

2024 ECLIPSE: TOTAL VS. PARTIAL

VISIT: yorku.ca/science/observatory/solar-eclipse-2024



DO NOT LOOK DIRECTLY AT THE SUN



WHAT IS AN ECLIPSE?

Eclipses on the Earth come in two main sorts, lunar and solar eclipses. Lunar eclipses occur when the Moon moves into Earth's shadow: Sun-Earth-Moon. Solar eclipses occur when the Moon casts its shadow down onto Earth: Sun-Moon-Earth. The Moon takes one month to go around the Earth, and if the orbits are in the same plane, an eclipse can occur.

TYPES OF SOLAR ECLIPSES

There are partial, annular, and total solar eclipses. The most common type of solar eclipse is the partial solar eclipse where only a portion of the Sun's light is blocked.

Depending on where you are, the viewing experience will be quite different. In Toronto and other areas where the partial eclipse will be visible, you should use a projection viewer or safety rated solar glasses at ALL times.



Image Credit: www.timeanddate.com

VISIT US

Allan I. Carswell Observatory
York University
4700 Keele Street
Toronto, Ontario
Canada, M3J 1P3

WEB: yorku.ca/science/observatory
EMAIL: observe@yorku.ca
PHONE: 416 736 2100 x 77773



Building #17: 446 Petrie Science and Engineering building

Building #80: Arboretum Parking Garage (Telescope Atrium)

FOLLOW US

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X: Allan I. Carswell Observatory

PRE-ECLIPSE EVENTS

Since the best eclipse viewing locations are spread throughout Ontario, we have several March and April pre-eclipse events for sun viewing and education. **FREE** tickets can be found on our website: yorku.ca/science/observatory/solar-eclipse-2024

MARCH 9: Downsview Park Solar Viewing
APRIL 2-6: First Clear Day Solar Viewing
March 23: Solar Education Day York

ECLIPSE SAFETY

IT IS NEVER SAFE TO LOOK DIRECTLY AT THE SUN, INCLUDING DURING AN ECLIPSE. DO NOT USE SUNGLASSES OF ANY KIND. EVEN SMALL EXPOSURES TO DIRECT SUNLIGHT HAVE BEEN KNOWN TO DAMAGE EYES AND EVEN CAUSE PERMANENT BLINDNESS.

Special eclipse safety rated glasses can be used. Other popular methods include:

- pinhole cameras and box projectors
- telescopes or binoculars with a solar filter as shown in the image below
- from our AIR program (yorku.ca/science/observatory/air)



Image Credit: AICO, Killarney Provincial Park, Elaina Hyde, 2022

See our Eclipse Safety sheet for more tips: yorku.ca/science/observatory/solar-eclipse-2024

APRIL 8, 2024: TOTAL SOLAR ECLIPSE

WHERE

Ontario, parts of Quebec, New Brunswick, Newfoundland and Labrador (see eclipse map). **Toronto will only have a partial eclipse.**

WHEN

April 8th, 2024. The exact time depends on location. A few popular Ontario locations include:

- **Niagara Falls:** Partial eclipse starts at 2:04pm. Totality is 3 minutes 31 seconds, starting at 3:18pm and ending at 3:21pm. Partial eclipse ends at 4:31pm.
- **Toronto/York University:** Partial eclipse starts at 2:04pm and ends at 4:31pm. No Totality.
- **Montreal (Montreal West area):** Partial eclipse starts at 2:14pm. Totality is 1 minute 34 seconds, starting at 3:26pm. Partial eclipse ends at 4:36pm.

ECLIPSE MAP ON APRIL 8, 2024:

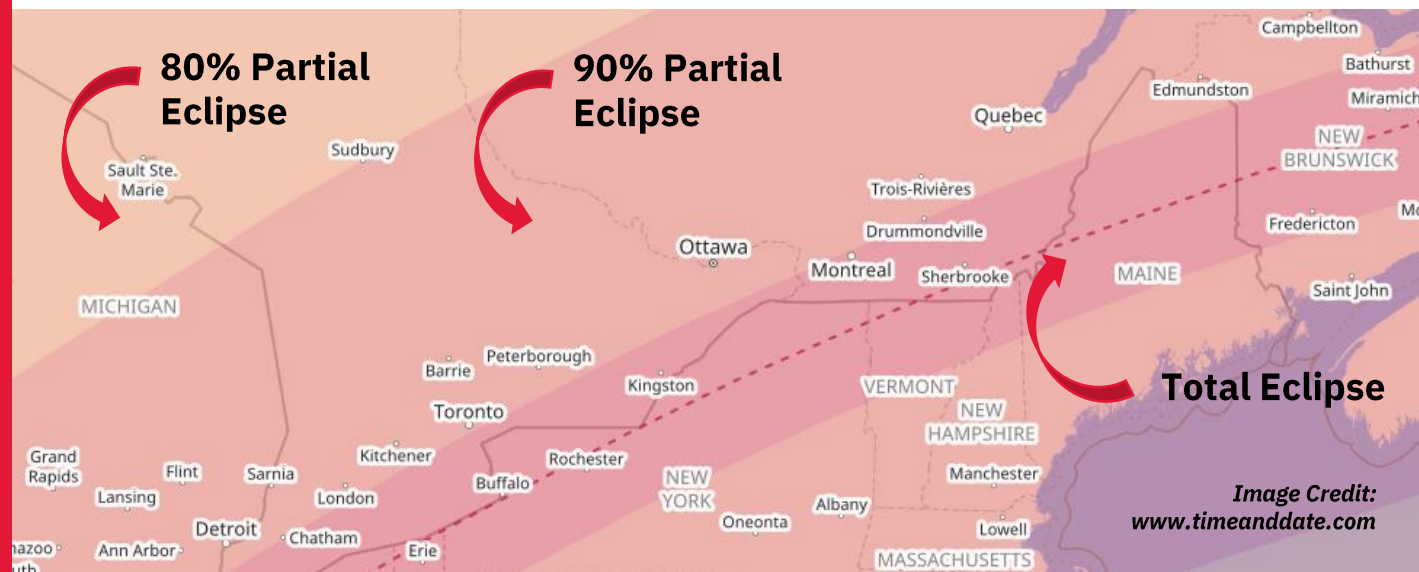


Image Credit: AICO, Paul Mackin, Partial Solar Eclipse 2023

DIFFERENT ECLIPSES IN DIFFERENT AREAS

Since a total solar eclipse involves the Moon casting its shadow directly on Earth, only a small region gets to see it. In Ontario, the 2024 solar eclipse will appear differently based on the geographical area. In Toronto, only a partial eclipse will be visible. A very small area of Ontario will be able to see the total eclipse.

See the eclipse map below, or check a local eclipse map, to find out how much of the eclipse will be visible in a specific area.

For more information, visit: yorku.ca/science/observatory/solar-eclipse-2024

Image Credit: www.timeanddate.com