



ASTROFILES

Auburn Astronomical Society Newsletter

March 2024 Newsletter Editor — John Wingard — jwin1048@gmail.com

Moon Phases

- April 1 — Last Quarter
- April 8 — New Moon
- April 15 — First Quarter
- April 23 — Full Moon
- May 1 — Last Quarter
- May 7 — New Moon
- May 15 — First Quarter
- May 23 — Full Moon

Stay in touch with us



<http://www.auburnastro.org>



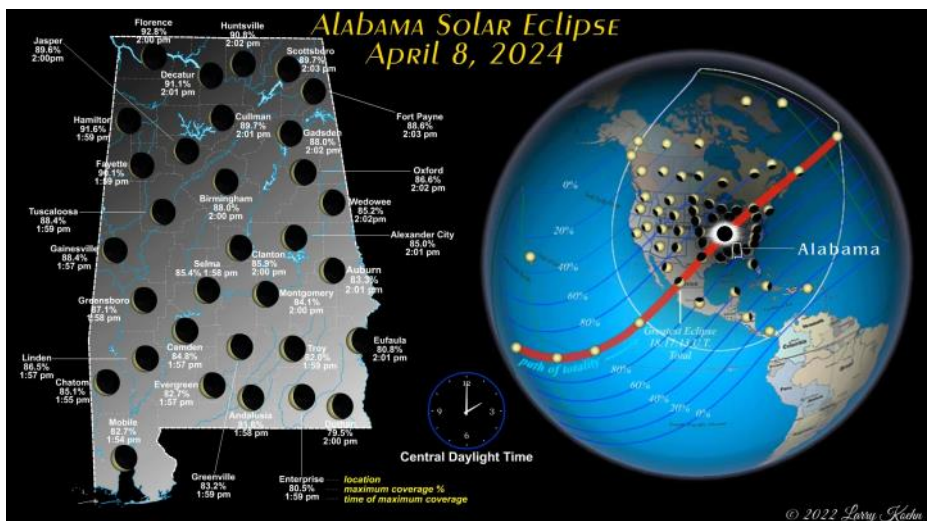
<https://www.facebook.com/groups/79864233515/>

News and upcoming activities

A number of activities are coming up in the next couple of months. First, thanks to the AAS members that helped with the stargaze at the AWF Nature Center in Millbrook, AL on Tuesday, March 12, 2024. All of the participants really enjoyed the experience.

The next major event will be a daytime (solar viewing) activity at the annual Auburn CityFest that will be held at Kiesel Park in Auburn on Saturday, April 27, 2024. This is a major event in Auburn and there will be many people in attendance. This will be in coordination with the Children Imagination Station. The AAS will have a dedicated pop-up canopy, table and chairs. The event is scheduled to run from 9:00 AM to 4:00 PM CT. AAS members that have solar-equipped telescopes are encouraged to bring them to provide views of the Sun , weather permitting.

Of course, the big astronomy event of the year will be the total solar eclipse that is coming up very soon on Monday, April 8, 2024. Although we won't be in the path of totality here in Alabama, we should still see anywhere from 80 to 90 percent coverage depending on your location in the state. We have also received a request from Lee Tinker, coordinator of the Gayle Planetarium in Montgomery for any AAS members that can come to the planetarium on the day of the eclipse and provide the public with views of the eclipse using their solar scopes. The planetarium also has one solar scope that can be used as well. The maximum coverage at Montgomery will be about 84% at 2:00 PM CDT. If you can help, please send Lee an email at wtinker@montgomeryal.gov to let him know.



Instructions for the Safe Use of Solar Filters/Viewers

Instructions for All Solar Eclipses

- *Always* inspect your solar filter before use; if scratched, punctured, torn, or otherwise damaged, discard it. Read and follow any instructions printed on or packaged with the filter.
- *Always* supervise children using solar filters.
- If you normally wear eyeglasses, keep them on. Put your eclipse glasses on over them, or hold your handheld viewer in front of them.
- Stand still and cover your eyes with your eclipse glasses or solar viewer before looking up at the bright Sun. After looking at the Sun, turn away and remove your filter — do *not* remove it while looking at the Sun.
- Do *not* look at the uneclipsed or partially eclipsed Sun through an unfiltered camera, telescope, binoculars, or other optical device.
- Similarly, do *not* look at the Sun through an unfiltered camera, telescope, binoculars, or any other optical device while using your eclipse glasses or handheld solar viewer in front of your eyes — the concentrated solar rays could damage the filter and enter your eyes, causing serious injury.
- Seek expert advice from an astronomer before using a solar filter with a camera, telescope, binoculars, or any other optical device; note that solar filters must be attached to the *front* of any telescope, binoculars, camera lens, or other optics.

Additional Instructions for the Total Solar Eclipse

- If you are *inside* the **path of totality on April 8, 2024**, remove your solar filter *only* when the Moon completely covers the Sun's bright face and it suddenly gets quite dark. Experience totality, then, *as soon as the bright Sun begins to reappear*, replace your solar viewer to look at the remaining partial phases. Note that this applies *only* to viewing without optical aid (other than ordinary eyeglasses). Different rules apply when viewing or imaging the Sun through camera lenses, binoculars, or telescopes; consult an expert astronomer before using a solar filter with any type of magnifying optics.
- *Outside* the path of totality, and throughout a partial solar eclipse, there is *no time* when it is safe to look directly at the Sun without using a special-purpose solar filter that complies with the transmittance requirements of the **ISO 12312-2 international standard**.

New Approved Dates for the Heaven Hill Observation Site for 2024

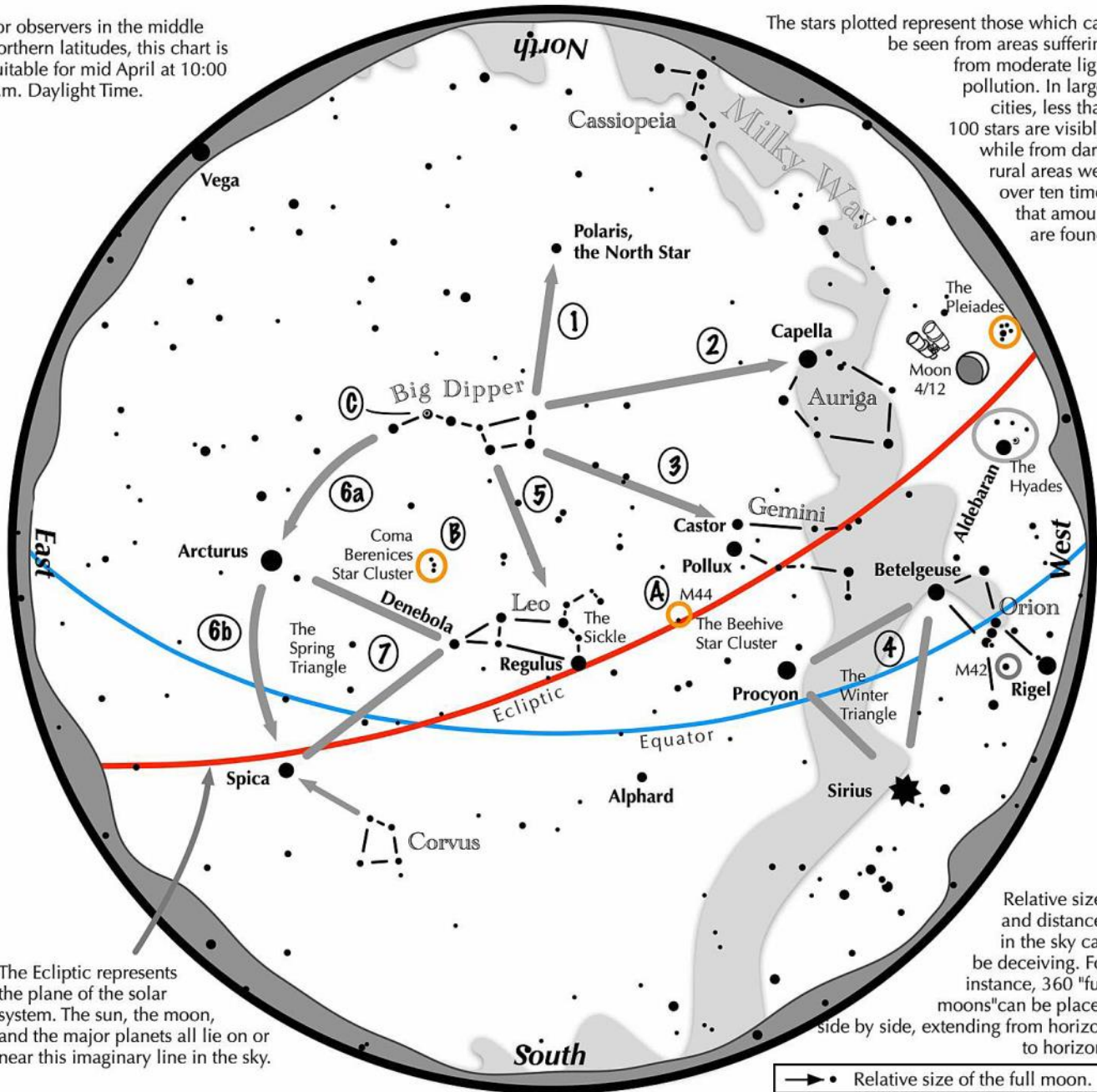
We have once again received approval from Russell Lands to have access to the Heaven Hill observation site near Alexander City, AL. This site is on property owned and managed by Russell Lands. The approved dates are typically selected around new moon times so that the skies will be the darkest. As in the past, this site is made available to AAS members that have applied for and received an annual vehicle sticker and should be used *only* on the approved nights. Full details on how to obtain a vehicle sticker can be found on our club web page at auburnastro.org. On the main page select the "Astronomy" tab and then select "Observation Site." There you will find the necessary links to apply. There is no fee required. The list of the approved dates is listed below.

- Saturday, April 6, 2024
- Saturday, May 11, 2024
- Saturday, June 8, 2024
- Saturday, July 6, 2024
- Saturday, August 3, 2024
- Saturday, September 7, 2024
- Saturday, October 5, 2024
- Saturday, November 2, 2024
- Saturday, December 7, 2024

Navigating the April Night Sky, Northern Hemisphere

For observers in the middle northern latitudes, this chart is suitable for mid April at 10:00 p.m. Daylight Time.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the April night sky: Simply start with what you know or with what you can easily find.

- 1 Extend an imaginary line north from the two stars at the tip of the Big Dipper's bowl. It passes Polaris, the North Star.
- 2 Draw another imaginary line west across the top two stars of the Dipper's bowl. It strikes Capella low in the northwest.
- 3 Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
- 4 Look in the west-southwest for the bright Winter Triangle stars of Sirius, Procyon, and Betelgeuse.
- 5 Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
- 6 Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica.
- 7 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.

Binocular Highlights

- A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux.
- B: Look nearly overhead for the loose star cluster of Coma Berenices.
- C: In the Big Dipper's handle shines Mizar next to a dimmer star, Alcor.



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This article is distributed by NASA's Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit night-sky.jpl.nasa.gov to find local clubs, events, and more!

Participate in Eclipse Science

By Kat Troche

April is NASA's Citizen Science Month, and there is no shortage of projects available. Here are some citizen science projects that you can participate in on April 8th, on and off the path of totality right from your smartphone!



Eclipse Soundscapes, ARISA Lab / NASA

Eclipse Soundscapes

Eclipse Soundscapes will compare data from a 1932 study on how eclipses affect wildlife – in this case, crickets. There are a number of ways you can participate, both on and off the path. NOTE: you must be 13 and older to submit data. Participants 18+ can apply to receive the free Data Collector kit. Learn more at: eclipsesoundscapes.org/

GLOBE Eclipse

Folks that participated in the **GLOBE Eclipse** 2017 will be glad to see that their eclipse data portal is now open! With the GLOBE Observer smartphone app, you can measure air temperature and clouds during the eclipse, contributing data to the GLOBE program from anywhere you are. Learn more at: observer.globe.gov/



HamSCI, The University of Scranton / NASA

HamSCI

HamSCI stands for **Ham Radio Science Citizen Investigation**. HamSCI has been actively engaged in scientific data collection for both the October 14, 2023, annular solar eclipse and the upcoming April 8, 2024, total eclipse. Two major activities that HamSCI will be involved in around the solar events will be the **Solar Eclipse QSO Party (SEQP)** and the **Gladstone Signal Spotting Challenge (GSSC)** which are part of the HamSCI Festivals of Eclipse Ionospheric Science. Learn more about these experiments and others at: hamsci.org/eclipse

SunSketcher, Western Kentucky University / NASA

SunSketcher

If you're traveling to totality, help the **SunSketcher** team measure the oblateness, or shape, of the Sun during the eclipse by timing the flashes of Baily's Beads. You will need a smartphone with a working camera for this, along with something to hold the phone in place - don't forget a spare battery! NOTE: The app will need to run from five minutes *before* the eclipse starts until the end of the eclipse. Any additional phone use will result in Sun Sketcher data loss. Learn more at: sunskecher.org/

Don't stop at the eclipse - NASA has citizen science projects you can do all year long – from cloud spotting on Mars to hunting for distant planets! By contributing to these research efforts, you can help NASA make new discoveries and scientific breakthroughs, resulting in a better understanding of the world around us, from the critters on the ground, to the stars in our sky.

We'll be highlighting other citizen science projects with our mid-month article on the Night Sky Network page, but we want to wish all you eclipse chasers out there a very happy, and safe solar eclipse! For last minute activities, check out Night Sky Network's Solar Eclipse Resources section!



Auburn Astronomical Society

Application for Membership

To insure that our records are accurate, please print information clearly

Name: _____

Address: _____

City: _____ State: _____ ZIP: _____

Phone: _____ Date of Application: ____/____/____

E-Mail: _____

Telescopes owned (if any): _____

Area(s) of special interest: _____

Enclose \$20.00 for regular annual membership, payable in January. *Full-time* student membership is \$10.00.

For **NEW** members joining after January, refer to the prorated dues table below for the month you are joining:

| | | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|
| Jan \$20.00 | Feb \$18.33 | Mar \$16.66 | Apr \$14.99 | May \$13.33 | Jun \$11.66 |
| Jul \$10.00 | Aug \$8.33 | Sep \$6.66 | Oct \$4.99 | Nov \$2.33 | Dec \$1.66 |

New—Just Joining

Renewal

Please make checks payable to: Auburn Astronomical Society and return this application with your payment to:

Auburn Astronomical Society
c/o John Wingard, Sec/Treasurer
5 Wexton Ct.
Columbus, GA 31907

Note: At this time we do not have an option for online payment of dues.

The Auburn Astronomical Society is a member of the Astronomical League, the national organization representing astronomy clubs throughout the United States. As a club benefit, paid members of the Auburn Astronomical Society are eligible to received quarterly issues of *The Reflector*, the official publication of the Astronomical League. It will be mailed to the address that you provided above but could be delayed somewhat until their mailing lists are updated.

For additional information about our club, please go to our website www.auburnastro.org . You can also follow us on our Facebook page. Just search for "Auburn Astronomical Society."