

## **The Solar Eclipse of October 14, 2023 is not a total solar eclipse!**

Article by Tom Butler, South Texas Border Chapter

The eclipse this fall will be a partial solar eclipse, but it is not an ordinary partial eclipse. It is the rarest type of solar eclipse, an annular eclipse. At maximum, and as seen anywhere along the center line of the eclipse, you will see the entire Moon silhouetted against the Sun. The explanation of why this occurs is that the Moon will be at or near apogee in its orbit of Earth. Apogee is the point in the Moon's orbit when it is the maximum distance from Earth.

You may have heard of a super Moon, this is a mini Moon. It will appear smaller than the disc of the Sun. You must have protective glasses to view this eclipse and you will never see the darkness associated with a total solar eclipse. Nor will you see the corona or any other features of the dimmer, outer layers of the Sun. There will be a significant dimming of the daylight and the view of the Sun with the Moon centered within the Sun and blocking a significant portion is unique to this type of eclipse. You must be on or very near the center line to see the Moon silhouetted against the Sun. As seen from the Rio Grande Valley, this will be nothing more than a very deep partial solar eclipse. What makes this one special is seeing the silhouetted Moon surrounded by the Sun.

For further reading regarding this information I am including a link to the preeminent astronomy magazine, Sky and Telescope. <https://skyandtelescope.org/> It has extensive information on the eclipse in a link on the main page. The main page this month is highlighting the total solar eclipse which will occur April 8, 2024. Take the time to study that eclipse as it will pass through Texas. This will be the last total solar eclipse in the United States for many years. If you ever want to see a total solar eclipse, the 2024 eclipse will be your best opportunity.

On that page you can click on the Countdown to the Eclipse to get to a map that shows the path of the 2024 eclipse. In the upper left hand corner of that map there is a box to select another eclipse and you can click there to get a look at the path for the October 2023 eclipse and details for that eclipse. If you look over the information, you should find there is a simulator that shows what the 2023 eclipse will look like.

For viewing any eclipse including the annular eclipse this fall, clear skies are a must. For this reason, when planning travel to see the eclipse I like to keep my options open. I watch weather forecasts as the eclipse approaches and make tentative plans based on long range forecasts. As the eclipse day approaches I narrow my options down. Considering travel time to various locations along the eclipse path I may relocate to a place nearer my best options. In the last day or two before the eclipse I will select my preferred location along the eclipse path. A check of the weather before the eclipse will determine if a last minute adjustment can improve my chances of seeing the eclipse.

I suggest purchasing eclipse glasses early so you have them when you need them. They are inexpensive, get a pair for every family member. The cardboard glasses with aluminized Mylar are quite suitable for viewing the Sun. You should never look directly at the Sun without the protective glasses as long as even the tiniest portion of the Sun is visible.