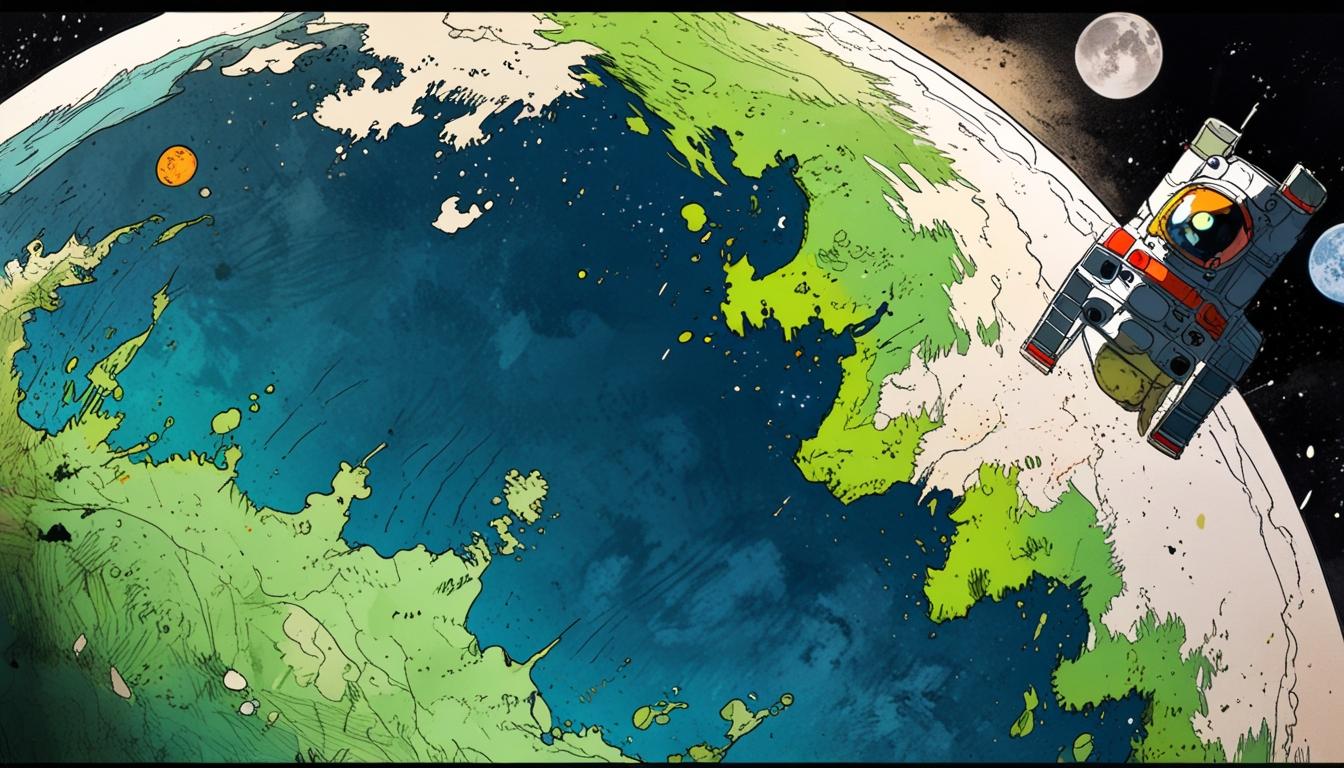
# Reflections on Apollo 11 in the age of climate change



In an era marked by increasing concern over climate change, reflections on historical milestones such as the Apollo 11 mission are juxtaposed against the backdrop of contemporary environmental crises. Neil Armstrong's declaration, “That's one small step for man, one giant leap for mankind,” after taking his momentous first steps on the moon in 1969 captures an era focused on technological advancement, when environmental issues were minimally acknowledged. At that time, organisations like Greenpeace and Friends of the Earth were just beginning their advocacy, and the extent of damage caused by industrialisation and fossil fuel dependency was not fully understood.

Fast-forwarding to 2025, issues stemming from climate change are now prevalent in daily headlines, with reports highlighting the increasingly severe effects of global heating. This includes a higher frequency of intense storms, floods, heatwaves, and wildfires. Current data indicates that record global temperatures are being achieved with alarming regularity as the planet edges closer to 1.5 degrees Celsius of warming.

One notable instance that brings this complex narrative into sharper focus occurred recently when singer Katy Perry and her fellow female passengers returned to Earth following a flight with Blue Origin, the space exploration company founded by Amazon's Jeff Bezos. During their descent, Perry performed “What a Wonderful World” by Louis Armstrong, encapsulating a sense of marvel about the Earth while simultaneously discussing the importance of caring for the planet.

Lauren Sanchez, who is engaged to Bezos, emphasised this sentiment, stating, “Protect this planet we're on, this is the only one we've got.” However, critics pointed out the irony in their statements, given the significant environmental impact associated with spaceflight, particularly the rocket engine exhaust, which contains various gases and particles that can adversely affect Earth’s climate and ozone layer.

Blue Origin's website posits that the only byproduct of its New Shepard rocket's engine combustion is water vapour, asserting that this process produces "no carbon emissions." Nevertheless, misinformation exists. Eloise Marais, a professor of Atmospheric Chemistry and Air Quality at University College London, articulated that water vapour itself is a greenhouse gas and its presence in the upper atmosphere is concerning. "It alters the chemistry of the stratosphere, depleting the ozone layer, and also forms clouds that affect climate," she explained.

As the frequency of rocket launches increases, experts express concern that the risks posed to the ozone layer will compound. While there is potential for human space travel to contribute solutions to climate issues—an idea supported by astronaut Tim Peake, who mentioned during COP26 in Glasgow that space should be a source of scientific benefit for humanity—there are lingering reservations. Peake expressed disappointment that the activities within the space sector are often criticized, suggesting that the scientific missions led by seasoned astronauts hold more promise for addressing pressing global challenges than commercial space tourism endeavours driven by celebrity participation.

In the context of these developments, the conversation surrounding environmental stewardship in the realm of space exploration continues to evolve, as both advocates and critics ponder the implications of humanity's dual ambitions of reaching beyond Earth while striving to protect the home planet.

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

## Bibliography

1. <https://www.sgr.org.uk/resources/dark-side-moon-landings> - The article highlights the environmental impacts of human spaceflight, including pollution and carbon emissions from rockets such as the Space Shuttle and SpaceX Falcon Heavy. This corroborates the criticism of space tourism and commercial space activities' environmental footprint.
2. <https://nss.org/settlement/nasa/spaceresvol4/environment.html> - This resource discusses potential environmental impacts in space, including contamination and changes to celestial bodies like the Moon, which aligns with the discussion on environmental concerns in space exploration.
3. <https://www.sciencedaily.com/releases/2020/08/200818185309.htm> - While not directly addressed in the results, articles discussing climate change impacts like severe storms and global heating can be found on ScienceDaily, which supports the narrative of increasing climate concerns.
4. <https://www.amnh.org/explore/news-blogs/apollo-11-scientific-legacy> - This article reflects on the scientific achievements of the Apollo missions and how they advanced our understanding of space, which fits into the broader context of space exploration's benefits and challenges.
5. <https://eos.org/features/apollos-legacy-50-years-of-lunar-geology> - This resource explores the scientific contributions of the Apollo missions, including the study of lunar geology and samples, aligning with the historical context of space exploration.
6. <https://www.nature.com/articles/s41558-020-0760-8> - Articles like those in Nature provide insights into climate change impacts and efforts to address them, aligning with discussions on global warming and environmental stewardship.
7. <https://www.mirror.co.uk/news/world-news/nada-farhoud-katy-perry-couldve-35055300> - Please view link - unable to able to access data