

“Ring of Fire”



Annular Solar Eclipse



January 4, 2011, Annular Solar Eclipse

Photo by NASA/Hinode Satellite.

In the hours before sunset on May 20, 2012, Earth's moon will cross in front of the sun. The resulting shadow that falls upon the Earth from this solar eclipse will race across the Western United States at over 1000 mph.

An Uncommon Celestial Event

Visitors at National Parks along the central path of the solar eclipse may witness a “ring of fire” as the moon covers 95 percent of the sun. This bullseye in the sky is an uncommon celestial event, prized by photographers, astronomy buffs and nature lovers.

Although our nearest star, the sun, is 400 times larger than the moon, both appear to be nearly the same size in the sky. However, the moon's orbit isn't a perfect circle around the earth. It swings near and far so at times the moon will appear somewhat larger or smaller. The relative

size of the moon and the track of the shadow across the Earth determine what kind of eclipse you will see. *Partial solar eclipses* (where the moon “takes a bite” out of the sun) are somewhat common, occurring about twice a year somewhere on the globe. *Total solar eclipses*, when the moon completely blocks out the sun for a few minutes, are less common. And when the moon is swinging far in its orbit and appears smaller, it isn't large enough to completely blot out the sun, resulting in an *annular eclipse*. The last time an annular solar eclipse was seen in the contiguous U.S. was 1994.

Viewing Tips

There are more than 150 national parks in the Western U.S. and Alaska from which to view the eclipse (see map on reverse). You will need a clear view of the western horizon and a sky free of thick clouds to get the best view.

Eye protection is required for viewing the eclipse and sunglasses are not adequate! Looking directly at the sun, using an unfiltered telescope, or even a camera viewfinder can permanently damage your eyes! Don't take chances with your sight.

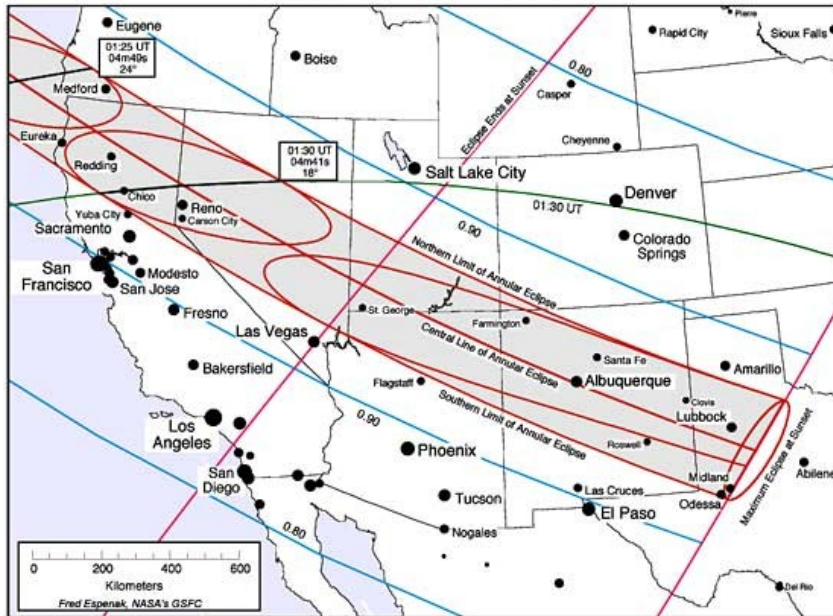
Use solar viewing glasses to protect your vision. Solar viewing glasses are safe, inexpensive and widely available. Many parks

along the eclipse path will feature eclipse ranger programs and may have special viewers and solar telescopes to give you the best view.

Several days after this event on June 5th, viewers in most of United States can witness the transit of Venus. The tiny silhouette of the planet Venus will cross the face of the sun; an event that only happens twice in a century.

To learn more about the science of eclipses, where to find a special program in a national park, and more viewing tips, see—
<http://www.nature.nps.gov/features/eclipse>

Annular Solar Eclipse of 2012 May 20



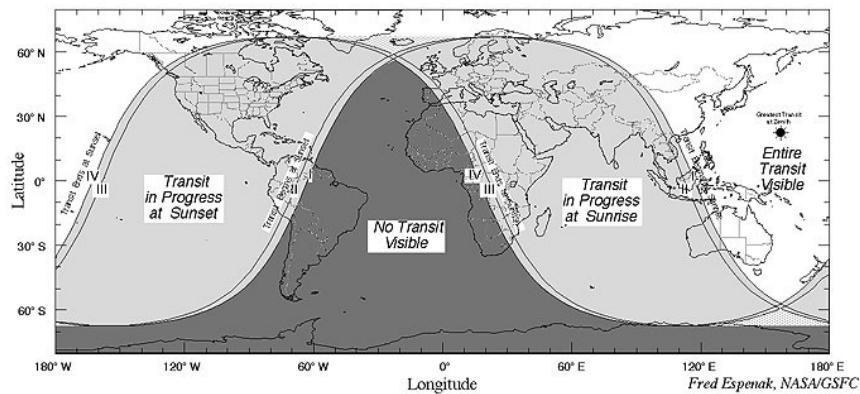
Transit of Venus

U.S. national parks are the place to be to see the Transit of Venus on June 5, 2012. Many of the western parks celebrating the May 20, 2012 annular eclipse will also have events on June 5 to observe this rare event. In the hours before sunset, every park in the contiguous United States, Hawaii, and the Virgin Islands will be able to

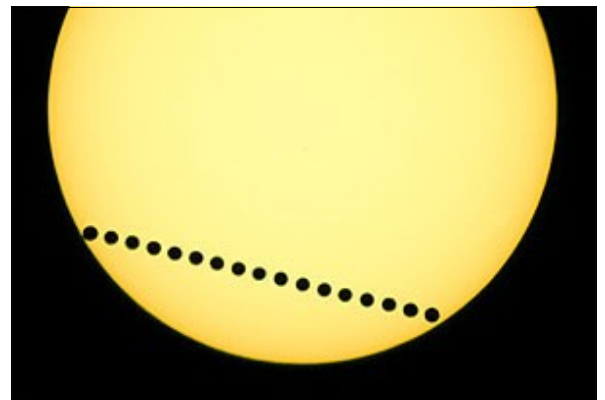
view most of the transit in the few hours before sunset. This provides a rare photographic opportunity to capture an image of Venus moving across the face of the Sun as it sets.

Imagine the setting Sun over the Pacific Ocean with Venus crossing the top portion

of the sun's disk. Parks located in the Pacific such as Alaska, Hawaii, Guam and American Samoa will see the entire event. For serious photographers, the Pacific parks offer an amazing setting to photograph the entire sequence of Venus racing across the face of the Sun.



The transit of Venus is a special alignment of the Sun, the planet Venus, and the Earth. Due to this Solar System geometry, Venus transits usually occur in pairs, eight years apart, about once a century. In the Pacific, on June 5, 2012, for over six hours, Venus' tiny silhouette will move across the Sun's disk. On the scale of a human life, it is a rare astronomical event. It is so rare that the 2012 transit will be only the 54th occurrence since 2000 B.C.E. The 55th transit will be in 2117. Since Mercury and Venus are the only two planets that orbit between the Sun and the Earth, these are the only planets in our solar system in which this amazing phenomenon can be observed.



A time sequenced composite of the transit of Venus taken in June 2004 by Fred Espenak.