

"Increasingly Rare": SIUE Prof Explains Why Total Solar Eclipse is a Big Deal

by Sydney Sinks, News Reporter
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ILLINOIS - An SIUE professor explained that the total solar eclipse we will see on Monday, April 8, 2024, is an “increasingly rare” occurrence.

Dr. Tom Foster, a physics and astronomy professor, noted that there will not be another total solar eclipse visible in the U.S. until 2044. But even that eclipse won't be as "total" as the one planned for Monday.

"Every year, the moon gets an inch farther away from the Earth. And as the moon gets farther and farther away from the Earth, the smaller it will appear in the night sky," Foster explained. "That also means when we have eclipses, the eclipses will eventually fade to just being annular, where you see the ring of the sun, instead of our total eclipse, where we're blocking out the sun completely."

While Foster predicts it will take another 200 years or so for this to happen, total eclipses are still becoming a thing of the past. He said that this is because of the law of conservation of angular momentum, a physics principle that explains how the Earth's rotation impacts the moon.

"The Earth and moon are interlinked, and we know that because of the tides. The moon controls, by its location around the Earth, where the tides will be higher," Foster said. "There's this resistance from the tides against every rocky crag, seashore or beautiful beach that the waves crash upon. All that is friction, slowing the Earth's rotation down. And as the Earth loses its spin, that spin has to go someplace, and that causes the moon to go farther out."

As a result, total solar eclipses will become less common over the next few hundred years. But that's not the only reason why the April 8 eclipse is unique.

Foster said there is a chance we will be able to see a comet during the eclipse. Usually, this comet is only visible in the early morning hours. But it might be possible to view it during the four minutes of totality. He noted that there is also a chance that we will see more planets in the sky than we usually do because the sky will be dimmer.

Many animals will begin their "nighttime routines" because it will feel as if dusk is approaching, Foster said. Additionally, we will be able to see a part of the sun that we usually can't observe with the naked eye.

"In totality, the moon completely blocks out the sun, so we are able to see parts of the sun that are normally too dim for us to observe," he explained. "So we'll get a chance to see the sun's outermost atmosphere, called the corona. Yes, spelled like the beer, so it's everyone's favorite part of the event. That just doesn't happen. You're going to be seeing the sun in an entirely new light."

Foster noted that we have been “blessed” to see three eclipses in our lifetime, including the total solar eclipse in 2017 and an annular eclipse in October 2023, which was clouded out for most of the region. The April 8 Great North American Eclipse will be our last chance to see a total solar eclipse in the contiguous United States until 2044.

While the Riverbend region is not technically in the path of totality, Foster said we will see 99% totality. He encourages people to be safe and plan ahead to make sure you have special eclipse glasses with which to view the eclipse.

“The most important thing is, do not stare at the sun,” he added. “You have to have eclipse glasses. Your darkest, most chic sunglasses are not dark enough. So you need specialized eclipse glasses and you need to get them from someplace safe...Use your eclipse glasses and enjoy the spectacle that nature is providing.”

[RiverBender.com](https://www.RiverBender.com) and [EdGlenToday.com](https://www.EdGlenToday.com) will also be [live streaming the eclipse](#) from 12–3 p.m. on April 8, 2024.