Hydro Politics Newsletter
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The Accelerated Glaciers Melting:

A State of Emergency

The accelerated melting of glaciers is a dramatic illustration of the impact of climate change. It demonstrates the need to accelerate and strengthen climate action to preserve human livelihoods and wellbeing and secure ecosystem integrity, as well as to draw the attention of the general public and decision-makers to this major phenomenon.

All over the world, glaciers huge masses of slowly moving ice that cover around 10 per cent of the Earth's surface are retreating. In the tropical Andes, between 78 and 97 per cent of their volume could be lost by 2100, according to UNESCO data.

We preserve glaciers because they are vital freshwater reserves, regulate global sea levels, and reflect sunlight to help cool the Earth. They also support ecosystems and local communities that depend on glacier-fed water. Melting glaciers contribute to rising sea levels and disrupt habitats, making their preservation crucial for climate stability and biodiversity.

Glaciers store about 69% of the world's freshwater, supplying drinking water and irrigation to millions of people. As they melt, they provide a steady flow to rivers and streams, especially during dry seasons.

Glaciers reflect a significant amount of solar radiation back into space due to their high albedo (reflectivity). This helps regulate the Earth's temperature. When glaciers shrink, darker land or water surfaces are exposed, absorbing more heat and accelerating global warming.

Melting glaciers contribute to rising sea levels, which can lead to coastal flooding and habitat loss. Preserving glaciers helps mitigate the pace of sea level rise.

Glacier-fed rivers and streams are crucial for many ecosystems, providing cold, oxygen-rich water that supports unique plant and animal life. Many communities, especially in mountainous regions, rely on glaciers for tourism, agriculture, and cultural practices. Losing glaciers can harm local economies and disrupt traditions.

In short, preserving glaciers is essential for maintaining freshwater availability, regulating the climate, protecting ecosystems, and supporting human livelihoods.

Dursun Yıldız

Director

World Water Day 2025-Glacier Preservation

World Water Day 2025 will focus on the theme, 'Glacier Preservation,' to highlight the critical role of glaciers in sustaining life and the water cycle. Glaciers, mountain run-off, and snowmelt provide nearly two billion people with water for drinking, agriculture, and energy production. The Day aims to raise awareness on the challenges created by melting glaciers and calls on the global community to accelerate carbon emission reductions and implement local strategies to adapt to shrinking glaciers and uncertainties in water flows.

Glacier preservation

Glaciers are melting faster than ever. As the planet gets hotter, our frozen world is shrinking, making the water cycle more unpredictable. For billions of people, meltwater flows are changing, causing floods, droughts, landslides and sea level rise. Countless communities and ecosystems are at risk of devastation.

As we work together to mitigate and adapt to climate change, glacier preservation is a top priority.We must reduce greenhouse gas emissions to slow down glacial retreat.And, we must manage meltwater more sustainably.

Saving our glaciers is a survival strategy for people and the planet.

Key messages for World Water Day 2025

- **Glaciers are melting faster than ever.** As the planet gets hotter due to climate change, our frozen world is shrinking, making the water cycle more unpredictable and extreme.

- **Glacial retreat threatens devastation.** For billions of people, meltwater flows are changing, causing floods, droughts, landslides and sea level rise, and damaging ecosystems.

Did you know?

In 2023, glaciers lost more than 600 gigatons of water, the largest mass loss registered in 50 years. (WMO)
About 70% of Earth's freshwater exists as snow or ice. (WMO)
Nearly 2 billion people rely on water from glaciers, snowmelt and mountain run-off for drinking, agriculture, and energy production. (UN-Water/UNESCO)
Increased glacier melting contributes significantly to global sea-level rise, with today's sea level about 20 cm higher than in 1900. (IPCC)

Limiting global warming to 1.5°C could save glaciers in two-thirds of World Heritage sites. (UNESCO/IUCN)

2025 International Year of Glaciers' Preservation

Glaciers are crucial for regulating the global climate and providing freshwater, essential for billions of people. However, due to climate change, driven mainly by human activities since the 1800s, these vital resources are rapidly melting. The United Nations has designated 2025 as the International Year of Glaciers' Preservation to highlight the importance of glaciers and ensure that those relying on them, and those affected by cryospheric processes, receive the necessary hydrological, meteorological, and climate services. These efforts underscore the critical role mountain regions play as a key source of global freshwater and ecosystem services.

UNESCO and the World Meteorological Organization (WMO) officially launch the International Year of Glaciers' Preservation, marking a crucial milestone in global efforts to protect the vital ice that provides freshwater to over 2 billion people. This global and coordinated initiative throughout the year will seek to highlight about the critical role of glaciers and address the urgent challenges posed by accelerated glacier melt.

Around 70% of the global freshwater is stored in glaciers and ice sheets, however these ice formations are rapidly retreating due to climate disruption. Preserving these crucial resources is essential for environmental sustainability, economic stability and safeguarding cultures and livelihoods.The United Nations General Assembly proclaimed 2025 as the International Year of Glaciers' Preservation to raise awareness on the vital role glaciers, snow, and ice play in the climate system and water cycle, as well as the far-reaching impacts of rapid glacial melt.

WMO recently confirmed that 2024 was the warmest year on record and has sounded repeated Red Alerts about the state of our climate, including the retreat of glaciers. In 2023, glaciers suffered the largest mass loss in the five decades of record-keeping. It was the second

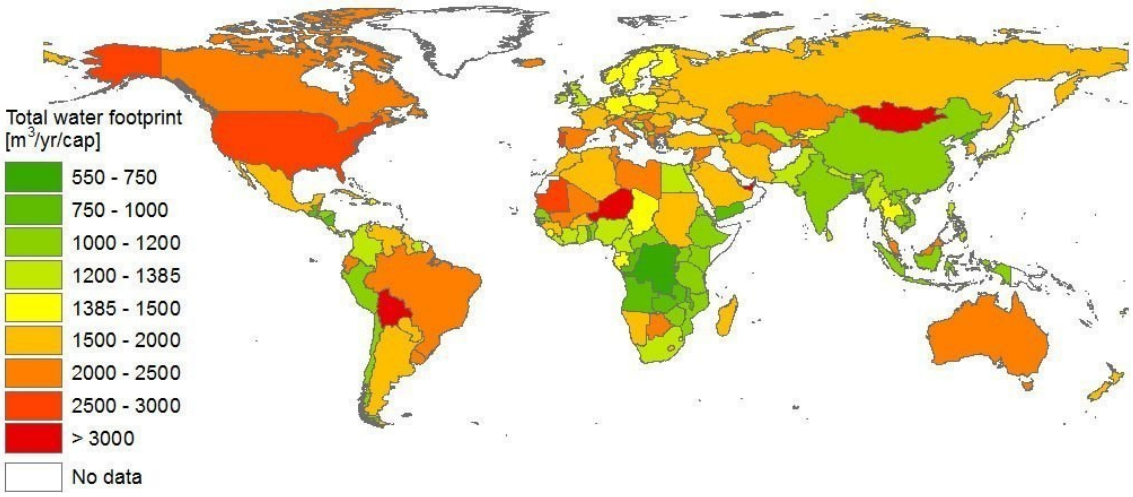
consecutive year in which all regions in the world with glaciers reported ice loss. Melting ice and glaciers threaten long-term water security for many millions of people. This international year must be a wake-up call to the world.

The International Year of Glacier Preservation will focuses on several critical areas:

- Expanding global glacier monitoring systems to enhance data collection and analysis
- Developing early warning systems for glacier-related hazards
- Promoting sustainable water resource management in glacier-dependent regions
- Preserving cultural heritage and traditional knowledge related to glacial environments
- Engaging youth in glacier preservation efforts and climate action

The International Year of Glaciers' Preservation 2025 will mobilize governments, scientific institutions, private sector organizations, and civil society to urgently reduce greenhouse gas emissions and implement effective adaptation strategies. Only through collaborative action and increased awareness will these vital resources be preserved for future generations.

Global Water Inequality



Water shortage is the reality for billions worldwide who face the daily struggle of water inequality. It's not just about thirst but survival, dignity, and hope. In 2023, UNESCO reported that 2 billion people lack access to safe drinking water, while 3.6 billion, nearly half of humanity, live without safely managed sanitation services. These numbers represent real lives filled with challenges that many of us can hardly imagine.

Let's dive deeper into this issue not as a dry report but as a story of inequity, resilience, and the urgent need for change.

The Water Divide – Geographical Disparities

The disparities in water access are not uniform; they vary significantly by region. For instance, in the Middle East, countries like Lebanon face critical water shortages exacerbated by economic crises and mismanagement of resources. More than 71% of Lebanon's population struggles with water scarcity, and this crisis disproportionately affects vulnerable communities, including refugees.

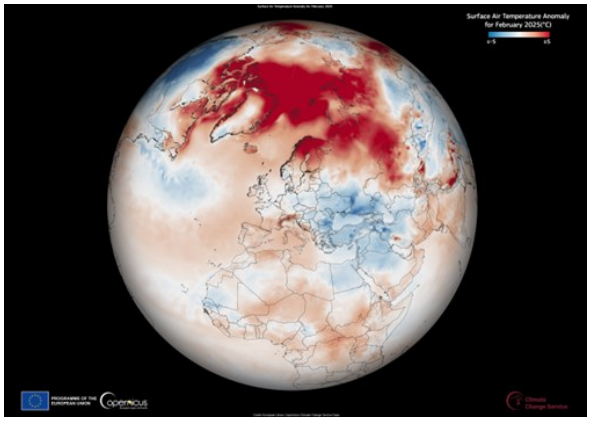
In South Asia, Pakistan is on the brink of absolute water scarcity due to rapid urbanization and climate change impacts. Experts warn that without immediate intervention, the country could face severe consequences for its population's health and agricultural productivity. Karachi alone has over 16 million residents lacking access to clean water.Meanwhile, in Latin America and the Caribbean, 25% of the population lacks access to drinking water, with rural communities facing even greater challenges. Here, unequal pricing systems mean that those who need water the most often pay disproportionately higher rates compared to wealthier urban residents.

Now compare this with wealthier nations where clean water flows freely at the turn of a tap. Here, families spend less than 0.1% of their income on water, so little that it doesn't even register as an expense for most people. Meanwhile, in Madagascar, low-income households might spend up to 45% of their daily earnings on this necessity. This disparity is not just unfair; it's heartbreaking.

Climate change exacerbates these geographical disparities by altering weather patterns and increasing the frequency of extreme weather events. Regions like sub-Saharan Africa experience prolonged droughts that deplete already limited water resources. According to UNICEF data from 2022, over 703 million people worldwide lack basic drinking water services, with sub-Saharan Africa home to a significant portion of this population.

Conflict and instability further complicate access to clean water in countries like Afghanistan and Sudan. In Afghanistan, ongoing political turmoil has led to severe droughts and unsafe drinking conditions for 8 out of every 10 Afghans, while in Sudan, over 40% of families lack essential water services due to a combination of agricultural demands and desertification.

February 2025 was the third warmest February on record globally



11/03/2025

The Copernicus Climate Change Service (C3S) has published its latest monthly Climate Bulletin, focused on key climate trends in February 2025.

The bulletin reports that February 2025 was the third warmest February on record globally, with an average surface air temperature of 13.36°C, 0.63°C above the 1991-2020 average for the month. Furthermore, February 2025 measured 1.59°C above the pre-industrial average.

This data visualisation, based on C3S data, shows Europe, where the average temperature for February was 0.44°C, 0.40°C above the 1991-2020 average. Outside of Europe, temperatures were above average in large parts of the Arctic, particularly over Greenland, Svalbard (Norway), and Canada. More information is available here.

C3S provides open data which is essential for monitoring global climate trends. This information provides evidence-based insights for the creation and implementation of climate strategies.

Source : https://www.copernicus.eu/en/media/image-day-gallery/february-2025-was-third-warmest-february-record-globally

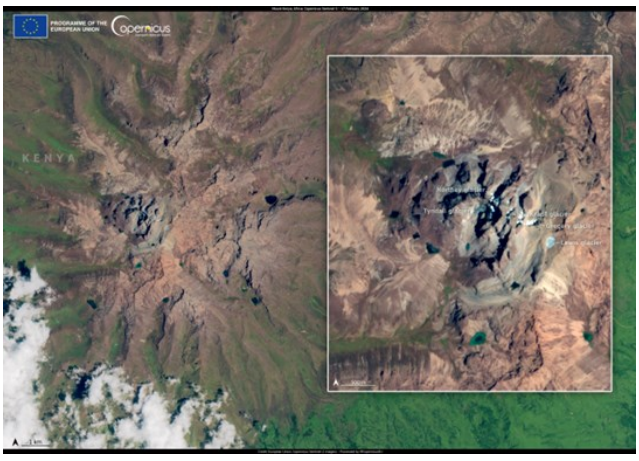
African glaciers have almost disappeared in one century

23/02/2024

A recent study sheds light on the alarming rate at which glaciers are disappearing in Africa, particularly on Mount Kenya, Kilimanjaro and the Ruwenzori Mountains. Despite the fact they are close to the equator, these glaciers serve as critical indicators of climate change. The study, published in the *Environmental Research*: Climate journal, reveals a drastic decline, with over 90 per cent of glacier area lost since the early 20th century. This alarming trend, driven by reduced precipitation and increased solar radiation, underscores the rapid pace of climate change in the region. The findings of the study highlight the urgent need for action to mitigate the devastating effects of climate change on these iconic African landscapes.

This image, acquired on 17 February 2024 by one of the Copernicus Sentinel-2 satellites, shows the degradation of the ice cover in the glaciers of Mount Kenya.

Copernicus enables glacier monitoring by using satellite data to track changes in glacier extent, ice thickness and movement.



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We need to built a future,
Where people live in harmony with nature

HPA

Think Forward , Lead Forward