Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society

April 2024

Membership Meeting
April 20th at the Herrett Center
CSI main campus at 7:00pm

Centennial Observatory
See Page 2 for Details

Faulkner Planetarium
See Page 2 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

www.mvastro.org

Vice-President's Message

Hi Friends and Family: It's good for spring to finally be here, but it's definitely taking its sweet time coming, I don't ever remember being around so much snow. Back to my favorite topic, Astronomy. Lots of fun and exciting things happening this month. First, our Saturday April 20th meeting program has me talking about Vision, Dark Adaption, and Averted Vision and hopefully we will have some solar eclipse pictures to share. Still looking at 7pm at the Herrett Center Library.

1. April 21: Comet 12P/Pons-Brooks Perihelion
Comet 12P/Pons-Brooks is out in space zooming toward the sun. On April 21, the comet will make its closest approach to the sun, known as perihelion. Astronomers think the comet should be visible during the day in the darkened sky of the April 8 eclipse, perhaps even to the naked eye. Keep in mind, if you want to look into the sky during the eclipse, you should wear eye protection.
Comets become less visible as they near the sun, so the weeks between the eclipse and the April 21 perihelion will see good chances of viewing, decreasing as the days pass.

2. April 21-22 Lyrids Meteor Shower Peak
Known for their bright and fast meteors, the Lyrids are an annual meteor shower resulting from Earth passing through the debris left by Comet C/1861 G1 Thatcher. It's one of the oldest known meteor showers, first recorded in 687 B.C. by the Chinese. According to the American Meteor Society, the Lyrids will peak overnight between April 21 and 22 this year. If you can't catch them on those nights, don't worry. The meteor shower is expected to be active between April 15 and 29. In the Northern Hemisphere, your best chances at viewing are after moonset and before dawn, when the sky is very dark. Be sure to get away from city lights and let your eyes adjust for about 30 minutes before you expect to see anything.

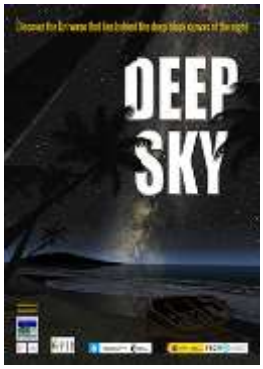
3. April 23: Pink Moon
The full moon of April is traditionally called the "pink moon." The name symbolizes the sprouting of "moss pink" or creeping phlox — one of the first spring flowers in the eastern U.S. Despite its name, the moon doesn't appear pink; the name only refers to the seasonal change. Still, the moon will be spectacular to see. The full moon will last for about three days **Planets on display during total eclipse**
This is another eclipse-adjacent astronomy event. Thanks to the April 8th eclipse, those in parts of Mexico, the U.S. and Atlantic Canada can see a few planets during the afternoon, not normally all visible at the same time during this time of year. During the eclipse, when everyone will be looking (with their solar glasses) at the Sun, here's where to look for the planets: Jupiter will be to the upper left of the Sun, while Venus, Saturn and Mars will be to the lower right.

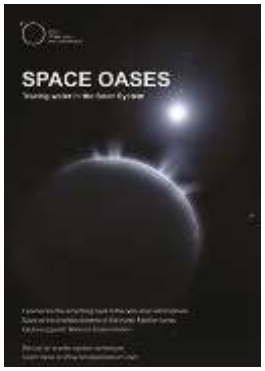
Centennial Observatory and Faulkner Planetarium Events

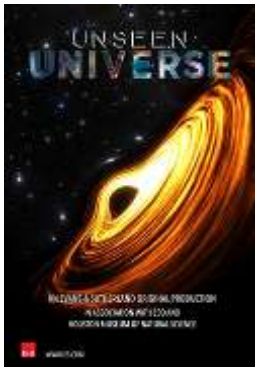
Observatory Upcoming Events
All events are weather permitting

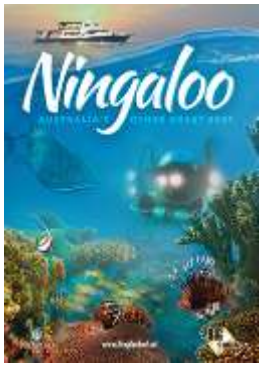
Event	Place	Date	Time	Admission
Partial Solar Eclipse	Centennial Observatory	Monday, April 8th, 2024	11:15 AM to 1:45 PM	FREE
Monthly Free Star Party	Centennial Observatory	Saturday, April 13th, 2024	9:00 to 11:00 PM	FREE

Faulkner Planetarium Shows
For the full schedule and current show times visit! Now Showing







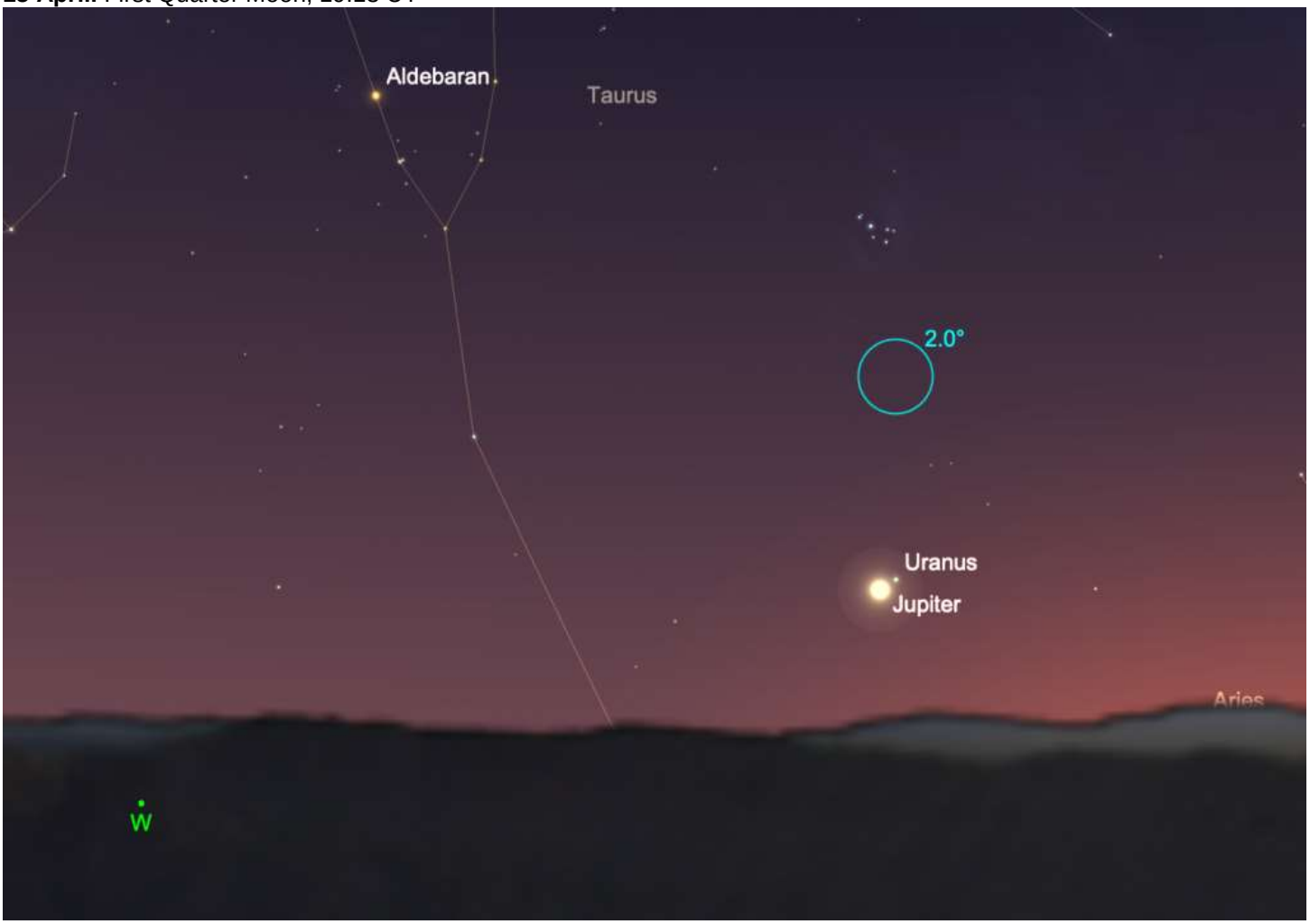


Visit the Herrett Center Video Vault

The Night Sky This Month – April 2024

As April arrives, the bright northern-winter constellations Taurus, Orion, and Canis Major turn to the west after sunset and are on their way out for the year. Jupiter lingers low in the western sky after sunset, while Mars and Saturn work their way higher in the morning sky. The Lyrid meteors arrive, the first major meteor shower since January, but face the light of a full Moon this year. Oh, and did I mention? There's a **total solar eclipse** passing across North America on April 8. Here's what to see in the night sky (and day) this month…

15 April. First Quarter Moon, 19:13 UT



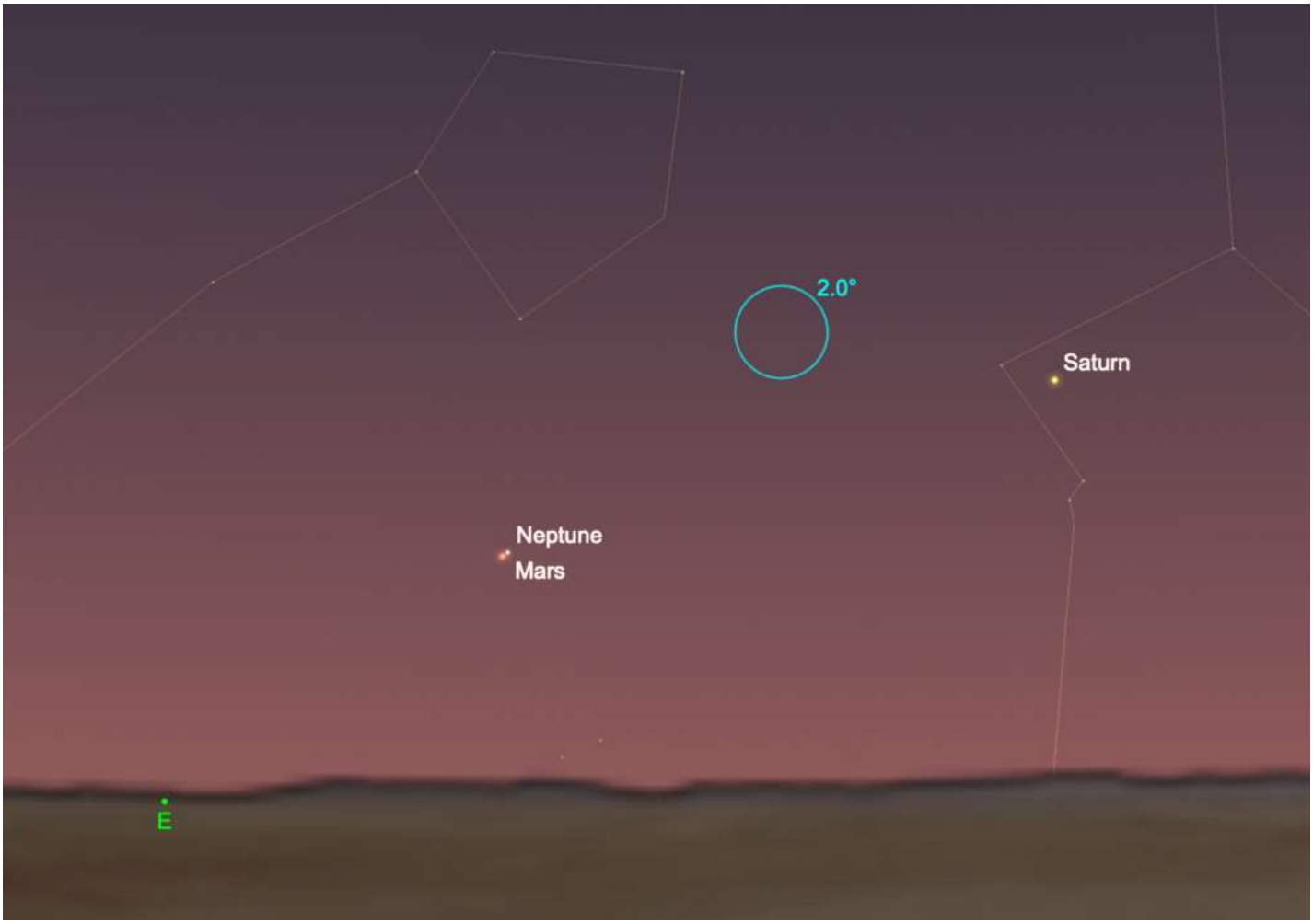
Jupiter and Uranus lie just half a degree apart in the western sky after sunset on April 20, 2024.

20 April. Look low in the west to find still-bright Jupiter in the evening twilight. Now aim a telescope at the planet and look 0.5° to the north to find Uranus. The distant ice giant shines at magnitude +5.7, but the bright sky makes it challenging to find.

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 nearly-full Moon obscures the brightest meteors this year.

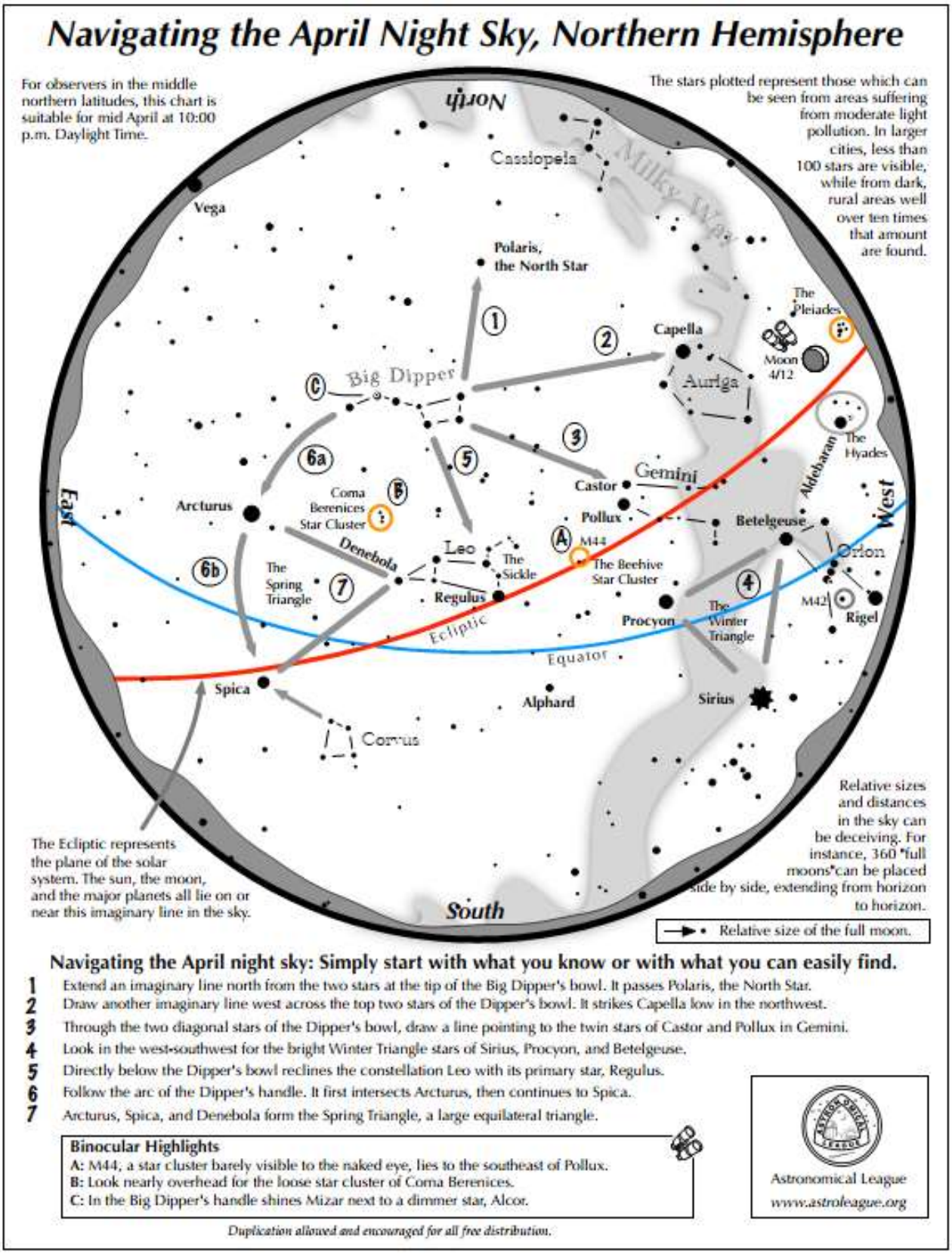
22 April. Look for the bright star Spica in the constellation Virgo just half a degree from a fat almost-full Moon.

23 April. Full Moon, 23:49 UT



29 April. Let's end the month with a challenging observation. Grab a telescope and look to the east before sunrise to find Mars and Neptune separated by just 0.04º. This astonishing conjunction is hard to see in the brightening sky. Mars, at magnitude +1.1, far outshines dim Neptune at magnitude +7.8. Mars spans about 4.7" while Neptune spans just 2.2". You will see detail on the disk of neither planet. But it's rare indeed to see two major planets this close.

Night Sky Map



Double click image to enlarge

Phil Harrington's Cosmic Challenge

NGC 4361

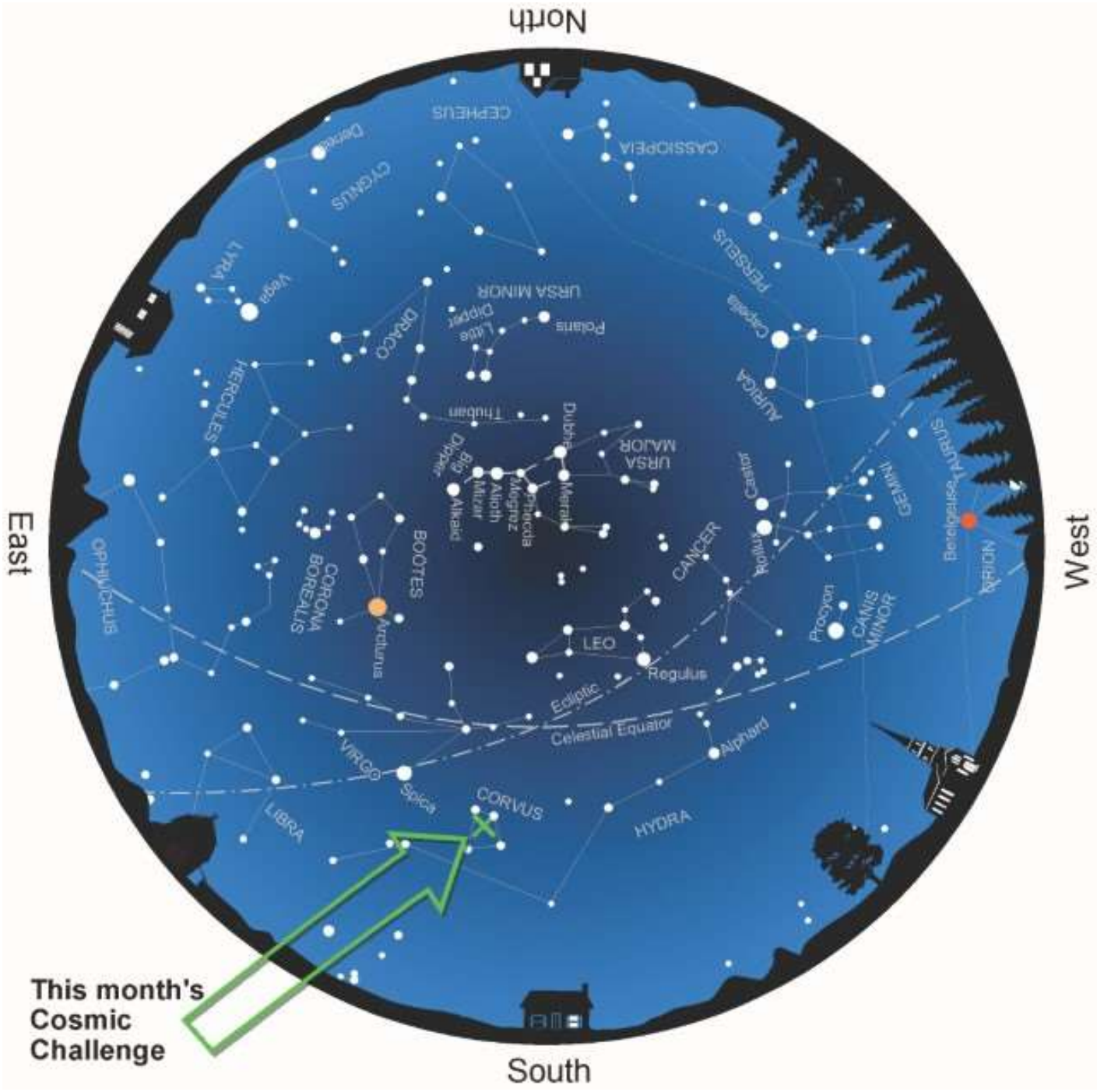
This month's suggested aperture range:
6” to 9.25” (15-24cm) telescopes
This months featured scope: Meade ETX-LS6

Target	Type	RA	DEC	Constellation	Magnitude	Size
NGC 4361	Planetary Nebula	12h 24.5m	-18° 47.0’	Corvus	10.9	118"

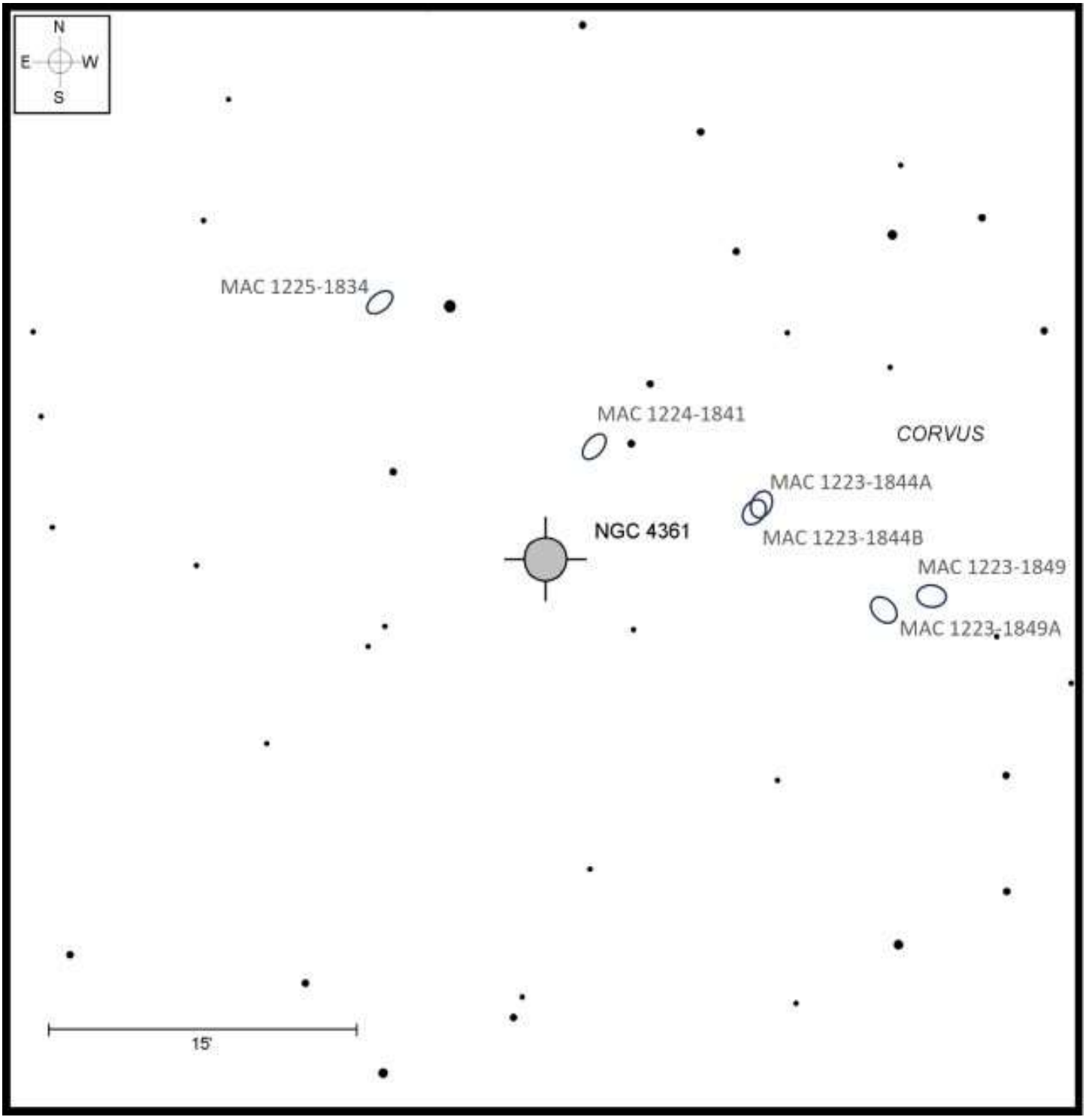
Corvus, the celestial crow, flies low in the spring sky as viewed from the northern hemisphere. Located between the constellations Virgo and Hydra, it is easily identifiable by its compact shape resembling a perched bird. In ancient mythology, Corvus is often associated with the story of Apollo and his faithful messenger, the crow. According to Greek myth, the crow was sent by Apollo to fetch water in a cup, but instead dallied and returned late with a snake, blaming its delay on the snake's interference. Enraged by the deception, Apollo cast a curse upon the crow, condemning it to forever appear in the heavens with the cup and the snake as punishment for its deceit. The constellation Corvus was originally meant as a reminder of the consequences of dishonesty and the importance of truthfulness in both mortal and divine affairs.

The crow carries with it but one notable deep-sky object for backyard telescopes. Planetary nebula **NGC 4361** is almost perfectly centered within Corvus's trapezoidal body. NGC 4361 was discovered by the German-British astronomer William Herschel on February 24, 1785.

To find this month's challenge, look about 1° south-southwest of Algorab [Delta (δ) Corvi] for a pair of 7th-magnitude suns. Drop another degree to the south and you'll find a small isosceles triangle of 7th-magnitude stars. NGC 4361 is less than a degree to their southwest. The lack of bright stars in its immediate area helps it to stand out more prominently than it might otherwise.



Above: Evening star map. Credit: Map adapted from Star Watch by Phil Harrington
Below: Finder chart for this month's Cosmic Challenge. Click on the chart to open a printable PDF version.



Most deep-sky observers are surprised by how large NGC 4361 appears in their telescopes. Its apparent diameter, some 2 minutes of arc, is unexpectedly large for the genre. At 54x, my 8-inch (20-cm) reflector shows it as a dull, round disk of grayish light surrounding a 13th-magnitude central star, as portrayed in the digitized sketch be

Above: NGC 4361 as seen through the author's 8-inch (20-cm) reflector.

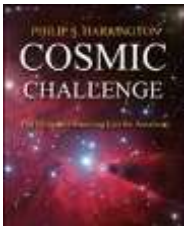
But increase the magnification three-fold and add in a narrowband filter, and that unexciting disk is transformed into quite the sight. With averted vision, the disk shows a stippled texture. Upon closer examination, the mottled image resolves into two dim tendrils of light extending away from the nebula's central disk and into its fainter outer shell. These two regions curve away in opposite directions, one toward the northeast, and the other toward southwest. The overall appearance, which is strongly reminiscent of a barred spiral galaxy seen face-on, makes NGC 4361 one of the most fascinating planetaries to study through amateur telescopes.

Image of NGC 4361 Credit: Adam Block/Mount Lemmon SkyCenter/University of Arizona, CC BY-SA 3.0 US, via Wikimedia Commons

Unlike many other planetaries, however, which demand the highest magnification that sky conditions will tolerate, NGC 4361 puts on its best show at more moderate powers, between perhaps 150x and 200x. Anything higher and the faint structural details lose contrast against the outer gaseous shell.

Finally, do you see that faint galaxy in the upper right corner of the image above? That's **MAC 1224-1841** according to Megastar. ("MAC" is the Mitchell Anonymous Catalog, compiled by Texas observer Larry Mitchell.) Also cataloged as **LEDA 864871**, this 16th-magnitude edge-on spiral is but one of several faint galaxies adjacent to NGC 4361. Each offers its own challenge through even the largest amateur telescopes. Try your luck with the half dozen "MAC" galaxies on the finder chart above. Let us know how you do them as well as with NGC 4361 in the comments column.

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.

The Skies of April, 2024

Dick Cookman

Highlights: Comet Journal, Martian Landers, Meteor Showers, Planet Plotting, April Moon

Focus Constellations: Ursa Major, Ursa Minor, Draco, Cepheus, Cassiopeia, Camelopardalis, Lynx, Leo Minor, Canes Venatici, Bootes, Coma Berenices, Leo, Cancer, Gemini, Auriga, Perseus

Comet Journals

Comet 12P/Pons-Brooks (2024) is an enormous periodic comet which visits every 71 years. It is easily visible in binoculars and may be seen with the naked eye in dark skies at 4th-5th magnitude as it moves through Taurus in March. Perihelion passage is April 21. It may be visible near the Sun during the total solar eclipse on the 8th. Closest approach to Earth at 1.55 AU (232 million km) is on June 2.

Comet C/2021 S3 (Panstarrs) is a long period 9th magnitude comet within the summer triangle. Perihelion passage was on February 14, 2024. It was brightest on March 1 and passed perigee (closest to Earth) on March 14th. After passing Sagitta on April 1, it will move northward in Cygnus.

Mars Landers

The search for current or pre-existing life on Mars is limited to chemical signatures and evidence for liquid water in suitable environments. The rovers are not capable of collecting evidence of current or fossil microorganisms as they would be too small to image with the rover cameras. The rovers have collected copious chemical and physical evidence for ancient liquid water with pH, temperature and elemental composition appropriate for life. Current conditions appear to limit available water to polar ice caps and frozen ground water. Geological evidence indicates that liquid water once flowed on the surface and collected in ponds, lakes, and possibly even oceans. Geochemical evidence reveals that conditions existed that were favorable for all sorts of aerobic and anaerobic organisms including prokaryotic bacteria, archaebacteria, and more advanced eukaryotes. If present, fossil and modern microorganisms await future missions with rovers capable of microscopic observations. Alternatively, they may be found when the rocks recently collected and stockpiled are returned to Earth.

Meteor Showers

April meteor showers will be subdued by glare from the full moon. The Lyrids are a major shower best seen in the predawn hours high in the southeastern sky when the waxing gibbous Moon is setting in the west. The Pi Puppies are a minor shower visible in southern hemisphere skies.

Lyrids: April 21-22, 2-4AM. Active Apr. 16-25. Radiant 18h04m +34°. ZHR up to 90. 49 km/sec. Gibbous Moon. Progenitor: Comets Thatcher.

Planet Plotting's

Night skies provide 5 close approaches of the planets. In the beginning of the month after sunset, western skies display Mercury (-1.8 to 1.2) in Pisces, with Jupiter (-1.9) and Uranus (5.8) in Aries. On the 1st, Mercury sets 45 minutes after the Sun, Jupiter follows 40 minutes later, and Uranus sets 13 minutes later. Jupiter moves to within less than a degree of Uranus on the 20th. The waxing crescent Moon passes Mercury on the 8th, then circuits by Jupiter and Uranus on the 10th.

Morning planets include Venus (-3.8) in Aquarius, Pisces, and Aries, Neptune (-8.0 to 7.9) in Pisces, Mars (1.2 to 1.1) in Aquarius and Pisces, and Saturn (1.1 to 1.2) in Aquarius. Venus approaches within less than a degree of Neptune on the 3rd, Mars links up with Saturn on the 10th and Neptune on the 28th. On the 1st, Mars rises over 2 hours before the Sun and Saturn follows 25 minutes later. Venus makes its appearance after another 42 minutes and after inferior conjunction on the 11th, Mercury starts rising before the Sun as it moves into morning skies and is 0.2° from Venus on the 18th. The waning crescent Moon appears to pass Mars on the 5th, Saturn on the 6th, then Neptune and Venus on the 7th.

Planet	Constellation(s)	Magnitude	Planet Passages	Time	Date
Sun	Pisces, Aries	-26.5	New Moon	2:21PM EDT	4/8
Mercury	Pisces	1.8 to 1.2	Inferior conjunction	7:00PM EDT	4/11
Mercury	Pisces	1.8 to 1.2	Venus, 0.2°S	7:00PM EDT	4/18
Venus	Aquarius, Pisces, Aries	-3.8	Neptune, 0.2°N	10:00AM EDT	4/3
Venus	Aquarius, Pisces, Aries	-3.8	Mercury, 0.2°N	7:00PM EDT	4/18
Mars	Aquarius – Pisces	1.2 to 1.1	Saturn, 0.5°S	11:00PM EDT	4/10
Mars	Aquarius – Pisces	1.2 to 1.1	Neptune, 0.4°N	Midnight EDT	4/28
Jupiter	Aries – Taurus	-1.9	Uranus, 0.5°N	4:00AM EDT	4/20
Saturn	Aquarius	1.1 to 1.2	Mars, 0.5°N	11:00PM EDT	4/10
Uranus	Aries	5.8	Jupiter, 0.5°S	4:00AM EDT	4/20
Neptune	Pisces	8.0 to 7.9	Venus, 0.2°S	10:00AM EDT	4/3
Neptune	Pisces	8.0 to 7.9	Mars, 0.4°S	Midnight EDT	4/28

April Moon

April's New Moon is in Aquarius on the 8th at 2:21PM EDT. It coincides with the total solar eclipse which can be observed in the early afternoon along a 100+ wide strip stretching from Texas to Maine in the USA. The New Moon marks the start of Lunation 1253 which ends 29.38 days later with the New Moon of May in Pisces on the 7th at 11:22PM EDT.

The Full Moon on the 23rd occurs at 7:29PM EDT in Virgo. It is called the Egg, Grass, Easter, or Paschal Moon. Colonial Americans named it the "Planter's Moon". To the Celts it was the "Crowing Moon", and the Chinese refer to it as the "Peony Moon". Medieval English thought of it as the "Seed Moon", and the Anishinaabe (Odawa and Ojibwe) people of northern Michigan recognize it as "Boiling Sap Moon" (Iskigamizige-giizis in the eastern dialect and Skigamizige-giizis in the western dialect). Ontario's Earth Haven Farm presents cultural teachings explaining the cycle of life and nature of the 13 Grandmother Moons. "The fourth moon of Creation is the Sucker Moon, when sucker goes to the Spirit World in order to receive cleansing techniques for this world. When it returns to this realm, it purifies a path for the Spirits and cleanses all our water beings. During this time we can learn to become healed healers."

Planet	Constellation	Magnitude	Moon Passages	Moon Phase	Moon Age
Sun	Aquarius	-26.8	2:21PM EDT, 4/8	New	0 Days
Mercury	Pisces	4.4	0.7°N, 10:39PM EDT, 4/8	Waxing Crescent	0.40 Days
Venus	Pisces	-3.8	0.4°N, 1:00PM EDT, 4/7	Waning Crescent	28.33 Days
Mars	Aquarius	1.2	2.0°S, Midnight EDT, 4/5	Waning Crescent	25.79 Days
Jupiter	Aries	-1.9	4.0°N, 5:00PM EDT, 4/10	Waxing Crescent	2.11 Days
Saturn	Aquarius	1.1	1.2°S, 5:00AM EDT, 4/6	Waning Crescent	27.00 Days
Uranus	Aries	5.8	4.0°N, 8:00PM EDT, 4/10	Waxing Crescent	2.24 Days
Neptune	Pisces	8.0	0.4° S, 4:00AM EDT, 4/7	Waning Crescent	27.96 Days

Important Links and Information

If you follow this link, https://in-the-sky.org/newscal.php and then scroll down and click the iCalendar link, you can sync a full year of various astronomical events with either your outlook, google, or apple calendars.

For the current Moon calendar https://www.mooninfo.org/world/united-states/100911/moon-calendar-for-twin-falls.html

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/5048 a lunar phase and libration calculator and https://quickmap.lro...2vIBvAXwF1SizSg for the Lunar Reconnaissance Orbiter Camera (LROC) Quickmap.

Click on https://www.calendar...endar/2024/January for a lunar phase calendar for this month. Times and dates for the lunar crater light rays predicted to occur this month are available at http://www.lunar-occ...o/rays/rays.htm

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

Summaries on the planets: https://earthsky.org..._eid=9e4b41969c

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 here: https://www.timeandd...stronomy/night/

Click on http://www.asteroido.../2023_06_si.htm for information on asteroid occultation's taking place this month. See https://www.curtrenz.../asteroids.html for additional information on a number of asteroids.

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

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

Seventy-five binary and multiple stars for April: h4481 (Corvus); Aitken 1774, Gamma Crateris, Jacob 16, Struve 3072, h4456, Burnham 1078 (Crater); h4311, Burnham 219, N Hydrae, h4455, h4465 (Hydra); 31 Leonis, Alpha Leonis (Regulus), h2520, Struve 1417, 39 Leonis, Struve 1421, Gamma Leonis (Algieba), Otto Struve 216, 45 Leonis, Struve 1442, Struve 1447, 49 Leonis, Struve 1482, 54 Leonis, Struve 1506, Chi Leonis, 65 Leonis, Struve 1521, Struve 1527, Struve 1529, Iota Leonis, 81 Leonis, 83 Leonis, Tau Leonis, 88 Leonis, 90 Leonis, Struve 1565, Struve 1566, 93 Leonis, h1201, S Leonis (Leo); h2517, Struve 1405, Struve 1432, 33 Leo Minoris, Struve 1459, 40 Leo Minoris, Struve 1492 (Leo Minor); Struve 1401, Struve 1441, Struve 1456, Struve 1464, 35 Sextantis, 40 Sextantis, 41 Sextantis (Sextans); Struve 1402, Struve 1415, Struve 1427, Struve 1462, Struve 1486, Struve 1495, Struve 1510, Struve 1520, Xi Ursae Majoris, Nu Ursae Majoris, Struve 1541, 57 Ursae Majoris, Struve 1544, Struve 1553, Struve 1561, Struve 1563, 65 Ursae Majoris, Otto Struve 241 (Ursa Major)

Notable carbon star for April: V Hydrae (Hydra)

One hundred deep-sky objects for April: NGC 4024, NGC 4027 (Corvus); NGC 3511, NGC 3513, NGC 3672, NGC 3887, NGC 3892, NGC 3955, NGC 3962, NGC 3981 (Crater); NGC 3091, NGC 3109, NGC 3145, NGC 3203, NGC 3242, NGC 3309, NGC 3585, NGC 3621, NGC 3717, NGC 3904, NGC 3936 (Hydra); M65, M66, M95, M96, M105, NGC 3098, NGC 3162, NGC 3177, NGC 3185, NGC 3190, NGC 3226, NGC 3227, NGC 3300, NGC 3346, NGC 3367, NGC 3377, NGC 3384, NGC 3389, NGC 3412, NGC 3437, NGC 3489, NGC 3495, NGC 3507, NGC 3521, NGC 3593, NGC 3607, NGC 3608, NGC 3626, NGC 3628, NGC 3630, NGC 3640, NGC 3646, NGC 3655, NGC 3681, NGC 3684, NGC 3686, NGC 3691, NGC 3810, NGC 3842, NGC 3872, NGC 3900, NGC 4008 (Leo); NGC 3245, NGC 3254, NGC 3277, NGC 3294, NGC 3344, NGC 3414, NGC 3432, NGC 3486, NGC 3504 (Leo Minor); NGC 2990, NGC 3044, NGC 3055, NGC 3115, NGC 3156, NGC 3166, NGC 3169, NGC 3246, NGC 3423 (Sextans); IC 750, M97, M108, M109, NGC 3079, NGC 3184, NGC 3198, NGC 3310, NGC 3359, NGC 3610, NGC 3665, NGC 3675, NGC 3738, NGC 3877, NGC 3898, NGC 3941, NGC 3953, NGC 3998, NGC 4026 (Ursa Major)

Top ten deep-sky objects for April: M65, M66, M95, M96, M97, M105, M108, NGC 3115, NGC 3242, NGC 3628

Top ten binocular deep-sky objects for April: M65, M66, M95, M96, M97, M105, M108, M109, NGC 3115, NGC 3242

Challenge deep-sky object for April: Leo I (Leo)

The objects listed above are located between 10:00 and 12:00 hours of right ascension.

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, Twin Falls, ID, USA.