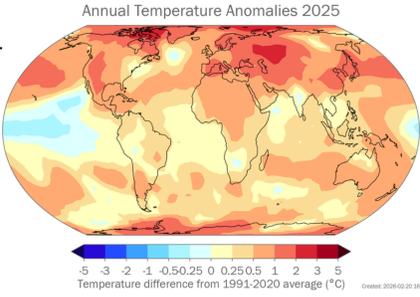


# STATE OF THE GLOBAL CLIMATE 2025

Globally, 2025 was the 2nd or 3rd warmest year on record

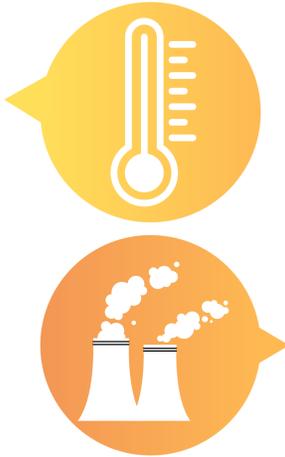
**1.43 ± 0.13 °C**

above the 1850-1900 average.

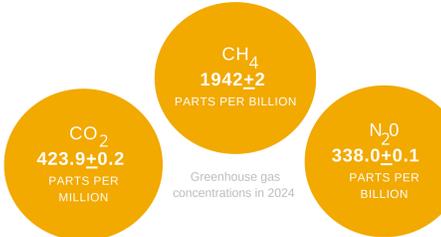


Annual Temperature Anomalies 2025

Temperature difference from 1991-2020 average (°C)



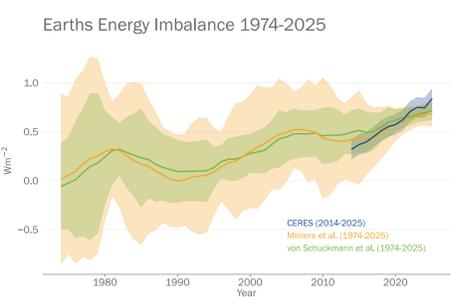
In 2024, the atmospheric concentration of carbon dioxide, methane and nitrous oxide, **reached the highest levels in the last 800 000 years.**



Greenhouse gas concentrations in 2024

- CO<sub>2</sub> 423.9±0.2 PARTS PER MILLION
- CH<sub>4</sub> 1942±2 PARTS PER BILLION
- N<sub>2</sub>O 338.0±0.1 PARTS PER BILLION

The Earth's climate is more out of balance than at any time in observed history, and reached a new high in 2025.



Earth's Energy Imbalance 1974-2025

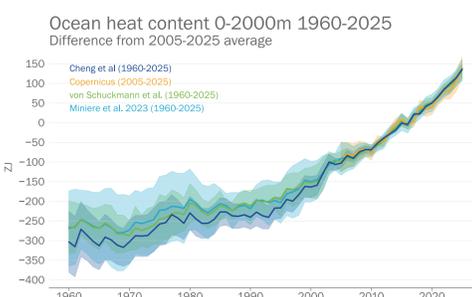
Wm<sup>-2</sup>

Year

CERES (2014-2025)  
Minore et al. (1974-2025)  
von Schuckmann et al. (1974-2025)



In 2025, **ocean heat content reached the highest level in the 66-year observational record.** The rate of warming from 2005–2025 is more than twice that observed from 1960–2005.



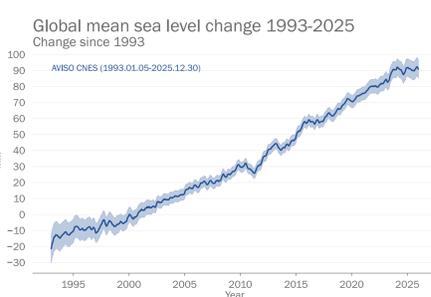
Ocean heat content 0-2000m 1960-2025

Difference from 2005-2025 average

Year

Cheng et al. (1960-2025)  
Copenhagen (2005-2025)  
von Schuckmann et al. (1960-2025)  
Minore et al. 2023 (1960-2025)

In 2025, global mean sea level remained near record high levels observed in 2024. From 2012-2025, sea level rose at an annual rate of 4.75mm, compared to 2.65mm from 1993-2011.



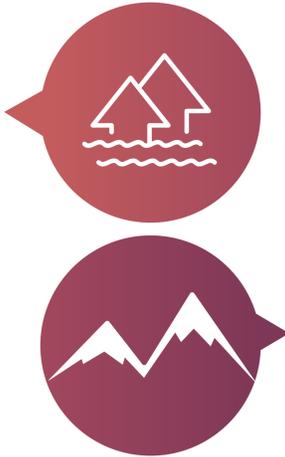
Global mean sea level change 1993-2025

Change since 1993

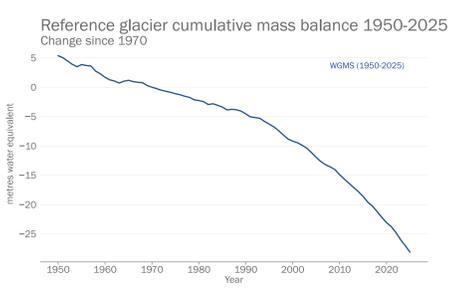
mm

Year

AVISO CNES (1993.01.05-2025.12.30)



Glacier mass loss from a set of reference glaciers in the **2024/2025 hydrological year was among the five most negative glacier mass balances on record.**



Reference glacier cumulative mass balance 1950-2025

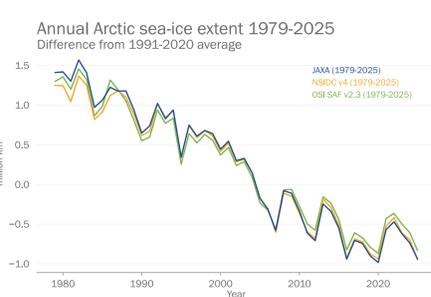
Change since 1970

metres water equivalent

Year

WGMS (1960-2025)

Arctic & Antarctic sea ice extent were both below average. The maximum daily extent of Arctic sea-ice in 2025 was the lowest annual maximum in the observed record.



Annual Arctic sea-ice extent 1979-2025

Difference from 1991-2020 average

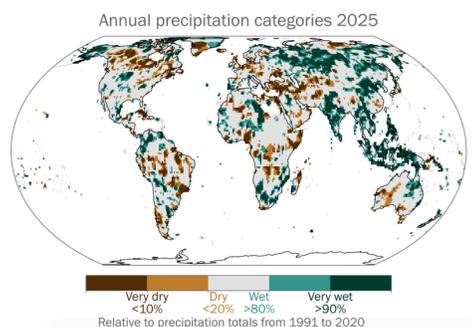
million km<sup>2</sup>

Year

JAXA (1979-2025)  
NSIDC v4 (1979-2025)  
OSI SAF v2.3 (1979-2025)



2025 brought large regional variations in precipitation: with some regions having an abnormally wet year and others abnormally dry.

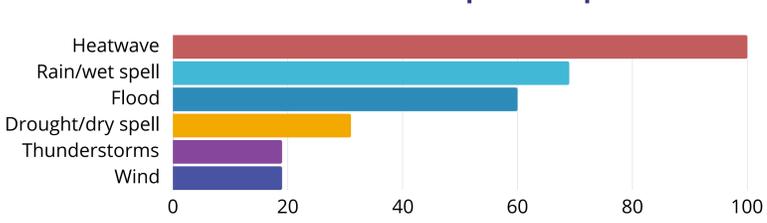


Annual precipitation categories 2025

Very dry <10% Dry <20% Wet >80% Very wet >90%

Relative to precipitation totals from 1991 to 2020

Diverse extreme events had widespread impacts in 2025

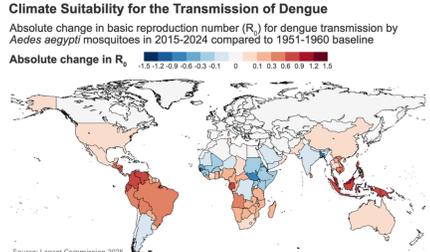


Event Type	Reported Events
Heatwave	100
Rain/wet spell	70
Flood	60
Drought/dry spell	35
Thunderstorms	20
Wind	20

Reported events by WMO Members



Changes in temperature and rainfall patterns have **increased climate suitability for dengue transmission** substantially over recent decades.



Climate Suitability for the Transmission of Dengue

Absolute change in basic reproduction number (R<sub>0</sub>) for dengue transmission by *Aedes aegypti* mosquitoes in 2015-2024 compared to 1951-1960 baseline

Absolute change in R<sub>0</sub>

Source: Lancet Commission 2021