

Address for this tool — [http://www.sunearthtools.com/dp/tools/pos\\_sun.php](http://www.sunearthtools.com/dp/tools/pos_sun.php)

**SunEarthTools.com**  
Tools for consumers and designers of solar

Home | Tools | Converters | Photovoltaic  
Interactive Map | **Sun Position** | Distance

05:22 | Sunday 01 April 2012

search: 1314 NE 95th Ave, Vancouver, WA 98664

SunRise: 06:51:16

Name: [ ]

**BRAIN TRAINING GAMES**  
Memory | Stress | Focus | Attention | Language | Intelligence | **Play Games**

execute

Solar Disk  Analemma  Solstice

year month day hour minute  
2012 03 31 20 22

Time zone GMT-8 DST  Default

Mode: sun path  
 sun path  
 sun rays  
 **path + rays**  
 coordinates

Unit  
 km - mt  
 mi - ft

Map Satellite

Back to top | Content | Data + Map | Chart Polar | Chart Cartesian | Table

name: [ ]  
lat: 45.631684  
lon: -122.575717  
date: 31/03/2012  
time: 20:22  
azim.: 285.52°  
elev.: -8.34°

SunEarthTools.com

21/06/2012  
31/03/2012  
21/12/2012

## Steps to see the sun's position at your house:

1. Make sure Sun Position is selected in left-hand navigation area.
2. Type in your address and zip code.
3. Select path + rays under the Mode: sun path menu at the top of the map area.
4. Click the execute button in the middle of the upper information area.
5. What you'll see is the little lightbulb over your house with the rays of the sun and a blue orbit. Read down the page for what all the other information means.

## Other info on this page:

Longitude and latitude as well as another address may be displayed to the right of where you type in your own address (and above the execute button). These fields may be blank, may have some random location, or may have the last place you typed in. You will use the longitude/latitude for the sun position tool on the next page, so keep this window open in your browser for copying and pasting.

The page will automatically display the current date and time. It should know it's daylight savings time, but check or don't check it appropriately.

Time zone should be GMT-8 for we in the greater Portland/Vancouver area (Pacific Time). You will need this bit of info on the next page, too.

**PV CDROM**  
 Christiana Honsberg  
 and Stuart Bowden  
 Home

Search

Instructions  
**1. Introduction**  
**2. Properties of Sunlight**  
*Basics of Light*  
 Properties of Light  
 Energy of a Photon  
 Photon Flux  
 Spectral Irradiance  
 Radiant Power Density  
*Blackbody Radiation*  
 Blackbody Radiation  
*Solar Radiation*  
 The Sun  
 Solar Radiation in Space  
 Solar Radiation Outside the Earth's Atmosphere  
*Terrestrial Solar Radiation*  
 Solar Radiation at the Earth's Surface  
 Atmospheric Effects  
 Air Mass  
 Motion of the Sun  
 Solar Time  
 Declination Angle  
 Elevation Angle  
 Azimuth Angle  
 The Sun's Position  
**Sun Position Calculator**  
 Sun's Position to High Accuracy  
 Solar Radiation on a Tilted Surface  
 Arbitrary Orientation and Tilt  
 Calculation of Solar Insolation  
*Solar Radiation Data*  
 Measurement of Solar Radiation  
 Analysis of Solar Irradiance Data Sets  
 Typical Meteorological Year Data (TMY)  
 Making Use of TMY Data  
 Average Solar Radiation  
 Isoflux Contour Plots  
 Sunshine Hour Data  
 Cloud Cover Data  
 Chapter 2 Quiz

**3. PN Junction**  
**4. Solar Cell Operation**  
**5. Design of Silicon Cells**  
**6. Manufacturing Si Cells**  
**7. Modules and Arrays**  
**8. Characterisation**

Appendices

## Sun Position Calculator

Using the equations on the previous page, the position of the sun in the sky can be determined from the observer's location and the time of day. In the top blue squares, enter the observer's location and time of day.

### TIME AND DATE

The time is given as 24 hour time and the minutes are entered separately. Thus for 5:15 pm, enter 17 in the hour box and 15 in the minute box.

### LONGITUDE, LATITUDE AND TIME ZONE (GMT)

Longitude, latitude and time zone of locations throughout the world are available at [www.timeanddate.com](http://www.timeanddate.com). Minutes of longitude and latitude are entered as fractions, so 17° 30' becomes 17.5. Enter locations with an west longitude as negative. For daylight saving (summer time), subtract 1 hour from the given values. Generally speaking, locations east of Greenwich (UK) are positive and locations west of Greenwich are negative.

There are other services that will determine your approximate latitude and longitude from your IP address. For example [ip2location.com](http://ip2location.com).

**1** →

Month:  →

Day:  →

Hour:  →

Minute:  →

Latitude:  →

Longitude:  →

GMT Offset:  →

day number:  days

EoT:  min

Time Corr.:  min

declination:  deg.

hour angle:  deg.

altitude:  deg.

azimuth:  deg.

sunrise:  hour:min

sunset:  hour:min

**2** →

latitude:  to

time:  to

day:  to

The graph on the right shows the position of the sun's azimuth and elevation angles projected onto a two-dimensional plane. An

## How to use this tool:

This tool shows the position of the sun as it tracks across the sky at any given day or time.

1. Select your latitude, longitude and GMT information from the other tool (on previous page).
2. Select month, day and hour you'd like to view.

For some fun, select another month and see how the track of the sun moves!

This tool is a bit counter-intuitive to me. It shows the sky, but even if you watch the little animation lower on this web page you'll see that what you are looking at is as if you are God looking down on the earth, and the sun is between God and the earth.

So imagine that you are laying on your back on the ground with your head in the middle of those concentric circles. The top of your head points north, your feet south, right arm east and left arm west.

From our latitude, you'll see the sun track across the sky always a little toward your feet, and never directly above as your eyes gaze straight up from your laying position.