

Snake River Skies

The Newsletter of the Magic Valley Astronomical Society

www.mvastro.org

Membership Meeting

Saturday, August 12th 2017
7:00pm at the
Herrett Center for Arts & Science
College of Southern Idaho.
Public Star Party Follows at the
Centennial Observatory

Club Officers

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

Tim Frazier, Vice President
fraztimo@gmail.com

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

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

David Olsen, Newsletter Editor
editor@mvastro.org

Rick Widmer, Webmaster
rick@developersdesk.com

Magic Valley Astronomical Society is a
member of the Astronomical League



M-51 imaged by
Rick Widmer &
Ken Thomason
Herrett Telescope
Shotwell Camera

President's Message

Colleagues,

This is the month!

Any other year, our star party at Pomerelle on Aug. 12 would be the highlight of the month. With solar viewing and water bottle rockets in the afternoon, and dark sky viewing in the evening -- all at the lodge-- the event promises to offer a chance to follow up a great City of Rocks Star Party in July.

However, Pomerelle will actually pale in comparison this year to the event of the year. As you are aware, Monday, Aug. 21, is the Total Eclipse of 2017. While the Magic Valley itself won't be in the line of totality, just a couple hours away -- north, west, and east -- conditions are perfect to watch the sky dim. It will be the last time for more than 100 years for a total eclipse in Idaho, and thousands are expected to flock to Idaho. I know many of you will be headed in various directions to get in on the eclipse. For example, my own 12-year-old son, who barely remembers seeing the Transit of Venus a few years ago in his great-grandfather's scope, will accompany his great-grandfather's daughter and her husband (my parents) to Stanley, thanks to the efforts of the Boise Astronomical Society. Others of you will head to Mackay, Rexburg, and even western Idaho. A couple of busloads sponsored by the Herrett Center will determine where they're going that day.

Buzz Aldrin and the online telescope Slooh will even be in Idaho.

According to NASA, if you're headed to Idaho Falls, the eclipse will start around 10:15 a.m., and reach totality around 11:30 a.m. -- lasting for one to two minutes depending on where you are. The event itself is expected to end around 1 p.m. Knowing when totality is crucial, as NASA points out, those are the times you can take off your solar glasses. Otherwise, you will damage your eyes.





Please enjoy. If you are taking pictures, please share. And by all means, enjoy.

Clear Skies,

Rob Mayer, MVAS President

P.S. The Pomerelle event will take the place of the regular club meeting, and Chris Anderson needs help with solar viewing at the Herrett Center on Wednesdays.

Calendar for August

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7 Full Moon Sturgeon Moon  100% Visible	8	9	10	11	12 MVAS Meeting at 7:00pm at the Herrett Center Public Star Party Centennial Obs.
13	14	15 Last Quarter Visible 45% ↓ 	16	17	18	19
20	21 Eclipse 2017  New Moon Lunation 1158	22	23	24	25	26
27	28	29 First Quarter 55% Visible ↑ 	30	31		

Snake River Skies is the Newsletter of the Magic Valley Astronomical Society and is published electronically once a month.
 Snake River Skies © 2017 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. Full
 Moon names follow the traditional Algonquin First Nation history.

Be Safe – Get Out There – Explore Your Universe

Celestial Calendar for August

All times, unless otherwise noted, are UT (subtract six hours and, when appropriate, one calendar day for MDT)

- 8/1 The astronomical cross-quarter day known as Lammas or Lughnasadh occurs today
- 8/2 The Moon is 9.6 degrees north of the first-magnitude star Antares (Alpha Scorpii) at 9:00; Venus is 2.4 degrees south of the bright open cluster M35 in Gemini at 15:00; Mercury is at aphelion (0.4667 astronomical units from the Sun) at 16:00; the Moon is at apogee, subtending 29' 30" from a distance of 405,024 kilometers (251,671 miles), at 17:55
- 8/3 Saturn is 3.4 degrees south of the Moon at 8:00; Uranus is stationary in right ascension at 10:00
- 8/5 Venus is at its greatest declination north in 2017 (22.0 degrees) at 20:00
- 8/8 The Moon is at descending node (longitude 324.2 degrees) at 10:56
- 8/9 Neptune is 0.82 degree north-northwest of the Moon, with an occultation occurring in far western Australia, the Kerguelen Islands, and most of Antarctica, at 23:00
- 8/10 The Sun enters the constellation of Leo (longitude 138.16 degrees on the ecliptic) at 15:00
- 8/12 Mercury stationary in right ascension at 6:00; the peak of the Perseid meteor shower (a zenithal hourly rate of 150 or more per hour) occurs at 19:00
- 8/13 Uranus is 4.2 degrees north-northwest of the Moon at 8:00
- 8/15 The Moon is 9.3 degrees north-northwest of the bright open cluster M45 (the Pleiades or Subaru) at 15:00; the Curtiss Cross, an X-shaped clair-obscur illumination effect located between the craters Parry and Gambart, is predicted to occur at 22:36
- 8/16 The Moon is 0.39 degree north-northwest of the first-magnitude star Aldebaran (Alpha Tauri), with an occultation occurring in western Asia, the Middle East, Europe, northernmost Africa, the Caribbean, and the northern tip of South America at 7:00; the Moon is 0.11 degree east of asteroid 8 Flora at 20:00; the middle of eclipse season, i.e., the Sun is at the same longitude as Moon's ascending node (144.2 degrees), occurs at 21:00
- 8/17 The Moon is 5.1 degrees south of M35 at 20:00
- 8/18 The Moon is at perigee, subtending nearly 32' 38" from a distance of 366,123 kilometers (227,497 miles), at 13:18
- 8/19 Venus is 2.2 degrees north of the Moon at 4:00; the Moon is 9.4 degrees south of the first magnitude star Pollux (Beta Geminorum) at 8:00
- 8/20 The Moon is 2.8 degrees south of the bright open cluster M44 (the Beehive Cluster or Praesepe) at 7:00; Venus is 7.2 degrees south of Pollux at 23:00
- 8/21 **ECLIPSE 2017!** The Moon is at the ascending node (longitude 144.2 degrees) at 10:34.
- 8/22 The Moon is 5.9 degrees south-southwest of Mercury at 9:00; Mercury is at its greatest latitude south of the ecliptic plane (-7.0 degrees) at 19:00
- 8/25 Saturn is stationary in right ascension at 13:00; Jupiter is 3.3 degrees south-southwest of the Moon at 15:00; the Moon is 6.6 degrees south-southwest of the first-magnitude star Spica (Alpha Virginis) at 21:00
- 8/29 The Lunar X, also known as the Werner or Purbach Cross, an X-shaped clair-obscur illumination effect involving various ridges and crater rims located between the craters La Caille, Blanchinus, and Purbach, is predicted at 8:39
- 8/30 Mercury is stationary in right ascension at 1:00; Venus at ascending node through the ecliptic plane at 11:00; the Moon is at apogee, subtending 29' 34" from a distance of 404,306 kilometers (251,226 miles), at 11:25; Saturn is 3.5 degrees south of the Moon at 15:00; Mars is at its greatest latitude north of the ecliptic plane (1.8 degrees) at 19:00

John Flamsteed and Maria Mitchell were born this month. The gibbous phase of Mars was first observed by Francesco Fontana on August 24, 1738. William Herschel discovered Enceladus on August 28, 1789. Asaph Hall discovered Deimos on August 11, 1877 and Phobos on August 17, 1877.



The Sun, the Moon, & the Planets



The Moon is 8.6 days old, is illuminated 63.2%, subtends 29.9 arc minutes, and is located in Libra on August 1st at 0:00 UT. The Moon is at its greatest northern declination on August 18th (+19.3 degrees) and its greatest southern declination on August 5th (-19.4 degrees). Longitudinal libration is at a maximum of +5.7 degrees on August 24th and a minimum of -5.3 degrees on August 11th. Latitudinal libration is at a maximum of +6.8 degrees on August 15th and a minimum of -6.8 degrees on August 1st and August 28th. The Moon is at apogee on August 2nd and August 30th and at perigee on August 18th. Browse <http://www.lunar-occ...bstar/bstar.htm> for information on upcoming lunar occultations. Visit <http://saberdoesthes...does-the-stars/> for tips on spotting extreme crescent Moons. Times and dates for the lunar light rays predicted to occur in August are available at <http://www.lunar-occ...o/rays/rays.htm>.

The Sun is located in Cancer on August 1st. It enters the constellation of Leo on August 10th. A total solar eclipse takes place on August 21st, the first one visible from the contiguous United States in over 38 years. The path of totality runs from the Pacific Ocean to the Atlantic Ocean, crossing the United States from Oregon to South Carolina. Maximum totality is 2 minutes and 40.3 seconds in length and occurs in Illinois at 18:21 UT (2:21 p.m. EDT). Greatest eclipse, the point when the axis of the lunar shadow passes closest to the center of the Earth, occurs in Kentucky at 18:25 UT (2:25 p.m. EDT). For additional information on the eclipse, browse <https://eclipse2017....re-when-and-how>, <http://www.astronomy...n-eclipse-2017>, and <http://www.skyandtel...se-august-2017/>

Mercury is at aphelion on August 2nd, is at its greatest heliocentric latitude south on August 22nd, and is in inferior conjunction on August 26th. The speediest planet is just six degrees in altitude 30 minutes after sunset on August 1st and is only three degrees above the horizon on August 8th.

Venus lies about 20 degrees above the eastern horizon one hour before sunrise. A thin crescent Moon passes just to the north of the brightest planet on the morning of August 19th. Venus crosses into Cancer on August 25th. By the end of August, the eastward motion of the planet carries Venus to just one degree from M44 (the Beehive Cluster).

Mars is lost in the glare of the Sun this month.

Jupiter sets around 11:00 p.m. local daylight time. It drops in brightness from magnitude -1.9 to -1.7 and from 34.3 to 32.2 arc seconds in apparent size during August. The Moon passes 3.3 degrees north-northeast of Jupiter on Aug. 25th.

As twilight ends, the Ringed Planet lies approximately 30 degrees above the southern horizon. **Saturn** is 17.4 arc seconds in diameter at its equator and 16.1 arc seconds at its poles on August 15th. Its ring system spans 40 arc seconds and is inclined nearly 27 degrees with respect to the Earth on that date. Saturn is stationary in right ascension and resumes direct (eastward) motion on August 25th. The Moon passes just to the north of Saturn on August 3rd and August 30th. Eighth-magnitude Titan, Saturn's largest satellite, is north of the planet on August 10th and August 26th and south of it on August 2nd and August 18th. On the night of August 13th/14th, Enceladus reaches greatest eastern elongation and Mimas reaches greatest western elongation. Tethys lies to the west of Saturn and Dione, Rhea, and Titan to the east. The peculiar satellite Iapetus lies two arc minutes north of Saturn and shines at eleventh magnitude on that night. For additional information on Saturn's satellites, browse <http://www.skyandtel...watching-tools/>

Uranus is situated one degree north of the fourth-magnitude star Omicron Piscium for the entire month. The ice giant rises in the late evening. Uranus is stationary in right ascension and begins retrograde (westward) motion on August 3rd. Browse <http://bluewaterastr...-chart-2017.png> for a finder chart.

The eighth planet transits at approximately 3:00 a.m. local daylight time as August begins. Neptune is located two degrees east of the fourth-magnitude star Lambda Aquarii on the first day of August. By the end of the month, Neptune's westward motion carries it to 1.3 degrees east of that star. A finder chart is posted at <http://bluewaterastr...hart-2017.png>. Additional online finder charts for Uranus and Neptune can be found at <http://www.nakedeyep...com/uranus.htm> and <http://www.nakedeyep...com/neptune.htm> and also at http://wwwcdn.skyand...s_Neptune17.pdf

Pluto is located near the Teaspoon asterism in Sagittarius. The dwarf planet is highest in altitude in the late evening. Articles on locating and observing Pluto are available on pages 48 and 49 of the July issue of Sky & Telescope and pages 64 and 65 of the July issue of Astronomy. See page 243 of the RASC Observer's Handbook 2017 for a paper finder chart. A basic finder chart is posted online at <http://www.bluewater...finder-2017.png> and a more detailed one at http://wwwcdn.skyand.../Pluto_2017.pdf

For more on the planets and how to locate them, see <http://www.nakedeyeplanets.com/>

Asteroids



Asteroid 89 Julia passes northwestward through Pegasus during August. It reaches magnitude +9.0 near the end of the month. It lies just to the southwest of the fifth-magnitude stars 55, 57, 58, and 59 Pegasi on the nights of August 15th and August 16th. For information on asteroid occultations taking place this month, see http://www.asteroido.../2016_08_si.htm

Comets



Comet C/2015 ER61 (PanSTARRS) may shine at ninth-magnitude as it travels eastward through Taurus this month, passing less than one degree south of M45 (the Pleiades) from August 14th through August 21st. Ninth-magnitude Comet C/2015 V2 (Johnson) glides southward from Centaurus into Lupus. Comet 71P/Clark heads through southern Scorpius. The tenth-magnitude comet passes less than one degree from the second-magnitude star Shaula (Lambda Scorpii) and the seventh-magnitude globular cluster NGC 6441 during the final two weeks of the month. For further information on comets visible this month, browse <http://cometchasing.skyhound.com/> and <http://www.aerith.ne...t/future-n.html>

Meteors



A waning gibbous Moon will compromise the peak of the Perseid meteor shower on August 12th. Comet 109P/Swift-Tuttle is the source of Perseid meteors. For more on this year's Perseids, or click on <http://www.timeandda...er/perseid.html> and <http://earthsky.org/...d-meteor-shower>

Carbon Star



Notable carbon star for August: V Aquilae Right Ascension: 19^h 04^m 24.155^s Declination: -05° 41' 05.44"

ISS



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 <http://www.heavens-above.com/>

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

The Deep Sky



Eighty deep-sky objects for August: B139, B142, B143, NGC 6709, NGC 6738, NGC 6741, NGC 6751, NGC 6755, NGC 6772, NGC 6778, NGC 6781, NGC 6804, PK64+5.1 (Aquila); NGC 6819, NGC 6826, NGC 6834, (Cygnus); NGC 6643, NGC 6742 (Draco); DoDz 9 (Hercules); M56, M57, NGC 6703, NGC 6791, Ste1 (Lyra); NGC 6572, NGC 6633 (Ophiuchus); H20, M71 (Sagitta); B86, B87, B90, B92, B93, M8, M17, M18, M20, M21, M22, M23, M24, M25, M28, M54, M55, M69, M70, M75, NGC 6520, NGC 6544, NGC 6546, NGC 6553, NGC 6565, NGC 6603, NGC 6818, NGC 6822 (Sagittarius); IC 4703, IC 4756, M16, NGC 6604 (Serpens Cauda); B100, B101, B103, B104, B110, B111, B113, Bas 1, IC 1295, M11, M26, NGC 6649, NGC 6712 (Scutum); Cr 399 (asterism), M27, NGC 6802, NGC 6823, NGC 6834, NGC 6940, St 1 (Vulpecula)

Top ten binocular deep-sky objects for August: Cr 399, IC 4756, M8, M11, M17, M22, M24, M25, M27, NGC 6633 (IC 4756 and NGC 6633 are collectively known as the Binocular Double Cluster)

Top ten deep-sky objects for August: M8, M11, M16, M17, M20, M22, M24, M27, M55, M57

Challenge deep-sky object for August: Abell 53 (Aquila)

The objects listed above are located between 18:00 and 20:00 hours of right ascension.



Abell 53 in Aquila Image Credit: Christian Wikimedia Creative Commons Lic. Used

Looking Through the Eyepiece / Solar Safety

Watching the Total Solar Eclipse Safely!

Article by Dr. Jay A. Hartwell, O.D.

Editor's Note: Due to the demand for information concerning viewing the Eclipse safely, the following article is featured once again. A special note: Eclipse Glasses over 3-years old are not considered safe.

Looking directly at the Sun without eye protection can cause permanent eye damage or blindness! The eye focuses on an object by bending all of the light rays from a single point on the observed object toward a single point on the retina. In the eyeball, light rays passing through the cornea are bent by its curvature toward the pupil. The lens flexes to change its curvature and finish the focusing process. When an object is located at infinity, the focal length, or the distance from the cornea to the retina, of a normal relaxed eye is about 1.7 cm (17 mm).

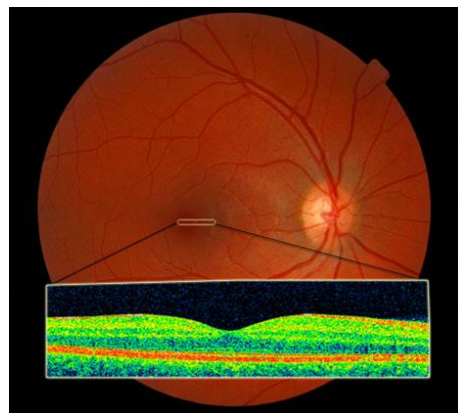
The relaxed eye has an approximate optical power of 60 diopters (D) with the corneal power being about 40 D, or two thirds of the total power. When the eye focuses a high-power light from the Sun, arc welder, and lasers onto the retina the light-sensing cells of the retina are overstimulated, they release a flood of signaling chemicals. In sufficient concentrations, like during a long look at the Sun, these can damage surrounding tissue.

With enough damage to the retina by staring at the Sun can leave you partially blind. Prolonged UV exposure can damage the macula, a tiny substructure of the retina responsible for the majority of your central detail vision. The pupil will naturally contract when exposed to bright light, but the amount of light still entering the eye is concentrated on the macula tissue.

Damaging it can cause macular degeneration, eventually resulting in permanent blindness in the center of your field of vision. Basically, that black dot you see after a photo flash would just never go away. **Lack of pain doesn't equal lack of damage.** Photo below showing normal retina and Optical Coherence Tomography (OCT)



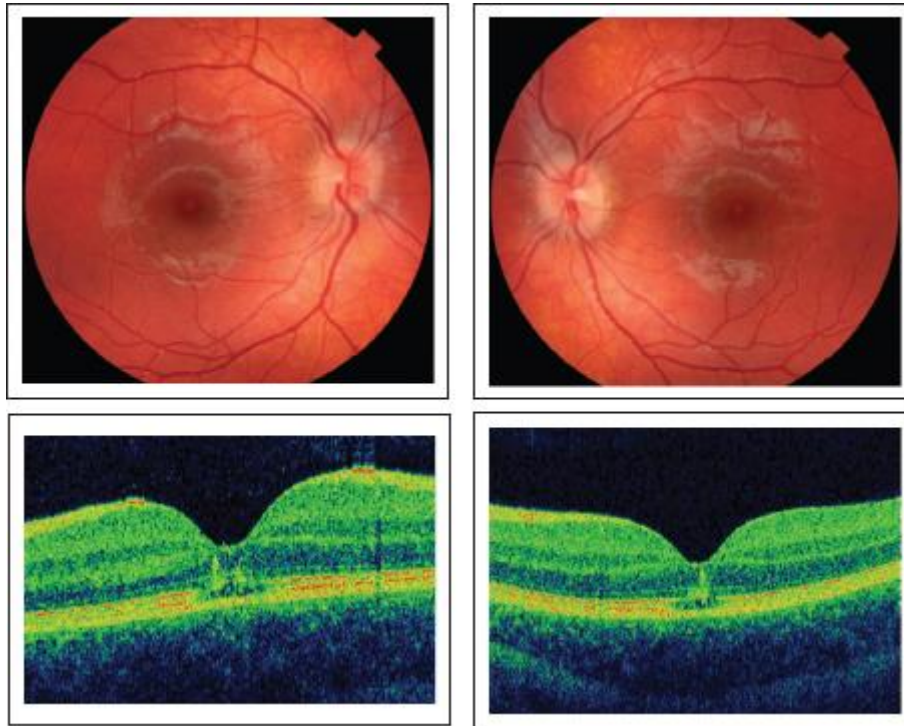
Normal Retina
Normal OCT



Sun damaged retinal and OCT:



Eclipse-damaged retina viewing the eclipse unprotected
rendered this man blind. Source BBC



Ophthalmoscopy of the right and left eye of a patient with solar retinopathy
Credit: HINDAWI PUBLISHING CORP.

The solar energy has baked the retina resulting in scarring and loss of the central seeing area resulting in vision 20/80 or worse. And in a nutshell, solar eclipses are dangerous because the Sun can come out from behind the moon and "surprise you" before you have a chance to look away. And this is actually even worse than when you normally look away from the Sun because during the total eclipse, it is dark out, and your pupil therefore dilates so that it can let in enough light to get a good picture. Then, when the Sun reappears and starts flooding the area with really bright light, not only are you staring straight at it, but your eye is in a state where it is wide open, and actively trying to let in as much light as possible. Time your viewing – the total eclipse is about 2 minutes and 40 seconds. Allow the moon 20 seconds of full eclipse before removing your glasses. Time the time without eclipse glasses for 2 minutes and then put the glasses back on, this give you a 20 second time to prevent surprises. This protocol can only be used if you are on the path of the total eclipse, outside of this area the Sun is never fully covered. There is an eclipse timing app for iPhones: Solar Eclipse Timer: <http://tinyurl.com/y7lj6duv>

According to NASA, the following materials should **never** be used to view a solar eclipse:

1. Sunglasses of any kind
2. Color film
3. Medical X-ray film
4. Smoked glass
5. Floppy disks
6. Welders' glasses below a number 14 rating

Insufficient filters are worse than none at all, because they allow you to look longer (doing more damage) without the discomfort, as well as dilating your pupil which lets in even more light. To view the Sun directly and safely, use "solar-viewing glasses" or "eclipse glasses" or "personal solar filters" (these are all names for the same thing), according to the safety recommendations from NASA. The "lenses" of solar-viewing glasses are made from special-purpose solar filters that are hundreds of thousands of times darker than regular Sunglasses. These glasses are so dark that the face of the Sun should be the only thing visible through them. Solar-viewing glasses can be used to view a solar eclipse, or to look for Sunspots on the Sun's surface.

But beware! NASA and the AAS recommend that solar-viewing or eclipse glasses meet the current international standard: ISO 12312-2. Some older solar-viewing glasses may meet previous standards for eye protection, but not the new international standard. "Manufacturers that meet this standard include Rainbow Symphony, American Paper Optics, Eclipse Glasses, Seymour Solar, and Thousand Oaks Optical." "According to the information sheet on safe eclipse viewing. Homemade filters or ordinary Sunglasses, even very dark ones, are not safe for looking at the Sun."

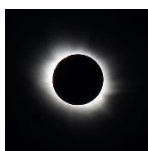
A few safety tips regarding solar filters/eclipse glasses/solar viewers:

- Always inspect your solar filter before use; if scratched or damaged, discard it. Read and follow any instructions printed on or packaged with the filter.
- Always supervise children using solar filters.
- Stand still and cover your eyes with your eclipse glasses or solar viewer before looking up at the bright Sun. After glancing at the Sun, turn away and remove your filter — do not remove it while looking at the Sun.
- Do not look at the uneclipsed or partially eclipsed Sun through an unfiltered camera, telescope, binoculars or any other optical device.
- Do not look through any optical instrument wearing solar glasses, the solar filter must be for the instrument and on the front of the instrument. Any optical instrument that focuses light can increase the damaging power of the Sun and can result in destroying the eclipse shades, thus leaving your eyes unprotected. You also risk causing damage to the optical instrument because of the increase in focused power.



Editors Celestron SkyMaster 20x80 Binoculars with Solar Filters from Seymour Solar.
Coronado PST (Boise Astronomical Society)
Eclipse Glasses available through the Herrett Center Store
In the Cellophane package is #14 Welders Glass from Norco Industrial.

With the equipment in the photo above the editor will be **safely** viewing the solar eclipse before totality as well as after. Note: The welder's glass is too fragile to use without a frame or an actual helmet. With all of the information on the internet about the Welder's glass, the Editor obtained some and *uses the glass for show and tell purposes only*. Dropping the Welder's glass and picking up a fragment to view the Sun is very dangerous and not recommended. Views with the Welder's glass also produce a green tinge on the Sun, which is another reason the Editor does not use the glass.





Twenty Years Ago on Mars...

By Linda Hermans-Killiam

On July 4, 1997, NASA's Mars Pathfinder landed on the surface of Mars. It landed in an ancient flood plain that is now dry and covered with rocks. Pathfinder's mission was to study the Martian climate, atmosphere and geology. At the same time, the mission was also testing lots of new technologies.

For example, the Pathfinder mission tried a brand-new way of landing on Mars. After speeding into the Martian atmosphere, Pathfinder used a parachute to slow down and drift toward the surface of the Red Planet. Before landing, Pathfinder inflated huge airbags around itself. The spacecraft released its parachute and dropped to the ground, bouncing on its airbags about 15 times. After Pathfinder came to a stop, the airbags deflated.

Before Pathfinder, spacecraft had to use lots of fuel to slow down for a safe landing on another planet. Pathfinder's airbags allowed engineers to use and store less fuel for the landing. This made the mission less expensive. After seeing the successful Pathfinder landing, future missions used this airbag technique, too!

Pathfinder had two parts: a lander that stayed in one place, and a wheeled rover that could move around. The Pathfinder lander had special instruments to study Martian weather. These instruments measured air temperature, pressure and winds. The measurements helped us better understand the climate of Mars.

The lander also had a camera for taking images of the Martian landscape. The lander sent back more than 16,000 pictures of Mars. Its last signal was sent to Earth on Sept. 27, 1997. The Pathfinder lander was renamed the Carl Sagan Memorial Station. Carl Sagan was a well-known astronomer and science educator.

Pathfinder also carried the very first rover to Mars. This remotely-controlled rover was about the size of a microwave oven and was called Sojourner. It was named to honor Sojourner Truth, who fought for African-American and women's rights. Two days after Pathfinder landed, Sojourner rolled onto the surface of Mars. Sojourner gathered data on Martian rocks and soil. The rover also carried cameras. In the three months that Sojourner operated on Mars, the rover took more than 550 photos!

Pathfinder helped us learn how to better design missions to Mars. It gave us valuable new information on the Martian climate and surface. Together, these things helped lay the groundwork for future missions to Mars.

Learn more about the Sojourner rover at the NASA Space Place: <https://spaceplace.nasa.gov/mars-sojourner>



Caption: The Mars Pathfinder lander took this photo of its small rover, called Sojourner. Here, Sojourner is investigating a rock on Mars. Image credit

Centennial Observatory and Faulkner Planetarium

Event	Place	Date	Time	Admission
Summer Solar Session #10	Centennial Observatory	Wednesday, August 2 nd , 2017	1:30 to 3:30 PM	FREE
Summer Solar Session #11	Centennial Observatory	Wednesday, August 9 th , 2017	1:30 to 3:30 PM	FREE
<u>Pomerelle Mountain Star Party</u>	Pomerelle Ski Mountain	Saturday, August 12 th , 2017	3:00 PM to 12:00 AM	FREE
Monthly Free Star Party	Centennial Observatory	Saturday, August 12 th , 2017	9:30 PM to midnight	FREE
Summer Solar Session #12	Centennial Observatory	Wednesday, August 16 th , 2017	1:30 to 3:30 PM	FREE
Summer Solar Session #13	Centennial Observatory	Wednesday, August 23 rd , 2017	1:30 to 3:30 PM	FREE
KVMT Kids' Day Solar Viewing	Centennial Observatory	Saturday, August 26 th , 2017	10:00 AM to 3:00 PM	FREE
Summer Solar Session #14	Centennial Observatory	Wednesday, August 30 th , 2017	1:30 to 3:30 PM	FREE

CSI Centennial Observatory / Faulkner Planetarium Herrett Center
College of Southern Idaho Campus Twin Falls, ID
Faulkner Planetarium / Show Times

<http://herrett.csi.edu/astronomy/planetarium/showtimes.asp>

[Now Showing](#)

NOTICE:

The Herrett Center, the Faulkner Planetarium, and the Centennial Observatory will be CLOSED on Monday, August 21st, 2017 for the total solar eclipse. We would like to strongly encourage everyone to travel to a location to see the total eclipse (details [here](#) on choosing a viewing location). If you cannot, please enjoy the partial eclipse here in the Magic Valley (best viewed through solar shades, available at our [Center store](#)).



About the Magic Valley Astronomical Society

Magic Valley Astronomical Society
550 Sparks St.
Twin Falls, ID

The Magic Valley Astronomical Society (MVAS) was founded in 1976. The Society is a non-profit [501(c) 3] educational and scientific organization dedicated to bringing together people with an interest in astronomy.

In partnership with the Centennial Observatory, Herrett Center, College of Southern Idaho - Twin Falls; we hold regularly scheduled monthly meetings and observation sessions, at which we share information on current astronomical events, tools and techniques for observation, astrophotography, astronomical computer software, and other topics concerning general astronomy. Members enthusiastically share their telescopes and knowledge of the night sky with all who are interested. In addition to our monthly public star parties we hold members only star parties at various locations throughout the Magic Valley.

MVAS promotes the education of astronomy and the exploration of the night sky along with safe solar observing through our public outreach programs. We provide two types of outreach; public star parties and events open to anyone interested in astronomy, and outreach programs for individual groups and organizations (e.g. schools, churches, scout troops, company events, etc.), setting up at your location. All of our outreach programs are provided by MVAS volunteers at no cost. However, MVAS will gladly accept donations. Donations enable us to continue and improve our public outreach programs.

Membership is not just about personal benefits. Your membership dues support the work that the Magic Valley Astronomical Society does in the community to promote the enjoyment and science of astronomy. Speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs just to name a few of the programs that your membership dues support.

Annual Membership dues will be:

\$20.00 for individuals, families, and \$10.00 for students.

Contact Treasurer Jim Tubbs for dues information via e-mail: jtubbs015@msn.com

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

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.



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.