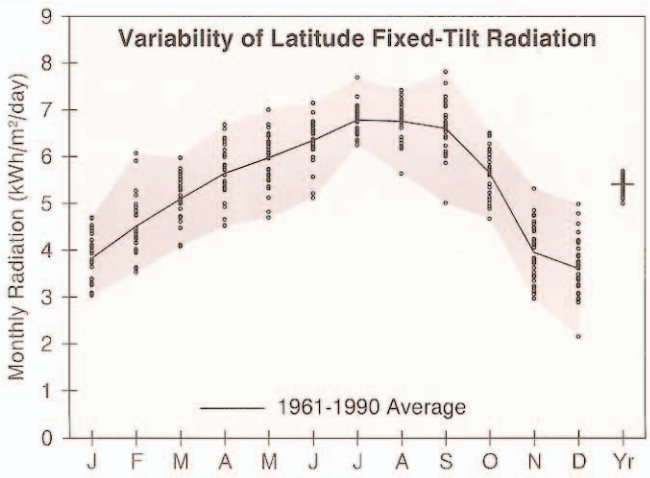
Elko, NV

WBAN NO. 24121

LATITUDE: 40.83° N
LONGITUDE: 115.78° W
ELEVATION: 1547 meters
MEAN PRESSURE: 845 millibars

STATION TYPE: Secondary



Solar Radiation for Flat-Plate Collectors Facing South at a Fixed Tilt (kWh/m²/day), Uncertainty ±9%

Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	2.1	2.9	4.0	5.3	6.3	7.1	7.4	6.6	5.4	3.8	2.3	1.9	4.6
	Min/Max	1.8/2.4	2.5/3.7	3.4/4.6	4.3/6.1	5.0/7.3	5.8/8.1	6.8/8.5	5.5/7.2	4.3/6.2	3.3/4.2	1.9/2.8	1.5/2.3	4.4/4.8
Latitude -15	Average	3.3	4.1	4.9	5.7	6.4	6.9	7.3	7.0	6.5	5.2	3.5	3.1	5.3
	Min/Max	2.7/4.0	3.3/5.4	4.0/5.7	4.6/6.8	5.0/7.5	5.6/7.8	6.7/8.4	5.8/7.7	5.0/7.6	4.4/5.9	2.7/4.6	2.0/4.2	5.0/5.6
Latitude	Average	3.8	4.5	5.1	5.6	6.0	6.3	6.8	6.8	6.6	5.7	4.0	3.6	5.4
	Min/Max	3.0/4.7	3.5/6.1	4.1/6.0	4.5/6.7	4.7/7.0	5.1/7.1	6.2/7.7	5.6/7.4	5.0/7.8	4.7/6.5	3.0/5.3	2.2/5.0	5.0/5.7
Latitude +15	Average	4.1	4.7	5.0	5.2	5.3	5.4	5.9	6.1	6.4	5.8	4.2	3.9	5.2
	Min/Max	3.2/5.1	3.6/6.4	4.0/5.9	4.2/6.2	4.2/6.2	4.4/6.1	5.4/6.6	5.1/6.7	4.8/7.5	4.7/6.7	3.1/5.7	2.3/5.4	4.7/5.4
90	Average	3.9	4.1	3.8	3.4	2.9	2.7	3.0	3.6	4.5	4.7	3.8	3.7	3.7
	Min/Max	3.0/4.9	3.1/6.0	3.0/4.5	2.8/4.0	2.4/3.3	2.3/2.9	2.8/3.2	3.1/3.9	3.3/5.3	3.9/5.5	2.8/5.2	2.1/5.2	3.3/3.9

Solar Radiation for 1-Axis Tracking Flat-Plate Collectors with a North-South Axis (kWh/m²/day), Uncertainty ±9%

Axis Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	3.2	4.3	5.7	7.2	8.6	9.8	10.4	9.4	8.1	5.9	3.5	2.9	6.6
	Min/Max	2.5/3.9	3.4/5.8	4.4/6.8	5.4/8.8	6.6/10.4	7.5/11.7	9.2/12.4	7.5/10.8	5.8/9.9	4.8/6.9	2.7/4.6	1.8/3.9	6.0/7.0
Latitude -15	Average	4.1	5.2	6.4	7.7	8.8	9.8	10.5	9.9	8.9	6.9	4.3	3.8	7.2
	Min/Max	3.2/5.1	4.0/7.1	4.8/7.7	5.7/9.4	6.6/10.7	7.5/11.7	9.3/12.6	7.8/11.3	6.4/10.9	5.6/8.1	3.2/6.0	2.2/5.3	6.5/7.7
Latitude	Average	4.5	5.5	6.5	7.6	8.5	9.5	10.2	9.7	9.0	7.2	4.7	4.2	7.3
	Min/Max	3.5/5.7	4.2/7.6	4.9/7.9	5.6/9.4	6.4/10.4	7.2/11.2	8.9/12.1	7.7/11.1	6.4/11.1	5.8/8.6	3.4/6.5	2.3/5.9	6.5/7.7
Latitude +15	Average	4.7	5.6	6.4	7.3	8.0	8.9	9.6	9.3	8.9	7.3	4.9	4.5	7.1
	Min/Max	3.6/6.0	4.2/7.8	4.8/7.8	5.4/9.0	6.0/9.8	6.7/10.6	8.4/11.4	7.3/10.6	6.2/10.9	5.8/8.6	3.5/6.8	2.4/6.3	6.4/7.6

Solar Radiation for 2-Axis Tracking Flat-Plate Collectors (kWh/m²/day), Uncertainty ±9%

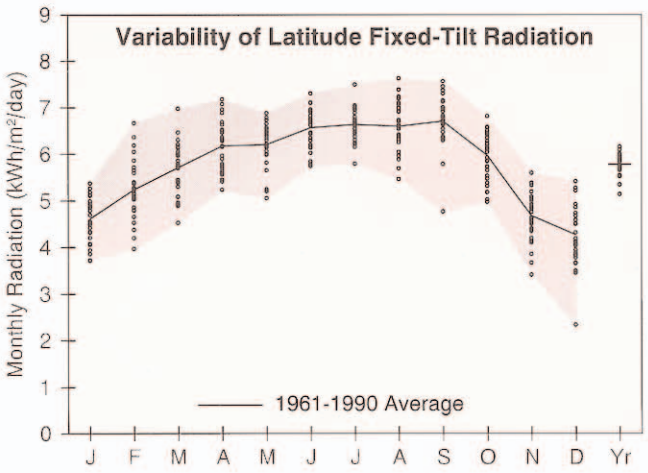
Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	4.8	5.6	6.5	7.7	8.9	10.1	10.7	9.9	9.1	7.3	4.9	4.5	7.5
	Min/Max	3.7/6.1	4.3/7.8	4.9/7.9	5.7/9.4	6.7/10.8	7.7/12.0	9.4/12.8	7.9/11.3	6.4/11.1	5.8/8.6	3.6/6.8	2.5/6.4	6.8/8.0

Direct Beam Solar Radiation for Concentrating Collectors (kWh/m²/day), Uncertainty ±8%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
1-Axis, E-W Horiz Axis	Average	2.8	3.1	3.2	3.6	4.4	5.4	6.0	5.4	5.1	4.4	3.0	2.8	4.1
	Min/Max	1.7/4.2	1.8/5.0	1.9/4.2	2.0/5.1	2.5/6.0	3.5/7.0	4.9/7.9	3.7/6.5	3.1/6.8	3.2/5.5	1.7/4.7	1.0/4.7	3.5/4.5
1-Axis, N-S Horiz Axis	Average	2.1	2.8	3.7	4.8	5.9	7.2	8.1	7.3	6.3	4.5	2.3	1.9	4.8
	Min/Max	1.2/3.1	1.6/4.6	2.2/4.9	2.7/6.7	3.4/8.1	4.8/9.5	6.5/10.7	5.0/8.9	3.8/8.6	3.2/5.7	1.3/3.7	0.6/3.2	4.0/5.3
1-Axis, N-S Tilt=Latitude	Average	3.1	3.8	4.4	5.1	5.8	6.8	7.8	7.4	7.1	5.7	3.4	3.0	5.3
	Min/Max	1.9/4.6	2.2/6.2	2.6/5.8	2.8/7.1	3.3/8.0	4.5/9.0	6.2/10.3	5.1/9.1	4.2/9.6	4.1/7.2	1.9/5.4	1.0/5.0	4.4/5.9
2-Axis	Average	3.3	3.9	4.4	5.2	6.2	7.4	8.3	7.7	7.2	5.8	3.6	3.3	5.5
	Min/Max	2.0/5.0	2.3/6.3	2.6/5.8	2.9/7.2	3.5/8.4	4.9/9.8	6.7/11.0	5.3/9.4	4.2/9.7	4.1/7.3	2.0/5.7	1.1/5.4	4.6/6.1

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-3.8	-0.3	3.1	6.8	11.7	16.9	21.5	20.4	14.8	8.7	2.1	-3.5	8.2
Daily Minimum Temp	-10.3	-6.7	-3.9	-1.4	2.7	7.0	10.2	9.2	3.8	-1.3	-5.3	-10.0	-0.5
Daily Maximum Temp	2.6	6.1	10.1	15.1	20.8	26.8	32.8	31.4	25.7	18.8	9.5	3.0	16.9
Record Minimum Temp	-41.7	-38.3	-22.8	-18.9	-12.2	-5.0	-1.1	-4.4	-12.8	-16.1	-24.4	-38.9	-41.7
Record Maximum Temp	17.8	21.1	25.0	30.0	33.3	40.0	41.7	41.7	37.2	31.1	25.6	17.8	41.7
HDD, Base 18.3°C	687	521	472	345	205	77	10	23	131	298	487	677	3932
CDD, Base 18.3°C	0	0	0	0	0	33	108	87	26	0	0	0	254
Relative Humidity (%)	72	70	62	53	48	44	33	35	41	50	65	71	53
Wind Speed (m/s)	2.3	2.6	3.0	3.2	3.1	2.9	2.8	2.7	2.5	2.3	2.4	2.2	2.7



Ely, NV

WBAN NO. 23154

LATITUDE: 39.28° N
LONGITUDE: 114.85° W
ELEVATION: 1906 meters
MEAN PRESSURE: 809 millibars

STATION TYPE: Primary

Solar Radiation for Flat-Plate Collectors Facing South at a Fixed Tilt (kWh/m²/day), Uncertainty ±9%

Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	2.6	3.4	4.5	5.8	6.6	7.5	7.3	6.5	5.6	4.1	2.8	2.2	4.9
	Min/Max	2.2/2.9	2.8/4.1	3.8/5.3	5.0/6.6	5.5/7.4	6.5/8.3	6.3/8.3	5.5/7.5	4.2/6.2	3.6/4.6	2.3/3.1	1.6/2.6	4.5/5.1
Latitude -15	Average	4.0	4.7	5.5	6.3	6.6	7.2	7.2	6.9	6.6	5.5	4.1	3.6	5.7
	Min/Max	3.3/4.6	3.6/5.9	4.4/6.6	5.3/7.3	5.4/7.4	6.3/8.0	6.3/8.2	5.7/7.9	4.8/7.4	4.7/6.2	3.1/4.9	2.1/4.6	5.1/6.0
Latitude	Average	4.6	5.2	5.7	6.2	6.2	6.6	6.6	6.6	6.7	6.0	4.7	4.3	5.8
	Min/Max	3.7/5.4	4.0/6.7	4.5/7.0	5.2/7.2	5.1/6.9	5.8/7.3	5.8/7.5	5.5/7.6	4.8/7.6	5.0/6.8	3.4/5.6	2.3/5.4	5.1/6.2
Latitude +15	Average	5.0	5.5	5.6	5.7	5.5	5.6	5.7	6.0	6.5	6.1	5.0	4.7	5.6
	Min/Max	4.0/5.9	4.1/7.1	4.4/7.0	4.9/6.7	4.5/6.1	5.0/6.3	5.1/6.5	4.9/6.9	4.5/7.3	5.0/7.0	3.6/6.0	2.5/5.9	4.9/6.0
90	Average	4.8	4.8	4.3	3.6	2.9	2.6	2.8	3.4	4.4	4.9	4.5	4.5	4.0
	Min/Max	3.7/5.7	3.6/6.3	3.3/5.7	3.2/4.1	2.5/3.1	2.4/2.8	2.6/3.0	2.9/3.8	3.1/5.0	4.0/5.7	3.2/5.5	2.3/5.7	3.4/4.3

Solar Radiation for 1-Axis Tracking Flat-Plate Collectors with a North-South Axis (kWh/m²/day), Uncertainty ±9%

Axis Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	4.0	5.1	6.5	8.0	9.0	10.3	10.2	9.3	8.3	6.3	4.2	3.5	7.1
	Min/Max	3.0/4.7	4.0/6.7	4.8/8.1	6.2/9.7	7.3/10.4	8.5/11.8	8.3/12.0	7.4/11.2	5.6/9.8	5.1/7.1	3.0/5.1	2.0/4.4	6.2/7.5
Latitude -15	Average	5.0	6.1	7.2	8.5	9.2	10.3	10.3	9.6	9.1	7.3	5.2	4.6	7.7
	Min/Max	3.8/6.0	4.6/8.0	5.3/9.1	6.6/10.3	7.3/10.6	8.5/11.7	8.3/12.1	7.7/11.6	6.0/10.7	5.9/8.4	3.7/6.4	2.4/5.9	6.7/8.2
Latitude	Average	5.5	6.5	7.4	8.4	8.9	9.9	9.9	9.5	9.2	7.7	5.6	5.1	7.8
	Min/Max	4.2/6.6	4.9/8.6	5.4/9.4	6.5/10.3	7.1/10.3	8.1/11.3	8.0/11.6	7.5/11.4	6.1/10.9	6.1/8.8	3.9/6.9	2.6/6.6	6.7/8.3
Latitude +15	Average	5.8	6.6	7.3	8.1	8.4	9.2	9.3	9.0	9.0	7.7	5.9	5.4	7.7
	Min/Max	4.4/7.0	5.0/8.9	5.3/9.4	6.2/9.9	6.7/9.8	7.6/10.6	7.5/11.0	7.2/10.9	5.9/10.6	6.2/8.9	4.0/7.3	2.7/7.0	6.5/8.2

Solar Radiation for 2-Axis Tracking Flat-Plate Collectors (kWh/m²/day), Uncertainty ±9%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	5.9	6.6	7.4	8.5	9.3	10.5	10.5	9.7	9.2	7.8	5.9	5.5	8.1
	Min/Max	4.4/7.1	5.0/8.9	5.5/9.4	6.6/10.4	7.5/10.8	8.7/12.0	8.5/12.3	7.7/11.7	6.1/10.9	6.2/8.9	4.1/7.3	2.7/7.1	6.9/8.6

Direct Beam Solar Radiation for Concentrating Collectors (kWh/m²/day), Uncertainty ±8%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
1-Axis, E-W Horiz Axis	Average	3.6	3.8	3.7	4.2	4.6	5.7	5.7	5.1	5.2	4.7	3.7	3.5	4.5
	Min/Max	2.4/4.8	2.3/5.7	2.3/5.0	2.7/5.7	3.0/5.8	4.1/7.0	4.2/7.3	3.5/6.9	2.8/6.4	3.5/5.8	2.1/5.0	1.2/5.3	3.5/5.0
1-Axis, N-S Horiz Axis	Average	2.7	3.5	4.4	5.5	6.3	7.7	7.8	7.0	6.5	4.8	3.0	2.5	5.1
	Min/Max	1.6/3.6	2.1/5.4	2.5/5.9	3.4/7.7	4.3/8.0	5.4/9.5	5.5/9.9	4.9/9.4	3.5/8.4	3.5/5.9	1.6/4.1	0.8/3.7	4.1/5.6
1-Axis, N-S Tilt=Latitude	Average	4.0	4.6	5.1	5.8	6.1	7.2	7.4	7.1	7.3	6.1	4.2	3.8	5.7
	Min/Max	2.6/5.3	2.8/7.1	3.0/6.9	3.6/8.1	4.2/7.8	5.1/8.9	5.3/9.5	5.0/9.5	3.9/9.3	4.4/7.4	2.3/5.8	1.2/5.7	4.5/6.3
2-Axis	Average	4.3	4.7	5.1	5.9	6.5	7.9	8.0	7.3	7.3	6.1	4.4	4.1	6.0
	Min/Max	2.7/5.7	2.9/7.3	3.0/6.9	3.6/8.2	4.4/8.3	5.6/9.7	5.7/10.2	5.1/9.9	3.9/9.3	4.5/7.5	2.4/6.1	1.4/6.2	4.6/6.6

Average Climatic Conditions

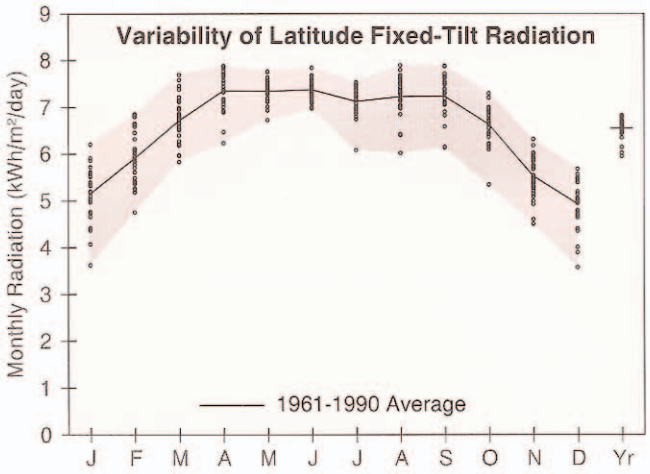
Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-4.1	-1.4	1.4	5.3	10.3	15.3	19.7	18.6	13.5	7.7	1.2	-3.6	7.0
Daily Minimum Temp	-12.6	-9.2	-6.3	-3.3	0.9	4.8	8.9	8.1	2.9	-2.1	-7.2	-11.9	-2.2
Daily Maximum Temp	4.3	6.4	9.1	13.9	19.6	25.7	30.6	29.1	24.0	17.5	9.6	4.8	16.2
Record Minimum Temp	-32.8	-34.4	-25.0	-20.6	-13.9	-7.8	-1.1	-4.4	-9.4	-19.4	-26.1	-33.9	-34.4
Record Maximum Temp	20.0	19.4	22.8	27.2	31.7	37.2	37.8	36.1	33.9	28.9	23.9	19.4	37.8
HDD, Base 18.3°C	696	552	523	392	250	104	8	34	152	331	513	678	4234
CDD, Base 18.3°C	0	0	0	0	0	14	51	43	7	0	0	0	116
Relative Humidity (%)	65	64	59	52	47	39	35	39	42	51	60	64	51
Wind Speed (m/s)	4.1	4.2	4.5	4.6	4.6	4.5	4.5	4.5	4.3	4.1	4.1	4.1	4.3

Las Vegas, NV

WBAN NO. 23169

LATITUDE: 36.08° N
LONGITUDE: 115.17° W
ELEVATION: 664 meters
MEAN PRESSURE: 938 millibars

STATION TYPE: Primary



Solar Radiation for Flat-Plate Collectors Facing South at a Fixed Tilt (kWh/m²/day), Uncertainty ±9%

Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	3.0	4.0	5.4	6.9	7.8	8.4	7.9	7.2	6.2	4.7	3.4	2.8	5.7
	Min/Max	2.3/3.4	3.4/4.5	4.8/6.1	6.1/7.4	7.2/8.3	7.8/8.9	6.6/8.4	6.0/7.8	5.4/6.7	4.0/5.1	3.0/3.7	2.2/3.1	5.3/5.8
Latitude -15	Average	4.4	5.3	6.4	7.5	7.8	8.1	7.7	7.5	7.1	6.1	4.8	4.2	6.4
	Min/Max	3.2/5.3	4.4/6.1	5.6/7.3	6.4/8.0	7.2/8.3	7.6/8.6	6.5/8.2	6.2/8.2	6.1/7.7	5.0/6.7	4.0/5.4	3.1/4.8	5.9/6.7
Latitude	Average	5.1	5.9	6.7	7.4	7.3	7.4	7.1	7.2	7.2	6.6	5.5	4.9	6.5
	Min/Max	3.6/6.2	4.8/6.8	5.8/7.7	6.2/7.9	6.7/7.8	7.0/7.8	6.1/7.5	6.0/7.9	6.1/7.9	5.3/7.3	4.5/6.3	3.6/5.7	5.9/6.8
Latitude +15	Average	5.6	6.1	6.6	6.8	6.5	6.3	6.2	6.5	7.0	6.8	5.9	5.4	6.3
	Min/Max	3.8/6.8	4.9/7.2	5.7/7.6	5.7/7.3	5.9/6.8	6.0/6.7	5.3/6.5	5.5/7.2	5.9/7.6	5.4/7.5	4.7/6.8	3.8/6.2	5.7/6.6
90	Average	5.0	5.1	4.7	3.9	3.0	2.6	2.6	3.4	4.5	5.3	5.2	5.0	4.2
	Min/Max	3.4/6.2	4.0/6.0	4.0/5.4	3.3/4.1	2.8/3.1	2.4/2.7	2.4/2.7	2.9/3.7	3.8/4.9	4.2/5.9	4.1/6.1	3.5/5.8	3.7/4.5

Solar Radiation for 1-Axis Tracking Flat-Plate Collectors with a North-South Axis (kWh/m²/day), Uncertainty ±9%

Axis Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	4.6	5.9	7.8	9.8	10.9	11.6	10.8	10.1	9.0	7.1	5.1	4.2	8.1
	Min/Max	3.3/5.6	4.6/7.0	6.2/9.3	8.2/10.9	9.8/11.9	10.5/12.5	8.2/11.8	8.1/11.3	7.1/10.1	5.7/7.9	4.1/6.0	3.0/4.9	7.2/8.5
Latitude -15	Average	5.7	6.9	8.5	10.3	11.0	11.5	10.8	10.4	9.7	8.1	6.2	5.3	8.7
	Min/Max	3.9/6.9	5.3/8.2	6.9/10.2	8.5/11.4	9.9/12.0	10.4/12.4	8.2/11.8	8.4/11.7	7.7/10.9	6.4/9.1	4.9/7.3	3.7/6.2	7.7/9.1
Latitude	Average	6.2	7.3	8.8	10.2	10.6	11.1	10.4	10.3	9.8	8.6	6.7	5.9	8.8
	Min/Max	4.3/7.7	5.6/8.7	7.1/10.5	8.4/11.3	9.6/11.6	10.0/11.9	7.8/11.4	8.2/11.5	7.8/11.1	6.7/9.5	5.3/7.9	4.1/6.9	7.8/9.3
Latitude +15	Average	6.5	7.5	8.7	9.8	10.0	10.3	9.8	9.8	9.6	8.7	7.0	6.2	8.7
	Min/Max	4.4/8.1	5.7/9.0	7.0/10.4	8.1/10.9	9.0/11.0	9.3/11.1	7.3/10.7	7.8/11.0	7.6/10.9	6.7/9.7	5.4/8.3	4.3/7.3	7.6/9.1

Solar Radiation for 2-Axis Tracking Flat-Plate Collectors (kWh/m²/day), Uncertainty ±9%

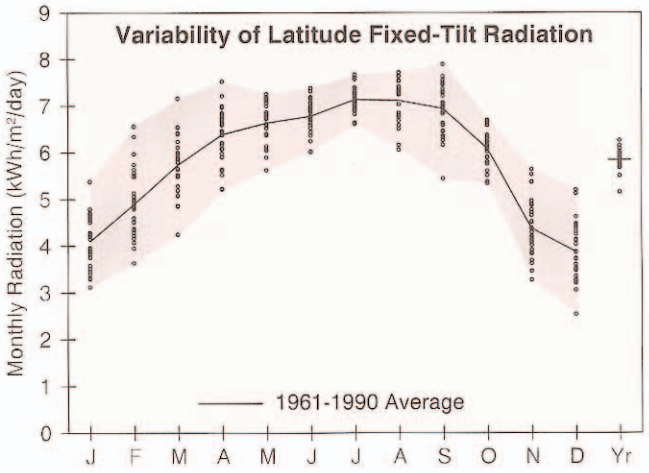
Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	6.6	7.5	8.8	10.3	11.1	11.8	11.0	10.5	9.8	8.7	7.1	6.3	9.1
	Min/Max	4.5/8.2	5.7/9.0	7.1/10.5	8.5/11.4	10.0/12.1	10.6/12.7	8.3/12.1	8.4/11.8	7.8/11.1	6.7/9.7	5.5/8.3	4.3/7.4	8.1/9.6

Direct Beam Solar Radiation for Concentrating Collectors (kWh/m²/day), Uncertainty ±8%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
1-Axis, E-W Horiz Axis	Average	4.3	4.5	4.8	5.5	6.1	6.8	6.1	5.8	5.6	5.3	4.6	4.3	5.3
	Min/Max	2.7/5.7	3.0/5.8	3.8/6.3	4.1/6.4	5.2/7.1	5.7/7.6	4.4/7.1	4.4/6.9	4.0/6.6	3.5/6.1	3.1/5.7	2.7/5.3	4.5/5.8
1-Axis, N-S Horiz Axis	Average	3.4	4.4	5.7	7.4	8.2	9.1	8.2	7.8	7.1	5.6	3.9	3.2	6.2
	Min/Max	2.1/4.6	2.8/5.7	4.2/7.7	5.5/8.7	7.0/9.6	7.5/10.3	5.5/9.6	5.8/9.4	4.9/8.5	3.7/6.5	2.5/4.9	1.9/4.0	5.2/6.7
1-Axis, N-S Tilt=Latitude	Average	4.8	5.6	6.5	7.7	8.0	8.5	7.8	7.8	7.8	6.8	5.2	4.6	6.8
	Min/Max	3.0/6.4	3.6/7.2	4.9/8.8	5.6/9.0	6.8/9.3	7.1/9.6	5.2/9.1	5.8/9.4	5.4/9.3	4.5/7.9	3.5/6.7	2.8/5.8	5.7/7.4
2-Axis	Average	5.2	5.7	6.6	7.8	8.4	9.2	8.4	8.1	7.8	6.9	5.5	5.0	7.1
	Min/Max	3.2/6.9	3.7/7.4	4.9/8.8	5.8/9.2	7.2/9.8	7.7/10.4	5.6/9.7	6.0/9.7	5.4/9.4	4.5/8.0	3.7/7.0	3.1/6.3	6.0/7.7

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	7.5	10.6	13.5	17.8	23.3	29.4	32.8	31.5	26.9	20.2	12.8	7.6	19.5
Daily Minimum Temp	0.9	3.8	6.6	10.4	15.7	20.8	24.6	23.4	19.0	12.4	5.9	1.1	12.1
Daily Maximum Temp	14.1	17.4	20.4	25.3	31.0	37.9	41.1	39.6	34.8	27.8	19.7	14.2	26.9
Record Minimum Temp	-13.3	-8.9	-5.0	-0.6	4.4	9.4	15.6	13.3	7.8	-3.3	-6.1	-11.7	-13.3
Record Maximum Temp	25.0	30.6	32.8	37.2	42.8	46.1	46.7	46.7	45.0	39.4	30.6	25.0	46.7
HDD, Base 18.3°C	336	216	162	79	8	0	0	0	0	34	169	332	1337
CDD, Base 18.3°C	0	0	12	64	163	332	449	408	258	91	0	0	1778
Relative Humidity (%)	45	40	33	25	21	16	21	26	25	29	37	45	30
Wind Speed (m/s)	3.6	4.1	4.9	5.1	5.2	5.1	4.9	4.5	4.3	3.8	3.8	3.4	4.4



Reno, NV

WBAN NO. 23185

LATITUDE: 39.50° N
LONGITUDE: 119.78° W
ELEVATION: 1341 meters
MEAN PRESSURE: 867 millibars

STATION TYPE: Secondary

Solar Radiation for Flat-Plate Collectors Facing South at a Fixed Tilt (kWh/m²/day), Uncertainty ±9%

Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	2.3	3.2	4.5	5.9	7.0	7.6	7.8	6.9	5.7	4.1	2.6	2.1	5.0
	Min/Max	2.0/2.7	2.6/4.0	3.6/5.4	4.9/6.9	6.0/7.6	6.8/8.4	7.3/8.5	6.0/7.5	4.7/6.4	3.7/4.5	2.1/3.1	1.6/2.5	4.6/5.3
Latitude -15	Average	3.6	4.4	5.5	6.5	7.1	7.4	7.7	7.4	6.8	5.6	3.9	3.3	5.8
	Min/Max	2.8/4.6	3.4/5.8	4.2/6.8	5.3/7.6	6.0/7.7	6.5/8.1	7.2/8.3	6.3/8.0	5.4/7.7	4.9/6.1	3.0/4.9	2.3/4.4	5.2/6.1
Latitude	Average	4.1	4.9	5.7	6.4	6.6	6.8	7.1	7.1	6.9	6.1	4.4	3.9	5.8
	Min/Max	3.1/5.4	3.6/6.6	4.2/7.2	5.2/7.5	5.6/7.3	6.0/7.4	6.6/7.7	6.1/7.7	5.4/7.9	5.3/6.7	3.3/5.6	2.5/5.2	5.2/6.3
Latitude +15	Average	4.4	5.1	5.6	5.9	5.8	5.8	6.1	6.4	6.7	6.2	4.6	4.2	5.6
	Min/Max	3.3/5.8	3.7/6.9	4.1/7.1	4.8/7.0	5.0/6.4	5.2/6.3	5.7/6.6	5.5/7.0	5.2/7.6	5.4/6.9	3.4/6.0	2.7/5.7	4.9/6.0
90	Average	4.1	4.3	4.2	3.7	3.0	2.7	2.9	3.6	4.6	5.0	4.2	4.0	3.9
	Min/Max	3.0/5.5	3.0/5.9	3.1/5.3	3.1/4.3	2.7/3.3	2.5/2.8	2.8/3.1	3.2/3.9	3.6/5.2	4.3/5.6	3.0/5.5	2.4/5.4	3.3/4.3

Solar Radiation for 1-Axis Tracking Flat-Plate Collectors with a North-South Axis (kWh/m²/day), Uncertainty ±9%

Axis Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	3.5	4.7	6.4	8.3	9.7	10.5	11.1	10.0	8.6	6.3	3.9	3.2	7.2
	Min/Max	2.7/4.6	3.3/6.4	4.4/8.4	6.2/10.1	7.8/10.9	9.0/11.9	9.9/12.2	8.2/11.2	6.4/10.0	5.4/7.0	2.9/5.1	2.0/4.2	6.3/7.7
Latitude -15	Average	4.4	5.6	7.2	8.8	9.8	10.5	11.1	10.4	9.4	7.4	4.8	4.1	7.8
	Min/Max	3.3/6.0	3.9/7.8	4.9/9.4	6.6/10.8	7.9/11.1	8.9/11.8	9.9/12.3	8.5/11.6	6.9/11.1	6.3/8.3	3.5/6.4	2.6/5.6	6.7/8.4
Latitude	Average	4.8	6.0	7.4	8.7	9.5	10.1	10.8	10.3	9.5	7.8	5.2	4.5	7.9
	Min/Max	3.5/6.6	4.2/8.3	5.0/9.7	6.5/10.8	7.7/10.8	8.6/11.4	9.6/11.9	8.4/11.4	7.0/11.2	6.6/8.7	3.8/7.0	2.8/6.3	6.8/8.5
Latitude +15	Average	5.1	6.1	7.3	8.4	9.0	9.4	10.1	9.8	9.3	7.9	5.4	4.8	7.7
	Min/Max	3.7/7.0	4.2/8.5	4.9/9.6	6.3/10.4	7.2/10.2	8.0/10.7	9.0/11.1	7.9/10.9	6.8/11.0	6.6/8.8	3.9/7.3	2.9/6.7	6.6/8.4

Solar Radiation for 2-Axis Tracking Flat-Plate Collectors (kWh/m²/day), Uncertainty ±9%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	5.1	6.1	7.4	8.8	10.0	10.8	11.4	10.5	9.5	7.9	5.5	4.9	8.2
	Min/Max	3.7/7.1	4.2/8.5	5.0/9.7	6.6/10.9	8.0/11.2	9.2/12.2	10.1/12.5	8.6/11.7	7.0/11.2	6.7/8.8	3.9/7.3	2.9/6.8	7.0/8.9

Direct Beam Solar Radiation for Concentrating Collectors (kWh/m²/day), Uncertainty ±8%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
1-Axis, E-W Horiz Axis	Average	3.2	3.5	3.9	4.4	5.2	6.0	6.6	5.9	5.4	4.8	3.4	3.1	4.6
	Min/Max	1.8/5.1	2.0/5.6	2.1/5.8	2.7/6.1	3.5/6.3	4.6/7.2	5.3/7.7	4.2/6.9	3.5/6.9	3.7/5.6	2.0/5.0	1.5/4.8	3.6/5.2
1-Axis, N-S Horiz Axis	Average	2.3	3.2	4.5	5.8	7.0	8.0	8.8	7.9	6.8	4.9	2.7	2.2	5.4
	Min/Max	1.3/3.8	1.8/5.2	2.3/6.8	3.5/8.1	4.8/8.5	6.1/9.7	7.1/10.3	5.6/9.4	4.2/8.8	3.7/5.7	1.6/4.1	1.0/3.4	4.2/6.0
1-Axis, N-S Tilt=Latitude	Average	3.5	4.3	5.2	6.2	6.9	7.5	8.4	8.0	7.6	6.1	3.8	3.3	5.9
	Min/Max	2.0/5.6	2.4/6.9	2.7/7.9	3.7/8.6	4.6/8.3	5.8/9.1	6.8/9.9	5.7/9.5	4.7/9.7	4.7/7.2	2.3/5.8	1.6/5.2	4.6/6.7
2-Axis	Average	3.7	4.4	5.3	6.3	7.3	8.2	9.1	8.3	7.6	6.2	4.0	3.6	6.2
	Min/Max	2.1/6.0	2.4/7.0	2.7/8.0	3.7/8.7	4.9/8.8	6.3/9.9	7.3/10.6	5.8/9.8	4.7/9.8	4.7/7.3	2.4/6.0	1.7/5.6	4.8/7.0

Average Climatic Conditions

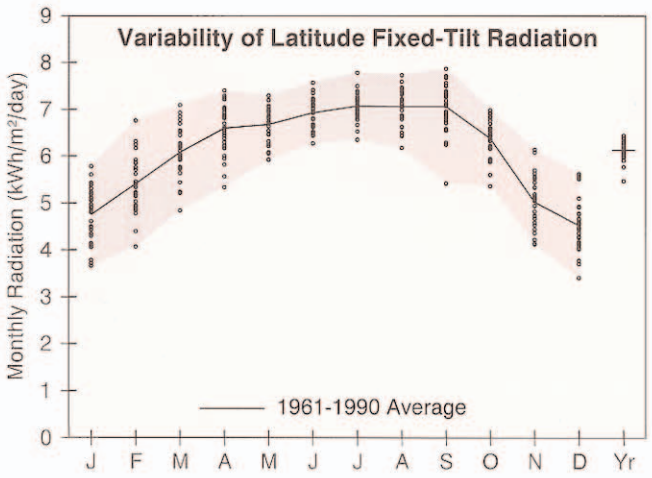
Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	0.5	3.3	6.0	9.2	13.6	18.4	22.0	20.9	15.8	10.4	4.6	0.4	10.4
Daily Minimum Temp	-6.3	-4.3	-1.6	0.7	4.5	8.3	10.7	9.8	5.2	0.5	-2.9	-6.7	1.5
Daily Maximum Temp	7.3	10.9	13.5	17.6	22.7	28.4	33.3	32.0	26.4	20.3	12.1	7.5	19.3
Record Minimum Temp	-26.7	-26.7	-18.9	-10.6	-7.8	-3.9	0.6	-4.4	-6.7	-13.3	-17.2	-26.7	-26.7
Record Maximum Temp	21.1	23.9	28.3	31.7	35.6	39.4	40.0	40.6	38.3	32.8	25.0	21.1	40.6
HDD, Base 18.3°C	553	420	382	273	152	42	7	11	99	244	412	556	3152
CDD, Base 18.3°C	0	0	0	0	6	44	121	90	22	0	0	0	282
Relative Humidity (%)	68	60	53	46	43	40	36	39	44	51	61	68	51
Wind Speed (m/s)	2.3	2.8	3.7	3.8	3.8	3.5	3.4	3.1	2.8	2.5	2.7	2.5	3.1

Tonopah, NV

WBAN NO. 23153

LATITUDE: 38.07° N
LONGITUDE: 117.13° W
ELEVATION: 1653 meters
MEAN PRESSURE: 834 millibars

STATION TYPE: Secondary



Solar Radiation for Flat-Plate Collectors Facing South at a Fixed Tilt (kWh/m²/day), Uncertainty ±9%

Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	2.7	3.6	4.8	6.2	7.1	7.9	7.8	7.0	5.9	4.4	3.0	2.4	5.2
	Min/Max	2.3/3.0	2.9/4.2	4.0/5.5	5.2/6.8	6.3/7.8	7.1/8.6	6.9/8.6	6.1/7.6	4.7/6.5	3.9/4.7	2.6/3.4	2.0/2.8	4.8/5.4
Latitude -15	Average	4.1	4.9	5.8	6.7	7.1	7.6	7.7	7.3	6.9	5.9	4.4	3.8	6.0
	Min/Max	3.2/4.9	3.8/6.0	4.7/6.7	5.5/7.5	6.3/7.8	6.9/8.3	6.8/8.4	6.4/8.0	5.4/7.7	5.0/6.4	3.7/5.3	3.0/4.7	5.4/6.3
Latitude	Average	4.8	5.4	6.1	6.6	6.7	6.9	7.1	7.1	7.1	6.4	5.0	4.5	6.1
	Min/Max	3.7/5.8	4.1/6.8	4.8/7.1	5.3/7.4	5.9/7.3	6.3/7.6	6.3/7.8	6.2/7.7	5.4/7.9	5.4/7.0	4.1/6.1	3.4/5.6	5.5/6.4
Latitude +15	Average	5.1	5.6	6.0	6.1	5.9	5.9	6.1	6.4	6.8	6.5	5.3	4.9	5.9
	Min/Max	3.9/6.3	4.2/7.1	4.7/7.0	4.9/6.9	5.2/6.4	5.4/6.4	5.5/6.7	5.6/7.0	5.2/7.6	5.4/7.2	4.3/6.6	3.6/6.2	5.2/6.2
90	Average	4.7	4.8	4.4	3.7	2.9	2.6	2.8	3.5	4.6	5.2	4.8	4.6	4.0
	Min/Max	3.5/5.9	3.4/6.0	3.4/5.1	3.0/4.1	2.7/3.1	2.4/2.7	2.6/2.9	3.2/3.7	3.5/5.1	4.3/5.8	3.8/6.0	3.3/5.9	3.5/4.3

Solar Radiation for 1-Axis Tracking Flat-Plate Collectors with a North-South Axis (kWh/m²/day), Uncertainty ±9%

Axis Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	4.2	5.4	7.0	8.7	9.8	10.9	10.9	10.0	8.8	6.8	4.6	3.8	7.6
	Min/Max	3.2/5.1	3.8/6.8	5.4/8.6	6.8/10.0	8.4/11.2	9.7/12.2	9.3/12.6	8.4/11.3	6.4/10.1	5.8/7.5	3.7/5.7	2.8/4.7	6.7/8.0
Latitude -15	Average	5.2	6.4	7.8	9.2	10.0	10.9	11.0	10.3	9.6	7.9	5.6	4.9	8.2
	Min/Max	3.9/6.5	4.5/8.1	5.9/9.5	7.1/10.6	8.5/11.3	9.7/12.2	9.3/12.6	8.7/11.7	6.9/11.0	6.6/8.7	4.5/7.0	3.5/6.1	7.2/8.7
Latitude	Average	5.7	6.8	8.0	9.2	9.7	10.4	10.6	10.2	9.8	8.3	6.1	5.4	8.4
	Min/Max	4.3/7.2	4.8/8.7	6.0/9.8	7.0/10.5	8.3/11.0	9.3/11.7	8.9/12.2	8.5/11.5	6.9/11.2	6.9/9.1	4.9/7.7	3.9/6.8	7.2/8.8
Latitude +15	Average	6.0	6.9	7.9	8.8	9.1	9.8	9.9	9.7	9.6	8.4	6.4	5.7	8.2
	Min/Max	4.5/7.6	4.8/8.9	5.9/9.7	6.7/10.1	7.8/10.4	8.7/10.9	8.4/11.4	8.1/11.0	6.7/11.0	6.9/9.2	5.1/8.0	4.1/7.3	7.1/8.7

Solar Radiation for 2-Axis Tracking Flat-Plate Collectors (kWh/m²/day), Uncertainty ±9%

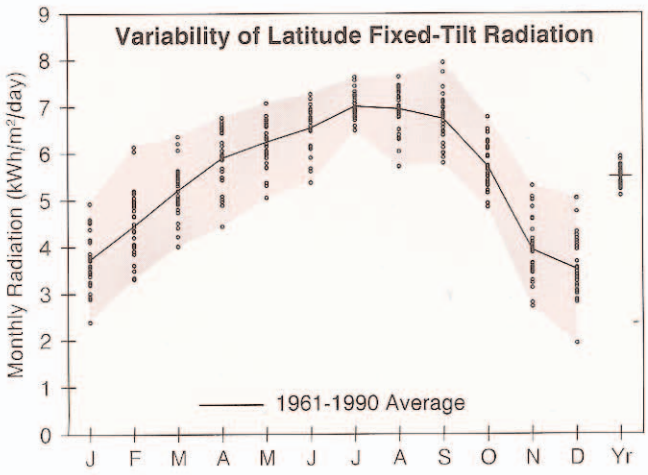
Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	6.1	6.9	8.0	9.3	10.1	11.1	11.2	10.4	9.8	8.4	6.4	5.8	8.6
	Min/Max	4.5/7.7	4.8/8.9	6.0/9.8	7.1/10.6	8.6/11.5	9.9/12.5	9.4/12.9	8.7/11.8	6.9/11.2	6.9/9.2	5.1/8.1	4.2/7.4	7.5/9.2

Direct Beam Solar Radiation for Concentrating Collectors (kWh/m²/day), Uncertainty ±8%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
1-Axis, E-W	Average	4.0	4.1	4.3	4.8	5.3	6.3	6.4	5.8	5.6	5.2	4.1	3.9	5.0
Horiz Axis	Min/Max	2.5/5.6	2.5/5.9	2.7/5.7	3.0/6.0	4.0/6.4	5.1/7.6	5.0/7.9	4.3/6.9	3.2/6.8	3.9/5.9	3.0/5.7	2.4/5.5	4.0/5.5
1-Axis, N-S	Average	3.1	3.9	5.1	6.4	7.2	8.4	8.6	7.8	7.1	5.4	3.4	2.9	5.8
Horiz Axis	Min/Max	1.9/4.3	2.2/5.7	3.2/6.9	4.0/8.0	5.4/8.8	6.8/10.2	6.5/10.7	5.8/9.5	4.0/8.8	4.2/6.3	2.4/4.7	1.7/4.0	4.7/6.3
1-Axis, N-S	Average	4.4	5.1	5.9	6.7	7.0	7.9	8.2	7.9	7.8	6.7	4.8	4.3	6.4
Tilt=Latitude	Min/Max	2.8/6.2	2.9/7.4	3.7/8.0	4.1/8.4	5.3/8.5	6.4/9.6	6.2/10.2	5.9/9.6	4.4/9.7	5.1/7.7	3.4/6.6	2.5/6.0	5.1/7.1
2-Axis	Average	4.7	5.2	5.9	6.8	7.4	8.6	8.8	8.1	7.9	6.8	5.0	4.6	6.7
	Min/Max	3.0/6.7	3.0/7.6	3.7/8.0	4.2/8.5	5.6/9.0	7.0/10.4	6.7/11.0	6.1/9.9	4.4/9.7	5.2/7.8	3.5/6.9	2.8/6.5	5.3/7.4

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-0.5	2.4	5.0	8.9	14.1	19.5	23.2	21.9	17.3	11.4	4.3	-0.1	10.6
Daily Minimum Temp	-7.7	-4.7	-2.6	0.6	5.4	10.3	13.6	12.6	8.2	2.7	-3.2	-7.2	2.3
Daily Maximum Temp	6.6	9.6	12.5	17.2	22.8	28.6	32.8	31.3	26.4	20.1	11.8	6.9	18.9
Record Minimum Temp	-25.0	-22.2	-15.0	-7.8	-6.7	-1.1	4.4	5.0	-3.9	-9.4	-15.0	-23.3	-25.0
Record Maximum Temp	17.8	23.3	25.6	28.9	33.9	37.8	38.3	37.8	34.4	31.7	24.4	17.2	38.3
HDD, Base 18.3°C	584	445	413	288	142	33	0	6	65	218	420	572	3185
CDD, Base 18.3°C	0	0	0	4	11	68	152	118	35	4	0	0	392
Relative Humidity (%)	62	57	48	39	34	27	26	29	32	38	52	59	42
Wind Speed (m/s)	3.7	4.1	4.8	4.9	4.6	4.3	4.0	3.8	3.9	3.8	3.8	3.7	4.1



Winnemucca, NV

WBAN NO. 24128

LATITUDE: 40.90° N
LONGITUDE: 117.80° W
ELEVATION: 1323 meters
MEAN PRESSURE: 869 millibars

STATION TYPE: Secondary

Solar Radiation for Flat-Plate Collectors Facing South at a Fixed Tilt (kWh/m²/day), Uncertainty ±9%

Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	2.1	2.9	4.1	5.5	6.6	7.4	7.7	6.7	5.5	3.8	2.3	1.9	4.7
	Min/Max	1.6/2.4	2.5/3.6	3.4/4.8	4.3/6.1	5.4/7.4	6.1/8.2	7.1/8.4	5.6/7.4	4.9/6.3	3.4/4.3	1.9/2.8	1.4/2.3	4.5/5.0
Latitude -15	Average	3.3	4.1	5.0	6.0	6.7	7.1	7.6	7.2	6.6	5.3	3.5	3.0	5.5
	Min/Max	2.2/4.2	3.1/5.5	4.0/6.1	4.6/6.9	5.4/7.5	5.9/8.0	7.0/8.3	5.9/7.9	5.7/7.7	4.5/6.2	2.5/4.6	1.8/4.2	5.1/5.8
Latitude	Average	3.7	4.5	5.2	5.9	6.2	6.5	7.0	6.9	6.7	5.7	3.9	3.5	5.5
	Min/Max	2.4/4.9	3.3/6.1	4.0/6.4	4.4/6.8	5.1/7.1	5.4/7.3	6.5/7.6	5.7/7.6	5.8/7.9	4.8/6.8	2.7/5.3	1.9/5.0	5.1/5.9
Latitude +15	Average	4.0	4.6	5.1	5.5	5.5	5.6	6.0	6.3	6.5	5.8	4.1	3.8	5.2
	Min/Max	2.5/5.3	3.3/6.4	3.9/6.3	4.1/6.3	4.5/6.2	4.6/6.2	5.6/6.6	5.2/6.9	5.5/7.7	4.9/6.9	2.8/5.7	2.0/5.5	4.8/5.7
90	Average	3.7	4.0	3.9	3.5	3.0	2.8	3.0	3.7	4.6	4.8	3.7	3.6	3.7
	Min/Max	2.2/5.0	2.8/5.6	2.9/4.7	2.8/4.0	2.6/3.3	2.5/3.0	2.9/3.2	3.2/4.0	3.9/5.4	4.0/5.8	2.4/5.2	1.8/5.3	3.3/4.1

Solar Radiation for 1-Axis Tracking Flat-Plate Collectors with a North-South Axis (kWh/m²/day), Uncertainty ±9%

Axis Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	3.1	4.2	5.8	7.6	9.0	10.1	10.8	9.7	8.2	5.9	3.4	2.8	6.8
	Min/Max	2.0/4.1	3.2/5.9	4.4/7.2	5.3/8.8	6.9/10.6	7.9/11.7	9.6/12.2	7.5/11.1	6.8/10.1	4.9/7.1	2.4/4.6	1.6/4.0	6.2/7.3
Latitude -15	Average	4.0	5.1	6.5	8.0	9.2	10.1	10.9	10.2	9.1	7.0	4.3	3.7	7.4
	Min/Max	2.5/5.4	3.7/7.3	4.8/8.2	5.5/9.4	7.0/10.8	7.9/11.7	9.8/12.3	7.9/11.7	7.4/11.2	5.8/8.4	2.9/5.9	1.9/5.4	6.7/8.0
Latitude	Average	4.4	5.4	6.7	8.0	8.9	9.7	10.6	10.0	9.2	7.3	4.7	4.1	7.4
	Min/Max	2.6/6.0	3.9/7.8	4.9/8.4	5.4/9.4	6.7/10.5	7.6/11.3	9.4/11.9	7.7/11.5	7.5/11.3	6.1/8.9	3.0/6.4	2.1/6.0	6.7/8.1
Latitude +15	Average	4.6	5.5	6.6	7.7	8.4	9.1	9.9	9.6	9.0	7.4	4.8	4.3	7.2
	Min/Max	2.7/6.3	3.9/8.0	4.8/8.3	5.2/9.0	6.3/9.9	7.1/10.6	8.8/11.2	7.3/11.0	7.3/11.1	6.1/9.0	3.1/6.7	2.1/6.4	6.5/7.9

Solar Radiation for 2-Axis Tracking Flat-Plate Collectors (kWh/m²/day), Uncertainty ±9%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	4.6	5.5	6.7	8.1	9.3	10.4	11.2	10.2	9.2	7.4	4.9	4.4	7.7
	Min/Max	2.7/6.4	3.9/8.0	4.9/8.4	5.6/9.5	7.1/10.9	8.1/12.1	9.9/12.6	7.9/11.7	7.5/11.3	6.1/9.0	3.1/6.8	2.2/6.5	7.0/8.4

Direct Beam Solar Radiation for Concentrating Collectors (kWh/m²/day), Uncertainty ±8%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
1-Axis, E-W Horiz Axis	Average	2.8	3.0	3.3	3.8	4.6	5.6	6.3	5.6	5.2	4.4	2.9	2.7	4.2
	Min/Max	1.1/4.5	1.6/5.2	2.0/4.7	1.8/5.0	2.7/6.0	3.6/7.1	5.2/7.5	3.6/6.8	3.8/6.9	3.3/5.8	1.3/4.6	0.8/4.7	3.6/4.8
1-Axis, N-S Horiz Axis	Average	2.0	2.7	3.8	5.1	6.2	7.4	8.5	7.5	6.5	4.5	2.3	1.8	4.9
	Min/Max	0.8/3.3	1.4/4.8	2.3/5.4	2.3/6.6	3.7/8.2	4.9/9.5	6.9/10.2	4.9/9.4	4.6/8.8	3.2/5.9	1.0/3.5	0.5/3.2	4.2/5.5
1-Axis, N-S Tilt=Latitude	Average	3.0	3.7	4.5	5.4	6.1	7.0	8.1	7.7	7.3	5.7	3.3	2.9	5.4
	Min/Max	1.2/4.9	2.0/6.4	2.7/6.4	2.5/7.0	3.6/8.0	4.6/9.0	6.7/9.8	5.0/9.6	5.2/9.9	4.1/7.5	1.5/5.2	0.8/5.0	4.6/6.1
2-Axis	Average	3.2	3.8	4.5	5.5	6.4	7.6	8.7	8.0	7.3	5.7	3.5	3.2	5.6
	Min/Max	1.3/5.3	2.0/6.6	2.7/6.4	2.5/7.1	3.8/8.4	5.0/9.8	7.1/10.5	5.1/9.9	5.2/9.9	4.2/7.6	1.6/5.5	0.9/5.5	4.8/6.4

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-1.4	2.2	4.5	7.9	13.0	18.1	22.3	20.9	15.3	9.3	3.2	-1.2	9.5
Daily Minimum Temp	-8.5	-5.1	-3.8	-1.4	3.2	7.7	10.7	9.3	3.8	-1.5	-4.8	-8.3	0.1
Daily Maximum Temp	5.6	9.4	12.8	17.2	22.8	28.4	33.9	32.6	26.7	20.1	11.3	5.9	18.9
Record Minimum Temp	-31.1	-33.3	-19.4	-14.4	-11.1	-5.0	-1.7	-2.2	-11.1	-13.9	-22.2	-38.3	-38.3
Record Maximum Temp	20.0	23.3	27.2	32.2	35.6	41.1	41.1	42.2	39.4	32.8	25.0	19.4	42.2
HDD, Base 18.3°C	613	453	429	313	171	58	3	16	113	281	453	606	3508
CDD, Base 18.3°C	0	0	0	0	5	49	127	96	21	0	0	0	299
Relative Humidity (%)	69	63	56	47	42	38	28	30	36	47	63	70	49
Wind Speed (m/s)	3.2	3.6	3.9	4.0	4.0	3.9	3.8	3.6	3.6	3.4	3.5	3.4	3.7