

# Researchers call for strengthening sustainability regulations in laws governing space exploration

June 3 2024

---



Artist's impression of NASA-led Artemis Base Camp on the lunar south pole.  
Credit: NASA

In a new study, a team of researchers led by Dimitra Atri of the NYU Abu Dhabi (NYUAD) Center for Astrophysics and Space Science call for strengthening existing planetary protection policies beyond the space

surrounding Earth to include requirements for preserving the Lunar and Martian environments. In addition to biological contamination, they argue that guidelines should be expanded to address more than orbital debris, crowding, and security issues.

They also recommend adding compliance incentives to all existing and improved [sustainability](#) policies. Team members include Paulina Umansky from the University of California, Berkeley and K. R. Sreenivasan from New York University, New York.

In the paper titled "Sustainability as a core principle of space and [planetary exploration](#)" [published](#) in the journal *Space Policy*, the researchers present a new review of existing planetary protection laws and literature on planetary protection [policy](#) and identify key shortcomings of rules guiding [human space exploration](#). Specifically, they cite several questions that existing laws leave unaddressed—including issues of atmospheric and abiotic contamination—which constitute important gaps in planetary policy that must be confronted, collaboratively.

Additionally, the researchers present arguments for the necessity of sustainability on planetary objects such as the moon and Mars and offer examples of terrestrial benefits that could be derived from sustainable exploration practices in space. Specifically, they cite the potential development of new technologies that—while designed for sustainable uses beyond Earth—could advance terrestrial technology.



Artist's impression of NASA-led Artemis Base Camp on the lunar south pole.

Credit: NASA

"Sustainability must become a core principle of human space exploration," said Atri. "Just as we view [climate change](#) as the great challenge facing our terrestrial human society, the space community should begin to address space sustainability with the same urgency. The rules and procedures implemented now will govern the next generation of space exploration—rules that create a basis for clean and safe space exploration that will not only be productive and enforceable for years to come but are also stronger and more specific in their requirements and enforceability."

**More information:** Dimitra Atri et al, Sustainability as a core principle of space and planetary exploration, *Space Policy* (2024). [DOI: 10.1016/j.spacepol.2024.101636](#)

Provided by New York University

Citation: Researchers call for strengthening sustainability regulations in laws governing space exploration (2024, June 3) retrieved 23 June 2024 from <https://phys.org/news/2024-06-sustainability-laws-space-exploration.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.