# The environmental impact of space tourism amid climate change concerns



The Apollo 11 mission, marked by Neil Armstrong’s historic first steps on the Moon in 1969, is often encapsulated by the phrase, "That's one small step for man, one giant leap for mankind." At the time, environmental concerns were just beginning to emerge, with organisations such as Greenpeace founded the same year and Friends of the Earth following shortly thereafter. The primary focus during the Apollo era was the space race, with little consideration for the environmental consequences of rapid western industrialisation and the impending global effects of fossil fuel reliance.

Fast forward to 2025, and climate change has taken centre stage, with daily news reports underscoring how global warming is exacerbating severe weather events such as storms, floods, heatwaves, and wildfires. Records for global temperatures are being shattered as the world approaches a critical threshold of 1.5°C of warming.

In a recent high-profile voyage, singer Katy Perry, alongside fellow female passengers, returned to Earth after a spaceflight with Blue Origin, where she sang a rendition of "What a Wonderful World" by Louis Armstrong. Post-flight, Perry expressed sentiments about environmental stewardship while appreciating the beauty of the planet. Lauren Sanchez, the fiancée of Amazon founder Jeff Bezos, echoed this sentiment, stating, “Protect this planet we're on, this is the only one we've got.” Nonetheless, their remarks failed to address the detrimental impact of space tourism on the environment.

The emissions from rocket engines can contribute to climate change, with gases and particles potentially affecting both the climate and the ozone layer. Blue Origin's website promotes its mission under the slogan "Protecting our Planet," claiming that the only byproduct of the New Shepard rocket's engine combustion is water vapour, with no carbon emissions. However, experts like Eloise Marais, a professor of Atmospheric Chemistry and Air Quality at University College London, highlight that water vapour is also a greenhouse gas. Marais noted that it can disrupt the chemical balance of the stratosphere, deplete the ozone layer, and lead to cloud formation that influences climate patterns.

Experts caution that as the frequency of space launches increases, so does the potential for harm to the ozone layer. While some argue that human space travel presents opportunities to address climate issues, such as the initiatives discussed by astronaut Tim Peake at COP26 in Glasgow, it is the scientific missions carried out by professional astronauts that promise real benefits for the planet. Celebrity-led space tourism, however, often draws criticism for seeming disconnected from pressing environmental actions.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://nss.org/settlement/nasa/spaceresvol4/environment.html> - This article discusses the environmental impacts of space activities, emphasizing the importance of managing the built environment in space to preserve the natural environment, particularly on the Moon.
2. <https://www.sgr.org.uk/resources/dark-side-moon-landings> - This source highlights the environmental concerns associated with human spaceflight, such as pollution and climate change impacts. It criticizes the environmental footprint of both historical missions like the Moon landings and modern space tourism.
3. <https://www.space.com/apollo-11-moon-landing-science-legacy.html> - This article explores the scientific legacy of Apollo 11 and the significant scientific contributions of lunar missions, which continue to yield insights into the solar system's origins.
4. <https://www.amnh.org/explore/news-blogs/apollo-11-scientific-legacy> - This article provides an overview of the enduring scientific contributions of Apollo 11, highlighting how the mission continues to inform our understanding of the Moon's origins and its relationship to Earth.
5. <https://www.lpi.usra.edu/lunar/missions/apollo/apollo_11/samples/> - This resource details the samples collected during Apollo 11, emphasizing their significance in understanding the Moon's geological composition and history.
6. <https://www.blueorigin.com/news/blue-origin-and-ucla-announce-partnership-to-create-new-payload-carrying-vehicle/> - Although Blue Origin's website does not specifically mention environmental impacts in this link, other sources (like the text) discuss how Blue Origin positions itself as environmentally conscious, claiming water vapour as its only combustion byproduct.
7. <https://www.mirror.co.uk/news/world-news/nada-farhoud-katy-perry-couldve-35055300> - Please view link - unable to able to access data