

Thaxted Astronomical Society

News

Features

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NASA Updates

Space Policies

<https://www.dailymail.co.uk/sciencetech/article-8511473/NASA-updates-policies-protect-moon-Mars-human-germs-hitchhike-astronauts.html>

NASA updates policies to protect the moon and Mars from human germs that may hitchhike on space missions - and to stop astronauts bringing alien microbes home with them

Daily Mail 10th July 2020 >

- **NASA is set to send crewed missions to the moon in 2024 and Mars in the 2030s**
- **The agency is updating its policies that protect outer space from human germs**
- **The moon has been classified in two categories to help astronauts prepare**
- **One part does not hold life and does not have any requirements**
- **The other is filled with craters that have water ice and may hold life**
- **Human microbes are not allowed on Mars and NASA will work on solutions**
- **The idea is to not contaminate the surfaces where samples may be pulled from**

As NASA gears up to send humans to the moon and Mars it is also working on new advances to protect the space terrains from human germs, along with keeping alien microbes from contaminating Earth.

The American space agency released updates to its Planetary Protection Policies that provide new requirements for both astronaut and robotic missions.

The added policies note that no biological matter is to be left on or around the moon and humans are to not contaminate any part of Mars or return to Earth with germs from the Red Planet..

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The first woman and next man are set to head to the moon in 2024 and the first crewed mission to Mars is planned for the 2030s – and as early as 2035.

ASA's Planetary Protection Policies are designed to prevent biological contamination of both Martian worlds and our Earth in the event germs from another planet find their back home when a mission returns.

And it has been a guiding principle for astronomers for over 50 years.

A major focus of the policies has been to protect the Solar System from human germs, along with keeping humans on Earth safe – NASA does not want astronauts bringing back Martian microbes.

However, as the space agency gears up for future missions to the moon and Mars, it is now rethinking the guidelines and has released 'interim directives.'

NASA administrator Jim Bridenstine said during a webinar announcing the new proposed changes: 'We need to relook at these policies because we can't go to Mars with humans if the principle that we're living by is that we can't have any microbial substances with us. 'Because that's just not possible.'

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The first directive focuses on the moon, as there is a 'rare risk that pollution carried by a spacecraft could jeopardize future missions.'

The document breaks the lunar orb into two different categories – the 'vast majority' and 'the very tips of the North and South Pole.'

The first category does not have requirements, as NASA determined life will not be found in these areas.

However, the second contains craters with water ice that are targets for the moon mission, Artemis.

'We need to make sure that when we go to the Moon, we're protecting those very important scientific sites where there is a risk of... harmfully contaminating the Moon from a biological perspective,' Bridenstine said.

'Under Category II, you can go there, but we just have to be really careful to inventory all of the biology that we may be taking with us.'

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For Mars, the space agency is not only concerned about contaminating the Martian surface, but also it contaminating robots and astronauts for when they return to Earth.

This directive establishes a path from knowledge gained from the International Space Station, Gateway, lunar surface operations, as well as robotic missions to Mars will be leveraged to prevent harmful forward and backward harmful biological contamination.

'It's vital that NASA's regulations remain synchronized with our capabilities and plans,' said Bridenstine.

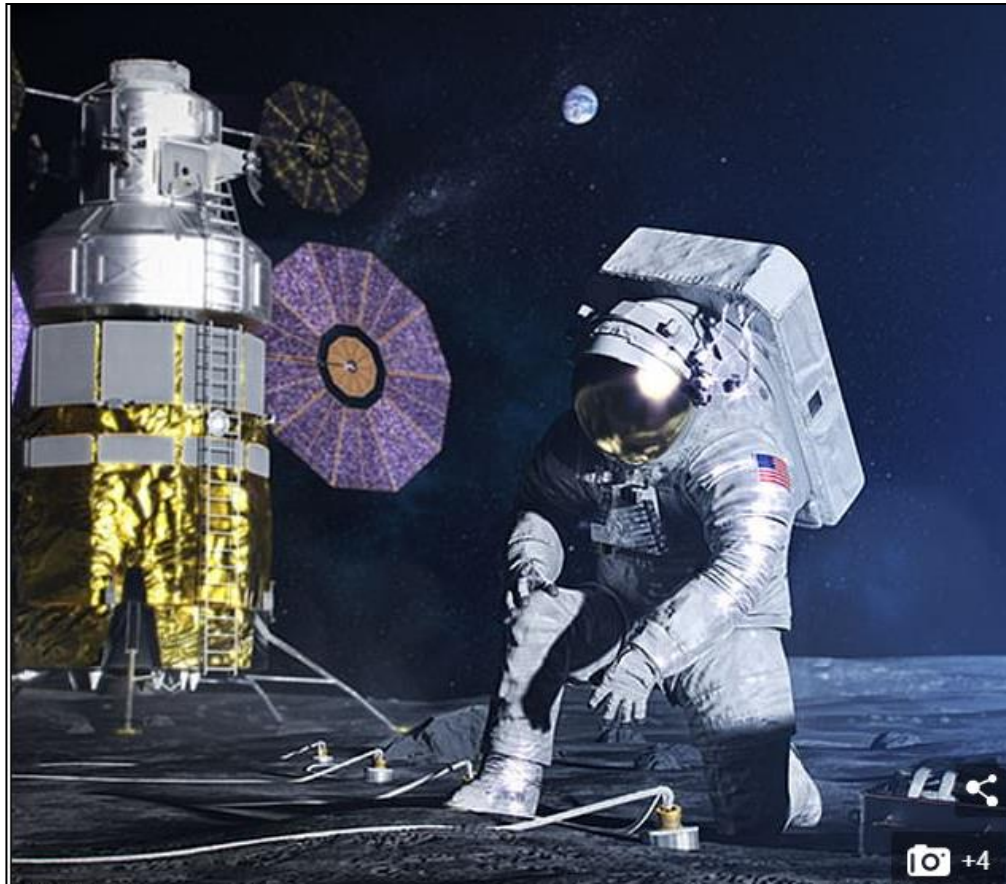
'This NID will enable the human exploration of Mars, creating new opportunities for awe inspiring science and innovative commercial activities. I believe science and human exploration are complimentary endeavors and I'm excited to see these policy reforms open up a new era of discovery.'

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The added policies note that no biological matter is left on or around the moon. However, the moon is now separated into two categories - one where life may exist and the other where it will not. This allows astronauts to better prepare for the Artemis mission



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NASA will land the first woman and next man on the Moon in 2024 as part of the Artemis mission
Artemis was the twin sister of Apollo and goddess of the Moon in Greek mythology.

NASA has chosen her to personify its path back to the Moon, which will see astronauts return to the lunar surface by 2024 - including the first woman and the next man.

Artemis 1, formerly Exploration Mission-1, is the first in a series of increasingly complex missions that will enable human exploration to the Moon and Mars.

Artemis 1 will be the first integrated flight test of NASA's deep space exploration system: the Orion spacecraft, Space Launch System (SLS) rocket and the ground systems at Kennedy Space Center in Cape Canaveral, Florida.

Artemis 1 will be an uncrewed flight that will provide a foundation for human deep space exploration, and demonstrate our commitment and capability to extend human existence to the Moon and beyond.

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NASA will land the first woman and next man on the Moon in 2024 as part of the Artemis mission. Artemis was the twin sister of Apollo and goddess of the Moon in Greek mythology.

During this flight, the spacecraft will launch on the most powerful rocket in the world and fly farther than any spacecraft built for humans has ever flown.

It will travel 280,000 miles (450,600 km) from Earth, thousands of miles beyond the Moon over the course of about a three-week mission.

Orion will stay in space longer than any ship for astronauts has done without docking to a space station and return home faster and hotter than ever before.

With this first exploration mission, NASA is leading the next steps of human exploration into deep space where astronauts will build and begin testing the systems near the Moon needed for lunar surface missions and exploration to other destinations farther from Earth, including Mars.

This will take crew on a different trajectory and test Orion's critical systems with humans aboard.

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The SLS rocket will go from an initial configuration capable of sending more than 26 metric tons to the Moon, to a final configuration that can send at least 45 metric tons.

Together, Orion, SLS and the ground systems at Kennedy will be able to meet the most challenging crew and cargo mission needs in deep space.

Eventually NASA seeks to establish a sustainable human presence on the Moon by 2028 as a result of the Artemis mission.

The space agency hopes this colony will uncover new scientific discoveries, demonstrate new technological advancements and lay the foundation for private companies to build a lunar economy.