

Acadiana Sky



Observing Solar Eclipses Safely

You can almost count on it—whenever there is a solar eclipse some people will hide fearfully from it so the evil “eclipse rays” won’t get them, and some people will actually damage or lose their eyesight due to looking directly at the sun. Neither of those things need to happen!

Granted, there will be no more total solar eclipses in the continental United States until

2045, but Acadiana will see partial eclipses in 2028 and 2029. Whether you travel to another country to see totality or just wait in Acadiana for the partials, watching the eclipse safely means remembering the cardinal rule: **never look directly at the sun!** The eclipse is no more dangerous than any other time—there’s no reason to close your drapes, hide from the eclipse, or put sunglasses on your dog—it’s just that the sun is *always* too bright to look right at it. There are many traditional ways to observe the sun such as using smoked glass or layers of camera film, looking at reflections, or wearing silvery sunglasses, but **they are all actually quite dangerous**. Don’t do any of those things! You probably have nothing around the house that is safe. Don’t risk it! So...what should you do?

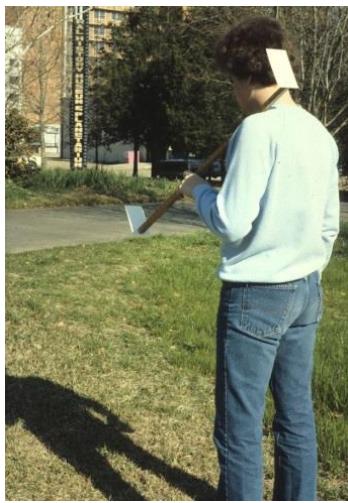


Check with the Science Museum in downtown Lafayette. Weather permitting, they may have safe solar telescopes out for viewing the eclipse as they did for previous eclipses. They may also have free eclipse glasses available on eclipse day.

“Weather permitting”—there’s no way to predict accurate weather more than a few days in advance and seeing an eclipse depends on clear skies. Louisiana’s weather can be quite changeable, and clouds and rain are common (particularly in January when those partial solar eclipses in 2028 and 2029 happen). At least you won’t have to worry about hurricanes! If you have a clear day, you could be outside for two or three hours—dress for the day’s temperature, wear sun protection, and have plenty of water available.

One safe way to “observe” the eclipse is to watch it on the Internet, and many observatories will likely do that. Watching the partial phases on the Internet when the real thing is just outside your door seems like a poor substitute for a great natural phenomenon, though!

Besides, there are some easy, safe, inexpensive ways to observe. Try using a thumbtack hole viewer (you can print one from the Acadiana Sky web site — go to acadianasky.com). It's tough to hurt your eyes when you have your back to the sun and are looking down at a safe



image! You can tack the two papers of the thumbtack hole viewer onto the ends of a yardstick to make the device easier to use, but for the ultimate contrasty image put the hole on one side of a box and the screen inside the box, then hold the whole thing over your head. Sure, the neighbors might think you're crazy, but you'll get a nice view of the eclipse. The only drawback to this technique is that if we have a

hazy day that dims the sun, it may not be bright enough for the thumbtack hole viewer to form an image. A related technique is to look for eclipse images on a sidewalk beneath a leafy tree.

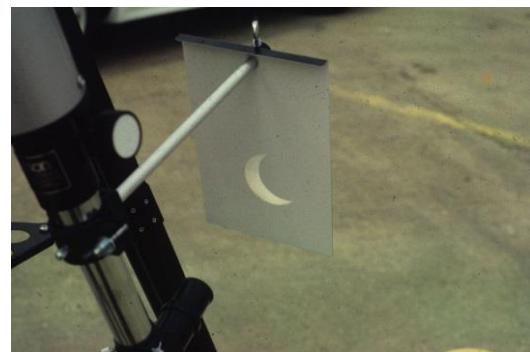


If you want to watch the eclipse with a telescope, you are really playing with fire unless you truly know what you are doing. First, if you have a solar filter that screws into the eyepiece, throw it away. Those things go into the telescope where the sunlight is most concentrated, and they crack. If yours cracks while you are peering through the telescope, you'll have eye damage or blindness before your reflexes can pull your eye away from the telescope.



than three or four inches in diameter can be used to project an image of the sun onto a screen. It's critical not to let *anyone* actually look through the telescope, and to cover the front of your lensed finder scope if you have one. Use your telescope's shadow for initial aiming. Importantly, turn off your computer and go to the library

to learn about this in amateur astronomy handbooks before trying it.



Doing that with larger telescopes can damage or melt the lens! A solar objective filter that fits on the front of the telescope can protect your optics and your eyes. Different brand filters are made with different materials, but they are all specifically designed for solar viewing. Don't try to "make do" with something else—nothing you already own is safe! Solar objective filters are not cheap, however. Do your homework and learn about filters and how to use them before ordering one. Your future eyesight depends on it.

However you choose to observe the eclipse, think "safety first" but don't miss the chance to see one of nature's best events!