Snake River Skies

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

Membership Meeting
June 14th 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

June Newsletter

Message from the Club Vice President Greetings: Friends and Members.

As a reminder of our upcoming MVAS meeting on Saturday, June 14th, our speaker will be George Dunn. George will be discussing Castle Rock Observations. With the month of June is upon us, hopefully it signals a time when we can get out to observe and promote our great hobby.

Warmer weather and hopefully clearer skies will make that possible. May has not been
great weather for observing. In the many years that I have been associated with MVAS, one of my favorite summertime activities has been to meet with friends and other good people at many of our public outreach events such as Castle Rocks - Which will be the 25th and 26th of July. Our June star party will be on June 28th at Glens Ferry or on the 27th depending on the weather.

Calendar Quick Review

Conjunctions and Alignments:
• June 1: The Moon and Mars will be in conjunction, with Mars appearing close to the Waxing Crescent Moon just after sunset on the western horizon.
• June 11: The Full Strawberry Moon will be at its most illuminated at 07:43 UTC.
• June 19: The Moon and Saturn will be in conjunction with Saturn and the Half Moon close in the early morning sky.
• June 22: The Moon and Venus will be in conjunction, with a thin Waning Crescent Moon and a bright Venus visible just before sunrise on the eastern horizon.
• June 23: The waning crescent moon will be in the east-southeast before dawn, just below the Pleiades.
• June 26: The waxing crescent moon will be in the west at dusk, above Mercury.
• June 29: The waxing crescent moon will be in the west at dusk and very close to Mars.

Other Notable Events:
• June 20: The June solstice marks the first day of astronomical summer in the Northern Hemisphere.
• June 21-30: Mercury will be visible for a brief period each evening at the end of June.
• June 16 & 17: Mars will pass close to the star Regulus in the constellation Leo.
• June 27: The June Boötids meteor shower will be active, peaking around this date.
• All month: Mars will be visible in the western sky after dark, though it will be noticeably dimmer than in early May.

Visit our Website
www.mvastro.org

Moon Phases for June 2025

SUN	MON	TUE	WED	THU	FRI	SAT
1  Waxing crescent 35.9% 6 days	2  First Quarter 9:41 P.M. 7 days	3  Waxing gibbous 55.8% 8 days	4  Waxing gibbous 65.2% 9 days	5  Waxing gibbous 74.0% 10 days	6  Waxing gibbous 81.9% 11 days	7  Waxing gibbous 88.6% 12 days
8  Waxing gibbous 93.9% 13 days	9  Waxing gibbous 97.7% 14 days	10  Waxing gibbous 99.7% 15 days	11  Full Strawberry Moon 1:46 A.M. 16 days	12  Waning gibbous 98.0% 17 days	13  Waning gibbous 94.2% 18 days	14  Waning gibbous 86.4% 19 days
15  Waning gibbous 80.9% 20 days	16  Waning gibbous 71.9% 21 days	17  Waning gibbous 61.6% 22 days	18  Last Quarter 1:20 P.M. 23 days	19  Waning crescent 39.3% 24 days	20  Waning crescent 28.4% 25 days	21  Waning crescent 18.4% 26 days
22  Waning crescent 10.1% 27 days	23  Waning crescent 4.1% 28 days	24  Waning crescent 0.7% 29 days	25  New Moon 4:33 A.M. 0 days	26  Waxing crescent 2.3% 1 day	27  Waxing crescent 6.9% 2 days	28  Waxing crescent 13.5% 3 days
29  Waxing crescent 21.4% 4 days	30  Waxing crescent 30.4% 5 days					

Twin Falls, Idaho, United States
Source: The Old Farmer's Almanac

Look up! The Strawberry Moon appears on June 11. Will the last full Moon of spring be strawberry red? Learn more about this unusual full Moon and how it got its name.

Over time, many cultures have used different names for the 12 full moons experienced each year. Usually, they're not based on color but on a common activity that takes place that time of year.

Blooming Moon (Anishinaabe) is indicative of the flowering season, while Green Corn Moon (Cherokee) and Hoer Moon (Western Abenaki) suggest that it's time to tend to young crops.

Other names highlight that this is a time of new life: The Tlingit have used the term Birth Moon, referring to the time when certain animals are born in their region (the Pacific Northwest). Egg Laying Moon and Hatching Moon are Cree terms that also hint at a time when many animal babies were born.

The Sky this Month

The central region of the Milky Way in Scorpius and Sagittarius. Image credit: Brian Ventrudo.

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

A change of seasons arrives as stargazers in the southern hemisphere enjoy long nights to make up for cooling temperatures, while northerners enjoy summer at the expense of much shorter nights. Or for very northerly observers like me, no nights at all since astronomical darkness doesn't arrive again until mid-July. But there are plenty of planetary conjunctions this month, with Mercury putting on a leisurely apparition in the western sky after sunset, Mars slowly easing itself westwards towards the Sun, and Venus and Saturn wandering about in the morning sky. The Milky Way wheels into view in the southeast earlier each night. And the Sun continues to hatch new sunspots and occasional (and unpredictable) coronal mass ejections that spur aurorae over much of the world. Here's what to see in the night (and day) sky this month…

1 June. Look for a fattening crescent Moon about 1.5^{o} to 2^{o} north of the bright star Regulus in the western sky as darkness falls. Venus lies at its greatest western elongation 46^{o} from the Sun. The planet continues in the morning sky, though it is now receding from Earth. As June begins, the appears half lit in a telescope but grows into a gibbous phase as the month progresses. Its apparent size decreases from 24" to 16" by month's end.

3 June. First Quarter Moon, 03:41 UT

5 June. The Moon passes within half a degree of Spica, Virgo's brightest star.

Mercury and Jupiter in conjunction in the western sky after sunset on June 8, 2025.

8 June. Mercury passes 2° north of Jupiter low over the western horizon this evening. To see the pair you need a clear view of the horizon – a pair of binoculars would also be a big help. This evening, the small planet shines at magnitude -1.2 while Jupiter shines at magnitude -1.9. Mercury extends it separation from the Sun for most of the month during this long apparition, though it grows dimmer throughout June. Jupiter becomes lost in the sun's glare on its way to conjunction on the 24th.

11 June. Full Strawberry Moon, 07:44 UT

16-17 June. Mars passes as close as 0.8° north of Regulus in the constellation Leo. Examine the two objects visually or with optics and compare the icy white color of Regulus to the ochre glow of Mars. Both planet and star shine with nearly the same brightness at magnitude +1.4.

18 June. Last Quarter Moon, 19:19 UT

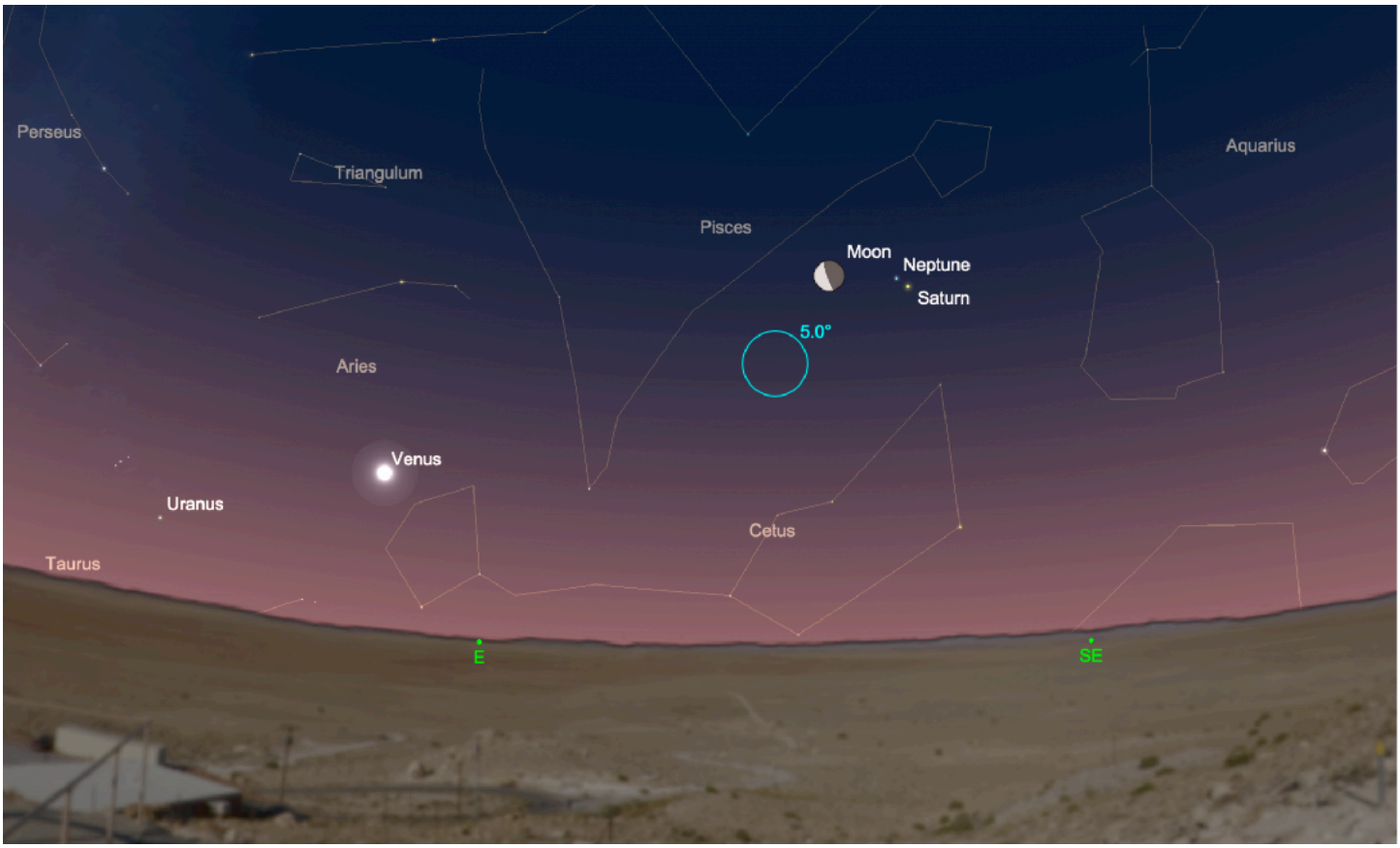
19 June. Look eastward at dawn twilight to see the crescent Moon about 5° northeast of Neptune and 6° northeast of Saturn. You will need at least binoculars to see Neptune. The two planets lie within the same field of view of a low or medium power eyepiece in a telescope – a rare chance to see both planets at once. The two planets continue to grower closer for the next ten days and reach a separation of about one degree on June 29.

21 June. The Sun reaches its northernmost point on the ecliptic at 02:42 UT. This solstice marks the beginning of summer in the northern hemisphere and winter in the southern hemisphere, and the longest and shortest days of the year, respectively.

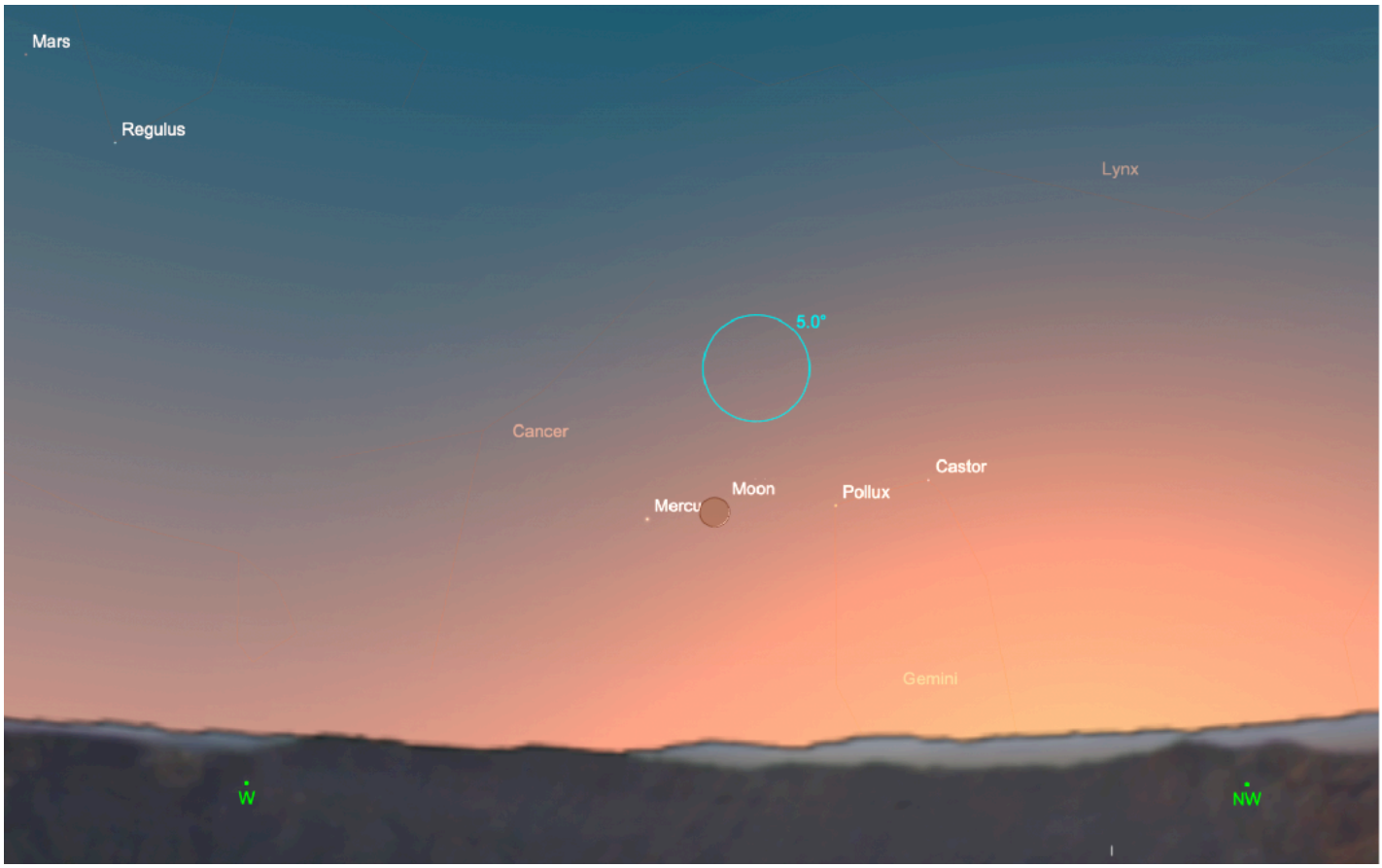
23 June. Look to the northeast just above the horizon before sunrise to see a thin crescent moon rising 5° northeast of the Pleiades.

24 June. Jupiter is in conjunction with the Sun. It reappears slowly in the morning sky in the coming days.

25 June. New Moon, 10:32 UT



The Moon lies within 5 and 6 degrees of Neptune and Saturn in the southeastern sky on the morning of June 19, 2025.



Mercury, the thin crescent Moon, Castor and Pollux lined up in the northwest after sunset on June 27, 2025.

Galaxy Hunting with a 60 mm Telescope

by Brian Ventrudo

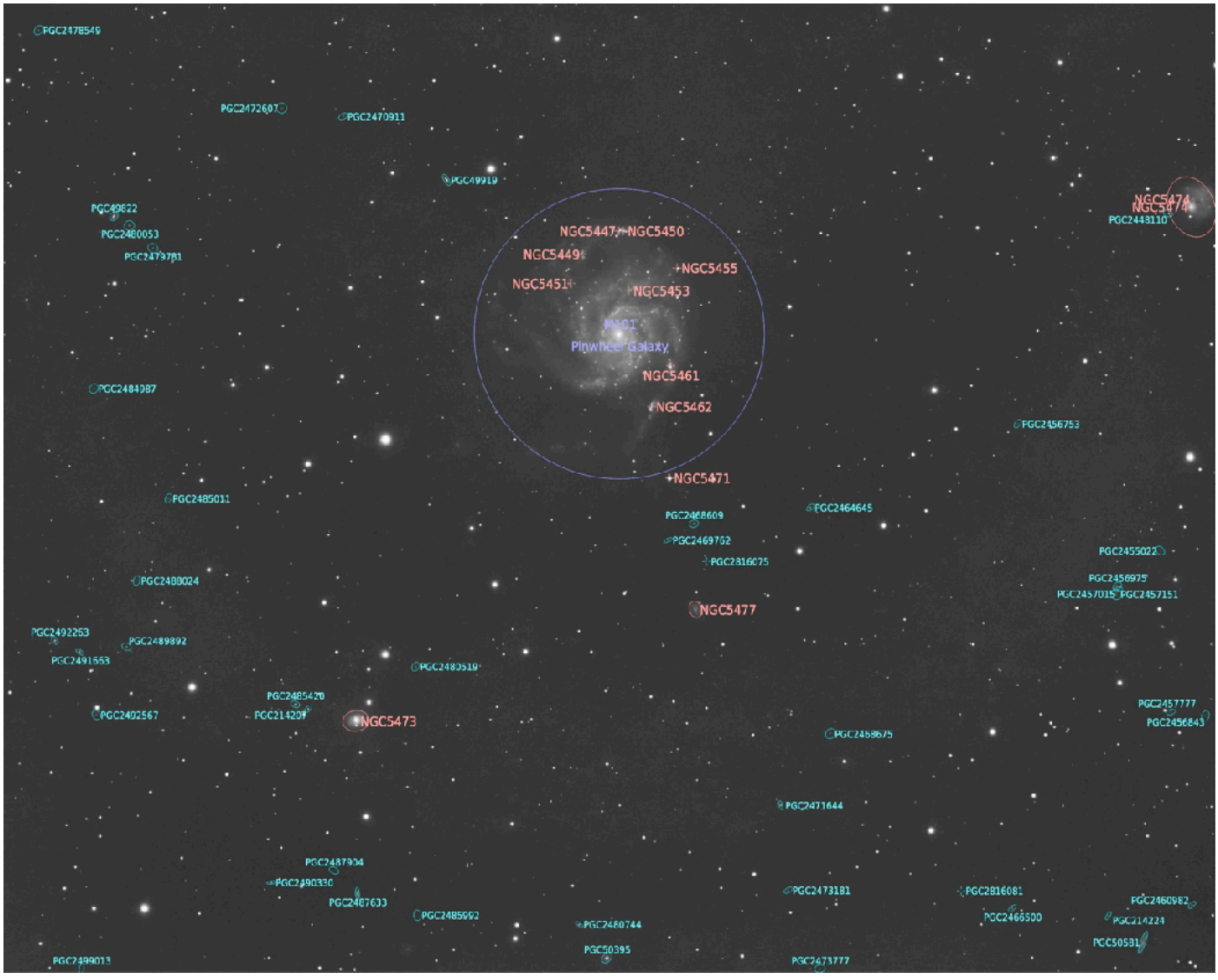
The face-on spiral galaxy Messier 101 lies near the handle of the Big Dipper in the constellation Ursa Major.
It lies at a distance of 21 million light years.

While awaiting the appearance of the Milky Way, not to mention astronomical darkness which won't come again until July at my northerly latitude, I've been having fun snapping photos of galaxies with a 50 mm smart scope and other instruments of modest aperture. I recently tested another diminutive telescope, the Takahashi FOA-60 to see what it could do. While primarily intended to be a visual instrument, this telescope features superb optical quality, but it has a relatively slow focal ratio of f/8.8 which is not ideal for astrophotography. Nevertheless, I hooked up a small camera, the monochrome and highly sensitive ZWO ASI533MM-Pro and a Tele Vue 0.8x focal reducer to coax the optics of this little telescope down to a more reasonable f/7. Then I aimed it up out of the plane of the Milky Way into intergalactic space and snapped some photos of galaxies in and around Ursa Major to see what I could capture.
What I saw was astonishing – bright and nearby galaxies, yes, but also dozens of very faint galaxies some of which are nearly half a billion light years away!

As an example, the image above shows the beautiful face-on spiral galaxy Messier 101. Not a superb image by any means, but not bad for a stack of twenty 60 second exposures from the suburbs. The sky wasn't even dark, at least not astronomically dark, and I saw a fair bit of twilight glow along the horizon when I made this image around 11 p.m. local time. But there's plenty of detail in the spiral arms of M101 including knots of star-forming regions in its long, arcing spiral arms. Over on the right side of the image, there's NGC 5474, a dwarf galaxy and a companion of M101.

Both lie relatively nearby – for galaxies – at a distance of 21 million light years. Below and to the left of M101 is the dimmer smudge of NGC 5473, a galaxy unrelated to the M101 and which lies at a distance of 85 million light years. But I also saw a few fainter smudges such as the tilted spiral galaxy at the extreme lower right of the image, so I suspected there might be many more galaxies in the image than immediately meets the eye. That's because in this part of the sky we get an unencumbered view out of the dusty plane of the Milky Way deep into intergalactic space away from the dusty plane of the Milky Way. I cranked the imaged through PixInsight's 'image solver' tool to help identify any faint background objects. And sure enough, there are nearly three dozen tiny galaxies in the distant background of this image, some as faint as 16th or 17th magnitude. Not bad for a 60 mm telescope in this small field of about 1.5° x 1.2°.

The image below shows the annotation of these distant 'milky ways'; most come from the Principal General Catalog (PGC) of some 70,000 faint distant galaxies that lie beyond the limits of visual detection even in a 20″ telescope.



The annotated version of the above image showing small satellite galaxies of M101 including NGC 5474 and NGC 5477 and well as background galaxies as far as 450 million light years away. Follow this link for a bigger image.

I looked up many of these galaxies on the HyperLEDA database to get an idea of their brightness and distance and found that some are 300 million to nearly 500 million light years away. That means starlight left these galaxies before the first dinosaurs evolved, and roughly during the explosion of complex sea-based life on Earth embedded in the fossilized Burgess shale, when our ancestors were slugs at the bottom of a tropical ocean. Sure, it's more fun to look through a telescope compared to looking at an image captured with a telescope (at least I think so). But this small 60 mm telescope, which weighs maybe five or six pounds including the camera, reveals not just several dozen foreground stars in our own galaxy, but also the combined light of perhaps 10 trillion stars in a span of sky less than 2 square degrees. As always, whether we attach a camera to our telescopes or peer through them with an eyepiece, it's not what we look at that matters, but what we see. If you're an astrophotographer out imaging spring galaxies while waiting for the Milky Way to emerge, try to capture a few frames yourself and examine your images for the deep stuff that lies beyond our little galactic backwater on the edge of the Virgo cluster.

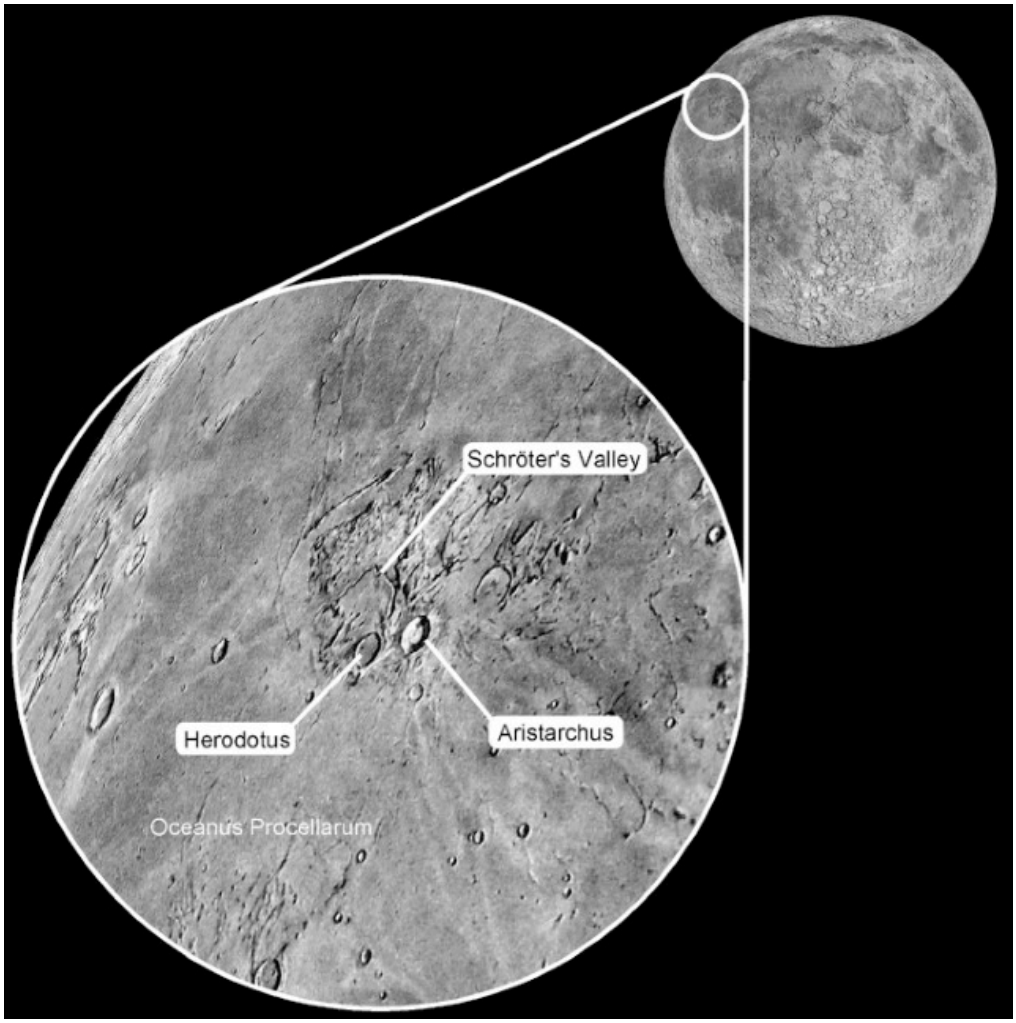
Phil Harrington's Cosmic Challenge

Cosmic Challenge: Schröter's Valley

This month's suggested aperture range:
3- to 5-inch (76-127mm) telescopes
Featured scope: Tele Vue TV-85 Vixen Porta II Mount

Target	Lunar phases	Best visibility dates in 2025						
Schröter's Valley	Waxing Phase	Jun 8-9	Jul 8-9	Aug 6-7	Sep 5-6	Oct 4-5	Nov 3-4	Dec 2-3
	Waning Phase	Jun 20-22	Jul 19-21	Aug 18-20	Sep 16-18	Oct 15-17	Nov 14-16	Dec 14-16

As the terminator sweeps across the smooth surface of Oceanus Procellarum during the waxing gibbous and waning crescent phases, it passes over an area of jumbled terrain that looks like a cluster of islands in the otherwise tranquil "ocean." The most obvious reference point in the vicinity is the extraordinarily bright crater **Aristarchus**. Its sunlit floor and interior walls shine with an unparalleled radiance once sunlight strikes them.



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

Aristarchus's located on the northwest part of the Moon's near side and is easily visible through a telescope. The crater is about 40 km (25 miles) in diameter and 4 km (2.5 miles) deep. It has a central peak and terraced walls, and is surrounded by a bright blanket of ejecta. Aristarchus is estimated to be about 450 million years old, which is relatively young for a lunar crater. It was formed by an impact from an asteroid or comet. The impact excavated material from the Moon's crust and mantle, which was then ejected outwards and deposited around the crater.

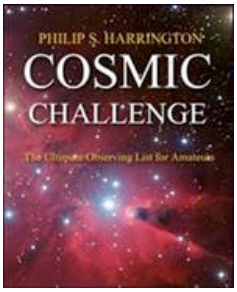
Lunar dawn and dusk over Aristarchus are wonderful times to view the area to the crater's immediate surroundings. Just to the west lies the crater Herodotus. Herodotus is just 4 miles smaller than Aristarchus, but it appears far more modest than its dazzling neighbor. It's a relatively old crater, estimated to have formed around 3.9 billion years ago. Herodotus has a slightly irregular, narrow rim that appears somewhat oblong due to foreshortening. The inner floor has been flooded with lava, which causes a lower albedo than its brighter and more prominent neighbor, Aristarchus. There is a small crater. let overlapping the northwest rim, but otherwise the outer wall has not suffered significant wear. Nevertheless, the rim is unusually thin in relation to its size.

But Herodotus has something that Aristarchus doesn't; it has a tail! The tail curls away to Herodotus's north, twisting around toward the east as it flows through the mountainous terrain on its way toward the ocean's coastline. We know Herodotus's tail more properly as Schröter's Valley, named for the 18th-century German astronomer Johann Hieronymus Schröter.

Schröter's Valley, Aristarchus, and Herodotus were photographed by Richard Sanderson using the Arunah Hill 6-inch (15.2cm) Gaertner refractor (circa 1905) on June 18, 2024.

Technically, Schröter's Valley, also known as Vallis Schröteri, is not a valley at all. It's a sinuous rille, the largest and most prominent sinuous rille on the Moon's near side. Although the "valley" looks to be connected to Herodotus, it actually begins at a 4-mile-wide (6 km) crater some 15 miles to the north called the "Cobra Head." It then meanders its way for over 100 miles (160 km) across the Aristarchus plateau, narrowing to less than 1/4 mile wide at its thinnest. It eventually empties into Oceanus Procellarum. The valley is believed to have been formed by ancient volcanic activity, specifically by a lava flow that carved out the channel. The estimated age of Schröter's Valley is around 3 to 4 billion years old, making it a relic of the Moon's early volcanic period.

As with many lunar features, it's best to look for Schröter's Valley when it is near the terminator. Try observing it 12 to 13 days after the New Moon, during the waxing phases. If you prefer early-morning viewing during the waning phases, the 24- to 26-day-old Moon is your best bet. The table at the top lists upcoming dates in 2025. Magnification will probably need to be increased to at least 150x to spot the tiny "source crater." If you do make it out, notice how a pile of volcanic rocks surrounding the crater looks like a cobra's head? Believed to be around 3.5 billion years old, it formed during the Imbrian period. Its origin is volcanic, not impact-related, likely the result of a collapse above a lava tube. Research suggests that the Cobra Head marks the volcanic vent from which lava welled up to cut the rille and flood a portion of Oceanus Procellarum. Good luck with this month's Cosmic Challenge! And be sure to post your results in this column's discussion forum. Until next month, remember that half of the fun is the thrill of the chase. Game on!



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.

Night Skies of June

Written by Dick Cookman

Highlights: Comet Journal, Martian Landers, Meteor Showers, Planet Plotting, June Moon.
Focus Constellations: Ursa Major, Draco, Ursa Minor, Cepheus, Cassiopeia, Camelopardalis, Lynx, Leo Minor, Leo, Coma Berenices, Virgo, Bootes, Corona Borealis, Hercules, Lyra, Cygnus, Aquila

Comet Journal
Comet C/2023 A3 (Tsuchinshan-ATLAS) is in Cygnus at 13th magnitude and, as Earth moves around the Sun each year, the comet will appear to move in ever diminishing spirals centered between Aquila and Hercules as it retreats to the Oort Belt. Its return, if ever, will require more time than has elapsed since the last dinosaur walked the Earth. C/2025 K1 (ATLAS) is a 13th magnitude Oort Belt comet rising in the evening in Pegasus. Perihelion passage is in October in Virgo when it may reach 8th magnitude. It is closest to Earth in late November.

Mars Landers
Did you know that Mars sputters? The June 2nd Mars Daily website states “NASA's MAVEN (Mars Atmosphere Volatile Evolution) mission has, for the first time, reported a direct observation of an elusive atmospheric escape process called sputtering that could help answer longstanding questions about the history of water loss on Mars. Scientists have known for a long time, through an abundance of evidence, that water was present on Mars' surface billions of years ago, but are still asking the crucial question, "Where did the water go and why?”

Early on in Mars' history, the atmosphere of the Red Planet lost its magnetic field, and its atmosphere became directly exposed to the solar wind and solar storms. As the atmosphere began to erode, liquid water was no longer stable on the surface, so much of it escaped to space. But how did this once thick atmosphere get stripped away? Sputtering could explain it.

Sputtering is an atmospheric escape process in which atoms are knocked out of the atmosphere by energetic charge particles. "It's like doing a cannonball in a pool," said Shannon Curry, principal investigator of MAVEN at the Laboratory for Atmospheric and Space Physics at the University of Colorado Boulder and lead author of the study. "The cannonball, in this case, is the heavy ions crashing into the atmosphere really fast and splashing neutral atoms and molecules out." While scientists had previously found traces of evidence that this process was happening, they had never observed the process directly. The previous evidence came from looking at lighter and heavier isotopes of argon in the upper atmosphere of Mars. Lighter isotopes sit higher in the atmosphere than their heavier counterparts, and it was found that there were far fewer lighter isotopes than heavy argon isotopes in the Martian atmosphere. These lighter isotopes can only be removed by sputtering. "It is like we found the ashes from a campfire," said Curry. "But we wanted to see the actual fire, in this case sputtering, directly.”

Meteor Showers
The Arietids on June 7 and the June Lyrids on the 15th are minor meteor showers in northern skies. The June Bootids on the 27th are much better, producing about 1-2 meteors/minute in dark skies. The Bootids are quite easy to see because they are bright and relatively slow moving.

June 27: June Bootids, Active June 22-July 2, Radiant 14h56m +48°, ZHR 50 to 100, 18 km/sec., Waxing Crescent Moon, Progenitor: Comet 7P/Pons-Winnecke.

Planet Plottings
Mercury (-1.8 to +0.4) in Taurus, Gemini, and Cancer, Mars (1.2 to 1.5) in Leo, and Jupiter (-1.8 to -1.7) in Taurus and Gemini are the evening planets in the western evening sky in June. Jupiter’s reign is bright and brief. It shines in the glow of sunset for the first week of June, then drops below the horizon to reach its appointed conjunction with the Sun on the 24th, four days after summer starts on the June Solstice at 10:42PM EDT on the 20th. On the 6th, fleet Mercury joins the giant planet and is within 2° on the 8th before Jupiter disappears. After superior conjunction with the Sun on May 30, Mercury displays a full disk in early June when it is brightest. It dims as it races toward Earth, presenting us with a crescent in early July which disappears at inferior conjunction with the Sun on the 31st.

Mars is visible throughout June near Regulus in Leo. On the 16th, Mars is within a degree of the regal “little king” - a four headed quadruple star system with a sub giant blue-white star, and Sun-like white dwarf companions. Venus (-4.2 to -4.0), Uranus (+5.8), Saturn (1.1 to 1.0), and Neptune (7.9) are morning planets in Pisces and Taurus. Saturn and Neptune appear higher above the horizon and are close together in Pisces, approaching within a degree of one another on the 29th. Venus drops below Pisces, approaching Uranus in Taurus on the eastern horizon at month’s end.

Planet	Constellation	Magnitude	Moon Passages	Moon Phase	Moon Age
Sun	Taurus - Gemini	-26.8	6:32PM EDT, 6/25	New	0 Days
Mercury	Taurus - Cancer	-1.8 to 0.4	3.0°N, 4:00PM EDT, 6/27	Waxing Crescent	2.89 Days
Venus	Pisces - Taurus	-4.2 to -4.0	7.0°N, 5:00AM EDT, 6/22	Waning Crescent	26.25 Days
Mars	Leo	1.2 to 1.5	1.4°N, 6:00AM EDT, 6/1 0.2°N, 9:00PM EDT, 6/29	Waxing Crescent Waxing Crescent	5.29 Days 5.10 Days
Jupiter	Taurus - Gemini	-1.8 to -1.7	5.0°N, 3:15AM EDT, 6/25	Waning Crescent	29.18Days
Saturn	Pisces	1.1 to 1.0	3.0°N, Midnight EDT, 6/18	Waning Gibbous	23.04Days
Uranus	Taurus	5.8	5.0°N, Midnight EDT, 6/22	Waning Crescent	27.04 Days
Neptune	Pisces	7.9	2.0°N, Midnight EDT, 6/18	Waning Gibbous	23.04 Days

June Moon June's New Moon in Auriga on the 25th at 6:32AM EDT marks the start of Lunation 1268. It ends 29.86 days later with July 24's New Moon at 3:11PM EDT. The Full Moon on the 11th at 3:44AM EDT in Ophiuchus is Flower, Rose, or Strawberry Moon. Colonial Americans called it "Rose Moon". To the Celts it was "Moon of Horses", and it is "Lotus Moon" in China. Medieval English thought of it as "Dyan Moon", For Anishinaabe (Odawa and Ojibwe) people it is Ode'imini-giizis (Strawberry Moon).

Lunar Apogee (maximum lunar distance of 251,999 mi. (63.59 Earth radii) is on June 7 at 6:44AM EDT. Lunar perigee is on June 23 at 12:44AM EDT. The Moon is at 225,668 mi. (56.94 Earth radii). The waxing crescent Moon passes Mars on the 1st. The waning gibbous Moon passes Saturn and Neptune on the 18th and the waning crescent passes Venus and Uranus on the 22nd and Jupiter on the 25th, 3 hours and 17 minutes before New Moon. The waxing crescent Moon passes Mercury on the 27th, and Mars on the 29th.

Planet	Constellation(s)	Magnitude	Planet Passages	Time	Date
Sun	Taurus - Gemini	26.8	New Moon	6:32AM EDT	6/25
Mercury	Taurus - Cancer	-1.8 to 0.4	Jupiter 2.0°S	4:00PM EDT	6/8
Venus	Pisces - Taurus	-4.2 to -4.0			
Mars	Leo	1.2 to 1.5			
Jupiter	Taurus- Gemini	-1.8 to -1.7	Mercury 2.0°N Solar Conjunction	4:00PM EDT 11AM EDT	6/8 6/24
Saturn	Pisces	1.1 to 1.0	Neptune 1.0°N	4:00AM EDT	6/29
Uranus	Taurus	5.8			
Neptune	Pisces	7.9	Saturn 1.0°S	4:00AM EDT	6/29

Herrett Center for Arts and Science

Upcoming Events
All events are weather permitting.

Event	Place	Date	Time	Admission(s)
Summer Solar Session #3	Centennial Observatory	Wednesday, June 11, 2025	1:30-3:30 p.m.	Free
Monthly Free Star Party	Centennial Observatory	Saturday, June 14, 2025	10:00 p.m.-12:00 a.m.	Free
Summer Solar Session #4	Centennial Observatory	Wednesday, June 18, 2025	1:30-3:30 p.m.	Free
Summer Solar Session #5	Centennial Observatory	Wednesday, June 25, 2025	1:30-3:30 p.m.	Free

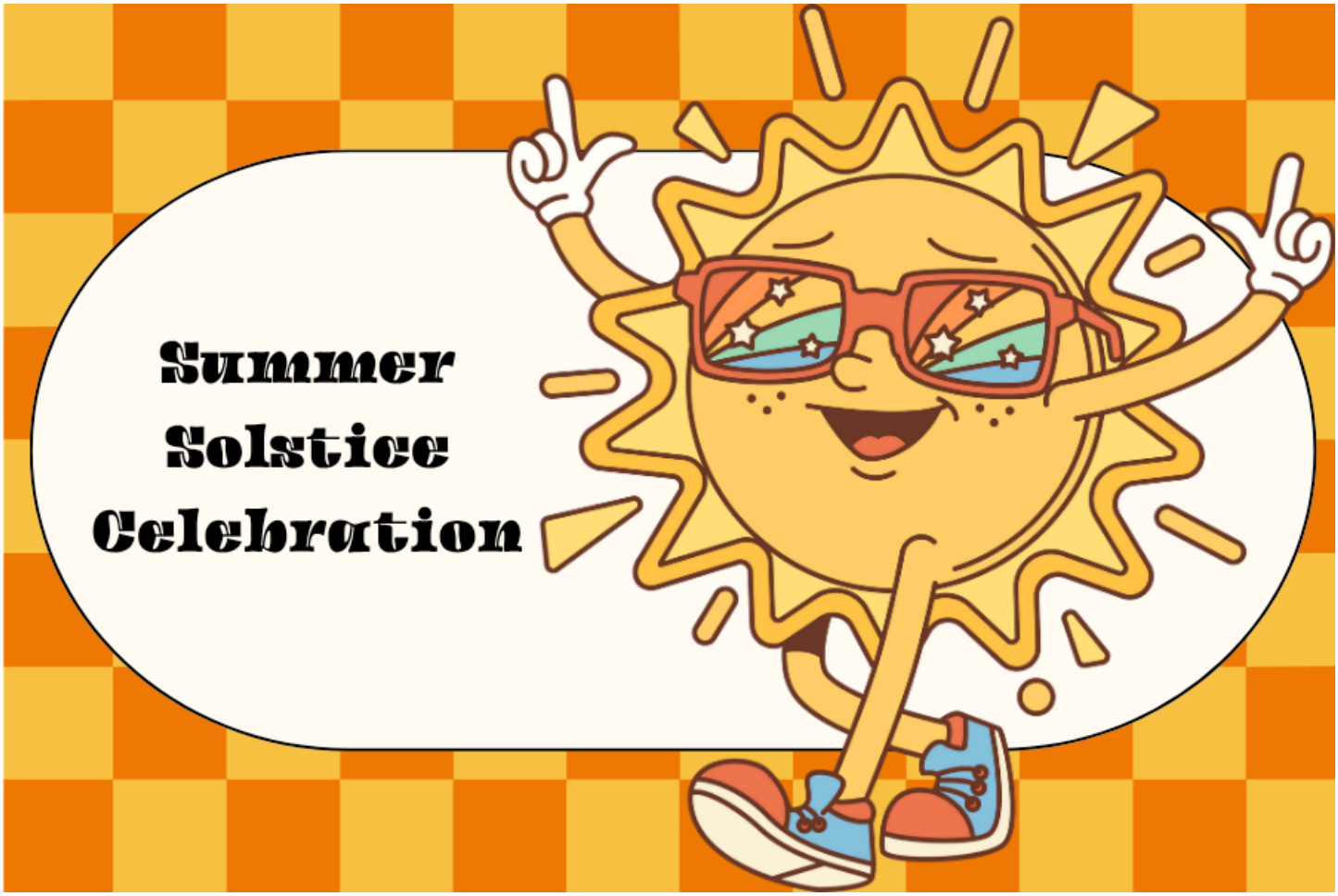
https://herrett.csi.edu/observatory/events.aspx

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.

Time	Tuesday	Wednesday	Thursday	Friday	Saturday
1:30	T. REX	T. REX	T. REX	T. REX	T. REX
2:30	3-2-1 Liftoff: Space Adventure of Elon the Hamster	The Great Solar System Adventure	3-2-1 Liftoff: Space Adventure of Elon the Hamster	The Great Solar System Adventure	3-2-1 Liftoff: Space Adventure of Elon the Hamster
3:30	Deep Sky	Space Oases	Deep Sky	Space Oases	Deep Sky
6:00					T. REX
7:00	Solar Superstorms			T. REX	Black Holes: Unknown Horizons
8:00	Sea Lions: Life By a Whisker			Serengeti	Ancient Caves



Shine brightly with hands-on solar fun!

Celebrate the longest day of the year with a series of sunny, hands-on activities. Create your own sundial, craft cosmic sun-catcher, and enjoy a variety of other make-and-take solar-themed projects while learning fascinating facts about the sun and its role in our solar system.

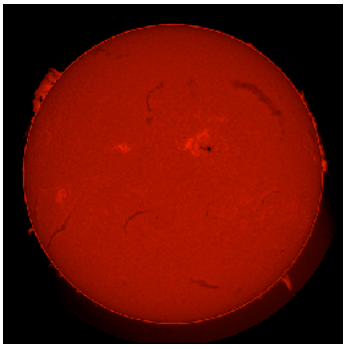
Join us for a fun and educational way to mark the Summer Solstice—where science and creativity meet under the sun!

When: Friday, June 20th, 5:00 to 7:00 p.m.

Who: Budding scientists and curious minds of all ages.

Cost: $5 per person, available at the Herrett Center front desk at the start of the event. (Supplies are limited; first come, first served.)

Summer Solar Sessions
The sun is at the peak of its 11-year activity cycle, and you can see it for yourself! Every Wednesday through Labor Day, from 1:30-3:30 p.m., the Centennial Observatory offers free, safe views of sunspots and solar eruptions, weather permitting.



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