

Overview

On Monday, August 21, 2017, all of North America will experience an eclipse of the Sun. The path of totality is where the moon will completely cover the Sun and the Sun's corona will be seen from Lincoln Beach, Oregon to Charleston, South Carolina. Observers outside this path will still see a partial solar eclipse where the moon covers part of the Sun's disk.



Fun Facts

- The last total eclipse in the United States occurred on Feb. 26, 1979.
- The last total eclipse that crossed the entire continent occurred on June 8, 1918.
- The last time a total solar eclipse occurred exclusively in the U.S. was in 1778.
- Experiencing a total solar eclipse where you live happens on average about once in 375 years.
- 12.2 million Americans live in the path of the total eclipse.
- About 200 million people (a little less than 2/3 the nation's population) live within one day's drive of the path of this total eclipse.

Where you can see the Eclipse?

The first point of contact will be at Lincoln Beach, Oregon at 9:05 a.m. PDT. Totality begins there at 10:16 a.m. PDT. Over the next hour and a half, it will cross through Oregon, Idaho, Wyoming, Montana, Nebraska, Iowa, Kansas, Missouri, Illinois, Kentucky, Tennessee, Georgia, and North and South Carolina.

The total eclipse will end near Charleston, South Carolina at 2:48 p.m. EDT. From there the lunar shadow leaves the United States at 4:09 EDT. Its longest duration will be near Carbondale, Illinois, where the sun will be completely covered for two minutes and 40 seconds.

	Eclipse Begins	Totality Begins	Totality Ends	Eclipse Ends	
<i>Madras, OR</i>	09:06 a.m.	10:19 a.m.	10:21 a.m.	11:41 a.m.	PDT
<i>Idaho Falls, ID</i>	10:15 a.m.	11:33 a.m.	11:34 a.m.	12:58 p.m.	MDT
<i>Casper, WY</i>	10:22 a.m.	11:42 a.m.	11:45 a.m.	01:09 p.m.	MDT
<i>Lincoln, NE</i>	11:37 a.m.	01:02 p.m.	01:04 p.m.	02:29 p.m.	CDT
<i>Jefferson City, MO</i>	11:46 a.m.	01:13 p.m.	01:15 p.m.	02:41 p.m.	CDT
<i>Carbondale, IL</i>	11:52 a.m.	01:20 p.m.	01:22 p.m.	02:47 p.m.	CDT
<i>Paducah, KY</i>	11:54 a.m.	01:22 p.m.	01:24 p.m.	02:49 p.m.	CDT
<i>Nashville, TN</i>	11:58 a.m.	01:27 p.m.	01:29 p.m.	02:54 p.m.	CDT
<i>Clayton, GA</i>	01:06 p.m.	02:35 p.m.	02:38 p.m.	04:01 p.m.	EDT
<i>Columbia, SC</i>	01:13 p.m.	02:41 p.m.	02:44 p.m.	04:06 p.m.	EDT

Solar Eclipse Public Scheduled Events

<http://nationaleclipse.com/events.html>

Eclipse Viewing Safety

Looking directly at the Sun is unsafe except during the brief total phase of a solar eclipse (“totality”), when the moon entirely blocks the Sun’s bright face.

Eclipse Glasses

The only safe way to look directly at the uneclipsed or partially eclipsed sun is through special-purpose solar filters, such as “eclipse glasses” or hand-held solar viewers.

Reputable Vendors of Solar Filters & Viewers

<https://eclipse.aas.org/resources/solar-filters>



General Safety Rules:

- Always inspect your solar filter before use; if scratched or damaged, discard it. Read and follow any instructions printed on or packaged with the filter.
- Always supervise children using solar filters.
- Stand still and cover your eyes with your eclipse glasses or solar viewer before looking up at the sun. After glancing at the sun, turn away and remove your filter — do not remove it while looking at the sun.
- Do not look at the uneclipsed or partially eclipsed sun through an unfiltered camera, telescope, binoculars, or other optical device. The concentrated solar rays will damage the filter and enter your eye(s), causing serious injury.
- If you are within the path of totality remove your solar filter only when the Moon completely covers the sun’s bright face and it suddenly gets quite dark. Experience totality, then, as soon as the bright sun begins to reappear, replace your solar viewer to glance at the remaining partial phases.

Pinhole Projection Viewing

An alternative method for safe viewing of the partially eclipsed sun is pinhole projection. Cross the outstretched, slightly open fingers of one hand over the outstretched, slightly open fingers of the other. With your back to the sun, look at your hands' shadow on the ground. The little spaces between your fingers will project a grid of small images on the ground, showing the sun as a crescent during the partial phases of the eclipse.

EYE SAFETY DURING AN ECLIPSE

It's **NEVER** safe to look directly at the sun, except when the sun is completely blocked during the period of a total eclipse known as **TOTALITY**.



1

PARTIAL ECLIPSE • GLASSES ON

The eclipse begins when the sun's disk is partially blocked by the moon. This partial eclipse phase can last over an hour.



2

DIAMOND RING • GLASSES ON

The last of the sunlight streaming through the moon's valleys creates a single bright flash of light on the side of the moon. This is known as the diamond ring effect, and it marks the last few seconds before totality begins.



3

BAILY'S BEADS • GLASSES ON

As totality approaches, only the low-lying valleys on the moon's edge allow sunlight through, forming bright spots of light called Bailey's Beads.



4

TOTALITY • GLASSES OFF

Once the diamond ring disappears and the moon completely covers the entire disk of the sun, you may safely look at the eclipse without a solar filter. Be careful to protect your eyes again before the end of totality—the total eclipse may last less than a minute in some locations.



5

FINAL STAGES • GLASSES ON

A crescent will begin to grow on the opposite side of the sun from where the Bailey's Beads shone at the beginning. This crescent is the lower atmosphere of the sun, beginning to peek out from behind the moon and it is your signal to stop looking directly at the eclipse. *Make sure you have safety glasses back on—or are otherwise watching the eclipse through a safe, indirect method—before the first flash of sunlight appears around the edges of the moon.*

Images 1, 2, 4, 5 Credit: Rick Fienberg, TravelQuest International and Wilderness Travel
Image 3 Credit: Arne Danielson

Travel Safety and Emergency Preparedness Considerations

Travel Safety

The best advice for travelers planning to view the total solar eclipse is to plan well in advance. In fact, for many key viewing locations, it may already be too late to make lodging or camping reservations.

There may well be intense traffic both before and after the eclipse along the path of totality. Viewers should attempt to get to their viewing spot well ahead of time – a day or more in advance if possible.

If you are driving during the eclipse, keep driving. Do not stop your vehicle along interstates or any roadway.

General Emergency Preparedness Guidance

- Fill your car up with gas and buy groceries before the weekend.
- Follow the guidance of local public safety officials and your event organizers.
- Give yourself plenty of time to get to your destination throughout the weekend. Traffic will be heavy with large crowds going to and from events all weekend.
- Be prepared for hot weather while viewing the eclipse. Make sure you have bottled water, sunscreen, first aid kit and protective eyewear.
- Be patient and bring books, games, etc., to keep busy.
- Call 9-1-1 for life-threatening emergencies only.
- Have an emergency kit and a plan.
- Make sure family members or friends back home know your schedule, when you are expected to return and your plan if something happens.
- Be prepared for cell service overloads; there may be service disruptions due to the increase in visitors using networks.

Solar Eclipse Planning and Preparedness Webinar Recording

<https://transportationops.org/ondemand-learning/webinar-solar-eclipse-planning-and-preparation-one-month-out-communications>

Additional Resources

Sample Communication Plans

<https://transportationops.org/tools/nationwide-solar-eclipse-august-21-2017>

NASA Eclipse Press Kit

<https://eclipse2017.nasa.gov/sites/default/files/publications/Eclipse2017presskit.pdf>

Eclipse Apps

<https://eclipse2017.nasa.gov/apps>

NASA Eclipse Downloadable Resources

<https://eclipse2017.nasa.gov/downloadables>

Geo-Spatial Information Resources

North Carolina Institute for Climate Studies, Interactive Eclipse Map
<https://ncics.org/portfolio/monitor/eclipse-2017/>

References

NOAA National Center for Environmental Information, Ready, Set, Eclipse
<https://www.ncei.noaa.gov/news/ready-set-eclipse>

NASA Total Solar Eclipse Website
<https://eclipse2017.nasa.gov/>

South Carolina Emergency Management Division, Solar Eclipse Website
<http://www.scemd.org/totaleclipse>

Oregon Office of Emergency Management Solar Eclipse Preparedness Website
<http://www.oregon.gov/oem/hazardsprep/Pages/2017-Total-Solar-Eclipse.aspx>

National Operations Center for Excellent Solar Eclipse Website
<https://transportationops.org/event/solar-eclipse-planning-and-preparation-one-month-out-communications-emergency-management-and>