

The Monthly Newsletter of the Magic Valley Astronomical Society

April Events

9th-15th International Dark Sky Week begins.

9th-10 BAS Messier Marathon at Bruneau Dunes S.P.

10th—MVAS General Membership Meeting at 7:00 pm in the Herrett Center. Our monthly free star party begins following the meeting at 8:15 pm at the Centennial Observatory.

12th—Yuri's Night-A celebration of the anniversary of Cosmonaut Yuri Gagarin and the start of the NASA shuttle program. See NASA News for details inside.

22nd—Earth Day; 40th anniversary. Earth Day Network was founded on the premise that all people, regardless of race, gender, income, or geography, have a moral right to a healthy, sustainable environment.

24th—International Astronomy Day will be celebrated locally at the Herrett Center. Beginning at 1:00 pm. Details on this page.

Astronomy Day events planned at Herrett Center

Astronomy Day is a grass roots movement designed to share the joy of astronomy with the general population - "Bringing Astronomy to the People."

On Astronomy Day, thousands of people who have never looked through a telescope will have an opportunity to see first hand what has so many amateur and professional astronomers all excited.

A day and night full of events have been planned for this year's International Astronomy Day at the Herrett Center for Arts and Science at the College of Southern Idaho.

The afternoon and evening of Saturday, April 24 will include lots of kids' and family activities beginning at 1 p.m., including: make and take astronomy projects; water bottle rockets; a self-

guided tour of a scale model of the Solar System; astronomy videos; and daytime viewing of the Sun, bright stars, and planets in the Centennial Observatory. The Sun has begun to emerge from a two-year period of low activity, and is beginning to display sunspots and prominences (gas eruptions). All these events are free of charge.

Local scouts will demonstrate their Lego "Mindstorm" robotic kits, and visitors can try their hand at constructing and piloting their own robotic Mars rovers.

The Faulkner Planetarium will show "TBA" at 2 p.m., "Icy Worlds," with "Saving the Night" and a live sky tour" at 4 p.m., and "TBA" at 7 p.m. Admission prices for the planetarium are \$4.50 for adults, \$3.50 for seniors, and \$2.50 for students. The music entertainment show

"TBA" is at 8:15 p.m.; admission for all ages is \$4.50. Food will be available at the 'Cosmic Café,' on the patio adjacent to the Herrett's Rick Allen Room. The Hoagie Street Deli will be offering hoagies, burgers, kielbasas, hot dogs, and a variety of snack items and beverages from 1 to 6 p.m.

Finally, the Centennial Observatory will be open from 8:30 p.m. to midnight (weather permitting) for a free star party. Targets will include Venus, mars, Saturn, the Moon, and more.

For more information, contact the Herrett Center at 732-6655 or visit the website at www.csi.edu/herrett

Please join the Magic Valley astronomical Society at the Herrett Center.

Terry Wofford, President

Welcome to the Astronomical Society

Welcome to the club 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 7:00pm 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! Membership information is found on the last page.

The MVAS Board



April Sky Tour

Venus Dominates the West & Saturn is to the South.

As the celestial sphere turns westward through the seasons, old constellations sink into the sunset and new ones rise in the east. The rule to remember is this: looking two hours later at night is like looking *one month later* in the year. Planets can be the exception. Venus, for instance, has been getting higher in the west each month, not lower. Now Venus blazes aloft in western twilight like nothing else in the sky.

During April, Venus has some interesting celestial encounters. It passes lower left of the delicate little Pleiades star cluster on the 10th to 12th. The waxing crescent Moon hangs with Venus on the April 19th just when Venus is passing upper right of Aldebaran, the brightest star in Taurus. At month's end, Venus reaches the star Elnath, which links Taurus to neighboring Auriga.

Saturn is the other planet of April evenings. Look for it shining very high up toward the south after the sky darkens. Left of it is the Sickle star pattern of Leo, with Regulus forming the bottom of the Sickle's handle. To its immediate right is the dim constellation of Cancer, the Crab. Cancer's showpiece object is the loose star cluster called the Beehive, located the width of a fist at arm's length to Saturn's right. In a dark sky the Beehive Cluster looks like a soft glow, but binoculars will reveal dozens of individual stars. Rather far below Saturn and Regulus is Alphard, "the Lonely One," forming the fiery orange heart of Hydra, the sky's enormously long Sea Serpent. Look for Hydra's distinctive head halfway from Alphard to Procyon and a little above.

Nearly at its highest in the north now is the Big Dipper, almost overhead. According to old farmer's lore, it's upside down as if dumping April showers. The showers must take quite a while to reach Earth, since whenever you see the Dipper the sky is obviously clear! The two Pointer stars of the Big Dipper, forming the left end of its bowl,

point down nearly to Polaris, the North Star. It's below them by three fist-widths. Polaris marks the handle-end of the notoriously dim Little Dipper, which on spring evenings extends to Polaris's right.

Way down below Polaris is dim King Cepheus, hard to see. Much easier is his bright wife Queen Cassiopeia to his left. The W-shaped pattern of Cassiopeia's five brightest stars is sometimes called her chair or throne complete with a footrest.

The brightest star on the eastern side of the sky is Arcturus, sometimes called the Spring Star for its grand arrival into good evening view at this season. Arcturus is the leading light of Böotes, the Herdsman, but you can think of this constellation as Böotes the Boot if you prefer. To me, Böotes has the shape of a low boot or slipper with Arcturus marking its long, pointy toe.

As night grows late and Arcturus climbs very high, a new spectacle arrives onstage. Bright Jupiter rises in the east-southeast around midnight or 1 a.m. at the beginning of April and 10 or 11 p.m. by month's end (depending on where you live). Give it another couple hours to ascend into good view in the southeast. By dawn Jupiter dominates the south.

Zodiacal Light in the Evening

Have you ever seen the zodiacal light? This huge pearly pyramid is on its best display in the Northern Hemisphere on moonless evenings from February through April. All you need is a location far from artificial lights (at least 40 miles from a small city and 80 miles from a major metropolis) that also

has an unobstructed western horizon. Go out an hour after sunset and look to the west. Even though the Sun is now far below the horizon, a huge dome of light marks the spot where it disappeared as this light fades and shrinks down to the horizon, another glow will be unmasked; a tall, leftward-slanting pyramid of light. It follows the path of ecliptic, running left of Aries and then between the Hyades and Pleiades, the sky's most spectacular star clusters.

It's amazingly brighter — even brighter than the Milky Way — and once you've seen it, you'll never again have trouble recognizing it. What are you seeing? The zodiacal light is the combined glow of countless tiny particles (debris from comets and asteroid collisions) that orbit the Sun.

Image: Once considered a false dawn, this triangle of light is actually Zodiacal Light, light reflected from interplanetary dust particles. The bright reflecting triangle is clearly visible on the right of the above image taken from Laguna Verde near Valparaíso, Chile in late July. The band of our Milky Way Galaxy on the left mirrors the zodiacal band. Zodiacal dust orbits the Sun predominantly in the same plane as the planets: the ecliptic. Zodiacal light is so bright in the north this time of year because the dust band is oriented nearly vertical at sunrise, so that the thick air near the horizon does not block out relatively bright reflecting dust.

Image source unknown



April Observing Highlights



Mercury will be excellent the first week of the month in the west after sunset. It should be easy to find also since the much brighter Venus will be around 3° away. Around the 8th of the month will be its best appearance in 2010.



Venus will be climbing higher in the evening sky at dusk all month. It will be shining very brightly at magnitude -3.9. Through a telescope Venus will appear as a nearly full disk all month and will get higher but not much brighter. Much dimmer Mercury will be around 3° away for the first two weeks of the month.



Mars will be visible high in the south west sky as it grows dark. It will dominate the area of the sky in which it sits but it is fading fast. It will not be as big and bright as it was the last few months. It will start the month at magnitude 0.2 and will fade to 0.7 by the end of the month.



Saturn reached opposition on the 21st of last month. This month it will still be near its biggest and brightest. This makes it a great target. It will rise at sunset and set at dawn so the best to observe it would be around midnight when it will sit high in the sky directly to the south. It will be in Virgo. Saturn will peak around magnitude 0.7 this month.



Phases of the Moon

- 6 **Last Quarter Moon** at 9:37 UT
- 14 **New Moon** at 12:29 UT.
- 21 **First Quarter Moon** at 18:20UT.
- 28 **Full Moon** at 12:18 UT.

Lyrid Meteor Shower

The Lyrid meteor shower occurs between April 19 and 24, with the peak of activity expected on April 22 (Earth Day). Lyra rises in the northeast a couple hours after sunset. Comet Thatcher is the parent body of the Lyrid meteor shower. At its peak, an observer can expect about 12 meteors per hour.



Beehive Cluster (M44) or Praesepe: the open cluster Messier 44 Atlas Image obtained as part of the Two Micron All Sky Survey (2MASS), a joint project of the University of Massachusetts and the Infrared Processing and Analysis Center/California Institute of Technology, funded by the National Aeronautics and Space Administration and the National Science Foundation. Reduced from original size.

Image right: Lyrid Meteor streaks through the Milky Way Recorded in early morning hours, this well-composed image looks toward the south from White Mountains of eastern California, USA © Apr 2009 NASA/APOD. T Rowell.

Celestial Events by Date

- 3 **Moon near Antares** (morning sky) at 10h UT.
- 4 **Mercury 3.0° WNW of Venus** (19° from Sun, evening sky) at 8h UT. Mags. -0.6 and -3.9.
- 8 **Mercury at greatest elongation**, 20° east from Sun (evening sky) at 23h UT. Mag. +0.1.
- 9 **Moon at apogee** (farthest from Earth) at 3h UT (distance 405,002 km; angular size 29.4').
- 11 **Moon near Jupiter** (morning sky) at 18h UT. Mag. -2.1.
- 16 **Moon near Venus** (evening sky, 23° from Sun) at 11h UT. Mag. -3.9. Favors northern hemisphere.
- 17 **Moon near the Pleiades** (evening sky) at 4h UT.
- 17 **Mars 1.1° NNE of Beehive cluster** (M44) at 19h UT. Mag. +0.5.
- 22 **Moon near Beehive cluster** (M44) (evening sky) at 3h UT.
- 22 **Moon near Mars** (evening sky) at 5h UT. Mag. +0.6.
- 23 **Moon near Regulus** (evening sky) at 19h UT.
- 24 **Moon at perigee** (closest to Earth) at 21h UT (367,141 km; 32.9').
- 25 **Venus 3.5° SSE of the Pleiades** (25° from Sun, evening sky) at 10h UT. Mag. -3.9.
- 25 **Moon near Saturn** (evening sky) at 19h UT. Mag. +0.8.
- 27 **Moon near Spica** (evening sky) at 13h UT.
- 28 **Mercury at inferior conjunction** with the Sun at 17h UT. Mercury passes into the morning sky.
- 30 **Moon near Antares** (morning sky) at 22h UT.

15, 16, and 17, **Mars** passes the star cluster known as the Beehive Cluster, Mars at mag-0.2 shines early in the month and fades a bit to magnitude 0.7 by the end.



Beehive Cluster, M44, shines early in the month and fades a bit to magnitude 0.7 by the end.

News from NASA



—Space Shuttle Discovery on Mission STS-131 launches for the International Space Station in the early morning hours of 5 April 2010. The shuttle is passing over the Cinderella Castle in the Magic Kingdom, Walt Disney World, after it launched from nearby Cape Canaveral and the Kennedy Space Center in Florida, USA. During Discovery's 13-Day mission, the seven-member crew will deliver the multi-purpose logistics module Leonardo, filled with supplies, a new crew sleeping quarters and science racks that will be transferred to the International Space Station's laboratories. STS-131 also marks the first time 4 women astronauts will be in space at the same time.

—NASA has signed a new \$335 million contract with Russia to buy six extra seats on Soyuz spacecraft to launch American and partner astronauts into space after the space shuttle fleet is retired, the space agency announced Tuesday.

The new deal allows NASA to pay the Russian Federal Space Agency for six round-trip rides to and from the International Space Station in 2013 and 2014. That averages to about \$55.8 million per trip – a slight increase from the \$50 million NASA paid for seats on the Russian-built Soyuz spacecraft through 2012.

After NASA's three-orbiter space shuttle fleet retires this fall, American

space flyers will have to rely on Russia for space transportation until U.S. commercial firms can build spaceships capable of carrying humans.

—President Barak Obama will be delivering a speech on the future of NASA and the manned space flight program on April 15, President Obama will visit Florida to host a White House Conference on the Administration's new vision for America's future in space. The President, along with top officials and other space leaders, will discuss the new course the Administration is charting for NASA and the future of U.S. leadership in human space flight. Specifically, the conference will focus on the goals and strategies in this new vision, the next steps, and the new technologies, new jobs, and new industries it will create. Conference topics will include the implications of the new strategy for Florida, the nation, and our ultimate activities in space.

—April 2, 1915: President Woodrow Wilson appointed the first 12 members of the National Advisory Committee for Aeronautics (NACA). Twenty one days later, on April 23, the Secretary of War called the first meeting in his office. Brig. Gen. George P. Scriven, Chief Signal Officer, was elected temporary chairman, and Dr. Charles D. Walcott, secretary of the Smithsonian Institution, was elected first chairman of the NACA Executive Committee. NACA would later become NASA.

—April 12 1961: Russian Cosmonaut Yuri Gagarin became the first human in space and the first to orbit the earth. Yuri was given the title of "Hero of the Soviet Union" after returning home. He received medals from around the world for his pioneering tour in space. Yuri lost his life in a MiG 15-UTI training accident near Star City.

—April 12 1981: On the twentieth anniversary of human spaceflight, the NASA Space Shuttle Orbiter Vehicle 102

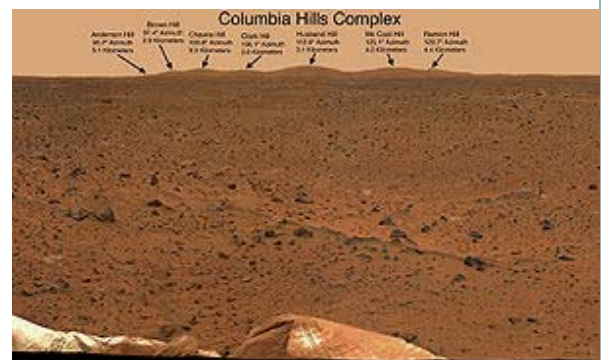
(OV-102) became the first shuttle to launch into space for the Shuttle Transport System (STS-1) was commanded by John Young a Gemini and Apollo veteran who became the ninth man to walk on the moon in 1972, and piloted by Robert Crippen, a rookie astronaut.

On 1 Feb 2003 OV-102 Columbia, was destroyed upon re-entry and all seven astronauts who had participated in a multi-disciplinary microgravity and Earth science research mission died. The Columbia Hills Complex on MARS is named after the seven (7) astronauts who lost their lives aboard Columbia. The Columbia Hills Complex is actually a part of the now designated area known as Columbia Memorial Station, of which, Gusev Crater is a part. Gusev Crater is the former name for the Spirit MARS Rover landing site.

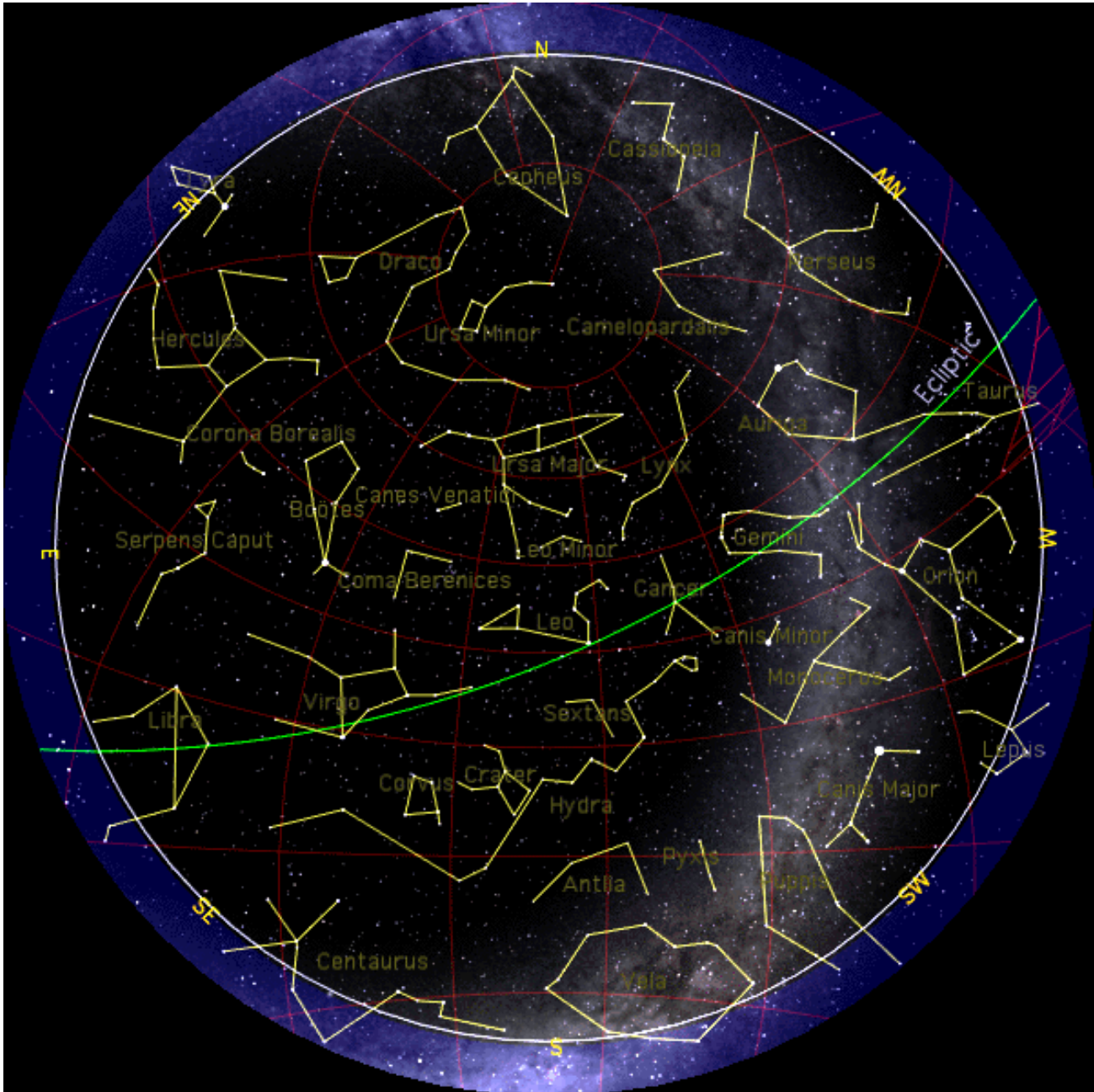
On January 27, 2004 NASA memorialized the crew of Apollo 1 by naming three hills to the north of "Columbia Memorial Station" as the Apollo 1 Hills.

On February 2, 2004 the astronauts on Columbia's final mission were further memorialized when NASA named a set of hills to the east of the landing site the Columbia Hills Complex, denoting seven peaks in that area as "Anderson", "Brown", "Chawla", "Clark", "Husband", "McCool", and "Ramon" seen L-R in this NASA/JPL image below.

The Spirit Rover became stuck in soft soil in May 2009 and NASA has unofficially lost contact with the rover as of this month. Spirit is now 2284 Earth days since landing.



Planisphere for April Late Evening



Did You Know?



Astronomer Elizabeth Roemer won the 1946 Science Talent Search and went on to discover the asteroids 1930 Lucifer (discovered October 29, 1964) and 1983 Bok (discovered June 9, 1975). Dr. Roemer is Professor Emerita, Lunar and Planetary Laboratory, University of Arizona.

servatory, c. 1963. Use of image by: Acc. 90-105 - Science Service, Records, 1920s-1970s, Smithsonian Institution Archives.

This Smithsonian Institution Archive photo shows Elizabeth at her desk at the University of California Lick Ob-

Key to the Planisphere above:

April 1	11:00 pm
April 15	10:00 pm
April 30	9:00 pm

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Image of Centennial Observatory on the front page is courtesy of Chris Anderson, Observatory Manager. The Centennial Observatory is located at the Herrett Center for Arts and Science, College of Southern Idaho, Twin Falls, ID, USA. Shoshone Falls is a major attraction to the Magic Valley and a prominent landmark on the Snake River. Falls image is under "public domain;" unknown photographer. M-51 on the front page was imaged with the Shotwell Camera with the Herrett Telescope at the Centennial Observatory by club members Rick Widmer & Ken Thomason. M-81 is a stock NASA photograph and permission is under "public domain."

Membership Information

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.



Contact Treasurer Jim Tubbs for dues information via e-mail: jtubbs015@msn.com or telephone: 736-1989 or mail directly to the treasurer at his home address. 550 Sparks Twin Falls, ID 83301

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.

Donations to our club are always welcome. Please contact a board member for details.

Sun Daggers in Idaho



support this assertion then acceptance of the idea relies upon whether or not there are enough petroglyph sites in North America that such a correlation could occur by chance. It is helpful when petroglyphs are associated with existing peoples.

This petroglyph was probably placed by the ancestors of the Paiute-Shoshone tribe This allows ethnoastronomers to question informants as to the meaning of such symbols. This sun dagger is located close to the J-P desert near Little Blue Table (part of the Great Basin) of Southern Idaho.

Photographed by Doug Maughan, Public Relations director, College of Southern Idaho © 2005 by Doug Maughan. Used with permission, thank you.

MVAS Purpose

Sun dagger over petroglyph of an early astronomical sky event. The location of the dagger on the petroglyph varies throughout the year. At the solstices a dagger can be seen either through the heart of the spiral or to either side of it. It is proposed that this petroglyph was created to mark these events. Recent studies have identified many similar sites in the US Southwest and Northwestern Mexico. It has been argued that the number of solstitial markers at these sites provides statistical evidence that they were intended to mark the solstices. If no ethnographic nor historical data are found which can

The Magic Valley Astronomical Society 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. The society serves as a source of astronomical phenomena, history and lore by providing educational and observing opportunities and information for its members and the general public and promotes viewing of celestial objects with special events for adults and children in south central Idaho.

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

For magazine info. Contact Jim Tubbs, Treasurer

Lending Library: Currently we have no books to lend.

MVAS Lending Telescopes, the society currently has two telescopes for loan and would gladly accept others. Contact Rick Widmer, Secretary for more information.

Receive 10% discounts on other selected Astronomy Publications.

Elected Board

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