# Snake River Skies

The Newsletter of the Magic Valley Astronomical Society

www.mvastro.org

## President's Message

**Membership Meeting** 

Saturday, March 11<sup>th</sup> 2017 7:00pm at the Herrett Center for Arts & Science College of Southern Idaho.

Public Star Party Follows at the Centennial Observatory

# **Club Officers**

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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

Dear Colleagues,

With all of the snow and water, sometimes astronomy gets lost in the winter months. Fortunately, we have a couple of events coming up that are among our members' favorite activities.

First, this month's meeting will be the annual Show and Tell, Saturday, March 11, at 7 p.m. in the Herrett Center's Rick Allen. Anyone who has been working on something, has purchased something, or has simply found another interesting facet of astronomy can come in and spend 10 to 20 informal minutes showing off or talking about what he or she is working on. Sometimes it's a newly built telescope, and sometimes it's a new set of pictures, but last year's highlight was Jay Naegele surprising us with his Sunsetter Solar Scope. Who knows what we'll find this time?

If you do have an interesting item you'd like to share, would you please give me a heads-up so I can plan out an informal schedule? Contact me at <u>mayerrbrt@gmail.com</u> so I can make sure everyone gets enough time.

Two weeks later will be the annual Messier Marathon. The main date is Friday, March 24<sup>th</sup>, while the back-up date is Saturday, March 25<sup>th</sup>. Whether you're going for all 110 Messier objects, or you're just glad to get out with the scope after a rough winter, come on down to the Jerome Gun Club. If you don't have a scope, contact us, and we'll bring a loaner. If you want to bring a friend, by all means, bring him or her. This is one of the highlights of the year.

Until then, Clear Views,

# **Calendar for January**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5 First Quarter 51% Visible ↑	6	7	8	9	10	11 MVAS Meeting at 7:00pm at the Herrett Center Public Star Party Centennial Obs.
12 Full Moon Change your clock,	13	14	15	16	17 St. Patrick's Day	18
19	20 Last Quarter Vernal Equinox	21	22	23	24	25 Earth Hour Observing at the Centennial Observatory 8:30-9:30pm
26	27	28 New Moon Lunation 1166 1% Visible↑	29	30	31	

Snake River Skies is the Newsletter of the Magic Valley Astronomical Society and is published electronically once a month. SkyWatcher is copyrighted, except where noted and credit is via permission of the respective author.

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# **Celestial Calendar**

All times, unless otherwise noted, are Universal Time (UT subtract seven hours and, when appropriate, one calendar day for MST and six hours for MDT as of March 12<sup>th</sup>)

3/1 Venus is 9.7 degrees north-northwest of the Moon at 2:00; Uranus is 3.4 degrees north-northwest of the Moon at 18:00; the Moon, Mars, and Uranus lie within a circle with a diameter of 4.2 degrees at 20:00; Mars is 4.1 degrees north-northwest of the Moon at 21:00

3/2 Neptune is in conjunction with the Sun at 3:00; Venus is stationary in right ascension at 14:00; asteroid 1 Ceres is 0.8 degree north of the Moon, with an occultation visible from South Georgia, the Antarctic peninsula, and the southern half of South America, at 3:00

3/3 The Moon is at perigee, subtending 32' 23" from a distance of 369,063 kilometers (229,325 miles), at 7:33; asteroid 29 Amphitrite (magnitude +9.1) is at opposition at 12:00

3/4 The Moon is 9.3 degrees south-southeast of the bright open cluster M45 (the Pleiades or Subaru) in Taurus at 10:00; Mercury is 1.0 degree south-southeast of Neptune at 12:00

3/5 The 45%-illuminated Moon is 0.25 degree north-northwest of the first-magnitude star Aldebaran (Alpha Tauri), with an occultation visible from the western Caribbean, Central America, most of the continental United States, Hawaii, Micronesia, and the Solomon Islands, at 3:00; the Lunar X (the Purbach or Werner Cross), an X-shaped Clair-Obscure illumination effect involving various rims and ridges between the craters La Caille, Blanchinus, and Purbach, is predicted to occur at 9:56;

3/6 The Moon is 5.5 degrees south of the bright open cluster M35 in Gemini at 17:00

3/7 Mercury is in superior conjunction with the Sun at 0:00; asteroid 4 Vesta is stationary at 3:00

3/8 The Moon is 10.1 degrees south of the first-magnitude star Pollux (Beta Geminorum) at 7:00; asteroid 41 Daphne (magnitude +9.6) is at opposition at 7:00

3/9 The Moon is 3.6 degrees south of the bright open cluster M44 (the Beehive Cluster or Praesepe) in Cancer at 7:00 3/10 Comet 2P/Encke is at perihelion (0.3359 astronomical unit from the Sun) at 2:00; the Moon is 0.8 degrees south-southwest of the first-magnitude star Regulus (Alpha Leonis) at 22:00;

3/11 The Moon is at the ascending node (longitude 153.4 degrees) at 4:20; the Sun enters Pisces, at longitude 351.6 degrees on the ecliptic, at 23:00

3/12 Daylight Saving Time (DST) begins today; Full Moon (known as the Crow, Lenten, and Sap Moon) occurs at 14:54 3/14 Venus is at its greatest latitude north of the ecliptic plane (3.4 degrees) at 6:00; Jupiter is 2.3 degrees south-southwest of the Moon at 22:00

3/15 The Moon is 6.1 degrees north-northeast of the first-magnitude star Spica (Alpha Virginis) at 3:00; asteroid Pallas is in conjunction with the Sun at 3:00

3/17 Saturn is at western quadrature (i.e., 90 degrees from the Sun) at 22:00

3/18 The Moon is at apogee, subtending 29' 32" from a distance of 404,649 kilometers (251,438 miles), at 17:25; Mercury (magnitude -1.3) is 8.5 degrees south-southeast of Venus (magnitude -4.2) at 18:00; Mercury is at the ascending node at 22:00; the Moon is 9.8 degrees north of the first-magnitude star Antares (Alpha Scorpii) at 23:00

3/20 Saturn is 3.4 degrees south of the Moon at 10:49; the Vernal Equinox occurs at 11:29;

3/21 The Curtiss Cross, an X-shaped Clair-Obscure illumination effect located between the craters Parry and Gambart, is predicted to be at a midpoint at 12:42

3/25 Venus is in inferior conjunction with the Sun at 10:00; the Moon is in descending node (longitude 333.1degrees) at 15:43

3/26 Neptune is 0.01 degree east-northeast of the Moon; Mercury (magnitude -0.8) is 2.1 degrees north-northwest of Uranus (magnitude +5.9) at 10:00

3/27 Venus is 10.7 degrees north-northwest of the Moon at 19:00

3/29 Uranus is 3.4 degrees north-northwest of the Moon at 5:00; Mercury is 6.3 degrees NNW of the Moon at 11:00 3/30 The Moon is at perigee, subtending 32' 50" from a distance of 363,854 kilometers (226,088 miles), at 12:32; Mars is 5.3 degrees north-northwest of the Moon at 16:00

3/31 The Moon is 9.2 degrees south-southeast of M45 at 17:00

Titan, Saturn's largest satellite, was discovered on March 25, 1655 by the Dutch astronomer Christiaan Huygens. The English astronomer Edward Pigott discovered the spiral galaxy M63 (the Black Eye Galaxy) on March 23, 1779. The English astronomer Sir William Herschel discovered Uranus on March 13, 1781. Asteroid 4 Vesta was discovered by the German astronomer Heinrich Wilhelm Matthias Olbers on March 29, 1807. The first photograph of the Moon was taken on March 23, 1840. The Czech astronomer Luboš Kohoutek discovered Comet C/1973 E1 (Kohoutek) on March 7, 1973. The rings of Uranus were discovered on March 10, 1977. The Spanish amateur astronomer Francisco Garcia Diaz Garcia discovered supernova SN 1993 in the spiral galaxy M81 (Bode's Galaxy) on March 28th, 1993.

The zodiacal light may be visible in the western sky after sunset from dark locations during the second half of March.

## The Sun, the Moon, & the Planets



The Sun is in Aquarius on March 1st at 0:00 UT. The Sun crosses the celestial equator at 10:29 on March 20th, bringing spring to the northern hemisphere.

Brightness, apparent size, illumination, distance from the Earth in astronomical units, and location data for the planets and Pluto on March 1st: Mercury (magnitude -1.3, 4.9", 99%, 1.38 a.u., Aquarius), Venus (magnitude -4.8, 46.9", 17% illuminated, 0.36 a.u., Pisces), Mars (magnitude +1.3, 4.6", 94% illuminated, 2.04 a.u., Pisces), Jupiter (magnitude -2.3, 42.1", 100% illuminated, 4.68 a.u., Virgo), Saturn (magnitude +0.5, 16.2", 100% illuminated, 10.28 a.u., Sagittarius), Uranus (magnitude +5.9, 3.4", 100% illuminated, 20.81 a.u. on March 16th, Pisces), Neptune (magnitude +8.0, 2.2", 100% illuminated, 30.92 a.u. on March 16th, Aquarius), and Pluto (magnitude +14.2, 0.1", 100% illuminated, 33.67 a.u. on March 16th, Sagittarius). In the evening, Mercury, Venus, Mars, and Uranus can be seen in the west. Jupiter is located in the southeast at midnight. Venus is in the east, Saturn is in the south, and Jupiter is in the southwest in the morning sky.

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**Mercury** is in superior conjunction on March 7th. The speediest planet undergoes its best evening apparition of 2017 for observers at mid-northern latitudes during the second half of March. It is at perihelion on March 23rd. Mercury (magnitude -0.8) passes about two degrees to the right of Uranus (magnitude +5.9) on the evening of March 25th.

**Venus** is stationary in central Pisces and begins retrograde motion on March 2nd. It is at greatest heliocentric latitude north on March 14th. Venus is eight degrees north of the Sun at inferior conjunction on March 25th, which makes the brightest planet observable during both morning and evening twilight for a period of a few days.

**Mars** is located two degrees northeast of Uranus and four degrees northwest of the waxing crescent Moon on March 1st. Mars exits Pisces and enters Aries on March 8th.

**Jupiter** retrogrades through central Virgo this month but remains within four to six degrees of Spica. The King of the Planets brightens from magnitude -2.3 to magnitude -2.5 and increases in apparent size by two arc seconds. The Moon passes two degrees north of the planet on March 14th. Shadow transits by lo take place on the mornings of March 2nd, March 9th, March 16th, and March 25th. Europa's shadow crosses Jupiter on the nights of March 15th/16th and March 22nd/23rd and on the morning of March 30th. Shadow transits by Ganymede occur on the nights of March 9th/10th and March 16th/17th. Callisto passes due south of Jupiter on the morning of March 13th. Data on these and other Galilean satellite events is available online at http://www.shallowsky.com/jupiter/ and http://www.skyandtel...watching-tools/ and on page 51 of the March issue of Sky & Telescope. Click on http://www.skyandtel...watching-tools/ or consult page 50 of the March issue of Sky & Telescope to determine transit times of the central meridian by the Great Red Spot.

**Saturn** rises in western Sagittarius at approximately 2:30 a.m. local time on March 1st. Saturn is located less than five degrees from M8 (the Lagoon Nebula), M20 (the Trifid Nebula), and the open cluster M23 for the entire month. At mid-month, the planet's disc spans 17 arc seconds at the equator, while its rings measure 38 arc seconds and are tilted by 26 degrees. Saturn is at western quadrature on March 17th, a situation that enhances views of the shadows of the planet's globe and rings. The Last Quarter Moon passes threes degrees to the north of the Ringed Planet on the morning of March 20th. Click on http://www.curtrenz.com/saturn for a wealth of information on Saturn. For information on the major satellites of Saturn, browse http://www.skyandtel...watching-tools/

**Uranus** is four degrees north of the Moon on March 1st. The seventh planet disappears into evening twilight in late March. See http://www.curtrenz.com/uranep.html for additional information on Uranus.

Neptune is in conjunction with the Sun on March 2nd and will not be visible again until April.

Pluto is not a viable target this month.

# Asteroids



Asteroid 4 Vesta travels eastward through northern Gemini this month. The main belt asteroid decreases in brightness from magnitude +7.1 to magnitude +7.6 during March. It lies about one degree south of the fourth-magnitude star Upsilon Geminorum on March 27th. Asteroids brighter than magnitude +11.0 coming to opposition this month include 29 Amphitrite (magnitude +9.1) on March 3rd, 16 Psyche (magnitude +10.3) on March 3rd , 41 Daphne (magnitude +9.6) on March 8th, and 409 Aspasia (magnitude +10.8) on March 29th. The 15.2-magnitude asteroid 1343 Nicole occults HIP 46938, a 6.3-magnitude star located in western Leo less than one degree northeast of Lambda Leonis, for up to 3.4 seconds on the night of March 10th/11th. A map of the occultation track and other information is available at <a href="http://asteroidoccul...3">http://asteroidoccul...3</a> 52460 Map.gif and <a href="http://asteroidoccul...460">http://asteroidoccul...460</a> Summary.txt



Comet 41P/Tuttle-Giacobini-Kresak may brighten to binocular visibility as it travels northeastward through Ursa Major this month. The periodic comet is at perihelion on March 10th and passes within one degree north of the second-magnitude star Dubhe (Alpha Ursae Majoris) on the evening of March 27th. Comet 41P will come closer to our planet in March than any time since 1858. Visit <u>http://cometchasing.skyhound.com/</u> and <u>http://www.aerith.net/comet/future-n.html</u> for additional information on comets visible this month.



A fireball is just an especially bright meteor. Northern spring and southern autumn – for a few weeks around the March equinox – is a good time to see one. It's *fireball season* — a time of year when bright meteors appear in greater numbers than usual. In fact, in the weeks around the equinox, the appearance rate of fireballs can increase by as much as 30 percent. Why? No one is entirely sure, says NASA. <u>Read more about fireball season</u>.



Notable carbon star for March: T Cancri (Cancer) SAO 80524 Right Ascension 08<sup>h</sup>56<sup>m</sup>40.14<sup>s</sup> Declination +19° 50' 56.9" Apparent Magnitude 8.195. This one is difficult.



Information on Iridium flares and passes of the ISS, the Tiangong-1, the USAF's X-37B, the HST, and other satellites can be found at <u>http://www.heavens-above.com/</u>

Current information on solar system celestial bodies is posted at <u>http://www.curtrenz.com/astronomy.html</u> and <u>http://nineplanets.org/</u>



Thirty-five deep-sky objects for March: M44, M67, NGC 2775 (Cancer); Abell 33, M48, NGC 2610, NGC 2642, NGC 2811, NGC 2835, NGC 2855, NGC 2935, NGC 2992, NGC 3052, NGC 3078 (Hydra); NGC 2903, NGC 2916, NGC 2964, NGC 2968, NGC 3020 (Leo); NGC 2859, NGC 3003, NGC 3021 (Leo Minor); NGC 2683 (Lynx); NGC 2567, NGC 2571 (Puppis); M81, M82, NGC 2639, NGC 2654, NGC 2681, NGC 2685, NGC 2742, NGC 2768, NGC 2787, NGC 2841, NGC 2880, NGC 2950, NGC 2976, NGC 2985 (Ursa Major)

Top ten binocular deep-sky objects for March: M44, M48, M67, M81, M82, NGC 2571, NGC 2683, NGC 2841, NGC 2903, NGC 2976

Top ten deep-sky objects for March: M44, M48, M67, M81, M82, NGC 2654, NGC 2683, NGC 2835, NGC 2841, NGC 2903

The objects listed above are located between 8:00 and 10:00 hours of right ascension.

Challenge deep-sky object for March: Abell 30 Planetary Nebula in Cancer Right Ascension 08<sup>h</sup> 46<sup>m</sup> 54.4<sup>s</sup> Declination +17° 52' 33"

The famous eclipsing variable star Algol (Beta Persei) is at a minimum, decreasing in magnitude from 2.1 to 3.4, on March 3<sup>rd</sup>, 6<sup>th</sup>, 9<sup>th</sup>, 12<sup>th</sup>, 15<sup>th</sup>, 17<sup>th</sup>, 20<sup>th</sup>, 23<sup>rd</sup>, 26<sup>th</sup>, and 29<sup>th</sup>. Favorable dates for observing Algol at mid-eclipse from the eastern United States include March 15th (4:24 UT / 1:14 UT March 18th). For more on Algol, see <a href="http://stars.astro.i.../sow/Algol.html">http://stars.astro.i.../sow/Algol.html</a> and <a href="http://stars.astro.i.../sow/algol.html">http://stars.astro.i.../sow/algol.html</a>

A wealth of current information on solar system celestial bodies is posted at <u>http://www.curtrenz.com/astronomical</u> and <u>http://nineplanets.org/</u>

Free star maps for March can be downloaded at http://www.telescope...thly-Star-Chart and http://www.skymaps.com/



Zodiacal light is a faint, roughly triangular, diffuse white glow seen in the night sky that appears to extend up from the vicinity of the Sun along the ecliptic or zodiac. It is best seen just after sunset in spring. Zodiacal Light along the Oregon Coast Source: PBS.org

## A Little Cluster in the Big Dog By Brian Ventrudo



NGC 2362, the Tau Canis Majoris cluster. Credit: Adam Block/Mount Lemmon SkyCenter, University of Arizona.

The constellation Canis Majoris, the 'Big Dog', is home to many fine open clusters of blue-white stars along the stubby Orion Arm of the Milky Way. There are some real gems here, including the modest but delightful open star cluster NGC 2362, a group that hosts some of the youngest-known stars. Centered on the bright star T (tau) Canis Majoris, this cluster, in a telescope, looks like a large diamond set among many smaller blue-white gems.

With a diameter of 8 light years, NGC 2362 is about the same size as the Pleiades cluster. But it's about 4,500 light years away, some ten times farther than the Pleiades, so it's much fainter and spans just 1/4 degree of sky. Still, this cluster is fairly easy to find, at least with a finder scope or pair of binoculars. Look for a triangle of bright stars to the southeast of Sirius. These stars are Wezen, Aludra, and Aldhara in the 'hindquarter' of the Big Dog. NGC 2362 is 3° northeast of the northernmost star, Wezen.

In binoculars or finder scope, NGC 2362 looks like a fuzzy appendage to the 4th-magnitude star T CMa. A small telescope at 50-60x resolves the cluster into about two dozen glittering blue-white suns. At 100x, the cluster expands into a beautiful array of stars arranged in a distinct pyramidal pattern.



The location of NGC 2362 shown here as N2362- in the constellation Canis Major (created with SkyX Serious Astronomer edition by Software Bisque).

Most of the stars you see in NGC 2362 are massive blue-white O and B stars, all of which are 1000-1500x brighter in real terms than our Sun. Because of their mass, O and B stars evolve quickly into red supergiants as they furiously burn through their store of fuel. But as you can see for yourself, there are few red supergiants in NGC 2362 which means it's likely a very young cluster... less than 5 million years old. In fact, astronomers have used the Chandra X-Ray space telescope to determine many stars in NGC 2362 are still surrounded by primordial disks of gas and dust that fall onto the central stars as they settle down into stellar middle age.

Because of its mass and greater gravitational pull, this pleasant-looking cluster will hold itself together longer than the Pleiades before its stars disperse into the galaxy. Like many stars in this part of the sky, several members of NGC 2362 will one day detonate as supernovae, each putting on a fleeting but spectacular show in our skies in the coming millennia.

And here's a bonus object... just north of NGC 2362, you'll find a fine double star that's sometimes called "the Winter Albireo". Known as Herschel 3945 (or h3945), this binary has reddish and yellow-white components that look lovely in a telescope. Although this star is visually fainter than the real Albireo–the components are magnitude 5.0 and 5.8–its proximity to NGC 2362 makes it easy to find.

Note: You will have to start early in the evening to catch this one. Go ahead and give it a try.

## NASA Space Place

#### Solar Eclipse Provides Coronal Glimpse By Marcus Woo

On August 21, 2017, North Americans will enjoy a rare treat: The first total solar eclipse visible from the continent since 1979. The sky will darken and the temperature will drop, in one of the most dramatic cosmic events on Earth. It could be a once-in-a-lifetime show indeed. But it will also be an opportunity to do some science.

Only during an eclipse, when the moon blocks the light from the sun's surface, does the sun's corona fully reveal itself. The corona is the hot and wispy atmosphere of the sun, extending far beyond the solar disk. But it's relatively dim, merely as bright as the full moon at night. The glaring sun, about a million times brighter, renders the corona invisible.

"The beauty of eclipse observations is that they are, at present, the only opportunity where one can observe the corona [in visible light] starting from the solar surface out to several solar radii," says Shadia Habbal, an astronomer at the University of Hawaii. To study the corona, she's traveled the world having experienced 14 total eclipses (she missed only five due to weather). This summer, she and her team will set up identical imaging systems and spectrometers at five locations along the path of totality, collecting data that's normally impossible to get.

Ground-based coronagraphs, instruments designed to study the corona by blocking the sun, can't view the full extent of the corona. Solar space-based telescopes don't have the spectrographs needed to measure how the temperatures vary throughout the corona. These temperature variations show how the sun's chemical composition is distributed—crucial information for solving one of long-standing mysteries about the corona: how it gets so hot.

While the sun's surface is ~9980 Farenheit (~5800 Kelvin), the corona can reach several millions of degrees Farenheit. Researchers have proposed many explanations involving magneto-acoustic waves and the dissipation of magnetic fields, but none can account for the wide-ranging temperature distribution in the corona, Habbal says.

You too can contribute to science through one of several citizen science projects. For example, you can also help study the corona through the Citizen CATE experiment; help produce a high definition, time-expanded video of the eclipse; use your ham radio to probe how an eclipse affects the propagation of radio waves in the ionosphere; or even observe how wildlife responds to such a unique event.

Otherwise, Habbal still encourages everyone to experience the eclipse. Never look directly at the sun, of course (find more safety guidelines here: <u>https://eclipse2017.nasa.gov/safety</u>). But during the approximately 2.5 minutes of totality, you may remove your safety glasses and watch the eclipse directly—only then can you see the glorious corona. So enjoy the show. The next one visible from North America won't be until 2024.

For more information about the upcoming eclipse, please see:

#### NASA Eclipse citizen science page

https://eclipse2017.nasa.gov/citizen-science

#### NASA Eclipse safety guidelines

https://eclipse2017.nasa.gov/safety

Want to teach kids about eclipses? Go to the NASA Space Place and see our article on solar and lunar eclipses! http://spaceplace.nasa.gov/eclipses/



Illustration showing the United States during the total solar eclipse of August 21, 2017, with the umbra (black oval), penumbra (concentric shaded ovals), and path of totality (red) through or very near several major cities. Credit: Goddard Science Visualization Studio, NASA

This article is provided by NASA Space Place. With articles, activities, crafts, games, and lesson plans, NASA Space Place encourages everyone to get excited about science and technology. Visit **spaceplace.nasa.gov** to explore space and Earth science!





All seven planets discovered in orbit around the red dwarf star TRAPPIST-1 could easily fit inside the orbit of Mercury, the innermost planet of our solar system. In fact, they would have room to spare. TRAPPIST-1 also is only a fraction of the size of our sun; it isn't much larger than Jupiter. So the TRAPPIST-1 system's proportions look more like Jupiter and its moons than those of our solar system.

The seven planets of TRAPPIST-1 are all Earth-sized and terrestrial, according to research published in 2017 in the journal Nature. TRAPPIST-1 is an ultra-cool dwarf star in the constellation Aquarius, and its planets orbit very close to it.

The system has been revealed through observations from NASA's Spitzer Space Telescope and the ground-based TRAPPIST (TRAnsiting Planets and PlanetesImals Small Telescope) telescope, as well as other ground-based observatories. The system was named for the TRAPPIST telescope.

NASA's Jet Propulsion Laboratory, Pasadena, California, manages the Spitzer Space Telescope mission for NASA's Science Mission Directorate, Washington. Science operations are conducted at the Spitzer Science Center at Caltech, also in Pasadena. Spacecraft operations are based at Lockheed Martin Space Systems Company, Littleton, Colorado. Data are archived at the Infrared Science Archive housed at Caltech/IPAC. Caltech manages JPL for NASA.

For more information about the Spitzer mission, visit <u>http://www.nasa.gov/spitzer</u> and <u>http://spitzer.caltech.edu</u>.



Comic used with permission of the author.

# **Centennial Observatory and Faulkner Planetarium**

![](_page_12_Picture_1.jpeg)

# Herrett Telescope CSI Centennial Observatory

Event	Place	Date	Time	Admission
Monthly Free Star Party	Centennial Observatory	Saturday, March 11th, 2017	7:30 PM to midnight	FREE
"Earth Hour" Telescope Viewing	Centennial Observatory	Saturday, March 25th, 2017	8:30 to 9:30 PM	FREE

## **Faulkner Planetarium Show Times**

To find out what shows are available, and to view trailers click this link: Now Showing

**Opening Friday, March 3rd** 

![](_page_12_Picture_8.jpeg)

# About the Magic Valley Astronomical Society

Magic Valley Astronomical Society P.O. Box 445 Kimberly, ID, USA 83341

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, \$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.

## **Membership Benefits:**

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.

![](_page_13_Picture_11.jpeg)

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 circa 1980.