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PlanIt! for Photographers

ALL-IN-ONE PLANNING APP FOR LANDSCAPE PHOTOGRAPHERS

QUICK USER GUIDES



The Sun and the Moon

Rise and Set

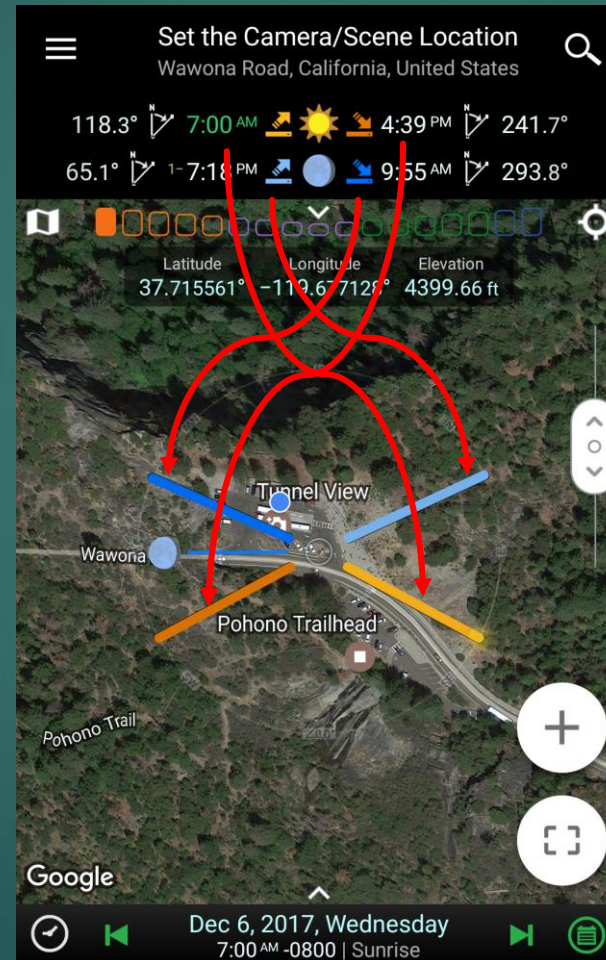
The azimuth of the Sun or the Moon is shown as thick color lines on the map .

Confused about which line means what? Just look at the colors of the icons and lines. Within the app, everything related to the Sun is in orange. Everything related to the Moon is in blue.

- Sunrise: a lighter orange
- Sunset: a darker orange
- Moonrise: a lighter blue
- Moonset: a darker blue

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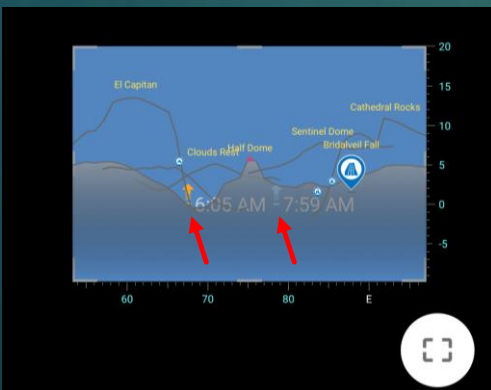
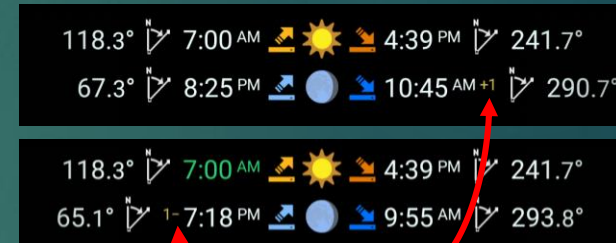
The Rise and Set page shows the time of the sunrise, sunset, moonrise, and moonset on a day as well as their azimuth.



A sunrise always happens before a sunset on the same day. However, on some days, the moonset could take place before the moonrise within the same day. On those days, we might show either the next day's moonset or the previous day's moonrise depending on the current time. In any case, the left one is always moonrise and the right one is always moonset.

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This diagram illustrates how moonrise and moonset times can span across days. It shows two rows of data:

- Top row: Sunrise (7:00 AM, 118.3°) and Sunset (4:39 PM, 241.7°). Moonrise (8:25 PM, 67.3°) and Moonset (10:45 AM⁺¹, 290.7°).
- Bottom row: Sunrise (7:00 AM, 118.3°) and Sunset (4:39 PM, 241.7°). Moonrise (1-7:18 PM, 65.1°) and Moonset (9:55 AM, 293.8°).

Red arrows indicate that the moonset time in the top row (10:45 AM⁺¹) is the moonset from the previous day, and the moonrise time in the bottom row (1-7:18 PM) is the moonrise from the next day.

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You may see a little superscript "+1" or "-1" to some of the moonrise or moonset times. The "+1" or "-1" sign means the event happens on the next day or the previous day, respectively.

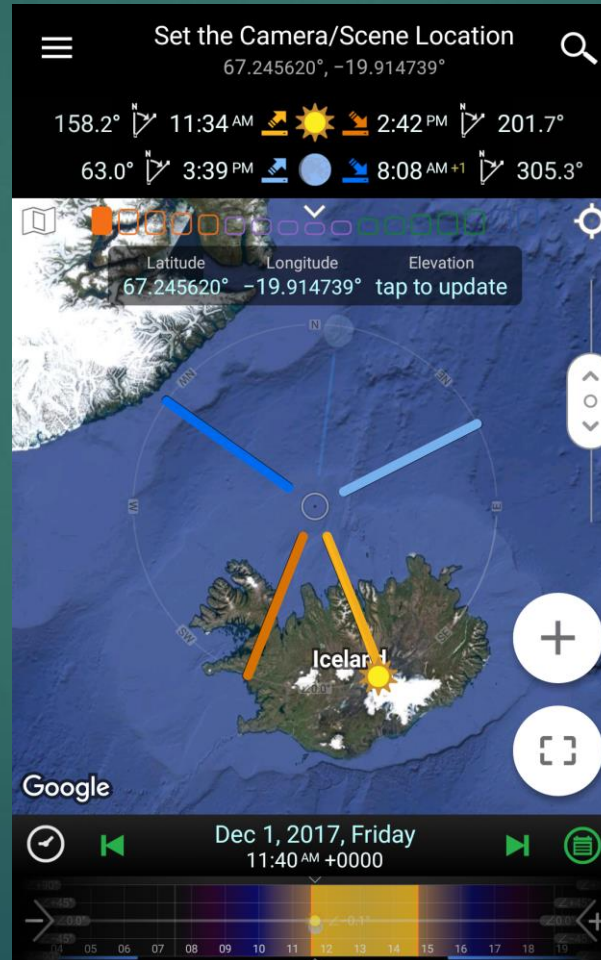
Perpetual Day and Perpetual Night

Sometimes there is no sunrise or sunset for a given day. It is called the perpetual day when the Sun never sets, or perpetual night when the Sun never rises.

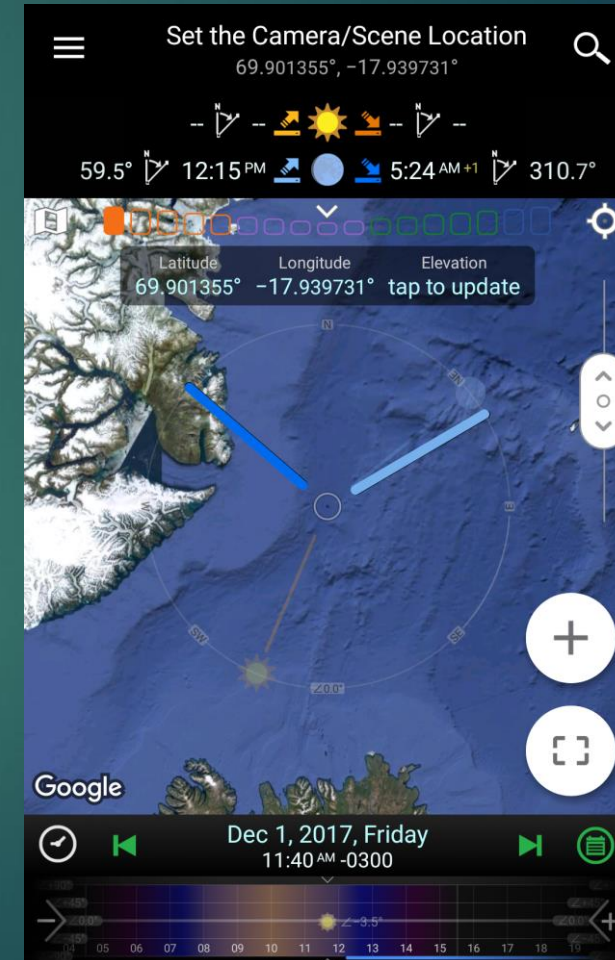
It happens only at the very north or very south of the Earth .

This app provides a very easy and interesting way to study the ephemeris because it is so easy to change the time and location to see all the ephemeris information.

This is a very short day (only 2 hours) in Iceland.



If further north, there is no sunrise or sunset.



Twilight



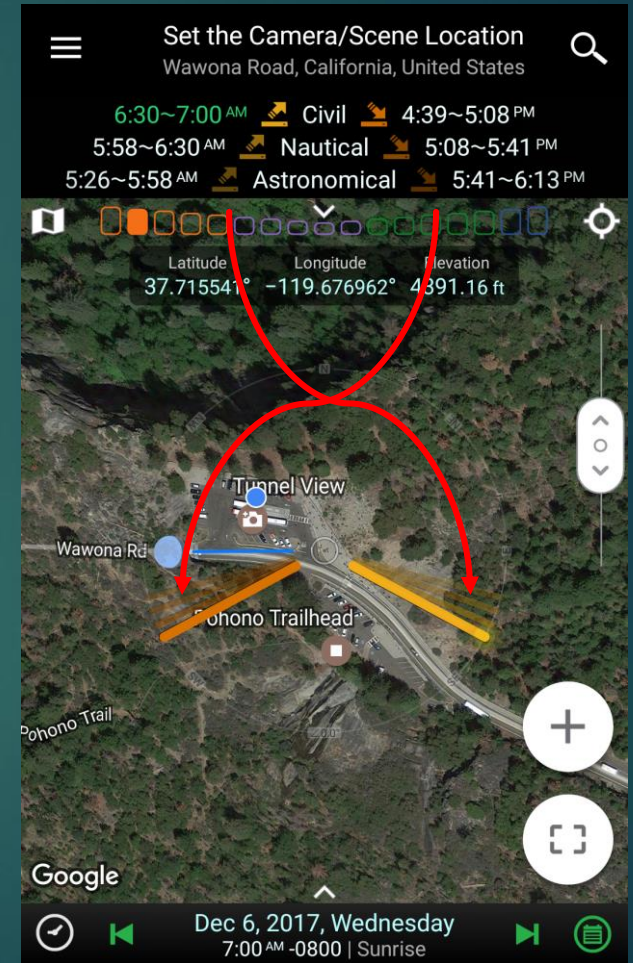
The twilight is defined according to the sun's elevation angle, which is the position of the geometric center of the sun relative to the horizon. There are three established and widely accepted subcategories of twilight: civil twilight (nearest the horizon), nautical twilight, and astronomical twilight (farthest from the horizon).



You can usually see twilight twice a day - before the sunrise and after the sunset.

On the Twilight page, we show the starting and ending times of twilight with three subcategories under each one.

On the map, we also show the azimuth of the Sun at each time. The lines become more transparent as the Sun is further below the horizon.



Special Hours



In photography, the golden hour (sometimes known as the magic hour, especially in cinematography) is a period shortly before sunset during which daylight is redder and softer than when the Sun is higher in the sky.

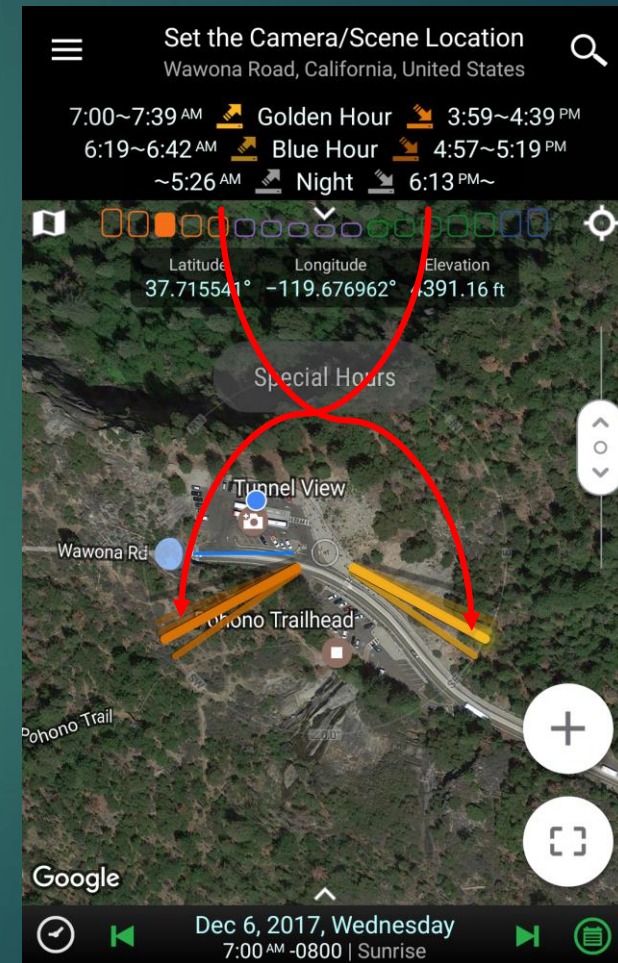
In the app, we define it as when the Sun is between 0° and 6° . In other words, the Sun is very low above the horizon.

The blue hour is the period of twilight early in the dawn each morning and late dusk each evening when the Sun is at a significant distance below the horizon and the residual, indirect sunlight takes on a predominantly blue hue. This effect is caused by the relative diffusibility of short blue wavelengths of light versus the longer red wavelengths.

In the app, we define it as when the Sun is between -4° and -8° . However, the actual time depends on the Sun's direction. During dusk, if you look at the sky toward the Sun's direction, the blue hour period could start and end later. If you look at the sky opposite to the Sun's direction, the blue hour period could start and end earlier.

Finally, the last row shows the night, when the sky is dark enough when the Sun has no impact at all.

In the app, we define it as when the Sun is below -18° . For night photography of stars, star trails, meteor showers, the Milky Way, etc., that's when it [what starts?] starts.

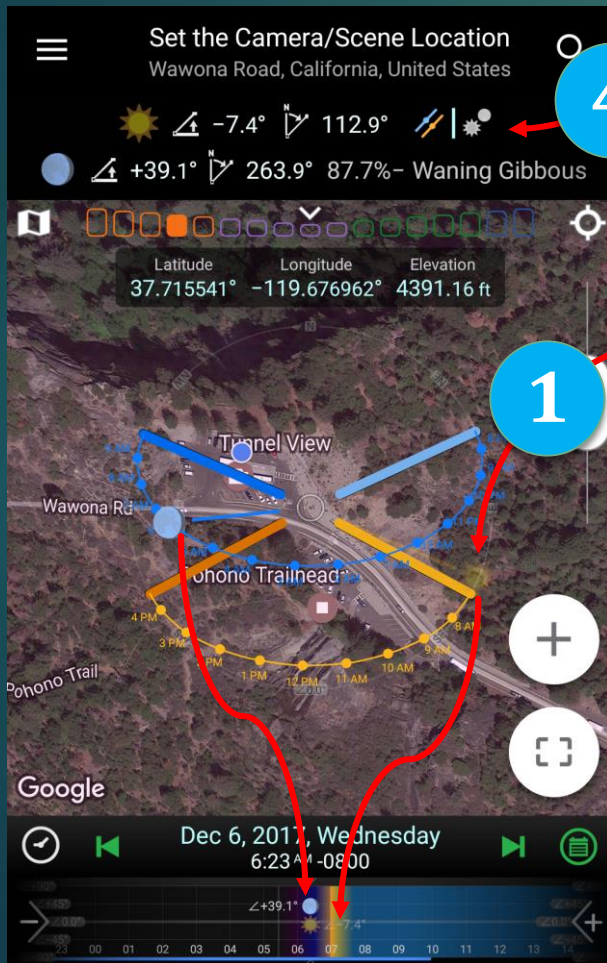


Sun/Moon Position



The Sun and Moon Position page shows the elevation angle and azimuth of the Sun and the Moon. For the Moon, we also show the name of the Moon phase and the percentage

You can also **press long** on the Sun or the Moon icon to center the viewfinder at the Sun or the Moon.



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Use this toggle button to show or hide the Sun/Moon's path.

A transparent Sun or Moon icon means it is below the horizon.



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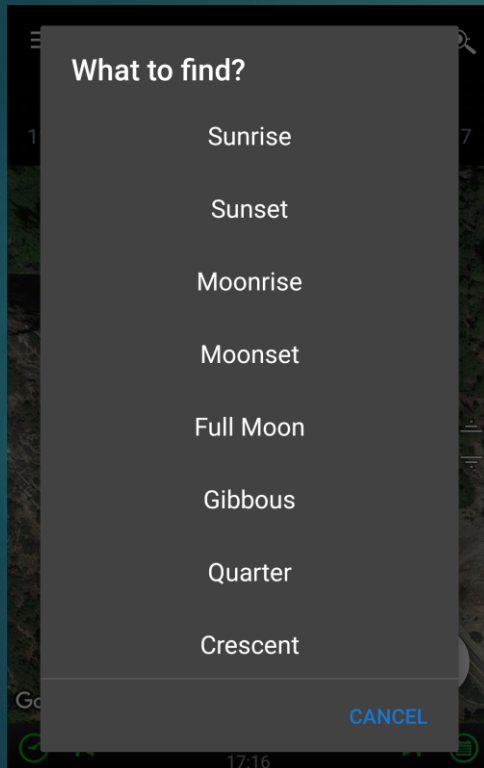
3

When you drag the time slider, the app will show the elevation circles. You can see the Moon icon is near the elevation circle marked with 70° elevation angle. It means the Moon was at near 70° elevation angle (68.2° to be exact). When the circles are not visible, you can roughly tell the Sun's or the Moon's elevation angle by looking at the distance from the icon to the center. The shorter the distance, the higher it is in the sky.

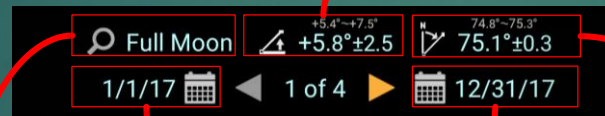
Sun/Moon Finder



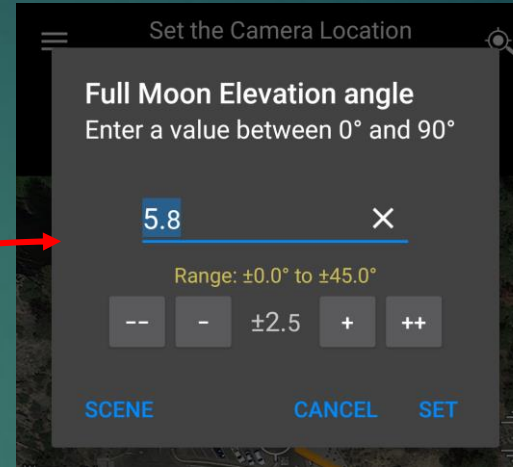
1. The purpose of the Sun and Moon Finder page is to find all possible date/time in a **Date Range** when **the Sun or the Moon** (or a particular phase of the Moon) appears in a target area on the sky. The target area can be defined as **Azimuth and Elevation Angle**.



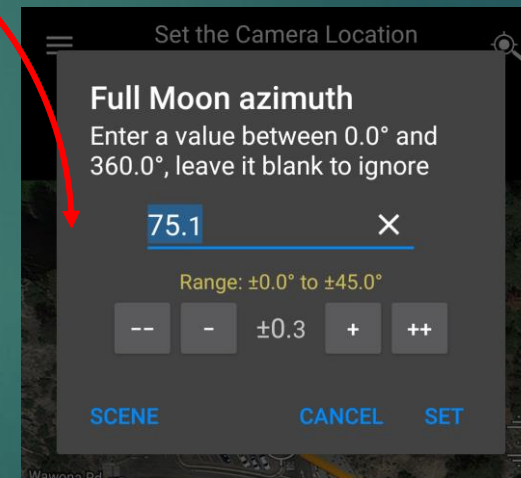
Targets



Date Range



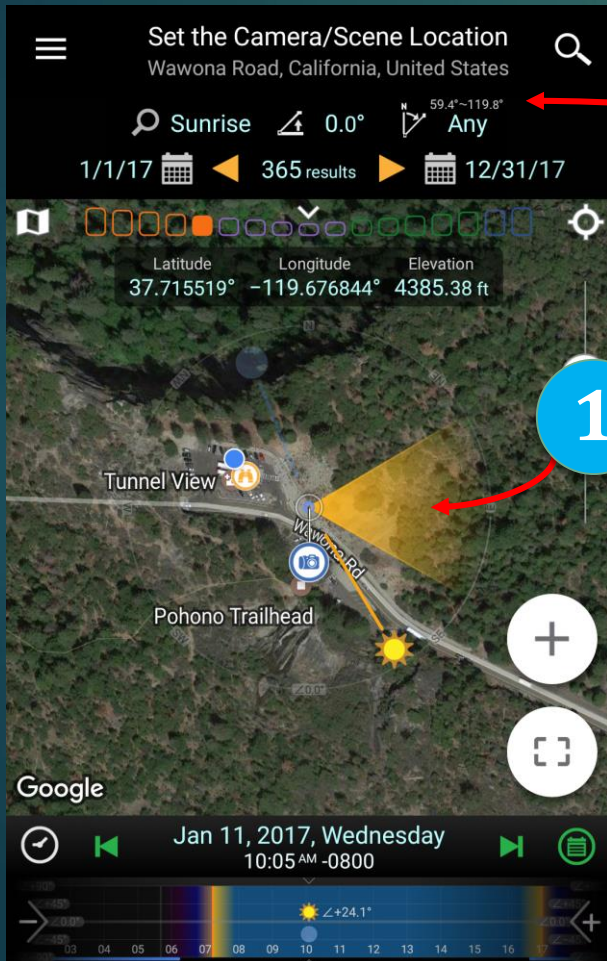
Elevation Angle Range



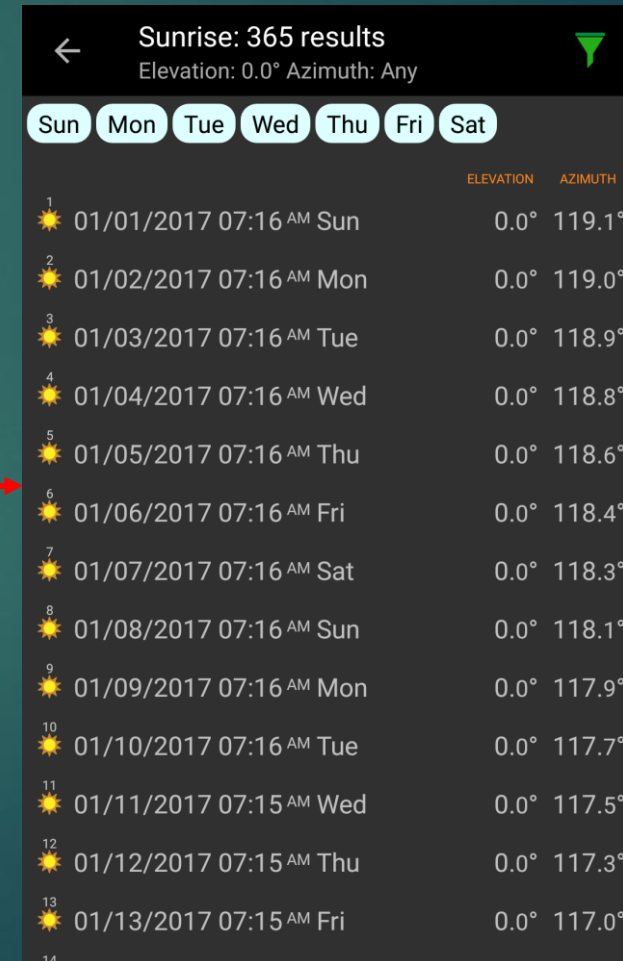
Azimuth Range

List of Sunrise Times and Directions

Sometimes you want to see a list of sunrise times (or sunset, moonrise, moonset). the Sun/Moon Finder is the place to see it. Just set the elevation at 0.0° , azimuth at any, choose a date range, and click on the results to see the list.



The orange fan is the possible azimuth of the Sun as shown above the azimuth value on the pager. In other words, even though we didn't specify the azimuth range when finding the Sun, the Sun could rise only between 59.4° and 119.8° .



			ELEVATION	AZIMUTH
1	01/01/2017	07:16 AM Sun	0.0°	119.1°
2	01/02/2017	07:16 AM Mon	0.0°	119.0°
3	01/03/2017	07:16 AM Tue	0.0°	118.9°
4	01/04/2017	07:16 AM Wed	0.0°	118.8°
5	01/05/2017	07:16 AM Thu	0.0°	118.6°
6	01/06/2017	07:16 AM Fri	0.0°	118.4°
7	01/07/2017	07:16 AM Sat	0.0°	118.3°
8	01/08/2017	07:16 AM Sun	0.0°	118.1°
9	01/09/2017	07:16 AM Mon	0.0°	117.9°
10	01/10/2017	07:16 AM Tue	0.0°	117.7°
11	01/11/2017	07:15 AM Wed	0.0°	117.5°
12	01/12/2017	07:15 AM Thu	0.0°	117.3°
13	01/13/2017	07:15 AM Fri	0.0°	117.0°
14				

The example on the left finds all the dates/times in 2017 when the Sun was at 0° elevation without considering the azimuth. It is basically all the sunrise times in 2017.

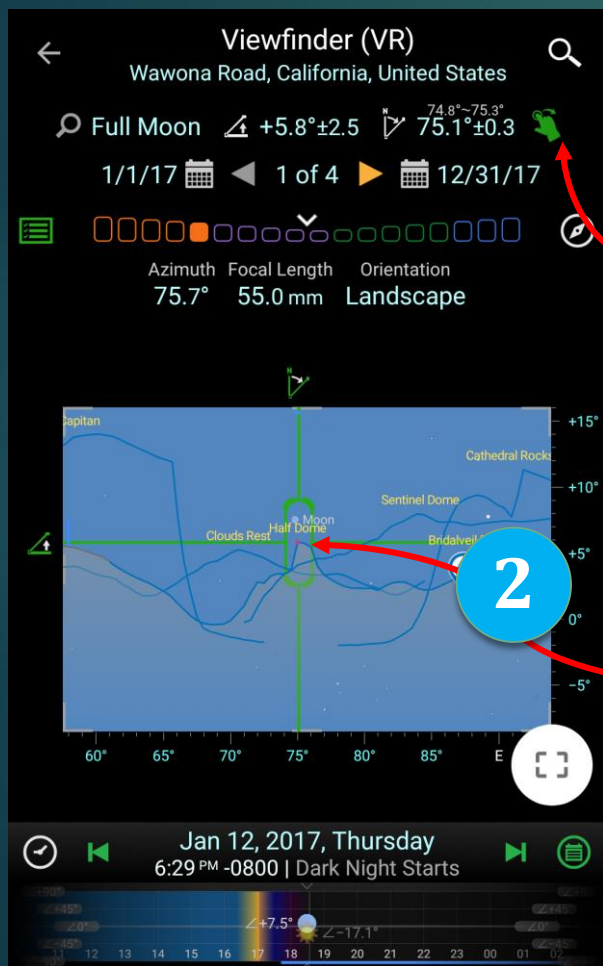
Sun/Moon Finder in the Viewfinder



You can of course type in the azimuth and elevation angle as degrees in the two dialog boxes, but it is more straightforward to define and see the target area of the Sun/Moon Finder in viewfinder.

Drag this icon to change the finder target elevation angle value

Drag this icon to change the finder target azimuth value



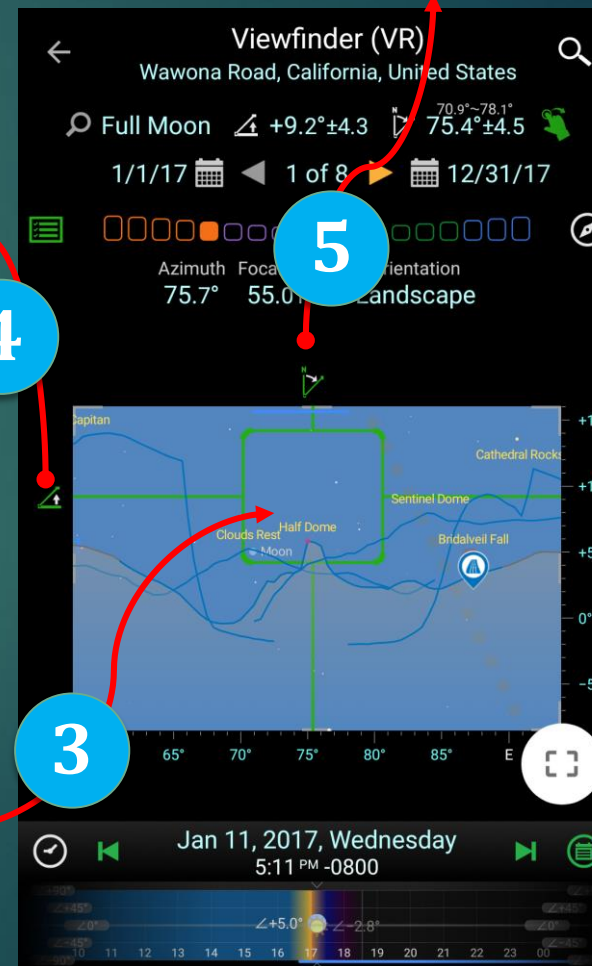
1

The green rounded rectangle is the target area, visually on the simulated viewfinder. In this example, I defined the target area above the Half Dome where I want to find out the dates/times when a full moon will appear.

To define a target area, just tap on the green hand icon at the top, and then drag the icon on the viewfinder. Once the area is defined, you can drag the four corners (indicated by thicker curves) to fine tune the target area.

I could define a small area like this one on the left, in which case there will be fewer results.

I could define a larger area like this one on the right, in which case there will be more results.



4

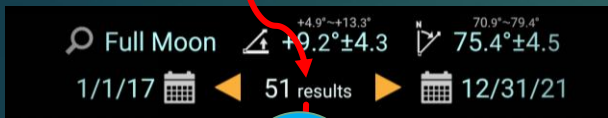
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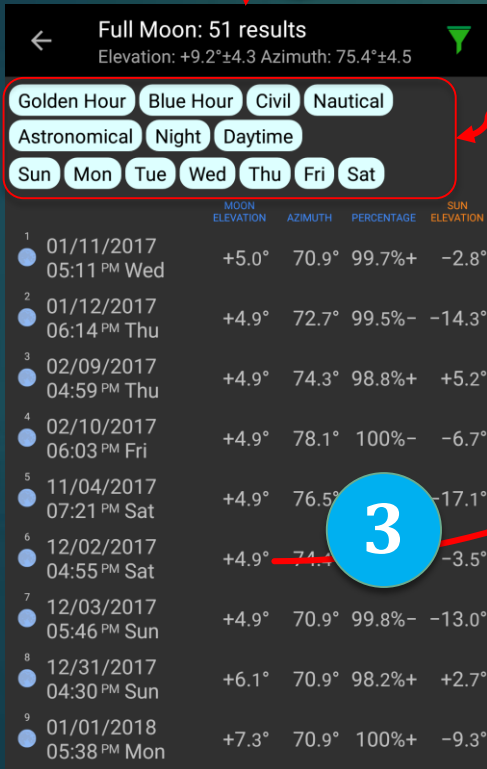
Sun/Moon Finder Results



Tap the results to see the list of results.



1

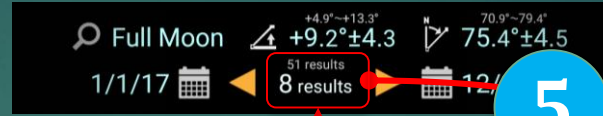


3

This is the filter area which helps you narrow down the results with more conditions.

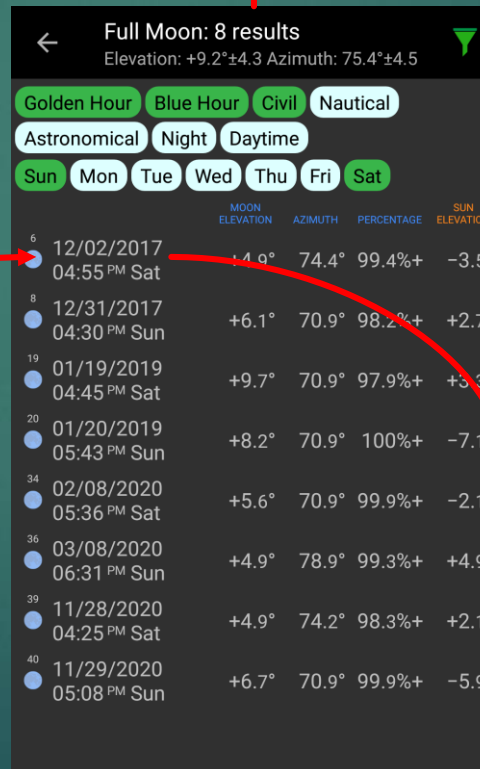
With filtering on, some rows are gone but you can see the index of the row to match the one before the filtering. For example, the 6th row becomes the 1st row after filtering. However the row index still says 6.

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Now if you exit the result list, you will see two results. The top one is the total results, and the bottom one is the filtered results.



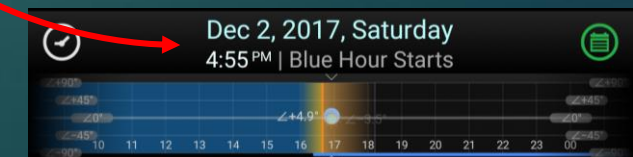
6

Finally, if you tap on the Next/Previous Arrow buttons to navigate the results, both the index before and after the filtering will be shown. This way you will never lose track of the actual index in the result list.



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You can press long on the results to clear all the filters without going into the result list page.



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