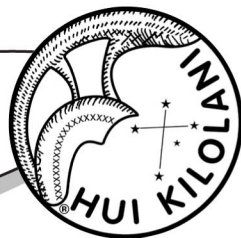


The Astronews

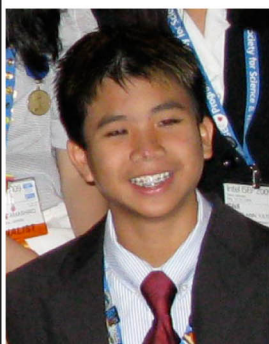


Volume 57, Issue 9

September 2009

www.hawastsoc.org

Special Guest Speaker



HAS Club member **Travis Le**, Puna-hou sophomore and award winner at the 2009 International Science and Engineering Fair, will present his project, "WASP 2-b Or Not Just 2-b" at the next club meeting on Sept. 1st.

Travis' project used photometry to determine whether the star WASP 2 had more than one extra-solar planet. We have the opportunity to see how Travis impressed the judges with his research and communication skills that helped win him recognition in the scientific community!

*See President's Message on
page 5*

Upcoming Star Parties

Club Party-Dillingham	Sept. 12
Public Party- Dillingham	Sept. 19
Kahala/Waikele Party	Sept. 26

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Upcoming Events:

☆The next meeting is 7:30PM
on **Tues. Sept. 1** at the
Bishop Museum Planetarium.

☆Bishop Museum's next
planetarium show with
Barry Peckham is Friday,
Sept. 4 & 18 at 8:00 p.m.
[www.bishopmuseum.org/
calendar](http://www.bishopmuseum.org/calendar)

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



New on the Space Place Web Site:

NASA's Space Place

Although the Space Place is primarily geared towards kids, everyone can use a fun brain exercise once in a while. The website is also informative and easy to use as well--check it out!

No human can see infrared light. But the question is, can you think in infrared? Give your visual memory a workout with a few rounds of the Spitzer Infrared Concentration game at The Space Place. Click on tiles in a grid to find matches of striking and colorful infrared images of galaxies, nebulae, and renderings of other solar systems. Start with a 3x3 grid and work your way up to a 9x6 grid if you can! All the images have short captions so you can better marvel at what you are seeing. Focus your brain at <http://spaceplace.nasa.gov/en/kids/spitzer/concentration>.



LCROSS UPDATE:

During a communications session on Aug. 22, a fault that triggered the spacecraft's inertial reference unit, or IRU was discovered. The IRU is used by the probe's attitude control system to determine its orientation in space. The fault caused LCROSS to switch to its star tracker for attitude information. Subsequent noise in the star tracker then resulted in the spacecraft's attitude control system firing the thrusters excessively, consuming a substantial amount of propellant.

(News continued on page 11)

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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 August 4, 2009 meeting of the Hawaiian Astronomical Society to order at 7:42 p.m. The meeting was held at the Planetarium on the grounds of the Bishop Museum. There were twenty-nine members and five visitors in attendance.

Hawaii Space Lecture Series –As of August 4, 2009, there is no scheduled lecture for this month. Usually lectures take place in the NASA Pacific Regional Planetary Data Center, room 544, P.O.S.T. Bldg, on the grounds of the University of the Hawaii, Manoa. Free lectures usually begin at 7:30 p.m. Should you be interested in any upcoming lectures or for 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>> .

Bill Passed - Bill SB536, the Starlight Reserve or Statewide Lighting Law, has been signed by Governor Lingle. The Board of Directors are actively searching for a H.A.S. member to represent the interests and speak for the H.A.S. as a member of a state committee designated by the bill to look into and outline issues related to development of a Starlight Reserve. Anyone interested in participating in the committee please contact President Chris Peterson.

Astronaut Lacy Veach Day- October 24th will be the day that HAS participates again in a celebration of science for students, parents and educators. This year's Lacy Veach Day will take place at the Mamiya Science Center on the grounds of Punahou School. **Gretchen West** will chair the HAS participation in this year's display and interactive presentation at the science day. A sign-up list for H.A.S. members to help out on that day was available. Anyone interested in helping out please contact H.A.S. Secretary, Gretchen West.

FYI - H.A.S. President **Chris Peterson** discussed the recent happy news regarding the "Thirty Meter Telescope" (TMT) and its placement at Mauna Kea site. Chris also briefly explained the ongoing Lunar Mission with the LRO and the LCROSS lunar impactor mission.

Additional exciting events were also discussed. The very recent impact of an object with Jupiter was compared with the Shoemaker-Levy 9 impact July 22 1994. **John Gallagher** and **Steve Chun** shared their photographs, taken during the recent Solar Eclipse seen in Honolulu on July 21st. Club member **Freddie Willem's** photo was also seen.

The most recent suburban star parties were discussed. The suburban star party at the Kahala Community Recreation Center in East O'ahu was clouded out, while the West O'ahu suburban star party at Waikele Community Park was more successful. We are hoping for better skies for our next outing in these locations.

Visitors – We had five visitors at the meeting this month. A father and son duo, Brian and Christian Fitzgerald attended this month's meeting, as well as, Dave Plaskett, and Daniel Ziegler. A fifth visitor was also in attendance. "Milton" has recently purchased an 8" Newtonian scope and is looking for help in better understanding the workings of his new hobby.

School Star Parties – H.A.S. Star Party coordinator **Forrest Luke** reports that with state schools resuming classes in late July, we will again have star parties for public and private schools on O'ahu.

August 28th – Niu Valley Middle School

Sept 25th – Mililani Uka

Forrest passed around a sign-up sheet for astronomers. Binocular Challenge – Secretary **Gretchen West** made available a three-page set of Summer Binocular Challenge Objects for those without scopes. Viewing the nighttime sky is not exclusively for those with scopes. Enjoying the sky is for everyone. Sets of the

(Continued on page 7)

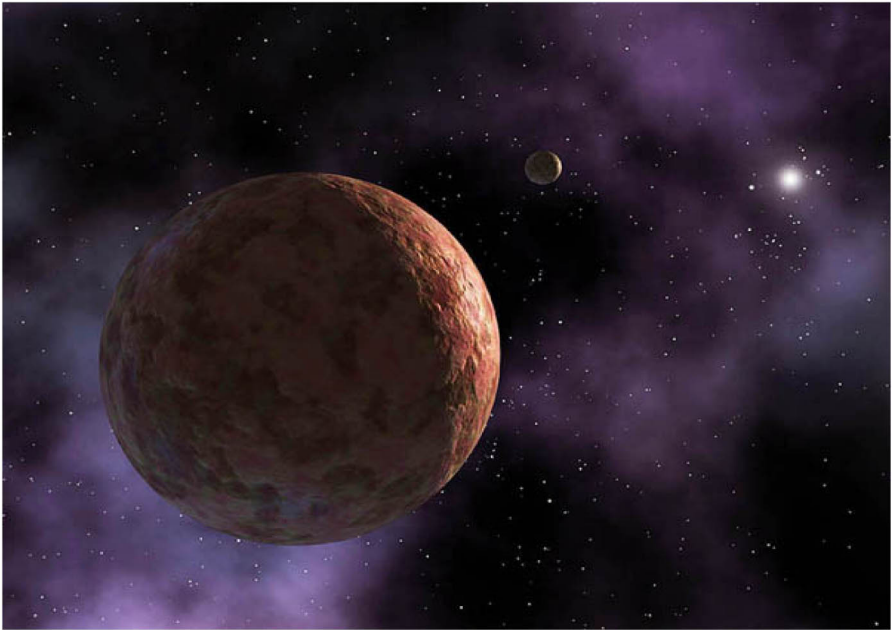
A Planet Named Easterbunny?

You know Uranus, Neptune, and Pluto. But how about their smaller cousins Eris, Ceres, Orcus, and Makemake? How about Easterbunny?

These are all names given to relatively large “planet-like” objects recently found in the outer reaches of our solar system. Some were just temporary nicknames, others are now official and permanent. Each has a unique story. “The names we chose are important,” says Caltech astronomer Mike Brown, who had a hand in many of the discoveries. “These objects are a part of our solar system; they’re in our neighborhood. We ‘gravitate’ to them more if they have real names, instead of technical names like 2003 UB313.” Nearby planets such as Venus and Mars have been known since antiquity and were named by the ancient Romans after their gods. In modern times, though, who gets to name newly discovered dwarf planets and other important solar-system bodies? In short, whoever finds it names it. For example, a few days after Easter 2005, Brown and his colleagues discovered a bright dwarf planet orbiting in the Kuiper belt. The team’s informal nickname for this new object quickly became Easterbunny.

However, ever since its formation in 1919, the International Astronomical Union (IAU) ultimately decides whether to accept or reject the name suggested by an object’s discoverers. “Easterbunny” probably wouldn’t be approved.

(Continued on page 9)



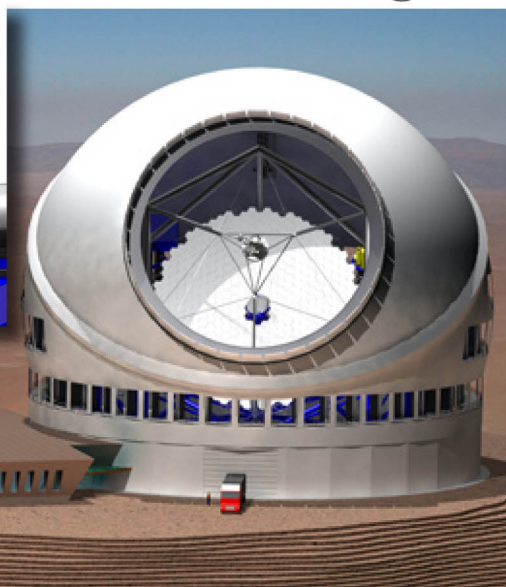
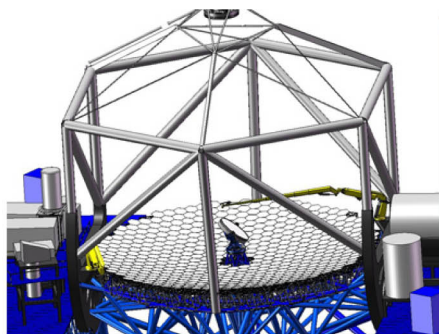
Artist's rendering of dwarf planet MakeMake, discovered around Easter 2005. Unlikely to gain acceptance their nickname Easterbunny, the discoverers named it for the god of humanity in the mythology of Easter Island.

As you have probably heard, on July 21 Mauna Kea was selected as the preferred site to construct the Thirty Meter Telescope. If permits are approved, the telescope will be constructed on the northern plateau below Mauna Kea's summit ridge. The mirror's 492 segments will collect almost three times the light of all of Mauna Kea's existing optical/infrared instruments. Scheduled for completion in 2018, it will be in a race for world's largest telescope with the European Extremely Large Telescope, 42 meters in diameter, that is scheduled for completion around the same time. The ELT is a scaled down version of the proposed Overwhelmingly Large Telescope that would have been 100 m in diameter but was considered too expensive to build at this time.

No matter what size telescope you try to use on Earth or its vicinity, Saturn is difficult to observe as it passes through its equinox, something that happens only every 15 years or so. Saturn happens to be near conjunction with the Sun for us these days, so we aren't able to get a good view as the rings appear to disappear as they go edge-on to the Sun. They don't get edge-on to Earth until September 5th, so from August 11th until then we would be looking at the unilluminated side of the rings if we could see them at all.

Fortunately, the Cassini spacecraft is at Saturn for an unprecedented close-up look at the phenomenon. The rare lighting conditions will allow us to learn much more about the structure of the rings. I expect that we will get a much better idea of the thicknesses of the various rings (which I expect to have some differences in uniformity of thickness). Already at least one small moonlet embedded in one ring has been discovered as equinox approached. Scientists will also be looking at temperature changes as the illumination angles change and what that will reveal about the ring materials, so get ready to be "illuminated."

Chris



Images from
the TMT
Observatory
Corp.

Planets Close To the Moon

Times are Hawaii Standard Time










- Sep 2, 09h**, M 2.9° NNW of Jupiter
(159° from sun in evening sky)
- Sep 2, 19h**, M 2.6° NNW of Neptune
(163° from sun in evening sky)
- Sep 5, 06h**, M 5.0° NNW of Uranus
(168° from sun in morning sky)
- Sep 13, 07h**, M 1.1° NNE of Mars
(69° from sun in morning sky)
- Sep 16, 06h**, M 3.0° SSW of Venus
(29° from sun in morning sky)
- Sep 29, 12h**, M 2.8° NNW of Jupiter
(23° from sun in evening sky)
- Sep 30, 01h**, M 2.7° NNW of Neptune
(27° from sun in evening sky)

Mercury and Saturn are closer than 15° from the sun when near the moon in September.

Other Events of Interest

Times are Hawaii Standard Time

- Sep 4, 06:03h**, Moon Full
- Sep 15, 00h**, Moon 1.4° SSW of Vesta
(45° from sun in morning sky)
- Sep 17, 00h**, Uranus at Opposition
- Sep 17, 08h**, Saturn at conjunction with the sun
(Passes into morning sky)
- Sep 18, 08:43h**, Moon New
- Sep 20, 00h**, Mercury at inferior conjunction (Passes into morning sky)
- Sep 20, 03h**, Venus 0.45° NNE of Regulus (28° from sun in morning sky)
- Sep 20, 18h**, Asteroid 3 Juno at opposition
- Sep 22, 11:22h**, Autumn equinox

 Mercury Too close to the sun for viewing in September.	 Venus Venus is about 30° from the sun and rises about two hours before sunrise.	 Mars Rises before midnight and is visible in the morning sky in Gemini.
 Jupiter Reached opposition on Aug. 14 and is ideally positioned for observing most of the night.	 Saturn Too close to the sun to view in September.	 Uranus Reaches opposition on September 17 and is in the sky all night. Best viewed near midnight.
 Neptune Neptune is near Jupiter and can be viewed all night.	 Dwarf Planet Pluto Can be observed in the early evening about 2° from M23.	 Asteroid 3 Juno Reaches opposition on September 20 and is in the sky all night.

(Minutes continued from page 3)

Summer Binocular Challenge will be available at the September General Membership Meeting as well.

Up in the Sky -The club stepped outside the Planetarium at 8:28 p.m. to witness the passage of a Mag. -2 Iridium satellite, traveling through Cygnus from northeast to southeast. The Iridium satellite appeared on time brightening and the receding as if on cue. The club members then returned to the Planetarium.

Imaginarium – The Imaginarium at the Community College in Kaneohe continue to have a series of upcoming events from the months of August through January 2010. Pizzagrams Rock – **Gary Ward** announced that at the last Dillingham Public Star Party (that was not clouded or rained out) drew 33 people with 8 monster pizzas. Gary e-mails his renowned “Pizzagram” newsletter over 1,000 individuals both here and on the mainland.

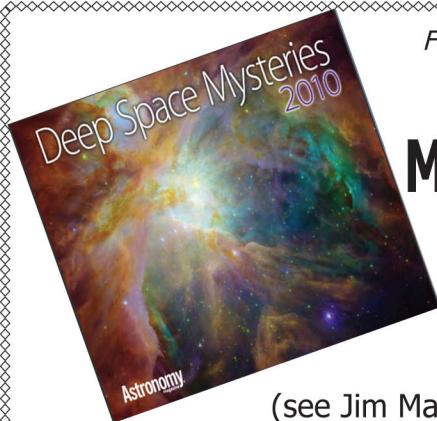
Night Sky Teleconferences - **John Gallagher** spoke briefly about the upcoming August 27th teleconference. Guest Speaker – This month we had the pleasure of hearing from one of our own. **Tom Giguere** spoke on and led H.A.S. members across the surface of the moon, tracking the photographing studies of the lunar surface. Tom talked about the Lunar Reconnaissance Orbiter (LRO) and its photographic tour of Tsiolkovsky Crater and other features of the far side of the moon. He explained the different uses of the wide and narrow angle cameras and their careful and selective photographic mosaic of the far side of the moon. Tom further showed and explained how the selections and images were and are being made.

Travis Le, H.A.S. member and visual astronomer, who recently won third place at the Hawaii State Science and Technology Fair and traveled to participated in the 2009 Intel International Science and Engineering Fair (ISEF) in Reno Nevada, will present his project to the club at the September Meeting.

Planetarium Refurbished – **Joanne Bogan** revved up the newly cleaned and refurbished Planetarium machine and took members on a trip across the nighttime sky. The three-day closure of the Planetarium culminated with a more beautiful and accurate Planetarium sky and brought the shows a whole new lease on views of the evening skies.

As there was no further business, the meeting was adjourned at 9:04 p.m. Refreshments, including a tasty cake baked by Joanne Bogan, were served.

Respectfully Submitted,
Gretchen West
HAS Secretary



From Kalmbach Publishing Company:

2010 Astronomy Magazine Calendar

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For HAS members

(see Jim MacDonald)

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 36	30	31	1 25-6 Alpha Aurigids (AUR) 7:30p HAS Meeting	2 6:30p Jupiter No Moons	3	4 Full Moon Saturn's Rings Edge-on From Earth M 1.1	5
Week 37	6	7 1-14 Gamma Aquarids	8 Comet P/2001 MD7 (LINEAR) Perihelion (1.224 AU) M 11.72	9	10	11 5-15 Alpha Triangulids	12 28-23 Eta Draconids Dillingham Club Star Party
Week 38	13	14	15 Asteroid 42 Isis At Opposition (9.5 Magnitude)	16	17 Uranus At Opposition M 5.7	18 New Moon	19 Dillingham Public Star Party
Week 39	20	21	22 Autumnal Equinox, 21:18 UT Asteroid 3 Juno At Opposition (7.8 Magnitude)	23 26-22 Gamma Piscids	24 Asteroid 20 Massalia At Opposition (9.3 Magnitude)	25 For more events look here. 7p Mililani Uke Elementary School	26 Kahala/Waikele Public Star Party
Week 40	27	28	29	30	1	2	3

HAS Yahoo Group

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

(Cool Chemistry continued from page 4)

According to IAU guidelines, comets are named after whoever discovered them—such as comet Hale-Bopp, named after its discoverers Alan Hale and Thomas Bopp. Asteroids can be named almost anything. IAU rules state that objects in the Kuiper belt should be given mythological names related to creation.

So Brown's team started brainstorming. They considered several Easter-esque names: Eostre, the pagan mythological figure that may be Easter's namesake; Manabozho, the Algonquin rabbit trickster god.

In the end, they settled on Makemake (pronounced MAH-kay MAH-kay), the creator of humanity in the mythology of Easter Island, so named because Europeans first arrived there on Easter 1722. Other names have other rationales. The dwarf planet discovered in 2005 that triggered a fierce debate over Pluto's status was named Eris, for the Greek goddess of strife and discord. Another dwarf planet with an orbit that mirrors Pluto's was dubbed Orcus, a god in Etruscan mythology that, like Pluto, ruled the underworld.

Brown says he takes "this naming business" very seriously and probably spends too much time on it. "But I enjoy it." More tales of discovery and naming may be found in Brown's blog MikeBrownsPlanets.com.

Constellations have also been named after ancient gods, human figures, and animals. Kids can start to learn their constellations by making a Star Finder for this month at spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinder.shtml. There you will also find a handy explanation of why astrology has no place in science.

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

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Meteor Log - September 2009 by Mike Morrow

The years best sporadic rates for northerly sites occur this month. However the few showers which occur this month are very poor. The months showers generally have less than seven meteors an hour and seven would be only if the radiant were in the zenith. We will list the showers radiants, but remember that only a few if any meteors will be seen. Good Luck!

Tuesday the 1st, the **Alpha Aurigids**. Radiant 05h36m +42 deg. The rate of meteors is less than 7 an hour.

Wednesday the 9th, the **September Perseids**. Radiant 04h00m +47 deg. The rate of meteors is less than 5 per hour.

The only other showers are radio meteor showers.

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

HAS Financial Report for the month ending as of Aug. 11, 2009

Initial Balance:	\$4,537.53
<i>Receipts:</i>	
Dues Received	152.00
Donations	3.50
Calendar Sales	26.00
Total Income:	\$181.50
<i>Expenses:</i>	
Astronews	153.04
Traffic Cones	47.92
Magazine Subscription	34.00
Postage	3.26
Liability Insurance	324.00
Refreshments	17.79
Total Expenses:	\$580.01
Final Balance	\$4,139.02

There are two new members this month. They are *Virginia Beck* and *Marian Yee*. A special thanks to *Stephany Taba* for her donation. Thanks and clear skies to all renewing their membership during the month.

Upcoming School Star Parties

Fri.	9/25	Kapunahala Elementary K-6th grade 6:30-8:30pm
Fri.	9/25	Mililani Uka (includes dinner before event)
Fri.	10/23	Hickam Elementary
Fri.	11/20	Leihoku Elementary - Waianae

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.

(President continued from page 1)

explain the observations. Finally, more observations are taken to confirm or reject predictions derived from the hypothesis.

In this International Year of Astronomy, we celebrate 400 years of the use of telescopes. While technological advances provide opportunities for making new and improved observations, that is only part of what is necessary to advance knowledge. Intellectual effort must be expended to understand the observations. This can range from the trivial, such as Galileo's observation that the Moon's surface is rough, not smooth, to Einstein's theories of relativity.

In the case of meteor showers, many steps were necessary to bring us to our current level of understanding. First, it was necessary to understand that meteors are caused by objects entering Earth's atmosphere from space. Next, particular comets or other bodies were identified as the source of particular showers. Finally, improved computing power and theoretical modeling allowed us to pinpoint particularly favorable passages through debris from a specific orbit.

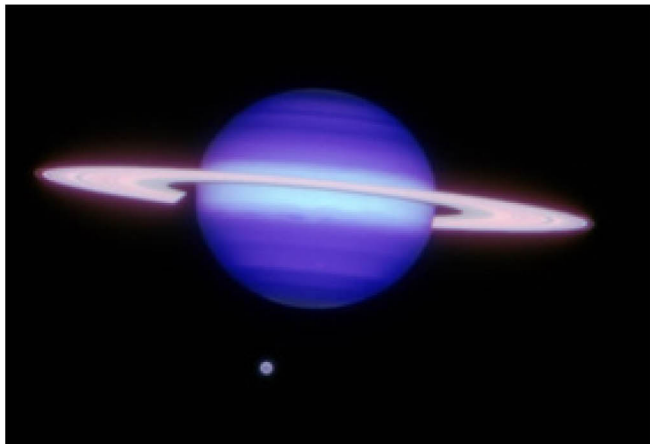
Successful predictions are gratifying. However, sometimes more is learned when a hypothesis fails. This forces a reexamination of the question, and great leaps in understanding can occur as a result.

Chris



Closer Look... from page 2

The biggest issue is to determine how much propellant was lost and if that will affect the outcome of the mission. The good news is that the problem was caught and corrected in time so confidence remains high. For more information go to the LCROSS website at <http://lcross.arc.nasa.gov/> ☆



STORM BREWS OVER TITAN'S TROPICAL DESERT

*Image credit:
Gemini Observatory/AURA/
Henry Roe, Lowell Observa-
tory/Emily Schaller, Institute
for Astronomy, University of
Hawai'i*

While far from a tropical rain forest, the equatorial region of Saturn's largest moon, Titan, has recently displayed tantalizing evidence that the parched, dry, ultra-frigid desert can support large-scale storms. Titan's weather is driven by methane, which exists as a liquid on this cold, distant satellite. For full story, go to <http://www.gemini.edu/>

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Glenn Nanamori, Barry Peckham and Gretchen West (not shown) catch the crowds in Waikiki with telescopic views of the moon and Saturn, June 30th, 2009

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