

AN OBSERVER'S CHECKLIST FOR THE AUGUST 2017 TOTAL SOLAR ECLIPSE

The total solar eclipse of August 21, 2017 is fast approaching. This event, the first coast-to-coast solar eclipse across the continental U.S. since 1918, will take place in a narrow band from Oregon to South Carolina. More than 300 million people live within a day's drive of the path of totality, and perhaps 30 million will travel to see the eclipse. To help you see this event for yourself, and to make sure you get the most out of the experience, AgenaAstroProducts assembled this helpful checklist to make sure you know what to plan for and expect before, during, and after the eclipse.

Advanced Preparation for the Eclipse

- Select the best location for seeing the total eclipse based on accessibility and weather prospects
- Select an alternate location and a route to that location
- Book accommodations close to your primary observing location
- Build your kit of solar observing accessories including [eclipse glasses](#), [solar viewing cards](#), [solar filters for your telescope](#), and [solar binoculars](#)
- Review the details how a solar eclipse works including the phases of a solar eclipse and the phenomena you can expect to see during the event
- Use a planetarium app such as [Stellarium](#) to find out which bright stars and planets to expect to see in the sky during totality
- Determine the exact time of the beginning and end of the partial and total phases of the eclipse for your primary and secondary observing locations. [This link](#) will help, or you can get a copy of Fred Espenak's [Eclipse Bulletin](#))

During the Week Before the Eclipse

- Pack the equipment you need to see and image the eclipse including telescopes, eyepieces, mounts, power sources, binoculars, solar filters, cameras, lenses, remote release, and tripods
- Test and ensure all equipment is working by doing a 'dry run' during a daytime solar observation session
- Pack a notebook or audio recording device to help you take notes before, during, and after the eclipse

- Pack tent, sleeping bags, dry food, water, and other camping equipment for the night before and after the eclipse in case you need to travel far from your expected base
- Check to ensure your solar filters fit securely on your telescope
- Review the timing of the eclipse for your expected and alternate observing locations

The Day of the Eclipse

- Wake up early and check the weather forecast
- Leave early for your observing location
- Set up your equipment for observing and/or imaging
- Test your equipment and check its operation
- Review your observing and imaging plan

Observing the Eclipse: From the Beginning Until Totality

- With your telescope or binoculars and solar filter, or with your solar glasses, note the earliest time at which you notice the beginning of the eclipse.
- Examine the Sun's visible face for sunspots, faculae, and limb darkening
- Note changes in atmospheric conditions such as temperature, barometric pressure, wind speed, and cloud formation as the eclipse moves towards totality
- As the partial phase of the solar eclipse progresses look for projections of the Sun's partially eclipse image cast on the ground by gaps between the leaves of a tree
- Look for changes in brightness, color, and contrast of the surrounding landscape

In the Last Minute Before Totality

- Watch for Baily's Beads or Diamond Ring Effect (*while still wearing your eclipse glasses*)
- Watch for the arrival of the Moon's shadow across the landscape (especially if you are in an elevated location)

- Observe changes in bird and animal behavior

During the Brief Time of Totality

[NOTE: This is the only time you can safely look at the eclipse, and you can only see the total eclipse if you are on the path of narrow path of totality at the right time. Once Baily's Beads or the Diamond Ring disappear and the Moon covers the Sun, it is safe to remove your eclipse glasses].

- Remove your eclipse glasses and examine the spectacle
- If you are going to take photographs, remove the solar filter from your camera during the brief phase of totality
- Look for the Sun's silvery corona and note its shape and the configuration of its 'streamers' of light
- Look for the red glow of the Sun's chromosphere just around the rim of the Moon. If you have optical aid such as binoculars, look for solar prominences
- Look for bright stars and planets near the Sun and around the sky
- Note the change in temperature and the brightness and color of the sky, clouds, and surrounding landscape
- Note your own feelings and reaction to totality; even experienced amateur and professional astronomers are unexpectedly awestruck at the sight of a total solar eclipse
- As the Moon begins its exit from the Sun's bright face, watch for the return Baily's Beads or Diamond Ring Effect. NOTE: At this point, you MUST put your eclipse glasses back on and cover your camera, telescope, or binoculars with their solar filters.

After the Eclipse

- Back up your photos
- Record your observing notes and personal impressions in audio or written format
- Pack up (and make sure you haven't left anything behind)
- Start planning for the next one!

Equipment Checklist

For Visual Observing

- Eclipse glasses, solar viewer, or hand-held solar filters
- Cell phone (for weather updates, time of day, GPS and map, and audio recording capabilities)
- Note book
- Telescope
- Mount
- Eyepieces
- Binoculars
- Solar Filters (for telescope and binoculars)
- Solar Finder
- Flashlight
- Power sources (for mounts, cameras, etc.)
- Small toolkit for repairs (multi-use screwdriver, allen wrenches, small knife, multi-tool)
- Plastic bags or tarps (to protect electronics from rain)
- Compass (to help align equatorial mount, if applicable)

For Photography and Imaging

- Camera
- Solar filter for camera lens
- Camera Tripod
- Lenses (if using a DSLR)
- Memory card (at least two)
- Extra batteries
- Adapters to attach camera to telescope (if applicable)
- Imaging plan

Eclipse Timing and Planning

At your expected observing location, record the timing of the eclipse (and note the correct time zone)

Location Name: _____

First Contact (partial eclipse begins): _____

Second Contact (total eclipse begins): _____

Third Contact (total eclipse ends): _____

Fourth Contact (partial eclipse ends): _____

At your alternate observing location, record the timing of the eclipse (and note the correct time zone)

Location Name: _____

First Contact (partial eclipse begins): _____

Second Contact (total eclipse begins): _____

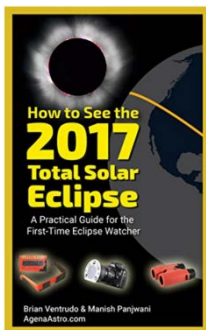
Third Contact (total eclipse ends): _____

Fourth Contact (partial eclipse ends): _____



Make sure you order your solar observing accessories before the final rush! AgenaAstroProducts has many accessories such as eclipse glasses and viewers, solar filters for telescopes and binoculars, solar binoculars, solar telescopes, and solar filters for camera lenses. See this link for more information:

<http://agenaastro.com/solar-astronomy.html>



Learn more about observing the August 2017 total solar eclipse with the AgenaAstroProducts guide [*How to See the 2017 Total Solar Eclipse: A Practical Guide for the First-Time Eclipse Watcher*](#). This concise and practical guide shows you everything you need to know to be in the right place at the right time—and with the right tools—to see this amazing astronomical event. You'll discover the best places to observe it across its long and narrow path. And you'll find out how to choose and use inexpensive solar eclipse glasses, solar filters, maps, and other basic tools to help you safely see this astounding and memorable event.