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The Shoreline
Observer
October 2024

In this issue:

- Club Notes
- The Night Sky
- Calendar and Events
- Kid's Corner
- Club History Moment
- Upcoming Club Events
- Comet
- Meteor Showers
- Featured Club Photos

CLUB NOTES

For October 2024

A good time was had by all at our September meeting. October will follow suit with several interesting treats. Barry Schoenfelner will enlighten us on the constellation Delphinus and Travis McGeehan will open our eyes to Astrophotography.

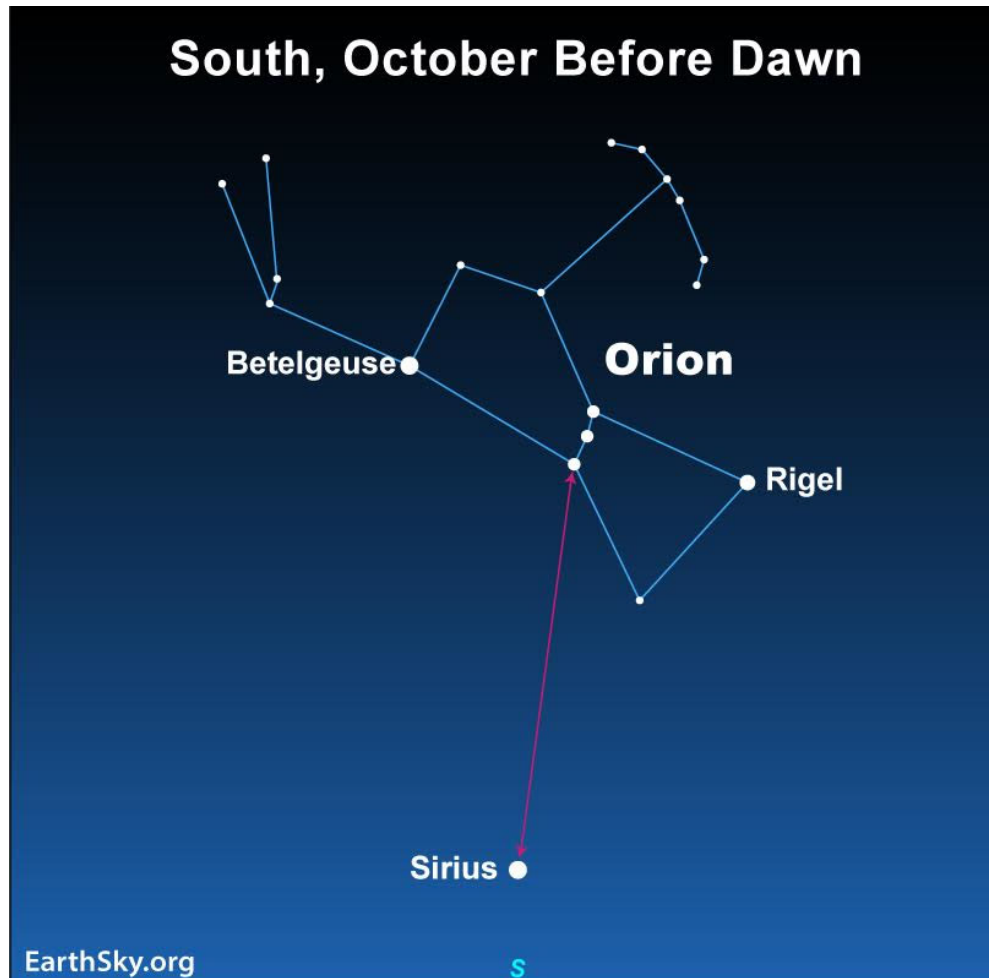
Some important business will need to be taken care of as well. This month the four main officer positions will open up. Members are encouraged to consider this opportunity. Candidates will be selected this month and the election will take place at November's meeting. New officers' terms begin January 1, 2025.

Peter Burkey
President, SAAA



The Morning Sky October

from EarthSky.org



Calendar and Upcoming Events



Public Observing

When Weather Permitting Every FRI evening 7PM.

Where Hemlock Crossing Public Observatory, 8115 W Olive Rd, West Olive, MI 49460, USA

Description The observatory is open from our start time until 11 PM (weather and clear sky permitting, see note after October 14th). There are no entry fees. Please be aware that the park gate closes automatically at 10 PM sharp, therefore visitors must arrive before 10 PM to enter the park. You will be able to leave as you wish.

Visible night sky objects: planets, the Moon, deep sky objects like galaxies, star clusters and planetary nebulae.

Next Club Meeting October 10th

There are no club meetings in the summer months (June – July – August). Our next Club Meeting, which is open to the public, is October 10th.

Have you missed a copy, or lost one, or just want to browse old issues of Astronomical League's *Reflector*?
Astronomical League's quarterly *Reflector* magazine:

<https://www.astroleague.org/reflector/>

October 2024

SUN	MON	TUE	WED	THU	FRI	SAT
29	30	Oct 1	2 New moon 2	3	4 ● 8pm Publ	5
6	7	8	9	10 First quarter 2:55pm ● 7pm Club Meeting	11 ● 8pm Publ	12 ● 7pm Findi
13	14	15	16	17 Full moon 7:	18	19
20	21	22	23	24 Last quarter	25	26
27	28	29	30	31	Nov 1 New moon 8	2

For More Information on Any Event
 Please go to www.holland-saaa.org

Club History: What's Up in the Sky

By Peter Burkey

A Brief History of Observing the Sky

Even before the dawn of civilization, humans have been looking at the night sky with wonder and awe. So much so that they created superhuman beings (Gods) to explain what they observed in nature. And for the vast majority of history, all of our observing has been done with our naked eyes, although past observers have enjoyed vastly clearer skies and zero light pollution.

Then, in 1608 in the Netherlands an eyeglass maker named Hans Lippershey applied for a patent for a telescope. He didn't get the patent, but his new invention began to spread throughout Europe. Italian astronomer and mathematician, Galileo Galilei, improved on the design and used a telescope of his own to observe, among other things, the moons of Jupiter and the phases of Venus. His work led to the eventual downfall of the "Earth centered" theory of the solar system, and is often credited as being the start of the scientific revolution.

In the late 1600s Isaac Newton developed a telescope that uses a mirror rather than a lens to create an image. For the next couple of centuries both technologies improved, culminating in the 40-inch refractor (lens) at the Yerkes Observatory in Williams Bay, Wisconsin, in 1897, and the Hooker Telescope, a 100-inch reflector (mirror) at Mount Wilson Observatory near Los Angeles. The size refers to the diameter of the instrument.

The Hooker Telescope is famous for being the instrument Edwin Hubble used to determine the true nature of galaxies and the expansion of the universe. It remained the largest in the world until 1948 when the 200-inch mirror of the Hale Telescope saw first light at the Palomar Observatory in California.

In the post-Moon landing era there were a number of 4-meter (160-inch) telescopes built in the 70s and 80s in the Chilean desert and Hawaii. Twenty years later new technologies such as the computer controlled "alt-azimuth" mount and adaptive optics allowed a new generation of telescopes to be built with mirrors in the 8 to 10-meter range. These include the Keck, Gemini North, and Subaru Telescopes in Hawai'i and the Very Large Telescope, Gemini South, and Magellan Telescopes in Chile, just to name a few.

The discoveries made with these instruments have revolutionized our understanding of the universe and our place in it, and it all is about to take a giant leap forward. In the next ten years, a new generation of giant telescopes, along with the James Webb Space Telescope, will again expand our observational boundaries to new limits. Two are planned for Chile, the Giant Magellan Telescope, 24.5 meters, and the Extremely Large Telescope, 40 meters, and one in either Hawai'i or the Canary Islands, the Thirty Meter Telescope. My personal favorite, the 100 meter OWL, or Overwhelmingly Large Telescope, unfortunately was cancelled.

All of these revolutionary instruments will give us a better understanding of our world and a clear view of what's up in the sky.





Kids Corner

<https://spaceplace.nasa.gov/> A place where kids and grown-ups have fun with technology.

NASA Climate Kids: It's all about climate.

<https://climatekids.nasa.gov/>



SciJinks: It's all about weather! <https://scijinks.gov/>

Early October meteors ... the Draconids (from EarthSky.org)

Predicted peak: The peak is October 8, 2024.



When to watch: The best time to watch the Draconids in 2024 is the evening of October 7 through the wee hours of the morning on October 8. The waxing crescent moon (27% illuminated) will set before 9 p.m. your local time. So you can watch for meteors in a moonless sky.

Overall duration of shower: October 6 through 10.

Radiant: Highest in the sky in the evening hours. See chart below.

Nearest moon phase: First quarter moon is 18:55 UTC on October 10.

Expected meteors at peak, under ideal conditions: Under a dark sky with no moon, you might catch 10 Draconid meteors per hour.

Note: The Draconid shower is a real oddity, in that the radiant point stands highest in the sky as darkness falls. That means that, unlike many meteor showers, more Draconids are likely to fly in the evening hours than in the morning hours after midnight. This shower is usually a sleeper, producing only a handful of languid meteors per hour in most years. But watch out if the Dragon awakes! In rare instances,

fiery Draco has been known to spew forth many hundreds of meteors in a single hour. That possibility keeps many skywatchers outside – even in moonlight – during this shower. (more page 5)

2024 Lecture Schedule

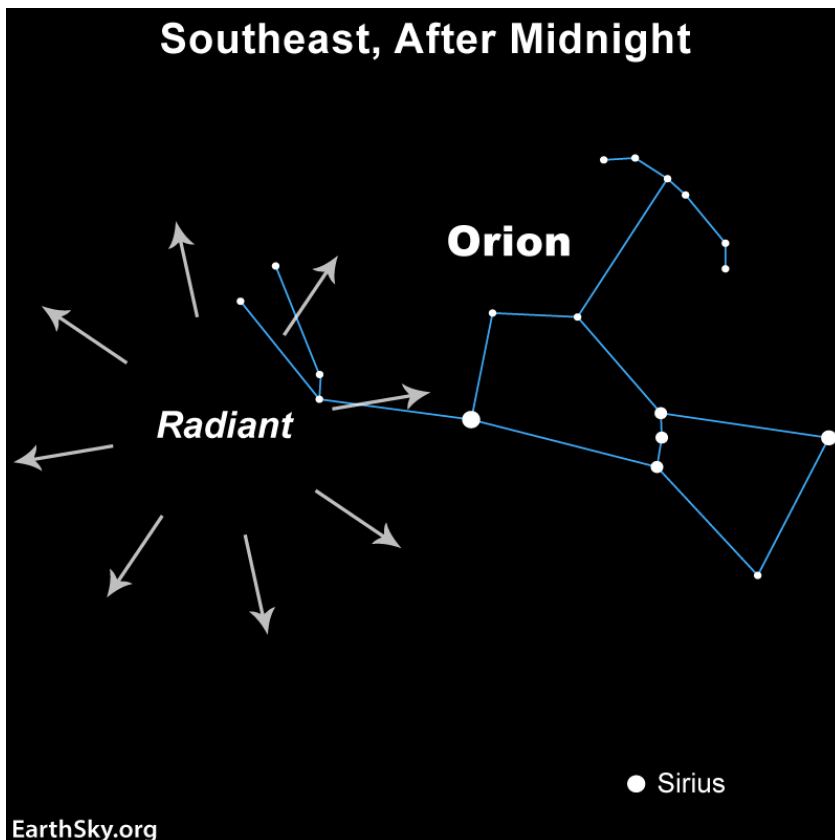
Oct 12	7 pm	Lecture: Finding Things in the Night Sky	Barry Schoenfelner
Nov 9	7 pm	Lecture: Telescope Basics	Frank Roldan

This Month in Astronomy History

- Oct. 1: Yerkes Observatory dedicates 40 inch refractor - 1897
- Oct. 4: Space Age begins when Sputnik 1, first artificial satellite, is launched - 1957
- Oct. 9: Johannes Kepler observes supernova - 1604
- Oct. 14: Chuck Yeager breaks sound barrier - 1947
- Oct. 22: First record of solar eclipse - 2136 BCE
- Oct. 26: First flyby of Saturn's moon Titan by Cassini spacecraft - 2004
- Oct. 30: STS-61A Challenger Space Shuttle launched - 1985

Late October meteors ... the Orionids

From EarthSky.org



Predicted peak: The peak is predicted** for 18:14 UTC on October 20, 2024.

When to watch: Watch for Orionid meteors on both the mornings of October 20 and 21, starting after midnight through the wee hours before dawn.

Overall duration of shower: September 26 to November 22.

Radiant: The radiant rises before midnight and is highest in the sky around 2 a.m. See chart below.

Nearest moon phase: The full moon falls at 11:26 UTC on October 17. So, at the Orionids' peak, the the waning gibbous moon will interfere with the meteor shower.

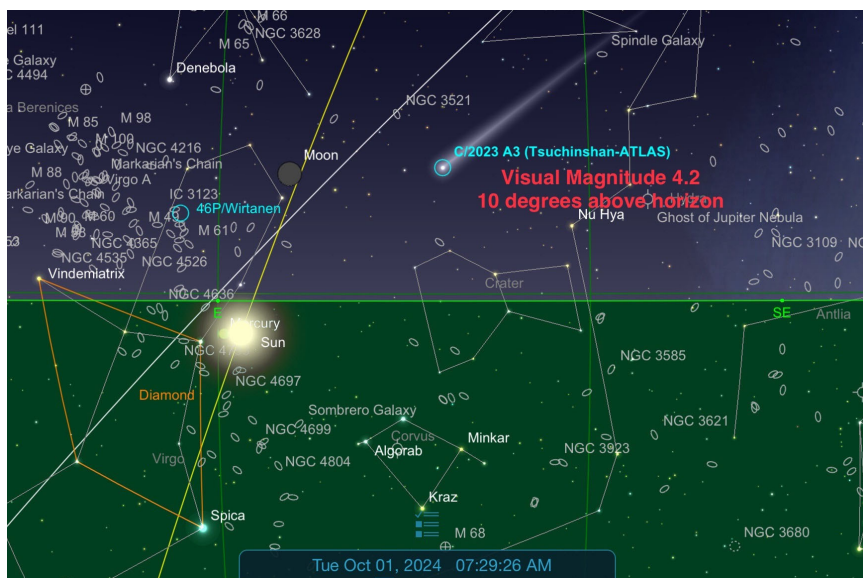
Expected meteors at peak, under ideal conditions: Under a dark sky with no moon, the Orionids exhibit a maximum of about 10 to 20 meteors per hour.

Note: These fast-moving meteors occasionally leave persistent trains. The Orionids sometimes produce bright fireballs.

October into early November ... the South and North Taurids; then Mid-November meteors ... the Leonids; early to mid-December meteors ... the Geminids; to finish out 2024... around the December solstice ... the Ursids. More information on all these, and more in our November newsletter.

Comet 2023 A3 Visible This October

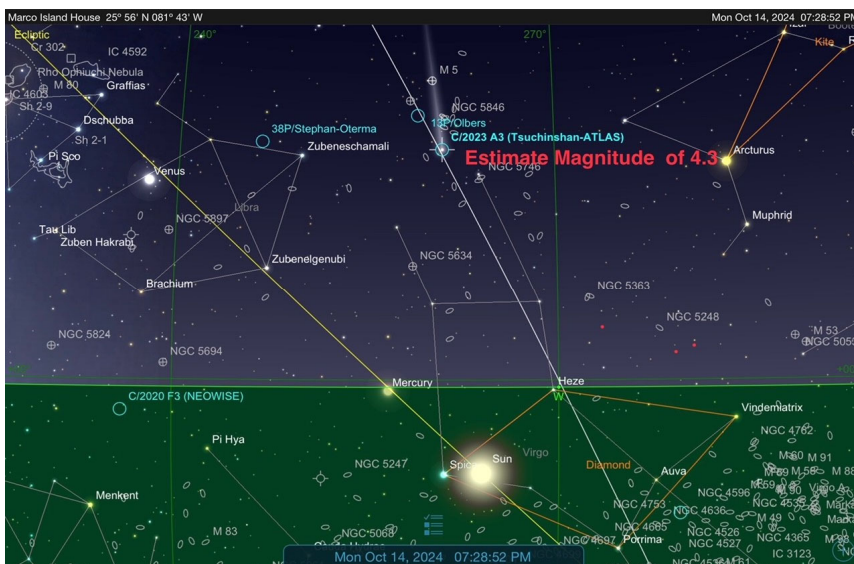
Mike Cortright



This fall, beginning in late September, we have the potential of being visited by a potentially bright comet. Comet 2023 A3 (Tsuchinshan - ATLAS) will appear in the low in the eastern sky on 10/1/24 just prior to sun rise, and then western sky following the sun as it sets beginning on 10/12/24.

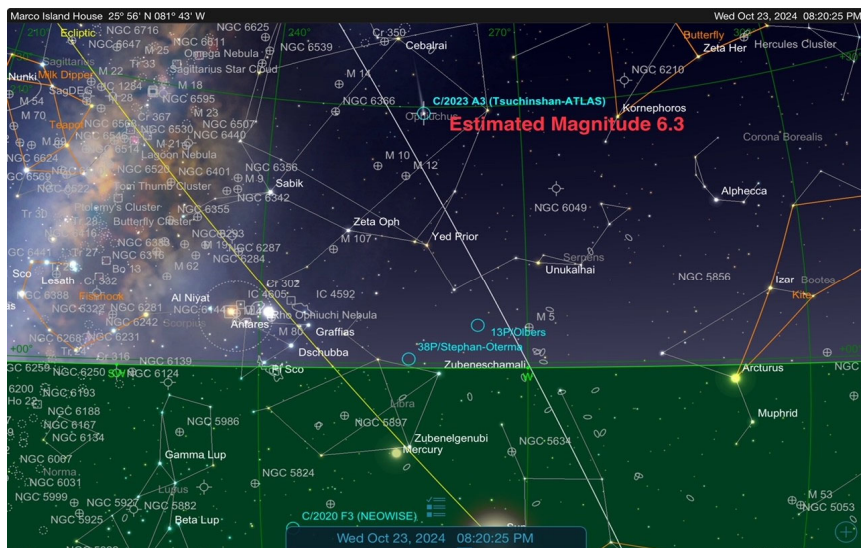
When the comet was first sighted, it was far out beyond the orbit of Jupiter, some 680 million miles (1.09 billion km) from the sun. But on Sept. 27 of this year, Tsuchinshan-ATLAS will be making its closest approach to the sun, coming to within 36 million miles (58 million km). That also happens to be the average distance of the planet that is closest to the sun, Mercury.

At this point on 10/1/24 prior to sunrise it will be in the eastern sky only about 10 degrees above the horizon leading the rising sun with a magnitude of +4.2. Through October it will transition to begin following the setting sun and on 10/16/24 it will have an estimated brightness of +4.3 potentially visible to the naked eye. By 10/23/24, the comet will be higher in the WSW sky after sunset with an estimated brightness of +6.3. Earlier this spring the estimated brightness was anticipated at being +.9 but has since been adjusted.



Whereas there is no guarantee, as comets characteristics can change dramatically as they make their way around the sun, this comet maybe visible with a visible tail in the western sky, after sunset. Best viewing will be in an area to the west, unobstructed by trees, etc. Also a small telescope of binoculars may afford a good view.

Let's keep our fingers crossed!!!



Apply for membership to the Shoreline Amateur Astronomical Association

Member Benefits:

- Monthly meetings and fellowship
- Public observing sessions
- Mentoring by experienced club observers
- Use of the club's telescopes
- Discount on Sky and Telescope subscription (\$43.95/yr vs. cover price)
- 10% discount on books ordered from Sky Publishing, publishers of Sky and Telescope
- Quarterly Astronomical League publication, The Reflector
- Messier and other Astronomical League observing programs
- Borrowing privileges from the SAAA library
- Leadership and Committee positions opportunities

Membership: A great gift idea!!

Annual Dues Amount:

Single/Family Membership \$32.00

Junior/Senior Membership \$22.00

Junior discount applies to students.

Senior discount applies to individuals 60 years and older

Dues are prorated. If you join mid-year, only pay for remaining quarters.

January-March..... 100% (full amount)

April-June..... 75%

July-September..... 50%

October-December..... 25%

Download our [membership application](#) in PDF format and send a check in the mail.

-or-

Use a credit card to make an online payment through the PayPal donation button below.

<https://www.holland-saaa.org/membership-info>

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<https://www.astroleague.org/reflector/>