

**NOAA GML**

Solar Position Calculator



[Earth System](#)
[Research Lab](#)

Please note that this web page is the old version of the NOAA Solar Calculator. Back when this calculator was first created, we decided to use a non-standard definition of longitude and time zone, to make coordinate entry less awkward. So on this page, both longitude and time zone are defined as positive to the west, instead of the international standard of positive to the east of the Prime Meridian.

We maintain this page as a courtesy to those people who, for whatever reason, prefer the old calculator. For the rest of you, we encourage you to instead [click here to try the updated version of NOAA's Solar Calculator](#)

City:		Deg:	Min:	Sec:	Time Zone	
Enter Lat/Long --> v	<u>Lat:</u> North=+ South=-	32	55	45	Offset to <u>UTC</u> (MST=+7): 6	<u>Daylight</u> <u>Saving</u> <u>Time:</u> Yes v
Click here for help finding your lat/long coordinates	<u>Long:</u> East=- West=+	91	36	55		
Note: To manually enter latitude/longitude, select Enter Lat/Long -> from the City pulldown box, and enter the values in the text boxes to the right.						
Month:	Day:	Year (e.g. 2000):	Time: (hh:mm:ss)			
July v	11	2024	14	: 07	: 00	☐ AM ☐ PM ☒ 24hr

Calculate Solar Position

<u>Equation</u> <u>of Time</u> (minutes):	<u>Solar</u> <u>Declination</u> (degrees):	Solar <u>Azimuth:</u>	Solar <u>Elevation:</u>	cosine of solar <u>zenith</u> <u>angle</u>
-5.65	21.95	231.34	73.64	0.9595
Azimuth is measured in degrees clockwise from north. Elevation is measured in degrees up from the horizon. Az & El both report <i>dark</i> after <u>astronomical twilight</u> .				

Directions:

1. Select a location from the City pulldown menu, **OR** select "Enter Lat/Long ->" from the pulldown menu, and manually enter the latitude, longitude and time zone information in the appropriate text boxes. For this calculator, latitude is positive to the NORTH, and longitude is positive to the WEST of the prime meridian.