

Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society July 2013



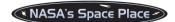
www.mvastro.org

Membership Meeting

Saturday, July 13th at the Herrett Center Join us at 7:00 pm Annual Pot-Luck









Board of Directors

Robert Mayer, President mayerrbrt@gmail.com 208-312-1203

Jim Hoggatt, Vice President jhog@cableone.net 208-420-7690

Gary Leavitt, Secretary leavittg@cableone.net 208-731-7476

Jim Tubbs, Treasurer / ALCOR jtubbs015@msn.com 208-404-2999

David Olsen, Newsletter Ed editor@mvastro.org

Rick Widmer, Webmaster rick@developersdesk.com

Colleagues,

It's probably a cliché, but the fact is, summer is clearly upon us, and that shows up on the MVAS' radar. Last month, club members were over at the Craters of the Moon, Bryce Canyon, and Capitol Reef – all out with their telescopes. There was even a trip to the Winecup-Gamble Ranch in northern Nevada. By the time you get this newsletter, many of us will be on the top of Pomerelle (Saturday, July 6).

Even in this time of heat, we've been taking more time to pay attention to that source of the heat. At the College of Southern Idaho's Mini-Cassia Center, children age's eight to 12 got to look at the sun through a member's telescope and solar filter, and every Wednesday, MVAS gets the opportunity to help out at the Herrett Center's Centennial Observatory for solar viewing. If you have some time in the early afternoons on Wednesday, feel free to swing by.

With that in mind, it's time for our annual celebration. Saturday, July 13, will be our annual evening Potluck. Come on over for the grill and good times. Check the e-mail list or Facebook for additional information.

Clear Views,

Rob Mayer

In this Issue

President's Message	Page	1
Calendar	Page	2
Planisphere for July/ Trivia	Page	3
Solar System Highlights	Page	4
Idaho Skies for July	Page	5 – 7
Club Announcement	Page	8
Deep Sky Highlight	Page	9
NASA Space Place	Page	10
Observatory / Planetarium Schedule	Page	11
About the Magic Valley Astronomical Society	Page	12



Calendar for June



Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Canada Day	2	3	4 Independence Day	5	6 Pomerelle Mountain Star Party
						3:00pm to Mid-Night Albion, ID
7	New Moon	9	10	11	12	Membership Meeting at the Herrett Center Annual Pot-Luck Stargazing
						following the food fight at the Cent. Observatory
14	15 First Quarter Moon	16	17	18	19	20 Moon Greatest S. Elongation -20.1°
21	22 Full Moon	23	24	25	26	27
28	29 Last Quarter Moon	30	31			

Snake River Skies is the Newsletter of the Magic Valley Astronomical Society and is published electronically once a month. Snake River Skies is copyrighted, except where noted and credit is via permission of the respective author. Snake River Skies © 2013 by David Olsen for the Magic Valley Astronomical Society, All Rights Reserved. Images used in this newsletter, unless otherwise noted, are in the public domain and are courtesy of NASA, Wikimedia, or from MVAS File Photos. The image of M51 image is explained on the back page. The Shoshone Falls on the Snake River in Idaho; a prominent landmark feature in the Magic Valley near Twin Falls, ID

Planisphere for July иρиμ Łynx elopardalis Andromeda Maior Irsa Min C/2011 L4 (PANSTARRS) anes Venatici Pegasu Coma Berenices Neptune. 3 Juno 0 Corv hiuchus Saturn Scutum Capricornus Corona Australis South

Planisphere should be used as a guide for the month of July, mid-month, end of astronomical twilight (21:47) Planisphere is provided as a courtesy from Chris Anderson, Coordinator, Centennial Observatory, Herrett Center for Arts & Science - College of Southern Idaho, Twin Falls, ID

Trivia Time



When Apollo 11's lunar lander, the Eagle, separated from the orbiter, the cabin wasn't fully depressurized, resulting in a burst of gas equivalent to popping a champagne cork. It threw the module's landing four miles off-target. This meant that Commander Armstrong later had to take over from the guidance computer and safely land the Lunar Module. The "one small step for man" wasn't actually that small. Armstrong set the ship down so gently that its shock absorbers didn't compress. Commander Neil Armstrong had to hop 3.5 feet from the Eagle's ladder to the surface. This is clearly evident in the videos taken on the surface of the Moon.



Solar System Highlights





Mercury After a good apparition in last month's evening sky, Mercury spends the most of July lost in the glare of the Sun. The tiny planet passes through inferior conjunction on July 9, and then enters the morning sky. Mercury will be at greatest elongation (19.6° west of the Sun) on July 30.



Venus continues its frustratingly slow increase in altitude and visibility at dusk a process that began last May. Telescopes will show Venus as a small globe about 90-percent lit in July. Apart from its phase, the planet presents only a dazzling cloudscape that is usually as featureless as a frosted light bulb. At mag. -4 you will see it low in the west after sundown.



Mars is very slowly returning to dawn visibility. The planet comes up approximately one and a half hour before the Sun and can be glimpsed briefly in the east during morning twilight. In early July, skywatchers can use binoculars to look for its magnitude +1.5 speck a mere 5° lower right of Alnath, the Beta star in the constellation Taurus.



Jupiter can be spotted in the eastern sky before dawn and appears as a moderately bright, white-yellow "star" shining at magnitude -1.9. Around mid-month, the gas giant clears the horizon just one hour before the Sun, but becomes an obvious sight a week later when it rises into a darker sky.



Saturn Look for Saturn in the southwest as evening twilight fades, to the upper left of Spica and farther lower left of Arcturus. A small telescope will reveal Saturn's system of rings which span 40 arcseconds, surrounding a disk about 17 arcseconds in diameter. The rings are tilted 18° to our line of sight



Uranus The ice-giant planet shines at magnitude +5.8 and currently lies among the dim background stars of Pisces the Fish. To find it, wait until at least 3 A.M. Then, locate the two stars on the eastern side of the Great Square of Pegasus, Alpheratz and Algenib. Next, draw an imaginary line between these two bright stars and continue 15° to Algenib's south. Uranus should now be centered in your eyepiece.



Neptune Seek out Neptune just before dawn, in central Aquarius, 1° northwest of the 5th-magnitude star Sigma Aquarii. The distant world lies 2.7 billion miles from Earth and glows dimly at magnitude +7.8. A 4-inch diameter telescope is probably the minimum required to see the planet and resolve its disk, only 2.5 arcseconds across.



Pluto can be found in the constellation Sagittarius the Archer close to the conspicuous open star cluster M25. Search for it high in the south around midnight, under a dark, moonless sky. Pluto glows at magnitude +14, and as a result, it is a challenge to spot. An 8-inch telescope on a perfect night brings Pluto to the edge of visibility. For a direct view, however, you will want to use at least a 10-inch scope.



Asteroid Glowing at magnitude +10, Hebe glides through the southern part of the constellation Serpens Caput the Serpent's Head during July, before passing into Libra the Balance during the month's final day.



Comets At the start of July, Comet Lemmon lies 4° south of the 2nd-magnitude star Beta Cassiopeia, but by month's end it moves 3° southeast of Beta Cephei. The most recent magnitude estimates put the comet at around 8th magnitude, making it an easy target for small telescopes, Comet **C/2011 L4 PanSTARRS** is circumpolar for observers located at mid-northern latitudes. It never sets and can be viewed all night, in the constellation Draco the Dragon.



Meteors The **Alpha Capricornids** produce only about one to four meteors per hour and can be seen from July 3 to August 15. Most Capricornid meteors are bright, flashing streaks, known for leaving ghostly smoke trails in their wake. It appears that they are remnants of debris left by the short-period comet 169P NEAT, discovered in 2002.



Idaho Skies for July



Idaho Skies is a column for beginning amateur astronomers and those interested in astronomy. Suggestions about the column are gladly accepted by the columnist at streetastro@gmail.com. Check the Idaho Skies Twitter page for notices and images at www.twitter.com/ldahoSkies.

This month look for the star, Antares. Antares is the Lucida of the constellation of Scorpius the scorpion. Scorpius is one of the few constellations that actually looks like what it is suppose to represent. Please, call the constellation Scorpius and not Scorpio. Scorpio is one of the signs of the Zodiac and is not the name of the constellation. Early in the month, the constellation is located low to the south just after sunset. By late July, Scorpius is located low in the southwest after sunset.

The name Antares comes from the Greek for rival (Anti) of Mars (Ares). The god of war in Greek is called Ares and it was associated with the planet Mars because of the planet's red color. Antares is a star often confused for the planet Mars. Both get to be about the same brightness and have about the same shade of red. And at times, the planet Mars passes though the constellation Scorpius and close to Antares.

Antares is a classic red giant with a distinct red-orange color. It's located 620 light years away, and yet it remains one of the brightest stars in Earth's sky. Many of the bright stars in our skies are bright only because they are relatively near the sun. Antares is bright even though it is very distant because it's a truly bright star. However, Antares is a cool star, only about half a hot as our sun. This means that each square inch of its surface is dimmer than each square inch of the sun. But Antares is 800 times larger than our sun. Because of its huge size, Antares makes up for its low surface brightness. If you could visit Antares, you would see a star some 12,000 times brighter than our sun. When its invisible infrared radiation is included, Antares is around 90,000 times brighter than our sun. Replacing our sun with Antares would be bad news. Its surface would reach more than half way to the planet Jupiter. Antares would swallow poor Mercury, Venus, Earth, and Mars and cook them to a crisp.

July 1 – 7

Before celebrating the USA's birthday, take a minute to look for the thin crescent moon on the morning of the 4th. The moon will be located between the Hyades and Pleiades star clusters. You will need to look around 4:45 AM in the low east to see the trio. The moon will be a thin crescent and only 31/2 days from new. This is going to be a prime astronomical sight for your binocular

Earth reaches the aphelion of its orbit on the 5th. Aphelion comes from the Greek words for "away or apart" and "sun". Aphelion is therefore the point in Earth's elliptical orbit that is farthest from our sun. On the 5th, Earth's distance from the sun will be 94,536,000 miles. A point of confusion for some people is the relationship between the seasons and Earth's distance from the sun. Since it is summer for the northern hemisphere when Earth is its farthest distance from the sun. Earth's distance from the sun cannot be a cause of our summer. The tilt of Earth's rotational axis relative to the plane of its orbit around the sun is responsible for our seasons. The only effect that the distance between Earth and the sun has on the seasons is in the number of days each season lasts and that's a tiny effect.

Ten years ago on July 7th, NASA launched the 400 pound rover named Opportunity towards Mars. Opportunity became the longest driving American rover this year after driving just over 22 miles across the Mars. With a bit of care and good luck, it will become the longest driving rover in the history of the space age later this year. Like its twin, Spirit, JPL engineers designed Opportunity to explore the surface of Mars looking for signs that water once flowed upon the Martian surface. Unlike all the other rocky Martian landing sites American spacecraft have visited, Opportunity set down on a flat dusty plain with very few visible rocks. The landing site was rich in powdery hematite, an iron-bearing mineral formed in the presence of water. Also surprising was Opportunity's discovery of the first meteorite found on another planet. Currently Opportunity is exploring the rim of Endeavour Crater. Its 90 day mission has now lasted for over 3,400 days.

July 8 – 14The moon is new on the 8th. For several days before and after the 8th, you can expect dark skies with little or no interference from moonlight.

Venus is eight degrees away from the two and a half day old moon on the 10th. That's just a bit too wide to see both simultaneously through the average pair of binoculars. Look for them very low in the west at 10 PM. In July, the moon's path across the sky is low. Therefore, it doesn't climb rapidly above the horizon each day and ends up spending more days close to the horizon than it does in winter. It isn't until the 13th that the thick crescent moon appears anywhere high above the horizon after dark.

July 15 - 21

The moon is first quarter on the 15th. This is the perfect lunar phase for observing through telescopes and binoculars because the shadows of craters and mountains are turned to directly face us. Look along the terminator, or the boundary between day and night for the most detailed views.

There's also a close call between the moon and Spica on the 15th. The pair will only be ½ of a degree apart. Look for the star Spica to the moon's upper right, their distance apart will be equal to the moon's diameter. Use your binoculars to observe this one.

The planet Saturn is located near the moon on the evening of the 16th. Look for the pale yellow planet five degrees to the upper right of the moon. That's close enough together that both can be seen at the same time in your binoculars. Then mentally extend a line from the moon to Saturn and you will see Kappa Virginis beyond Saturn. Kappa and Saturn are ½ degrees apart, which is the apparent diameter of the moon.

Stars like Regulus, the heart of Leo the Lion, move closer to the sun and closer to the western horizon each day. Venus, the Evening Star, is located on the other side of the solar system and is rising higher above the western horizon each day. Regulus and Venus will pass close to each other over several days. Their smallest distance apart will be one degree on the evening of the 21st. This will be perfect in your binocular. Look for them starting around 10 PM.

The moon's orbit around Earth is slightly elliptical, or oval shaped. So once a month the moon is at its closest point to Earth and nearly two weeks later it is at its farthest point from Earth. On the 21st, the Moon is at perigee, or its closest point to Earth. On that day, the moon will be a mere 218,600 miles away. That's equivalent to 27 Earth diameters. Since the moon is full the next day, beach combers can expect higher and lower tides than usual.

July 22 - 31

The Farmers Almanac tells us that the full moon in July is often called the Thunder or Buck Moon. This year's Thunder Moon occurs on the 22nd. The full moon this month will be closer to Earth than the average full moon. As a result of this closeness, it will also be noticeably brighter than the average full moon.

On the 23rd Jupiter will be only ½ of a degree away from Mars. These neighboring planets recently left their conjunction with the sun and are now gracing the morning sky with their presence. So look very low to the east at 5:30 AM. The first planet you should notice is brighter Jupiter. To the left of Jupiter will be fainter Mars. Don't mistake Mars for Tejat Posterior, a star in Gemini, which is a ½ degree to the right of Jupiter. Tejat Posterior means back foot at it represents the foot of Castor, one of the Gemini Twins. Astronomers refer to it as mu Geminorum. Jupiter, Tejat Posterior, and Mars form a straight horizontal line that will fit neatly into your binoculars' field of view.

One of the marvels of our age is the communication satellite. Communication satellites take advantage of their altitude above the ground to relay radio communications between distant points on Earth that are otherwise inaccessible through direct communications because of Earth's curvature. The ultimate parking spot for a communication satellite is geostationary orbit, or 22,300 miles above the equator. Here, a satellite orbits Earth once every 24 hours. The result is that a satellite in geostationary orbit appears to hang motionlessly in the sky. The first satellites to attempt radio communications from geostationary orbit were the Syncom satellites by Hughes.

Fifty years ago on the 26th, a Delta rocket placed Syncom 2 into geosynchronous, but not geostationary orbit. Syncom 2's orbit was geosynchronous but not geostationary because its orbit was inclined relative to Earth's equator. The orbit was still 24 hours long, or geosynchronous. However, because of the tilt of its orbit, Syncom 2 oscillated north and south over a 24 hour period. This means the satellite was not stationary in the sky.

Syncom 2 is small by today's standards. It was only capable of relaying a single telephone conversion between two ground stations.

The second manned mission to the Skylab space station left Earth forty years ago on the 28th. The Skylab-3 astronauts, Garriott, Lousma, and Bean spent 59 days working onboard the space station. They made three space walks and spent a total of 12 hours outside the space station making repairs and retrieving film canisters from the Apollo Telescope Mount. Inside, the crew made biomedical observations to learn about the effects that weightlessness has on the human body. On a side note, the crew also tested the effects of weightlessness on a spider's ability to weave a web. This experiment was the suggestion of a high school student.

Since this is summer, there must be an active meteor shower tonight. On the morning of the 29th, the South Delta-Aquarids meteor shower reaches its peak intensity. In a normal year, you can expect to see between 15 and 20 meteors per hour from this shower. In 2013 however, the moon is third quarter during the peak of the shower. The moonlight will therefore render some of the fainter members of this shower difficult to see. The shower runs until mid August, so you may want to wait a few more days before spending significant amounts of time observing this shower. By then the Perseid meteor shower will be approaching its peak and the hourly meteor count will increase.

Not only is there a meteor shower peak on the 29th, but the moon also reaches the third quarter phase. You can turn lemons into lemonade by pointing your telescope or binoculars towards the moon while meteor watching. And if you see some meteors, that's just icing on the cake.

Mercury has traveled to the other side of its orbit since early June. On the morning of the 30th, the innermost planet appears its greatest distance from the sun. Astronomers call this its greatest western elongation. Because of our northern latitude, the path Mercury takes away from the sun is tilted strongly towards the south, rather than straight up from the horizon. So this planet, which will be 20 degrees away from the sun, will only be five degrees above the east-northeast horizon at 5:45 AM. Don't confuse Mercury with brighter Jupiter, which is three times higher above the horizon.

This Month's Sources

This column is a compilation of other peoples' notes. I would like to acknowledge the following sources this month.

Delta Aquarids, http://meteorshowersonline.com/showers/delta_aquarids.html Mu Geminorum, http://en.wikipedia.org/wiki/Mu_Geminorum
Observer's Handbook 2013, The Royal Astronomical Society of Canada
The Old Farmer's Almanac 2013, Dublin, NH
Opportunity, http://en.wikipedia.org/wiki/Opportunity_(rover)
Skylab 3, http://en.wikipedia.org/wiki/Skylab_3
Space Calendar, http://www.jpl.nasa.gov/calendar/
Syncom 2, http://en.wikipedia.org/wiki/Syncom#Syncom_2

Dark Skies and Bright Stars, Your Interstellar Guide

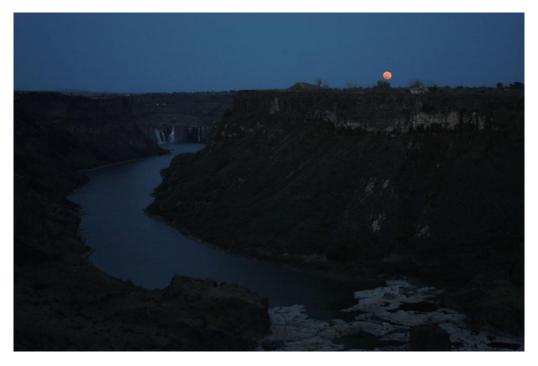


Image: Idaho Skies; the Full Moon rises above the Snake River Canyon – Twin Falls, Idaho, USA Pillar Falls (foreground) and Shoshone Falls (back) © 2012 by Gary Leavitt, MVAS.

.

Club Announcements





Pomerelle Mountain Resort

12 mi. south of Albion, ID; turn west off State Hwy. 77

Saturday, July 6th, 2013

- 3:00 5:30 p.m. Solar viewing (safe views of the Sun with filtered telescopes)
- 3:00 5:30 p.m. Make and launch your own water bottle rocket
- 7:45 8:45 p.m. Night sky talk: "Idaho Summer Skies"
- 8:45 p.m. 12:00 a.m. Lift rides to telescopes atop the mountain: \$8 for ages 12+, \$5 for ages 7-12, free for 6 and under with adult accompaniment

Please dress for nighttime mountain temperatures!

Info: Pomerelle: (208) 673-5525; Herrett Center: (208) 732-6655

Sponsored by Pomerelle Mountain Resort, the Magic Valley Astronomical Society, and the College of Southern Idaho's Centennial Observatory.

Volunteers are needed for this event, so please contact the club president for more information.



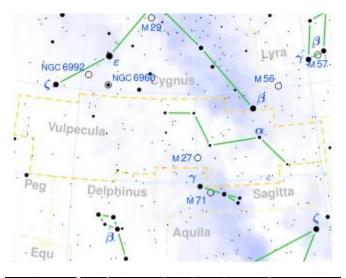
Deep Sky Highlight



A **planetary nebula**, more correctly known as a stellar-remnant nebula, is an emission nebula consisting of an expanding glowing shell of ionized gas ejected during the asymptotic giant branch phase of certain types of stars late in their life. The term for this class of objects is a misnomer that originated in the 1780s with astronomer William Herschel, because when viewed through his telescope, these objects were somewhat similar in appearance to Uranus, the planet which he had recently discovered. Herschel's name for these objects was adopted by astronomers and has not been changed, even though planetary nebulae are unrelated to the planets of the solar system. They are a relatively short-lived phenomenon, lasting a few tens of thousands of years, compared to a typical stellar lifetime of several billion years.

The **Dumbbell Nebula** (also known as **Apple Core Nebula**, **Messier 27**, **M 27**, or **NGC 6853**) is a planetary nebula in the constellation Vulpecula, at a distance of about 1,360 light years. This object was the first planetary nebula to be discovered; by Charles Messier in 1764. At its brightness of visual magnitude 7.5 and its diameter of about 8 arcminutes, it is easily visible in binoculars, and a popular observing target in amateur telescopes.

Observation data: Right Ascension: 19^h 59^m 36.340^s Declination + 22° 43′ 16.09" Distance 1,360 l.y.



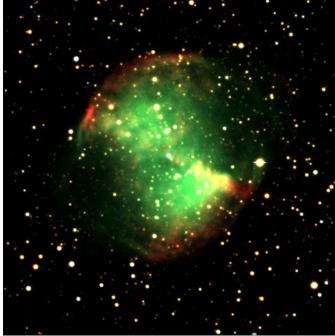


Image: M27, the Dumbbell Nebula in Vulpecula, imaged with the Shotwell CCD camera. Tracking without guiding correction, L, R, G, and B frames, approximately four minutes each, processed and stacked with MaxIm DL. North is up. Reduced from original, in which 20th magnitude stars can be seen. By Chris Anderson Using the Norman Herrett Telescope at the Centennial Observatory, Herrett Center, College of Southern Idaho, Twin Falls.



High-Energy SpyDr. Martin C. Weisskopf



The idea for the Chandra X-Ray Observatory was born only one year after Riccardo Giacconi discovered the first celestial X-ray source other than the Sun. In 1962, he used a sounding rocket to place the experiment above the atmosphere for a few minutes. The sounding rocket was necessary because the atmosphere blocks X-rays. If you want to look at X-ray emissions from objects like stars, galaxies, and clusters of galaxies, your instrument must get above the atmosphere.

Giacconi's idea was to launch a large diameter (about 1 meter) telescope to bring X-rays to a focus. He wanted to investigate the hazy glow of X-rays that could be seen from all directions throughout the sounding rocket flight. He wanted to find out whether this glow was, in fact, made up of many point-like objects. That is, was the glow actually from millions of X-ray sources in the Universe. Except for the brightest sources from nearby neighbors, the rocket instrument could not distinguish objects within the glow. Giacconi's vision and the promise and importance of X-ray astronomy was borne out by many sounding rocket flights and, later satellite experiments, all of which provided years-, as opposed to minutes-, worth of data.

By 1980, we knew that X-ray sources exist within all classes of astronomical objects. In many cases, this discovery was completely unexpected. For example, that first source turned out to be a very small star in a binary system with a more normal star. The vast amount of energy needed to produce the X-rays was provided by gravity, which, because of the small star's mass (about equal to the Sun's) and compactness (about 10 km in diameter) would accelerate particles transferred from the normal star to X-ray emitting energies. In 1962, who knew such compact stars (in this case a neutron star) even existed, much less this energy transfer mechanism?

X-ray astronomy grew in importance to the fields of astronomy and astrophysics. The National Academy of Sciences, as part of its "Decadal Survey" released in 1981, recommended as its number one priority for large missions an X-ray observatory along the lines that Giacconi outlined in 1963. This observatory was eventually realized as the Chandra X-Ray Observatory, which launched in 1999.

The Chandra Project is built around a high-resolution X-ray telescope capable of sharply focusing X-rays onto two different X-ray-sensitive cameras. The focusing ability is of the caliber such that one could resolve an X-ray emitting dime at a distance of about 5 kilometers! The building of this major scientific observatory has many stories.

Dr. Weisskopf is project scientist for NASA's Chandra X-ray Observatory. This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Caption: Composite image of DEM L50, a so-called superbubble found in the Large Magellanic Cloud. X-ray data from Chandra is pink, while optical data is red, green, and blue. Superbubbles are created by winds from massive stars and the shock waves produced when the stars explode as supernovas.



Observatory and Planetarium Events



Schedule for Centennial Observatory – Herrett Center herrett.csi.edu

		nerrett.csi.eau		
Event	Place	Date	Time	Admission
Summer Solar Session #5	Centennial Observatory	Wednesday, June 26 th , 2013	1:30 to 3:30 PM	FREE
Summer Solar Session #6	Centennial Observatory	Wednesday, July 3 rd , 2013	1:30 to 3:30 PM	FREE
Bimonthly Astronomy Talk: "The Gaia Galactic Survey Mission"	Rick Allen Room	Friday, July 5 th , 2013	8:45 to 9:45 PM	\$2.50 adults \$1.50 students (incl. CSI) Free - children 6 & under
Astronomy Talk Night Telescope Viewing	Centennial Observatory	Friday, July 5 th , 2013	9:45 to 11:45 PM	\$1.50 per person Free - children 6 & under Free to all with paid astronomy talk or planetarium admission
Seventh annual Pomerelle Mtn. Star Party	Pomerelle Resort, Albion, Idaho	Saturday, July 6 th , 2013	3:00 PM to midnight	Lift tickets required for mountaintop access
Summer Solar Session #7	Centennial Observatory	Wednesday, July 10 th , 2013	1:30 to 3:30 PM	FREE
Monthly Free Star Party	Centennial Observatory	Saturday, July 13 th , 2013	9:30 PM to midnight	FREE
Summer Solar Session #8	Centennial Observatory	Wednesday, July 17 th , 2013	1:30 to 3:30 PM	FREE
Summer Solar Session #9	Centennial Observatory	Wednesday, July 24 th , 2013	1:30 to 3:30 PM	FREE
Summer Solar Session #10	Centennial Observatory	Wednesday, July 31 st , 2013	1:30 to 3:30 PM	FREE

Faulkner Planetarium Schedule – Herrett Center Twin Falls Mid-Summer, July 2nd – August 3rd, 2013

Day	Time	Show
Tuesdays	2:00	Star Signs/Live Sky Tour
	3:30	Lifestyles of the Stars/Live Sky Tour
	7:00	Light Years From Andromeda
	8:15	Pink Floyd: The Wall
Wednesdays	2:00	Planet Patrol: Solar System Stake-Out
	3:30	Dark Matters/Live Sky Tour
Thursdays	2:00	Star Signs/Live Sky Tour
	3:30	Lifestyles of the Stars/Live Sky Tour
Fridays	2:00	Planet Patrol: Solar System Stake-Out
	3:30	Dark Matters/Live Sky Tour
	7:00	Light Years From Andromeda
	8:15	Led Zeppelin: Maximum Volume 1
Saturdays 2:00		Planet Patrol: Solar System Stake-Out
	4:00	Lifestyles of the Stars/Live Sky Tour
	7:00	Light Years From Andromeda
	8:15	Pink Floyd: Dark Side of the Moon



Membership Information



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 or home telephone: 736-1989 or mail directly to the treasurer at his home address. 550 Sparks Twin Falls, ID 83301

Donations to our club are always welcome and are even tax deductible. Please contact a board member for details.

M-51 viewed in this newsletter was imaged with the Shotwell Camera and the Herrett Telescope at the Centennial Observatory by club members Rick Widmer & Ken Thomason. Unless otherwise stated all photos appear in the public domain and are courtesy of NASA.

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

Snake River Skies is the Newsletter of the Magic Valley Astronomical Society and is published electronically once a month. Snake River Skies is copyrighted, except where noted and credit is via permission of the respective author. Snake River Skies. © 2012 by the Magic Valley Astronomical Society.



"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.

Membership Benefits

Sky and Telescope group rates. Subscriptions to this excellent periodical are available through the MVAS at a reduced price of \$32.95.

Astronomy Magazine group rates. Subscriptions to this excellent periodical are available through the MVAS at a reduced price of \$34.00

Receive 10% discounts on other selected Astronomy Publications.

For periodical info. and subscriptions Contact Jim Tubbs, Treasurer

Lending Library: Contact, the current board for information.

Lending Telescopes: The society currently has three telescopes for loan and would gladly accept others. Contact Rick Widmer, Webmaster for more information.