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Global Ice Loss Dangerously Expanding, Scientists Say

Yet growing damage from melting glaciers and ice sheets can still be prevented -- barely.

Current unambitious climate commitments, leading the world to well over 2°C of warming, spell disaster for billions of people from global ice loss, but that damage can still be prevented, according to an [assessment](#) released today.

Latest research detailed in the 2025 *State of the Cryosphere Report* notes thresholds likely at just 1°C of warming for the stability of polar ice sheets, and even lower temperatures for many glaciers. The Report also notes however that the most proactive climate pathways can bring temperatures down below 1.5°C by 2100 and below 1°C mark next century -- but only if reductions begin immediately.

Currently, emissions are still climbing, generating not just cryosphere (ice and snow) melt but ocean acidification that has reached dangerous levels in polar waters, say the scientists.

Coordinated by the [International Cryosphere Climate Initiative](#) (ICCI), over 50 leading cryosphere scientists detail accelerating melt from the cryosphere since signing of the Paris Agreement in 2015.

The Report warns that costs of loss and damage due to continued high emissions – leading towards 3°C – will be even more extreme, with many regions experiencing sea-level rise or water resource loss well beyond adaptation limits in coming decades or even today, as the tragic damage on Jamaica showed in late October.

The Report notes a growing scientific consensus that freshwater pouring off the melting Greenland and Antarctic ice sheets, together with warmer waters, seem to be slowing important ocean currents at both poles, which would wreak havoc on ocean ecosystems and bring much colder temperatures to northern Europe.

Other key findings of the Report:

- Slowing sea-level rise to a manageable level requires a long-term temperature goal at, or even below 1°C.
- Staying even at current warming levels of 1.2°C will likely lead to several meters of sea-level rise over coming centuries, exceeding coastal adaptation limits.
- The European Alps, Scandinavia, Rockies of North America and Iceland would lose at least half their ice at or below sustained 1°C, and all or nearly all ice at 2°C.
- Sea ice at both poles has declined year-round, and combined Arctic and Antarctica sea ice this year hit its lowest area ever in February 2025.
- Ocean acidification has passed critical thresholds in much of the Arctic and Southern Oceans, with some regions reaching non-survivable levels for shelled life.

- Permafrost is now confirmed as a net source of carbon emissions, releasing more carbon into the atmosphere than these ecosystems absorb in the growing season.

Most of these changes will be irreversible for centuries, or even thousands of years.

At the same time, the Report asserts that the worst impacts can still be avoided, based on new findings also released today by [Climate Analytics](#) and the Potsdam Institute. These "Highest Possible Ambition" (HPA) pathways show that despite overshoot as high as 1.8°C, temperatures can be lowered this century through a combination of aggressive emissions cuts and land-based carbon dioxide removal techniques.

This would slow and then halt glacier, snow and sea ice loss, as well as permafrost thaw. Parts of the polar ice sheets, especially those of West Antarctica, may well have passed so-called "tipping points" or thresholds for collapse. However, these can be drastically slowed, especially if temperature can return below 1°C next century. This is the difference between facing 3 meters' sea-level rise early next century (with current emissions), versus that amount in one or two thousand years.

The publication of the *State of the Cryosphere Report 2025* comes as global leaders gather in Belém, Brazil for a Climate Leaders Action Summit in conjunction with the UNFCCC Conference of the Parties (COP30), and as the world's governments share their latest climate pledges (NDCs).

The COP30 host is itself vulnerable to climate change impacts, with the site of the COP30 becoming beachfront should 10 meters be reached, which the IPCC notes cannot be ruled out by 2300 with current emissions. Scientists plan a demonstration at the site to underscore these risks, stressing that rapid measures to reduce emissions and halt overshoot can avert the worst damage from current and future ice loss, and cut the ultimate costs to vulnerable nations and high emitters alike.

"Landmark science published in 2025 shows beyond doubt that even current temperatures are too high to maintain the long-term stability of glaciers and ice sheets, says Dr. James Kirkham, Chief Scientist to the [Ambition on Melting Ice](#) (AMI) high-level group of nations and an author on the Report. "Preserving the Earth's cryosphere now means reaching 1.5°C by 2100 and lowering temperatures towards 1°C thereafter."

"Our polar oceans are undergoing massive disruptions that will change these environments at a very basic level, from corrosive waters to slowdown of ocean currents that will last hundreds or thousands of years, noted Dr. Helen Findlay of Plymouth Marine Laboratories in the UK. "These changes have huge consequences for the rest of the planet. Halting CO2 emissions is the only way to stop this."

"The best and worst part of these findings is that none of this damage is necessary," added Pam Pearson, ICCI's Director. "There's no need to put our heads in the sand and claim we'll just adapt, likely meaning that only the richest survive; or resort to damaging so-called geo-engineering schemes that waste time and money. We have all the tools to change, as the new HPA pathways detail. We just need to use them."

"Policy makers at COP30 must stop denying this physical reality and finally deliver the deep, rapid and sustained emissions reductions need to protect global security from accelerating ice losses," concluded Kirkham.

ENDS

Resources:

Dropbox with Report and Image files:

<https://www.dropbox.com/scl/fo/ymahiug15hu867cqiaezk/AECaOS1eTxgT4mwznQSCNAI?rlkey=8xjhh4vodeecofrppot0oei5f&e=1&dl=0>

Additional Materials and Media Kit:

https://drive.google.com/drive/folders/1YJH2EmBbhhAs4r_sknBL3RXD41dN5t8Y?usp=sharing

Media Event in Belem and Online:

A press event on the report's release will be held at COP30 (Blue Zone) in Belém on Thursday, Nov. 13 at 18:30 BRT in the Cryosphere Pavilion, and livestreamed at www.youtube.com/@iccinet

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