Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society

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Monthly Membership Mtg. will be Tom Gilbertson's New Telescope Workshop at the CSI Herrett Center 7:00 pm Invite your friends and family

Membership Message

Welcome to 2012. This year we will be having several events relating to astronomy for the coming year none of which means the end of the world.

As we have done in the last few months of 2011 there will be a club member only star party (weather permitting) the week following our monthly meeting and public star party held at the Herrett Center. The location will be determined and e-mailed to everyone.

In March is our annual Messier Marathon, International Astronomy Day is in April. In May there is a partial Solar Eclipse (80%). In June there is the transit of Venus across the Sun and the Craters of the Moon Star Party. Both of these events will be in the evening. In July, we will be hosting our annual Pomerelle Star Party and in August, we host our annual City of Rocks/Castle Rocks Star Party. Once again we have been invited to a joint star party with the Boise Astronomical Society, which was rained out last year, but we are willing to try again this year. In September, the Boise Astronomical Society will be hosting their annual Idaho Star Party at Bruneau Dunes S.P. This years guest speaker will be Don Machholz, the famed comet hunter and co-organizer of the Messier Marathon.

Finally in October things will return to normal. All events listed will be in a forthcoming e-mail to the members and posted on our clubs website.

Finally, I am letting everyone know of some changes that will affect the Newsletters from this point forward. Earlier this month, I was asked and have accepted the newsletter editor position for the Boise Astronomical Society. Basically this means the Magic Valley Astronomical Society and the Boise Astronomical Society will be sharing the some of the same articles and thus the newsletter will grow in size to accommodate both clubs. However, I must point out that there will be two separate newsletters as events for the Magic Valley and Boise will be different. This also means I am serving on the BAS board. If anyone wishes to contribute to the newsletters, or you have questions, please feel free to contact me at editor@mvastro.org looking forward to 2012.

David Olsen, VP / Editor Magic Valley Astronomical Society

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.

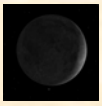
Following our meetings we have a star party (weather permitting) at the Centennial Observatory, also at the Herrett Center.

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

January Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
New Year's Day First Quarter 	Moon at apogee 		The Quadrantids Peak 			
8	9	10	11	12	13	14
	Full Moon Wolf Moon 					**MVAS Club Meeting** 
15	16	17	18	19	20	21
	Dr. Martin Luther King, Jr. Day Last Quarter 	Moon is at perigee 				
22	23	24	25	26	27	28
	New Moon 					
29	30	31				
	Moon at apogee First Quarter Moon 					

Trivia for January

Only five days (when this was written) into the New Year and the first four exoplanets of 2012 have been spotted orbiting four distant stars.

All four alien worlds are known as "hot Jupiters" -- large gas giant planets orbiting very close to their stars. Their orbits are aligned just right with the Earth so that when they pass in front of their parent stars, they slightly dim the starlight from view.

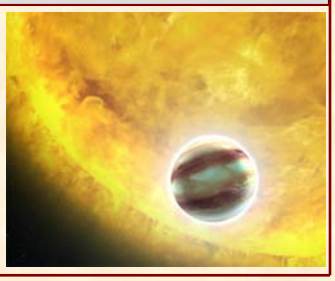
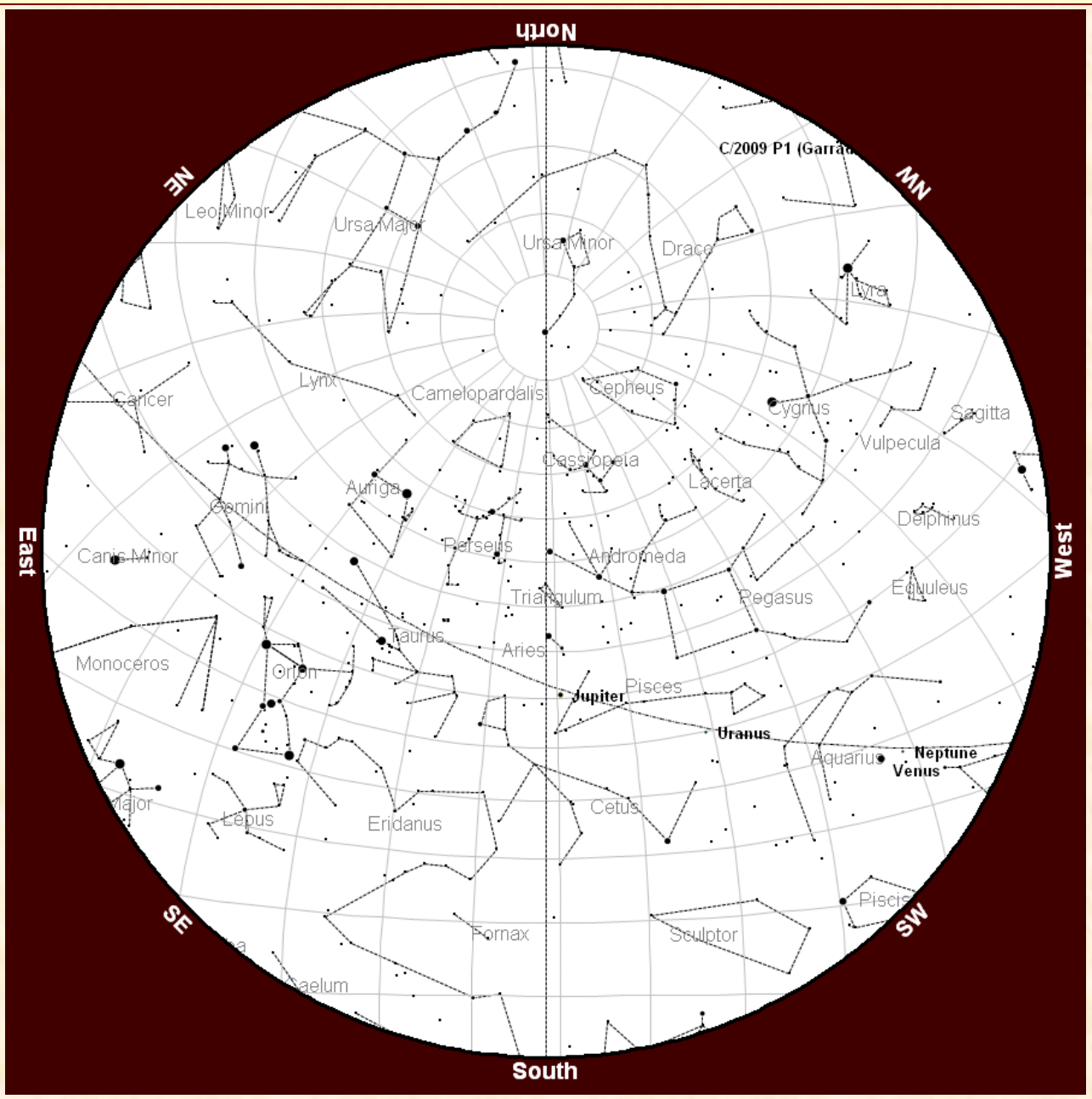


Image credit: NASA, ESA and G. Bacon (STScI)

Planisphere for January Mid-Month



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

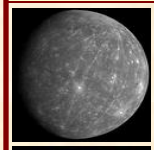
Did You Know?

The Curiosity Mars Science Lab (MSL) rover soared skywards on Nov. 26, the last of 2011's three planetary science missions. Curiosity is the newest, largest and most technologically sophisticated robotic surveyor that NASA has ever assembled.

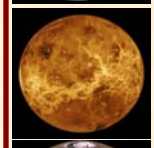
"MSL packs the most bang for the buck yet sent to Mars." John Grotzinger, the Mars Science Laboratory Project Scientist of the California Institute of Technology, told Universe Today.

The three meter long robot is the first astrobiology mission since the Viking landers in the 1970's and specifically tasked to hunt for the 'Ingredients of Life' on Mars – the most Earth-like planet in our Solar System. Image: NASA's Mars Science Laboratory lifts off from Cape Canaveral Air Force Station, Fla. Image credit: *NASA TV/NASA/JPL-Caltech*

January Sky Highlights



Innermost Mercury shines at magnitude -0.4 and can be spotted 10° above the southeastern horizon a half-hour before sunrise. Your best chance to see the planet is in early January, as Mercury sinks toward the horizon with each passing morning and will disappear by the middle of the month.



Venus is often considered the Evening Star or the Morning Star, depending on which time of day it is up and dominating the twilight. For example, until late May 2012, Venus will appear as a brilliant yellow star in the evening sky, right after sunset. Located 25° above the southwestern horizon half an hour after sundown, it remains on view until after approximately 8 P.M.

Mars pokes above the eastern horizon around 10 P.M. and is well up in the south before dawn. The planet is on its way to opposition next March, when it will be at its closest approach to Earth Right now, the disk is less than 10"-wide, too small to show features in most instructments.

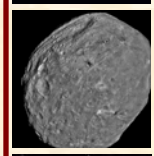
Jupiter reached opposition to the Sun in late October, 2011, when it was closest to Earth and at its largest and brightest. Although Jupiter is now slowly receding from our home planet, it remains visible well after midnight and looks stunning through a telescope. The gas giant shines at magnitude -2.6 and lies in a star-barren region near the border between Aries and Cetus. Double shadow transit on Jupiter The shadows of Ganymede and Europa will follow each other across the face of Jupiter on the 4th.

Throughout January, Saturn is 40 degrees high in the south as dawn begins, and gets a little higher every morning. The ringed planet resides among the background stars of Virgo the Maiden and remains within 5 degrees of the blue-white star Spica all month.

Uranus lies in the same binocular field of view as Lambda Piscium, the star that forms the southeast corner of the "Circlet" in Pisces, and is itself an easy binocular target. The planet glows at magnitude +5.9 and looks just like a star of that brightness.

Seek out Neptune in western Aquarius, 1.5 degrees north of the 4th-magnitude star Iota Aquarii. The distant world lies 2.8 billion miles from Earth and glows dimly at magnitude +7.9. A 4-inch diameter telescope is probably the minimum required to see the planet and resolve its disk, at only 2.4" across.

Pluto, the dwarf planet is barely emerging from the glow of dawn, so it will be obscured for many observers. It will not be high enough above the horizon for telescopic viewing until about mid-February.



The best time to observe Vesta is in the early evening, when Aquarius the Water Bearer - the constellation through which the asteroid tracks is highest above the southwestern horizon. Delta Aquarii serves as a good guidepost for following the slow nightly motion of 8th-magnitude Vesta, but it may take a few nights of telescopic observing before you notice the asteroid's movement.

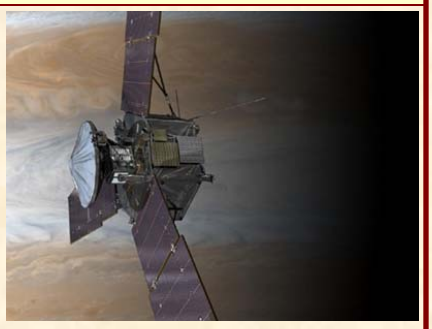
Asteroid 15 Eunomia provides an opportunity to test your observing skills - spotting it requires a lot of patience and a dark-sky observing site, far from city lights. The asteroid shines at magnitude + 9 and can be found in Taurus, close to the Pleiades. The best time to search for it is in the evening, when Taurus is highest above the horizon.

Comet Garradd can be found among the background stars of the constellation Hercules, a few degrees east of the globular cluster M13, and according to recent reports, it should glow at 7th magnitude. The key to finding C/2009 P1 Garradd is to start about one hour before sunrise from a site that has an unobstructed view of the eastern horizon. Please refer to the December newsletter for a map to locate the comets.

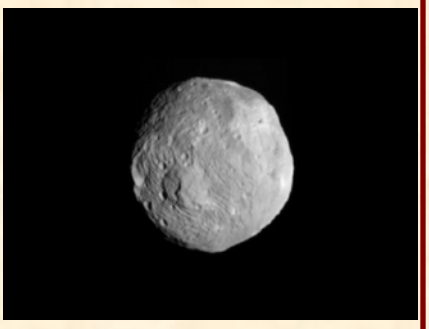
Comet P/2006 T1 Levy was discovered in 2006 and takes slightly longer than five years to orbit the Sun on a track that brings it from Earth's neighborhood out to Jupiter's. The comet is expected to reach about 7th-magnitude sometime around mid-January and moves quickly across the evening sky. It starts the month in Pegasus and traverses both Pisces and Cetus before winding up in Eridanus.

Key Stars: Sirius, the brightest star in the night sky, glitters in the south this month. Red Betelgeuse is to its upper right, while white Procyon stands above and to its left. Capella appears directly overhead this month at 10 P.M. find Canopus due south around just beneath Sirius.

The Top Ten Astronomy Events of 2011



1. **NASA's Juno Mission Launches**: Juno is a NASA New Frontiers mission to the planet Jupiter. Juno was launched from Cape Canaveral Air Force Station on August 5, 2011. The spacecraft is to be placed in a polar orbit to study the planet's composition, gravity field, magnetic field, and polar magnetosphere. Juno will also search for clues about how Jupiter formed, including whether the planet has a rocky core, the amount of water present within the deep atmosphere, and how the planet's mass is distributed. It will also study Jupiter's deep winds, which can reach speeds of 600 kilometers per hour (370 mph). The spacecraft's name comes from Greco-Roman mythology. The god Jupiter drew a veil of clouds around himself to hide his mischief, but his wife, the goddess Juno, was able to peer through the clouds and see Jupiter's true nature. Juno requires a five-year cruise to Jupiter, arriving around July 4, 2016. Artist concept of Juno at Jupiter Source NASA/JPL Image: Artist concept of Juno at Jupiter. Jupiter is probably the best place in the solar system to study how the magnetic fields of planets are generated. The Juno spacecraft will make the five-year, 400-million-mile voyage to Jupiter and orbit the planet, collecting data for more than one Earth year. Artist concept. Credit: *NASA/JPL-Caltech*



2. **A New Dawn for Vesta**: On July 15, NASA's Dawn spacecraft began a prolonged encounter with the asteroid Vesta, making the mission the first to enter orbit around a main-belt asteroid. The main asteroid belt lies between the orbits of Mars and Jupiter. Dawn will study Vesta for one year, and observations will help scientists understand the earliest chapter of our solar system's history. As the spacecraft approached Vesta, surface details came into focus, as seen in a recent image taken from a distance of about 26,000 miles (41,000 kilometers). Image: NASA's Dawn spacecraft obtained this image of the giant asteroid Vesta with its framing camera on July 9, 2011. It was taken from a distance of about 26,000 miles (41,000 kilometers) away from Vesta, which is also considered a protoplanet because it is a large body that almost became a planet. Each pixel in the image corresponds to roughly 2.4 miles (3.8 kilometers). Credit: *NASA/JPL-Caltech/UCLA/MPS/DLR/IDA*

3. **Messages from Mercury**: MESSENGER scientists will highlight the latest results on Mercury from MESSENGER observations obtained during the first six months (the first Mercury solar day) in orbit. These findings were presented October 5 in 30 papers and posters as part of a special session of the joint meeting of the European Planetary Science Congress and the Division for Planetary Sciences of the American Astronomical Society in Nantes, Frances. Scientists will also look ahead to MESSENGER observations still to come and to the dual-spacecraft BepiColombo mission of the European Space Agency and the Japan Aerospace Exploration Agency later this decade. Image: This WAC image showing a never-before-imaged area of Mercury's north pole was taken during MESSENGER's first orbit with the camera in operation. Date acquired: March 29, 2011. Image Credit: *NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington*

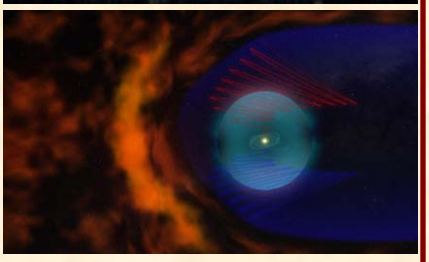
4.**The Future for Space Missions**: A new report from the National Research Council recommends a suite of planetary science flagship missions for the decade 2013-2022 that could provide a steady stream of important new discoveries about the Solar System. However, if NASA's budget over that decade cannot support all of these missions, the agency should preserve smaller scale missions in its New Frontiers and Discovery programs first and delay some or all of the recommended large-scale missions, the report says. Research priorities were selected through a rigorous review that included input from five expert panels. The committee also sought extensive input from the planetary sciences community through town hall meetings and white papers. Recommendations are informed by NASA's own FY 2011 projected budget scenarios for 2013-2022. In addition, the committee hired a contractor to provide independent cost and technical analyses of select mission proposals. "Our recommendations are science-driven, and they offer a balanced mix of missions -- large, medium, and small -- that have the potential to greatly expand our knowledge of the Solar System," said Steven W. Squyres, professor of astronomy at the Center for Radiophysics and Space Research, Cornell University, Ithaca, N.Y., and chair of the committee that wrote the report. "However, in these tough economic times, some difficult choices may have to be made. With that in mind, our priority missions were carefully selected based on their potential to yield the most scientific benefit per dollar spent. Image" Roll out of Space Shuttle *Atlantis*," credit: *Ben Cooper / Launch Photography.*

Continued next page.

The Top Ten Astronomy Events of 2011

5. **A Lost Spirit:** NASA has ended operational planning activities for the Mars rover Spirit and transitioned the Mars Exploration Rover Project to a single-rover operation focused on Spirit's still-active twin, Opportunity, which has now entered its eighth year of service. Image: Shadow cast by Spirit over Gusev tire tracks. Image Credit: *NASA/JPL*

6. **All Good Things Must End**: NASA's Space Shuttle Program concluded in 2011 with three final missions to the International Space Station. Each mission carried supplies and equipment that will sustain the space station crews until NASA's new Commercial Re-supply Service providers take over this role. Shuttle Discovery launched the STS-133 mission on Feb. 24, carrying the retrofitted, Italian-built multi-purpose logistics module (MPLM) "Leonardo" to the space station. On May 16, Endeavour launched STS-134 and, along with supplies and equipment, brought the Alpha Magnetic Spectrometer-2 (AMS) to the space station. The AMS is a particle physics experiment module designed to search for unusual matter by measuring cosmic rays. STS-135 launched on July 8, making the space shuttles' final delivery of supplies to the space station. Image: STS-135 Atlantis lands at night at the Kennedy Space center bringing to a close the Space Shuttle program. Credit NASA



7. **A Magnetic Personality**: Observations from NASA's Voyager spacecraft, humanity's farthest deep space sentinels, suggest the edge of our solar system may not be smooth, but filled with a turbulent sea of magnetic bubbles. Using a new computer model to analyze Voyager data, scientists found the sun's distant magnetic field is made up of bubbles approximately 100 million miles wide. The bubbles are created when magnetic field lines reorganize. The Voyager spacecraft, more than 9 billion miles away from Earth, are traveling in a boundary region where the solar wind and magnetic field are affected by material expelled from other stars in our corner of the Milky Way galaxy. Understanding the structure of the sun's magnetic field will allow scientists to explain how galactic cosmic rays enter our solar system and help determine how the star interacts with the rest of the galaxy. Image: In this artist's concept of the "standard" view of the heliosphere, the boundary between the sun's influence and interstellar space was relatively smooth. (Credit: NASA)

8. **"What... is your quest?" "To Seek the Holy GRAIL"** The Gravity Recovery and Interior Laboratory, or GRAIL Mission is comprised of twin spacecraft tasked to map the moon's gravity and study the structure of the lunar interior from crust to core. Engineers will then gradually lower the satellites to a near-polar near-circular orbital altitude of about 34 miles (55 kilometers). The spacecraft will fly in tandem and the 82 day science phase will begin in March 2012.

9. **Fly Right on By**: Starting from the first moments of 2011 at the dawn of Jan. 1, hopes were already running high for planetary scientists and engineers busily engaged in setting up a romantic celestial date in space between a volatile icy comet and an aging, thrusting probe on Valentine's Day. The comet chasing Stardust NeXT spacecraft successfully zoomed past Comet Tempel 1 on Feb. 14 at 10.9 km/sec (24,000 MPH) after flying over 6 Billion kilometers (3.5 Billion mi).

10. **One for You and Ten for Me:** NASA's Kepler spacecraft is proving itself to be a prolific planet hunter. Within just the first four months of data, astronomers have found evidence for more than 1,200 planetary candidates. Of those, 408 reside in systems containing two or more planets, and most of those look very different than our solar system. In particular, the Kepler systems with multiple planets are much flatter than our solar system. They have to be for Kepler to spot them. Kepler watches for a planet to cross in front of its star, blocking a tiny fraction of the star's light. By measuring how much the star dims during such a transit, astronomers can calculate the planet's size, and by observing the time between successive events they can derive the orbital period -- how long it takes the planet to revolve around its star. To see a transit, the planet's orbit must be edge-on to our line of sight. To see multiple transiting planets, they all must be edge-on (or nearly so).

Honorable Mention: A Voracious Appetite: NASA's Swift satellite, Hubble Space Telescope and Chandra X-ray Observatory teamed up to study one of the most puzzling cosmic blasts ever observed — the awakening of a distant galaxy's dormant black hole as it shredded and consumed a star. The galaxy is so far away, it took the light from the event approximately 3.9 billion years to reach Earth. Not to mention one of the largest Gamma Ray bursts yet observed.

Dawn Takes a Closer Look

By Dr. Marc Rayman

Dawn is the first space mission with an itinerary that includes orbiting two separate solar system destinations. It is also the only spacecraft ever to orbit an object in the main asteroid belt between Mars and Jupiter. The spacecraft accomplishes this feat using ion propulsion, a technology first proven in space on the highly successful Deep Space 1 mission, part of NASA's New Millennium program.

Launched in September 2007, Dawn arrived at protoplanet Vesta in July 2011. It will orbit and study Vesta until July 2012, when it will leave orbit for dwarf planet Ceres, also in the asteroid belt.
Dawn can maneuver to the orbit best suited for conducting each of its scientific observations. After months mapping this alien world from higher altitudes, Dawn spiraled closer to Vesta to attain a low altitude orbit, the better to study Vesta's composition and map its complicated gravity field.

Changing and refining Dawn's orbit of this massive, irregular, heterogeneous body is one of the most complicated parts of the mission. In addition, to meet all the scientific objectives, the orientation of this orbit needs to change.
These differing orientations are a crucial element of the strategy for gathering the most scientifically valuable data on Vesta. It generally requires a great deal of maneuvering to change the plane of a spacecraft's orbit. The ion propulsion system allows the probe to fly from one orbit to another without the penalty of carrying a massive supply of propellant. Indeed, one of the reasons that traveling from Earth to Vesta (and later Ceres) requires ion propulsion is the challenge of tilting the orbit around the sun.

Although the ion propulsion system accomplishes the majority of the orbit change, Dawn's navigators are enlisting Vesta itself. Some of the ion thrusting was designed in part to put the spacecraft in certain locations from which Vesta would twist its orbit toward the target angle for the low-altitude orbit. As Dawn rotates and the world underneath it revolves, the spacecraft feels a changing pull. There is always a tug downward, but because of Vesta's heterogeneous interior structure, sometimes there is also a slight force to one side or another. With their knowledge of the gravity field, the mission team plotted a course that took advantage of these variations to get a free ride.

The flight plan is a complex affair of carefully timed thrusting and coasting. Very far from home, the spacecraft is making excellent progress in its expedition at a fascinating world that, until a few months ago, had never seen a probe from Earth.

Keep up with Dawn's progress by following the Chief Engineer's (yours truly's) journal at http://dawn.jpl.nasa.gov/mission/journal.asp. And check out the illustrated story in verse of "Professor Starr's Dream Trip: Or, how a little technology goes a long way," at http://spaceplace.nasa.gov/story-prof-starr.

This article was provided courtesy of the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

This full view of the giant asteroid Vesta was taken by NASA's Dawn spacecraft, as part of a rotation characterization sequence on July 24, 2011, at a distance of 5,200 kilometers (3,200 miles). Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

Faulkner Planetarium Show Schedule for January 2012

January 3rd – 7th, 2012

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	1:30*	The Dinosaur Chronicles
	2:30*	The Dinosaur Chronicles
	3:30*	The Dinosaur Chronicles
	4:30*	The Dinosaur Chronicles
	7:00	How to Build a Planet
	8:15	Led Zeppelin: Maximum Volume 1

*Free “Cabin Fever Day” shows.

Beginning January 10th, 2012

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

Tickets are available at the front desk of the Herrett Center. **Educational Programs** Adults$4.50 Seniors (60+) $3.50 Students (incl. CSI w/ activity card)$2.50 Up to five minor children when accompanied by a parent/guardian$1.00 ea. Children under age 2 FREE **Music/entertainment programs** All ages$4.50 *50% discount for Planetary Society members and families. For Information please call the Herrett Center at 732-6655.

2012: Beginning of the End or Why the World Won't End?

Remember the Y2K scare? It came and went without much of a whimper because of adequate planning and analysis of the situation. Impressive movie special effects aside, Dec. 21, 2012, won't be the end of the world as we know. It will, however, be another winter solstice. Below, NASA Scientists answer several questions that we're frequently asked regarding 2012.

Q: What is the origin of the prediction that the world will end in 2012?
A: The story started with claims that Nibiru, a supposed planet discovered by the Sumerians, is headed toward Earth. This catastrophe was initially predicted for May 2003, but when nothing happened the doomsday date was moved forward to December 2012. Then these two fables were linked to the end of one of the cycles in the ancient Mayan calendar at the winter solstice in 2012 -- hence the predicted doomsday date of December 21, 2012.

Q: Does the Mayan calendar end in December 2012?
A: Just as the calendar you have on your kitchen wall does not cease to exist after December 31, the Mayan calendar does not cease to exist on December 21, 2012. This date is the end of the Mayan long-count period but then -- just as your calendar begins again on January 1 -- another long-count period begins for the Mayan calendar.

Q: Could phenomena occur where planets align in a way that impacts Earth?
A: There are no planetary alignments in the next few decades, Earth will not cross the galactic plane in 2012, and even if these alignments were to occur, their effects on the Earth would be negligible. Each December the Earth and sun align with the approximate center of the Milky Way Galaxy but that is an annual event of no consequence.

Q: Is there a planet or brown dwarf called Nibiru or Planet X or Eris that is approaching the Earth and threatening our planet with widespread destruction?
A: Nibiru and other stories about wayward planets are an Internet hoax. There is no factual basis for these claims. If Nibiru or Planet X were real and headed for an encounter with the Earth in 2012, astronomers would have been tracking it for at least the past decade, and it would be visible by now to the naked eye. Obviously, it does not exist. Eris is real, but it is a dwarf planet similar to Pluto that will remain in the outer solar system; the closest it can come to Earth is about 4 billion miles.

Q: What is the polar shift theory? Is it true that the earth’s crust does a 180-degree rotation around the core in a matter of days if not hours?
A: A reversal in the rotation of Earth is impossible. There are slow movements of the continents (for example Antarctica was near the equator hundreds of millions of years ago), but that is irrelevant to claims of reversal of the rotational poles. However, many of the disaster websites pull a bait-and-shift to fool people. They claim a relationship between the rotation and the magnetic polarity of Earth, which does change irregularly, with a magnetic reversal taking place every 400,000 years on average. As far as we know, such a magnetic reversal doesn’t cause any harm to life on Earth. A magnetic reversal is very unlikely to happen in the next few millennia, anyway.

Q: Is the Earth in danger of being hit by a meteor in 2012?
A: The Earth has always been subject to impacts by comets and asteroids, although big hits are very rare. The last big impact was 65 million years ago, and that led to the extinction of the dinosaurs. Today NASA astronomers are carrying out a survey called the Spaceguard Survey to find any large near-Earth asteroids long before they hit. We have already determined that there are no threatening asteroids as large as the one that killed the dinosaurs. All this work is done openly with the discoveries posted every day on the NASA NEO Program Office website, so you can see for yourself that nothing is predicted to hit in 2012.

Q: How do NASA scientists feel about claims of pending doomsday?
A: For any claims of disaster or dramatic changes in 2012, where is the science? Where is the evidence? There is none, and for all the fictional assertions, whether they are made in books, movies, documentaries or over the Internet, we cannot change that simple fact. There is no credible evidence for any of the assertions made in support of unusual events taking place in December 2012.

Q: Is there a danger from giant solar storms predicted for 2012?
A: Solar activity has a regular cycle, with peaks approximately every 11 years. Near these activity peaks, solar flares can cause some interruption of satellite communications, although engineers are learning how to build electronics that are protected against most solar storms. But there is no special risk associated with 2012.

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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.

Elected Board

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