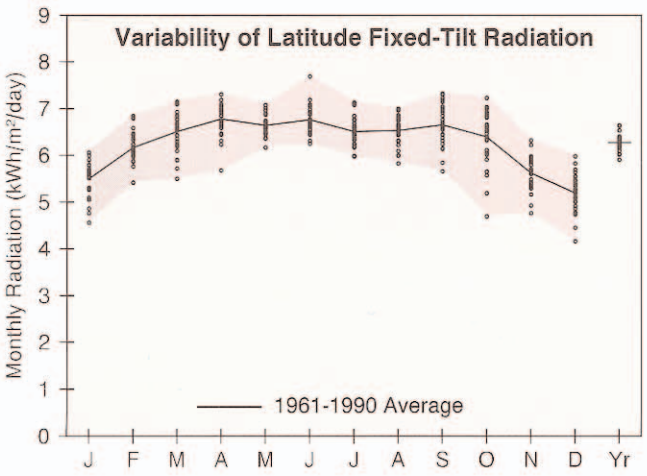


Alamosa, CO

WBAN NO. 23061

LATITUDE: 37.45° N
LONGITUDE: 105.87° W
ELEVATION: 2297 meters
MEAN PRESSURE: 772 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	5.2	6.4	7.1	7.7	7.2	6.5	5.6	4.5	3.3	2.7	5.3
	Min/Max	2.6/3.2	3.6/4.4	4.5/5.6	5.4/6.8	6.6/7.6	7.1/8.8	6.6/7.9	5.8/6.9	4.9/6.2	3.6/4.9	3.0/3.6	2.4/3.0	5.0/5.6
Latitude -15	Average	4.7	5.5	6.2	6.9	7.1	7.4	7.0	6.8	6.5	5.9	4.9	4.4	6.1
	Min/Max	3.9/5.1	4.9/6.1	5.3/6.8	5.8/7.4	6.6/7.6	6.8/8.4	6.5/7.7	6.1/7.3	5.6/7.2	4.4/6.6	4.2/5.5	3.6/4.9	5.8/6.5
Latitude	Average	5.5	6.2	6.5	6.8	6.6	6.8	6.5	6.5	6.7	6.4	5.6	5.2	6.3
	Min/Max	4.6/6.1	5.4/6.8	5.5/7.2	5.7/7.3	6.2/7.1	6.3/7.7	6.0/7.1	5.8/7.0	5.7/7.3	4.7/7.2	4.8/6.3	4.2/6.0	5.9/6.6
Latitude +15	Average	6.0	6.5	6.4	6.3	5.8	5.7	5.6	5.9	6.4	6.5	6.0	5.7	6.1
	Min/Max	4.9/6.6	5.6/7.3	5.4/7.1	5.3/6.8	5.4/6.2	5.3/6.5	5.2/6.2	5.3/6.3	5.4/7.0	4.7/7.4	5.0/6.8	4.5/6.7	5.7/6.5
90	Average	5.7	5.6	4.7	3.7	2.9	2.5	2.6	3.2	4.3	5.2	5.5	5.5	4.3
	Min/Max	4.6/6.2	4.8/6.7	4.0/5.2	3.2/4.1	2.7/3.0	2.4/2.7	2.4/2.8	2.9/3.4	3.7/4.7	3.7/5.9	4.4/6.1	4.2/6.7	3.9/4.5

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	4.9	6.2	7.6	9.2	10.0	10.8	9.8	9.0	8.3	7.0	5.2	4.5	7.7
	Min/Max	3.9/5.4	5.3/7.1	6.1/8.6	7.4/10.2	8.8/10.9	9.7/12.3	8.9/11.3	7.8/10.0	6.5/9.2	5.0/8.0	4.3/5.9	3.5/5.2	7.1/8.3
Latitude -15	Average	6.1	7.4	8.4	9.6	10.1	10.7	9.8	9.4	9.0	8.0	6.4	5.7	8.4
	Min/Max	4.8/6.8	6.3/8.4	6.7/9.5	7.7/10.7	8.9/11.1	9.6/12.2	8.9/11.4	8.1/10.3	7.1/10.0	5.6/9.3	5.2/7.2	4.4/6.6	7.7/9.0
Latitude	Average	6.8	7.9	8.7	9.6	9.8	10.3	9.5	9.2	9.1	8.4	7.0	6.3	8.5
	Min/Max	5.3/7.6	6.7/9.0	6.9/9.8	7.6/10.7	8.7/10.8	9.2/11.7	8.6/11.0	7.9/10.2	7.1/10.2	5.8/9.7	5.6/7.8	4.8/7.4	7.8/9.2
Latitude +15	Average	7.2	8.1	8.6	9.2	9.3	9.6	8.9	8.8	9.0	8.5	7.3	6.7	8.4
	Min/Max	5.6/8.0	6.8/9.2	6.8/9.7	7.4/10.3	8.2/10.2	8.6/10.9	8.0/10.3	7.6/9.7	7.0/9.9	5.8/9.8	5.9/8.2	5.1/7.9	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	7.2	8.1	8.7	9.7	10.2	11.0	10.0	9.4	9.2	8.5	7.3	6.8	8.8
	Min/Max	5.7/8.1	6.8/9.2	6.9/9.8	7.7/10.8	9.1/11.2	9.9/12.5	9.1/11.6	8.1/10.4	7.2/10.2	5.9/9.8	5.9/8.3	5.2/8.1	8.0/9.5

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	4.8	5.0	4.7	5.0	5.4	6.2	5.5	5.0	5.1	5.2	4.8	4.6	5.1
	Min/Max	3.5/5.7	3.8/6.0	3.3/5.7	3.3/5.9	4.3/6.3	5.1/7.4	4.7/6.9	4.0/5.9	3.5/6.3	2.8/6.4	3.5/5.8	3.2/5.6	4.4/5.7
1-Axis, N-S Horiz Axis	Average	3.7	4.8	5.7	6.9	7.4	8.4	7.4	6.7	6.5	5.5	4.0	3.4	5.9
	Min/Max	2.6/4.6	3.6/5.9	3.8/6.9	4.6/8.3	5.8/8.8	6.9/9.9	6.2/9.4	5.4/8.1	4.2/8.0	3.0/7.0	2.8/4.9	2.3/4.2	5.0/6.6
1-Axis, N-S Tilt=Latitude	Average	5.3	6.2	6.5	7.2	7.2	7.9	7.0	6.8	7.2	6.8	5.6	5.0	6.5
	Min/Max	3.8/6.4	4.7/7.6	4.4/7.9	4.8/8.6	5.7/8.5	6.4/9.3	5.9/8.9	5.5/8.1	4.7/8.8	3.7/8.5	4.0/6.8	3.4/6.1	5.5/7.4
2-Axis	Average	5.7	6.3	6.5	7.3	7.6	8.6	7.5	7.0	7.2	6.8	5.9	5.4	6.8
	Min/Max	4.1/6.9	4.8/7.8	4.4/8.0	4.9/8.7	6.0/9.0	7.0/10.1	6.3/9.6	5.6/8.4	4.7/8.8	3.7/8.6	4.2/7.1	3.7/6.6	5.7/7.7

Average Climatic Conditions

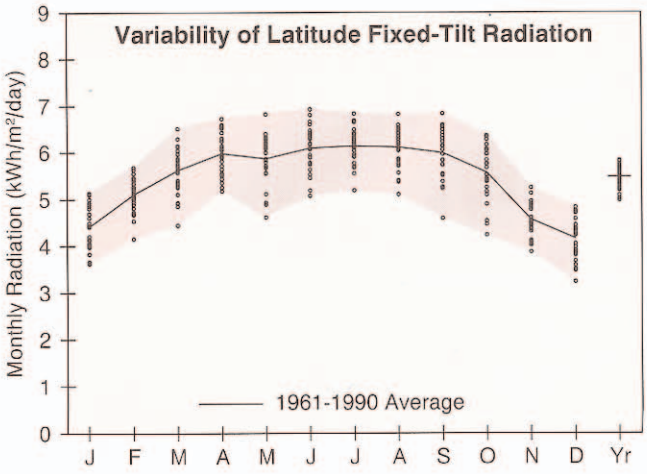
Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-9.6	-5.3	0.2	5.1	10.2	15.2	18.3	16.9	12.7	6.4	-1.2	-8.1	5.1
Daily Minimum Temp	-19.9	-15.1	-9.0	-4.7	0.4	5.0	8.8	7.4	2.6	-4.1	-10.9	-18.1	-4.8
Daily Maximum Temp	0.7	4.4	9.3	14.8	20.0	25.4	27.8	26.2	22.6	16.9	8.6	1.9	14.9
Record Minimum Temp	-45.6	-37.2	-28.9	-21.1	-11.7	-4.4	1.1	-1.7	-9.4	-23.3	-34.4	-41.1	-45.6
Record Maximum Temp	16.7	18.9	22.8	26.7	29.4	33.9	35.6	32.2	30.6	27.2	21.7	16.1	35.6
HDD, Base 18.3°C	866	663	563	398	252	97	23	54	170	371	585	818	4861
CDD, Base 18.3°C	0	0	0	0	0	3	22	9	0	0	0	0	34
Relative Humidity (%)	71	67	57	48	47	46	56	60	56	55	64	70	58
Wind Speed (m/s)	3.4	3.4	4.7	5.1	4.8	4.5	3.6	3.4	2.7	3.4	4.0	2.6	3.8

Boulder, CO

WBAN NO. 94018

LATITUDE: 40.02° N
LONGITUDE: 105.25° W
ELEVATION: 1634 meters
MEAN PRESSURE: 836 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	2.4	3.3	4.4	5.6	6.2	6.9	6.7	6.0	5.0	3.8	2.6	2.1	4.6
	Min/Max	2.1/2.7	2.8/3.5	3.7/5.0	4.8/6.1	5.1/7.2	5.7/7.8	5.6/7.4	5.2/6.6	4.0/5.5	3.1/4.2	2.3/2.8	1.9/2.3	4.3/4.8
Latitude -15	Average	3.8	4.6	5.4	6.1	6.2	6.6	6.6	6.3	5.9	5.1	4.0	3.5	5.4
	Min/Max	3.2/4.4	3.8/5.1	4.3/6.2	5.3/6.8	4.9/7.3	5.5/7.6	5.6/7.4	5.3/7.1	4.6/6.7	4.0/5.8	3.4/4.6	2.8/4.1	4.9/5.7
Latitude	Average	4.4	5.1	5.6	6.0	5.9	6.1	6.1	6.1	6.0	5.6	4.6	4.2	5.5
	Min/Max	3.6/5.1	4.2/5.7	4.4/6.5	5.2/6.7	4.6/6.8	5.1/6.9	5.2/6.8	5.1/6.8	4.6/6.8	4.2/6.4	3.9/5.2	3.2/4.8	5.0/5.8
Latitude +15	Average	4.8	5.3	5.6	5.6	5.2	5.2	5.3	5.5	5.8	5.7	4.8	4.5	5.3
	Min/Max	3.9/5.6	4.3/5.9	4.4/6.5	4.8/6.2	4.1/6.0	4.4/5.9	4.5/5.9	4.6/6.2	4.4/6.6	4.2/6.5	4.1/5.6	3.5/5.3	4.8/5.6
90	Average	4.5	4.6	4.3	3.6	2.8	2.6	2.7	3.2	4.0	4.6	4.4	4.3	3.8
	Min/Max	3.6/5.4	3.7/5.2	3.5/5.0	3.0/4.0	2.3/3.1	2.2/2.8	2.3/2.9	2.7/3.6	3.1/4.6	3.4/5.3	3.7/5.1	3.4/5.2	3.4/4.1

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	3.7	4.9	6.2	7.6	8.2	9.1	9.0	8.2	7.1	5.7	4.0	3.3	6.4
	Min/Max	3.0/4.4	4.1/5.5	4.6/7.4	6.2/8.7	6.2/10.0	7.4/10.9	7.1/10.2	6.7/9.3	5.3/8.3	4.2/6.6	3.4/4.4	2.6/3.9	5.7/6.9
Latitude -15	Average	4.8	5.9	7.0	8.1	8.4	9.1	9.1	8.6	7.9	6.7	5.0	4.4	7.1
	Min/Max	3.8/5.6	4.8/6.7	5.1/8.4	6.6/9.2	6.3/10.2	7.4/10.9	7.1/10.3	7.0/9.8	5.8/9.2	4.8/7.8	4.2/5.7	3.3/5.2	6.2/7.6
Latitude	Average	5.2	6.2	7.2	8.0	8.1	8.8	8.7	8.4	7.9	7.1	5.5	4.9	7.2
	Min/Max	4.2/6.2	5.1/7.1	5.2/8.6	6.6/9.2	6.1/9.9	7.1/10.4	6.8/10.0	6.8/9.6	5.8/9.3	5.0/8.2	4.6/6.3	3.6/5.8	6.3/7.8
Latitude +15	Average	5.5	6.4	7.1	7.7	7.7	8.2	8.2	8.0	7.8	7.1	5.7	5.2	7.1
	Min/Max	4.4/6.6	5.2/7.3	5.2/8.6	6.3/8.9	5.8/9.4	6.6/9.8	6.4/9.3	6.5/9.2	5.6/9.1	5.0/8.3	4.8/6.6	3.8/6.2	6.1/7.6

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

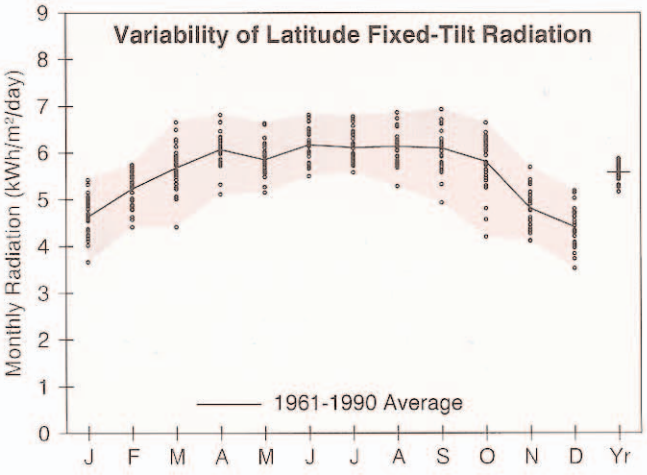
Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	5.6	6.4	7.2	8.1	8.5	9.4	9.2	8.6	8.0	7.1	5.7	5.3	7.4
	Min/Max	4.5/6.7	5.2/7.3	5.2/8.6	6.7/9.3	6.4/10.4	7.6/11.1	7.2/10.5	7.0/9.8	5.8/9.3	5.1/8.3	4.8/6.6	3.9/6.3	6.5/8.0

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	3.5	3.7	3.7	4.0	4.2	5.0	4.9	4.5	4.4	4.3	3.6	3.4	4.1
	Min/Max	2.3/4.6	2.8/4.5	2.1/4.8	2.9/5.0	2.9/5.7	3.5/6.4	3.8/6.1	3.4/5.4	2.8/5.5	2.5/5.2	2.7/4.7	2.0/4.3	3.4/4.5
1-Axis, N-S Horiz Axis	Average	2.6	3.4	4.2	5.3	5.6	6.6	6.5	6.0	5.4	4.3	2.8	2.3	4.6
	Min/Max	1.6/3.4	2.5/4.2	2.2/5.7	3.6/6.4	3.8/7.6	4.8/8.5	4.8/8.1	4.5/7.1	3.4/6.7	2.4/5.3	2.2/3.6	1.3/3.0	3.7/5.1
1-Axis, N-S Tilt=Latitude	Average	3.9	4.5	5.0	5.6	5.5	6.2	6.2	6.1	6.0	5.5	4.1	3.6	5.2
	Min/Max	2.5/5.1	3.4/5.5	2.7/6.6	3.8/6.8	3.7/7.5	4.5/8.0	4.6/7.7	4.6/7.3	3.8/7.6	3.1/6.7	3.1/5.3	2.0/4.6	4.2/5.7
2-Axis	Average	4.1	4.6	5.0	5.7	5.8	6.8	6.7	6.3	6.1	5.6	4.3	4.0	5.4
	Min/Max	2.7/5.4	3.5/5.7	2.7/6.6	3.9/6.9	4.0/7.9	4.9/8.7	4.9/8.3	4.8/7.5	3.8/7.6	3.2/6.8	3.3/5.6	2.2/5.0	4.3/6.0

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-1.3	0.8	3.9	9.0	14.0	19.4	23.1	21.9	16.8	10.8	3.9	-0.6	10.2
Daily Minimum Temp	-8.8	-6.6	-3.4	1.4	6.4	11.3	14.8	13.8	8.7	2.4	-3.7	-8.1	2.3
Daily Maximum Temp	6.2	8.1	11.2	16.6	21.6	27.4	31.2	29.9	24.9	19.1	11.4	6.9	17.9
Record Minimum Temp	-31.7	-34.4	-23.9	-18.9	-5.6	-1.1	6.1	5.0	-8.3	-16.1	-22.2	-31.7	-34.4
Record Maximum Temp	22.8	24.4	28.9	31.7	35.6	40.0	40.0	38.3	36.1	31.7	26.1	23.9	40.0
HDD, Base 18.3°C	608	492	448	280	141	39	0	0	80	238	433	586	3344
CDD, Base 18.3°C	0	0	0	0	6	71	148	113	35	4	0	0	377
Relative Humidity (%)	55	56	54	50	52	49	48	49	50	49	56	56	52
Wind Speed (m/s)	3.7	3.8	4.1	4.4	4.1	3.8	3.6	3.5	3.4	3.4	3.5	3.6	3.8



Colorado Springs, CO

WBAN NO. 93037

LATITUDE: 38.82° N
LONGITUDE: 104.72° W
ELEVATION: 1881 meters
MEAN PRESSURE: 811 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	2.5	3.4	4.5	5.7	6.2	6.9	6.7	6.0	5.1	4.0	2.8	2.3	4.7
	Min/Max	2.2/2.8	3.0/3.7	3.7/5.1	4.8/6.3	5.5/7.0	6.2/7.7	6.1/7.4	5.2/6.7	4.3/5.8	3.2/4.5	2.5/3.1	2.0/2.5	4.5/4.9
Latitude -15	Average	4.0	4.7	5.5	6.2	6.2	6.7	6.6	6.4	6.0	5.4	4.2	3.7	5.5
	Min/Max	3.2/4.6	4.0/5.2	4.3/6.3	5.2/6.9	5.5/7.1	6.0/7.4	6.0/7.3	5.5/7.1	4.9/6.8	4.0/6.1	3.7/4.9	3.0/4.3	5.1/5.7
Latitude	Average	4.6	5.2	5.7	6.1	5.9	6.2	6.1	6.1	6.1	5.8	4.8	4.4	5.6
	Min/Max	3.7/5.4	4.4/5.7	4.4/6.7	5.1/6.8	5.2/6.6	5.5/6.8	5.6/6.8	5.3/6.9	4.9/6.9	4.2/6.6	4.1/5.7	3.5/5.2	5.2/5.9
Latitude +15	Average	5.0	5.4	5.6	5.6	5.2	5.3	5.3	5.6	5.9	5.9	5.1	4.8	5.4
	Min/Max	3.9/5.9	4.5/6.0	4.3/6.6	4.8/6.3	4.6/5.8	4.7/5.8	4.9/5.8	4.8/6.2	4.7/6.7	4.2/6.8	4.3/6.1	3.8/5.7	4.9/5.7
90	Average	4.7	4.6	4.2	3.5	2.7	2.5	2.6	3.2	4.0	4.8	4.6	4.6	3.8
	Min/Max	3.5/5.5	3.8/5.1	3.4/4.9	3.0/4.0	2.5/3.0	2.3/2.6	2.4/2.8	2.8/3.5	3.2/4.5	3.3/5.5	3.8/5.6	3.7/5.4	3.4/4.0

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	6.4	7.9	8.3	9.4	9.0	8.3	7.4	6.1	4.3	3.7	6.7
	Min/Max	3.1/4.7	4.4/5.7	4.7/7.7	6.3/9.1	7.0/9.8	8.0/10.8	8.0/10.3	6.7/9.5	5.7/8.7	4.3/7.1	3.5/5.2	2.9/4.3	6.1/7.1
Latitude -15	Average	5.1	6.1	7.2	8.3	8.5	9.3	9.0	8.6	8.1	7.1	5.4	4.7	7.3
	Min/Max	3.8/6.0	5.1/6.8	5.2/8.6	6.6/9.7	7.1/10.0	7.9/10.7	8.0/10.3	7.0/9.9	6.2/9.5	4.9/8.3	4.4/6.4	3.7/5.6	6.6/7.7
Latitude	Average	5.6	6.5	7.4	8.3	8.2	9.0	8.7	8.5	8.1	7.4	5.8	5.3	7.4
	Min/Max	4.2/6.6	5.4/7.3	5.3/8.9	6.6/9.6	6.8/9.7	7.6/10.3	7.7/10.0	6.9/9.7	6.2/9.6	5.1/8.7	4.8/7.1	4.1/6.2	6.7/7.8
Latitude +15	Average	5.9	6.6	7.3	7.9	7.7	8.4	8.1	8.1	8.0	7.5	6.1	5.6	7.3
	Min/Max	4.4/7.0	5.5/7.5	5.2/8.8	6.3/9.3	6.4/9.1	7.1/9.6	7.2/9.4	6.5/9.3	6.1/9.4	5.1/8.8	5.0/7.4	4.3/6.6	6.5/7.7

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	5.9	6.7	7.4	8.4	8.6	9.6	9.2	8.6	8.2	7.5	6.1	5.7	7.7
	Min/Max	4.4/7.1	5.5/7.5	5.3/8.9	6.7/9.7	7.2/10.1	8.1/11.0	8.2/10.5	7.0/9.9	6.3/9.6	5.1/8.8	5.0/7.4	4.3/6.8	6.9/8.1

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	3.9	4.0	3.9	4.2	4.2	5.1	4.8	4.5	4.4	4.5	3.9	3.8	4.3
	Min/Max	2.5/5.0	3.1/4.7	2.2/5.2	2.8/5.3	3.1/5.4	3.8/6.4	4.0/6.1	3.4/5.5	3.0/5.6	2.6/5.7	2.9/5.1	2.4/4.8	3.6/4.7
1-Axis, N-S Horiz Axis	Average	2.9	3.7	4.5	5.6	5.7	6.8	6.4	6.0	5.5	4.7	3.2	2.7	4.8
	Min/Max	1.8/3.8	2.8/4.5	2.4/6.0	3.7/7.1	4.2/7.4	5.1/8.5	5.2/8.1	4.4/7.4	3.6/7.1	2.6/5.9	2.3/4.2	1.6/3.5	4.1/5.3
1-Axis, N-S Tilt=Latitude	Average	4.3	4.9	5.3	5.8	5.6	6.4	6.1	6.1	6.2	5.8	4.5	4.1	5.4
	Min/Max	2.7/5.5	3.8/5.8	2.8/7.0	3.9/7.4	4.1/7.2	4.8/8.1	4.9/7.8	4.5/7.5	4.0/7.9	3.3/7.3	3.3/5.9	2.5/5.2	4.5/5.9
2-Axis	Average	4.6	5.0	5.3	5.9	5.9	7.0	6.6	6.2	6.2	5.9	4.8	4.4	5.6
	Min/Max	2.9/5.9	3.8/6.0	2.8/7.0	3.9/7.5	4.3/7.6	5.2/8.7	5.3/8.3	4.6/7.7	4.0/7.9	3.3/7.4	3.5/6.2	2.8/5.7	4.7/6.2

Average Climatic Conditions

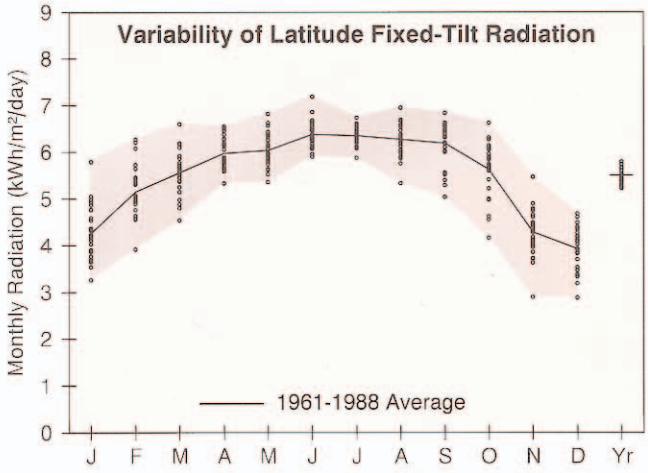
Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-1.8	0.0	2.9	8.0	13.0	18.3	21.6	20.2	15.8	9.9	3.2	-1.2	9.2
Daily Minimum Temp	-8.8	-7.1	-4.1	0.6	5.6	10.6	13.9	12.9	8.4	2.4	-3.9	-8.1	1.9
Daily Maximum Temp	5.2	7.0	10.0	15.4	20.4	26.1	29.1	27.4	23.1	17.5	10.4	5.7	16.4
Record Minimum Temp	-32.2	-32.8	-23.9	-19.4	-6.1	0.0	5.6	6.1	-5.6	-15.0	-22.2	-31.1	-32.8
Record Maximum Temp	22.2	24.4	27.2	28.3	33.9	37.8	37.8	37.2	34.4	30.0	25.6	25.0	37.8
HDD, Base 18.3°C	623	513	477	310	168	48	3	10	91	260	453	606	3564
CDD, Base 18.3°C	0	0	0	0	0	48	103	67	14	0	0	0	233
Relative Humidity (%)	51	50	50	46	49	48	50	54	51	46	50	51	50
Wind Speed (m/s)	4.1	4.3	4.7	5.1	4.8	4.3	4.0	3.8	4.1	4.2	4.2	4.0	4.3

Eagle, CO

WBAN NO. 23063

LATITUDE: 39.65° N
LONGITUDE: 106.92° W
ELEVATION: 1985 meters
MEAN PRESSURE: 802 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	2.4	3.3	4.4	5.6	6.4	7.2	6.9	6.1	5.1	3.9	2.5	2.1	4.7
	Min/Max	2.0/2.9	2.7/3.9	3.8/5.0	5.0/6.0	5.6/7.2	6.6/8.2	6.4/7.4	5.3/6.8	4.4/5.6	3.1/4.4	2.0/3.0	1.8/2.3	4.5/4.9
Latitude -15	Average	3.7	4.6	5.3	6.1	6.4	7.0	6.9	6.5	6.1	5.2	3.8	3.4	5.4
	Min/Max	2.9/4.9	3.6/5.6	4.4/6.2	5.4/6.7	5.7/7.3	6.4/7.9	6.3/7.3	5.5/7.2	5.0/6.7	3.9/6.1	2.7/4.7	2.6/4.0	5.2/5.7
Latitude	Average	4.3	5.2	5.6	6.0	6.0	6.4	6.3	6.3	6.2	5.6	4.3	3.9	5.5
	Min/Max	3.3/5.8	3.9/6.3	4.5/6.6	5.3/6.6	5.4/6.8	5.9/7.2	5.9/6.7	5.3/6.9	5.0/6.8	4.2/6.6	2.9/5.5	2.9/4.7	5.2/5.8
Latitude +15	Average	4.6	5.4	5.5	5.6	5.3	5.5	5.5	5.7	5.9	5.7	4.5	4.3	5.3
	Min/Max	3.5/6.4	4.0/6.7	4.4/6.6	4.9/6.1	4.8/6.0	5.1/6.1	5.1/5.8	4.8/6.3	4.8/6.6	4.2/6.8	3.0/5.9	3.1/5.1	5.0/5.6
90	Average	4.4	4.8	4.3	3.5	2.8	2.6	2.7	3.3	4.1	4.7	4.1	4.1	3.8
	Min/Max	3.4/6.3	3.3/6.2	3.3/5.4	3.1/3.8	2.6/3.1	2.5/2.8	2.6/2.8	2.9/3.6	3.3/4.5	3.3/5.6	2.6/5.5	3.0/4.9	3.5/4.0

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	3.6	5.0	6.2	7.7	8.7	9.9	9.6	8.6	7.5	5.9	3.8	3.2	6.7
	Min/Max	2.8/4.9	3.7/6.2	4.8/7.3	6.7/8.8	7.3/10.2	9.0/11.7	8.6/10.7	6.9/9.9	5.7/8.7	4.2/7.0	2.6/4.9	2.4/3.8	6.2/7.0
Latitude -15	Average	4.6	5.9	6.9	8.2	8.9	9.9	9.6	9.0	8.3	6.8	4.7	4.2	7.3
	Min/Max	3.5/6.4	4.4/7.4	5.3/8.3	7.1/9.3	7.4/10.4	9.0/11.7	8.6/10.8	7.2/10.3	6.2/9.5	4.8/8.2	3.1/6.2	3.0/5.1	6.7/7.7
Latitude	Average	5.1	6.3	7.1	8.1	8.6	9.5	9.3	8.8	8.4	7.2	5.1	4.6	7.3
	Min/Max	3.8/7.1	4.7/7.9	5.4/8.5	7.0/9.3	7.2/10.1	8.6/11.3	8.3/10.4	7.1/10.1	6.2/9.6	5.0/8.6	3.3/6.8	3.2/5.6	6.8/7.8
Latitude +15	Average	5.3	6.5	7.1	7.8	8.1	8.9	8.7	8.4	8.2	7.2	5.3	4.9	7.2
	Min/Max	4.0/7.6	4.7/8.2	5.3/8.6	6.7/8.9	6.8/9.6	8.1/10.6	7.8/9.8	6.7/9.7	6.1/9.4	5.0/8.7	3.4/7.1	3.4/6.0	6.6/7.7

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

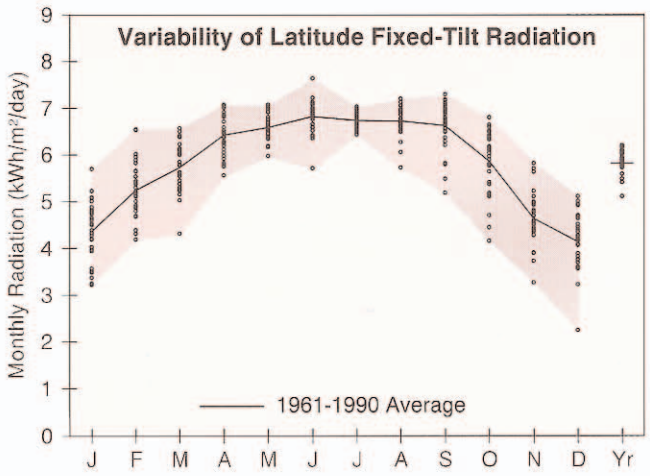
Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	5.4	6.5	7.1	8.2	9.0	10.2	9.8	9.0	8.4	7.3	5.4	5.0	7.6
	Min/Max	4.0/7.7	4.7/8.2	5.4/8.6	7.1/9.4	7.5/10.5	9.2/12.0	8.8/11.0	7.3/10.3	6.3/9.6	5.1/8.7	3.4/7.1	3.4/6.1	7.0/8.1

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	3.1	3.6	3.5	4.0	4.4	5.4	5.1	4.6	4.5	4.3	3.3	3.1	4.1
	Min/Max	2.0/5.2	2.6/4.6	2.3/4.5	3.1/4.9	3.2/5.5	4.5/7.1	4.3/6.1	3.3/5.7	2.8/5.4	2.5/5.6	1.7/4.8	1.4/4.3	3.6/4.5
1-Axis, N-S Horiz Axis	Average	2.3	3.2	4.1	5.3	6.0	7.3	6.9	6.2	5.6	4.4	2.6	2.1	4.7
	Min/Max	1.4/3.9	2.3/4.3	2.5/5.1	4.1/6.6	4.3/7.6	6.0/9.6	5.8/8.4	4.3/7.8	3.3/7.0	2.5/5.7	1.4/3.8	0.9/3.0	4.1/5.1
1-Axis, N-S Tilt=Latitude	Average	3.4	4.3	4.8	5.6	5.8	6.9	6.6	6.3	6.3	5.5	3.7	3.3	5.2
	Min/Max	2.1/5.7	3.1/5.7	3.0/6.0	4.3/6.9	4.2/7.4	5.6/9.1	5.5/8.0	4.4/7.9	3.7/7.8	3.1/7.2	2.0/5.4	1.5/4.6	4.5/5.7
2-Axis	Average	3.7	4.4	4.8	5.7	6.2	7.5	7.1	6.5	6.3	5.6	3.9	3.5	5.4
	Min/Max	2.3/6.1	3.2/5.8	3.0/6.0	4.4/7.1	4.5/7.8	6.1/9.8	5.9/8.6	4.6/8.1	3.7/7.8	3.1/7.2	2.1/5.7	1.6/5.0	4.7/6.0

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-7.4	-3.6	1.2	5.8	10.8	15.7	19.2	17.9	13.3	7.3	0.2	-6.3	6.2
Daily Minimum Temp	-15.7	-12.0	-6.8	-3.1	1.0	4.7	8.4	7.4	2.8	-2.9	-8.1	-14.4	-3.2
Daily Maximum Temp	1.0	4.8	9.1	14.8	20.6	26.7	30.0	28.5	23.9	17.4	8.4	1.6	15.6
Record Minimum Temp	-46.1	-34.4	-26.7	-19.4	-9.4	-3.3	-1.1	-2.2	-8.9	-16.1	-28.9	-35.0	-46.1
Record Maximum Temp	13.3	16.7	21.7	26.1	30.6	34.4	35.6	35.6	32.8	27.8	20.6	15.6	35.6
HDD, Base 18.3°C	797	614	532	375	234	91	14	40	153	343	545	764	4503
CDD, Base 18.3°C	0	0	0	0	0	11	42	28	3	0	0	0	84
Relative Humidity (%)	73	71	65	56	52	48	51	54	56	59	70	74	61
Wind Speed (m/s)	1.9	2.1	2.6	3.1	3.0	2.7	2.5	2.4	2.5	2.1	2.1	1.8	2.4



Grand Junction, CO

WBAN NO. 23066

LATITUDE: 39.12° N
LONGITUDE: 108.53° W
ELEVATION: 1475 meters
MEAN PRESSURE: 853 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	2.5	3.5	4.6	6.0	7.0	7.7	7.4	6.6	5.5	4.1	2.7	2.2	5.0
	Min/Max	2.1/2.9	3.0/4.1	3.8/5.1	5.3/6.5	6.3/7.5	6.4/8.7	7.1/7.7	5.7/7.1	4.5/6.0	3.1/4.5	2.2/3.2	1.5/2.5	4.6/5.2
Latitude -15	Average	3.8	4.7	5.5	6.5	7.0	7.5	7.3	7.0	6.5	5.4	4.1	3.6	5.7
	Min/Max	2.9/4.8	3.9/5.8	4.3/6.3	5.7/7.2	6.3/7.5	6.2/8.4	7.0/7.6	6.0/7.5	5.2/7.2	3.9/6.2	3.0/5.0	2.0/4.3	5.1/6.1
Latitude	Average	4.4	5.2	5.7	6.4	6.6	6.8	6.7	6.7	6.6	5.9	4.6	4.1	5.8
	Min/Max	3.2/5.7	4.2/6.6	4.3/6.6	5.6/7.1	6.0/7.1	5.7/7.6	6.4/7.0	5.7/7.2	5.2/7.3	4.2/6.8	3.3/5.8	2.3/5.1	5.1/6.2
Latitude +15	Average	4.7	5.4	5.6	6.0	5.8	5.8	5.8	6.1	6.4	6.0	4.9	4.5	5.6
	Min/Max	3.4/6.2	4.3/6.9	4.2/6.5	5.1/6.6	5.3/6.2	4.9/6.5	5.6/6.1	5.2/6.5	4.9/7.0	4.2/6.9	3.4/6.2	2.4/5.6	4.8/6.0
90	Average	4.4	4.7	4.2	3.7	3.0	2.7	2.8	3.5	4.4	4.8	4.4	4.3	3.9
	Min/Max	3.0/5.8	3.5/6.4	3.0/4.8	3.2/4.0	2.9/3.2	2.4/2.9	2.7/2.9	3.0/3.7	3.4/4.8	3.3/5.6	3.0/5.7	2.2/5.3	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	3.7	5.1	6.4	8.2	9.5	10.6	10.1	9.2	8.1	6.1	4.2	3.4	7.0
	Min/Max	2.7/4.8	3.9/6.5	4.4/7.5	7.0/9.4	7.7/10.5	8.3/12.4	9.3/10.7	7.6/10.2	6.0/9.0	4.1/7.1	2.8/5.2	1.9/4.2	6.0/7.5
Latitude -15	Average	4.7	6.0	7.1	8.7	9.6	10.6	10.1	9.5	8.9	7.1	5.1	4.4	7.7
	Min/Max	3.4/6.2	4.6/7.8	4.9/8.4	7.3/10.0	7.9/10.7	8.3/12.3	9.4/10.7	7.9/10.6	6.5/9.9	4.8/8.4	3.4/6.6	2.3/5.5	6.4/8.2
Latitude	Average	5.2	6.4	7.3	8.7	9.3	10.1	9.8	9.4	9.0	7.5	5.6	4.9	7.8
	Min/Max	3.7/6.9	4.8/8.4	4.9/8.7	7.2/9.9	7.6/10.4	7.9/11.9	9.0/10.4	7.7/10.4	6.6/10.0	5.0/8.8	3.7/7.2	2.5/6.1	6.4/8.3
Latitude +15	Average	5.4	6.6	7.2	8.3	8.8	9.5	9.2	8.9	8.8	7.5	5.8	5.2	7.6
	Min/Max	3.8/7.3	4.9/8.6	4.8/8.6	6.9/9.6	7.2/9.8	7.4/11.1	8.4/9.7	7.4/10.0	6.4/9.8	5.0/8.9	3.8/7.5	2.6/6.5	6.3/8.2

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	5.5	6.6	7.3	8.8	9.7	10.8	10.3	9.6	9.0	7.6	5.8	5.2	8.0
	Min/Max	3.8/7.4	4.9/8.6	5.0/8.7	7.3/10.0	8.0/10.9	8.4/12.7	9.5/10.9	7.9/10.7	6.6/10.0	5.0/8.9	3.8/7.5	2.6/6.6	6.7/8.6

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	3.3	3.7	3.7	4.3	5.0	5.9	5.5	5.1	4.9	4.5	3.6	3.4	4.4
	Min/Max	1.9/5.3	2.3/5.2	1.8/4.9	3.2/5.4	3.5/6.0	4.3/7.6	4.8/6.2	3.7/5.8	3.0/5.9	2.6/5.6	2.1/5.2	1.2/4.7	3.3/4.9
1-Axis, N-S Horiz Axis	Average	2.5	3.4	4.3	5.7	6.7	7.9	7.4	6.7	6.2	4.6	2.9	2.3	5.1
	Min/Max	1.5/4.0	2.0/4.9	1.9/5.7	4.0/7.2	4.5/8.2	5.6/10.2	6.3/8.2	4.7/7.9	3.7/7.3	2.5/5.8	1.6/4.2	0.8/3.3	3.7/5.6
1-Axis, N-S Tilt=Latitude	Average	3.6	4.5	5.0	6.0	6.5	7.5	7.0	6.9	6.9	5.8	4.1	3.6	5.6
	Min/Max	2.2/5.8	2.7/6.4	2.3/6.6	4.3/7.5	4.4/8.0	5.3/9.6	6.0/7.8	4.8/8.0	4.1/8.1	3.2/7.2	2.3/5.9	1.2/5.0	4.1/6.2
2-Axis	Average	3.9	4.7	5.0	6.1	6.9	8.1	7.6	7.1	6.9	5.8	4.4	3.9	5.9
	Min/Max	2.3/6.3	2.8/6.5	2.3/6.6	4.3/7.7	4.6/8.4	5.8/10.4	6.4/8.4	4.9/8.3	4.1/8.2	3.2/7.3	2.4/6.3	1.3/5.5	4.3/6.5

Average Climatic Conditions

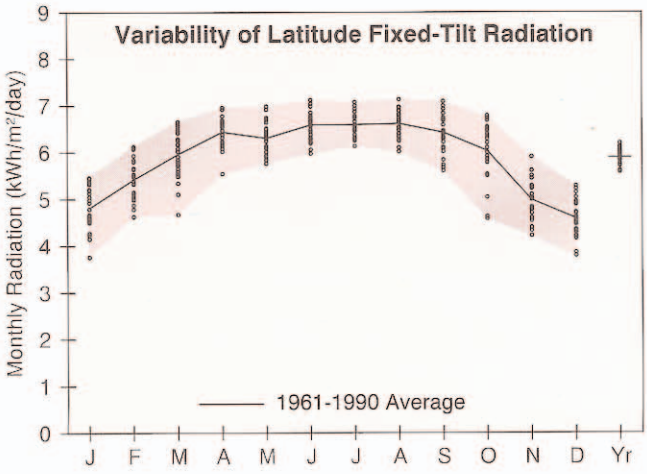
Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-3.9	1.4	6.3	11.2	16.7	22.4	26.0	24.7	19.4	12.6	4.7	-1.8	11.7
Daily Minimum Temp	-9.7	-4.7	-0.4	3.6	8.8	13.9	17.7	16.8	11.6	5.3	-1.4	-7.4	4.5
Daily Maximum Temp	1.9	7.4	13.1	18.8	24.4	30.9	34.2	32.5	27.3	19.8	10.8	3.7	18.8
Record Minimum Temp	-30.6	-27.8	-15.0	-11.7	-3.3	1.1	7.8	6.1	-1.7	-7.8	-18.9	-27.2	-30.6
Record Maximum Temp	15.6	20.0	27.2	29.4	35.0	40.6	40.6	39.4	36.7	31.1	23.9	17.8	40.6
HDD, Base 18.3°C	689	474	372	216	73	7	0	0	31	184	410	625	3082
CDD, Base 18.3°C	0	0	0	0	22	131	238	196	64	7	0	0	657
Relative Humidity (%)	70	60	50	40	36	29	34	37	39	46	58	68	47
Wind Speed (m/s)	2.5	2.9	3.6	4.1	4.2	4.2	4.1	3.9	3.8	3.4	3.0	2.5	3.5

Pueblo, CO

WBAN NO. 93058

LATITUDE: 38.28° N
LONGITUDE: 104.52° W
ELEVATION: 1439 meters
MEAN PRESSURE: 855 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	4.7	6.0	6.7	7.4	7.2	6.5	5.4	4.2	2.9	2.4	5.0
	Min/Max	2.3/2.9	3.2/3.9	3.9/5.2	5.2/6.5	6.1/7.3	6.7/8.1	6.7/7.8	6.0/7.0	4.9/5.9	3.4/4.6	2.7/3.3	2.2/2.6	4.8/5.2
Latitude -15	Average	4.1	4.9	5.7	6.5	6.7	7.2	7.1	6.9	6.3	5.6	4.4	3.9	5.8
	Min/Max	3.3/4.7	4.2/5.5	4.6/6.3	5.6/7.1	6.1/7.4	6.5/7.8	6.6/7.6	6.3/7.4	5.6/6.9	4.3/6.2	3.8/5.1	3.3/4.4	5.5/6.0
Latitude	Average	4.8	5.4	6.0	6.4	6.3	6.6	6.6	6.6	6.4	6.0	5.0	4.6	5.9
	Min/Max	3.8/5.5	4.6/6.1	4.7/6.7	5.5/6.9	5.8/7.0	6.0/7.1	6.1/7.1	6.0/7.1	5.6/7.1	4.6/6.8	4.2/5.9	3.8/5.3	5.6/6.2
Latitude +15	Average	5.2	5.6	5.9	6.0	5.6	5.6	5.7	6.0	6.2	6.2	5.3	5.0	5.7
	Min/Max	4.0/6.0	4.8/6.4	4.6/6.6	5.2/6.5	5.1/6.1	5.1/6.1	5.3/6.1	5.5/6.5	5.4/6.8	4.6/6.9	4.5/6.3	4.1/5.8	5.3/6.0
90	Average	4.9	4.8	4.3	3.6	2.8	2.6	2.7	3.3	4.2	4.9	4.8	4.8	4.0
	Min/Max	3.6/5.8	4.0/5.6	3.3/4.9	3.2/3.9	2.6/3.0	2.5/2.7	2.6/2.8	3.1/3.5	3.6/4.6	3.6/5.6	4.0/5.7	3.8/5.5	3.6/4.2

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	5.3	6.8	8.4	9.0	10.0	9.7	8.9	7.8	6.4	4.5	3.8	7.1
	Min/Max	3.2/4.8	4.5/6.1	5.0/7.8	6.8/9.4	7.8/10.3	8.8/11.3	8.6/10.8	7.9/9.9	6.6/9.0	4.7/7.3	3.8/5.4	3.1/4.4	6.6/7.5
Latitude -15	Average	5.3	6.3	7.5	8.9	9.1	9.9	9.7	9.3	8.5	7.4	5.6	4.9	7.7
	Min/Max	3.9/6.1	5.3/7.2	5.5/8.6	7.2/9.9	7.9/10.5	8.8/11.2	8.7/10.9	8.2/10.3	7.1/9.8	5.4/8.5	4.7/6.7	4.0/5.7	7.2/8.2
Latitude	Average	5.8	6.7	7.7	8.8	8.8	9.5	9.4	9.1	8.6	7.7	6.1	5.5	7.8
	Min/Max	4.3/6.7	5.6/7.7	5.6/8.9	7.2/9.9	7.6/10.2	8.4/10.8	8.4/10.5	8.1/10.1	7.2/9.9	5.6/8.9	5.1/7.3	4.4/6.4	7.3/8.3
Latitude +15	Average	6.1	6.9	7.7	8.5	8.3	8.9	8.8	8.7	8.4	7.8	6.3	5.8	7.7
	Min/Max	4.5/7.1	5.7/7.9	5.5/8.8	6.9/9.5	7.2/9.6	7.8/10.1	7.8/9.8	7.7/9.7	7.0/9.7	5.6/9.0	5.3/7.7	4.6/6.8	7.1/8.2

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	6.2	6.9	7.8	8.9	9.2	10.2	9.9	9.3	8.6	7.8	6.4	5.9	8.1
	Min/Max	4.6/7.2	5.7/7.9	5.7/8.9	7.3/10.0	8.0/10.6	9.0/11.5	8.8/11.1	8.3/10.3	7.2/9.9	5.6/9.0	5.3/7.7	4.7/6.9	7.5/8.6

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	4.0	4.2	4.2	4.6	4.8	5.7	5.5	5.1	4.8	4.8	4.1	3.9	4.6
	Min/Max	2.6/4.9	3.1/5.1	2.5/5.1	3.3/5.4	3.8/5.9	4.6/7.0	4.4/6.5	4.2/6.0	3.6/5.8	2.8/5.8	3.0/5.3	2.7/5.0	4.1/5.1
1-Axis, N-S Horiz Axis	Average	3.1	3.9	4.9	6.1	6.4	7.5	7.2	6.6	5.9	4.9	3.3	2.8	5.2
	Min/Max	1.9/3.8	2.9/4.8	2.8/6.1	4.3/7.3	4.9/8.0	6.0/9.3	5.7/8.7	5.4/7.9	4.4/7.4	2.9/6.1	2.5/4.4	1.9/3.6	4.6/5.7
1-Axis, N-S Tilt=Latitude	Average	4.4	5.1	5.6	6.4	6.2	7.0	6.9	6.7	6.6	6.1	4.7	4.2	5.8
	Min/Max	2.8/5.5	3.8/6.2	3.3/7.0	4.6/7.7	4.8/7.8	5.7/8.7	5.5/8.3	5.5/8.0	4.9/8.2	3.6/7.5	3.5/6.1	2.9/5.3	5.1/6.4
2-Axis	Average	4.8	5.2	5.7	6.5	6.6	7.6	7.4	6.9	6.6	6.2	4.9	4.6	6.1
	Min/Max	3.0/5.9	3.8/6.4	3.3/7.0	4.6/7.8	5.1/8.2	6.2/9.5	5.9/8.9	5.7/8.3	4.9/8.2	3.7/7.6	3.7/6.5	3.1/5.8	5.3/6.7

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-1.2	1.7	5.4	11.0	16.2	21.7	25.1	23.5	18.8	12.0	4.7	-0.5	11.5
Daily Minimum Temp	-9.9	-6.9	-3.3	2.1	7.6	12.3	16.2	15.0	10.1	2.6	-4.3	-9.2	2.7
Daily Maximum Temp	7.4	10.4	14.0	19.9	24.7	30.9	33.9	32.1	27.4	21.4	13.8	8.2	20.3
Record Minimum Temp	-33.9	-35.0	-28.9	-16.7	-3.9	2.8	6.7	4.4	-2.8	-10.6	-27.2	-31.7	-35.0
Record Maximum Temp	25.6	27.2	30.0	33.9	36.7	42.2	41.1	40.0	37.8	34.4	28.9	27.8	42.2
HDD, Base 18.3°C	606	465	401	220	84	6	0	0	34	198	408	584	3007
CDD, Base 18.3°C	0	0	0	0	17	106	208	162	48	0	0	0	541
Relative Humidity (%)	60	56	51	45	47	46	49	52	50	48	57	60	52
Wind Speed (m/s)	3.7	3.9	4.6	5.1	4.9	4.5	4.2	3.9	3.9	3.7	3.7	3.6	4.2