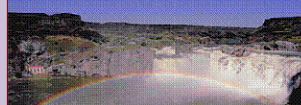




Snake River Skies



The Monthly Newsletter of the Magic Valley Astronomical Society February 2012

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Elected Board

Terry Wofford, President
terrywofford@hotmail.com

David Olsen, VP / Newsletter Ed.
editor@mvasastro.org

Jim Tubbs, Treasurer / ALCOR Rep.
jtubbs015@msn.com

Rick Widmer, Secretary / Webmaster
rick@developersdesk.com

Membership Message

Welcome to the February Newsletter. Beginning with this newsletter as you will notice a complete change in the format. Hopefully this will be an easier to read format. As I announced last month, I am now the editor for the Boise Astronomical Society's newsletter. Some of the information will be the same between the two e.g. the articles, but there will be information specific to each club and using this template for both will make the job much easier.

Feedback is very important and I am encouraging you to let me know what you think as this is your newsletter. I will state that as time goes on these newsletters may get a bit longer with more club information and articles become available.

Our monthly meeting will be on Saturday, the 11th of February at 7:00 pm at the Herrett Center.

Club star parties for now have been put on hold unless you hear otherwise via the members e-mail list. This was due to the colder weather. If anyone wants to have a star party then please give a shout on the members e-mail list.

That is all for this month. Enjoy your newsletter.

David Olsen, VP / Newsletter Editor
Magic Valley Astronomical Society

Welcome to the society and hello. We hope you have a good time, enjoy the hobby and bring good skies with you.

We hold indoor meetings each month at the Herrett Center for Arts & Science College of Southern Idaho campus in Twin Falls, ID, USA. Our meetings start at 7:00 pm on the second Saturday of the month. There will always be a very interesting program, class or presentation at these meetings, as well as good fellowship. There is always something new to learn.







Following our meetings we have a star party (weather permitting) at the Centennial Observatory, also at the Herrett Center.

Our star parties are free and you don't have to bring your own telescope. Telescopes are also set up outside on the stargazer's deck. Star Parties are held year round, so please dress accordingly as the Observatory is not heated, nor air conditioned.

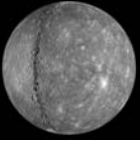










Wishing you dark skies and clear nights!

MVAS Board

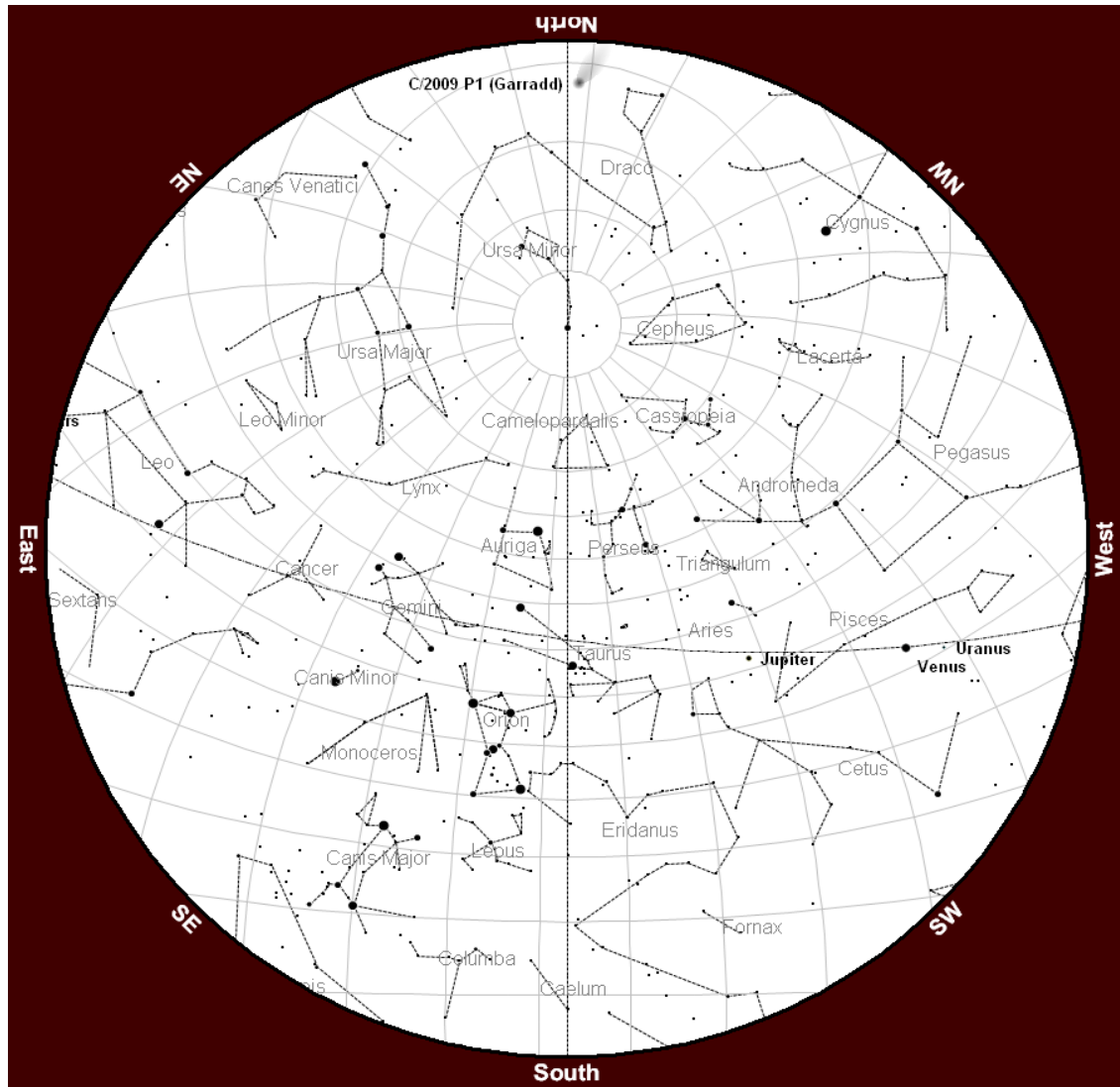
February 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 Groundhog Day	3	4
5	6	7  Full Moon	8	9	10	11  Moon at Perigee Membership Meeting at the Herrett Center at 7:00 pm
12 Lincoln's Birthday	13	14 Valentine's Day  Last Quarter Telescope Tuesday	15	16	17	18
19	20 President's Day	21 Mardi Gras  New Moon	22 Washington's Birthday	23	24	25
26	27  Moon at Apogee	28 Telescope Tuesday 	29			

Solar System

	Mercury will be invisible early in the month. It will go behind the Sun on the 7 th within a week Mercury will become visible again and slowly climb higher throughout the month. On the 22 nd a very thin crescent Moon will be 5° to Mercury's right making it easier to find.
	Venus will be in the southwestern sky just after sunset all month. It will be blazing at magnitude -4.2 at midmonth and hard to miss. It will be climbing higher in the sky all month. Very late in the month it will set after 9:30 p.m.
	Mars will be a must see target this month. It is nearly at opposition which means it will be nearly at its closest, biggest and brightest in two years. Mars will brighten from magnitude -0.5 to magnitude -1.2 this month. Begin looking for Mars around 8:00 p.m.
	Jupiter will still be a great target this month. It will be sitting pretty high in the sky as it gets dark. It is still nearly at its biggest and brightest of the year. It will be bright at magnitude -2.3. Look for Jupiter in the constellation Aries.
	Saturn will be in Virgo. It rises around midnight. This puts it more than halfway up in the southeast sky just before it starts to get light. This means the best time to observe it would be an hour or so before it gets light.
	Uranus lies in the same binocular field of view as Lambda Piscium, the star that forms the southeast corner of the "Circlet" in Pisces, The planet glows at magnitude +5.9 and looks just like a blue-green star of that brightness.
	Neptune will be close to the Sun to see this month. It will be officially in conjunction with the Sun on the 19 th .
	Pluto will impossible to see this month. Always a difficult target, it will be sitting very low in the eastern horizon just before dawn.
	433 Eros The observational challenge for this month will be the asteroid 433 Eros. 433 Eros begins the month in the small constellation Sextans and heads south into much larger Hydra. Wait to observe until late evening, when this region has climbed fairly high in the south.
	C/2009 P1 Garradd will continue streaking through our solar system, most likely never to return. In early February, comet Garradd can be found in the constellation Hercules, but by mid-month it passes the border into neighboring Draco. According to recent reports, it should glow at 7 th magnitude.
	Virginids Meteor Showers are a vast complex of a dozen or so radiants that become active in late January and persist until mid-April, without reaching a definite peak. Meteors from this stream appear at a slow speed (about 20 miles per second) from a large radiant that measures 15° by 10° in size.

Planisphere for February



Planisphere is from "The Sky 6" and is provided as a courtesy of Chris Anderson, Planetarium Production Specialist & Observatory Coordinator, Herrett Center, College of Southern Idaho, Twin Falls, ID, USA. This Planisphere should be used as a guide for the month of February. Best observing time begins at 21:30 hours local time.

Did You Know?

New Horizons' flight to explore the Pluto system in July 2015 will be a historic accomplishment for the U.S. space program, for planetary science, and indeed for all humankind. Plans for the flyby are well under way – and now, so is an effort to petition the U.S. Postal Service to commemorate the historic achievements of New Horizons on a stamp.

The mission team launches that petition today, in early 2012, and plans to submit the petitioners' names and a formal proposal to the U.S. post office knowing it often takes three years or longer for a proposal to result in an actual stamp. You may find more information by visiting http://pluto.jhuapl.edu/news_center/news/20120201.php





The Nerdiest Video Game Ever

By Dr. Tony Phillips

NASA has a job opening. Wanted: People of all ages to sort, stack, and catalogue terabytes of simulated data from a satellite that launches in 2015. Agile thumbs required.

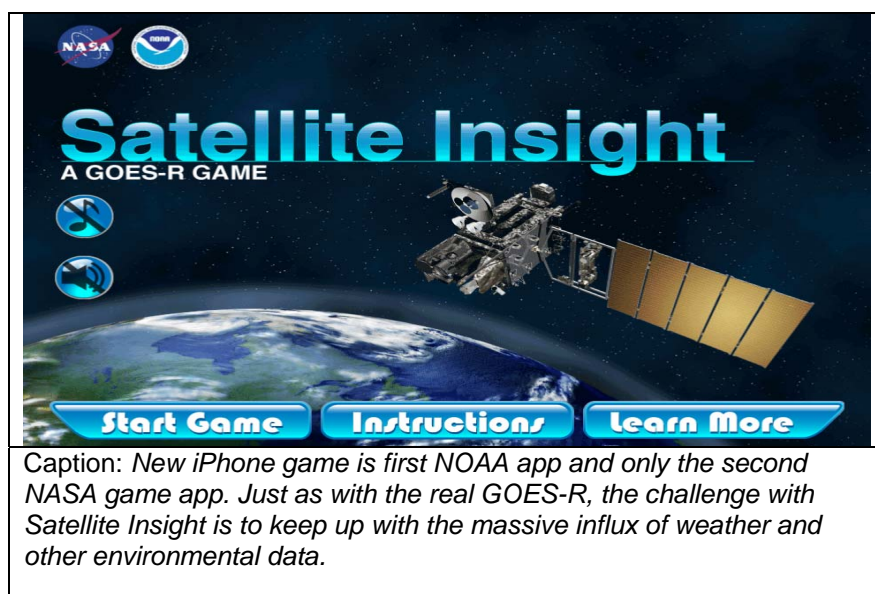
Sorting terabytes of data? It's more fun than it sounds.

In fact it's a game: Satellite Insight. The Space Place Team at the Jet Propulsion Laboratory created the entertaining app for iPhones to get the word out about GOES-R, an advanced Earth science satellite built by NOAA and NASA.

Described by the *Los Angeles Times* as possibly "the nerdiest game ever," Satellite Insight may be downloaded for free from Apple's app store. Be careful, though, once you start playing it's hard to stop. Some reviewers have likened it to Tetris, one of the most popular video games of all time. GOES, short for "Geostationary Operational Environmental Satellite," is the workhorse spacecraft for weather forecasters. NOAA operates two (at a time) in geosynchronous orbit, one above the west coast of N. America and one above the east coast. They monitor clouds, wind, rain, hurricanes, tornadoes and even solar flares. The GOES program has been in action since 1975.

GOES-R is the next-generation satellite with advanced technologies far beyond those of the older GOES satellites. It has sensors for lightning detection, wildfire mapping, storm tracking, search and rescue, solar imaging, and more. Many of the sensors are trailblazers. For example, the Advanced Baseline Imager has 60 times the capability of the current imager—16 channels instead of 5. It has twice the spatial resolution and five times the temporal refresh rate, including the 30-second imaging of weather systems over a region of 1000 km x 1000 km. Also, the Geostationary Lightning Mapper can count and pinpoint lightning bolts over the Americas 24/7. It's the first such detector to fly on a geosynchronous satellite, and it could lead to transformative advances in severe storm warning capability. All in all, GOES-R represents a "huge technological leap from the current GOES." We know this because Satellite Insight tells us so. The app has an informative "Learn More" feature where players can find out about the satellite and the data they have been sorting.

Which brings us back to sorting data. It's a bit like eating Cheerios; just don't tell the kids it's nutritious, and they love it. Helping GOES-R gather and stash data from all those advanced sensors is just as satisfying, too—a dose of Earth science wrapped in thumb-flying fun. *This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*





Eight Years of Opportunity

Eight years after landing on Mars for what was planned as a three-month mission, NASA's enduring Mars Exploration Rover Opportunity is working on what essentially became a new mission five months ago.

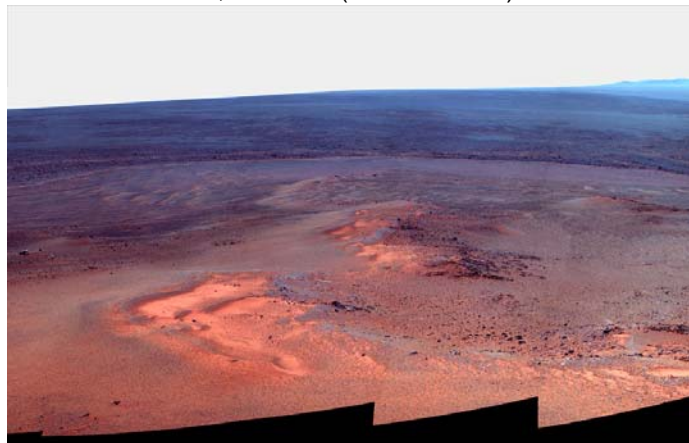
Opportunity reached a multi-year driving destination, Endeavour Crater, in August 2011. At Endeavour's rim, it has gained access to geological deposits from an earlier period of Martian history than anything it examined during its first seven years. It also has begun an investigation of the planet's deep interior that takes advantage of staying in one place for the Martian winter.

Opportunity landed in Eagle Crater on Mars on Jan. 25, 2004, Universal Time and EST (Jan. 24, PST), three weeks after its rover twin, Spirit, landed halfway around the planet. In backyard-size Eagle Crater, Opportunity found evidence of an ancient wet environment. The mission met all its goals within the originally planned span of three months. During most of the next four years, it explored successively larger and deeper craters, adding evidence about wet and dry periods from the same era as the Eagle Crater deposits.

In mid-2008, researchers drove Opportunity out of Victoria Crater, half a mile (800 meters) in diameter, and set course for Endeavour Crater, 14 miles (22 kilometers) in diameter.



West Rim of Endeavour Crater on Mars (False Color). Image Credit: NASA/JPL Caltech/Cornell/ASU



This mosaic of images taken in mid-January 2012 shows the windswept vista northward (left) to northeastward (right) from the location where NASA's Mars Exploration Rover Opportunity is spending its fifth Martian winter, an outcrop informally named "Greeley Haven."
Credit: NASA/JPL-Caltech/Cornell/Arizona State University

"Endeavor is a window further into Mars' past," said Mars Exploration Rover Program Manager John Callas, of NASA's Jet Propulsion Laboratory, Pasadena, California, USA.

The trek took three years. In a push to finish it, Opportunity drove farther during its eighth year on Mars -- 4.8 miles (7.7 kilometers) -- than in any prior year, bringing its total driving distance to 21.4 miles (34.4 kilometers).

The "Cape York" segment of Endeavour's rim, where Opportunity has been working since August 2011, has already validated the choice of Endeavour as a long-term goal. "It's like starting a new mission, and we hit pay dirt right out of the gate," Callas said.

The first outcrop that Opportunity examined on Cape York differs from any the rover had seen previously. Its high zinc content suggests effects of water. Weeks later, at the edge of Cape York, a bright mineral vein identified as hydrated calcium sulfate provided what the mission's principal investigator,

Steve Squyres of Cornell University, Ithaca, N.Y., calls "the clearest evidence for liquid water on Mars that we have found in our eight years on the planet."

Mars years last nearly twice as long as Earth years. Entering its ninth Earth year on Mars, Opportunity is also heading into its fifth Martian winter. Its solar panels have accumulated so much dust since Martian winds last cleaned them -- more than in previous winters -- the rover needs to stay on a sun-facing slope to have enough energy to keep active through the winter.

The rover team has not had to use this strategy with Opportunity in past winters, though it did so with Spirit, farther from the equator, for the three Martian winters that Spirit survived. By the beginning of the rovers' fourth Martian winter, drive motors in two of Spirit's six wheels had ceased working, long past their design lifespan. The impaired mobility kept the rover from maneuvering to an energy-favorable slope. Spirit stopped communicating in March 2010.

All six of Opportunity's wheels are still useful for driving, but the rover will stay on an outcrop called "Greeley Haven" until mid-2012 to take advantage of the outcrop's favorable slope and targets of scientific interest during the Martian winter. After the winter, or earlier if wind cleans dust off the solar panels, researchers plan to drive Opportunity in search of clay minerals that a Mars orbiter's observations indicate lie on Endeavour's rim.

"The top priority at Greeley Haven is the radio-science campaign to provide information about Mars "interior," said JPL's Diana Blaney, deputy project scientist for the mission. This study uses weeks of tracking radio signals from the stationary rover to measure wobble in the planet's rotation. The amount of wobble is an indicator of whether the core of the planet is molten similar to the way spinning an egg can be used to determine whether it is raw or hard-boiled.

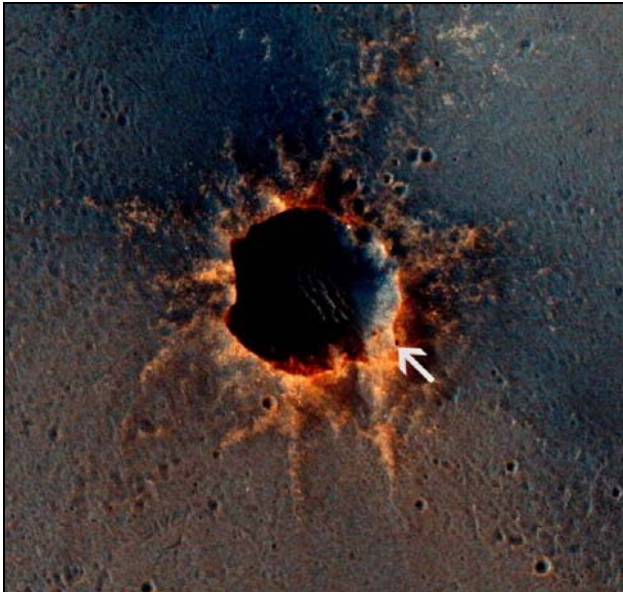
Other research at Greeley Haven includes long-term data gathering to investigate mineral ingredients of the outcrop with spectrometers on Opportunity's arm, and repeated observations to monitor wind-caused changes at various scales.

The Moessbauer spectrometer, which identifies iron-containing minerals, uses radiation from cobalt-57 in the instrument to elicit a response from molecules in the rock. The half-life of cobalt-57 is only about nine months, so this source has diminished greatly. A measurement that could have been made in less than an hour during the rover's first year now requires weeks of holding the spectrometer on the target.

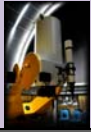
Observations for the campaign to monitor wind-caused changes range in scale from dunes in the distance to individual grains seen with the rover's microscopic imager. "Wind is the most active process on Mars today," Blaney said. "It is harder to watch for changes when the rover is driving every day. We are taking advantage of staying at one place for a while."



NASA's twin robot geologists, the Mars Exploration Rovers, launched toward Mars on June 10 and July 7, 2003. Planning activities for the Spirit rover were ended in 2011, but Opportunity continues to make discoveries on Mars. Credit: NASA



NASA's Mars Rover Opportunity can be seen perched on the southeast rim of the Santa Maria crater on Mars, in this photograph taken by the High Resolution Imaging Science Experiment (HiRISE) camera on NASA's Mars Reconnaissance Orbiter. Rover tracks are visible to the west of the crater. Credit: NASA



Centennial Observatory and Faulkner Planetarium Events

The Centennial Observatory is located at the Herrett Center for Arts and Science College of Southern Idaho in Twin Falls. The Herrett Center is on the north end of the campus off of North College Drive. The Centennial Observatory features one of the world's largest fully wheelchair-accessible public telescopes. The main instrument is the Norman Herrett telescope, a 24" Ritchey-Chrétien reflector on a computer-controlled fork mount, manufactured by DFM Engineering of Longmont, Colorado, USA. The observatory features an elevator to take visitors to its second-story location at the south end of the museum. Once there, a wheelchair elevator is available to lift visitors with limited mobility to the observing deck under a six meter (20 foot) motorized dome manufactured by Observa-Dome of Jackson, Mississippi, USA. The ARE-125, an optical "periscope" designed by DFM, allows unprecedented access to the telescope for wheelchair bound or limited mobility visitors. An Apogee Alta E47+ CCD camera is available for imaging, a generous gift of Dick and Jody Shotwell.

Event	Place	Date	Time	Admission
Monthly Free Star Party	Centennial Observatory	Saturday, February 11 th , 2012	7:00 PM to midnight	FREE
Telescope Tuesday	Centennial Observatory	Tuesday, February 14 th , 2012	7:00 to 9:00 PM	\$1.50 per person Children 6 and under free or FREE with paid planetarium admission
Telescope Tuesday	Centennial Observatory	Tuesday, February 28 th , 2012	7:30 to 9:00 PM	\$1.50 per person Children 6 and under free or FREE with paid planetarium admission

Also located at the Herrett Center is the Faulkner Planetarium is the largest planetarium theater in Idaho, and one of the best equipped in the northwestern U.S. The theater seats 144 under a 50' dome and features a Digistar II digital graphics projection system. This digital projection technology immerses the audience in sights and sounds for a truly memorable theater experience. The Faulkner Planetarium is available for school groups and private events. To schedule your visit, please contact Education Coordinator Darcy Thornborrow at (208) 732-6664 for school groups, or Facilities Specialist Kristi Cederstrom at (208) 732-6657 for private events.

Planetarium Show Schedule for February

Day	Time	Show
Tuesday	7:00	How to Build a Planet
Friday	7:00	How to Build a Planet
	8:15	Lynyrd Skynyrd: Fly On Free Bird
Saturday	2:00	Dark Matters/w Live Sky Tour
	4:00	Oceans In Space/w Live Sky Tour
	7:00	How to Build a Planet
	8:15	Led Zeppelin: Maximum Volume 1



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.

Magic Valley Astronomical Society P.O. Box 445

Kimberly, ID, USA 83341
<http://www.mvastro.org>

Facebook: <http://www.facebook.com/pages/Magic-Valley-Astronomical-Society/123862814352394>

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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 two telescopes for loan and would gladly accept others. Contact Rick Widmer, Secretary for more information.