GLOBAL SOLAR ATLAS
BY WORLD BANK GROUP

大理市

25.596968°, 100.246884°
unnamed road, Dali City, Yunnan, China
Time zone: UTC+08, Asia/Shanghai [CST]

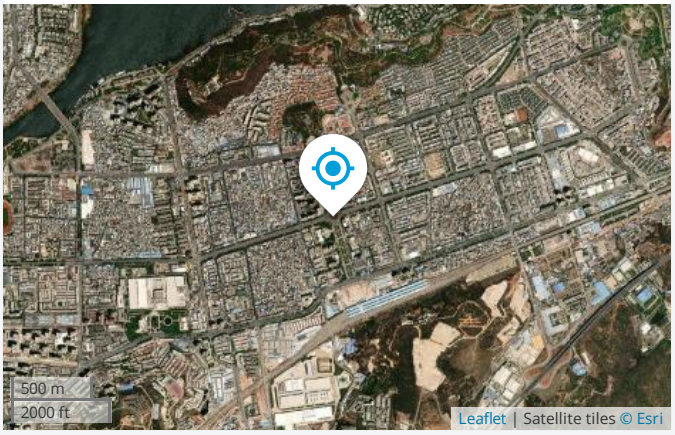
Report generated: 25 Nov 2024

SITE INFO

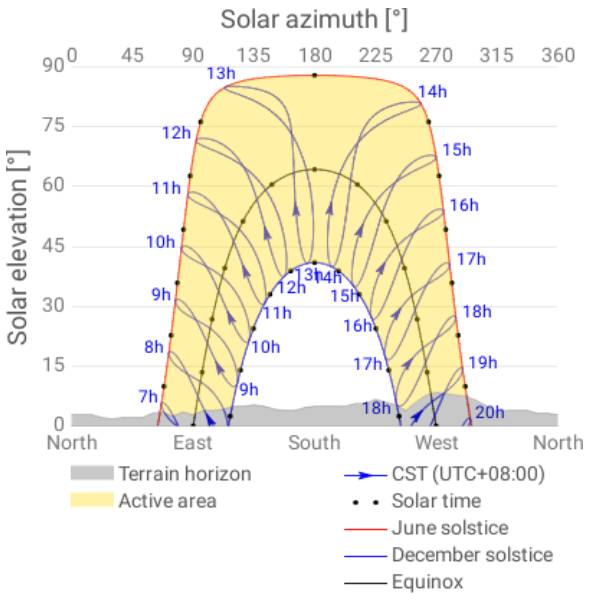
Map data

		Per year	
Direct normal irradiation	DNI	**1439.1**	kWh/m²
Global horizontal irradiation	GHI	**1682.1**	kWh/m²
Diffuse horizontal irradiation	DIF	**770.8**	kWh/m²
Global tilted irradiation at optimum angle	GTI opta	**1861.9**	kWh/m²
Optimum tilt of PV modules	OPTA	**29 / 180**	°
Air temperature	TEMP	**15.8**	°C
Terrain elevation	ELE	**1968**	m

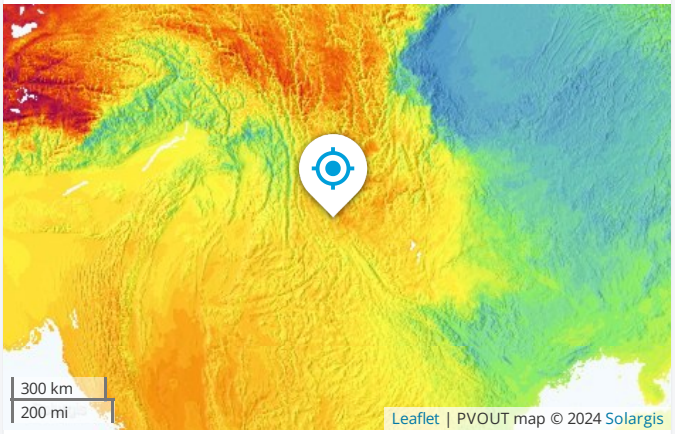
Map



Horizon and sunpath



PVOUT map



PVOUT: Long-term average of annual totals of PV power potential

kWh/kWp

600 800 1000 1200 1400 1600 1800 2000 2200 2400

PV ELECTRICITY AND SOLAR RADIATION

PV system configuration

Pv system: **Small residential**

Azimuth of PV panels: **Default** (180°)

Tilt of PV panels: **29°**

Installed capacity: **1 kWp**

Annual averages

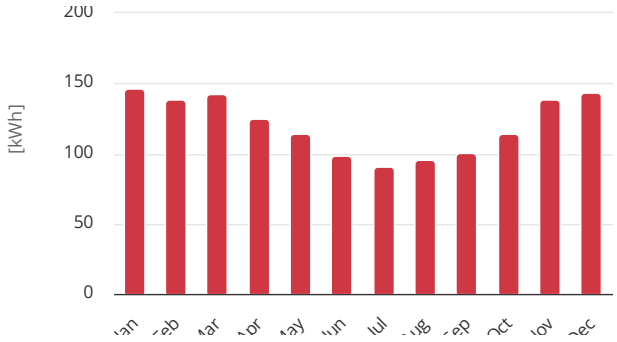
Total photovoltaic power output and Global tilted irradiation

1.447
MWh per year

1847.4
kWh/m^2 per year

Monthly averages

Total photovoltaic power output



Average hourly profiles

Total photovoltaic power output [Wh]

UTC+08

Average hourly profiles

Total photovoltaic power output [Wh]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 - 1												
1 - 2												
2 - 3												
3 - 4												
4 - 5												
5 - 6					1	2						
6 - 7			2	24	41	38	26	17	14	7	0	
7 - 8	54	77	112	151	147	114	90	89	105	129	149	64
8 - 9	310	321	308	311	276	212	168	179	214	272	361	325
9 - 10	494	506	480	454	392	312	252	272	322	396	516	493
10 - 11	615	632	605	546	472	394	334	357	416	486	616	611
11 - 12	675	693	649	583	500	439	386	405	461	520	662	672
12 - 13	678	697	629	551	488	444	402	424	467	511	652	676
13 - 14	634	647	574	499	433	409	379	409	445	469	602	629
14 - 15	554	566	498	426	370	356	339	373	397	409	505	543
15 - 16	433	449	403	326	286	274	266	291	306	311	365	404
16 - 17	258	287	249	206	185	178	175	185	173	146	171	194
17 - 18	30	73	84	80	79	82	84	79	47	14	8	2
18 - 19			2	5	11	16	16	7				
19 - 20												
20 - 21												
21 - 22												
22 - 23												
23 - 24												
Sum	4,735	4,948	4,594	4,161	3,682	3,268	2,918	3,087	3,364	3,669	4,608	4,614

PV ELECTRICITY AND SOLAR RADIATION

Annual averages

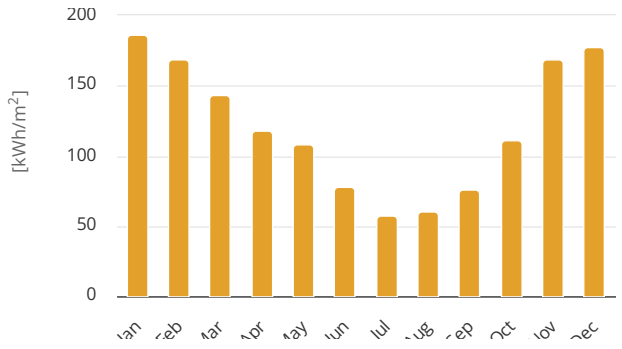
Direct normal irradiation

1454.7

kWh/m^2 per year

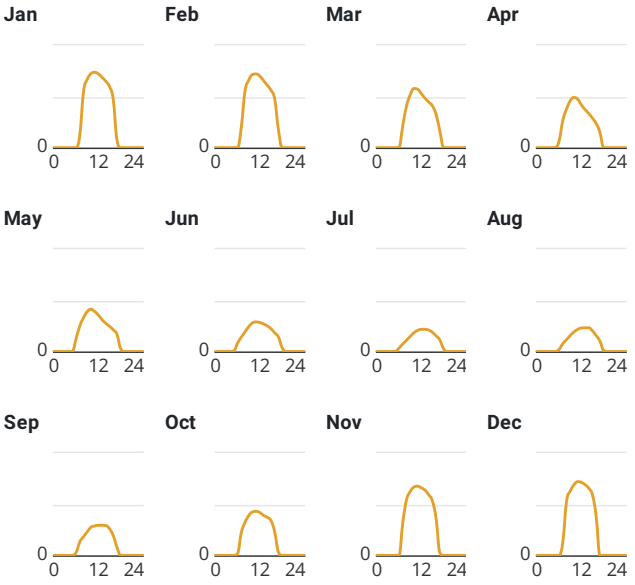
Monthly averages

Direct normal irradiation



Average hourly profiles

Direct normal irradiation [Wh/m^2]



UTC+08

Average hourly profiles

Direct normal irradiation [Wh/m^2]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 - 1												
1 - 2												
2 - 3												
3 - 4												
4 - 5												
5 - 6					3	6						
6 - 7			4	68	127	83	34	20	29	19		
7 - 8	127	201	216	266	252	140	73	77	133	224	320	131
8 - 9	550	553	405	378	332	192	109	115	183	323	541	527
9 - 10	667	659	515	459	390	243	147	156	231	388	624	628
10 - 11	723	714	577	490	413	279	183	191	276	424	667	690
11 - 12	736	720	571	473	391	289	206	215	287	430	676	720
12 - 13	720	699	528	418	356	283	217	230	294	418	659	714
13 - 14	686	654	482	372	310	269	217	231	294	391	637	691
14 - 15	649	609	445	333	276	250	209	232	291	372	592	655
15 - 16	595	560	407	287	246	222	187	202	260	339	530	589
16 - 17	471	474	322	235	212	183	152	155	193	230	354	376
17 - 18	73	175	159	150	168	141	113	102	78	31	24	
18 - 19					27	38	25	10				
19 - 20												
20 - 21												
21 - 22												
22 - 23												
23 - 24												
Sum	6,000	6,019	4,632	3,927	3,501	2,617	1,871	1,937	2,548	3,589	5,623	5,721

GLOSSARY

Acronym	Full name	Unit	Type of use
DIF	Diffuse horizontal irradiation	kWh/m², MJ/m²	Average yearly, monthly or daily sum of diffuse horizontal irradiation (© 2024 Solargis)
DNI	Direct normal irradiation	kWh/m², MJ/m²	Average yearly, monthly or daily sum of direct normal irradiation (© 2024 Solargis)
ELE	Terrain elevation	m, ft	Elevation of terrain surface above/below sea level, processed and integrated from SRTM-3 data and related data products (SRTM v4.1 © 2004 - 2024, CGIAR-CSI)
GHI	Global horizontal irradiation	kWh/m², MJ/m²	Average annual, monthly or daily sum of global horizontal irradiation (© 2024 Solargis)
GTI	Global tilted irradiation	kWh/m², MJ/m²	Average annual, monthly or daily sum of global tilted irradiation (© 2024 Solargis)
GTI_opta	Global tilted irradiation at optimum angle	kWh/m², MJ/m²	Average annual, monthly or daily sum of global tilted irradiation for PV modules fix-mounted at optimum angle (© 2024 Solargis)
OPTA	Optimum tilt of PV modules	°	Optimum tilt of fix-mounted PV modules facing towards Equator set for maximizing GTI input (© 2024 Solargis)
PVOUT_total	Total photovoltaic power output	kWh, MWh, GWh	Yearly and monthly average values of photovoltaic electricity (AC) delivered by the total installed capacity of a PV system (© 2024 Solargis)
PVOUT_specific	Specific photovoltaic power output	kWh/kWp	Yearly and monthly average values of photovoltaic electricity (AC) delivered by a PV system and normalized to 1 kWp of installed capacity (© 2024 Solargis)
TEMP	Air temperature	°C, °F	Average yearly, monthly and daily air temperature at 2 m above ground. Calculated from outputs of ERA5 model (© 2024 ECMWF, post-processed by Solargis)

ABOUT

This pdf report (the “Work”) is automatically generated from the Global Solar Atlas online app (https://globalsolaratlas.info/), prepared by Solargis under contract to The World Bank, based on a solar resource database that Solargis owns and maintains. It provides the estimated solar resource, air temperature data and potential solar power output for the selected location and input parameters of a photovoltaic (PV) power system.

Sources: Solar database and PV software © 2024 Solargis