

Solar Eclipse

Niagara-on-the-Lake is in the Path of Totality for the first time since 1979

Compiled by The Lake Report staff

What to expect

According to Jan Vrbik, a Brock University professor of mathematics who studies the movement of the sun, planets and moons, the eclipse “completely blocks the sun and turns the daytime sky dark enough to see stars for several minutes.”

As with any regular day, the sun is going to be bright, so it’s important to follow safe viewing guidelines. There is an abundance of information online, plus check our viewing checklist on this page.

Interesting facts

A once-in-a-lifetime show

While a total solar eclipse occurs on Earth every 18 months, the Path of Totality is usually over water. The last time a total solar eclipse occurred over Ontario was in 1979. The next one won’t happen again over the province until 2099, making this a once-in-a-lifetime experience.

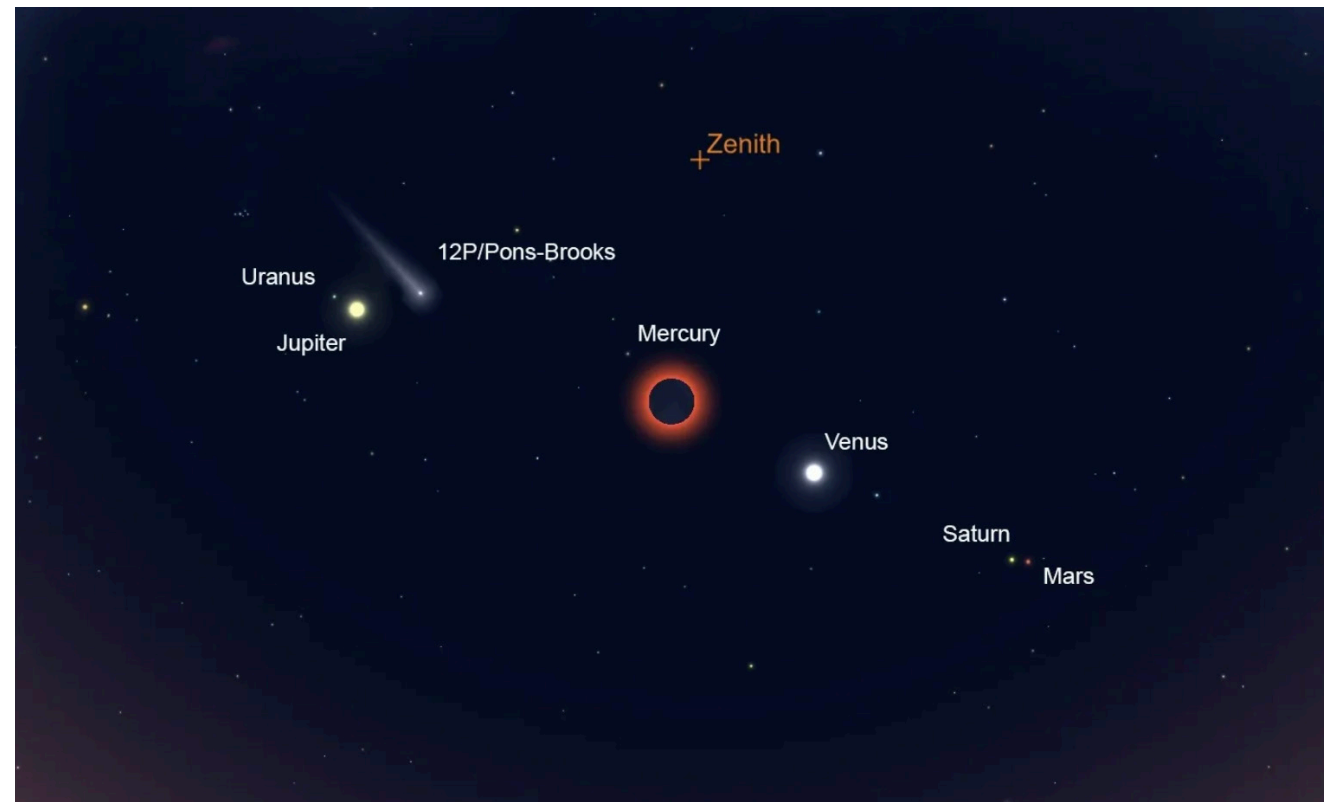
‘Devil’s comet’ could be visible

While officially named comet 12P/Pons-Brooks, the ‘Devil’s Comet’ might be visible during the total eclipse, according to NASA. The comet enters the inner solar system every 71 years and has a visible ion tail. If the comet has an “outburst” it will be significantly brighter and could be visible. Though NASA says that’s unlikely, and Astronomy.com warns, “Comets are notorious for not performing the way astronomers think they should, so don’t spend a lot of time searching for it.”

Woah, that’s a big shadow

The size of the moon’s shadow varies depending on how close in time the event is to when the moon is at its closest to Earth. Typically, the shadow is 150 kilometres in a circular area. A much larger part of the Earth’s surface, about 7,000 kilometres across, will at the same time experience a partial eclipse, in which only a part of the sun’s disk is covered by the moon.

The graphic below, created by Dave Weixelman using SkySafari, shows the location of comet 12P/Pons-Brooks in the sky during totality at the total eclipse of the sun on April 8, 2024. The comet’s dust tail is also shown. [HIGHSIERRAIMAGING.COM](https://highsierraimaging.com)



Just the right spot

The sun’s diameter is about 400 times larger than the moon’s, and the sun is almost 400 times farther away from us than the moon is. This combination makes the sun and moon appear nearly the same size in our sky, setting up a spectacular show when they align.

Corona will shine brighter

According to NASA, “Compared to the eclipse in 2017, the moon will be nearer its closest to the Earth, making its shadow larger, the sky darker, and the eclipse longer. In addition, the sun will be nearer its maximum in its 11-year cycle, so the corona, which can only be seen during a total eclipse, should be more spectacular.”

Venus and Jupiter will say hello

According to Astronomy.com, Venus and Jupiter will both be visible during the eclipse. Jupiter will come out first. According to NASA, “If the sky is clear during the eclipse, you will be able to see the planets and some stars that are not normally visible this time of year. Bright Jupiter will be to the upper left of the eclipse, with Venus, Saturn, and Mars to the lower right.” Jupiter is expected to pop into view during totality (and perhaps a few minutes before).

How to view safely

Grabbing a direct look at the sun is dangerous at any time. During a solar eclipse the temptation to get even just a quick glimpse of this once-in-a-lifetime event can be a pull too powerful to resist.

But safety is paramount because the affects and damages to your retinas are real. So, to remain safe and enjoy the event, keep these safety measures in mind.

Total eclipses? How about total abstinence? To achieve this, do not view the eclipse at all. After all, it is seeing day turn to night in the middle of the afternoon that is the amazing part and that can be done without direct visual lines.

But since we are curious animals driven to impulse and mob mentality (everyone’s doing it), a proper method of blocking the sun’s dangerous rays is required when looking up.

Use ISO-certified eclipse glasses that meet ISO 12312-2 international safety standards. The manufacturer’s name and address must be printed on the product and do not use products that have scratched or wrinkled lenses.

Remember, retinas are sneaky organs. They contain no pain sensors to tell you that your eyes are being damaged by looking at the sun, so trust in the science over the false narrative being given to you by your eyes.

Symptoms can take 12 to 48 hours to appear and can include retinal burns, permanent or temporary visual loss, and blurred vision. Once symptoms begin, it’s usually too late to reverse any damage.

Where to find the proper glasses
Suppliers of safe solar filters and viewers (<https://eclipse.aas.org/eye-safety/viewers-filters>)

A short list of some places hosting eclipse parties

Niagara Falls may be designated the go-to place to experience the solar eclipse on April 8, but that doesn’t mean there won’t be plenty of places to experience the once-in-a-lifetime celestial event.

It will be the first time since 1979 that Niagara has experienced a total solar eclipse, which occurs when the moon passes between the Earth and Sun, casting a shadow and – when totality is reached – plunging the area into temporary darkness.

In Niagara, totality is expected to occur at 3:18 p.m. and last for about three minutes.

Meanwhile, on April 8, Niagara-on-the-Lake will host events at venues across town.

Attendees will be able to raise – and don – their eclipse glasses to experience this cosmic phenomenon in the following locations:

Spirit in Niagara distillery is hosting an eclipse viewing party from 1:30 to 3:30 p.m. with free admission, special cocktails and souvenir eyewear. There will also be live rock and blues music by the Wilber James Band.

Queenston Mile Vineyard is hosting an eclipse viewing party on April 8 from noon to 5 p.m. Tickets are \$50 per person and include souvenir eclipse glasses, pizza (one slice per person), salad and live music. Purchase tickets: www.queenstonmilevineyard.com/event.

Bella Terra Vineyards is hosting eclipse blind tastings, April 5 to 8 from 11 a.m. to 4 p.m. Blind tastings include three mystery wines, “jar”cuterie, a note card and pen. Tastings are \$34.95 per person. Book a spot: bellaterravineyards.ca.

Marynissen Estates, with Twist and Sprouts Food is hosting a yoga, lunch and wine event on April 8. Sessions are \$55 and will be held at 11 a.m. and 1 p.m. Information: marynissen.com/shop/ols/products/eclipse-event-ticket.

Ironwood Cider House and Runaway Greek are hosting an eclipse watch party from noon to 4 p.m. Tickets are \$10 and include one drink and eclipse glasses. Information: facebook.com/ironwoodcider.

Palatine Hills Estate Winery is inviting people to view the eclipse from the winery’s patio. The first 40 people will receive a free pair of eclipse viewing glasses. Information: facebook.com/PalatineHillsEstateWinery.
Wayne Gretzky Estates is hosting a viewing event. Tickets

are \$40 (\$20 for wine club members) and includes eclipse glasses, a branded black glass of Gretzky Brut, appetizers and a drink ticket. Information: my-winecountry.com/on/solar-eclipse-event-2024.html.

Reif Estate Winery is hosting an eclipse event from 1 to 5 p.m. Tickets are \$70 and include a barbecue lunch, food wine, eclipse glasses and live entertainment. Information: explore-tock.com/reifestatewinery/event/465620.

Grape Escape Wine Tours and Ravine Vineyards are hosting “Sips & Eclipse” from 1 to 5 p.m. The event is sold out, but a waiting list is available. Contact to join the list: office@tourniagarawineries.com.

Konzelman Estate Winery is hosting its sold-out “Eclipse by

the Lake” event from 2 to 5 p.m.

Non-winery events
Weather permitting, **Niagara Cycling Tours** has organized a four-to-five-hour ride to witness the eclipse. Participants will experience an exhilarating journey through carefully selected trails for optimal eclipse viewing. Spots are limited. Information: niagaracyclingtours.ca/book-now.

Brock University is hosting “Eclipse on the Escarpment,” an event featuring exhibits led by the university’s researchers, educators and experts, from noon to 4 p.m. Admission is free and participants will receive a free pair of eclipse glasses. A viewing of the eclipse will be held on Alumni Field. Information: brocku.ca/mathematics-science/fms-solar-eclipse-event.

The map below illustrates the paths of the moon’s shadow across the U.S. during the 2024 total solar eclipse. On April 8, 2024, a total solar eclipse will cross North and Central America creating a Path of Totality. During a total solar eclipse, the moon completely blocks the sun while it passes between the sun and earth. The sky will darken as if it were dawn or dusk and those standing in the path of totality may see the sun’s outer atmosphere (the corona) if weather permits. NASA’S SCIENTIFIC VISUALIZATION STUDIO

