Science – Environment – Space news release rev. March 4, 2024

**Partial Solar Eclipse to be visible across Northern Virginia on Monday April 8, 2024**

**Summary:** A partial eclipse of the Sun by the Moon will be visible throughout the region on Monday, April 8, 2024 beginning at 2 pm. The Northern Virginia Astronomy Club (NOVAC) has prepared this fact sheet to provide basic information to the public and media about how to observe the eclipse.

**What:** This event is considered a "partial solar eclipse", because in the mid-Atlantic and all other areas away from the narrow path of "totality", the Moon appears to cover only a portion of the Sun, even at the maximum point. Specifically, in the local area, the Moon will cover about 90% of the Sun's width. Further west in North America, the Moon will appear to cover more, because the apparent positions of the two bodies will briefly line up precisely, producing an eclipse with a "total" phase. The Moon's apparent size is slightly more than the Sun's this time, as when we see a "supermoon". The Moon covers the entire visible solar disk during the brief total phase (up to about 4½ min.), allowing the faint glow of the Sun's gaseous atmosphere to be seen. Totality is not visible here; even with 90% covered, the Sun's disk is still too bright.

**When:** The eclipse will start here at about 2:00 pm EDT. The Moon will be seen moving slowly across the Sun until 3:20 pm, when coverage is greatest, then it continues its slow motion off the Sun, until it leaves completely at 4:30 pm.

**Where:** The eclipse can be seen anywhere in the area (actually, most of North & South America at different times) where the Sun is not blocked by clouds or local obstructions such as trees or tall buildings. Since it takes place in the early afternoon, the Sun will be quite high in the sky – about 45 degrees, or halfway from the horizon to straight up. Dark skies away from the city are not needed, and even thin clouds don't hurt much.

**Events:** While you can see the eclipse anywhere with a clear view of the sky, some organizations will be hosting events where you can watch with others and hear explanations of the eclipse and take part in related activities. NOVAC volunteers will be providing telescopes and information at several of these. There will be other events at additional local parks, museums, and planetariums. At present, we anticipate the following:

- NOVAC will continue its cooperative activities with Virginia State Parks at Sky Meadows State Park near Paris, VA. NOVAC volunteers and their telescopes plan to be at an eclipse event at the park.
- Sweet Run State Park in northern Loudoun County plans eclipse prep events on March 23 & 24, and an eclipse event on the day.

- Fairfax County Parks will have events at Ellanor Lawrence Park, Historic Huntley, and Burke Lake Park – registration required. A preview will be presented at Observatory Park/Turner Farm (Great Falls) in conjunction with the Analemma Society on March 25.
- George Mason University intends to have a program [TBD] at its observatory in Fairfax.
- Univ. of Maryland will have a program [TBD] at its observatory in College Park.
- National Air & Space Museum will [TBD] have an event at Udvar-Hazy Center in Dulles.
- National Air & Space Museum will sponsor Eclipse Festival on the National Mall April 8 from 12-4.
- Arlington County will have an eclipse celebration at Gateway Park in Rosslyn (south of Key Bridge).
- [others TBS]

The eclipse will be live streamed on the Internet from cameras at multiple locations along the path of totality, so that you might follow the appearance of the partial and total eclipse phases from multiple cloud-free locations. The Exploratorium is one such source, streaming from Mexico & Texas starting at 1 PM EDT.

Unfortunately, some school jurisdictions in the past have been afraid to host eclipse programs, for fear of liability. Parents should make their own decisions about how to assure that their children get to experience the eclipse in person (not just online) with proper supervision.

**Why look at the eclipse:** A solar eclipse is an opportunity to see for yourself an unusual act of nature, when the otherwise invisible Moon in daytime reveals itself by moving in front of the Sun. Usually, we can only see the part of the Moon illuminated by sunlight. During an eclipse, we see that the Moon is somewhere in the sky even when we don't see it. Most times, the Moon passes either above or below the Sun in its orbit. Occasionally, such as last October 14 and this April 8, it passes close to directly in front. It is an opportunity to explain these parts of nature to children, and spark their natural instinct to learn more. It is also an opportunity to consider how this would have influenced our ancestors to either believe in myths or to think about what could be learned about the universe. Enjoy what for many is a once-in-a-lifetime experience.

**Safety:** It is perfectly safe to be outside, and safe to view the eclipse when done properly. There are two basic ways. First, you can use approved eclipse glasses or viewers that darken the Sun so that you can stare at it safely. Theses are NOT regular sunglasses, or even two sunglasses stacked. These are much darker – as a matter of fact, you can see nothing *except* the Sun through them. A list of approved sellers has been posted by the professional astronomers of the American Astronomical Society (AAS) <https://eclipse.aas.org/resources/solar-filters>. Some Walmart, Lowes, and Home Depot brick-and-mortar stores are reportedly selling approved solar glasses. Most library systems in this area are to receive some solar glasses funded by the Gordon & Betty Moore Foundation for free distribution. Check with your local library to see if any are available. NOVAC has some eclipse glasses available for school groups, funded by an education grant from MITRE Corporation.

Some online retailers can deliver in a day or two. However, be careful of origins. Buy only the brands that have been reviewed and listed by the AAS, mentioned above. Some online suppliers misrepresent certification, and need to be verified. NASA does not approve eclipse viewing equipment, and any such claim should be a red flag.

The other means to watch the eclipse is by simple projection. A pinhole (just big enough to see through) in some opaque material – such as a large piece of cardboard – held about 3 or more feet above a piece of white paper will cast a "reverse shadow" that shows the shape of the Sun while it is covered by the Moon. You can practice before the eclipse. You can be creative: a kitchen colander with many small circular holes, or even a cracker (like a saltine or ritz cracker) with small holes will cast reverse shadows and show multiple Sun images.

**Travelling for better views:** To see the total phase of the eclipse, you would need to be somewhere in a narrow band from Mazatlan, Mexico through Dallas, Cleveland, and Buffalo, and on to the Canadian Maritimes and points in between on eclipse day. See the 2024 eclipse map provided by the Planetary Society at https://www.planetary.org/eclipse. Be forewarned that accommodations in or near the path of totality are already booked or expensive. Traffic to the path of totality on eclipse day is expected to be heavy; if you opt for this, plan to arrive early and to stay for many hours afterward to avoid the worst of the rush.

**Photography:** You can photograph the partial eclipse with typical cameras including smartphone cameras, but there are two things to keep in mind:

- The Sun photographs smaller than you would think. Use a telephoto lens or the longest zoom on your camera. When you do that, it is best to use a tripod to hold the camera pointed at the Sun.
- Your camera needs the same protection as your eyes to avoid damaging the imaging chip. With a digital camera, you may need a larger filter than that of eclipse glasses. Be careful that it does not slip off. Don't look through the camera finder without a filter.

**When will I have my next chance?** Solar eclipses happen multiple times each year. But the area over which you can see a total solar eclipse is quite small each time, so if you want an eclipse to come to you, you would need to wait centuries. Partial eclipses are seen over much larger areas. The next partial eclipses here will be 2028 (barely) & 2029, and the next easily accessible total solar eclipse will be in 2045 from northern California to southern Florida.

**More information:** These resources provide reliable information about the 2024 solar eclipse:

The American Astronomical Society website is the best place to start for authoritative information, educational resources, and activity ideas about the eclipse and how to see it. http://eclipse.aas.org

You can see a simulation of how the eclipse will appear at the Eclipse2024 site https://eclipse2024.org/eclipse_cities/statemap.html

The Planetary Society and Eclipse2024 have prepared this interactive map providing information about the eclipse and about resources along the centerlines. http://planetary.org/eclipse

NOVAC, founded in 1981, is a 501(c)(3) non-profit educational and scientific organization. NOVAC is one of the largest local amateur astronomy clubs in the nation, with more than 800 members. Our website is http://novac.com

Members are available to provide more information on the upcoming eclipse and related topics.

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