

The Astronews



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February 2009

www.hawastsoc.org

President's Message

by *Chris Peterson*

Life on Mars! That's a cry that's been heard before, and now it's getting another sounding because of the confirmation of the discovery of methane gas in the planet's atmosphere. Observations made at the IRTF and Keck observatories on Mauna Kea identified methane absorption bands in spectra of Mars. Methane should have a short lifetime in the atmosphere of Mars, so it is almost certain that it has recently been released to the atmosphere.

Living creatures on Earth release methane, so that is the reason for the talk of the possibility of life on Mars. There are other possibilities as well, such as volcanic eruptions and other geological processes. However, since there has been no evidence found for recent volcanic activity on Mars, the likelihood of the derivation of this methane from biological processes is increased.

Don't expect that this question will be answered anytime soon. Do expect to hear about more "discoveries" of methane on Mars in the future. Anyone familiar with planetary science

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Upcoming Star Parties

Public Party- Dillingham	Feb. 14
Club Party-Dillingham	Feb. 21
Kahala/Waikele Party	Feb. 28

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Upcoming Events:

☆ The next meeting is at 7:30 p.m. on **Tuesday, Feb. 3** at the Bishop Museum.

☆ Bishop Museum's next planetarium show with **Barry Peckham** is Friday, **Feb. 6** at 7:00 p.m.

www.bishopmuseum.org/calendar

☆ The next Board Meeting is Sunday, **Feb. 1** at 3:30 p.m. at the POST building at UH.



**CELEBRATING
THE YEAR OF
ASTRONOMY
IN HAWAII**

Windward Community College starts the year of astronomy with a special "adults-only" planetarium program on Valentine's Day, Saturday February 14, celebrating love stories of the sky.

Although the program is most likely not as suggestive as described, it might be a refreshing change from the often generic "G-rated" programs that is prevalent in planetarium lineups. Reservations are recommended, call 235-7433. Cost: \$3/person

On Friday, February 20, the new Lanihuli Observatory at WCC will host a special exhibit of images taken by the Hubble Space Telescope, Spitzer Space Telescope and the Chandra X-Ray Observatory. These three telescopes are orbiting instruments and have produced spectacular views of the universe. The opening of the exhibit is free and open to the public.



APPROACHING COMET: Comet Lulin (C/2007 N3), discovered in 2007 by a collaborative team of Taiwanese and Chinese astronomers, is swinging around the sun and approaching Earth. The photogenic comet has a bright tail and an "anti-tail" visible in mid-sized backyard telescopes. At closest approach in February, Comet Lulin is expected to brighten to naked-eye visibility, according to SpaceWeather.com



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The **Astronews** is a monthly newsletter of the Hawaiian Astronomical Society. Some of the contents may be copyrighted. We request that authors and artists be given credit for their work. Contributions are welcome. Send them to the Editor via email. The deadline is the 16th of each month. We are not responsible for unsolicited artwork.

President Chris Peterson called the January 6, 2009 meeting of the Hawaiian Astronomical Society to order at 7:43 p.m. The meeting was held at the Atherton Halau on the grounds of the Bishop Museum. There were thirty-three members and two visitors in attendance

Hawaii Space Lecture Series –On Tuesday, January 27th, Dr. Ed Scott of the Hawaii Institute of Geophysics and Planetology, University of Hawaii will speak on “100 Years after the Tunguska Impact; What Have We Learned?” This particular lecture for the Series is scheduled to take place at 7:30 pm, in the room 544, on the fifth floor of the Pacific Ocean Science and Technology Building, at the University of Hawaii at Manoa. For further information you can contact NASA PRPDC at 808-056-3132 or on the Web go to <http://www.higp.hawaii.edu/prpdc> <<http://www.higp.hawaii.edu/prpdc>> .

New Book Available - Author Richard Greenberg of the University of Arizona, Lunar and Planetary Laboratory, Tucson has contacted President Chris Peterson regarding his new book, “Unmasking Europa, The Search for Life on Jupiter’s Ocean Moon.” Mr. Greenberg indicates that the book provides a closer look at Europa and describes how the science is done. The book is available in bookstores and on-line.

Hokulani Imaginarium - The Windward Community College Hokulani Imaginarium has asked HAS to help them at their Saturday, April 4th “Look Up!” Their skywatching event needs astronomers and scopes for their family event.

Chris Peterson also mentioned the India/United States Chandrayaan Moon Mineralogy Mapping mission and the Mars Reconnaissance Orbiter lab known as “High Rise” which will concentrate on spectral mapping of minerals on the lunar surface and which will produce high resolution photos. Chris also recounted events at the recent Tucson Conference for the NASA Planetary Data Centers.

Visitors - Howard Wiig, of the State of Hawaii energy office and the International Dark Sky Association representative in Hawaii, spoke briefly about two “Dark Sky” luncheons on January 9th and Tuesday January 13th. The luncheons will point out the problems with city lighting and light pollution in the state of Hawaii. January 12th HAS astronomers will be helping Mr. Wiig at a star gazing event at the Kahala Community Park near Kahala School.

Star Party Report – Coordinator Forrest Luke reports we have two group star parties: Monday, January 12th for the Dark Sky Association, and on Friday, January 23rd, a star party for Mililani Middle School. Forrest warns that we will need lots of help during the month of April, with has many events scheduled.

Night Sky Network – John Gallagher spoke briefly about December 11th teleconference that kicked-off 2009, the International Year of Astronomy. The January 15th teleconference concerns SETI – Institute for Astronomy on the solar system and February 19th teleconference regarding dark sky awareness.

International Year of Astronomy - Gareth Wynn-Williams of the Institute for Astronomy brought members up to date on some upcoming dates for the IfA calendar. Their annual open house will take place on Sunday, April 26th. HAS and IfA will be working with the Honolulu Academy of Arts in September in their “Art After Dark” event, spotlighting astronomy and the night skies over Hawaii. Kathy Robertson, the IfA Librarian spoke briefly about events for the “2009 - International Year of Astronomy” local events and Jeff Rich, IfA graduate student and NASA student ambassador also spoke about the outreach IfA does with schools. Kathy Robertson is also asking for any ideas we may have for other activities and outreach. The events this year highlight 400 years of Astronomy from Galileo to the

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SUPERSTAR HIDE AND SEEK

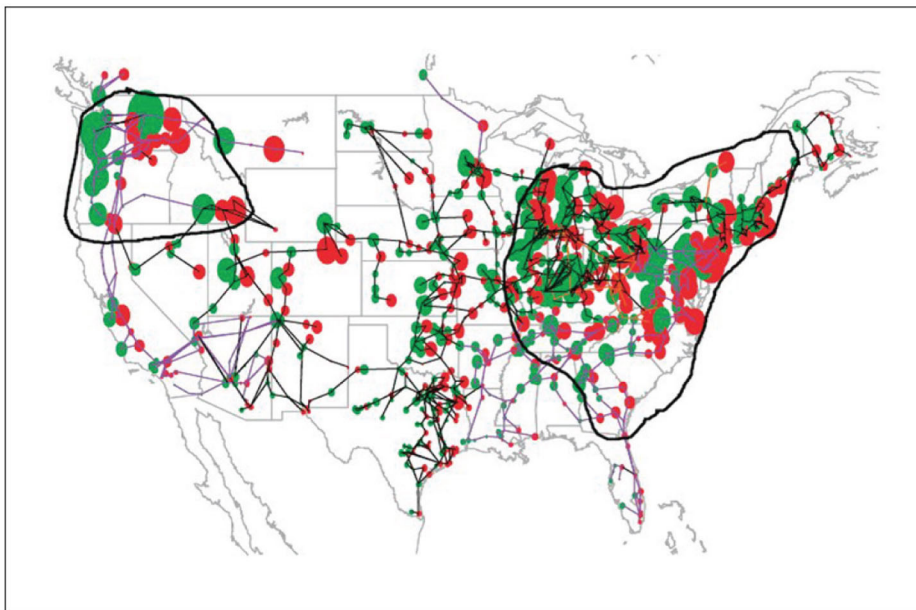
by Dr. Tony Phillips

Did you know a solar flare can make your toilet stop working?

That's the surprising conclusion of a NASA-funded study by the National Academy of Sciences entitled Severe Space Weather Events—Understanding Societal and Economic Impacts. In the 132-page report, experts detailed what might happen to our modern, high-tech society in the event of a “super solar flare” followed by an extreme geomagnetic storm. They found that almost nothing is immune from space weather—not even the water in your bathroom.

The problem begins with the electric power grid. Ground currents induced during an extreme geomagnetic storm can melt the copper windings of huge, multi-ton transformers at the heart of power distribution systems. Because modern power grids are interconnected, a cascade of failures could sweep across the country, rapidly cutting power to tens or even hundreds of millions of people. According to the report, this loss of electricity would have a ripple effect with “water distribution affected within several hours; perishable foods and medications lost in 12-24 hours; loss of heating/air conditioning, sewage disposal, phone service, fuel re-supply and so on.”

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On this power-grid map of the United States, the black-circled areas are regions especially vulnerable to collapse during an extreme geomagnetic storm. Inside those boundaries are more than 130 million people. Credit: National Academy of Sciences report on severe space weather.

Upcoming School Star Parties 2009

Mon.	3/2	Punahou High School (approx. 30) 7:30PM
Sat.	4/4	WCC IYA Event 7-9PM (see pg. 2)
Fri.	3/27	KMCAS for Hawaii Hikers
Fri.	4/17	Hanahauoli School (Makiki) approx.100
Fri.	4/24	Pearl Harbor Elementary
Wed.	4/29	Lanakila Elementary
Thurs.	4/30	Ala Wai Elementary

If you are interested in helping out at a school star party, sign up at the HAS meeting or contact the star party coordinator, FORREST LUKE at 623-9830 or lukef003@hawaii.



SPOT THE CROSS?

The Southern Sky from just outside the Gemini South entry on Cerro Pachón in Chile with the Magellanic Clouds high overhead. Canon MarkII ESO camera, the exposure was 90 seconds with a 8mm f/3.5 fisheye lens looking due south. *courtesy P. Michaud - Gemini Observatory*

Planets Close To the Moon

Times are Hawaii Standard Time

Feb 11, 05h, M 5.7° SSW of Saturn
(153° from sun in morning sky)

Feb 17, 07h, M 0.56° SSE of Jupiter
(19° from sun in morning sky)

Feb 22, 12h, M 1.0° NNW of Mercury
(25° from sun in morning sky)

Feb 22, 14h, M 0.69° NNW of Jupiter
(23° from sun in morning sky)

Feb 22, 20h, M 1.5° NNW of Mars
(20° from sun in morning sky)

Feb 27, 14h, M 1.2° SSE of Venus
(35° from sun in evening sky)

Uranus and Neptune are closer than 15° from the sun when near the moon in February.

Other Events of Interest

Times are Hawaii Standard Time

Feb 3, 13h, Asteroid 27 Euterpe at opposition

Feb 9, 04:49h, Moon Full

Feb 12, 03h, Neptune at conjunction with sun (Passes into morning sky)

Feb 13, 11h, Mercury at greatest elongation (26.1° west of the sun in morning sky)










Feb 17, 07h, Mars 0.56° SSE of Jupiter (19° from sun in morning sky)

Feb 20, 13h, Venus brightest (magnitude -4.6)

Feb 23, 18h, Mercury 0.62° S of Jupiter (24° from sun in morning sky)

Feb 24, 15:35h, Moon New

Feb 25, 00h, Minor Planet 1 Ceres at opposition (Closest to Earth since 1867)

 Mercury is visible in East just before dawn, reaching max elongation on Feb 13 when it is close to Mars and Jupiter.	 Venus dominates the evening sky with maximum brightness on Feb 20 at mag. -4.6.	 Mars is near Mercury and Jupiter low in the east at dawn, but is very difficult to find since it is so dim.
 Jupiter is lost in the glare of the sun at the beginning of Feb, but by mid-month is easy to find near Mercury and Mars.	 Saturn rises in early evening and brightens as the ring angle increases.	 Uranus is too close to the sun to be observed in February.
 Neptune is also too close to the sun to be observed in February.	 Dwarf Planet Pluto reached conjunction with the sun in Dec and is still too close to the sun for easy viewing.	 Dwarf Planet Ceres will reach opposition on Feb 25 in its closest approach to earth since 1867.

(Minutes continued from page 3)
latest space telescopes.

Martian Photos – The meeting ended with viewing of some of the latest Martian photos through the use of 3-D anaglyph glasses. The photos really came “alive” and questions were asked and answered by Chris Peterson.

As there was no further business, the meeting was adjourned at 8:54 p.m. Refreshments were served.

Respectfully Submitted,
Gretchen West - HAS Secretary



NIGHT SKY NETWORK NEWS

As part of IYA 2009 activity, get ready for the NSN Telecon on Thursday, Feb 19th. Dr Connie Walker will be discussing Dark Sky Awareness.

Time: 4:00 pm HST. (should dial in a little earlier)

Dial toll free number: 1-888-455-9236.

Passcode: NIGHT SKY NETWORK

You will be asked to give your NAME and the CLUB you belong and the number of people listening with you.

Power Point slides will be available a few days before the telecon at

http://nightsky.jpl.nasa.gov/download-view.cfm?Doc_ID=359.

[This will take you to the Resource Download page. Scroll down to the “Category” drop-down and select “Teleconference.” Then click “Search”. Click on the appropriate teleconference and you will be presented with the material you can download.

If you experience a problem contact NSN Coordinator, John Gallagher, at 683-0118 before 3:40 pm on day of the teleconference. You should also check out this link:

<http://www.darkskiesawareness.org>

Meteor Log- Feb. 2009

by Mike Morrow

Not much is occurring this February. The only shower listed is the Alpha Centaurids which is more southern hemisphere than northern hemisphere, but in the past we have been able to observe it from Hawaii. Sporadic rates are about the years lowest.

Saturday the 7th, the Alpha Centaurids. Radiant 14h04m, -59 deg. The Moon will be nearly full so the shower will be most likely unobservable. The maximum will occur about 1PM local time.

If you are interested in observing meteors contact Tom Giguere at 672-6677, or write Mike Morrow, P.O. Box 6692, Ocean View, Hawaii 96737

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 6	1	2	3 7:30p HAS Meeting	4	5 Comet P/2003 K2 (Christensen) Closest Approach To Earth (0.331 AU) M 11.5*	6	7
Week 7	8	9 Full Moon	10	11	12	13	14 6:30p Dillingham Public Star Party
Week 8	15	16	17	18 Comet 67P/Churyumov-Gerasimenko Perihelion (1.247 AU) M 12.99	19 4p Telecon on Dark Sky Awareness	20	21 6:30p Dillingham Club Star Party
Week 9	22	23	24 Comet C/2007 N3 (Lulin) Closest Approach To Earth (0.412 AU) M 8.28	25 New Moon	26 For more events look here.	27	28 6:30p Kahala & Waialele Public Star Parties
Week 10	1	2	3 7:30p HAS Meeting	4	5	6	7

[Previous Month](#) | [Next Month](#)

HAS Yahoo Group

<http://tech.groups.yahoo.com/group/HawaiianAstronomicalSociety/>

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"The concept of interdependency," the report notes, "is evident in the unavailability of water due to long-term outage of electric power—and the inability to restart an electric generator without water on site."

It takes a very strong geomagnetic storm to cause problems on this scale—the type of storm that comes along only every century or so. A point of reference is the "Carrington Event" of August-September 1859, named after British amateur astronomer Richard Carrington who witnessed the instigating solar flare with his unaided eye while he was projecting an image of the Sun on a white screen. Geomagnetic storms triggered by the flare electrified telegraph lines, shocking technicians and setting their telegraph papers on fire; Northern Lights spread as far south as Cuba and Hawaii; auroras over the Rocky Mountains were so bright, the glow woke campers who began preparing breakfast because they thought it was morning!

"A contemporary repetition of the Carrington Event would cause ... extensive social and economic disruptions," the report warns. Widespread failures could include telecommunications, GPS navigation, banking and finance, and transportation. The total economic impact in the first year alone could reach \$2 trillion (some 20 times greater than the costs of Hurricane Katrina).

The report concluded with a call for infrastructure designed to better withstand geomagnetic disturbances and improvements in space weather forecasting. Indeed, no one knows when the next super solar storm will erupt. It could be 100 years away or just 100 days. It's something to think about ... the next time you flush.

One of the jobs of the Geostationary Operational Environmental Satellites (GOES) and the Polar-orbiting Operational Environmental Satellites (POES) operated by NOAA is to keep an eye on space weather and provide early warning of solar events that could cause trouble for Earth.

You can keep an eye on space weather yourself at the National Weather Service's Space Weather Prediction Center, www.swpc.noaa.gov. And for young people, space weather is explained and illustrated simply and clearly at the SciJinks Weather Laboratory, scijinks.gov/weather/howwhy/spaceweather.

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



**2009 HAS T-Shirts
are Here!**

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(see Jim MacDonald)



HAS Financial Report for the month ending as of Jan. 15, 2009

Initial Balance:	\$4,729.62
<i>Receipts:</i>	
Dues Received	428.00
Donations	23.05
Magazine Payment	198.75
T-Shirt Sales	15.00
Total Income:	\$649.80
<i>Expenses:</i>	
Astronews	65.04
Bank Charges	2.00
Magazine Subscription	202.95
P.O. Box Rent	86.00
Refreshments	7.20
Total Expenses:	\$277.19
Final Balance	\$5,102.23

The club membership increased by three this month. The new members are *Sherman Johns*, *Nicholas Bradley* and *Melody Chang*. A special thanks to *John Swatek*, *Daniel Fischberg*, and *Yoshiyuki Inoue* for their donations. Thanks also and clear skies to all renewing their membership.

NOTICE:

HAS will publish a complete listing of Club members in the April 2009 issue of the Astro-news. This publication is required by Club by-laws, Article III, Section 2 Para C(e) and Article VIII, Section 1B. Unless notified otherwise, this list will include all member's names, addresses, and phone numbers. If you wish to have some or all of your data excluded, please notify the Club Treasurer, Jim MacDonald before 15 March 2009 by sending him an e-mail at jim.macd@Hawaiiintel.net or by written notice to the Club's post office box listed on the back page of this newsletter. Please be advised that this listing is intended for Club members' personal use only in contacting one another. It is not to be used for any commercial or solicitation purposes. With the exception of membership in the Astronomical League, HAS does make this list available to, nor do we sell its contents to anyone for any purpose.

Please respect our members' rights to privacy!



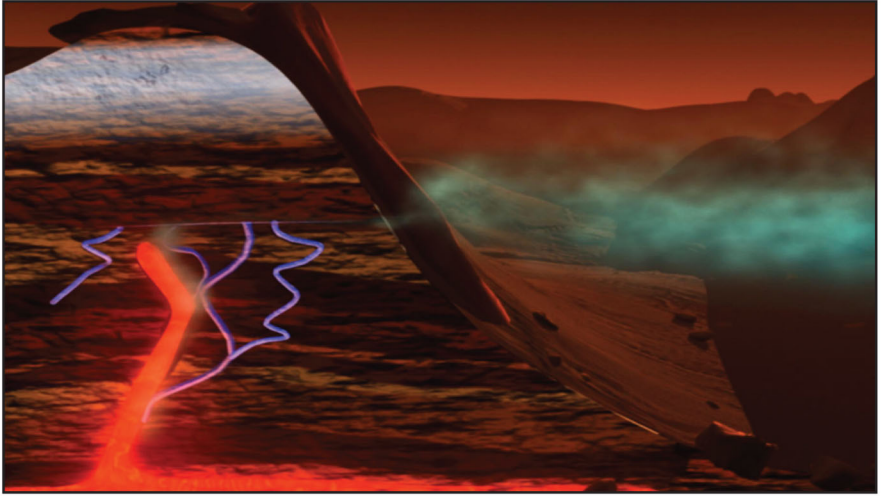
(President continued from page 1)

finds it amusing that, every few years, water is “discovered” on Mars. It was detected from Earth before Mars was ever visited by spacecraft, but there have been many confirmations as the years have passed. Sometimes water is found in new places, such as underground. Other times it is confirmed in a new way. Most recently, the Phoenix lander was the first to actually touch and chemically analyze ice from below the surface of Mars. Each of these advances seems to be reported as the “discovery” of water on Mars.

The same thing will happen with methane. This is not the first report, and it certainly won't be the last. More instruments will detect methane in different places and concentrations, etc., and each time you will read about the “discovery” of methane on Mars.

As far as life on Mars goes, it will probably be a long time before there is definite proof either way. Mars Science Laboratory may find some evidence, but if so there will probably be alternative explanations that need to be tested. That wouldn't prevent it from appearing in the press as “Evidence of Life Discovered on Mars!”

Chris 



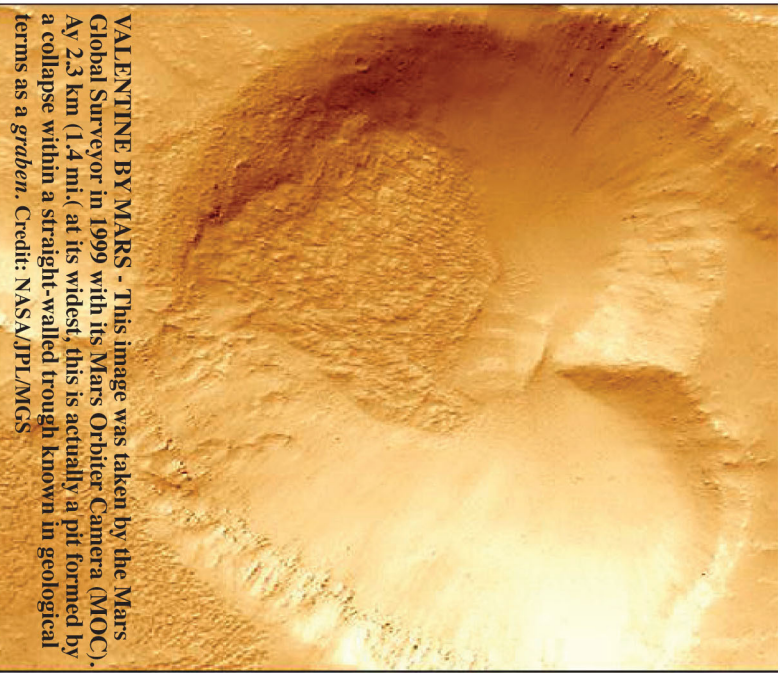
Scientists don't yet know enough to say with certainty what the source of the Martian methane is, but this artist's concept depicts a possibility. In this illustration, subsurface water, carbon dioxide and the planet's internal heat combine to release methane. Although we don't have evidence on Mars of active volcanoes today, ancient methane trapped in ice "cages" might now be released. Credit: NASA/Susan Twardy

Barking Sands Observatory Star Parties Report by Barry Peckham

The Kauai Education Astronomy and Science Association (KEASA) held gatherings at their observatory on the Pacific Missile Range Facility, Barking Sands, Kauai on Friday and Saturday nights, Jan 23, 24. These weren't the perfect nights I'd hoped for, but considering we had nearly 6 hours of fine viewing over the 2 nights, conditions were plenty good enough. Highlights: the 20 inchers' nebula views, Saturn in good seeing, the Monoceros Milky Way, letting a guest run my scope with care and enthusiasm, Rocket Roz and her high energy dissemination of astro-info. Glad I went.

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VALENTINE BY MARS - This image was taken by the Mars Global Surveyor in 1999 with its Mars Orbiter Camera (MOC). At 2.3 km (1.4 mi.) at its widest, this is actually a pit formed by a collapse within a straight-walled trough known in geological terms as a *graben*. Credit: NASA/JPL/MCS

