Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society. April 2025

Membership Meeting
April 12th at the Herrett Center
CSI main campus at 7:00pm

Centennial Observatory
See Inside for Details

Faulkner Planetarium
See Inside for Details

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Magic Valley Astronomical Society is a member of the Astronomical League

M-51 imaged by
Rick Widmer & Ken Thomason
Herrett Telescope - Shotwell Camera

Message from the Club President

Hi everyone: Hopefully, the weather will become more stable, but it's definitely taking its sweet time coming, 60 degrees and sunny to snow in the same week. Back to my favorite topic, Astronomy. A lot of fun and exciting things happening this month. First, our Saturday April 12th meeting program has Tim Frazer will be talking about Stellar Nurseries and hopefully we will have some lunar eclipse pictures to share. Still looking at 7pm at the Herrett Center Library.

- April 13 - Full Moon. The Moon will be found on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 00:24 UTC. This full moon was known by early Native American tribes as the Pink Moon because it marked the appearance of the moss pink, or wild ground phlox, which is one of the first spring flowers. This moon has also been known as the Sprouting Grass Moon, the Growing Moon, and the Egg Moon. Many coastal tribes called it the Fish Moon because this was the time that the shads swam upstream to spawn.

- April 21 - Mercury at Greatest Western Elongation. The planet Mercury reaches the greatest western elongation of 27.4 degrees from the Sun. This is the best time to view Mercury since it will be at its highest point above the horizon in the morning sky. Look for the planet low in the eastern sky just before sunrise.

- April 22, 23 - Lyrids Meteor Shower. Lyrids are an average shower, usually producing about 20 meteors per hour at their peak. It is produced by dust particles left behind by comet C/1861 G1 Thatcher, which was discovered in 1861. The shower runs annually from April 16-25. It peaks this year on the night of the night of the 22nd and morning of the 23rd. These meteors can sometimes produce bright dust trails that last for several seconds. The thin crescent moon will not pose much of a problem so this should be a good show. For the best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Lyra, but it can appear anywhere in the sky.

- April 27 - New Moon. The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 19:32 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

Visit our Website
www.mvastro.org

Moon Phases for April 2025

Twin Falls, Idaho, United States

SUN	MON	TUE	WED	THU	FRI	SAT
		1 Waxing crescent 15.5% 3 days	2 Waxing crescent 24.9% 4 days	3 Waxing crescent 35.4% 5 days	4 **First Quarter** **8:16 P.M.** 6 days	5 Waxing gibbous 56.9% 7 days
6 Waxing gibbous 67.0% 8 days	7 Waxing gibbous 76.1% 9 days	8 Waxing gibbous 84.0% 10 days	9 Waxing gibbous 90.5% 11 days	10 Waxing gibbous 95.4% 12 days	11 Waxing gibbous 98.6% 13 days	12 **Full Pink Moon** **6:23 P.M.** 14 days
13 Waning gibbous 99.5% 15 days	14 Waning gibbous 97.3% 16 days	15 Waning gibbous 93.4% 17 days	16 Waning gibbous 87.8% 18 days	17 Waning gibbous 80.9% 19 days	18 Waning gibbous 72.7% 20 days	19 Waning gibbous 63.4% 21 days
20 **Last Quarter** **7:37 P.M.** 22 days	21 Waning crescent 42.9% 23 days	22 Waning crescent 32.4% 24 days	23 Waning crescent 22.4% 25 days	24 Waning crescent 13.5% 26 days	25 Waning crescent 6.4% 27 days	26 Waning crescent 1.7% 28 days
27 **New Moon** **1:33 P.M.** 0 days	28 Waxing crescent 1.4% 1 day	29 Waxing crescent 5.7% 2 days	30 Waxing crescent 12.5% 3 days			

Source: The Old Farmer's Almanac,

April's full Pink Moon is a "Micro-Moon" this year. Think of this term as the opposite of a "Supermoon." It simply means that the full Moon is at its farthest point from Earth (not the nearest point). In astronomical terms, we call this "apogee." Specifically, April's Micro full Moon is about 252,225 miles from Earth.

Although we wish the name "Pink Moon" had to do with the color of the Moon, the reality is not quite as mystical or awe-inspiring. In truth, April's full Moon often corresponded with the early springtime blooms of a certain wildflower native to eastern North America: Phlox subulata—commonly called creeping phlox or moss phlox—which also went by the name "moss pink."

Thanks to this seasonal association, this full Moon came to be called the "Pink" Moon!

In Memoriam

Dr. Chris Sutton January 17, 1962 — March 16, 2025 of Buhl, Idaho.

Dr. Christopher Hamilton Sutton, PhD, passed away unexpectedly but peacefully after a brief bout of pneumonia (and several years' struggle with metastatic prostate cancer) at St Luke's Magic Valley Medical Center on March 16, 2025. His family and the hospital Chaplain were at the bedside to help see him into his new life with God. Christopher died with a prayer in his thoughts, a smile on his face and was ready to meet his Lord and Savior.

When Christopher was born on January 17, 1962, in San Francisco, California, his mother could not help but exclaim "he was the most beautiful baby!" He was born to Jeannette and Jerome Sutton, their firstborn, and a few years later welcomed his sister Amy. Jeannette's father and mother had settled in Petaluma, California, and Chris's grandfather built an adobe and redwood house with his own hands. This house survived several big earthquakes intact. Chris's grandparents established the settlement as a walnut ranch and apiary. Jeannette and her brother grew up there, and later Chris and his sister were also raised there. Chris felt that growing up on the ranch was almost a "magical experience" at times. He adored almost everything about the ranch, with its gnarled walnut trees, chickens, cats, dogs, wildlife, and pervasive scent of eucalyptus and bay. Chris loved to explore, and became an avid rockhound, amateur meteorologist and amateur astronomer, among other pursuits.

Christopher had a passion for all things scientific, and enjoyed mechanical, architectural, musical and artistic endeavors, especially where they intersected with science. He loved to write, was an avid Trekkie and Star Wars fan, and was very fond of science fiction and fantasy. Christopher had an insatiable curiosity combined with fearsome intellect. He struggled his whole life with Asperger's Syndrome (on the autistic spectrum) and Attention Deficit Disorder and other issues but pushed through and ultimately got his PhD in Chemistry at Indiana University. Dr Sutton was one of only a few dozen boron chemists in the world. During his college years he became a Christian and his love of Jesus/God became the cornerstone of his life. In keeping with this, Chris never let science cloud his belief in the Creator and never let religion confound his scientific bent. His world view intertwined his belief in God and science. Chris could see the rainbow that God gifted Noah in an opal and feel the hand of the Creator while gazing at the Milky Way through a telescope. For Chris, it was always love of God, love of family (including furry ones), and love of country.

In 1996, Christopher married Laura Fall, MD. After living in Anchorage Alaska for 2 years, they returned to Buhl Idaho to stay at their small hobby farm called Dark Skies Farm. That marriage lasted over 18 years, and they were able to adopt their 2 children, Kenneth Christopher (KC) Sutton and Jane Victoria Sutton during their union. Chris and Laura dissolved this union in 2014 but remained close friends and coparents.

Chris got around quite a bit. He was a member of Buhl Bible Church and was involved in a variety of clubs and activities, including, the **Magic Valley Astronomical Society**, Magic Valley Rock and Gem Club, and Silver Sage Grotto (spelunking). He also used to enjoy Taekwondo and had a provisional black belt and had an official NASCAR pit license when KC and Jane raced at Magic Valley Speedway. Chris had a great fondness for the outdoors and spending time with family and friends in outdoor activities.

Dr. Christopher Sutton is survived by his 2 children, KC and Jane Sutton; mother, Jeannette Sutton; sister, Amy (Kevin) Heflin; nephew, Andrew Heflin; and his ex-wife, Laura Fall, MD; along with cousins, cats, dogs, chickens and many friends.
Chris was preceded in death by his father, Jerome Sutton; and both sets of grandparents.
The family of Dr. Christopher Sutton would like to extend heartfelt thanks and appreciation to Pastor Mark Dowding and everyone at Buhl Bible Church; not only for helping us get Chris's house ready for his return (unfortunately Chris never got to see it) but also for their kind and loving support of Chris in the last years of his life. The family would also like to thank the doctors and staff in the Inpatient Rehab Unit at St Luke's Magic Valley, the folks in Palliative Care at St Luke's Magic Valley, and most especially his case manager Sabrina.

A Celebration of Life will be held at 10:00 am, Saturday, May 10, 2025, at the Buhl Bible Church,1004 Burley Avenue, Buhl, Idaho, followed by a reception at the church. In lieu of flowers, donations can be made to the Buhl Bible Church. Memories and condolences may be left on Christophers memorial webpage at www.farmerfuneralchapel.com.

The Sky This Month – April 2025

Hunting for galaxies in the spring sky.

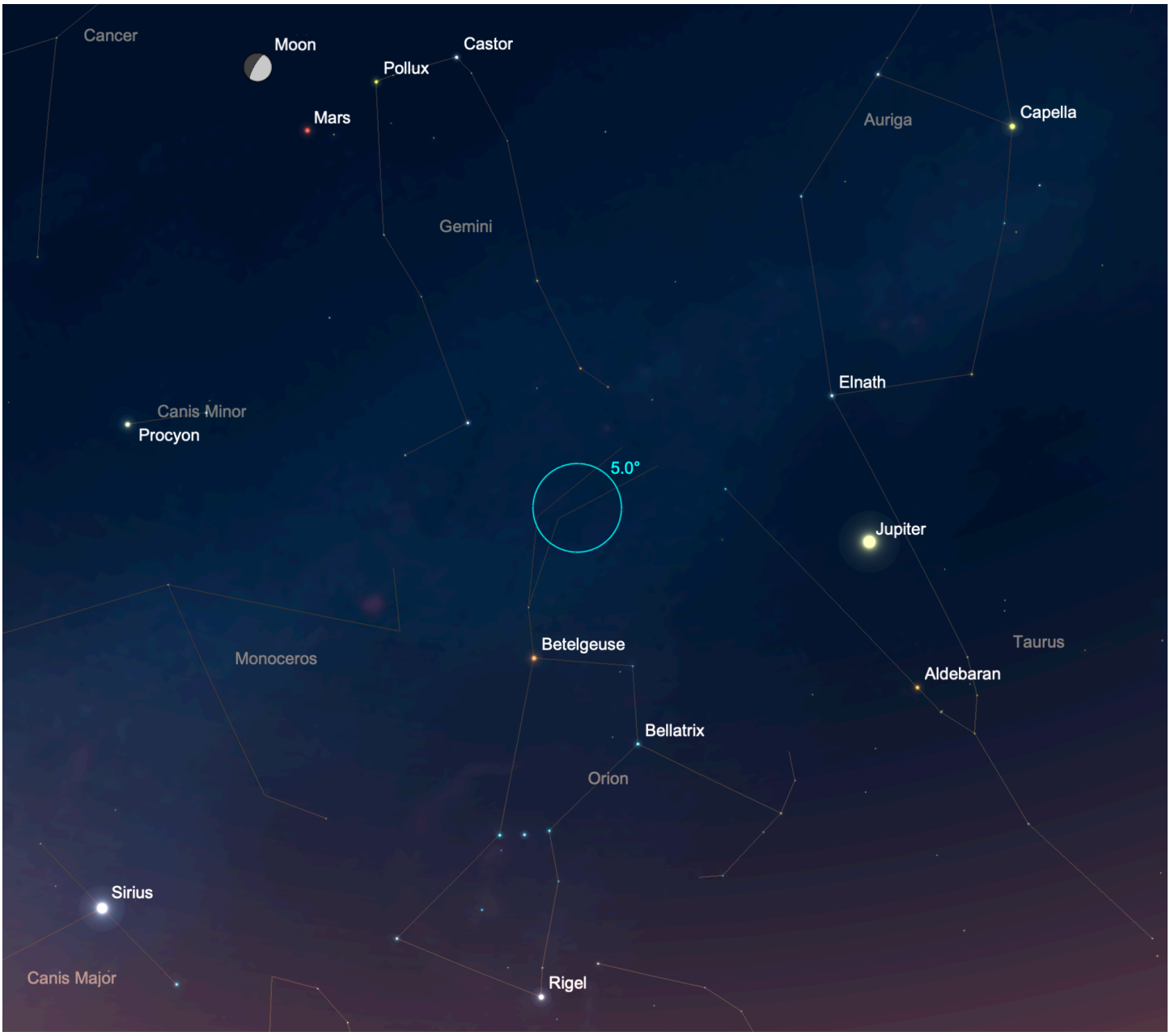
Looking for last month's 'Night Sky'? Find it at this link…)

As April arrives, the brilliant constellations Taurus, Orion, and Canis Major fade in the west after sunset and are on their way out for the year. The northern spring constellations Ursa Major, Leo, Virgo, and Coma Berenices swing into view along with vast fields of faint galaxies accessible to backyard telescopes (and even tiny smart telescopes). The first major meteor shower since early January, the Lyrids, gets underway in the latter half of the month. And Venus, Saturn, and Mercury arrive in the morning sky as Jupiter and Mars linger in the evening. Here's what to see in the night sky this month…

1 April 2025. Look westward to see Jupiter just over a degree from the waxing crescent Moon. The grand planet is moving slowly towards the setting Sun and its viewing window is closing for the year, but it's still big and bright enough for pleasant observing in binoculars or a telescope. The pair lies not far from the Pleiades star cluster. The planet has faded to magnitude -2.1, still brighter than any star, and spans about 36" in a telescope.

5 April. First Quarter Moon, 02:15 UT Look for the Moon and Mars just east of Castor and Pollux in Gemini. The four form a westward pointing arrow about 10° long with Castor at the tip. Mars is moving away from Earth now and reaches aphelion on the 17th. It shines at magnitude +0.5 with an apparent size of 8" and continues to shrink, revealing scant detail in a telescope.

13 April. Full Moon, 00:22 UT (the full 'Pink Moon'). This is the smallest full Moon of the year – a mini-moon, as it were. It lies at a distance of 406,295 km. It appears 14% smaller than a so-called 'super moon'.



Mars, the Moon, Castor and Pollux on the evening of April 5, 2025.

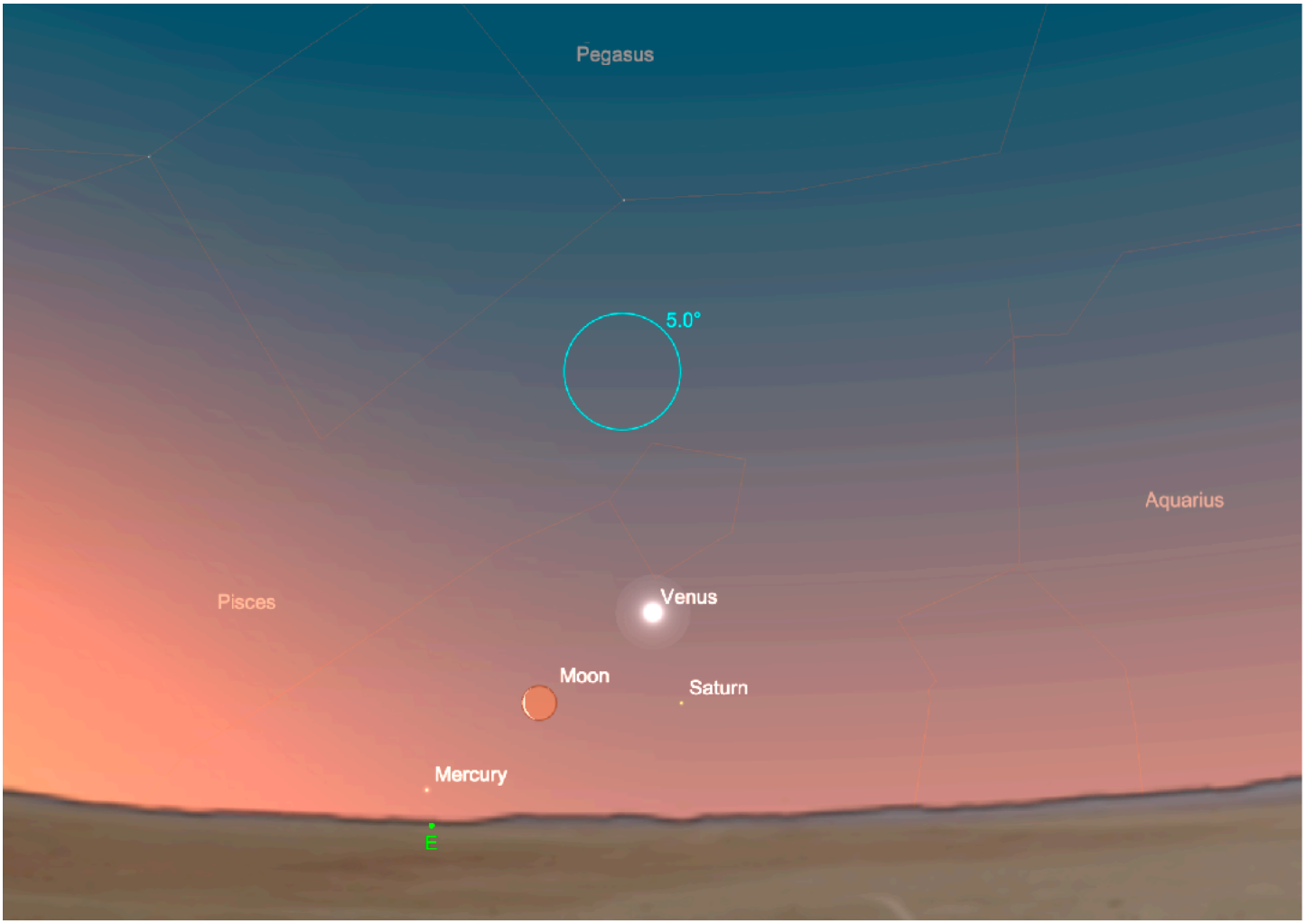
12 April. Yuri's Night Celebrating the launch of Cosmonaut Yuri Gagarin into space in 1961. STS-1 Space Shuttle Columbia Launched-1981. The full Moon draws close to the bright star Spica in the constellation Virgo.

17 April. Scorpius and its Lucida Antares rise low in the southeast before dawn, and tonight the waning gibbous Moon follows behind by about 4°.

19 April. The waning gibbous Moon continues its path eastward and now lies embedded in the Teapot asterism of the constellation Sagittarius.

21 April. Last Quarter Moon, 01:38 UT

21-22 April. The Lyrid meteor shower peaks in the early-morning hours. This is the first significant meteor shower since the Quadrantids in early January. The Lyrids display some 15-20 meteors per hour in good conditions and trace their apparent paths back to a point between the constellations Hercules and Lyra, both of which rise in the east around midnight. The last-quarter Moon only slightly hinders viewing this year. The Lyrids arise as the Earth passes through the path of Comet Thatcher (C/1861 G1). While the shower peaks tonight, it runs from April 14-30, approximately. You can see the Lyrids anywhere in the sky – just look up.



A conjunction of the waning crescent Moon, Mercury, Venus, and Saturn in the eastern morning sky before dawn on April 25, 2025.

24-25 April. Rise early, before sunrise, and look east to see Venus, Saturn, and a thin crescent Moon low in the eastern sky. After inferior conjunction last month, Venus now enters the morning sky at a brilliant magnitude -4.5. Saturn has also newly emerged in the morning sky and shines at magnitude +1.2. The trio form an isosceles triangle on the 25th. If you can see right to the horizon, look for Mercury below and to the east of the Moon. on the 25th. While it's bright at magnitude +0.3, it lies just a few degrees above the horizon and requires very clear sky to see in the northern hemisphere. Southern-hemisphere observers get a much better view of Mercury this month as it appears well above the horizon.

27 April. New Moon, 19:31 UT. This is the largest 'new Moon' of the year, but of course, you can't see it. Although you can see the larger-than-average slender crescent in the day or two just before and after new moon.

28 April. A one-day old Moon, extremely thin, emerges about 5º from the Pleiades at dusk in the western sky.

30 April. Still a thin crescent, the Moon lies about 7° from Jupiter low in the west after sunset, much like it did at the beginning of the month.

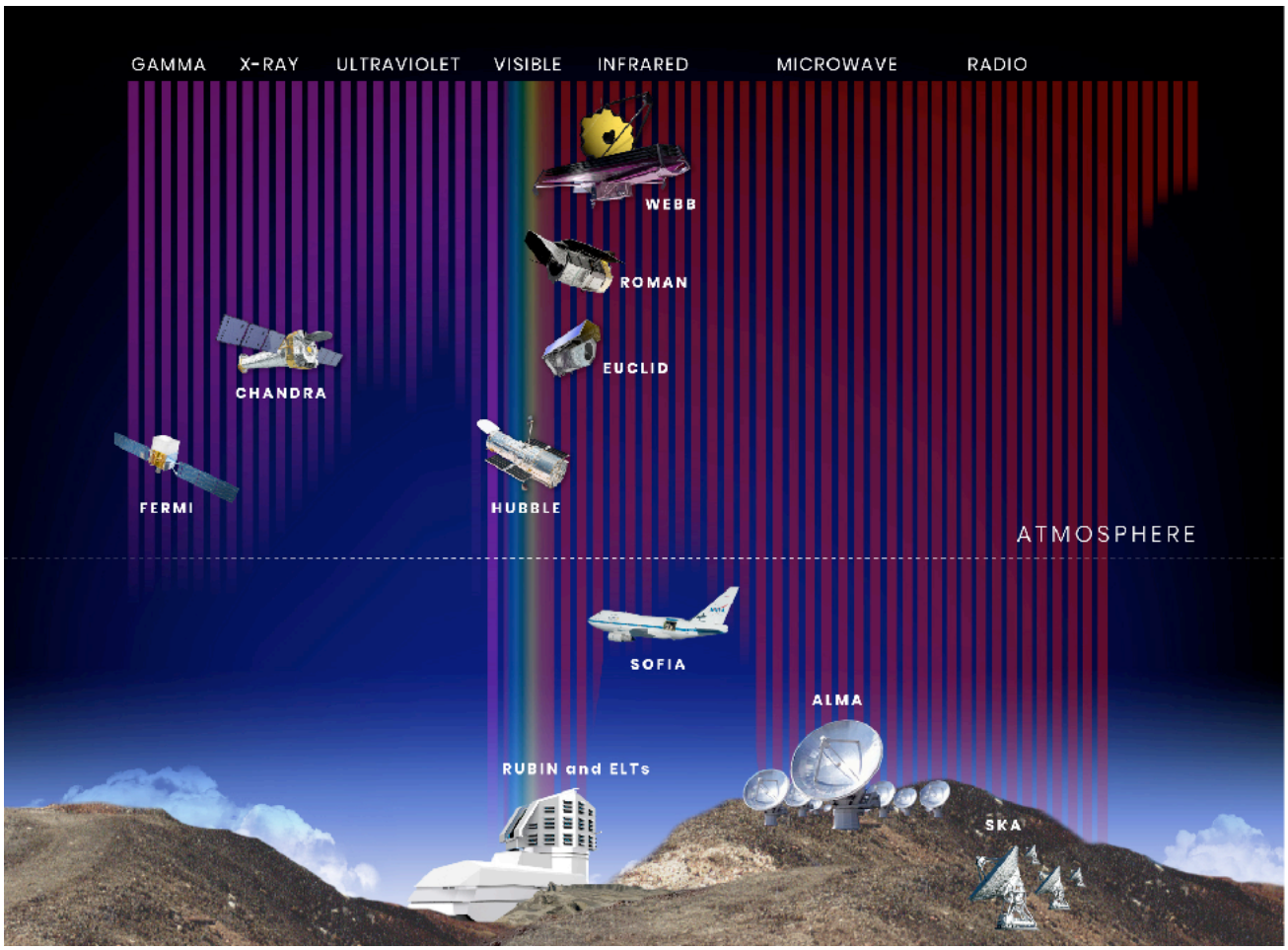
April Night Sky Notes: Catch the Waves!

This article is distributed by the NASA Night Sky Network (NSN), a coalition of hundreds of astronomy clubs across the US dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, stargazing info and more.

by Kat Troche of the Astronomical Society of the Pacific

The Electromagnetic Spectrum

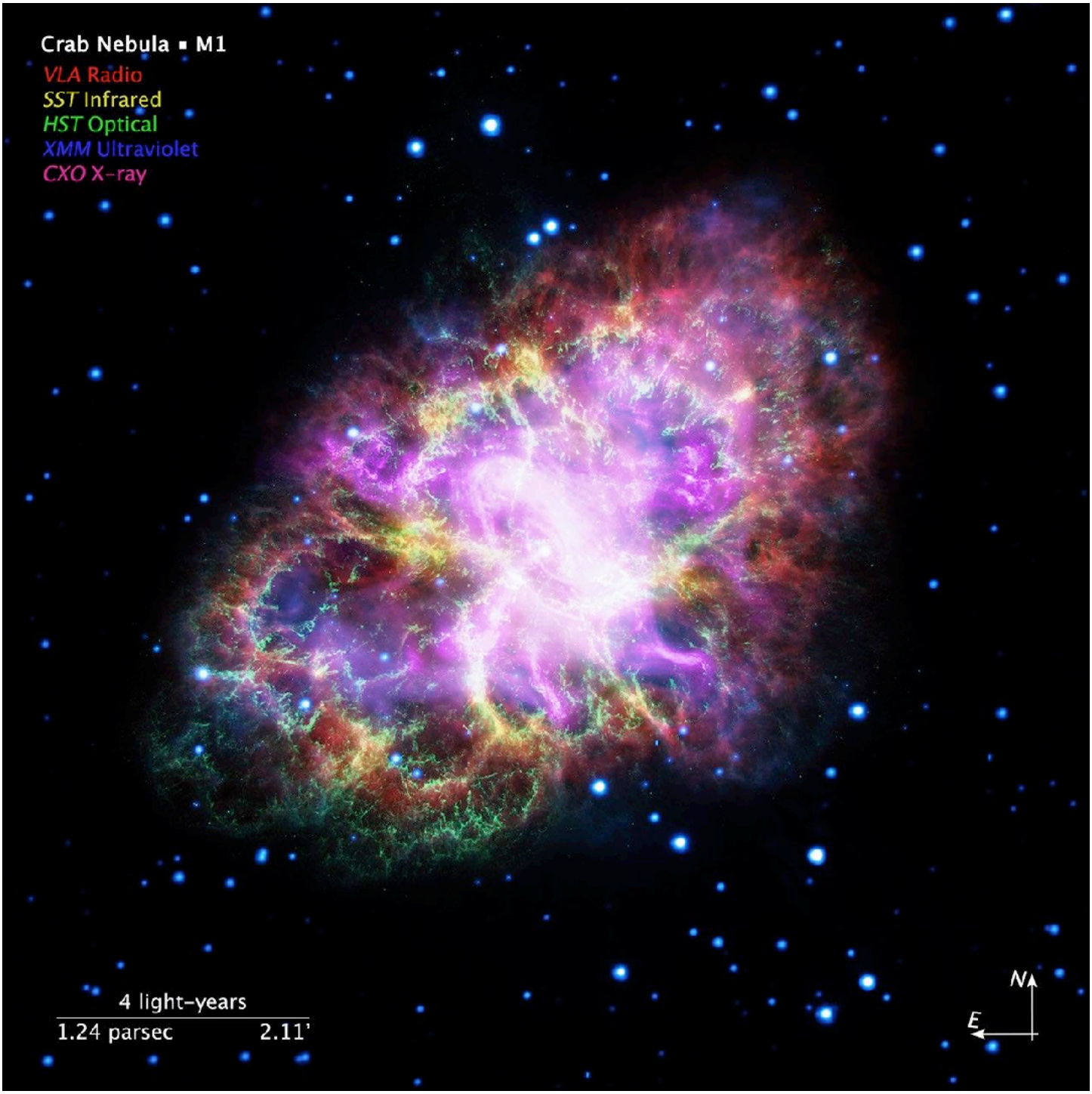
If you've ever heard the term "radio waves," used a microwave or a television remote, or had an X-ray, you have experienced a broad range of the electromagnetic spectrum! But what is the electromagnetic spectrum? According to Merriam-Webster, this spectrum is *"the entire range of wavelengths or frequencies of electromagnetic radiation extending from gamma rays to the longest radio waves and including visible light."* But what does **that** mean? Scientists think of the entire electromagnetic spectrum as many types of light, only some that we can see with our eyes. We can detect others with our bodies, like infrared light, which we feel as heat, and ultraviolet light, which can give us sunburns. Astronomers have created many detectors that can "see" in the full spectrum of wavelengths.



Planets, stars, galaxies, and other objects in space give off a wide range of visible and invisible forms of light. Because different forms of light have different characteristics, no single observatory can detect all wavelengths. Astronomers typically rely on data from multiple ground- and space-based telescopes to fully understand the objects and phenomena they are studying. This illustration shows the wavelength sensitivity of a number of current and future space- and ground-based observatories, along with their position relative to the ground and to Earth's atmosphere. The wavelength bands are arranged from shortest (gamma rays) to longest (radio waves). The vertical color bars show the relative penetration of each band of light through Earth's atmosphere. NASA, STSc.

Telescope Types

While multiple types of telescopes operate across the electromagnetic spectrum, here are some of the largest, based on the wavelength they primarily work in:

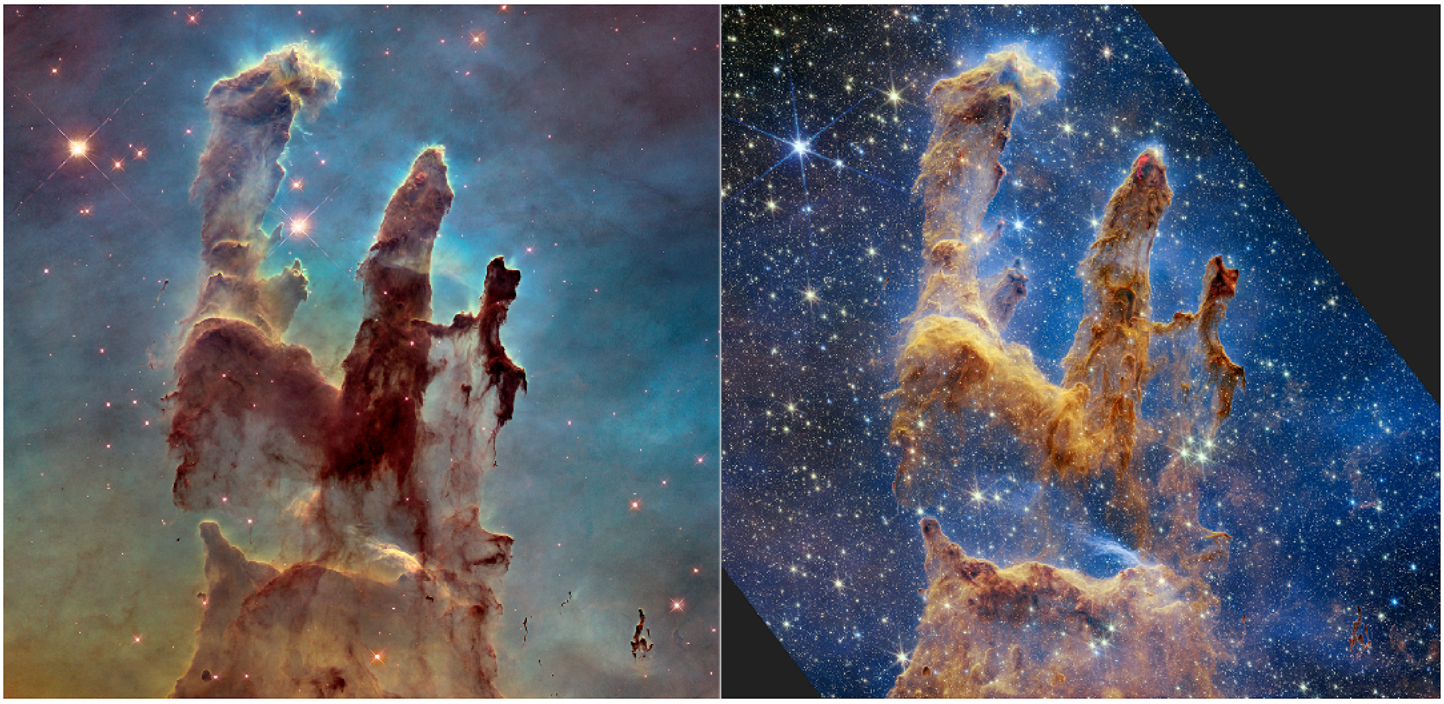


Above: The Crab Nebula, located in the Taurus constellation, is the result of a bright supernova explosion in the year 1054, 6,500 light-years from Earth. Credit: X-ray: NASA/CXC/SAO; Optical: NASA/STScI; Infrared: NASA/JPL/Caltech; Radio: NSF/NRAO/VLA; Ultraviolet: ESA/XMM-Newton

- **Radio:** probably the most famous radio telescope observatory would be the Very Large Array (VLA) in Socorro County, New Mexico. This set of 25-meter radio telescopes was featured in the 1997 movie Contact. Astronomers use these telescopes to observe protoplanetary disks and black holes. Another famous set of radio telescopes would be the Atacama Large Millimeter Array (ALMA) located in the Atacama Desert in Chile. ALMA was one of eight radio observatories that helped produce the first image of supermassive black holes at the center of M87 and Sagittarius A* at the center of our galaxy. Radio telescopes have also been used to study the microwave portion of the electromagnetic spectrum.

- **Infrared:** The James Webb Space Telescope (JWST) operates in the infrared, allowing astronomers to see some of the earliest galaxies formed nearly 300 million years after the Big Bang. Infrared light allows astronomers to study galaxies and nebulae, which dense dust clouds would otherwise obscure.

An excellent example is the Pillars of Creation located in the Eagle Nebula. With the side-by-side image comparison below, you can see the differences between what JWST and the Hubble Space Telescope (HST) were able to capture with their respective instruments.



NASA's Hubble Space Telescope made the Pillars of Creation famous with its first image in 1995, but revisited the scene in 2014 to reveal a sharper, wider view in visible light, shown above at left. A new, near-infrared-light view from NASA's James Webb Space Telescope, at right, helps us peer through more of the dust in this star-forming region. The thick, dusty brown pillars are no longer as opaque and many more red stars that are still forming come into view. Credits: NASA, ESA, CSA, STScI; Joseph DePasquale (STScI), Anton M. Koekemoer (STScI), Alyssa Pagan (STScI).

- **Visible:** While it does have some near-infrared and ultraviolet capabilities, the Hubble Space Telescope (HST) has primarily operated in the visible light spectrum for the last 35 years. With over 1.6 million observations made, HST has played an integral role in how we view the universe. Review Hubble's Highlights here.

- **X-ray:** Chandra X-ray Observatory was designed to detect emissions from the hottest parts of our universe, like exploding stars. X-rays help us better understand the composition of deep space objects, highlighting areas unseen by visible light and infrared telescopes. This image of the Crab Nebula combines data from five different telescopes: The VLA (radio) in red; Spitzer Space Telescope (infrared) in yellow; Hubble Space Telescope (visible) in green; XMM-Newton (ultraviolet) in blue; and Chandra X-ray Observatory (X-ray) in purple. You can view the breakdown of this multiwavelength image here.

Try This At Home Even though we can't see these other wavelengths with our eyes, learn how to create multiwavelength images with the Cosmic Coloring Compositor activity and explore how astronomers use representational color to show light that our eyes cannot see with our Clues to the Cosmos activity.

Phil Harrington's Cosmic Challenge

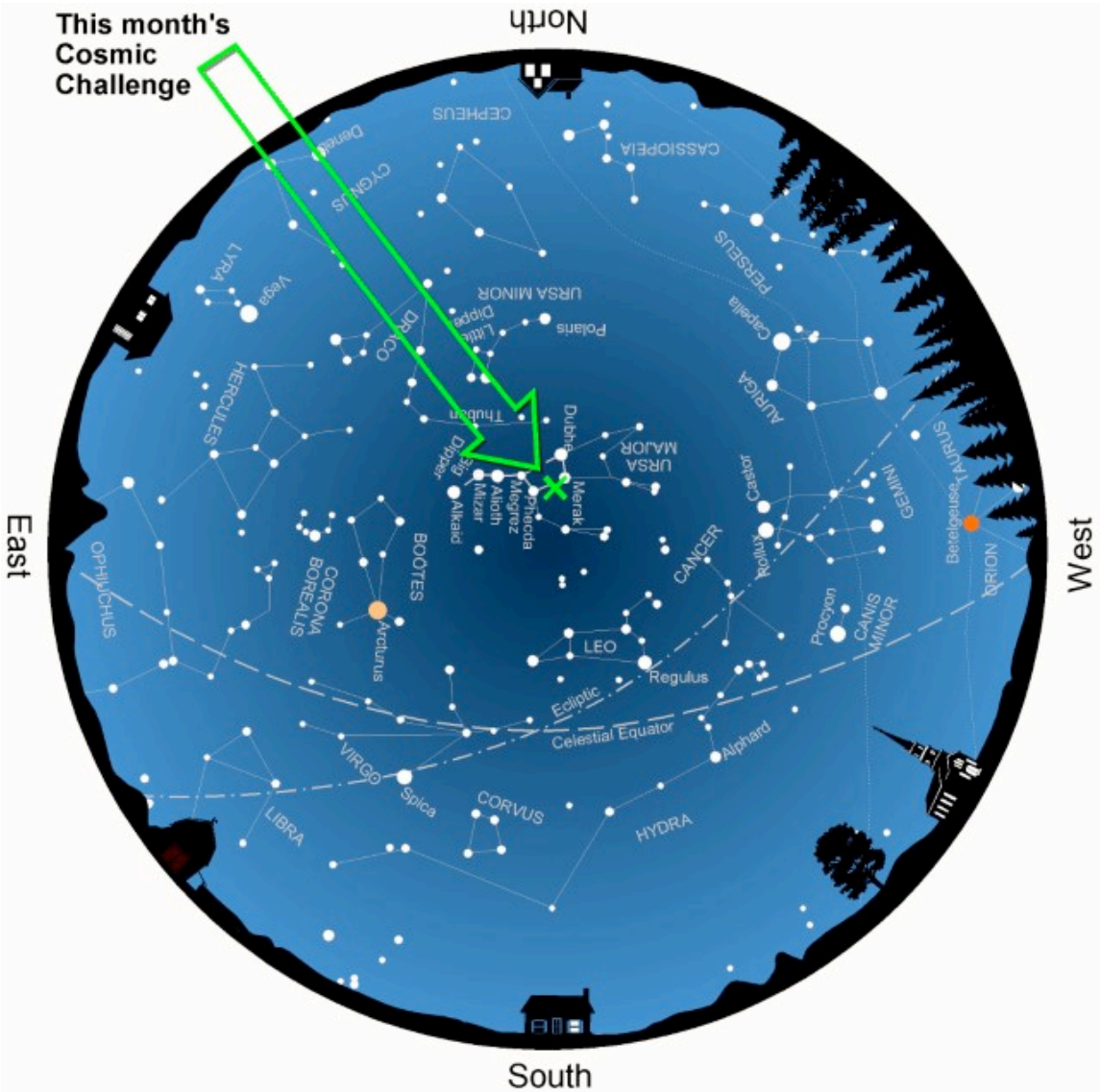
Hickson Compact Galaxy Group 50	
	**<u>This month's suggested aperture range</u>:** 15-inch (38-cm) and larger telescopes This month's featured telescope JMI 18"

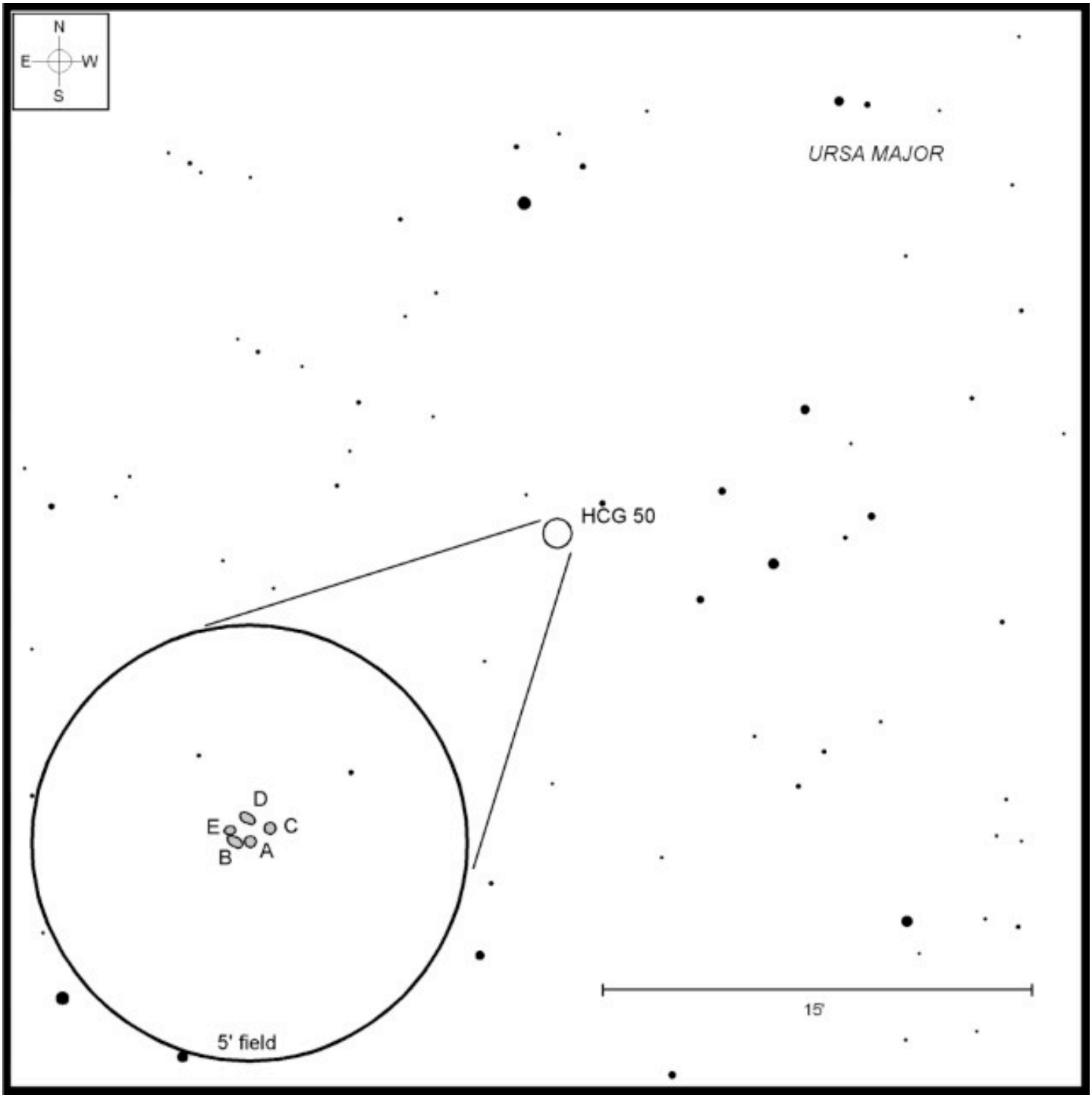
Target	Type	RA	DEC	Constellation	Magnitude	Size
HCG 50	Galaxy group	11h 17.1m	+54° 55.3'	Ursa Major	varies	<1'

Observing compact galaxy groups from Paul Hickson's 1982 study is an interesting challenge for owners of the largest backyard telescopes. Most are at the edge of detection, even from dark sites, and so offer great tests of our observing skills as well as the quality of our instruments' optics.

Last month, I challenged you to observe Hickson Compact Group 44 (HCG 44). Many of you posted your success stories in that column's discussion forum, which were great to read. This month, we are back in search of even bigger game.

Below: Evening star map. Credit: Map adapted from Star Watch by Phil Harrington





Above: Finder chart for this month's Cosmic Challenge.

I especially enjoy the hunt for number 50 in Hickson's list of 100. Hickson Compact Galaxy Group 50 (HCG 50) is comprised of five dismally faint galaxies crammed into an incredibly tight 45". The table below lists details of each.

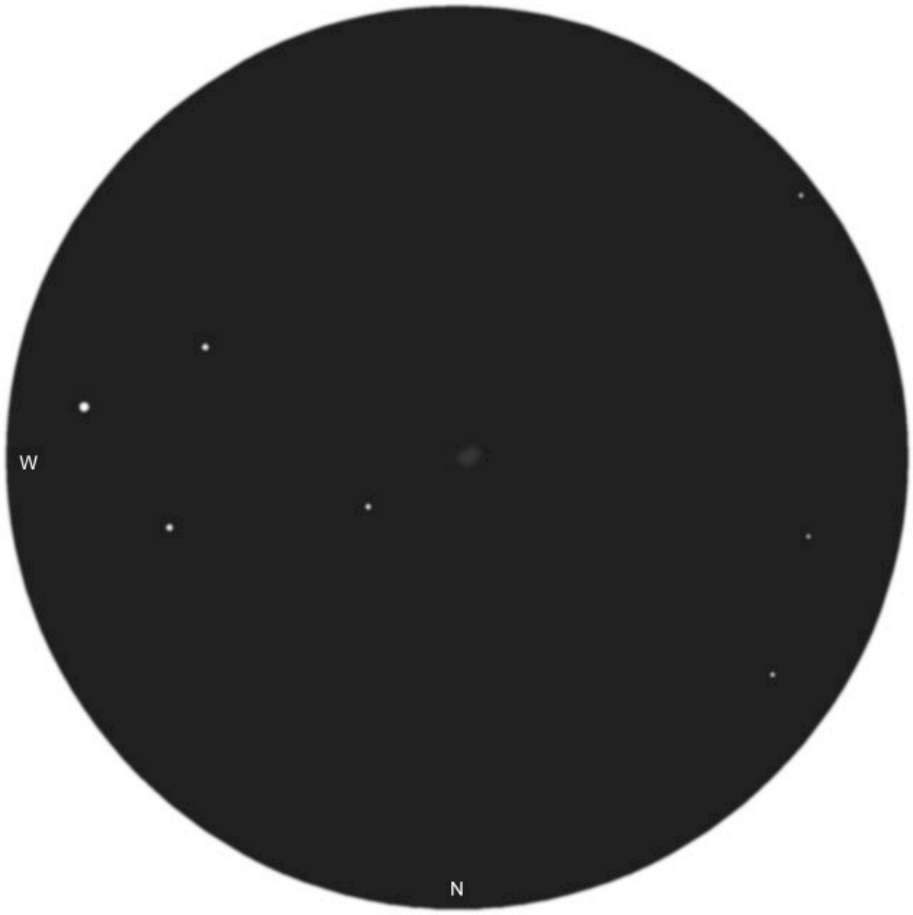
Members of HCG 50

Target	RA	DEC	Magnitude*	Size*
HCG 50A (PGC 34447)	11 17.1	+54 55.0	18.7	0.2'x0.2'
HCG 50B (PGC 34452)	11 17.1	+54 55.0	18.9	0.3'x0.1'
HCG 50C (PGC 34444)	11 17.1	+54 55.3	19.6	0.2'
HCG 50D (PGC 34448)	11 17.1	+54 55.4	19.5	0.3'x0.1'
HCG 50E (PGC 34453)	11 17.1	+54 55.2	20.0	0.2'x0.1'
* Note: magnitude and size values from Megastar v5				

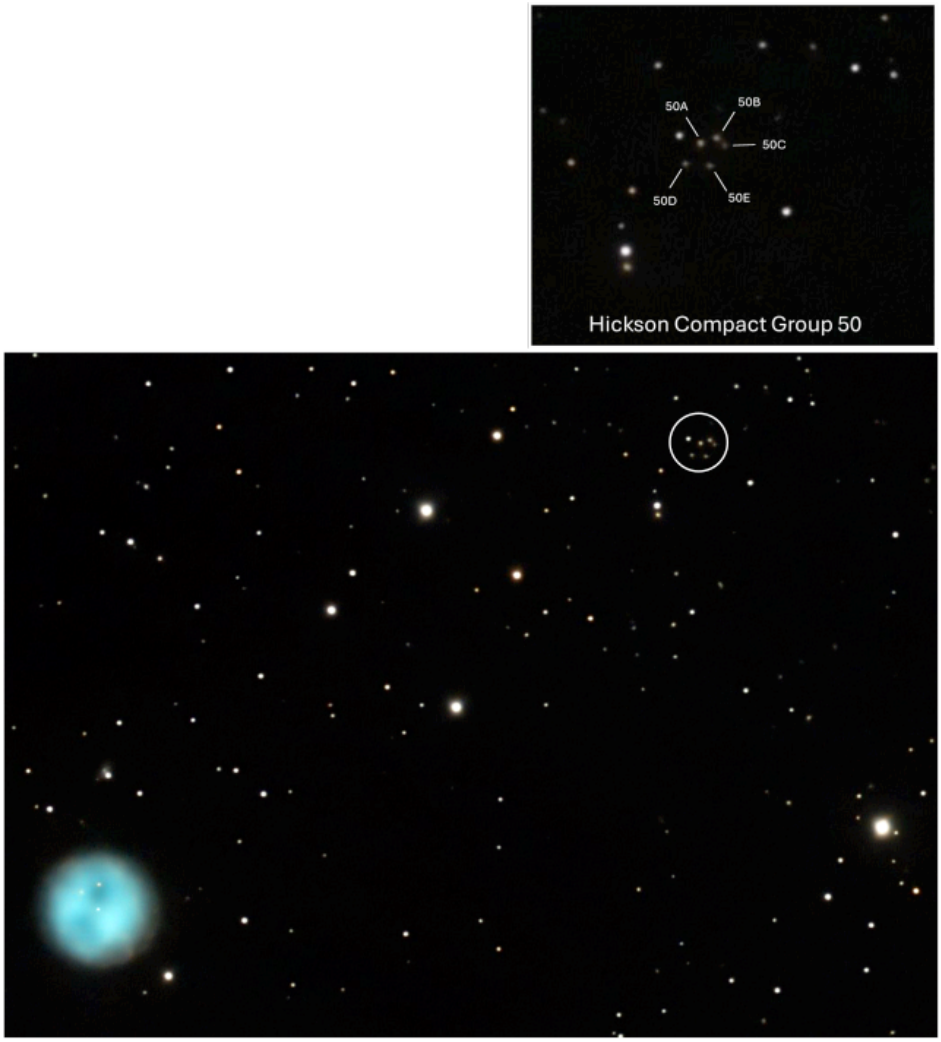
Why is this my favorite Hickson challenge? Largely for the company it keeps. HCG 50 is just 1/2° east-southeast of M97, the famous Owl Nebula, which is fascinating in its own right through large apertures. I rarely head out on a spring night when I don't at least stop by the pay the Owl a quick visit. If the sky is clear enough, I'll often continue on to HCG 50. If I can make out even the faintest hint of it, then I know the night is, in fact, quite special.

To spot HCG 50, begin by placing M97 in the center of a medium-power eyepiece; I tend to favor a 12-mm eyepiece (171x) in my 18-inch. Moving the Owl off to the northwestern edge of the field brings a distinctive asterism of four stars in the shape of the Hercules keystone into view. HCG 50 is just 9' east of the keystone's center. For scale, each side of the keystone measures between 3' and 4' in length.

From my suburban backyard observatory, the best I can report of this challenge is seeing a slightly elongated smudge in the right spot that is just barely above the background at 171x and 206x. I have never been able to resolve the individual galaxies, even at 300x or more. I believe the smudge I saw was the combination of HCG 50A and 50B, the two brightest members of the group. HCG 50C and 50D are both fainter and evaded my quest, as did the dimmest, HCG 50E.

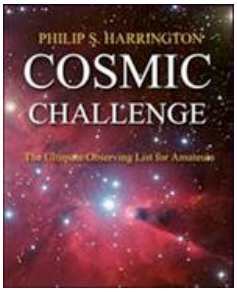


Above: Digitized sketch of HCG 50 through the author's 18-inch (46-cm) reflector.



Above: HCG 50 (and the Owl Nebula) taken through the author's Celestron Origin Home Observatory astrograph. Click here for a full size image and exposure details on the author's Astrobin page.

The fact that I can see any evidence of the group's existence through a 5th-magnitude sky attests to the fact that we should not be put off by faint magnitude values. Notice how the magnitudes for each galaxy here is its "B" or "blue magnitude." That is often how galaxies are listed, but it can be deceiving. In general, so-called blue magnitudes are biased toward lower values than visual magnitudes. A target with a blue magnitude of, say, 18 may appear closer to magnitude 16 visually. Here's something to ponder. These galaxies are estimated to be between 1.5 and 2 billion light years away. The light I recorded from my backyard left those galaxies when life on Earth consisted primarily of single-celled organisms, with the most significant development being the emergence of "eukaryotes" - cells with nuclei, which eventually led to the evolution of all multicellular life. Our planet was covered by a vast ocean and had no continents at all. For the past 1.5 to 2 billion years, that light has been screaming along at an incredible 186,000 miles (300,000 kilometers) every second – 5.88 trillion miles (9.46 trillion kilometers) every year -- just to reach my telescope. It's numbers and realizations like those that have kept me captivated by this science and hobby for almost 60 years.
Discuss this article in our forums



About the Author:

Phil Harrington is a contributing editor to Astronomy magazine and is the author of 9 books on astronomy. Visit www.philharrington.net to learn more.

What's Up, Doc? †

Dr. Aaron B. Clevenson, Observatory Director, Insperity Observatory

This document tells you what objects are visible this month for many of the Astronomical League Clubs. If you are working on one of the more advanced clubs, then I assume that you are also probably tracking where your objects are all the time. This concentrates on the more common and starter level clubs. All times are Mountain Time.

Naked-Eye Clubs

Meteors – any night, any time, anywhere, the darker the sky the better.

Shower Duration Maximum Type
Lyrids 4/14 to 4/30 4/23 0100 UTC CLASS 1
Eta Aquariids 4/15 to 5/27 5/6 CLASS 1
Pi Puppids 4/16 to 4/30 4/24 0600 UTC Class 3
Delta Pavonids 3/11 to 4/16 3/31 Class 4
April Epsilon Delphinids 3/31 to 4/20 4/9 Class 4
Alpha Virginids 4/6 to 5/1 4/18 Class 4
Kappa Serpentids 4/11 to 4/22 4/16 Class 4
h-Virginids 4/24 to 5/4 5/1 Class 4

Key to Meteor Classes:
• Class 1 – Major Meteor Showers
• Class 2 – Minor Meteor Showers
• Class 3 – Variable Meteor Showers
• Class 4 – Weak Meteor Showers

Constellations, Northern Skies – any night, any time, anywhere, the darker the sky the better.
Last Chance this cycle: Cassiopeia, Andromeda, Traingulum, Aries, Caelum. Transit Ursa Major, Lynx, Leo Minor, Cancer, Leo, Hydra, Sextans, Pyxis, Antlia, Vela. New arrivals: Bootes, Virgo, Corvus.

Binocular Clubs
Binocular Messier – Monthly highlights include:
Easy – 3, 34, 35, 36, 37, 38, 41, 42, 44, 45, 46, 47, 48, 50, 67, 93, 103.
Medium – 40, 49, 53, 63, 64, 78, 79, 81, 82, 94.
Hard – 1, 51, 65, 66, 68, 97, 101, 104, 106.
Big Binoculars – 58, 59, 60, 61, 84, 85, 86, 87, 88, 89, 90, 95, 96, 99, 100, 102, 105, 108, 109.

Deep Sky Binocular – Monthly highlights include (by Astronomical League numbers):
3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42.

Other Clubs
Messier
In addition to those listed under Binocular Messier, check out: 43, 76, 91, 98.

Caldwell
1, 2, 3, 5, 6, 7, 8, 10, 13, 14, 21, 23, 24, 25, 26, 29, 31, 32, 35, 36, 38, 39, 40, 41,45, 46, 48, 49, 50, 51, 52, 53, 54, 58, 59, 60, 61, 64, 71, 74, 79.

Double Star (by Astronomical League numbers):
5, 8, 11, 14, 16, 17, 18, 20, 23, 25, 27, 28, 29, 32, 34, 35, 39, 40, 42, 43, 45, 51, 52, 53, 54, 55, 56, 57, 59, 61, 65, 67, 68, 69, 70, 71, 73, 74, 75, 76, 78, 79, 80, 81, 82, 83, 85, 92, 95, 98, 99, 100.

Other Clubs (of the Solar System)
Planetary – These are the tasks that can be done this month:
The Sun is in Pisces and sets at 20:29 mid-month.Sun – Any clear day is a good time to get those sunspots. But things have been rather sparse.

Mercury, Venus, Ceres, Saturn, Neptune, and Pluto will not be visible during the evening hours. They are all too close to the sun or morning stars.

Moon: The Maria requirement can be done any time the moon is visible. Look before 4/20 and after 4/5 for the fullest views.

The Highlands requirement can be done at the same time.
The Crater Ages requirement is best done on 4/4 and 4/5.
The Scarps requirement is best done on 4/6.
Occultations occur all the time, the bright ones can be found on the internet. Objects disappear on the East side of the moon.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid. See above to identify the bright ones this month.
Mars is in Cancer and is up all evening mid-month.
Jupiter is in Taurus and up all evening mid-month.
Uranus is in Taurus and sets at 22:54 mid-month.

Lunar
Key timings are indicated below:
New, 4/27 4 days, 4/2 7 days, 4/5 10 days, 4/8 14 days, 4/12
Old moon in new moon's arms – before **0458** on 4/1 or before **1331** on 4/30, ~10 % illuminated. (72 hr > New)
New moon in old moon's arms – after **1331** on 4/24, ~10 % illuminated. (72 hr < New)
Waxing Crescent – before **1331** on 4/29, ~4 % illuminated. (40 hr > New)
Waning Crescent – after **1331** on 4/25, ~4 % illuminated. (48 hr < New)

Major Events in April:
• 4-7 Mercury returns to Prograde Motion
• 4-13 Lunar Apogee
• 4-13 Venus returns to Prograde Motion
• 4-14 Eris at Conjunction
• 4-16 Mercury - & Neptune Conjunction (41')
• 4-20 Mercury at highest morning altitude
• 4-21 Mercury at Greatest Elongation West
• 4-21 Mars at Eastern Quadrature
• 4-22 Lyrids Meteor Shower
• 4-22 Haumea at Opposition
• 4-23 Pi Puppid Meteor Shower
• 4-24 Venus at Brightest Morning Brightness
• 4-27 Lunar Perigee

Although these Observing Programs are detailed in the **"What's Up Doc?"** handout, you can get information on many of their objects of the other AL Observing Programs by using the **"What's Up Tonight, Doc?"** spreadsheet. To get your copy, talk to the Doc, Aaron Clevenson, by sending an email to aaron@clevenson.org.

† - "What's Up Doc?" is used with permission from Warner Bros. Entertainment Inc.

 Insperity Observatory, 2505 S. Houston Avenue, Humble, TX: www.humbleisd.net/observatory

TCrB Watch: As of March 30, 2025, **T Coronae Borealis** (T CrB) has not gone nova. Astronomers in the Northern Hemisphere are eagerly anticipating this event in 2025 (we hope!). Keep your eyes on the sky and consult Stellarium Web to learn when Corona Borealis is above the horizon in your area.

Herrett Center for Arts and Science

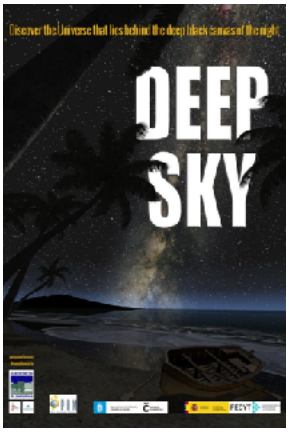
Upcoming Events
All events are weather permitting.
https://herrett.csi.edu/observatory/faq.aspx

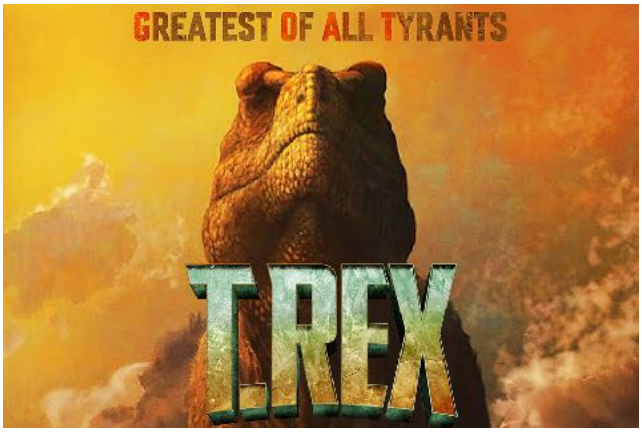
Event	Place	Date	Time	Admission(s)
Monthly Free Star Party	Centennial Observatory	Saturday, April 12, 2025	8:45-10:45 p.m.	Free

Step into a world of wonder at our observatory, where the star of the show is the 24" (0.6 m) Norman Herrett Telescope. This impressive telescope offers an experience like no other, inviting everyone to explore the beauty of the cosmos. Thanks to accessible elevators, reaching the observing deck is a breeze, ensuring that even those with limited mobility can experience the magic of the skies like never before.

Faulkner Planetarium
Show Times

The Faulkner Planetarium has been serving the communities of southern Idaho since its opening in November 1995. Equipped with state-of-the-art planetarium technology, the 50-foot dome, Idaho's largest, virtually transports up to 144 guests to locales near and far. The Digistar 7 full-dome video system combined with Dolby 5.1 surround sound make for one incredible experience. Whether staying Earthbound or traveling to the far-flung reaches of the universe, the planetarium will give you an immersive experience you just won't find anywhere else.





Websites and Other Helpful Astronomy Links.

Information on passes of the ISS, the USAF's X-37B, the HST, the BlueWalker 3, and other satellites can be found at http://www.heavens-above.com/

Visit https://saberdoesthe...does-the-stars/ for tips on spotting extreme crescent Moons and https://curtrenz.com/moon.html for Full Moon and other lunar data.

Go to https://skyandtelesc...ads/MoonMap.pdf and https://celestron-si...RReeves-web.pdf and https://nightsky.jpl...ObserveMoon.pdf for simple lunar maps. Click on https://astrostrona.pl/moon-map/ for an excellent online lunar map. Visit http://www.ap-i.net/avl/en/start to download the free Virtual Moon Atlas. Consult http://time.unitariu...moon/where.html for current information on the Moon and https://www.fourmila.../lunarform.html for information on various lunar features. See https://svs.gsfc.nasa.gov/4955 a lunar phase and libration calculator and https://svs.gsfc.nasa.gov/5187/

The Lunar Reconnaissance Orbiter Camera (LROC) quick map. https://www.universa...ise-and-sunset/

For more on the planets and how to locate them, browse http://www.nakedeyeplanets.com/

Summaries on the planets for each month can be found at https://earthsky.org/astronomy-essentials/

The graphic at https://www.timeandd...lanets/distance displays the apparent and comparative sizes of the planets, along with their magnitudes and distances, for a given date and time.

The rise and set times and locations of the planets can be determined by clicking on https://www.timeandd...stronomy/night/

Click on https://www.curtrenz.../asteroids.html for information on asteroid occultations taking place this month.

Visit http://cometchasing.skyhound.com/ and http://www.aerith.ne...t/future-n.html and https://cobs.si/ for additional information on comets visible this month.

A list of the closest approaches of comets to the Earth is posted at http://www.cometogra.../nearcomet.html

A wealth of current information on solar system celestial bodies is posted at http://www.curtrenz.com/astronomy.html and http://nineplanets.org/

Information on the celestial events transpiring each week can be found at https://stardate.org/nightsky and http://astronomy.com/skythisweek and http://www.skyandtel...ky-at-a-glance/

Free star maps for any month may be downloaded at http://www.skymaps.com/downloads.html and https://www.telescop...thly-Star-Chart and http://www.kenpress.com/index.html

Data on current supernovae can be found at http://www.rochester...y.org/snimages/

Finder charts for the Messier objects and other deep-sky objects are posted at https://freestarcharts.com/messier and https://freestarcharts.com/ngc-ic and http://www.cambridge..._april-june.htm

Telrad finder charts for the Messier Catalog are posted at http://www.custerobs...cs/messier2.pdf and http://www.star-shin...ssierTelrad.htm

Telrad finder charts for the SAC's 110 Best of the NGC are available at https://www.saguaroa...k110BestNGC.pdf

Information pertaining to observing some of the more prominent Messier galaxies can be found at http://www.cloudynig...ur-astronomers/

Author Phil Harrington offers an excellent freeware planetarium program for binocular observers known as TUBA (Touring the Universe through Binoculars Atlas), which also includes information on purchasing binoculars, at http://www.philharrington.net/tuba.htm

Stellarium and Cartes du Ciel are two excellent freeware planetarium programs that are available at http://stellarium.org/ and https://www.ap-i.net/skychart/en/start

Deep-sky object list generators can be found at http://www.virtualcolony.com/sac/ and https://telescopius.com/ and http://tonightssky.com/MainPage.php

Freeware sky atlases can be downloaded at http://www.deepskywa...-atlas-full.pdf and https://www.cloudyni...ar-charts-r1021 and https://allans-stuff.com/triatlas/

For current sky charts visit the NASA Night Sky Network https://nightsky.jpl.nasa.gov/news/212/

Magic Valley Astronomical Society
550 Sparks St.
Twin Falls, ID

The Magic Valley Astronomical Society (MVAS) was founded in 1976. The Society is a non-profit [501(c) 3] educational and scientific organization dedicated to bringing together people with an interest in astronomy.

In partnership with the Centennial Observatory, Herrett Center, College of Southern Idaho - Twin Falls; we hold regularly scheduled monthly meetings and observation sessions, at which we share information on current astronomical events, tools and techniques for observation, astrophotography, astronomical computer software, and other topics concerning general astronomy. Members enthusiastically share their telescopes and knowledge of the night sky with all who are interested. In addition to our monthly public star parties we hold members only star parties at various locations throughout the Magic Valley.

MVAS promotes the education of astronomy and the exploration of the night sky along with safe solar observing through our public outreach programs. We provide two types of outreach; public star parties and events open to anyone interested in astronomy, and outreach programs for individual groups and organizations (e.g. schools, churches, scout troops, company events, etc.), setting up at your location. All of our outreach programs are provided by MVAS volunteers at no cost. However, MVAS will gladly accept donations. Donations enable us to continue and improve our public outreach programs.

Membership is not just about personal benefits. Your membership dues support the work that the Magic Valley Astronomical Society does in the community to promote the enjoyment and science of astronomy. Speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs just to name a few of the programs that your membership dues support.

Annual Membership dues will be:
$20.00 for individuals, families, and $10.00 for students.
Contact Treasurer Jim Tubbs for dues information via e-mail: jtubbs015@msn.com

Donations to our club are always welcome and are even tax deductible. Please contact a board member for details.
Lending Telescopes: The society currently has three telescopes for loan and would gladly accept others please contact President Robert Mayer, for more information on these and other benefits.

Telescopes are an individual thing and not practical for public use. However, everyone should have the experience of a good look at the Moon for at least 5 minutes in their life time. It is a dimension and feeling that is unexplainable. Pictures or TV can't give this feeling, awareness, or experience of true dimension. A person will not forget seeing our closest neighbor, the Moon.

Norman Herrett in a letter to Dr. J. L. Taylor, president of the College of Southern Idaho