



June 2019

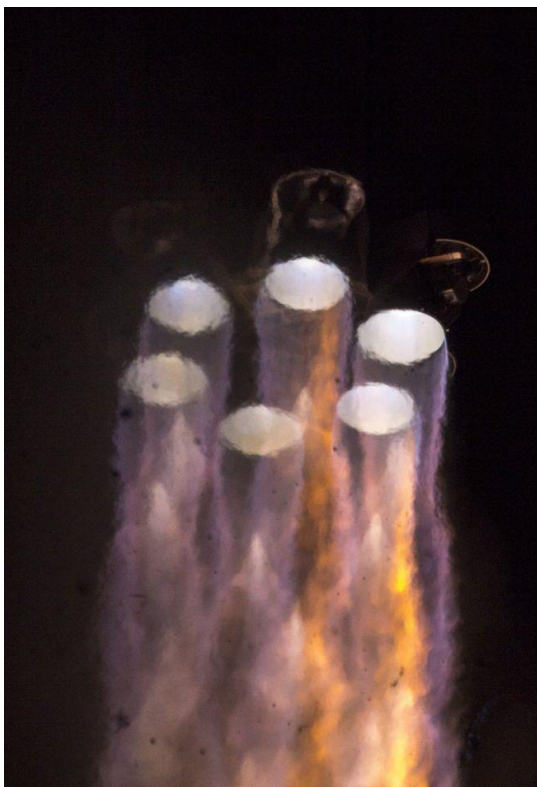
Update

**Oklahoma Space  
Alliance**

A Chapter of The  
National Space Society

A free email newsletter of the Oklahoma Space Alliance

## Proton at Launch



**2019 OSA Meeting**

**Saturday, June 15, 2019**

**2:00 PM**

**Cliff & Claire McMurray's  
House**

2715 Aspen Circle, Norman, OK 73072

405-863-6173

Program— Space News and  
Events

Website: <http://osa.nss.org>



## Quote of the Month

*We're not going back to the moon. We're going forward to the moon.*

— NASA Administrator Jim Bridenstine

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## **Oklahoma Space Alliance Update**

**June 15, 2019**

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Articles may be submitted by U.S. mail or electronically. Articles may be sent to the Editor at 121 South Creekdale Drive, Norman, OK 73072 or to [david.sheely51@gmail.com](mailto:david.sheely51@gmail.com). Each submission should include the author's name and either e-mail address or phone number (for verification only). A text or Microsoft Word file is preferred. Please contact the Editor by phone, e-mail or texting before mailing your information.

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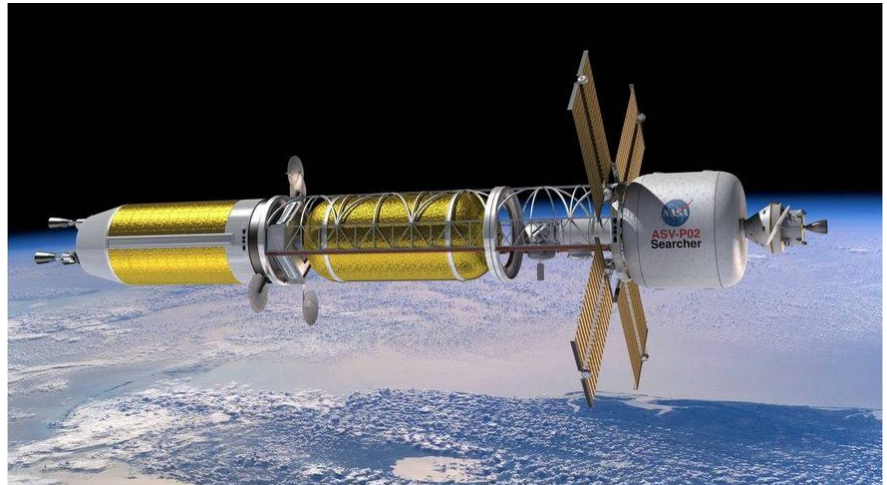
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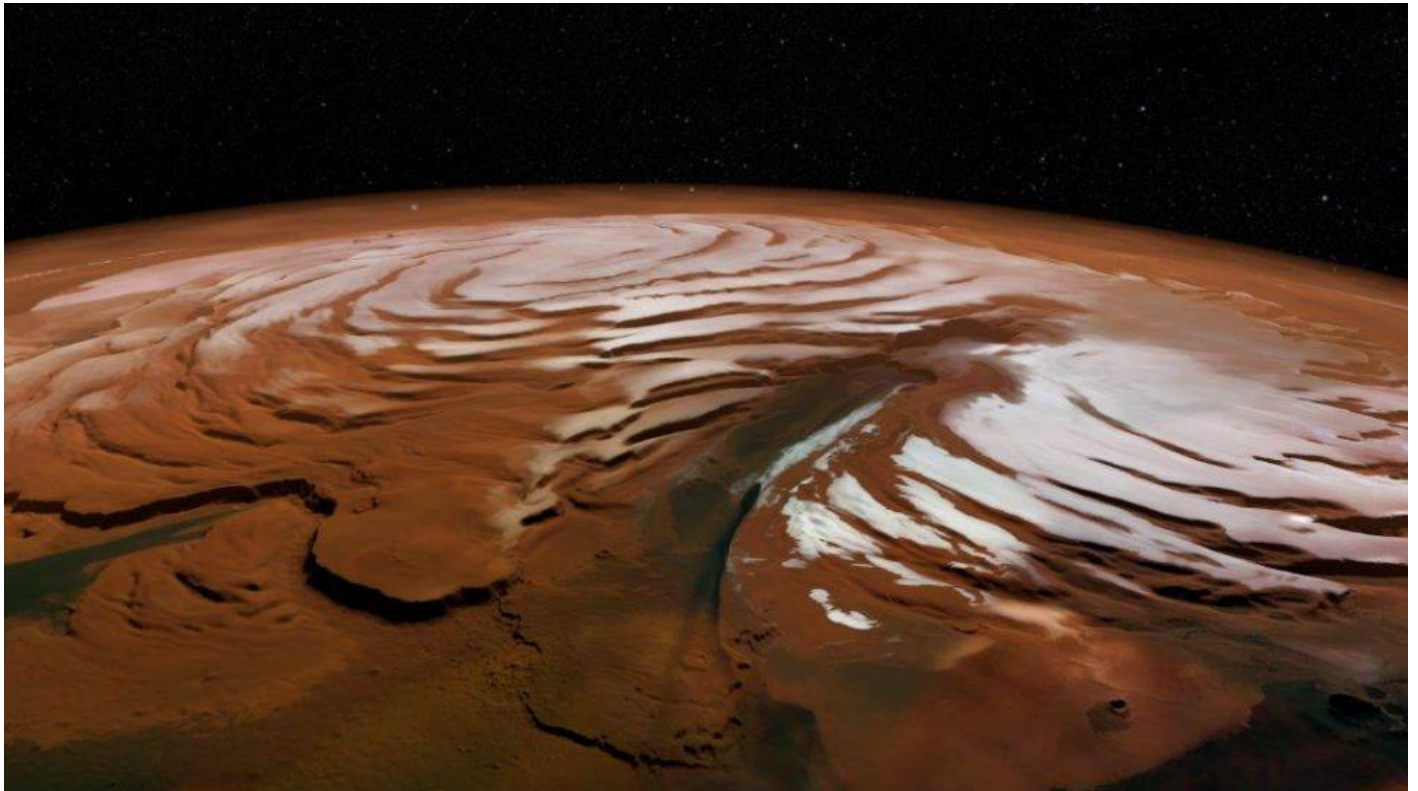
## **A Nuclear Rocket At Last?**



NASA is seeing increased funding to develop nuclear propulsion. The House Appropriations Committee approved May 22 a commerce, justice and science (CJS) appropriations bill that includes \$125 million for nuclear thermal propulsion development within the agency's space technology program, compared to an administration request for no funding.

Article: <https://spacenews.com/momentum-grows-for-nuclear-thermal-propulsion/>

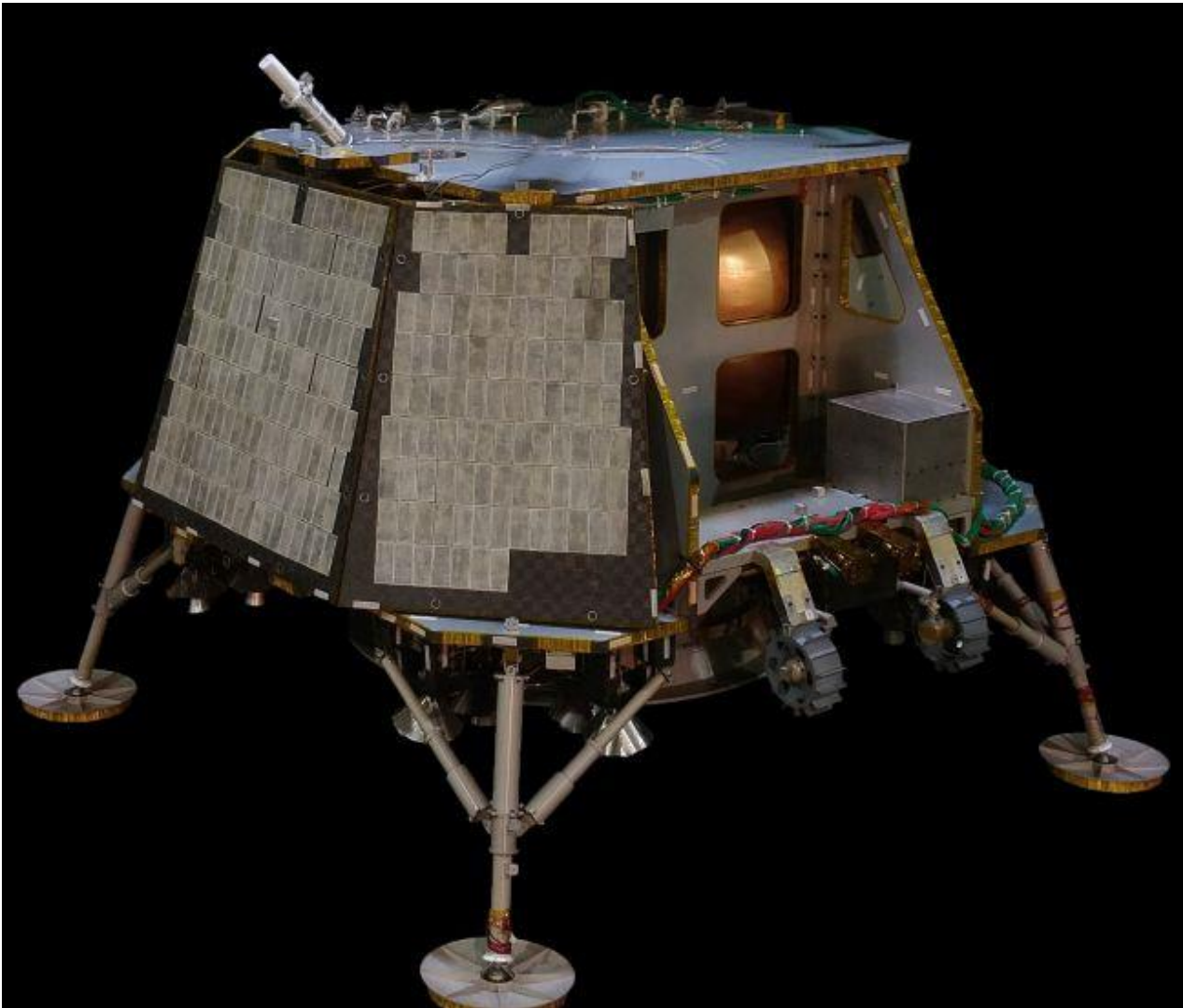
# Mars Has Even More Water Than We Thought



Scientists think they've stumbled on a layered mix of ice and sand representing the last traces of long-lost polar ice caps. They think there's enough there that if you melted it down and spread it evenly around the planet, it would flood Mars by about 5 feet (1.5 meters).

Article: <https://www.space.com/ancient-water-icecaps-discovered-on-mars.html>

# NASA Chooses First Three Commercial Lunar Landers



NASA has chosen the first commercial companies to carry the agency's equipment to the moon during its lead-up to a human landing in 2024: Astrobotic, Intuitive Machines and Orbit Beyond. The companies will build moon landers to ferry NASA science experiments and technology demonstrations to the lunar surface. The first mission, by Orbit Beyond, will launch in September 2020. The other two will launch in the summer of 2021.

Article: <https://www.space.com/nasa-picks-first-private-moon-lander-partners.html>



## NASA Selects Maxar to Build Lunar Gateway Propulsion Module



Maxar, formerly Space Systems Loral, will build one of the two modules for a stripped-down Lunar Gateway to support manned landings by 2024. But it looks like NASA still intends to build all the rest of the Gateway later.

Article: <https://www.space.com/nasa-artemis-moon-gateway-power-propulsion-module.html>

## This Week At NASA

Lots of rah-rah news about going back to the moon.

Videos: <https://www.youtube.com/watch?v=KfjvYuEI-0U>

<https://www.youtube.com/watch?v=QbtjIE2Sy8U>

<https://www.youtube.com/watch?v=gEjVPyALZno>

<https://www.youtube.com/watch?v=y7Z6R7DZFUs>

<https://www.youtube.com/watch?v=P3utzfQHbQQ>

# Bridenstine Says Cost for Return to Moon is About \$30 Billion



NASA Administrator Bridenstine still hasn't rolled out the plan for putting Americans on the moon by 2024, but he has a cost estimate for reaching "sustainable presence", presumably including the first few years after an initial landing.

Article : <https://www.space.com/nasa-moon-2024-return-cost-revealed.html>



## **Feature-length video:** Eileen Collins Speech at ISDC 2019



Eileen Collins, first woman to pilot and first woman to command the space shuttle, was awarded the Space Pioneer Award for Historic Space Achievement by the National Space Society at the 2019 ISDC. This is a video of her speech at the conference.

**That's All Folks**

