



# 10

# PlanIt! for Photographers

ALL-IN-ONE PLANNING APP FOR LANDSCAPE PHOTOGRAPHERS

QUICK USER GUIDES

# Cloud Distance

**Ephemeris features**

**Sun and Moon**

- Rise and Set
- Twilight
- Special Hours
- Sun/Moon Position
- Sun/Moon Finder

**Night Photography**

- Stars and Star-trails
- Milky Way Center
- Milky Way Seeker
- Meteor Showers
- Dark Sky

**Special Interests**

- Time-lapse
- Sequence
- Eclipses
- Exposure
- Light and Shadow

**Meteorology and Oceanography**

- Rainbow Position
- Cloud Distance**
- Tide Height
- Tide Search

NONE      CANCEL

**Clouds Height** 6562 ft 13123 ft 19685 ft

Clouds at Horizon 99 mi 140 mi 172 mi

**Blocking Sun** 0.37 mi 0.74 mi 1.11 mi

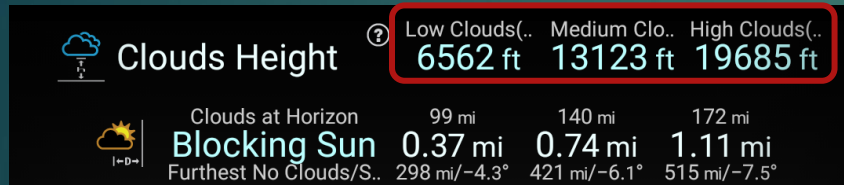
Furthest No Clouds/S. 298 mi/-4.3° 421 mi/-6.1° 515 mi/-7.5°

Latitude 35.901552° Longitude -121.183277° Sacramento

tap to update

# Two main features

- ▶ The first row of the Cloud Distance page allows you to enter the clouds of different heights. You can use the default values or you can look up in the cloud map of Windy (the red icon one) or Meteoblue. to find out more accurate values.

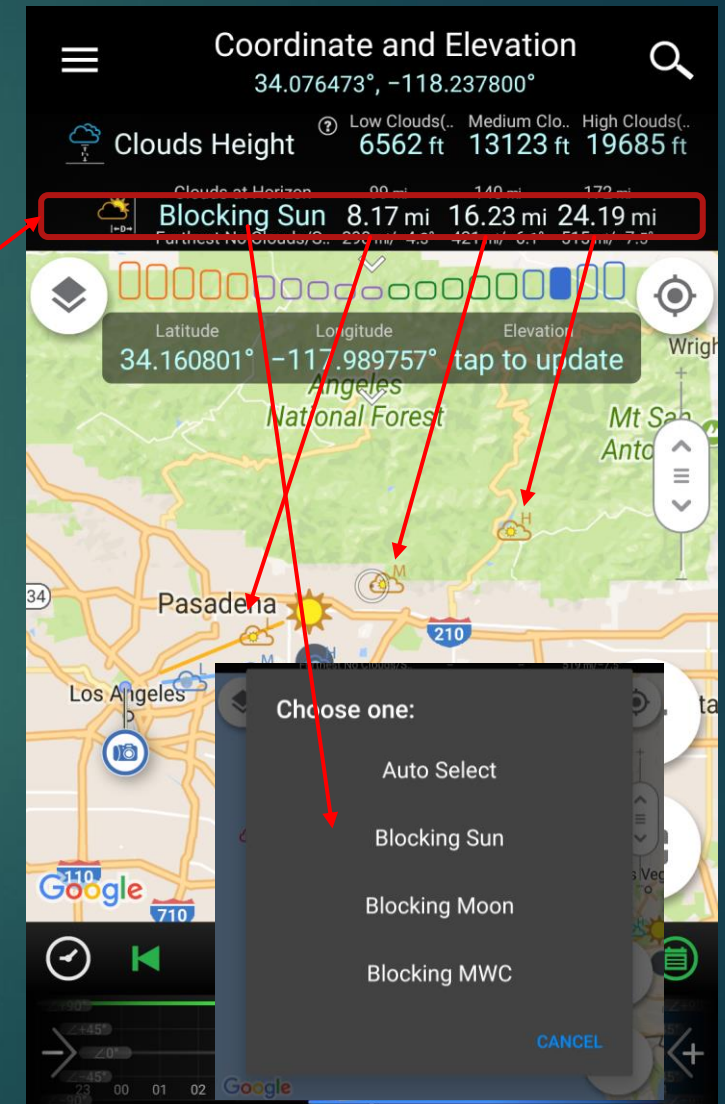


- ▶ **Two features**
  - ▶ Check whether the cloud will cover the Sun, the Moon or the Milky Way Center. This feature could be useful for many scenarios. For example, a special phenomenon called crepuscular ray happens when the blocking clouds have gaps. If we see this type of clouds on the cloud map, we can predict whether and when crepuscular ray will happen. Planit can also predict rainbow position but it cannot predict whether there will be rainbow. So based on the cloud distance tool and cloud map, we can make better predict of the rainbow because one of the conditions is there is no cloud that is blocking the Sun.
  - ▶ Predicting a good sunset or sunrise. It is also possible to have red clouds during twilights. There are automated prediction services available (sunsetwx.com for example) but the accuracy is an issue because the actual cloud condition is very complicated and often need human involvements in order to get a more accurate result. And only experienced meteorologists can understand the cloud map. The cloud distance decoded the mysteries and allow you as a non-expert to make your own prediction. Simply speaking, during twilights, the sunlight won't reach your camera location directly but it could shine on the clouds on the sky and form red clouds. There are certain conditions for it to happen and we draw the conditions on the map. You can use a cloud map side by side to check if the condition is met.

# Cloud covers Sun, Moon or Milky Way Center



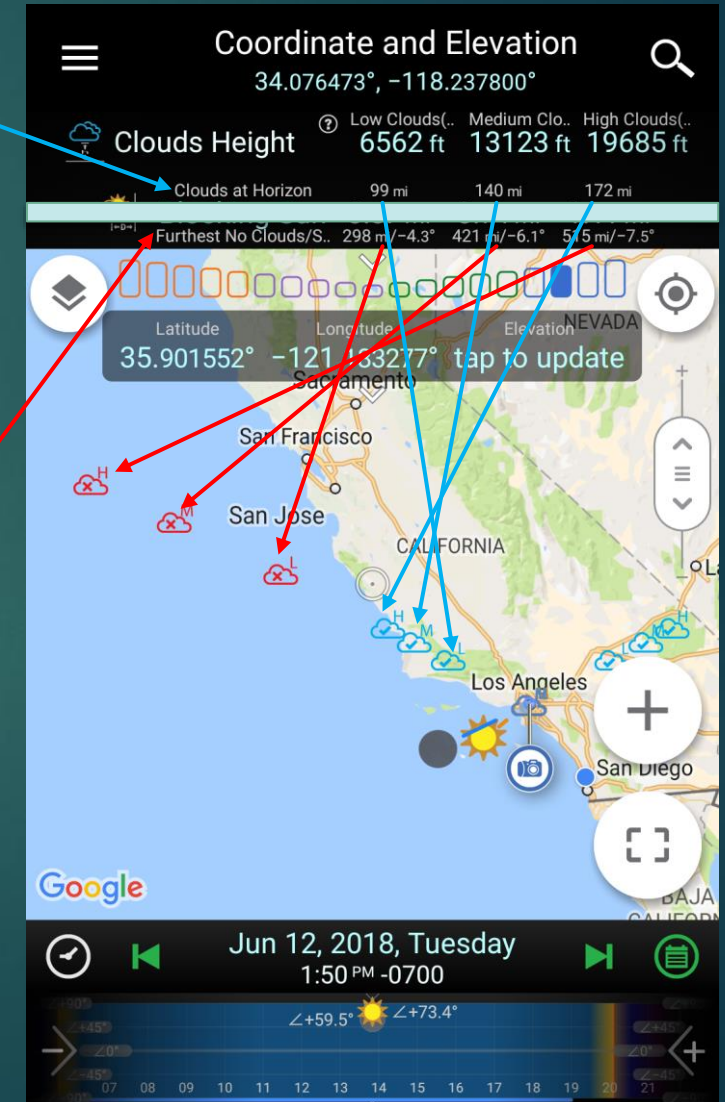
- ▶ We often need to know the cloud condition when taking landscape photos. The existence of the cloud could be good or bad. No cloud at all means no dramatic colors during sunset. I sometimes don't even want to take out the camera when it happens. But for night photography, no cloud is the best. It was so disappointing to see a dark cloud covering the Milky Way Center, which happened several times to me in the past. To predict it beforehand, that's what the second row on this page is there for.
- ▶ The values on the second row will change with the time. The time is during daytime, we will show the distance of the clouds that are blocking the Sun. If it is golden hour and the cloud is transparent, there will be a chance of golden clouds. When it is at night time and there is moon or Milky Way center, we will show the distance of the clouds that are blocking the Moon or the MWC. You can also tap the first button to check for a particular case especially when there are both Moon and Sun, or both MWC and Moon on the sky. On the map, we also draw the cloud icons on the map to indicate where the clouds are.
- ▶ To use it in real life, adjust the time to the time you are interested in. Check the cloud distance. Bring in a cloud map at the same time. Compare it. If there is cloud at these locations, it means the cloud will block the subject.



# Predicting a good sunset or sunrise



- ▶ To check whether there is a good sunset or sunrise, you need to look at the smaller numbers on the second row. The smaller numbers on the top is the distance of clouds at the horizon. You want to have clouds at the distance because they could be lighted up. We draw a blue cloud icons with a tick on the map.
- ▶ The smaller number on the bottom of the second row is the furthest distance without clouds. Any cloud between the horizon and this distance could potentially block the sunlight and make the burning not happening. We draw a red color cloud icon with a cross to indicate these distances. You can then compare the cloud map with the locations of those cloud icons to check if the condition is met. The small numbers on the top are the distance of the clouds at the horizon. We also draw a blue cloud icon with a tick on the map to indicate these distances. Clouds have to be there at one of those locations. The smaller numbers on the bottom are the furthest distance without clouds. Any clouds between the horizon and this distance could block the sunlight. We draw a red cloud with a cross on the map to indicate these distances.



# The latest time to have red clouds

- ▶ Beginners often made a mistake. They leave right away after sunset, thinking that's the end of any dramatic colors. That's wrong. Experienced photographers will wait after sunset because the cloud could burn again during twilights if condition meets. But for how long? People don't know.

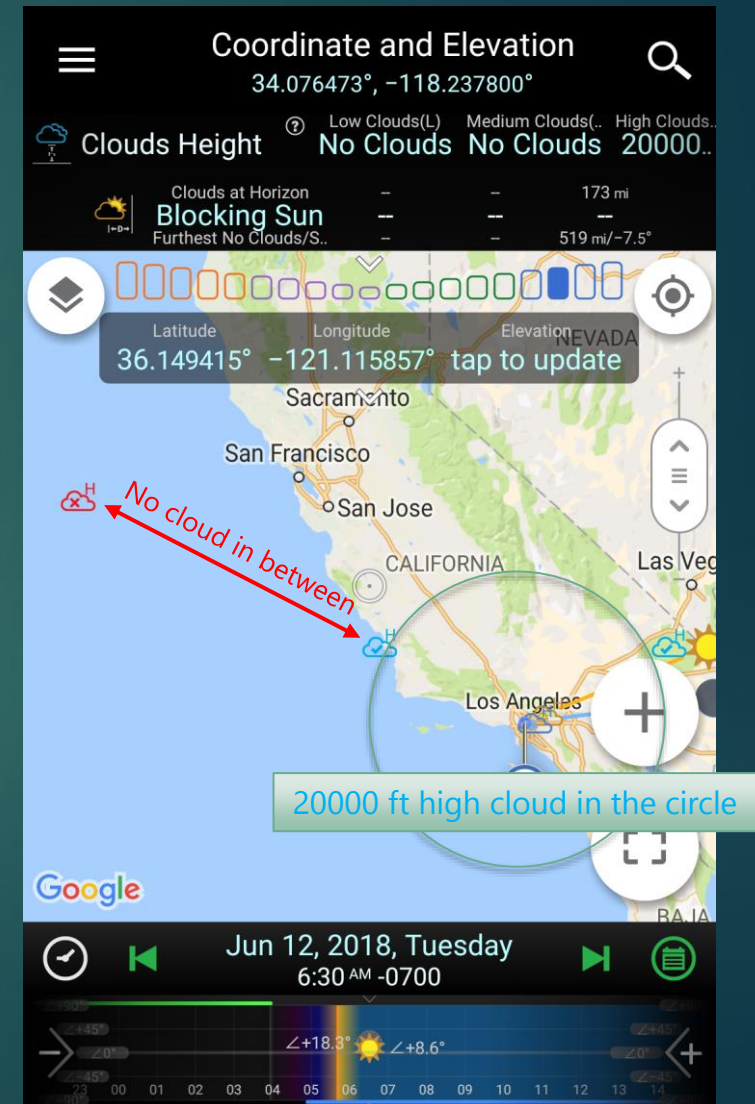


- ▶ Just check those elevation angle here. That's the lowest elevation angle of the Sun that could possibly reach a certain cloud, depending on the cloud height. In order to have red clouds, the Sun must be above these angles.

# The first example



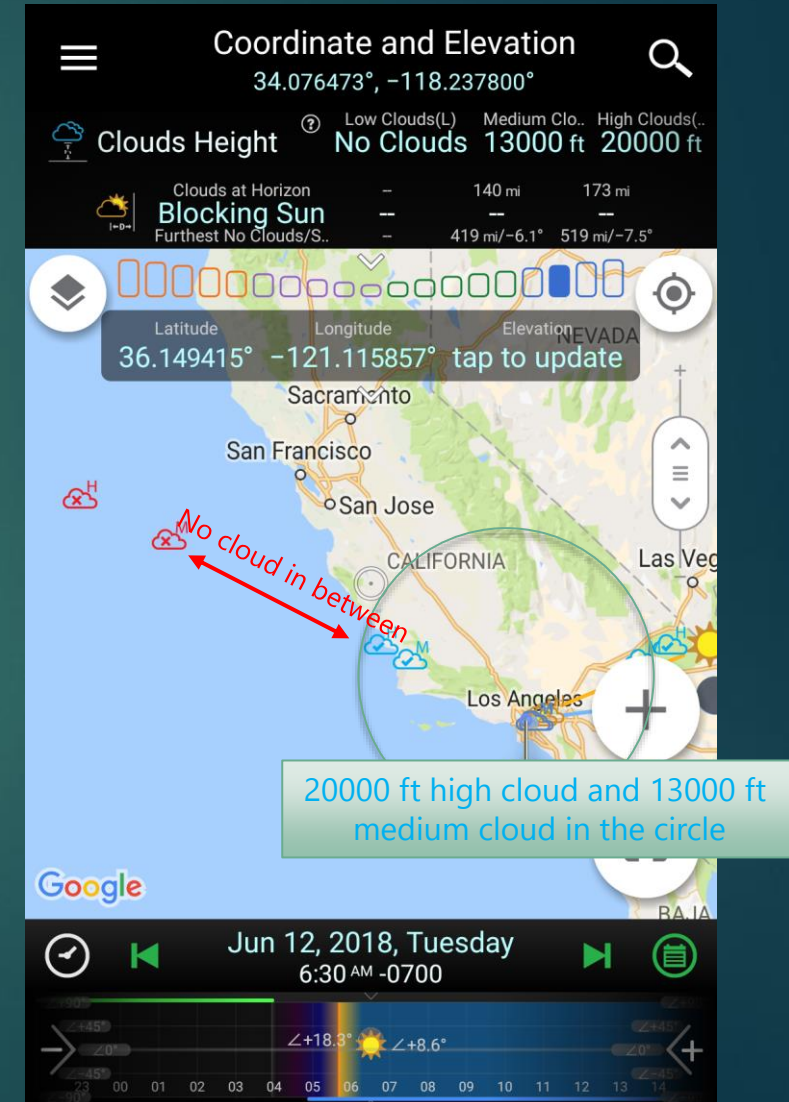
- ▶ During sunset time, there is 20000 ft high cloud at the horizon. There are not other clouds.
- ▶ The left picture shows how you setup the cloud height.
- ▶ PlanIt gives the following numbers: Clouds at the horizon is 173 miles. The furthest no cloud is at 519 miles, corresponding sun elevation is  $-7.5^\circ$ .
- ▶ The condition to have red clouds: If there is no cloud between 173 miles and 519 miles, the high cloud at the horizon will be red.
- ▶ The possible time to have red clouds: Anywhere between the sun below the horizon until the sun is at  $-7.5^\circ$ . After the sun is below  $-7.5^\circ$ , you can pack your camera gears and leave as it won't be red anymore after that.



# The second example



- ▶ During sunset time, there is 20000 ft high cloud and 13000 ft medium cloud at the horizon. There are not other clouds.
- ▶ The left picture shows how you setup the cloud height.
- ▶ PlanIt gives the following numbers:
  - ▶ High clouds at the horizon is 173 miles. The furthest no cloud is at 519 miles, corresponding sun elevation is  $-7.5^\circ$ .
  - ▶ Medium clouds at the horizon is 140 miles. The furthest no cloud is at 419 miles, corresponding sun elevation is  $-6.1^\circ$ .
- ▶ The condition to have red clouds: Since there are both medium and high clouds, so the only possible red clouds are the medium clouds. If there is no cloud between 140 miles and 419 miles, the medium cloud at the horizon will be red.
- ▶ The possible time to have red clouds: Any where between the sun below the horizon until the sun is at  $-6.1^\circ$ . After the sun is below  $-6.1^\circ$ , you can pack your camera gears and leave as it won't be red anymore after that.





# Special notes



- ▶ Although the theory behind it is the same, the real cloud condition is much more complicated than the two simple examples. So please be patient when you try to predict. If you succeed, you will be awarded with a surprising sunset or sunrise.
- ▶ Cloud maps have limitations. A forecast cloud map is just a forecast. Any forecast could go wrong. A real-time cloud map is 100% accurate but it has a delay and it won't tell you the cloud height.
- ▶ The more you look at the cloud distance page and the cloud maps, the more experience you will get. After a while, predicting the light condition will become easier and easier. And you don't have to limit yourself to the prediction of the red clouds only, but could discover some other photo opportunities.