A solar eclipse: April 8, 2024

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April 8, 2024: Please visit https://tinyurl.com/5n8bvmhb to find the places, where one can see a total eclipse.

The cities of Windsor, London and Toronto will not see total eclipse.

A solar eclipse occurs when the Moon passes between our planet and the Sun, casting a shadow on Earth. On April 8, the Moon will be at its closest point to Earth and the Moon, Earth, and Sun will be perfectly aligned, when the moon passes between the earth and the sun. Because the moon is closer, it appears larger and entirely obscures the disk of the Sun.

Nancy Ng, the Director of observing with the Royal Astronomical Society of Canada — Windsor Centre, said," For a brief moment these three celestial bodies glide into a unique alignment as the shadow of **the Moon sails past us at 2,400-kilometres-an-hour** and a black circle appears in the sky where the blazing Sun should be."

Photograph of Aug. 21, 2017, solar eclipse as seen in Greenville, South Carolina. Image courtesy Jim Jeletic, Hubble Space Telescope deputy project manager, and his son Jordan.© Photo by NASA

Steven Pellarin, a University of Windsor astronomer and Vice-President of the Royal Astronomical Society of Canada — Windsor Centre, "It's the blackest thing you've ever seen in your life. If you think of what a black hole might look like, it looks like that with the glowing light, shimmering atmosphere of the Sun backlighting it from behind."

"Then you have a few stars come out. If you look along the horizon, it looks like sunrise all the way around you … because you're actually looking out from underneath the Moon's shadow."

On this rare occasion, the relatively narrow 183-km path of the total eclipse will include southern parts of Essex County such as Leamington, Kingsville, Point Pelee, and Pelee Island. That hasn't happened since the late 1700s.

Pellarin has advised that an observers should always use special ISO-certified eclipse glasses or another safe viewing method to look at the Sun. He said that sunglasses won't do the job.

The total eclipse will range from **a couple of seconds to about three minutes**, depending on where you're watching.

> Windsor sits just outside the path of totality, and will only experience a partial solar eclipse of about 80 per cent. **Gordon Drake**, Professor of Physics Emeritus at the University of Windsor and Past President of the Canadian Association of Physicists, said, "The further south you go the better."
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> The edge of the Moon will start creeping in front of the Sun around 2 p.m., taking about an hour to completely cover it.
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> **Around 2:45 p.m**., the sky will turn darker and the temperature will drop. Under the shadow of the Moon, **Pellarin** said there is no radiation from the Sun warming the atmosphere.

"The solar eclipse actually cools the air underneath the shadow that the Moon is casting," **Pellarin** said. "That colder air, because it's denser, wants to sink."
"As it starts to sink it hits the ground and goes splat, kind of like dropping paint from a second-floor roof. The sinking air hits the ground and spreads out in all directions. That creates a bit of a wind."
Then the sky will turn "ominous," he said, as the darkness grows.
"It's like somebody is taking a dimmer switch and slowly turning down the sunlight," said **Pellarin**. "The shadows on the ground will start to change."

TOTAL ECLIPSE: In the last five minutes **before total eclipse**, **Pellarin** said the sky will turn into a "deep twilight" and stars will come into view. **Jupiter** and **Venus** will likely appear.
"The planets look like stars," he said. "They're just a lot brighter. So you'll notice a couple of really bright ones. Those are probably the planets Jupiter and Venus. "There's a comet that is supposed to be visible to the naked eye as well."
"The spectacular part comes during the period of totality, the total eclipse," said **Drake**. Around the edge of the Moon covering the Sun, you'll see the solar corona.
"That's the outer atmosphere of the Sun. It's like a glowing halo around the Sun. That's quite spectacular. No picture can do it justice.
"To see the Sun turn into this completely different spectacle is quite amazing."

The first place in Canada to fall under the Moon's shadow will be Pelee Island. People there will experience three minutes and 15 seconds of totality starting at 3:12 p.m. The shadow will hit the mainland at Point Pelee National Park at 3:13 p.m.

After crossing over Essex County, the shadow will crawl across Lake Erie and move up Highway 401, just missing London and Chatham-Kent. It will leave Ontario at 3:27 p.m.

Tourism Windsor has made available a Guide at https://www.visitwindsoressex.com/event/solar-eclipse-guide/ . "There is an expectation that it will be of great interest to many," said **Gordon Orr**, CEO of the tourism bureau.

A total solar eclipse happens somewhere in the world about every 18 months, but you have to be in the right place at the right time to see it.

***Note**: Please see "A Hybrid Solar Eclipse: April 20, 2023" dated April 20, 2023 at https://diginews360.com/a-hybrid-solar-eclipse-april-20-2023/ for a brief description of how the eclipses occur.*