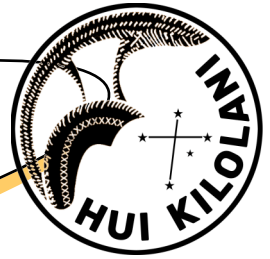


# THE ASTRONEWS



Volume 74, Issue 3

March 2024

[www.hawastsoc.org](http://www.hawastsoc.org)

A word from your editor by  
Sapavith 'Ort' Vanapruch

## Inside this issue:

Now that we are no longer in COVID pandemic, HAS is getting more requests for school events. As much as I would like to help with all events, it is not possible. The events we are helping in March are "Astronomy II Observing—Iolani School" on March 6th, 2024 from 7:15 PM (We have enough help) and "3rd Friday monthly evening Planetarium 2024" at Bishop Museum on March 15, 2024 from 6:00 PM - 9:00 PM. So if you have a telescope and the event is in your area, please sign up and help.



Club Star Party at Dillingham Airfield on Saturday, 2/3/2024, was OK. Sue said "There were 6 of us. The sky cleared after dark so we all pretty much did visual astronomy. Jupiter was nice and so was the Orion area. It started getting cloudy about 8pm so we left at 8:30pm." The Public Party at Dillingham Airfield was OK. Per Andy, the weather cleared after five. Michael added that it was cloudless, but humid with dew. He said "It was so wet that I left my scope assembled for the drive home and then moved it inside and went to bed. The next morning my living room and dining room rugs were covered in little silver tracks from whatever hitched a ride in" There were about 11 people there.

Bishop Museum "3rd Friday monthly evening Planetarium 2024" on Friday, 2/16/2024, was not bad. We have 3 telescopes setup (Bill, Ort, & Tom). We showed

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## Upcoming Events:

- The next Board meeting is Sun., Mar. 3<sup>rd</sup> 3:30 PM. **(Zoom Meeting)**
- The next meeting is on Tue., Mar. 5<sup>th</sup> at the Bishop Museum at 7:30 PM. —**Hybrid (In person and Zoom) Meeting**
- Bishop Museum's planetarium show "The Star Tonight" is every 3rd Friday, 3/15/2024, of the month at 7:00 PM

# President's Message

## March 2024

Some bits of astronomical misinformation are remarkably persistent. There may be a variety of reasons for this. Sometimes a concept is attractive and easy to understand, but just incorrect. Other times there is a grain of truth that is misunderstood, misapplied, or exaggerated. Many of you have had to deal with some of these at star parties or elsewhere.

"Polaris is the brightest star in the sky." No, not even close, but it is the brightest star in its constellation, though just barely. Kochab, at the end of the Little Dipper's bucket, is only dimmer by less than 0.1 magnitude, so the difference is not obvious. The nearest brighter star is over 20 degrees away, so Polaris is technically the brightest star in its region of the sky if that's well enough defined.

"The Moon broke off the early Earth and left a hole that is the Pacific Ocean." This early hypothesis was first disproved by angular momentum considerations. Then, over fifty years ago, we learned that the ocean crust is much younger than the continents. The Pacific didn't exist when the Moon was formed.

"Starlight takes so long to reach us that we don't even know if the stars we are looking at still exist." Most stars that we see without optical aid are closer than 1000 light years away and will exist for billions of years. Only the biggest stars, or some multiple star systems, result in a supernova explosion. Even then, there is usually some remnant, although it might look much different than it does now. Even the biggest stars we see last for millions of years.

However, there are a few stars that might have gone supernova since the light we see left them. One of these is Betelgeuse. This red supergiant is probably less than 10 million years old, but with a mass some 10 or 20 times that of the Sun, it will undergo a supernova explosion relatively soon. It could already have happened, or it might not for another 100,000 years. We may someday be able to predict its demise more accurately, but for now we can only look at it and think, "I wonder ...".

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# Observer's Notebook—March 2024 by Ort

## Planets Close to the Moon

### Times are Hawaii Standard Time

- Mar 7, 22h, Moon 3.3° SE of Mars; 30° from Sun in morning sky; magnitudes -6.9 and 1.2
- Mar 8, 10h, Moon 3.0° SE of Venus; 22° and 23° from Sun in morning sky; magnitudes -6.3 and -3.9
- Mar 9, 9h, Moon 1.38° SE of Saturn; 9° from Sun in morning sky; magnitudes -5.0 and 1.0
- Mar 10, 11h, Moon 0.62° ESE of Neptune; 7° and 6° from Sun in evening sky; magnitudes -4.8 and 8.0
- Mar 10, 11h, Moon, Mercury, and Neptune within circle of diameter 4.30°; about 8° from the Sun in the evening sky; magnitudes -5, -1, 8
- Mar 10, 18h, Moon 0.95° SE of Mercury; 11° from Sun in evening sky; magnitudes -5.3 and -1.3
- Mar 13, 14h, Moon 3.4° NNW of Jupiter; 50° from Sun in evening sky; magnitudes -8.3 and -2.1
- Mar 14, 0h, Moon 3.2° NNW of Uranus; 56° from Sun in evening sky; magnitudes -8.6 and 5.8

- 2 March: Minor planet 3 Juno reaches opposition
- 13 March: Jupiter lies near a waxing crescent Moon (pm)










## Other Events of Interest

### Times are Hawaii Standard Time

- Mar 3, 4h, Asteroid 3 Juno at opposition in longitude; magnitude 8.7
- Mar 8, 5h, Mercury 0.44° NNW of Neptune; 9° from Sun in evening sky; magnitudes -1.4 and 8.0
- Mar 9, 14h, Moon at perigee; distance 55.96 Earth-radii; nearest in year; only 2.1 hours before New Moon
- Mar 13, 16h, Jupiter and Uranus at heliocentric conjunction; longitude 52.4°
- Mar 19, 14h, March or vernal (northern spring) equinox
- Mar 23, 6h, Moon at apogee; distance 63.70 Earth-radii
- Mar 24, 14h, Full Moon; penumbral eclipse of the Moon

- 14 March: Waxing crescent Moon lies near the Pleiades (pm)
- 26 March: Spica lies very close to the Moon (pm)
- 29-31 March: C/2021 S3 PanSTARRS crosses the Coathanger Cluster

## Planets in March

|   |  |  |
|---|--|--|
|  <h3>Mercury</h3> <p>Evening planet, best seen later in the month.</p>   |  <h3>Venus</h3> <p>Lost in the morning twilight this month.</p>   |  <h3>Mars</h3> <p>Morning planet lost in twilight</p>   |
|  <h3>Jupiter</h3> <p>Hanging on in the evening sky but its visibility is deteriorating, the planet losing altitude rapidly as darkness falls.</p> |  <h3>Saturn</h3> <p>Too close to the Sun to be seen this month.</p>  |  <h3>Uranus</h3> <p>Evening planet, deteriorating through the month. Currently lies close to Jupiter and, like its brighter companion, is losing altitude rapidly as darkness falls.</p> |
|  <h3>Neptune</h3> <p>Not visible this month.</p>   |  <h3>Pluto<br/>(Dwarf Planet)</h3> <p>is visible in the dawn sky, rising at 03:48 (HST) – 2 hours and 49 minutes before the Sun .</p> |  <h3>4—Vesta<br/>(Asteroid)</h3> <p>will become visible at around 19:33 (HST), 76° above your western horizon, as dusk fades to darkness.</p>   |

*February 6<sup>th</sup>, 2024 7:30 PM (Bishop Museum Planetarium and Zoom Meeting)*

*Andy Stroble*

Meeting called to order at 7:32pm by President Chris Peterson.  
Minutes of previous meeting adopted.

Star parties: Reports on Bishop Museum events, Jefferson Elementary. School Star Party Coordinator Mark announced a single class start party at Iolani School on March 6th, possible Kailua schools in May.

First time attendees: Bob Beard (Who is graciously donating a Meade LX200 to the club. Discussion of installing it in Bishop's Observatory.)

Swap meet? Members queried on interest is such an event.

Thanks to Romee for mention of the Club on on Bishop website for The Stars Tonight events.

Conjunction of Jupiter and Uranus occurring in April, with Comet 12P/Pons-Brooke. Planetarium showed us.

Vice President shared resources on a theme of endings, chosen due to recent loses of family members by club members. He showed how to locate SuperNova remnants. Steve Chun shared astrophotography of M57 (Ring Nebula), M1 (Crab Nebula), and the Veil Nebula.

President Chris shared Webb Space Telescope images of Uranus, showing backlight rings.

Treasurer Peter shared information on the Voyager 1, which has lost ability to transmit data. And, videos of BFR tests that ended in Rapid Unscheduled Disassembly. For historical context, we looked at Soviet entries in the Exploding Rockets category, many not reported on at the time, and reconstructed via CGI.

Joanne treated us to a planetarium show, illustrating the aforementioned conjunction, and the visible solar eclipse of April 8th, from Hawaii. And, she turned the planetarium inside out (upside down?) to view the Islands from space. Very cool.

Meeting adjourned at 9:10 pm.  
There were 10 persons in person, and 8 unique zoom logins.

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



Hubble Views an Active Star-Forming Galaxy

A dwarf spiral galaxy. The center is not particularly bright and is covered by some dust, while the outer disk and halo wrap around as if swirling in water. Across the face of the galaxy, an arc of brightly glowing spots marks areas where new stars are forming. The galaxy is surrounded by tiny, distant galaxies on a dark background.

**Hawaiian Astronomical Society  
Event Calendar**

| March 2024  |               |  |  |                     |                    |  |
|---|---------------|--|--|---------------------|--------------------|--|
| Sunday  | Monday        | Tuesday                                | Wednesday  | Thursday            | Friday             | Saturday   |
|   |               |  |  |                     | 1                  | 2<br>Club Party<br>Dillingham Airfield<br>Sunset 6:36 PM   |
| 3<br><br>3rd Qtr 5:23 AM<br>BoD Meeting<br>3:30PM Zoom | 4             | 5<br>General Meeting<br>7:30 PM Hybrid | 6<br>Astronomy II<br>Observing<br>Session #2<br>Iolani 7:15P | 7                   | 8 Int'l<br>Women's | 9<br><br>New 11:00PM<br>Public Party<br>Dillingham Airfield<br>Sunset 6:39 PM |
| 10 Daylight<br>Saving   | 11            | 12                                     | 13   | 14                  | 15                 | 16<br><br>1st Qtr 6:10PM<br>Public Party<br>Kahala/Geiger<br>Sunset 6:41PM    |
| 17 St Patrick's<br>Day  | 18            | 19 Start of<br>Spring<br>(Spring)      | 20   | 21                  | 22                 | 23   |
| 24<br><br>Full 9:00PM                                  | 25 Earth Hour | 26                                     | 27   | 28 Holy<br>Thursday | 29 Good Friday     | 30   |
| 31 Easter   | Notes:        |  |  |                     |                    |  |

**<<Upcoming Star Parties>>**

- Public Party-Dillingham March 9 — 7:00 PM**
- Club Party Dillingham March 2 —7:00 PM**
- Public Party Geiger/Kahala March 16 — 6:00 PM**

Upcoming School Star Parties

| Date  | Time    | Location                             |
|-------|---------|--------------------------------------|
| Mar 6 | 7:15 PM | Astronomy II Observing—Iolani School |
|       |         |                                      |

# NASA's Night Sky Notes

## Constant Companions: Circumpolar Constellations, Part II

By Kat Troche



As the seasons shift from Winter to Spring, heralding in the promise of warmer weather here in the northern hemisphere, our circumpolar constellations remain the same. Depending on your latitude, you will be able to see up to nine circumpolar constellations. This month, we'll focus on: Lynx, Camelopardalis, and Perseus. The objects within these constellations can all be spotted with a pair of binoculars or a small to medium-sized telescope, depending on your Bortle scale – the darkness of your night skies.

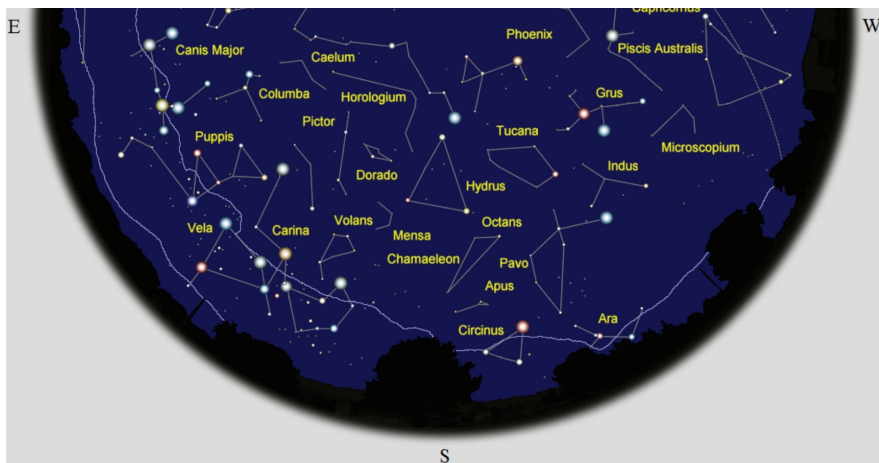


In the appearance of left to right: constellations Perseus, Camelopardalis, and Lynx in the night sky. Also featured: Cassiopeia as a guide constellation, and various guide stars.  
Credit: Stellarium Web

- **Double Stars:** The area that comprises the constellation Lynx is famous for its multiple star systems, all of which can be separated with a telescope under dark skies. Some of the notable stars in Lynx are the following:
  - 12 Lyncis – a triple star that can be resolved with a medium-sized telescope.
  - 10 Ursae Majoris – a double star that was once a part of Ursa Major.
  - 38 Lyncis – a double star that is described as blue-white and lilac.
- **Kemble's Cascade:** This asterism located in Camelopardalis, has over 20 stars, ranging in visible magnitude (brightness) and temperature. The stars give the appearance of flowing in a straight line leading to the Jolly Roger Cluster (NGC 1502). On the opposite side of this constellation, you find the asterism Kemble's Kite. All three objects can be spotted with a pair of binoculars or a telescope and require moderate dark skies.

*(Continued on page 9)*

The quiet month of March is upon us with its dearth of meteor showers. Typically, the list of showers is derived from the International Meteor Organization (IMO) list, however, the IMO does not list a single shower from March 2024. Therefore, we turn to the weak meteor shower list from the AMS (American Meteor Shower), which lists showers that are questionable at best. Three out of four of these showers are in the extreme southern sky; their constellations of origin are visible on the southern sky chart. Any shower with 2 or less meteors per hour has trouble competing with sporadic (random) meteors.



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

|                      |                  |                     |                 |
|----------------------|------------------|---------------------|-----------------|
| <b>First Quarter</b> | <b>Full Moon</b> | <b>Last Quarter</b> | <b>New Moon</b> |
| March 16             | March 24         | March 3             | March 9         |

| Shower               | Activity Period   | Maximum |         | Radiant |        | Velocity<br>km/s | Max.<br>ZHR |
|----------------------|-------------------|---------|---------|---------|--------|------------------|-------------|
|                      |                   | Date    | S. L.   | R.A.    | Dec.   |                  |             |
| xi Herculids (XHE)   | Mar 06-<br>Mar 20 | Mar 11  | 351.3°  | 16:58   | +48.6° | 35.4             | <2          |
| delta Mensids (DME)  | Mar 02-<br>Mar 26 | Mar 12  | 352.0°  | 04:09   | -74.4° | 30.9             | <2          |
| beta Tucanids (BTU)  | Mar 02-<br>Mar 26 | Mar 12  | 352.33° | 04:07   | -77.0° | 31.0             | <2          |
| delta Pavonids (DPA) | Mar 21-<br>Apr 06 | Mar 30  | 010.4°  | 20:32   | -63.0° | 58.0             | <2          |

March is a time for patience in the sport of meteor watching! Tom Giguere, 808-782-1408, Thomas.giguere@yahoo.com; Mike Morrow, PO Box 6692, Ocean View, HI 96737

# Cash Flow - 1/9/2024 to 2/11/2024

|  |                   |
|--|-------------------|
| <b>Beginning Balance</b>                       | <b>\$6,310.75</b> |
| <b>Money into selected accounts comes from</b> |                   |
| Donation                                       | \$80.00           |
| Membership - Electronic                        | \$100.00          |
| Membership - Family                            | \$2.00            |
| Membership - Paper                             | \$50.00           |
| <b>Total Money In</b>                          | <b>\$232.00</b>   |
| <b>Money out of selected accounts goes to</b>  |                   |
| Astronews                                      | \$219.93          |
| <b>Total Money Out</b>                         | <b>\$219.93</b>   |
| Difference                                     | \$12.07           |
| <b>Ending Balance</b>                          | <b>\$6,322.82</b> |

Here are the financials up through February 11.

Thanks to everyone who paid, renewed, and donated. The large “Astronews” payment was reimbursement to Ort for printing and mailing expenses for several months.

I want to remind people of a benefit they have if they choose an electronic membership. If you add family members to your membership form, and pay the extra \$2 per person, be sure to include the added people’s e-mail addresses. They are entitled to their own copy of the Astronews.

Covid wastewater figures have begun trending down again on Oahu. Stay safe, and enjoy the stars.

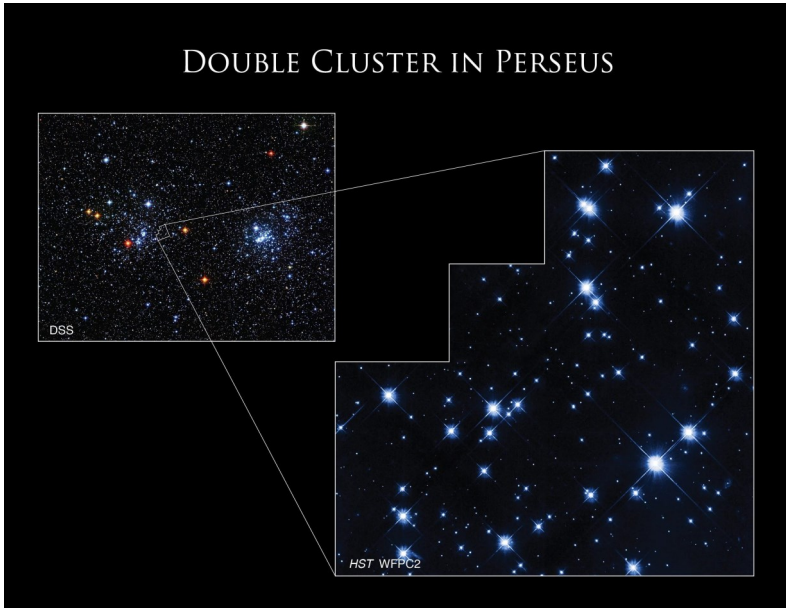


### Intuitive Machines Launches to the Moon

A SpaceX Falcon 9 rocket carrying the Intuitive Machines Nova-C lander takes off from the launch pad at night. The flames coming from the bottom of the rocket (the bright spot at center) light up the surrounding area, illuminating clouds of white vapor that spread outward along the ground. The light also reflects off water in the foreground.

Image Credit: NASA/Kim Shiflett



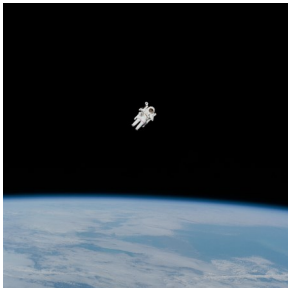


A ground-based image from the Digitized Sky Survey (DSS) in the upper left shows Caldwell 14, the Double Cluster in Perseus, with an outline of the region imaged by Hubble's Wide Field and Planetary Camera 2 (WFPC2).

Ground-based image: Digitized Sky Survey (DSS); Hubble image: NASA, ESA, and S. Casertano (Space Telescope Science Institute); Processing: Gladys Kober (NASA/Catholic University of America)

- **Double Cluster:** The constellation Perseus contains the beautiful Double Cluster, two open star clusters (NGC 869 and 884) approximately 7,500 light-years from Earth. This object can be spotted with a small telescope or binoculars and is photographed by amateur and professional photographers alike. It can even be seen with the naked eye in very dark skies. Also in Perseus lies Algol, the Demon Star. Algol is a triple-star system that contains an eclipsing binary, meaning two of its three stars constantly orbit each other. Because of this orbit, you can watch the brightness dim every two days, 20 hours, 49 minutes – for 10-hour periods at a time. For a visual representation of this, revisit NASA's What's Up: November 2019.

From constellations you can see all year to a once in a lifetime event! Up next, find out how you can partner with NASA volunteers for the April 8, 2024, total solar eclipse with our upcoming mid-month article on the Night Sky Network page through NASA's website!



Astronaut Bruce McCandless Performs the First Untethered Spacewalk

An astronaut is surrounded by empty space as he floats at a 45-degree angle above Earth. Astronaut Bruce McCandless II approaches his maximum distance from the Earth-orbiting Space Shuttle Challenger in this 70mm photo from Feb. 7, 1984.

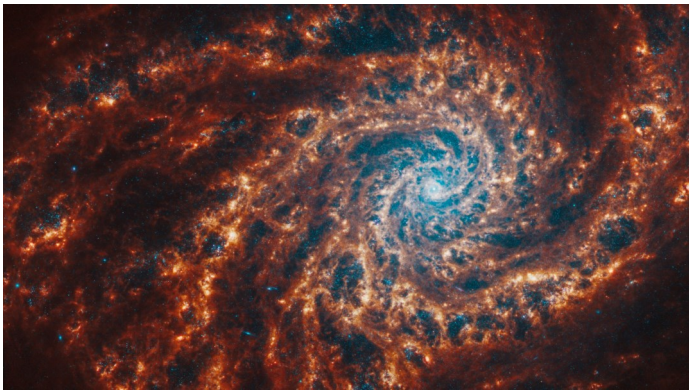
Image Credit: NASA



### Hubble Sees a Merged Galaxy

This new NASA Hubble Space Telescope image shows ESO 185-IG013, a luminous blue compact galaxy (BCG). BCGs are nearby galaxies that show an intense burst of star formation. They are unusually blue in visible light, which sets them apart from other high-starburst galaxies that emit more infrared light.

Image Credit: NASA/Hubble



### Spiral Galaxy NGC 4254's Dazzling Swirls

Webb's Near-Infrared Camera captured millions of stars in these images, which sparkle in blue tones, while the telescope's Mid-Infrared Instrument data highlights glowing dust, showing us where it exists around and between stars.

Image Credit: NASA, ESA, CSA, STScI, Janice Lee (STScI), Thomas Williams (Oxford), and the PHANGS team

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

them the moon & Jupiter. My Dwarf II also captured image of M42 which they get to see.

Steven ran a test solar viewing at Bishop Museum last Saturday, 2/17/2024, afternoon. It went well and had about 50 or so visitors. Looking into doing this monthly. Here's the setup he used, his Lunt 80THa DS scope on top of his AM5 with the Hinode Solar Guider. (edited)



The Public Party in-town was alright. I have no report from Kahala. Geiger was cleared, but breezy. We had 4 members with telescopes (Steven, Ort, Calvin, & Tom) participate. We had 6 visitors all who saw the banner and came out. We were able to see the Moon, Jupiter, and Orion Nebula.

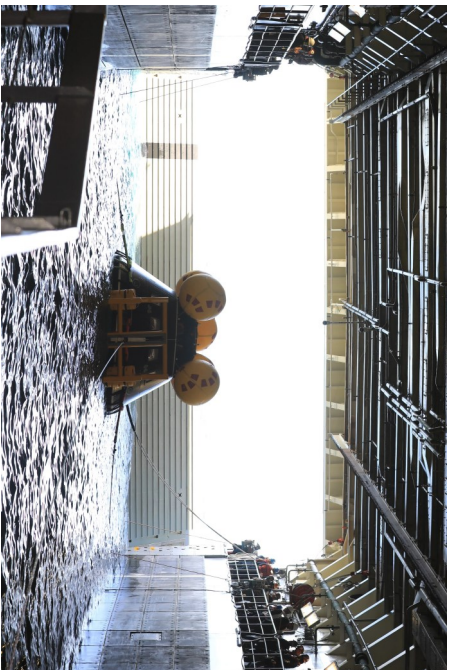
I was also able to use eyepiece projection from my telescope to take photo of the straight wall on the moon. The straight wall on the moon is called Rupes Recta. You can read more about it on BBC Sky At Night (<https://www.skyatnightmagazine.com/astrophotography/moon/rupes-recta-straight-wall>)



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](mailto:astronews@hawastsoc.org) with some detail. I will post it.

Clear Night everyone.

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#### NASA, Partners Test Artemis II Recovery Procedures

Teams work to secure a test version of NASA's Orion spacecraft on its stand inside a ship's well deck. The well deck has water in it. Straps extend from the spacecraft up to the balconies on either side, where people stand.

Image Credit: NASA/Isaac Watson