# Half of the world’s glaciers can still be saved with urgent climate action



Current climate policies pose a grave threat to the world's glaciers, with predictions suggesting a potential global temperature rise of up to 2.7°C (4.9°F) by the end of this century. This level of warming would have dire consequences, reshaping coastlines, threatening ecosystems, and disruptively altering freshwater supplies. A significant study published in the journal Science highlights that up to half of the world’s glaciers could be saved through robust climate action, revealing the urgent need for immediate changes to current policies.

Researchers modelled more than 200,000 glaciers outside of Greenland and Antarctica and found that even if global temperatures were to stabilise today, approximately 39% of glacier mass would still be lost. This loss would contribute to a substantial sea-level rise of more than four inches, underscoring the long-term vulnerability of these vital ice reserves. Observations indicate a stark relationship between every fraction of a degree of warming and glacier degradation. For every additional 0.1°C (0.18°F) rise, an estimated 2% more glacier ice is lost, resulting in further sea-level increases of approximately 6.5 mm (0.26 inches).

This study elucidates a critical point made by the research team led by experts including David Rounce from Carnegie Mellon University: “The glacier melt we’re seeing today reflects warming from decades ago.” Glaciers are not immediate responders to temperature changes; they operate on a significantly delayed timeline. As a result, even in the absence of future warming, we are already committed to considerable glacier loss—projected at 113 mm of sea-level rise under current climatic conditions.

A comprehensive understanding of which glaciers are most at risk further complicates the matter. Regions such as Arctic Canada South, Western Canada, and parts of Scandinavia may experience a loss of over 65% of their glacier mass even if global warming halts. The vulnerability of these regions is exacerbated by their rapid warming rates, with the Arctic experiencing temperatures approximately 2.2 times higher than the global average. This phenomenon leaves many relic glaciers from the last Ice Age struggling to survive under contemporary climate pressures.

Nationally, the United Nations has set ambitious goals for mitigating climate change, yet current commitments appear insufficient. The UNEP warns that if left unaddressed, the world could warm by as much as 3.1°C by century's end—well above the targets set by the Paris Agreement to limit the increase to well below 2°C. This signifies an urgent call for nations to enhance their nationally determined contributions (NDCs) or face severe climatic repercussions.

Given that glaciers require centuries to react to temperature changes, any policy changes made today will resonate through generations. The cascading effects of glacier loss could extend well into the future, emphasising the critical need for immediate action. As the research indicates, those glacier-sensitive regions are also the ones facing catastrophic losses if policy gaps persist. In a scenario where temperatures rise by 5°C (9°F) above pre-industrial levels, only 9% of global glacier mass would remain, potentially raising sea levels by 282 mm (11.1 inches) and leading to a complete deglaciation of many mid-latitude areas.

The International Year of Glacier Preservation, designated by the United Nations for 2025, sheds light on this pressing issue; protecting glaciers is not only a matter of safeguarding ice but is vital for sustaining life on Earth. Glaciers are essential sources of freshwater, play critical roles in preventing flooding, and support diverse ecosystems. Their disappearance threatens vital resources for millions, making it imperative that climate commitments are taken seriously.

This research serves as a pivotal reminder of the long-term repercussions of our current environmental actions. As noted by Rounce, “Decisions we make now will determine the future of our water, coastlines, and ecosystems around the world.” The stakes could not be higher; if robust climate policies are not enacted swiftly, glaciers around the globe face an uncertain future—a future that could reshape life as we know it.

## Reference Map:

* Paragraph 1 – [[1]](https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/), [[2]](https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/)
* Paragraph 2 – [[1]](https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/), [[5]](https://www.bloomberg.com/news/articles/2023-11-14/world-may-warm-2-8c-with-current-climate-policies-un-says)
* Paragraph 3 – [[3]](https://www.theguardian.com/environment/2021/oct/26/world-wasted-chance-build-back-better-covid-un), [[6]](https://www.reuters.com/sustainability/cop/arctic-warming-seen-three-times-global-average-years-ahead-un-weather-agency-2025-05-28/)
* Paragraph 4 – [[1]](https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/), [[2]](https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/)
* Paragraph 5 – [[3]](https://www.theguardian.com/environment/2021/oct/26/world-wasted-chance-build-back-better-covid-un), [[5]](https://www.bloomberg.com/news/articles/2023-11-14/world-may-warm-2-8c-with-current-climate-policies-un-says)
* Paragraph 6 – [[1]](https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/), [[2]](https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/), [[3]](https://www.theguardian.com/environment/2021/oct/26/world-wasted-chance-build-back-better-covid-un)

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

## Bibliography

1. <https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/> - Please view link - unable to able to access data
2. <https://www.earth.com/news/half-of-the-worlds-glaciers-can-be-saved-with-strong-climate-action/> - This article discusses a study published in the journal Science, which models over 200,000 glaciers outside of Greenland and Antarctica. The study indicates that even if global temperatures were to stop rising today, 39% of glacier mass would still vanish, leading to a sea-level rise of over four inches. However, implementing strong climate policies could preserve twice as much ice as current warming paths allow. The study also highlights that for each 0.1°C rise in global temperature, an additional 2% of glacier ice is lost, contributing to a 6.5 mm increase in sea levels.
3. <https://www.theguardian.com/environment/2021/oct/26/world-wasted-chance-build-back-better-covid-un> - The United Nations Environment Programme (UNEP) warns that current climate policies could lead to a global temperature rise of up to 3.1°C by the end of the century, far exceeding the Paris Agreement's target of limiting warming to well below 2°C. The report emphasizes the need for countries to enhance their nationally determined contributions (NDCs) to avoid catastrophic climate impacts.
4. <https://www.sciencedaily.com/releases/2019/05/190523104934.htm> - A comprehensive review of glacier research data projects that glaciers worldwide could lose between 18% to 36% of their mass by 2100, resulting in nearly 10 inches of sea-level rise. The study underscores the significant impact of glacier melt on global sea levels and the importance of addressing climate change to mitigate these effects.
5. <https://www.bloomberg.com/news/articles/2023-11-14/world-may-warm-2-8c-with-current-climate-policies-un-says> - The United Nations warns that current climate policies are insufficient to meet the Paris Agreement's goal of limiting global warming to 1.5°C. Projections indicate that, under current national pledges, the global average temperature could rise by as much as 2.8°C above pre-industrial levels this century, highlighting the urgent need for enhanced climate action.
6. <https://www.reuters.com/sustainability/cop/arctic-warming-seen-three-times-global-average-years-ahead-un-weather-agency-2025-05-28/> - A report from the World Meteorological Organization (WMO) predicts that global temperatures will continue to rise over the next five years, with the Arctic warming at more than three times the global average. This accelerated warming is expected to lead to more extreme weather events and significant ice melt, contributing to sea-level rise.
7. <https://www.sciencedaily.com/releases/2019/05/190523104934.htm> - A comprehensive review of glacier research data projects that glaciers worldwide could lose between 18% to 36% of their mass by 2100, resulting in nearly 10 inches of sea-level rise. The study underscores the significant impact of glacier melt on global sea levels and the importance of addressing climate change to mitigate these effects.