



the Skyscraper

vol. 52 no. 11
November 2025

AMATEUR ASTRONOMICAL SOCIETY OF RHODE ISLAND * 47 PEEPTOAD ROAD * NORTH SCITUATE, RHODE ISLAND 02857 * WWW.THESKYSCRAPERS.ORG

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Join us for Skyscrapers'

November Monthly Meeting Featuring Alan Sliski

at Seagrave Memorial Observatory

Saturday, November 1, 2025

Social hour at 6:30pm, Presentation at 7:00pm

Join Zoom Meeting

<https://us06web.zoom.us/j/81706291538?pwd=Fc7UUAV24WkyWR1bjGZJayya1ad0He.1>

Meeting ID: 817 0629 1538 Passcode: 335062

A progress report on a major telescope restoration for a new public observatory in Brooklyn, NY

A civic group in New York called Pioneer Works is planning a new public observatory. Adopting the "go big or go home" principle for telescopes, they purchased an 1895 antique 12.5-inch refractor made by Warner and Swasey with a Brashear objective. I was asked to fetch the telescope from Ohio and restore it to at least its former glory. I will describe the disassembly and transport of the telescope and the cleaning and refinishing process for the three tons of telescope parts. A few parts are missing, and some need to be made new from scratch. The original mechanical clock drive disappeared for about 40 years, and will be restored and put

back in the telescope working. The presentation will go into more detail about the clock drive.

Alan Sliski has a background in physics, electronics, mechanics and many other things. By day, he designs radiation therapy equipment for treating cancer. At other times, he restores old telescopes for himself and others. Recent projects include the 1852 Alvan Clark at Williams College, the 15-inch Merz and Mahler Great Refractor at Harvard, a 1925 Zeiss 120mm Alt-Az refractor and a 9.5-inch Warner and Swasey equatorial as well as some more modern observatories and telescopes.



Observing Events:

Open Nights at Seagrave Observatory*

November 8, 7-9 PM

November 15, 7-9 PM

November 22, 7-9 PM

November 29, 7-9 PM

*Members are encouraged to attend

Off-site Public Observing**

Winman School, Warwick RI

Wednesday, November 5,

6:00 - 8:00 PM

POC: Francine Jackson

River Bend Farm, Uxbridge MA

Friday, November 14, 5:00 - 6:30 PM

POC: Francine Jackson/Jim Hendrickson

**Volunteers with telescopes, binoculars, or just a love of the night sky, are always welcome

President's Message

by Linda Bergemann

Thank you for AstroAssembly! It was wonderful. The weather was exceptional; the speakers were great; and everyone had a good time. I couldn't ask for more. Thank you to everyone who made this event possible and to our guests for attending. Let me know if you have any suggestions for next year's AstroAssembly.

As we move toward the cold and messy months of winter, we will take a hiatus

from holding our monthly meetings at the observatory. As in the recent past, we are planning to move to the North Scituate Community House for our January, February and March meetings. Unfortunately, we were not able to book the Community House for December. So, for a twist, we will hold a regular meeting at Seagrave on December 6, and this year, we plan to celebrate the holidays on Saturday, January 3, with a

Holiday Potluck at the Community House. I hope that making you aware of this anomaly at this time will ease some of the stress that comes with the holiday season.

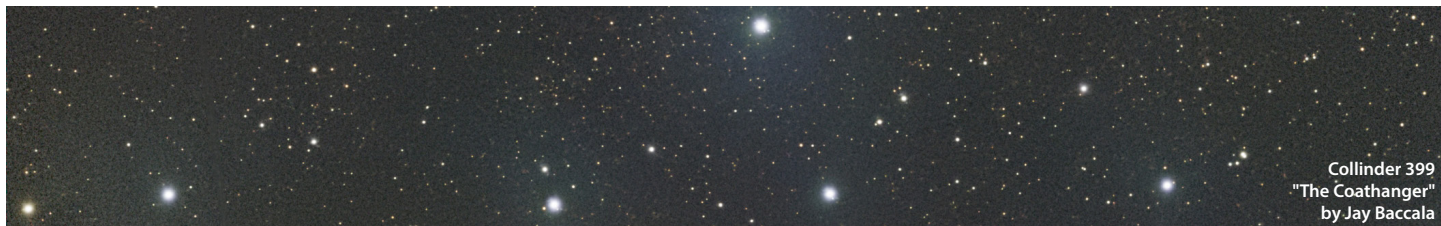
While I am thinking about holidays, I want to wish you a Happy Thanksgiving.

Until next time,

Linda

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Skyscrapers Presentations on YouTube

Many of our recent monthly presentations on Zoom have been recorded and published, with permission, on the Skyscrapers YouTube channel. Go to the URL below to view recent presentations.

<https://www.youtube.com/c/SeagraveObservatorySkyscrapersInc>



The Skyscraper is published monthly by Skyscrapers, Inc. Meetings are held monthly, usually on the first or second Friday or Saturday of the month. Seagrave Memorial Observatory is open every Saturday night, weather permitting.

Directions

Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

Submissions

Submissions to *The Skyscraper* are always welcome. Please submit items for the newsletter no later than **September 15** to Jim Hendrickson at hendrickson.jim@gmail.com.

E-mail subscriptions

To receive *The Skyscraper* by e-mail, send e-mail with your name and address to hendrickson.jim@gmail.com.. Note that you will no longer receive the newsletter by postal mail.

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Skylights: November 2025

by Jim Hendrickson

The return to Eastern Standard Time occurs at 2:00am on the 2nd. We're now 5 hours behind UTC, and timings for local events shift one hour earlier. This shifts an hour of darkness into the evening, giving us earlier observing time.

In the northwest, Arcturus hangs low over the horizon early in the month, and departs our evening sky during the third week. Following just two hours behind it is the small spring constellation Corona Borealis, taking with it the 10th magnitude star we're still waiting to go nova, T CrB. While these stars are leaving our evening sky, they also become available earlier in the morning as the month progresses, so we'll never encounter a period of time when we can't keep watch on them.

During November evenings, the Big Dipper shows us its autumn orientation of being "upright," that is, whatever warm, tasty treats its bowl contains won't be spilling out onto the northern horizon, as the Little Dipper, positioned directly above, pours its contents into the Big Dipper.

Low in the southwest, the teapot asterism of Sagittarius tips towards the horizon, and takes with it the center of the Milky Way that appears to be steaming from its spout. Here we see the stars of summer departing, as the winter stars will soon be rising into view.

Looking across the southern sky, we see Fomalhaut at its culmination in the early evening. The most southerly first magnitude star we can see, it reaches an elevation of just 18.7° at its highest. Forty-five degrees to its north, the western edge of the Great Square in Pegasus is almost perfectly aligned with Fomalhaut. Continuing across the zenith to the north, note also that the pointer stars of the Big Dipper's bowl are also aligned. Regardless of what time of night or time of year it is, you can always use the Big Dipper to point to both the Great Square of Pegasus, and Fomalhaut, even when they are out of view.

In the northeast, Capella, the sixth brightest star in the sky (the fourth brightest visible from our latitude) is notable for being one of the bright stars closest to the galactic equator. Although its host constellation Auriga occupies one of the dimmed stretches of the Milky Way, moving to the northwest you will encounter one of the most prominent star patterns of the season,

the distinctive zigzag of Cassiopeia. The celestial queen lies within a rich region of the Milky Way, and is host to a myriad of star clusters that make the relatively small constellation a pleasure to explore with binoculars and telescopes on a dark night.

Observers willing to wait until midnight in November will be treated to a sky full of the winter constellations, with Orion, Lepus, Canis Major, Gemini, Taurus, among others, well-positioned for exploration.

The Sun

November 9 is our last day until January 31 with at least 10 hours of daylight.

The Sun visits three constellations in

November, the most of any other month. It begins in Libra, then moves into Scorpius on the 23rd, for its briefest stay within a single constellation, just under a week. On the 29th, it moves into Ophiuchus, where it will spend its second-shortest time within a constellation, 18.5 days.

The Moon

The Moon is near Saturn on the 1st and 2nd, coming to within 3.0° to the northwest of the ringed planet before moonset on the 2nd.

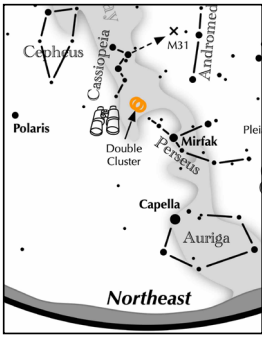
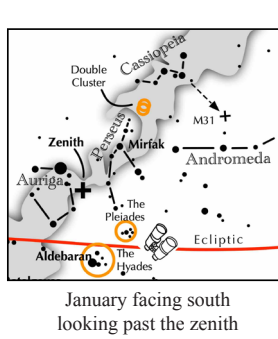
The full Beaver Moon is at 8:19am on the 5th, in Aries. As this occurs during daytime while the Moon is below the horizon for us,



Can you easily find this open cluster showpiece?

Every Curious Skywatcher should know how to find the Double Cluster

Visible in the early evening sky from late October through late March.


November in the northeast

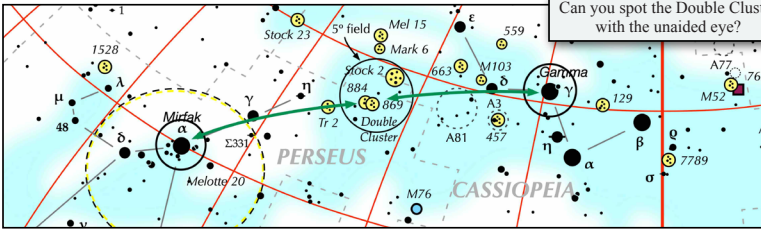
January facing south looking past the zenith

March in the northwest

The **Double Cluster** can be spotted with unaided eye from a dark sky as a dim glow in the Milky Way between Perseus and Cassiopeia. Through 10x50 binoculars, it is an obvious sight, revealing its brighter glittering lights. The neighboring cluster, **Stock 2**, can be seen as a much dimmer and more spread out grainy glow.

How to find the Double Cluster (aka NGC 869 & 884, and Caldwell 14):

1. Find the "w" shaped constellation Cassiopeia and the neighboring constellation to its southeast, Perseus. Identify Perseus' brightest star, 1.8 magnitude Mirfak.
2. Mid way between the center star of Cassiopeia's "w" (Gamma Cas) and Mirfak lies a soft glow.
3. Binoculars aimed at the glow reveal the famous Double Cluster, also called NGC 869 and 884, Caldwell 14, and h Persei and Chi Persei.
4. Place the Double Cluster near the southern edge of the field. Near its center lies Stock 2, the Muscleman Cluster, which appears as a large, dim grainy glow.



Can you spot the Double Cluster with the unaided eye?

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Events in November

- 2 04:30 Venus 3.5° NNE of Spica
- 2 18:00 Moon (waxing 90.7%) 5.1° NE of Neptune
- 3 Equation of Time = +16:30 (Sun Fast)
- 3 10:00 5574 Seagrave Opposition (mag: 16.1, dist: 1.660 au)
- 3 22:00 Mercury 50% Illuminated
- 4 19:00 Moon (waxing 99.6%) 5.2° SE of Sheratan
- 5 08:19 ● **Full Beaver Moon**
- 6 05:00 Moon (waning 96.7%) 4.3° ENE of M45
- 7 22:00 Moon (waning 89.5%) 0.6° SE of Elnath
- 8 08:00 C/2025 A6 Lemmon perihelion (0.530 au)
- 8 20:00 Moon (waning 81.8%) 5.1° ENE of M35
- 9 06:28 Last day with 10 hours of daylight (10:02:13)
- 9 18:22 Mercury Stationary
- 10 00:00 Moon (waning 70.5%) 2.7° S of Pollux
- 11 01:00 Moon (waning 59.6%) 1.4° NE of M44
- 11 14:54 Jupiter Stationary
- 12 00:28 ● **Last Quarter Moon**
- 13 01:00 Moon (waning 38.5%) 3.7° ESE of Regulus
- 17 04:00 Moon (waning 7.0%) 1.4° S of Spica
- 17 04:48 Moon (waning 7.0%) occults 68 Virginis (mag: 5.2; in: 04:48; out: 05:38)
- 20 01:47 ○ **New Moon** (Lunation 1273)
- 20 04:23 Mercury Inferior Conjunction
- 21 07:25 Uranus Opposition
- 23 06:00 Sun in Scorpius (6.5d)
- 24 03:00 Saturn ring plane minimum (0.542°)
- 25 18:00 Moon (waxing 27.0%) 4.0° ENE of Pluto
- 28 01:59 ● **First Quarter Moon**
- 28 19:35 Saturn Stationary
- 29 10:16 Mercury Stationary
- 29 17:00 Moon (waxing 67.8%) 3.9° NNE of Saturn
- 29 18:00 Moon (waxing 68.1%) 1.8° NNW of Neptune
- 29 19:00 Sun in Ophiuchus (18.5d)
- 30 21:00 Moon (waxing 78.8%) occults beta Piscium (mag: 4.4; in: 21:00; out: 22:13)

Ephemeris times are in EDT (UTC-4) through November 1, EST (UTC-5) from November 2 for Seagrave Observatory (41.845N, 71.590W)

the closest to full Moon we'll see is just before moonset about three hours earlier. As the Sun rises at 6:23am, the Moon is visible low in the west-northwest, and sets about nine minutes later.

The Moon rises at 4:21pm on the 5th. Keep watching each hour as the Moon gets closer to the Pleiades. There is another occultation of the bright cluster by the Moon this month, but it takes place when they are below the horizon for us. The closest we will see the Moon to the Pleiades is about 3.5° to the west, just before twilight on the 6th.

On the 10th-11th, the waning gibbous Moon is near the Beehive cluster, Messier 44, in Cancer. It is closest just after midnight on the 11th, at just over 1.0° to the north of the cluster. Also note the Moon moving close to magnitude 4.7 Asellus Borealis (gamma Cancr), passing closer than one arcminute of the star just after 1:00am.

The Moon is last quarter at 12:28am on the 12th, in Leo. It appears near Regulus on the following night.

On the morning of the 17th, the 7.0% waning crescent Moon lies just 1.0° south of Spica in Virgo, and as a bonus, it occults 68 Virginia, a 5th magnitude star, beginning at 4:48am and ending an hour later, during nautical twilight.

Observers with a clear east-southeast horizon will be treated to a slender, 2.8% illuminated crescent Moon adorned with Earthshine 8.7° west-southwest of brilliant Venus, which rises just one hour before sunrise on the 18th.

The Moon is new on the 20th, at 1:47am, marking the start of Lunation 1273.

First quarter Moon is at 1:59am on the 28th, in Aquarius.

Early in the evening of the 29th, the Moon is near Saturn and Neptune. Although they are all within a binocular field of view, the brilliance of the 68% illuminated gibbous Moon will make magnitude 7.7 Neptune difficult to discern using small apertures. A telescope with low magnification should reveal the Moon just 1.8° north-northwest of the distant planet at 6:00pm.

The Moon occults magnitude 4.4 delta Piscium on the 30th. Ingress behind the darkened limb of the Moon is at 9:00pm, and it emerges 73 minutes later from the limb beyond the large crater Langrenus, which lies along the southeastern edge of Mare Fecunditatis.

The Planets

Mercury concludes its poorest evening apparition of the year when it passes inferior conjunction on the 20th. Within a few days, it becomes visible in the morning sky in a much more favorable position. Four days later, on the 24th, it is just 1.6° north-east of Venus, low in the east-southeast before sunrise.

The final week of November is a very favorable time to observe Mercury in the morning sky. Now rising over an hour before the Sun, Mercury overtakes Venus in elevation on the 25th, appearing just 1.3° to the 11 o'clock position (north-northwest) of the brilliant planet. This is a good time to turn your telescope on Mercury to see its 9 arcsecond disk showing a distinct crescent.

Venus is in the morning sky, quickly sinking out of view during November. On the 1st, it rises 85 minutes before the Sun, but by month's end, it is only above the horizon for 45 minutes before sunrise.

At over 1.6 au, Venus is near its most distant point from Earth, and its nearly fully-illuminated disk is only about 10 arcseconds across.

Venus spends the first few days of November near Spica, in Virgo. On the 3rd, the two objects are arranged horizontally, 3.8° apart.

On the morning of the 18th, the 2.9% waning crescent Moon is 8.6° to Venus's west-southwest, or about the 2 o'clock position relative to the planet.

Venus is 0.8° north of the wide double star Zubenelgenubi (alpha Librae) on the 19th. The brilliant planet is joined by Mercury on the 24th (1.6° to its east-southeast) and 25th (1.4° northwest).

There isn't much observing opportunity left for **Mars** this season, as the Red Planet sets less than an hour after sunset.

During the first few days of November, the Red Planet lies in a horizontal line with Antares and Mercury to its left.

Jupiter is stationary on the 11th, and will subsequently appear to go through its retrograde loop until March 10. The giant planet lies on the southeastern segment of the Winter Hexagon asterism – the line between Pollux and Procyon – on the 3rd, and will remain within the star pattern until June 1.

Watch the waning gibbous Moon rise at 8:17pm on the 9th with the twin stars of Gemini, Castor and Pollux, nearby. Keep watching the horizon below the Moon, as a little over a half-hour later, Jupiter rises. The Moon and Jupiter spend the evening

together, coming as close at 3.3° just before the onset of morning twilight.

Be sure to get out early in the morning to observe Jupiter, noting its prominent position anchoring the eastern segment of the Winter Hexagon.

Some notable events of the Galilean Moons: Nov 1-2: Io and Europa form a tight pair at 12:44am. 2-3: Io's shadow (3:48am) and then the moon itself (5:04am) transit before Europa goes into eclipse (5:24am). 3-4: Two tight pairs of moons appear on either side of the planet on the 3rd, with Europa and Callisto to the east, and Ganymede and Io to the west. 4-5: Io's shadow (10:16pm-12:34am), Europa's shadow (12:10am-3:00am), then the moons themselves transit (11:32pm-1:48am and 2:44am-5:32am, respectively). 6-7: With Io and Ganymede to the west of Jupiter, watch Ganymede go into eclipse at 11:02pm. Jupiter's largest moon then emerges from eclipse at 2:20am, before going into occultation 98 minutes later. 8-9: At 2:00am, Io and Europa form a tight pair to the west of Jupiter. 10-11: Io goes into eclipse at 2:58am. 11-12: Another Io and Europa shadow and moon transit pair occurs on the 12th (Io's shadow: 12:10am-2:26am, Io: 1:22am-3:38am, Europa's shadow: 2:48am-5:38am; Europa: 5:12am-daylight). 12-13: Callisto (11:44pm) and Io (12:54am) emerge from occultation. 13-14: Europa goes into eclipse (9:14pm) while Io is transiting on the 13th. Io joins Ganymede, Europa emerges from occultation (2:20am), and Ganymede goes into eclipse (3:02am). 14-15: Extending to the east side of Jupiter, the moons appear in order of orbital radius after 3:00am. 17-18: A transit of Ganymede (9:34pm-12:54am) can be seen, then Io goes into eclipse at 4:52am. 18-19: Io (3:10am-5:26am) and its shadow (2:02am-4:20am) transit on the 19th. 20-22: Io (9:36pm-11:52pm) and its shadow (8:32pm-10:48pm) transit in the evening. Callisto begins transit at 6:10am, during twilight. 22-23: Europa (8:50pm-11:40pm) and its shadow (before rise-9:32pm) transit. 24-25: Ganymede's shadow transits (9:04pm-12:02am), followed by the moon itself (1:08am-4:30am). 25-26: Io (5:58am-daylight) and its shadow (3:56am-twilight) transit on the 26th. 26-27: The moons appear in order of their respective orbital radius, extended to the west of Jupiter, until Io goes into eclipse at 1:54am. 27-28: Io (11:24pm-1:40am) and its shadow (10:24pm-12:42am) transit. After Io emerges and approaches Europa, the latter satellite goes into eclipse at 2:22am. 28-

29: Callisto goes into eclipse at 3:30am. It re-emerges at 6:32am, during civil twilight. 29-30: Io emerges from transit (8:06pm), followed by Europa's shadow (9:18pm-12:08am) and the moon itself (11:14pm-2:02am) passing over Jupiter.

Although **Saturn's** ring plane crossing occurred in March 2025, we missed the event because Saturn was behind the Sun from our view, but have been treated to views of the rings at an exceptionally narrow angle all year. This culminates on the 24th, when the ring tilt reaches a minimum of 0.542°. Saturn's ring tilt will not be this small again until the next ring-plane crossing in 2038.

Note how Saturn lies at the northern apex of a temporary "autumn triangle" asterism, including the stars Fomalhaut (alpha Piscis Austrini) to the south and Diphda (beta Ceti) to the east. The triangle is nearly isosceles, with the two segments originating from Fomalhaut, each being about 27° in length, with the Saturn-Diphda segment about 20° in length.

While the shadow transits of Saturn's largest moon **Titan** are finished for the season, the moon itself continues to transit and be occulted by Saturn. The first transit occurs on the 6th, when Titan is already midway across Saturn's north equatorial zone as darkness falls, and the moon emerges from transit at 9:28pm. If you have a large telescope and a night with steady seeing, you may notice that there is a shadow on Saturn at the same time Titan is transiting. This is the shadow from Saturn's moon Rhea. Given that Rhea's shadow is only about 9% the area of Titan's, observing it (and likewise that of Saturn's other mid-sized moons Tethys and Dione) will be quite a challenge.

Titan is in occultation on the 14th, from which it begins to emerge at 7:27pm.

Saturn becomes stationary on the 28th, and resumes its prograde (eastward) motion. On the same evening, the waxing gibbous Moon joins Saturn and Neptune.

Another transit of Titan is in progress as the sky darkens on the 22nd, emerging at 7:50pm. Lastly, another occultation of Titan ends at 6:01pm on the 30th.

Uranus is at opposition on the 21st. At a distance of 18.5 au, the seventh planet is easy to locate in Taurus, 4.1° south of the Pleiades cluster. Without bright moonlight to interfere, this is the best time to find a dark sky and attempt to observe Uranus without optical aid, as its magnitude 5.6 glow is within the limit of visibility under ideal conditions. To help locate Uranus,

it lies on a line connecting Aldebaran (alpha Tauri) and Hamal (alpha Arietis), and is also just 0.9° to the east of a pair of 6th magnitude stars, 13 and 14 Tauri.

With Uranus positioned within the most northerly region of the ecliptic plane, the planet attains a high elevation in our sky, providing generally better viewing conditions overall.

Besides challenging yourself to observe the planet without optical aid, observers with large-aperture telescopes may want to try to observe some of the seventh planet's more elusive features.

During the few weeks surrounding opposition, Uranus subtends an angle of nearly four arcseconds. While the pale aqua-blue planet has a mostly featureless globe, some observers have been able to coax out subtle details in its atmosphere using filters, especially using imaging devices. A feature that is far easier to see is limb darkening, an effect caused by the low incidence angle sunlight landing near the edges of the globe, scattering more away from the observer than the more direct sunlight reflecting off the central area of the globe. While all planetary bodies exhibit this effect, it is more pronounced on Uranus due to its nearly uniform color, combined with its modest brightness not overwhelming the eye as seen in the eyepiece,

Uranus has a total of 29 **moons**, at least two of which can be accessed with a modest-sized backyard telescope. Titania and Oberon, the largest moons, are each over 1,500 kilometers in diameter, or 45.4% and 43.8% the diameter of Earth's Moon, respectively. The planet's axial tilt and its current position in its orbit put its north pole pointing almost directly towards Earth and the Sun, so there isn't any time for many years when the moons are either occulted by or transiting the planet, or even too close to the planet to resolve.

Titania, the largest and brightest, peaks at magnitude 13.8 and appears at a minimum of 30 arcseconds from the planet's disk at all times during its 8.7 day orbit. Oberon, the outermost of Uranus's large moons, attains a peak brightness of magnitude 14.0, and remains at a more generous 40 arcseconds from the planet during its 13.5 day orbit. These parameters should put them within reach of a 12-inch telescope, or even much smaller apertures equipped with an imaging device, provided there is sufficient focal length to separate the moons from the planet, which is about 2,000 times brighter.

Stepping up the Uranian moon observ-

ing challenge, the planet's pair of mid-sized moons, Ariel and Umbriel, are each over 1,100 kilometers in diameter (33.3% and 33.7% the diameter of Earth's Moon, respectively), can be found orbiting Uranus in 2.5-day and 4.1-day orbits, respectively.

Umbriel, the next inner moon from Titania, is the larger of the pair, but also the dimmer, at magnitude 14.9. Ariel, though a bit closer to the planet, can appear as bright as magnitude 14.2.

Finally, there is Miranda, the geologically odd moon that is nearly spherical at about 470 kilometers (13.5% the diameter of Earth's Moon). It orbits the planet in a fleeting 1.4 days, shines at magnitude 16.4, and is separated by no more than 9 arcseconds from Uranus.

The remaining 24 moons are well beyond 20th magnitude, and were not discovered until Voyager 2 visited the system in 1986, or during subsequent observations using very large professional observatory

telescopes.

Neptune is in Pisces, and due to its proximity to Saturn, is easy to locate during November. The outermost planet ranges from 4.2° to 4.4° to the northeast of the ringed planet as the month progresses, and you may use a 2.6° by 0.5° quadrilateral of 5th magnitude stars to help find it. Find this star pattern comprising the stars, clockwise from north, 29, 27, 30 and 33 Piscium, about 3° to the east of Saturn. In early November, a line drawn through the 5th magnitude stars 33 and 29 Piscium will also lead to the most distant planet.

Neptune slowly moves westward as the month progresses. At the end of the month, when Neptune is 4.4° northeast of Saturn, it is located 2.0° north of 27 Piscium.

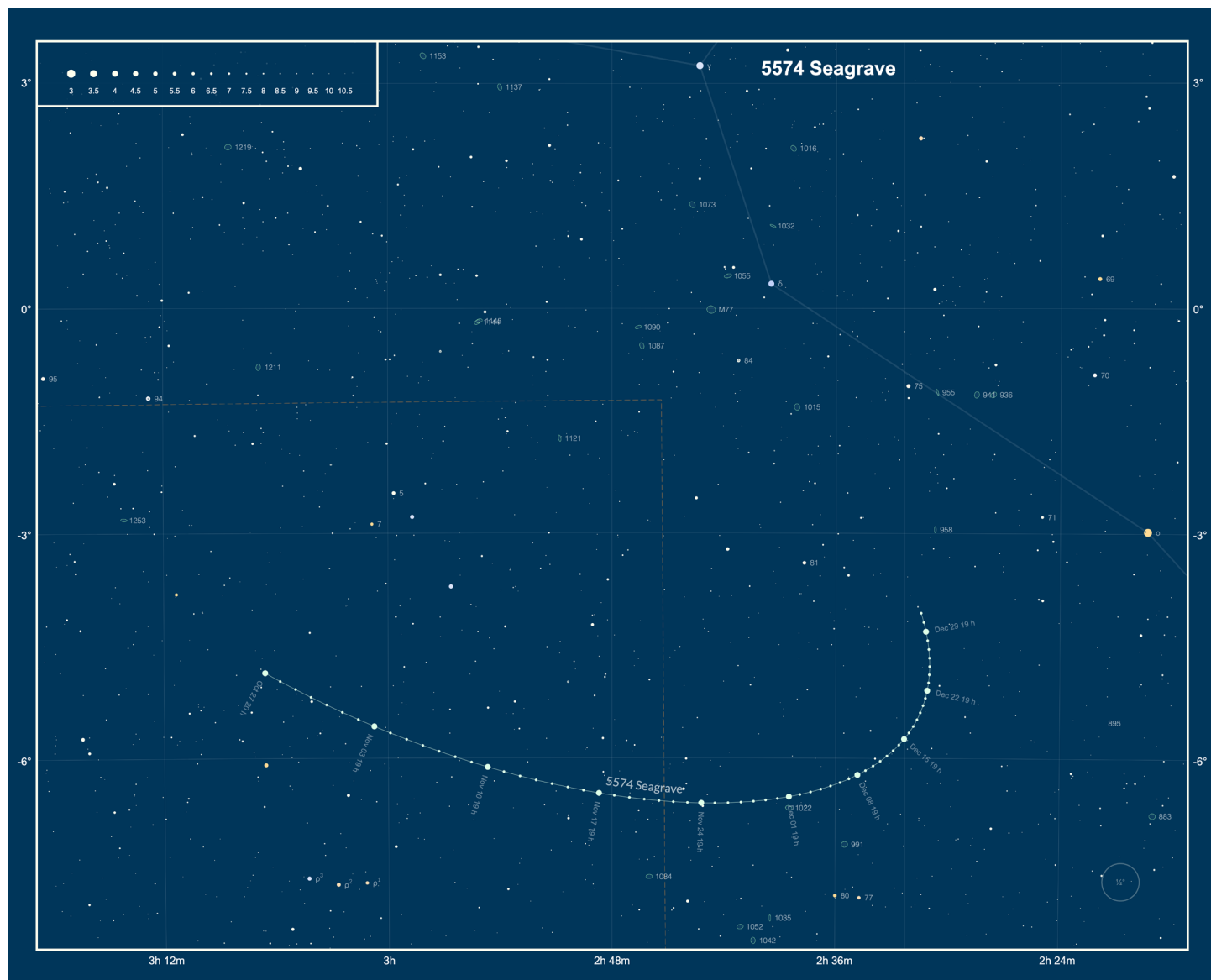
Through a telescope, Neptune doesn't reveal much detail, just a tiny magnitude 7.8 bluish speck whose light took over four hours to reach us.

Minor Planets

The optimal season for observing **Pluto** is coming to a close, as the magnitude 14.6 dwarf planet, positioned in southwestern Capricornus, is past the meridian by the end of twilight, and will be difficult to observe in the brightening moonlit sky during early November. By the time the Moon is out of the sky, Pluto will already be getting lower in the southwest. A larger telescope under exceptionally transparent skies may still be able to spot it, but not for much longer.

Asteroid **5574 Seagrave** is at opposition on the 3rd. At a distance of 1.660 au, it is moving west-southwestward through northwestern Eridanus at 0.2° per day, and shines at magnitude 16.1.

While you're enjoying views of Saturn within its temporary autumn triangle arrangement, look about halfway between the ringed planet and Diphda (beta Ceti) to find iota Ceti. Use this magnitude 3.6 star



throughout the month of November to locate **Ceres**, which ranges from magnitude 7.9 to 8.4 as the month progresses. In early November, Ceres is 2.5° southeast of the star. Ceres is stationary in late November, and remains within 2.1° to the southeast of the star for the rest of the month.

Asteroid 4 **Vesta**, although low in the southwest after sunset, can still be seen in a small telescope at magnitude 7.9. It is moving eastward through Ophiuchus towards Sagittarius. On the 8th and 9th, it is 1.8° south of 58 Ophiuchi, and moving towards Messier 8, 4.0° to its east.

Vesta becomes difficult to observe during the second half of November due to its low elevation. However, it may be worth looking at Messier 8, the Lagoon Nebula, from the 14th-18th, as the dwarf planet passes just to the north of the nebula-embedded cluster during that time.

Comets

Bright moonlight makes early November a less-than-favorable week for comet hunting, but our two brightest visitors from the distant solar system are still within telescopic visibility.

At the beginning of November, **Comet C/2025 A6 Lemmon** is moving southeastward through Ophiuchus and should be near peak brightness, visible in binoculars.. On the 3rd, it is just over 2° from the glob-

ular cluster Messier 12, appearing at about the 5 o'clock position from the cluster.

The comet passes Messier 10, being within the same binocular field of view of the magnitude 8 globular cluster on the 4th-6th.

Comet Lemmon is at perihelion on November 8, at a distance of 0.530 from the Sun.

By mid-month, Comet C/2025 A6 Lemmon is becoming more distant, as well as lower in the southwestern sky during twilight. It may be getting difficult to find in binoculars. On the 13th, it is 1.0° west of Sabik (eta Ophiuchi).

By the third week of November, the show is over for Comet C/2025 A6 Lemmon, as it dips out of view in the southwestern twilight sky

Comet C/2025 R2 SWAN, also near peak brightness, is a bit dimmer than Lemmon and may require a telescope to see. It is moving eastward through Aquarius at a rate of about 3° per day. On the 1st, it is 0.7° southwest of Sadalmelik (alpha Aquarii).

Comet C/2025 R2 SWAN lies within the Water Jar asterism of Aquarius on the 4th, moving east-northeastward at a rate of 1.8° per day.

The comet continues to fade as it moves away, but it remains in a very favorable position in our sky. Moving east-northeastward through Pisces, it passes through the

Circlet asterism from the 14th-18th. With the bright Moon out of the sky, it should appear reasonably well in a 6-inch telescope.

It passes just 0.5° north of iota Piscium, the northeasternmost star of the Circlet asterism, on the 19th. By this time, it is rapidly fading.

Meteors

While the **Orionids** remain active through the first week of November, you will be much less likely to see these remnants from Comet 1P/Halley than during their peak on October 21-22.

The **Taurids** comprise a pair of meteor streams from Comet 2P/Encke that peak in early November. The low-rate Southern Taurids, which peak on November 4th-5th, compete against bright moonlight, but the shower is known to produce fireballs, so it is worth watching for.

The Northern Taurids, another low-rate shower that remains active into December, peaks on the 11th-12th, when the Moon is last quarter, providing a few hours of dark sky activity to watch for.

The **Leonids**, remnants of Comet 55P/Tempel-Tuttle, become active as early as November 6, but this year's non-storm peak of up to 15 meteors per hour occurs on the 16th-17th, when the Moon doesn't interfere with viewing.

Update on Sky Kids Program

by Michael Corvese

It's fall in Rhode Island and time for another year of Sky Kids at the Portsmouth Free Public Library. Sky Kids is an astronomy program designed for children ages 6-11. The program is possible through a partnership with the Portsmouth Free Public Library, the Portsmouth Public School Department, and Skyscrapers, Inc. The classes meet twice per month from October to April and cover such varied topics as constellations and mythology, the solar system, comets, meteors, deep sky objects, and other topics of interest to the children. Classes consist of a combination of storytelling, demonstrations, activities, and Q&A. On clear nights, we take the children out for observing with naked eyes, laser pointer, and telescopes to observe constellations, planets, and other interesting objects.

This is the third year Mark Munkacsy and I have run the program in Portsmouth.

We have a rough curriculum, lots of materials, and sincere advice for anyone interested in running this program in their home-

town. If you're interested in setting this up in your town, please reach out to me at corvesemichael@gmail.com.



Mr. Olcott's Skies: An Old Book and a Youthful Obsession

by Thomas Watson, Phoenix: Desert Stars Publishing, 2012, ISBN [978-1475138689](#), softbound, \$9.99 US

Reviewed by Francine Jackson

Recently, Rich Lynch gave a great talk on William Tyler Olcott, active amateur astronomer and a founder of the AAVSO. What Mr. Olcott might not have known was the number of people whom he introduced the concept of sky watching. One of them is Thomas Watson.

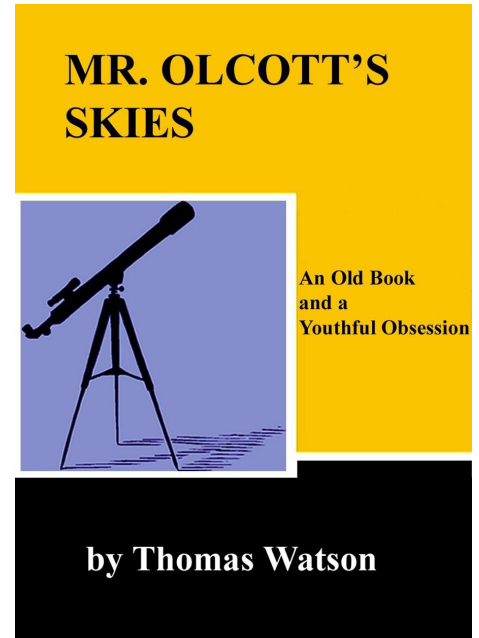
When he was a child, an ear infection indirectly introduced Watson to the night sky, as his father bundled him up to show him the sky before traveling to work. That resulted in his receiving a "Satellite Chaser," a small refractor that opened the sky like never before. Needing more information, he found William Tyler Olcott's [Field Book of the Skies](#) in the library; however, there was a problem – it couldn't be checked out. Young Watson had to, in the library, copy the pages he needed for the constellations he would be observing. He then had to return whenever the stars moved and continue his work. With this information, Watson was able to become familiar with the sky from his backyard. To him, being outside, alone in the dark, alone in his yard, with just his telescope, filled most of his evenings.

Unfortunately, after graduating from high school, Watson left his chilly nights and his telescope behind. College found

him with other interests, and he left his telescope in the box, to sit and wait for him to return. Family moves, various jobs, and marriage took precedence, until the 2003 opposition of Mars, and a trip to the Flan-drau Planetarium for a program and telescope observation. His interest returned.

Coming home, Watson dug out his telescope from the closet and set it up in his yard. He called this his "cosmic comeback tour," and he and his wife began to spend nights outside, alone with the sky. And, now, as an adult with a job, he was able to purchase his own copy of Olcott's Field Book. He also bought a larger telescope, and began to participate in regional star parties. Amateur astronomy was now a social event, what he had never known in his high school days. He also became enamored with double stars, as written in Olcott's book.

Mr. Olcott's Skies is a story of a young man who, by being shown the beauty of the sky, spent years observing it. Then, as he aged, it became a part of his past, until a fascinating celestial occurrence reopened his eyes to the celestial sphere. Mr. Watson, in his short biography, introduces the concept of a book introducing him to a fascinating



hobby which, although it disappeared for many years, returned and is once again a part of his life. It also shows the power of a book, such as Olcott's, which in itself is still worth reading. Hopefully, Rick Lynch, in his talk on Mr. Olcott, will make you all interested in reading his guide, and seeing how it can influence a young child to spend quality time in the dark.

Night Flight of the Australian Bogong Moths

by Francine Jackson

We always associate migration with birds, and sometimes monarch butterflies, although it's often hard to believe that insects can live longer to go anywhere. Also, the process of traveling hundreds, sometimes thousands of miles, for them should be daunting. And, yet, there are also other insects that migrate long distances.

Right now, here in New England we are experiencing the shorter, and cooler days of autumn and, eventually, winter; however, in the Southern Hemisphere, the opposite is true; spring is occurring, on the way to summer. Down there, migration also takes place. As an example, witness the [Bogong moth](#).

In the Australian spring, billions of Bogong moths migrate over 600 miles to cave walls in the Australian Alps, where they have never before visited. Needing to keep cool from summer's heat, they travel en masse to these caves. Then, when the weather cools, they move back northwest to their breeding grounds, where they eventually die.

How do they do this traveling, when it was found their brains are smaller than rice grains? It appears they have a set of internal compasses, one part of which uses our planet's magnetic field, the other, the night sky.

These insects are rather small, with a

wingspan of only two inches long, and tiny eyes. But, despite their size, in earlier times they were an important food source. But now, because of their incredible migration process, they are considered a valuable cultural resource.



Night Sky Notes: Let's Go, LIGO!

By Kat Troche

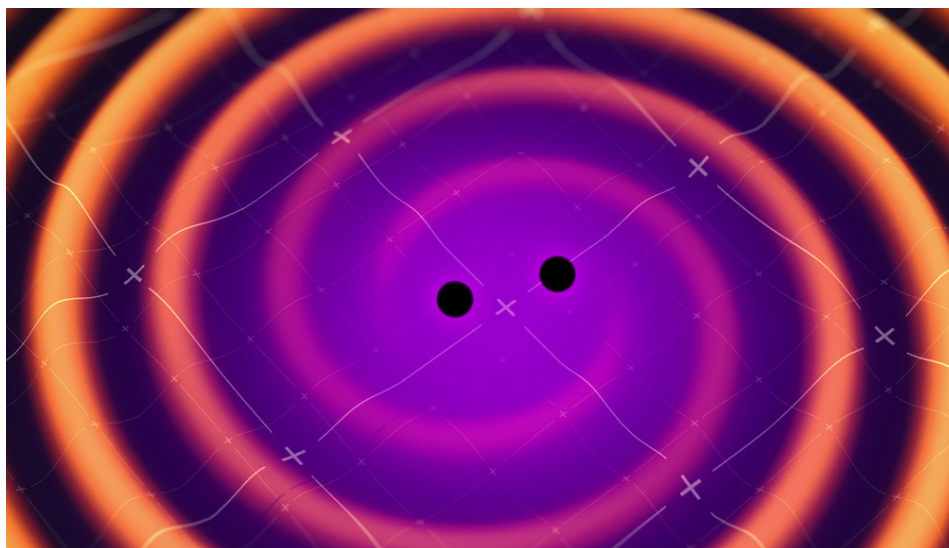
September 2025 marks ten years since the first direct detection of gravitational waves as predicted by Albert Einstein's 1916 theory of General Relativity. These invisible ripples in space were first directly detected by the Laser Interferometer Gravitational-Wave Observatory (LIGO). Traveling at the speed of light (~186,000 miles per second), these waves stretch and squeeze the fabric of space itself, changing the distance between objects as they pass.

Waves In Space

Gravitational waves are created when massive objects accelerate in space, especially in violent events. [LIGO detected the first gravitational waves](#) when two black holes, orbiting one another, finally merged, creating ripples in space-time. But these waves are [not exclusive to black holes](#). If a star were to go supernova, it could produce the same effect. Neutron stars can also create these waves for various reasons. While these waves are invisible to the human eye, [this animation](#) from NASA's Science Visualization Studio shows the merger of two black holes and the waves they create in the process.

How It Works

A gravitational wave observatory, like LIGO, is built with two tunnels, each approximately 2.5 miles long, arranged in an "L" shape. At the end of each tunnel, a highly polished 40 kg mirror (about 16 inches across) is mounted; this will reflect the laser beam that is sent from the observatory. A laser beam is sent from the observatory room and split into two, with equal parts



Two black holes orbit around each other and generate space-time ripples called gravitational waves in this image. Credit: NASA's Goddard Space Flight Center Conceptual Image Lab

traveling down each tunnel, bouncing off the mirrors at the end. When the beams return, they are recombined. If the arm lengths are perfectly equal, the light waves cancel out in just the right way, producing darkness at the detector. But if a gravitational wave passes, it slightly stretches one arm while squeezing the other, so the returning beams no longer cancel perfectly, creating a flicker of light that reveals the wave's presence.

The actual detection happens at the point of recombination, when even a minuscule stretching of one arm and squeezing of the other changes how long it takes the laser beams to return. This difference produces a measurable shift in the interference pattern. To be certain that the signal is real and not local noise, both LIGO observatories — one in Washington State (LIGO Hanford) and the other in Louisiana (LIGO Livingston) — must record the same pattern within milliseconds. When they do, it's confirmation of a gravitational wave rippling through Earth. We don't feel these

waves as they pass through our planet, but we now have a method of detecting them!

Get Involved

With the help of two additional gravitational-wave observatories, [VIRGO](#) and [KAGRA](#), there have been [300 black hole mergers detected in the past decade](#); some of which are confirmed, while others await further study.

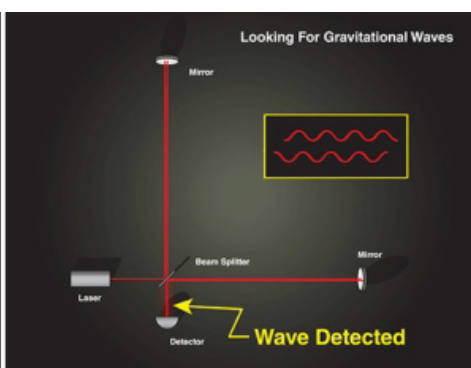
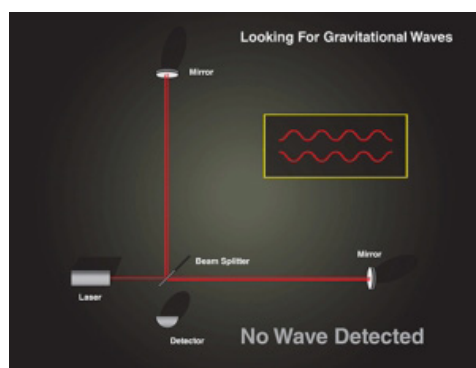
While the average person may not have a laser interferometer lying around in the backyard, you can help with two projects geared toward detecting gravitational waves and the black holes that contribute to them:

- **Black Hole Hunters:** Using data from the [TESS satellite](#), you would study graphs of how the brightness of stars changes over time, looking for an effect called gravitational microlensing. This lensing effect can indicate that a massive object has passed in front of a star, such as a black hole.

- **Gravity Spy:** You can help LIGO scientists with their gravitational wave research by looking for glitches that may mimic gravitational waves. By sorting out the mimics, we can train algorithms on how to detect the real thing.

You can also use gelatin, magnetic marbles, and a small mirror for a more hands-on demonstration on how gravitational waves move through space-time with JPL's [Dropping In With Gravitational Waves](#) activity!

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 nightsky.jpl.nasa.gov to find local clubs, events, and more!



Still images of how LIGO (Laser Interferometer Gravitational-Wave Observatory) detects gravitational waves using a laser, mirrors, and a detector. You can find the [animated version here](#). Image Credit: NASA

AstroAssembly 2025: With Gratitude and Appreciation

by Linda Bergemann

I wish to express my sincere gratitude for the part you played in making AstroAssembly 2025 a success. I counted about 30 people involved in the planning, execution, and cleanup. Without your dedication and hard work, AstroAssembly could not happen.

I interacted with most, if not all, of the attendees. Everyone left happy and every comment I received was positive. (Well, I did get one complaint that we need more

chairs and tables for lunch). From my perspective, Friday night and Saturday were both rousing successes.

My special thanks go to Kathy Siok for overseeing this event and ensuring that all of the many pieces were in place for success.

And, to those who waited on me throughout the day, seeing that I was fed and hydrated - ❤️

Thank you,
Linda



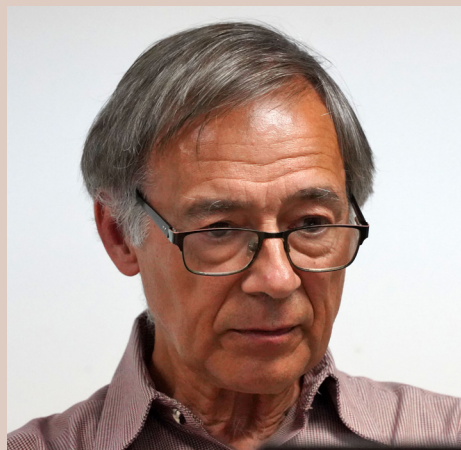
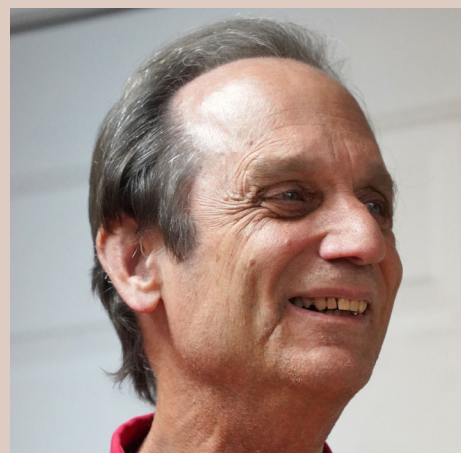
 **AstroAssembly 2025 album:** <https://flic.kr/s/aHBqjCwERt>



AstroEve Friday night presentations, left to right: Nicholas Wagner presents "Is the Moon made of Parmesan or Brie? How tides tell us what's inside the Moon," Anthony Englert presents "A Trip to Cerro Tololo," Michelle Vick presents "The Mysterious Pasts of Hot Jupiters."



Left: Members & guests gathered for AstroEve Friday night presentations. Right: AstroEve Friday night observing



From top, left to right: Linda Bergemann at the AstroAssembly registration table; AstroAssembly Master of Ceremonies Scott Tracy; Saturday presenters: Meteorologist A. J. Mastrangelo presented "Meteorology & Astronomy - How Each Sky Science Relies on the Other", Mark Munkacsy presented "Protocols for Observing Variable Stars with Smart Telescopes", Dr. Raymond Simons presented "The Formation of Galaxies over Cosmic Time", Rick Lynch presents "The Life and Times of William Tyler Olcott"; Huestis family members gathered at the memorial garden during AstroAssembly.



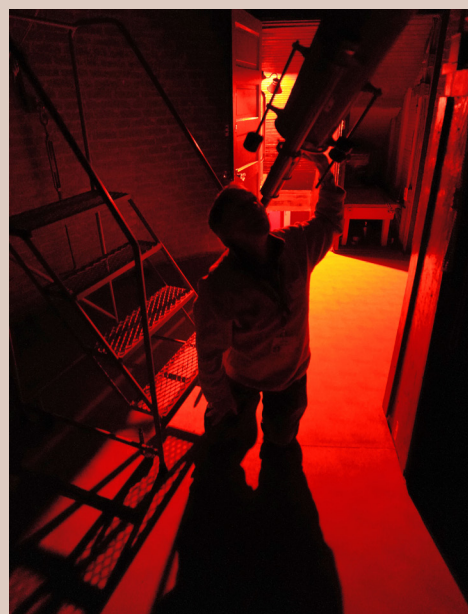


Top to bottom: Glenn Huestis speaks at the memorial ceremony for Tina & Dave Huestis. Kathy & Kathy (Siok & Babcock) at the AstroAssembly lunch table. Kathy Siok, Emily Hubbard & Lisa Baccala at the AstroAssembly raffle table. AstroAssembly raffle table. 94% gibbous Moon seen during AstroAssembly Saturday night observing





Top to bottom: Conrad Cardano demonstrates a radio receiver for detecting changes in the ionosphere during solar activity. AstroAssembly Saturday night observing. Mark Munkacsy operates the 8-inch Clark refractor during AstroAssembly Saturday night.



An AstroAssembly Tribute to Tina & Dave Huestis

by Kathy Siok

Today we gather to remember one of our long-time members and friend, Dave Huestis, who passed away unexpectedly at the end of 2024. We hope that this memorial will give all of us an opportunity to remember him and his wife, Tina, and reflect on their lives.

In 2007, after extensive research, Dave authored “75 Years of Skyscrapers” to commemorate this group’s anniversary. At the end, several member profiles were included. Included was “An Astronomer’s Life”. This traces Dave’s journey as an amateur astronomer. He states that “It was in the first grade that I recall being introduced to astronomy for the first time.” He was in a class play about the solar system in which he played the Sun. Later, in grade 6, he had an opportunity to play the professor astronomer.

This fueled his later interest in all things related to the stars: watching the satellites Echo and Telstar, and the American manned space programs: Mercury, Gemini and Apollo. But Dave attributes his major interest in astronomy to two books: “War of the Worlds” and “Flying Saucers: Serious Business”.

In 1969 Dave was able to see the Northern Lights in progress from his backyard and the following year he viewed a partial solar eclipse from his grandmother’s porch in Providence. In 1972, Dave purchased his first telescope, a 6-inch Edmond Scientific reflector, which he kept throughout his life. He was 19 years old.

Dave first visited Seagrave Observatory at the end of 1974. He quickly applied for membership to Skyscrapers and became active in the group. In 1976, Dave built a roll-off roof observatory near his home where he hosted many star parties.

Dave started the Aurora Alert Hotline in 1978. Many of us remember getting a call at strange hours of the night so that we could call the others in the chain. Some of Dave’s

aurora images found their way into books, including: “The New Solar System”, both editions.

The Eclipse bug bit Dave, and he traveled to Manitoba in 1979 and East Africa in 1980 for total eclipses, and to South Carolina’s annular eclipse in 1984. There were many other astronomical trips with Skyscrapers and the ATMs of Boston— Comet Halley in Bonaire, The eclipse in Hawaii in 1991, and the AAVSO Convention in Arizona and so on.... I remember one time traveling with Dave and the Hubbards. We all took photos for our slide shows and when we compared them later, we had taken photos of exactly the same views.

Dave held almost all the offices in Skyscrapers. However, he found his true calling when he became Librarian and Historian. During his life, he collected an impressive personal astronomical library while he curated the Skyscraper library and became an expert on rare books in the process. Because of his intense interest and research for the library, Dave was able to find forgotten details of the history of Skyscrapers that appeared in the 75 Year book. He even found the iconic hat that Frank Seagrave wore in a well-known portrait that hangs in the anteroom by connecting with Seagrave’s family.

One cannot remember Dave without

*Meet me
where the falling stars live.
I will wait for you
day and night.*

— Alexandra Vasilu

remembering Tina, his wife. They met at the Boston Museum of Science Planetarium in 1983. Dave was a volunteer and Tina worked there presenting and writing planetarium shows. This friendship soon blossomed

into a true love.

Dave proposed on Tina’s birthday in 1984 and they married 1 year later on Cape Cod, where her family lived. Many of us attended.

Tina quickly became an active Skyscraper, participating and volunteering for many events. Tina served as secretary to the organization. She enjoyed the astronomical trips around the world and we all became close friends.

Tina was an avid birdwatcher and Dave was soon keeping track of his bird sightings for “Life List”. They purchased a home where they attracted many species of birds with special feeders and a garden of specific plants.

Eternal Glow

*Stars blink through the night,
their light a vow unbroken—
love outshines the dark.*

While they both were private people, those close to Dave and Tina know that they were devoted to each other— through sickness and health. Over the years Tina had experienced medical setbacks, but she was a survivor, a strong person determined to overcome anything. She was Dave’s rock. Her passing remained difficult for Dave in the years he lived without her. Their passing remains a sensitive subject for us all.

Dave and Tina had much in common: both were intelligent and curious, voracious readers and writers, always thoughtful and caring. Their lives made the world a better place. And they both live on in our hearts.

A tribute poster made by Jim Hendrickson
was presented at AstroAssembly.

Remembering Tina & Dave Huestis



Tina
(1958 - 2021)

Dave
(1953 - 2024)



Observing Reports



Starry, Starry Autumn Night at Chase Farm, Lincoln Thursday, October 2, 2025

Weather: Light haze to mostly clear, 50° calm
Participants: Francine Jackson, Jim Hendrickson, Bob Janus, John Kocur
Attendees: 30
Observed: Moon, Saturn, Mizar & Alcor, M13, Gamma Andromedae
Photos: <https://flic.kr/s/aHBqjCwQYk>
Report by Jim Hendrickson

Thursday, October 2, 2025 was our rain date for the Starry, Starry Autumn Nite event at Chase Farm in Lincoln, originally scheduled for the previous Thursday night.

We arrived at sunset and set up on the small hill near the visitor center as usual, with Bob Janus having his 8-inch Dobsonian, John Kocur with the equatorially mounted 8-inch Newtonian, Jim Hendrickson with his 4-inch refractor, and Francine Jackson's Astroscan.

Francine opened with a presentation in the visitor center, highlighting the constellations and planets visible during autumn evenings, mentioning that we are still near solar maximum and that aurora borealis can still be seen at any time, as well as three notable comets moving through the sky at this time, although all of them were either too faint or too low on the horizon for us to find during the star party.

The 79% gibbous waxing Moon brightened the sky enough to make observing fainter objects difficult, but cast a pleasant illumination across the fields of Chase Farm.

The highlight of the night was of course Saturn, with its ring plane showing a narrow 1.5° angle. Saturn's large moon Titan was easily visible, and some observers were able to see Dione and Rhea on the opposite side of the planet.

Other objects observed were the Double Double, Mizar & Alcor, Gamma Andromedae, and M13.

Once again, as has become common during these evening events, no visible passes of the International Space Station were visible.

Among the 30 or so visitors was Jack Owen, a former colleague of ours who retired from teaching astronomy at Community College of Rhode Island a few years ago. Francine and Jim would often visit him on Thursday nights at the Margaret M. Jacoby Observatory

One of the things that adds an extra dimension to night sky events is to listen for local wildlife. We typically have crickets, and during spring and summer, frogs are often present, and we occasionally hear nocturnal birds in the distance. During Thursday night's stargazing event, we were entertained by some very vocal killdeer during much of the evening. We learned that these birds typically forage in large fields or pastures, and can be active on nights that are brightly lit by the Moon. We certainly enjoyed their presence, and they added to the fun of the evening.

This event concluded our Chase Farm astronomy nights for 2025, and we look forward to returning in the spring.

AstroEve Observatory Night Friday, October 3, 2025

Weather: Clear, 55°, calm
Participants: John Kocur
Attendees: 10
Observed: Saturn, Moon, Vega
Photos:
Report by Jim Hendrickson

Following AstroEve Friday night presentations, John Kocur stayed for a short time with his 8-inch Newtonian set up in the yard north of the 16-inch observatory. About 10 members and guests stayed to enjoy views of the Moon, Saturn, and Vega.

AstroAssembly Observatory Night Saturday, October 4, 2025

Friday, October 4, 2025
Weather: Clear, 65°, calm
Participants: Mark Munkacsy, Bob Janus, Bob Horton, John Kocur
Attendees: 25
Observed: Saturn, Moon & more
Photos: <https://flic.kr/s/aHBqjCwERt>
Report by Jim Hendrickson

About two dozen members and guests stayed for Saturday night observing, the most favorable weather we've had during AstroAssembly in several years. With a gibbous Moon and Saturn with its nearly edge-on rings highlighting the evening, we had the 8-inch Clark telescope as well as the two Schmidt-Cassegrain telescopes in operation. As many as eight telescopes were set up in the yard to the south and north of the observatory.

Moonrise on the Seekonk (International Observe the Moon Night)

Sunday, October 5, 2025 (rescheduled from April 12)
Weather: Clear, 75°, light breeze
Participants: Francine Jackson, Jim Hendrickson, Jay & Lisa Baccala, Terry Turner, Denise Turco, Christine Stevens, Jack Leonard & Kathy Babcock
Attendees: 50
Observed: Moon, Saturn
Photos: <https://flic.kr/s/aHBqjCwCPW>
Report by Jim Hendrickson

International Observe the Moon night was observed on Sunday, October 5, 2025 at the annual Moonrise on the Seekonk event at Blackstone Park Conservancy on the East



Side of Providence. This was the 7th consecutive year (except 2020) that Skyscrapers was invited to participate in the event, all of which have offered skies clear enough to see the full Moon rise over the Seekonk River. This year's event was postponed from April 12, which was completely clouded out.

After an 80° sunny day, late Sunday afternoon skies remained 100% clear, with temperatures dipping into the low 70s with slight breeze off the water. Moonrise was at 5:34pm, while sunset was at 6:20pm, meaning the 98% illuminated Moon was rising into a daylight sky.

Francine Jackson and Jim Hendrickson arrived at about 5:30 to set up an Astroscan and a 3-inch refractor, and several other members of Skyscrapers arrived shortly after. Denise Turco came with Terry Turner, who brought a pair of 7x50 binoculars. Lisa and Jay Baccala came, and Jay generously offered to set up a second telescope Francine had available, a 4-inch Celestron refractor. Additionally, Jack Leonard and Kathy Babcock, and Christine Stevens joined us.

Setting up in the daytime allowed us to do a little birdwatching while waiting for the Moon to rise, including a pair of swans that spent much of the evening on the river bank near us. Even after moonrise, we continued to see many birds flying over the river, some even crossed in front of the Moon. A band played in the field across the street; many of their songs were Moon-themed.

One of the guests had brought a Unitoron telescope that he was looking for help in learning to use, but because we had our hands full with the small number of telescopes we had, we invited him to bring to a future Seagrave Observatory open night. In all, about 50 visitors of all ages enjoyed viewing the Moon. We invited many of them to return to Seagrave or Ladd obser-

vatory on open nights.

A special treat this year was having Saturn located just 2° from the nearly full Harvest Moon being just 2° from Saturn. Although Neptune was also nearby, most people had left and the event was ending, before it was dark enough to locate it. By 7:30pm, we had packed up and were on our way home.

Full Harvest Moonrise Walk Monday, October 6, 2025

Mount Hope Farm, Bristol, RI

Sponsored by the Bristol Land Conservation Trust

Weather: Clear, cool & light breeze

Participants: Michael Corvese

Attendees: 35

Observed: Moon, Saturn

Report by Michael Corvese

It was a clear, cool night at Mt. Hope Farm on October 6th for the Full Moon Walk. I arrived at about 5pm to set up my telescopes and binoculars. As I drove down to the water, I saw at least a dozen deer wandering the fields and forests surrounding Mt. Hope Farm. Living only 10 minutes away, I had never visited these wonderful grounds that are open and free to the public.

When I arrived at the viewing field, I was impressed by the beautiful view of Mt. Hope Bridge and Mt. Hope Bay. A soft breeze was moving up the bay and a curious doe approached me while I set up my equipment. Curiosity apparently satisfied, she rejoined her friends after coming within 25 yards of me and my equipment.

By 5:30, attendees began arriving on foot from the upper farm area about 1 mile away. About 35 guests listened to a short talk by me on the history and current theories of the origins of the Moon. The spectacular full Moon rose above the Fall River horizon

across Mt. Hope bay at about 6pm.

I had set up a 4.5 inch Newtonian reflecting telescope, a table with 3 sets of binoculars, and handouts on the Moon. Everyone had a chance to view the Moon and asked many questions about it and about astronomy in general. Light refreshments were served during the viewing and discussion of the Moon.

As the crowd thinned and full darkness began to fall, we were able to observe Saturn and its largest moon Titan. As always, Saturn was a big hit with the guests.

At 7:30pm, we concluded the event, I packed my equipment, said goodbyes, and headed back across the bridge and home. I'm looking forward to coming back and further exploring the grounds of this beautiful place.

Seagrave Observatory Night Saturday, October 18, 2025

Weather: Party cloudy to clear, 55°, calm

Participants: Mark Munkacsy, Jay Baccala, Luke Labriola, Jim Meltzer, Michael Kerr, Francine Jackson, Jim Hendrickson

Attendees: 10

Observed: Saturn, Neptune, M13, M5, M27,

M29, M57, NGC 7662, NGC 7293, M45, TT Cygni

Photos: <https://flic.kr/s/aHBqjCyeNy>

Report by Mark Munkacsy & Jim Hendrickson

Last night the Clark was very well-behaved, and Saturn looked good despite intermittent high clouds. Last night was also my first successful experience with setting circles on that mount. I was able to successfully slew up to 20-30 degrees from Saturn and Deneb to targets too faint to be seen in the finder scope (Neptune and the deep red carbon star TT Cyg).

There is a problem with wasps in the observatory. When I first entered the room, I found a dozen dead wasps on the observatory floor. They were kind of a non-issue while we were observing, but when it came time to close things up, you could see wasps flying around near the roof when I closed the upper shutter, one or two of which came down to "people level" to investigate. I spent a little bit of time trying to find the nest, but I didn't see anything obvious.

– Mark

Despite clear skies and clear sky forecasts throughout the day Saturday, October 18, bands of high clouds and haze filled in at sunset, and persisted for about the first hour of observing, before gradually clearing out from north to south.

Entering the observatory grounds, the

Big Dipper hung low over the dome, Comet Lemmon already below the treeline.

Mark Munkacsy was up in the Clark showing Saturn and the carbon star TT Cygni.

Luke Labriola opened the 12-inch Meade and operated it for a short time but had to leave early due to travel early the next morning. Jay Baccala took over and operated the Seestar S50 alongside the Meade, capturing images of the Coathanger, Helix Nebula, and M15.

As the sky became more transparent, the Milky Way could be seen faintly within Cygnus.

Throughout the evening, a great horned owl some distance away in the west

We finished and closed the observatory at 10:15pm, under clear skies.

– Jim



NSF-DOE Rubin's First

LOOK

CERTIFICATE OF PARTICIPATION

This certifies that the Rubin First Look Watch Party held on 23 June 2025 by

Skyscrapers, Inc., Seagrave Memorial Observatory

is officially recognized by NSF-DOE Vera C. Rubin Observatory.

This certificate is awarded in recognition of the active involvement and valuable contribution to the success of NSF-DOE Vera C. Rubin Observatory First Look event.

Željko Ivezić
Željko Ivezić

Director of Rubin Construction

Congratulations!

2025

Congratulations!



VERA C. RUBIN
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SINCHROTRON
LABORATORY

Hello Watch Party Organizer, Thank you for hosting a **Rubin First Look Watch Party**, and congratulations on your successful event! Your efforts turned a single telescope milestone into a globally distributed, community-centered celebration of science. It has been wonderful to work with you. View your certificate here: https://mcusercontent.com/5faf5cfc1d62a8a307b4370d9/files/e0280bb9-3af4-70ac-f7dd-c359741bbaf6/WatchPartyCertificate_301.pdf

Take care, Phoebe Dubisch, Rubin First Look Watch Party Coordinator, rubinparty@noirlab.edu

Sudden Ionospheric Disturbance Monitor

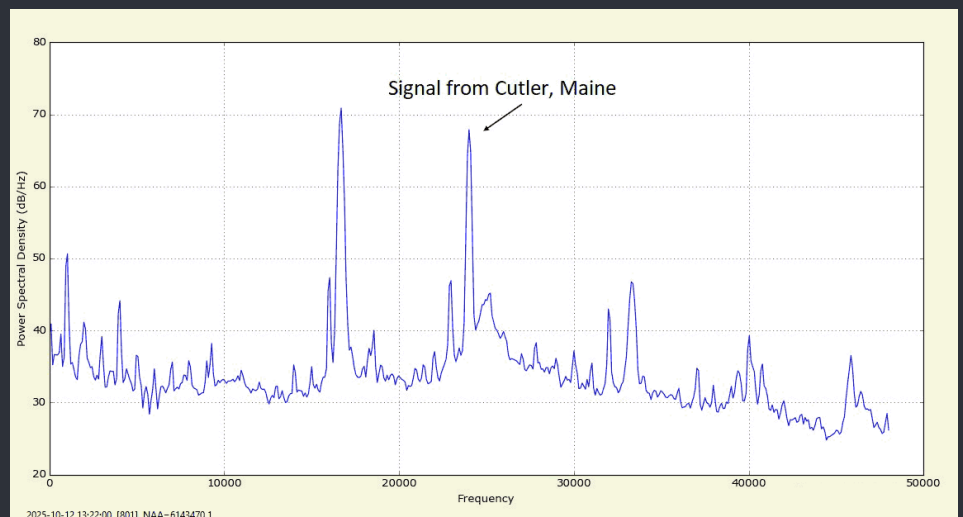
by Conrad Cardano

After bringing my setup to AstroAssembly, I wanted people to know more about this. Sudden Ionospheric Disturbances are changes in the ionosphere from solar flares. Solar flares send out X-rays which change the ionosphere when they hit. Low frequency radio waves are most affected by changes in the ionosphere. There is a low frequency transmitter in Cutler, Maine. When the solar hits the earth, the signal from the transmitter increases and slowly drops off with time.



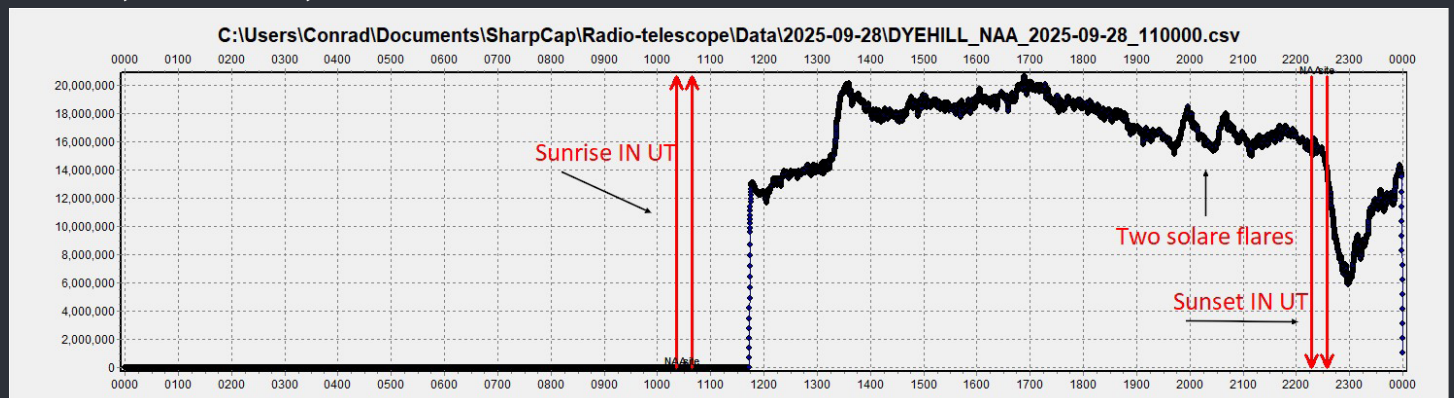
Recording these changes is actually easy. There is an organization, Society for Amateur Radio Astronomers (SARA), which sell a kit for \$140. The kit includes antenna wire, coax cable, preamp + filter, software, and a sound card. You need to provide a PC (any old PC/laptop will do) and build a frame for the antenna. The antenna is inside my house. It doesn't need to be outside.

At the end of the day, my PC sends the data to Stanford University, which has a big solar research center.



Screenshot of the software recording data. It stores it in a spreadsheet.

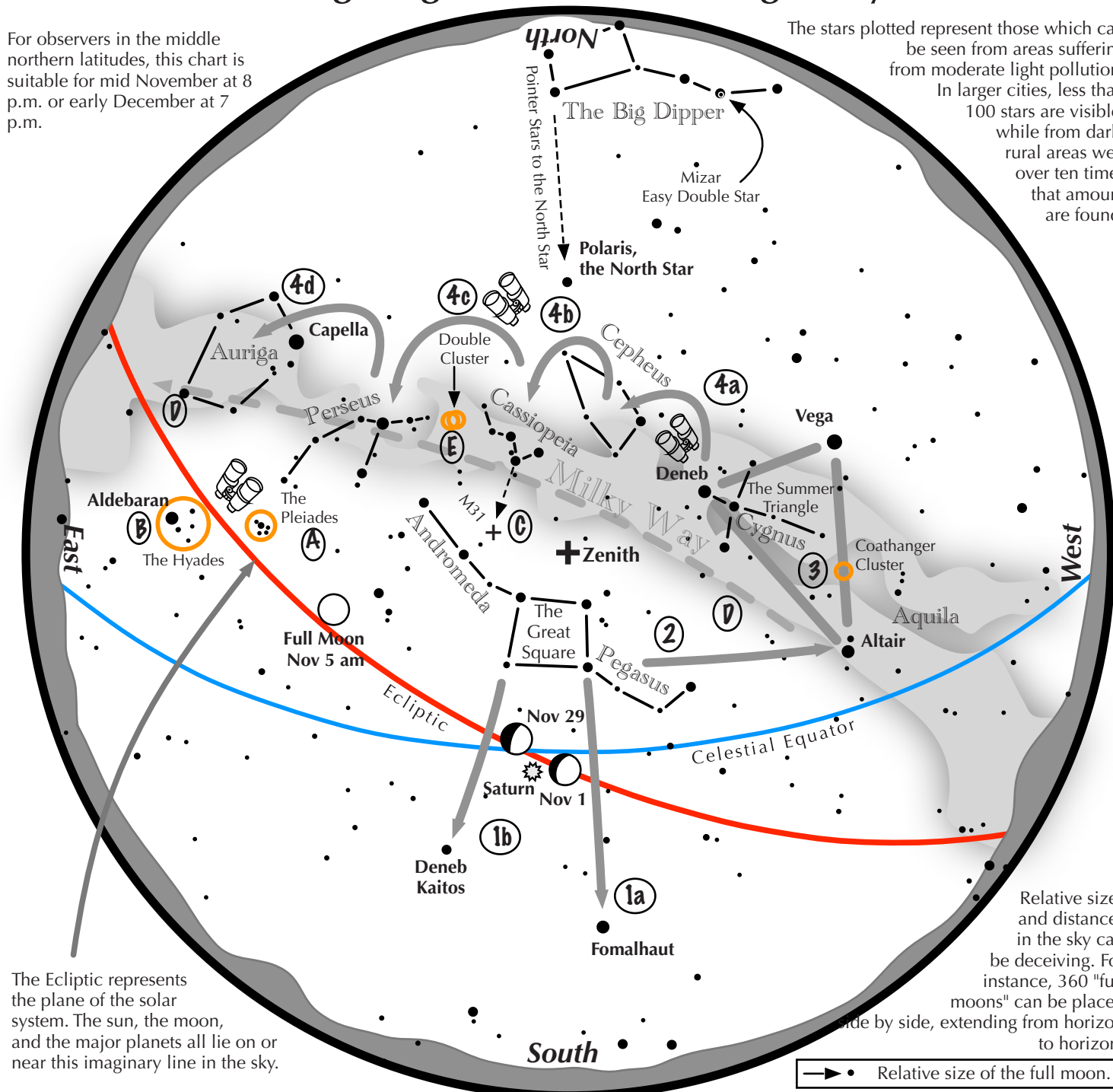
Here is a day's worth of activity. Two flares were recorded.



Navigating the November Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid November at 8 p.m. or early December at 7 p.m.

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 November night sky: Simply start with what you know or with what you can easily find.

- 1 Face south. Almost overhead lies the "Great Square" with four stars about the same brightness as those of the Big Dipper. Extend a line southward following the Square's two westernmost stars. The line strikes Fomalhaut, the brightest star in the south. A line extending southward from the two easternmost stars, passes Deneb Kaitos, the second brightest star in the south.
- 2 Draw a line westward following the southern edge of the Square until it strikes Altair, part of the "Summer Triangle."
- 3 Locate Vega and Deneb, the other two stars of the Summer Triangle. Vega is its brightest member, while Deneb sits in the middle of the Milky Way.
- 4 Jump along the Milky Way from Deneb to Cepheus, which resembles the outline of a house. Continue jumping to the "W" of Cassiopeia, then to Perseus, and finally to Auriga with its bright star Capella.

Binocular Highlights

A and B: Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **D:** Sweep along the Milky Way from Altair, past Deneb, through Cepheus, Cassiopeia and Perseus, then to Auriga for many intriguing star clusters and nebulous areas. **E:** The Double Cluster.



Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.

The Sun, Moon & Planets in November

This table contains the ephemeris of the objects in the Solar System for each Saturday night in November 2025. Times in Eastern Daylight Time (UTC-4) through November 1, Eastern Standard Time (UTC-5) from November 2. Ephemeris times are for Seagrave Observatory (41.845N, 71.590W).

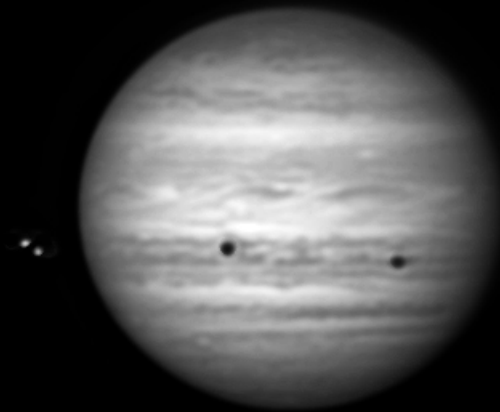
Object	Date	RA	Dec	Const	Mag	Size	Elong	Phase(%)	Dist(S)	Dist(E)	Rise	Transit	Set
Sun	1	14 25.7	-14 26.5	Lib	-26.8	1933.5	-	-	-	0.993	07:18	12:29	17:40
	8	14 53.5	-16 34.8	Lib	-26.8	1937.0	-	-	-	0.991	06:27	11:30	16:32
	15	15 21.9	-18 29.4	Lib	-26.8	1940.1	-	-	-	0.989	06:35	11:31	16:25
	22	15 51.0	-20 08.2	Lib	-26.8	1942.9	-	-	-	0.988	06:44	11:32	16:20
	29	16 20.7	-21 28.9	Sco	-26.8	1945.5	-	-	-	0.987	06:52	11:34	16:17
Moon	1	22 36.3	-10 35.7	Aqr	-12.3	1925.2	118° E	74	-	-	15:34	21:28	02:35
	8	5 21.0	27 28.3	Tau	-12.7	1994.3	145° W	91	-	-	19:03	03:18	11:26
	15	11 40.0	0 37.4	Vir	-11	1785.7	58° W	23	-	-	02:03	08:11	14:08
	22	17 05.5	-28 25.9	Oph	-8.7	1760.4	19° E	3	-	-	09:15	13:28	17:41
	29	23 06.7	-6 14.1	Aqr	-12.1	1915.9	99° E	58	-	-	12:57	19:05	01:26
Mercury	1	15 58.9	-23 29.1	Sco	0	6.9	24° E	58	0.406	0.976	09:31	14:02	18:34
	8	16 17.2	-23 57.8	Sco	0.4	8.1	21° E	37	0.366	0.833	08:22	12:51	17:21
	15	16 09.9	-22 16.6	Sco	2.5	9.5	12° E	11	0.329	0.710	07:36	12:13	16:51
	22	15 36.4	-18 15.4	Lib	5.9	9.8	4° W	1	0.308	0.685	06:17	11:11	16:06
	29	15 16.0	-15 32.4	Lib	0.8	8.5	16° W	26	0.317	0.796	05:22	10:27	15:32
Venus	1	13 25.7	-7 24.7	Vir	-3.8	10.5	16° W	96	0.720	1.616	05:54	11:30	17:05
	8	13 58.6	-10 39.3	Vir	-3.8	10.3	15° W	97	0.721	1.635	05:12	10:35	15:58
	15	14 32.3	-13 42.0	Lib	-3.8	10.2	13° W	98	0.722	1.652	05:29	10:41	15:53
	22	15 06.9	-16 28.1	Lib	-3.8	10.2	11° W	98	0.723	1.667	05:47	10:48	15:49
	29	15 42.4	-18 53.2	Lib	-3.8	10.1	9° W	99	0.724	1.679	06:05	10:57	15:48
Mars	1	15 40.4	-19 58.6	Lib	1.5	3.9	19° E	99	1.502	2.409	08:57	13:43	18:30
	8	16 01.3	-21 06.4	Sco	1.4	3.9	17° E	99	1.493	2.415	07:55	12:37	17:18
	15	16 22.6	-22 05.1	Sco	1.4	3.9	15° E	99	1.484	2.420	07:53	12:31	17:08
	22	16 44.5	-22 53.8	Oph	1.4	3.9	13° E	99	1.475	2.423	07:51	12:25	16:59
	29	17 06.8	-23 31.5	Oph	1.4	3.9	11° E	100	1.467	2.424	07:48	12:20	16:51
1 Ceres	1	0 37.5	-10 52.4	Cet	8.0	0.6	143° E	99	2.916	2.061	17:14	22:36	02:59
	8	0 33.8	-10 41.3	Cet	8.1	0.6	136° E	99	2.912	2.117	15:42	21:05	02:29
	15	0 31.1	-10 21.2	Cet	8.2	0.6	129° E	98	2.908	2.183	15:10	20:35	02:00
	22	0 29.6	-9 52.9	Cet	8.3	0.6	122° E	98	2.905	2.257	14:40	20:06	01:33
	29	0 29.1	-9 17.0	Cet	8.5	0.5	115° E	98	2.901	2.337	14:10	19:38	01:07
Jupiter	1	7 47.7	21 13.2	Gem	-2.2	40.5	104° W	99	5.190	4.862	22:26	05:50	13:14
	8	7 48.4	21 12.4	Gem	-2.2	41.3	111° W	99	5.192	4.758	20:59	04:23	11:47
	15	7 48.4	21 13.4	Gem	-2.3	42.2	118° W	99	5.195	4.660	20:32	03:55	11:19
	22	7 47.8	21 16.1	Gem	-2.3	43.1	125° W	99	5.197	4.568	20:03	03:27	10:51
	29	7 46.4	21 20.6	Gem	-2.4	43.9	132° W	100	5.200	4.484	19:34	02:58	10:23
Saturn	1	23 48.5	-3 56.0	Aqr	0.9	18.8	137° E	100	9.537	8.788	16:00	21:48	02:36
	8	23 47.4	-4 01.6	Aqr	0.9	18.7	130° E	100	9.535	8.873	14:32	20:19	02:07
	15	23 46.6	-4 05.2	Aqr	1.0	18.5	122° E	100	9.533	8.966	14:04	19:51	01:38
	22	23 46.2	-4 06.8	Aqr	1.0	18.3	115° E	100	9.531	9.068	13:36	19:23	01:10
	29	23 46.0	-4 06.2	Aqr	1.1	18.0	108° E	100	9.529	9.176	13:08	18:55	00:43
Uranus	1	3 52.6	20 00.2	Tau	5.6	3.8	159° W	100	19.501	18.574	18:33	01:51	08:09
	8	3 51.5	19 56.8	Tau	5.6	3.8	166° W	100	19.500	18.537	17:05	00:23	07:41
	15	3 50.3	19 53.2	Tau	5.6	3.8	173° W	100	19.498	18.516	16:36	23:54	07:12
	22	3 49.1	19 49.5	Tau	5.6	3.8	179° E	100	19.497	18.509	16:08	23:25	06:43
	29	3 47.9	19 45.8	Tau	5.6	3.8	172° E	100	19.496	18.518	15:39	22:56	06:14
Neptune	1	0 01.4	-1 20.3	Psc	7.8	2.3	141° E	100	29.886	29.109	16:04	22:01	02:58
	8	0 00.9	-1 23.2	Psc	7.8	2.3	134° E	100	29.886	29.192	14:36	20:33	02:30
	15	0 00.5	-1 25.6	Psc	7.8	2.3	127° E	100	29.886	29.285	14:08	20:05	02:02
	22	0 00.2	-1 27.4	Psc	7.8	2.3	120° E	100	29.886	29.387	13:40	19:37	01:34
	29	23 60.0	-1 28.6	Psc	7.9	2.3	112° E	100	29.886	29.496	13:13	19:09	01:06
Pluto	1	20 18.3	-23 30.8	Cap	14.6	0.2	83° E	100	35.380	35.494	13:47	18:18	22:49
	8	20 18.6	-23 29.7	Cap	14.6	0.2	76° E	100	35.385	35.616	12:20	16:51	21:22
	15	20 19.0	-23 28.3	Cap	14.6	0.2	69° E	100	35.390	35.736	11:53	16:24	20:55
	22	20 19.5	-23 26.6	Cap	14.6	0.2	62° E	100	35.395	35.850	11:26	15:57	20:28
	29	20 20.1	-23 24.6	Cap	14.6	0.2	55° E	100	35.399	35.957	10:59	15:30	20:02

Astrophoto Gallery

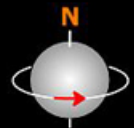
Jupiter October 4, 2025 Shadow Transits of Io & Europa

Gregory T. Shanos Sarasota, Florida USA
Meade LX200GPS 250mm 2500mm f/10
ZWO ASI 462MM monochrome camera
Vernonscope 1.25x Barlow 4050mm f/17
Derotated 10 minutes with WinJupos

Magnitude: -2.2
Diameter: 37.0"
Phase: 99.1%
Altitude: 29°
Seeing: 6/10 Above Ave
Transp: 7/10 Clear, Hazy, Humid
Resolution: 0.15"/pixel



07h 47.0m UT
Baader 685nm IR longpass filter
CMI: 116.2° CMII: 310.9° CMIII: 175.0°
Top: Moon Io and Shadow Bottom : Moon Europa and Shadow



Double shadow transit by Greg Shanos

Attached is a double shadow transit on Jupiter taken Oct 4th starting at 3:47 am. Jupiter was rather low starting at 29 degrees and ending at 44 degrees. The weather was clear, hazy and humid. The seeing was above average in IR and below average in color. I therefore only took IR images.

A beautiful pairing and dance of Io and Europa.



Two Comets by Conrad Cardano

C/2025 A6 Lemmon and C/2025 R2 SWAN taken on October 16, 2025 using Seestar S50 telescope.





Messier 33 by Jeff Padell

I took 5 nights of images of the galaxy Messier 33 the Triangulum Galaxy and then combined and processed them on my PC. I used my Seestar S50 to take the images. I processed in both color and black and white

From the Wiki: Messier 33, also known as the Triangulum Galaxy, is a prominent spiral galaxy located in the constellation Triangulum. It is cataloged as NGC 598 and is the third-largest member of the Local Group of galaxies, following the Milky Way and the Andromeda Galaxy. Under ideal conditions, Messier 33 can be seen with the naked eye, making it one of the most distant objects visible without optical aid. It is best observed in the months of September to November. The galaxy appears as a diffuse object rather than a point source of light. Messier 33 is believed to be a gravitational companion to the Andromeda Galaxy. It may eventually participate in the collision between the Milky Way and Andromeda, which is expected to occur in over 4 billion years.



Cosmic Coffeehouse

*Informal astronomy chat room
meets on the 15th of each month at 7:00pm*

- interactive ZOOM format
- current news
- featured speakers
- equipment reviews
- observing notes
- fun 'n games

To receive your invite, send request to Astro-Geek@comcast.net

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Rhode Island



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NOVEMBER 4
@ 6:30pm

email: aotri24@gmail.com, ig: [aotri24](https://www.instagram.com/aotri24)
website: aot-ri.vercel.app



"The Quantum Universe"

Prof. Savvas Koushiappas
Department of Physics,
Brown University



"Why Is the Moon So Two-Faced? A Giant Impact Story"

Dr. Matt Jones
Department of Earth, Environmental
& Planetary Sciences, Brown University



Free event for
all ages.
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Directions to Seagrave Memorial Observatory

From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- or • Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro). Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 Peeptoad Road
North Scituate, Rhode Island 02857