Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society

In this Issue

The Presidents Message

Earlier this year club president, Terry Wofford; submitted copies of the MVAS monthly newsletter - Snake River Skies to the Astronomical League for entry into their annual Mabel Stearns Award for club newsletters. Though the submission of Snake River Skies placed fifth in the event it should be noted that David Olsen does an outstanding job and there are those who feel his work is first rate. Here is the announcement for the award.

Terry Wofford, President, Magic Valley Astronomical Society (ID)

Terry, on behalf of the officers and 15,000 members of the Astronomical League, I would like to congratulate your club and your newsletter editor, David Olsen. Your Mabel Stern's newsletter award submission finished 5th place in the competition.

The newsletter editor is a crucial part of a club's success. This is the person who keeps the membership informed about and interested in the club's activities. I know the hard work that is involved in publishing a high-quality newsletter such as the Snake River Skies that your club publishes..

Based upon this outstanding achievement, we plan to publish an article about this award in an upcoming issue of the Reflector. Again congratulations to David and your entire organization.

Thanks for your support of the Astronomical League.

Best wishes!

Carroll Iorg
President, Astronomical League

Again, congratulations to David Olsen for the tireless work on the newsletter.

Terry Wofford, President MVAS

MVAS Memberships

Welcome to the Magic Valley Astronomical Society

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

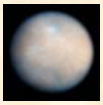
Following our meetings we have a star party (weather permitting) at the Centennial Observatory, also at the Herrett Center.

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!

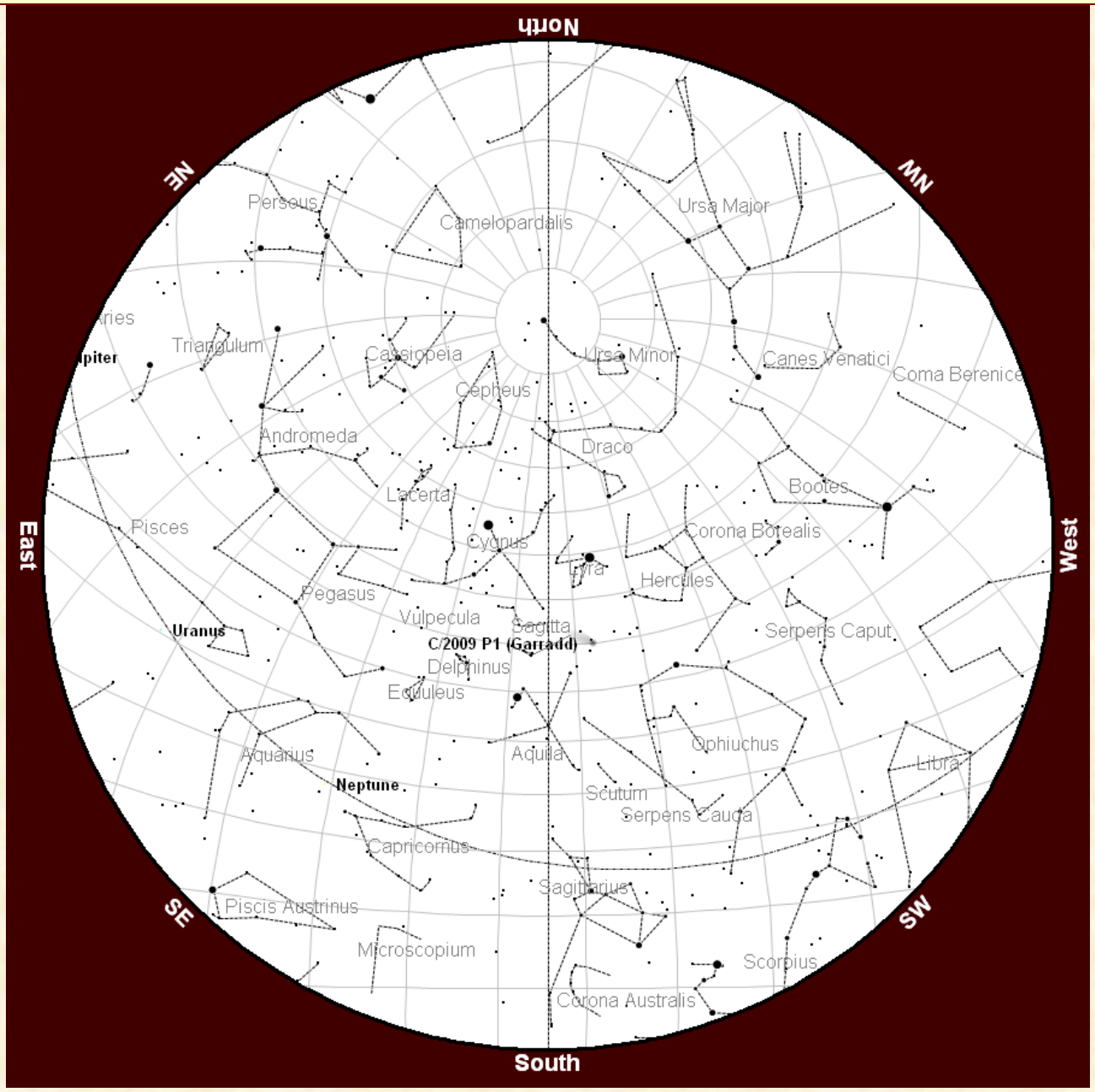
MVAS Board

September Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
 First Quarter Moon	 Moon at Greatest S. Declination -23.1° Labor Day					**Monthly Mtg. / Star Party** Herrett Center at 7:00 pm **Public Star Party** Centennial Observatory at 9:30 pm
11	12	13	14	15	16	17
	 Full Moon (Harvest Moon)			 Moon at Apogee	 Ceres at Opposition Pallas Stationary	
18	19	20	21	22	23	24
 Vesta Stationary	 Moon at Greatest N. Declination +23.1°	 Last Quarter Moon			**Club Star Party** Aeromodelers Club Airport at 7:30 pm 	
25	26	27	28	29	30	
		 New Moon	 Moon at Perigee			Images: NASA & Faulkner Planetar-ium CSI Herrett Center TFID

Day	Time	Faulkner Planetarium Show Schedule: 9/6/11 - 9/30/11
Tuesdays	7:00	Two Small Pieces of Glass/Live Sky Tour
Fridays	7:00	Two Small Pieces of Glass/Live Sky Tour
	8:15	Pink Floyd: Dark Side of the Moon
Saturdays 	2:00	Here Comes the Sun
	4:00	Journey to the Edge of Space and Time/Live Sky Tour
	7:00	Two Small Pieces of Glass/Live Sky Tour
	8:15	Pink Floyd: The Wall

Planisphere for September Mid-Month



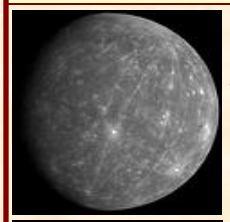
September Mid-Month (approximately) begins at 21:30 (9:30pm) local time, the end of Astronomical twilight.

Did You Know?

NASA's Gravity Recovery And Interior Laboratory (GRAIL) mission to study the moon is in final launch preparations for a scheduled Sept. 8, 2011 launch from Cape Canaveral Air Force Station in Florida. GRAIL's twin spacecraft are tasked for a nine-month mission to explore Earth's nearest neighbor in unprecedented detail. They will determine the structure of the lunar interior from crust to core and advance our understanding of the thermal evolution of the moon. The spacecraft twins, GRAIL-A and GRAIL-B, will fly aboard a Delta II rocket launched from Florida. The twins' circuitous route to lunar orbit will take 3.5 months and cover approximately 2.6 million miles (4.2 million kilometers) for GRAIL-A, and 2.7 million miles (4.3 million kilometers) for GRAIL-B.

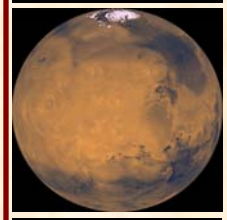
Image: The payload fairing is added to the GRAIL booster. Credit: NASA/KSC

September Observing Highlights



Mercury will be reasonably good in the morning sky early in the month. On the 1st it will be about 10º above the horizon about a half an hour before sunrise. Two days later on the 3rd Mercury will be at its farthest west from the Sun and a little higher above the horizon. On the 9th Mercury will be shinning at magnitude -0.9 and will be less than a degree from the star Regulus. This will be a good binocular target. The rest on the month Mercury will again fade into the morning twilight. By the 28th Mercury will go behind the Sun and be invisible.

Venus will be tough to see this month. It spent last month behind the Sun. Late in the month it will just start to come up low on the western horizon just after sunset. It will be deep in the glare but being Venus it will be at magnitude -3.9 so it will be bright enough to pierce through the glare. Looking at Venus will require looking through a lot of atmosphere.



Mars will be above the morning eastern horizon. It will be shinning at magnitude 1.4. The best time to observe it will be when it is still dark an hour or so before dawn. Mars' color will set it apart from any stars in the area. Early in the month it will be in Gemini near the stars Castor and Pollux. It will cross into Cancer by midmonth. By the end of the month it will sit about ½º to the west of M44, the Beehive cluster. Mars itself will still be too small to be a good target, appearing small through a telescope and not revealing much detail.

Jupiter will be a great target after midnight this month. After midnight it will be high enough in the sky not to be looking through too much atmosphere. Jupiter will be large enough to show detail through a telescope. It will be in southern Aries but it will be easy to find because it is the brightest object in that area of the sky. It will be bright at magnitude -2.7. With its banded surface and four easily visible moons

Saturn will disappear into the sunset twilight this month. It will not be a good telescope target. The first week of the month you may be able to spot it very low on the horizon around 45 minutes after sunset.

Uranus will reach opposition on the 25th. This is when it will be closest to Earth and at its biggest and brightest. It will be easy to spot through binoculars and from a dark site it will possible to spot it with just your (good) set of eyes. It will be a good telescope target all month. The best time to observe it will be around midnight when it will be high in the sky directly to the south. This would be when you are looking through less of he Earth's atmosphere. Uranus sits south of Pegasus in Pisces very close to the ecliptic and the celestial equator. Using the constellation Pegasus can help to spot Uranus. Locate the big square shape in Pegasus then find the two eastern stars that define the square (Algenib and Alpheratz). An imaginary line going south through these stars will point close to Uranus. Uranus will be magnitude 5.8 this month. To assist you in finding Uranus, the planet is appears aquamarine.

Neptune reach opposition last month so this month it will still be close to its biggest and brightest. The best time to observe it would be in the hours around 11PM when it will be in the south and highest in the sky. Neptune will be in Aquarius, generally around the star Iota Aquarri. You will need binoculars or a small telescope to spot Neptune. Neptune will shine at magnitude 7.8.

Pluto will be above Sagittarius in the thick of the Milky Way so you should look for it when Sagittarius is highest in the sky, around 10:00pm. It will be in the Milky Way cloud which means it will be surrounded by similar looking stars which makes even harder to spot. It will be about 3º south of M17. If you were to look at or image this area on two consecutive nights, Pluto would be the tiny "star" that moved position.

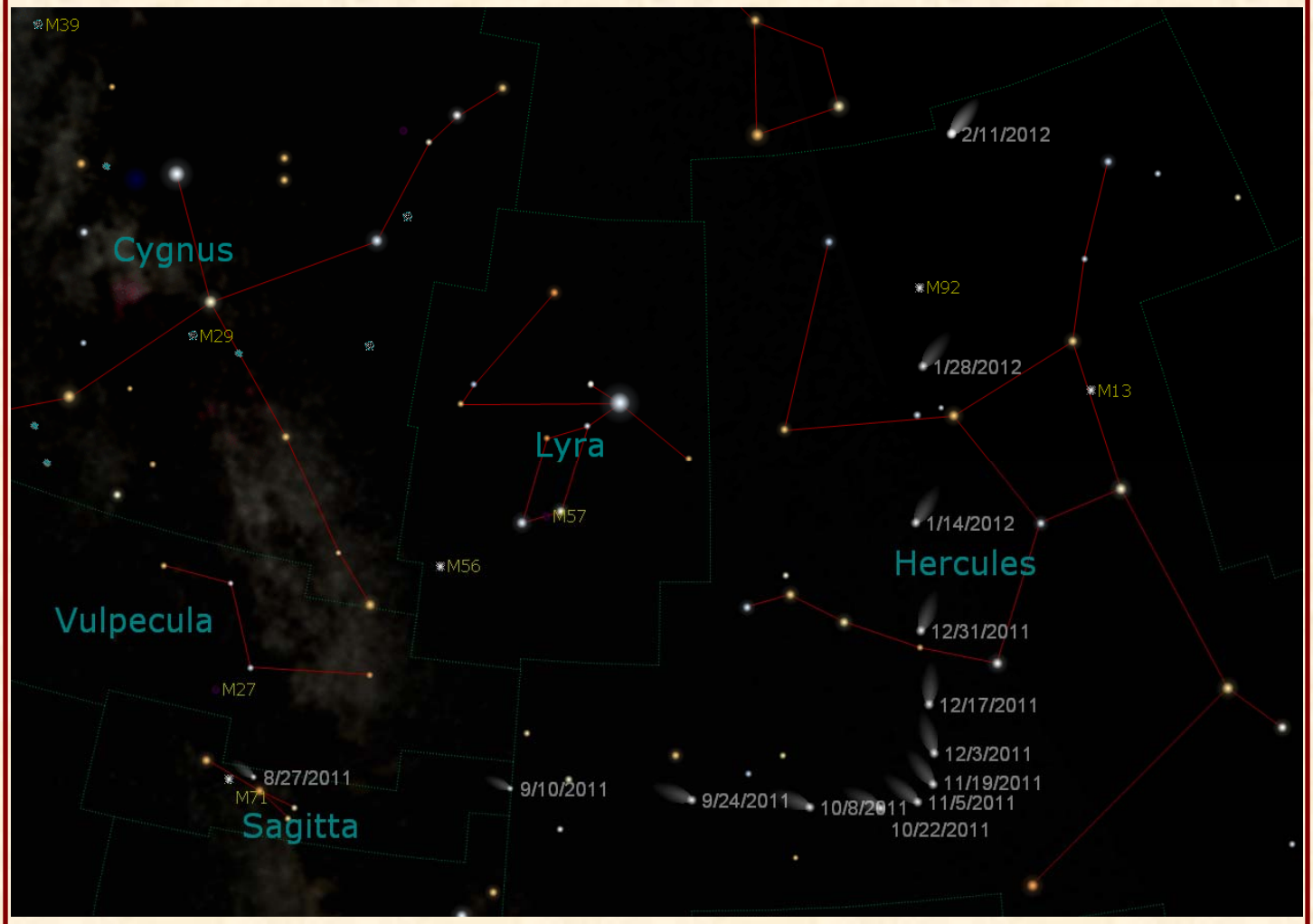
Vesta will become an easy binocular target this month. Vesta will be shinning at magnitude 6.2 early in the month then fading a bit to 6.9 by month's end. It sits in southern Capricornus just southwest the star Psi Capricorni. No star as bright as Vesta will be sitting as close to Psi Caprcorni. The best time to look would be around 10PM when it will be due south.

Autumnal Equinox brings the first day of fall. On the equinox, the sun rises directly in the east and sets directly in the west. The exact moment of equinox for 2011 is Sept. 22, at 3:04 MDT.

September Observing Highlights - Comet C/2009 P1

Comet C/2009 P1 is passing out of the Summer Triangle in September and headed for Hercules. On September 3, catch Comet Garradd with binoculars or a small telescope as it resides near the Coat hanger Cluster in Vulpecula. Comet Garradd will be a bit dimmer than Elenin, but because of its location it should be easier to observe.

Comet Elenin, the brighter of the two, is in the more challenging location. Comet Elenin will shine at around magnitude 5.8 but will be low in the west after sunset, and the fading sunlight may drown out your chance to catch it. Look on September 22 and 23 when Comet Elenin is just to Porrima's lower right. Porrima is an easy star to find if you have been tracking Saturn all summer. Saturn has been beside Porrima in Virgo for much of the time. Another way to find Porrima is first to find Virgo's brightest star Spica and then look to Spica's right to find the fainter Porrima.



Comet Garradd is expected to continue to brighten until mid-February, 2012, reaching a maximum of around mag. 6.0 by some estimates. It will remain an evening object until near the end of 2011, but will be far enough north to appear in both morning and evening twilight in mid to late December. Perihelion is on December 23rd, but even then the comet will be well-separated from the Sun.

Astronomers monitoring Comet Elenin have noticed the comet has decreased in brightness the past week, and the coma is now elongating and diffusing. Some astronomers predict the comet will disintegrate and not survive perihelion, its closest approach to the Sun. On August 19, a massive solar flare and coronal mass ejection hit the comet, which may have been the beginning of the end for the much ballyhooed lump of ice and dirt. According to astronomers in Australia... "Shortly after the coronal mass ejection the comet flared up and you could see some beautiful details in the tail, with the tail was twisting about in the solar wind. But shortly after that Earth- bound amateurs reported a huge decrease in the intensity of the comet. We think it may presage a falling apart of the comet."

Image above is from The Sky 6 by Chris Anderson and shows the path of Comet C/2009 P1 Garradd.

Club Star Party at the Magic Valley Aeromodelers Club Airport

The Aeromodelers airport, called R.C. Adamson Field is a great place for a quick star party. It is located only seven miles south of town and is two and a half miles due south of the Twin Falls Airport on the corner of 3100N and 2800E. Decent horizons exist in all directions and the lights from the airport and the town are not too bothersome.

The facility itself is a well maintained delight. The field is generally gated and locked to prevent vandalism. The parking lot is gravel and big enough for at least 40 cars, the airstrip is paved and a large lawn is just west of the landing strip. Along the south edge of the landing strip, and separated from it by 20-30 feet of mown lawn, several huge, old conveyor belts have been nailed down to provide smooth, dust-free surface ten feet wide and 150 feet long. To aid work on model airplanes, a dozen large, permanent tables are provided. Setting up telescopes here is very clean and convenient - no need to bring tables or tarps.

The club has inherited the old land fill tender's office so running water, a flush toilet and electricity are on site. The lawn is mowed and watered by volunteers. I notice there may be an underground sprinkler system so it may be prudent to learn the watering schedule prior to setting up on or near the lawn. This large area is perfect for a pre-function picnic, Frisbee tournament or a place for the kids to play.

The September 23, 2011 star party is being tried as a one-time, get-acquainted affair. However, if we can develop and maintain a good relationship with the Aeromodelers club and MVAS members like the location, I believe we could continue to have one or more star parties here each year. We will meet at dusk.

Pictures of the R.C. Adamson Flying Field showing the various horizon views and parking area. Courtesy of Jim Hoggatt and Gary Leavitt.

Solar System Size Surprise

By Dr. Tony Philips

News flash: You may be closer to interstellar space than you previously thought.

A team of researchers led by Tom Krimigis of the Johns Hopkins University Applied Physics Laboratory announced the finding in the June 2011 issue of *Nature*. The complicated title of their article, "Zero outward flow velocity for plasma in a heliosheath transition layer," belies a simple conclusion: The solar system appears to be a billion or more kilometers smaller than earlier estimates.

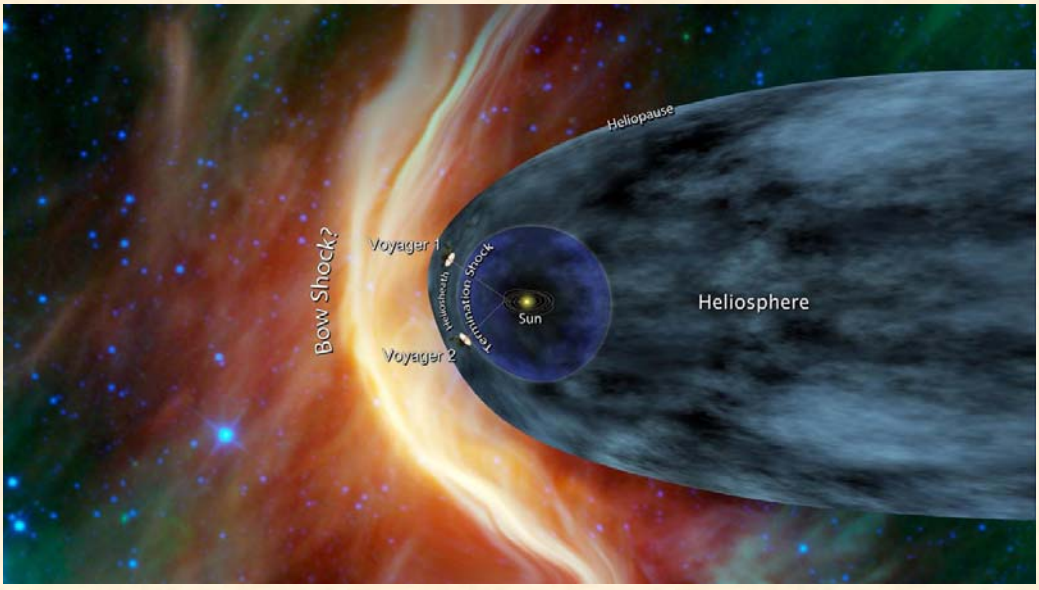
The recalculation is prompted by data from NASA's Voyager 1 probe, now 18 billion kilometers from Earth. Voyagers 1 and 2 were designed and built and are managed by NASA's Jet Propulsion Laboratory. Aging but active, the spacecraft have been traveling toward the stars since 1977 on a heroic mission to leave the solar system and find out what lies beyond.

To accomplish their task, the Voyagers must penetrate the outer walls of the heliosphere, a great bubble of plasma and magnetism blown in space by the solar wind. The heliosphere is so big, it contains all the planets, comets, and asteroids that orbit the sun. Indeed many astronomers hold that the heliosphere defines the boundaries of the solar system. Inside it is "home." Outside lies the Milky Way. For 30+ years, the spacecraft have been hurtling toward the transition zone. Voyager 1 is closing in. Much of Voyager 1's long journey has been uneventful. Last year, however, things began to change. In June 2010, Voyager 1 beamed back a startling number: zero. That's the outward velocity of the solar wind where the probe is now. "This is the first sign that the frontier is upon us," says Krimigis.

Previously, researchers thought the crossing was still years and billions of kilometers away, but a new analysis gave them second thoughts. Krimigis and colleagues combined Voyager data with previously unpublished measurements from the Cassini spacecraft. Cassini, on a mission to study Saturn, is nowhere near the edge of the solar system, but one of its instruments can detect atoms streaming into our solar system from the outside. Comparing data from the two locations, the team concluded that the edge of the heliosphere lies somewhere between16 to 23 billion kilometers from the sun, with a best estimate of approximately 18 billion kilometers. Because Voyager 1 is already nearly 18 billion kilometers out, it could cross into interstellar space at any time—maybe even as you are reading this article.

"How close are we?" wonders Ed Stone, Caltech professor and principal investigator of the Voyager project since the beginning. "We don't know, but Voyager 1 speeds outward a billion miles every three years, so we may not have long to wait." Stay tuned for the crossing. For more about the missions of Voyager 1 and 2, see http://voyager.jpl.nasa.gov/. Another Voyager project scientist, Merav Opher, is the guest on the newest Space Place Live cartoon interview show for kids at http://spaceplace.nasa.gov/space-place-live.

Caption: This artist's concept shows NASA's two Voyager spacecraft exploring a turbulent region of space known as the heliosheath, the outer shell of the bubble of charged particles around our sun. Image credit: NASA/JPL-Caltech.



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Snake River Skies is the Newsletter of the Magic Valley Astronomical Society and is published electronically once a month.

Images on the front page: 1. Centennial Observatory 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. Chris Anderson also provides the Planispheres usually on page 3.
2. Shoshone Falls is a major attraction to the Magic Valley and a prominent landmark on the Snake River. Falls image is used under “public domain;” unknown photographer.
3. M-51 on the front page was imaged with the Shotwell Camera and the Herrett Telescope at the Centennial Observatory by club members Rick Widmer & Ken Thomason.

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.

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.

About the Magic Valley Astronomical Society

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.

A moon just past full as seen from Earth's northern hemisphere. Credit NASA

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.

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