevation: 232 m	
Time Zone: -6	

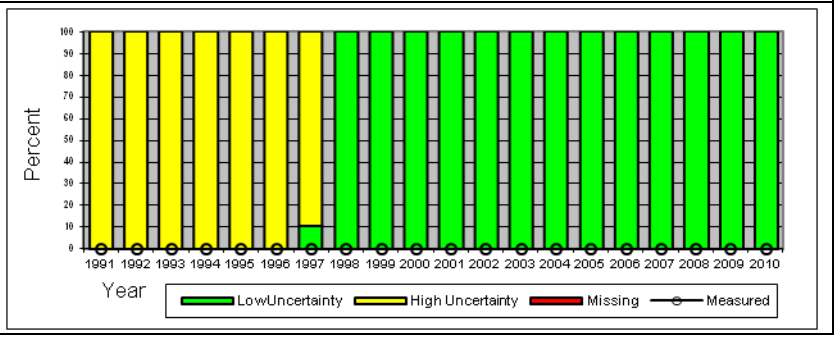
723556	MUSKOGEE/DAVIS FLD, OK
Class III	
Solar Coordinates	
Latitude: 35.65˚	
Longitude: -95.367˚	
Elevation: 186 m	
Meteorological Coordinates	
Latitude: 35.65˚	
Longitude: -95.367˚	
Elevation: 186 m	
Time Zone: -6	

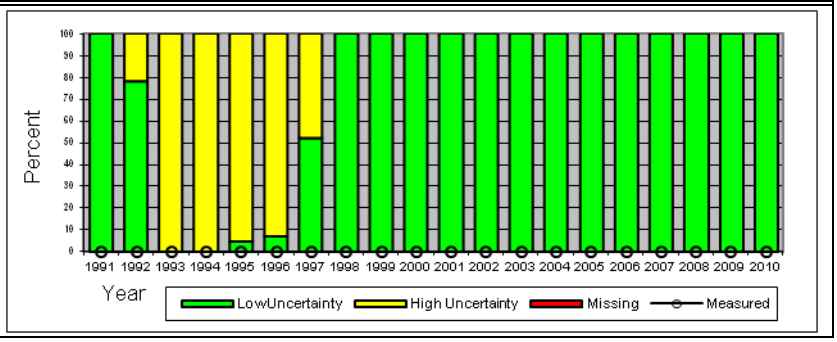
723540	OKLAHOMA CITY TINKER AFB, OK
Class II	
Solar Coordinates	
Latitude: 35.417˚	
Longitude: -97.383˚	
Elevation: 384 m	
Meteorological Coordinates	
Latitude: 35.417˚	
Longitude: -97.383˚	
Elevation: 384 m	
Time Zone: -6	

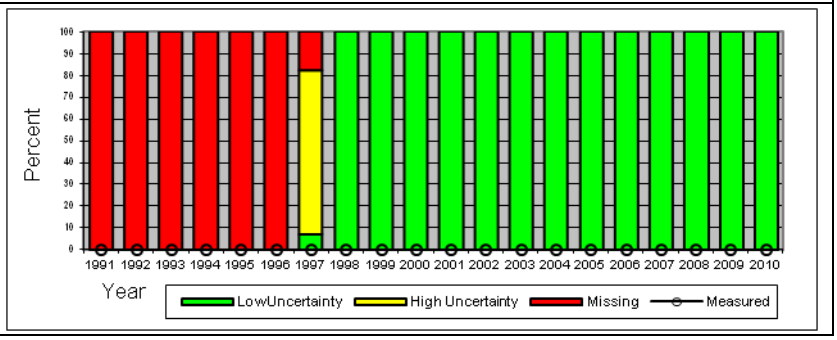
723530	OKLAHOMA CITY WILL ROGERS WOR, OK
Class I	
Solar Coordinates	
Latitude: 35.383˚	
Longitude: -97.6˚	
Elevation: 398 m	
Meteorological Coordinates	
Latitude: 35.383˚	
Longitude: -97.6˚	
Elevation: 398 m	
Time Zone: -6	

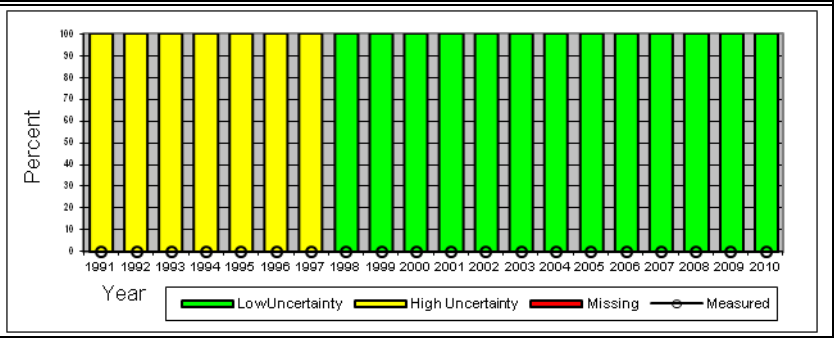
723544	OKLAHOMA CITY/WILEY, OK
Class II	
Solar Coordinates	
Latitude: 35.533˚	
Longitude: -97.65˚	
Elevation: 396 m	
Meteorological Coordinates	
Latitude: 35.533˚	
Longitude: -97.65˚	
Elevation: 396 m	
Time Zone: -6	

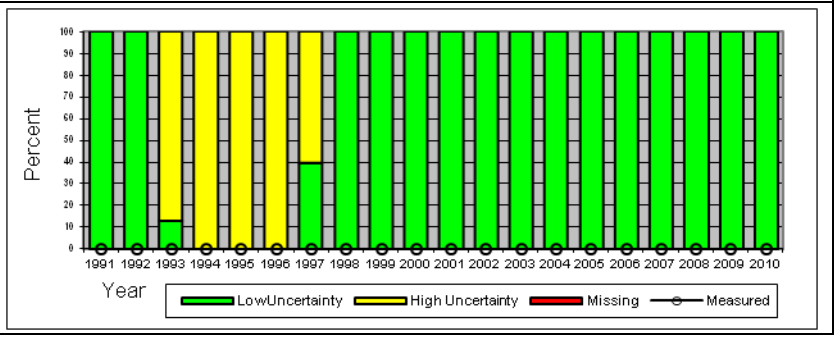
723546	PONCA CITY MUNICIPAL AP [SGP - ARM], OK
Class II (with some measured)	
Solar Coordinates	
Latitude: 36.61˚	
Longitude: -97.49˚	
Elevation: 318 m	
Meteorological Coordinates	
Latitude: 36.733˚	
Longitude: -97.1˚	
Elevation: 304 m	
Time Zone: -6	

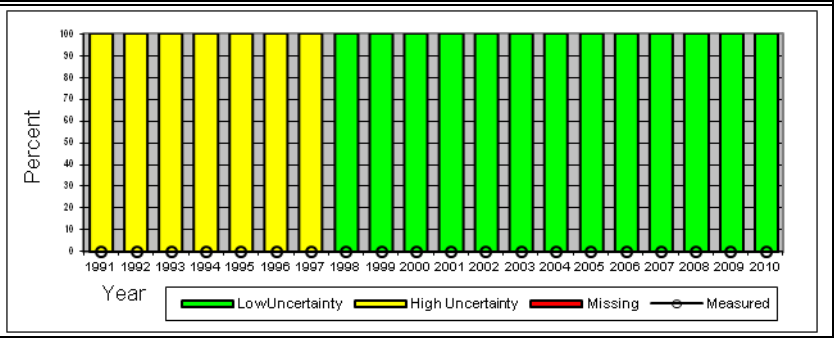
723545	STILLWATER RGNL, OK
Class II	
Solar Coordinates	
Latitude: 36.15˚	
Longitude: -97.083˚	
Elevation: 308 m	
Meteorological Coordinates	
Latitude: 36.15˚	
Longitude: -97.083˚	
Elevation: 308 m	
Time Zone: -6	

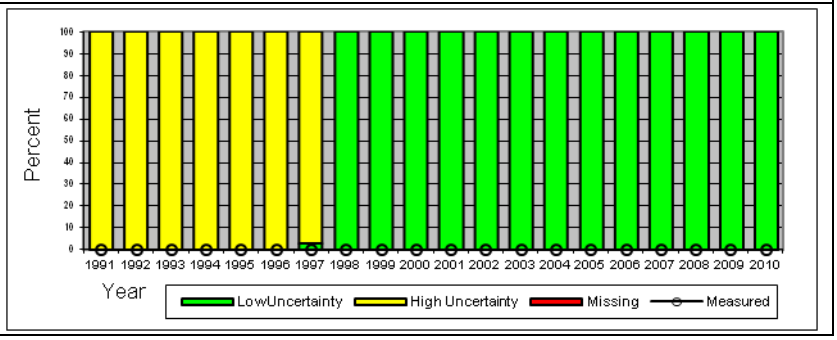
723560	TULSA INTERNATIONAL AIRPORT, OK
Class I	
Solar Coordinates	
Latitude: 36.2˚	
Longitude: -95.883˚	
Elevation: 198 m	
Meteorological Coordinates	
Latitude: 36.2˚	
Longitude: -95.883˚	
Elevation: 198 m	
Time Zone: -6	

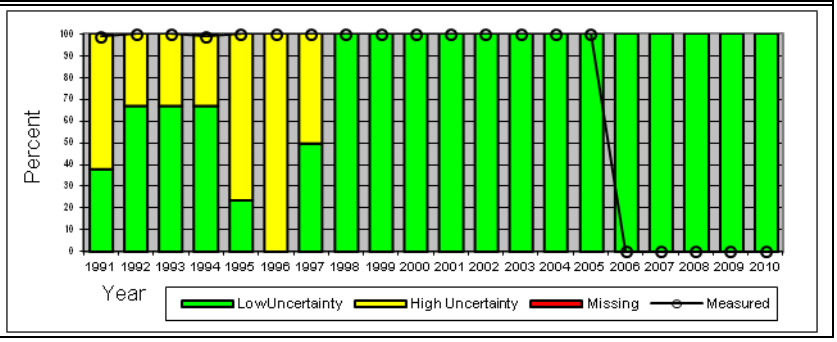
723564	TULSA/LLOYD JONES, OK
Class III	
Solar Coordinates	
Latitude: 36.033˚	
Longitude: -95.983˚	
Elevation: 193 m	
Meteorological Coordinates	
Latitude: 36.033˚	
Longitude: -95.983˚	
Elevation: 193 m	
Time Zone: -6	

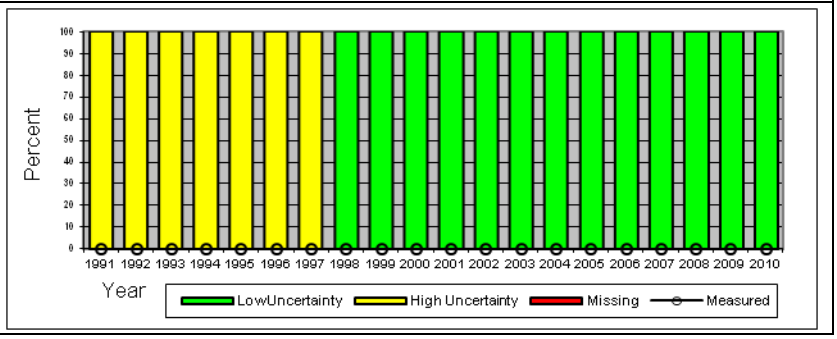
723535	VANCE AFB, OK
Class II	
Solar Coordinates	
Latitude: 36.333˚	
Longitude: -97.917˚	
Elevation: 408 m	
Meteorological Coordinates	
Latitude: 36.333˚	
Longitude: -97.917˚	
Elevation: 408 m	
Time Zone: -6	

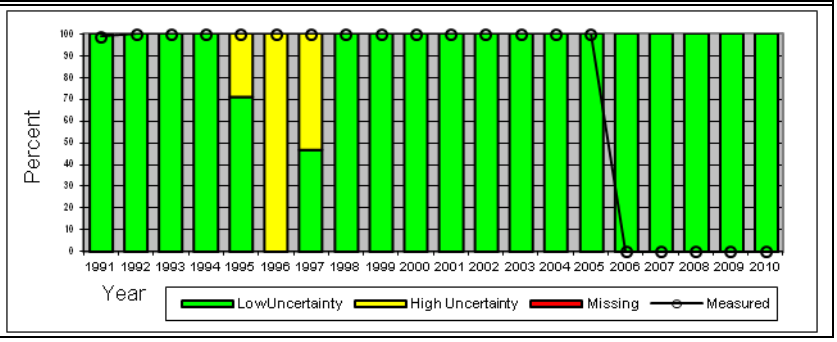
727910	ASTORIA REGIONAL AIRPORT, OR
Class I	
Solar Coordinates	
Latitude: 46.15˚	
Longitude: -123.883˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 46.15˚	
Longitude: -123.883˚	
Elevation: 3 m	
Time Zone: -8	

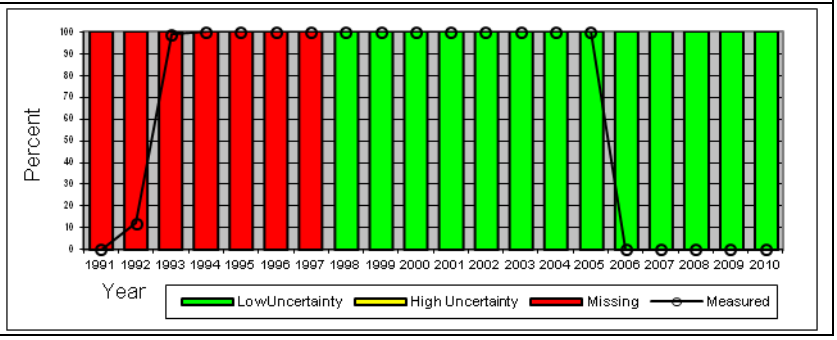
726959	AURORA STATE, OR
Class III	
Solar Coordinates	
Latitude: 45.25˚	
Longitude: -122.767˚	
Elevation: 60 m	
Meteorological Coordinates	
Latitude: 45.25˚	
Longitude: -122.767˚	
Elevation: 60 m	
Time Zone: -8	

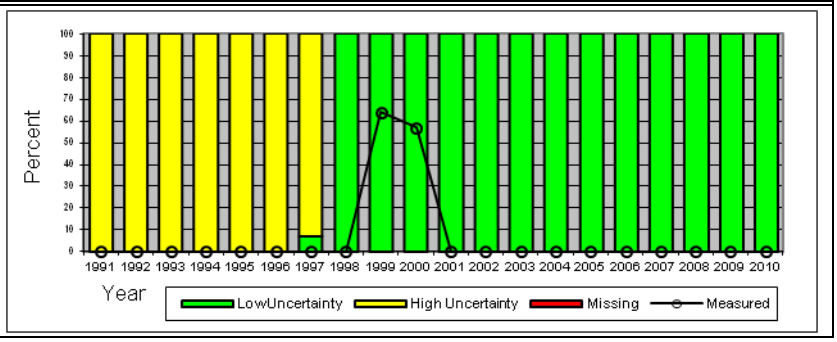
726886	BAKER MUNICIPAL AP, OR
Class II	
Solar Coordinates	
Latitude: 44.833˚	
Longitude: -117.817˚	
Elevation: 1027 m	
Meteorological Coordinates	
Latitude: 44.833˚	
Longitude: -117.817˚	
Elevation: 1027 m	
Time Zone: -8	

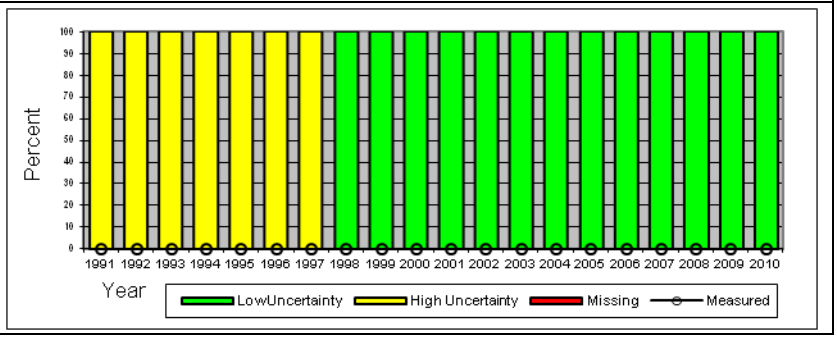
726830	BURNS MUNICIPAL ARPT [UO], OR
Class I (with some measured)	
Solar Coordinates	
Latitude: 43.52˚	
Longitude: -119.02˚	
Elevation: 1271 m	
Meteorological Coordinates	
Latitude: 43.6˚	
Longitude: -118.95˚	
Elevation: 1262 m	
Time Zone: -8	

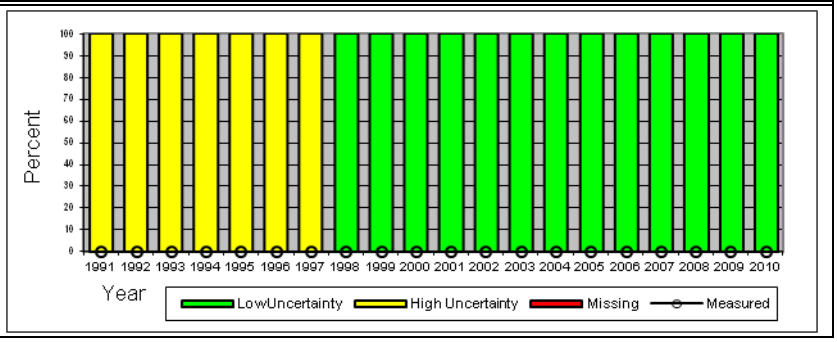
726945	CORVALLIS MUNI, OR
Class II	
Solar Coordinates	
Latitude: 44.483˚	
Longitude: -123.283˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 44.483˚	
Longitude: -123.283˚	
Elevation: 77 m	
Time Zone: -8	

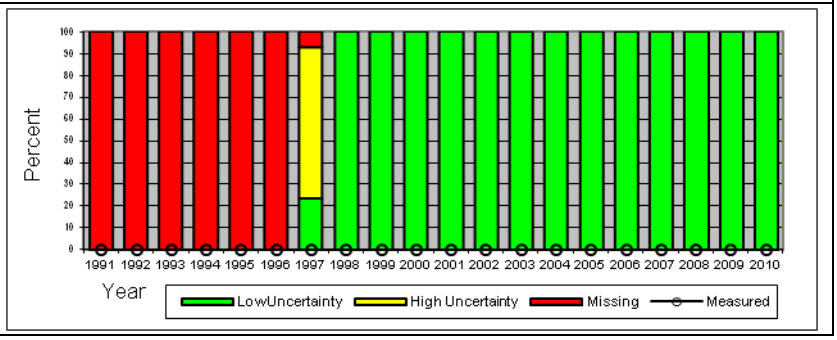
726930	EUGENE MAHLON SWEET ARPT [UO], OR
Class I (with some measured)	
Solar Coordinates	
Latitude: 44.05˚	
Longitude: -123.07˚	
Elevation: 109 m	
Meteorological Coordinates	
Latitude: 44.117˚	
Longitude: -123.217˚	
Elevation: 108 m	
Time Zone: -8	

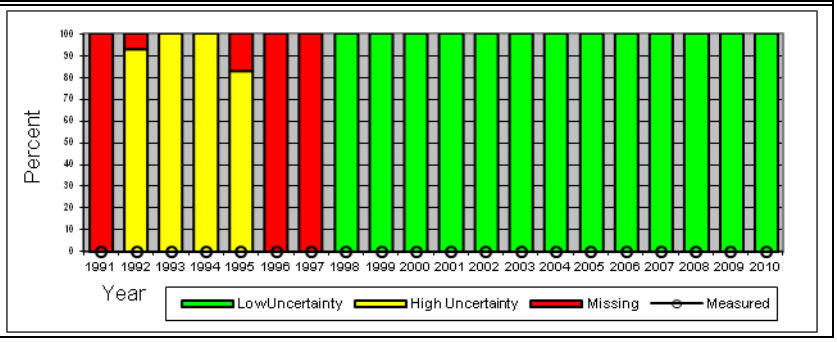
726883	HERMISTN MUNI ARPT [UO], OR
Class III (with some measured)	
Solar Coordinates	
Latitude: 45.82˚	
Longitude: -119.28˚	
Elevation: 180 m	
Meteorological Coordinates	
Latitude: 45.833˚	
Longitude: -119.267˚	
Elevation: 195 m	
Time Zone: -8	

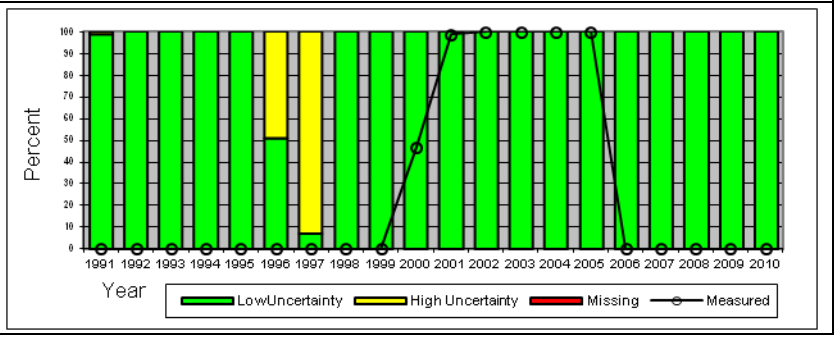
725895	KLAMATH FALLS INTL AP [UO], OR
Class II (with some measured)	
Solar Coordinates	
Latitude: 42.22˚	
Longitude: -121.74˚	
Elevation: 1220 m	
Meteorological Coordinates	
Latitude: 42.15˚	
Longitude: -121.717˚	
Elevation: 1245 m	
Time Zone: -8	

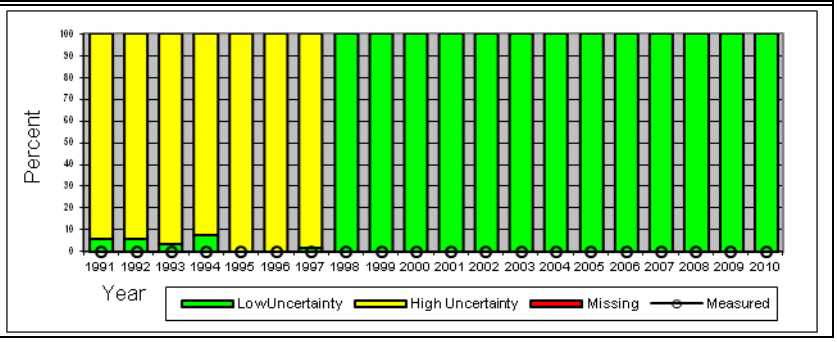
726884	LA GRANDE MUNI AP, OR
Class II	
Solar Coordinates	
Latitude: 45.283˚	
Longitude: -118˚	
Elevation: 827 m	
Meteorological Coordinates	
Latitude: 45.283˚	
Longitude: -118˚	
Elevation: 827 m	
Time Zone: -8	

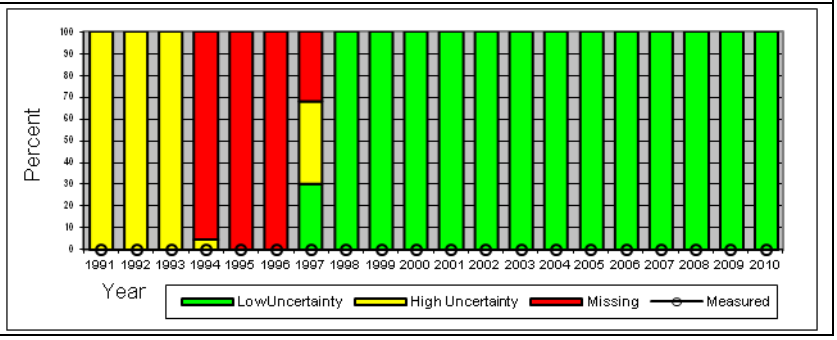
725976	LAKEVIEW (AWOS), OR
Class II	
Solar Coordinates	
Latitude: 42.167˚	
Longitude: -120.4˚	
Elevation: 1441 m	
Meteorological Coordinates	
Latitude: 42.167˚	
Longitude: -120.4˚	
Elevation: 1441 m	
Time Zone: -8	

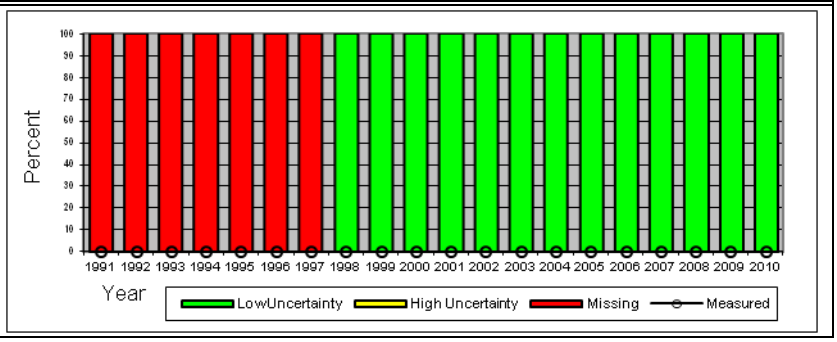
726881	MC MINNVILLE MUNI, OR
Class III	
Solar Coordinates	
Latitude: 45.183˚	
Longitude: -123.133˚	
Elevation: 51 m	
Meteorological Coordinates	
Latitude: 45.183˚	
Longitude: -123.133˚	
Elevation: 51 m	
Time Zone: -8	

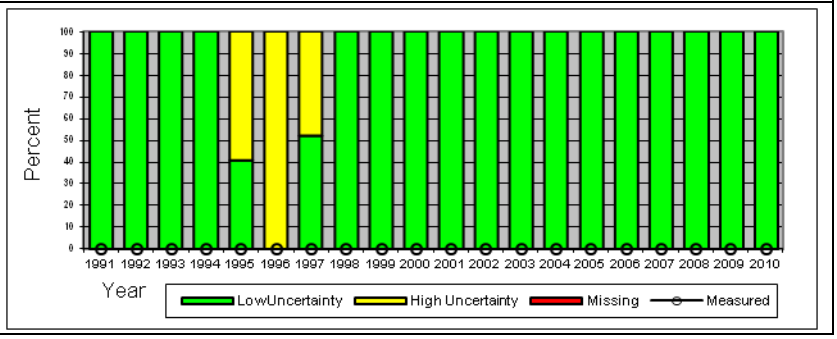
726885	MEACHAM, OR
Class III	
Solar Coordinates	
Latitude: 45.517˚	
Longitude: -118.417˚	
Elevation: 1135 m	
Meteorological Coordinates	
Latitude: 45.517˚	
Longitude: -118.417˚	
Elevation: 1135 m	
Time Zone: -8	

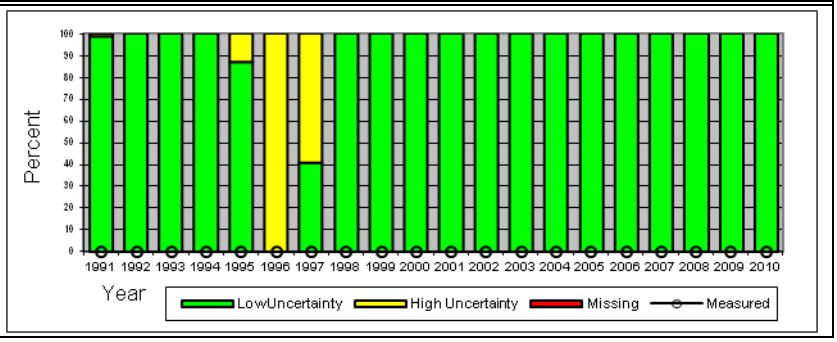
725970	MEDFORD ROGUE VALLEY INTL AP [ASHLAND - UO], OR
Class I (with some measured)	
Solar Coordinates	
Latitude: 42.19˚	
Longitude: -122.7˚	
Elevation: 595 m	
Meteorological Coordinates	
Latitude: 42.383˚	
Longitude: -122.867˚	
Elevation: 396 m	
Time Zone: -8	

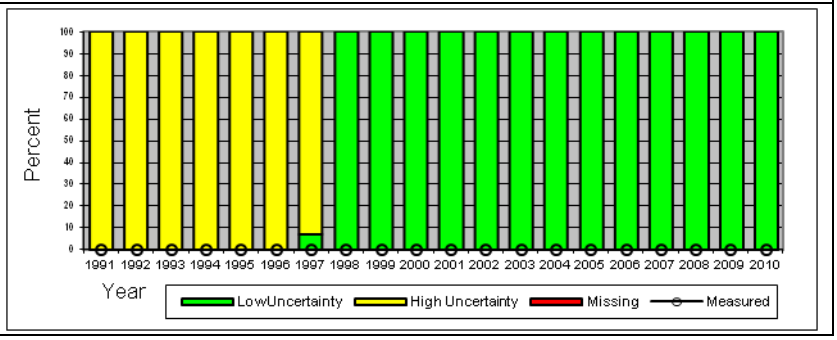
726917	NORTH BEND MUNI AIRPORT, OR
Class II	
Solar Coordinates	
Latitude: 43.417˚	
Longitude: -124.25˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 43.417˚	
Longitude: -124.25˚	
Elevation: 2 m	
Time Zone: -8	

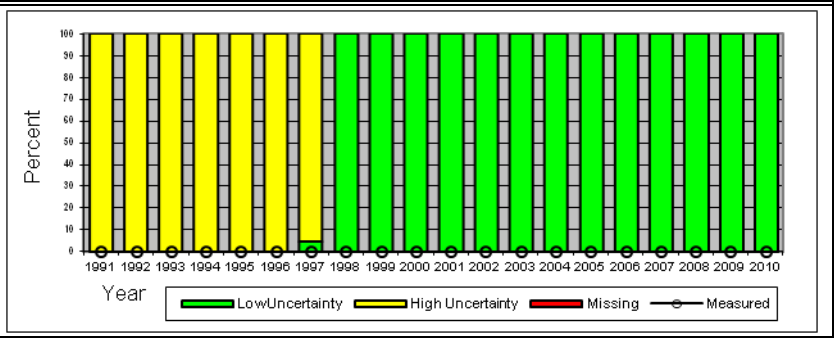
726837	ONTARIO MUNICIPAL AP, OR
Class III	
Solar Coordinates	
Latitude: 44.017˚	
Longitude: -117.017˚	
Elevation: 668 m	
Meteorological Coordinates	
Latitude: 44.017˚	
Longitude: -117.017˚	
Elevation: 668 m	
Time Zone: -7	

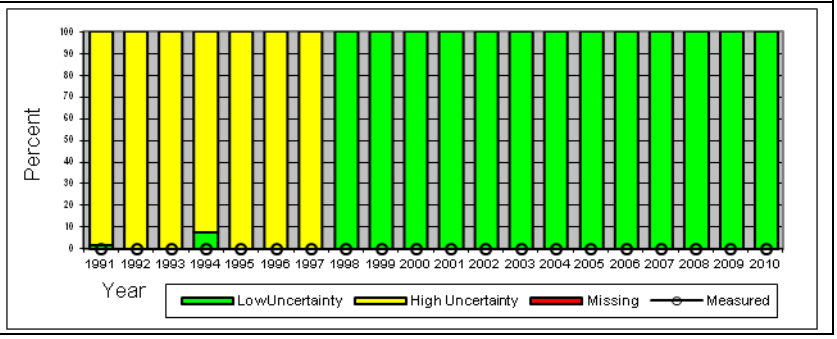
727918	PEARSON FLD, OR
Class III	
Solar Coordinates	
Latitude: 45.617˚	
Longitude: -122.65˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 45.617˚	
Longitude: -122.65˚	
Elevation: 8 m	
Time Zone: -8	

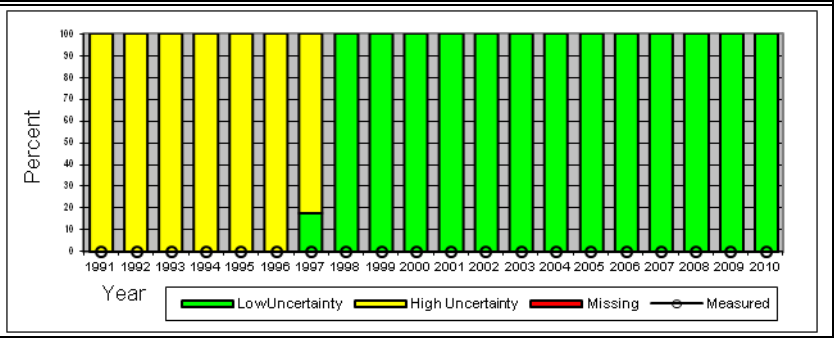
726880	PENDLETON E OR REGIONAL AP, OR
Class I	
Solar Coordinates	
Latitude: 45.7˚	
Longitude: -118.833˚	
Elevation: 452 m	
Meteorological Coordinates	
Latitude: 45.7˚	
Longitude: -118.833˚	
Elevation: 452 m	
Time Zone: -8	

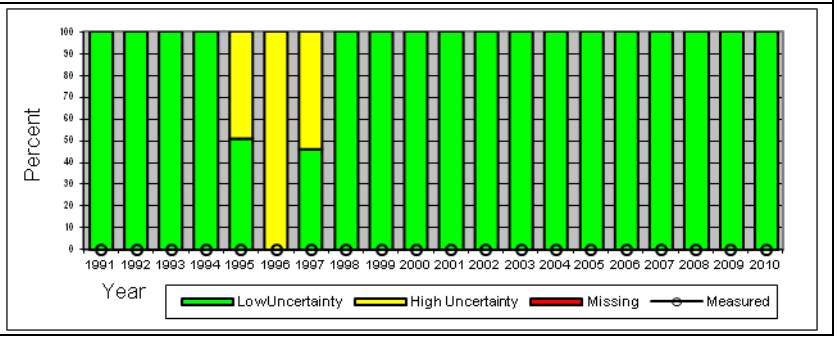
726980	PORTLAND INTERNATIONAL AP, OR
Class III	
Solar Coordinates	
Latitude: 45.6˚	
Longitude: -122.617˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 45.6˚	
Longitude: -122.617˚	
Elevation: 6 m	
Time Zone: -8	

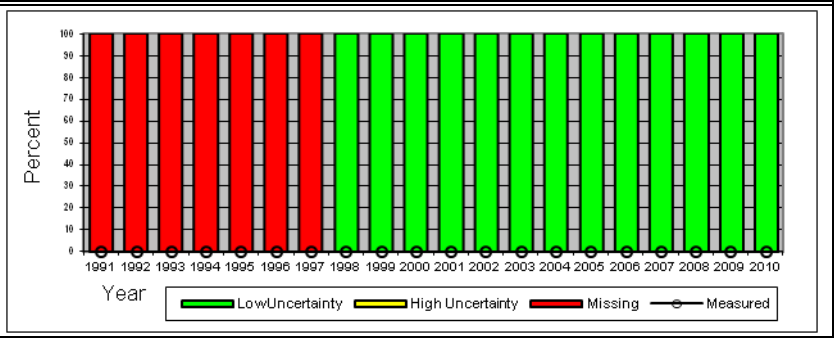
726986	PORTLAND/HILLSBORO, OR
Class II	
Solar Coordinates	
Latitude: 45.533˚	
Longitude: -122.95˚	
Elevation: 62 m	
Meteorological Coordinates	
Latitude: 45.533˚	
Longitude: -122.95˚	
Elevation: 62 m	
Time Zone: -8	

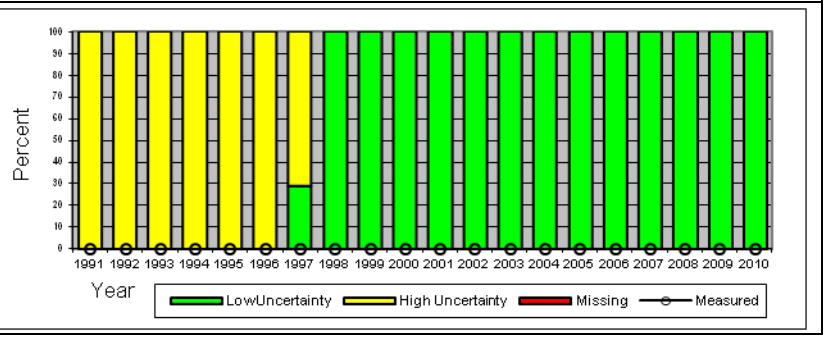
726985	PORTLAND/TROUTDALE, OR
Class II	
Solar Coordinates	
Latitude: 45.55˚	
Longitude: -122.4˚	
Elevation: 11 m	
Meteorological Coordinates	
Latitude: 45.55˚	
Longitude: -122.4˚	
Elevation: 11 m	
Time Zone: -8	

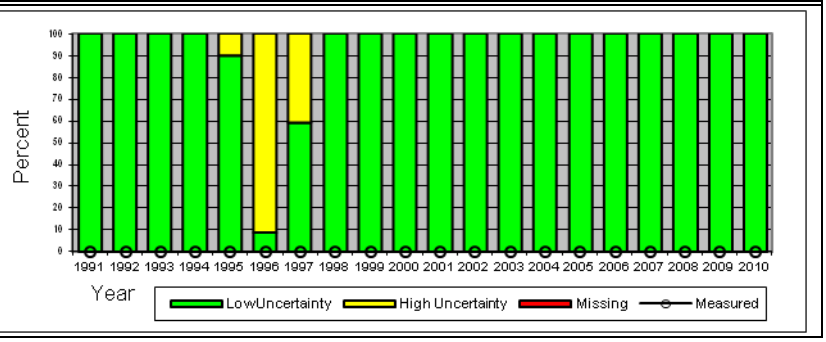
726835	REDMOND ROBERTS FIELD, OR
Class II	
Solar Coordinates	
Latitude: 44.25˚	
Longitude: -121.167˚	
Elevation: 933 m	
Meteorological Coordinates	
Latitude: 44.25˚	
Longitude: -121.167˚	
Elevation: 933 m	
Time Zone: -8	

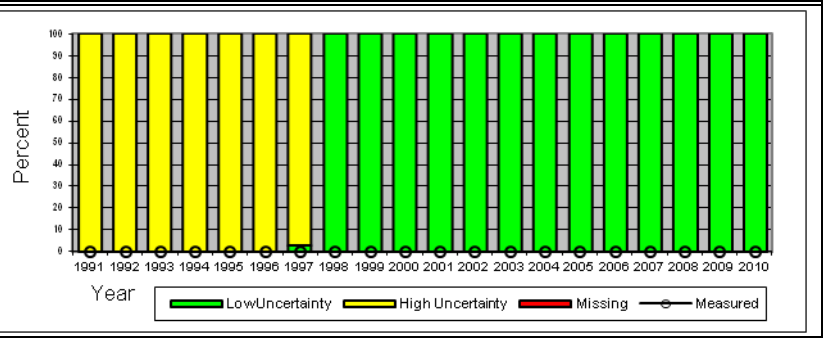
726904	ROSEBURG REGIONAL AP, OR
Class II	
Solar Coordinates	
Latitude: 43.233˚	
Longitude: -123.35˚	
Elevation: 160 m	
Meteorological Coordinates	
Latitude: 43.233˚	
Longitude: -123.35˚	
Elevation: 160 m	
Time Zone: -8	

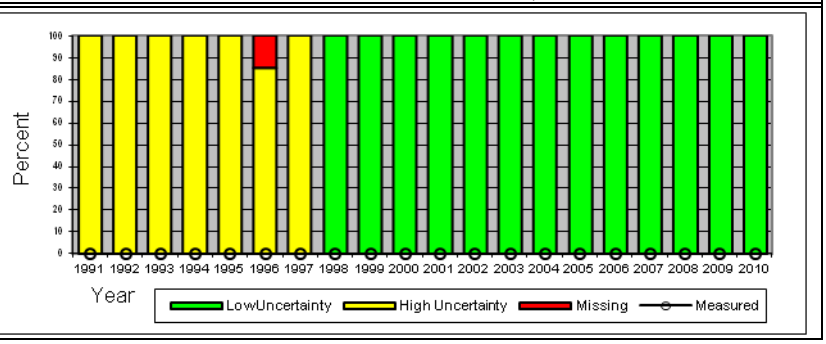
726940	SALEM MCNARY FIELD, OR
Class I	
Solar Coordinates	
Latitude: 44.9˚	
Longitude: -123˚	
Elevation: 60 m	
Meteorological Coordinates	
Latitude: 44.9˚	
Longitude: -123˚	
Elevation: 60 m	
Time Zone: -8	

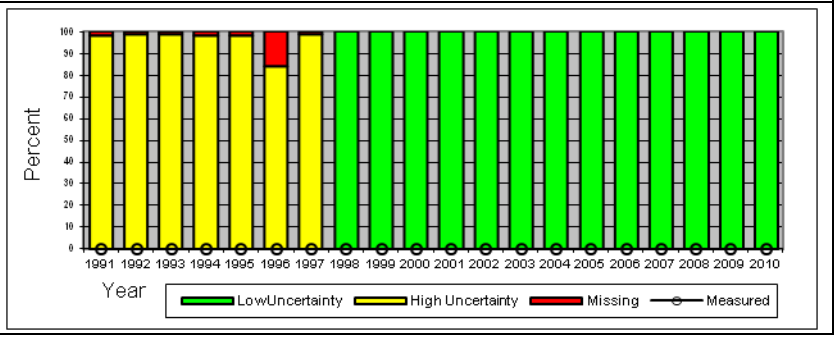
726836	SCAPPOOSE INDUSTRIA, OR
Class III	
Solar Coordinates	
Latitude: 45.767˚	
Longitude: -122.85˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 45.767˚	
Longitude: -122.85˚	
Elevation: 16 m	
Time Zone: -8	

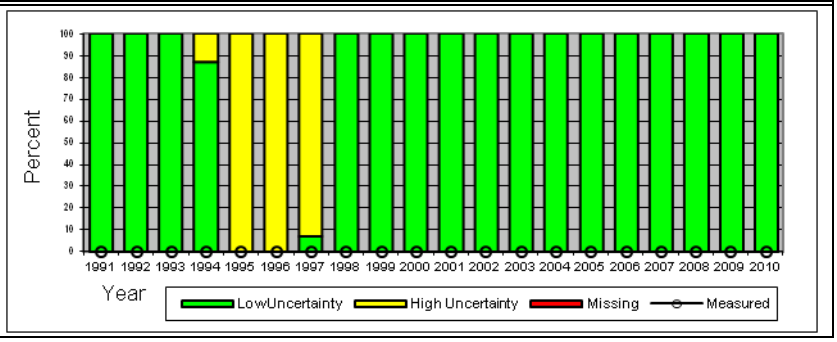
725975	SEXTON SUMMIT, OR
Class II	
Solar Coordinates	
Latitude: 42.6˚	
Longitude: -123.367˚	
Elevation: 1168 m	
Meteorological Coordinates	
Latitude: 42.6˚	
Longitude: -123.367˚	
Elevation: 1168 m	
Time Zone: -8	

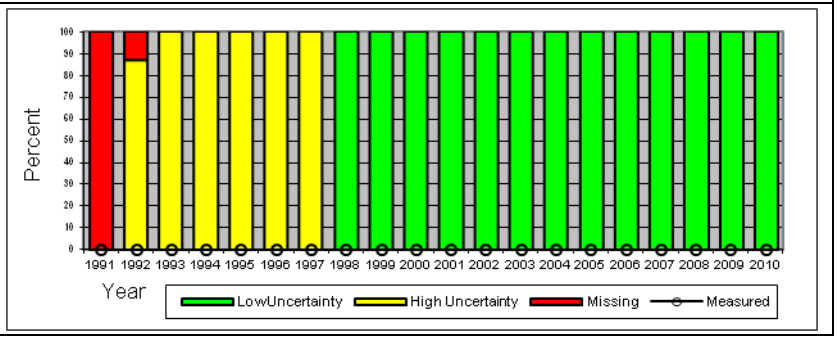
725170	ALLENTOWN LEHIGH VALLEY INTL, PA
Class I	
Solar Coordinates	
Latitude: 40.65˚	
Longitude: -75.45˚	
Elevation: 119 m	
Meteorological Coordinates	
Latitude: 40.65˚	
Longitude: -75.45˚	
Elevation: 119 m	
Time Zone: -5	

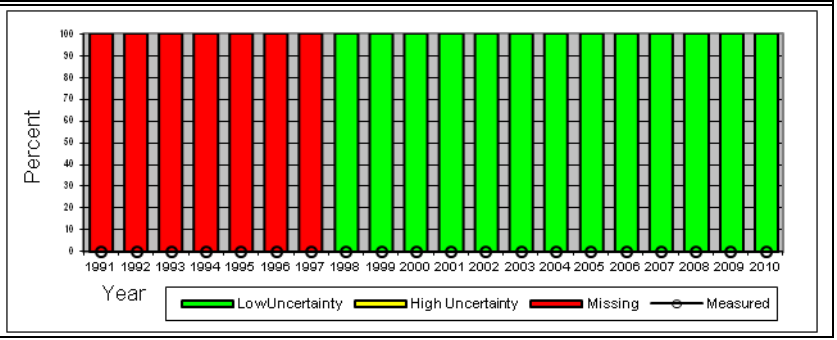
725126	ALTOONA BLAIR CO ARPT, PA
Class II	
Solar Coordinates	
Latitude: 40.3˚	
Longitude: -78.317˚	
Elevation: 451 m	
Meteorological Coordinates	
Latitude: 40.3˚	
Longitude: -78.317˚	
Elevation: 451 m	
Time Zone: -5	

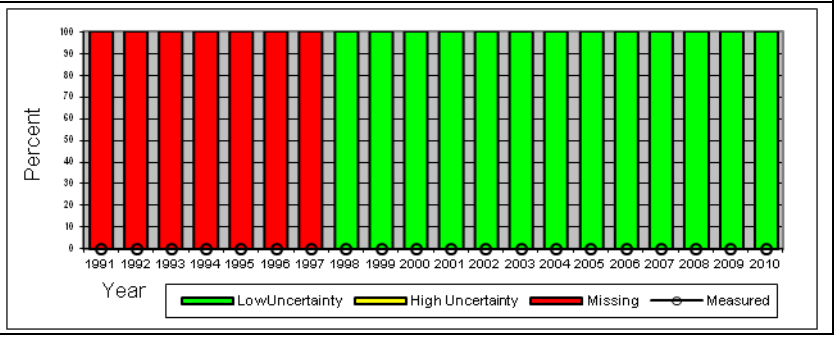
725207	ARNOLD PALMER RGNL, PA
Class III	
Solar Coordinates	
Latitude: 40.267˚	
Longitude: -79.4˚	
Elevation: 370 m	
Meteorological Coordinates	
Latitude: 40.267˚	
Longitude: -79.4˚	
Elevation: 370 m	
Time Zone: -5	

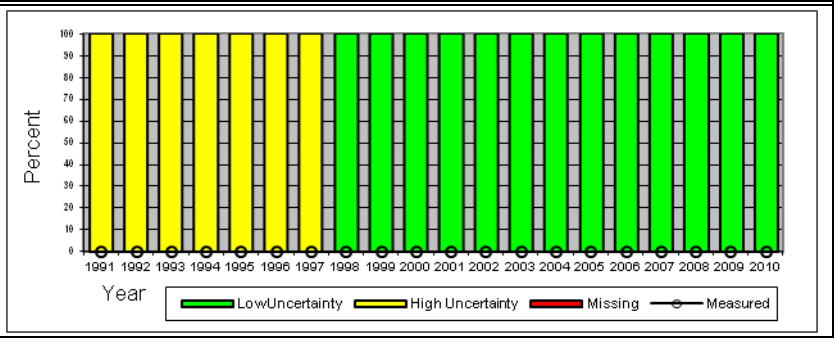
725204	BEAVER FALLS ARPT, PA
Class III	
Solar Coordinates	
Latitude: 40.767˚	
Longitude: -80.4˚	
Elevation: 382 m	
Meteorological Coordinates	
Latitude: 40.767˚	
Longitude: -80.4˚	
Elevation: 382 m	
Time Zone: -5	

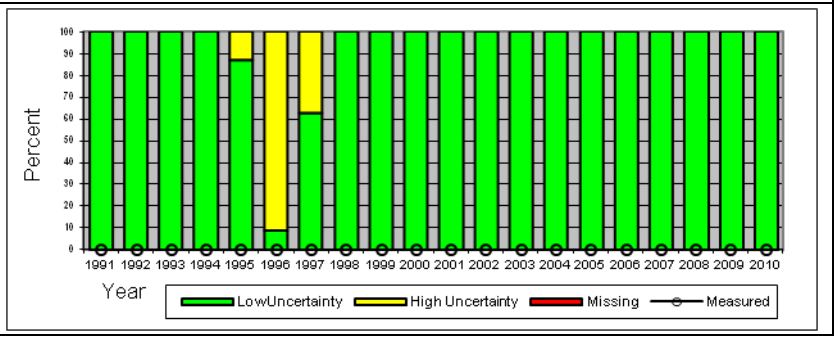
725266	BRADFORD REGIONAL AP, PA
Class I	
Solar Coordinates	
Latitude: 41.8˚	
Longitude: -78.633˚	
Elevation: 645 m	
Meteorological Coordinates	
Latitude: 41.8˚	
Longitude: -78.633˚	
Elevation: 645 m	
Time Zone: -5	

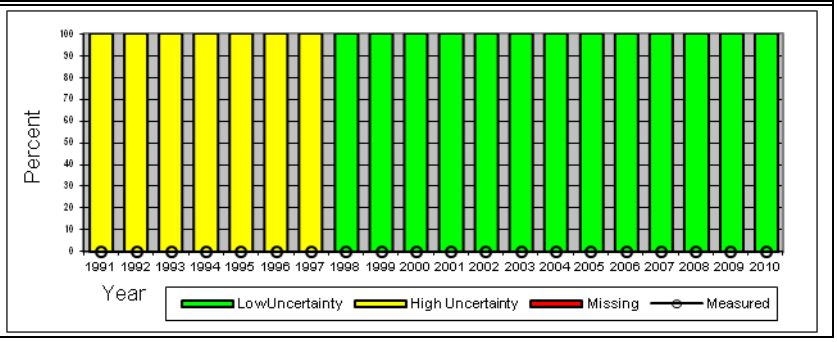
725124	BUTLER CO. (AWOS), PA
Class III	
Solar Coordinates	
Latitude: 40.783˚	
Longitude: -79.95˚	
Elevation: 380 m	
Meteorological Coordinates	
Latitude: 40.783˚	
Longitude: -79.95˚	
Elevation: 380 m	
Time Zone: -5	

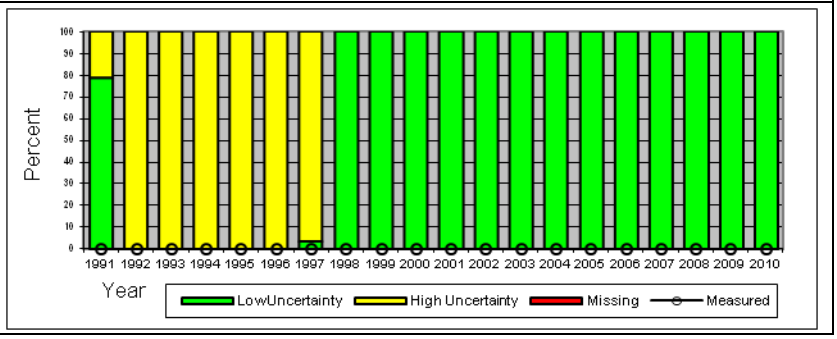
725119	CLEARFIELD-LAWRENCE, PA
Class III	
Solar Coordinates	
Latitude: 41.033˚	
Longitude: -78.4˚	
Elevation: 462 m	
Meteorological Coordinates	
Latitude: 41.033˚	
Longitude: -78.4˚	
Elevation: 462 m	
Time Zone: -5	

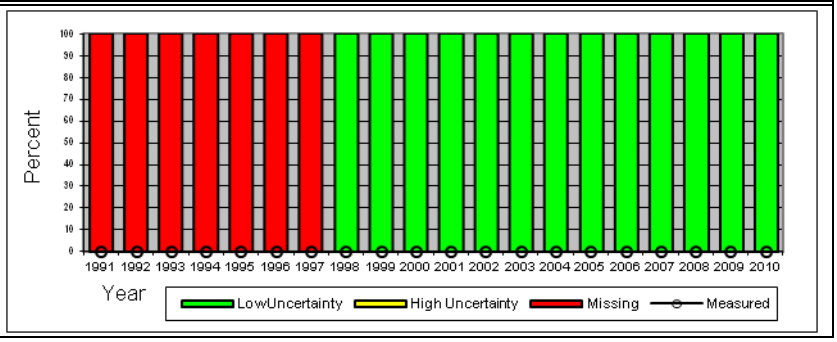
725113	DOYLESTOWN, PA
Class III	
Solar Coordinates	
Latitude: 40.333˚	
Longitude: -75.117˚	
Elevation: 120 m	
Meteorological Coordinates	
Latitude: 40.333˚	
Longitude: -75.117˚	
Elevation: 120 m	
Time Zone: -5	

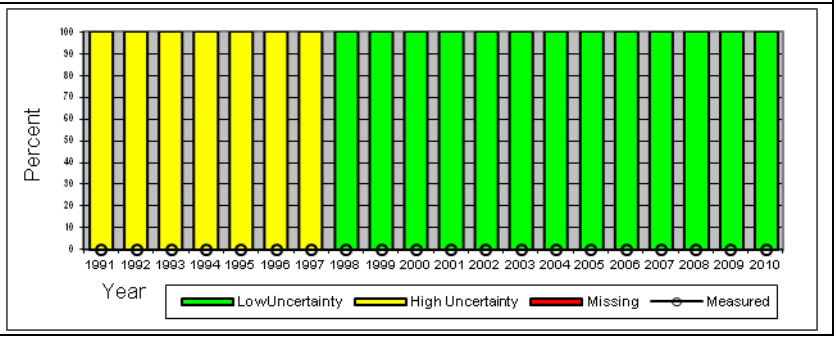
725125	DUBOIS FAA AP, PA
Class II	
Solar Coordinates	
Latitude: 41.183˚	
Longitude: -78.9˚	
Elevation: 553 m	
Meteorological Coordinates	
Latitude: 41.183˚	
Longitude: -78.9˚	
Elevation: 553 m	
Time Zone: -5	

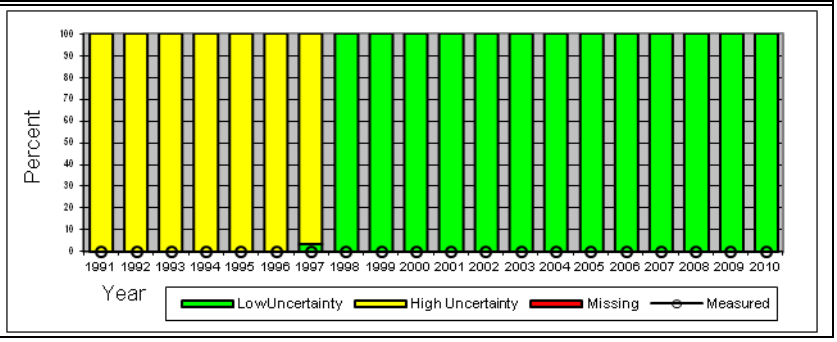
725260	ERIE INTERNATIONAL AP, PA
Class I	
Solar Coordinates	
Latitude: 42.083˚	
Longitude: -80.183˚	
Elevation: 222 m	
Meteorological Coordinates	
Latitude: 42.083˚	
Longitude: -80.183˚	
Elevation: 222 m	
Time Zone: -5	

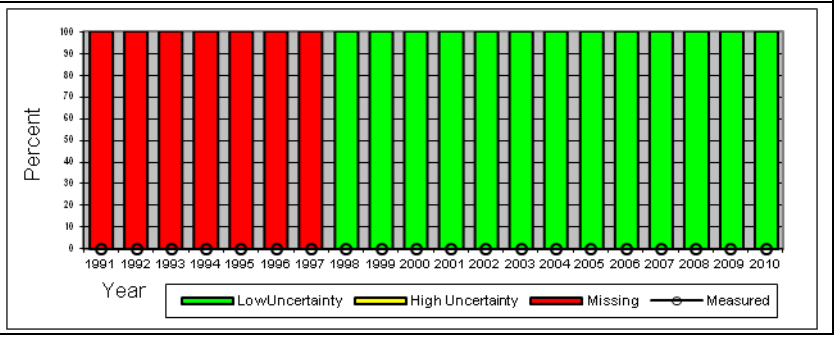
725267	FRANKLIN, PA
Class II	
Solar Coordinates	
Latitude: 41.383˚	
Longitude: -79.867˚	
Elevation: 470 m	
Meteorological Coordinates	
Latitude: 41.383˚	
Longitude: -79.867˚	
Elevation: 470 m	
Time Zone: -5	

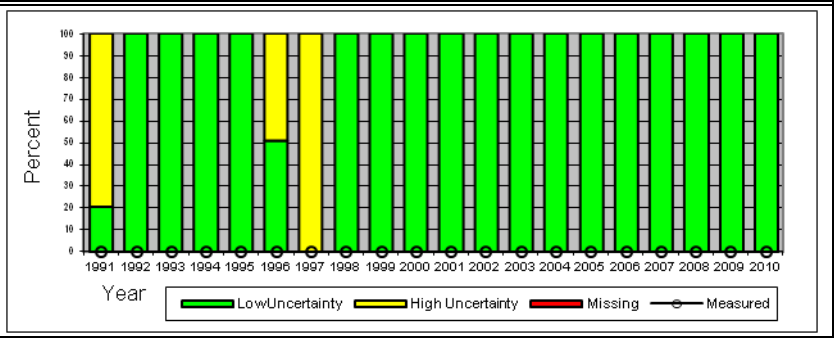
725118	HARRISBURG CAPITAL CITY ARPT, PA
Class II	
Solar Coordinates	
Latitude: 40.217˚	
Longitude: -76.85˚	
Elevation: 104 m	
Meteorological Coordinates	
Latitude: 40.217˚	
Longitude: -76.85˚	
Elevation: 104 m	
Time Zone: -5	

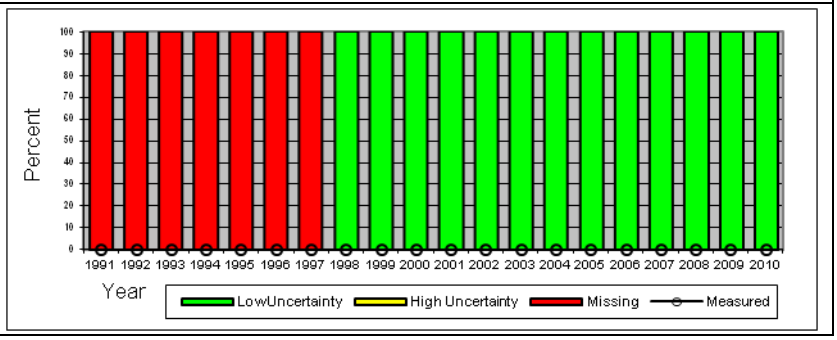
725175	INDIANA/STEWART FLD, PA
Class III	
Solar Coordinates	
Latitude: 40.633˚	
Longitude: -79.1˚	
Elevation: 429 m	
Meteorological Coordinates	
Latitude: 40.633˚	
Longitude: -79.1˚	
Elevation: 429 m	
Time Zone: -5	

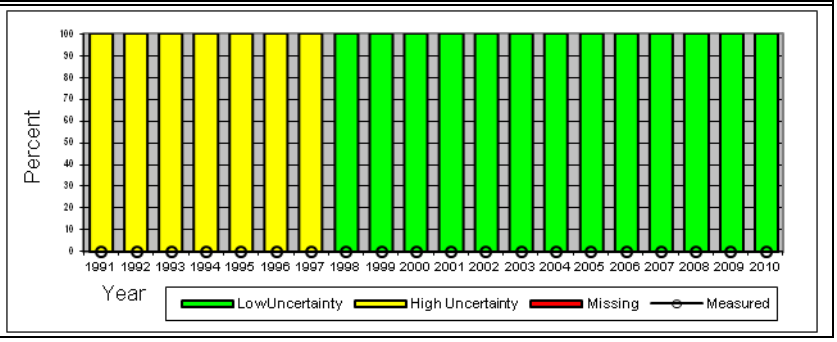
725127	JOHNSTOWN CAMBRIA COUNTY AP, PA
Class II	
Solar Coordinates	
Latitude: 40.317˚	
Longitude: -78.833˚	
Elevation: 695 m	
Meteorological Coordinates	
Latitude: 40.317˚	
Longitude: -78.833˚	
Elevation: 695 m	
Time Zone: -5	

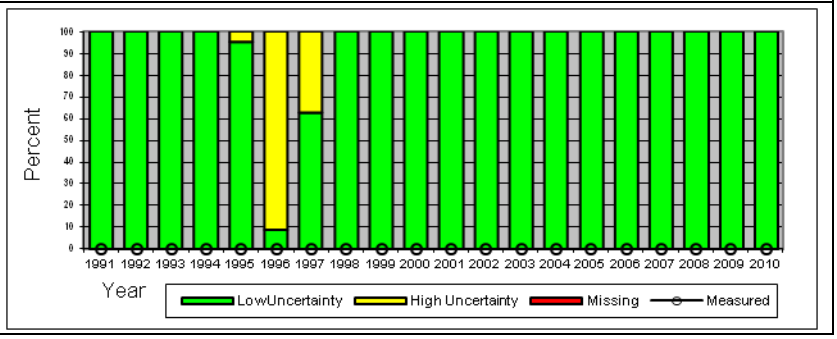
725116	LANCASTER, PA
Class II	
Solar Coordinates	
Latitude: 40.117˚	
Longitude: -76.3˚	
Elevation: 126 m	
Meteorological Coordinates	
Latitude: 40.117˚	
Longitude: -76.3˚	
Elevation: 126 m	
Time Zone: -5	

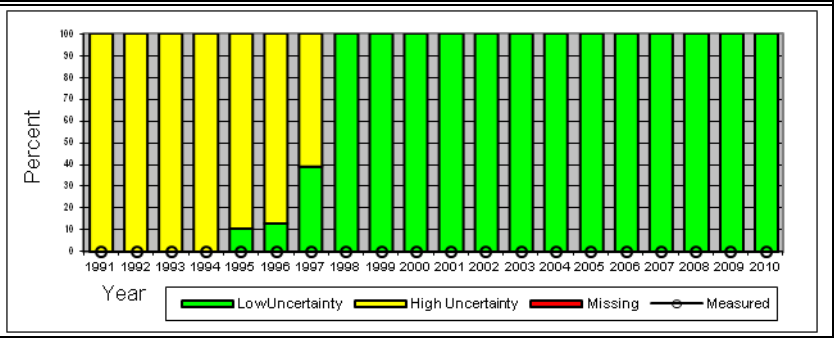
725104	MEADVILLE, PA
Class III	
Solar Coordinates	
Latitude: 41.617˚	
Longitude: -80.2˚	
Elevation: 427 m	
Meteorological Coordinates	
Latitude: 41.617˚	
Longitude: -80.2˚	
Elevation: 427 m	
Time Zone: -5	

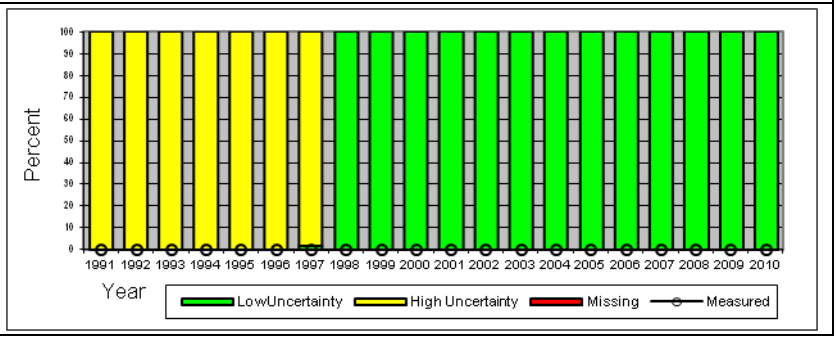
725115	MIDDLETOWN HARRISBURG INTL AP, PA
Class I	
Solar Coordinates	
Latitude: 40.2˚	
Longitude: -76.767˚	
Elevation: 92 m	
Meteorological Coordinates	
Latitude: 40.2˚	
Longitude: -76.767˚	
Elevation: 92 m	
Time Zone: -5	

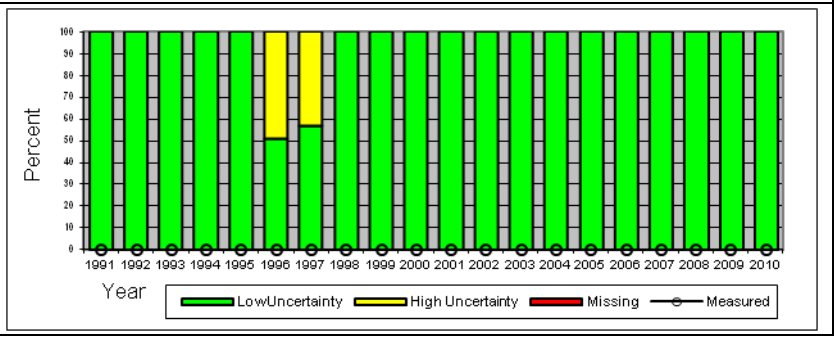
725434	MT POCONO MUNI, PA
Class III	
Solar Coordinates	
Latitude: 41.133˚	
Longitude: -75.383˚	
Elevation: 584 m	
Meteorological Coordinates	
Latitude: 41.133˚	
Longitude: -75.383˚	
Elevation: 584 m	
Time Zone: -5	

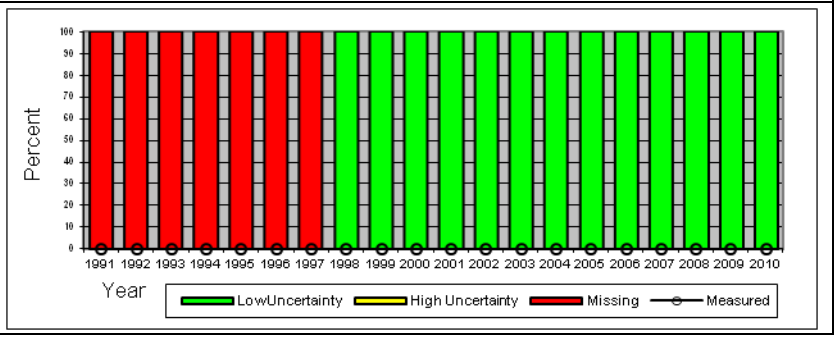
725144	MUIR AAF, PA
Class II	
Solar Coordinates	
Latitude: 40.433˚	
Longitude: -76.567˚	
Elevation: 153 m	
Meteorological Coordinates	
Latitude: 40.433˚	
Longitude: -76.567˚	
Elevation: 153 m	
Time Zone: -5	

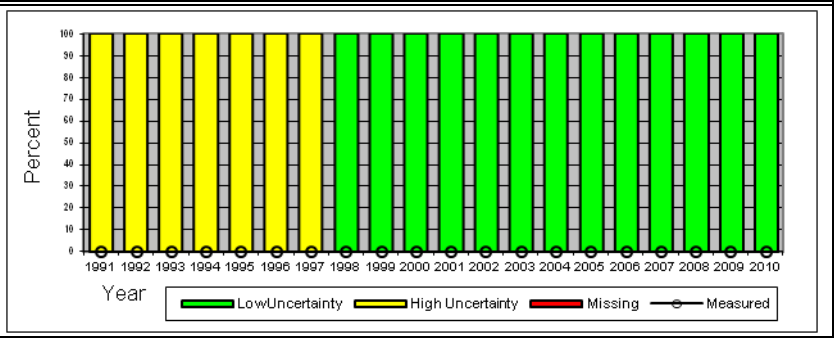
724080	PHILADELPHIA INTERNATIONAL AP, PA
Class I	
Solar Coordinates	
Latitude: 39.867˚	
Longitude: -75.233˚	
Elevation: 2 m	
Meteorological Coordinates	
Latitude: 39.867˚	
Longitude: -75.233˚	
Elevation: 2 m	
Time Zone: -5	

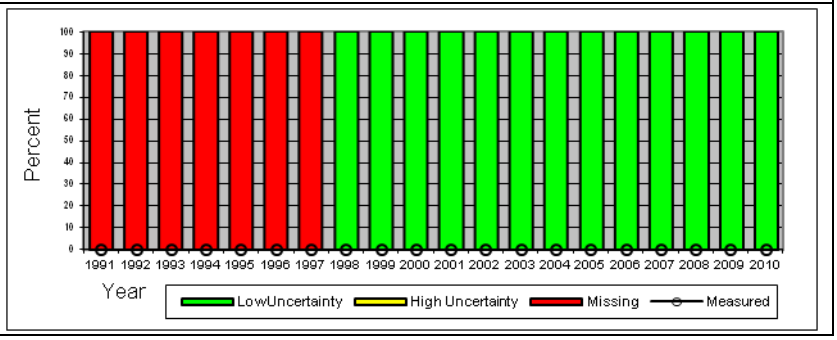
724085	PHILADELPHIA NE PHILADELPHIA, PA
Class II	
Solar Coordinates	
Latitude: 40.083˚	
Longitude: -75.017˚	
Elevation: 30 m	
Meteorological Coordinates	
Latitude: 40.083˚	
Longitude: -75.017˚	
Elevation: 30 m	
Time Zone: -5	

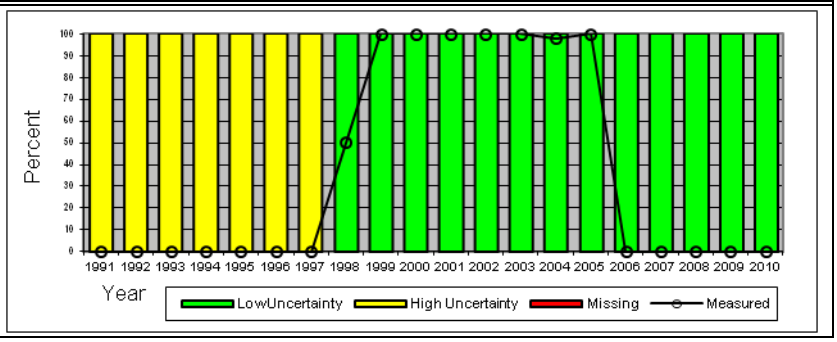
725205	PITTSBURGH ALLEGHENY CO AP, PA
Class II	
Solar Coordinates	
Latitude: 40.35˚	
Longitude: -79.917˚	
Elevation: 380 m	
Meteorological Coordinates	
Latitude: 40.35˚	
Longitude: -79.917˚	
Elevation: 380 m	
Time Zone: -5	

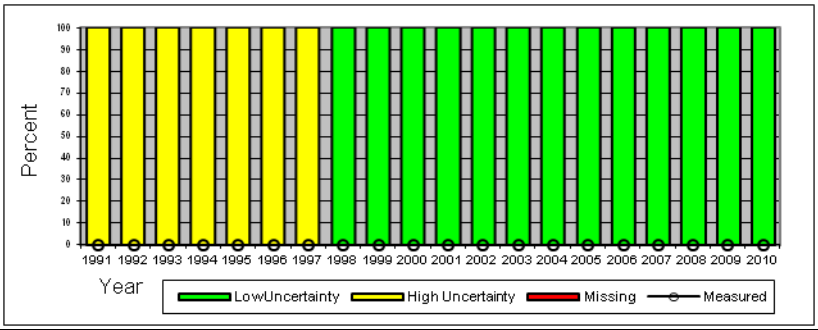
725200	PITTSBURGH INTERNATIONAL AP, PA
Class I	
Solar Coordinates	
Latitude: 40.5˚	
Longitude: -80.233˚	
Elevation: 350 m	
Meteorological Coordinates	
Latitude: 40.5˚	
Longitude: -80.233˚	
Elevation: 350 m	
Time Zone: -5	

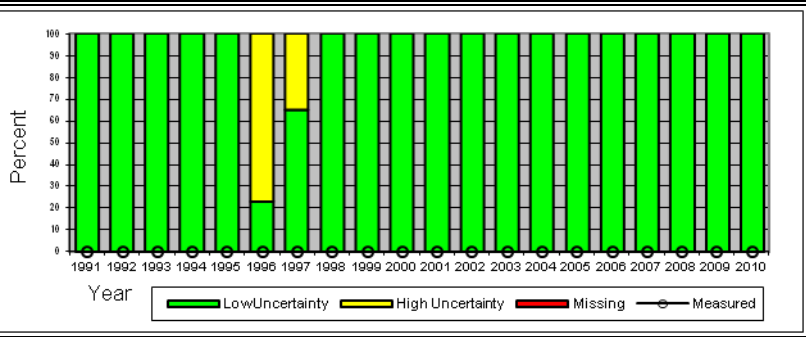
725109	POTTSTOWN LIMERICK, PA
Class III	
Solar Coordinates	
Latitude: 40.233˚	
Longitude: -75.55˚	
Elevation: 89 m	
Meteorological Coordinates	
Latitude: 40.233˚	
Longitude: -75.55˚	
Elevation: 89 m	
Time Zone: -5	

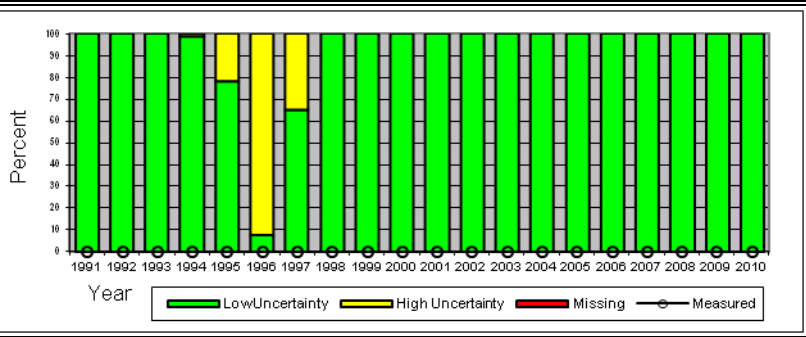
725103	READING SPAATZ FIELD, PA
Class II	
Solar Coordinates	
Latitude: 40.367˚	
Longitude: -75.967˚	
Elevation: 104 m	
Meteorological Coordinates	
Latitude: 40.367˚	
Longitude: -75.967˚	
Elevation: 104 m	
Time Zone: -5	

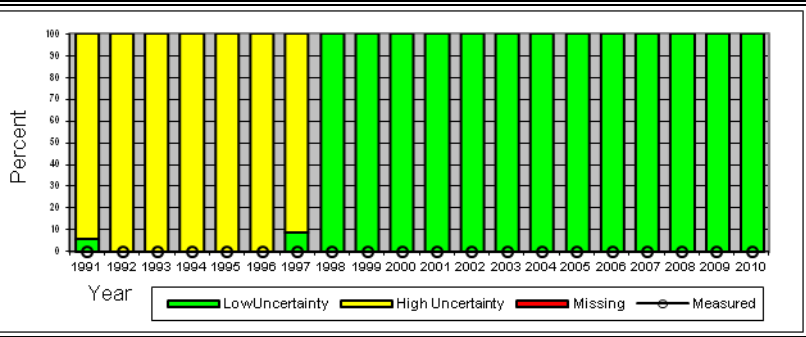
725105	SELINSGROVE, PA
Class III	
Solar Coordinates	
Latitude: 40.817˚	
Longitude: -76.867˚	
Elevation: 137 m	
Meteorological Coordinates	
Latitude: 40.817˚	
Longitude: -76.867˚	
Elevation: 137 m	
Time Zone: -5	

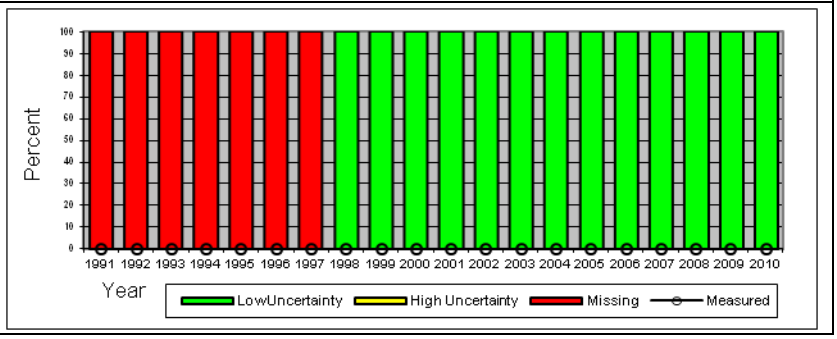
725128	STATE COLLEGE [PENN STATE - SURFRAD], PA
Class II (with some measured)	
Solar Coordinates	
Latitude: 40.72˚	
Longitude: -77.93˚	
Elevation: 376 m	
Meteorological Coordinates	
Latitude: 40.85˚	
Longitude: -77.85˚	
Elevation: 378 m	
Time Zone: -5	

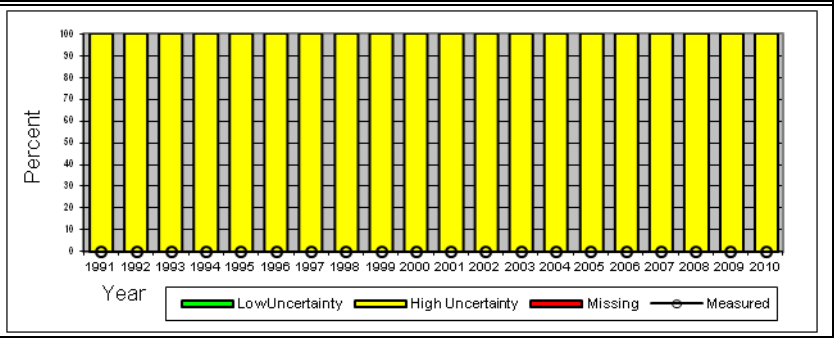
725117	WASHINGTON (AWOS), PA
Class II	
Solar Coordinates	
Latitude: 40.133˚	
Longitude: -80.283˚	
Elevation: 361 m	
Meteorological Coordinates	
Latitude: 40.133˚	
Longitude: -80.283˚	
Elevation: 361 m	
Time Zone: -5	

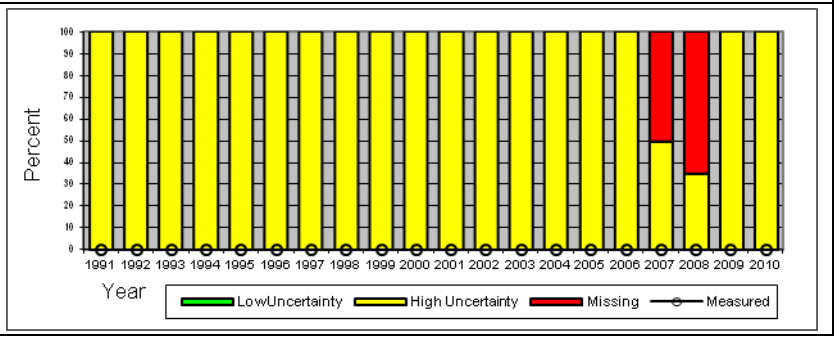
725130	WILKES-BARRE SCRANTON INTL AP, PA
Class I	
Solar Coordinates	
Latitude: 41.333˚	
Longitude: -75.733˚	
Elevation: 284 m	
Meteorological Coordinates	
Latitude: 41.333˚	
Longitude: -75.733˚	
Elevation: 284 m	
Time Zone: -5	

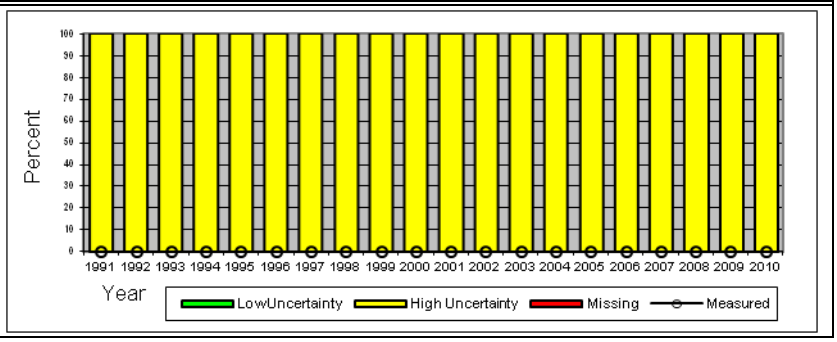
725140	WILLIAMSPORT REGIONAL AP, PA
Class I	
Solar Coordinates	
Latitude: 41.25˚	
Longitude: -76.917˚	
Elevation: 158 m	
Meteorological Coordinates	
Latitude: 41.25˚	
Longitude: -76.917˚	
Elevation: 158 m	
Time Zone: -5	

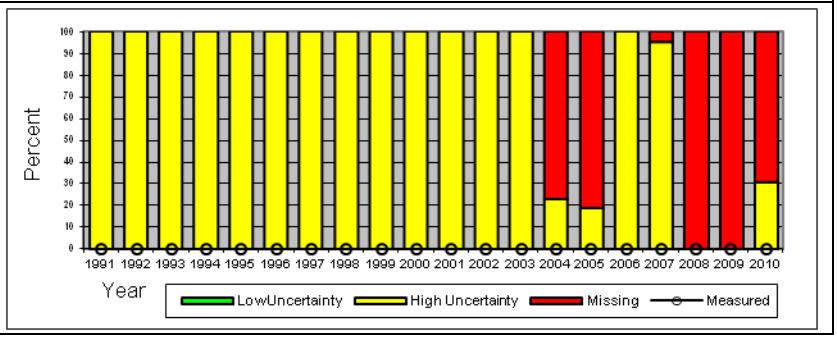
724086	WILLOW GROVE NAS, PA
Class II	
Solar Coordinates	
Latitude: 40.2˚	
Longitude: -75.15˚	
Elevation: 102 m	
Meteorological Coordinates	
Latitude: 40.2˚	
Longitude: -75.15˚	
Elevation: 102 m	
Time Zone: -5	

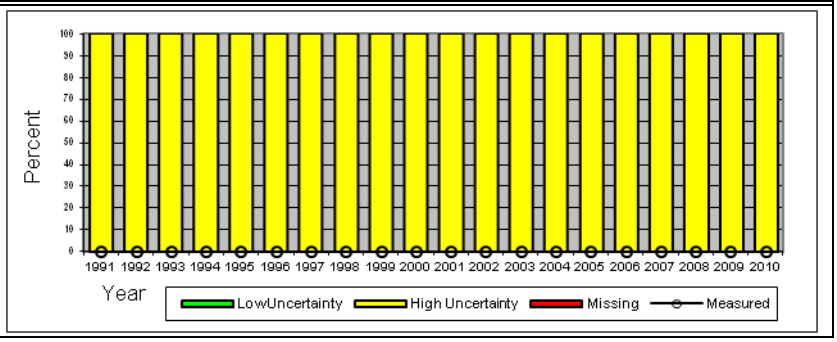
725114	YORK ARPT, PA
Class III	
Solar Coordinates	
Latitude: 39.917˚	
Longitude: -76.867˚	
Elevation: 144 m	
Meteorological Coordinates	
Latitude: 39.917˚	
Longitude: -76.867˚	
Elevation: 144 m	
Time Zone: -5	

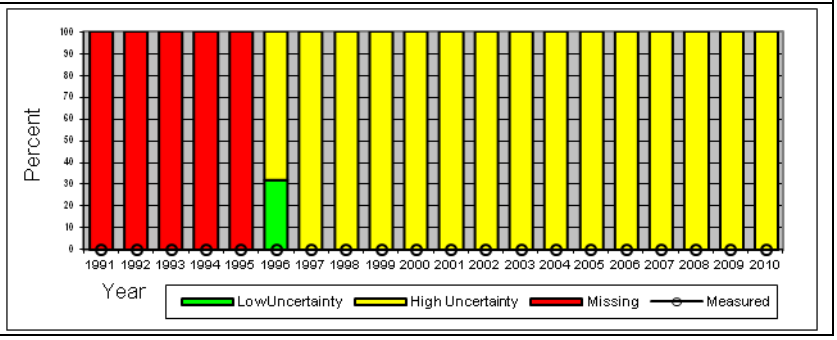
785140	AQUADILLA/BORINQUEN, PR
Class II	
Solar Coordinates	
Latitude: 18.5˚	
Longitude: -67.133˚	
Elevation: 72 m	
Meteorological Coordinates	
Latitude: 18.5˚	
Longitude: -67.133˚	
Elevation: 72 m	
Time Zone: -4	

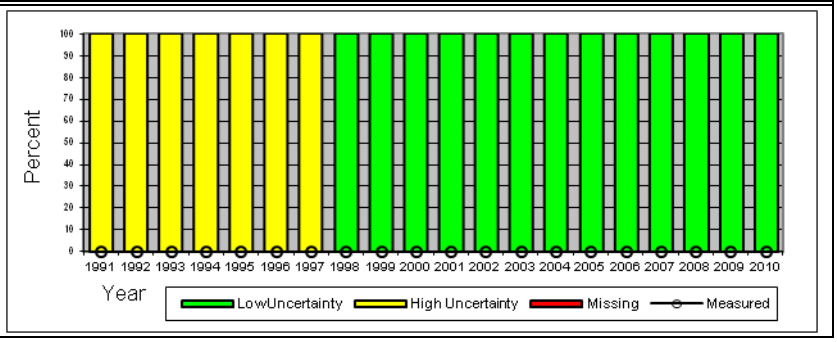
785145	EUGENIO MARIA DE HO, PR
Class III	
Solar Coordinates	
Latitude: 18.25˚	
Longitude: -67.15˚	
Elevation: 9 m	
Meteorological Coordinates	
Latitude: 18.25˚	
Longitude: -67.15˚	
Elevation: 9 m	
Time Zone: -4	

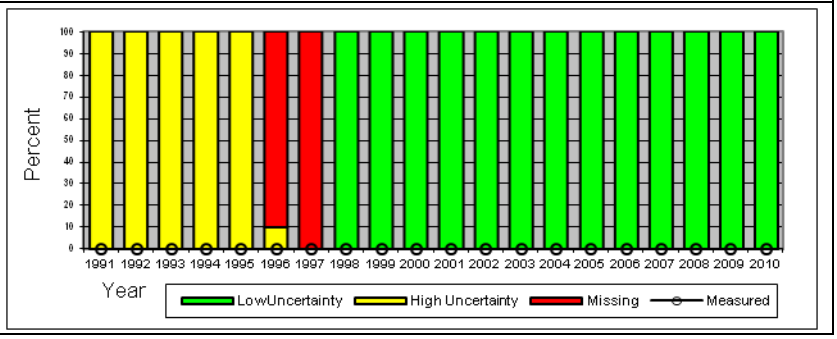
785203	MERCEDITA, PR
Class II	
Solar Coordinates	
Latitude: 18˚	
Longitude: -66.55˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 18˚	
Longitude: -66.55˚	
Elevation: 8 m	
Time Zone: -4	

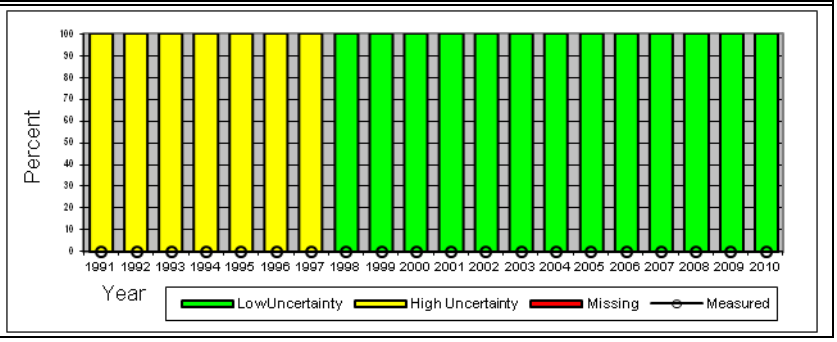
785350	ROOSEVELT ROADS, PR
Class III	
Solar Coordinates	
Latitude: 18.25˚	
Longitude: -65.633˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 18.25˚	
Longitude: -65.633˚	
Elevation: 12 m	
Time Zone: -4	

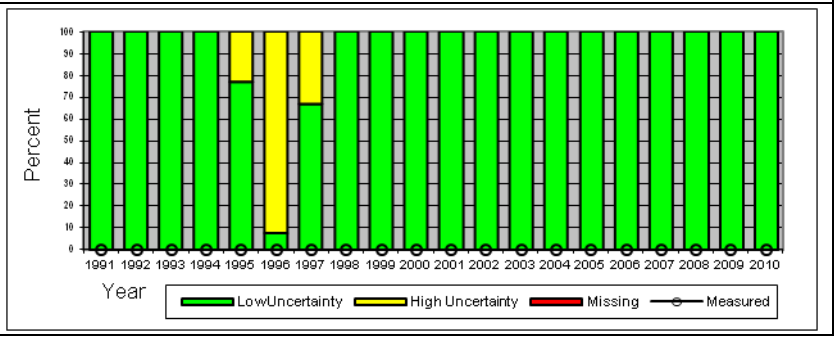
785260	SAN JUAN INTL ARPT, PR
Class II	
Solar Coordinates	
Latitude: 18.417˚	
Longitude: -66˚	
Elevation: 19 m	
Meteorological Coordinates	
Latitude: 18.417˚	
Longitude: -66˚	
Elevation: 19 m	
Time Zone: -4	

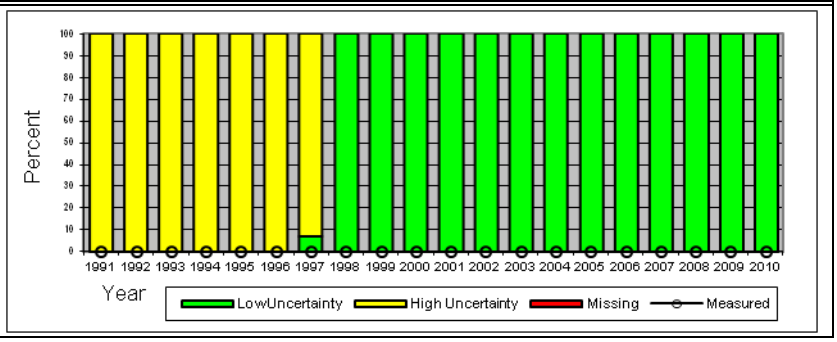
785263	SAN JUAN L M MARIN INTL AP, PR
Class III	
Solar Coordinates	
Latitude: 18.433˚	
Longitude: -66˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 18.433˚	
Longitude: -66˚	
Elevation: 3 m	
Time Zone: -4	

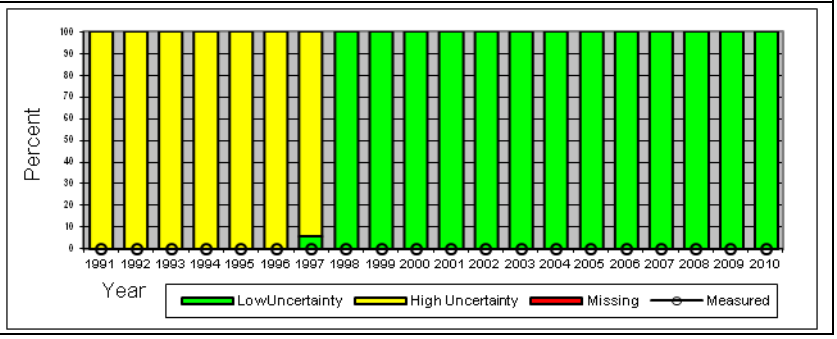
725058	BLOCK ISLAND STATE ARPT, RI
Class II	
Solar Coordinates	
Latitude: 41.167˚	
Longitude: -71.583˚	
Elevation: 34 m	
Meteorological Coordinates	
Latitude: 41.167˚	
Longitude: -71.583˚	
Elevation: 34 m	
Time Zone: -5	

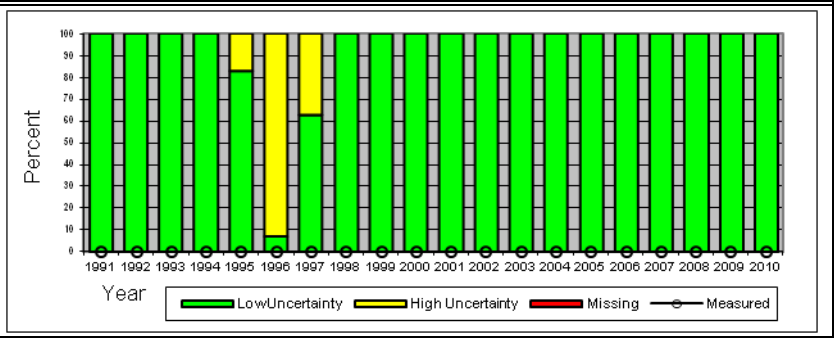
725079	NEWPORT, RI
Class III	
Solar Coordinates	
Latitude: 41.533˚	
Longitude: -71.283˚	
Elevation: 52 m	
Meteorological Coordinates	
Latitude: 41.533˚	
Longitude: -71.283˚	
Elevation: 52 m	
Time Zone: -5	

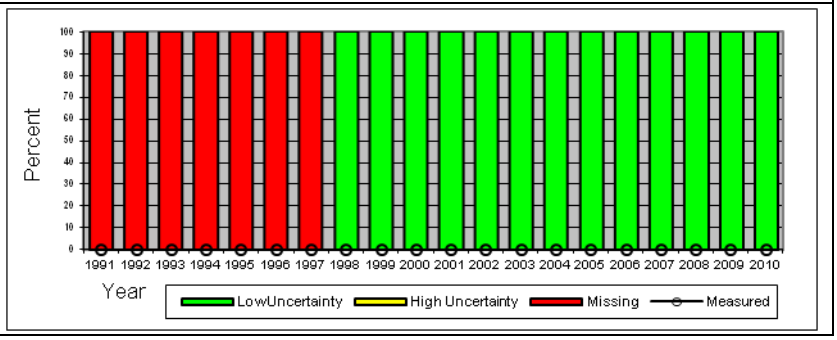
725054	PAWTUCKET (AWOS), RI
Class II	
Solar Coordinates	
Latitude: 41.917˚	
Longitude: -71.5˚	
Elevation: 134 m	
Meteorological Coordinates	
Latitude: 41.917˚	
Longitude: -71.5˚	
Elevation: 134 m	
Time Zone: -5	

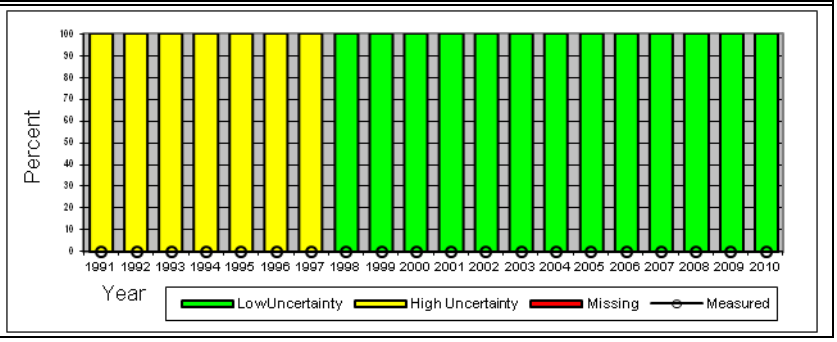
725070	PROVIDENCE T F GREEN STATE AR, RI
Class I	
Solar Coordinates	
Latitude: 41.717˚	
Longitude: -71.433˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 41.717˚	
Longitude: -71.433˚	
Elevation: 16 m	
Time Zone: -5	

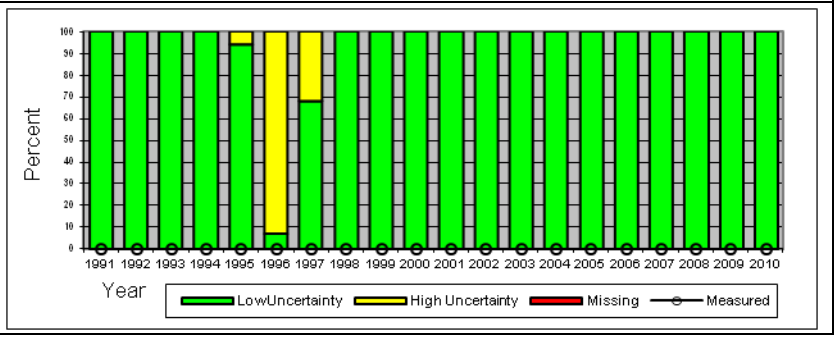
723125	ANDERSON COUNTY AP, SC
Class II	
Solar Coordinates	
Latitude: 34.5˚	
Longitude: -82.717˚	
Elevation: 232 m	
Meteorological Coordinates	
Latitude: 34.5˚	
Longitude: -82.717˚	
Elevation: 232 m	
Time Zone: -5	

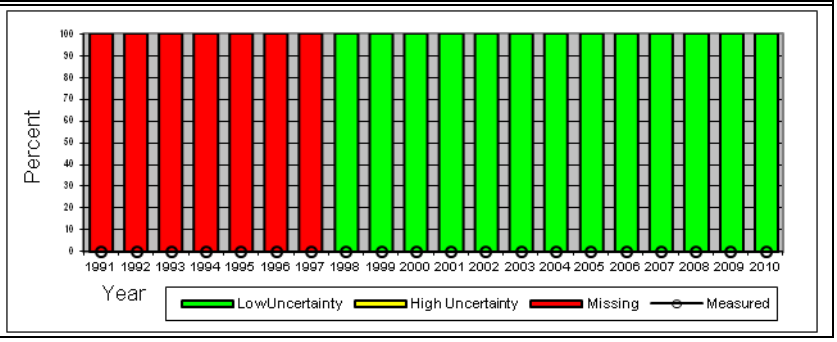
722085	BEAUFORT MCAS, SC
Class II	
Solar Coordinates	
Latitude: 32.483˚	
Longitude: -80.717˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 32.483˚	
Longitude: -80.717˚	
Elevation: 10 m	
Time Zone: -5	

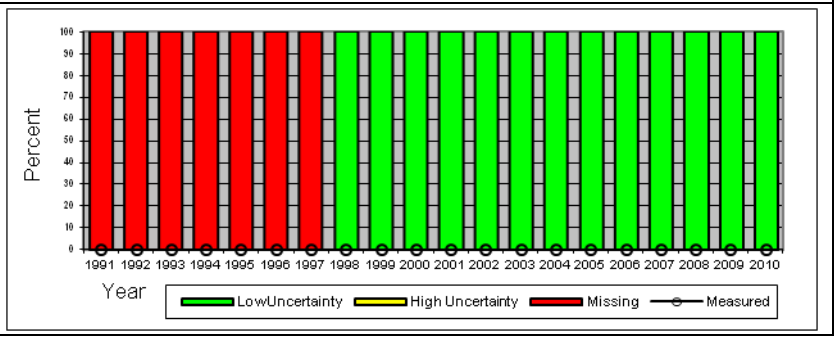
722080	CHARLESTON INTL ARPT, SC
Class I	
Solar Coordinates	
Latitude: 32.9˚	
Longitude: -80.033˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 32.9˚	
Longitude: -80.033˚	
Elevation: 12 m	
Time Zone: -5	

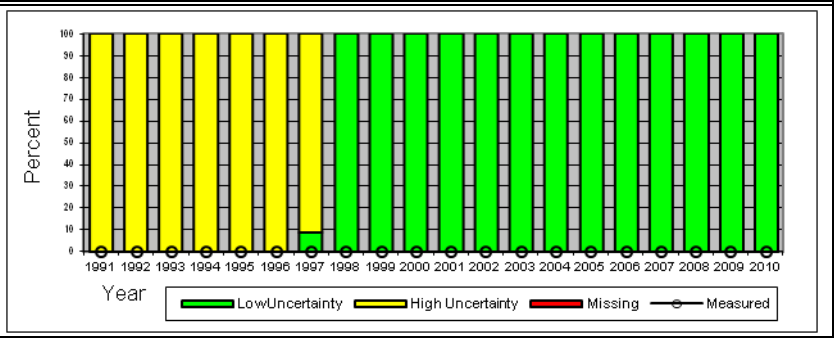
723118	CLEMSON-OCONEE CO A, SC
Class III	
Solar Coordinates	
Latitude: 34.667˚	
Longitude: -82.867˚	
Elevation: 271 m	
Meteorological Coordinates	
Latitude: 34.667˚	
Longitude: -82.867˚	
Elevation: 271 m	
Time Zone: -5	

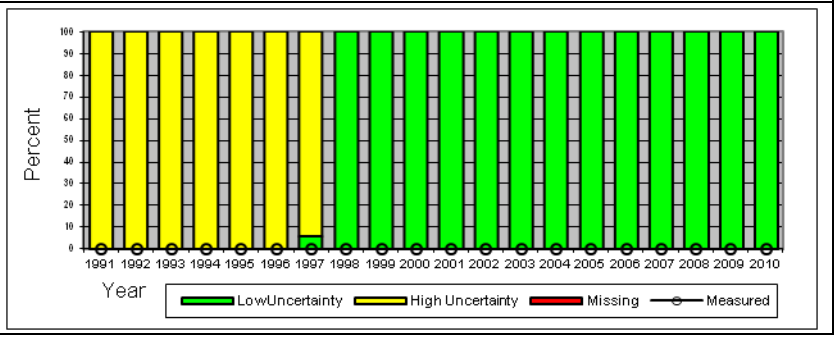
723105	COLUMBIA CONGAREE FLD MCAF, SC
Class II	
Solar Coordinates	
Latitude: 33.917˚	
Longitude: -80.8˚	
Elevation: 74 m	
Meteorological Coordinates	
Latitude: 33.917˚	
Longitude: -80.8˚	
Elevation: 74 m	
Time Zone: -5	

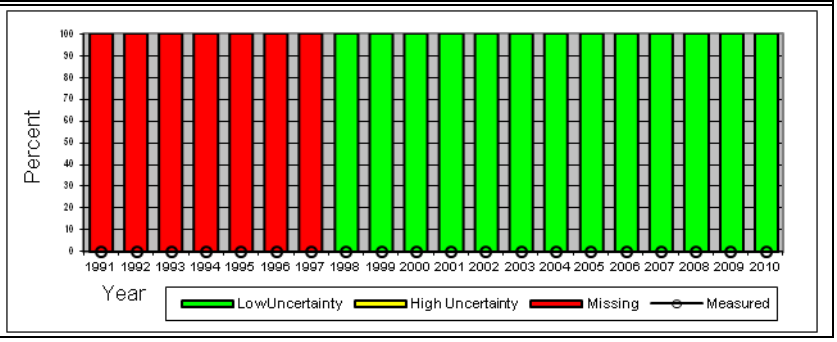
723100	COLUMBIA METRO ARPT, SC
Class I	
Solar Coordinates	
Latitude: 33.95˚	
Longitude: -81.117˚	
Elevation: 65 m	
Meteorological Coordinates	
Latitude: 33.95˚	
Longitude: -81.117˚	
Elevation: 65 m	
Time Zone: -5	

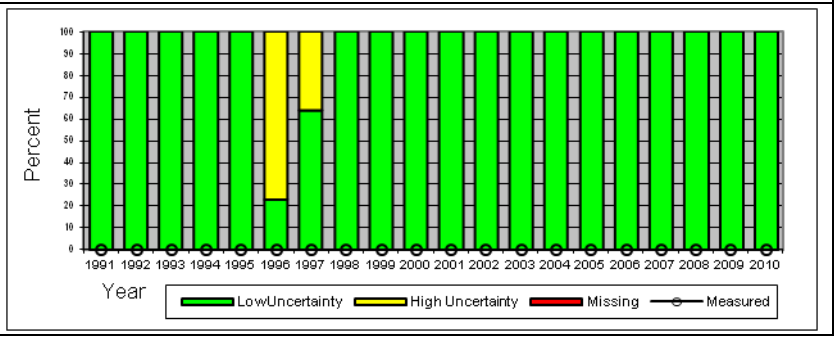
723104	COLUMBIA OWENS APT, SC
Class III	
Solar Coordinates	
Latitude: 33.967˚	
Longitude: -81˚	
Elevation: 59 m	
Meteorological Coordinates	
Latitude: 33.967˚	
Longitude: -81˚	
Elevation: 59 m	
Time Zone: -5	

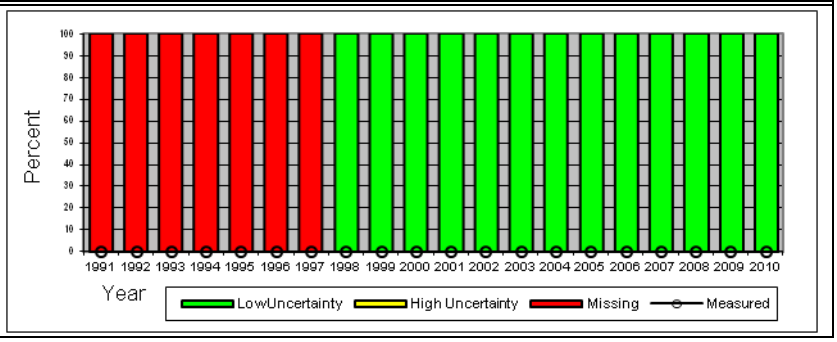
723116	DARLINGTON, SC
Class III	
Solar Coordinates	
Latitude: 34.45˚	
Longitude: -79.883˚	
Elevation: 59 m	
Meteorological Coordinates	
Latitude: 34.45˚	
Longitude: -79.883˚	
Elevation: 59 m	
Time Zone: -5	

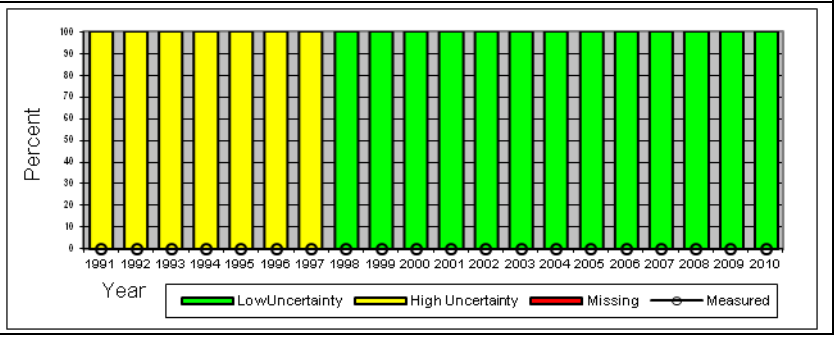
723106	FLORENCE REGIONAL AP, SC
Class II	
Solar Coordinates	
Latitude: 34.183˚	
Longitude: -79.733˚	
Elevation: 44 m	
Meteorological Coordinates	
Latitude: 34.183˚	
Longitude: -79.733˚	
Elevation: 44 m	
Time Zone: -5	

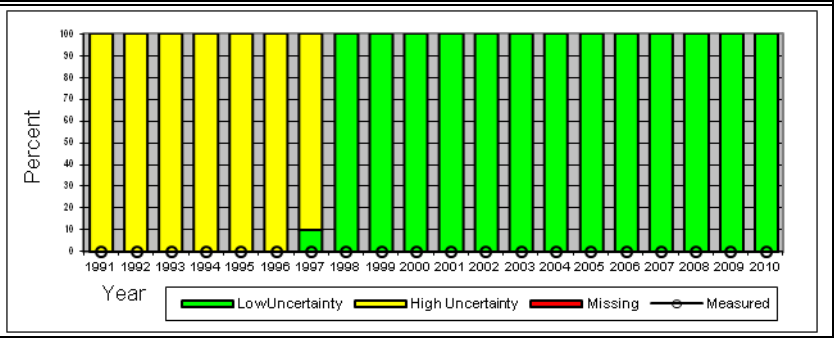
723119	GREENVILLE DOWNTOWN AP, SC
Class II	
Solar Coordinates	
Latitude: 34.85˚	
Longitude: -82.35˚	
Elevation: 319 m	
Meteorological Coordinates	
Latitude: 34.85˚	
Longitude: -82.35˚	
Elevation: 319 m	
Time Zone: -5	

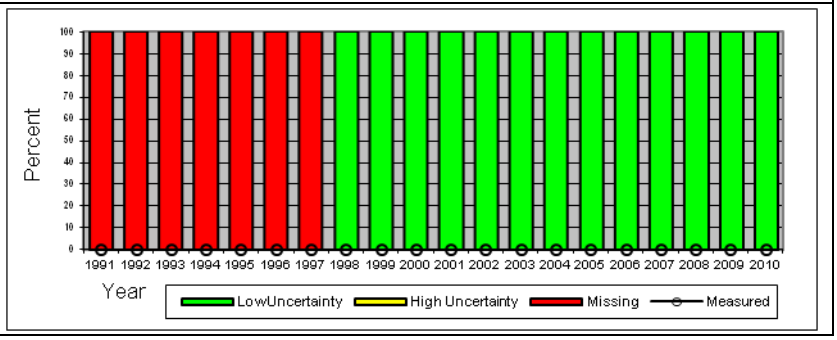
723124	GREENWOOD AIRPORT, SC
Class III	
Solar Coordinates	
Latitude: 34.233˚	
Longitude: -82.15˚	
Elevation: 192 m	
Meteorological Coordinates	
Latitude: 34.233˚	
Longitude: -82.15˚	
Elevation: 192 m	
Time Zone: -5	

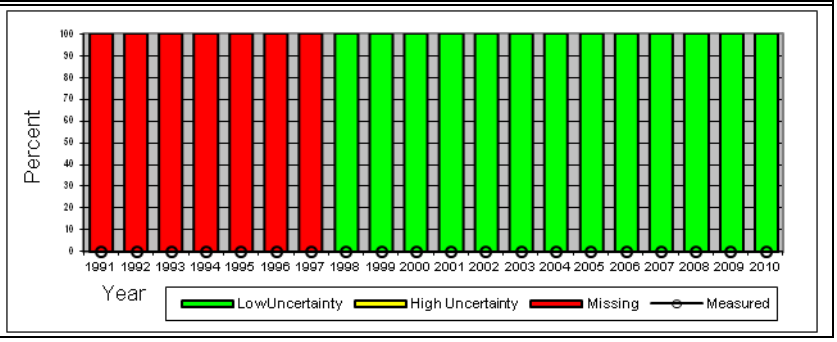
723120	GREER GREENV'L-SPARTANBRG AP, SC
Class I	
Solar Coordinates	
Latitude: 34.9˚	
Longitude: -82.217˚	
Elevation: 292 m	
Meteorological Coordinates	
Latitude: 34.9˚	
Longitude: -82.217˚	
Elevation: 292 m	
Time Zone: -5	

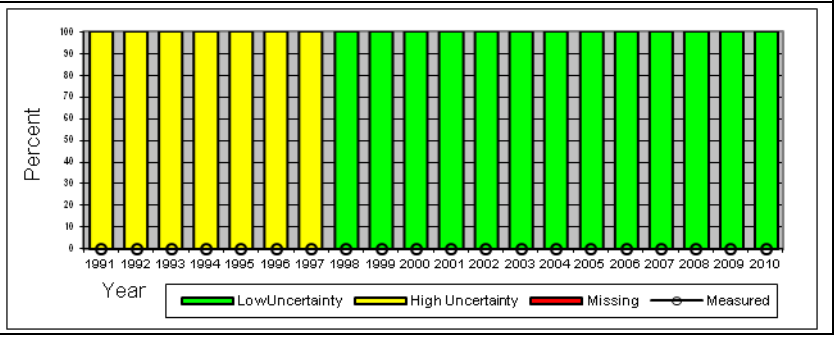
723114	LOUISA, SC
Class III	
Solar Coordinates	
Latitude: 38.017˚	
Longitude: -77.967˚	
Elevation: 150 m	
Meteorological Coordinates	
Latitude: 38.017˚	
Longitude: -77.967˚	
Elevation: 150 m	
Time Zone: -5	

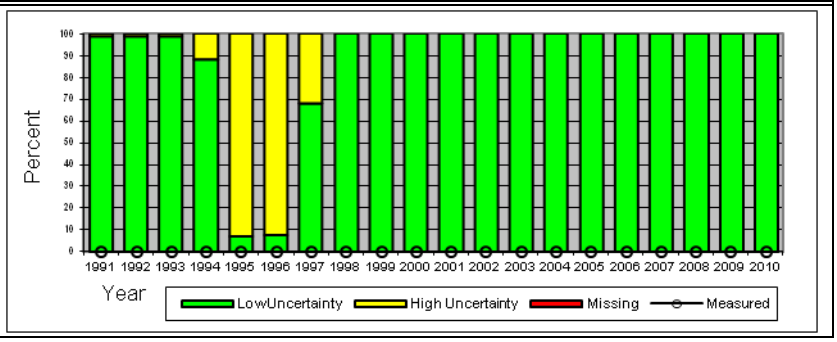
747910	MYRTLE BEACH AFB, SC
Class II	
Solar Coordinates	
Latitude: 33.683˚	
Longitude: -78.933˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 33.683˚	
Longitude: -78.933˚	
Elevation: 8 m	
Time Zone: -5	

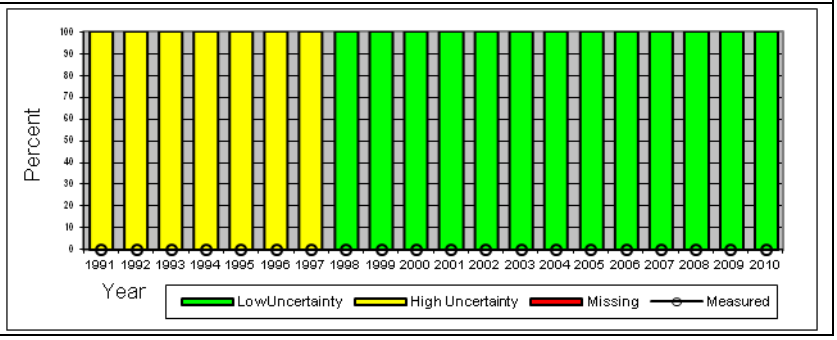
747915	NORTH MYRTLE BEACH GRAND STRA, SC
Class II	
Solar Coordinates	
Latitude: 33.817˚	
Longitude: -78.717˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 33.817˚	
Longitude: -78.717˚	
Elevation: 10 m	
Time Zone: -5	

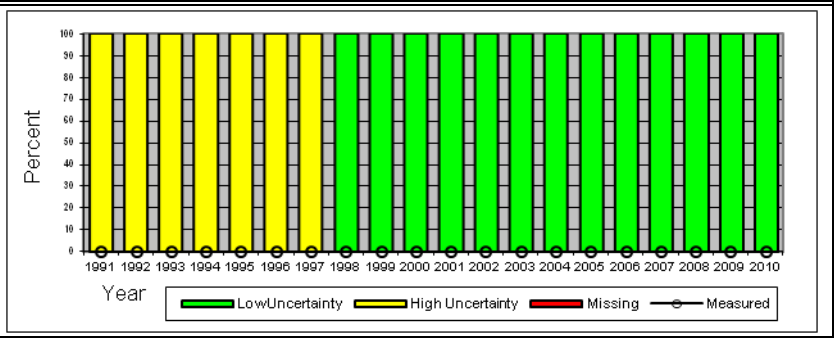
723115	ORANGEBURG, SC
Class III	
Solar Coordinates	
Latitude: 33.467˚	
Longitude: -80.85˚	
Elevation: 60 m	
Meteorological Coordinates	
Latitude: 33.467˚	
Longitude: -80.85˚	
Elevation: 60 m	
Time Zone: -5	

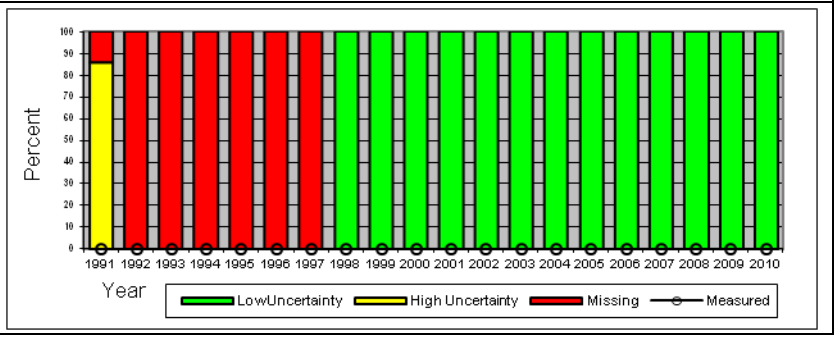
723117	ROCK HILL/YORK COUN, SC
Class III	
Solar Coordinates	
Latitude: 34.983˚	
Longitude: -81.05˚	
Elevation: 204 m	
Meteorological Coordinates	
Latitude: 34.983˚	
Longitude: -81.05˚	
Elevation: 204 m	
Time Zone: -5	

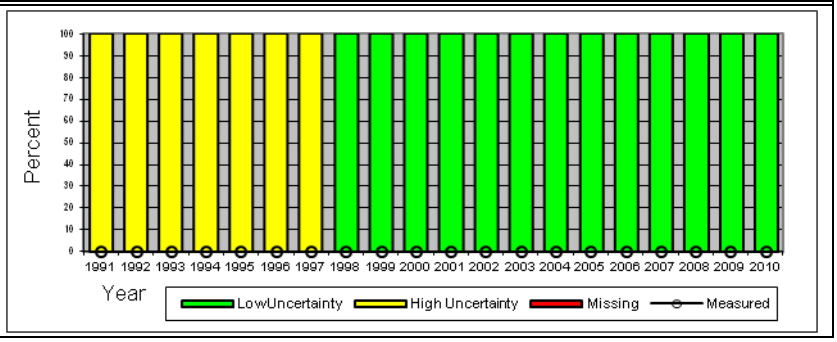
747900	SUMTER SHAW AFB, SC
Class II	
Solar Coordinates	
Latitude: 33.967˚	
Longitude: -80.467˚	
Elevation: 74 m	
Meteorological Coordinates	
Latitude: 33.967˚	
Longitude: -80.467˚	
Elevation: 74 m	
Time Zone: -5	

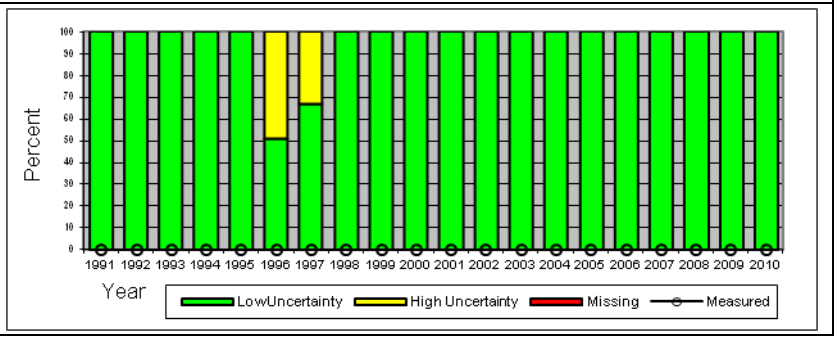
726590	ABERDEEN REGIONAL ARPT, SD
Class I	
Solar Coordinates	
Latitude: 45.45˚	
Longitude: -98.417˚	
Elevation: 398 m	
Meteorological Coordinates	
Latitude: 45.45˚	
Longitude: -98.417˚	
Elevation: 398 m	
Time Zone: -6	

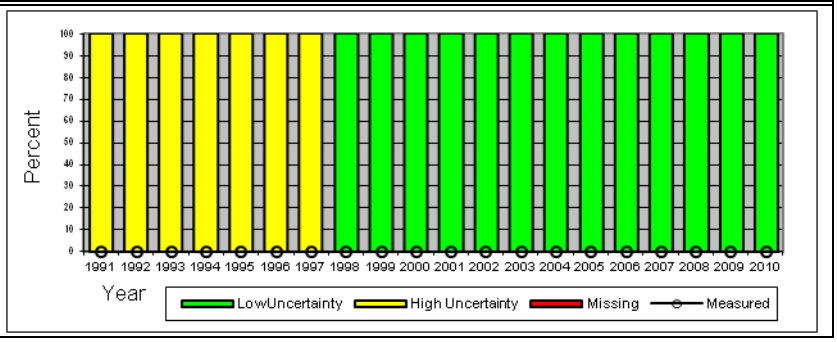
726515	BROOKINGS (AWOS), SD
Class II	
Solar Coordinates	
Latitude: 44.3˚	
Longitude: -96.817˚	
Elevation: 502 m	
Meteorological Coordinates	
Latitude: 44.3˚	
Longitude: -96.817˚	
Elevation: 502 m	
Time Zone: -6	

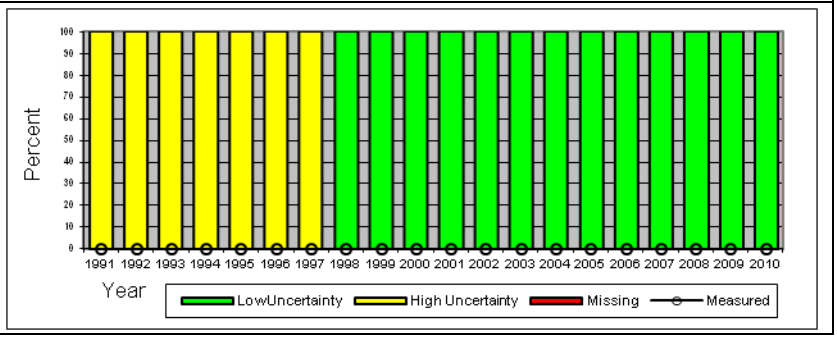
726525	CHAN GURNEY MUNI, SD
Class II	
Solar Coordinates	
Latitude: 42.917˚	
Longitude: -97.383˚	
Elevation: 408 m	
Meteorological Coordinates	
Latitude: 42.917˚	
Longitude: -97.383˚	
Elevation: 408 m	
Time Zone: -6	

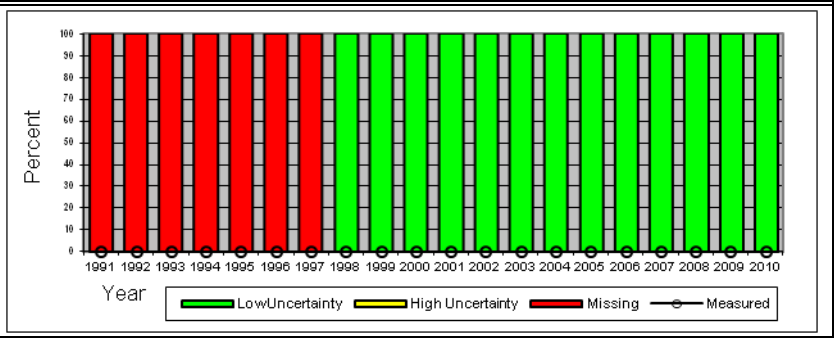
726514	CUSTER (RAMOS), SD
Class III	
Solar Coordinates	
Latitude: 43.733˚	
Longitude: -103.617˚	
Elevation: 1707 m	
Meteorological Coordinates	
Latitude: 43.733˚	
Longitude: -103.617˚	
Elevation: 1707 m	
Time Zone: -7	

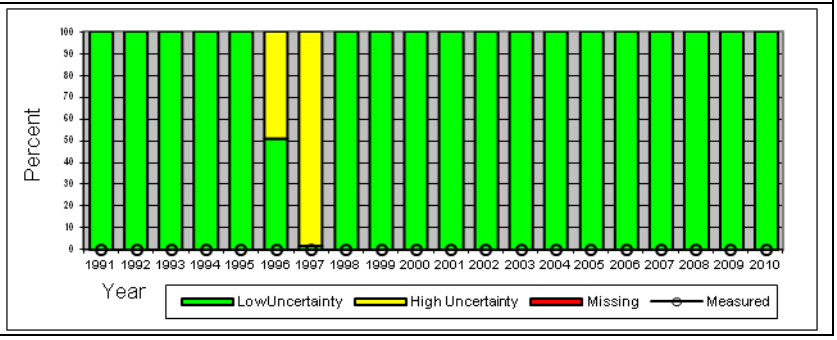
726625	ELLSWORTH AFB, SD
Class II	
Solar Coordinates	
Latitude: 44.15˚	
Longitude: -103.1˚	
Elevation: 980 m	
Meteorological Coordinates	
Latitude: 44.15˚	
Longitude: -103.1˚	
Elevation: 980 m	
Time Zone: -7	

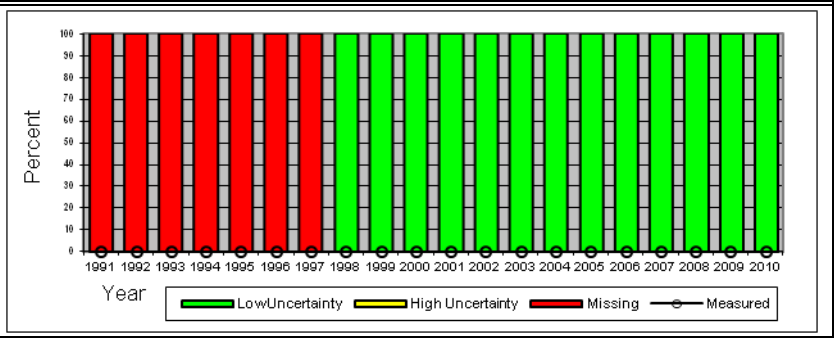
726540	HURON REGIONAL ARPT, SD
Class I	
Solar Coordinates	
Latitude: 44.4˚	
Longitude: -98.217˚	
Elevation: 390 m	
Meteorological Coordinates	
Latitude: 44.4˚	
Longitude: -98.217˚	
Elevation: 390 m	
Time Zone: -6	

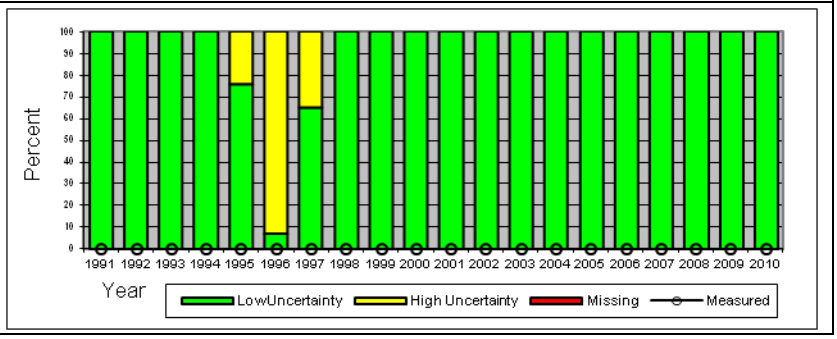
726545	MITCHELL (AWOS), SD
Class II	
Solar Coordinates	
Latitude: 43.767˚	
Longitude: -98.033˚	
Elevation: 397 m	
Meteorological Coordinates	
Latitude: 43.767˚	
Longitude: -98.033˚	
Elevation: 397 m	
Time Zone: -6	

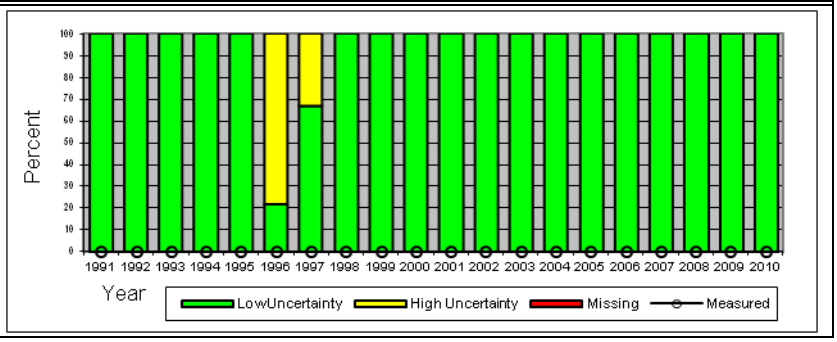
726685	MOBRIDGE, SD
Class II	
Solar Coordinates	
Latitude: 45.533˚	
Longitude: -100.433˚	
Elevation: 508 m	
Meteorological Coordinates	
Latitude: 45.533˚	
Longitude: -100.433˚	
Elevation: 508 m	
Time Zone: -7	

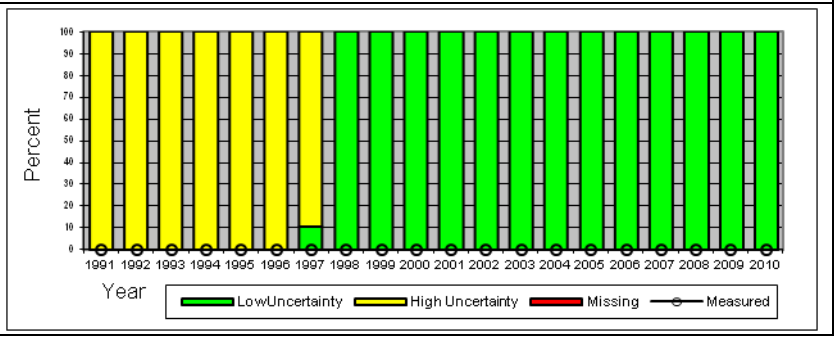
726516	PHILIP ARPT, SD
Class III	
Solar Coordinates	
Latitude: 44.05˚	
Longitude: -101.6˚	
Elevation: 673 m	
Meteorological Coordinates	
Latitude: 44.05˚	
Longitude: -101.6˚	
Elevation: 673 m	
Time Zone: -7	

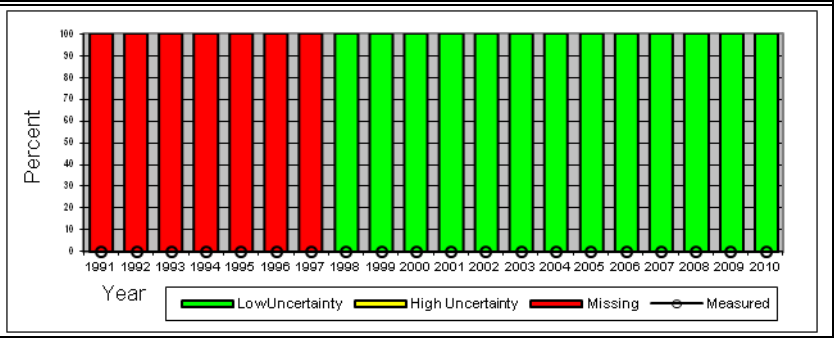
726686	PIERRE MUNICIPAL AP, SD
Class I	
Solar Coordinates	
Latitude: 44.383˚	
Longitude: -100.283˚	
Elevation: 528 m	
Meteorological Coordinates	
Latitude: 44.383˚	
Longitude: -100.283˚	
Elevation: 528 m	
Time Zone: -7	

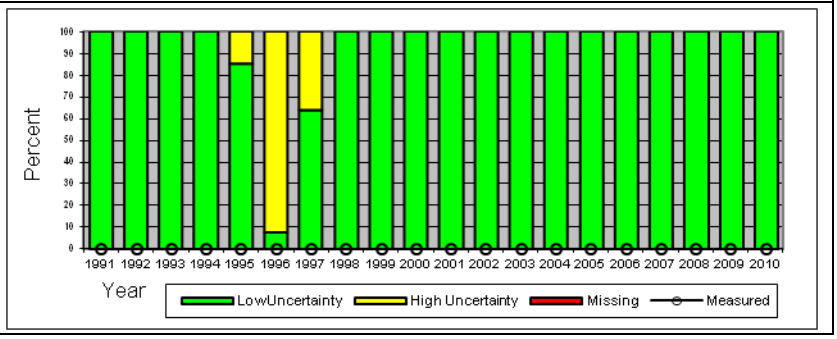
726517	PINE RIDGE, SD
Class III	
Solar Coordinates	
Latitude: 43.033˚	
Longitude: -102.517˚	
Elevation: 1015 m	
Meteorological Coordinates	
Latitude: 43.033˚	
Longitude: -102.517˚	
Elevation: 1015 m	
Time Zone: -7	

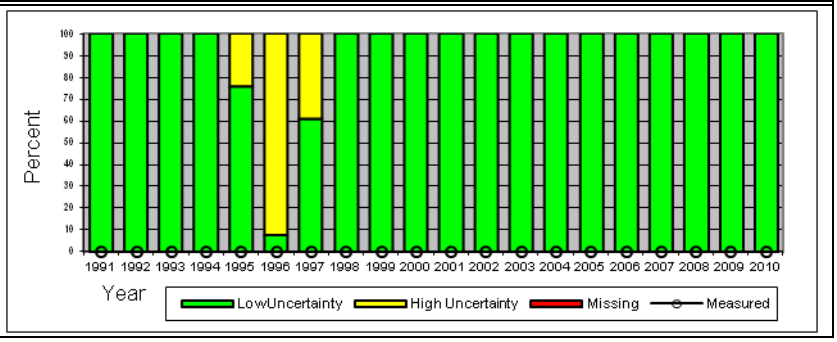
726620	RAPID CITY REGIONAL ARPT, SD
Class I	
Solar Coordinates	
Latitude: 44.05˚	
Longitude: -103.05˚	
Elevation: 963 m	
Meteorological Coordinates	
Latitude: 44.05˚	
Longitude: -103.05˚	
Elevation: 963 m	
Time Zone: -7	

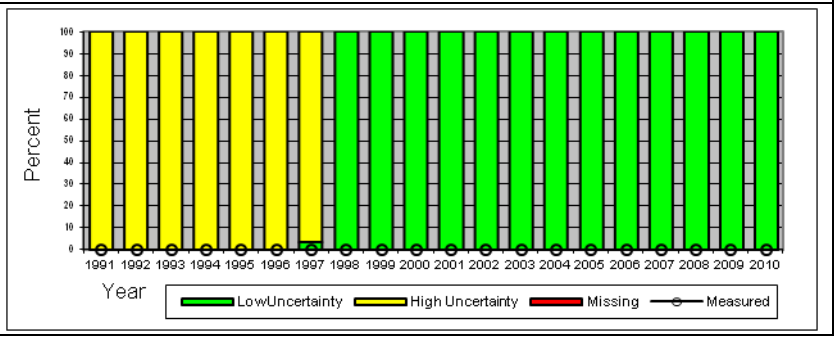
726510	SIOUX FALLS FOSS FIELD, SD
Class I	
Solar Coordinates	
Latitude: 43.583˚	
Longitude: -96.75˚	
Elevation: 433 m	
Meteorological Coordinates	
Latitude: 43.583˚	
Longitude: -96.75˚	
Elevation: 433 m	
Time Zone: -6	

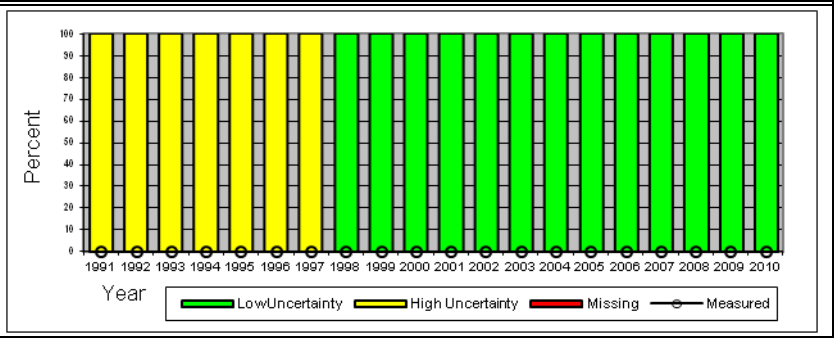
726546	WATERTOWN MUNICIPAL AP, SD
Class II	
Solar Coordinates	
Latitude: 44.933˚	
Longitude: -97.15˚	
Elevation: 532 m	
Meteorological Coordinates	
Latitude: 44.933˚	
Longitude: -97.15˚	
Elevation: 532 m	
Time Zone: -6	

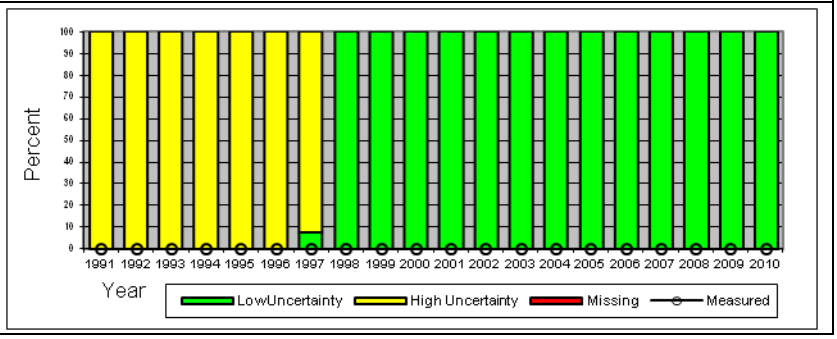
726518	WINNER, SD
Class III	
Solar Coordinates	
Latitude: 43.383˚	
Longitude: -99.85˚	
Elevation: 622 m	
Meteorological Coordinates	
Latitude: 43.383˚	
Longitude: -99.85˚	
Elevation: 622 m	
Time Zone: -6	

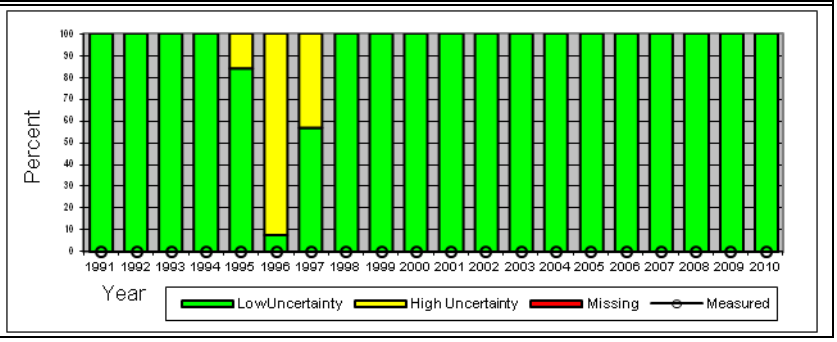
723183	BRISTOL TRI CITY AIRPORT, TN
Class I	
Solar Coordinates	
Latitude: 36.467˚	
Longitude: -82.4˚	
Elevation: 457 m	
Meteorological Coordinates	
Latitude: 36.467˚	
Longitude: -82.4˚	
Elevation: 457 m	
Time Zone: -5	

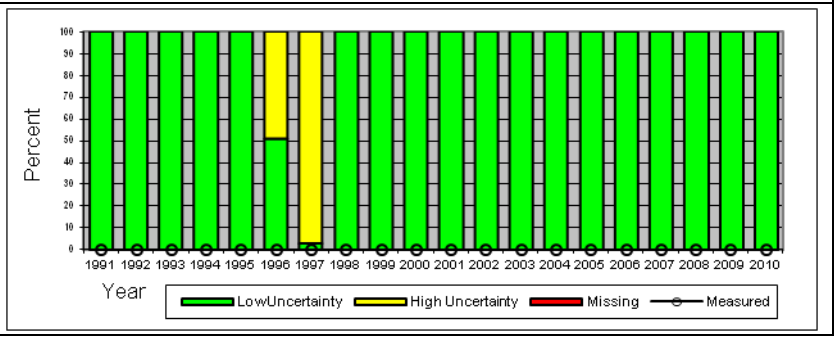
723240	CHATTANOOGA LOVELL FIELD AP, TN
Class I	
Solar Coordinates	
Latitude: 35.033˚	
Longitude: -85.2˚	
Elevation: 204 m	
Meteorological Coordinates	
Latitude: 35.033˚	
Longitude: -85.2˚	
Elevation: 204 m	
Time Zone: -5	

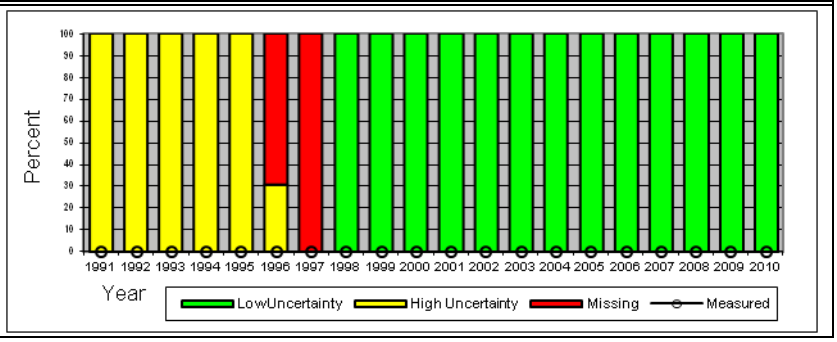
723265	CROSSVILLE MEMORIAL AP, TN
Class II	
Solar Coordinates	
Latitude: 35.95˚	
Longitude: -85.083˚	
Elevation: 569 m	
Meteorological Coordinates	
Latitude: 35.95˚	
Longitude: -85.083˚	
Elevation: 569 m	
Time Zone: -6	

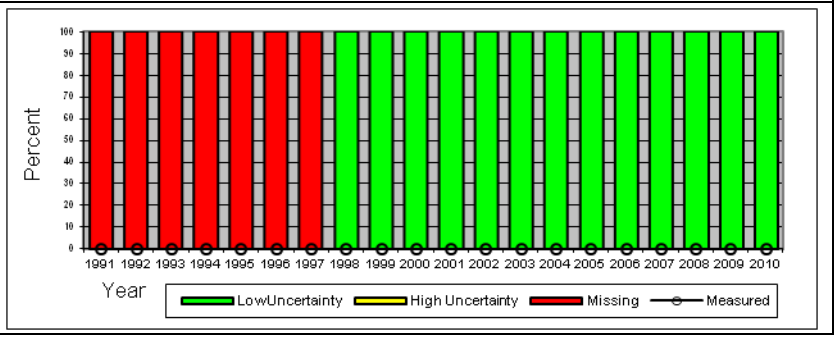
723347	DYERSBURG MUNICIPAL AP, TN
Class II	
Solar Coordinates	
Latitude: 36.017˚	
Longitude: -89.4˚	
Elevation: 103 m	
Meteorological Coordinates	
Latitude: 36.017˚	
Longitude: -89.4˚	
Elevation: 103 m	
Time Zone: -6	

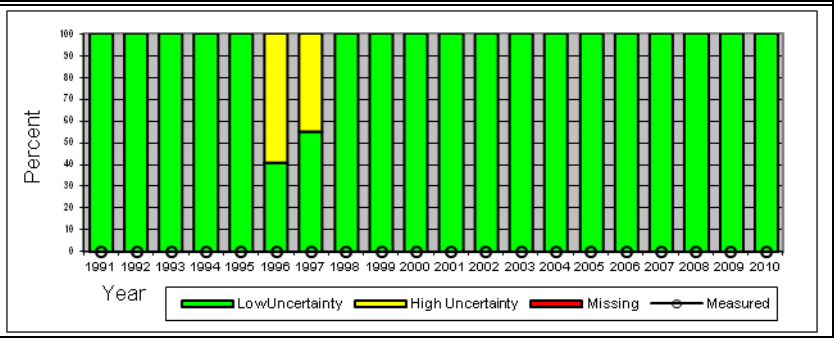
723346	JACKSON MCKELLAR-SIPES REGL A, TN
Class II	
Solar Coordinates	
Latitude: 35.6˚	
Longitude: -88.917˚	
Elevation: 132 m	
Meteorological Coordinates	
Latitude: 35.6˚	
Longitude: -88.917˚	
Elevation: 132 m	
Time Zone: -6	

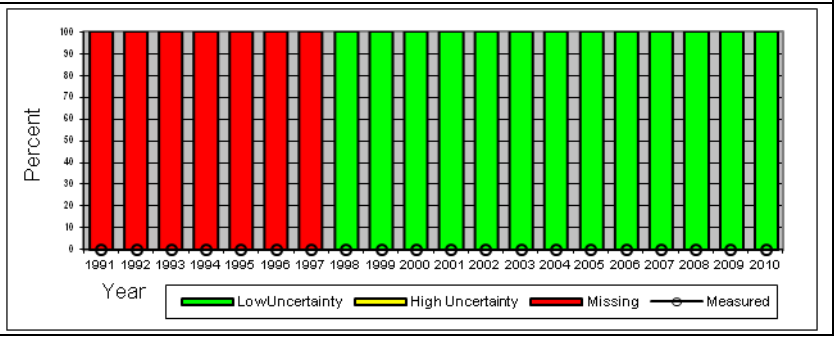
723260	KNOXVILLE MCGHEE TYSON AP, TN
Class I	
Solar Coordinates	
Latitude: 35.817˚	
Longitude: -83.983˚	
Elevation: 293 m	
Meteorological Coordinates	
Latitude: 35.817˚	
Longitude: -83.983˚	
Elevation: 293 m	
Time Zone: -5	

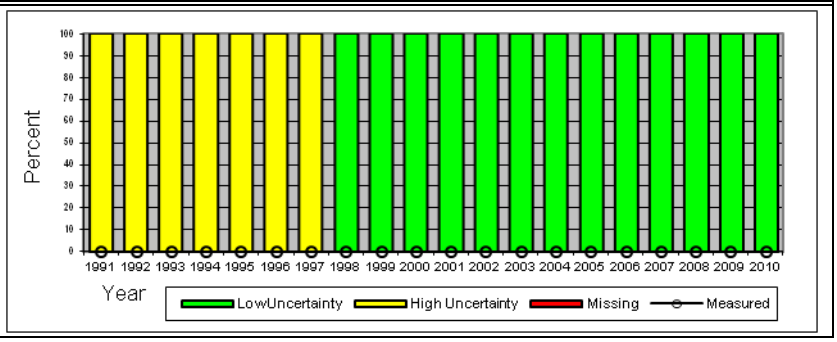
723340	MEMPHIS INTERNATIONAL AP, TN
Class I	
Solar Coordinates	
Latitude: 35.067˚	
Longitude: -89.983˚	
Elevation: 81 m	
Meteorological Coordinates	
Latitude: 35.067˚	
Longitude: -89.983˚	
Elevation: 81 m	
Time Zone: -6	

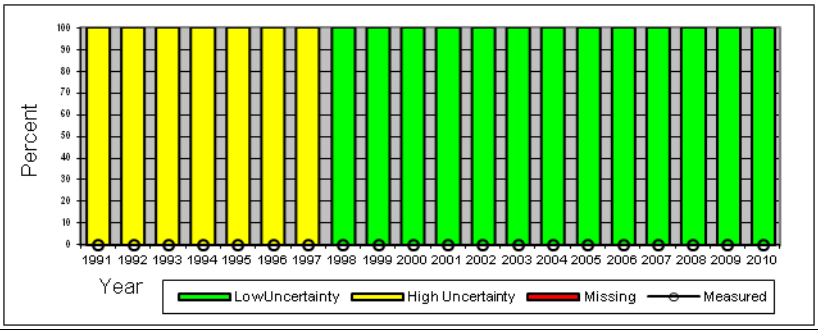
723345	MEMPHIS NAS, TN
Class III	
Solar Coordinates	
Latitude: 35.35˚	
Longitude: -89.867˚	
Elevation: 90 m	
Meteorological Coordinates	
Latitude: 35.35˚	
Longitude: -89.867˚	
Elevation: 90 m	
Time Zone: -6	

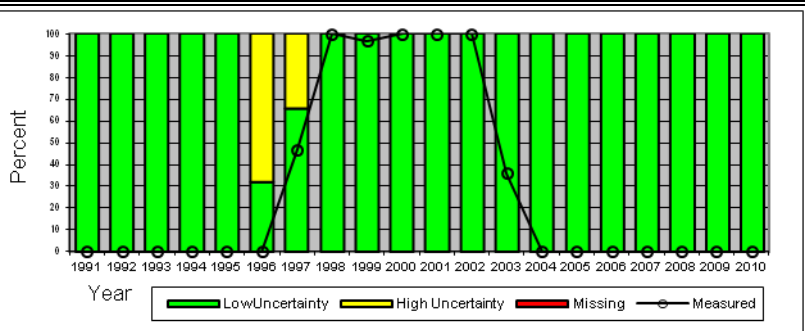
723284	MILLINGTON MUNI ARP, TN
Class III	
Solar Coordinates	
Latitude: 35.35˚	
Longitude: -89.867˚	
Elevation: 98 m	
Meteorological Coordinates	
Latitude: 35.35˚	
Longitude: -89.867˚	
Elevation: 98 m	
Time Zone: -6	

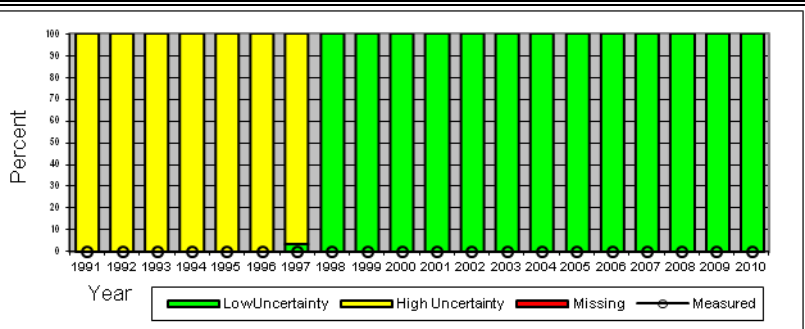
723270	NASHVILLE INTERNATIONAL AP, TN
Class I	
Solar Coordinates	
Latitude: 36.117˚	
Longitude: -86.683˚	
Elevation: 177 m	
Meteorological Coordinates	
Latitude: 36.117˚	
Longitude: -86.683˚	
Elevation: 177 m	
Time Zone: -6	

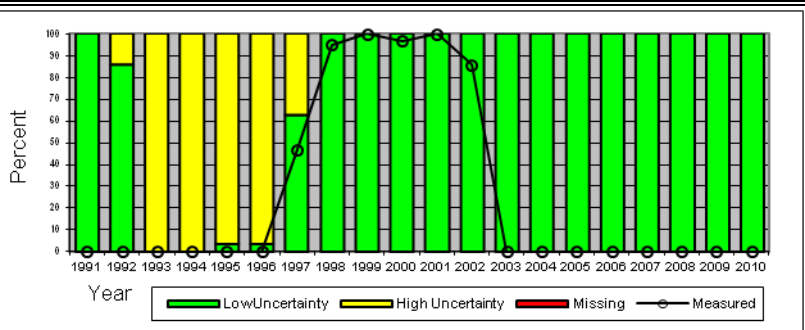
723246	OAK RIDGE, TN
Class III	
Solar Coordinates	
Latitude: 36.017˚	
Longitude: -84.233˚	
Elevation: 277 m	
Meteorological Coordinates	
Latitude: 36.017˚	
Longitude: -84.233˚	
Elevation: 277 m	
Time Zone: -5	

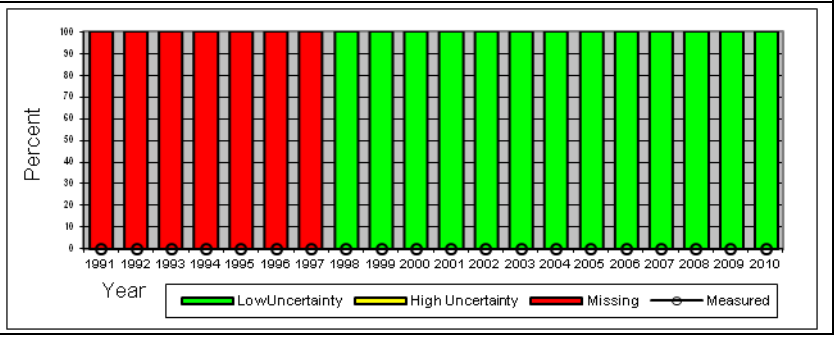
723273	SMYRNA, TN
Class II	
Solar Coordinates	
Latitude: 36˚	
Longitude: -86.517˚	
Elevation: 170 m	
Meteorological Coordinates	
Latitude: 36˚	
Longitude: -86.517˚	
Elevation: 170 m	
Time Zone: -6	

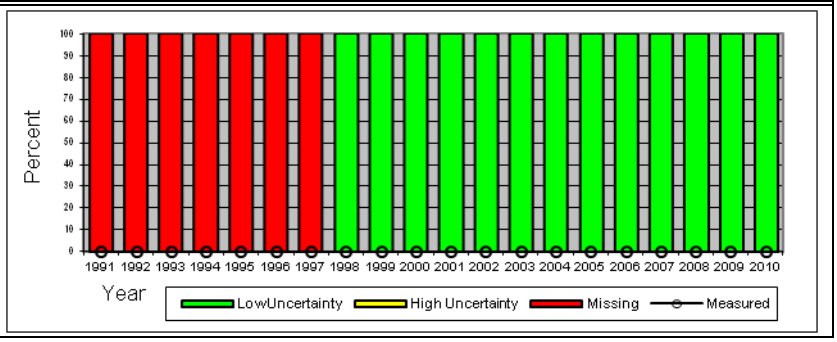
690190	ABILENE DYESS AFB, TX
Class III	
Solar Coordinates	
Latitude: 32.433˚	
Longitude: -99.85˚	
Elevation: 545 m	
Meteorological Coordinates	
Latitude: 32.433˚	
Longitude: -99.85˚	
Elevation: 545 m	
Time Zone: -6	

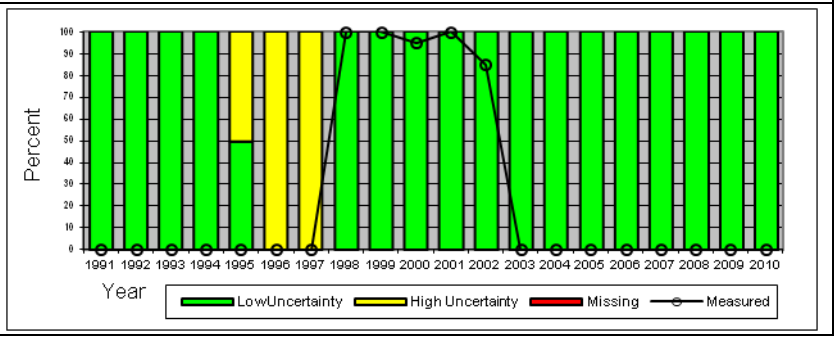
722660	ABILENE REGIONAL AP [UT], TX
Class I (with some measured)	
Solar Coordinates	
Latitude: 32.47˚	
Longitude: -99.71˚	
Elevation: 530 m	
Meteorological Coordinates	
Latitude: 32.417˚	
Longitude: -99.683˚	
Elevation: 546 m	
Time Zone: -6	

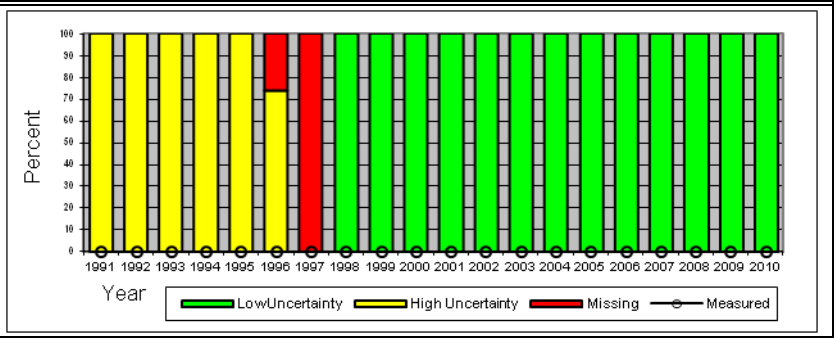
722517	ALICE INTL AP, TX
Class II	
Solar Coordinates	
Latitude: 27.733˚	
Longitude: -98.033˚	
Elevation: 53 m	
Meteorological Coordinates	
Latitude: 27.733˚	
Longitude: -98.033˚	
Elevation: 53 m	
Time Zone: -6	

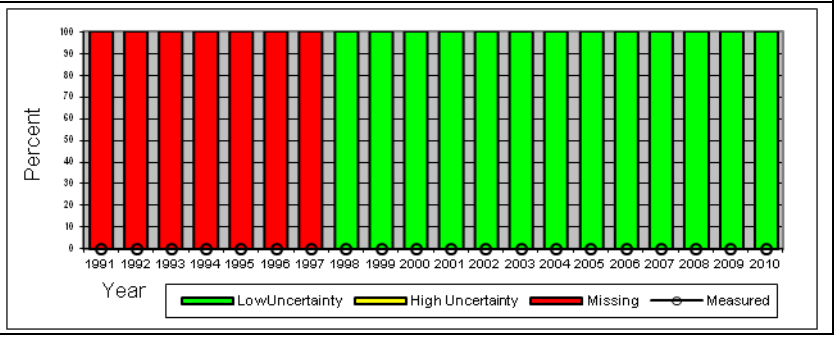
723630	AMARILLO INTERNATIONAL AP [CANYON - UT], TX
Class I (with some measured)	
Solar Coordinates	
Latitude: 34.99˚	
Longitude: -101.9˚	
Elevation: 1068 m	
Meteorological Coordinates	
Latitude: 35.217˚	
Longitude: -101.7˚	
Elevation: 1093 m	
Time Zone: -6	

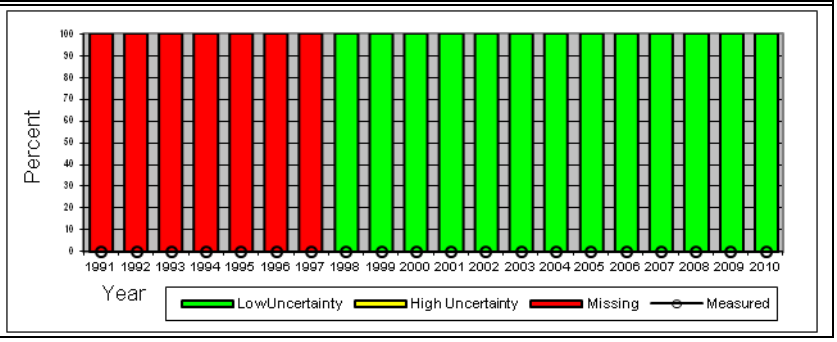
722527	ANGLETON/LAKE JACKS, TX
Class III	
Solar Coordinates	
Latitude: 29.117˚	
Longitude: -95.467˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 29.117˚	
Longitude: -95.467˚	
Elevation: 8 m	
Time Zone: -6	

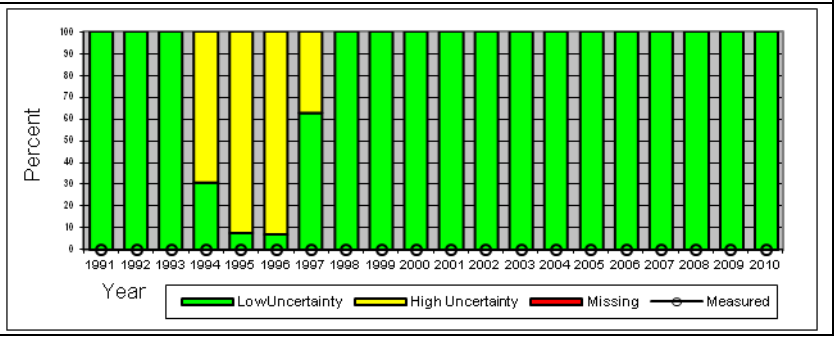
722479	ARLINGTON, TX
Class III	
Solar Coordinates	
Latitude: 32.667˚	
Longitude: -97.1˚	
Elevation: 192 m	
Meteorological Coordinates	
Latitude: 32.667˚	
Longitude: -97.1˚	
Elevation: 192 m	
Time Zone: -6	

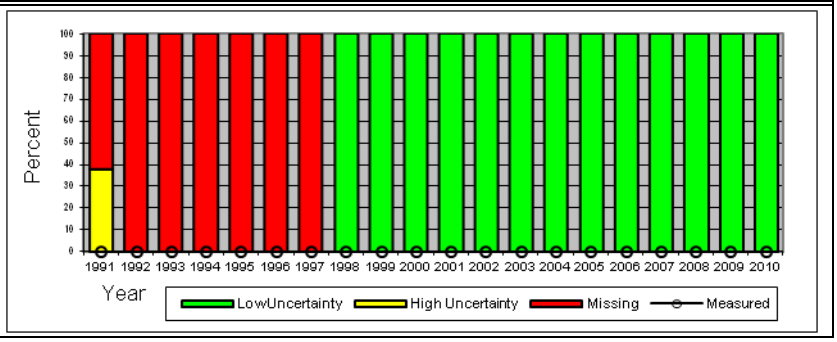
722540	AUSTIN MUELLER MUNICIPAL AP [UT], TX
Class I (with some measured)	
Solar Coordinates	
Latitude: 30.29˚	
Longitude: -97.74˚	
Elevation: 213 m	
Meteorological Coordinates	
Latitude: 30.3˚	
Longitude: -97.7˚	
Elevation: 189 m	
Time Zone: -6	

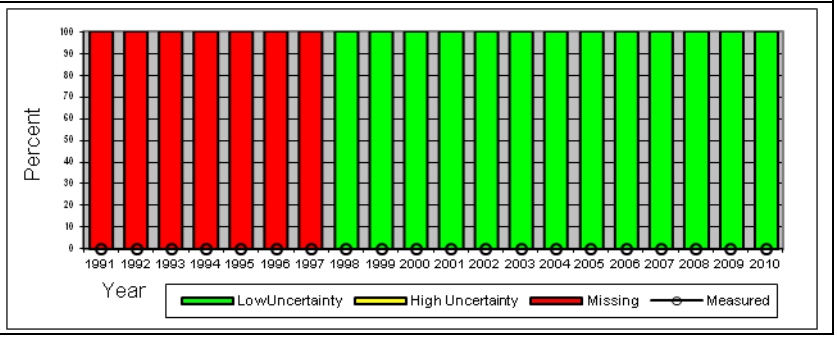
722545	BERGSTROM AFB/AUSTI, TX
Class III	
Solar Coordinates	
Latitude: 30.2˚	
Longitude: -97.683˚	
Elevation: 165 m	
Meteorological Coordinates	
Latitude: 30.2˚	
Longitude: -97.683˚	
Elevation: 165 m	
Time Zone: -6	

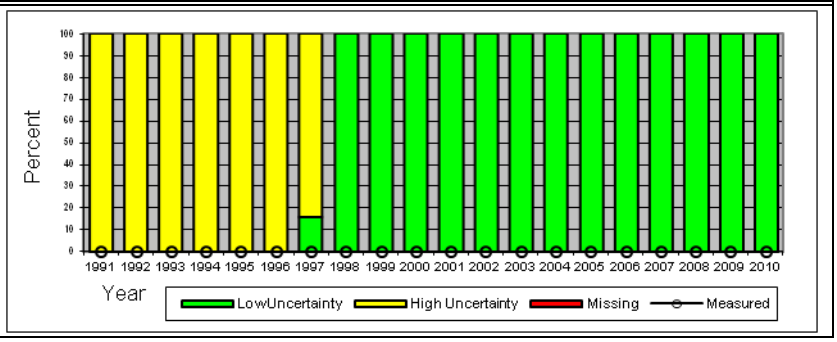
723635	BORGER/HUTCHINSON, TX
Class III	
Solar Coordinates	
Latitude: 35.7˚	
Longitude: -101.4˚	
Elevation: 931 m	
Meteorological Coordinates	
Latitude: 35.7˚	
Longitude: -101.4˚	
Elevation: 931 m	
Time Zone: -6	

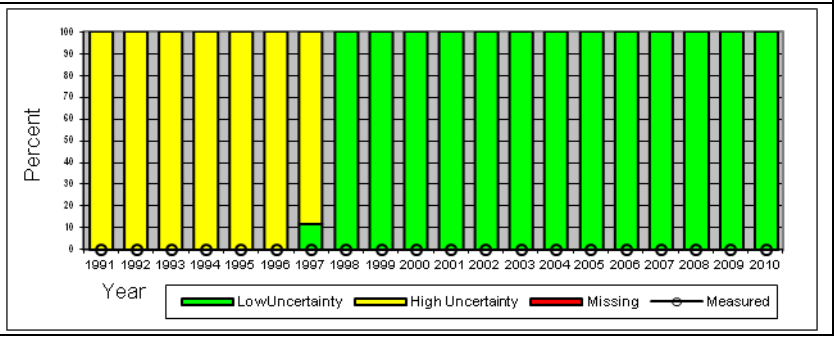
722553	BRENHAM, TX
Class III	
Solar Coordinates	
Latitude: 30.217˚	
Longitude: -96.367˚	
Elevation: 94 m	
Meteorological Coordinates	
Latitude: 30.217˚	
Longitude: -96.367˚	
Elevation: 94 m	
Time Zone: -6	

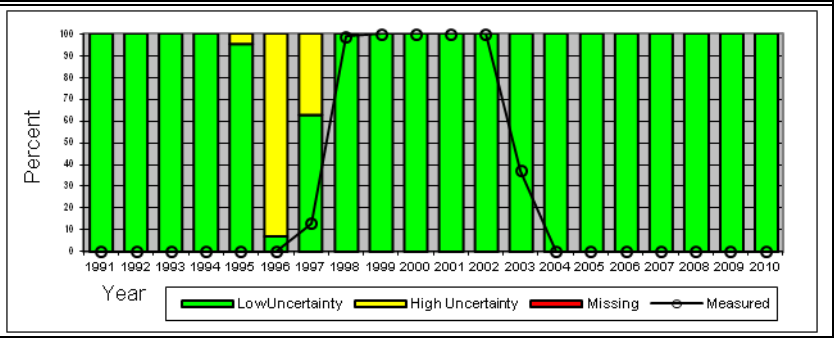
722500	BROWNSVILLE S PADRE ISL INTL, TX
Class I	
Solar Coordinates	
Latitude: 25.9˚	
Longitude: -97.433˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 25.9˚	
Longitude: -97.433˚	
Elevation: 6 m	
Time Zone: -6	

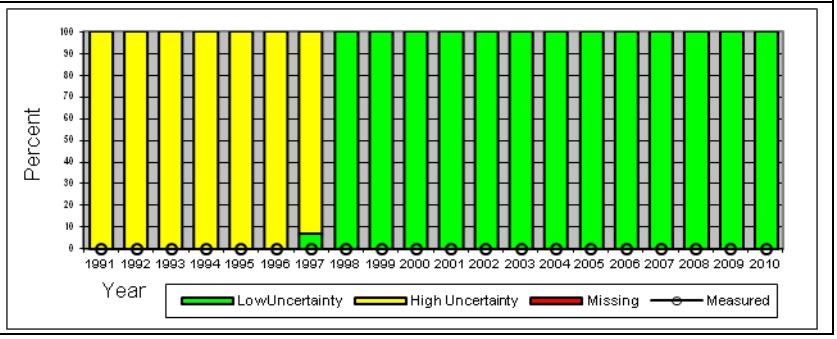
722666	BROWNWOOD MUNICIPAL, TX
Class III	
Solar Coordinates	
Latitude: 31.8˚	
Longitude: -98.95˚	
Elevation: 422 m	
Meteorological Coordinates	
Latitude: 31.8˚	
Longitude: -98.95˚	
Elevation: 422 m	
Time Zone: -6	

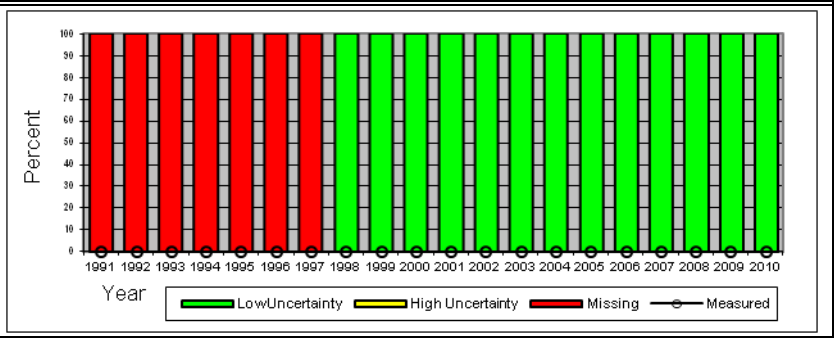
722544	CAMP MABRY, TX
Class III	
Solar Coordinates	
Latitude: 30.317˚	
Longitude: -97.767˚	
Elevation: 198 m	
Meteorological Coordinates	
Latitude: 30.317˚	
Longitude: -97.767˚	
Elevation: 198 m	
Time Zone: -6	

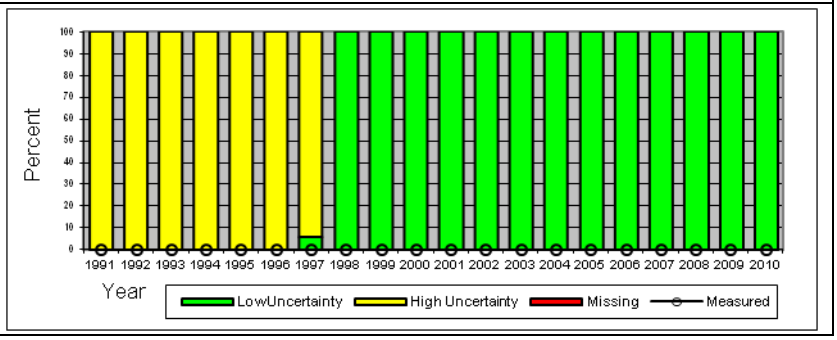
723604	CHILDRESS MUNICIPAL AP, TX
Class II	
Solar Coordinates	
Latitude: 34.433˚	
Longitude: -100.283˚	
Elevation: 595 m	
Meteorological Coordinates	
Latitude: 34.433˚	
Longitude: -100.283˚	
Elevation: 595 m	
Time Zone: -6	

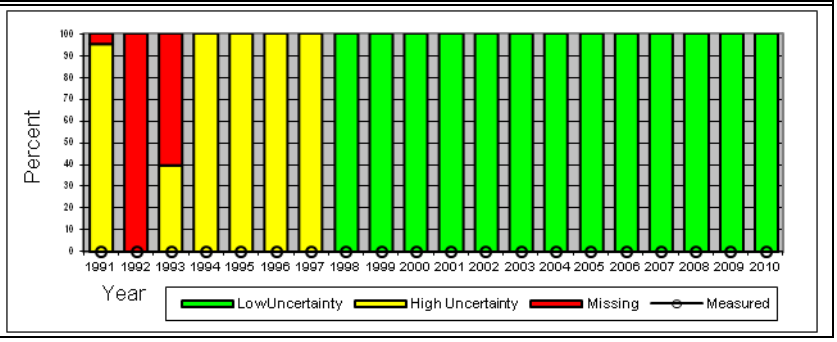
722445	COLLEGE STATION EASTERWOOD FL, TX
Class II	
Solar Coordinates	
Latitude: 30.583˚	
Longitude: -96.367˚	
Elevation: 96 m	
Meteorological Coordinates	
Latitude: 30.583˚	
Longitude: -96.367˚	
Elevation: 96 m	
Time Zone: -6	

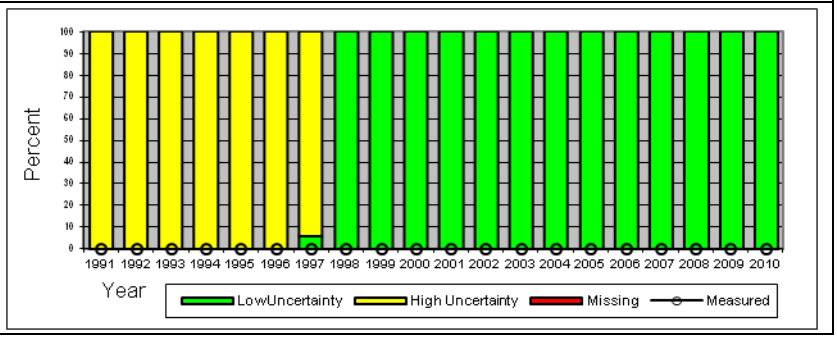
722510	CORPUS CHRISTI INTL ARPT [UT], TX
Class I (with some measured)	
Solar Coordinates	
Latitude: 27.88˚	
Longitude: -97.63˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 27.767˚	
Longitude: -97.517˚	
Elevation: 13 m	
Time Zone: -6	

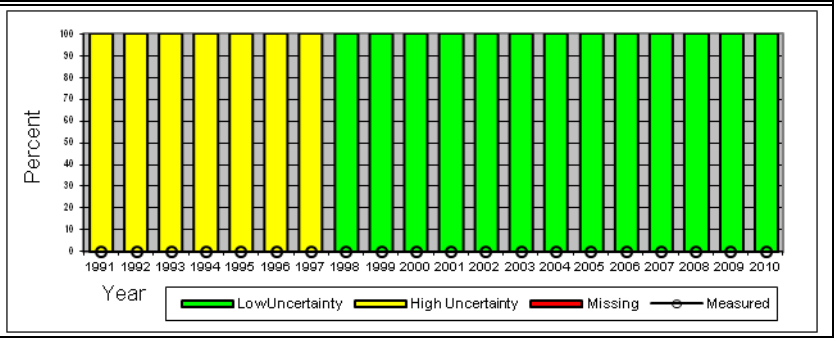
722515	CORPUS CHRISTI NAS, TX
Class II	
Solar Coordinates	
Latitude: 27.683˚	
Longitude: -97.283˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 27.683˚	
Longitude: -97.283˚	
Elevation: 6 m	
Time Zone: -6	

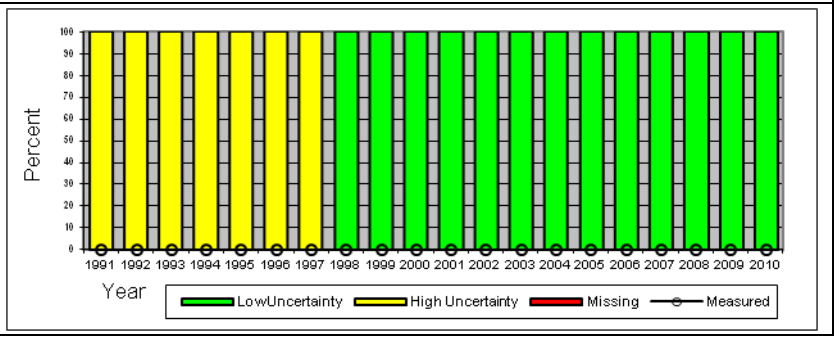
722469	CORSICANA, TX
Class III	
Solar Coordinates	
Latitude: 32.033˚	
Longitude: -96.4˚	
Elevation: 136 m	
Meteorological Coordinates	
Latitude: 32.033˚	
Longitude: -96.4˚	
Elevation: 136 m	
Time Zone: -6	

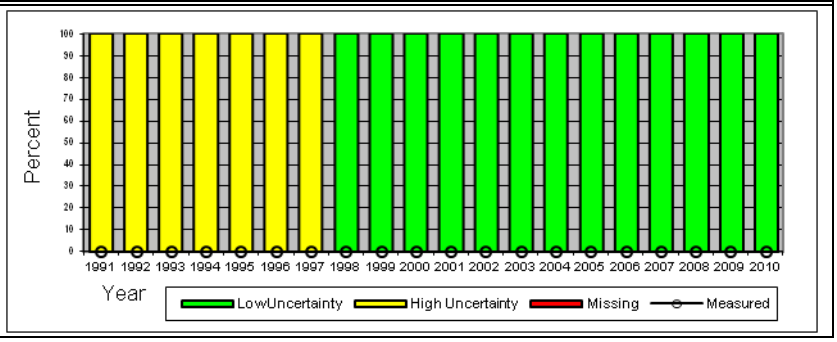
722526	COTULLA FAA AP, TX
Class II	
Solar Coordinates	
Latitude: 28.45˚	
Longitude: -99.217˚	
Elevation: 141 m	
Meteorological Coordinates	
Latitude: 28.45˚	
Longitude: -99.217˚	
Elevation: 141 m	
Time Zone: -6	

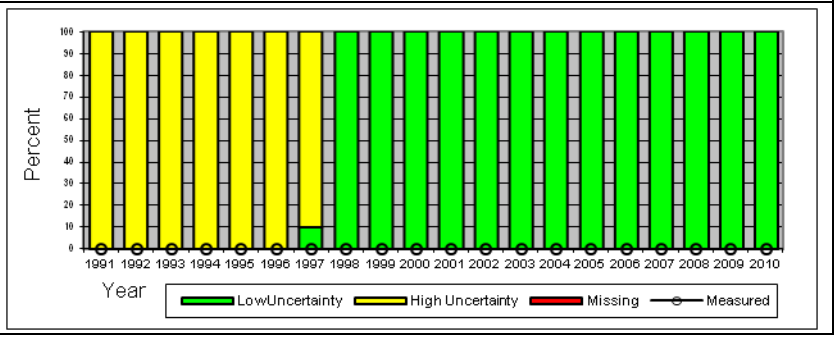
722587	COX FLD, TX
Class III	
Solar Coordinates	
Latitude: 33.633˚	
Longitude: -95.45˚	
Elevation: 171 m	
Meteorological Coordinates	
Latitude: 33.633˚	
Longitude: -95.45˚	
Elevation: 171 m	
Time Zone: -6	

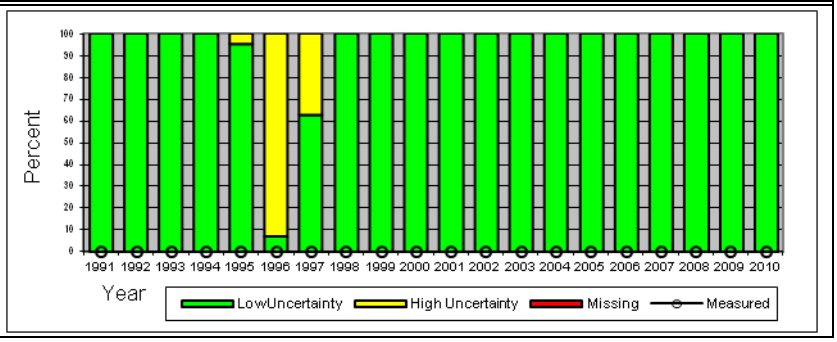
722636	DALHART MUNICIPAL AP, TX
Class II	
Solar Coordinates	
Latitude: 36.017˚	
Longitude: -102.55˚	
Elevation: 1216 m	
Meteorological Coordinates	
Latitude: 36.017˚	
Longitude: -102.55˚	
Elevation: 1216 m	
Time Zone: -6	

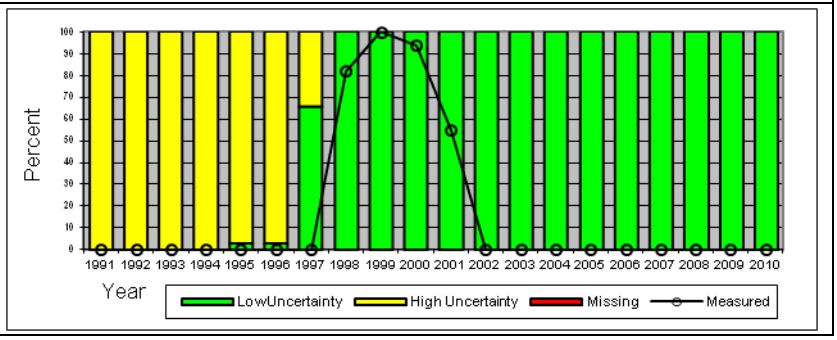
722585	DALLAS HENSLEY FIELD NAS, TX
Class III	
Solar Coordinates	
Latitude: 32.733˚	
Longitude: -96.967˚	
Elevation: 150 m	
Meteorological Coordinates	
Latitude: 32.733˚	
Longitude: -96.967˚	
Elevation: 150 m	
Time Zone: -6	

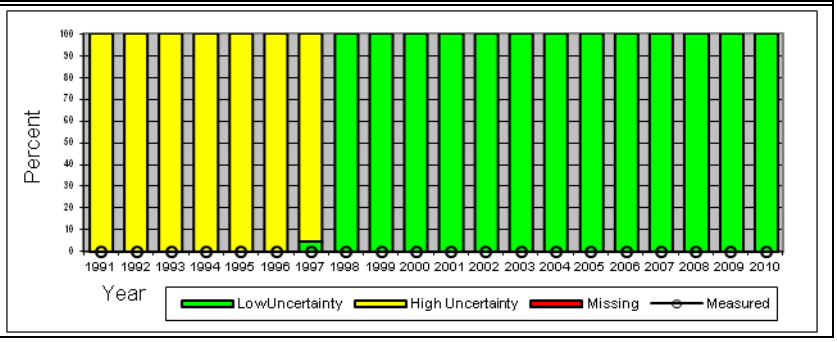
722583	DALLAS LOVE FIELD, TX
Class II	
Solar Coordinates	
Latitude: 32.85˚	
Longitude: -96.85˚	
Elevation: 134 m	
Meteorological Coordinates	
Latitude: 32.85˚	
Longitude: -96.85˚	
Elevation: 134 m	
Time Zone: -6	

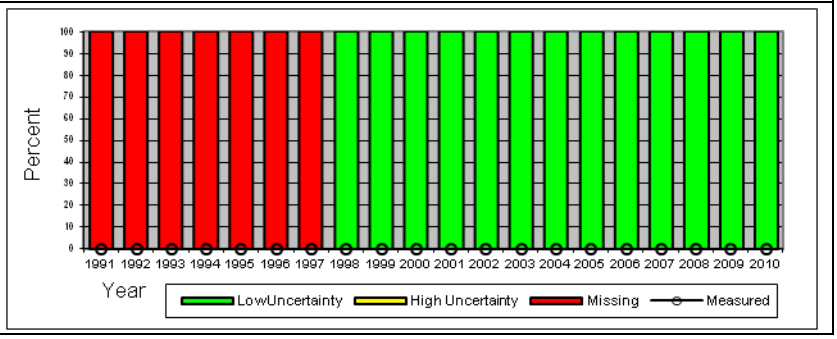
722598	DALLAS/ADDISON ARPT, TX
Class II	
Solar Coordinates	
Latitude: 32.967˚	
Longitude: -96.833˚	
Elevation: 196 m	
Meteorological Coordinates	
Latitude: 32.967˚	
Longitude: -96.833˚	
Elevation: 196 m	
Time Zone: -6	

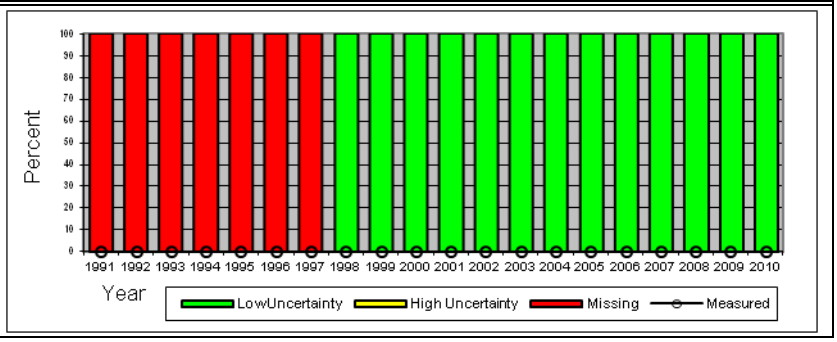
722599	DALLAS/REDBIRD ARPT, TX
Class II	
Solar Coordinates	
Latitude: 32.683˚	
Longitude: -96.867˚	
Elevation: 201 m	
Meteorological Coordinates	
Latitude: 32.683˚	
Longitude: -96.867˚	
Elevation: 201 m	
Time Zone: -6	

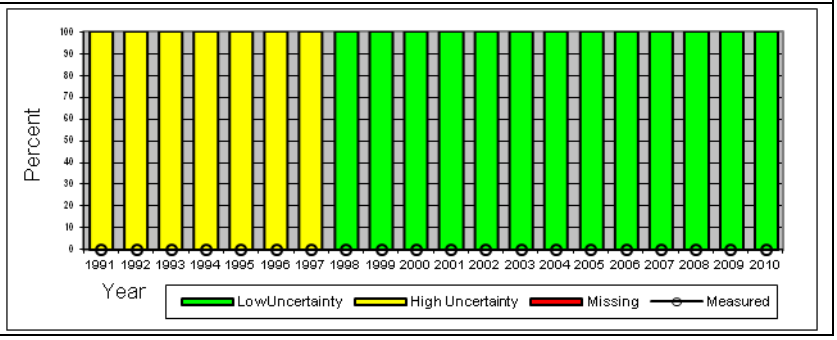
722590	DALLAS-FORT WORTH INTL AP, TX
Class I	
Solar Coordinates	
Latitude: 32.9˚	
Longitude: -97.017˚	
Elevation: 171 m	
Meteorological Coordinates	
Latitude: 32.9˚	
Longitude: -97.017˚	
Elevation: 171 m	
Time Zone: -6	

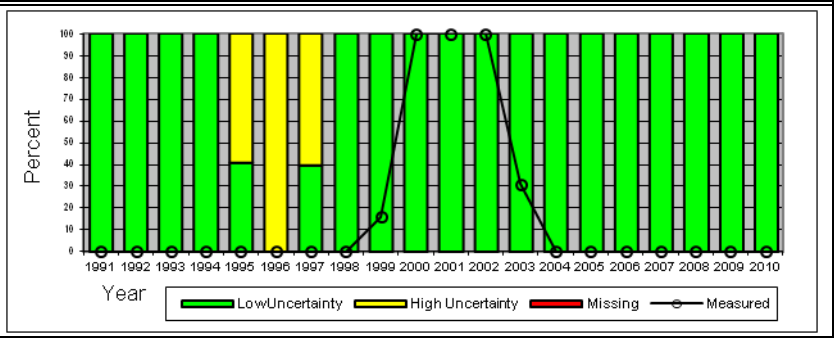
722610	DEL RIO [UT], TX
Class II (with some measured)	
Solar Coordinates	
Latitude: 29.38˚	
Longitude: -100.91˚	
Elevation: 308 m	
Meteorological Coordinates	
Latitude: 29.367˚	
Longitude: -100.9˚	
Elevation: 302 m	
Time Zone: -6	

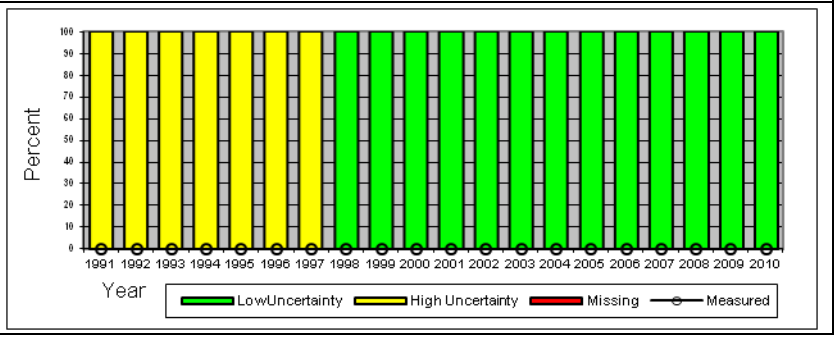
722615	DEL RIO LAUGHLIN AFB, TX
Class II	
Solar Coordinates	
Latitude: 29.367˚	
Longitude: -100.783˚	
Elevation: 327 m	
Meteorological Coordinates	
Latitude: 29.367˚	
Longitude: -100.783˚	
Elevation: 327 m	
Time Zone: -6	

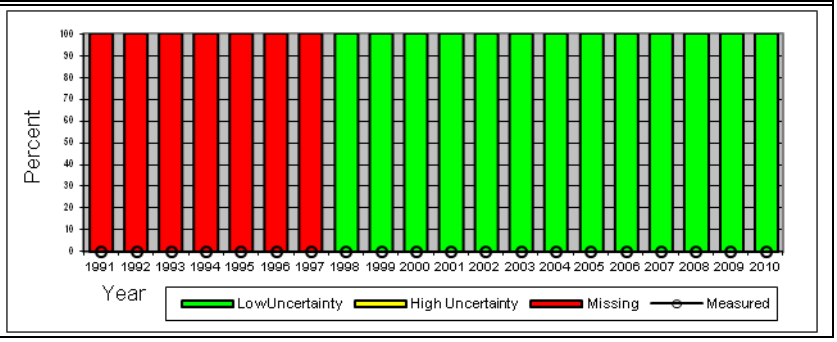
722589	DENTON (ASOS), TX
Class III	
Solar Coordinates	
Latitude: 33.2˚	
Longitude: -97.183˚	
Elevation: 197 m	
Meteorological Coordinates	
Latitude: 33.2˚	
Longitude: -97.183˚	
Elevation: 197 m	
Time Zone: -6	

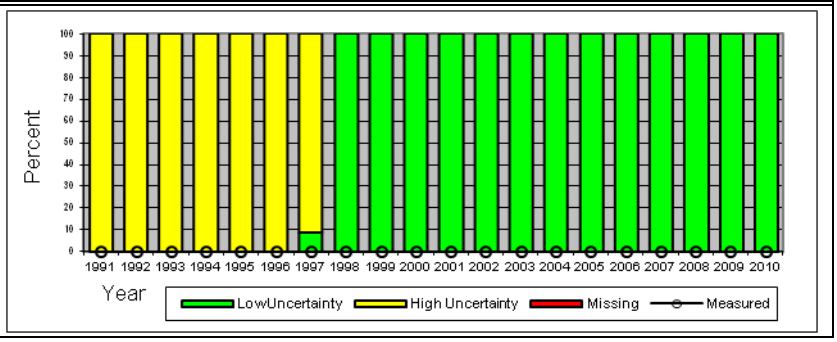
722593	DFW NEXRAD, TX
Class III	
Solar Coordinates	
Latitude: 32.567˚	
Longitude: -97.3˚	
Elevation: 233 m	
Meteorological Coordinates	
Latitude: 32.567˚	
Longitude: -97.3˚	
Elevation: 233 m	
Time Zone: -6	

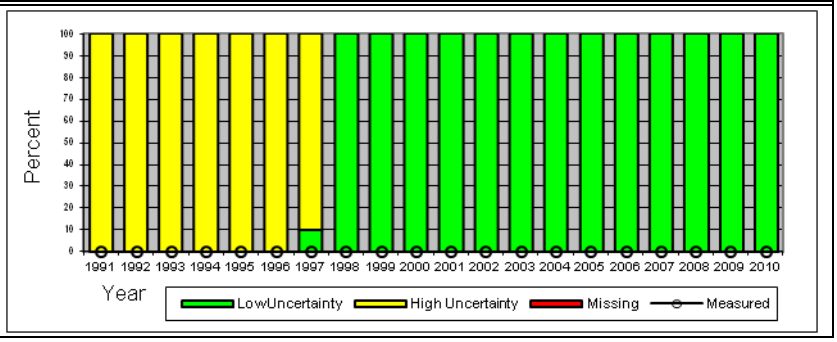
722577	DRAUGHON MILLER CEN, TX
Class II	
Solar Coordinates	
Latitude: 31.15˚	
Longitude: -97.4˚	
Elevation: 213 m	
Meteorological Coordinates	
Latitude: 31.15˚	
Longitude: -97.4˚	
Elevation: 213 m	
Time Zone: -6	

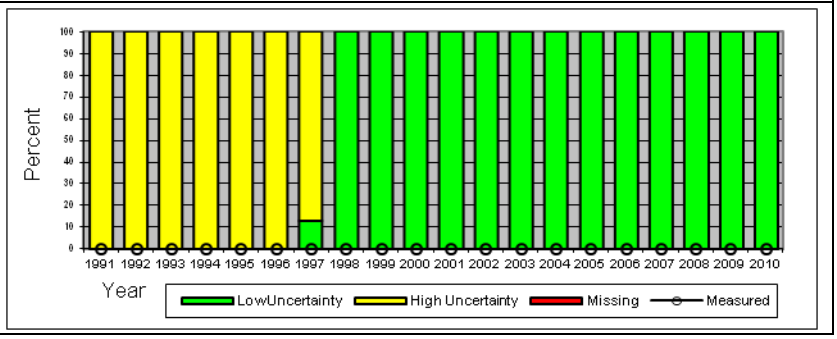
722700	EL PASO INTERNATIONAL AP [UT], TX
Class I (with some measured)	
Solar Coordinates	
Latitude: 31.77˚	
Longitude: -106.5˚	
Elevation: 1186 m	
Meteorological Coordinates	
Latitude: 31.817˚	
Longitude: -106.383˚	
Elevation: 1194 m	
Time Zone: -7	

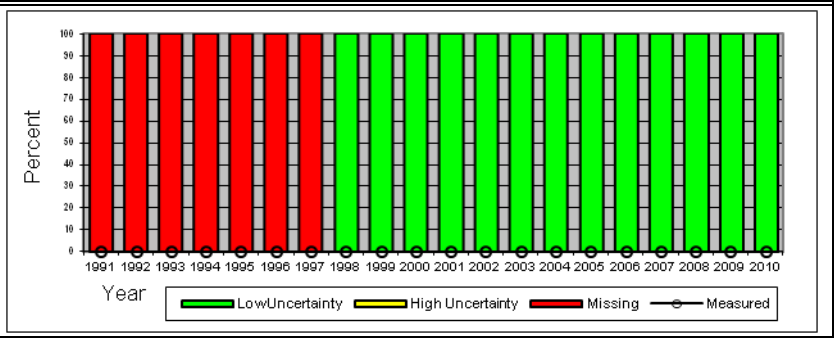
722570	FORT HOOD, TX
Class II	
Solar Coordinates	
Latitude: 31.133˚	
Longitude: -97.717˚	
Elevation: 280 m	
Meteorological Coordinates	
Latitude: 31.133˚	
Longitude: -97.717˚	
Elevation: 280 m	
Time Zone: -6	

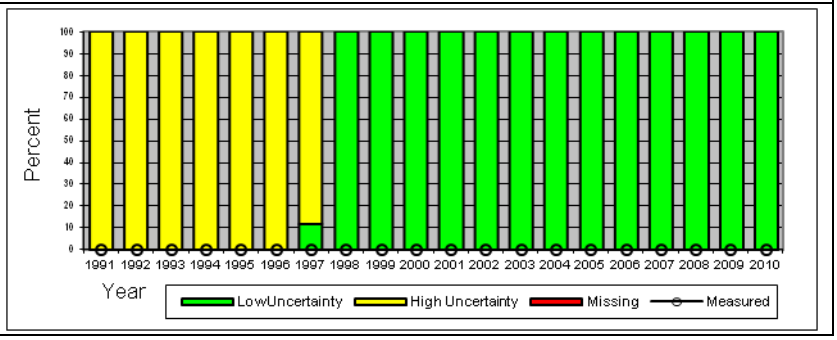
722618	FORT STOCKTON PECOS, TX
Class III	
Solar Coordinates	
Latitude: 30.917˚	
Longitude: -102.9˚	
Elevation: 941 m	
Meteorological Coordinates	
Latitude: 30.917˚	
Longitude: -102.9˚	
Elevation: 941 m	
Time Zone: -6	

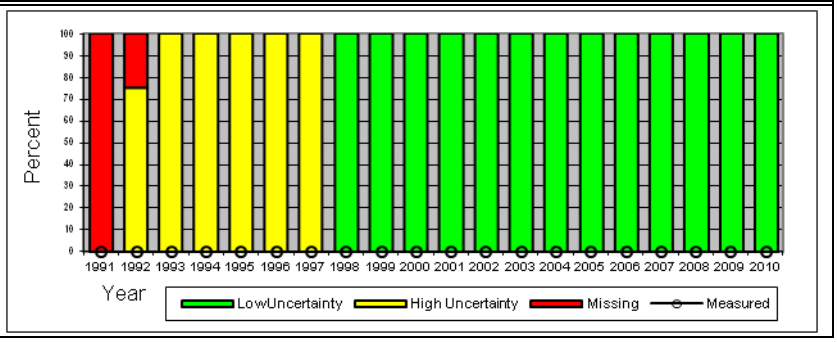
722594	FORT WORTH ALLIANCE, TX
Class II	
Solar Coordinates	
Latitude: 32.983˚	
Longitude: -97.317˚	
Elevation: 226 m	
Meteorological Coordinates	
Latitude: 32.983˚	
Longitude: -97.317˚	
Elevation: 226 m	
Time Zone: -6	

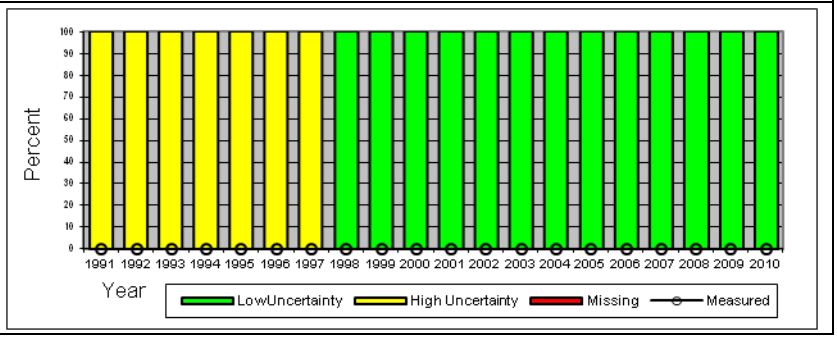
722596	FORT WORTH MEACHAM, TX
Class II	
Solar Coordinates	
Latitude: 32.817˚	
Longitude: -97.367˚	
Elevation: 209 m	
Meteorological Coordinates	
Latitude: 32.817˚	
Longitude: -97.367˚	
Elevation: 209 m	
Time Zone: -6	

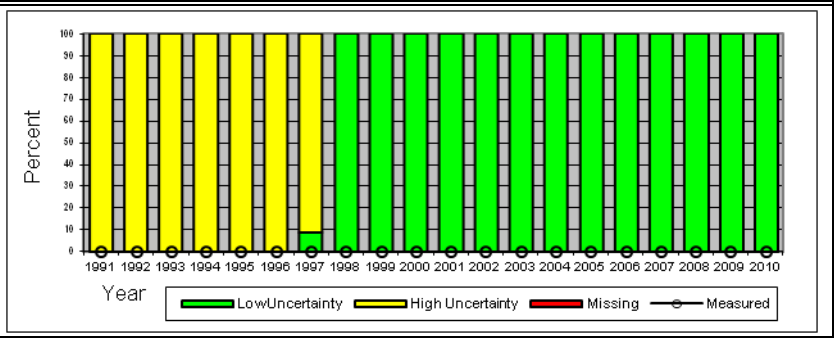
722595	FORT WORTH NAS, TX
Class II	
Solar Coordinates	
Latitude: 32.767˚	
Longitude: -97.45˚	
Elevation: 185 m	
Meteorological Coordinates	
Latitude: 32.767˚	
Longitude: -97.45˚	
Elevation: 185 m	
Time Zone: -6	

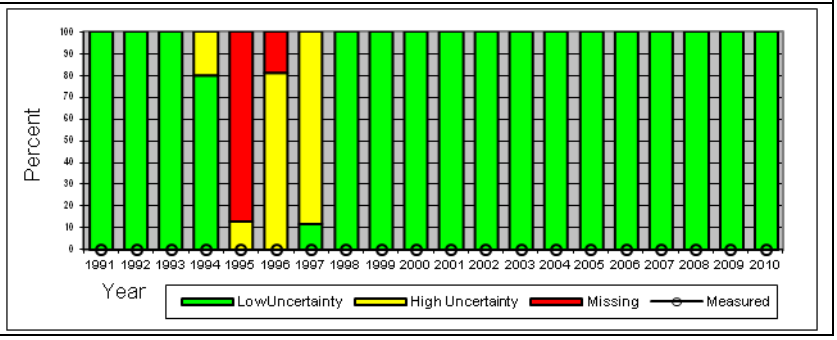
722552	GAINESVILLE, TX
Class III	
Solar Coordinates	
Latitude: 33.65˚	
Longitude: -97.2˚	
Elevation: 256 m	
Meteorological Coordinates	
Latitude: 33.65˚	
Longitude: -97.2˚	
Elevation: 256 m	
Time Zone: -6	

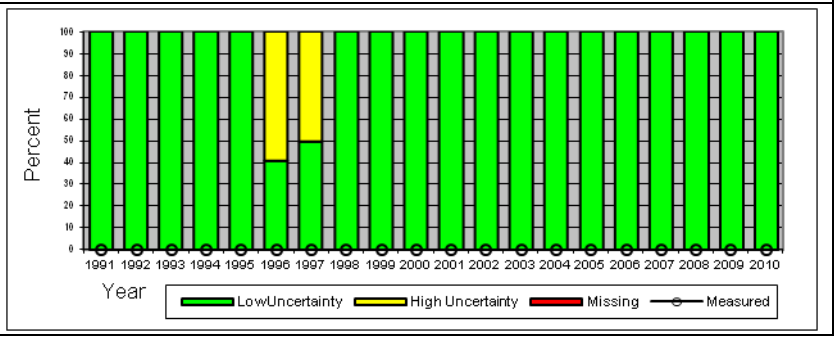
722420	GALVESTON/SCHOLES, TX
Class II	
Solar Coordinates	
Latitude: 29.3˚	
Longitude: -94.8˚	
Elevation: 16 m	
Meteorological Coordinates	
Latitude: 29.3˚	
Longitude: -94.8˚	
Elevation: 16 m	
Time Zone: -6	

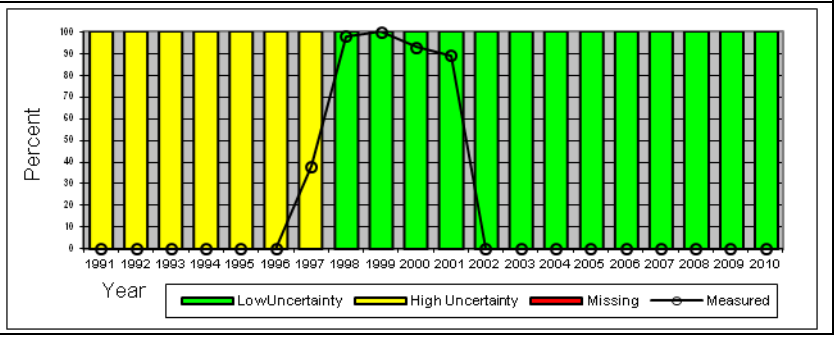
722547	GEORGETOWN (AWOS), TX
Class III	
Solar Coordinates	
Latitude: 30.683˚	
Longitude: -97.683˚	
Elevation: 240 m	
Meteorological Coordinates	
Latitude: 30.683˚	
Longitude: -97.683˚	
Elevation: 240 m	
Time Zone: -6	

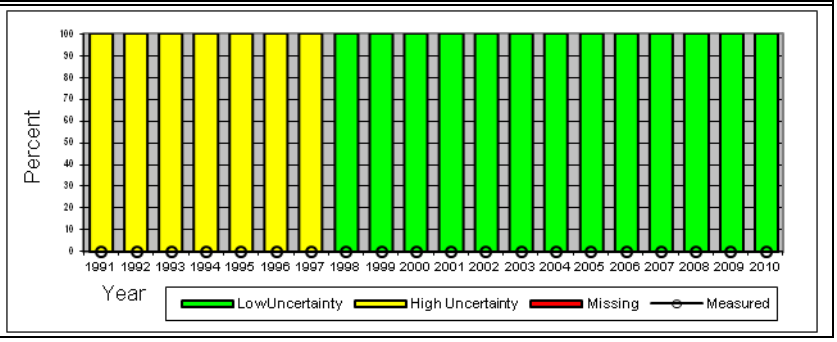
722588	GREENVILLE/MAJORS, TX
Class II	
Solar Coordinates	
Latitude: 33.067˚	
Longitude: -96.067˚	
Elevation: 163 m	
Meteorological Coordinates	
Latitude: 33.067˚	
Longitude: -96.067˚	
Elevation: 163 m	
Time Zone: -6	

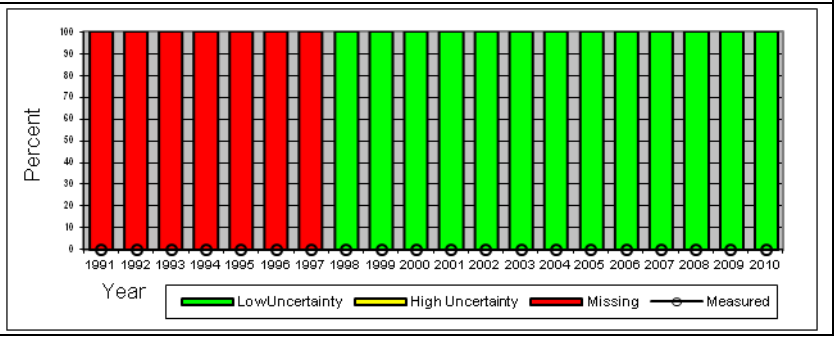
722505	HARLINGEN RIO GRANDE VALLEY I, TX
Class II	
Solar Coordinates	
Latitude: 26.233˚	
Longitude: -97.65˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 26.233˚	
Longitude: -97.65˚	
Elevation: 10 m	
Time Zone: -6	

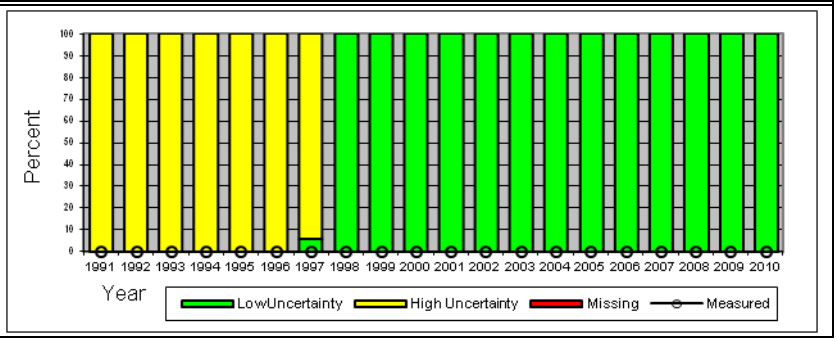
722533	HONDO MUNICIPAL AP, TX
Class III	
Solar Coordinates	
Latitude: 29.367˚	
Longitude: -99.167˚	
Elevation: 280 m	
Meteorological Coordinates	
Latitude: 29.367˚	
Longitude: -99.167˚	
Elevation: 280 m	
Time Zone: -6	

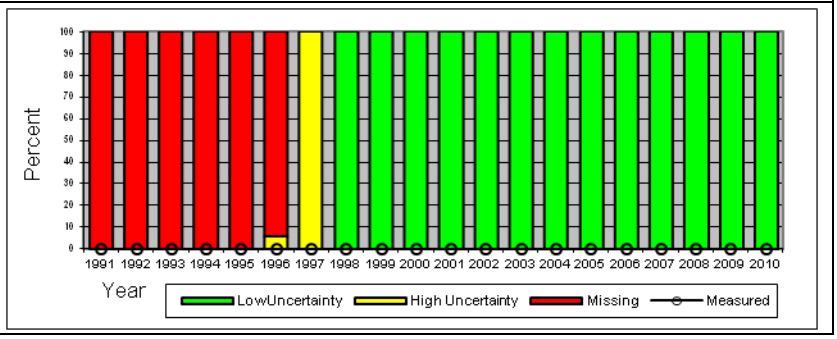
722430	HOUSTON BUSH INTERCONTINENTAL, TX
Class I	
Solar Coordinates	
Latitude: 30˚	
Longitude: -95.367˚	
Elevation: 29 m	
Meteorological Coordinates	
Latitude: 30˚	
Longitude: -95.367˚	
Elevation: 29 m	
Time Zone: -6	

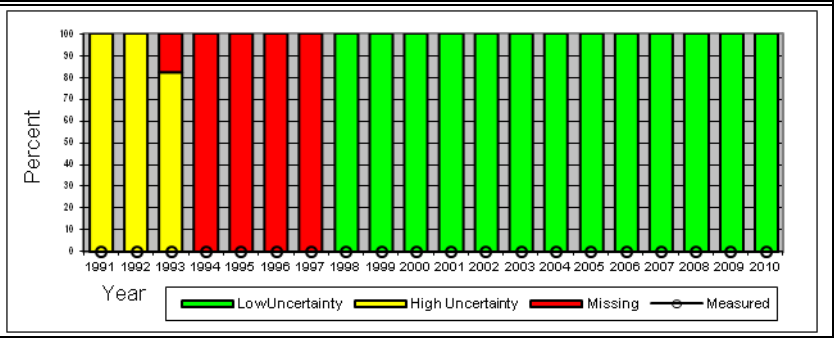
722436	HOUSTON ELLINGTON AFB [CLEAR LAKE - UT], TX
Class II (with some measured)	
Solar Coordinates	
Latitude: 29.57˚	
Longitude: -95.09˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 29.617˚	
Longitude: -95.167˚	
Elevation: 12 m	
Time Zone: -6	

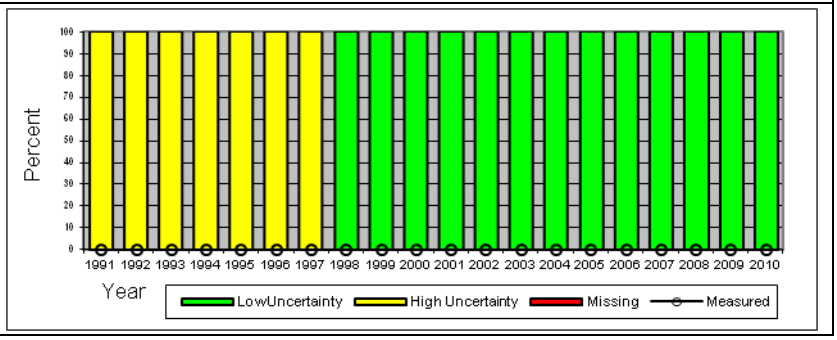
722435	HOUSTON WILLIAM P HOBBY AP, TX
Class II	
Solar Coordinates	
Latitude: 29.65˚	
Longitude: -95.283˚	
Elevation: 13 m	
Meteorological Coordinates	
Latitude: 29.65˚	
Longitude: -95.283˚	
Elevation: 13 m	
Time Zone: -6	

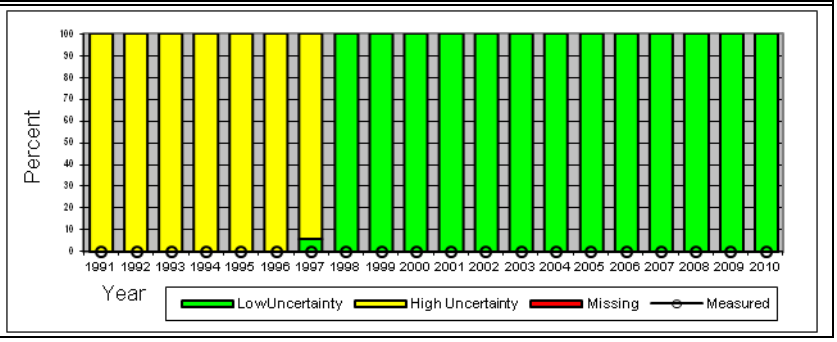
722427	HOUSTON/CLOVER FLD, TX
Class III	
Solar Coordinates	
Latitude: 29.517˚	
Longitude: -95.233˚	
Elevation: 13 m	
Meteorological Coordinates	
Latitude: 29.517˚	
Longitude: -95.233˚	
Elevation: 13 m	
Time Zone: -6	

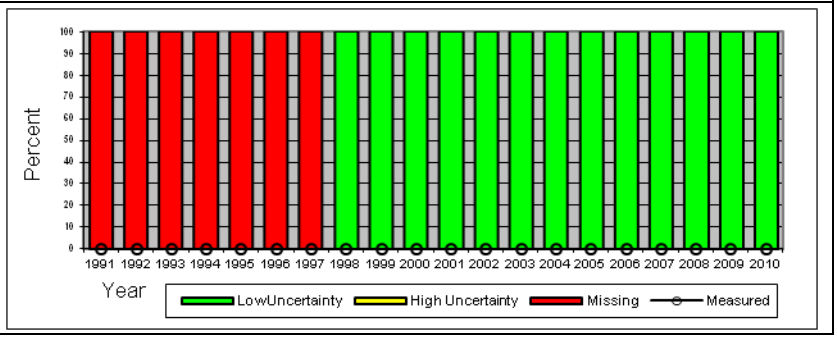
722429	HOUSTON/D.W. HOOKS, TX
Class II	
Solar Coordinates	
Latitude: 30.067˚	
Longitude: -95.55˚	
Elevation: 46 m	
Meteorological Coordinates	
Latitude: 30.067˚	
Longitude: -95.55˚	
Elevation: 46 m	
Time Zone: -6	

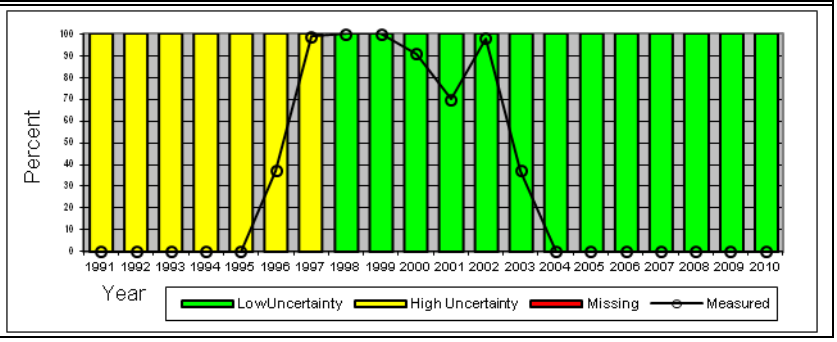
747400	JUNCTION KIMBLE COUNTY AP, TX
Class III	
Solar Coordinates	
Latitude: 30.517˚	
Longitude: -99.767˚	
Elevation: 533 m	
Meteorological Coordinates	
Latitude: 30.517˚	
Longitude: -99.767˚	
Elevation: 533 m	
Time Zone: -6	

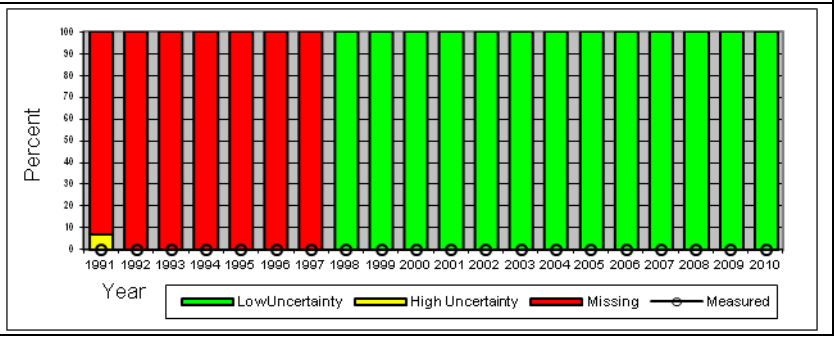
722537	KERRVILLE MUNICIPAL, TX
Class III	
Solar Coordinates	
Latitude: 29.983˚	
Longitude: -99.083˚	
Elevation: 493 m	
Meteorological Coordinates	
Latitude: 29.983˚	
Longitude: -99.083˚	
Elevation: 493 m	
Time Zone: -6	

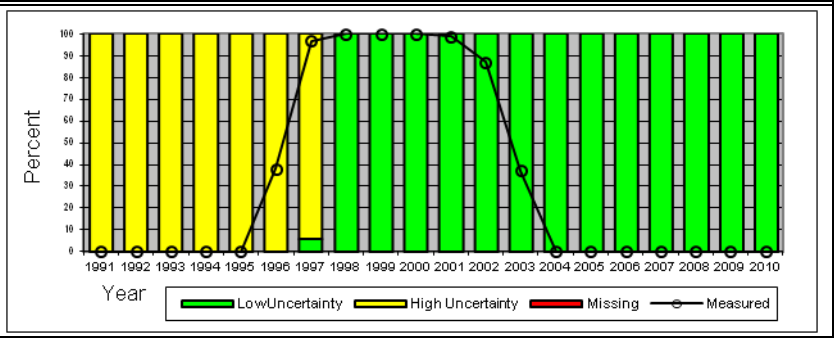
722575	KILLEEN MUNI (AWOS), TX
Class II	
Solar Coordinates	
Latitude: 31.083˚	
Longitude: -97.683˚	
Elevation: 258 m	
Meteorological Coordinates	
Latitude: 31.083˚	
Longitude: -97.683˚	
Elevation: 258 m	
Time Zone: -6	

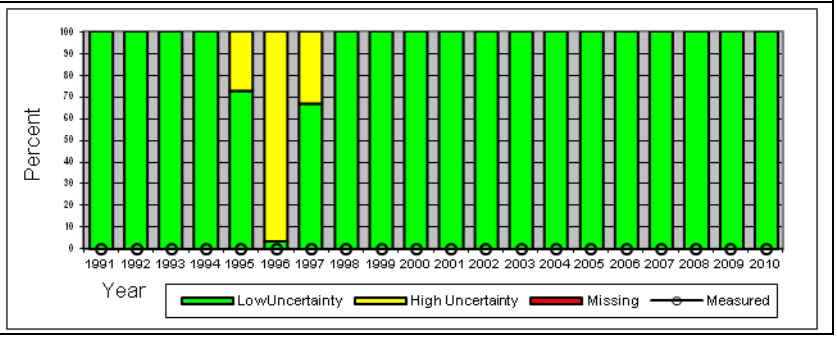
722516	KINGSVILLE, TX
Class II	
Solar Coordinates	
Latitude: 27.5˚	
Longitude: -97.817˚	
Elevation: 17 m	
Meteorological Coordinates	
Latitude: 27.5˚	
Longitude: -97.817˚	
Elevation: 17 m	
Time Zone: -6	

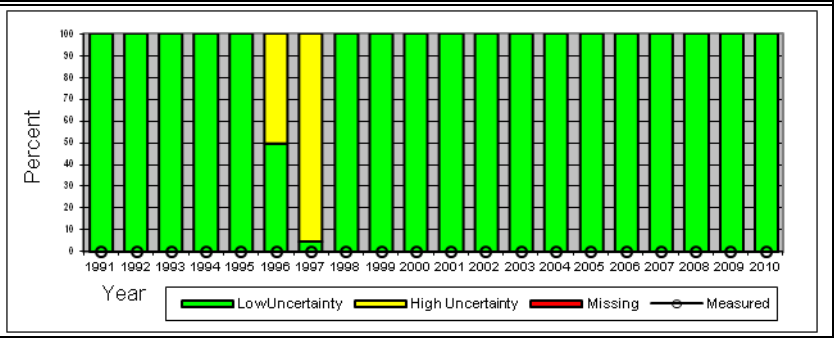
722554	LAGRANGE, TX
Class III	
Solar Coordinates	
Latitude: 29.9˚	
Longitude: -96.95˚	
Elevation: 99 m	
Meteorological Coordinates	
Latitude: 29.9˚	
Longitude: -96.95˚	
Elevation: 99 m	
Time Zone: -6	

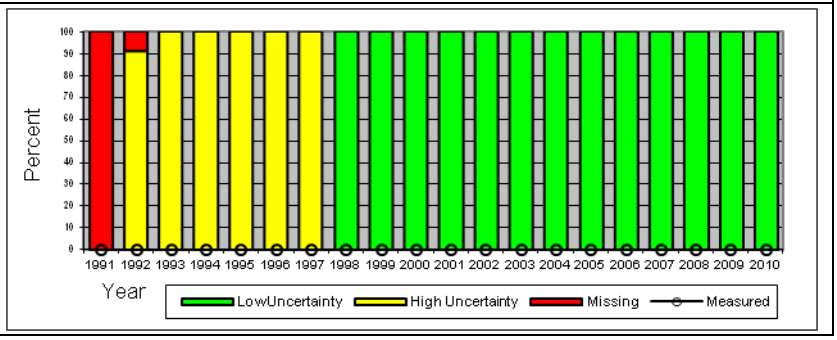
722520	LAREDO INTL AP [UT], TX
Class II (with some measured)	
Solar Coordinates	
Latitude: 27.57˚	
Longitude: -99.49˚	
Elevation: 142 m	
Meteorological Coordinates	
Latitude: 27.533˚	
Longitude: -99.467˚	
Elevation: 151 m	
Time Zone: -6	

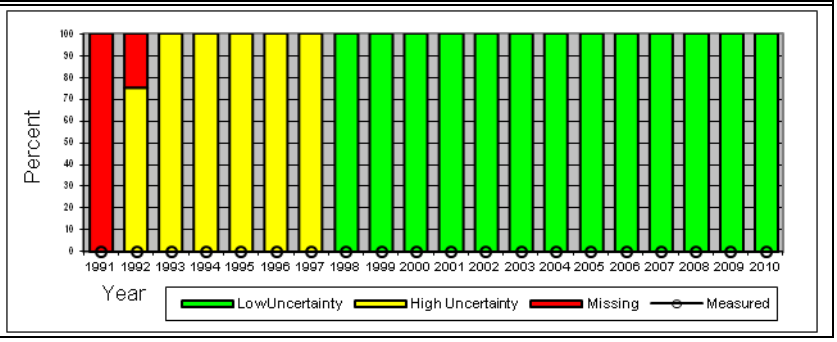
722447	LONGVIEW GREGG COUNTY AP, TX
Class III	
Solar Coordinates	
Latitude: 32.383˚	
Longitude: -94.717˚	
Elevation: 109 m	
Meteorological Coordinates	
Latitude: 32.383˚	
Longitude: -94.717˚	
Elevation: 109 m	
Time Zone: -6	

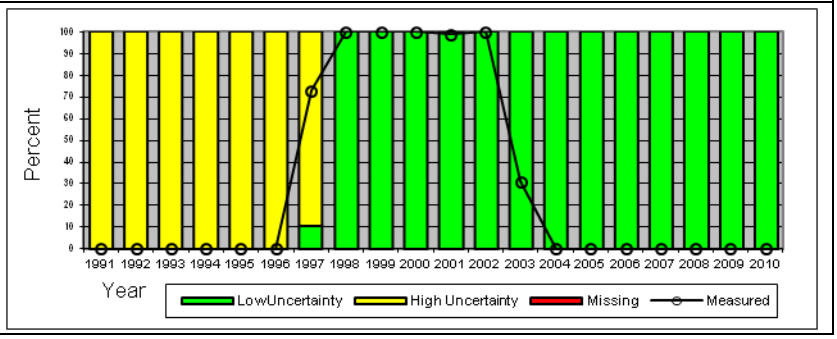
722470	LONGVIEW GREGG COUNTY AP [OVERTON - UT], TX
Class II (with some measured)	
Solar Coordinates	
Latitude: 32.29˚	
Longitude: -94.98˚	
Elevation: 146 m	
Meteorological Coordinates	
Latitude: 32.383˚	
Longitude: -94.717˚	
Elevation: 124 m	
Time Zone: -6	

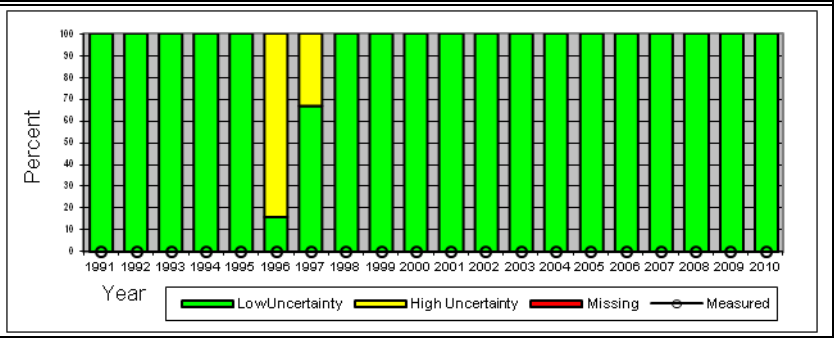
722670	LUBBOCK INTERNATIONAL AP, TX
Class I	
Solar Coordinates	
Latitude: 33.667˚	
Longitude: -101.817˚	
Elevation: 992 m	
Meteorological Coordinates	
Latitude: 33.667˚	
Longitude: -101.817˚	
Elevation: 992 m	
Time Zone: -6	

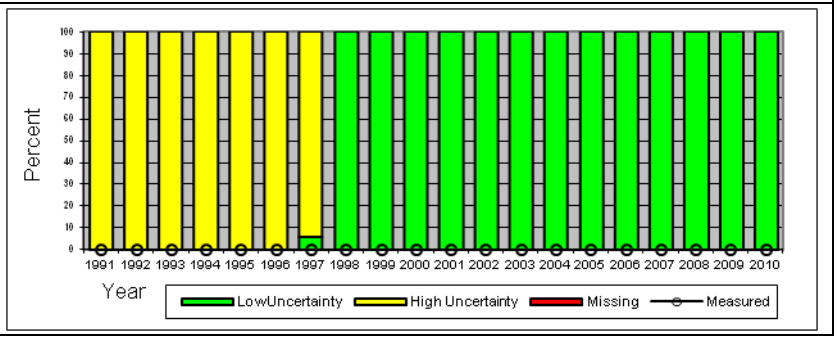
722446	LUFKIN ANGELINA CO, TX
Class I	
Solar Coordinates	
Latitude: 31.233˚	
Longitude: -94.75˚	
Elevation: 86 m	
Meteorological Coordinates	
Latitude: 31.233˚	
Longitude: -94.75˚	
Elevation: 86 m	
Time Zone: -6	

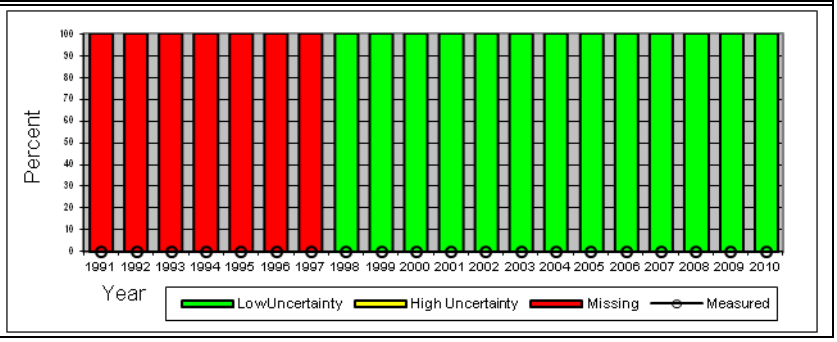
722640	MARFA AP, TX
Class III	
Solar Coordinates	
Latitude: 30.367˚	
Longitude: -104.017˚	
Elevation: 1473 m	
Meteorological Coordinates	
Latitude: 30.367˚	
Longitude: -104.017˚	
Elevation: 1473 m	
Time Zone: -6	

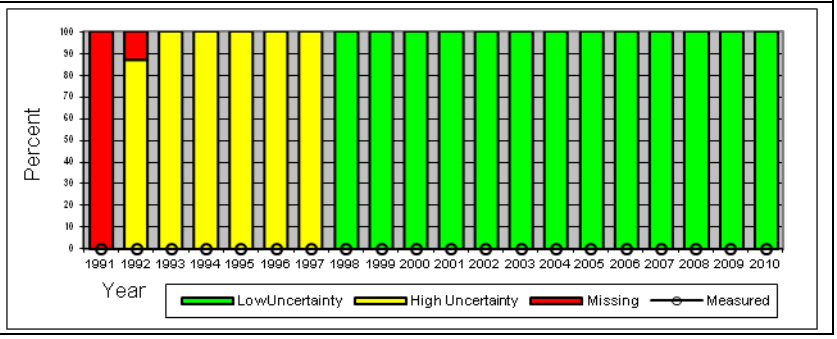
722563	MC GREGOR (AWOS), TX
Class III	
Solar Coordinates	
Latitude: 31.483˚	
Longitude: -97.317˚	
Elevation: 180 m	
Meteorological Coordinates	
Latitude: 31.483˚	
Longitude: -97.317˚	
Elevation: 180 m	
Time Zone: -6	

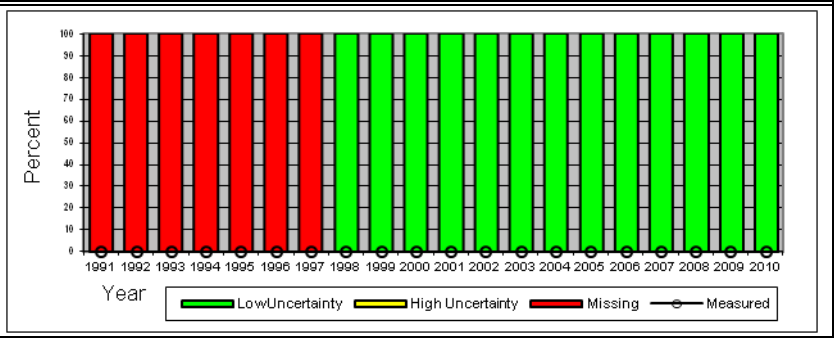
722506	MCALLEN MILLER INTL AP [EDINBURG - UT], TX
Class II (with some measured)	
Solar Coordinates	
Latitude: 26.31˚	
Longitude: -98.17˚	
Elevation: 30 m	
Meteorological Coordinates	
Latitude: 26.183˚	
Longitude: -98.233˚	
Elevation: 30 m	
Time Zone: -6	

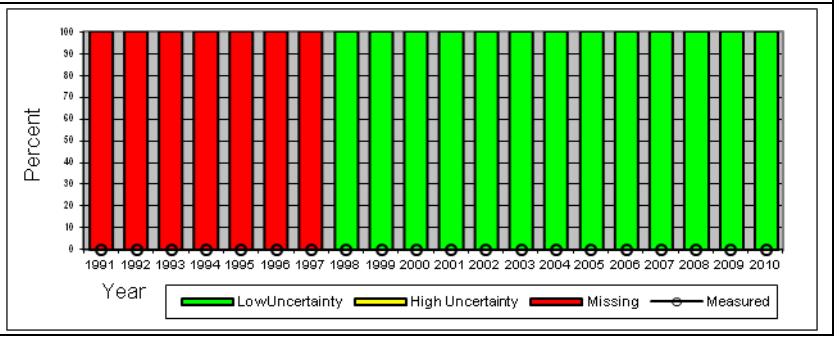
722650	MIDLAND INTERNATIONAL AP, TX
Class I	
Solar Coordinates	
Latitude: 31.95˚	
Longitude: -102.183˚	
Elevation: 872 m	
Meteorological Coordinates	
Latitude: 31.95˚	
Longitude: -102.183˚	
Elevation: 872 m	
Time Zone: -6	

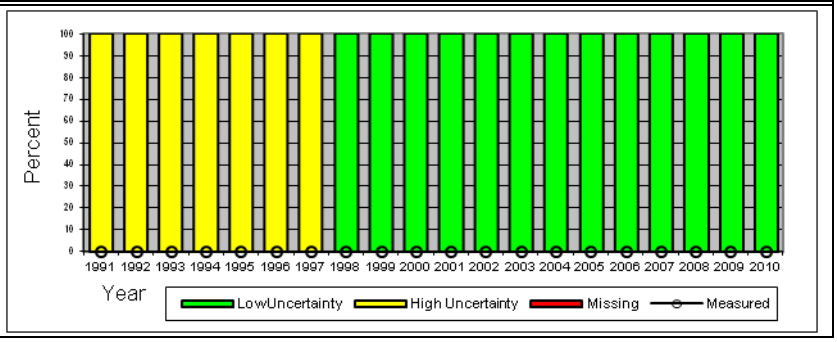
722597	MINERAL WELLS MUNICIPAL AP, TX
Class II	
Solar Coordinates	
Latitude: 32.783˚	
Longitude: -98.067˚	
Elevation: 284 m	
Meteorological Coordinates	
Latitude: 32.783˚	
Longitude: -98.067˚	
Elevation: 284 m	
Time Zone: -6	

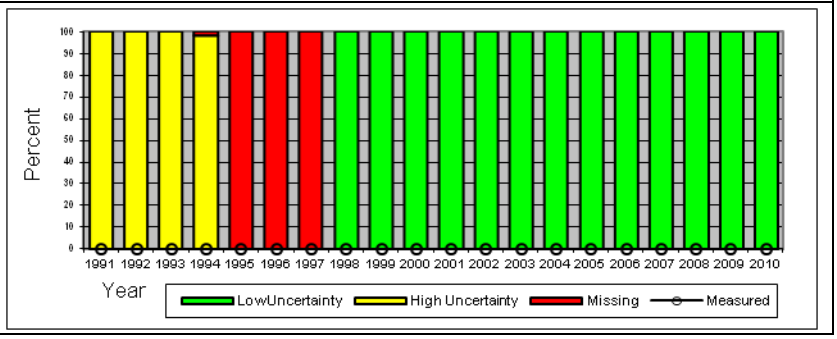
722444	MONTGOMERY CO, TX
Class III	
Solar Coordinates	
Latitude: 30.35˚	
Longitude: -95.417˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 30.35˚	
Longitude: -95.417˚	
Elevation: 77 m	
Time Zone: -6	

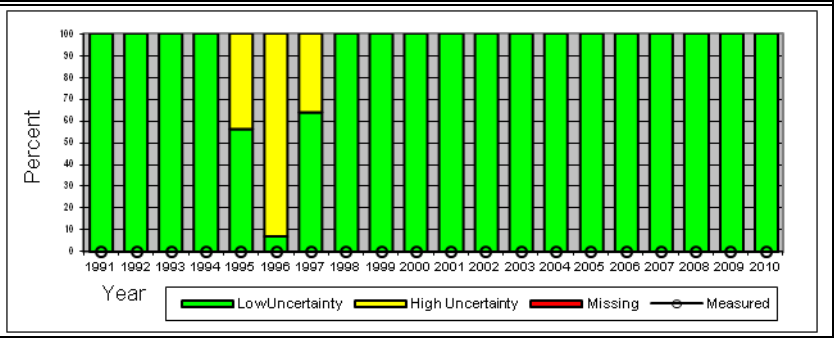
722499	NACOGDOCHES (AWOS), TX
Class III	
Solar Coordinates	
Latitude: 31.583˚	
Longitude: -94.717˚	
Elevation: 108 m	
Meteorological Coordinates	
Latitude: 31.583˚	
Longitude: -94.717˚	
Elevation: 108 m	
Time Zone: -6	

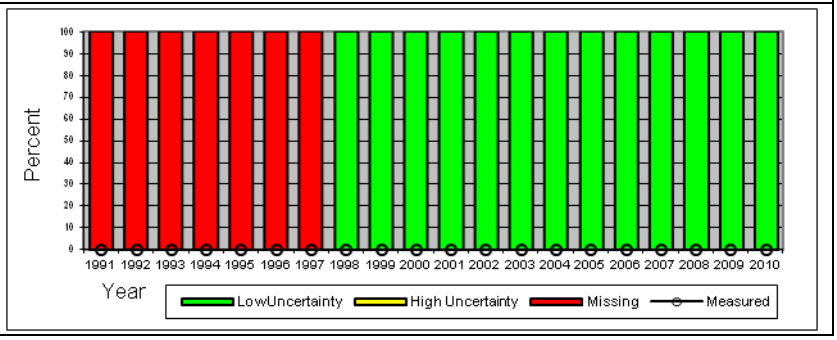
722416	NEW BRAUNFELS, TX
Class III	
Solar Coordinates	
Latitude: 29.717˚	
Longitude: -98.05˚	
Elevation: 197 m	
Meteorological Coordinates	
Latitude: 29.717˚	
Longitude: -98.05˚	
Elevation: 197 m	
Time Zone: -6	

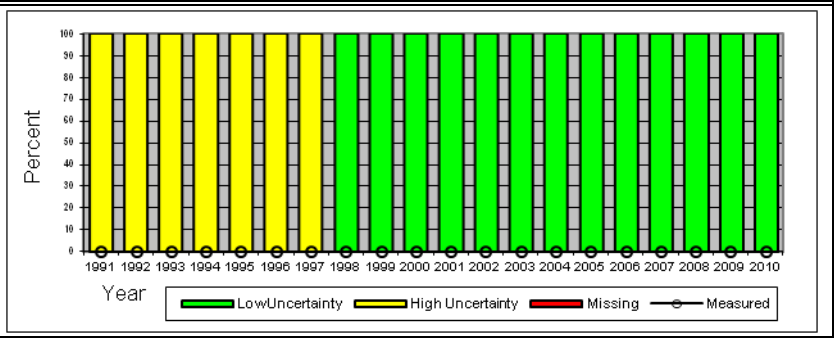
722648	ODESSA-SCHLEMEYER F, TX
Class III	
Solar Coordinates	
Latitude: 31.917˚	
Longitude: -102.383˚	
Elevation: 902 m	
Meteorological Coordinates	
Latitude: 31.917˚	
Longitude: -102.383˚	
Elevation: 902 m	
Time Zone: -6	

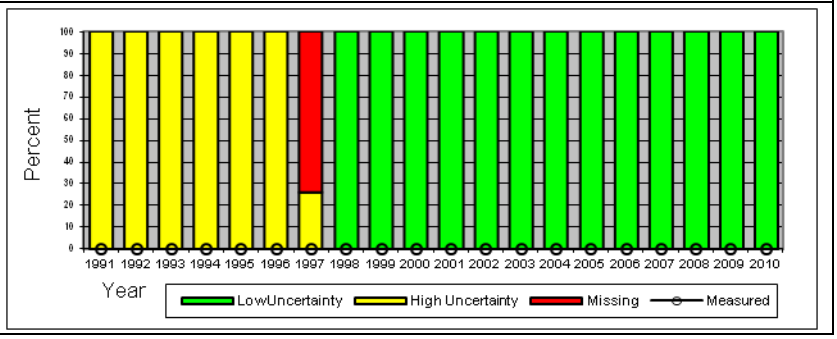
722555	PALACIOS MUNICIPAL AP, TX
Class II	
Solar Coordinates	
Latitude: 28.717˚	
Longitude: -96.25˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 28.717˚	
Longitude: -96.25˚	
Elevation: 5 m	
Time Zone: -6	

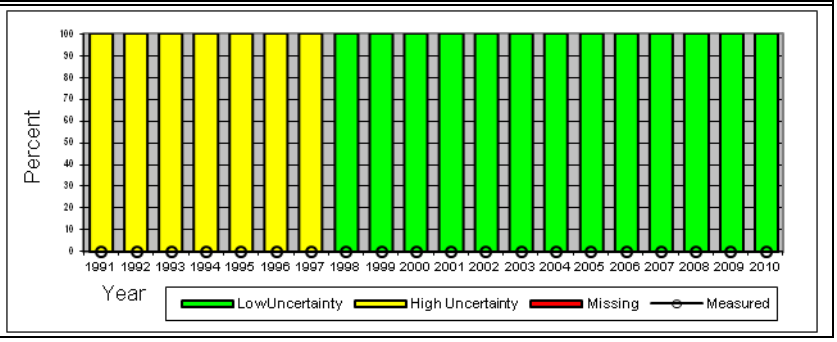
722620	PINE SPRINGS GUADALUPE MOUNTA, TX
Class III	
Solar Coordinates	
Latitude: 31.833˚	
Longitude: -104.817˚	
Elevation: 1663 m	
Meteorological Coordinates	
Latitude: 31.833˚	
Longitude: -104.817˚	
Elevation: 1663 m	
Time Zone: -7	

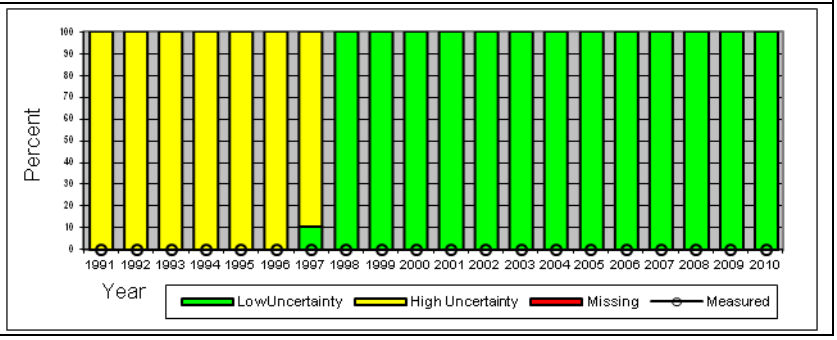
722410	PORT ARTHUR JEFFERSON COUNTY, TX
Class I	
Solar Coordinates	
Latitude: 29.95˚	
Longitude: -94.017˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 29.95˚	
Longitude: -94.017˚	
Elevation: 5 m	
Time Zone: -6	

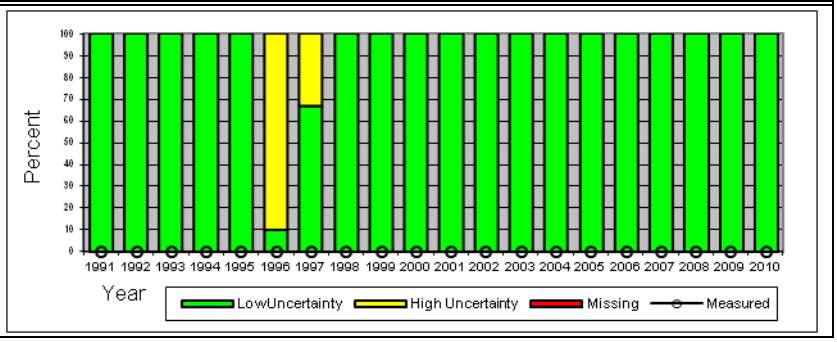
722508	PORT ISABEL/CAMERON, TX
Class III	
Solar Coordinates	
Latitude: 26.15˚	
Longitude: -97.213˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 26.15˚	
Longitude: -97.213˚	
Elevation: 5 m	
Time Zone: -6	

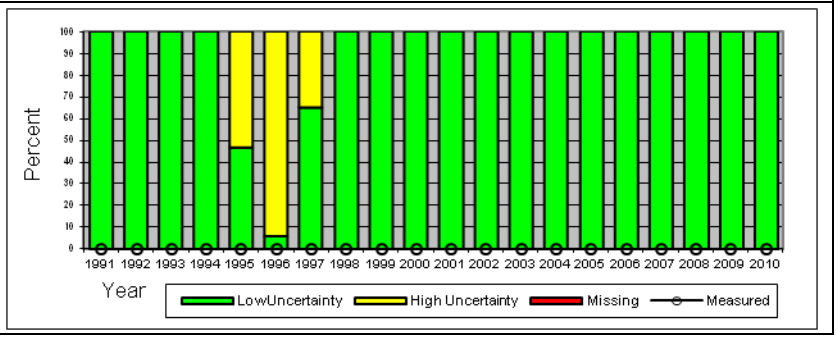
722536	RANDOLPH AFB, TX
Class II	
Solar Coordinates	
Latitude: 29.533˚	
Longitude: -98.283˚	
Elevation: 232 m	
Meteorological Coordinates	
Latitude: 29.533˚	
Longitude: -98.283˚	
Elevation: 232 m	
Time Zone: -6	

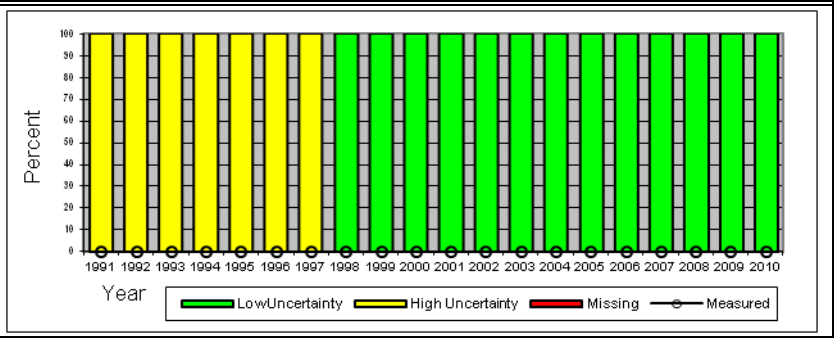
722675	REESE AFB, TX
Class III	
Solar Coordinates	
Latitude: 33.6˚	
Longitude: -102.05˚	
Elevation: 1014 m	
Meteorological Coordinates	
Latitude: 33.6˚	
Longitude: -102.05˚	
Elevation: 1014 m	
Time Zone: -6	

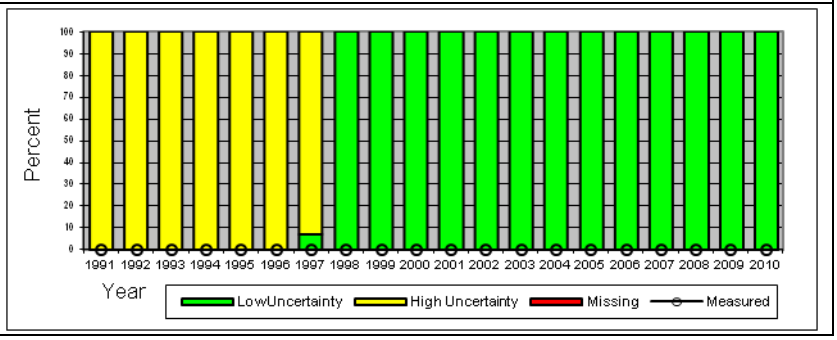
722576	ROBERT GRAY AAF, TX
Class II	
Solar Coordinates	
Latitude: 31.067˚	
Longitude: -97.833˚	
Elevation: 312 m	
Meteorological Coordinates	
Latitude: 31.067˚	
Longitude: -97.833˚	
Elevation: 312 m	
Time Zone: -6	

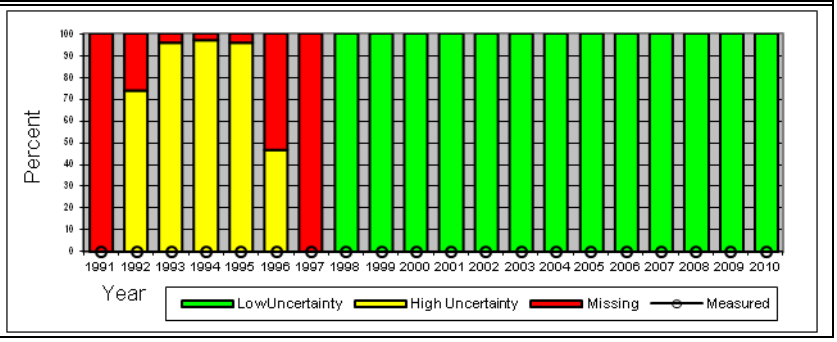
722524	ROCKPORT/ARANSAS CO, TX
Class II	
Solar Coordinates	
Latitude: 28.083˚	
Longitude: -97.05˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 28.083˚	
Longitude: -97.05˚	
Elevation: 8 m	
Time Zone: -6	

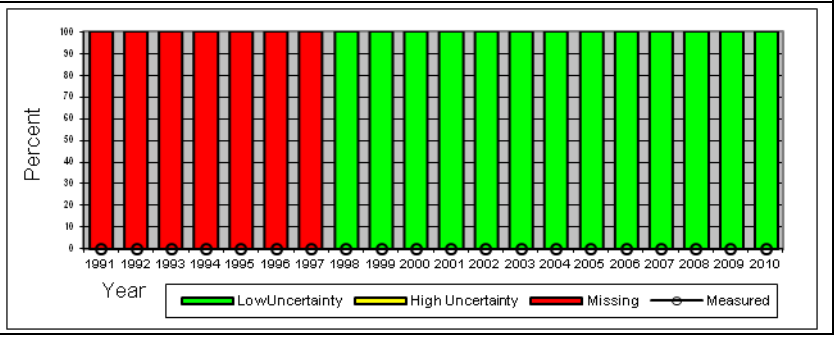
722630	SAN ANGELO MATHIS FIELD, TX
Class I	
Solar Coordinates	
Latitude: 31.35˚	
Longitude: -100.5˚	
Elevation: 584 m	
Meteorological Coordinates	
Latitude: 31.35˚	
Longitude: -100.5˚	
Elevation: 584 m	
Time Zone: -6	

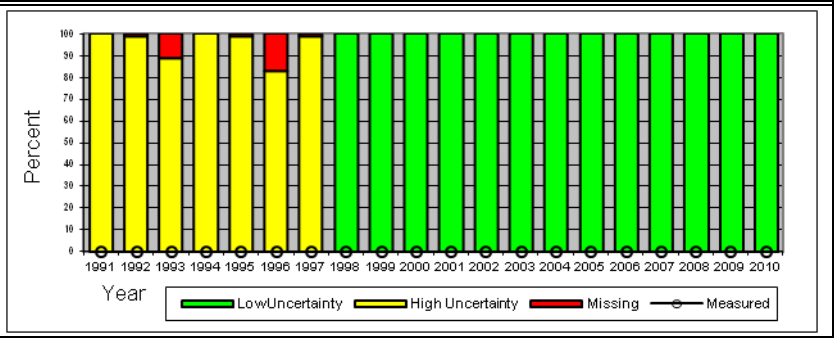
722530	SAN ANTONIO INTL AP, TX
Class I	
Solar Coordinates	
Latitude: 29.533˚	
Longitude: -98.467˚	
Elevation: 247 m	
Meteorological Coordinates	
Latitude: 29.533˚	
Longitude: -98.467˚	
Elevation: 247 m	
Time Zone: -6	

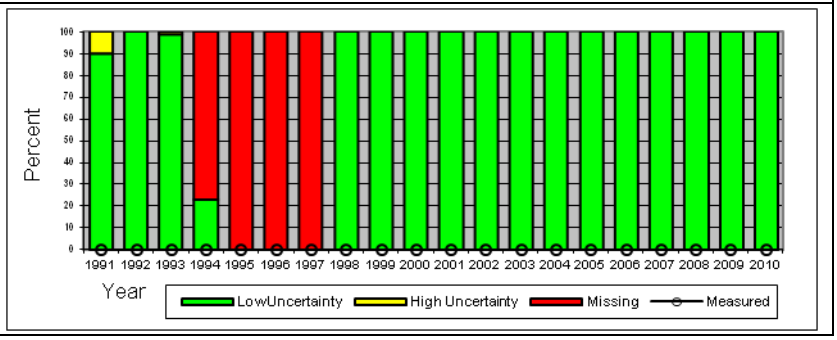
722535	SAN ANTONIO KELLY FIELD AFB, TX
Class II	
Solar Coordinates	
Latitude: 29.383˚	
Longitude: -98.583˚	
Elevation: 208 m	
Meteorological Coordinates	
Latitude: 29.383˚	
Longitude: -98.583˚	
Elevation: 208 m	
Time Zone: -6	

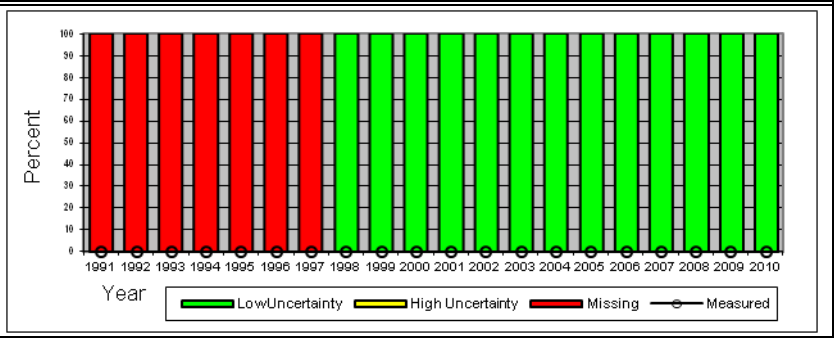
722523	SAN ANTONIO/STINSON, TX
Class II	
Solar Coordinates	
Latitude: 29.333˚	
Longitude: -98.467˚	
Elevation: 176 m	
Meteorological Coordinates	
Latitude: 29.333˚	
Longitude: -98.467˚	
Elevation: 176 m	
Time Zone: -6	

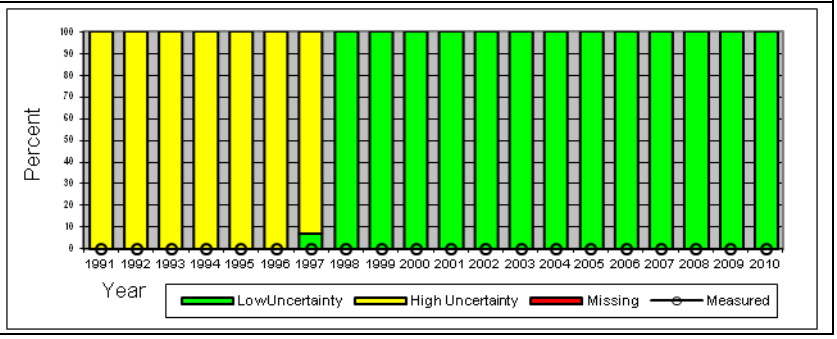
722546	SAN MARCOS GARY AFB, TX
Class III	
Solar Coordinates	
Latitude: 29.883˚	
Longitude: -97.867˚	
Elevation: 178 m	
Meteorological Coordinates	
Latitude: 29.883˚	
Longitude: -97.867˚	
Elevation: 178 m	
Time Zone: -6	

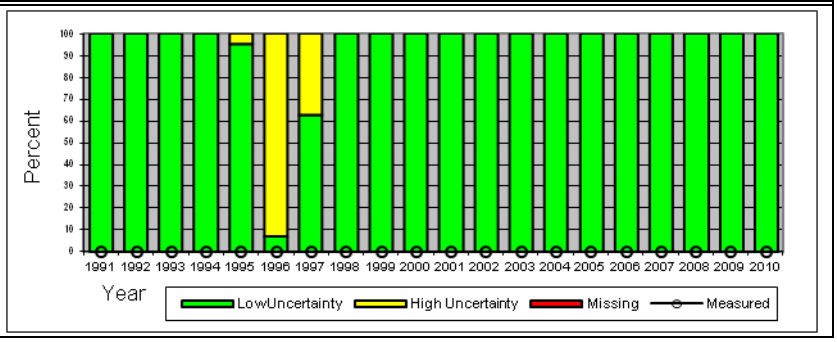
722539	SAN MARCOS MUNI, TX
Class III	
Solar Coordinates	
Latitude: 29.883˚	
Longitude: -97.867˚	
Elevation: 182 m	
Meteorological Coordinates	
Latitude: 29.883˚	
Longitude: -97.867˚	
Elevation: 182 m	
Time Zone: -6	

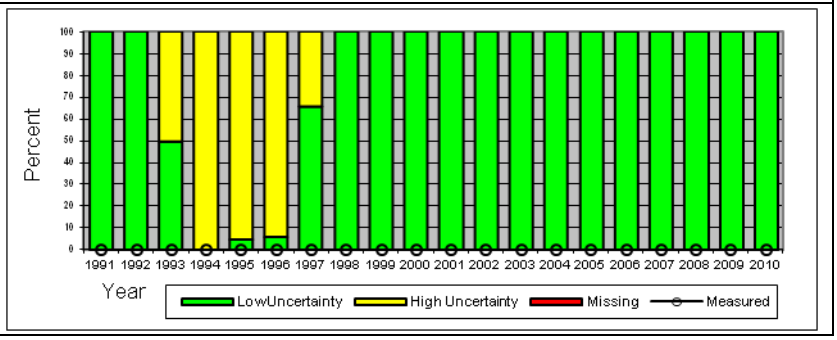
722673	SHERMAN-DENISON, TX
Class III	
Solar Coordinates	
Latitude: 33.717˚	
Longitude: -96.667˚	
Elevation: 228 m	
Meteorological Coordinates	
Latitude: 33.717˚	
Longitude: -96.667˚	
Elevation: 228 m	
Time Zone: -6	

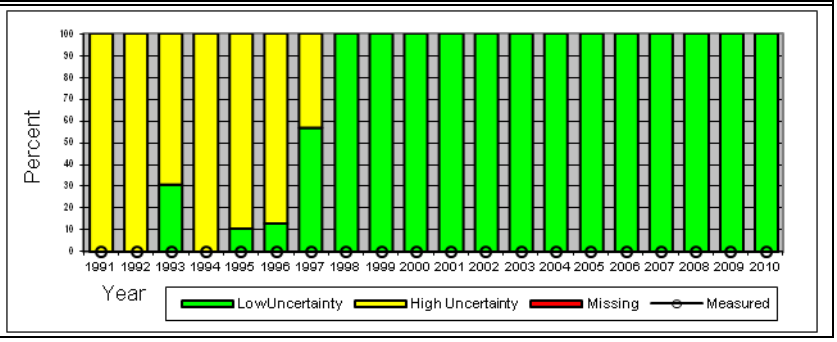
722600	STEPHENVILLE CLARK FIELD, TX
Class III	
Solar Coordinates	
Latitude: 32.217˚	
Longitude: -98.183˚	
Elevation: 399 m	
Meteorological Coordinates	
Latitude: 32.217˚	
Longitude: -98.183˚	
Elevation: 399 m	
Time Zone: -6	

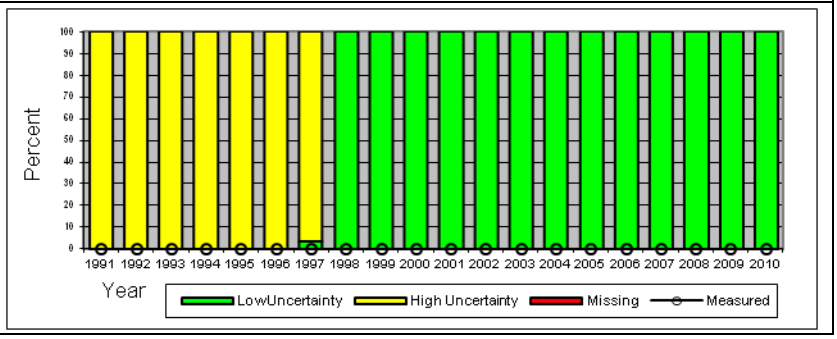
722489	TERRELL, TX
Class III	
Solar Coordinates	
Latitude: 32.717˚	
Longitude: -96.267˚	
Elevation: 144 m	
Meteorological Coordinates	
Latitude: 32.717˚	
Longitude: -96.267˚	
Elevation: 144 m	
Time Zone: -6	

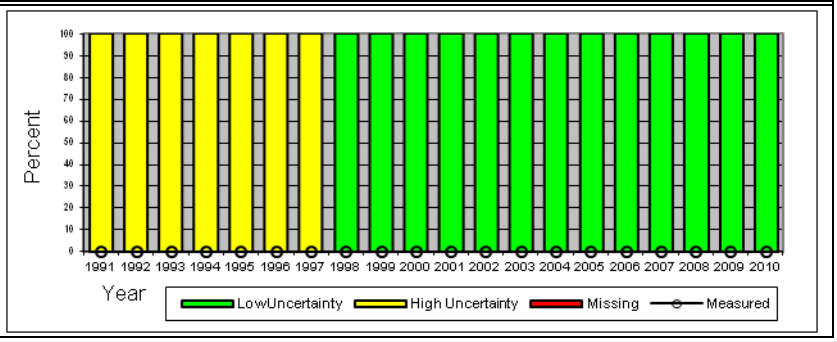
722448	TYLER/POUNDS FLD, TX
Class II	
Solar Coordinates	
Latitude: 32.35˚	
Longitude: -95.4˚	
Elevation: 166 m	
Meteorological Coordinates	
Latitude: 32.35˚	
Longitude: -95.4˚	
Elevation: 166 m	
Time Zone: -6	

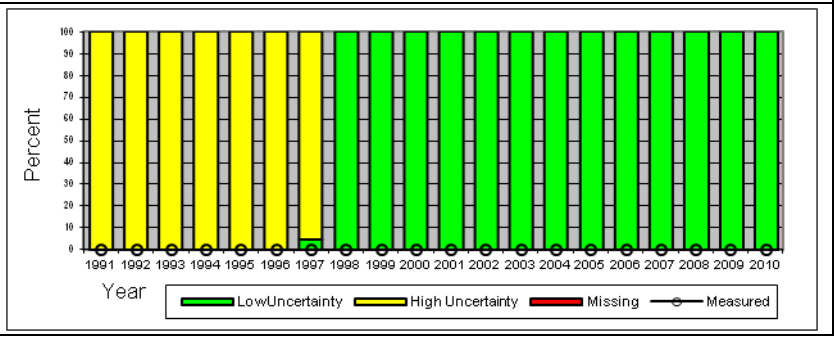
722550	VICTORIA REGIONAL AP, TX
Class I	
Solar Coordinates	
Latitude: 28.867˚	
Longitude: -96.933˚	
Elevation: 35 m	
Meteorological Coordinates	
Latitude: 28.867˚	
Longitude: -96.933˚	
Elevation: 35 m	
Time Zone: -6	

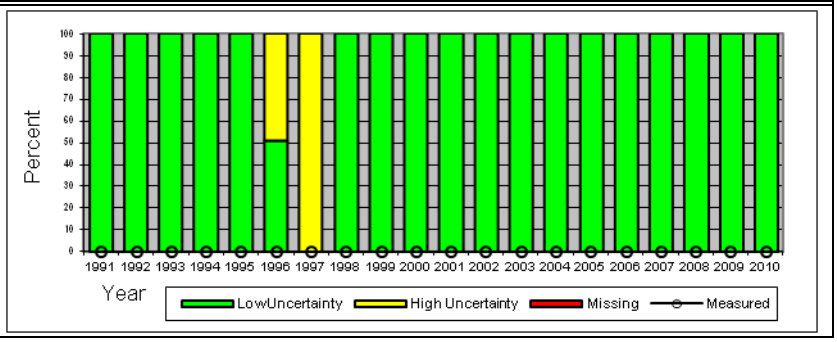
722560	WACO REGIONAL AP, TX
Class I	
Solar Coordinates	
Latitude: 31.617˚	
Longitude: -97.233˚	
Elevation: 152 m	
Meteorological Coordinates	
Latitude: 31.617˚	
Longitude: -97.233˚	
Elevation: 152 m	
Time Zone: -6	

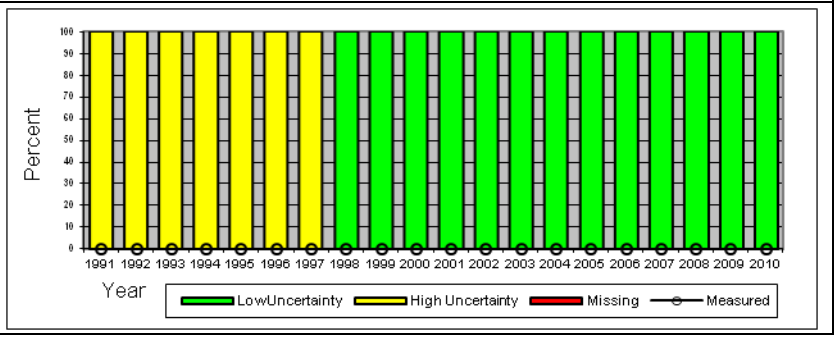
723510	WICHITA FALLS MUNICIPAL ARPT, TX
Class II	
Solar Coordinates	
Latitude: 33.983˚	
Longitude: -98.5˚	
Elevation: 314 m	
Meteorological Coordinates	
Latitude: 33.983˚	
Longitude: -98.5˚	
Elevation: 314 m	
Time Zone: -6	

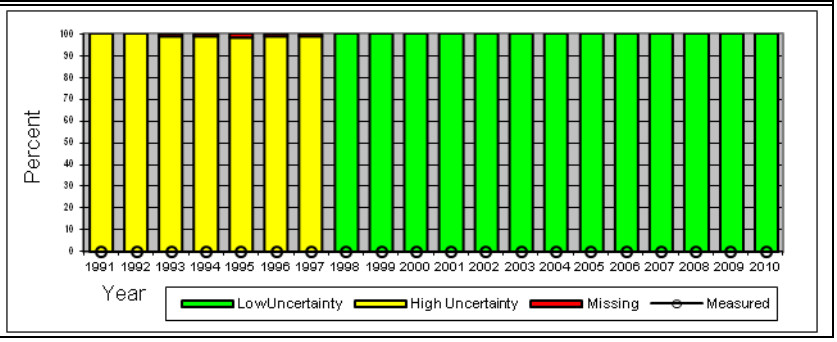
722656	WINK WINKLER COUNTY AP, TX
Class II	
Solar Coordinates	
Latitude: 31.783˚	
Longitude: -103.2˚	
Elevation: 856 m	
Meteorological Coordinates	
Latitude: 31.783˚	
Longitude: -103.2˚	
Elevation: 856 m	
Time Zone: -6	

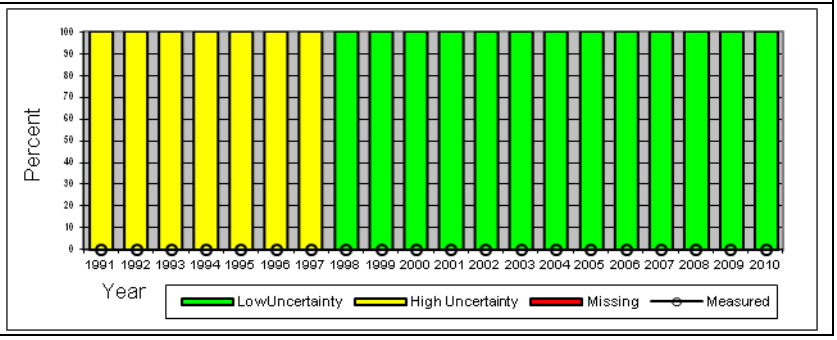
724723	BLANDING, UT
Class III	
Solar Coordinates	
Latitude: 37.617˚	
Longitude: -109.483˚	
Elevation: 1841 m	
Meteorological Coordinates	
Latitude: 37.617˚	
Longitude: -109.483˚	
Elevation: 1841 m	
Time Zone: -7	

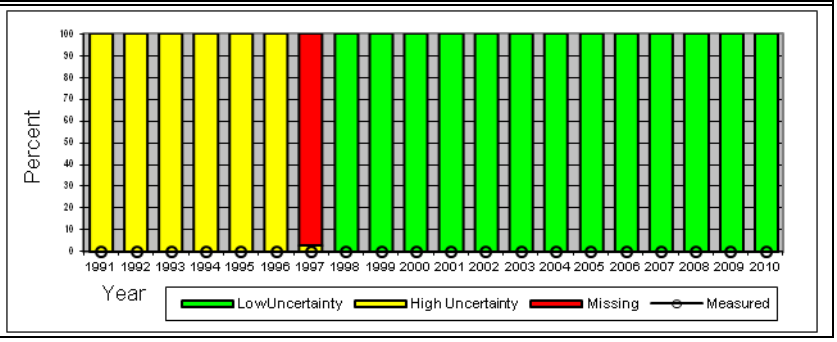
724756	BRYCE CNYN FAA AP, UT
Class II	
Solar Coordinates	
Latitude: 37.7˚	
Longitude: -112.15˚	
Elevation: 2312 m	
Meteorological Coordinates	
Latitude: 37.7˚	
Longitude: -112.15˚	
Elevation: 2312 m	
Time Zone: -7	

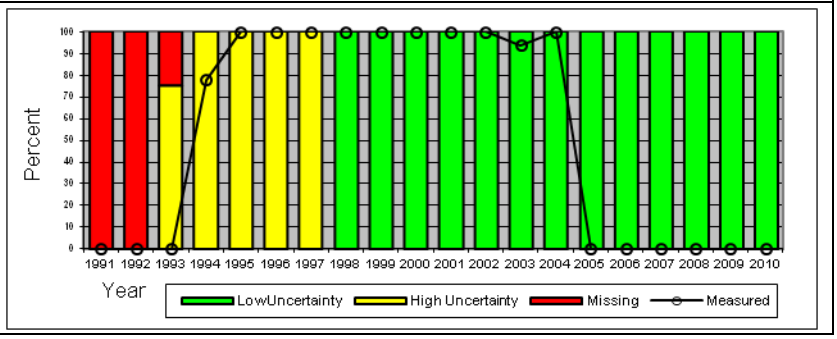
724755	CEDAR CITY MUNICIPAL AP, UT
Class I	
Solar Coordinates	
Latitude: 37.7˚	
Longitude: -113.1˚	
Elevation: 1703 m	
Meteorological Coordinates	
Latitude: 37.7˚	
Longitude: -113.1˚	
Elevation: 1703 m	
Time Zone: -7	

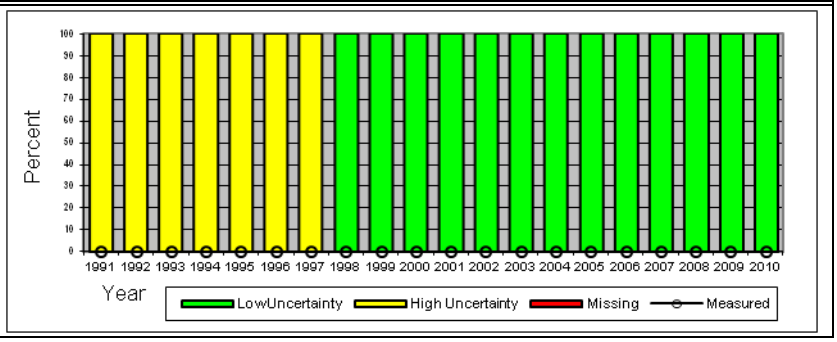
724795	DELTA, UT
Class II	
Solar Coordinates	
Latitude: 39.333˚	
Longitude: -112.583˚	
Elevation: 1414 m	
Meteorological Coordinates	
Latitude: 39.333˚	
Longitude: -112.583˚	
Elevation: 1414 m	
Time Zone: -7	

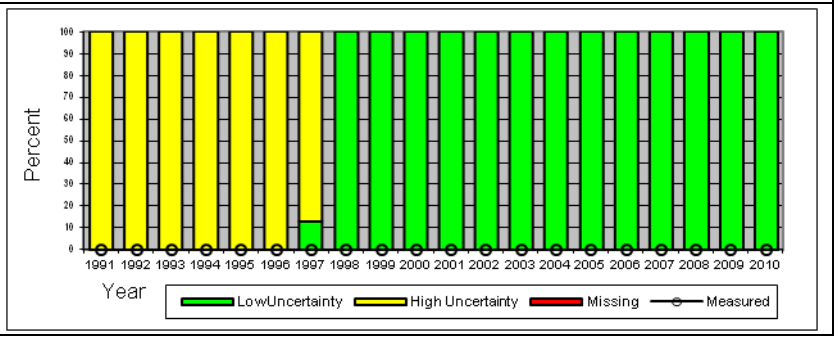
724773	GREEN RIVER RANGE, UT
Class III	
Solar Coordinates	
Latitude: 39˚	
Longitude: -110.167˚	
Elevation: 1241 m	
Meteorological Coordinates	
Latitude: 39˚	
Longitude: -110.167˚	
Elevation: 1241 m	
Time Zone: -7	

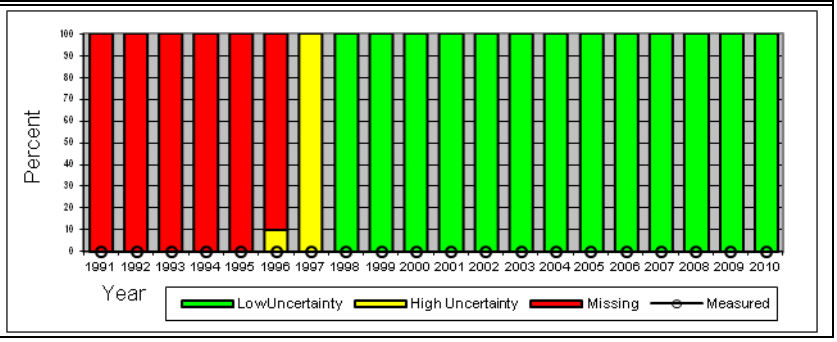
724735	HANKSVILLE, UT
Class II	
Solar Coordinates	
Latitude: 38.367˚	
Longitude: -110.717˚	
Elevation: 1313 m	
Meteorological Coordinates	
Latitude: 38.367˚	
Longitude: -110.717˚	
Elevation: 1313 m	
Time Zone: -7	

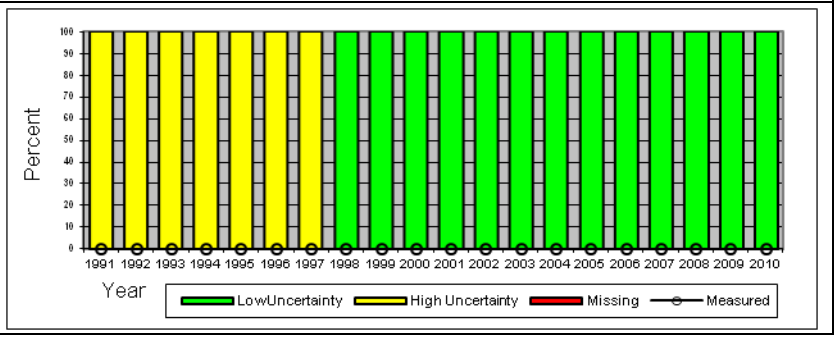
724796	LOGAN-CACHE AIRPORT, UT
Class III	
Solar Coordinates	
Latitude: 41.783˚	
Longitude: -111.85˚	
Elevation: 1358 m	
Meteorological Coordinates	
Latitude: 41.783˚	
Longitude: -111.85˚	
Elevation: 1358 m	
Time Zone: -7	

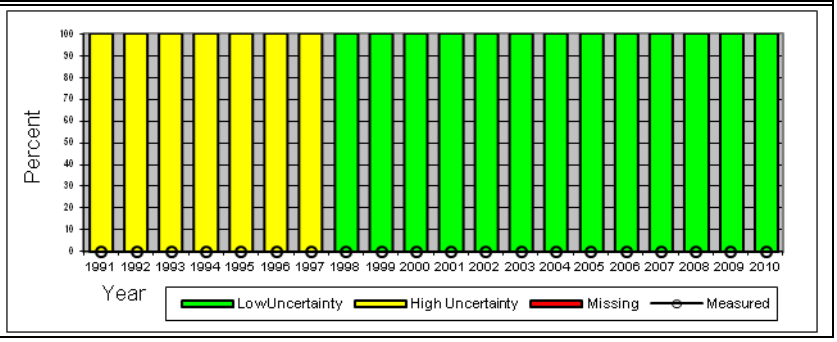
724776	MOAB/CANYONLANDS [UO], UT
Class III (with some measured)	
Solar Coordinates	
Latitude: 38.58˚	
Longitude: -109.54˚	
Elevation: 1000 m	
Meteorological Coordinates	
Latitude: 38.75˚	
Longitude: -109.75˚	
Elevation: 1388 m	
Time Zone: -7	

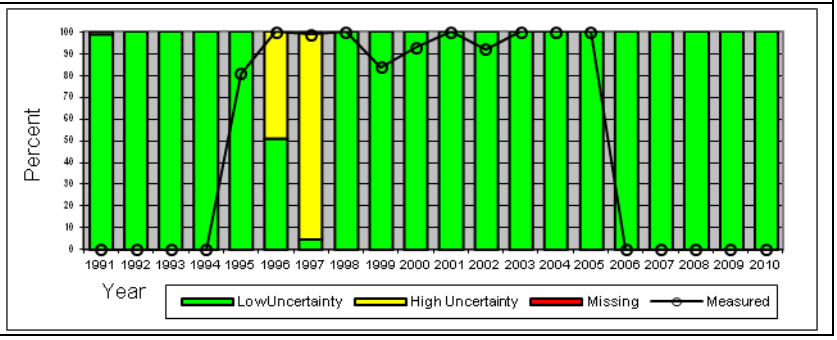
725755	OGDEN HILL AFB, UT
Class II	
Solar Coordinates	
Latitude: 41.117˚	
Longitude: -111.967˚	
Elevation: 1459 m	
Meteorological Coordinates	
Latitude: 41.117˚	
Longitude: -111.967˚	
Elevation: 1459 m	
Time Zone: -7	

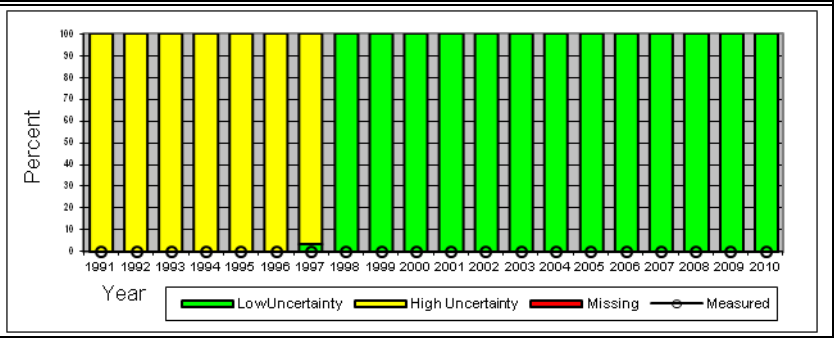
725750	OGDEN HINKLEY AIRPORT, UT
Class II	
Solar Coordinates	
Latitude: 41.2˚	
Longitude: -112.017˚	
Elevation: 1362 m	
Meteorological Coordinates	
Latitude: 41.2˚	
Longitude: -112.017˚	
Elevation: 1362 m	
Time Zone: -7	

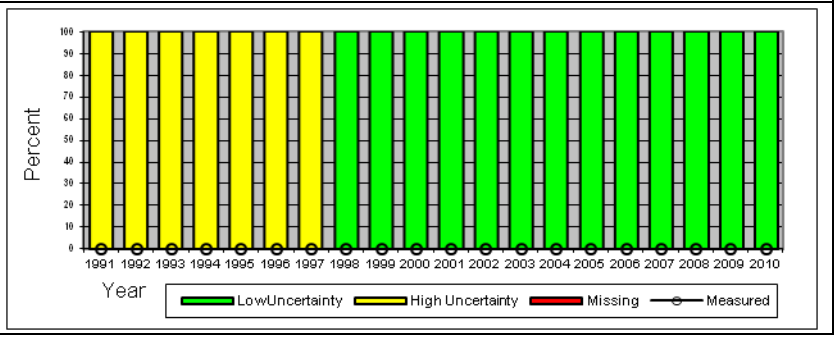
724700	PRICE/CARBON COUNTY, UT
Class III	
Solar Coordinates	
Latitude: 39.617˚	
Longitude: -110.75˚	
Elevation: 1799 m	
Meteorological Coordinates	
Latitude: 39.617˚	
Longitude: -110.75˚	
Elevation: 1799 m	
Time Zone: -7	

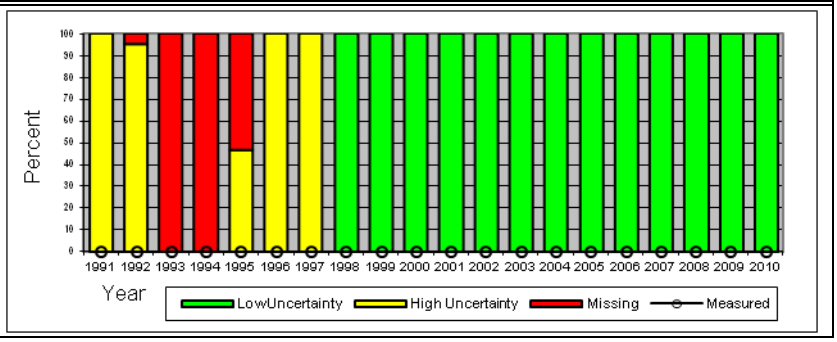
725724	PROVO MUNI (AWOS), UT
Class II	
Solar Coordinates	
Latitude: 40.217˚	
Longitude: -111.717˚	
Elevation: 1369 m	
Meteorological Coordinates	
Latitude: 40.217˚	
Longitude: -111.717˚	
Elevation: 1369 m	
Time Zone: -7	

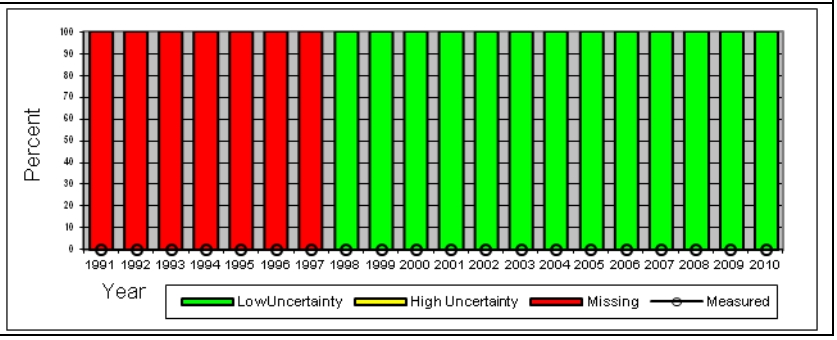
724754	SAINT GEORGE (AWOS), UT
Class II	
Solar Coordinates	
Latitude: 37.083˚	
Longitude: -113.6˚	
Elevation: 896 m	
Meteorological Coordinates	
Latitude: 37.083˚	
Longitude: -113.6˚	
Elevation: 896 m	
Time Zone: -7	

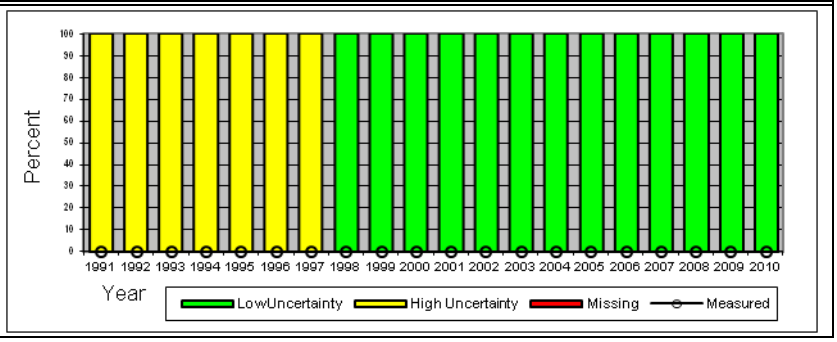
725720	SALT LAKE CITY INT'L ARPT [ISIS], UT
Class I (with some measured)	
Solar Coordinates	
Latitude: 40.77˚	
Longitude: -111.97˚	
Elevation: 1288 m	
Meteorological Coordinates	
Latitude: 40.783˚	
Longitude: -111.967˚	
Elevation: 1287 m	
Time Zone: -7	

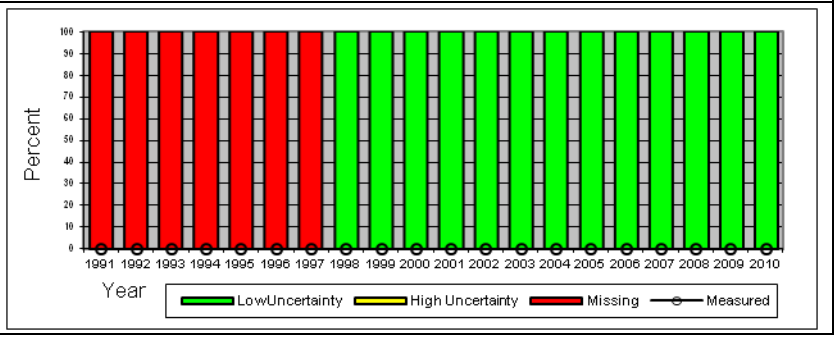
725705	VERNAL, UT
Class II	
Solar Coordinates	
Latitude: 40.433˚	
Longitude: -109.517˚	
Elevation: 1608 m	
Meteorological Coordinates	
Latitude: 40.433˚	
Longitude: -109.517˚	
Elevation: 1608 m	
Time Zone: -7	

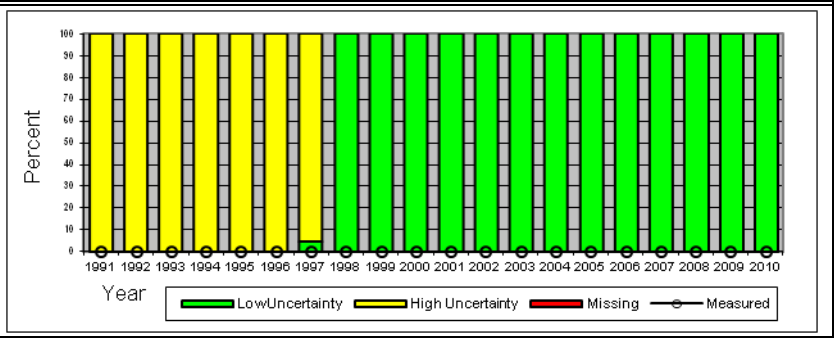
725810	WENDOVER USAF AUXILIARY FIELD, UT
Class II	
Solar Coordinates	
Latitude: 40.717˚	
Longitude: -114.033˚	
Elevation: 1291 m	
Meteorological Coordinates	
Latitude: 40.717˚	
Longitude: -114.033˚	
Elevation: 1291 m	
Time Zone: -8	

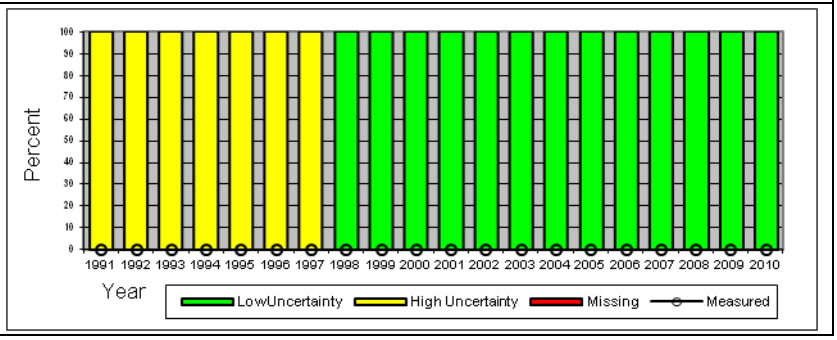
724058	ABINGTON, VA
Class III	
Solar Coordinates	
Latitude: 36.683˚	
Longitude: -82.033˚	
Elevation: 631 m	
Meteorological Coordinates	
Latitude: 36.683˚	
Longitude: -82.033˚	
Elevation: 631 m	
Time Zone: -5	

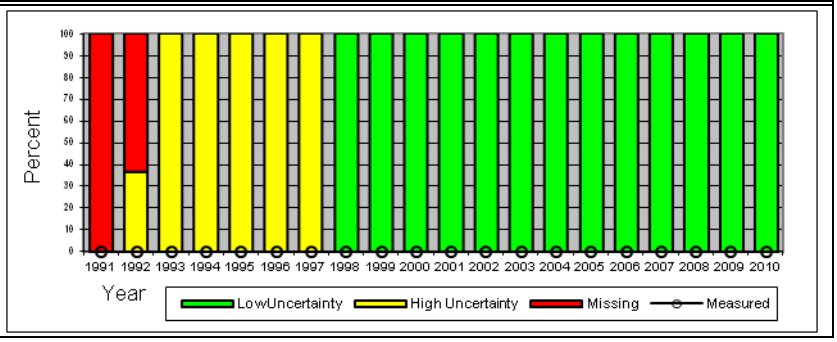
723084	ASHLAND, VA
Class III	
Solar Coordinates	
Latitude: 37.7˚	
Longitude: -77.433˚	
Elevation: 62 m	
Meteorological Coordinates	
Latitude: 37.7˚	
Longitude: -77.433˚	
Elevation: 62 m	
Time Zone: -5	

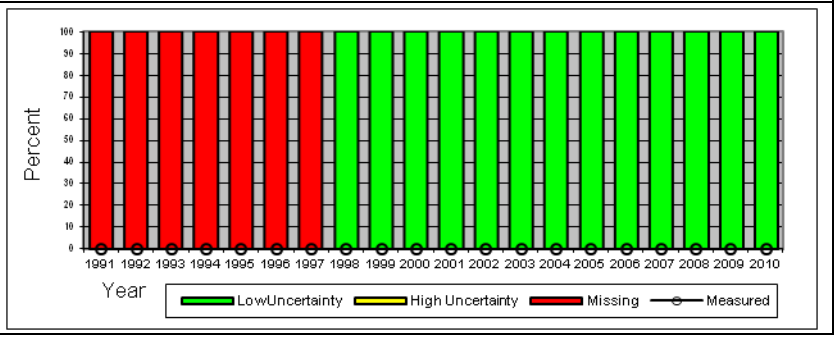
724016	CHARLOTTESVILLE FAA, VA
Class II	
Solar Coordinates	
Latitude: 38.133˚	
Longitude: -78.45˚	
Elevation: 190 m	
Meteorological Coordinates	
Latitude: 38.133˚	
Longitude: -78.45˚	
Elevation: 190 m	
Time Zone: -5	

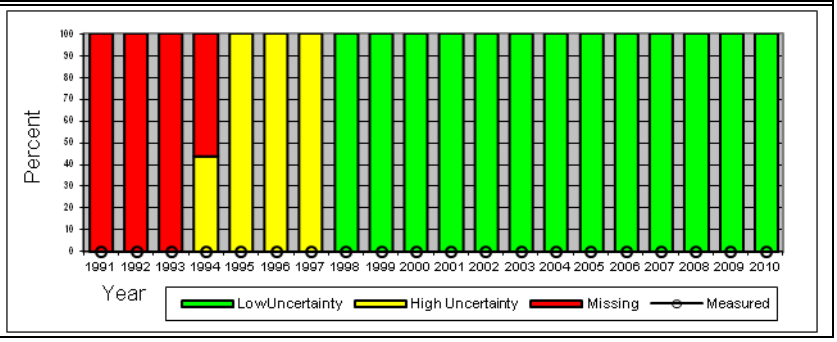
724006	CHESAPEAKE MUNI ARP, VA
Class III	
Solar Coordinates	
Latitude: 36.667˚	
Longitude: -76.317˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 36.667˚	
Longitude: -76.317˚	
Elevation: 6 m	
Time Zone: -5	

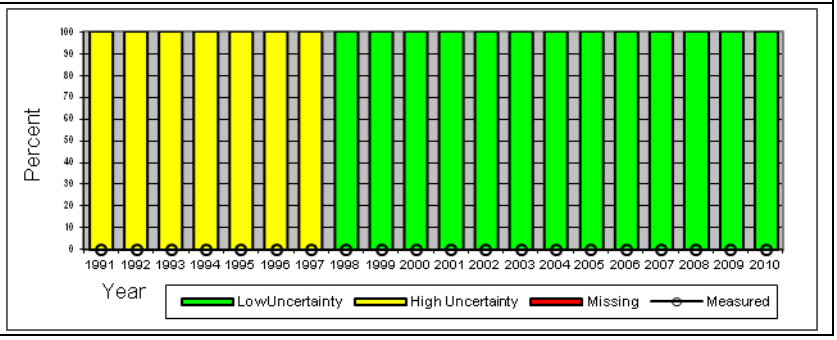
724106	DANVILLE FAA AP, VA
Class II	
Solar Coordinates	
Latitude: 36.567˚	
Longitude: -79.333˚	
Elevation: 176 m	
Meteorological Coordinates	
Latitude: 36.567˚	
Longitude: -79.333˚	
Elevation: 176 m	
Time Zone: -5	

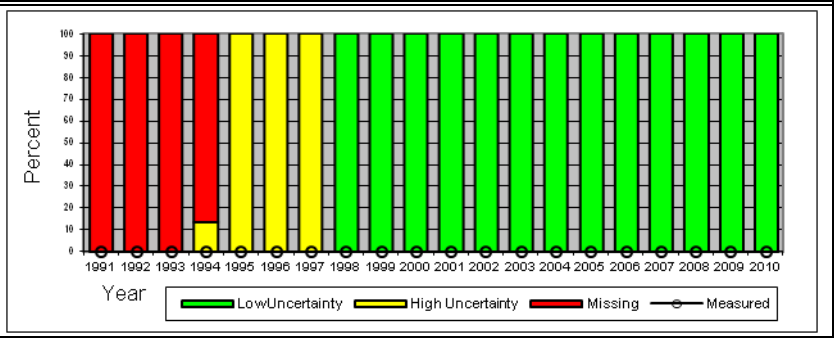
724037	DAVISON AAF, VA
Class II	
Solar Coordinates	
Latitude: 38.717˚	
Longitude: -77.183˚	
Elevation: 27 m	
Meteorological Coordinates	
Latitude: 38.717˚	
Longitude: -77.183˚	
Elevation: 27 m	
Time Zone: -5	

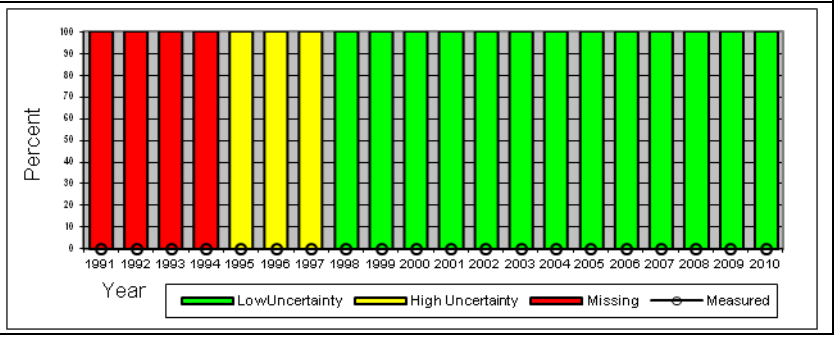
724014	DINWIDDIE CO, VA
Class III	
Solar Coordinates	
Latitude: 37.183˚	
Longitude: -77.517˚	
Elevation: 60 m	
Meteorological Coordinates	
Latitude: 37.183˚	
Longitude: -77.517˚	
Elevation: 60 m	
Time Zone: -5	

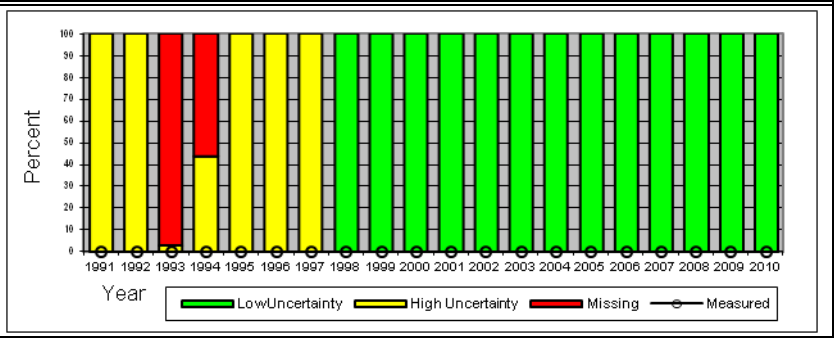
723074	EDENTON, VA
Class III	
Solar Coordinates	
Latitude: 36.033˚	
Longitude: -76.567˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 36.033˚	
Longitude: -76.567˚	
Elevation: 6 m	
Time Zone: -5	

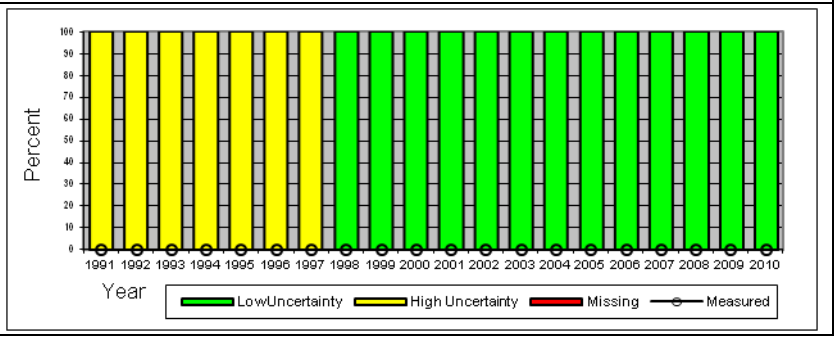
724017	FARMVILLE, VA
Class III	
Solar Coordinates	
Latitude: 37.35˚	
Longitude: -78.433˚	
Elevation: 125 m	
Meteorological Coordinates	
Latitude: 37.35˚	
Longitude: -78.433˚	
Elevation: 125 m	
Time Zone: -5	

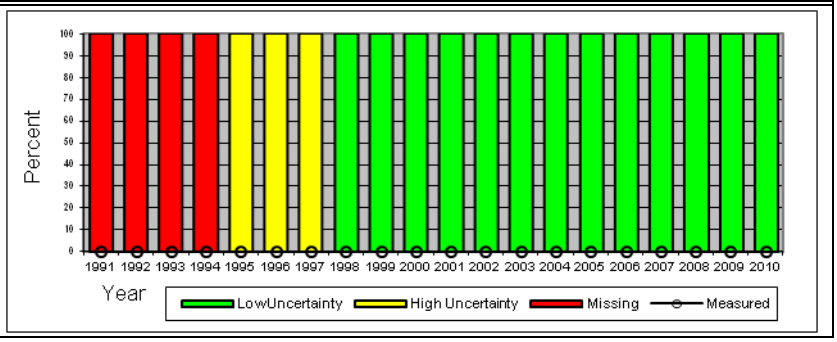
723087	FORT EUSTIS FELKER AAF, VA
Class II	
Solar Coordinates	
Latitude: 37.133˚	
Longitude: -76.6˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 37.133˚	
Longitude: -76.6˚	
Elevation: 7 m	
Time Zone: -5	

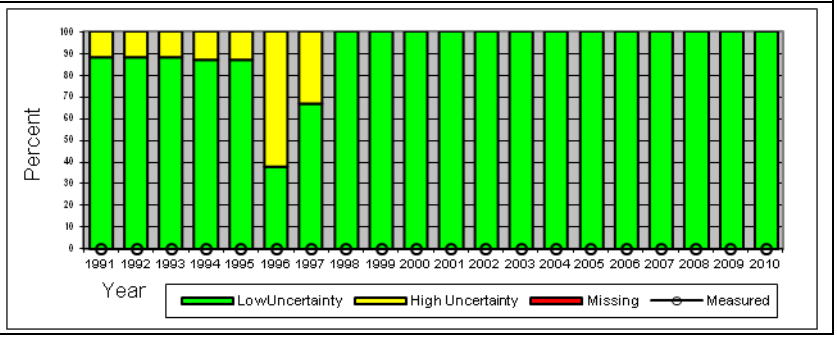
723083	FRANKLIN NAAS, VA
Class III	
Solar Coordinates	
Latitude: 36.7˚	
Longitude: -76.9˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 36.7˚	
Longitude: -76.9˚	
Elevation: 12 m	
Time Zone: -5	

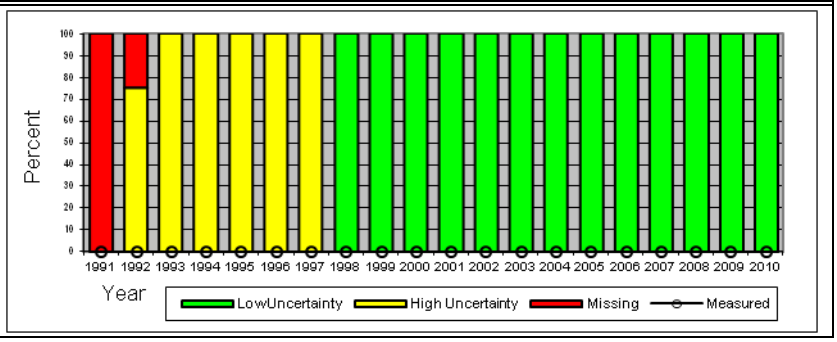
724107	HILLSVILLE, VA
Class III	
Solar Coordinates	
Latitude: 36.767˚	
Longitude: -80.817˚	
Elevation: 834 m	
Meteorological Coordinates	
Latitude: 36.767˚	
Longitude: -80.817˚	
Elevation: 834 m	
Time Zone: -5	

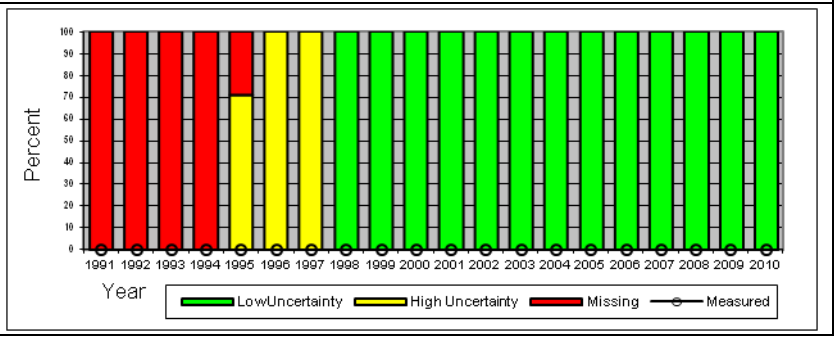
724115	HOT SPRINGS/INGALLS, VA
Class III	
Solar Coordinates	
Latitude: 37.95˚	
Longitude: -79.833˚	
Elevation: 1156 m	
Meteorological Coordinates	
Latitude: 37.95˚	
Longitude: -79.833˚	
Elevation: 1156 m	
Time Zone: -5	

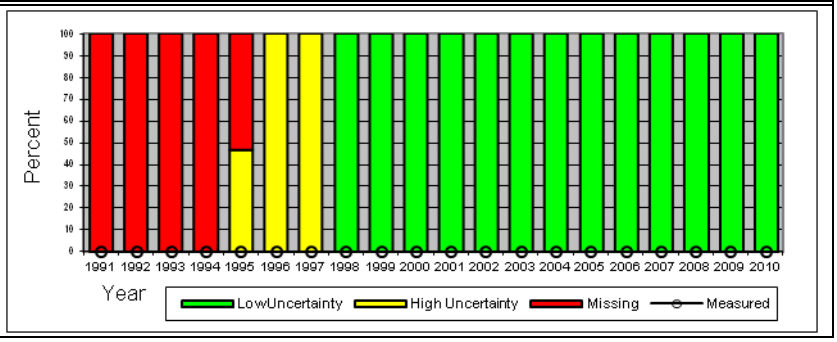
745980	LANGLEY AFB, VA
Class II	
Solar Coordinates	
Latitude: 37.083˚	
Longitude: -76.35˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 37.083˚	
Longitude: -76.35˚	
Elevation: 3 m	
Time Zone: -5	

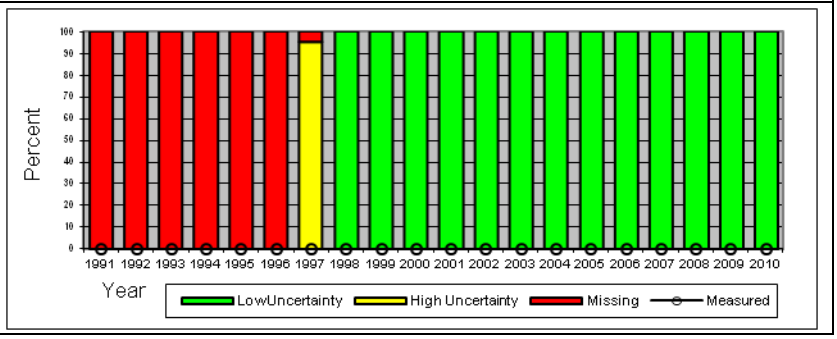
724055	LEESBURG/GODFREY, VA
Class III	
Solar Coordinates	
Latitude: 39.083˚	
Longitude: -77.567˚	
Elevation: 119 m	
Meteorological Coordinates	
Latitude: 39.083˚	
Longitude: -77.567˚	
Elevation: 119 m	
Time Zone: -5	

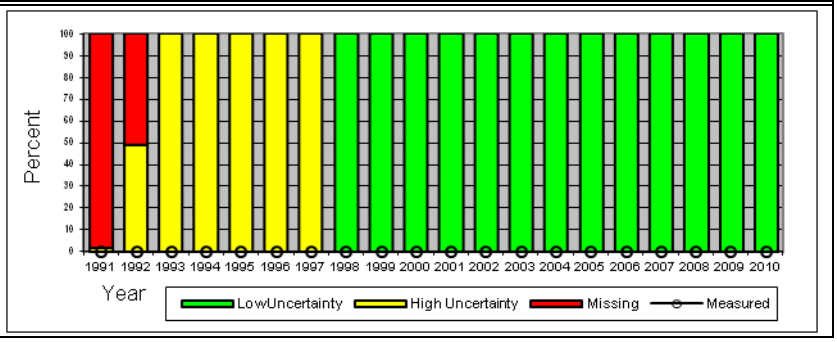
724100	LYNCHBURG REGIONAL ARPT, VA
Class I	
Solar Coordinates	
Latitude: 37.333˚	
Longitude: -79.2˚	
Elevation: 286 m	
Meteorological Coordinates	
Latitude: 37.333˚	
Longitude: -79.2˚	
Elevation: 286 m	
Time Zone: -5	

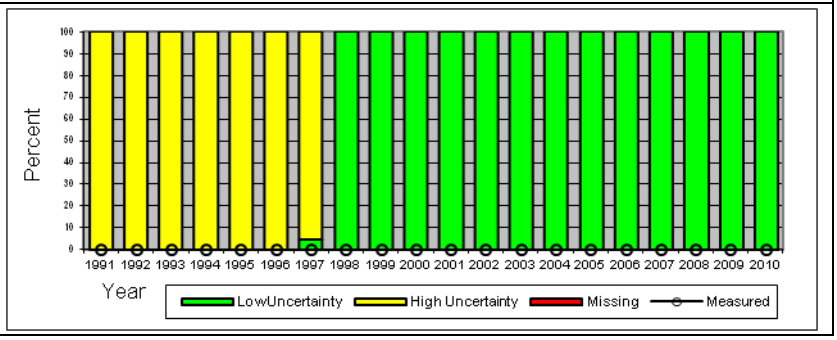
724036	MANASSAS MUNI(AWOS), VA
Class III	
Solar Coordinates	
Latitude: 38.717˚	
Longitude: -77.517˚	
Elevation: 59 m	
Meteorological Coordinates	
Latitude: 38.717˚	
Longitude: -77.517˚	
Elevation: 59 m	
Time Zone: -5	

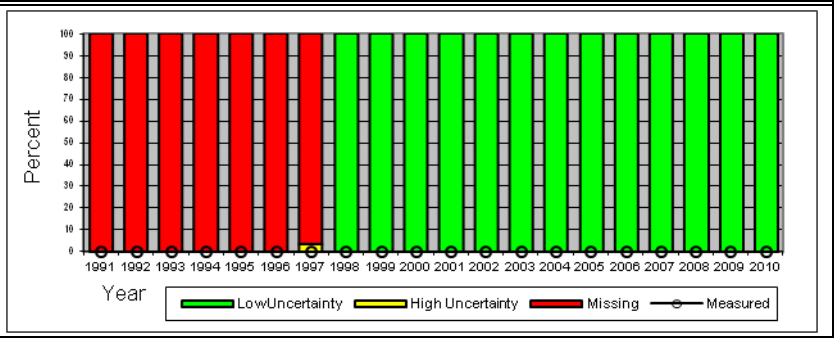
724056	MARION / WYTHEVILLE, VA
Class III	
Solar Coordinates	
Latitude: 36.9˚	
Longitude: -81.35˚	
Elevation: 780 m	
Meteorological Coordinates	
Latitude: 36.9˚	
Longitude: -81.35˚	
Elevation: 780 m	
Time Zone: -5	

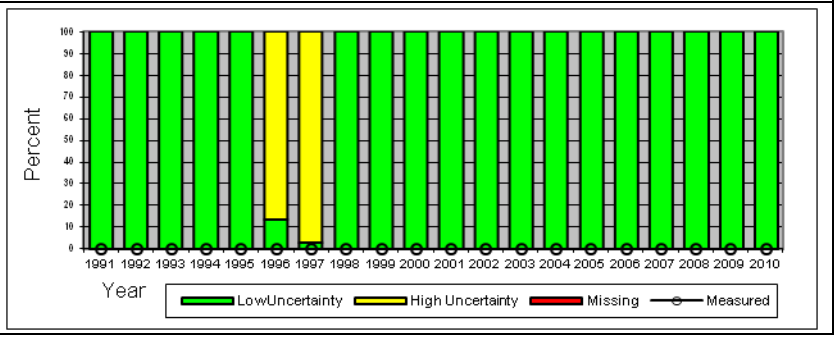
745985	MARTINSVILLE, VA
Class III	
Solar Coordinates	
Latitude: 36.633˚	
Longitude: -80.017˚	
Elevation: 287 m	
Meteorological Coordinates	
Latitude: 36.633˚	
Longitude: -80.017˚	
Elevation: 287 m	
Time Zone: -5	

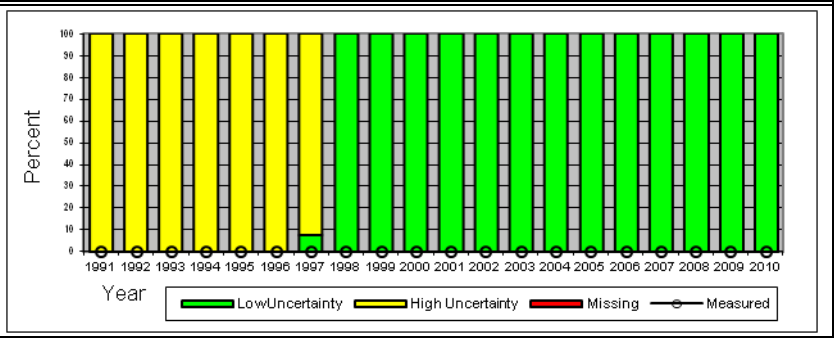
724118	MECKLENBURG\BRUNS., VA
Class III	
Solar Coordinates	
Latitude: 36.7˚	
Longitude: -78.05˚	
Elevation: 430 m	
Meteorological Coordinates	
Latitude: 36.7˚	
Longitude: -78.05˚	
Elevation: 430 m	
Time Zone: -5	

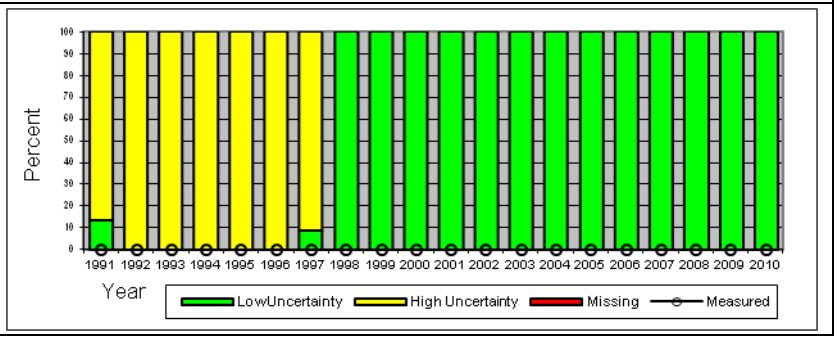
724026	MELFA/ACCOMACK ARPT, VA
Class III	
Solar Coordinates	
Latitude: 37.65˚	
Longitude: -75.767˚	
Elevation: 15 m	
Meteorological Coordinates	
Latitude: 37.65˚	
Longitude: -75.767˚	
Elevation: 15 m	
Time Zone: -5	

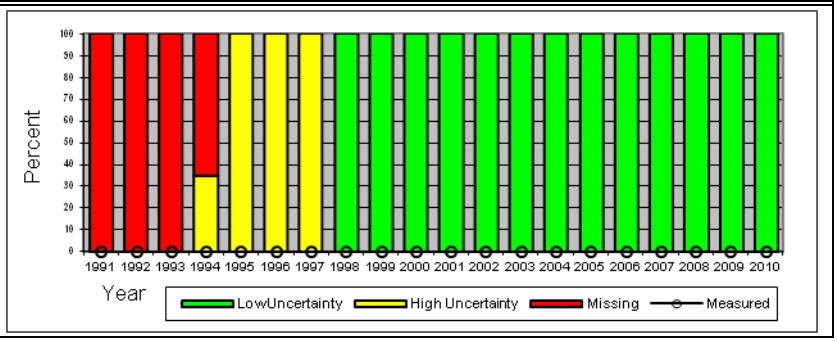
723086	NEWPORT NEWS, VA
Class II	
Solar Coordinates	
Latitude: 37.133˚	
Longitude: -76.5˚	
Elevation: 13 m	
Meteorological Coordinates	
Latitude: 37.133˚	
Longitude: -76.5˚	
Elevation: 13 m	
Time Zone: -5	

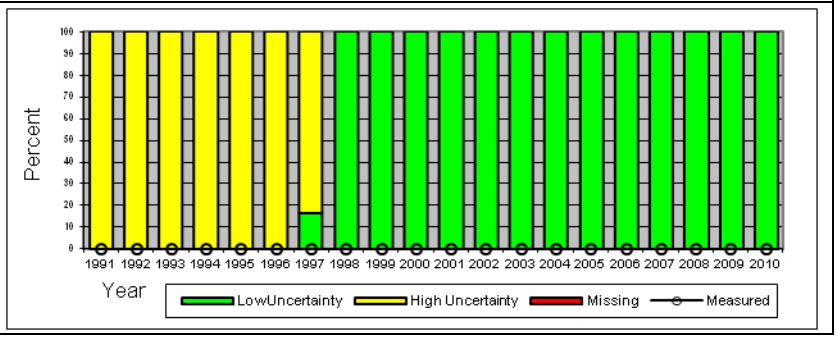
724019	NORFOLK (NEXRAD), VA
Class III	
Solar Coordinates	
Latitude: 36.983˚	
Longitude: -77.017˚	
Elevation: 64 m	
Meteorological Coordinates	
Latitude: 36.983˚	
Longitude: -77.017˚	
Elevation: 64 m	
Time Zone: -5	

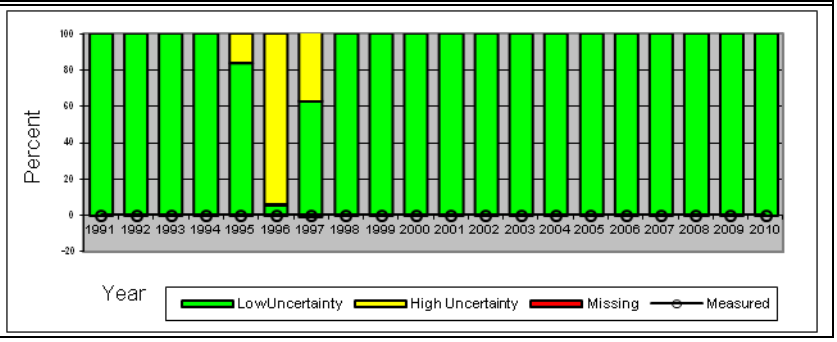
723080	NORFOLK INTERNATIONAL AP, VA
Class I	
Solar Coordinates	
Latitude: 36.9˚	
Longitude: -76.2˚	
Elevation: 7 m	
Meteorological Coordinates	
Latitude: 36.9˚	
Longitude: -76.2˚	
Elevation: 7 m	
Time Zone: -5	

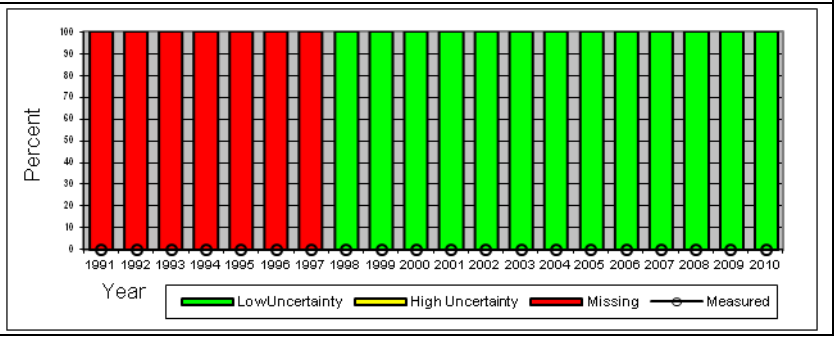
723085	NORFOLK NAS, VA
Class II	
Solar Coordinates	
Latitude: 36.95˚	
Longitude: -76.283˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 36.95˚	
Longitude: -76.283˚	
Elevation: 10 m	
Time Zone: -5	

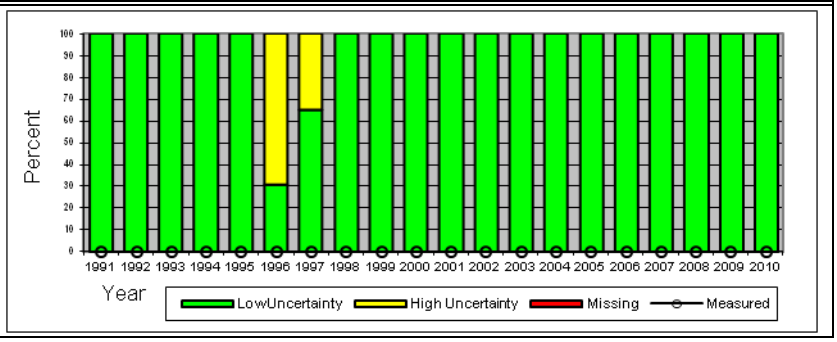
723075	OCEANA NAS, VA
Class II	
Solar Coordinates	
Latitude: 36.817˚	
Longitude: -76.033˚	
Elevation: 8 m	
Meteorological Coordinates	
Latitude: 36.817˚	
Longitude: -76.033˚	
Elevation: 8 m	
Time Zone: -5	

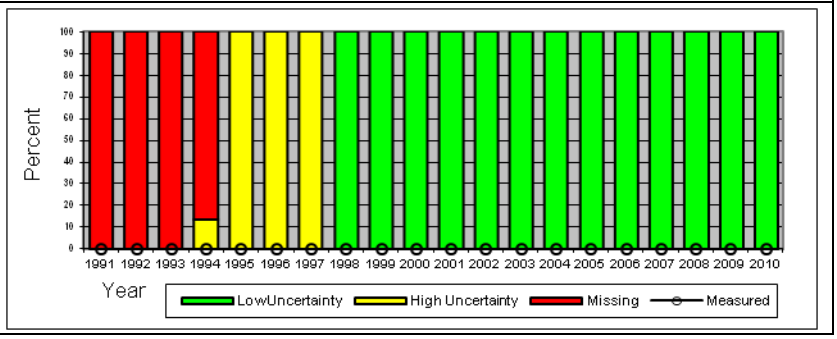
724116	PULASKI, VA
Class III	
Solar Coordinates	
Latitude: 37.133˚	
Longitude: -80.683˚	
Elevation: 642 m	
Meteorological Coordinates	
Latitude: 37.133˚	
Longitude: -80.683˚	
Elevation: 642 m	
Time Zone: -5	

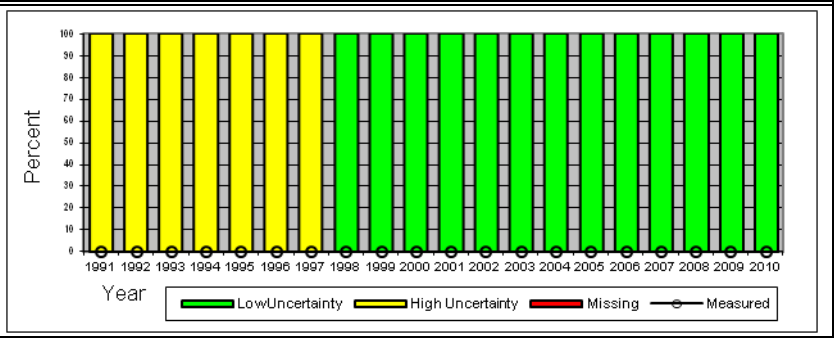
724035	QUANTICO MCAS, VA
Class II	
Solar Coordinates	
Latitude: 38.5˚	
Longitude: -77.3˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 38.5˚	
Longitude: -77.3˚	
Elevation: 4 m	
Time Zone: -5	

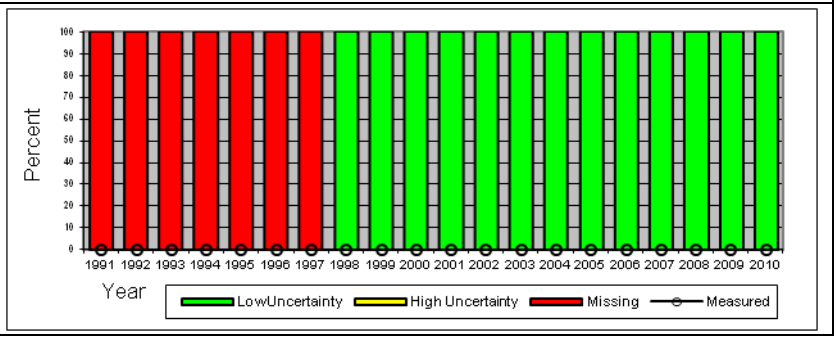
724010	RICHMOND INTERNATIONAL AP, VA
Class I	
Solar Coordinates	
Latitude: 37.517˚	
Longitude: -77.317˚	
Elevation: 50 m	
Meteorological Coordinates	
Latitude: 37.517˚	
Longitude: -77.317˚	
Elevation: 50 m	
Time Zone: -5	

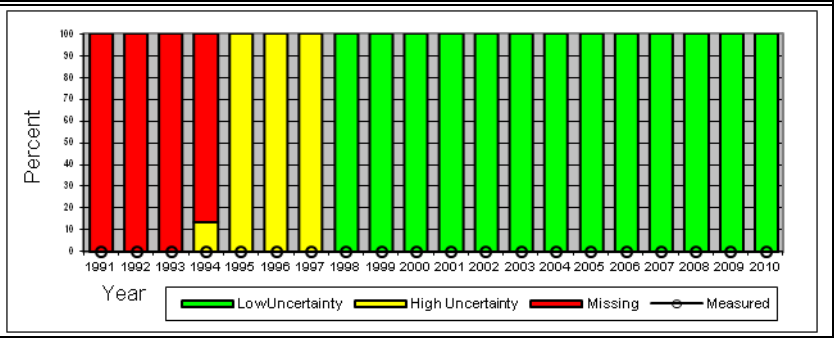
724008	ROANOKE RAPIDS, VA
Class III	
Solar Coordinates	
Latitude: 36.45˚	
Longitude: -77.717˚	
Elevation: 77 m	
Meteorological Coordinates	
Latitude: 36.45˚	
Longitude: -77.717˚	
Elevation: 77 m	
Time Zone: -5	

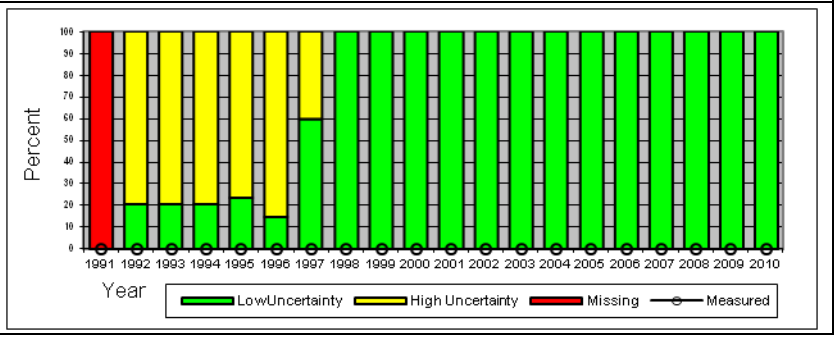
724110	ROANOKE REGIONAL AP, VA
Class I	
Solar Coordinates	
Latitude: 37.317˚	
Longitude: -79.967˚	
Elevation: 350 m	
Meteorological Coordinates	
Latitude: 37.317˚	
Longitude: -79.967˚	
Elevation: 350 m	
Time Zone: -5	

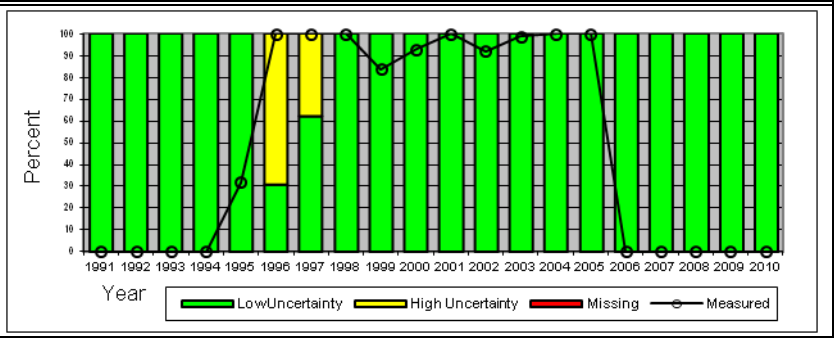
724033	SHANNON ARPT, VA
Class III	
Solar Coordinates	
Latitude: 38.267˚	
Longitude: -77.45˚	
Elevation: 26 m	
Meteorological Coordinates	
Latitude: 38.267˚	
Longitude: -77.45˚	
Elevation: 26 m	
Time Zone: -5	

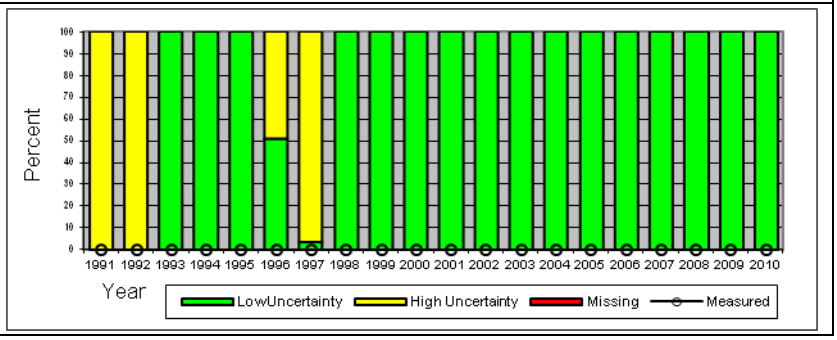
724105	STAUNTON/SHENANDOAH, VA
Class II	
Solar Coordinates	
Latitude: 38.267˚	
Longitude: -78.9˚	
Elevation: 366 m	
Meteorological Coordinates	
Latitude: 38.267˚	
Longitude: -78.9˚	
Elevation: 366 m	
Time Zone: -5	

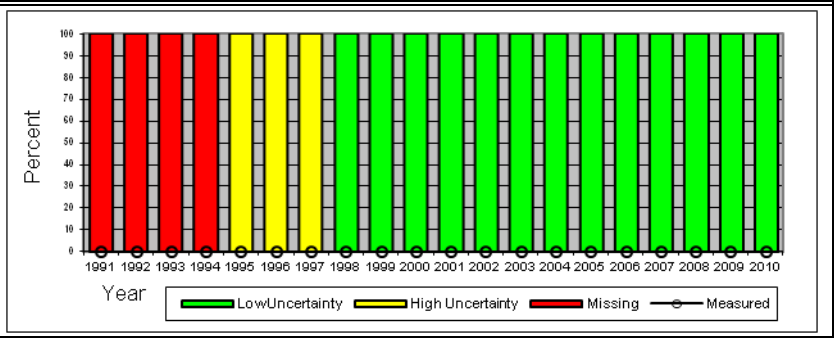
724007	SUFFOLK, VA
Class III	
Solar Coordinates	
Latitude: 36.683˚	
Longitude: -76.6˚	
Elevation: 22 m	
Meteorological Coordinates	
Latitude: 36.683˚	
Longitude: -76.6˚	
Elevation: 22 m	
Time Zone: -5	

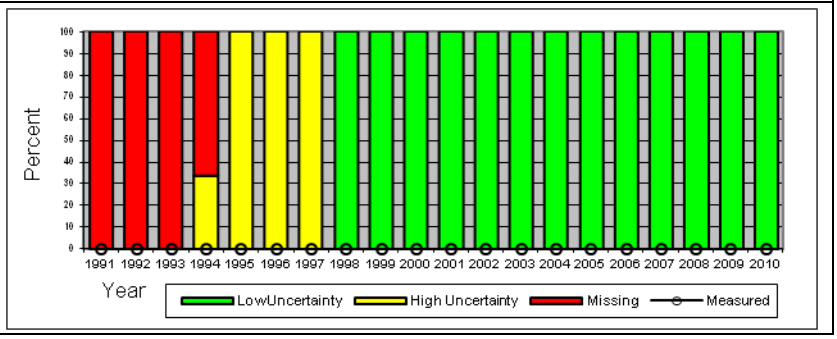
724113	VIRGINIA TECH ARPT, VA
Class III	
Solar Coordinates	
Latitude: 37.217˚	
Longitude: -80.417˚	
Elevation: 650 m	
Meteorological Coordinates	
Latitude: 37.217˚	
Longitude: -80.417˚	
Elevation: 650 m	
Time Zone: -5	

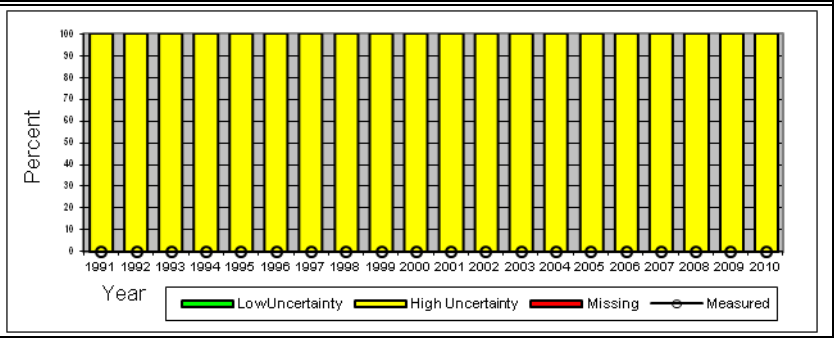
724020	WALLOPS ISLAND UAU, VA
Class III	
Solar Coordinates	
Latitude: 37.933˚	
Longitude: -75.483˚	
Elevation: 12 m	
Meteorological Coordinates	
Latitude: 37.933˚	
Longitude: -75.483˚	
Elevation: 12 m	
Time Zone: -5	

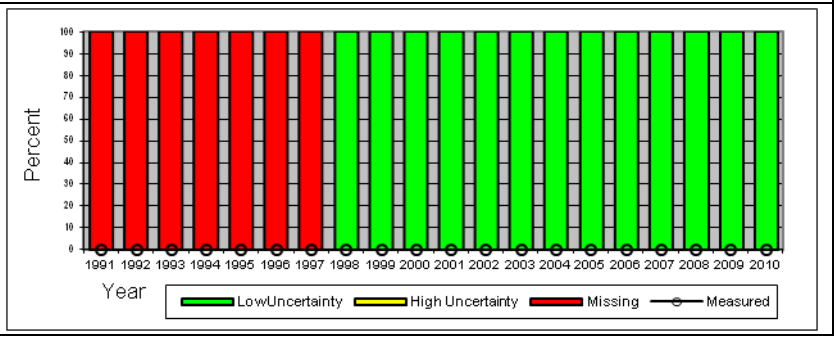
724030	WASHINGTON DC DULLES INT'L AR [STERLING - ISIS], VA
Class I (with some measured)	
Solar Coordinates	
Latitude: 38.98˚	
Longitude: -77.47˚	
Elevation: 82 m	
Meteorological Coordinates	
Latitude: 38.933˚	
Longitude: -77.45˚	
Elevation: 88 m	
Time Zone: -5	

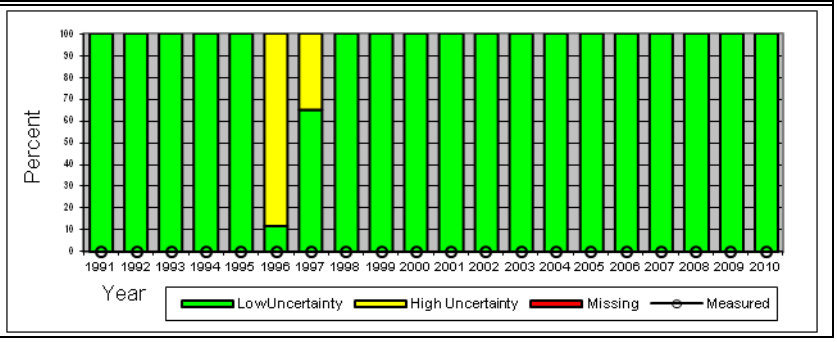
724050	WASHINGTON DC REAGAN AP, VA
Class I	
Solar Coordinates	
Latitude: 38.867˚	
Longitude: -77.033˚	
Elevation: 3 m	
Meteorological Coordinates	
Latitude: 38.867˚	
Longitude: -77.033˚	
Elevation: 3 m	
Time Zone: -5	

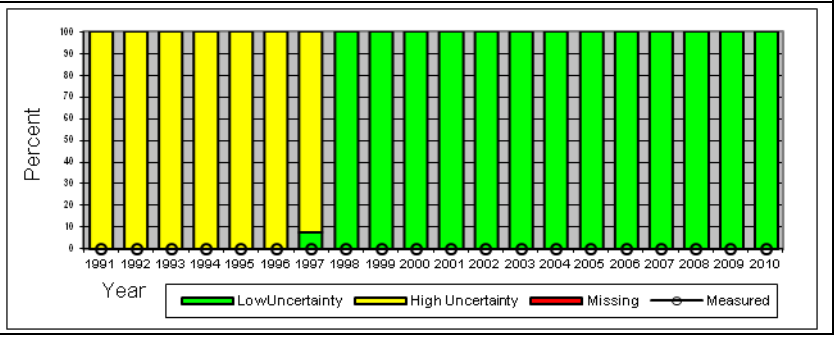
724053	WINCHESTER RGNL, VA
Class III	
Solar Coordinates	
Latitude: 39.15˚	
Longitude: -78.15˚	
Elevation: 222 m	
Meteorological Coordinates	
Latitude: 39.15˚	
Longitude: -78.15˚	
Elevation: 222 m	
Time Zone: -5	

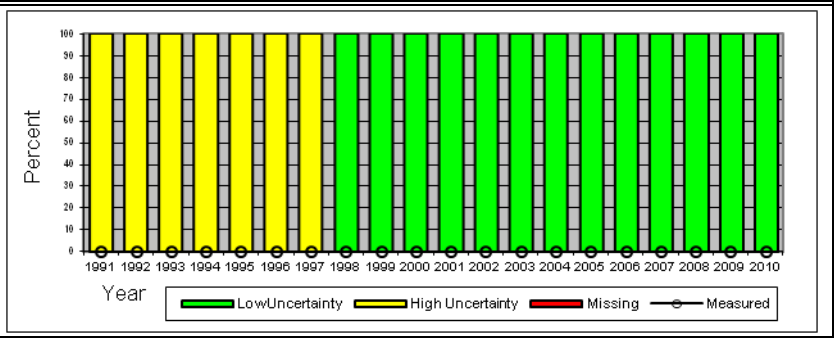
724117	WISE/LONESOME PINE, VA
Class III	
Solar Coordinates	
Latitude: 36.983˚	
Longitude: -82.533˚	
Elevation: 817 m	
Meteorological Coordinates	
Latitude: 36.983˚	
Longitude: -82.533˚	
Elevation: 817 m	
Time Zone: -5	

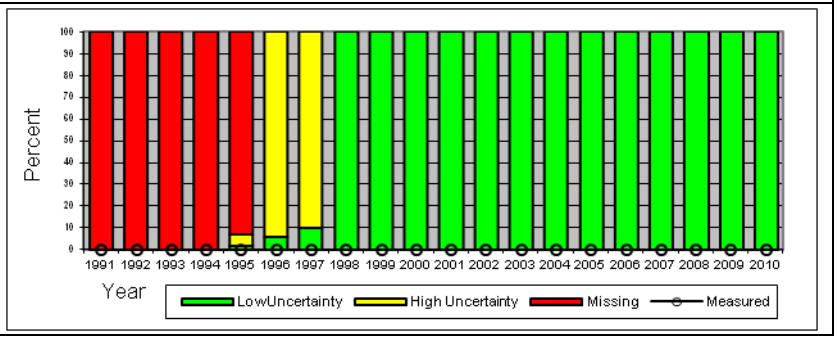
785430	CHARLOTTE AMALIE HARRY S TRUM, VI
Class II	
Solar Coordinates	
Latitude: 18.35˚	
Longitude: -64.967˚	
Elevation: 6 m	
Meteorological Coordinates	
Latitude: 18.35˚	
Longitude: -64.967˚	
Elevation: 6 m	
Time Zone: -4	

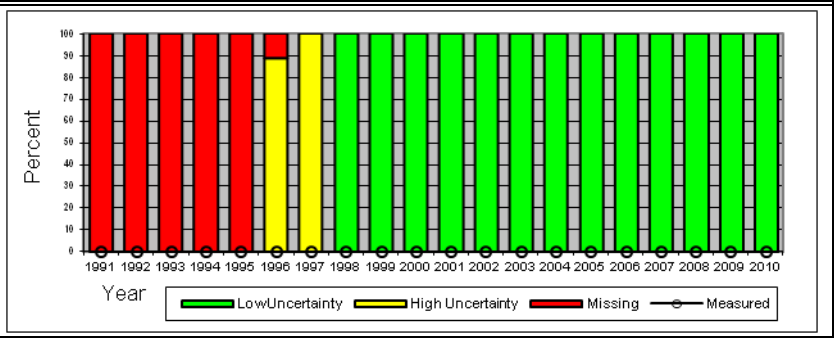
726166	BENNINGTON MORSE AR, VT
Class III	
Solar Coordinates	
Latitude: 42.883˚	
Longitude: -73.233˚	
Elevation: 252 m	
Meteorological Coordinates	
Latitude: 42.883˚	
Longitude: -73.233˚	
Elevation: 252 m	
Time Zone: -5	

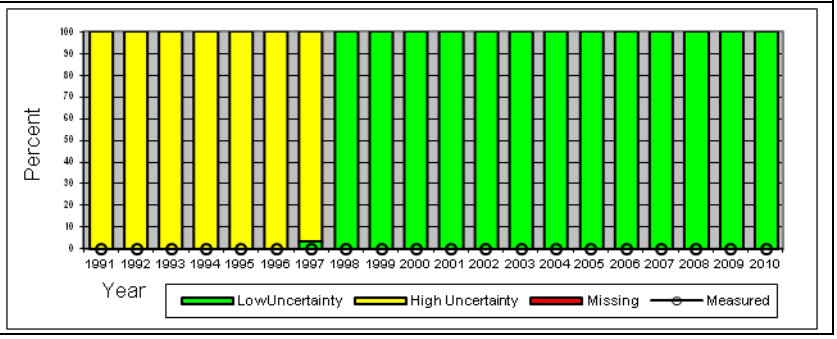
726170	BURLINGTON INTERNATIONAL AP, VT
Class I	
Solar Coordinates	
Latitude: 44.467˚	
Longitude: -73.15˚	
Elevation: 101 m	
Meteorological Coordinates	
Latitude: 44.467˚	
Longitude: -73.15˚	
Elevation: 101 m	
Time Zone: -5	

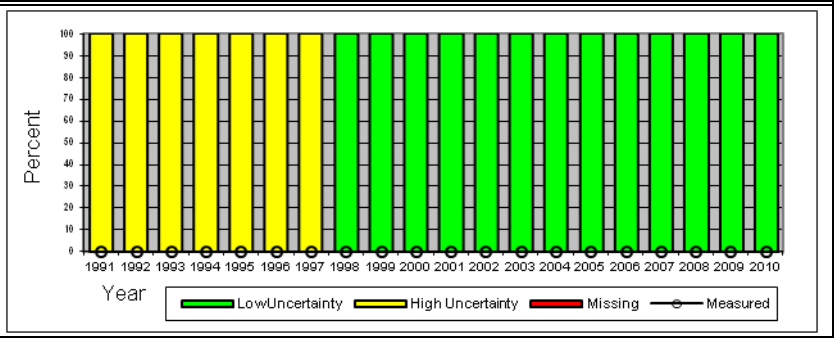
726145	MONTPELIER AP, VT
Class II	
Solar Coordinates	
Latitude: 44.2˚	
Longitude: -72.567˚	
Elevation: 343 m	
Meteorological Coordinates	
Latitude: 44.2˚	
Longitude: -72.567˚	
Elevation: 343 m	
Time Zone: -5	

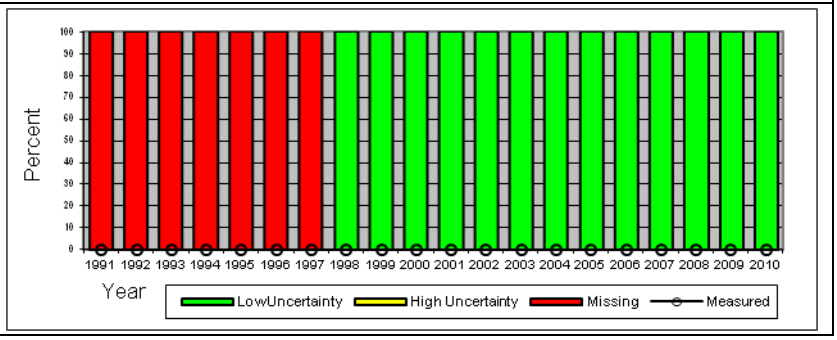
725165	RUTLAND STATE, VT
Class II	
Solar Coordinates	
Latitude: 43.517˚	
Longitude: -72.95˚	
Elevation: 246 m	
Meteorological Coordinates	
Latitude: 43.517˚	
Longitude: -72.95˚	
Elevation: 246 m	
Time Zone: -5	

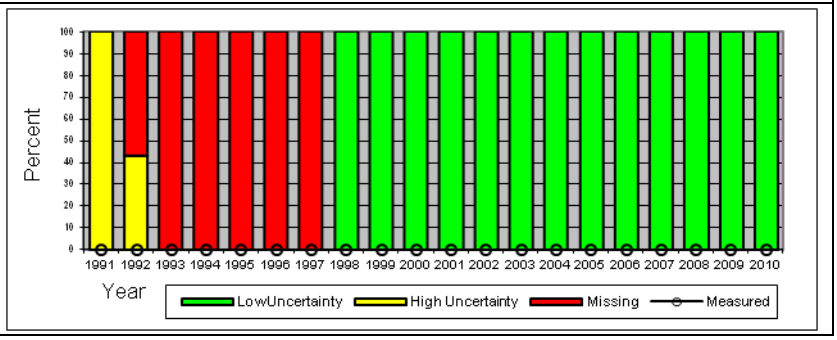
726115	SPRINGFIELD/HARTNES, VT
Class III	
Solar Coordinates	
Latitude: 43.35˚	
Longitude: -72.517˚	
Elevation: 176 m	
Meteorological Coordinates	
Latitude: 43.35˚	
Longitude: -72.517˚	
Elevation: 176 m	
Time Zone: -5	

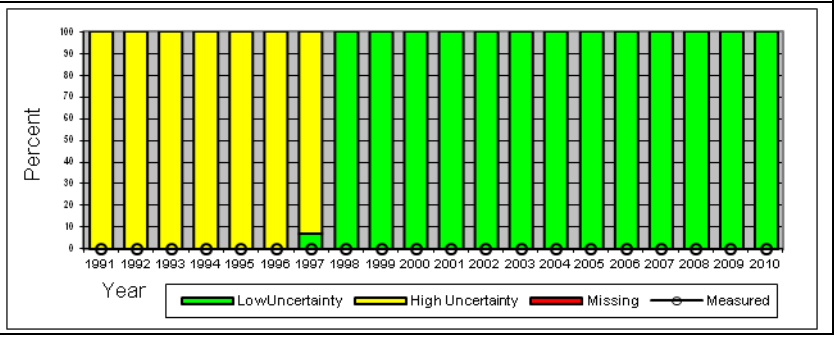
727945	ARLINGTON MUNI, WA
Class III	
Solar Coordinates	
Latitude: 48.167˚	
Longitude: -122.167˚	
Elevation: 42 m	
Meteorological Coordinates	
Latitude: 48.167˚	
Longitude: -122.167˚	
Elevation: 42 m	
Time Zone: -8	

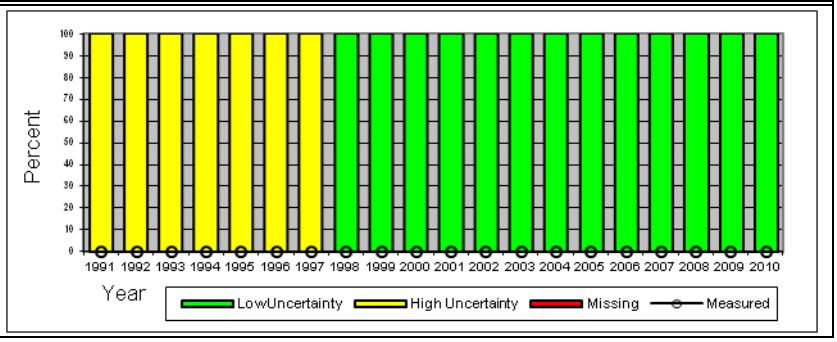
727976	BELLINGHAM INTL AP, WA
Class II	
Solar Coordinates	
Latitude: 48.8˚	
Longitude: -122.533˚	
Elevation: 45 m	
Meteorological Coordinates	
Latitude: 48.8˚	
Longitude: -122.533˚	
Elevation: 45 m	
Time Zone: -8	

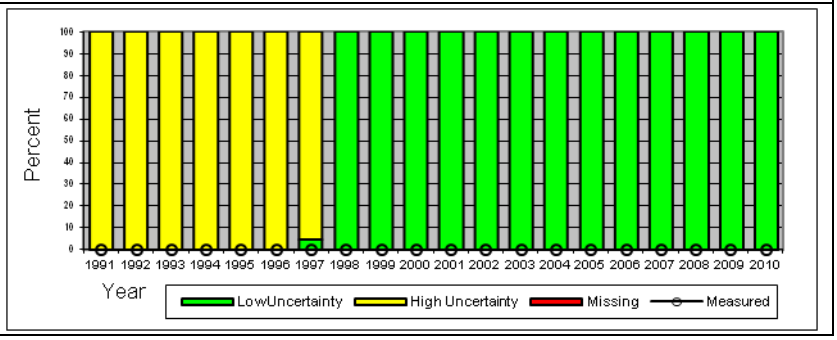
727928	BREMERTON NATIONAL, WA
Class II	
Solar Coordinates	
Latitude: 47.483˚	
Longitude: -122.75˚	
Elevation: 137 m	
Meteorological Coordinates	
Latitude: 47.483˚	
Longitude: -122.75˚	
Elevation: 137 m	
Time Zone: -8	

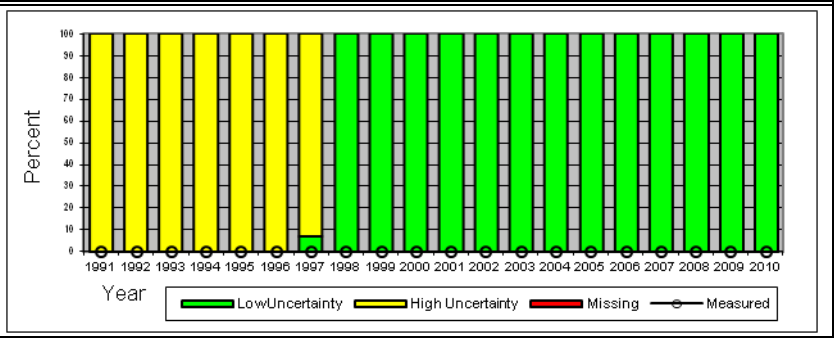
727854	DEER PARK ARPT, WA
Class III	
Solar Coordinates	
Latitude: 47.967˚	
Longitude: -117.417˚	
Elevation: 672 m	
Meteorological Coordinates	
Latitude: 47.967˚	
Longitude: -117.417˚	
Elevation: 672 m	
Time Zone: -8	

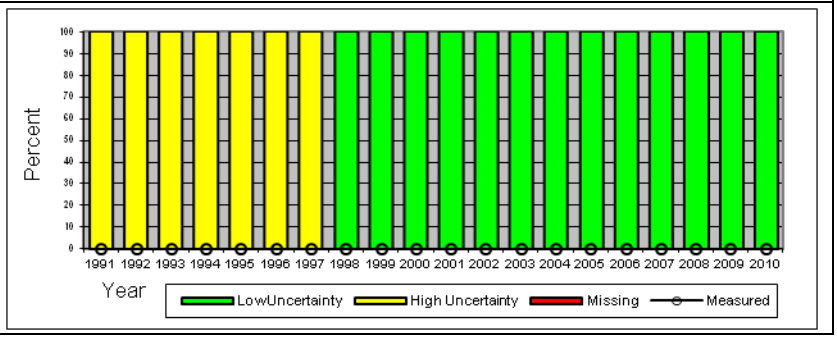
727883	ELLENSBURG/BOWERS FIELD, WA
Class III	
Solar Coordinates	
Latitude: 47.033˚	
Longitude: -120.517˚	
Elevation: 527 m	
Meteorological Coordinates	
Latitude: 47.033˚	
Longitude: -120.517˚	
Elevation: 527 m	
Time Zone: -8	

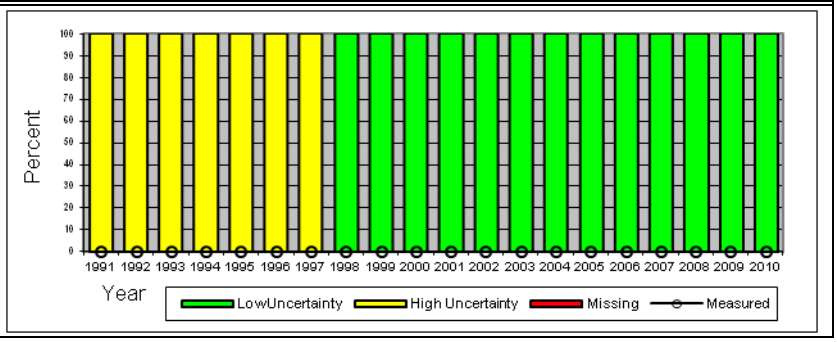
727826	EPHRATA AP FCWOS, WA
Class II	
Solar Coordinates	
Latitude: 47.3˚	
Longitude: -119.517˚	
Elevation: 384 m	
Meteorological Coordinates	
Latitude: 47.3˚	
Longitude: -119.517˚	
Elevation: 384 m	
Time Zone: -8	

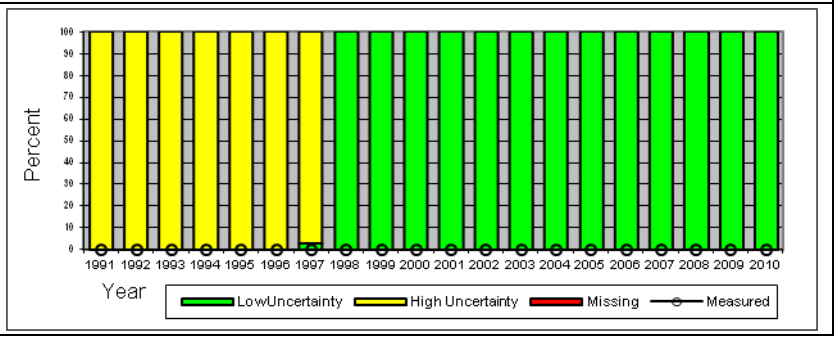
727855	FAIRCHILD AFB, WA
Class II	
Solar Coordinates	
Latitude: 47.633˚	
Longitude: -117.65˚	
Elevation: 743 m	
Meteorological Coordinates	
Latitude: 47.633˚	
Longitude: -117.65˚	
Elevation: 743 m	
Time Zone: -8	

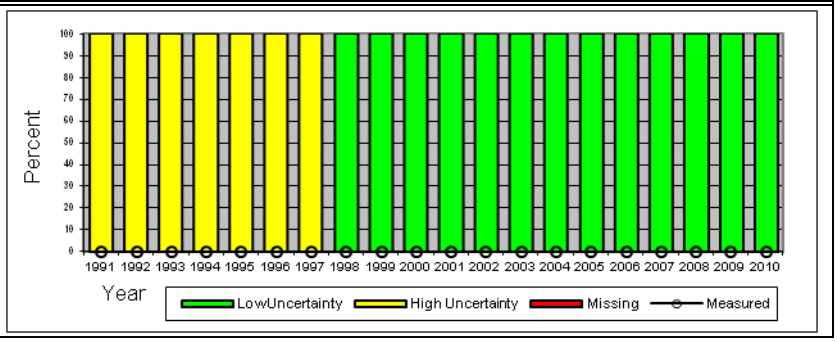
727856	FELTS FLD, WA
Class II	
Solar Coordinates	
Latitude: 47.683˚	
Longitude: -117.317˚	
Elevation: 610 m	
Meteorological Coordinates	
Latitude: 47.683˚	
Longitude: -117.317˚	
Elevation: 610 m	
Time Zone: -8	

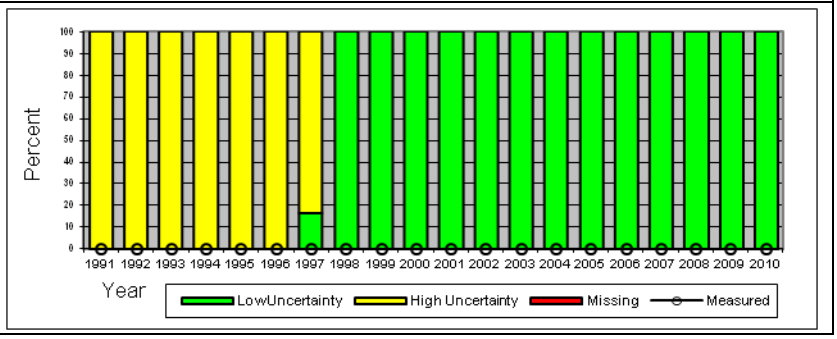
727985	FRIDAY HARBOR, WA
Class III	
Solar Coordinates	
Latitude: 48.517˚	
Longitude: -123.017˚	
Elevation: 33 m	
Meteorological Coordinates	
Latitude: 48.517˚	
Longitude: -123.017˚	
Elevation: 33 m	
Time Zone: -8	

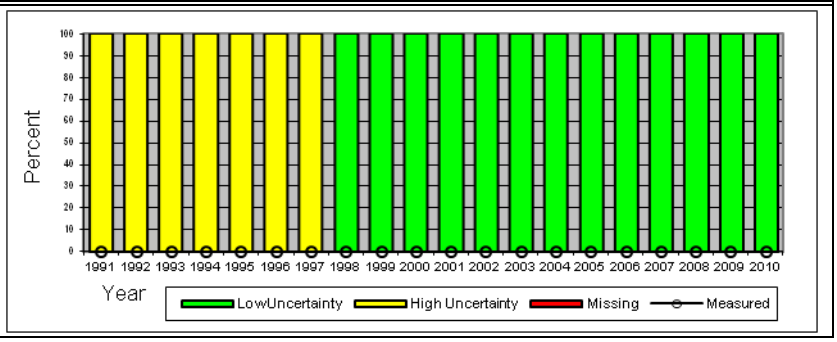
742070	GRAY AAF, WA
Class III	
Solar Coordinates	
Latitude: 47.083˚	
Longitude: -122.583˚	
Elevation: 90 m	
Meteorological Coordinates	
Latitude: 47.083˚	
Longitude: -122.583˚	
Elevation: 90 m	
Time Zone: -8	

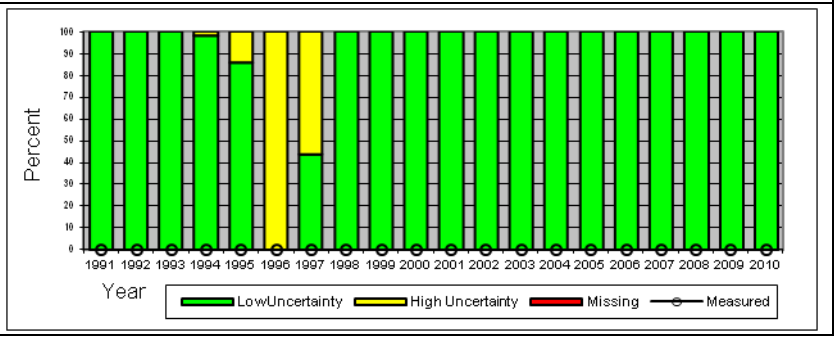
727840	HANFORD, WA
Class II	
Solar Coordinates	
Latitude: 46.567˚	
Longitude: -119.6˚	
Elevation: 223 m	
Meteorological Coordinates	
Latitude: 46.567˚	
Longitude: -119.6˚	
Elevation: 223 m	
Time Zone: -8	

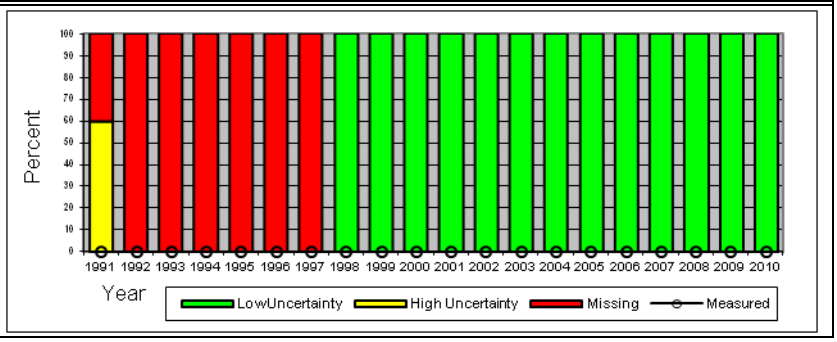
727923	HOQUIAM AP, WA
Class II	
Solar Coordinates	
Latitude: 46.983˚	
Longitude: -123.933˚	
Elevation: 4 m	
Meteorological Coordinates	
Latitude: 46.983˚	
Longitude: -123.933˚	
Elevation: 4 m	
Time Zone: -8	

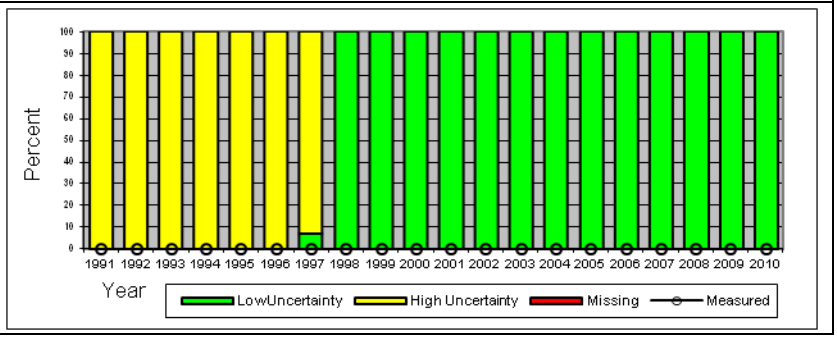
727924	KELSO WB AP, WA
Class II	
Solar Coordinates	
Latitude: 46.133˚	
Longitude: -122.9˚	
Elevation: 5 m	
Meteorological Coordinates	
Latitude: 46.133˚	
Longitude: -122.9˚	
Elevation: 5 m	
Time Zone: -8	

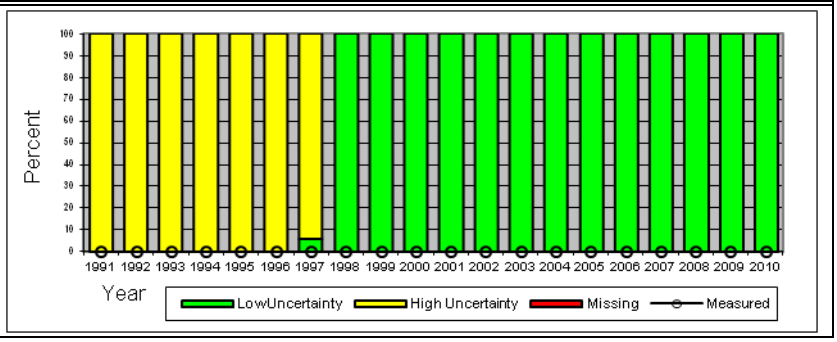
727827	MOSES LAKE GRANT COUNTY AP, WA
Class II	
Solar Coordinates	
Latitude: 47.2˚	
Longitude: -119.317˚	
Elevation: 364 m	
Meteorological Coordinates	
Latitude: 47.2˚	
Longitude: -119.317˚	
Elevation: 364 m	
Time Zone: -8	

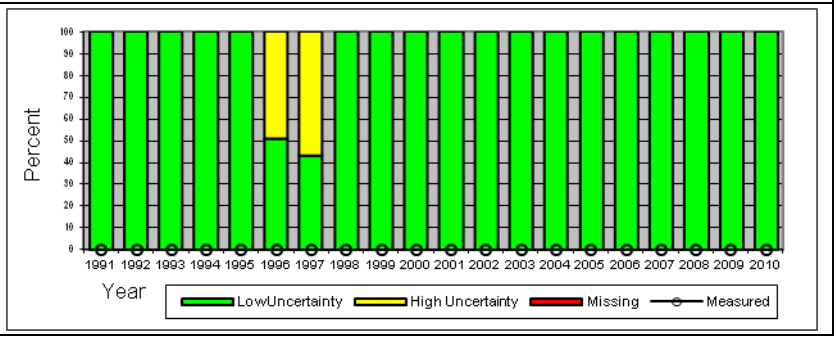
727964	OAK HARBOR AIRPARK, WA
Class III	
Solar Coordinates	
Latitude: 48.25˚	
Longitude: -122.667˚	
Elevation: 58 m	
Meteorological Coordinates	
Latitude: 48.25˚	
Longitude: -122.667˚	
Elevation: 58 m	
Time Zone: -8	

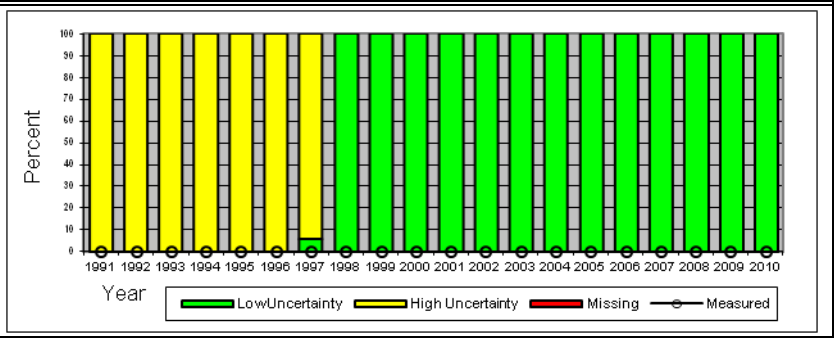
727920	OLYMPIA AIRPORT, WA
Class I	
Solar Coordinates	
Latitude: 46.967˚	
Longitude: -122.9˚	
Elevation: 63 m	
Meteorological Coordinates	
Latitude: 46.967˚	
Longitude: -122.9˚	
Elevation: 63 m	
Time Zone: -8	

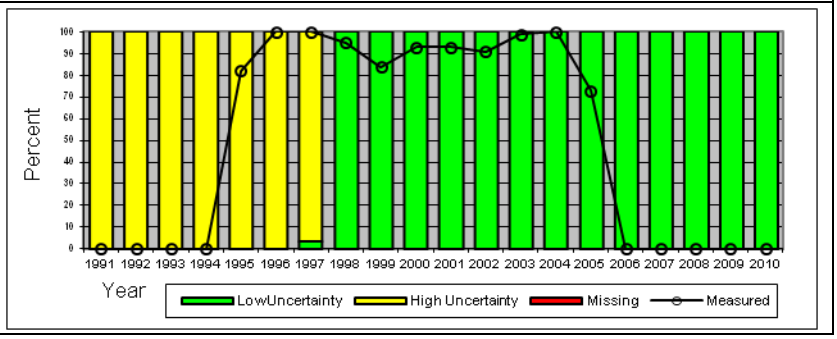
727890	OMAK, WA
Class III	
Solar Coordinates	
Latitude: 48.417˚	
Longitude: -119.533˚	
Elevation: 382 m	
Meteorological Coordinates	
Latitude: 48.417˚	
Longitude: -119.533˚	
Elevation: 382 m	
Time Zone: -8	

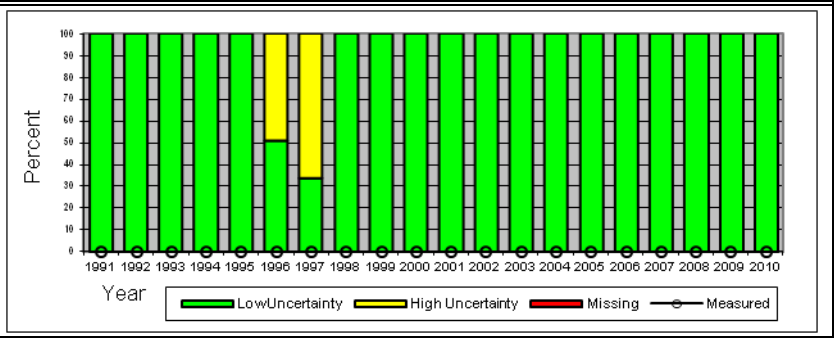
727845	PASCO, WA
Class II	
Solar Coordinates	
Latitude: 46.267˚	
Longitude: -119.117˚	
Elevation: 136 m	
Meteorological Coordinates	
Latitude: 46.267˚	
Longitude: -119.117˚	
Elevation: 136 m	
Time Zone: -8	

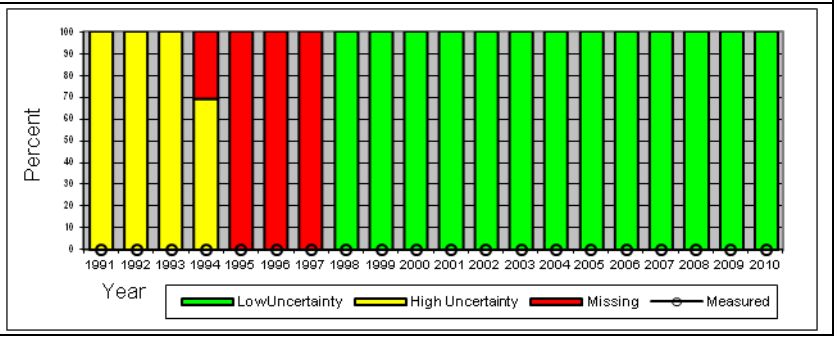
727857	PULLMAN/MOSCOW RGNL, WA
Class II	
Solar Coordinates	
Latitude: 46.75˚	
Longitude: -117.117˚	
Elevation: 778 m	
Meteorological Coordinates	
Latitude: 46.75˚	
Longitude: -117.117˚	
Elevation: 778 m	
Time Zone: -8	

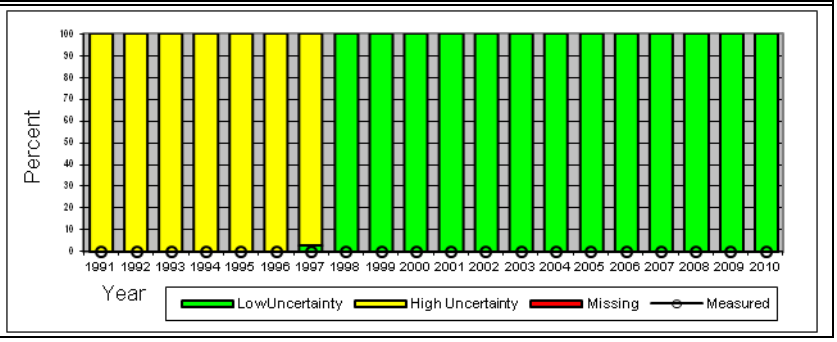
727970	QUILLAYUTE STATE AIRPORT, WA
Class I	
Solar Coordinates	
Latitude: 47.933˚	
Longitude: -124.567˚	
Elevation: 55 m	
Meteorological Coordinates	
Latitude: 47.933˚	
Longitude: -124.567˚	
Elevation: 55 m	
Time Zone: -8	

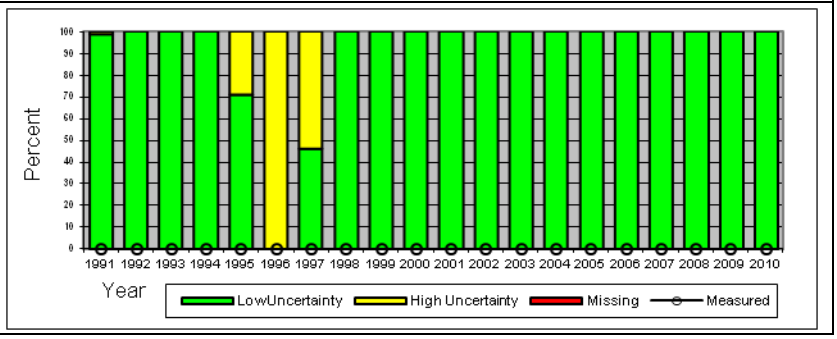
727934	RENTON MUNI, WA
Class II	
Solar Coordinates	
Latitude: 47.483˚	
Longitude: -122.217˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 47.483˚	
Longitude: -122.217˚	
Elevation: 10 m	
Time Zone: -8	

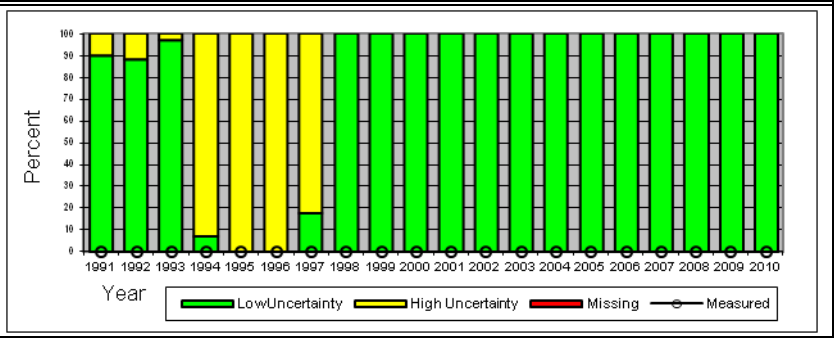
727935	SEATTLE BOEING FIELD [ISIS], WA
Class II (with some measured)	
Solar Coordinates	
Latitude: 47.68˚	
Longitude: -122.25˚	
Elevation: 20 m	
Meteorological Coordinates	
Latitude: 47.533˚	
Longitude: -122.3˚	
Elevation: 6 m	
Time Zone: -8	

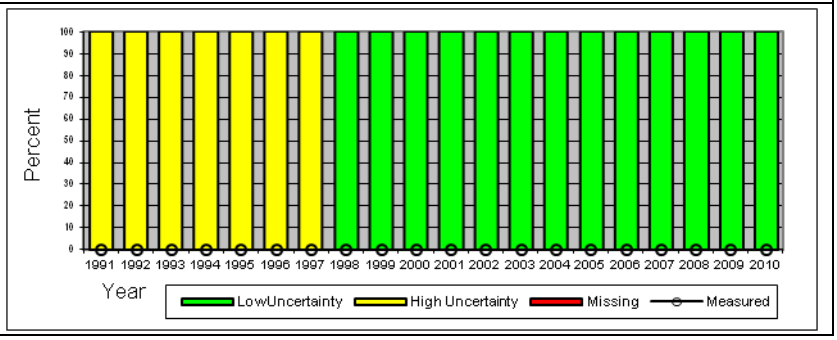
727930	SEATTLE SEATTLE-TACOMA INTL A, WA
Class I	
Solar Coordinates	
Latitude: 47.467˚	
Longitude: -122.317˚	
Elevation: 122 m	
Meteorological Coordinates	
Latitude: 47.467˚	
Longitude: -122.317˚	
Elevation: 122 m	
Time Zone: -8	

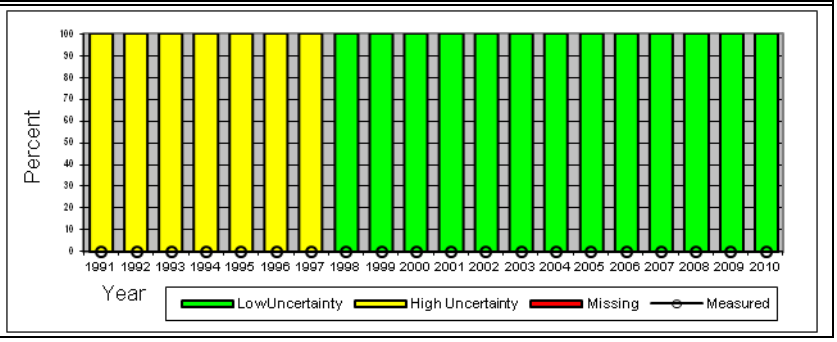
727925	SHELTON/SANDERSON, WA
Class III	
Solar Coordinates	
Latitude: 47.233˚	
Longitude: -123.15˚	
Elevation: 85 m	
Meteorological Coordinates	
Latitude: 47.233˚	
Longitude: -123.15˚	
Elevation: 85 m	
Time Zone: -8	

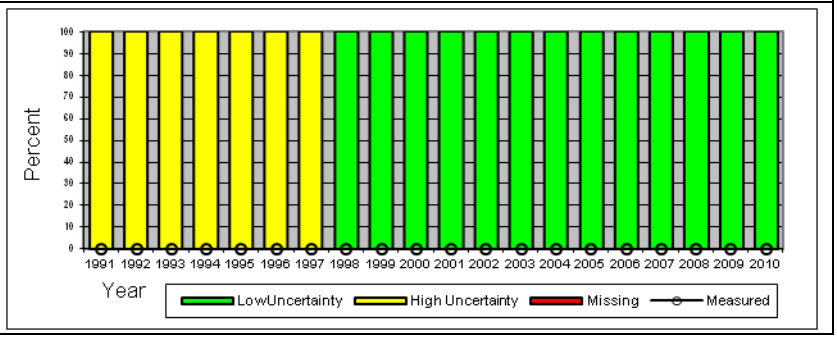
727937	SNOHOMISH CO, WA
Class II	
Solar Coordinates	
Latitude: 47.9˚	
Longitude: -122.283˚	
Elevation: 189 m	
Meteorological Coordinates	
Latitude: 47.9˚	
Longitude: -122.283˚	
Elevation: 189 m	
Time Zone: -8	

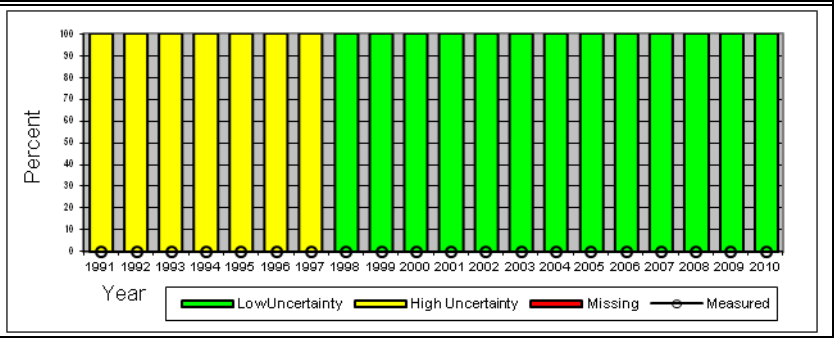
727850	SPOKANE INTERNATIONAL AP [CHENEY - UO], WA
Class I (with some measured)	
Solar Coordinates	
Latitude: 47.49˚	
Longitude: -117.589˚	
Elevation: 777 m	
Meteorological Coordinates	
Latitude: 47.617˚	
Longitude: -117.533˚	
Elevation: 718 m	
Time Zone: -8	

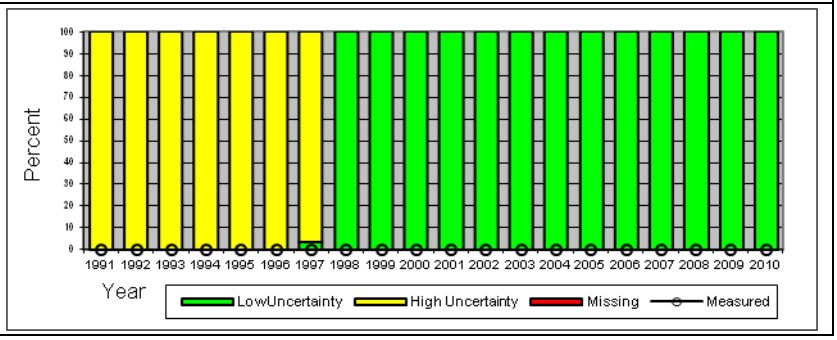
727815	STAMPEDE PASS, WA
Class I	
Solar Coordinates	
Latitude: 47.283˚	
Longitude: -121.333˚	
Elevation: 1206 m	
Meteorological Coordinates	
Latitude: 47.283˚	
Longitude: -121.333˚	
Elevation: 1206 m	
Time Zone: -8	

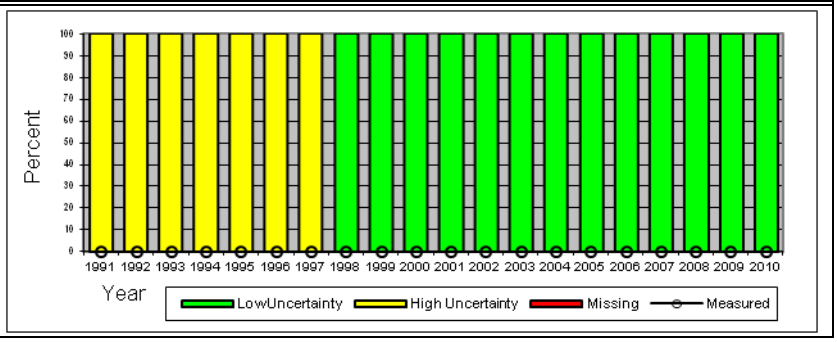
742060	TACOMA MCCHORD AFB, WA
Class II	
Solar Coordinates	
Latitude: 47.15˚	
Longitude: -122.483˚	
Elevation: 88 m	
Meteorological Coordinates	
Latitude: 47.15˚	
Longitude: -122.483˚	
Elevation: 88 m	
Time Zone: -8	

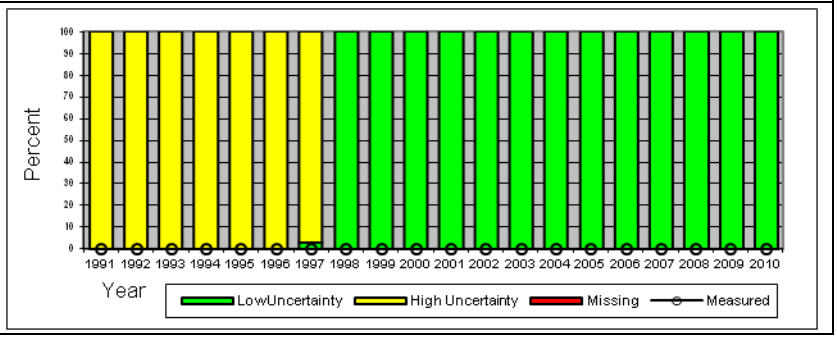
727938	TACOMA NARROWS, WA
Class II	
Solar Coordinates	
Latitude: 47.267˚	
Longitude: -122.583˚	
Elevation: 91 m	
Meteorological Coordinates	
Latitude: 47.267˚	
Longitude: -122.583˚	
Elevation: 91 m	
Time Zone: -8	

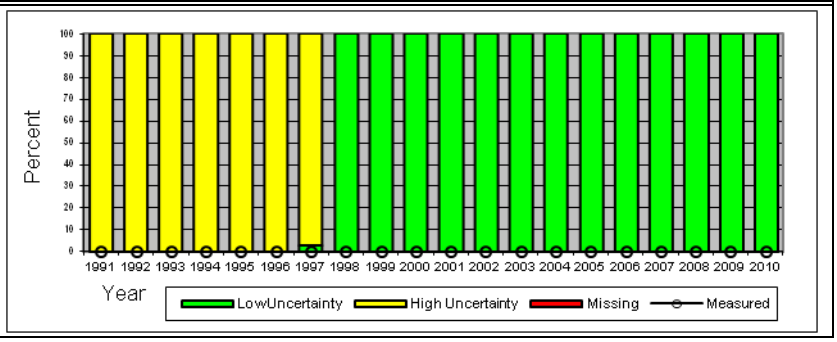
726988	THE DALLES MUNICIPAL ARPT, WA
Class II	
Solar Coordinates	
Latitude: 45.617˚	
Longitude: -121.15˚	
Elevation: 73 m	
Meteorological Coordinates	
Latitude: 45.617˚	
Longitude: -121.15˚	
Elevation: 73 m	
Time Zone: -8	

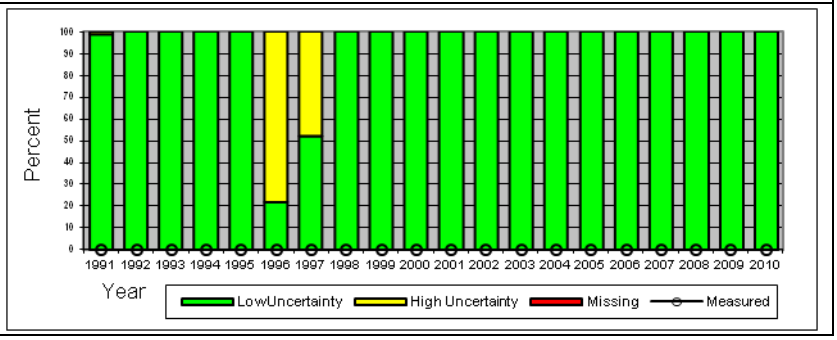
727926	TOLEDO-WINLOCK MEM, WA
Class III	
Solar Coordinates	
Latitude: 46.483˚	
Longitude: -122.8˚	
Elevation: 113 m	
Meteorological Coordinates	
Latitude: 46.483˚	
Longitude: -122.8˚	
Elevation: 113 m	
Time Zone: -8	

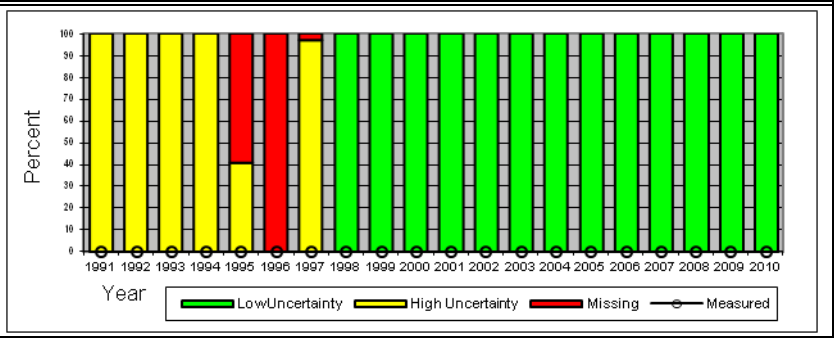
727846	WALLA WALLA CITY COUNTY AP, WA
Class II	
Solar Coordinates	
Latitude: 46.1˚	
Longitude: -118.283˚	
Elevation: 355 m	
Meteorological Coordinates	
Latitude: 46.1˚	
Longitude: -118.283˚	
Elevation: 355 m	
Time Zone: -8	

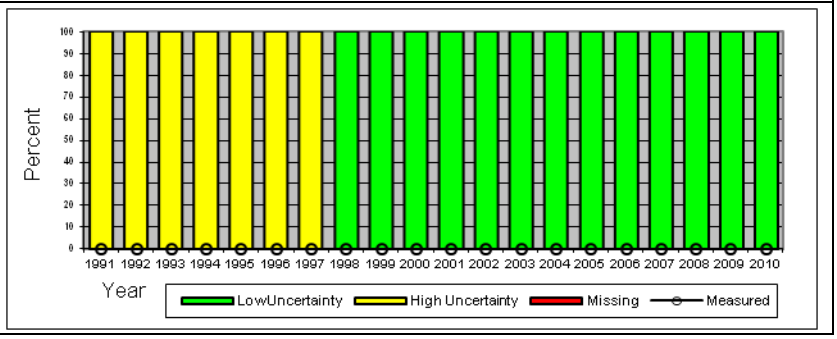
727825	WENATCHEE/PANGBORN, WA
Class II	
Solar Coordinates	
Latitude: 47.4˚	
Longitude: -120.2˚	
Elevation: 379 m	
Meteorological Coordinates	
Latitude: 47.4˚	
Longitude: -120.2˚	
Elevation: 379 m	
Time Zone: -8	

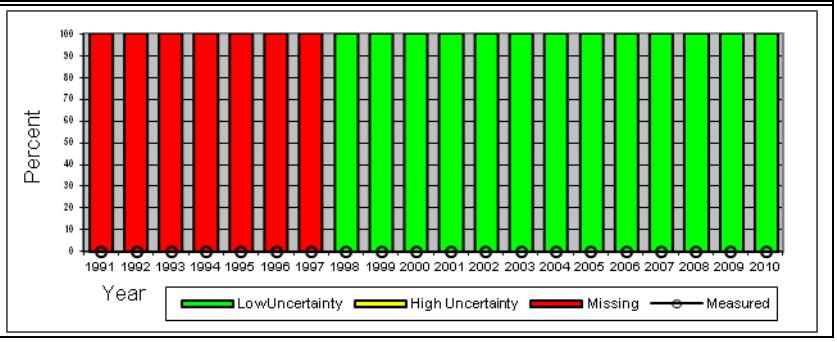
690230	WHIDBEY ISLAND NAS, WA
Class III	
Solar Coordinates	
Latitude: 48.35˚	
Longitude: -122.667˚	
Elevation: 10 m	
Meteorological Coordinates	
Latitude: 48.35˚	
Longitude: -122.667˚	
Elevation: 10 m	
Time Zone: -8	

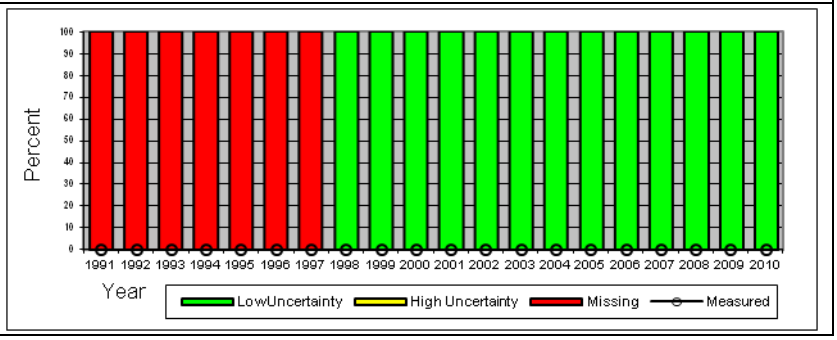
727885	WILLIAM R FAIRCHILD, WA
Class III	
Solar Coordinates	
Latitude: 48.117˚	
Longitude: -123.5˚	
Elevation: 91 m	
Meteorological Coordinates	
Latitude: 48.117˚	
Longitude: -123.5˚	
Elevation: 91 m	
Time Zone: -8	

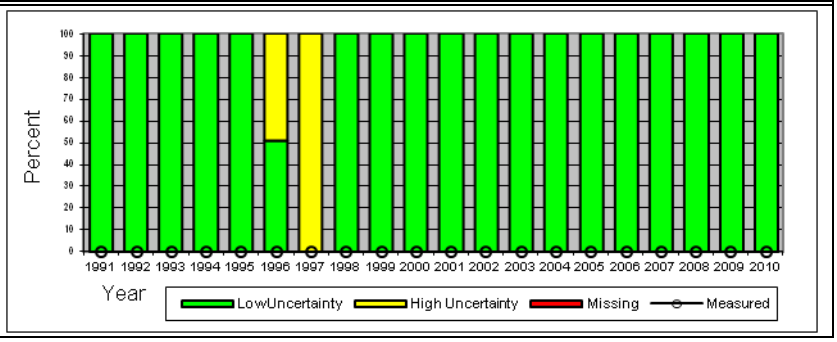
727810	YAKIMA AIR TERMINAL, WA
Class I	
Solar Coordinates	
Latitude: 46.567˚	
Longitude: -120.55˚	
Elevation: 324 m	
Meteorological Coordinates	
Latitude: 46.567˚	
Longitude: -120.55˚	
Elevation: 324 m	
Time Zone: -8	

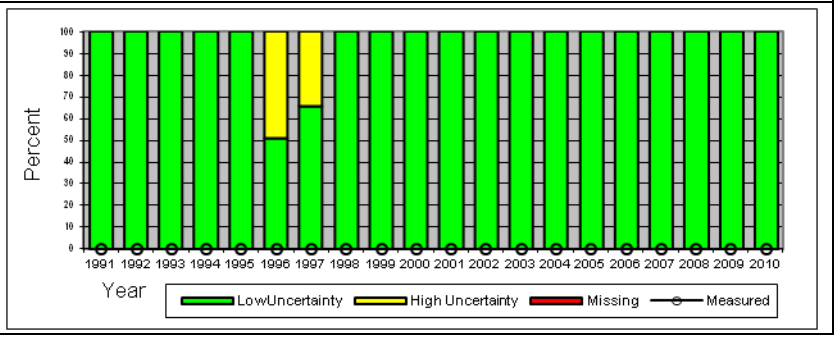
726626	ANTIGO\LANG(AWOS), WI
Class III	
Solar Coordinates	
Latitude: 45.15˚	
Longitude: -87.15˚	
Elevation: 464 m	
Meteorological Coordinates	
Latitude: 45.15˚	
Longitude: -87.15˚	
Elevation: 464 m	
Time Zone: -5	

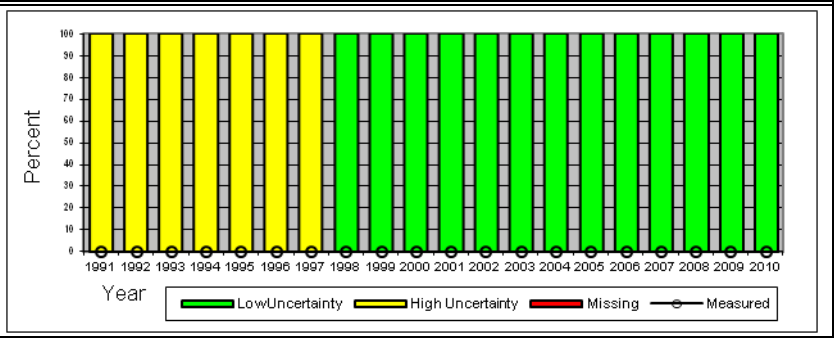
726457	APPLETON/OUTAGAMIE, WI
Class II	
Solar Coordinates	
Latitude: 44.25˚	
Longitude: -88.517˚	
Elevation: 280 m	
Meteorological Coordinates	
Latitude: 44.25˚	
Longitude: -88.517˚	
Elevation: 280 m	
Time Zone: -6	

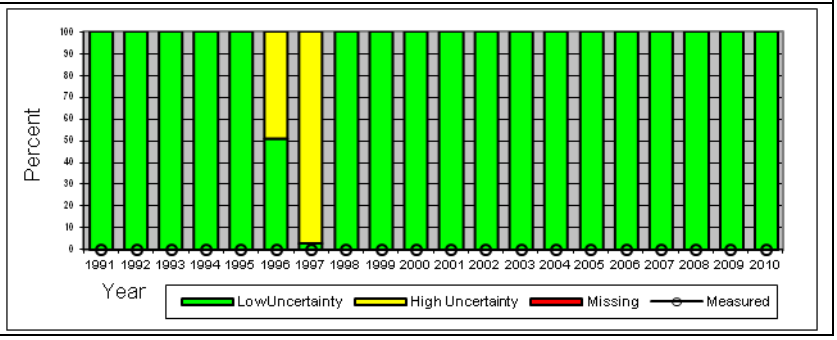
726419	ASHLAND KENNEDY ME, WI
Class III	
Solar Coordinates	
Latitude: 46.55˚	
Longitude: -90.917˚	
Elevation: 251 m	
Meteorological Coordinates	
Latitude: 46.55˚	
Longitude: -90.917˚	
Elevation: 251 m	
Time Zone: -6	

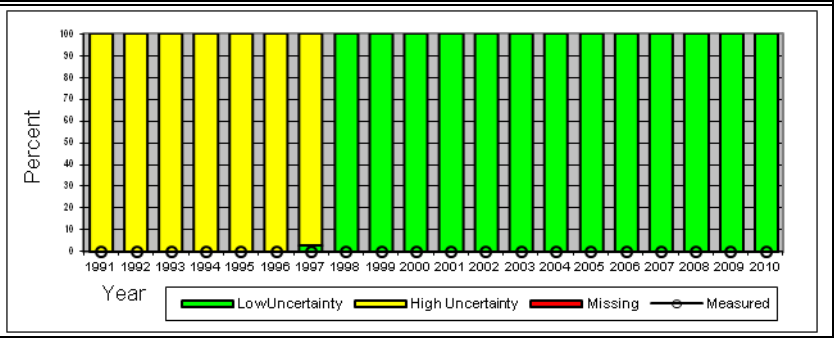
726438	BOSCOBEL AIRPORT, WI
Class III	
Solar Coordinates	
Latitude: 43.15˚	
Longitude: -90.667˚	
Elevation: 205 m	
Meteorological Coordinates	
Latitude: 43.15˚	
Longitude: -90.667˚	
Elevation: 205 m	
Time Zone: -6	

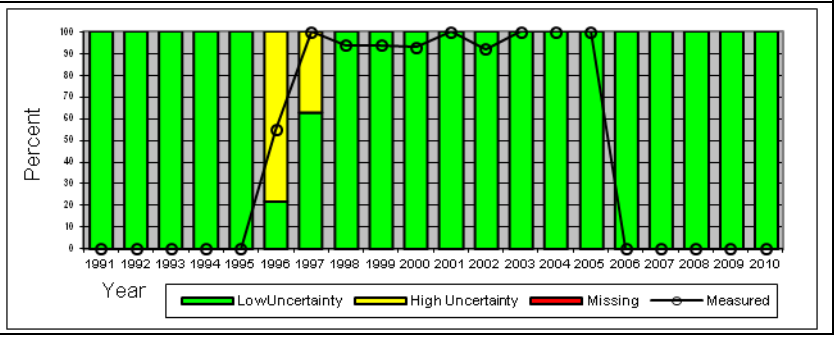
726435	EAU CLAIRE COUNTY AP, WI
Class I	
Solar Coordinates	
Latitude: 44.867˚	
Longitude: -91.483˚	
Elevation: 271 m	
Meteorological Coordinates	
Latitude: 44.867˚	
Longitude: -91.483˚	
Elevation: 271 m	
Time Zone: -6	

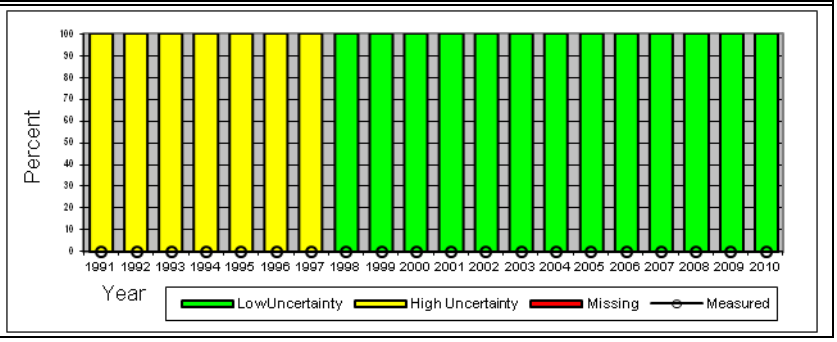
726450	GREEN BAY AUSTIN STRAUBEL INT, WI
Class I	
Solar Coordinates	
Latitude: 44.483˚	
Longitude: -88.133˚	
Elevation: 209 m	
Meteorological Coordinates	
Latitude: 44.483˚	
Longitude: -88.133˚	
Elevation: 209 m	
Time Zone: -6	

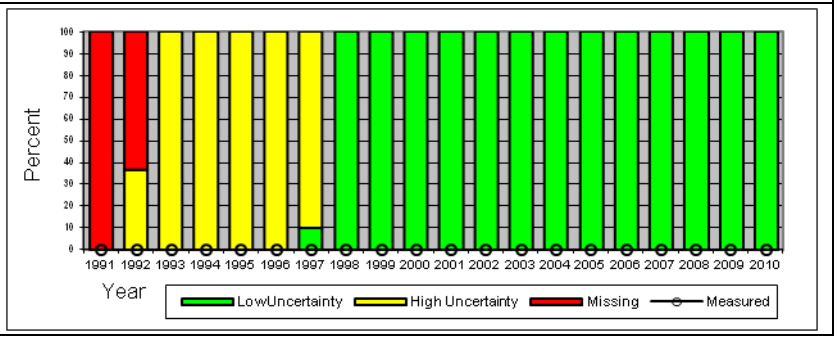
726415	JANESVILLE/ROCK CO., WI
Class III	
Solar Coordinates	
Latitude: 42.617˚	
Longitude: -89.033˚	
Elevation: 246 m	
Meteorological Coordinates	
Latitude: 42.617˚	
Longitude: -89.033˚	
Elevation: 246 m	
Time Zone: -6	

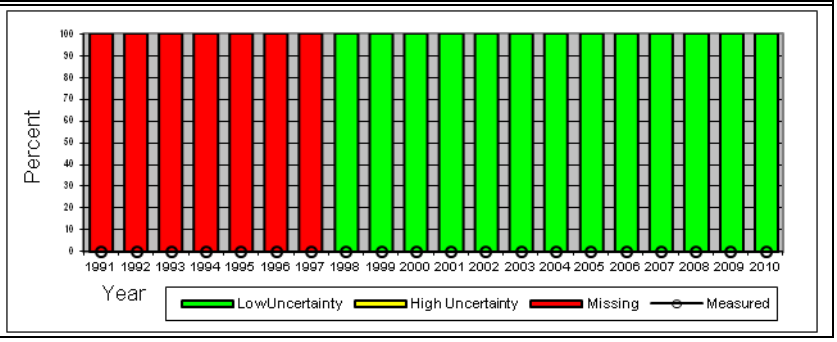
726430	LA CROSSE MUNICIPAL ARPT, WI
Class I	
Solar Coordinates	
Latitude: 43.867˚	
Longitude: -91.25˚	
Elevation: 198 m	
Meteorological Coordinates	
Latitude: 43.867˚	
Longitude: -91.25˚	
Elevation: 198 m	
Time Zone: -6	

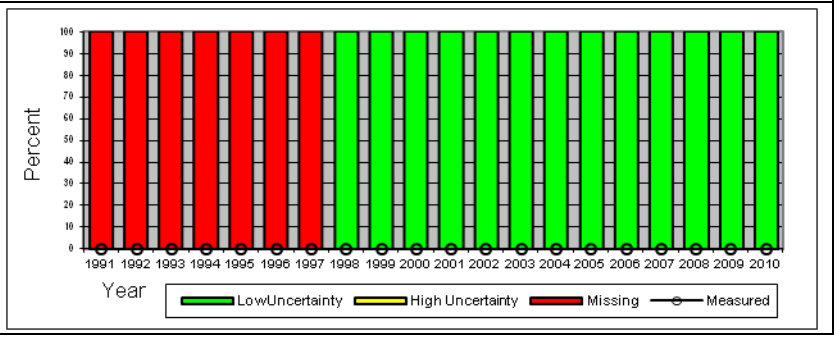
726416	LONE ROCK FAA AP, WI
Class II	
Solar Coordinates	
Latitude: 43.2˚	
Longitude: -90.183˚	
Elevation: 219 m	
Meteorological Coordinates	
Latitude: 43.2˚	
Longitude: -90.183˚	
Elevation: 219 m	
Time Zone: -6	

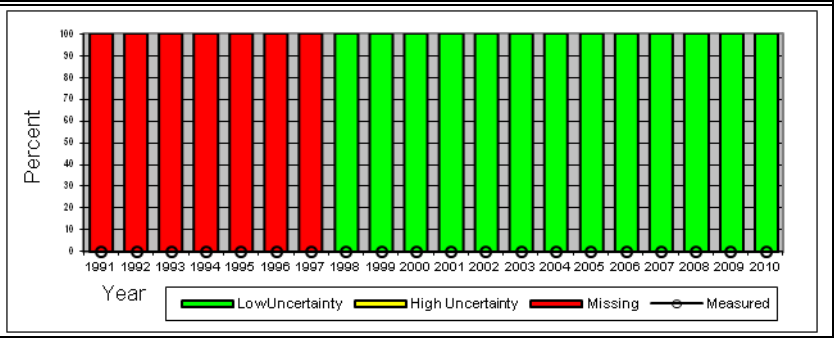
726410	MADISON DANE CO REGIONAL ARPT [ISIS], WI
Class I (with some measured)	
Solar Coordinates	
Latitude: 43.13˚	
Longitude: -89.33˚	
Elevation: 262 m	
Meteorological Coordinates	
Latitude: 43.133˚	
Longitude: -89.35˚	
Elevation: 262 m	
Time Zone: -6	

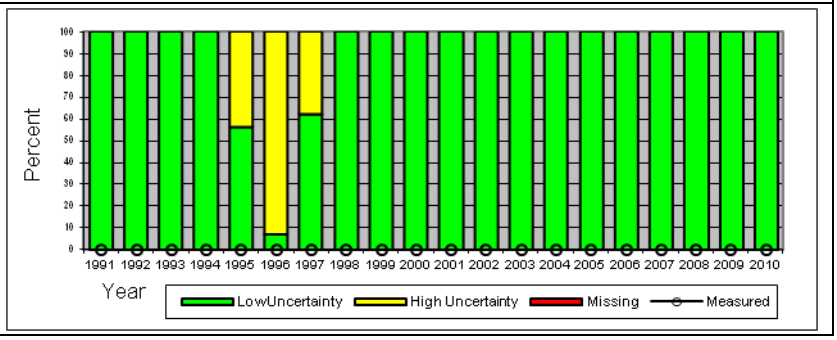
726455	MANITOWAC MUNI AWOS, WI
Class II	
Solar Coordinates	
Latitude: 44.133˚	
Longitude: -87.683˚	
Elevation: 198 m	
Meteorological Coordinates	
Latitude: 44.133˚	
Longitude: -87.683˚	
Elevation: 198 m	
Time Zone: -6	

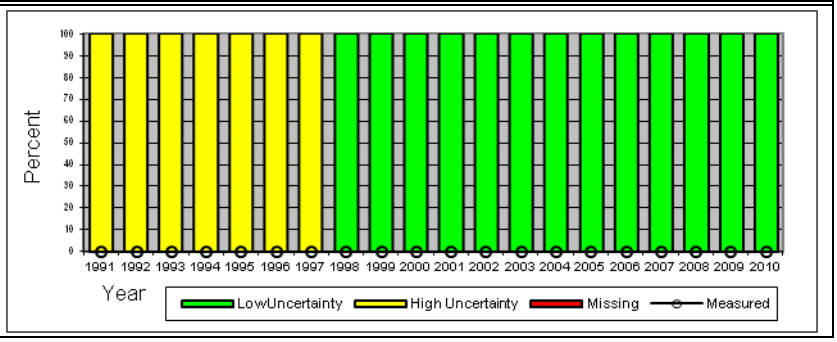
726574	MARSHFIELD MUNI, WI
Class III	
Solar Coordinates	
Latitude: 44.633˚	
Longitude: -90.183˚	
Elevation: 389 m	
Meteorological Coordinates	
Latitude: 44.633˚	
Longitude: -90.183˚	
Elevation: 389 m	
Time Zone: -6	

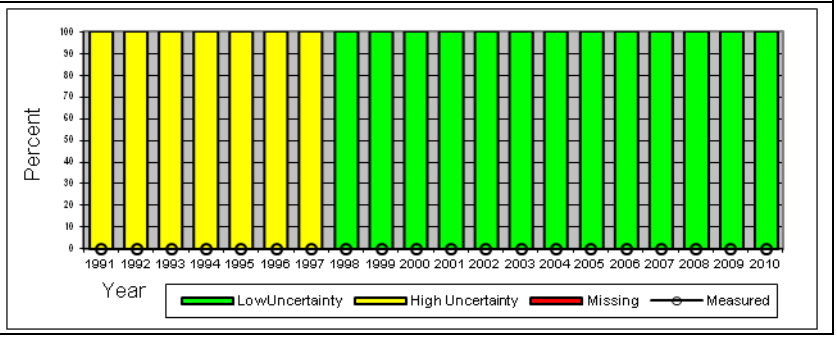
726437	MCCOY (USA-AF), WI
Class III	
Solar Coordinates	
Latitude: 43.967˚	
Longitude: -90.733˚	
Elevation: 256 m	
Meteorological Coordinates	
Latitude: 43.967˚	
Longitude: -90.733˚	
Elevation: 256 m	
Time Zone: -6	

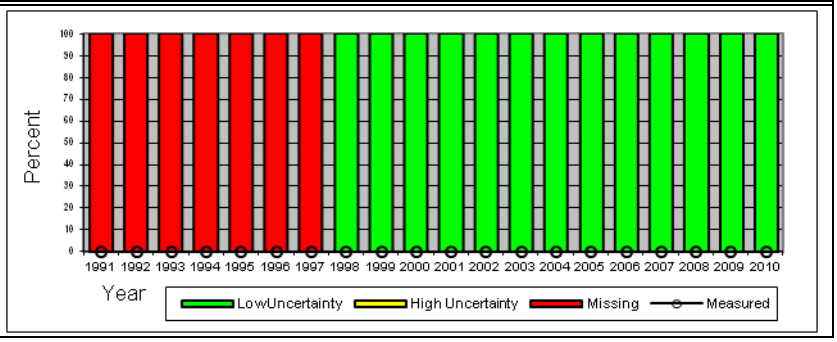
726417	MEDFORD, WI
Class III	
Solar Coordinates	
Latitude: 45.1˚	
Longitude: -90.3˚	
Elevation: 448 m	
Meteorological Coordinates	
Latitude: 45.1˚	
Longitude: -90.3˚	
Elevation: 448 m	
Time Zone: -6	

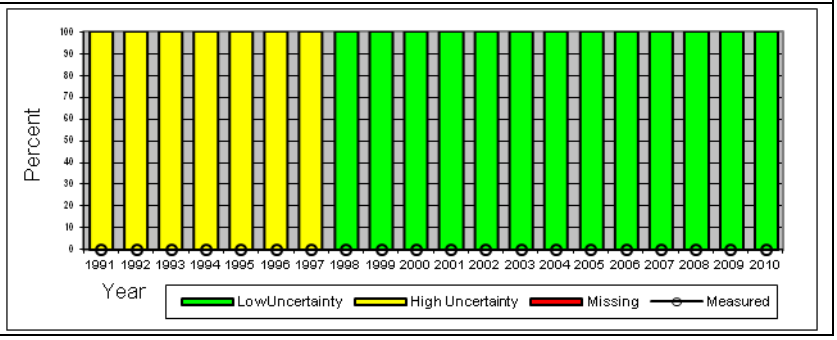
726449	MERRILL MUNI ARPT, WI
Class III	
Solar Coordinates	
Latitude: 45.183˚	
Longitude: -89.7˚	
Elevation: 401 m	
Meteorological Coordinates	
Latitude: 45.183˚	
Longitude: -89.7˚	
Elevation: 401 m	
Time Zone: -6	

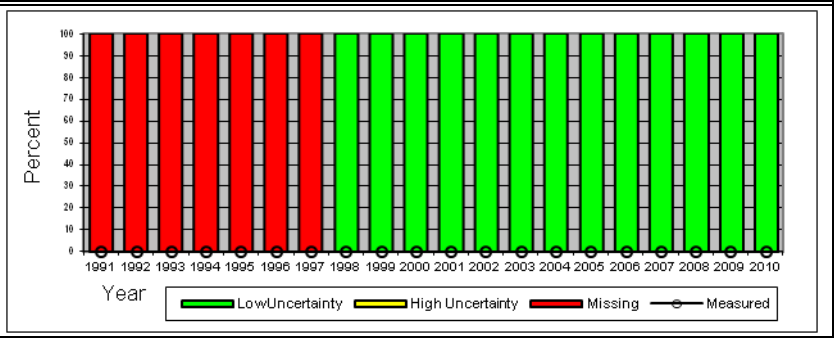
726400	MILWAUKEE MITCHELL INTL AP, WI
Class I	
Solar Coordinates	
Latitude: 42.95˚	
Longitude: -87.9˚	
Elevation: 205 m	
Meteorological Coordinates	
Latitude: 42.95˚	
Longitude: -87.9˚	
Elevation: 205 m	
Time Zone: -6	

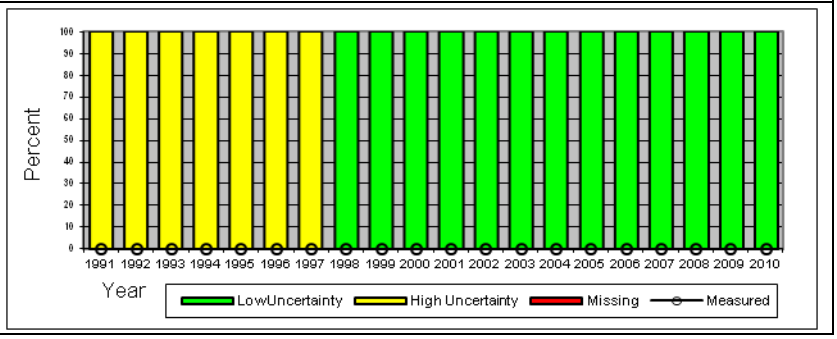
726405	MILWAUKEE TIMMERMAN, WI
Class III	
Solar Coordinates	
Latitude: 43.117˚	
Longitude: -88.05˚	
Elevation: 224 m	
Meteorological Coordinates	
Latitude: 43.117˚	
Longitude: -88.05˚	
Elevation: 224 m	
Time Zone: -6	

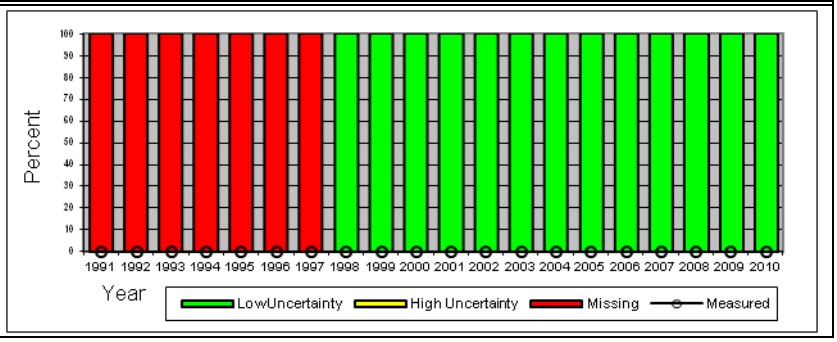
726404	MINOCQUA/WOODRUFF, WI
Class II	
Solar Coordinates	
Latitude: 45.933˚	
Longitude: -89.733˚	
Elevation: 496 m	
Meteorological Coordinates	
Latitude: 45.933˚	
Longitude: -89.733˚	
Elevation: 496 m	
Time Zone: -6	

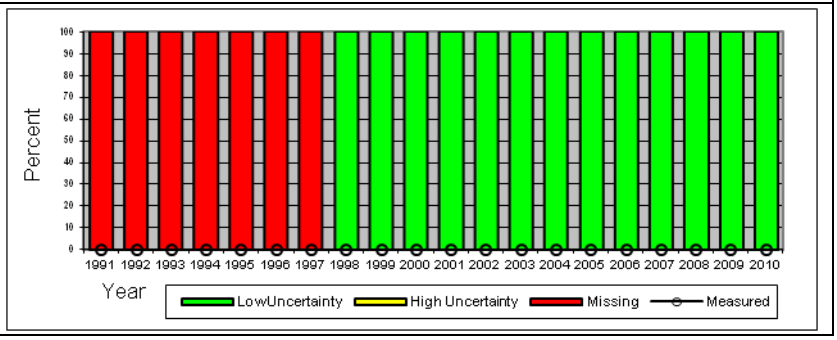
726414	MONROE MUNICIPAL AI, WI
Class III	
Solar Coordinates	
Latitude: 42.6˚	
Longitude: -89.583˚	
Elevation: 331 m	
Meteorological Coordinates	
Latitude: 42.6˚	
Longitude: -89.583˚	
Elevation: 331 m	
Time Zone: -6	

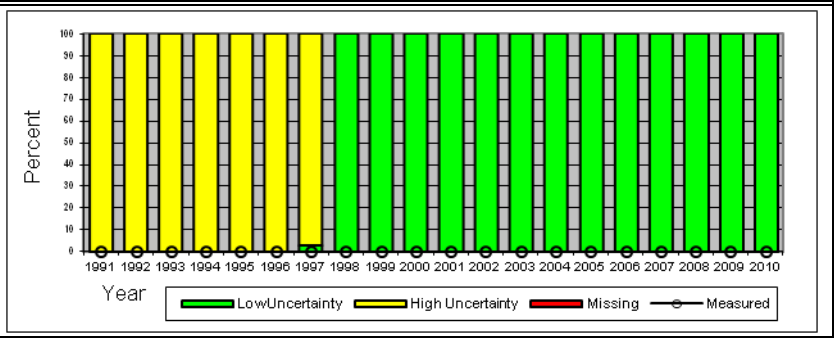
726465	MOSINEE/CENTRAL WI, WI
Class II	
Solar Coordinates	
Latitude: 44.783˚	
Longitude: -89.667˚	
Elevation: 389 m	
Meteorological Coordinates	
Latitude: 44.783˚	
Longitude: -89.667˚	
Elevation: 389 m	
Time Zone: -6	

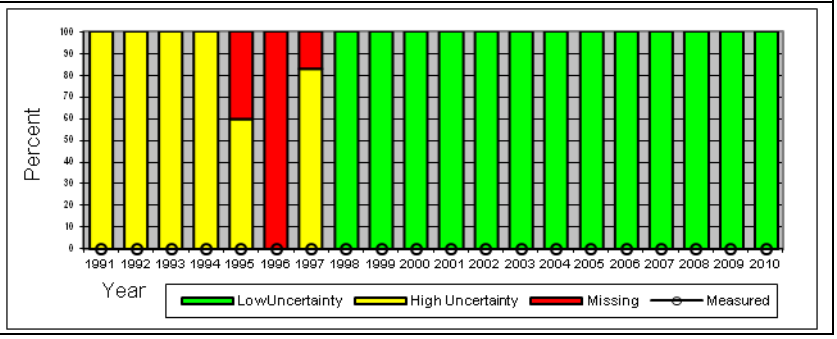
726418	OSCEOLA, WI
Class III	
Solar Coordinates	
Latitude: 45.317˚	
Longitude: -92.683˚	
Elevation: 275 m	
Meteorological Coordinates	
Latitude: 45.317˚	
Longitude: -92.683˚	
Elevation: 275 m	
Time Zone: -6	

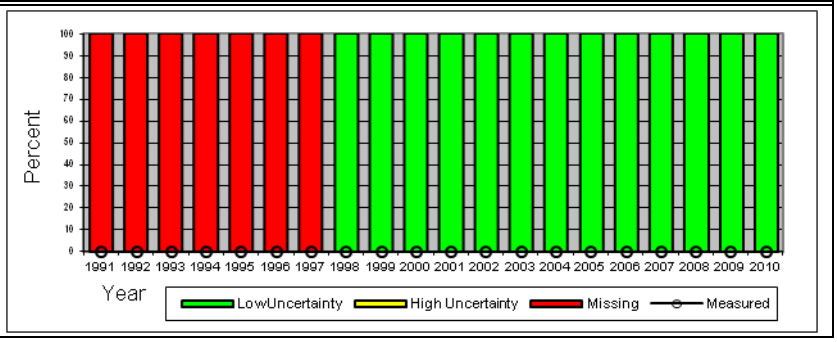
726468	PHILLIPS/PRICE CO., WI
Class II	
Solar Coordinates	
Latitude: 45.7˚	
Longitude: -90.4˚	
Elevation: 449 m	
Meteorological Coordinates	
Latitude: 45.7˚	
Longitude: -90.4˚	
Elevation: 449 m	
Time Zone: -6	

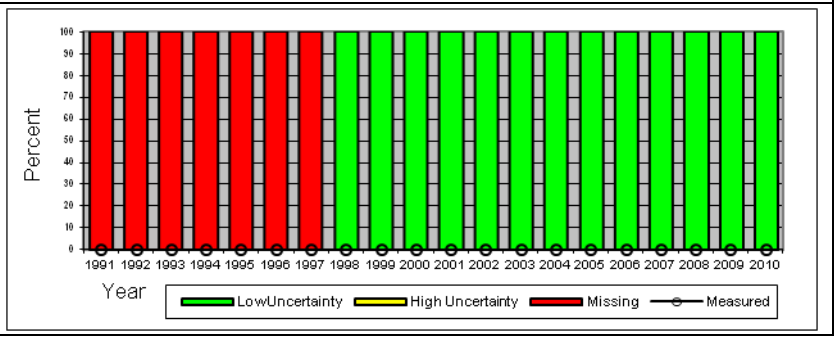
726444	PRAIRIE DU CHIEN, WI
Class III	
Solar Coordinates	
Latitude: 43.017˚	
Longitude: -91.117˚	
Elevation: 201 m	
Meteorological Coordinates	
Latitude: 43.017˚	
Longitude: -91.117˚	
Elevation: 201 m	
Time Zone: -6	

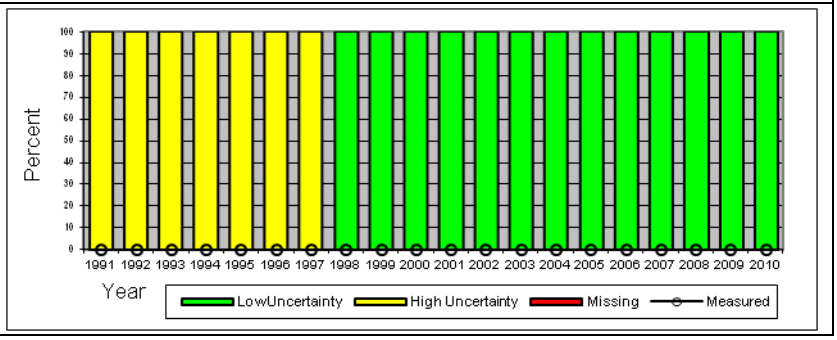
726424	RACINE, WI
Class III	
Solar Coordinates	
Latitude: 42.767˚	
Longitude: -87.817˚	
Elevation: 205 m	
Meteorological Coordinates	
Latitude: 42.767˚	
Longitude: -87.817˚	
Elevation: 205 m	
Time Zone: -6	

727415	RHINELANDER ONEIDA, WI
Class II	
Solar Coordinates	
Latitude: 45.633˚	
Longitude: -89.467˚	
Elevation: 507 m	
Meteorological Coordinates	
Latitude: 45.633˚	
Longitude: -89.467˚	
Elevation: 507 m	
Time Zone: -6	

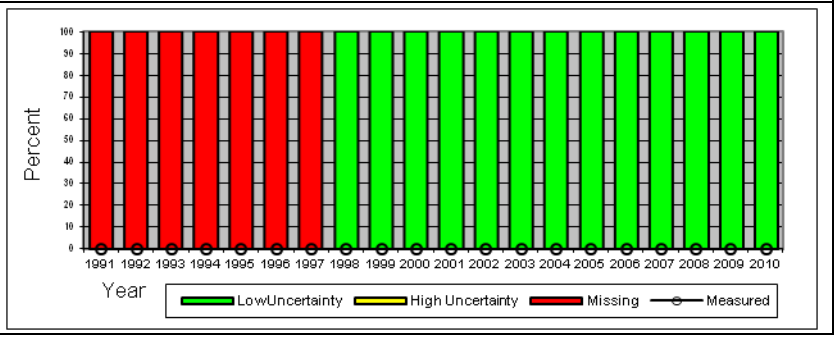
726467	RICE LAKE MUNICIPAL, WI
Class III	
Solar Coordinates	
Latitude: 45.483˚	
Longitude: -91.717˚	
Elevation: 347 m	
Meteorological Coordinates	
Latitude: 45.483˚	
Longitude: -91.717˚	
Elevation: 347 m	
Time Zone: -6	

726425	SHEBOYGAN, WI
Class III	
Solar Coordinates	
Latitude: 43.783˚	
Longitude: -87.85˚	
Elevation: 228 m	
Meteorological Coordinates	
Latitude: 43.783˚	
Longitude: -87.85˚	
Elevation: 228 m	
Time Zone: -6	

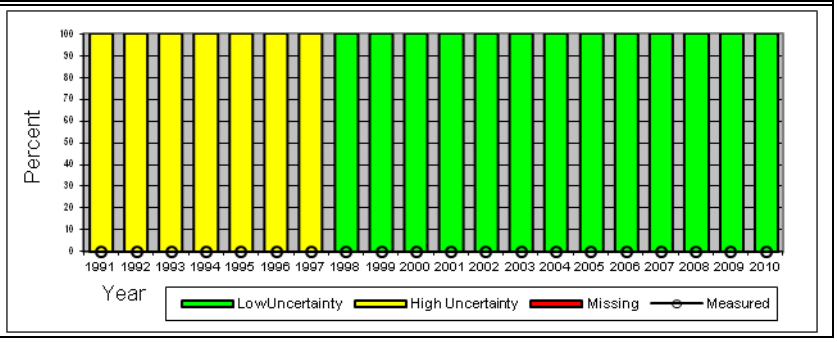
726426	STEVENS POINT, WI
Class III	
Solar Coordinates	
Latitude: 44.55˚	
Longitude: -89.533˚	
Elevation: 338 m	
Meteorological Coordinates	
Latitude: 44.55˚	
Longitude: -89.533˚	
Elevation: 338 m	
Time Zone: -6	

726458	STURGEON BAY, WI
Class II	
Solar Coordinates	
Latitude: 44.85˚	
Longitude: -87.417˚	
Elevation: 221 m	
Meteorological Coordinates	
Latitude: 44.85˚	
Longitude: -87.417˚	
Elevation: 221 m	
Time Zone: -5	

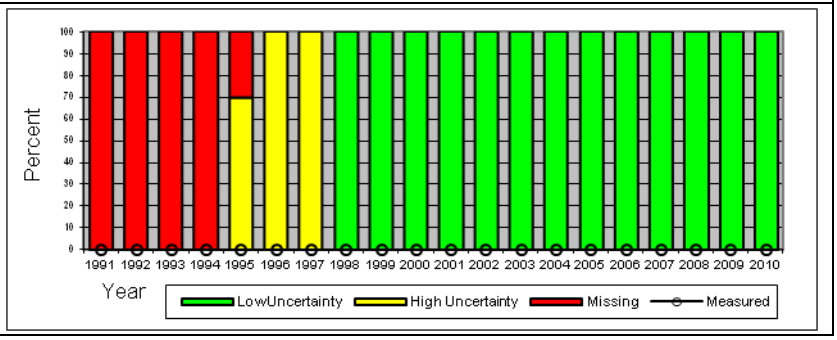
726427	SUPERIOR, WI
Class III	
Solar Coordinates	
Latitude: 46.683˚	
Longitude: -92.1˚	
Elevation: 206 m	
Meteorological Coordinates	
Latitude: 46.683˚	
Longitude: -92.1˚	
Elevation: 206 m	
Time Zone: -6	



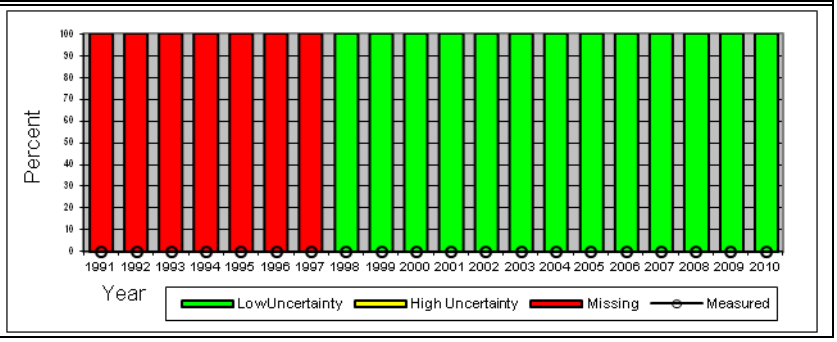
726436	VOLK FIELD ANG, WI
Class III	
Solar Coordinates	
Latitude: 43.933˚	
Longitude: -90.267˚	
Elevation: 280 m	
Meteorological Coordinates	
Latitude: 43.933˚	
Longitude: -90.267˚	
Elevation: 280 m	
Time Zone: -6	

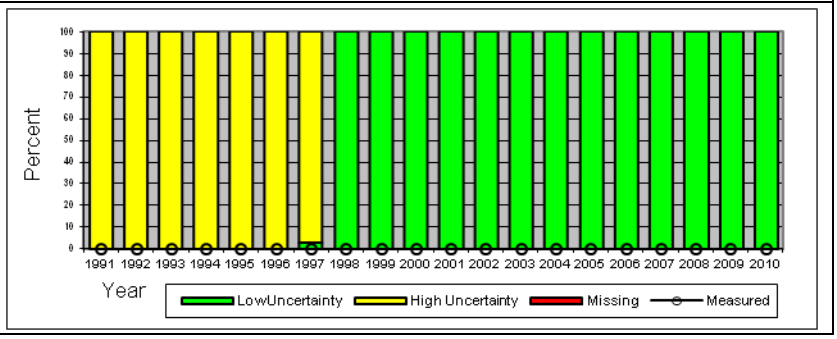


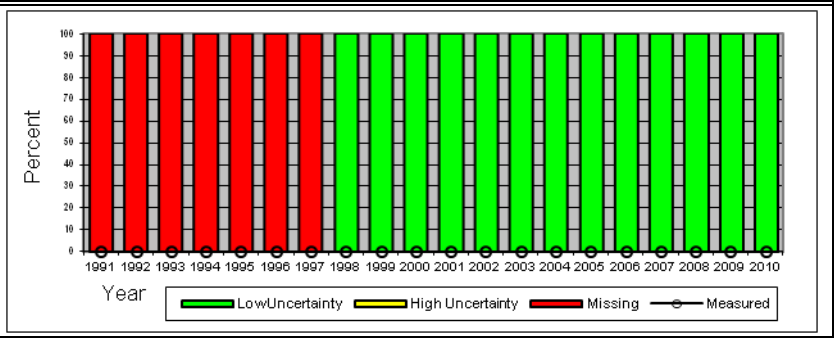
726464	WATERTOWN, WI
Class III	
Solar Coordinates	
Latitude: 43.167˚	
Longitude: -88.717˚	
Elevation: 254 m	
Meteorological Coordinates	
Latitude: 43.167˚	
Longitude: -88.717˚	
Elevation: 254 m	
Time Zone: -6	

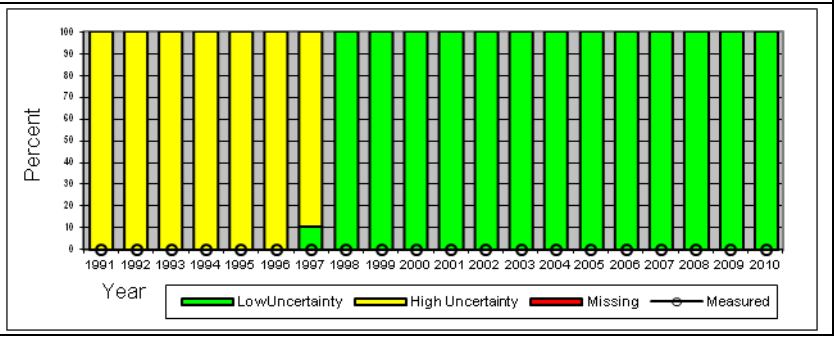


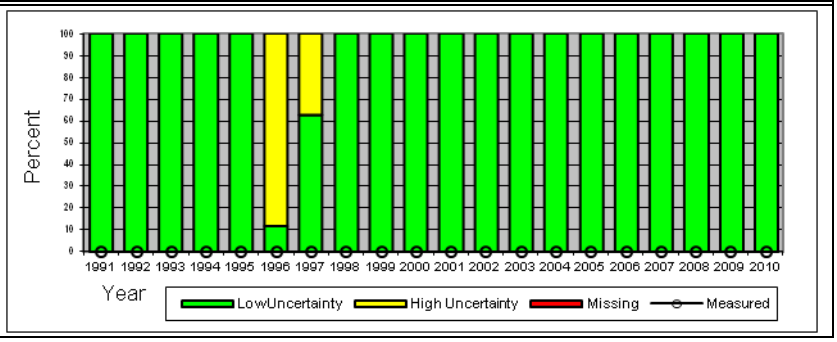
726409	WAUKESHA, WI
Class III	
Solar Coordinates	
Latitude: 43.033˚	
Longitude: -88.233˚	
Elevation: 284 m	
Meteorological Coordinates	
Latitude: 43.033˚	
Longitude: -88.233˚	
Elevation: 284 m	
Time Zone: -6	

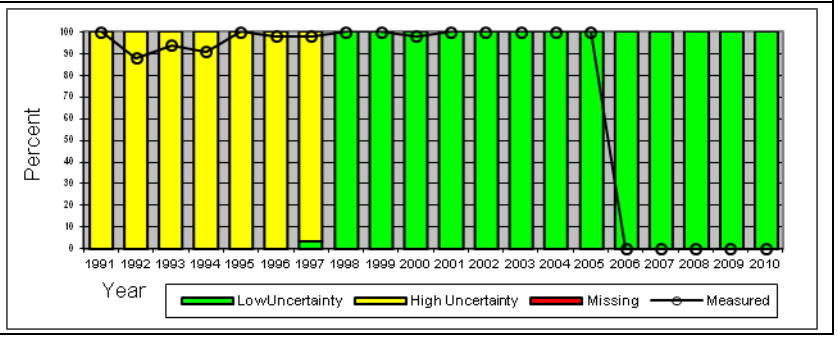


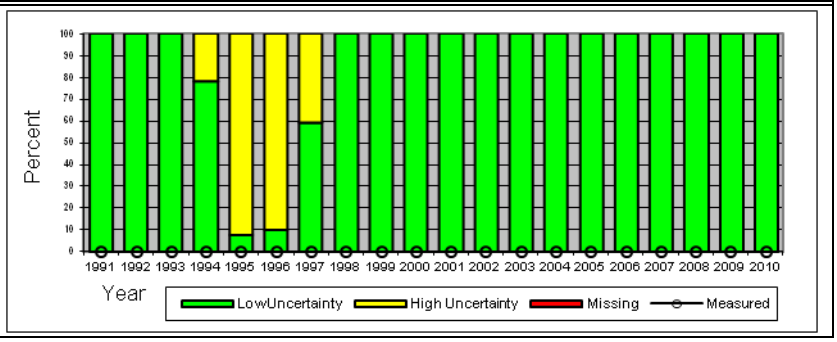
726463	WAUSAU MUNICIPAL ARPT, WI
Class II	
Solar Coordinates	
Latitude: 44.917˚	
Longitude: -89.633˚	
Elevation: 366 m	
Meteorological Coordinates	
Latitude: 44.917˚	
Longitude: -89.633˚	
Elevation: 366 m	
Time Zone: -6	

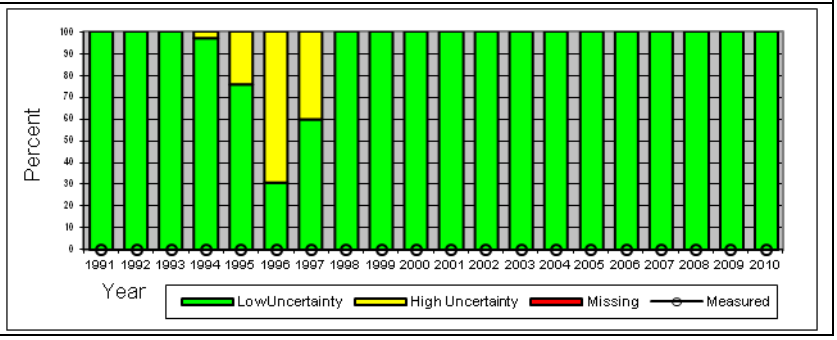
726413	WEST BEND MUNI, WI
Class III	
Solar Coordinates	
Latitude: 43.417˚	
Longitude: -88.117˚	
Elevation: 270 m	
Meteorological Coordinates	
Latitude: 43.417˚	
Longitude: -88.117˚	
Elevation: 270 m	
Time Zone: -6	

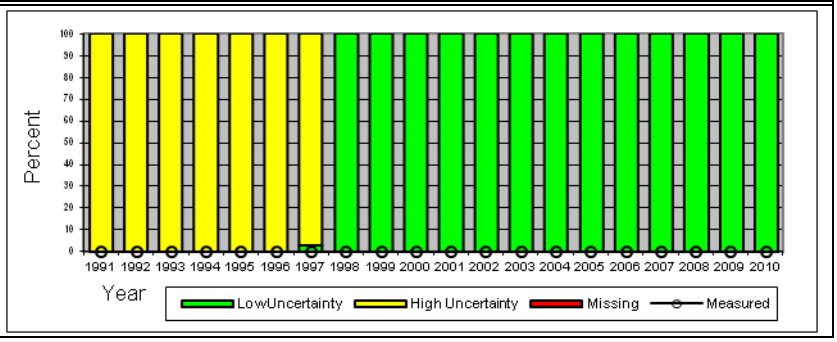
726456	WITTMAN RGNL, WI
Class II	
Solar Coordinates	
Latitude: 43.983˚	
Longitude: -88.55˚	
Elevation: 253 m	
Meteorological Coordinates	
Latitude: 43.983˚	
Longitude: -88.55˚	
Elevation: 253 m	
Time Zone: -6	

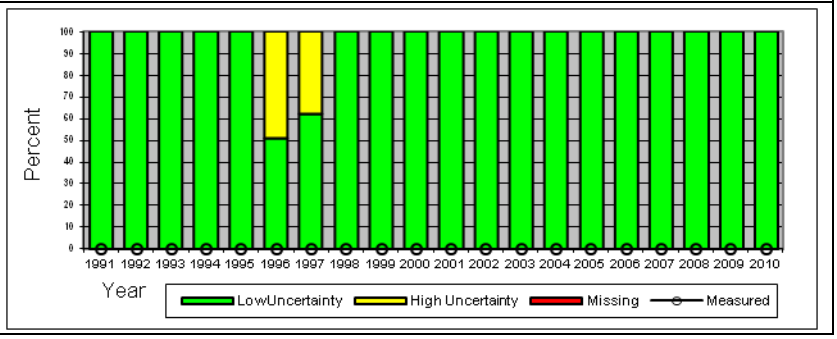
724120	BECKLEY RALEIGH CO MEM AP, WV
Class I	
Solar Coordinates	
Latitude: 37.8˚	
Longitude: -81.117˚	
Elevation: 763 m	
Meteorological Coordinates	
Latitude: 37.8˚	
Longitude: -81.117˚	
Elevation: 763 m	
Time Zone: -5	

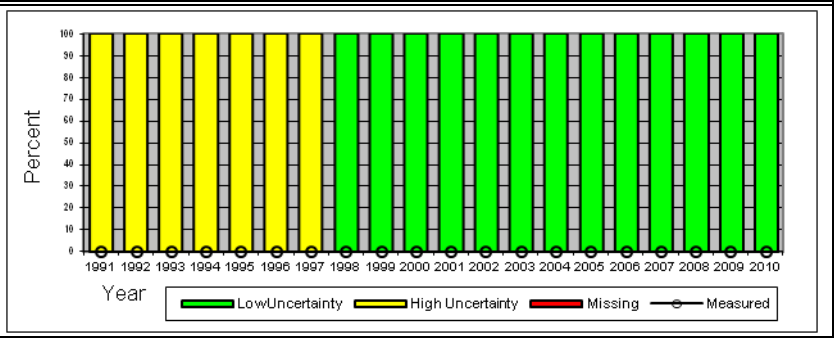
724125	BLUEFIELD/MERCER CO [NREL], WV
Class II (with some measured)	
Solar Coordinates	
Latitude: 37.27˚	
Longitude: -81.24˚	
Elevation: 803 m	
Meteorological Coordinates	
Latitude: 37.3˚	
Longitude: -81.2˚	
Elevation: 871 m	
Time Zone: -5	

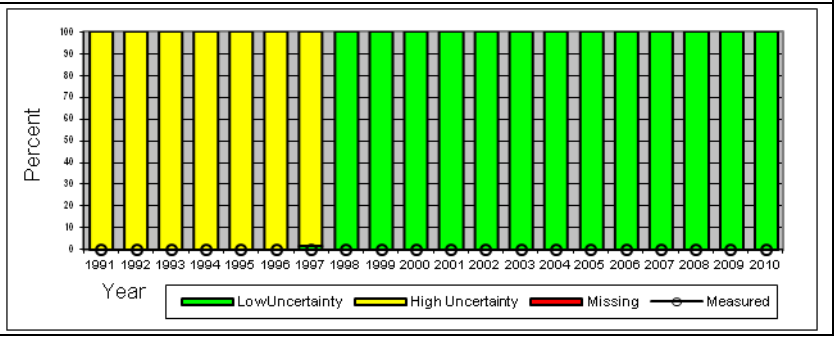
724140	CHARLESTON YEAGER ARPT, WV
Class I	
Solar Coordinates	
Latitude: 38.383˚	
Longitude: -81.583˚	
Elevation: 310 m	
Meteorological Coordinates	
Latitude: 38.383˚	
Longitude: -81.583˚	
Elevation: 310 m	
Time Zone: -5	

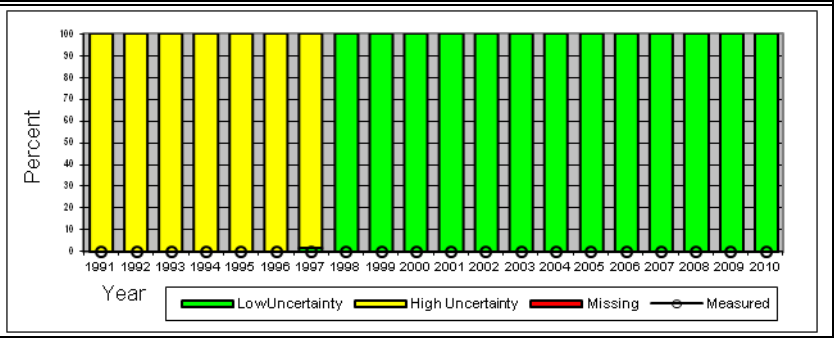
724170	ELKINS ELKINS-RANDOLPH CO ARP, WV
Class I	
Solar Coordinates	
Latitude: 38.883˚	
Longitude: -79.85˚	
Elevation: 594 m	
Meteorological Coordinates	
Latitude: 38.883˚	
Longitude: -79.85˚	
Elevation: 594 m	
Time Zone: -5	

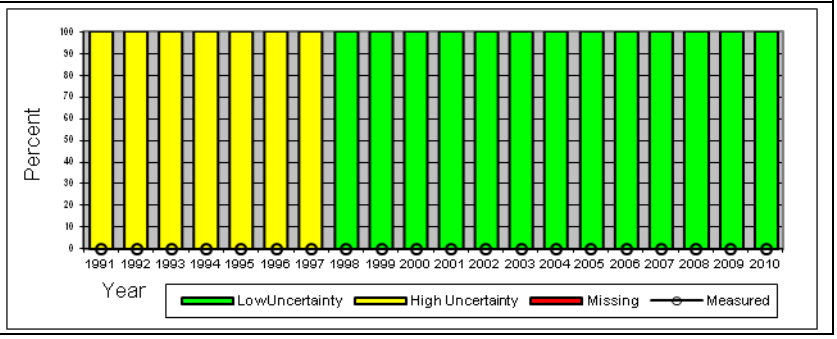
724175	HARRISON MARION RGN, WV
Class II	
Solar Coordinates	
Latitude: 39.283˚	
Longitude: -80.233˚	
Elevation: 380 m	
Meteorological Coordinates	
Latitude: 39.283˚	
Longitude: -80.233˚	
Elevation: 380 m	
Time Zone: -5	

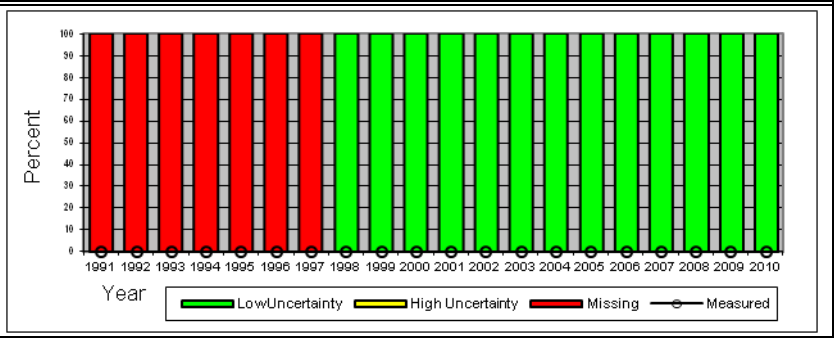
724250	HUNTINGTON TRI-STATE ARPT, WV
Class I	
Solar Coordinates	
Latitude: 38.383˚	
Longitude: -82.55˚	
Elevation: 253 m	
Meteorological Coordinates	
Latitude: 38.383˚	
Longitude: -82.55˚	
Elevation: 253 m	
Time Zone: -5	

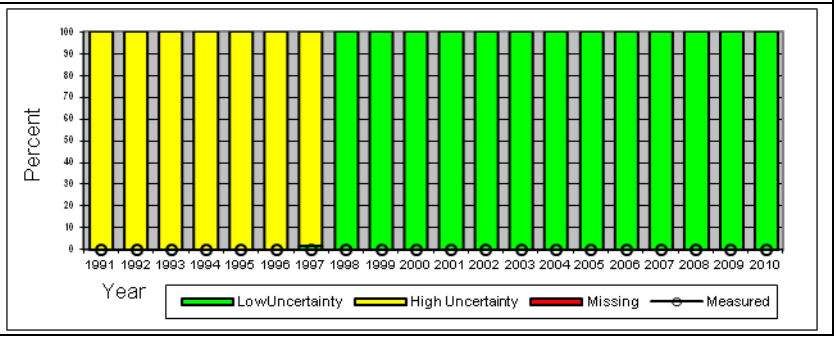
724127	LEWISBURG/GREENBRIE, WV
Class II	
Solar Coordinates	
Latitude: 37.867˚	
Longitude: -80.4˚	
Elevation: 702 m	
Meteorological Coordinates	
Latitude: 37.867˚	
Longitude: -80.4˚	
Elevation: 702 m	
Time Zone: -5	

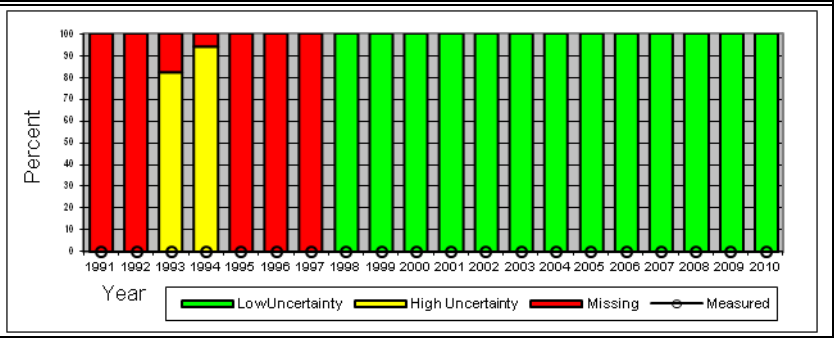
724177	MARTINSBURG EASTERN WV REG AP, WV
Class II	
Solar Coordinates	
Latitude: 39.4˚	
Longitude: -77.983˚	
Elevation: 162 m	
Meteorological Coordinates	
Latitude: 39.4˚	
Longitude: -77.983˚	
Elevation: 162 m	
Time Zone: -5	

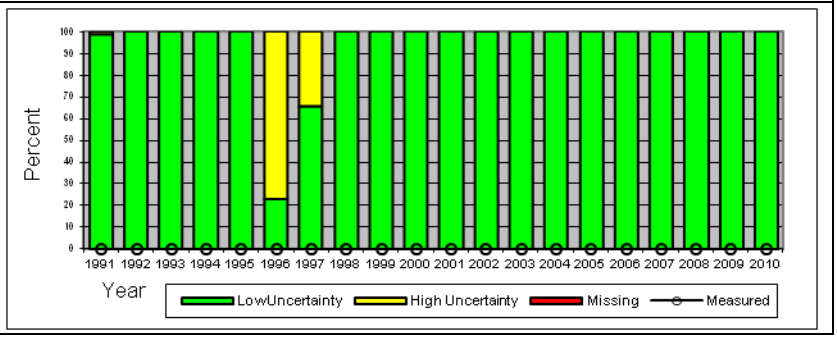
724176	MORGANTOWN HART FIELD, WV
Class II	
Solar Coordinates	
Latitude: 39.65˚	
Longitude: -79.917˚	
Elevation: 378 m	
Meteorological Coordinates	
Latitude: 39.65˚	
Longitude: -79.917˚	
Elevation: 378 m	
Time Zone: -5	

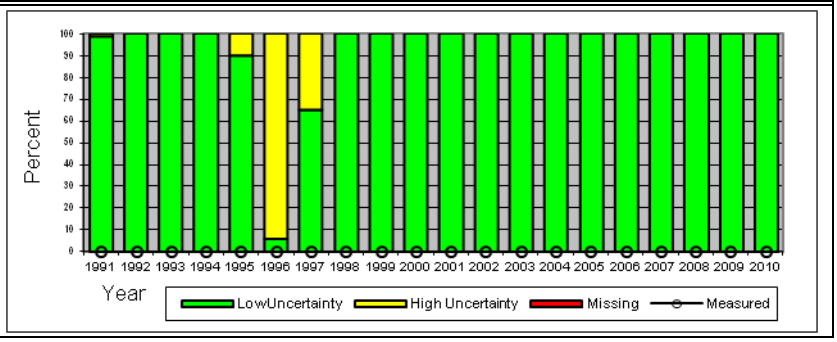
724273	PARKERSBURG WOOD COUNTY AP, WV
Class II	
Solar Coordinates	
Latitude: 39.35˚	
Longitude: -81.433˚	
Elevation: 253 m	
Meteorological Coordinates	
Latitude: 39.35˚	
Longitude: -81.433˚	
Elevation: 253 m	
Time Zone: -5	

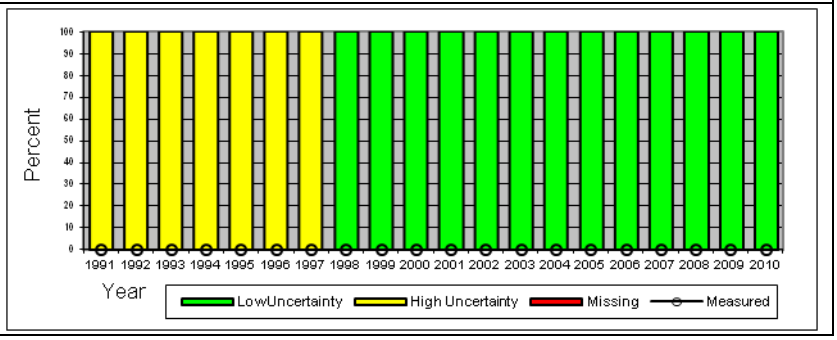
724165	PETERSBURG/GRANT AI, WV
Class III	
Solar Coordinates	
Latitude: 38.983˚	
Longitude: -79.133˚	
Elevation: 293 m	
Meteorological Coordinates	
Latitude: 38.983˚	
Longitude: -79.133˚	
Elevation: 293 m	
Time Zone: -5	

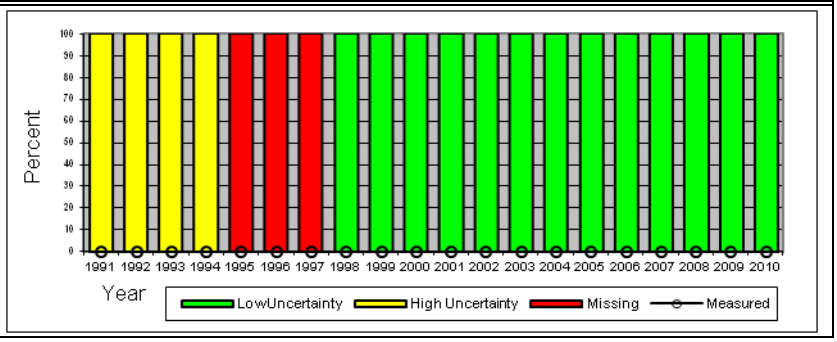
724275	WHEELING OHIO COUNTY AP, WV
Class II	
Solar Coordinates	
Latitude: 40.183˚	
Longitude: -80.65˚	
Elevation: 359 m	
Meteorological Coordinates	
Latitude: 40.183˚	
Longitude: -80.65˚	
Elevation: 359 m	
Time Zone: -5	

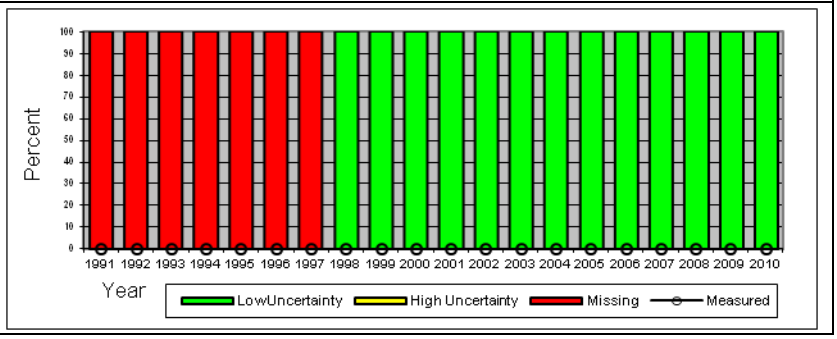
726710	BIG PINEY (AMOS), WY
Class III	
Solar Coordinates	
Latitude: 42.567˚	
Longitude: -110.1˚	
Elevation: 2124 m	
Meteorological Coordinates	
Latitude: 42.567˚	
Longitude: -110.1˚	
Elevation: 2124 m	
Time Zone: -7	

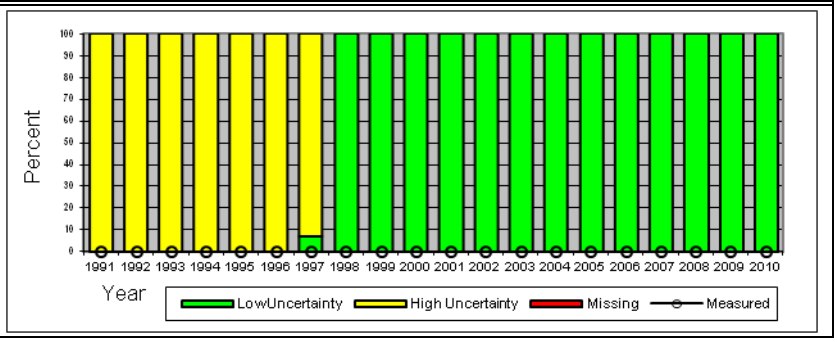
725690	CASPER NATRONA CO INTL AP, WY
Class I	
Solar Coordinates	
Latitude: 42.9˚	
Longitude: -106.467˚	
Elevation: 1627 m	
Meteorological Coordinates	
Latitude: 42.9˚	
Longitude: -106.467˚	
Elevation: 1627 m	
Time Zone: -7	

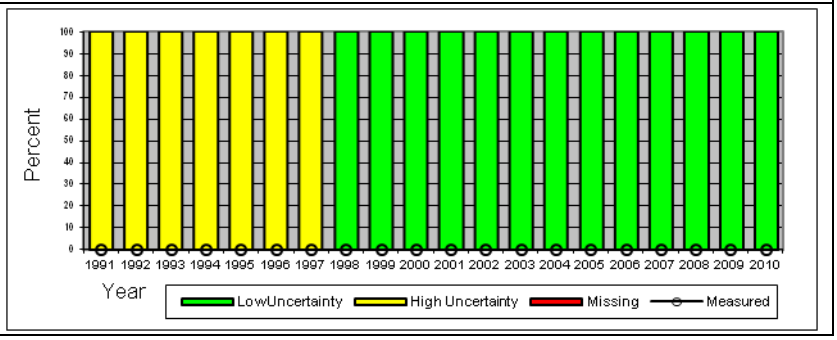
725640	CHEYENNE MUNICIPAL ARPT, WY
Class I	
Solar Coordinates	
Latitude: 41.15˚	
Longitude: -104.8˚	
Elevation: 1867 m	
Meteorological Coordinates	
Latitude: 41.15˚	
Longitude: -104.8˚	
Elevation: 1867 m	
Time Zone: -7	

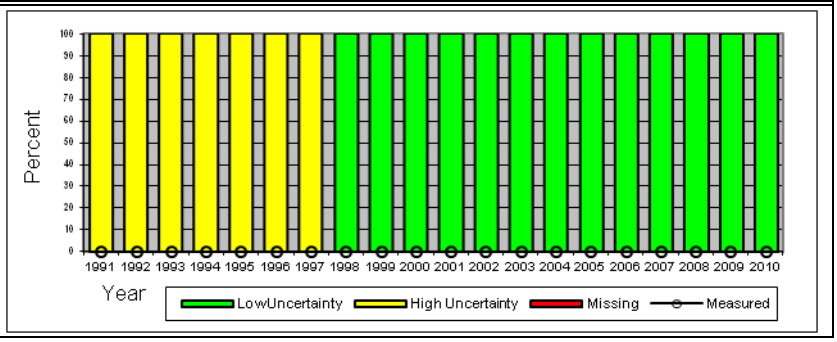
726700	CODY MUNI (AWOS), WY
Class II	
Solar Coordinates	
Latitude: 44.517˚	
Longitude: -109.017˚	
Elevation: 1553 m	
Meteorological Coordinates	
Latitude: 44.517˚	
Longitude: -109.017˚	
Elevation: 1553 m	
Time Zone: -7	

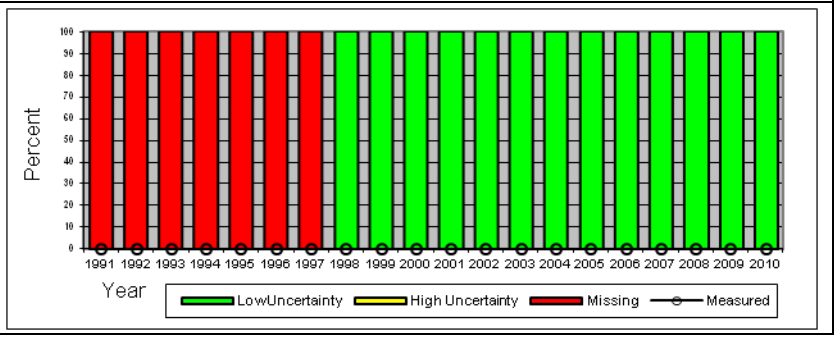
725685	DOUGLAS, WY
Class III	
Solar Coordinates	
Latitude: 42.75˚	
Longitude: -105.383˚	
Elevation: 1465 m	
Meteorological Coordinates	
Latitude: 42.75˚	
Longitude: -105.383˚	
Elevation: 1465 m	
Time Zone: -7	

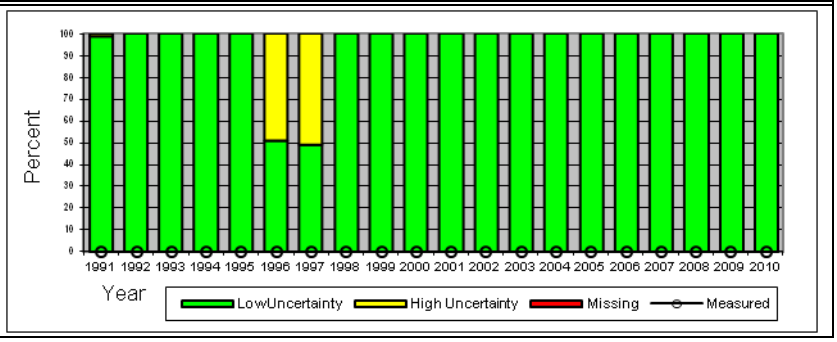
725686	DOUGLAS, WY
Class III	
Solar Coordinates	
Latitude: 42.8˚	
Longitude: -105.383˚	
Elevation: 1502 m	
Meteorological Coordinates	
Latitude: 42.8˚	
Longitude: -105.383˚	
Elevation: 1502 m	
Time Zone: -7	

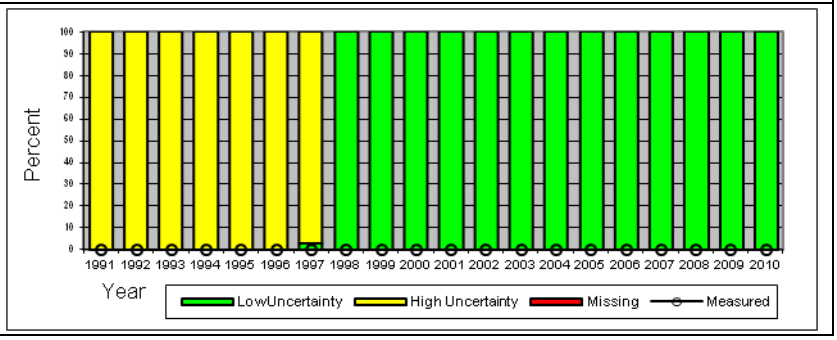
725775	EVANSTON/BURNS FLD, WY
Class II	
Solar Coordinates	
Latitude: 41.283˚	
Longitude: -111.033˚	
Elevation: 2183 m	
Meteorological Coordinates	
Latitude: 41.283˚	
Longitude: -111.033˚	
Elevation: 2183 m	
Time Zone: -7	

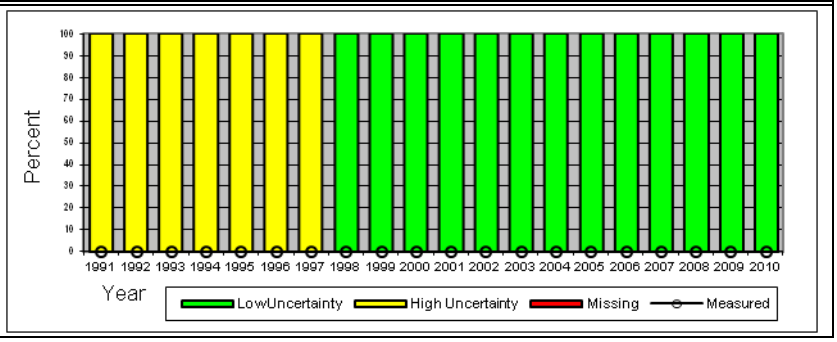
726650	GILLETTE/GILLETTE-C, WY
Class II	
Solar Coordinates	
Latitude: 44.35˚	
Longitude: -105.533˚	
Elevation: 1230 m	
Meteorological Coordinates	
Latitude: 44.35˚	
Longitude: -105.533˚	
Elevation: 1230 m	
Time Zone: -7	

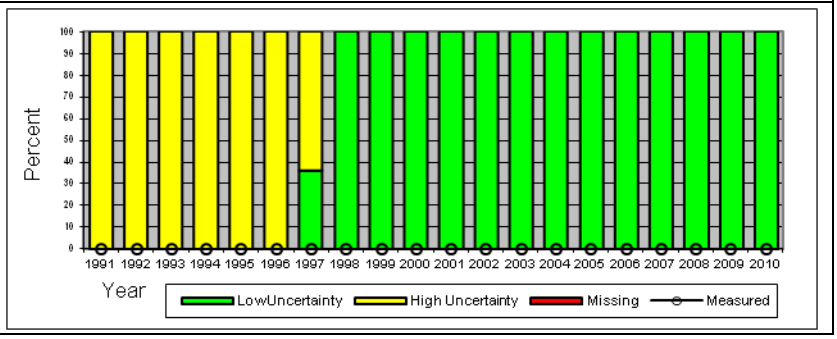
725776	JACKSON HOLE, WY
Class II	
Solar Coordinates	
Latitude: 43.6˚	
Longitude: -110.733˚	
Elevation: 2016 m	
Meteorological Coordinates	
Latitude: 43.6˚	
Longitude: -110.733˚	
Elevation: 2016 m	
Time Zone: -7	

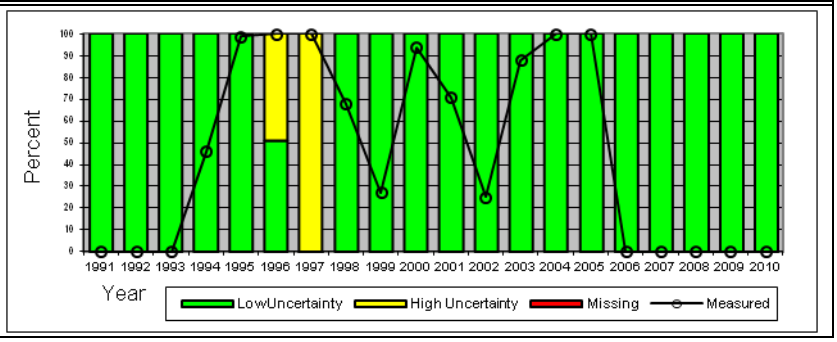
726654	JOHNSON CO ARPT, WY
Class III	
Solar Coordinates	
Latitude: 44.383˚	
Longitude: -106.717˚	
Elevation: 1514 m	
Meteorological Coordinates	
Latitude: 44.383˚	
Longitude: -106.717˚	
Elevation: 1514 m	
Time Zone: -7	

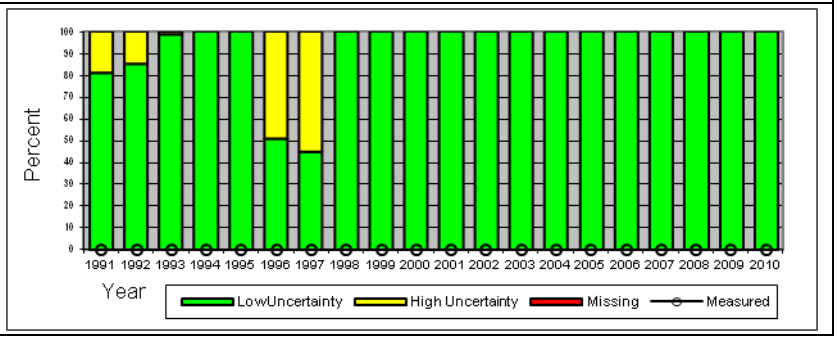
725760	LANDER HUNT FIELD, WY
Class I	
Solar Coordinates	
Latitude: 42.817˚	
Longitude: -108.733˚	
Elevation: 1694 m	
Meteorological Coordinates	
Latitude: 42.817˚	
Longitude: -108.733˚	
Elevation: 1694 m	
Time Zone: -7	

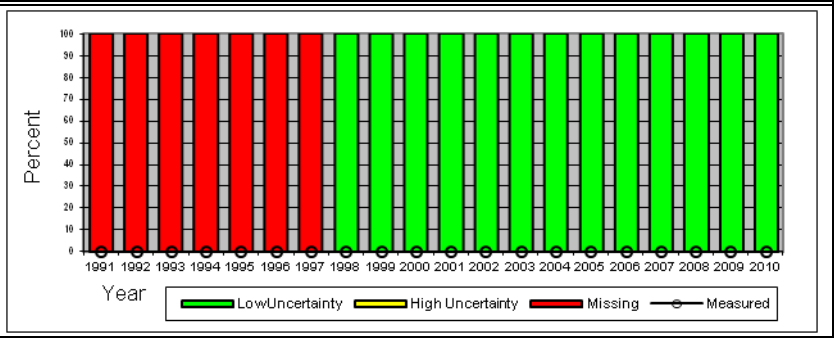
725645	LARAMIE GENERAL BREES FIELD, WY
Class II	
Solar Coordinates	
Latitude: 41.317˚	
Longitude: -105.683˚	
Elevation: 2215 m	
Meteorological Coordinates	
Latitude: 41.317˚	
Longitude: -105.683˚	
Elevation: 2215 m	
Time Zone: -7	

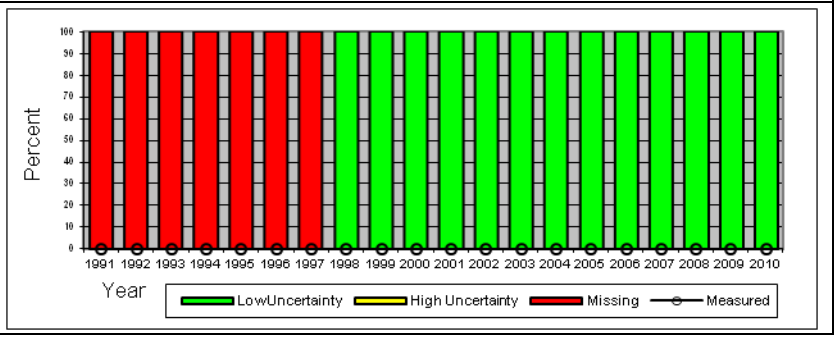
725745	RAWLINS MUNICIPAL AP, WY
Class II	
Solar Coordinates	
Latitude: 41.8˚	
Longitude: -107.2˚	
Elevation: 2053 m	
Meteorological Coordinates	
Latitude: 41.8˚	
Longitude: -107.2˚	
Elevation: 2053 m	
Time Zone: -7	

725765	RIVERTON MUNICIPL AP, WY
Class III	
Solar Coordinates	
Latitude: 43.05˚	
Longitude: -108.45˚	
Elevation: 1663 m	
Meteorological Coordinates	
Latitude: 43.05˚	
Longitude: -108.45˚	
Elevation: 1663 m	
Time Zone: -7	

725744	ROCK SPRINGS ARPT [GREEN RIVER - UO], WY
Class I (with some measured)	
Solar Coordinates	
Latitude: 41.46˚	
Longitude: -109.44˚	
Elevation: 1000 m	
Meteorological Coordinates	
Latitude: 41.6˚	
Longitude: -109.067˚	
Elevation: 2055 m	
Time Zone: -7	

726660	SHERIDAN COUNTY ARPT, WY
Class I	
Solar Coordinates	
Latitude: 44.767˚	
Longitude: -106.967˚	
Elevation: 1208 m	
Meteorological Coordinates	
Latitude: 44.767˚	
Longitude: -106.967˚	
Elevation: 1208 m	
Time Zone: -7	

726667	SOUTH BIG HORN CO, WY
Class III	
Solar Coordinates	
Latitude: 44.517˚	
Longitude: -108.083˚	
Elevation: 1201 m	
Meteorological Coordinates	
Latitude: 44.517˚	
Longitude: -108.083˚	
Elevation: 1201 m	
Time Zone: -7	

725763	TORRINGTON MUNICIPA, WY
Class III	
Solar Coordinates	
Latitude: 42.3˚	
Longitude: -104.9˚	
Elevation: 1281 m	
Meteorological Coordinates	
Latitude: 42.3˚	
Longitude: -104.9˚	
Elevation: 1281 m	
Time Zone: -7	

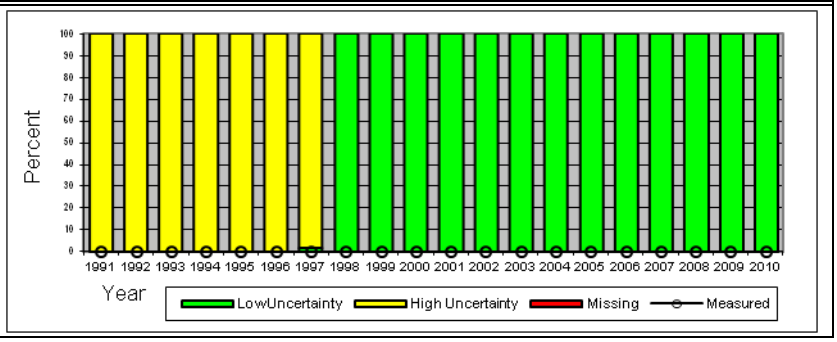
726665	WORLAND MUNICIPAL, WY
Class II	
Solar Coordinates	
Latitude: 43.967˚	
Longitude: -107.95˚	
Elevation: 1294 m	
Meteorological Coordinates	
Latitude: 43.967˚	
Longitude: -107.95˚	
Elevation: 1294 m	
Time Zone: -7	

Table A-1. Index of Sites by ID

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690160	TUSTIN MCAF	CA	III		A73
690190	ABILENE DYESS AFB	TX	III		A302
690230	WHIDBEY ISLAND NAS	WA	III		A348
699604	YUMA MCAS	AZ	III		A49
700197	SELAWIK	AK	III		A25
700260	BARROW W POST-W ROGERS ARPT [NSA - ARM]	AK	II	*	A4
700300	WAINWRIGHT LIZ 3	AK	III		A31
700634	KUPARUK AIRPORT	AK	III		A18
700636	PRUDHOE BAY	AK	III		A24
700637	DEADHORSE	AK	II		A7
700860	BARTER IS WSO AP	AK	III		A4
701043	POINT HOPE (AWOS)	AK	II		A22
701195	SHISHMAREF (AWOS)	AK	II		A26
701210	POINT LAY (DEW)	AK	III		A23
701213	POINT LAY LIZ 2	AK	III		A23
701330	KOTZEBUE RALPH WEIN MEMORIAL	AK	II		A17
701333	DEERING	AK	III		A8
701335	NOATAK	AK	III		A21
701486	NIVALINA	AK	III		A20
701625	ANAKTUVUK PASS	AK	III		A2
701718	AMBLER	AK	II		A2
701740	BETTLES FIELD	AK	II		A5
701745	CHANDALAR LAKE	AK	III		A6
701780	TANANA RALPH M CALHOUN MEM AP	AK	II		A29
701940	FORT YUKON	AK	II		A10
701945	ARCTIC VILLAGE	AK	III		A4
701975	EAGLE	AK	III		A8
701995	GOLOVIN	AK	III		A11
702000	NOME MUNICIPAL ARPT	AK	II		A21
702005	SAINT MARY`S (AWOS)	AK	II		A24
702006	KALTAG	AK	III		A15
702035	SAVOONGA	AK	III		A25
702040	GAMBELL	AK	II		A11
702070	UNALAKLEET FIELD	AK	II		A30
702075	ANVIK	AK	III		A4
702084	EMMONAK	AK	II		A9
702185	MEKORYUK	AK	II		A19
702186	HOOPER BAY	AK	II		A14
702190	BETHEL AIRPORT	AK	II		A5

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702225	HUSLIA	AK	III		A14
702310	MCGRATH ARPT	AK	II		A18
702312	FAREWELL FAA AP	AK	III		A10
702320	ANIAK AIRPORT	AK	II		A3
702325	WASILLA	AK	III		A31
702460	MINCHUMINA	AK	II		A20
702490	PUNTILLA	AK	III		A24
702495	HAYES RIVER	AK	II		A13
702510	TALKEETNA STATE ARPT	AK	II		A29
702590	KENAI MUNICIPAL AP	AK	II		A16
702595	SOLDOTNA	AK	III		A28
702600	NENANA MUNICIPAL AP	AK	II		A20
702606	CHULITNA	AK	II		A7
702607	HOONAH	AK	II		A14
702610	FAIRBANKS INTL ARPT	AK	II		A10
702615	WAINWRIGHT AAF	AK	III		A30
702645	MCKINLEY PARK	AK	III		A19
702647	HEALY RIVER AIRPORT	AK	II		A13
702648	CANTWELL	AK	III		A6
702650	FAIRBANKS/EIELSON A	AK	II		A10
702670	BIG DELTA ALLEN AAF	AK	II		A5
702675	PAXSON	AK	III		A22
702695	SUTTON	AK	III		A28
702700	FT. RICHARDSON/BRYA	AK	III		A11
702710	GULKANA INTERMEDIATE FIELD	AK	II		A12
702711	SHEEP MTN	AK	III		A26
702715	EUREKA	AK	III		A9
702716	TAHNETA PASS	AK	III		A29
702720	ANCHORAGE/ELMENDORF	AK	II		A3
702725	LAKE HOOD SEAPLANE	AK	III		A18
702730	ANCHORAGE INTL AP	AK	II		A2
702735	ANCHORAGE MERRILL FIELD	AK	II		A3
702740	PALMER MUNICIPAL	AK	II		A22
702746	BIRCHWOOD	AK	III		A6
702750	VALDEZ WSO	AK	III		A30
702755	MCCARTHY	AK	III		A18
702756	VALDEZ PIONEER FIEL	AK	II		A30
702757	WHITTIER	AK	II		A31
702770	SEWARD	AK	II		A26
702910	NORTHWAY AIRPORT	AK	II		A21
702913	NABESNA/DEVIL MTN	AK	III		A20

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702960	CORDOVA	AK	II		A7
702986	BIG RIVER LAKE	AK	II		A5
703080	ST PAUL ISLAND ARPT	AK	II		A28
703160	COLD BAY ARPT	AK	II		A7
703165	SAND POINT	AK	II		A25
703210	DILLINGHAM (AMOS)	AK	II		A8
703260	KING SALMON ARPT	AK	II		A16
703263	KING SALMON	AK	III		A16
703330	PORT HEIDEN	AK	II		A24
703333	CHIGNIK	AK	III		A6
703334	EGEGIK(AWOS)	AK	III		A9
703400	ILIAMNA ARPT	AK	II		A15
703406	PORT ALSWORTH	AK	III		A23
703407	SLEETMUTE	AK	III		A27
703410	HOMER ARPT	AK	III		A13
703430	MIDDLETON ISLAND AUT	AK	II		A19
703500	KODIAK AIRPORT	AK	II		A17
703604	HOMER	AK	III		A13
703606	TOGIAC VILLAGE AWOS	AK	II		A29
703610	YAKUTAT STATE ARPT	AK	II		A32
703620	SKAGWAY AIRPORT	AK	II		A27
703621	SELDOVIA ARPT	AK	III		A25
703625	HAINES BOAT HARBOR	AK	III		A12
703626	HAINES	AK	III		A12
703644	NUIQSUT	AK	III		A21
703670	GUSTAVUS	AK	II		A12
703710	SITKA JAPONSKI AP	AK	II		A27
703810	JUNEAU INT'L ARPT	AK	II		A15
703816	FUNTER BAY SEAPLANE	AK	III		A11
703817	ELFIN COVE SEAPLANE	AK	III		A9
703835	ST GEORGE ISLAND	AK	III		A28
703855	KAKE SEAPLANE BASE	AK	II		A15
703860	PETERSBURG	AK	II		A22
703870	WRANGELL	AK	II		A31
703884	HYDABURG SEAPLANE	AK	III		A14
703886	PORT ALEXANDER	AK	III		A23
703894	KLAWOCK	AK	III		A17
703950	KETCHIKAN INTL AP	AK	II		A16
703980	ANNETTE ISLAND AP	AK	II		A3
703985	METLA KATLA	AK	III		A19
704140	SHEMYA AFB	AK	II		A26

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704890	DUTCH HARBOR	AK	II		A8
722010	KEY WEST INTL ARPT	FL	I		A92
722011	ORLANDO/KISSIMMEE	FL	III		A97
722014	BROOKSVILLE	FL	III		A88
722015	KEY WEST NAS	FL	II		A92
722016	MARATHON AIRPORT	FL	II		A93
722020	MIAMI INTL AP	FL	I		A94
722021	TAMPA/VANDENBURG	FL	III		A100
722022	BOCA RATON	FL	III		A88
722024	MIAMI/OPA LOCKA	FL	II		A95
722025	FORT LAUDERDALE HOLLYWOOD INT	FL	II		A90
722026	HOMESTEAD AFB	FL	II		A91
722029	MIAMI/KENDALL-TAMIA	FL	II		A95
722030	WEST PALM BEACH INTL ARPT	FL	I		A101
722034	PUNTA GORDA	FL	III		A98
722038	NAPLES MUNICIPAL	FL	II		A95
722039	FORT LAUDERDALE	FL	II		A90
722040	MELBOURNE REGIONAL AP	FL	II		A94
722045	VERO BEACH MUNICIPAL ARPT	FL	I		A101
722046	SPACE COAST RGNL [FSEC]	FL	III	*	A99
722049	POMPANO BEACH	FL	III		A98
722050	ORLANDO INTL ARPT	FL	I		A96
722053	ORLANDO EXECUTIVE AP	FL	II		A96
722055	OCALA MUNI (AWOS)	FL	II		A96
722056	DAYTONA BEACH INTL AP	FL	I		A89
722057	ORLANDO SANFORD AIRPORT	FL	II		A96
722060	JACKSONVILLE INTL ARPT	FL	I		A91
722065	JACKSONVILLE NAS	FL	II		A92
722066	MAYPORT NS	FL	II		A94
722067	JACKSONVILLE CECIL FLD NAS	FL	III		A91
722068	JACKSONVILLE/CRAIG	FL	II		A92
722069	DESTIN FT. WALTON	FL	III		A89
722070	SAVANNAH INTL AP	GA	I		A108
722079	LEXINGTON/DAVIDSON	NC	III		A222
722080	CHARLESTON INTL ARPT	SC	I		A291
722085	BEAUFORT MCAS	SC	II		A291
722090	FT STEWART/WRIGHT	GA	II		A105
722103	ST LUCIE CO INTL	FL	II		A99
722104	ST PETERSBURG ALBERT WHITTED	FL	II		A99
722106	FORT MYERS PAGE FIELD	FL	I		A90
722108	SOUTHWEST FLORIDA I	FL	II		A98

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722115	SARASOTA BRADENTON	FL	II		A98
722116	ST PETERSBURG CLEAR	FL	II		A99
722119	LAKELAND LINDER RGN	FL	II		A93
722123	BARTOW MUNICIPAL	FL	III		A88
722130	WAYCROSS WARE CO AP	GA	III		A110
722134	VIDALIA MUNI ARPT	GA	III		A109
722135	ALMA BACON COUNTY AP	GA	II		A102
722136	BRUNSWICK GOLDEN IS	GA	II		A104
722137	BRUNSWICK MALCOLM MCKINNON AP	GA	II		A104
722140	TALLAHASSEE REGIONAL AP [ISIS]	FL	I	*	A100
722146	GAINESVILLE REGIONAL AP	FL	I		A91
722154	DALTON	GA	III		A105
722156	CARTERSVILLE AIRPRT	GA	III		A104
722160	ALBANY DOUGHERTY COUNTY AP	GA	II		A102
722166	VALDOSTA WB AIRPORT	GA	II		A109
722170	MACON MIDDLE GA REGIONAL AP	GA	I		A107
722175	WARNER ROBINS AFB	GA	II		A109
722176	NEWNAN	GA	III		A108
722180	AUGUSTA BUSH FIELD	GA	I		A103
722185	GAINESVILLE\LEE GIL	GA	III		A106
722190	ATLANTA HARTSFIELD INTL AP	GA	I		A103
722195	FULTON CO ARPT BROW	GA	II		A106
722196	DEKALB PEACHTREE	GA	II		A105
722197	ATLANTA (NEXRAD)	GA	III		A103
722200	APALACHICOLA MUNI AP	FL	III		A87
722210	VALPARAISO ELGIN AFB	FL	II		A101
722213	LEESBURG MUNI ARPT	FL	III		A93
722215	CRESTVIEW BOB SIKES AP	FL	II		A89
722223	PENSACOLA REGIONAL AP	FL	I		A97
722225	PENSACOLA FOREST SHERMAN NAS	FL	II		A97
722226	WHITING FIELD NAAS	FL	II		A102
722230	MOBILE REGIONAL AP	AL	I		A35
722235	MOBILE DOWNTOWN AP	AL	II		A34
722245	PANAMA CITY BAY CO	FL	II		A97
722246	DUKE FIELD AAFB	FL	II		A90
722250	FORT BENNING LAWSON	GA	II		A105
722255	COLUMBUS METROPOLITAN ARPT	GA	I		A104
722260	MONTGOMERY DANNELLY FIELD	AL	I		A35
722265	MAXWELL AFB	AL	II		A34
722267	TROY AF	AL	II		A36
722268	DOTHAN MUNICIPAL AP	AL	II		A33

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722270	MARIETTA DOBBINS AFB	GA	II		A107
722279	DECATUR	AL	III		A33
722280	BIRMINGHAM MUNICIPAL AP	AL	I		A32
722284	AUBURN-OPELIKA APT	AL	III		A32
722285	GADSEN MUNI (AWOS)	AL	III		A34
722286	TUSCALOOSA MUNICIPAL AP	AL	II		A36
722287	ANNISTON METROPOLITAN AP	AL	II		A32
722290	CENTREVILLE WSMO	AL	III		A33
722300	SHELBY CO ARPT	AL	III		A35
722310	NEW ORLEANS INTL ARPT	LA	I		A156
722312	HAMMOND	LA	III		A154
722314	NEW IBERIA NAAS	LA	II		A156
722315	NEW ORLEANS LAKEFRONT AP	LA	III		A157
722316	NEW ORLEANS ALVIN CALLENDER F	LA	II		A156
722317	BATON ROUGE RYAN ARPT	LA	I		A153
722319	NATCHITOCHES	LA	III		A156
722329	PATTERSON MEMORIAL	LA	II		A157
722340	MERIDIAN KEY FIELD	MS	I		A209
722345	MERIDIAN NAAS	MS	II		A209
722347	HATTIESBURG MUNI	MS	III		A208
722348	HATTIESBURG LAUREL	MS	II		A207
722350	JACKSON INTERNATIONAL AP	MS	I		A208
722354	HAWKINS FIELD	MS	III		A208
722356	GREENVILLE MUNICIPAL	MS	II		A207
722357	NATCHEZ/HARDY(AWOS)	MS	II		A209
722358	MCCOMB PIKE COUNTY AP	MS	II		A209
722359	GREENWOOD LEFLORE ARPT	MS	II		A207
722366	SLIDELL	LA	III		A158
722390	FORT POLK AAF	LA	II		A154
722400	LAKE CHARLES REGIONAL ARPT	LA	I		A155
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722405	LAFAYETTE REGIONAL AP	LA	II		A155
722406	HOUMA-TERREBONNE	LA	II		A154
722410	PORT ARTHUR JEFFERSON COUNTY	TX	I		A319
722416	NEW BRAUNFELS	TX	III		A318
722420	GALVESTON/SCHOLES	TX	II		A311
722427	HOUSTON/CLOVER FLD	TX	III		A313
722429	HOUSTON/D.W. HOOKS	TX	II		A313
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722435	HOUSTON WILLIAM P HOBBY AP	TX	II		A313
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722445	COLLEGE STATION EASTERWOOD FL	TX	II		A305
722446	LUFKIN ANGELINA CO	TX	I		A316
722447	LONGVIEW GREGG COUNTY AP	TX	III		A315
722448	TYLER/POUNDS FLD	TX	II		A323
722469	CORSICANA	TX	III		A306
722470	LONGVIEW GREGG COUNTY AP [OVERTON - UT]	TX	II	*	A315
722479	ARLINGTON	TX	III		A303
722480	SHREVEPORT REGIONAL ARPT	LA	I		A157
722484	SHREVEPORT DOWNTOWN	LA	III		A157
722485	BARKSDALE AFB	LA	II		A153
722486	MONROE REGIONAL AP	LA	II		A155
722487	ALEXANDRIA ESLER REGIONAL AP	LA	II		A153
722488	VICKSBURG\TALLULAH	LA	III		A158
722489	TERRELL	TX	III		A322
722499	NACOGDOCHES (AWOS)	TX	III		A318
722500	BROWNSVILLE S PADRE ISL INTL	TX	I		A304
722505	HARLINGEN RIO GRANDE VALLEY I	TX	II		A312
722506	MCALLEN MILLER INTL AP [EDINBURG - UT]	TX	II	*	A317
722508	PORT ISABEL/CAMERON	TX	III		A319
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722517	ALICE INTL AP	TX	II		A302
722520	LAREDO INTL AP [UT]	TX	II	*	A315
722523	SAN ANTONIO/STINSON	TX	II		A321
722524	ROCKPORT/ARANSAS CO	TX	II		A320
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722527	ANGLETON/LAKE JACKS	TX	III		A303
722530	SAN ANTONIO INTL AP	TX	I		A321
722533	HONDO MUNICIPAL AP	TX	III		A312
722535	SAN ANTONIO KELLY FIELD AFB	TX	II		A321
722536	RANDOLPH AFB	TX	II		A319
722537	KERRVILLE MUNICIPAL	TX	III		A314
722539	SAN MARCOS MUNI	TX	III		A322
722540	AUSTIN MUELLER MUNICIPAL AP [UT]	TX	I	*	A303
722544	CAMP MABRY	TX	III		A305
722545	BERGSTROM AFB/AUSTI	TX	III		A303
722546	SAN MARCOS GARY AFB	TX	III		A321
722547	GEORGETOWN (AWOS)	TX	III		A311
722550	VICTORIA REGIONAL AP	TX	I		A323
722552	GAINESVILLE	TX	III		A311

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722554	LAGRANGE	TX	III		A315
722555	PALACIOS MUNICIPAL AP	TX	II		A318
722560	WACO REGIONAL AP	TX	I		A323
722563	MC GREGOR (AWOS)	TX	III		A316
722570	FORT HOOD	TX	II		A310
722575	KILLEEN MUNI (AWOS)	TX	II		A314
722576	ROBERT GRAY AAF	TX	II		A320
722577	DRAUGHON MILLER CEN	TX	II		A309
722583	DALLAS LOVE FIELD	TX	II		A307
722585	DALLAS HENSLEY FIELD NAS	TX	III		A307
722587	COX FLD	TX	III		A306
722588	GREENVILLE/MAJORS	TX	II		A312
722589	DENTON (ASOS)	TX	III		A309
722590	DALLAS-FORT WORTH INTL AP	TX	I		A308
722593	DFW NEXRAD	TX	III		A309
722594	FORT WORTH ALLIANCE	TX	II		A310
722595	FORT WORTH NAS	TX	II		A311
722596	FORT WORTH MEACHAM	TX	II		A310
722597	MINERAL WELLS MUNICIPAL AP	TX	II		A317
722598	DALLAS/ADDISON ARPT	TX	II		A307
722599	DALLAS/REDBIRD ARPT	TX	II		A308
722600	STEPHENVILLE CLARK FIELD	TX	III		A322
722610	DEL RIO [UT]	TX	II	*	A308
722615	DEL RIO LAUGHLIN AFB	TX	II		A308
722618	FORT STOCKTON PECOS	TX	III		A310
722620	PINE SPRINGS GUADALUPE MOUNTA	TX	III		A319
722630	SAN ANGELO MATHIS FIELD	TX	I		A320
722636	DALHART MUNICIPAL AP	TX	II		A307
722640	MARFA AP	TX	III		A316
722648	ODESSA-SCHLEMEYER F	TX	III		A318
722650	MIDLAND INTERNATIONAL AP	TX	I		A317
722656	WINK WINKLER COUNTY AP	TX	II		A324
722660	ABILENE REGIONAL AP [UT]	TX	I	*	A302
722666	BROWNWOOD MUNICIPAL	TX	III		A304
722670	LUBBOCK INTERNATIONAL AP	TX	I		A316
722673	SHERMAN-DENISON	TX	III		A322
722675	REESE AFB	TX	III		A320
722676	ARTESIA	NM	III		A243
722677	CLINES CORNER	NM	III		A244
722678	RATON	NM	III		A246
722680	ROSWELL INDUSTRIAL AIR PARK	NM	I		A247

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722686	CLOVIS CANNON AFB	NM	II		A244
722687	CARLSBAD CAVERN CITY AIR TERM	NM	II		A243
722689	CLOVIS MUNI (AWOS)	NM	III		A244
722690	WHITE SANDS TEST RG	NM	III		A248
722693	ALAMOGORDO WHITE SA	NM	III		A242
722695	LAS CRUCES INTL	NM	II		A246
722700	EL PASO INTERNATIONAL AP [UT]	TX	I	*	A309
722710	TRUTH OR CONSEQUENCES MUNI AP	NM	II		A248
722720	SILVER CITY GRANT CO	NM	III		A247
722725	DEMING MUNI	NM	II		A245
722728	NOGALES INTL	AZ	III		A46
722730	FORT HUACHUCA	AZ	II		A44
722735	DOUGLAS BISBEE-DOUGLAS INTL A	AZ	II		A44
722740	TUCSON INTERNATIONAL AP	AZ	I		A48
722745	DAVIS MONTHAN AFB	AZ	II		A43
722747	SAFFORD (AMOS)	AZ	III		A47
722748	CASA GRANDA (AWOS)	AZ	III		A43
722764	WINDOW ROCK	AZ	III		A49
722780	PHOENIX SKY HARBOR INTL AP	AZ	I		A47
722783	MESA/FALCON FIELD	AZ	III		A46
722784	DEER VALLEY/PHOENIX	AZ	II		A43
722785	LUKE AFB	AZ	II		A46
722786	CHANDLER WILLIAMS AFB	AZ	III		A43
722787	GLENDALE	AZ	III		A45
722788	GOODYEAR MUNICIPAL	AZ	III		A45
722789	SCOTTSDALE MUNI	AZ	II		A48
722800	YUMA INTL ARPT	AZ	III		A49
722810	NAF	CA	II		A63
722860	MARCH AFB	CA	II		A60
722865	ONTARIO	CA	III		A64
722866	NORTON AFB/SAN BERN	CA	III		A63
722867	BEAUMONT 1 E	CA	III		A51
722868	PALM SPRINGS INTL	CA	II		A65
722869	RIVERSIDE MUNI	CA	III		A67
722874	LOS ANGELES DOWNTOWN USC CAMP	CA	III		A59
722880	BURBANK-GLENDALE-PASSADENA AP	CA	II		A52
722885	SANTA MONICA MUNI	CA	II		A72
722886	VAN NUYS AIRPORT	CA	II		A74
722895	LOMPOC (AWOS)	CA	III		A59
722897	SAN LUIS CO RGNL	CA	II		A70
722899	CHINO AIRPORT	CA	III		A54

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722903	SAN DIEGO/MONTGOMER	CA	II		A69
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726437	MCCOY (USA-AF)	WI	III		A351
726438	BOSCOBEL AIRPORT	WI	III		A349
726440	ROCHESTER INTERNATIONAL ARPT	MN	I		A196
726444	PRAIRIE DU CHIEN	WI	III		A354
726449	MERRILL MUNI ARPT	WI	III		A352
726450	GREEN BAY AUSTIN STRAUBEL INT	WI	I		A350
726455	MANITOWAC MUNI AWOS	WI	II		A351
726456	WITTMAN RGNL	WI	II		A357
726457	APPLETON/OUTAGAMIE	WI	II		A349
726458	STURGEON BAY	WI	II		A355
726463	WAUSAU MUNICIPAL ARPT	WI	II		A357
726464	WATERTOWN	WI	III		A356
726465	MOSINEE/CENTRAL WI	WI	II		A353
726467	RICE LAKE MUNICIPAL	WI	III		A355
726468	PHILLIPS/PRICE CO.	WI	II		A354
726480	ESCANABA (AWOS)	MI	II		A173

ID	Station	State	Class	Solar	Page
726487	MENOMINEE (AWOS)	MI	II		A179
726498	FAIR FIELD	IA	III		A119
726499	ESTHERVILLE MUNI	IA	II		A119
726500	SPENCER	IA	II		A124
726510	SIOUX FALLS FOSS FIELD	SD	I		A298
726514	CUSTER (RAMOS)	SD	III		A296
726515	BROOKINGS (AWOS)	SD	II		A295
726516	PHILIP ARPT	SD	III		A297
726517	PINE RIDGE	SD	III		A297
726518	WINNER	SD	III		A298
726525	CHAN GURNEY MUNI	SD	II		A295
726540	HURON REGIONAL ARPT	SD	I		A296
726544	ORR	MN	III		A194
726545	MITCHELL (AWOS)	SD	II		A296
726546	WATERTOWN MUNICIPAL AP	SD	II		A298
726547	GLENWOOD (ASOS)	MN	III		A189
726549	COOK MUNI ARPT	MN	III		A185
726550	ST CLOUD REGIONAL ARPT	MN	I		A198
726554	ST JAMES MUNI ARPT	MN	III		A198
726555	BRAINERD/WIELAND	MN	II		A184
726556	REDWOOD FALLS MUNI	MN	II		A196
726557	ALEXANDRIA MUNICIPAL AP	MN	II		A183
726558	CLOQUET (AWOS)	MN	III		A185
726559	MARSHALL/RYAN(AWOS)	MN	II		A192
726560	FERGUS FALLS(AWOS)	MN	II		A188
726561	WADENA	MN	III		A199
726563	FARIBAULT MUNI AWOS	MN	II		A188
726564	RED WING	MN	III		A196
726565	MORRIS MUNI (AWOS)	MN	II		A194
726566	PIPESTONE (AWOS)	MN	III		A195
726567	NEW ULM MUNI (AWOS)	MN	III		A194
726568	OWATONNA (AWOS)	MN	III		A195
726569	HUTCHINSON (AWOS)	MN	III		A190
726573	AIRLAKE	MN	III		A182
726574	MARSHFIELD MUNI	WI	III		A351
726575	MINNEAPOLIS/CRYSTAL	MN	II		A193
726576	WILLMAR	MN	III		A200
726577	MINNEAPOLIS/BLAINE	MN	III		A192
726578	LITTLE FALLS (AWOS)	MN	III		A191
726579	FLYING CLOUD	MN	II		A188
726580	MINNEAPOLIS-ST PAUL INT'L ARP	MN	I		A193
726583	LITCHFIELD MUNI	MN	II		A191

ID	Station	State	Class	Solar	Page
726584	ST PAUL DOWNTOWN AP	MN	II		A198
726585	MANKATO(AWOS)	MN	II		A192
726586	FAIRMONT MUNI(AWOS)	MN	II		A187
726587	WORTHINGTON (AWOS)	MN	II		A201
726588	WINONA MUNI (AWOS)	MN	II		A201
726589	ALBERT LEA (AWOS)	MN	II		A183
726590	ABERDEEN REGIONAL ARPT	SD	I		A295
726593	JACKSON MUNI	MN	III		A191
726596	DODGE CENTER AIRPOR	MN	III		A186
726603	SOUTH ST PAUL MUNI	MN	III		A197
726620	RAPID CITY REGIONAL ARPT	SD	I		A298
726625	ELLSWORTH AFB	SD	II		A296
726626	ANTIGO\LANG(AWOS)	WI	III		A348
726650	GILLETTE/GILLETTE-C	WY	II		A362
726654	JOHNSON CO ARPT	WY	III		A363
726660	SHERIDAN COUNTY ARPT	WY	I		A364
726665	WORLAND MUNICIPAL	WY	II		A365
726667	SOUTH BIG HORN CO	WY	III		A364
726676	GLENDIVE(AWOS)	MT	II		A212
726679	RUSH CITY RGNL ARPT	MN	III		A197
726682	PRINCETON MUNI	MN	III		A196
726685	MOBRIDGE	SD	II		A297
726686	PIERRE MUNICIPAL AP	SD	I		A297
726700	CODY MUNI (AWOS)	WY	II		A361
726710	BIG PINEY (AMOS)	WY	III		A360
726770	BILLINGS LOGAN INT'L ARPT	MT	I		A210
726776	LEWISTOWN MUNICIPAL ARPT	MT	II		A213
726777	BAKER MUNI ARPT	MT	III		A210
726785	BUTTE BERT MOONEY ARPT	MT	II		A211
726796	DILLON AIRPORT [UO]	MT	III	*	A211
726797	BOZEMAN GALLATIN FIELD	MT	II		A211
726798	LIVINGSTON MISSION FIELD	MT	II		A214
726810	BOISE AIR TERMINAL [UO]	ID	I	*	A125
726813	CALDWELL (AWOS)	ID	III		A125
726815	MOUNTAIN HOME AFB	ID	II		A128
726816	JEROME	ID	III		A127
726817	MULLAN PASS	ID	III		A129
726818	REXBURG	ID	III		A129
726830	BURNS MUNICIPAL ARPT [UO]	OR	I	*	A274
726835	REDMOND ROBERTS FIELD	OR	II		A279
726836	SCAPPOOSE INDUSTRIA	OR	III		A279
726837	ONTARIO MUNICIPAL AP	OR	III		A277

ID	Station	State	Class	Solar	Page
726865	SALMON/LEMHI (AWOS)	ID	III		A130
726866	SALMON	ID	III		A129
726873	GRANGEVILLE	ID	III		A126
726880	PENDLETON E OR REGIONAL AP	OR	I		A278
726881	MC MINNVILLE MUNI	OR	III		A276
726883	HERMISTN MUNI ARPT [UO]	OR	III	*	A275
726884	LA GRANDE MUNI AP	OR	II		A276
726885	MEACHAM	OR	III		A276
726886	BAKER MUNICIPAL AP	OR	II		A274
726904	ROSEBURG REGIONAL AP	OR	II		A279
726917	NORTH BEND MUNI AIRPORT	OR	II		A277
726930	EUGENE MAHLON SWEET ARPT [UO]	OR	I	*	A275
726940	SALEM MCNARY FIELD	OR	I		A279
726945	CORVALLIS MUNI	OR	II		A275
726959	AURORA STATE	OR	III		A274
726980	PORTLAND INTERNATIONAL AP	OR	III		A278
726985	PORTLAND/TROUTDALE	OR	II		A278
726986	PORTLAND/HILLSBORO	OR	II		A278
726988	THE DALLES MUNICIPAL ARPT	WA	II		A347
727033	HOULTON INTL ARPT	ME	II		A167
727120	CARIBOU MUNICIPAL ARPT	ME	I		A167
727125	LORING AFB/LIMESTON	ME	III		A167
727130	PRESQUE ISLE MUNICIP	ME	II		A168
727135	WISCASSET	ME	III		A169
727340	SAULT STE MARIE SANDERSON FIE	MI	I		A181
727344	CHIPPEWA CO INTL	MI	II		A172
727347	PELLSTON EMMET COUNTY AP	MI	II		A181
727415	RHINELANDER ONEIDA	WI	II		A354
727430	MARQUETTE COUNTY ARPT	MI	III		A178
727434	CHARLEVOIX	MI	III		A172
727437	IRON MOUNTAIN/FORD	MI	II		A176
727440	HANCOCK HOUGHTON CO AP	MI	II		A175
727444	TWO HARBORS	MN	III		A199
727445	IRONWOOD (AWOS)	MI	II		A176
727449	MOOSE LAKE CO ARPT	MN	III		A193
727450	DULUTH INTERNATIONAL ARPT	MN	I		A187
727452	CROOKSTON MUNI FLD	MN	III		A186
727453	PARK RAPIDS MUNICIPAL AP	MN	II		A195
727454	GRAND MARAIS MUNI	MN	III		A189
727455	HIBBING CHISHOLM-HIBBING AP	MN	II		A190
727456	DULUTH HARBOR (CGS)	MN	III		A186
727457	DETROIT LAKES(AWOS)	MN	II		A186

ID	Station	State	Class	Solar	Page
727458	GRAND RAPIDS(AWOS)	MN	II		A189
727459	ELY MUNI	MN	II		A187
727466	MADISON	MN	III		A192
727467	FLAG ISLAND	MN	III		A188
727468	BIGFORK	MN	III		A184
727470	INTERNATIONAL FALLS INTL AP	MN	I		A190
727473	CRANE LAKE (AWOS)	MN	II		A185
727474	EVELETH MUNI (AWOS)	MN	III		A187
727475	MORA MUNI (AWOS)	MN	II		A193
727476	BAUDETTE INTERNATIONAL AP	MN	III		A183
727477	ROSEAU MUNI (AWOS)	MN	II		A197
727478	HALLOCK	MN	III		A190
727486	WASKISH MUNI AIRPT	MN	III		A200
727497	LONGVILLE MUNI AIRP	MN	III		A191
727503	CAMBRIDGE MUNI	MN	III		A185
727504	AITKIN NDB(AWOS)	MN	III		A182
727505	FOSSTON(AWOS)	MN	III		A189
727506	WINDOM	MN	III		A200
727507	BENSON MUNI	MN	III		A184
727508	PINE RIVER	MN	III		A195
727514	STAPLES	MN	III		A198
727515	ORTONVILLE	MN	III		A194
727530	FARGO HECTOR INTERNATIONAL AP	ND	I		A227
727533	WHEATON NDB (AWOS)	MN	III		A200
727535	JAMESTOWN MUNICIPAL ARPT	ND	II		A228
727550	BEMIDJI MUNICIPAL	MN	II		A184
727555	THIEF RIVER(AWOS)	MN	II		A199
727556	SILVER BAY	MN	III		A197
727564	WARROAD(AWOS)	MN	III		A199
727566	AUSTIN MUNI	MN	III		A183
727573	DEVILS LAKE(AWOS)	ND	II		A227
727575	GRAND FORKS AF	ND	II		A228
727576	GRAND FORKS INTERNATIONAL AP	ND	II		A228
727584	HETTINGER	ND	III		A228
727640	BISMARCK MUNICIPAL ARPT [ISIS]	ND	I	*	A227
727645	DICKINSON MUNICIPAL AP	ND	II		A227
727670	WILLISTON SLOULIN INTL AP	ND	I		A229
727675	MINOT AFB	ND	II		A229
727676	MINOT FAA AP	ND	I		A229
727680	GLASGOW INTL ARPT	MT	I		A212
727686	WOLF POINT INTL [FORT PECK - SURFRAD]	MT	II	*	A215
727687	SIDNEY-RICHLAND	MT	II		A215

ID	Station	State	Class	Solar	Page
727720	HELENA REGIONAL AIRPORT	MT	I		A213
727730	MISSOULA INTERNATIONAL AP	MT	I		A214
727735	DRUMMOND	MT	III		A212
727750	GREAT FALLS INTL ARPT	MT	I		A212
727755	MALMSTROM AFB	MT	III		A214
727770	HAVRE CITY-COUNTY AP	MT	I		A213
727790	KALISPELL GLACIER PK INT'L AR	MT	I		A213
727796	CUT BANK MUNI AP	MT	II		A211
727810	YAKIMA AIR TERMINAL	WA	I		A348
727815	STAMPEDE PASS	WA	I		A346
727825	WENATCHEE/PANGBORN	WA	II		A347
727826	EPHRATA AP FCWOS	WA	II		A341
727827	MOSES LAKE GRANT COUNTY AP	WA	II		A343
727830	LEWISTON NEZ PERCE CNTY AP	ID	I		A127
727834	COEUR D`ALENE(AWOS)	ID	II		A126
727836	MULLAN (AWRS)	ID	III		A128
727840	HANFORD	WA	II		A342
727845	PASCO	WA	II		A344
727846	WALLA WALLA CITY COUNTY AP	WA	II		A347
727850	SPOKANE INTERNATIONAL AP [CHENEY - UO]	WA	I	*	A346
727854	DEER PARK ARPT	WA	III		A340
727855	FAIRCHILD AFB	WA	II		A341
727856	FELTS FLD	WA	II		A341
727857	PULLMAN/MOSCOW RGNL	WA	II		A344
727883	ELLENSBURG/BOWERS FIELD	WA	III		A340
727885	WILLIAM R FAIRCHILD	WA	III		A348
727890	OMAK	WA	III		A343
727910	ASTORIA REGIONAL AIRPORT	OR	I		A274
727918	PEARSON FLD	OR	III		A277
727920	OLYMPIA AIRPORT	WA	I		A343
727923	HOQUIAM AP	WA	II		A342
727924	KELSO WB AP	WA	II		A342
727925	SHELTON/SANDERSON	WA	III		A345
727926	TOLEDO-WINLOCK MEM	WA	III		A347
727928	BREMERTON NATIONAL	WA	II		A340
727930	SEATTLE SEATTLE-TACOMA INTL A	WA	I		A345
727934	RENTON MUNI	WA	II		A344
727935	SEATTLE BOEING FIELD [ISIS]	WA	II	*	A345
727937	SNOHOMISH CO	WA	II		A345
727938	TACOMA NARROWS	WA	II		A346
727945	ARLINGTON MUNI	WA	III		A339
727964	OAK HARBOR AIRPARK	WA	III		A343

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727970	QUILLAYUTE STATE AIRPORT	WA	I		A344
727976	BELLINGHAM INTL AP	WA	II		A340
727985	FRIDAY HARBOR	WA	III		A341
742060	TACOMA MCCHORD AFB	WA	II		A346
742070	GRAY AAF	WA	III		A342
742300	MILES CITY MUNICIPAL ARPT	MT	II		A214
742513	DURANT	OK	III		A269
743312	DE QUEEN	AR	III		A37
743700	FORT DRUM/WHEELER-S	NY	II		A254
743920	NAVAL AIR STATION	ME	II		A168
743945	MANCHESTER AIRPORT	NH	II		A238
744104	PITTSFIELD MUNI	MA	III		A162
744652	HARRISBURG	IL	III		A134
744653	SPARTA	IL	III		A138
744655	AURORA MUNICIPAL	IL	II		A130
744656	FAIRFIELD	IL	III		A134
744657	CENTRALIA	IL	III		A131
744658	FLORA	IL	III		A134
744659	OLNEY-NOBLE	IL	III		A136
744661	EFFINGHAM	IL	III		A133
744662	TAYLORSVILLE	IL	III		A139
744663	PITTSFIELD	IL	III		A137
744665	CHICAGO/PALWAUKEE	IL	III		A132
744666	JACKSONVILLE	IL	III		A135
744672	LINCOLN	IL	III		A135
744860	NEW YORK J F KENNEDY INT'L AR	NY	I		A256
744864	REPUBLIC	NY	II		A258
744865	WESTHAMPTON GABRESKI AP	NY	II		A260
744904	LAWRENCE MUNI	MA	II		A160
744910	CHICOPEE FALLS WESTO	MA	II		A159
744915	WESTFIELD BARNES MUNI AP	MA	II		A163
744989	DUNKIRK	NY	III		A253
745046	MADERA	CA	III		A60
745048	OROVILLE	CA	III		A64
745056	RAMONA	CA	III		A66
745058	WATSONVILLE	CA	III		A75
745060	ALAMEDA NAS	CA	III		A50
745090	MOUNTAIN VIEW MOFFETT FLD NAS	CA	II		A62
745160	TRAVIS FIELD AFB	CA	II		A73
745310	USAF ACADEMY AF	CO	II		A84
745700	DAYTON WRIGHT PATTERSON AFB	OH	II		A263
745940	ANDREWS AFB	MD	II		A164

ID	Station	State	Class	Solar	Page
745946	OCEAN CITY MUNI APT	MD	III		A165
745966	CAPE MAY CO	NJ	III		A240
745980	LANGLEY AFB	VA	II		A331
745985	MARTINSVILLE	VA	III		A332
746110	BICYCLE LAKE (AAF)	CA	III		A51
746120	CHINA LAKE NAF	CA	II		A54
746710	FORT CAMPBELL AAF	KY	II		A150
746716	BOWLING GREEN WARREN CO AP	KY	II		A150
746925	WARREN FIELD ARPT	NC	III		A226
746929	DUPLIN CO ARPT	NC	III		A218
746930	FORT BRAGG SIMMONS AAF	NC	II		A219
746935	ASHEBORO MUNI	NC	III		A215
746936	ERWIN/HARNETT ARPT	NC	III		A218
746939	CHAPEL HILL/WILLIAM	NC	III		A217
746940	GOLDSBORO/WAYNE	NC	III		A220
746943	ELIZABETH CITY COAST GUARD AI [NREL]	NC	III	*	A218
747020	LEMOORE REEVES NAS	CA	II		A58
747040	EL MONTE EMSU	CA	III		A55
747185	IMPERIAL	CA	II		A57
747187	PALM SPRINGS THERMAL AP	CA	II		A65
747188	BLYTHE RIVERSIDE CO ARPT	CA	II		A52
747240	GILA BEND AIRPORT	AZ	III		A44
747320	HOLLOMAN AFB	NM	II		A245
747400	JUNCTION KIMBLE COUNTY AP	TX	III		A314
747540	ENGLAND AFB	LA	III		A154
747685	GULFPORT BILOXI INT	MS	II		A207
747686	KEESLER AFB	MS	II		A208
747688	PASCAGOULA	MS	III		A210
747750	TYNDALL AFB	FL	II		A100
747760	MARIANNA	FL	III		A94
747770	VALPARAISO HURLBURT	FL	II		A101
747804	HUNTER AAF	GA	II		A106
747805	STATESBORO	GA	III		A108
747806	THOMASTON	GA	III		A109
747807	LA GRANGE	GA	III		A106
747808	LAWRENCEVILLE	GA	III		A107
747809	WINDER	GA	III		A110
747810	MOODY AFB/VALDOSTA	GA	II		A107
747880	MACDILL AFB	FL	II		A93
747900	SUMTER SHAW AFB	SC	II		A295
747910	MYRTLE BEACH AFB	SC	II		A294
747915	NORTH MYRTLE BEACH GRAND STRA	SC	II		A294

ID	Station	State	Class	Solar	Page
747930	WINTERHAVEN	FL	III		A102
747946	NASA SHUTTLE FCLTY	FL	III		A95
747950	COCOA BEACH PATRICK AFB	FL	II		A89
747960	AVON PARK GUNNERY RANGE	FL	III		A88
785140	AQUADILLA/BORINQUEN	PR	II		A288
785145	EUGENIO MARIA DE HO	PR	III		A288
785203	MERCEDITA	PR	II		A288
785260	SAN JUAN INTL ARPT	PR	II		A289
785263	SAN JUAN L M MARIN INTL AP	PR	III		A289
785350	ROOSEVELT ROADS	PR	III		A289
785430	CHARLOTTE AMALIE HARRY S TRUM	VI	II		A338
910660	MIDWAY ISLAND NAS	HI	III		A113
911650	LIHUE AIRPORT	HI	I		A113
911700	WHEELER AFB 810.1	HI	II		A114
911760	KANEOHE BAY MCAS	HI	II		A112
911780	BARBERS POINT NAS	HI	II		A111
911820	HONOLULU INTL ARPT	HI	I		A112
911860	MOLOKAI (AMOS)	HI	II		A114
911900	KAHULUI AIRPORT	HI	I		A112
911904	KAPALUA	HI	II		A112
911905	LANAI	HI	II		A113
911975	KONA INTL AT KEAHOL	HI	III		A113
911977	BRADSHAW AAF	HI	III		A111
912120	GUAM WFO	GU	II		A111
912170	GUAM MARIANA IS	GU	III		A110
912180	ANDERSEN AFB	GU	II		A110
912850	HILO INTERNATIONAL AP	HI	I		A111

Appendix B: Old and New NSRDB Station Equivalencies

This section lists the original 239 1961–1990 NSRDB sites (in order by WBAN ID) with their equivalent sites in the 1991–2010 NSRDB update and USAF ID. No changes were made between the 2005 and 2010 NSRDB updates. All of the equivalent sites in the updated NSRDB are either Class I or Class II stations, with the exception of Flagstaff, Arizona, Boulder, Colorado, Portland, Oregon, and Cape Hatteras, North Carolina, which are now Class III. Although some sites have slightly different coordinates because of changes in station location or inclusion of different sites with measured solar data, all pairs of sites listed here should be climatically similar.

Table B-1. Old and New Station Equivalencies

WBAN	1961-1990 Site	USAF	NSRDB Update Site
03103	Flagstaff, Arizona	723755	FLAGSTAFF PULLIAM ARPT, AZ
03812	Asheville, North Carolina	723150	ASHEVILLE REGIONAL ARPT, NC
03813	Macon, Georgia	722170	MACON MIDDLE GA REGIONAL AP, GA
03820	Augusta, Georgia	722180	AUGUSTA BUSH FIELD, GA
03822	Savannah, Georgia	722070	SAVANNAH INTL AP, GA
03856	Huntsville, Alabama	723230	HUNTSVILLE INTL/JONES FIELD, AL
03860	Huntington, West Virginia	724250	HUNTINGTON TRI-STATE ARPT, WV
03870	Greenville, South Carolina	723120	GREER GREENV'L-SPARTANBRG AP, SC
03927	Fort Worth, Texas	722590	DALLAS-FORT WORTH INTL AP, TX
03928	Wichita, Kansas	724500	WICHITA MID-CONTINENT AP, KS
03937	Lake Charles, Louisiana	722400	LAKE CHARLES REGIONAL ARPT, LA
03940	Jackson, Mississippi	722350	JACKSON INTERNATIONAL AP, MS
03945	Columbia, Missouri	724450	COLUMBIA REGIONAL AIRPORT, MO
03947	Kansas City, Missouri	724460	KANSAS CITY INT'L ARPT, MO
04725	Binghamton, New York	725150	BINGHAMTON EDWIN A LINK FIELD, NY
04751	Bradford, Pennsylvania	725266	BRADFORD REGIONAL AP, PA
11641	San Juan, Puerto Rico	785260	SAN JUAN INTL ARPT, PR
12834	Daytona Beach, Florida	722056	DAYTONA BEACH INTL AP, FL
12836	Key West, Florida	722010	KEY WEST INTL ARPT, FL
12839	Miami, Florida	722020	MIAMI INTL AP, FL
12842	Orlando, Florida	722050	ORLANDO INTL ARPT, FL
12844	West Palm Beach, Florida	722030	WEST PALM BEACH INTL ARPT, FL
12912	Victoria, Texas	722550	VICTORIA REGIONAL AP, TX
12916	New Orleans, Louisiana	722310	NEW ORLEANS INTL ARPT, LA
12917	Port Arthur, Texas	722410	PORT ARTHUR JEFFERSON COUNTY, TX
12919	Brownsville, Texas	722500	BROWNSVILLE S PADRE ISL INTL, TX
12921	San Antonio, Texas	722530	SAN ANTONIO INTL AP, TX
12924	Corpus Christi, Texas	722510	CORPUS CHRISTI INTL ARPT [UT], TX
12960	Houston, Texas	722430	HOUSTON BUSH INTERCONTINENTAL, TX
13722	Raleigh/Durham, North Carolina	723060	RALEIGH DURHAM INTERNATIONAL, NC
13723	Greensboro, North Carolina	723170	GREENSBORO PIEDMONT TRIAD INT, NC
13729	Elkins, West Virginia	724170	ELKINS ELKINS-RANDOLPH CO ARP, WV

WBAN	1961-1990 Site	USAF	NSRDB Update Site
13733	Lynchburg, Virginia	724100	LYNCHBURG REGIONAL ARPT, VA
13737	Norfolk, Virginia	723080	NORFOLK INTERNATIONAL AP, VA
13739	Philadelphia, Pennsylvania	724080	PHILADELPHIA INTERNATIONAL AP, PA
13740	Richmond, Virginia	724010	RICHMOND INTERNATIONAL AP, VA
13741	Roanoke, Virginia	724110	ROANOKE REGIONAL AP, VA
13748	Wilmington, North Carolina	723013	WILMINGTON INTERNATIONAL ARPT, NC
13781	Wilmington, Delaware	724089	WILMINGTON NEW CASTLE CNTY AP, DE
13865	Meridian, Mississippi	722340	MERIDIAN KEY FIELD, MS
13866	Charleston, West Virginia	724140	CHARLESTON YEAGER ARPT, WV
13873	Athens, Georgia	723110	ATHENS BEN EPPS AP, GA
13874	Atlanta, Georgia	722190	ATLANTA HARTSFIELD INTL AP, GA
13876	Birmingham, Alabama	722280	BIRMINGHAM MUNICIPAL AP, AL
13877	Bristol, Tennessee	723183	BRISTOL TRI CITY AIRPORT, TN
13880	Charleston, South Carolina	722080	CHARLESTON INTL ARPT, SC
13881	Charlotte, North Carolina	723140	CHARLOTTE DOUGLAS INTL ARPT, NC
13882	Chattanooga, Tennessee	723240	CHATTANOOGA LOVELL FIELD AP, TN
13883	Columbia, South Carolina	723100	COLUMBIA METRO ARPT, SC
13889	Jacksonville, Florida	722060	JACKSONVILLE INTL ARPT, FL
13891	Knoxville, Tennessee	723260	KNOXVILLE MCGHEE TYSON AP, TN
13893	Memphis, Tennessee	723340	MEMPHIS INTERNATIONAL AP, TN
13894	Mobile, Alabama	722230	MOBILE REGIONAL AP, AL
13895	Montgomery, Alabama	722260	MONTGOMERY DANNELLY FIELD, AL
13897	Nashville, Tennessee	723270	NASHVILLE INTERNATIONAL AP, TN
13957	Shreveport, Louisiana	722480	SHREVEPORT REGIONAL ARPT, LA
13958	Austin, Texas	722540	AUSTIN MUELLER MUNICIPAL AP [UT], TX
13959	Waco, Texas	722560	WACO REGIONAL AP, TX
13962	Abilene, Texas	722660	ABILENE REGIONAL AP [UT], TX
13963	Little Rock, Arkansas	723403	LITTLE ROCK ADAMS FIELD, AR
13964	Fort Smith, Arkansas	723440	FORT SMITH REGIONAL AP, AR
13966	Wichita Falls, Texas	723510	WICHITA FALLS MUNICIPAL ARPT, TX
13967	Oklahoma City, Oklahoma	723530	OKLAHOMA CITY WILL ROGERS WOR, OK
13968	Tulsa, Oklahoma	723560	TULSA INTERNATIONAL AIRPORT, OK
13970	Baton Rouge, Louisiana	722317	BATON ROUGE RYAN ARPT, LA
13985	Dodge City, Kansas	724510	DODGE CITY REGIONAL AP, KS
13994	St. Louis, Missouri	724340	ST LOUIS LAMBERT INT'L ARPT, MO
13995	Springfield, Missouri	724400	SPRINGFIELD REGIONAL ARPT, MO
13996	Topeka, Kansas	724560	TOPEKA MUNICIPAL AP, KS
14607	Caribou, Maine	727120	CARIBOU MUNICIPAL ARPT, ME
14733	Buffalo, New York	725280	BUFFALO NIAGARA INTL AP, NY
14734	Newark, New Jersey	725020	NEWARK INTERNATIONAL ARPT, NJ
14735	Albany, New York	725180	ALBANY COUNTY AP, NY
14737	Allentown, Pennsylvania	725170	ALLENTOWN LEHIGH VALLEY INTL, PA
14739	Boston, Massachusetts	725090	BOSTON LOGAN INT'L ARPT, MA
14740	Hartford, Connecticut	725080	HARTFORD BRADLEY INTL AP, CT
14742	Burlington, Vermont	726170	BURLINGTON INTERNATIONAL AP, VT
14745	Concord, New Hampshire	726050	CONCORD MUNICIPAL ARPT, NH
14751	Harrisburg, Pennsylvania	725118	HARRISBURG CAPITAL CITY ARPT, PA

WBAN	1961-1990 Site	USAF	NSRDB Update Site
14764	Portland, Maine	726060	PORTLAND INTL JETPORT, ME
14765	Providence, Rhode Island	725070	PROVIDENCE T F GREEN STATE AR, RI
14768	Rochester, New York	725290	ROCHESTER GREATER ROCHESTER I, NY
14771	Syracuse, New York	725190	SYRACUSE HANCOCK INT'L ARPT, NY
14777	Wilkes-Barre/Scranton, Pennsylvania	725130	WILKES-BARRE SCRANTON INTL AP, PA
14778	Williamsport, Pennsylvania	725140	WILLIAMSPORT REGIONAL AP, PA
14820	Cleveland, Ohio	725240	CLEVELAND HOPKINS INTL AP, OH
14821	Columbus, Ohio	724280	COLUMBUS PORT COLUMBUS INTL A, OH
14826	Flint, Michigan	726370	FLINT BISHOP INTL ARPT, MI
14827	Fort Wayne, Indiana	725330	FORT WAYNE INTL AP, IN
14836	Lansing, Michigan	725390	LANSING CAPITAL CITY ARPT, MI
14837	Madison, Wisconsin	726410	MADISON DANE CO REGIONAL ARPT [ISIS], WI
14839	Milwaukee, Wisconsin	726400	MILWAUKEE MITCHELL INTL AP, WI
14840	Muskegon, Michigan	726360	MUSKEGON COUNTY ARPT, MI
14842	Peoria, Illinois	725320	PEORIA GREATER PEORIA AP, IL
14847	Sault Ste. Marie, Michigan	727340	SAULT STE MARIE SANDERSON FIE, MI
14848	South Bend, Indiana	725350	SOUTH BEND MICHIANA RGNL AP, IN
14850	Traverse City, Michigan	726387	TRAVERSE CITY CHERRY CAPITAL, MI
14852	Youngstown, Ohio	725250	YOUNGSTOWN REGIONAL AIRPORT, OH
14860	Erie, Pennsylvania	725260	ERIE INTERNATIONAL AP, PA
14891	Mansfield, Ohio	725246	MANSFIELD LAHM MUNICIPAL ARPT, OH
14895	Akron/Canton, Ohio	725210	AKRON AKRON-CANTON REG AP, OH
14898	Green Bay, Wisconsin	726450	GREEN BAY AUSTIN STRAUBEL INT, WI
14913	Duluth, Minnesota	727450	DULUTH INTERNATIONAL ARPT, MN
14914	Fargo, North Dakota	727530	FARGO HECTOR INTERNATIONAL AP, ND
14918	International Falls, Minnesota	727470	INTERNATIONAL FALLS INTL AP, MN
14920	La Crosse, Wisconsin	726430	LA CROSSE MUNICIPAL ARPT, WI
14922	Minneapolis/St. Paul, Minnesota	726580	MINNEAPOLIS-ST PAUL INT'L ARP, MN
14923	Moline, Illinois	725440	MOLINE QUAD CITY INTL AP, IL
14925	Rochester, Minnesota	726440	ROCHESTER INTERNATIONAL ARPT, MN
14926	Saint Cloud, Minnesota	726550	ST CLOUD REGIONAL ARPT, MN
14933	Des Moines, Iowa	725460	DES MOINES INTL AP, IA
14935	Grand Island, Nebraska	725520	GRAND ISLAND CENTRAL NE REGIO, NE
14936	Huron, South Dakota	726540	HURON REGIONAL ARPT, SD
14940	Mason City, Iowa	725485	MASON CITY MUNICIPAL ARPT, IA
14941	Norfolk, Nebraska	725560	NORFOLK KARL STEFAN MEM ARPT, NE
14943	Sioux City, Iowa	725570	SIOUX CITY SIOUX GATEWAY AP, IA
14944	Sioux Falls, South Dakota	726510	SIOUX FALLS FOSS FIELD, SD
14991	Eau Claire, Wisconsin	726435	EAU CLAIRE COUNTY AP, WI
21504	Hilo, Hawaii	912850	HILO INTERNATIONAL AP, HI
22516	Kahului, Hawaii	911900	KAHULUI AIRPORT, HI
22521	Honolulu, Hawaii	911820	HONOLULU INTL ARPT, HI
22536	Lihue, Hawaii	911650	LIHUE AIRPORT, HI
23023	Midland/Odessa, Texas	722650	MIDLAND INTERNATIONAL AP, TX
23034	San Angelo, Texas	722630	SAN ANGELO MATHIS FIELD, TX

WBAN	1961-1990 Site	USAF	NSRDB Update Site
23042	Lubbock, Texas	722670	LUBBOCK INTERNATIONAL AP, TX
23044	El Paso, Texas	722700	EL PASO INTERNATIONAL AP [UT], TX
23047	Amarillo, Texas	723630	AMARILLO INTERNATIONAL AP [CANYON - UT], TX
23048	Tucumcari, New Mexico	723676	TUCUMCARI FAA AP, NM
23050	Albuquerque, New Mexico	723650	ALBUQUERQUE INTL ARPT [ISIS], NM
23061	Alamosa, Colorado	724620	ALAMOSA SAN LUIS VALLEY RGNL, CO
23063	Eagle, Colorado	724675	EAGLE COUNTY AP, CO
23065	Goodland, Kansas	724650	GOODLAND RENNER FIELD, KS
23066	Grand Junction, Colorado	724760	GRAND JUNCTION WALKER FIELD, CO
23129	Long Beach, California	722970	LONG BEACH DAUGHERTY FLD, CA
23153	Tonopah, Nevada	724855	TONOPAH AIRPORT, NV
23154	Ely, Nevada	724860	ELY YELLAND FIELD, NV
23155	Bakersfield, California	723840	BAKERSFIELD MEADOWS FIELD, CA
23160	Tucson, Arizona	722740	TUCSON INTERNATIONAL AP, AZ
23161	Daggett, California	723815	DAGGETT BARSTOW-DAGGETT AP, CA
23169	Las Vegas, Nevada	723860	LAS VEGAS MCCARRAN INTL AP, NV
23174	Los Angeles, California	722950	LOS ANGELES INTL ARPT, CA
23183	Phoenix, Arizona	722780	PHOENIX SKY HARBOR INTL AP, AZ
23184	Prescott, Arizona	723723	PRESCOTT LOVE FIELD, AZ
23185	Reno, Nevada	724880	RENO TAHOE INTERNATIONAL AP, NV
23188	San Diego, California	722900	SAN DIEGO LINDBERGH FIELD, CA
23232	Sacramento, California	724830	SACRAMENTO EXECUTIVE ARPT, CA
23234	San Francisco, California	724940	SAN FRANCISCO INTL AP, CA
23273	Santa Maria, California	723940	SANTA MARIA PUBLIC ARPT, CA
24011	Bismarck, North Dakota	727640	BISMARCK MUNICIPAL ARPT [ISIS], ND
24013	Minot, North Dakota	727676	MINOT FAA AP, ND
24018	Cheyenne, Wyoming	725640	CHEYENNE MUNICIPAL ARPT, WY
24021	Lander, Wyoming	725760	LANDER HUNT FIELD, WY
24023	North Platte, Nebraska	725620	NORTH PLATTE REGIONAL AP, NE
24025	Pierre, South Dakota	726686	PIERRE MUNICIPAL AP, SD
24027	Rock Springs, Wyoming	725744	ROCK SPRINGS ARPT [GREEN RIVER - UO], WY
24028	Scottsbluff, Nebraska	725660	SCOTTSBLUFF W B HEILIG FIELD, NE
24029	Sheridan, Wyoming	726660	SHERIDAN COUNTY ARPT, WY
24033	Billings, Montana	726770	BILLINGS LOGAN INT'L ARPT, MT
24036	Lewistown, Montana	726776	LEWISTOWN MUNICIPAL ARPT, MT
24037	Miles City, Montana	742300	MILES CITY MUNICIPAL ARPT, MT
24089	Casper, Wyoming	725690	CASPER NATRONA CO INTL AP, WY
24090	Rapid City, South Dakota	726620	RAPID CITY REGIONAL ARPT, SD
24121	Elko, Nevada	725825	ELKO MUNICIPAL ARPT, NV
24127	Salt Lake City, Utah	725720	SALT LAKE CITY INT'L ARPT [ISIS], UT
24128	Winnemucca, Nevada	725830	WINNEMUCCA MUNICIPAL ARPT, NV
24131	Boise, Idaho	726810	BOISE AIR TERMINAL [UO], ID
24137	Cut Bank, Montana	727796	CUT BANK MUNI AP, MT
24143	Great Falls, Montana	727750	GREAT FALLS INTL ARPT, MT
24144	Helena, Montana	727720	HELENA REGIONAL AIRPORT, MT
24146	Kalispell, Montana	727790	KALISPELL GLACIER PK INT'L AR, MT

WBAN	1961-1990 Site	USAF	NSRDB Update Site
24153	Missoula, Montana	727730	MISSOULA INTERNATIONAL AP, MT
24155	Pendleton, Oregon	726880	PENDLETON E OR REGIONAL AP, OR
24156	Pocatello, Idaho	725780	POCATELLO REGIONAL AP, ID
24157	Spokane, Washington	727850	SPOKANE INTERNATIONAL AP [CHENEY - UO], WA
24221	Eugene, Oregon	726930	EUGENE MAHLON SWEET ARPT [UO], OR
24225	Medford, Oregon	725970	MEDFORD ROGUE VALLEY INTL AP [ASHLAND - UO], OR
24227	Olympia, Washington	727920	OLYMPIA AIRPORT, WA
24229	Portland, Oregon	726980	PORTLAND INTERNATIONAL AP, OR
24230	Redmond, Oregon	726835	REDMOND ROBERTS FIELD, OR
24232	Salem, Oregon	726940	SALEM MCNARY FIELD, OR
24233	Seattle/Tacoma, Washington	727930	SEATTLE SEATTLE-TACOMA INTL A, WA
24243	Yakima, Washington	727810	YAKIMA AIR TERMINAL, WA
24283	Arcata, California	725945	ARCATA AIRPORT, CA
24284	North Bend, Oregon	726917	NORTH BEND MUNI AIRPORT, OR
25308	Annette, Alaska	703980	ANNETTE ISLAND AP, AK
25339	Yakutat, Alaska	703610	YAKUTAT STATE ARPT, AK
25501	Kodiak, Alaska	703500	KODIAK AIRPORT, AK
25503	King Salmon, Alaska	703260	KING SALMON ARPT, AK
25624	Cold Bay, Alaska	703160	COLD BAY ARPT, AK
25713	St Paul Is., Alaska	703080	ST PAUL ISLAND ARPT, AK
26411	Fairbanks, Alaska	702610	FAIRBANKS INTL ARPT, AK
26415	Big Delta, Alaska	702670	BIG DELTA ALLEN AAF, AK
26425	Gulkana, Alaska	702710	GULKANA INTERMEDIATE FIELD, AK
26451	Anchorage, Alaska	702730	ANCHORAGE INTL AP, AK
26510	McGrath, Alaska	702310	MCGRATH ARPT, AK
26528	Talkeetna, Alaska	702510	TALKEETNA STATE ARPT, AK
26533	Bettles, Alaska	701740	BETTLES FIELD, AK
26615	Bethel, Alaska	702190	BETHEL AIRPORT, AK
26616	Kotzebue, Alaska	701330	KOTZEBUE RALPH WEIN MEMORIAL, AK
26617	Nome, Alaska	702000	NOME MUNICIPAL ARPT, AK
27502	Barrow, Alaska	700260	BARROW W POST-W ROGERS ARPT [NSA - ARM], AK
41415	Guam, Pacific Islands	912120	GUAM WFO, GU
93037	Colorado Springs, Colorado	724660	COLORADO SPRINGS MUNI AP, CO
93058	Pueblo, Colorado	724640	PUEBLO MEMORIAL AP, CO
93129	Cedar City, Utah	724755	CEDAR CITY MUNICIPAL AP, UT
93193	Fresno, California	723890	FRESNO YOSEMITE INTL AP, CA
93721	Baltimore, Maryland	724060	BALTIMORE BLT-WASHNGTN INT'L, MD
93729	Cape Hatteras, North Carolina	723040	CAPE HATTERAS NWS BLDG, NC
93730	Atlantic City, New Jersey	724070	ATLANTIC CITY INTL AP, NJ
93738	Sterling, Virginia	724030	WASHINGTON DC DULLES INT'L AR [STERLING - ISIS], VA
93805	Tallahassee, Florida	722140	TALLAHASSEE REGIONAL AP [ISIS], FL
93814	Covington (Cincinnati, OH), Kentucky	724210	CINCINNATI NORTHERN KY AP, KY
93815	Dayton, Ohio	724290	DAYTON INTERNATIONAL AIRPORT, OH
93817	Evansville, Indiana	724320	EVANSVILLE REGIONAL AP, IN

WBAN	1961-1990 Site	USAF	NSRDB Update Site
93819	Indianapolis, Indiana	724380	INDIANAPOLIS INTL AP, IN
93820	Lexington, Kentucky	724220	LEXINGTON BLUEGRASS AP, KY
93821	Louisville, Kentucky	724230	LOUISVILLE STANDIFORD FIELD, KY
93822	Springfield, Illinois	724390	SPRINGFIELD CAPITAL AP, IL
93842	Columbus, Georgia	722255	COLUMBUS METROPOLITAN ARPT, GA
93987	Lufkin, Texas	722446	LUFKIN ANGELINA CO, TX
94008	Glasgow, Montana	727680	GLASGOW INTL ARPT, MT
94018	Boulder, Colorado	724699	BROOMFIELD/JEFFCO [BOULDER - SURFRAD], CO
94185	Burns, Oregon	726830	BURNS MUNICIPAL ARPT [UO], OR
94224	Astoria, Oregon	727910	ASTORIA REGIONAL AIRPORT, OR
94240	Quillayute, Washington	727970	QUILLAYUTE STATE AIRPORT, WA
94702	Bridgeport, Connecticut	725040	BRIDGEPORT SIKORSKY MEMORIAL, CT
94725	Massena, New York	726223	MASSENA AP, NY
94728	New York City (Central Park), New York	744860	NEW YORK J F KENNEDY INT'L AR, NY
94746	Worchester, Massachusetts	725095	WORCHESTER REGIONAL ARPT, MA
94814	Houghton, Michigan	726380	HOUGHTON LAKE ROSCOMMON CO AR, MI
94822	Rockford, Illinois	725430	ROCKFORD GREATER ROCKFORD AP, IL
94823	Pittsburgh, Pennsylvania	725200	PITTSBURGH INTERNATIONAL AP, PA
94830	Toledo, Ohio	725360	TOLEDO EXPRESS AIRPORT, OH
94846	Chicago, Illinois	725300	CHICAGO OHARE INTL AP, IL
94847	Detroit, Michigan	725370	DETROIT METROPOLITAN ARPT, MI
94849	Alpena, Michigan	726390	ALPENA COUNTY REGIONAL AP, MI
94860	Grand Rapids, Michigan	726350	GRAND RAPIDS KENT COUNTY INT', MI
94910	Waterloo, Iowa	725480	WATERLOO MUNICIPAL AP, IA
94918	Omaha, Nebraska	725500	OMAHA EPPLEY AIRFIELD, NE

Appendix C: Measured Solar Instrumentation

This section provides details about the instrumentation used for measured solar radiation in the NSRDB update. Table C-1 shows instrumentation by year for each site with measured data.

Table C-1. Measurement Site Instrumentation by Year, 1991–2005

ID	Name	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05
700260	BARROW W POST-W ROGERS ARPT [NSA - ARM]	x	x	x	x	x	x	x	a	a	a	a	a	a	a	a
722046	SPACE COAST RGNL [FSEC]	x	x	x	x	x	x	x	a	a	a	a	x	x	x	x
722140	TALLAHASSEE REGIONAL AP [ISIS]	x	x	x	x	a	a	a	a	a	a	a	a	x	x	x
722436	HOUSTON ELLINGTON AFB [CLEAR LAKE - UT]	x	x	x	x	x	x	a	a	a	a	a	x	x	x	x
722470	LONGVIEW GREGG COUNTY AP [OVERTON - UT]	x	x	x	x	x	c	c	c	c	c	c	c	c	x	x
722506	MCALLEN MILLER INTL AP [EDINBURG - UT]	x	x	x	x	x	x	a	a	a	a	a	a	a	x	x
722510	CORPUS CHRISTI INTL ARPT [UT]	x	x	x	x	x	c	c	c	c	c	c	c	c	x	x
722520	LAREDO INTL AP [UT]	x	x	x	x	x	c	c	c	c	c	c	c	c	x	x
722540	AUSTIN MUELLER MUNICIPAL AP [UT]	x	x	x	x	x	a	a	a	a	a	a	a	x	x	x
722610	DEL RIO [UT]	x	x	x	x	x	c	c	c	c	c	c	x	x	x	x
722660	ABILENE REGIONAL AP [UT]	x	x	x	x	x	x	c	c	c	c	c	c	c	x	x
722700	EL PASO INTERNATIONAL AP [UT]	x	x	x	x	x	x	x	x	a	a	a	a	a	x	x
723546	PONCA CITY MUNICIPAL AP [SGP - ARM]	x	x	x	a	a	a	a	a	a	a	a	a	a	a	a
723630	AMARILLO INTERNATIONAL AP [CANYON - UT]	x	x	x	x	x	x	a	a	a	a	a	a	a	x	x
723650	ALBUQUERQUE INTL ARPT [ISIS]	x	x	x	x	a	a	a	a	a	a	a	a	a	a	x
723870	MERCURY DESERT ROCK AP [SURFRAD]	x	x	x	x	x	x	x	a	a	a	a	a	a	a	a
723898	HANFORD MUNI ARPT [ISIS]	x	x	x	x	a	a	a	a	a	a	a	a	a	a	a

ID	Name	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05
724030	WASHINGTON DC DULLES INT'L AR [STERLING - ISIS]	x	x	x	x	x	a	a	a	a	a	a	a	a	a	a
724125	BLUEFIELD/MERCER CO [NREL]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
724666	DENVER/ CENTENNIAL [GOLDEN - NREL]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
724699	BROOMFIELD/JEFF CO [BOULDER - SURFRAD]	x	x	x	x	x	a	a	a	a	a	a	a	a	a	a
724776	MOAB/CANYON-LANDS [UO]	x	x	x	c	c	c	c	c	c	c	c	c	c	c	x
725128	STATE COLLEGE [PENN STATE - SURFRAD]	x	x	x	x	x	x	x	a	a	a	a	a	a	a	a
725315	UNIV OF ILLINOIS WI [BONDVILLE - SURFRAD]	x	x	x	x	a	a	a	a	a	a	a	a	a	a	a
725720	SALT LAKE CITY INT'L ARPT [ISIS]	x	x	x	x	a	a	a	a	a	a	a	a	a	a	a
725744	ROCK SPRINGS ARPT [GREEN RIVER - UO]	x	x	x	x	c	c	c	c	c	c	c	c	c	c	c
725895	KLAMATH FALLS INTL AP [UO]	x	x	x	x	x	x	x	x	b	b	x	x	x	x	x
725970	MEDFORD ROGUE VALLEY INTL AP [ASHLAND - UO]	x	x	x	x	x	x	x	x	x	c	c	c	c	c	c
726410	MADISON DANE CO REGIONAL ARPT [ISIS]	x	x	x	x	x	a	a	a	a	a	a	a	a	a	a
726796	DILLON AIRPORT [UO]	x	x	x	x	x	x	x	x	x	x	x	a	a	a	a
726810	BOISE AIR TERMINAL [UO]	x	x	x	c	c	c	c	c	c	c	c	x	x	x	x
726830	BURNS MUNICIPAL ARPT [UO]	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
726883	HERMISTN MUNI ARPT [UO]	x	x	b	b	b	b	b	b	b	b	b	b	b	b	b
726930	EUGENE MAHLON SWEET ARPT [UO]	b	b	b	b	b	a	a	a	a	a	a	a	a	a	a
727640	BISMARCK MUNICIPAL ARPT [ISIS]	x	x	x	x	a	a	a	a	a	a	a	a	a	a	a
727686	WOLF POINT INTL [FORT PECK - SURFRAD]	x	x	x	x	a	a	a	a	a	a	a	a	a	a	a
727935	SEATTLE BOEING FIELD [ISIS]	x	x	x	x	a	a	a	a	a	a	a	a	a	a	a
746943	ELIZABETH CITY COAST GUARD AI [NREL]	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a

Key

a – Measured global, direct, and diffuse with thermopile instruments

b – Measured global and direct with thermopile instruments

c – Spectrally corrected measured global and diffuse with rotating shadowband radiometer (see Section 2.3.6.1)

x – No measured data available