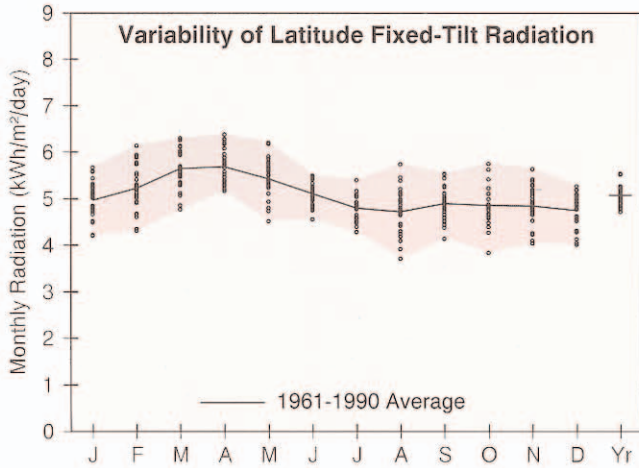


LATITUDE: 13.55° N
 LONGITUDE: 144.83° E
 ELEVATION: 110 meters
 MEAN PRESSURE: 998 millibars
 STATION TYPE: Primary



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	4.4	4.8	5.5	5.8	5.7	5.5	5.1	4.9	4.9	4.6	4.4	4.2	5.0
	Min/Max	3.8/5.0	4.1/5.6	4.7/6.1	5.2/6.5	4.7/6.6	4.8/5.9	4.5/5.8	3.9/5.9	4.2/5.5	3.6/5.4	3.7/5.0	3.6/4.6	4.7/5.4
Latitude -15	Average	4.3	4.8	5.4	5.8	5.7	5.5	5.1	4.9	4.8	4.6	4.3	4.1	4.9
	Min/Max	3.8/4.9	4.0/5.5	4.6/6.1	5.2/6.5	4.8/6.6	4.9/5.9	4.6/5.8	3.8/5.9	4.1/5.4	3.6/5.3	3.7/4.9	3.6/4.5	4.6/5.4
Latitude	Average	5.0	5.2	5.7	5.7	5.4	5.1	4.8	4.7	4.9	4.9	4.9	4.8	5.1
	Min/Max	4.2/5.7	4.3/6.1	4.8/6.3	5.2/6.4	4.5/6.2	4.6/5.5	4.3/5.4	3.7/5.7	4.1/5.5	3.8/5.8	4.0/5.6	4.0/5.3	4.7/5.5
Latitude +15	Average	5.3	5.4	5.6	5.3	4.9	4.5	4.3	4.4	4.7	4.9	5.1	5.1	5.0
	Min/Max	4.4/6.2	4.4/6.4	4.7/6.3	4.8/6.0	4.1/5.5	4.1/4.8	3.8/4.8	3.4/5.3	4.0/5.3	3.9/5.9	4.2/6.0	4.2/5.7	4.6/5.4
90	Average	3.8	3.3	2.6	1.7	1.5	1.5	1.5	1.5	2.0	2.8	3.5	3.8	2.5
	Min/Max	3.1/4.5	2.7/4.0	2.3/2.9	1.6/1.9	1.3/1.6	1.3/1.5	1.4/1.5	1.4/1.7	1.8/2.1	2.2/3.3	2.8/4.2	3.1/4.3	2.3/2.6

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	5.7	6.2	7.0	7.4	7.2	6.8	6.2	5.8	5.9	5.7	5.6	5.4	6.2
	Min/Max	4.7/6.6	4.9/7.4	5.5/8.0	6.5/8.6	5.6/8.6	5.7/7.6	5.3/7.2	4.3/7.5	4.7/6.9	4.3/6.9	4.4/6.6	4.4/6.0	5.5/6.9
Latitude -15	Average	5.6	6.1	6.9	7.4	7.3	6.9	6.2	5.8	5.9	5.7	5.6	5.3	6.2
	Min/Max	4.7/6.6	4.9/7.4	5.5/8.0	6.5/8.6	5.6/8.6	5.7/7.6	5.3/7.2	4.3/7.5	4.7/6.9	4.3/6.9	4.4/6.5	4.4/5.9	5.5/6.9
Latitude	Average	6.1	6.4	7.1	7.3	7.0	6.6	6.0	5.7	6.0	5.9	5.9	5.8	6.3
	Min/Max	5.0/7.2	5.1/7.8	5.6/8.2	6.5/8.5	5.4/8.3	5.5/7.3	5.1/6.9	4.2/7.3	4.7/6.9	4.4/7.2	4.7/7.0	4.7/6.5	5.6/7.0
Latitude +15	Average	6.3	6.6	7.0	7.1	6.6	6.1	5.6	5.5	5.8	5.9	6.1	6.1	6.2
	Min/Max	5.1/7.5	5.2/8.0	5.5/8.1	6.2/8.2	5.1/7.8	5.1/6.7	4.8/6.5	4.0/7.0	4.5/6.8	4.4/7.3	4.8/7.3	4.9/6.8	5.5/6.9

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	6.4	6.6	7.1	7.4	7.3	7.0	6.3	5.9	6.0	6.0	6.2	6.2	6.5
	Min/Max	5.2/7.6	5.2/8.0	5.6/8.2	6.6/8.6	5.7/8.7	5.8/7.8	5.4/7.4	4.3/7.5	4.7/7.0	4.5/7.3	4.8/7.4	4.9/6.9	5.8/7.3

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	2.9	3.0	3.1	3.2	3.0	2.4	2.0	2.1	2.3	2.8	2.9	2.7
	Min/Max	2.0/4.2	1.7/4.1	1.9/4.0	2.5/4.2	2.0/4.4	2.1/3.7	1.6/3.3	1.0/3.4	1.2/2.9	1.6/3.5	1.8/3.8	1.8/3.6	2.1/3.4
1-Axis, N-S Horiz Axis	Average	3.3	3.5	4.0	4.3	4.2	3.8	3.1	2.7	2.9	2.9	3.1	3.0	3.4
	Min/Max	2.1/4.4	2.1/4.9	2.4/5.3	3.5/5.8	2.6/5.8	2.6/4.7	2.0/4.2	1.4/4.4	1.6/3.8	1.9/4.3	2.0/4.2	1.9/3.7	2.5/4.2
1-Axis, N-S Tilt=Latitude	Average	3.6	3.7	4.1	4.2	4.0	3.6	2.9	2.6	2.9	3.1	3.3	3.3	3.4
	Min/Max	2.3/4.8	2.2/5.2	2.5/5.5	3.5/5.7	2.5/5.5	2.5/4.4	1.9/4.0	1.3/4.3	1.6/3.8	2.0/4.5	2.1/4.5	2.1/4.1	2.6/4.2
2-Axis	Average	3.8	3.8	4.1	4.3	4.2	3.9	3.1	2.7	2.9	3.1	3.5	3.6	3.6
	Min/Max	2.5/5.2	2.3/5.3	2.5/5.5	3.5/5.8	2.7/5.8	2.7/4.8	2.1/4.3	1.4/4.5	1.6/3.8	2.0/4.6	2.2/4.7	2.3/4.4	2.7/4.4

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	25.2	25.1	25.4	26.1	26.5	26.6	26.3	26.2	26.2	26.2	26.2	25.8	26.0
Daily Minimum Temp	21.7	21.6	21.7	22.3	22.6	22.7	22.4	22.3	22.3	22.4	22.8	22.6	22.3
Daily Maximum Temp	28.7	28.6	29.2	29.9	30.4	30.5	30.2	29.9	30.1	29.9	29.6	29.0	29.7
Record Minimum Temp	13.3	15.0	12.2	15.0	16.7	17.2	17.8	17.2	16.1	17.8	16.7	16.1	12.2
Record Maximum Temp	30.6	31.7	32.2	32.2	32.8	33.3	34.4	32.8	35.0	32.8	31.7	31.7	35.0
HDD, Base 18.3°C	0	0	0	0	0	0	0	0	0	0	0	0	0
CDD, Base 18.3°C	212	190	221	233	253	248	248	243	237	243	237	233	2797
Relative Humidity (%)	82	81	80	81	82	83	86	87	87	86	85	83	84
Wind Speed (m/s)	4.4	4.9	4.7	4.6	4.2	3.3	3.0	2.5	2.7	3.0	4.0	4.4	3.8