



the Skyscraper

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May 2024

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

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May Meeting

Saturday, May 4 @ 7:00pm EDT
at Seagrave Memorial Observatory

In-person and on Zoom (Contact Linda Bergemann (lbergemann@aol.com) for the Zoom link.

6 PM: Socializing

7 PM: Business Meeting & Presentation

TOPIC: "Low Frequency Gravitational Waves: A New View of the Universe"

SPEAKER: J. Andrew Casey-Clyde, University of Connecticut Storrs, CT Graduate Assistant

Gravitational waves are ripples in the fabric of space-time, predicted by Einstein's theory of general relativity. First observed by LIGO in 2015, these waves can be generated by massive objects, such as black holes, orbiting each other in a binary system. On June 29, 2023, the North American Nanohertz Observatory for Gravitational Waves (NANOGrav) reported the first strong evidence of low frequency gravitational waves from supermassive black hole binaries — our first glimpse of gravitational waves from binaries that are billions of times more massive than those seen by LIGO.

In this talk Andrew Casey-Clyde will teach us about the low frequency gravitational wave universe, which astronomers have now seen for the first time. First we will learn what a supermassive black hole

is and how they can form binary systems. Andrew will then discuss the types of gravitational wave signals these binaries generate and how experiments like NANOGrav detect these low frequency gravitational waves. He will then explain what this new window on the gravitational wave universe can teach us about supermassive black hole binaries and the galaxies that host them. Finally he will conclude by discussing future prospects for low-frequency gravitational wave astronomy and the types of measurements we expect to make in the next few years.

J. Andrew Casey-Clyde is a doctoral candidate at the University of Connecticut and visiting researcher at Yale University developing multimessenger models of supermassive black hole binaries. His models combine information from the nanohertz gravitational wave background and quasars to constrain their relationship. He is also developing models of dual AGN populations tied to supermassive black hole binary merger rates. He is interested in developing self-consistent models of supermassive black hole growth and evolution.



**Seagrave Memorial
Observatory
Open Nights**
May 4, 11, 18 & 25
@ 9pm

Skyscrapers Official Merchandise

<https://www.bonfire.com/store/skyscrapers/>

<https://business.landsend.com/store/skyscrapersinc/>



President's Message

by Linda Bergemann

It is my honor and pleasure to serve you once again as President. My main goal for the coming year is to engage a larger segment of the membership in Skyscrapers' activities. What activities can we offer that you would attend? Think about it! I will be sending a survey soon to glean information from you to help us with planning activities for the coming year. In the meantime, if an idea strikes you, please contact our new chair of the Program Committee, Dan Fountain, at deanofountino@gmail.com.

If you are interested in getting started in astrophotography and don't know where to start, here's an opportunity for you – NASA's 2024 Summer Astrophoto Challenge.

New Members
Welcome to Skyscrapers
John & Stephanie Hanks
of Portsmouth

The challenge starts May 20th and runs through July 31st. No need to have your own telescope or camera. Make your own image of Cassiopeia A (Cas A) using James Webb Space Telescope data. Use real astronomical data and tools to create your own images of Cas A. Use your images to explore the supernova remnant or focus on creating an image that you think is beautiful. You can capture your own real-time telescope image using the MicroObservatory robotic telescope network, or work with a set of data files taken with multi-wavelength space-based missions from NASA, ESA, and CSA (Hubble, Webb, Chandra, Spitzer). Visit the NASA's Astrophoto Challenge page for more information about the project, and see how to work with NASA data by reviewing past challenges. Link: <https://mo-www.cfa.harvard.edu/OWN/astrophoto/index.html>

You have been challenged, by NASA and by me. Let me know if you decide to participate in the Summer Astrophoto Challenge, and if we get more than three, we will judge the results and award a prize to the winner. I may just give it a try myself!

Warm wishes and clear skies, Linda



Margaret M. Jacoby

November 10, 1930 - April 21, 2024

Margaret Jacoby began the physics department at Community College of Rhode Island (previously Rhode Island Junior College), and was responsible for the construction of the observatory on the Warwick campus in 1978. In 1995, it was named in her honor.

Among her many achievements, she was a guest lecturer and astronomer on the QE2. She also traveled throughout the world chasing eclipses, comets, and other celestial phenomena.



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 **May 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 jim@distantgalaxy.com. Note that you will no longer receive the newsletter by postal mail.

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Astronomy on Tap

Panel Discussion and Audience Q & A Session on

THE SEARCH FOR LIFE
May 8th 6:30 pm *Moniker*
Providence, RI BREWERY



Dr. Heather Graham

Organic Geochemist searching for life "as we don't know it"!



Dr. Ricardo Arévalo

Geochemist developing mission instruments for alien environments!



Dr. Kevin Hand

Planetary Scientist exploring the icy moons of our solar system



Dr. Caleb Scharf

Senior Scientist for Astrobiology at NASA Ames Research Center



NFOLD
NETWORK FOR LIFE DETECTION



All ages welcome

Skylights: May 2024

by Jim Hendrickson

After moving through Aries for the past 25 days, the **Sun** enters Taurus on the 13th. On the 16th, sunsets begin occurring after 8:00pm EDT, and will remain so through August 3rd.

May begins with the **Moon** at last quarter in Capricornus at 7:27am EDT on the 1st.

On the 4th, the waning crescent Moon is 5.6° east of Saturn before sunrise. On the 5th, it is 3.8° east-northeast of Mars, and on the 6th, it is 3.2° north-northeast of Mercury.

New Moon is at 11:22pm EDT on the 7th, marking the beginning of Lunation 1254.

On the 8th, try to find the 21-hour, 1.0% illuminated waxing crescent Moon just after sunset. With a clear horizon, you just may be able to spot Jupiter for the final time this month 5.0° south-southwest, or nearly directly below the Moon. Once you spot the Moon with binoculars or a telescope, keep watching it as the sky darkens, and you'll begin to see the brighter members of the Pleiades appear within 0.5° to its north.

On the 10th, while it is within 5° of the open cluster in Gemini, the 10.8% illuminated crescent Moon occults the 4.6 magnitude star 136 Tauri, a class A0 spectroscopic binary star system that is 420 light years away. Ingress behind the Moon's darkened limb is at 10:07pm, and it reappears from the bright limb 39 minutes later.

On the following evening, the 23rd, the Moon passes 2.8° north of Vesta. It is then 2.0° south of Pollux (alpha Geminorum) on the 12th, and 2.3° north of the Beehive Cluster, M44, in Cancer, on the 13th.

First quarter Moon occurs at 7:48am on the 15th, in Leo, and is 2.7° northeast of Regulus early that evening.

The Moon occults another star, magnitude 3.6 Zavijava (beta Virginis), early on the 18th. Ingress occurs at 1:31am, and egress is at 2:34am. Zavijava is a class F9 dwarf that lies just 36 light years away.

The waxing gibbous Moon passes 2.3° northwest of Spica, in Virgo, on the 20th.

At 9:23am on the 23rd, the full Flower Moon occurs in Scorpius. During that evening, it passes just three arcminutes from Antares, with the closest appearance occurring at 9:56pm EDT.

The waning gibbous Moon is just 1.7° southeast of dwarf planet Ceres just after midnight on the 27th.



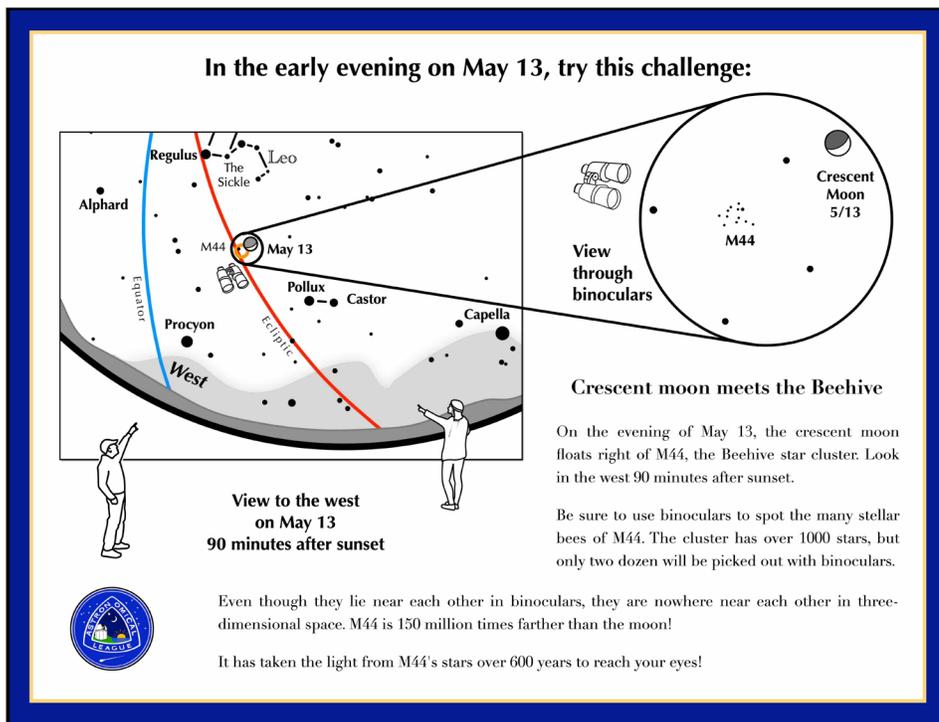
**Cosmic
Coffeehouse**

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



The Moon occults a third moderately bright star on the 29th, magnitude 4.6 epsilon Capricorni. The star disappears behind the bright limb of the Moon at 3:40am, and reappears from the dark limb at 4:48am, which is within civil twilight, so the star may not be visible unless observed with a fairly large telescope.

Last quarter Moon occurs at 1:13pm EDT on the 30th, in Aquarius. The following morning, the Moon lies just 1.0° south-southeast of Saturn.

At the beginning of May, all of the planets lie within a 67.5° arc of sky, with Jupiter and Saturn marking the eastern and western endpoints, respectively. With Jupiter's apparent motion more than double that of Saturn, the arc gradually widens throughout the month, and after the 18th, the entire set of planets will be in the morning sky.

Mercury spends the month in the morning sky, but remains low throughout its apparition, never rising more than 50 minutes before the Sun.

On the 6th, use the 28.5-day, 4.1% illuminated crescent Moon as a guide to find Mercury, which will be 3.2° south-southwest.

Mercury is at greatest elongation on the 9th, when it will be 26.4° west of the Sun. Mercury's earliest rise time of this apparition is at 4:26am EDT on the 25th.

On the final morning of May, if you happen to see a very dim, bluish speck just 1.3° north of Mercury, this is the planet Uranus. Its position low on the horizon and through bright twilight makes it very difficult to see, even with the largest telescopes.

Our brightest planet, **Venus**, is approaching its superior conjunction early next month, and is therefore very close to the Sun and difficult to observe during all of May. It joins Jupiter (0.2° to its north) on the 23rd, but as the two planets will be just 3° from the Sun, there is no practical or safe way to observe them.

Mars season has begun, with the Red Planet rising into a dark sky, before the onset of astronomical twilight, for the first time on May 29th, but you can start observing Mars low in the east earlier in the month. On the 5th, the waning crescent Moon lies 3.8° east-southeast of Mars.

Throughout May, Mars is brightening slowly, around magnitude 1.1, similar in brightness to Antares, in Scorpius.

The first week of May is also a good time to see Mars and Neptune together, as the distant eighth planet is within a few degrees west of Mars.

Jupiter, now in Taurus, is low in the west-northwest after sunset during early May. On the 1st, it sets 1 hour after sunset, but quickly drops out of view during the next few nights. It reaches conjunction in the afternoon of the 18th, and moves into the morning sky. It rises just 30 minutes before sunrise on the 31st, so we may not be able to see it until June.

Saturn is in Aquarius, and in early May, the ringed planet rises before 4:00am EDT. At the end of the month, Saturn enters the eastern sky at 2:00am.

With Saturn rising into the sky before twilight, now is a good time to notice how much its ring plane angle has changed since January,

Events in May

01	07:27	Last Quarter Moon
04	04:00	Moon 5.6° E of Saturn
05	17:00	Eta Aquarid Meteor Shower 50 ZHR
05	05:00	Moon 3.8° ENE of Mars
06	06:00	Moon 3.2° NNE of Mercury
07	17:00	Sun at 3h RA
07	23:22	New Moon (Lunation 1254)
08	20:15	Moon 5.0° NNE of Jupiter
08	20:45	Moon 0.5° S of M45
09	17:00	Mercury Greatest Elongation (26.4°W)
10	22:00	Moon 4.8° NW of M35
10	22:07	Moon occults 136 Tau (4.6; in 22:07; out 22:46)
11	23:00	Moon 2.8° NW of Vesta (8.3)
12	21:00	Moon 2.0° S of Pollux
12		Equation of Time = 3:39 (Sun Fast)
13	05:14	Uranus Conjunction
13	22:00	Sun in Taurus
13	23:00	Moon 2.3° N of M44
15	07:48	First Quarter Moon
15	21:00	Moon 2.7° NE of Regulus
16	20:00	First 8pm sunset (through August 3)
17	05:00	2 Pallas Opposition (mag 9.0)
18	01:31	Moon occults Zavijava (3.6, in 01:31, out 02:34)
18	14:45	Jupiter Conjunction
20	03:00	Moon 2.3° NW of Spica
22	21:00	Sun at 4h RA
23	05:15	Venus 0.2° N of Jupiter
23	06:00	Uranus in Taurus
23	09:53	Full Flower Moon
23	21:56	Moon 2.9° S of Antares
25	04:26	Earliest Mercuryrise
27	01:00	Moon 1.7° SE of Ceres (8.0)
29	03:40	Moon occults Epsilon Capricorni (4.6, in 03:40, out 04:58*)
30	13:13	Last Quarter Moon
31	05:00	Mercury 1.3° SSE of Uranus
31	04:00	Moon 1.0° SSE of Saturn

Ephemeris times are in EDT (UTC-4) for Seagrave Observatory (41.845N, 71.590W)

the last time it was observable in our evening sky. The rings are tilted about 3° toward us, whereas they were at 10° at the end of January.

The waning crescent Moon joins Saturn on the 31st, appearing just 1.0° south-southeast of the planet.

Uranus is at conjunction on the 13th and will be out of view until later next month. Our seventh planet, which has spent the past 63 months moving through Aries, enters Taurus on the 23rd; however, it will briefly retrograde back into Aries at the end of this year.

If you have a fairly large telescope, and can point it low to the horizon, **Neptune** can be seen just a few degrees east of Mars early in the month. Otherwise, you may want to wait a few weeks, when the eighth planet rises higher in the sky before the onset of twilight.

Asteroid 4 Vesta is moving eastward

through Gemini during May, and remains at magnitude 8.3.

On the 1st, Vesta will lie just 0.3° south of Mebsuta (epsilon Geminorum). At the end of the month, having faded by just 0.1 magnitude, it will be 4.7° south-southwest of Pollux (beta Geminorum).

3 Juno has resumed prograde (eastward) motion through Leo, although it has faded beyond magnitude 10.0, beyond the limit of binoculars, unless you are in a very dark sky. It is still fairly easy to locate in the early evening sky. In early May, it is just 1.5° north-northeast of rho Leonis. During the third week of the month, watch it pass 2.5° south of the M95/M96 galaxy pair.

2 Pallas reaches opposition on May 17. Owing to its highly eccentric orbit, it is actually closest to Earth 10 days earlier, on the 7th, at 2.15 au. The 513 kilometer wide asteroid hovers around magnitude 9.0 for the duration of the month, and its highly inclined orbit, at 34°, brings it substantially north of the ecliptic.

In early May, Pallas is just 1.5° west of the small planetary nebula NGC 6210, which is about the same visual magnitude as the asteroid. On the 11th, it crosses the line between Kornephoros (beta) and zeta Herculis, about 1/3 the distance from the former.

In mid-May, it shines at magnitude 9.0, and is moving northwestward through Hercules, about 2.7° northeast of Kornephoros and just 1.5° west of the planetary nebula NGC 6210, which is about the same visual magnitude as the asteroid.

It crosses the border from Hercules into Corona Borealis, at declination +26°40', on May 29.

Dwarf planet **Ceres** begins retrograde motion in Sagittarius, and brightens to magnitude 8.0 in May. At the beginning of the month, it is within 1° east of chi Sagittarii. Its southerly declination (it descends from -24° to -26° throughout the month), and movement into a star-rich region of the sky, will make tracking it fairly challenging. The Moon is 1.7° southeast of Ceres on the 27th.

Pluto is in Capricornus and rises at about 1:45am. It is located 1.0° south of 4 Capricorni, and 8° south of Dabih (beta Capricorni). The distant dwarf planet is magnitude 14.5.

Eta Aquarids peak on the night of May 4-5. These particles from 1P/Halley tend to produce persistent trains, and originate from a point near the water jar asterism in Aquarius. The waxing crescent Moon shouldn't interfere with observing, and the peak activity can produce 10-30 meteors per hour.

With evening twilight now encroaching

well into the 9:00pm hour, dark observing conditions only begin during the later evening hours from May through August.

At the beginning of May, we get our last views of the Pleiades and Orion in the evening sky, before they return to the morning sky later in summer. High overhead, the pointer stars of the Big Dipper, which lie on the 11th hour of right ascension, are positioned neatly on the meridian, at the 12 o'clock position relative to Polaris, the North Star. If you're not a late-night observer, this is the best time of the year for observing the myriad of galaxies that are spread across Ursa Major, Coma Berenices, Leo and Virgo.

Venturing out on a dark, moonless night in May offers many rewarding sights for naked-eye and binocular observers.

Looking directly overhead, one may notice three conspicuous pairs of third and

fourth magnitude stars spanning over 30° in a very shallow arc, each pair exhibiting approximately the same separation of about three Moon diameters. These six stars are physically unrelated, but are all part of the Ursa Major constellation, and represent the great bear's paws. They are also part of an asterism of their own, called the Three Leaps of the Gazelle.

Farther to the east, about 30° south of the arc of the Big Dipper's handle, is a diffuse sprinkling of dim stars spread over an area just over 5° across. In a very dark sky, Bortle 4 or less, the glow of this cluster is quite distinct to the dark-adapted eye, but requires binoculars under more light-polluted skies. This is the Coma Berenices Cluster (not to be confused with the Coma Cluster of galaxies). It is also listed as the 111th entry in the Melotte catalog, and number 256 in the Collinder catalog.



Binocular Double Star

Binoculars and Double Stars

A rewarding and challenging activity

<https://www.astroleague.org/binocular-double-star-observing-program/>



Effective Binocular Observing ...

- Binoculars must be precisely focused.
- Binoculars must be held steady. Mounted on a tripod is best.
- Adequate dark adaption is needed. Wait at least 15 minutes in the dark before meaningful observing begins. 30 minutes is better.
- Glare from a bright primary interferes with spotting a dim secondary. The greater the magnitude difference, the greater the difficulty splitting them.
- Steady atmospheric seeing is desired.
- Best observed when the double star has an altitude higher than 30°.

In Your Observing Notes:

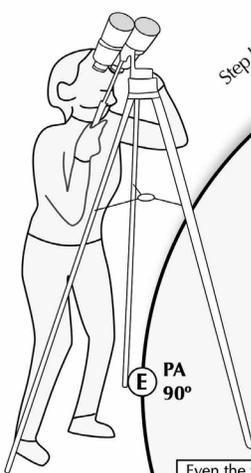
- ✧ Brightnesses of the components.
- ✧ Separation of the components.
- ✧ Position Angle (PA).
- ✧ Colors of the components.
- ✧ Neighboring stars in the field?
- ✧ Seeing conditions.
- ✧ Atmospheric transparency.
- ✧ Altitude.

Rule of Thumb ...

Minimum true separation with 10 x 50 binoculars:

- 24 arc seconds for two stars of 4th magnitude. This equals 4 minutes apparent separation.
- For comparison, the full moon has a true diameter of 1800 arc seconds (=30 minutes).
- **True separation** is the angular space between stars as it appears to the unaided eye. **Apparent separation** is how it appears in binoculars.

Step back 1.5 m (4.75 ft) from this 150 mm (6 inch) printed field, and the 6° field will match 6° in the sky.



6° true angular field – typical for binoculars

Stellar Magnitude	Example Doubles	Relative diameter of the full moon.
2 ●	• Alpha Capricorni 381", PA: 290°	 Relative diameter of the full moon. Separation distance — 600" = 10' — 300" = 5' — 120" = 2' — 60" = 1' — 40" = 0.67'
3 ●	• Delta Cephei 41", PA: 191°	
4 ●	• Σ1474 Hydrae 66", PA: 27°	
5 ●	• 56 Andromedae 203", PA: 298°	
6 ●	• Nu Draconis 61", 311°	
7 ●	• Alpha Ursae Majoris 385", 206°	
8 ●		

Even the wider doubles appear close to each other. Two stars that have a tight separation, or a large magnitude difference, or a combination of the two are much more difficult to split, sometimes frustratingly so, but an enjoyable challenge nonetheless.

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2402

From the Coma Berenices cluster, move in a line towards Mizar (zeta Ursae Majoris), the middle star in the handle of the Big Dipper. Before you reach the halfway point, you will cross a pair of stars oriented roughly perpendicular to your line to Mizar. These two stars make up the constellation Canes Venatici, the Hunting Dogs. While this is a rather underappreciated constellation, its alpha star, known as Cor Caroli, is a worthwhile double star in a small telescope, with magnitude 2.8 and 5.6 components separated by a generous 19 arcseconds, $\frac{1}{3}$ more than that of the more

well-known, nearby Mizar.

Going back to the line from Coma Berenices cluster to Mizar, just after you cross the line connecting the two stars of Canes Venatici, and about $\frac{1}{3}$ of their separation above them, you will find an 8th magnitude smudge in your binoculars. This is M94, a nearly face-on spiral galaxy that lies about 16 million light years away.

Back to Cor Caroli, with your binoculars, move along a line towards Arcturus (alpha Bootis). A little more than halfway, you will land on the globular cluster M3. At 34,000

light years, and still within the boundaries of Canes Venatici, this massive cluster contains a half-million stars.

Finally, continue through Arcturus, for the same distance as that traveled between it and Cor Caroli, and you will find another globular cluster, M5, in Serpens. This is one of the northern sky's best globular clusters, rivaling Hercules' M13 in apparent size, brightness, and resolvability. It contains over 100,000 stars, and is located at 25,000 light years.

NASA Night Sky Notes: Stargazing for Beginners

by Kat Troche

Millions were able to experience the solar eclipse on April 8, 2024, inspiring folks to become amateur astronomers – hooray! Now that you've been 'bitten by the bug,' and you've decided to join your local astronomy club, here are some stargazing tips!

The Bortle Scale

Before you can stargaze, you'll want to find a site with dark skies. It's helpful learn what your Bortle scale is. But what is the Bortle scale? The Bortle scale is a numeric scale from 1-9, with 1 being darkest and 9 being extremely light polluted; that rates your night sky's darkness. For example, New York City would be a Bortle 9, whereas Cherry Springs State Park in Pennsylvania is a Bortle 2.

The Bortle scale helps amateur astronomers and stargazers to know how much

light pollution is in the sky where they observe. Credit: International Dark Sky Association

Determining the Bortle scale of your night sky will help narrow down what you can expect to see after sunset. Of course, other factors such as weather (clouds namely) will impact seeing conditions, so plan ahead. Find Bortle ratings near you here: www.lightpollutionmap.info

No Equipment? No Problem!

There's plenty to see with your eyes alone. Get familiar with the night sky by studying star maps in books, or with a planisphere. These are great to begin identifying the overall shapes of constellations, and what is visible during various months.

A full view of the northern hemisphere night sky in mid-May. Credit: Stellarium

Web.

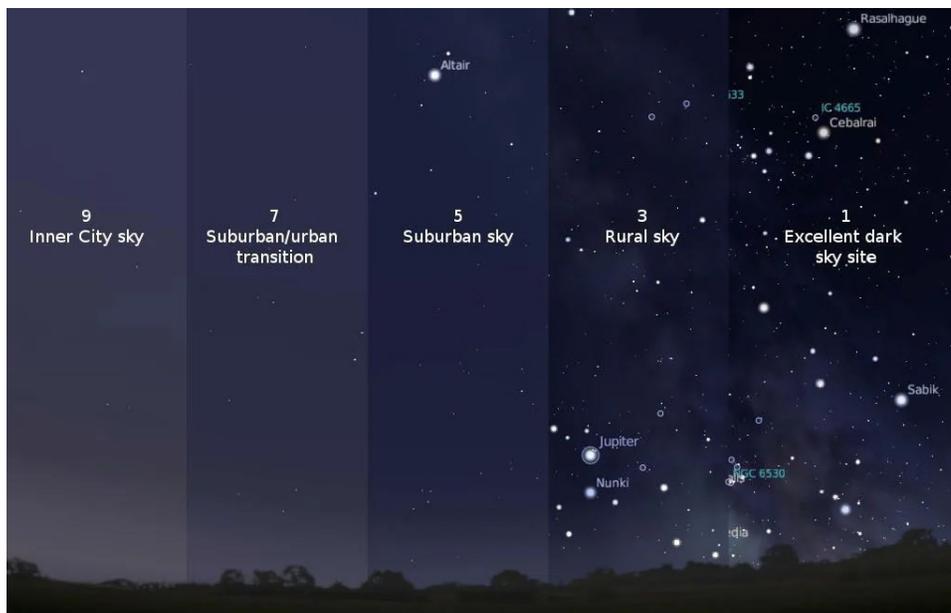
Interactive sky maps, such as Stellarium Web, work well with mobile and desktop browsers, and are also great for learning the constellations in your hemisphere. There are also several astronomy apps on the market today that work with the GPS of your smartphone to give an accurate map of the night sky.

Keep track of Moon phases. Both the interactive sky maps and apps will also let you know when planets and our Moon are out! This is especially important because if you are trying to look for bright deep sky objects, like the Andromeda Galaxy or the Perseus Double Cluster, you want to avoid the Moon as much as possible. Moonlight in a dark sky area will be as bright as a streetlight, so plan accordingly! And if the Moon is out, check out this Skywatcher's Guide to the Moon: bit.ly/MoonHandout

Put On That Red Light

If you're looking at your phone, you won't be able to see as much. Our eyes take approximately 30 minutes to get dark sky adapted, and a bright light can ruin our night vision temporarily. The easiest way to stay dark sky adapted is to avoid any bright lights from car headlights or your smartphone. To avoid this, simply use red lights, such as a red flashlight or headlamp. The reason: white light constricts the pupils of your eyes, making it hard to see in the dark, whereas red light allows your pupils to stay

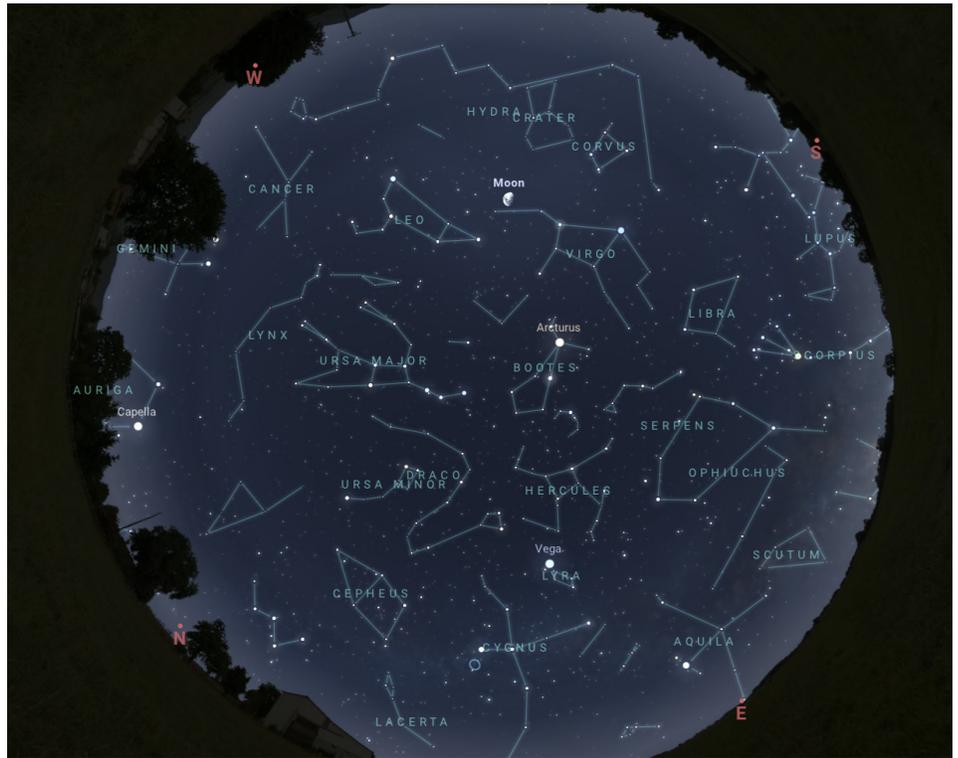
The Bortle scale helps amateur astronomers and stargazers to know how much light pollution is in the sky where they observe. Credit: International Dark Sky Association



dilated for longer. Most smartphones come with adaptability shortcuts that allow you to make your screen red, but if you don't have that feature, use red cellophane on your screen and flashlight.

Up next: why binoculars can sometimes be the best starter telescope, with Night Sky Network's upcoming mid-month article through NASA's website!

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!



A full view of the northern hemisphere night sky in mid-May. Credit: Stellarium Web.

Star Party Reports

**Chase Farm, Lincoln
Friday, April 14, 2023
by Jim Hendrickson**

After the April 17th program was clouded out, the first of three scheduled Starry Nights at Chase Farm was held on Wednesday, April 25.

The program began inside the Chase Farm Visitor Center with Kathy Hartley, president of Friends of Hearthside, giving the introductions. While Francine Jackson's presentation featured the highlights of the springtime sky and a look back at the recent

solar eclipses was underway, Bob Janus and Jim Hendrickson set up three telescopes on the hill: two four-inch refractors and an eight-inch reflector.

Sixteen guests came out on what was a rather cold and windy night that felt more like early March than late April.

Objects observed included what is perhaps our final view of Jupiter, low in the western twilight. M42 in Orion, Sirius, and Mizar and Alcor in Ursa Major were also seen.

Later in the evening, Bob gave a read-

ing of Canis Major by Robert Frost, as we'll soon be bidding farewell to the season of the canine constellation and its brightest star, Sirius.

At the end of the session, the nearly full Moon rose from behind the trees at the east end of the field, and those of us who remained until the end took a quick gaze at its golden-tinted orb before packing it up for the night.

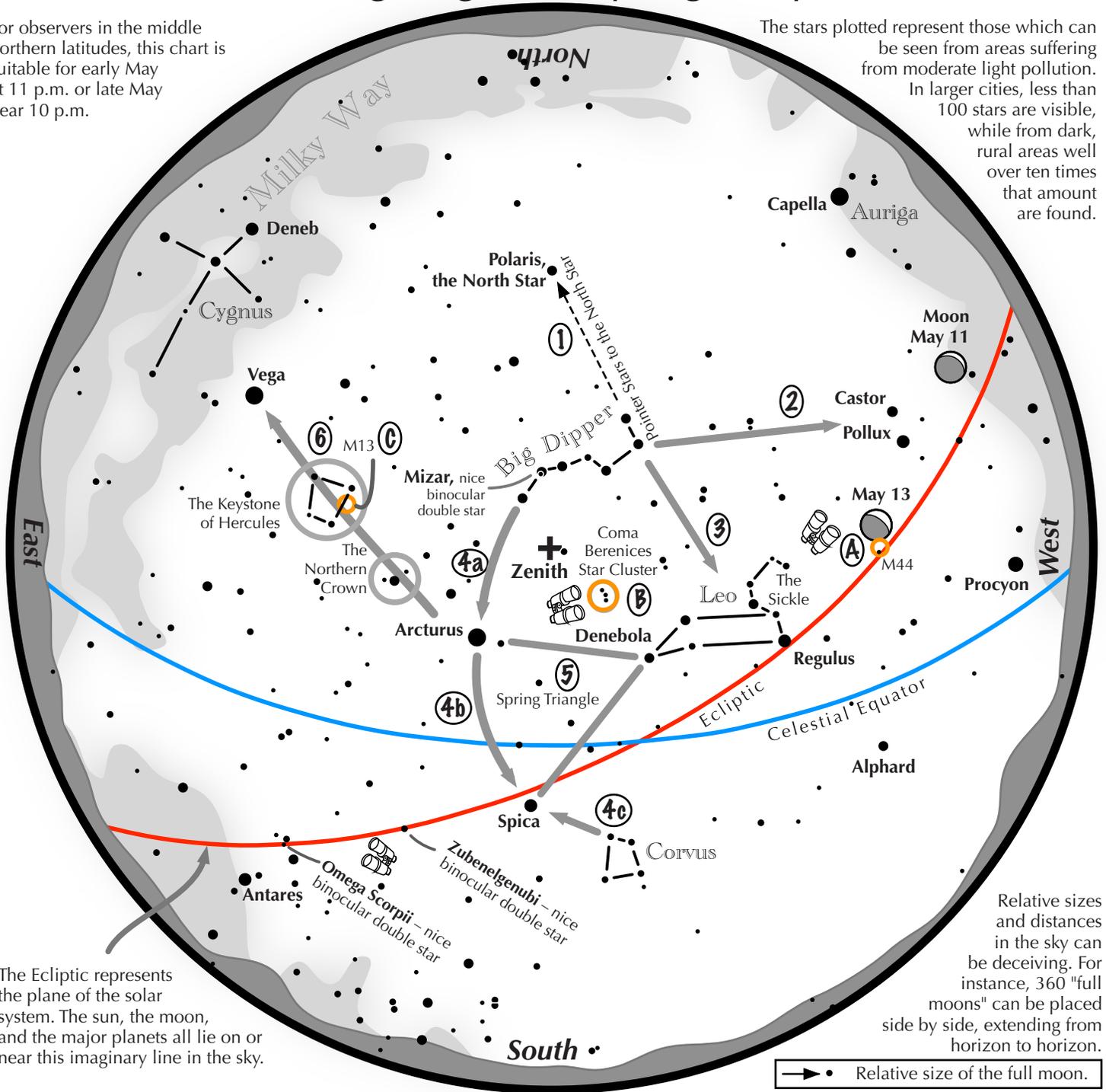
The next scheduled Chase Farm night is on Thursday, May 23.



Navigating the May Night Sky

For observers in the middle northern latitudes, this chart is suitable for early May at 11 p.m. or late May near 10 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.



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

- 1 Extend a line northward from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
- 3 Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
- 4 Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica. Confirm Spica by noting that two moderately bright stars just to its southwest form a straight line with it.
- 5 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 6 Draw a line from Arcturus to Vega. One-third of the way sits "The Northern Crown." Two-thirds of the way hides the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.

Binocular Highlights

A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **B:** Look near the zenith for the loose star cluster of Coma Berenices. **C:** M13, a round glow from a cluster of over 500,000 stars.



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The Sun, Moon & Planets in May

This table contains the ephemeris of the objects in the Solar System for each Saturday night in May 2024. Times in Eastern Daylight Time (UTC-4) for Seagrave Observatory (41.845N, 71.590W).

Object	Date	RA	Dec	Const	Mag	Size	Elong	Phase(%)	Dist(S)	Dist(E)	Rise	Transit	Set
Sun	4	2 46.3	16 02.7	Ari	-26.8	1903.4	-	-	-	1.008	05:37	12:43	19:49
	11	3 13.5	17 57.1	Ari	-26.8	1900.3	-	-	-	1.010	05:29	12:42	19:56
	18	3 41.1	19 36.7	Tau	-26.8	1897.5	-	-	-	1.011	05:22	12:42	20:03
	25	4 09.2	20 59.9	Tau	-26.8	1895.0	-	-	-	1.013	05:17	12:43	20:10
Moon	4	23 16.7	-7 46.9	Aqr	-11.1	1937.1	57° W	23	-	-	03:48	09:41	15:47
	11	5 48.7	27 56.5	Tau	-10.2	1906.0	38° E	10	-	-	07:53	16:08	00:19
	18	11 44.6	3 05.9	Vir	-12.2	1795.8	117° E	73	-	-	15:19	21:25	03:21
	25	17 24.3	-28 24.6	Oph	-12.6	1852.3	162° W	98	-	-	21:53	02:09	06:23
Mercury	4	1 13.4	4 49.5	Psc	0.9	9.1	25° W	32	0.465	0.739	04:49	11:09	17:30
	11	1 36.0	6 35.2	Psc	0.5	8.0	26° W	43	0.452	0.846	04:38	11:05	17:33
	18	2 07.2	9 37.5	Psc	0.1	7.0	25° W	55	0.426	0.962	04:30	11:09	17:49
	25	2 46.4	13 30.4	Ari	-0.3	6.2	21° W	68	0.390	1.083	04:27	11:21	18:17
Venus	4	2 14.6	12 17.3	Ari	-3.8	9.9	9° W	99	0.725	1.706	05:23	12:12	19:02
	11	2 48.1	15 10.9	Ari	-3.8	9.9	7° W	99	0.724	1.717	05:17	12:17	19:19
	18	3 22.4	17 46.0	Ari	-3.8	9.8	5° W	100	0.723	1.726	05:13	12:24	19:36
	25	3 57.6	19 58.6	Tau	-3.8	9.8	3° W	100	0.722	1.732	05:12	12:32	19:53
Mars	4	0 11.5	-0 07.9	Psc	1.1	4.8	41° W	94	1.382	1.965	04:05	10:07	16:10
	11	0 31.2	2 00.3	Cet	1.1	4.8	43° W	93	1.382	1.939	03:49	09:59	16:10
	18	0 50.9	4 06.8	Psc	1.1	4.9	44° W	93	1.382	1.913	03:34	09:51	16:10
	25	1 10.5	6 10.5	Psc	1.1	5.0	46° W	93	1.383	1.886	03:18	09:43	16:09
1 Ceres	4	19 32.1	-24 22.9	Sgr	8.4	0.5	113° W	97	2.856	2.306	01:00	05:27	09:54
	11	19 33.8	-24 45.0	Sgr	8.3	0.6	120° W	98	2.861	2.225	00:36	05:01	09:26
	18	19 34.2	-25 11.1	Sgr	8.2	0.6	126° W	98	2.866	2.149	00:11	04:34	08:57
	25	19 33.3	-25 41.1	Sgr	8.1	0.6	133° W	98	2.871	2.081	23:45	04:05	08:26
Jupiter	4	3 30.6	18 14.6	Tau	-1.9	32.8	11° E	100	5.012	5.999	06:14	13:25	20:36
	11	3 37.4	18 38.6	Tau	-1.9	32.7	6° E	100	5.014	6.018	05:51	13:04	20:17
	18	3 44.2	19 01.6	Tau	-1.9	32.6	1° E	100	5.016	6.027	05:29	12:43	19:55
	25	3 51.0	19 23.6	Tau	-1.9	32.6	5° W	100	5.017	6.026	05:06	12:23	19:39
Saturn	4	23 14.5	-6 47.5	Aqr	1.2	16.2	57° W	100	9.702	10.212	03:31	09:09	14:47
	11	23 16.6	-6 35.7	Aqr	1.2	16.4	63° W	100	9.700	10.111	03:05	08:43	14:22
	18	23 18.5	-6 25.4	Aqr	1.2	16.6	70° W	100	9.698	10.004	02:39	08:18	13:57
	25	23 20.2	-6 16.7	Aqr	1.2	16.7	76° W	100	9.696	9.893	02:12	07:52	13:31
Uranus	4	3 20.9	18 09.2	Ari	5.8	3.4	9° E	100	19.593	20.590	06:04	13:15	20:25
	11	3 22.5	18 15.5	Ari	5.8	3.4	2° E	100	19.592	20.602	05:38	12:49	20:00
	18	3 24.2	18 21.6	Ari	5.8	3.4	4° W	100	19.591	20.600	05:11	12:23	19:34
	25	3 25.9	18 27.7	Tau	5.8	3.4	11° W	100	19.590	20.585	04:45	11:57	19:09
Neptune	4	23 58.4	-1 31.4	Psc	7.9	2.2	45° W	100	29.901	30.605	03:56	09:53	15:49
	11	23 59.1	-1 27.0	Psc	7.9	2.2	52° W	100	29.900	30.517	03:29	09:26	15:23
	18	23 59.7	-1 23.1	Psc	7.9	2.2	58° W	100	29.900	30.421	03:02	08:59	14:56
	25	0 00.3	-1 19.8	Psc	7.9	2.3	65° W	100	29.900	30.318	02:35	08:32	14:29
Pluto	4	20 20.4	-22 38.9	Cap	14.5	0.2	102° W	100	35.007	34.785	01:40	06:15	10:50
	11	20 20.4	-22 40.3	Cap	14.5	0.2	109° W	100	35.012	34.675	01:13	05:48	10:22
	18	20 20.2	-22 42.0	Cap	14.5	0.2	115° W	100	35.017	34.570	00:45	05:20	09:55
	25	20 20.0	-22 43.9	Cap	14.5	0.2	122° W	100	35.022	34.471	00:18	04:52	09:27

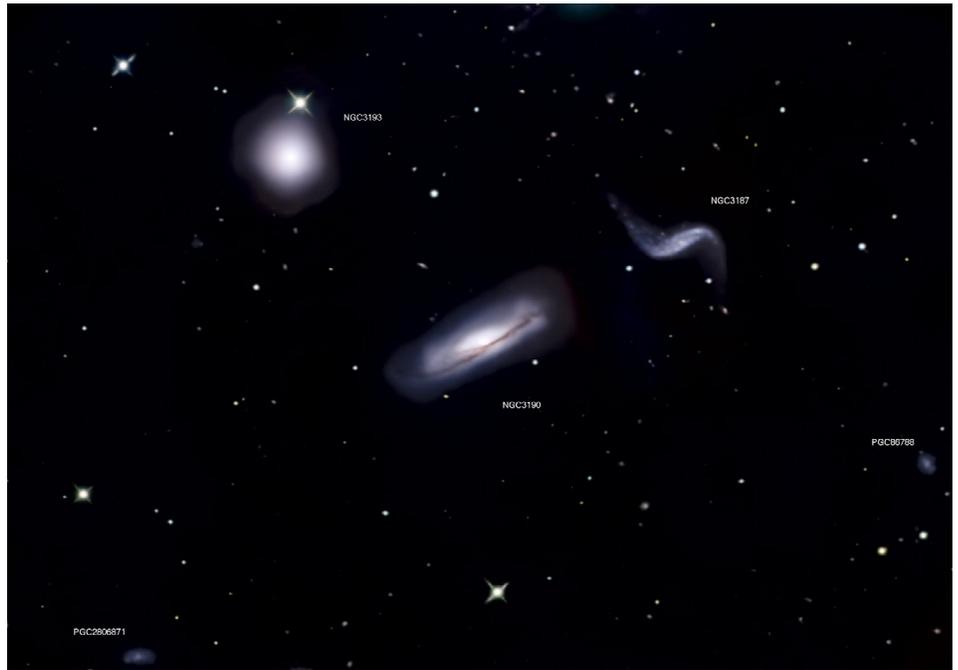
Observer's Challenge: Hickson 44: Galaxy Group in Leo

by Glenn Chaple

NGC 3185 (Barred Spiral; Mag. 12.2; Dim. 2.3' X 1.6'), NGC 3187 Barred Spiral; Mag. 13.4; Dim. 2.3' X 0.7'), NGC 3190 Spiral; Mag. 11.1; Dim. 4.4' X 1.5'), NGC 3193 Elliptical; Mag. 10.9; Dim. 2.4' X 2.2')

In 1982, the Canadian professional astronomer Paul Hickson and his colleagues published a catalog of 100 compact galaxy groups uncovered during a systematic survey of the Palomar Observatory Sky Survey red prints. Besides the obvious quality of compactness, each group had to contain at least 4 galaxies in a specified magnitude range and be isolated from larger galaxy groups. This month's Observer's Challenge, Hickson 44 in Leo, satisfies these criteria. It consists of four isolated galaxies of generally similar magnitudes squeezed into an area 12 arc-minutes across. Most Hickson Compact Groups are too faint for the average backyard telescope, but Hickson 44, is an exception.

Hickson 44 lies in the "Sickle" of the constellation Leo, midway between 2nd magnitude gamma (γ) Leonis and 3rd magnitude zeta (ζ) Leonis. The largest Hickson 44 galaxy, NGC 3190 is located at the 2000.0



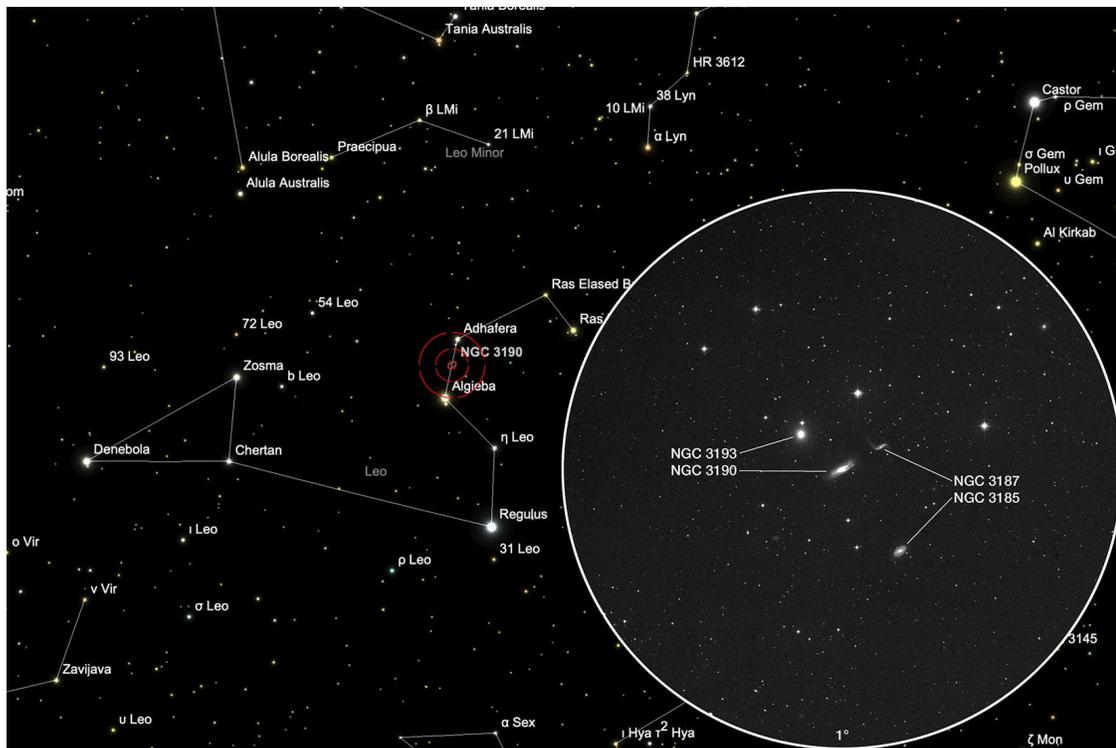
This was taken through my 32 inch F6.5 relay telescope from Gloucester MA, with a ZWO 6200 camera, and RGB filters about 2 hours total imaging, stacked and processed in Pixinsight. Mario Motta, MD (ATMoB)

coordinates RA 10h18m05.6s, and DEC +21o49'58". I found the group by star-hopping 2 degrees south of zeta (refer to accompanying finder charts). Using a 10-inch f/5 reflecting telescope and magnifying power of 139X under magnitude 5 suburban skies, I was immediately able to pick out the two brightest members, roundish NGC 3193 and oval-shaped NGC 3190. I could barely! make out an extremely faint and elusive glow where NGC 3185 should be. The 13th

magnitude barred spiral NGC 3187 was nowhere to be seen. From dark-sky areas, the three brightest Hickson 44 galaxies can be glimpsed with a 6-inch scope. NGC 3187 will require an 8 or 10-inch instrument.

William Herschel came across NGC 3190 and NGC 3193 in 1784, while NGC 3185 and NGC 3187 were discovered by William Parsons in 1850. According to a NASA website, the Hickson 44 Compact Group is 100 light years away, with NGC being the largest at a diameter of 70,000 light years.

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to anyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'd be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge, log on to rogerivester.com/category/observers-challenge-reports-complete.



Reports

Skyscrapers Executive Committee Meeting via Zoom Monday – March 18, 2024 / 7PM

Executive Committee meeting of Skyscrapers, Inc. was called to order at 7:03 pm by President Linda Bergemann. Also present virtually were: Maria Brown, Steve Brown, Russ Chaplis, Steve Hubbard, Dave Huestis, Bob Janus, Kathy Siok, Steve Siok. Total = 9

Absent: Michael Corvese, Jim Hendrickson, Bob Horton, Angella Johnson

Minutes from February 19th meeting were published in the Skyscraper without any corrections. Copies are filed on the NSN calendar.

Open Action Items

Radio JOVE (Ed)

Linda spoke with Ed Walsh. There is a connection and a software problem that need to be fixed.

Champlin Grant: On hold.

Duties for Open Night Volunteers: On hold.

Develop Planet Info Cards for Open Nights: On hold.

Consolidate Library: On hold.

Bylaws/Standing Policies

Linda working on this with Jim H. Linda and Kathy will arrange to send copy of new Bylaws to the Rhode Island Secretary of State. Kathy will take care of Rhode Island Incorporation fee.

Officer Reports

Monthly Meetings (Russ)

APRIL: Dave H – history of Seagrave and Skyscrapers.

MAY: Andrew Casey-Clyde, UCONN on “Low Frequency Gravitational Waves: A New View of the Universe.”

JUNE: Kevin Boucher, Aldrich Club on “How & Why AI Changed My Imaging Workflow.” Kevin is an astrophotographer who has taken some spectacular pictures.

JULY: Will be held Saturday, July 6th.

Linda said there was another individual who offered to speak. Steve LaFlamme waiting to talk regarding space junk.

Waiting on a reply from Southwest Research Institute.

Treasurer: Kathy reported that we are up and in the black by \$1,000 this month (primarily dues income), where last month, we were in the negative.

Kathy reviewed the budget and said they are looking at accounts where we may come in short, such as donations. Utilities have been a big expense. One area to possibly cut

is the portable toilet. We tried supporting it over the winter, but due to the weather, it was not used much. Trustees will discuss.

Membership Secretary: Angella not here, but Linda was aware of two new members.

Trustees: Steve H – has not heard anything from the other two trustees. Next month, can review “dream” purchases. The property is in good shape, and there is no need to rent a dumpster or pod. A lawnmower has been donated. The second air conditioner has been eliminated.

Linda reported that she has had trouble with the motion sensor camera. Jeff Padell rotated the camera to point in the other direction. Jim Crawford will try and trouble-shoot it. Also, there is a problem with the cameras recording video, possibly due to an issue with the software.

Program Committee: Linda presented in Mike’s absence. The Sky Puppies program is finishing up on March 25th. A total of 11 students participated and will receive a Pin and Certificate. A special certificate is being made for the 3 students who were over 11 years of age, technically too old for the program.

Steve S reported that he attended the RI State Science Fair. He met a student from Portsmouth Abbey School who is extremely interested in astronomy. She is the President of their Astronomy Club. Her project is using AI to improve image quality of infrared photographs (i.e. from Hubble and Webb). Steve and Kathy will give her a certificate and a year’s membership to Skyscrapers.

Steve said there are several international students who live on the island and those with Visas are not supposed to leave the campus. Therefore, Steve would like to bring activities and astronomy events to them, such as an observation night at the school.

A recommendation was made to add Membership Activities under the scope of the Program Committee.

Observatory Committee: Steve S: They had a clear night last Saturday night and 3 visitors. Linda commented that she saw a lot of hits on Facebook, so people are aware of events via social media.

Special Events: Kathy S reported and said she will get a special cake for the in-person April meeting, along with coffee and Russ will bring oatmeal raisin cookies.

Initial planning has started for a sum-

mer picnic/potluck for the July meeting. A suggestion was made to have the speakers for the July meeting be open to members who have something interesting to share with the group.

Linda suggested Steve H look into reserving the Community Center for Saturday, December 14th.

Historian / Librarian: Dave H said the Star Party for Burrillville schools is deferred until the Fall. He wants to determine when viewing would be good for Saturn, Jupiter, and a new moon.

Dave is finalizing his presentation on 164 years of Seagrave. He continues to work on the Historical Context, breaking down the presentations into two time periods: 1860 – 1900 Seagrave became more prolific after that. Then 1900 – 1934 will take a while because there is a lot of information to cover.

Webmaster: Jim H – no report.

Unfinished Business

April 2024 Solar Eclipse

Linda said there was a short meeting last week. Five Skyscrapers (Linda, Bob J, Jeff, Conrad, and Jim Meltzer) will be present at Seagrave Observatory, arriving at 1:00 pm, to be open 2:00 – 4:00 pm. Linda will notify the local police that they will be there. They have 300 eclipse glasses and 100 postcard “glasses.” They have a Sun Spotter from Brown they can use.

Bob J has not heard anything from the Library yet. Ladd Observatory and Frosty Drew will not be opened.

Steve S talked about the importance of educating the public on safely looking at the sun. Don’t let people put on the glasses and look through the binoculars.

Equipment Inventory

Trustees – will work on this. Still determining those items to be disposed.

Ongoing work to get the newly revised Constitution & Bylaws in publishable form.

Work continues on the Budget.

New Business

The election will be held using Election Buddy again.

AstroAssembly: Saturday, Oct 5th. Looking for a volunteer to put a notice in Amateur Astronomy and Sky & Telescope.

Skyscraper Merchandise: Kathy reported there are two online stores selling Skyscrapers’ merchandise: embroidered and screen printing. Linda can put links on the FB page. Steve B will email flyer he made to Linda.

Meeting adjourned at: 7:55 pm

Next meeting: MONDAY – APRIL 15th at 7:00 pm



Solar Eclipse April 8, 2024

Skyscrapers members Conrad Cardano, Roger Forsythe, Steve and Kathy Siok, and Linda Bergemann host Eclipse Day at Seagrave Observatory, with about 80 in attendance. Photos by Bob Janus





Totality from Boerne, TX

by Francine Jackson

It was a beautiful day in San Antonio when we arrived, ready to begin our preparation for the April 8th total eclipse. The entire state was getting prepared, as every sign on every major highway reminded every driver to start our trips early, stay long, then leave late.

Our observing site was a field next to a boutique clothing store and restaurant. The manager of both put together the day, in Boerne, Texas; there was plenty of parking, many food and souvenir trucks, and even

a place for those such as we who had registered early and became designated as VIPs. The weather was perfect, and, although there were some high clouds, the hundreds of us there were very optimistic.

Until later in the day: Clouds began to thicken, and at times started to darken. From first contact to second, we were only able to observe a couple times where the Moon was moving toward totality. And, then, when the time for totality did happen, the cloud covered the entire event.

However, suddenly, the sky opened up, and we were all able to witness what we had come for: totality! For us, it lasted about 10 seconds, not long enough to take a few images, but long enough to add this number to our eclipse notes.

After totality, when the crowd started to thin, there was talk of us meeting in 2026, either in Spain or Iceland. For any first-timers, even that short view was enough to want to see another, and it does appear that everyone there fully intends to.



Totality from Plano, TX

by Ron Zincone

My original plan was to drive up to extreme northern New England to capture the second great American eclipse on

April 8, 2024. Instead, I ended up in Plano, Texas, as a good friend of mine, Joanna, who lives in Plano, just north of Dallas, invited me down to stay with her and her mom to observe and capture the last total solar eclipse in the United States until 2044 and then 2045. I had previously missed the 2017 TSE over the U.S. and so, with a little more convincing, I decided to take her up on her offer. It was a triple win since I was successful in seeing and imaging the eclipse, see a close friend after more than 6 years, see a new State and take a much-needed vacation!

In addition, lucky me, she offered to pay for most of my trip! So, I decided to gift her my somewhat new SkyWatcher 72mm Evostar APO and Astrozap solar filter in appreciation and so that she would have a nice astronomical rig for future observing and imaging. The hotel booking was not surprisingly difficult, but they were able to find one, Knight's Inn, for one night, in Greenville, TX which is about 30-45 minutes from Plano. Probably a 2-star Inn. Anyway, it served its purpose. Watching the weather forecast closely; we began to notice that the weather gods were not aligning with Texas, especially areas south and southeast of the Dallas area. Early morning on the 8th, in Greenville, we saw that the skies were filled

with low clouds and fog. We had to make a quick decision! Stay in Greenville or head back to Plano? The accuweather forecast indicated that there was a 50/50 chance of clearer skies from Dallas and points north, so, we decided to head back to Plano.

There was also the added concern and stress of possible severe weather in the area and we did not want to be caught in massive traffic jams during severe weather. Plano was the best choice because it allowed us to see and image the TSE

in an area that was safer. The car could be inside the garage and Joanna and I had her apartment to shelter into and we

did not have to worry about being on the road and getting stuck in a massive traffic



jam. So, we decided to set up on the rooftop of the parking garage where several other people were making ready. We got lucky

but it was touch and go. The clouds moved fast and sometimes changed from partly cloudy to cloudy to mostly clear.

Luckily for us, there were enough clearing trends to allow us to see and image the TSE.

It was definitely one of my most challenging astronomical photoshoots because it was my first TSE, the window of both observing and imaging was very small at about 4 minutes of totality. It was hot and humid

and the Sun and Moon were high up in the sky. It was quite a challenging event for me since I had to be sure of critical focus while not tracking, waiting for the clear holes to capture the images, being sure exposure was good and bracketing. Since it was my first, and probably last TSE, I concentrated on imaging the eclipse but I was able to look up and around me to notice some dramatic changes in the environment such as the planets popping out, the sky horizon looking like sunset, the twilight-like darkening, the drop in temperature and at totality, see this awe-inspiring "black hole" in the sky! In all ways, an unforgettable, and

amazing trip! Upon returning to New England and learning of the clear skies and happy eclipsers on April 8th but then also hearing about 6 ½ hour traffic backups, I was grateful how things worked out.

Image data:

Williams Optics Zenithstar 81mm (559mm @ f6.9)

Televue 2.5X Powermate

Canon 6D with Manfrotto tripod

Remote shutter release

Astrozap solar filter

Image #20 of "totality" ISO 100 at 1 sec.

Image #23 of "totality with Diamond Ring" ISO 100 @ 1/10 sec.



Solar Eclipse from Gloucester, RI

by John Mannix

Meade ETX 90 and hand eclipse through viewfinder, Gloucester RI.

Totality from Lyndonville, VT

by Steve Hubbard

Sue and I were set to go to Round Rock TX near Austin. We would stay with friends and had made "reservations" a couple of years ago.

Based on the weather forecast for the Austin area as well as most of Texas, we all agreed to cancel our visit (fortunately we could bank our airfare and use it another time).

Instead, I was able to find a reservation at a place I knew in Chester VT, stayed over the night before the eclipse and drove up to Lyndonville VT above St. Johnsbury.

I found a park near the center of Lyndonville, set up about 11:30 am and enjoyed a nice sunny day. By eclipse time, there were

lots of people at the park and just before the eclipse, some high thin clouds started to appear. Just before totality, I could see the dark shadow of the Moon coming up in the west as the Sun began to fade away. As totality started, the streetlights near by went on and everyone was cheering, clapping and yelling. The eclipse was awesome, there was a large prominence that was visible to the naked eye and I could easily see Jupiter and Venus. The sunset colors were all around.

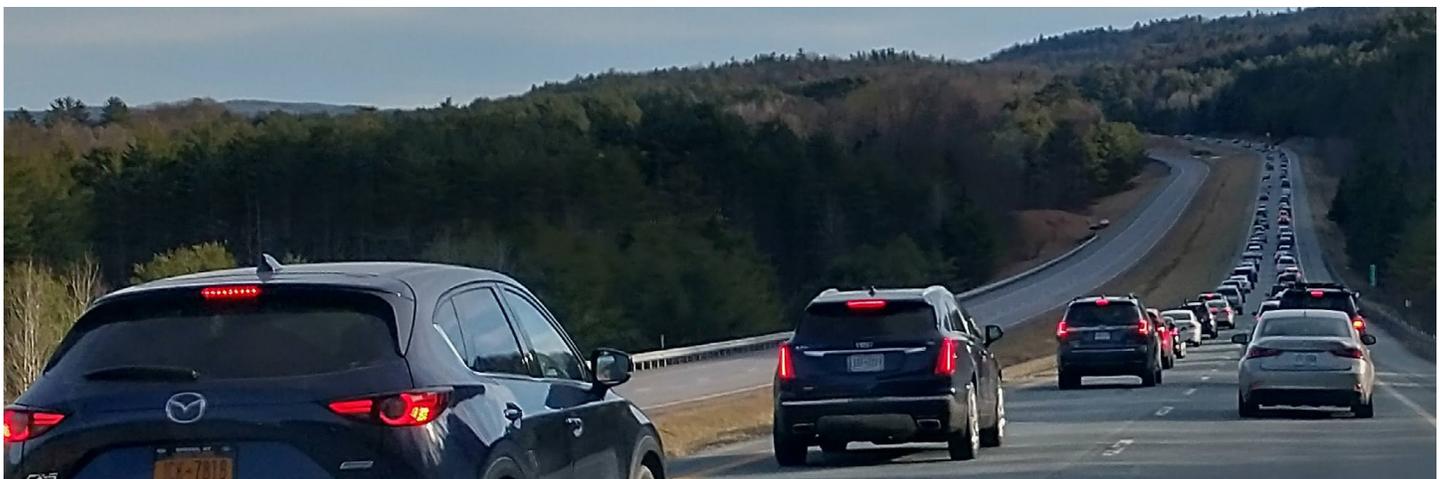
I took some pictures, but made a point to stop about mid eclipse, look visually and also with some binoculars I had.

Shortly after totality I packed up and

left hoping to beat some of the traffic. I was wrong! I was in an EPIC, MONUMENTAL traffic situation with bumper to bumper traffic for about 5 of the 7.5 hours it took me to get home. I didn't actually mind though as there were places to get off at times and I had planned ahead and had some food and water with me in the car.

All in all, this was a great eclipse and marked my 5th time under the shadow of totality.

All of my pictures were taken with my DSLR and a 300mm zoom lens.



Totality from East Providence, RI

by Tracy Prell

I took these in front of my home in East Providence. Riverside, Rhode Island

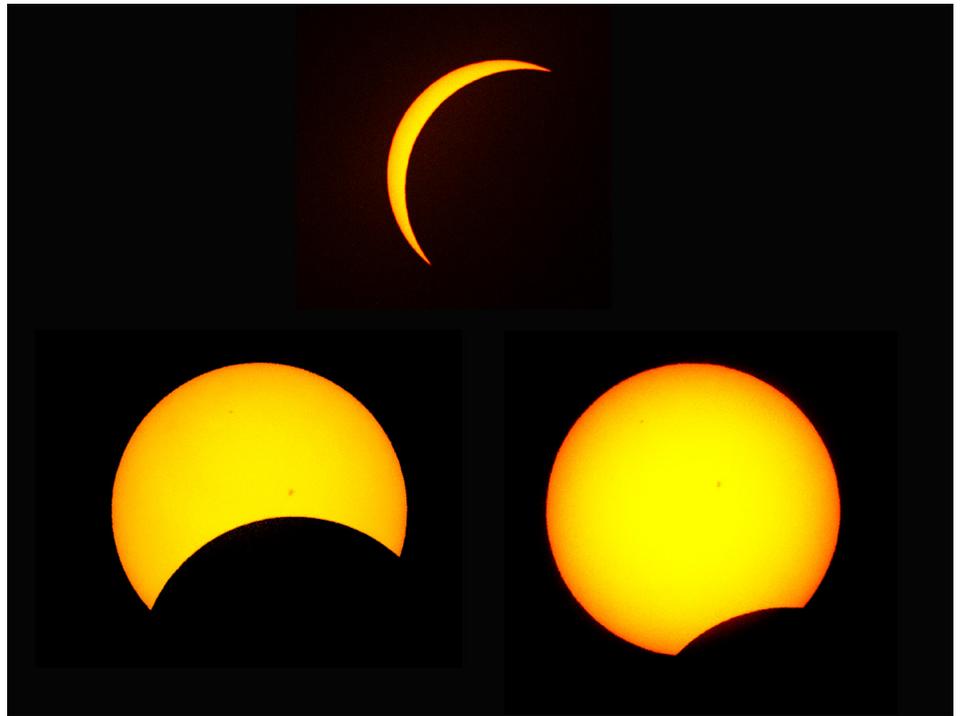
Equipment Details: Canon EOS70D with Canon EF 70-200mm f/2.8L IS II USM Telephoto Zoom Lens using a Daystar Filters and Manfrotto carbon-fiber tripod

Post-processing Details: Used Adobe Lightroom and Photoshop to remove noise and enhance the images

Image Details: I created this composite of multiple exposures of the Solar Eclipse.

Image capture times are: 14:27, 14:53 and 15:29 (92%) respectively.

Stuff for nerds like me: Aperture f/3.2 - ISO 800 - Exposure 1/800 sec



Solar Eclipse from Walpole, MA

by Jeff Padell

Partial Eclipse from home. I wasn't able to travel or even go to a clear area as we had to watch my grandson, but I set the Seestar up on my shelf in the side yard and did a time lapse a shot every 2 seconds for about a 2 1/2 minute video.

We had winds 7-10 mph which shook the scope quite a bit. Also I was getting weird effects of colors streaming to the base of the image but the Seestar only took the "good" images and none of those show. The Seestar even tracked the sun behind the trees towards the end! I was not able to adjust anything while the Seestar was filming as my 1 year old grandson fell asleep on my chest and he needed his 1 hour nap, but it worked out fine.

<https://youtu.be/jzinQIUaQOk>

Wow, captured a jet going across the partial eclipse 4/8/24. I took a timelapse, 1 shot every two seconds, with my Seestar S50 and pure luck caught a jet heading south, probably from Europe, over Boston MA. What are the chances of this, probably the only one like this yesterday anywhere!



Totality from Charlotte, VT

by John Kocur

It has been a while since my first Total Solar Eclipse in 2017 in Anderson, SC, but it was worth the wait. I left April 6 for Essex Junction, VT, to stay with my wonderful cousin Carol Limanek. I decided to beat the traffic, get there early, and spend some time with her and my other cousins John, Tom, and his children Noah, Madeline, and Elliot. On Saturday, April 7, I checked out potential locations to do eclipse photography from. Mount Philo in Charlotte was a possibility since I would be able to get an elevated view 968 feet above sea level, 650 feet above Lake Champlain. The problems I was going to have were limited space at the peak, the large number of people scrambling for a prime spot, and limited parking.

I decided to go to the Charlotte Town Beach on my cousin John's recommendation. It was just what I was looking for, a great unobstructed view of the sky and the lake with no hassle parking. It even had a picnic table that I could use for my extra equipment and supplies.

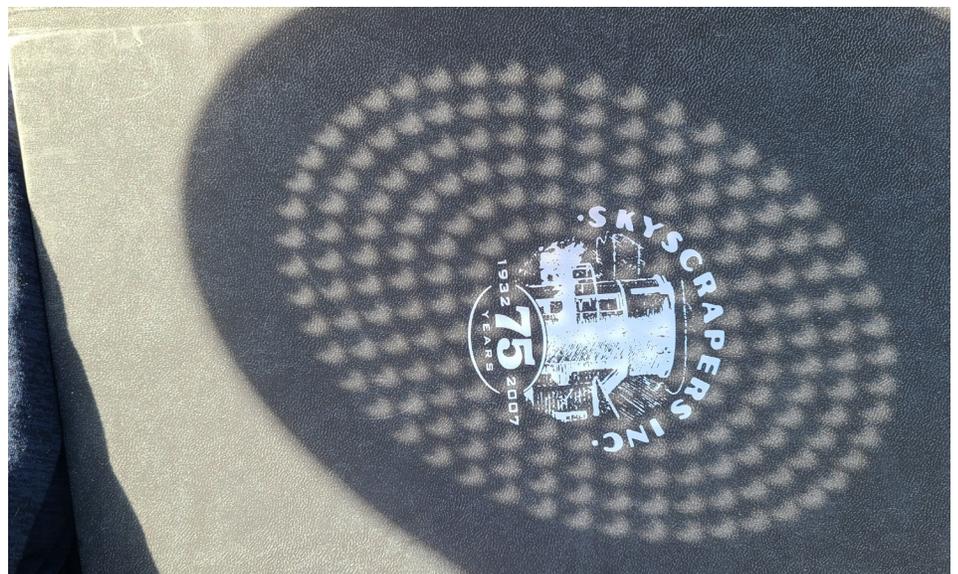
On Monday, April 8, I met my cousin John at the beach at 9:00AM, claimed our spot, and unloaded my gear. Just as I started to unpack, John spotted a cement pad and wide rock steps at the waters' edge just below the picnic table. He asked, what about this spot? I couldn't believe what I saw and jumped at the opportunity!

He helped me set my equipment up and we used my scope to view the Adirondacks with an Amici erect image prism and 25mm eyepiece.

Soon, John's wife Lori arrived with her brother Don and his wife Joan. We had lunch, then went back to the scope and did a polar alignment using a compass app on the phone.

The sky was pretty good at the time but there were high clouds on the horizon. The eclipse started a 2:14 PM and we started to photograph.

I had to do the Obi-wan Kenobi thing with my hoodie jacket wrapped round my head to block out all of the glare so I could focus the image on the camera display. I even had to use magnifying glasses and digital zoom to 10x so I could get a sharp focus. I used the Orion Eon 80 MM refractor on the Meade LXD 75 mount to track the Sun with a Canon XSi 12 MP camera and handmade solar filter using Thousand Oaks Solar film.





As the eclipse progressed, more clouds appeared, but they were high and thin. I was determined to be successful and did the best with what Nature gave me to work with.

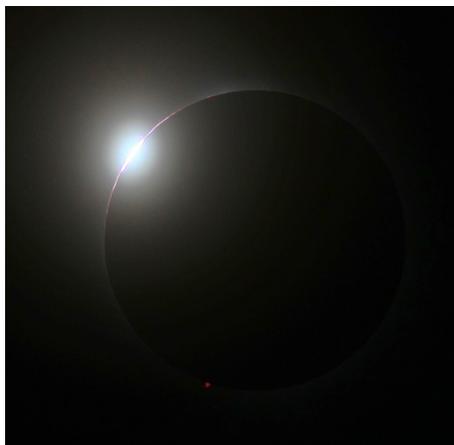
Totality began at 3:26:07 PM and ended at 3:29:22 PM. Words and pictures cannot begin to express the feeling and emotion of the experience. The Cirrus clouds gave a hazy effect to the Solar close up images. The wide field and panorama shots were just astounding and got us as close as we could get to capturing the environment and feel of the experience.

I used my Android phone's camera on the secondary tripod 30 seconds into totality, shooting in Pro Mode to get this image. It looked like the Adirondack Mountains were on fire!

John Limanek got this spectacular shot near the end of totality using his iPhone in Panorama Mode.

And before we knew it, the show was over at 4:37 PM. Time just flew by.

We got our parting image of the eclipse using colander projection with a shout out to Skyscrapers.



Solar Eclipse from Coventry, RI

by Matt White

I took this one in Coventry, RI at the moment of maximum occultation.



Totality from Newcomb, NY

by Lloyd Merrill

Here is a shot that almost didn't happen. I had been preparing for weeks to get a shot of this eclipse. I double-checked my equipment: camera, lenses, filters, tripod, etc. My goal was to be focused on the eclipse and nothing else. The problem was that I was leading a group of 13 people, including 6 of my grandchildren, who were five years and under. About 10 minutes before totality, everyone wanted to take a group photo. I reluctantly removed my camera from the tripod because I didn't want to leave my camera unattended. When I returned, I didn't notice that my solar filter had come off the camera lens. I pointed the camera at the partial eclipse, and all hell broke loose in my camera. The menu system started to blink; I couldn't set the aperture and shutter speed, and I felt devastated. The heat of the sun had roasted my camera. Just as totality hit, my camera had cooled down enough to allow me to set my aperture and shutter speed, but I had already removed my telephoto lens. I was now holding the camera in my hand with no tripod and just started shooting. This was the best image I could get.

Details:

April 8, 2024, Mon, 3:25 PM

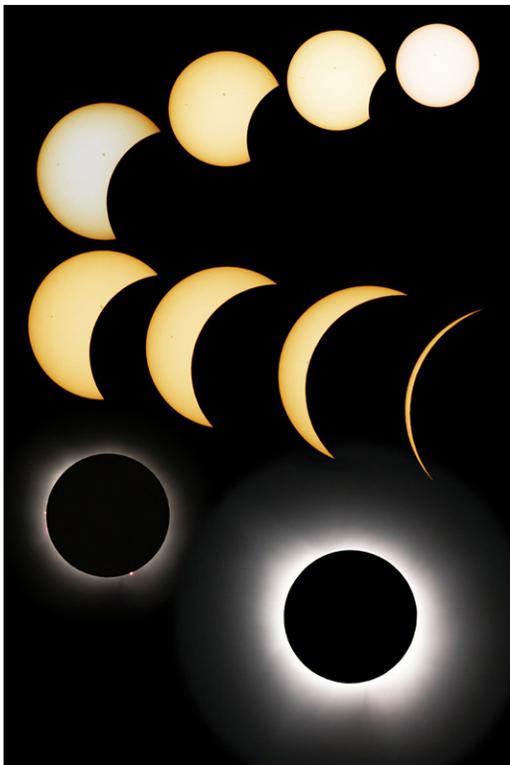
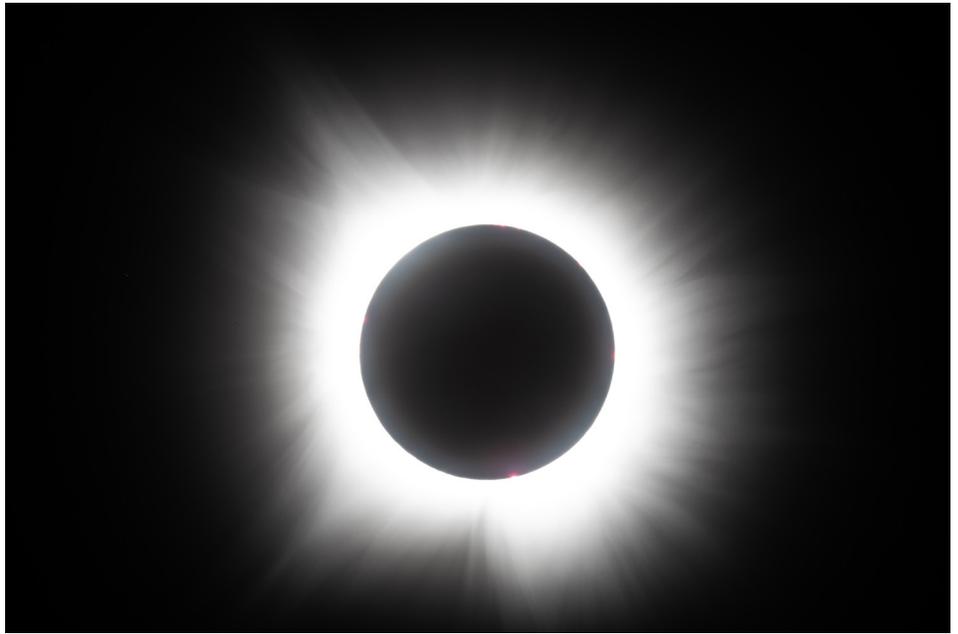
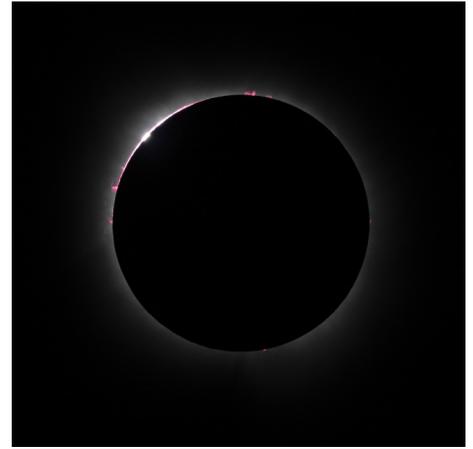
Newcomb, NY

Canon Canon EOS 7D - $f/8$, $1/250$,
85mm, ISO400



Totality from Franklin, VT

by Bob Horton

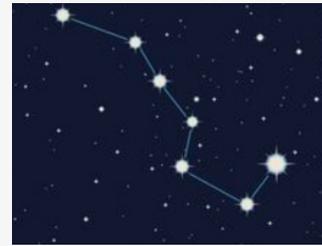


Totality from Johnson, VT

by Stephen LaFlamme

STARRY SCOOP

Editor: Kaitlynn Goulette



WHAT'S UP

This month's morning sky is home to an array of planetary targets. At about 20 degrees above the eastern horizon, Saturn shines at 1st magnitude even though it's about five months away from opposition. Ruddy-colored Mars can be found 10 degrees to the east and from May 31st to June 5th, the crescent moon joins the two wanderers. With a low horizon, Mercury can also be spotted before sunrise a few degrees above the tree line. As the weeks progress, Jupiter will enter the morning sky alongside the other planets.

Located almost directly overhead very close to the zenith lies the Big Dipper asterism, which is part of the larger Ursa Major constellation. South of this star pattern, following the imaginary water dripping from the dipper's bowl, is Leo the lion. Ursa Major is a circumpolar constellation, which means that it never dips below the horizon from here in New England. Other nearby circumpolar constellations include Ursa Minor, Cassiopeia, Cepheus, and Draco.

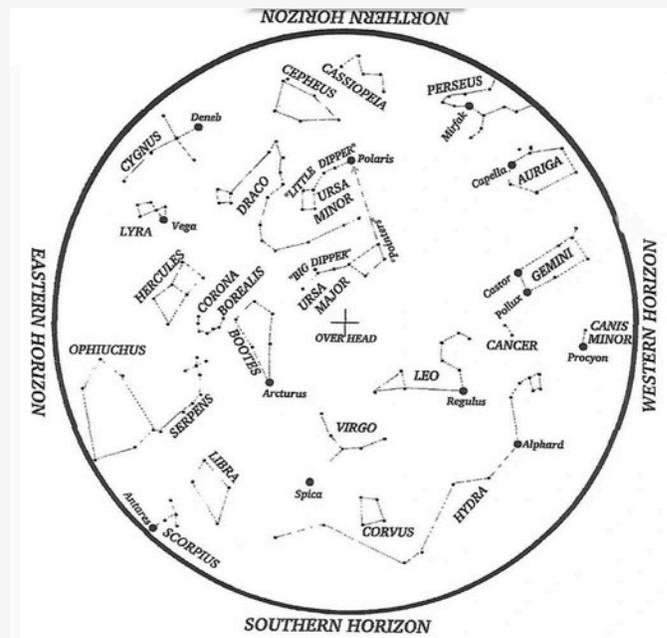
On the evening of the 6th into the morning of the 7th, the Eta Aquarid meteor shower peaks. Annually, it runs from April 19th to May 28th and on the night of its crest, it can produce up to 60 meteors an hour for those in the southern hemisphere. The northern hemisphere can expect around 30 meteors per hour. This shower is produced by dust particles left behind by Comet Halley and is best viewed from a dark location after midnight.

May 18th marks Astronomy Day, a day focused on public astronomy education and

forming connections between professionals and amateurs. This world-wide event is celebrated twice a year, once in early May and again in October. Astronomy organizations and clubs often hold gatherings centered on sharing the joy of space.

MAY'S SKY

- 6-7: Eta Aquarids Meteor Shower Peak**
- 8: New Moon**
- 9: Mercury at Greatest Western Elongation**
- 18: Astronomy Day**
- 23: Full Moon**



Credit: Roger B. Culver

Hold star map above your head and align with compass points.

OBSERVATIONS

On April 8th, people all over the country experienced the Great American Eclipse of 2024. The path of totality, the part of the world that experienced a completely covered sun, stretched from central Texas to upper Vermont and parts of Canada. I was lucky enough to experience totality alongside my friends and family.

Just mere days before the eclipse, weather forecasts were pouring in projecting clouds in Buffalo, New York, where we had hoped to view the event. After weighing the pros and cons, we decided to switch gears and landed in Fairfax, Vermont, with the help of Jenny Powers, director of the Springfield Science Museum. We stayed at a beautiful inn several miles from Mount Mansfield, from which we experienced the great natural phenomenon.

During the moments leading up to totality, the eclipse's impact on animal life became clear. The mosquitoes came in swarms and birds flew in circles, loudly chirping while darkness covered the land. Not only were the animals affected, but the temperature noticeably dropped from the beginning to the peak of the eclipse.

My sister, Krystyna Goulette, captured wonderful images of the eclipse. She practiced on the both the sun and full moon to adjust her imaging settings and is very proud of the final result. Already, my family is discussing the possibility of going to Spain in 2026 to view my third total eclipse. A huge thank you to everyone with whom I had the pleasure of sharing this memory!



The purpose of the Starry Scoop is to communicate current astronomy and space events. If you want to share your observations or get digital copies of the Starry Scoop, contact starryscoop@gmail.com. The Starry Scoop is now on Facebook. Clear skies!

OBJECT OF THE MONTH

The featured object for the month of May is Gamma Leonis, also known as Algieba, a fabulous double star in Leo the lion. In Arabic its name means forehead, reflecting its location in the constellation. The star is centered in the famous sickle asterism, which is comprised of stars that make up the lion's mane. In 2010, a planet was discovered around the larger star in the double with an estimated mass of roughly nine Jupiters.

To the unaided eye this star appears as a single point of light, but a small telescope can resolve two separate stars. Find the target in Leo, three stars up the sickle asterism. Good luck!



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