THE ASTRONEWS

HUI KILOLANI

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A word from your editor by Sapavith 'Ort' Vanapruks

HAS is getting more requests for school & Bishop Museum events. As much as the Board of Directors would like to help with all events, it is just not possible. More requests from the school and other organizations such as Boy Scouts & Girl Scouts will surely be coming in. The "3rd Friday monthly Star Tonight 2025" at Bishop Museum on March 21st, 2025 (Trivia Star Tonight @ 6:00 PM & 7:30 PM). There is no school event this month. So, if you have a telescope and the event is in your area, please sign up and help.

The in-town public star party at Kahala & Geiger on 2/8/2025 was not bad. At Geiger, we have 3 members with telescopes. I had my 5"MAK setup. Peter had his Origin. Steve helped one of the visitors with his telescope and he eventually helped us show the night sky. We had roughly 20 visitors. We were able to show Saturn, Venus, Moon, & Mars. Later we show Jupiter when it passed zenith. A couple of visitors that stayed late also get to see Orion Nebula. At Kahala, we had Andy and Hiroko, Chris, Sabina, and me. We had a fair number of folks who enjoyed what we had to show them. Sabina and I had our Dwarfs and Andy and Hiroko had their 8". Chris had his big refractor. The skies were pretty good except for a few cloud periods, but pretty much a nice evening.

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Inside this issue:

Upcoming Events:

- The next Board meeting is Sun., Mar 2nd 3:30 PM. (**Zoom Meeting**)
- The next meeting is on Tue., Mar 4th 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, 3/21/2025, of the month at 7:00 PM

President's Message March 2025

Many astronomical phenomena repeat, but seldom in exactly the same way. That is one reason we observe things we have seen before – something might be different this time. Eclipses fall into this category.

We have a total lunar eclipse coming up on March 13th that is well timed for Hawaii. The total phase runs from about 8:30 to 9:30 p.m. The Moon will pass well to the north of the center of the umbra, so the northern portion of the Moon should remain noticeably brighter, illuminated by light refracting through Earth's atmosphere.

Because the Moon's orbit is tilted with respect to Earth's orbit around the Sun, lunar eclipses are only possible twice a year when the Moon passes through a node (where the two orbits cross) when it is full. A solar eclipse may occur on the new Moon preceding or following (as in this case, though not visible from Hawaii) a lunar eclipse. Even then, the timing must be just right.

Total solar eclipses like we experience on Earth result from the amazing coincidence that the Moon and Sun are almost exactly the same size in our sky. Of course, our orbits are not perfect circles, so central solar eclipses vary in length of totality, and some are annular because the Moon is near apogee (and/or the Earth is near perihelion) and appears too small to completely cover the Sun.

The Moon is receding from the Earth due to tidal forces, and someday our descendants may experience the final total solar eclipse. At least, that's what could happen if we don't intervene. The Sun is continually growing hotter, and in about a billion years it will heat Earth to the point that life can no longer survive here.

However, we could buy another two or three billion years of habitability (until the Sun's output becomes too erratic) by enlarging our orbit. This could be accomplished by redirecting a large asteroid to pass close to the leading edge of Earth about once a century. This would also make the Sun smaller in our sky and extend the era of total eclipses.

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Observer's Notebook—March 2025 by Ort

Planets Close to the Moon
Times are Hawaii Standard Time

Mar 1, 19h, Moon 5.7° SE of Venus; 30° from Sun in evening sky; magnitudes -6.9 and -4.6
Mar 4, 16h, Moon 4.6° NNW of Uranus; 69° from Sun in evening sky; magnitudes -9.3 and 5.8
Mar 6, 1h, Moon 5.5° N of Jupiter; 87° from Sun in evening sky; magnitudes -10.1 and -2.3
Mar 8, 16h, Moon 1.67° NNE of Mars; 119° from Sun in evening sky; magnitudes -11.1 and -0.1
Mar 28, 2h, Moon 1.66° NNW of Saturn; 14° from Sun in morning sky; magnitudes -5.5 and 1.2
Mar 28, 11h, Moon 7.6° SE of Venus; 8° and 12° from Sun in morning sky; magnitudes -4.9 and -4.1
Mar 28, 11h, Moon 1.55° NNW of Neptune; 8° and 9° from Sun in morning sky; magnitudes -4.9 and 8.0
Mar 28, 13h, Moon 2.09° SE of Mercury; 7° and 8° from Sun in morning sky; magnitudes -4.8 and 3.9

Other Events of Interest
Times are Hawaii Standard Time

Mar 13, 19h, Full Moon; total eclipse of the Moon
Mar 19, 14h, March or vernal (northern spring) equinox
Mar 24, 10h, Mercury at inferior conjunction with the Sun; 0.606 AU from Earth; latitude 4.90°
Mar 28, 14h, Moon, Mercury, and Neptune within circle of diameter 3.74°; about 8° from the Sun in the morning sky; magnitudes -5, 4, 8

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4 March: Double shadow transit on Jupiter (23:36-01:13 UT)
6 March: Lunar X clair-obscur effect visible on the Moon (around 23:00 UT)
14 March: Total lunar eclipse (sets during totality from the UK)
20 March: March equinox
29 March: Partial solar eclipse

Planets in March

☿ Mercury

will soon pass in front of the Sun at inferior solar conjunction. From Honolulu, it is not observable – it will reach its highest point in the sky during daytime and is no higher than 4° above the horizon at dusk.

♀ Venus

will soon pass in front of the Sun at inferior solar conjunction. From Honolulu, it is not observable – it will reach its highest point in the sky during daytime and is no higher than 6° above the horizon at dusk.

♂ Mars

recently passed opposition. From Honolulu, it is visible in the evening sky, becoming accessible around 19:03 (HST), 72° above your eastern horizon, as dusk fades to darkness.

♃ Jupiter

is currently an early evening object, now receding into evening twilight. From Honolulu, it will become visible at around 18:54 (HST), 73° above your western horizon, as dusk fades to darkness.

♄ Saturn

recently passed behind the Sun at solar conjunction. From Honolulu, it is not observable – it will reach its highest point in the sky during daytime and is 7° below the horizon at dawn.

♅ Uranus

will soon pass behind the Sun at solar conjunction. From Honolulu, it will become visible at around 19:32 (HST), 44° above your western horizon, as dusk fades to darkness.

♆ Neptune

will soon pass behind the Sun at solar conjunction. From Honolulu, it is not observable – it will reach its highest point in the sky during daytime and is 9° below the horizon at dusk.

♇ Pluto (Dwarf Planet)

is not observable – it will reach its highest point in the sky during daytime and is no higher than 21° above the horizon at dawn.

4 Vesta (Asteroid)

is visible in the morning sky, becoming accessible around 23:59, when it reaches an altitude of 21° above your eastern horizon.

Meeting Minutes

H.A.S. Secretary

February 4th 2025 7:30 PM (Bishop Museum Planetarium and Zoom Meeting)
Andy Stroble

President Chris Peterson called the meeting to order at 7:30.

Motion to approve last month's minutes proffered by Chair, seconded by Joanne, approved unanimously.

Our scheduled speaker had to cancel, due to illness.

Star Party Coordinator Heather Nolan reported that there are no new events in the near future.

Romee announced the Third Friday event at Bishop Museum is on the 21st. Some consideration is being given to having an event for the total Lunar Eclipse of March 13th.

New people, Ricky found us on Google.

Vice President Bill updated us on Discord, and equipment auctions, and some of the rehabilitations he is doing on a C-14, with attendant astrophotos of the Horsehead and Bubble nebulae.

Ort announced that we may be getting closer to having club T-shirts, with display of prototypes, He will create a Google form to judge demand, and preferences.
He also shared a video on how to photograph meteors.
Sabina shared her adventures in the Atacama desert, and being an astronomy tourist, especially as a guest of Alain Maury, of San Pedro de Atacama Celestial Explorations. Her Dwarfy did yeoman's duty.

Reid Smythe shared some EAA (Electronically Assisted Astronomy) done with non-Smart scopes, specifically SCT's (Schmidt-Cassegrain Telescopes) with a HyperStar, camera adapter, essentially becoming a RASA (Rowe-Ackermann Schmidt Astrograph) telescope with a very fast focal ratio.

At-large board member Steven Chun shared his continuing efforts at solar astrophotography, with combined surface features and prominences, and planetary using "lucky imaging" on Mars.

Treasurer Peter exhibited more portraits of galaxies taken with a Celestron Origin Smartscope, largely from the Fornax galaxy cluster, All types, with kinks, and missing spiral arms, Arp stuff.

Adjourned at 9:03, and a good time was had by all.

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

A Rainbow-colored "Feather" in the Martian Sky

NASA's Curiosity Mars rover captured this feather-shaped iridescent cloud just after sunset on Jan. 27, 2023. Studying the colors in iridescent clouds tells scientists something about particle size within the clouds and how they grow over time

Image credit: NASA/JPL-Caltech/MSSS

(Continued from page 2) - President's Message

Of course, altering Earth's orbit would change the length of the year and day and the number of days in a year. I wonder if we'd change the length of a second or the number of seconds in a day. Either way, that's a fairly small price to pay for a few billion more years of life.

Hawaiian Astronomical Society
Event Calendar

◄ Feb **March 2025** Apr ►

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2 BoD Meeting Zoom 3:30PM	3	4 General Meeting Hybrid 7:30PM Planetarium	5 Ash Wednesday	6  1st Qtr 6:31AM	7	8 Intl. Women's Day Public Star Party Geiger/Kahala Sunset 6:38PM
9	10	11	12	13  Full 8:54PM	14	15
16	17 St Patrick's Day	18	19	20 Start of Spring (Spring Equinox)	21	22  3rd Qtr 1:29AM Public Dillingham Gate Close 7P
23	24	25	26	27	28	29  New 12:57AM Club Party Gate Close 7P
30	31	Notes:				

<<Upcoming Star Parties>>

Public Party Geiger/Kahala March 8 — 6:38 PM
Public Party-Dillingham March 22 — 6:30 PM
Club Party Dillingham March 29 —6:30 PM

Upcoming School Star Parties

Date	Time	Location

NASA's Night Sky Notes

March's Night Sky Notes: Messier Madness

By Kat Troche

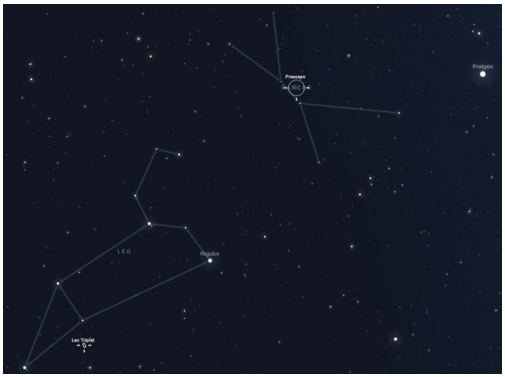
March is the start of spring in the Northern Hemisphere; with that, the hunt for Messier objects can begin!

Showing a large portion of M66, this Hubble photo is a composite of images obtained at visible and infrared wavelengths. The images have been combined to represent the real colors of the galaxy. Credit: NASA, ESA and the Hubble Heritage (STScI/AURA)-ESA/Hubble Collaboration; Acknowledgment: Davide De Martin and Robert Gendler

What Are Messier Objects?

During the 18th century, astronomer and comet hunter Charles Messier wanted to distinguish the 'faint fuzzies' he observed from any potential new comets. As a result, Messier cataloged 110 objects in the night sky, ranging from star clusters to galaxies to nebulae. These items are designated by the letter '**M**' and a number. For example, the Orion Nebula is **Messier 42** or **M42**, and the Pleiades are **Messier 45** or **M45**. These are among the brightest 'faint fuzzies' we can see with modest backyard telescopes and some even with our eyes.

Stargazers can catalog these items on evenings closest to the new moon. Some even go as far as having "Messier Marathons," setting up their telescopes and binoculars in the darkest skies available to them, from sundown to sunrise, to catch as many as possible. Here are some items to look for this season:



M44 in Cancer and M65 and 66 in Leo can be seen high in the evening sky 60 minutes after sunset. Credit: Stellarium Web

(Continued on page 10)

Meteor Log—March 2025 by Tom Giguere

The quiet Earth-cycle known as March has arrived, bringing with it a disappointing lack of celestial debris storms. Typically, I extract this information from the International Meteor Organization's data stream, yet for the Earth-year 2025, their records indicate not a single such event. Thus, I must consult the weaker meteor projections from the American Meteor Society, though their listings are… dubious at best. Of the four identified showers, three originate from the extreme southern region of this planet's sky, their constellations mapped accordingly. Any event producing fewer than two meteors per hour struggles to outshine the sporadic, unaligned streaks of cosmic matter. A most unsatisfactory display.

Since March has virtually no meteor showers that have more than two meteors per hour, I decided to have fun with the Meteor Log verbiage. The paragraph above is an AI rewrite (ChatGPT) of last years March Meteor Log from the perspective of first person alien. Am I out of a job?!?

Nice meteor pic over the Rockies. Taken on 1/21/25 by Mike L. in Crestone, CO.
Reference: www.amsmeteors.org and AMS #423-2025. Geo Loc 37.9° / -105.8°, Elevation 2335.8m.

Phases of the Moon (courtesy timeanddate.com)

First Quarter	Full Moon	Last Quarter	New Moon
March 6	March 13	March 22	March 29

2025 Weak Meteor Showers (Class IV)

Shower	Activity Period	Maximum		Radiant		Vel.	Max	Time	Moon
		Date	SL	RA	Dec	km/s	ZHR		
xi Herculids (XHE)	Mar 06-Mar 20	Mar 11	351.3°	16:58	+48.6°	35.4	<2	0400	01
delta Mensids (DME)	Mar 02-Mar 26	Mar 12	352.0°	04:09	-74.4°	30.9	<2	0500	02
beta Tucanids (BTU)	Mar 02-Mar 26	Mar 12	352.33°	04:07	-77.0°	31.0	<2	0500	02
delta Pavonids (DPA)	Mar 21-Apr 06	Mar 30	010.4°	20:32	-63.0°	58.0	<2	0500	20

Meteors are scarce in March, no major showers. Count yourself lucky if you see a bright one! More info: Tom Giguere, 808-782-1408, Thomas.giguere1@gmail.com.

Treasurer's Report

by Peter Besenbruch

Cash Flow - 1/10/2025 to 02/09/2025

Beginning Balance	**$8,040.99**
Money into selected accounts comes from	
Donation	$900.00
Total Money In	**$900.00**

Money out of selected accounts goes to	
Office-supplies snacks Subscription - Astronomy	$152.54 $40.25 $68.00
Total Money Out	**$260.79**

Difference	**$639.21**
Ending Balance	**$8,680.20**

Here are the financials up through February 9.

Thanks to everyone who donated, paid, or renewed. The $900 donation was as a result of telescope donations to the club.

The February club star party was very well attended, and was clear from sundown. The Dillingham public party was a cloud out.

Covid wastewater nation-wide figures have leveled off at medium levels. Oahu figures show similar results. On the other hand, it's been a miserable year for flu. Enjoy the sky.

Stacking Artemis II

A booster segment - a massive white cylindrical object with the red NASA "worm" insignia on it - is attached to a yellow lifting beam inside a large building. There is a large United States flag on the wall to the right of the booster segment. A few people in blue jumpsuits and hard hats stand at the base of the yellow platform at center.

Image credit: NASA/Frank Michaux

Message From Your Vice President
March 2025

by Bill Barr

Last month our speaker became ill on the day of the meeting. Unfortunately, he has not responded to further emails although he initially considered a remote presentation later on. We have one more beginner telescope for sale and still have the other. They are both under $200 and I think safe enough in price and capability to not be “hobby killers”!

Another donation of a very high-quality telescope has gone horribly wrong. It was stored in a trunk in a closet. There isn’t one optical piece of this donation without mold or worse on the optics. More about this later but be sure to store your equipment in dry ventilated areas.

Please look at our equipment for sale in this newsletter.

Donated and Member Equipment for sale. First come first serve. Negotiations okay!

Item	Info	Donation/Cost
First come first serve on all items. Let me know what you would like to sell **OR BUY!**	Contact Bill (Dustythepath at gmail.com)	
Celestron Eyepiece Collimator In original box w /instructions.	Claimed	$20
Nanuk 910 Case, brand new	New $60+	$30
ZWO EAF bracket for Celestron SCT	NEW	$30
Baader Coma Corrector #2458400 for fast Newtonians	$217 new	$50
Celestron Nexstar 4 Minimal accessories Cleaning and testing in progress	A good planetary/moon setup	$150
Meade LX200R (ACF) 8" In good working condition. ACF= Advanced Coma Free Optics Alt-Az fork mounted with 2" diagonal and accessories. Contact Steven C. for more details.		$500 Member Sale
Meade ETX-125 127mm (5") f/15 telescopes optics with Ultra-High Transmission Coatings Included: Electronic focuser, flip mirror, Erect Image Prism, Variable Polarizing Filter,8mm-24mm Zoom Eyepiece, 2x Barlow, 6.7mm UWA Eyepiece, 26mm Plossl Eyepiece Also: #497 Autostar Computer Controller new in box		$175 In good condition. Please email about details Next month parts will be listed separately
Meade 2120 10" SCT	Restoration attempt in progress	Final restoration cost plus donation

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

Messier 44 in Cancer: The Beehive Cluster, also known as Praesepe, is an open star cluster in the heart of the Cancer constellation. Use Pollux in Gemini and Regulus in Leo as guide stars. A pair of binoculars is enough to view this and other open star clusters. If you have a telescope handy, pay a visit two of the three galaxies that form the Leo Triplet - **M65** and **M66**. These items can be seen one hour after sunset in dark skies.

Locate M3 and M87 rising in the east after midnight. Credit: Stellarium Web

Messier 3 Canes Venatici: M3 is a globular cluster of 500,000 stars. Through a telescope, this object looks like a fuzzy sparkly ball. You can resolve this cluster in an 8-inch telescope in moderate dark skies. You can find this star cluster by using the star Arcturus in the Boötes constellation as a guide.

Messier 87 in Virgo: Located just outside of Markarian's Chain, M87 is an elliptical galaxy that can be spotted during the late evening hours. While it is not possible to view the supermassive black hole at the core of this galaxy, you can see M87 and several other Messier-labeled galaxies in the Virgo Cluster using a medium-sized telescope.

Locate M76 and M31 setting in the west, 60 minutes after sunset. Credit: Stellarium Web

(Continued on page 11)

(Continued from page 10) NASA's Night Sky Notes
Messier 76 in Perseus: For a challenge, spot the Little Dumbbell Nebula, a planetary nebula between the Perseus and Cassiopeia constellations. With an apparent magnitude of 12.0, you will need a large telescope and dark skies. You can find both M76 and the famous Andromeda Galaxy (M31) one hour after sunset, but only for a limited time, as these objects disappear after April. They will reappear in the late-night sky by September.

Plan Ahead

When gearing up for a long stargazing session, there are several things to remember, such as equipment, location, and provisions:

- **Do you have enough layers to be outdoors for several hours?** You would be surprised how cold it can get when sitting or standing still behind a telescope!
- **Are your batteries fully charged?** If your telescope runs on power, be sure to charge everything before you leave home and pack any additional batteries for your cell phone. Most people use their mobile devices for astronomy apps, so their batteries may deplete faster. Cold weather can also impact battery life.
- Determine the **apparent magnitude** of what you are trying to see and the **limiting magnitude** of your night sky. You can learn more about apparent and limiting magnitudes with our Check Your Sky Quality with Orion article.
- When choosing a location to observe from, select an area you are familiar with and bring some friends! You can also connect with your local astronomy club to see if they are hosting any Messier Marathons. It's always great to share the stars!

You can see all 110 items and their locations with NASA's Explore the Night Sky interactive map and the Hubble Messier Catalog, objects that have been imaged by the Hubble Space Telescope.

(Continued from page 1) Editor Notes
At our public star party at Dillingham Airfield on 2/16/2025, sadly the skies weren't friendly, but we had a few very interested visitors!

There were 6 of us at Bishop Museum for Planetarium at night on 2/21/2025. There were about 40 folks from the Museum show. We have no Moon, but with clear sky we showed mostly planets and Orion nebula.

The club members' only star party at Dillingham Airfield on 2/22/2025 was not bad. We had quite a few members there. We had a few photos post on HAS Discord. Let's hope those members join Tuesday general meeting and share those photos.

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.

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A Stellar Bouquet

An image of 30 Doradus, or the Tarantula Nebula, looks like a bouquet of purple flowers with orange stamens.

Image credit: X-ray: NASA/CXC/Penn State Univ./L. Townsley et al.; Infrared: NASA/JPL-CalTech/SST; Optical: NASA/STScI/HST; Radio: ESO/NAOJ/NRAO/ALMA; Image Processing: NASA/CXC/SAO/J. Schmidt, N. Wolk, K. Arcand