



9

# PlanIt! for Photographers

ALL-IN-ONE PLANNING APP FOR LANDSCAPE PHOTOGRAPHERS

QUICK USER GUIDES



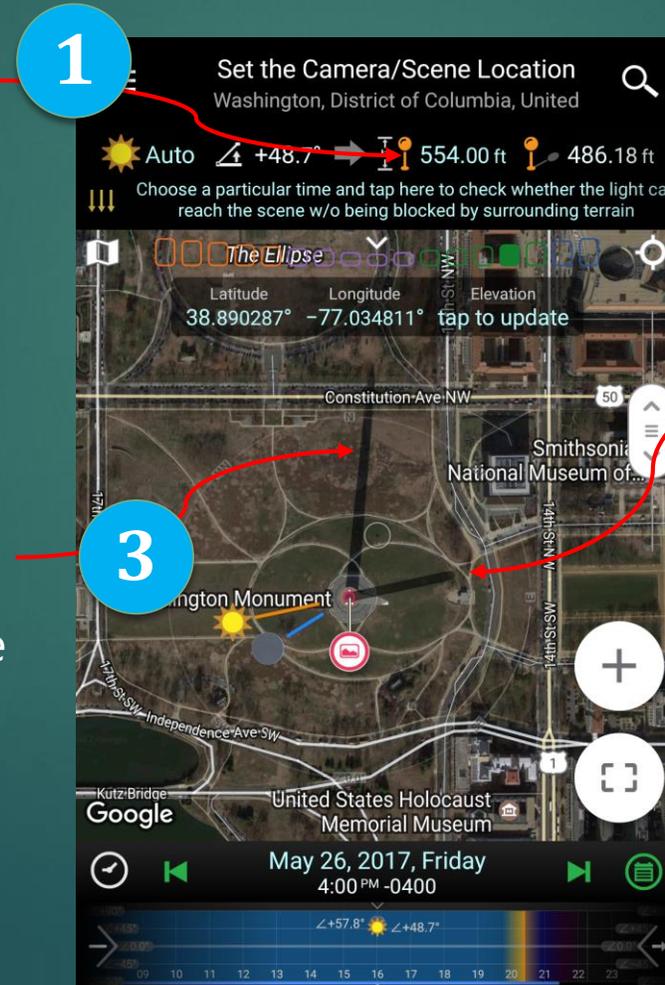
# Light and Shadow

# Shadow

The first feature is to check the shadows cast by objects that intercepted the sunlight or moonlight. Depending on what you want, the shadow could have both a negative impact or a possible impact on the final picture.

The height of the Washington Monument is 554 ft. Enter the object height and find out its shadow direction and length. You can also view it visually on the map.

Interestingly enough, here were the actual shadows when the satellite image was taken. You can figure out the Sun's altitude and direction when the image was taken.

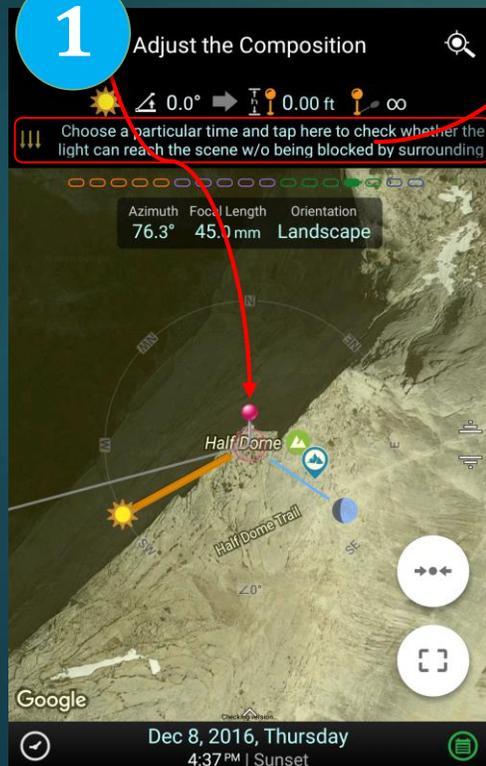


Shadow drawn by this app

# Light

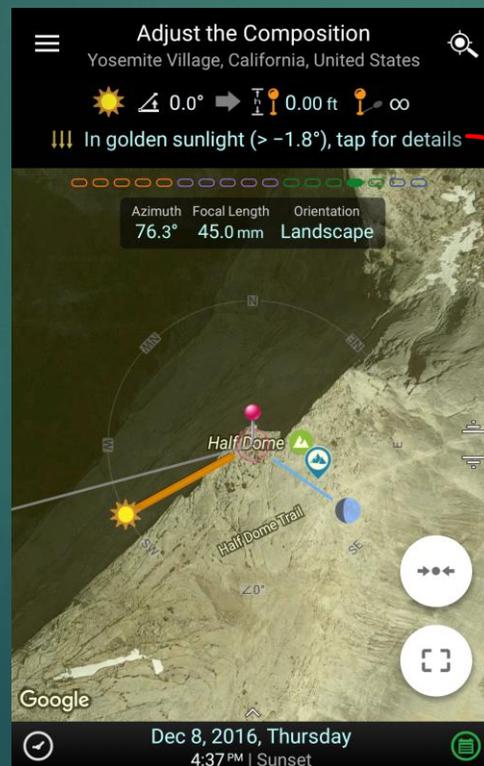
The second feature is to find out if the Sun/Moon light could reach a certain location at a certain time.

Set the Scene pin where you want to find out the light condition



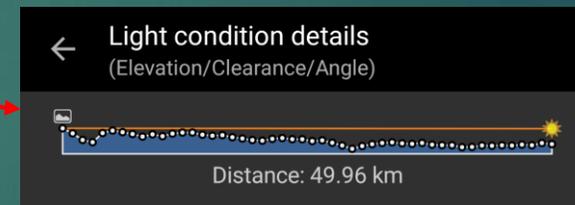
2

Adjust the time to see the angle of the light. If you are looking for a red color, use a very low angle such as 0.0°. And tap the circled area to see if the sunlight or the moonlight will reach at the scene location



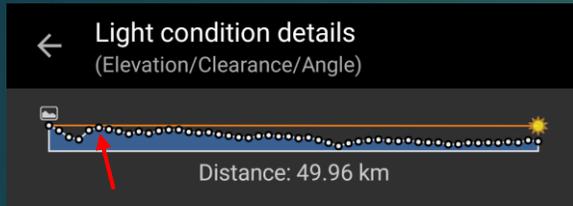
3

In the detailed chart below, you can see how the Sun cleared all the terrains and reached the peak.



# Finding a Better Date for the Light

Continuing from the last page, let's take a look at the chart in detail.



1

Note that there is a bump (marked by the red arrow). It is a high-elevation terrain that blocks quite a bit of the sunlight. It means that, even though the Sun could reach the peak, it could light up only the peak of Half Dome.

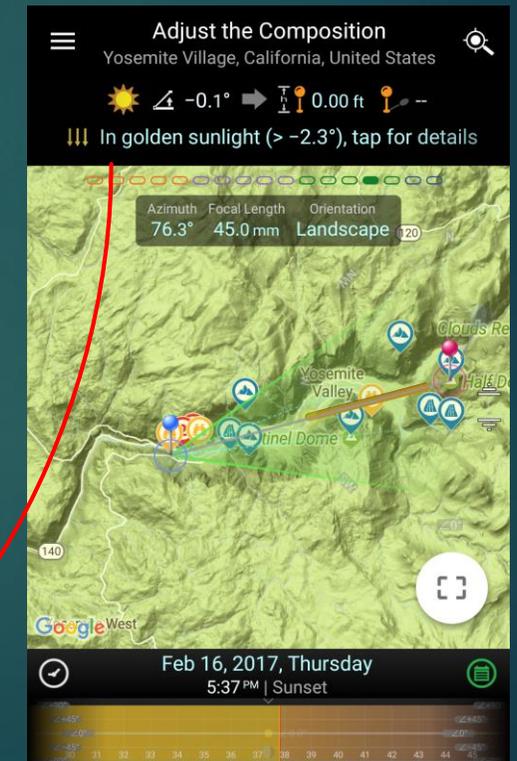
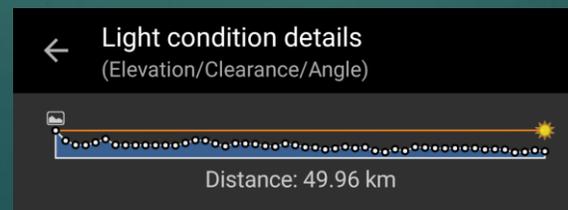
A typical use case for this feature is to check for the red peak. Of course, the bigger the red peak, the better. The chart above shows that December 8, 2016, might not be a good time to take the red peak photo of Half Dome.

2

Keep in mind, the Sun sets in different directions depending on the season. If in a certain direction, the terrain is lower, then we might see a bigger red peak. Let's find out.

I changed the date and looked at the sunset direction at the same time. I found that on Feb 16, 2017, the sunlight will align with the direction of the Yosemite Valley.

As you can see from the chart below, there is a bigger gap between the sunlight line and the terrain. It is clearly better than the previous date.

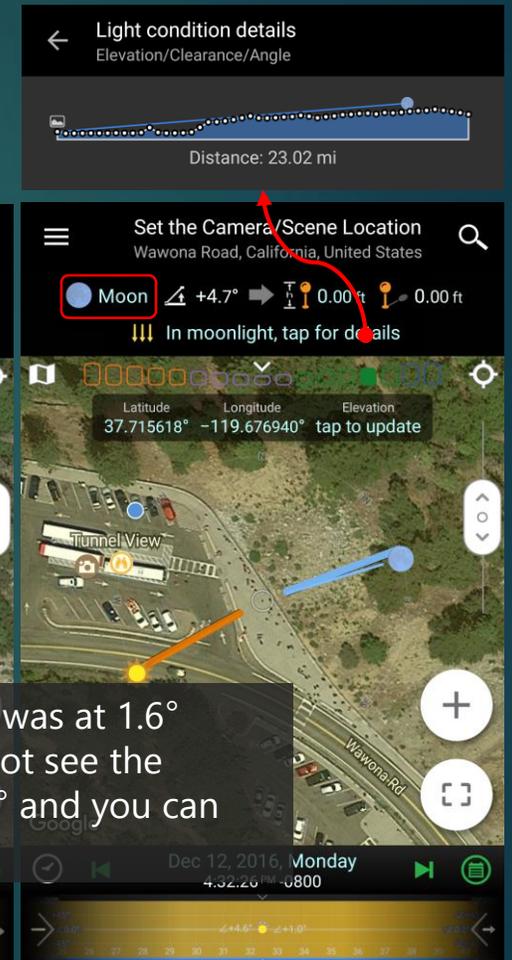
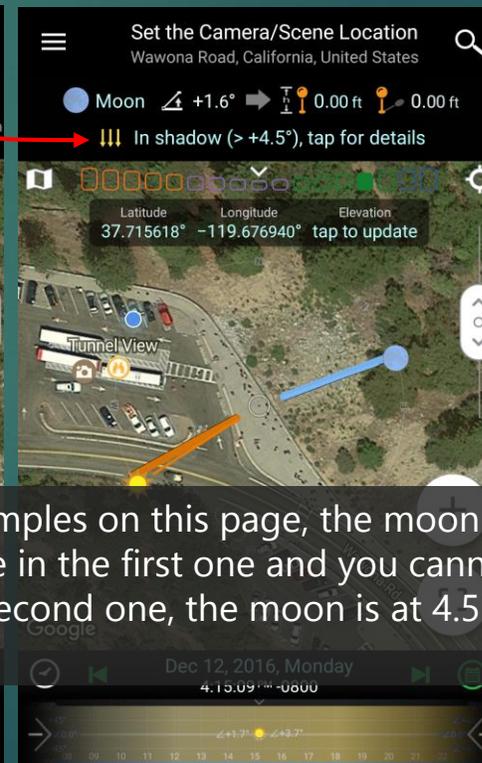
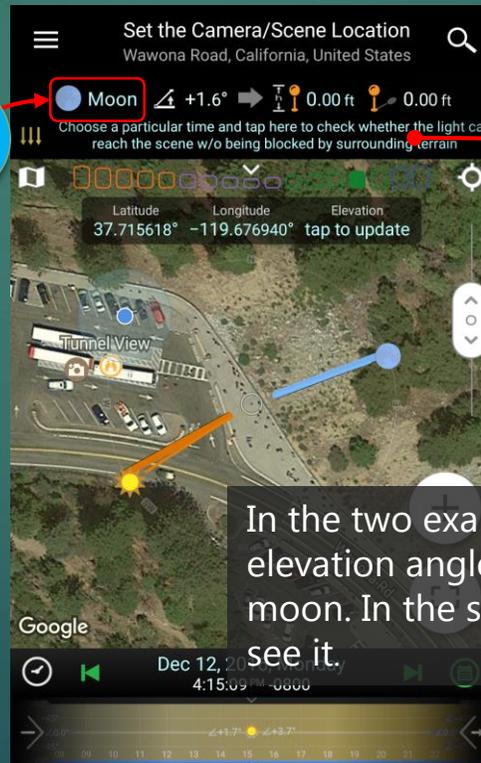
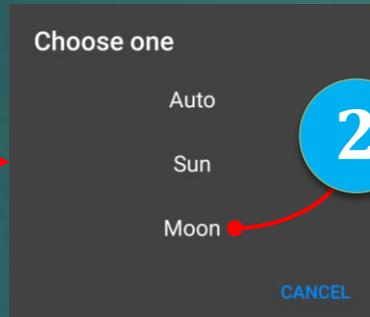
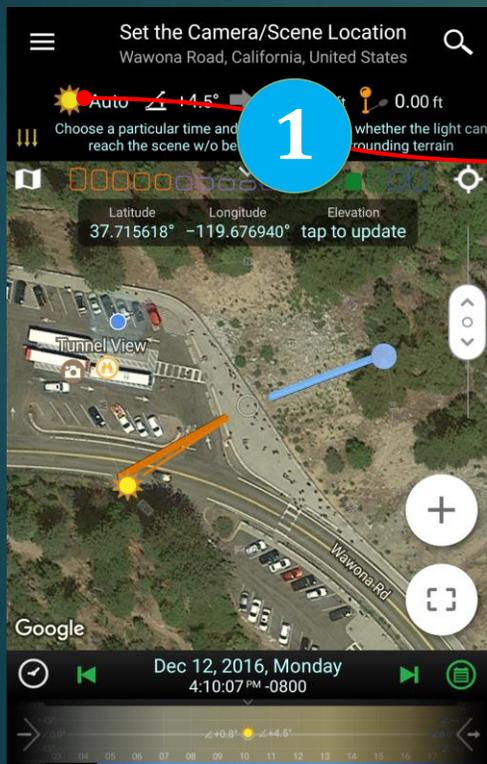


# Visible or Not



By default, we change the main light source based on the current time. If the Sun is up in the sky, we will use the sunlight as the main light source. When the Sun is down to  $-8^\circ$  elevation angle, we will automatically change the main light source to moonlight if the Moon is up. If there is no Moon, we will change it to starlight, which means no light and no shadow.

But sometimes, you don't care which light source is stronger because you care only if you can see the Sun or the Moon from a given location. In this case, tap on the light source button and select the Sun or the Moon. Now, if you adjust the time, the main light source will always be the one you select.

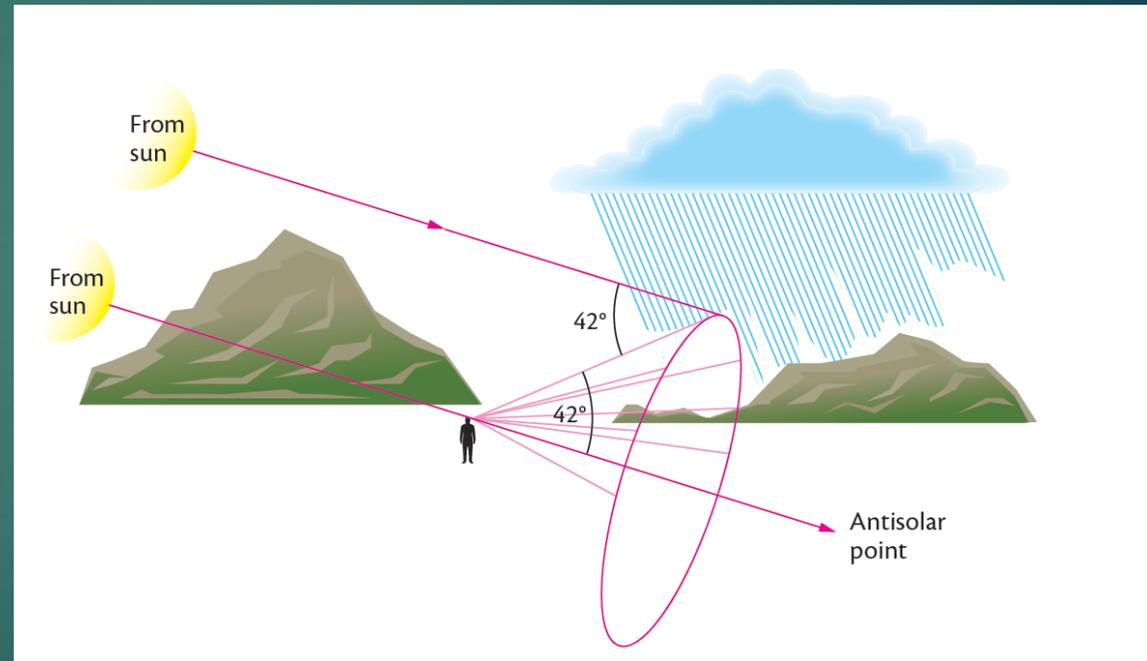
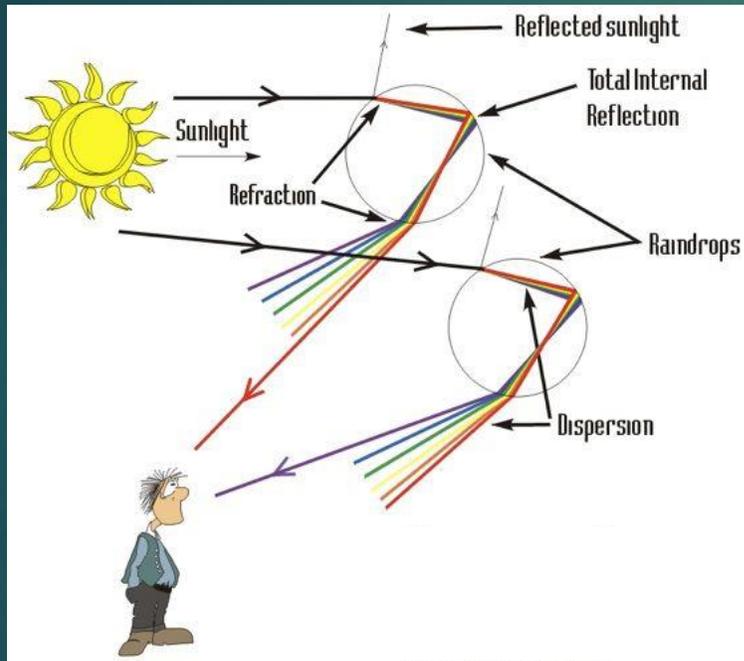


In the two examples on this page, the moon was at  $1.6^\circ$  elevation angle in the first one and you cannot see the moon. In the second one, the moon is at  $4.5^\circ$  and you can see it.

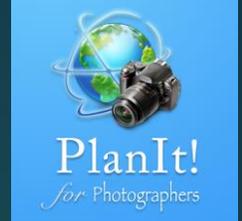


# Rainbow

# The Science Behind the Rainbow



# Rainbow



**1** To find out where the rainbow is, just change the time and observe the rainbow moving on the map. The rainbow could be caused by both the Sun or the Moon if there is no cloud blocking it. The higher the Sun or Moon, the lower the rainbow. If the Sun/Moon is higher than  $42^\circ$ , there will be no rainbow unless you are high up in the mountain or in an airplane looking down. We show the rainbow for all Moon phases, but just so you know, chances are that the rainbow will not be very clear for small moons.

The light source that will cause the rainbow

The light source elevation

The light source azimuth

Quick Help message

Tap here for rainbow-specific settings, i.e. double rainbow or circular rainbow

The screenshot shows a settings menu for rainbows. At the top, there is a sun icon and an elevation angle of  $+11.5^\circ$ . Below it, there is a moon icon and an elevation angle of  $+30.5^\circ$ . To the right, there is an azimuth angle of  $80.6^\circ$  with a question mark icon. Below these, there are three azimuth angles labeled 'left', 'middle', and 'right':  $220.0^\circ$ ,  $260.6^\circ$ , and  $301.3^\circ$ . Red arrows point from the text labels to these specific elements.

Top of the rainbow elevation

Left

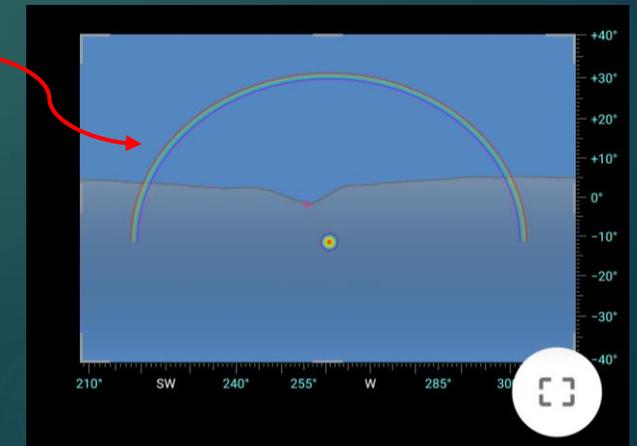
Rainbow center azimuth

Right



**2**

You can see the rainbow both in the map mode and in the viewfinder mode. The viewfinder mode is much easier to visualize.



# Different Types of Rainbows



1

Different rainbows could form under different conditions. The first type of a rainbow we can think of is the rainbow after the rain.

## Condition for rainbows after the rain:

1. The Sun is visible and at a lower than  $42^\circ$  elevation angle.
2. It is still raining or the rain just stops in the opposite direction of the Sun.

This app cannot provide a weather forecast, including the rain. Check a weather app.

## How can this app help?

1. This app can predict where the rainbow is if it does appear.
2. This app can help you find a perfect location so that the rainbow will form a perfect composition with the foreground.

3

The third type is a fog bow. Both the Sun and the Moon can cause a fog bow as long as you have a fog at the opposite direction of the Sun/Moon. For fog bows caused by the Moon, it is very hard to see the colors on the rainbow.

2

The second type is a rainbow near a waterfall.

## Condition for rainbows near a waterfall:

1. The Sun is visible and at a lower than  $42^\circ$  elevation angle. Or there is a full or gibbous Moon.
2. There are enough mists in the air spread by the wind.

## How can this app help?

1. This app can predict when the rainbow will appear and where it appears, assuming there are mists.
2. This app can help you find a location to see the rainbow caused by a waterfall.
3. The further away from a waterfall, the harder it is to get a shot with the rainbow on the waterfall. That's when you should use this app. If you are just above the waterfall, as long as the Sun is behind you, you will get a rainbow. No need to use the rainbow feature to predict except using the app to make sure the Sun is behind you.

# Predict a Rainbow Near a Waterfall



I will use a real example to show you how to predict a rainbow at Lower Yellowstone Falls. The camera location is at the Artist Point.

1

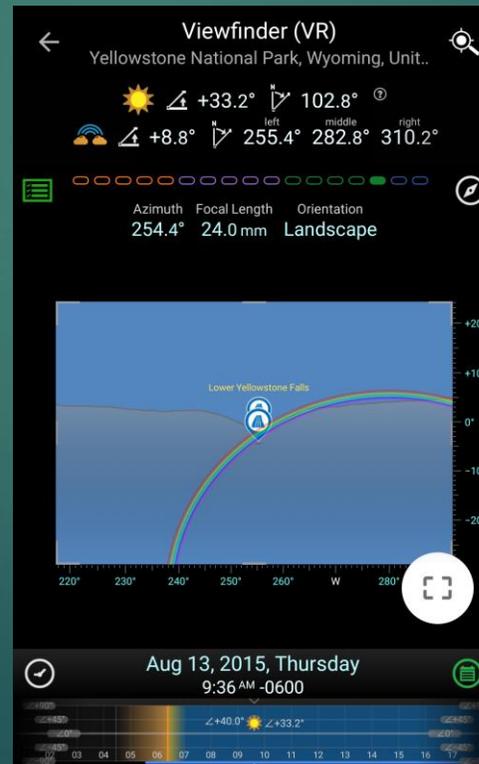
I added two markers. One at the top of the waterfall, and the other at the bottom of the waterfall where the mist is. I added the second marker based on the satellite map. The actual location of the mist could be different depending on the wind direction. If the water flow fluctuates in different seasons, the mist could also fluctuate.



Top  
Bottom

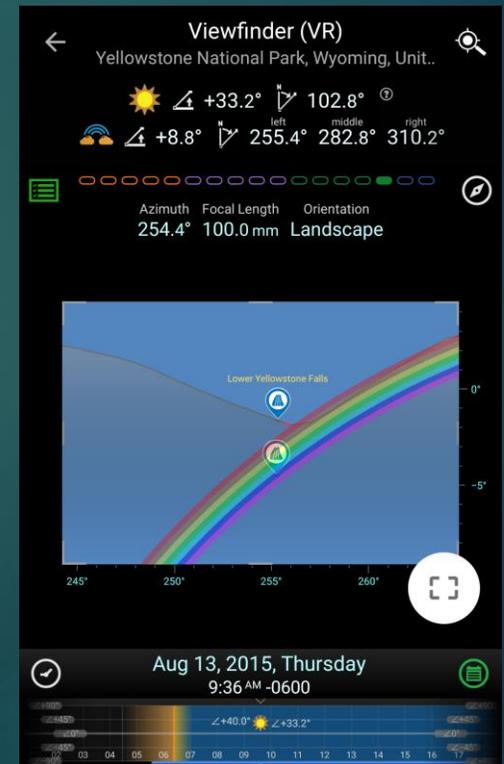
2

Select a date when you plan to go. Adjust the time slowly to see the rainbow move. I would select a wide focal length for now so that I can see the rainbow. I just wanted to check whether the rainbow would ever touch the two markers. It could never touch on some days.



3

Now fine-tune the time. I switched to 100 mm. I adjusted the time so the rainbow was just above the bottom marker. 9:34 AM would be the time to see the rainbow. Since the mist's location is a range, give yourself half an hour before and after it.

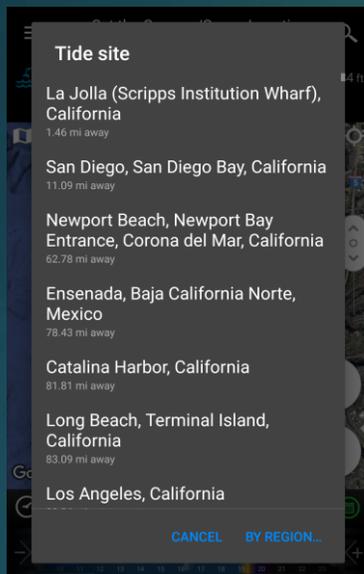




# Tide

1

For coastscape or seascape photographers, the tide is the most important factor to consider. Different from all other tide lookup apps, the tide feature in this app is designed for landscape photographers.



Tap to show/hide tide stations from the map

Tide location      Distance to the tide location      Current tide height



A high tide      A low tide      A high tide      A low tide

2

There could be three to four tides everyday. Each tide shows the time and the tide height. You can tell it is a high or low tide by looking at the icon.

3

Over the map, we show the tide stations. On the Date/Time slider, we show the tide chart.



An unselected tide station  
Tap to select

A selected tide station

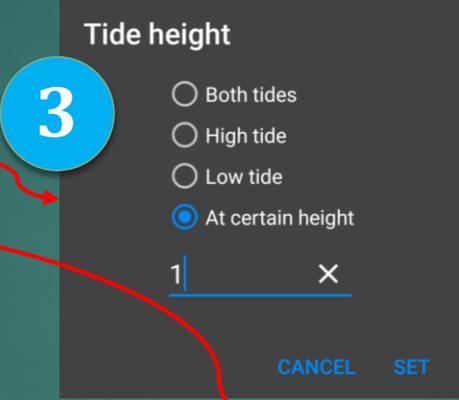
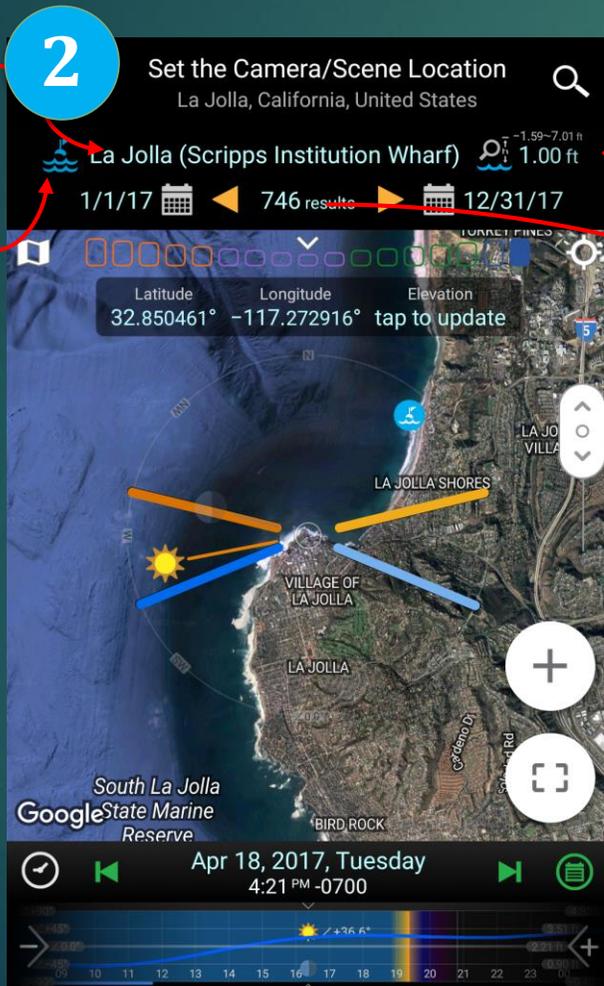
chart

# Tide Search

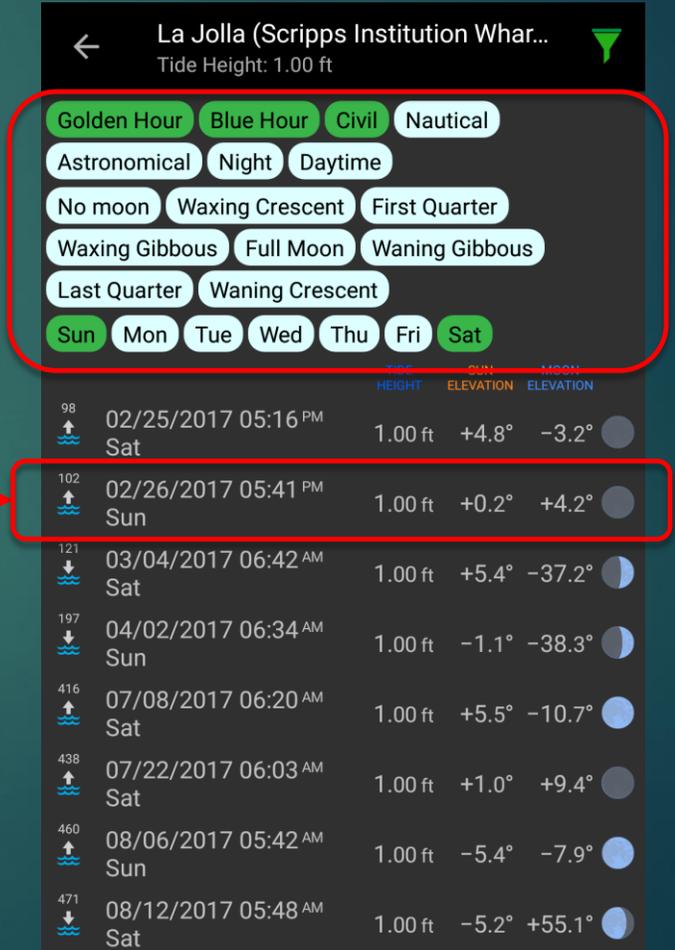


**1** Not all tide heights are the same for landscape photos. For certain coastal locations, you need the tide to be at a certain height in order to get the best shot. Let's look at this location on the map. I want to find the tide height at 1 foot, with the best possible light, and only during weekends.

Selected a tide location  
Tap to show/hide a tide location on the map



Choose what tide or tide height to search



Available filters

**5** After filtering with golden hour, blue hour, civil twilight and weekends only, there are only 15 results left instead of 746 results. If you want the 1-foot tide height with the best light, those are the days to focus on.

