# THE ASTRONEWS

HUI KILOLANI

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## A word from your editor by Sapavith 'Ort' Vanapruks

Bill is still off island. However, we were able to secure a guest speaker from Dwarflab. That's right Dwarfers! Claire Hu from Dwarflab will be presenting on Dwarf 3. (See more on page 9)

The 2025 - 2026 school year is about to start, the request for a school star party will surely be increasing. There will be other organizations like Boy Scouts or Girl Scouts requests come in also. Your involvement will help with bringing in more club memberships and promoting the club.

There was no school event in July. The only event we did was Bishop Museum's Star Tonight on Friday, 7/18/2025. There was only 1 group attending Star Tonight. However, the weather was not cooperating that evening. Only Mars was available for telescope.

We have 3 telescopes at Geiger (Peter, Steve, & Tom) on Saturday, 7/5/2025. We have around 13 visitors. 3 of them are from

*(Continued on page 10)*

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### Upcoming Events:

- The next Board meeting is Sun., Aug 3rd 3:30 PM. (**Zoom Meeting**)
- The next meeting is on Tue., Aug 5th at the Bishop Museum at 7:30 PM. —**Hybrid (In person and Zoom) Meeting**
- Bishop Museum's planetarium show "Star Tonight" is every 3rd Friday, 8/15/2025, of the month at 7:00 PM

# President's Message August 2025

The key to understanding many astronomical phenomena is adopting the proper perspective. If there is a relevant phenomenon on Earth with which we are familiar, the task is often easier. Both of these techniques apply to understanding the recent "disappearance" of Saturn's rings.

Like Earth, Saturn goes through seasons. This is the main factor controlling the changing appearance of its rings. On Earth, the point at which the Sun appears directly overhead moves through the tropics as the seasons change. At the equinoxes, the Sun is above the equator.

The same is true on Saturn. At the equinoxes, the Sun is above Saturn's equator. Because the rings orbit in the equatorial plane, the Sun then illuminates only the edge of the rings (plus a tiny bit of spillover on each face since the Sun is not a point source of light). The rings are only tens of meters thick versus over 100,000 km wide, so only a thin straight line is illuminated then.

However, there is another factor at work. Earth's orbital path around the Sun is tilted slightly with respect to Saturn's. Near Saturn's equinoxes, Earth can experience ring plane crossings when our orbit takes us from one side of Saturn's rings to the other. It would only be a rare coincidence for this to happen exactly at Saturn's equinox, so these are other times that Saturn's rings can essentially disappear from Earth's perspective.

These phenomena occurred recently when Saturn was near superior conjunction, so too close to the Sun for us to easily observe. The ring plane crossing occurred on March 23rd when Saturn rose only about half an hour before the Sun, and equinox was on May 6th when Saturn rose at about 3:30 a.m. Saturn takes nearly 30 years to orbit the Sun, so the rings will still appear very thin at Saturn's next opposition in September. It will take more than seven years for them to open to their widest extent.

Near Saturn equinox is also when we can potentially see transits of Saturn's moons and their shadows. Ort mentioned some of these at our meeting, and there are still a few coming up. Titan shadow transits will occur (some already in progress when Saturn rises in Hawaii) on the evenings of August 2nd and 18th and September 3rd and 19th.

**Hawaiian Astronomical Society**
**P.O. Box 17671**
**Honolulu, Hawaii 96817**



THE ASTRONEWS is the monthly newsletter of the Hawaiian Astronomical Society.  Contributions are welcome. Send them to the Editor via e-mail. The deadline is the last Wednesday of each month. We are not responsible for unsolicited artwork.

# Observer's Notebook—August 2025 by Ort

**Planets Close to the Moon**
**Times are Hawaii Standard Time**

Aug 12, 3h, Moon 3.6° NNW of Saturn; 139° from Sun in morning sky; magnitudes -11.7 and 0.8
Aug 12, 4h, Moon 2.56° NNW of Neptune; 138° from Sun in morning sky; magnitudes -11.7 and 7.8
Aug 16, 9h, Moon 5.2° N of Uranus; 83° from Sun in morning sky; magnitudes -9.9 and 5.7
Aug 19, 13h, Moon 4.7° NNE of Jupiter; 41° and 42° from Sun in morning sky; magnitudes -7.7 and -2.0
Aug 20, 4h, Moon 4.7° NNE of Venus; 34° from Sun in morning sky; magnitudes -7.1 and -4.0
Aug 21, 10h, Moon 3.5° NNE of Mercury; 18° from Sun in morning sky; magnitudes -5.7 and -0.4
Aug 26, 5h, Moon 2.47° SSW of Mars; 39° from Sun in evening sky; magnitudes -7.4 and 1.6

**Other Events of Interest**
**Times are Hawaii Standard Time**

Aug 1, 11h, Moon at apogee; distance 63.37 Earth-radii
Aug 7, 3h, Asteroid 2 Pallas at opposition in longitude; magnitude 9.4
Aug 11, 14h, Perseid meteors; ZHR 100; 3 days after Full Moon
Aug 11, 21h, Venus 0.86° S of Jupiter; 36° from Sun in morning sky; magnitudes -4.0 and -1.9
Aug 12, 2h, Moon, Saturn, and Neptune within circle of diameter 3.55°; about 139° from the Sun in the morning sky; magnitudes -12, 1, 8
Aug 16, 8h, Moon, Uranus, and the Pleiades within circle of diameter 5.21°; about 83° from the Sun in the morning sky; magnitudes -10, 6, 3

- 11 August: Titan eclipsed by Saturn's shadow
- 12 August: Venus 0.9° from Jupiter (morning)
- 20 August: Impressive display of planets and the waning crescent Moon (morning)
- 27 August: Titan eclipsed by Saturn's shadow
- 31 August: Ganymede's shadow transits Jupiter

## Planets in August

### ☿ Mercury

is emerging into the morning sky as it approaches greatest elongation west. From Honolulu, it is not observable – it will reach its highest point in the sky during daytime and is no higher than 10° above the horizon at dawn.

### ♀ Venus

is visible as a morning object, having recently passed greatest elongation west. From Honolulu, it is visible in the dawn sky, rising at 03:30 (HST) – 2 hours and 37 minutes before the Sun.

### ♂ Mars

will soon pass behind the Sun at solar conjunction. From Honolulu, it will become visible at around 19:38 (HST), 20° above your western horizon, as dusk fades to darkness.

### ♃ Jupiter

recently passed behind the Sun at solar conjunction. From Honolulu, however, it is visible in the dawn sky, rising at 03:15 (HST) – 2 hours and 52 minutes before the Sun – and reaching an altitude of 34° above the eastern horizon.

### ♄ Saturn

is currently approaching opposition and is visible as a morning object. From Honolulu, it is visible in the morning sky, becoming accessible around 21:52,

### ♅ Uranus

is currently emerging from behind the Sun. From Honolulu, it is visible in the dawn sky, rising at 00:13 (HST) and reaching an altitude of 67° above the eastern horizon before fading from view.

### ♆ Neptune

– is currently visible as a morning object. From Honolulu, it is visible in the morning sky, becoming accessible around 22:37 .

### ♇ Pluto (Dwarf Planet)

is visible in the evening sky, becoming accessible around 19:56 (HST), 24° above your south-eastern horizon, as dusk fades to darkness.

### 4 Vesta (Asteroid)

will become visible at around 19:56 (HST), 44° above your south-western horizon, as dusk fades to darkness.

# Meeting Minutes

H.A.S. Secretary

*July 1st 2025 7:30 PM (Bishop Museum Planetarium and Zoom Meeting)*

*Andy Stroble*

President Chris Peterson called the meeting to order at 7:30, Pointing out that June 27th was the latest sunset of the year, which does not necessary coincide with the Solstice. He then moved the approval of the June Meeting minutes, which passed unanimously.

First item of business: Heather Nolan, our School Star Party Coordinator, will be resigning, and althought Mark Watanabe has agreed to step back in temporarily, but we need a permanent Board Member in the position. Also, we are going to have a school star party at Pearl Highlands Elementary scheduled for August 29th . A member shared a report that one of the students at a school star party is now seeking a career in Astronomy!

There were no first time attendees.

Tom Giguere shared information about the Georgia Fireball of June 26th, AMS received some 200 reports, and fragments of the meteorite were recovered.

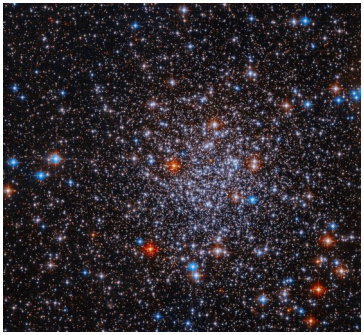
Ort reported on T-shirt progress, over 82 orders so far. And he reported on clair-obscur effects visible on the Moon soon, notably an X and a V on the terminus. Also there will be a transit of Saturn by its moon Titan, and an occultation, rather rare events.

Steven Chun shared images of the Iris Nebula from the last Dillingham Star party.
Peter Besenbruch shared videos of various rocket things. Some discussion of Composite Overlay Pressure Vessels, and attendant failures.
Sabina shared many astrophotos, from iPhone shots of the Milky Way, to pics of Markarian's Chain, the Whale Galaxy, 47 minutes of exposure of M81, the Leo Triplet, and the Lagoon Nebula.
Glenn Martinez shared photos from his new camera, with impressive zoom capabilities.

Joanne treated us to a planetarium show, after announcing that she is changing to semi-retirement at Bishop Museum Planetarium, with details on Saturn's thirty year ring cycle, and a trip to Alberio.
Also some trivia about Delphinus, who's nose star, (or dorsal fin star?) Beta Delphini is named "Rotanev", According to Wikipedia:
Alpha and Beta Delphini have 19th-century names Sualocin and Rotanev, read backwards: Nicolaus Venator, the Latinized name of a Palermo Observatory director, Niccolò Cacciatore (d. 1841).
Now we are all in on the joke.

Meeting adjourned at 9:08
There were some persons in person, and at least 7 unique non-local logins on zoom, including the Secretary, who therefore did not take a headcount of in-person persons.

Faithfully submitted,
James Andy Stroble, Secretary.
Honolulu, Hawaii



Hubble Observations Give "Missing" Globular Cluster Time to Shine

A previously unexplored globular cluster glitters with multicolored stars in this NASA Hubble Space Telescope image. Globular clusters like this one, called ESO 591-12 or Palomar 8, are spherical collections of tens of thousands to millions of stars tightly bound together by gravity

Image credit: NASA, ESA, and D. Massari (INAF — Osservatorio di Astrofisica e Scienza dello Spazio); Processing: Gladys Kober (NASA/ Catholic University of America)

## August 2025

◄ Jul | Sep ►

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | | | 1  1st Qtr 2:41AM | 2 |
| 3 BoD Meeting Zoom 3:30 PM | 4 | 5 General Meeting Bishop Planetarium Hybrid 7:30 PM | 6 | 7 | 8  Full Moon 9:54PM | 9 |
| 10 | 11 | 12 | 13 | 14 | 15  3rd Qtr 7:12PM Star Tonight Bishop Museum | 16 Club Party Dillingham Airfield Gate Closes 7PM |
| 17 | 18 | 19 | 20 | 21 | 22  New Moon 8:06PM | 23 Public Party Dillingham Airfield Gate Closes 7PM |
| 24 | 25 | 26 | 27 | 28 | 29 Starry Party PC Highlands ES 05:30P - 08:30P | 30  1st Qtr 8:25PM Public Party Geiger & Kahala Sunset 6:48PM |
| 31 | Notes: | | | | | August 30: 10A-8P Girl Scout STEM Camp Camp Paumalu |

## <<Upcoming Star Parties>>

**Club Party Dillingham August 16 —6:45 PM**
**Public Party-Dillingham August 23 — 6:45 PM**
**Public Party Geiger/Kahala August 30 — 6:48 PM**

Upcoming School Star Parties

| Date | Time | Location |
|---|---|---|
| 8/29/2025 | 5:30P—8:30P | Pearl City Highlands Elementary School |
| | | |

# NASA's Night Sky Notes

## August's Night Sky Notes: The Great Rift

By Dave Prosper, Updated by Kat Troche

Summer skies bring glorious views of our own Milky Way galaxy to observers blessed with dark skies. For many city dwellers, their first sight of the Milky Way comes during trips to rural areas - so if you are traveling away from city lights, do yourself a favor and look up!

To observe the Milky Way, you need clear, dark skies and enough time to adapt your eyes to the dark. Photos of the Milky Way are breathtaking, but they usually show far more detail and color than the human eye can see – that's the beauty and quietly deceptive nature of long exposure photography. For Northern Hemisphere observers, the most prominent portion of the Milky Way rises in the southeast as marked by the constellations Scorpius and Sagittarius. Take note that, even in dark skies, the Milky Way isn't easily visible until it rises a bit above the horizon, and the thick, turbulent air obscures the view. The Milky Way is huge, but it is also rather faint, and our eyes need time to truly adjust to the dark and see it in any detail. Avoid bright lights as they will ruin your night vision. It's best to attempt to view the Milky Way when the Moon is at a new or crescent phase; a full Moon will wash out any potential views.

The Vera C. Rubin Observatory, located at Cerro Pachón, Chile, under the Milky Way. The bright halo of gas and stars on the left side of the image highlights the very center of the Milky Way galaxy. The dark path that cuts through this center is known as the Great Rift, because it gives the appearance that the Milky Way has been split in half. Image Credit: RubinObs/NOIRLab/SLAC/NSF/DOE/AURA/B. Quint

Keeping your eyes dark-adapted is especially important if you want to not only see the haze of the Milky Way, but also the dark lane cutting into that haze, stretching from the Summer Triangle to Sagittarius. This dark detail is known as the Great Rift, and is seen more readily in very dark skies, especially dark, dry skies found in high desert regions. What exactly is the Great Rift? You are looking at massive clouds of galactic dust lying between Earth and the interior of the Milky Way.

Other "dark nebulae" of cosmic clouds pepper the Milky Way, including the famed Coalsack, found in the Southern Hemisphere constellation of Crux. Many cultures celebrate these dark clouds in their traditional stories along with the constellations and the Milky Way. One such story tells of a Yacana the Llama, and her baby, wandering along a river that crossed the sky – the Milky Way. The bright stars Alpha and Beta Centauri serve as the llama's eyes, with the dark sections representing the bodies of mother and baby, with the baby below the mother, nursing.

*(Continued on page 10)*

# Meteor Log—August 2025 by Tom Giguere

Theta Ophiuchids – Ort observed and photographed a meteor while at the Blowhole (eastern Oahu) on July 13 that could be a member of a minor shower. The meteor, traveling southward, was imaged between the constellations of Scutum and Capricorn, to the east of Sagittarius. The radiant of the Theta Ophiuchids appears on the Star Walk 2 phone application, but isn't listed on either the AMS, nor the IMO meteor lists. Ort suggests that this meteor is a late Theta Ophiuchid (peak: Junte 10th, active May 21st to June 16th), an "anthelion" (more on this topic in a future issue, or a regular sporadic meteor.

Meteor Shower hanging on… Two "July" showers have maximums on the last day of July which means that half of the duration lies in early August when the Moon is in the evening sky. Keep an eye out for Southern δ-Aquariids (005 SDA) and α-Capricornids (001 CAP) meteors.

*(Continued on page 11)*

**Phases of the Moon** (courtesy timeanddate.com )

| First Quarter | Full Moon | Last Quarter | New Moon |
|---|---|---|---|
| August 1/30 | August 8 | August 15 | August 22 |

| Shower | Activity | Maximum | | Radiant | | $V_\infty$ | *r* | ZHR |
|---|---|---|---|---|---|---|---|---|
| | | Date | $\lambda_\odot$ | α | δ | km/s | | |
| η-Eridanids (191 ERI) | Jul 31-Aug 19 | Aug 07 | 135° | 41° | -11° | 64 | 3.0 | 3 |
| Perseids (007 PER) | Jul 17-Aug 24 | Aug 12 | 140° | 48° | +58° | 59 | 2.2 | 110 |
| κ-Cygnids (012 KCG) | Aug 03–Aug 28 | Aug 16 | 144° | 286° | +59° | 23 | 3.0 | 3 |
| α-Aurigids (206 AUR) | Aug 28-Sep 05 | Sep 01 | 158.6° | 91° | +39° | 66 | 2.5 | 6 |

Summertime – warm nights, pleasant meteor observing! For more info contact: Tom Giguere, 808-782-1408, Thomas.giguere1@gmail.com.

## Treasurer's Report

by Peter Besenbruch

# Cash Flow - 5/10/2025 to 7/9/2025

| | |
|---|---|
| **Beginning Balance** | **$9,425.22** |
| **Money into selected accounts comes from** | |
| Donation | $140.00 |
| Membership - Electronic | $140.00 |
| Membership - Family | $16.00 |
| Membership - Paper | $26.00 |
| **Total Money In** | **$322.00** |
| **Money out of selected accounts goes to** | |
| Astronomical League | $562.00 |
| Office-supplies | $273.57 |
| snacks | $18.41 |
| T-Shirt | $102.95 |
| **Total Money Out** | **$956.93** |
| Difference | **-$643.93** |
| **Ending Balance** | **$8,790.29** |

Here are the financials up through July 9. I was in Germany for much of June, so these reflect two months of data. Thanks to everyone who donated, paid, or renewed.

The expenses deserve a mention. Our Astronomical League dues went up, in part because we had more members. Office supplies are where I stuck the expense for new banners. The T-shirt expenses cover screen expenses and sample shirts.

The July Dillingham Public Star Party started clear, and stayed clear. Turnout was fairly large. This is the first public star party where astrophotography dominated visual setups. The club star party started cloudy and then cleared as the night progressed. That was also the night of the first Kamchatka quake and tsunami watch.

Covid wastewater Oahu figures increased to "very high," continuing a trend begun since early to mid March. The good news is that our levels are half of last summer's surge so far. Hang in there, and enjoy the sky

Putting the X-59 to the Test

Researchers from NASA and the Japanese Aerospace Exploration Agency (JAXA) recently tested a scale model of the X-59 experimental aircraft in a supersonic wind tunnel located in Chofu, Japan, to assess the noise audible underneath the aircraft. The model can be seen in the wind tunnel in this image released on July 11, 2025.

Image credit: JAXA

# Message From Your Vice President
## August 2025

by Bill Barr

Sales of used equipment are suspended until mid-summer. If there's something you're interested in, be sure to email and it will be held for you.

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### About DWARFLAB

At DwarfLab, we believe that the infinite beauty and mysteries of the universe should not be territory trodden only by scientists and astronomers, but should be accessible to all who have the curiosity to explore. With this vision, DwarfLab came into existence. Our mission? To bring the cosmos closer to everyone.

**Our Mission:**
Bring the cosmos closer to everyone and enable everyone to explore, capture, and share the wonders of the universe and nature.


**Portable and Versatile**

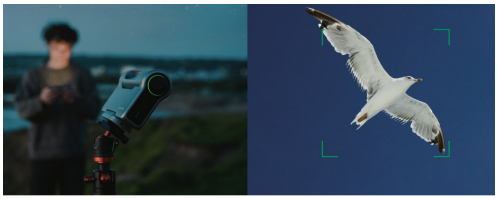
Weighing 1.3 kg, DWARF 3 is your perfect travel companion as well as a kid's educational tool.

It's great for sun and moon observations, photos and videos, landscape and astrophotography. This multifunctional device is the best choice for your family.

**Easy Astronomy**

Capture stunning images with professional quality and one-tap GoTo function.

Just point the lens at the starry sky and let the telescope and software do the rest—calibration, tracking, shooting, stacking and even post-processing.



**Astronomy Mosaic**

Create a panoramic sky view with a maximum Tele Mosaic FOV of 5.9° x 3.32°.

Astro Mosaic workflow: 1. Set EQ mode. 2. Open Atlas to compose your shot with the preview frame. 3. Capture the image.

**Milky Way Shooting**

Wide angle lens shutter is up to 90s, that's why it can capture the Milky Way.

In the Atlas, point your phone to the area of the Milky Way, and find a target that is approximately in the center. Use the one-tap GoTo function to select the star and start tracking.

**Equatorial Mode**

Experience precise celestial tracking that eliminates image field rotation.

Set up EQ mode in just 3 minutes with the built-in guidance. Astronomy has never been easier. No more cropping in images. Enjoy enhanced images with Mega Stack and Stellar Studio.

**Explore More Fun**

Track airplanes, rockets, and birds with the Object Track feature!

Max tracking speed is 30°/s; DWARF 3 can follow moving objects up to 80m/s (290km/h) at 150m away. Plus, enhance your exploration with Panorama and Time-Lapse modes.

| DWARF 3 Smart Telescope | Tele Lens | Wide Angle |
|---|---|---|
| Aperture | 35 mm | 3.4 mm |
| Focal Length | 150 mm | 6.7 mm |
| Equivalent Focal Length | 737 mm | 45 mm |
| FOV | D: 3.38° H: 2.95° V: 1.66° | D: 50.6° H: 40.48° V: 30.36° |
| Sensor | 1/1.8" SONY IMX678 | 1/2.8" SONY IMX307 |
| Shutter Speed | 1/10000s ~ 60s | 1/10000s ~ 90s |
| Built-in Filters | VIS/Astro/Duo-Band Filters | Astro Filter |
| Max. Res. | 3840 × 2160 | 1920 × 1080 |
| Effective Pixels | 8.3 million | 2 million |
| Shooting Modes | Photo/Video/Astro/Pano/Burst/ Time-Lapse/Auto-Capture | Photo/Video/Astro/Burst/Time-Lapse |

Other key parameters: *Weight: 1.3 kg *Dimensions: 222 × 142 × 65 mm *Storage: 128 GB built-in *Battery: 10,000 mAh

*(Continued from page 6) NASA's Night Sky Notes*

In the activity, "Our Place In Our Galaxy", if the Milky Way were shrunk down to the size of North America, our solar system would be about the size of a quarter. At that scale, Polaris - which is about 433 light years distant from us - would be 11 miles away. Image Credit: Astronomical Society of the Pacific

Where exactly is our solar system within the Milky Way? Is there a way to get a sense of scale? The "Our Place in Our Galaxy" activity can help you do just that, with only birdseed, a coin, and your imagination. You can also discover the amazing science NASA is doing to understand our galaxy – and our place in it - in the Galaxies section of NASA's Universe page.

Originally posted by Dave Prosper: June 2021
Last Updated by Kat Troche: July 2025

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*(Continued from page 1) - A word from your editor*

Delaware. We mostly showed the Moon with Crocodile eyes (2 white dots beyond terminator) with 2 craters in light side that look like nose. Tom was able to show swimming Mercury and Mars. Tom and Steve left a little after 9p, the trio from Delaware will sign up to be members. We had maybe 5-6 visitors at Kahala. The clouds kept rolling across the sky, but it was OK because the wind blew them across.

The club star part on Saturday, 7/20/2025 was very cloudy when we got to Dillingham Airfield but cleared by 8pm so we were able to stay until 11:30pm. Sue took several photos. Here is her M8 from that evening (Dwarf 3).

*(Continued on page 11)*

*(Continued from page 7) Editor Notes*

The η-Eridanids (191 ERI) may be associated with comet C/1852 K1 (Chacornac). The activity period given, adapted from Koseki (2021), shows the activity continues long after its maximum which needs observational data. Challenging as this will be difficult after about August 7 due to increasing moonlight interference. The radiant of these fast meteors in the northwestern part of Eridanus is best observed after midnight, preferably from southern locations.

κ-Cygnids (012 KCG) - Enhanced κ-Cygnid activity was observed in 2007, 2014 and 2021 supporting an assumed 7-year period of the stream. This indicates that we do not expect enhanced rates in 2025. Apart from the periodic peaks, a recent analysis indicates a general ZHR level increase in the recent years after an apparent dip in the period 1990–2005. An average flux density profile for the period 2012–2018 from video data shows a clear maximum at 144◦ and detectable activity between August 2 and September 3. Research by Koseki (2014) has shown a complex radiant structure extending into Draco and Lyra. The isolated radiant position and the low velocity of the meteoroids should be used to associate KCG meteors to the complex assuming a slightly larger radiant area. The shower is best-observed from northern hemisphere sites, from where the radiant is easily available all night. Visual observations are not suitable to distinguish between the subradiants identified with other techniques, but provide the total activity from radiants in the mentioned area.

Perseids (007 PER) - maximum on August 12 occurs shortly after the full Moon. At the time of the maximum the gibbous moon will be in Pisces, badly affecting the visible rates as it gains height together with the radiant.

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*(Continued from page 10)) - A word from your editor*

Our public star party at Dillingham Airfield was a great night. We had over 40 visitors (quite a few were from the mainland) and 11 members. Sky was clear and seeing was good. Many visitors left at 10P. The rest left just before 11:30P.

Many members now use Electronically Assisted Astronomy (EAA) devices. So, if you are observing and able to capture any night sky object. You can share it in AstroNews by emailing it to me at astronews@hawastsoc.org with some detail. I will post it.

**H.A.S.**
**P.O. Box 17671**
**Honolulu, HI 96817**

Hubble Snaps Galaxy Cluster's Portrait

A massive, spacetime-warping cluster of galaxies is the setting of today's NASA/ESA Hubble Space Telescope image. The galaxy cluster in question is Abell 209, located 2.8 billion light-years away in the constellation Cetus (the Whale).

Image credit: ESA/Hubble & NASA, M. Postman, P. Kelly