

THE ASTRONOMERS



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July 2025

A word from your editor by
Sapavith 'Ort' Vanapras

Inside this issue:

Club Information	2
President's Message	2
Observer's Notebook	3
Meeting Minutes	4
Event Calendar	5
NASA's Night Sky Notes	6
Meteor Log	7
Treasurer's Report	8
Vice President's Message	9

Bill and Peter are out of town. There will be no guest speaker for the July meeting. There is no Treasurer's Report either. I found Astronomical League's post from June 22nd on Facebook regarding navigating the mid-July Night Sky. I will put that in VP page (Page 9).

School year is over, the request for a school star party will surely be nothing until next fall. That does not mean we will not have a request. There will be other organizations like Boy Scouts or Girl Scouts will send requests in. Your involvement will help with bringing in more club memberships and promoting the club.

There was no school event in June. The only event we did beside the scheduled star parties was Bishop Museum's Star Tonight on Friday, 6/10/2025. There were 2 groups attending Star Tonight. However, the first group came out while the sky was not dark enough. Mars was good enough to see, but no detail. When the 2nd group came out, the sky got a little cloudier. Mars was still entertaining us. Hiroko was able to point her Dwarf 3 to Omega Centauri. We packed up around 9 PM.

The in-town star parties on 6/7/2005 at Kahala and Geiger were pretty good. Sue reported that "We had about a dozen visitors and there were 7 of us. The clouds pretty much blocked out the southern horizon, but the northern sky and overhead was open so was a pleasant evening." Sue captured a few galaxies with her Dwarf 3.

Upcoming Events:

- The next Board meeting is Sun., June 29th 3:30 PM. **(Zoom Meeting)**
- The next meeting is on Tue., July 1st 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, 7/18/2025, of the month at 7:00 PM

(Continued on page 11)

President's Message July 2025

Astronomy isn't for everyone, and that's okay. Some people will never understand why we haul heavy equipment to a remote site, fumble with it in the dark, and bend over uncomfortably to catch a fleeting glimpse of an object through our telescopes that they could, if they so desired, view in greater detail on a page or computer screen in the comfort of their living room. They don't care about the enormous time and space scale of the universe or the origin or fate of our planet or other astronomical objects. They are concerned about keeping a roof over their heads, putting food on the table, and taking care of their families. I get it, and I wish them well.

However, most of those reading these words derive great satisfaction from intercepting with our eyeballs the only photons arriving from distant objects at any given moment, whether they took a fraction of a second or billions of years to reach us. We marvel at the knowledge that almost everything within reach, even within our own bodies, originated inside a star billions of years ago and traveled here from distances far greater than our fastest spacecraft could travel in a lifetime. We use our imaginations to travel faster than light and back and forth billions of years to ponder the extent and age of our universe.

But what about those who have not yet tasted these joys but would appreciate them? That is where our star parties come in. We introduce hundreds of people to the night sky each year. Without our work, many would never have the opportunity to expand their minds in this way.

I recently ran into an old friend who has long worked at Waikiki Elementary School. Years ago we did a star party there that inspired one student. My friend told me that the interest we sparked in that student lasted all the way through college, and she is now pursuing a career in astronomy. We may never know the effects that many of our actions have (for good or ill) on others. It is gratifying to hear about this one.

(Continued on page 4)

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Observer's Notebook—July 2025 by Ort

Planets Close to the Moon Times are Hawaii Standard Time

Jul 15, 22h, Moon 3.4° NNW of Saturn; 112° from Sun in morning sky; magnitudes -10.9 and 0.9
 Jul 15, 23h, Moon 2.45° NNW of Neptune; 112° from Sun in morning sky; magnitudes -10.9 and 7.9
 Jul 20, 2h, Moon 5.0° N of Uranus; 57° from Sun in morning sky; magnitudes -8.7 and 5.8
 Jul 20, 2h, Moon 0.85° N of Pleiades; 57° and 58° from Sun in morning sky
 Jul 21, 9h, Moon 7.1° N of Venus; 40° from Sun in morning sky; magnitudes -7.6 and -4.0
 Jul 22, 20h, Moon 4.9° N of Jupiter; 21° from Sun in morning sky; magnitudes -6.1 and -1.9
 Jul 25, 7h, Moon 7.6° NNE of Mercury; 12° and 11° from Sun in evening sky; magnitudes -5.1 and 3.4
 Jul 28, 9h, Moon 1.16° SSW of Mars; 49° and 48° from Sun in evening sky; magnitudes -8.0 and 1.6

Other Events of Interest Times are Hawaii Standard Time

- Jul 15, 21h, Moon, Saturn, and Neptune within circle of diameter 3.37°; about 112° from the Sun in the morning sky; magnitudes -11, 1, 8
 Jul 20, 1h, Moon, Uranus, and the Pleiades within circle of diameter 5.04°; about 58° from the Sun in the morning sky; magnitudes -9, 6, 3
 Jul 30, 14h, Southern Delta Aquarid meteors; ZHR 25; 2 days before First Quarter Moon
 Jul 31, 14h, Mercury at inferior conjunction with the Sun; 0.595 AU from Earth; latitude -6.91°
- All month: Possible noctilucent cloud displays
 - 2 July: Lunar X & V clair-obscur effects visible on the Moon (around 23:40 BST (22:40 UT))
 - 4 July: Mercury at greatest eastern elongation (evening twilight)
 - 16 July: Saturn and Neptune less than a degree apart (01:40 BST (00:40 UT))
 - 29/30 July: Peak of the Delta Aquariid meteor shower

Planets in July

 Mercury is visible as an evening object, having recently passed greatest elongation east. From Honolulu, however, 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.	 Venus is visible as a morning object, having recently passed greatest elongation west. From Honolulu, it is visible in the dawn sky, rising at 03:02 (HST) – 2 hours and 53 minutes before the Sun.	 Mars is currently an early evening object, now receding into evening twilight. From Honolulu, it will become visible at around 19:55 (HST), 32° 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 04:48 (HST) – 1 hour and 7 minutes before the Sun.	 Saturn is currently emerging from behind the Sun. From Honolulu, it is visible in the morning sky, becoming accessible around 23:57, when it reaches an altitude of 11° above your eastern horizon.	 Uranus recently passed behind the Sun at solar conjunction. From Honolulu, however, it is visible in the dawn sky, rising at 02:12 (HST) – 3 hours and 43 minutes before the Sun.
 Neptune is currently emerging from behind the Sun. From Honolulu, it is visible in the dawn sky, rising at 23:03 (HST) and reaching an altitude of 68° above the southern horizon before fading from view as dawn breaks at around 04:57.	 Pluto (Dwarf Planet) is visible between 21:48 and 04:50. It will become accessible at around 21:48, when it rises to an altitude of 21° above your south-eastern horizon.	 4 Vesta (Asteroid) will become visible at around 20:14 (HST), 57° above your southern horizon, as dusk fades to darkness.

Meeting Minutes

H.A.S. Secretary

June 3rd 2025 7:30 PM (Bishop Museum Planetarium and Zoom Meeting)

Andy Stroble

President Chris Peterson called the meeting to order at 7:32.

President Peterson moved the approval of the May minutes, a request was made to include the email address of last month's speaker, Matt Wahl, at the Keck Observatory.

Fortunately, At-large Board Member Steven Chun retained the chat from the Zoom session, and the addresses are:

Mwahl@keck.hawaii.edu or mwahl27@gmail.com. [Secretary's note, other members passed on the news that Matt is a new father, so please be considerate in contacting him.] The motion to approve the minutes, with noted lacunae, passed unanimously.

President Chris Peterson has reached out to our Science Fair Awardee, and hopes he will present his project to us soon.

Attending for the first time were Bev Chang and Lani Kang, can Cheryl Reavis on Zoom.

AstroNews editor Ort reported on progress on T-shirts, we are up to 72 on order, hoping to reach the discount number soon. He also shared photos for the St. Joseph's event, and other astrophotography.

Tom Giguere reported on recent lunar landing attempts, as part of NASA's Commercial Lunar Payload Services (CLPS) initiative, by Intuitive Machines' "Athena", Firefly Aerospace "Blue Ghost" and Ispac's "Resilience" which crashed on June 5. And he shared a graphic depicting NASA missions slated for cancellation

Treasurer Peter Besenbruch shared non-exploding photography, largely of deep-space targets, comparing output of the SeeStar vs. the Celestron Origin, and the Vespera 2, and using "mosaic mode" for wide views.

Tom reviewed the book, "Extreme Illumination Atlas of the Moon", by Charles Wood and Maurice J.S. Collins, (Independently published, February 14, 2025) which uses LTVT (Lunar Terminator Visualization Tool) to produce "impossible" images of the lunar surface with illumination, for example, from the lunar north, revealing features not otherwise visible.

Joanne treated us to a planetarium show, astronomy adjacent, on Dinosaurs from the Hell Creek Formation.

Meeting adjourned at 9:05

There were some 24 persons in person, and at least 5 unique non-local logins on zoom.

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

(Continued from page 2) President's Message

Our current star party coordinator, Heather Nolan, is planning to move to the mainland soon. If she does, we will need to replace her. Please consider contributing to the club in this way and possibly changing more young (or not so young) lives.

Hawaiian Astronomical Society
Event Calendar

July 2025						
◀ Jun						Aug ▶
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29 BoD Meeting Zoom 3:30pm	30	1 General Meeting Planetarium Hybrid 7:30pm	2  1st Qtr 9:30am	3	4 Indep. Day	5 Public Star Party Geiger / Kahala Sunset 7:17pm
6	7	8	9	10  Full Moon 10:36am Buck Moon	11	12
13	14	15	16	17  3rd Qtr 2:37pm	18 Star Tonight Bishop Museum	19 Club Star Party Dillingham Airfield Gate Closes 7:00pm
20	21	22	23	24  New Moon 9:11am	25	26 Public Star Party Dillingham Airfield Gate Closes 7:00pm
27	28	29	30	31	Notes:	

<<Upcoming Star Parties>>

Public Party Geiger/Kahala July 5 — 7:17 PM
Club Party Dillingham July 19 — 6:45 PM
Public Party-Dillingham July 26 — 6:45 PM

Upcoming School Star Parties

Date	Time	Location

NASA's Night Sky Notes

July's Night Sky Notes: Spy the Scorpion

By: Kat Troche



As summer deepens in the Northern Hemisphere, a familiar constellation rises with the galactic core of the Milky Way each evening: Scorpion the Scorpion. One of the twelve zodiacal constellations, Scorpion contains many notable objects, making it an observer's delight during the warmer months. Here are some items to spy in July:



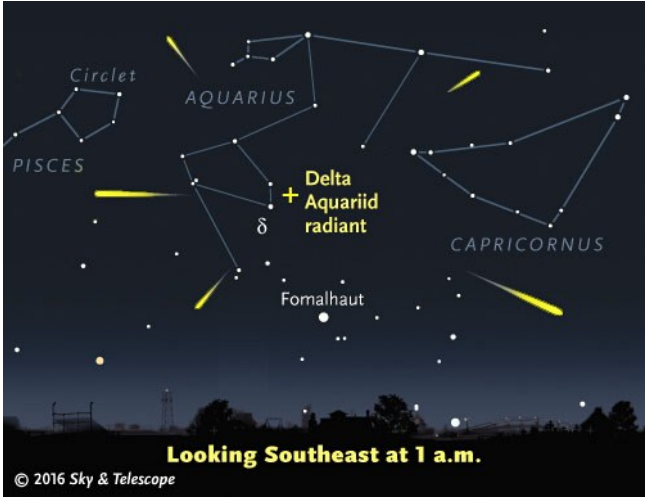
The star map of the Scorpion constellation highlights the star Antares and several notable deep-sky objects like the Rho Ophiuchi Complex, Messier 4, the Cat's Paw Nebula, and Caldwell 76, the Baby Scorpion Cluster. Credit: Stellarium Web

- **Antares:** referred to as “the heart of the scorpion,” this supergiant has a distinct reddish hue and is visible to the naked eye. If you have good skies, try to split this binary star with a medium-sized telescope. Antares is a double star with a white main-sequence companion that comes in at a 5.4 magnitude.
- **Messier 4:** one of the easiest globular clusters to find, M4 is the closest of these star clusters to Earth at 5,500 light years. With a magnitude of about 5.6, you can spot this with a small or medium-sized telescope in average skies. Darker skies will reveal the bright core. Use Antares as a guide star for this short trip across the sky.
- **Caldwell 76:** If you prefer open star clusters, locate C76, also known as the Baby Scorpion Cluster, right where the ‘stinger’ of Scorpion starts to curve. At a magnitude of 2.6, it is slightly brighter than M4, albeit smaller, and can be spotted with binoculars and the naked eye under good sky conditions

(Continued on page 10)

Southern δ -Aquiriids (005 SDA) - The shower is one of the most active annual sources in the southern hemisphere. The ZHR of the SDA is around 25 for about two days; the ZHR exceeds 20 between $\lambda \square = 124^\circ$ and 129° . During the maximum there are numerous bright SDA meteors visible, causing $r \approx 2.5$ around the maximum and $r \approx 3.1$ away from the peak period. Rare outbursts with a ZHR of about 40 were reported by Australian observers on 1977 July 28/29 and from Crete on 2003 July 28/29— both before the maximum date found in recent years (e.g., Koseki, 2021) and given here. The activity level and variations of the shower need to be monitored. The first quarter Moon on August 1 leaves most of the night undisturbed until after the maximum.

α -Capricornids (001 CAP) - Frequently, bright and at times fireball-class shower meteors are seen. Minor rate enhancements have been reported at a few occasions in the past, although the highest observed ZHR of ≈ 10 dates back to 1995. Recent results suggest the maximum date of July 30/31.



Phases of the Moon (courtesy timeanddate.com)

First Quarter	Full Moon	Last Quarter	New Moon
July 2	July 10	July 17	July 24

Shower	Activity	Maximum		Radiant		V_∞ km/s	r	ZHR
		Date	$\lambda \odot$	α	δ			
July Pegasids (175 JPE)	Jul 04- Jul 14	Jul 10	108.0°	347°	+11°	63	3.0	3
Piscis Austrinids (183 PAU)	Jul 15- Aug 10	Jul 28	125°	341°	-30°	35	3.2	5
July γ - Draconids (184 GDR)	Jul 25- July 31	Jul 28	125.13°	280°	+51°	27	3.0	5
South. δ -Aquiriids (005 SDA)	Jul 12- Aug 23	Jul 31	128°	340°	-16°	41	2.5	25
α -Capricornids (001 CAP)	Jul 03- Aug 15	Jul 31	128°	307°	-10°	23	2.5	5

Wrap up July with the Southern δ -Aquiriids! Thanks to the IMO for our meteor shower information. For more info contact: Tom Giguere, 808-782-1408, Thomas.giguere1@gmail.com.

Cash Flow - 4/10/2025 to 5/9/2025

No update for June

Beginning Balance	\$9,425.22
Money into selected accounts comes from	
Total Money In	\$0.00
Money out of selected accounts goes to	
Total Money Out	\$0.00
Difference	-\$0.00
Ending Balance	\$9,425.22



Webb Sees Sombrero Galaxy in Near-Infrared

NASA’s James Webb Space Telescope recently imaged the Sombrero Galaxy with its NIRCam (Near-Infrared Camera), which shows dust from the galaxy’s outer ring blocking stellar light from stars within the galaxy.

Image credit: NASA, ESA, CSA, STScI

Hubble Studies a Spiral’s Supernova Scene

This serene spiral galaxy hides a cataclysmic past. The galaxy IC 758, shown in this NASA/ESA Hubble Space Telescope image, is situated 60 million light-years away in the constellation Ursa Major.

Image Credit: ESA/Hubble & NASA, C. Kilpatrick



Message From Your Vice President

July 2025

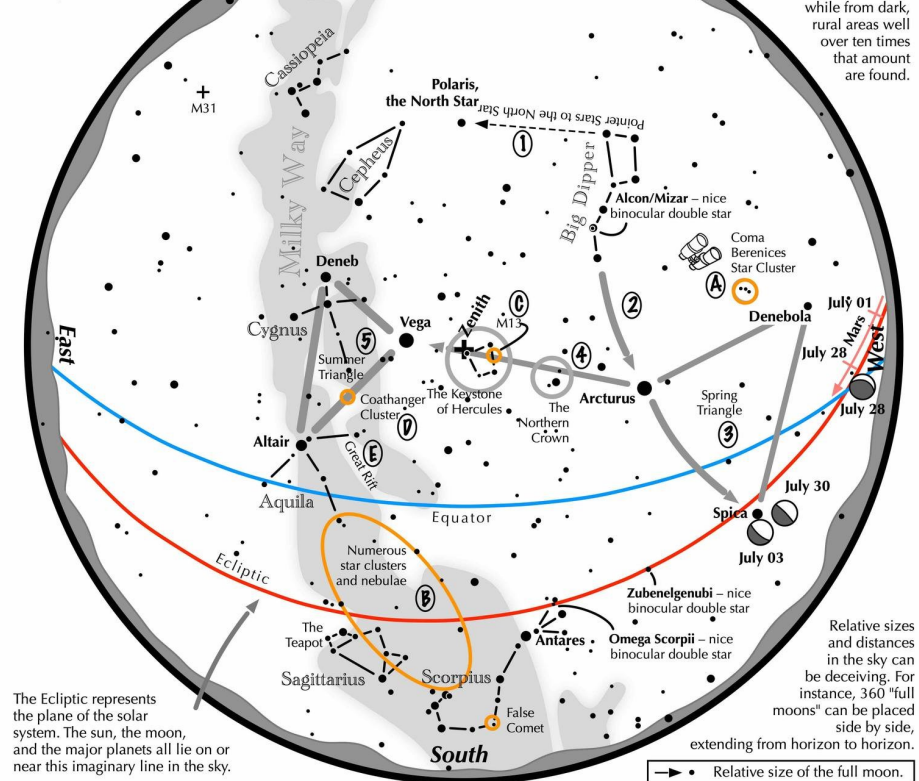
by Bill Barr

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.

Navigating the mid July Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid July at 11 p.m. or late July near 10 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



Navigating the mid July night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Follow the arc of the Dipper's handle. It first intersects Arcturus, the brightest star in the July evening sky, then continues to Spica. Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 3 To the northeast of Arcturus shines another star of similar brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 4 High in the East lies the Summer Triangle stars of Vega, Altair, and Deneb.
- 5

Binocular Highlights

- A: Between Denebola and the tip of the Big Dipper's handle, lie the stars of the Coma Berenices Star Cluster.
- B: Between the bright stars Antares and Altair, hides an area containing many star clusters and nebulae.
- C: On the western side of the Keystone glows the Great Hercules Cluster, containing nearly 1 million stars.
- D: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
- E: Sweep along the Milky Way for an astounding number of faint glows and dark bays, including the Great Rift.

Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.



A digital map of the Rho Ophiuchi Complex. Credit: Stellarium Web

Lastly, if you have an astrophotography set up, capture the [Cat's Paw Nebula](#) near the stinger of Scorpius. You can also capture the [Rho Ophiuchi cloud complex](#) in the nearby constellation Ophiuchus. Brilliant Antares can be found at the center of this wondrous structure.

Manaiakalani

While many cultures tell tales of a 'scorpion' in the sky, several Polynesian cultures see the same stars as the demigod Māui's fishhook, [Manaiakalani](#). It is said that Māui didn't just use his hook for giant fish in the sea, but to pull new islands from the bottom of the ocean. There are many references to the Milky Way representing a fish. As Manaiakalani rises from the southeast, it appears to pull the great celestial fish across a glittering sea of stars.

Measure Your Darkness

While you can use smartphone apps or dedicated devices like a Sky Quality Meter, Scorpius is a great constellation to measure your sky darkness with! On a clear night, can you trail the curve of the tail? Can you see the scorpion's heart? Use our free printable [Dark Sky Wheel](#), featuring the stars of Scorpius on one side and Orion on the other for measurements during cooler months. You can find this resource and more in the [Big Astronomy Toolkit](#).

This article is distributed by NASA's Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit go.nasa.gov/nightskynetwork to find local clubs, events, and more!



Geiger was just as good. We have 5 members with telescopes. Total of 7 visitors. The 1st two arrived early (before 7:30p). Tom showed them the moon. The last 5 (family of 3 and 2 sisters) showed up close to 9:30p. We showed them Moon & Mars through telescopes. We also showed images from Peter's Origin and Omega Centauri from my Dwarf 3.



The public star party at Dillingham Airfield on 6/14/2025 was OK. We had 7 members with telescopes and 20 visitors. We had mostly low clouds in the beginning but started to clear out around 8:45p. Clouds came and went. Due to unpredictable weather, we all left at 10 pm. We were able to show Omega Centauri, Vega, Alberio, Mizar, Double Double, Mars, and a few others. I got a low Milky Way just before we left.

Steve reported that the club party on 6/21/2025 went well. He said “Ended up being a fairly nice evening last night. 10 members, 3 left at 10p and the rest left at 11:30p. I was able to successfully test my revised 4” imaging rig on the AM3 without having to use a counter-weight. Got about 2 hours of the Iris nebula.”

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.
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Far Out

Pismis 24, the star cluster seen here in an image released on Dec. 11, 2006, lies within the much larger emission nebula called NGC 6357, located about 8,000 light-years from Earth. The brightest object in the picture was once thought to be a single star with an incredibly large mass of 200 to 300 solar masses.

Image credit: NASA, ESA and Jesús Maiz Apellániz (Instituto de Astrofísica de Andalucía, Spain); Acknowledgment: Davide De Martin (ESA/Hubble)