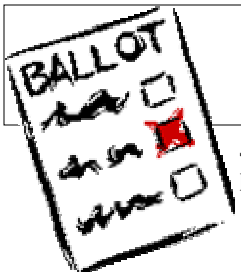
SNAKE RIVER SKIES

MAGIC VALLEY ASTRONOMICAL SOCIETY



November MVAS Meeting, 7pm Herrett Center: Club Elections

Join us in November for our club elections. We will have a star party following the meeting.

Message from the President: Phil Hafer

This months meeting will be our annual club business meeting and election of officers for next year. The ballots have been sent and will be counted at the meeting. The new officers will be announced during the meeting. There are many items we need to discuss so plan on attending because we need your input.

There was a spectacular display of the Northern Lights on the evening of 07 November. Thanks to Chris Anderson & Ken Thomason for calling and letting members know so we could have an opportunity to see the light show.

Don't forget to sign up for the Herrett Center Family Night observing sessions. Chris needs those who have been trained, to use the observatory telescope, to sign up. Also if you want to be trained, let Chris know so he can get you on the list for the January training session. The number of openings is limited so contact Chris asap.

I want to thank all of those who helped with star parties over the past year. Without your help it would have been impossible to meet all of the requests we received. I encourage those who did not take part this year to make a resolution to help out next year.

Club Election Ballot

President:

- **Cheri Lowman**
- **Write in: _____**

Vice President:

- **Jay Hartwell**
- **Ken Thomason**
- **Forrest Ray**
- **Dane Urbany**
- **Write in:_____**

Secretary/ ALCOR Representative:

- **Rick Widmer**
- **Chris Sutton**
- **Write in: _____**

Treasurer:

- **Matt Holmquist**
- **Write in: _____**

For Sale:

Meade DS-70

Contact Jerilyn Cox at 420-3958.

Volume 5, Issue 11

November 2004

MVAS Officers 2004

- *Phil Hafer, President 734-8719 phafer@pmt.org*
- *Cheri Lowman, Vice President, 736-7293, lowmanch@tfsd.k12.id.us*
- *Rick Widmer, Secretary/ Webmaster, 539-5162, rwidmer@developersdesk.com*
- *Matt Holmquist, Treasurer, 735-5085, mholmquist@coopernorman.com*

Write to MVAS P.O. Box 5101, Twin Falls, ID 83303

If you would like to write an article or otherwise make an entry for the club newsletter, contact Jay Snedden, 736-2447, jaysnedden@yahoo.com.

Yearly membership is $20 per person, $20 per family $10 per student, Sponsor $100

November Meteors By Roger W. Sinnott, Sky and Telescope

At St. George, Kansas, Rick Schmidt captured this Leonid as it flared with the brightness of the full Moon at about 1:45 CST on November 17, 1998. Orion is to the fireball's immediate right.

The weak, long-lasting **Taurid meteor shower** produces up to 8 or 10 meteors per hour throughout early and mid-November. Rates of 3 or 4 an hour can be seen from late October through November's end.

The Taurids are unusual in that as many meteors can be seen in the evening as in the morning, since the shower's radiant, about 5° south of the Pleiades, is fairly high all night. The higher a shower's radiant, the more meteors appear everywhere in the sky.

The meteors are debris from periodic comet 2P/Encke. They are the slowest of any major shower's, encountering Earth at only 28 kilometers per second. "The Taurid stream is noted for its many brightly colored meteors," writes Jeff Wood in WGN, the newsletter of the International Meteor Organization. "Although the dominant color is yellow, many orange, green, red, and blue fireballs have been recorded."

The much more famous **Leonids** are expected to peak on Wednesday morning, November 17th, well after the crescent Moon has set. But we are now well past the 1999–2002 period, when observers in some parts of the world witnessed very strong, even storm-level activity from this shower. This year, no more than 15 to 20 meteors per hour are likely under even the best conditions. Despite their low numbers, Leonids tend to be bright and leave persistent trains.

Basics of Meteor Observing By Alan M. MacRobert, Sky and Telescope

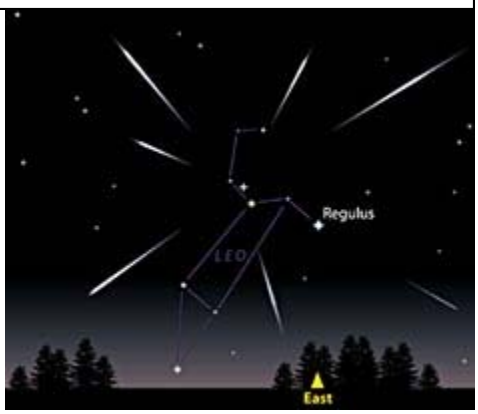
Here are a few hints to enhance your meteor-watching experience:

Meteor watching is one of the easiest forms of astronomy. Anyone can go out in the early-morning hours, lie back in a lounge chair, and wait for the occasional shooting star. Plan to start your watch around midnight. By then the radiant of most showers will be fairly high above the horizon. The hour or two before dawn should be best of all.

Bring a reclining lawn chair to a dark site with an open view of the sky. No trees or buildings should intrude into your view except maybe at the very edges. Depending on the time of the year you may want to bring a sleeping bag for protection against cold, dew, and mosquitoes. You'll also need a watch and a dim, red-filtered flashlight to read it by. You can make notes with a clipboard and pencil, but much better is a tape recorder with a microphone switch. This way you can dictate notes in the dark without taking your eyes off the sky.

Give your eyes at least 15 minutes to adjust to the dark. Settle in, look up, and relax. When you're ready to begin watching steadily, note the time to the nearest minute.

The simplest project is just to count the number of "shower" (S) and "non-shower" (NS) meteors that you see. Shower meteors will seem to come from the radiant of the particular shower you are observing. The name of the shower will tell you the general location of the radiant. For example the Perseid meteor shower's radiant is in the constellation Perseus.



The cometary crumbs that create Leonid meteors are traveling together through space, along the orbit of Comet Tempel-Tuttle. So even though they can appear anywhere in the sky, they all seem to emanate from a spot in the constellation Leo. But in mid-November this constellation does not rise above the horizon until after midnight (this view is for 1 a.m. local time), so large numbers of meteors will not be seen until Leo rises. Sky & Telescope illustration.

Trace the line of a meteor backwards across the sky. If the line comes near the radiant then you have observed a shower meteor. If the line goes elsewhere then you have observed a non-shower meteor.

New Images Reveal Clouds on Planet Uranus from Space.com

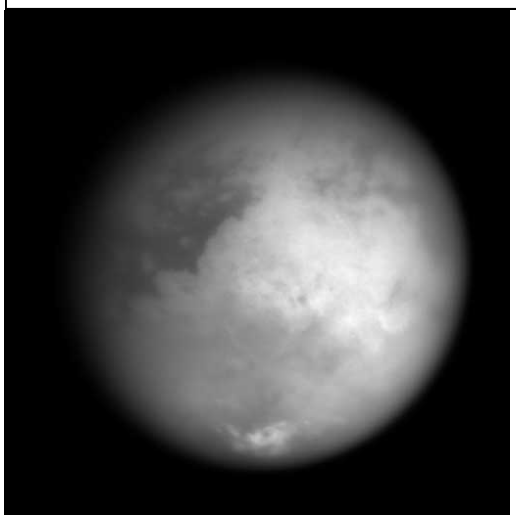
New images of the planet Uranus reveal more diversity in cloud features than ever seen before.

The new images, from the Keck Telescope in Hawaii, provide insight into some of the most enigmatic weather in the solar system. "It's weird behavior that hasn't been recognized before on Uranus," Lawrence Sromovsky of the University of Wisconsin-Madison's Space Science and Engineering Center said. "It's similar to what's been seen on Neptune, although there the oscillation is much more rapid. Sromovsky added that it's not surprising to see cloud features drifting in latitude, but models don't predict the movement. "We don't know what makes it keep coming back to its starting point," he said.Terrestrial hurricanes are all about

(Continued on page 3)

Titan: "A World Apart"

By J. Kelly Beatty, Sky and Telescope



A new picture of Titan by the Cassini spacecraft reveals a bright region in the middle named Xanadu. Scientists don't know what it is. Credit: NASA/JPL/Space Science Institute

October 28, 2004 | Of the dozens of outer-planet satellites seen during the historic Voyager missions two decades ago, none left scientists more perplexed than Saturn's Titan. Bigger than Mercury and endowed with a dense, haze-choked atmosphere, this giant moon kept its surface completely hidden from the Voyagers' probing cameras. Although clever infrared imaging using the Hubble Space Telescope and other observatories later revealed a crude patchwork of light and dark surface features, researchers could only speculate about what really lies beneath all that murk.

On October 26th the answers started coming, when NASA's Cassini spacecraft passed 1,174 kilometers (730 miles) from the moon's frigid surface. After the onboard camera had snapped hundreds of images, the spacecraft pivoted so its imaging radar system could cut through the haze and map a 2,000-by-120-km swath of Titanscape. Other instruments recorded surface temperatures, studied the atmosphere, and monitored the electromagnetic environment in Titan's vicinity.

By shooting at the near-infrared wavelength of 938 nanometers, Cassini's imaging scientists were rewarded with richly detailed views of the surface — but that doesn't mean they understand what they're seeing. Alfred S. McEwen (University of Arizona) notes that the sharp-edged dark regions often display bright streaks that could be either due to wind or some kind of surface flow. Elsewhere ridges and fractures crisscross the terrain. Some locations have the look of volcanic flows, which, given the moon's 95° Kelvin (–290°F) deep freeze, would most likely have erupted as a warm slush of water and ammonia.

Curiously, there's little evidence for impact craters — a sign that that Titan is geologically quite active, that the surface is deeply buried in billions of years of organic fallout from the atmosphere, or both. "There's an enormous variety of geology going on," notes Jonathan I. Lunine (University of Arizona). But it may take some time to answer basic questions such as whether the dark areas are ethane-propane seas or thick veneers of frozen organic goo. (Liquid methane, once thought likely, is apparently no longer a likely candidate.) Even the highly anticipated radar views are unlikely to offer quick or clear-cut explanations for what lies on the surface.

Fortunately, the Cassini team will have plenty of time to sort things out. Over the next four years Cassini should swoop past Titan 44 more times, most often at a distance of about 950 km. The next occurs on December 13th. Following that, on January 14, 2005, Cassini will pass high over Titan as Huygens, an instrument-laden probe built by the European Space Agency, plunges through Titan's atmosphere and onto its surface.

In time, Lunine says, all the pieces of this enigmatic jigsaw puzzle will fall into place. But it's already amply clear that Saturn's big moon is unique in the solar system. "To us planetary explorers," writes Carolyn C. Porco (Space Science Institute), "Titan is a world apart."

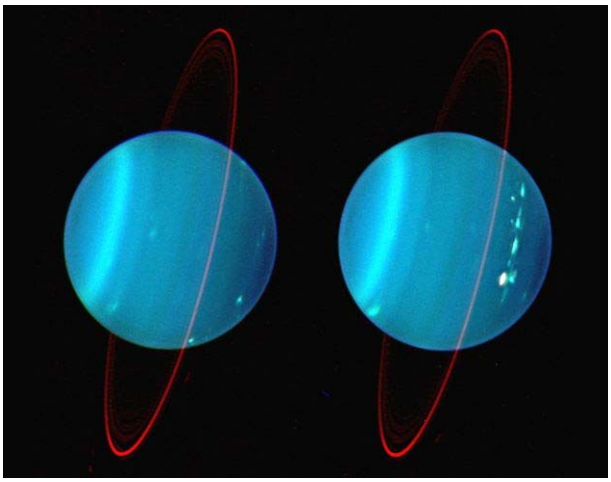
Uranian Storms

(Continued from page 2)

taking energy from tropical water and dissipating it farther north or over land. Uranus, which is 19 times as far from the sun as the Earth, has far less solar energy to dissipate. Sromovsky added that it's not surprising to see cloud features drifting in latitude, but models don't predict the movement. "We don't know what makes it keep coming back to its starting point," he said.

Uranian storms seem to survive and thrive because the atmosphere is "slippery," providing less of the atmospheric resistance that help storms on Earth dispense their energy.

"There is very little temperature contrast and very little energy to drive the weather in Uranus," says Sromovsky. "Whatever is happening has to be well lubricated; it has to be a low-friction environment."



The two sides of the planet Uranus, as viewed in this composite image by the Keck II Telescope at near infrared wavelengths. Credit: Lawrence Sromovsky, UW-Madison

Magic Valley
Astronomical Society

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P.O. Box 5101
Twin Falls, ID 83303

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Planet Roundup courtesy skyandtelescope.com

The Sun is displaying a big spot that's visible to the naked eye through a safe solar filter or by the projection method. Spot group 10696 (or "696" for short) is near the middle of the Sun's face through Sunday the 7th and will be on the Sun's western side for several days thereafter.

Mercury (magnitude –0.3) is deep in the glow of sunset.

Venus and **Jupiter** (magnitudes –4.0 and –1.7, respectively) still form a striking pair of bright "morning stars" all week. Look for them in the east-southeast before and during dawn. Venus is the brighter of the two.

Mars (magnitude +1.7) glimmers weakly far below Venus and Jupiter as dawn grows bright, as shown at the top of this page. Also in Mars's vicinity is Spica, slightly brighter. Binoculars will help.

Saturn (magnitude +0.1) rises in the east around 9:30 p.m., glowing to the lower right of Pollux and Castor in Gemini. In another hour or two it's well up in fine view. Don't confuse Saturn with Procyon sparkling to its own right or lower right.

Uranus and **Neptune** (magnitudes 5.8 and 7.9, respectively, in Aquarius and Capricornus) are highest in the south after nightfall. And so is the asteroid **Vesta,** magnitude 7.2. Spot them all with binoculars!

Pluto is lost in the sunset.

Venus and Jupiter shining in the November 4th dawn over Woburn, Massachusetts. Photo by Edwin Aguirre and Imelda Joson.

Club & Star Party Calendar

The Magic Valley Astronomical Society meets the second Saturday of each month at the College of Southern Idaho, Herrett Center at 7pm. Star Party at the Herrett Center follows.

Next Meeting: Saturday November 13, 2004, at the Rick Allen Room of the Herrett Center, College of Southern Idaho. A public star party follows.