



WORLD
METEOROLOGICAL
ORGANIZATION

WMO-No. 1342

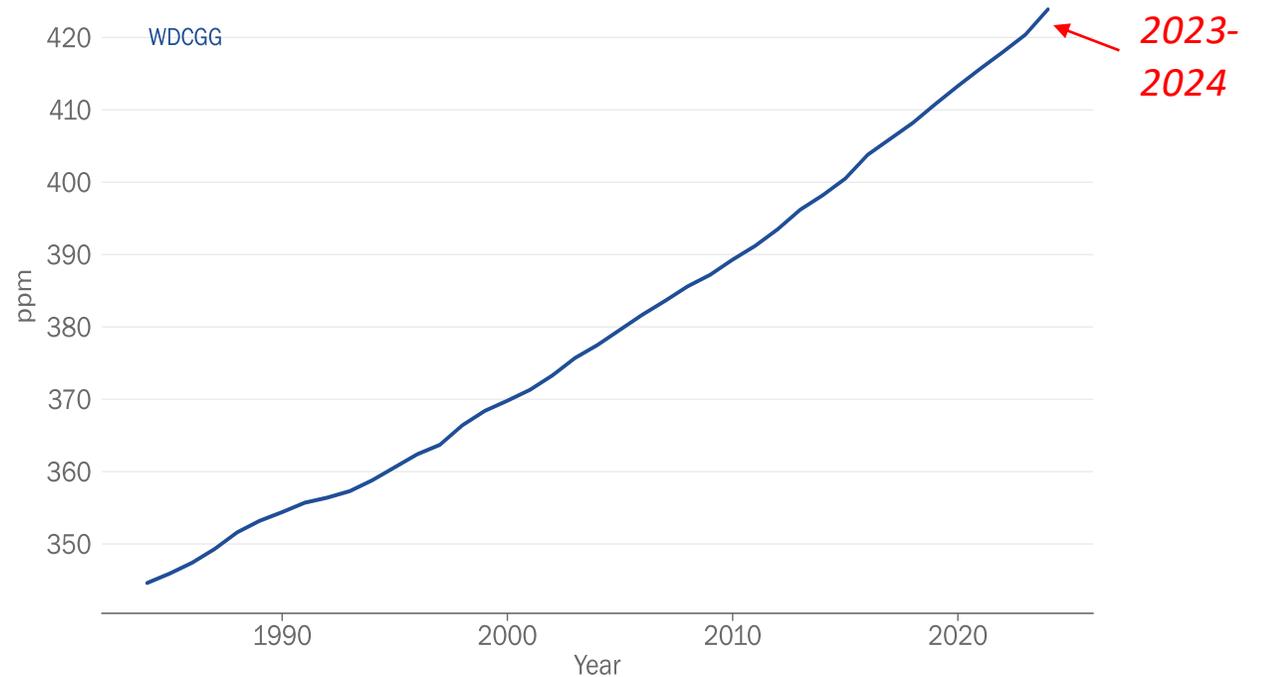
State of the Global Climate 2025



Greenhouse gas concentrations reached record observed levels in 2024.

Real-time data indicate that they continue to rise in 2025.

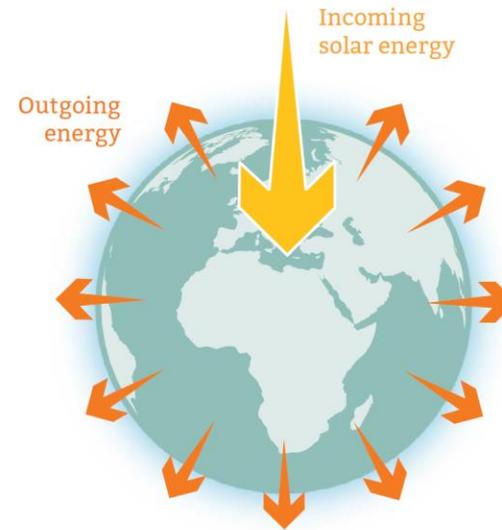
Atmospheric carbon dioxide concentration 1984-2024



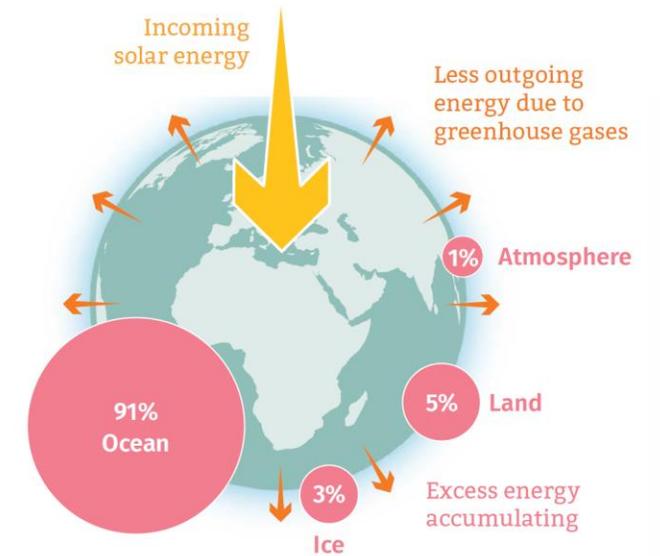
Earths' Energy Imbalance has increased since 1960

The rate of increase of EEI was $0.13 \pm 0.03 \text{ W m}^{-2}$ per decade for the period 1960–2025 but was higher for the period 2001 to 2025 at $0.30 \pm 0.1 \text{ W m}^{-2}$ per decade.

Stable climate: in balance



Today: imbalanced



The ocean absorbs
approximately 90% of
the excess energy in
the climate system
(IPCC, 2021).

Over 3 billion people
depend on marine
and coastal resources
for their livelihoods
(UN, 2017).



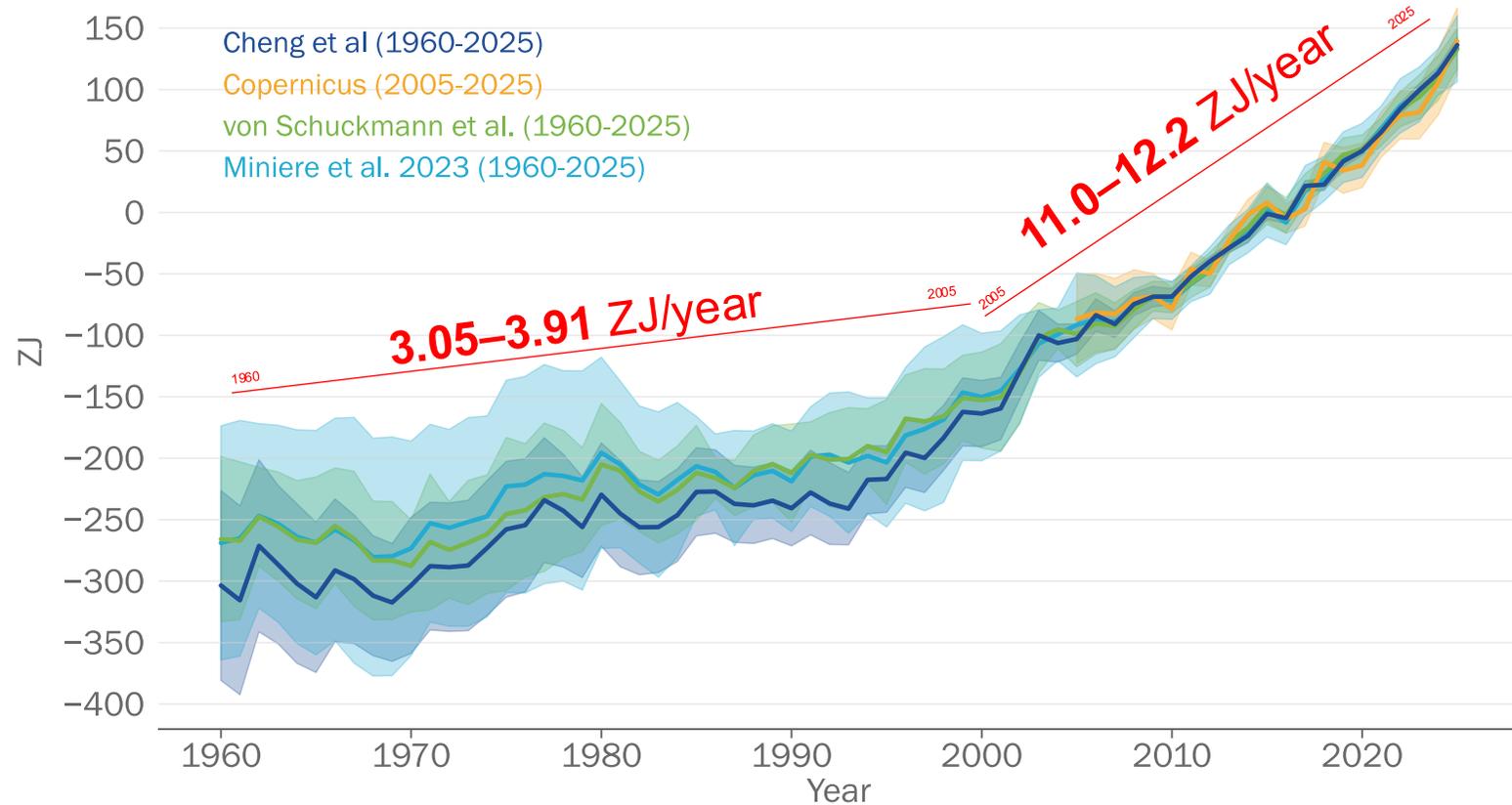
Nearly 11% of the global
population live on low-
lying coasts directly
exposed to coastal
hazards (IPCC, 2021).

Ocean heat content in 2025 was the highest on record.

The rate of ocean warming over the past two decades, 2005–2025, is more than twice that observed over the period 1960–2005.

Ocean heat content 0-2000m 1960-2025

Difference from 2005-2025 average

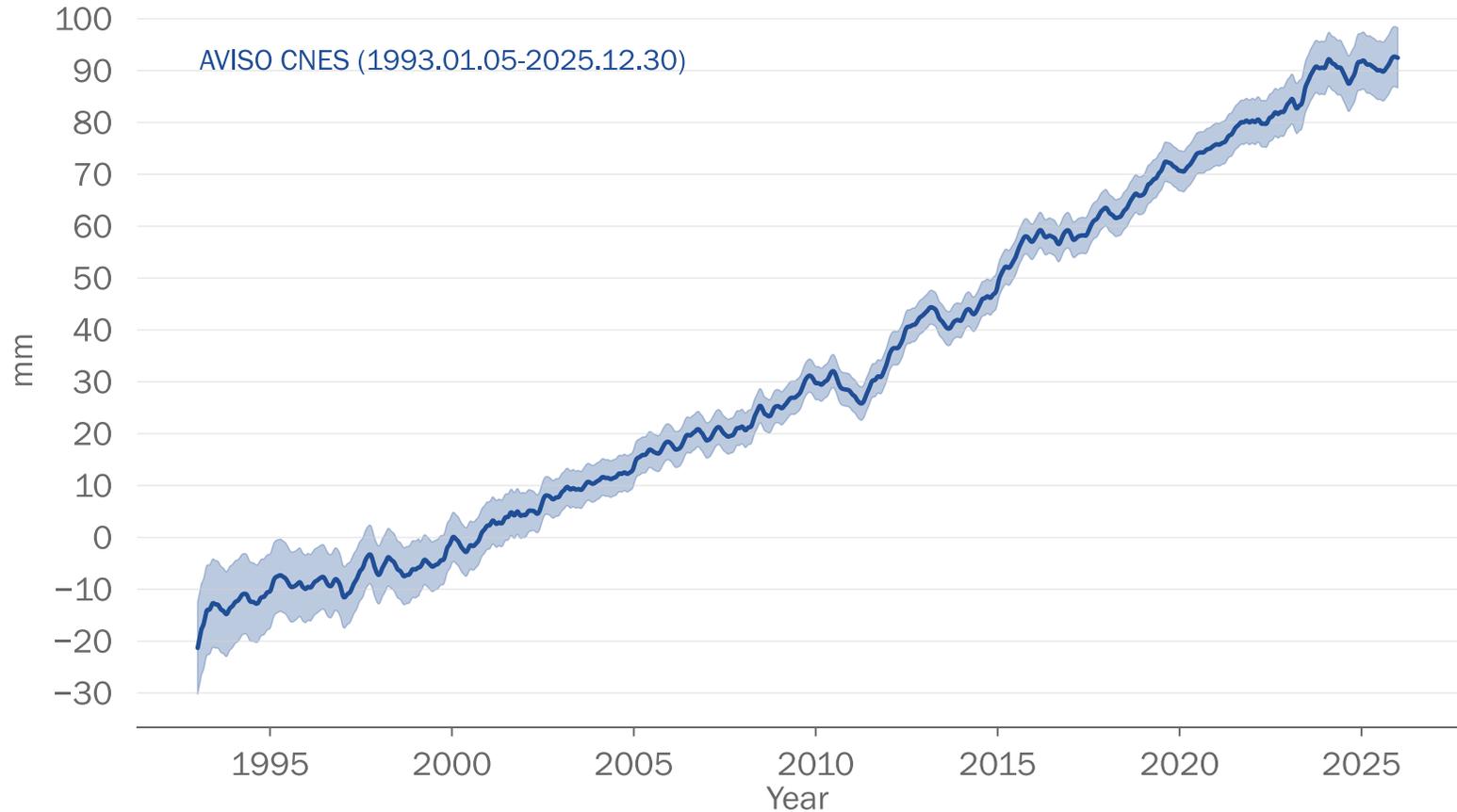


Long-term rate of sea-level rise has increased

Despite continued ocean warming and glacier mass loss, natural variability limited sea level rise in 2025.

Global mean sea level change 1993-2025

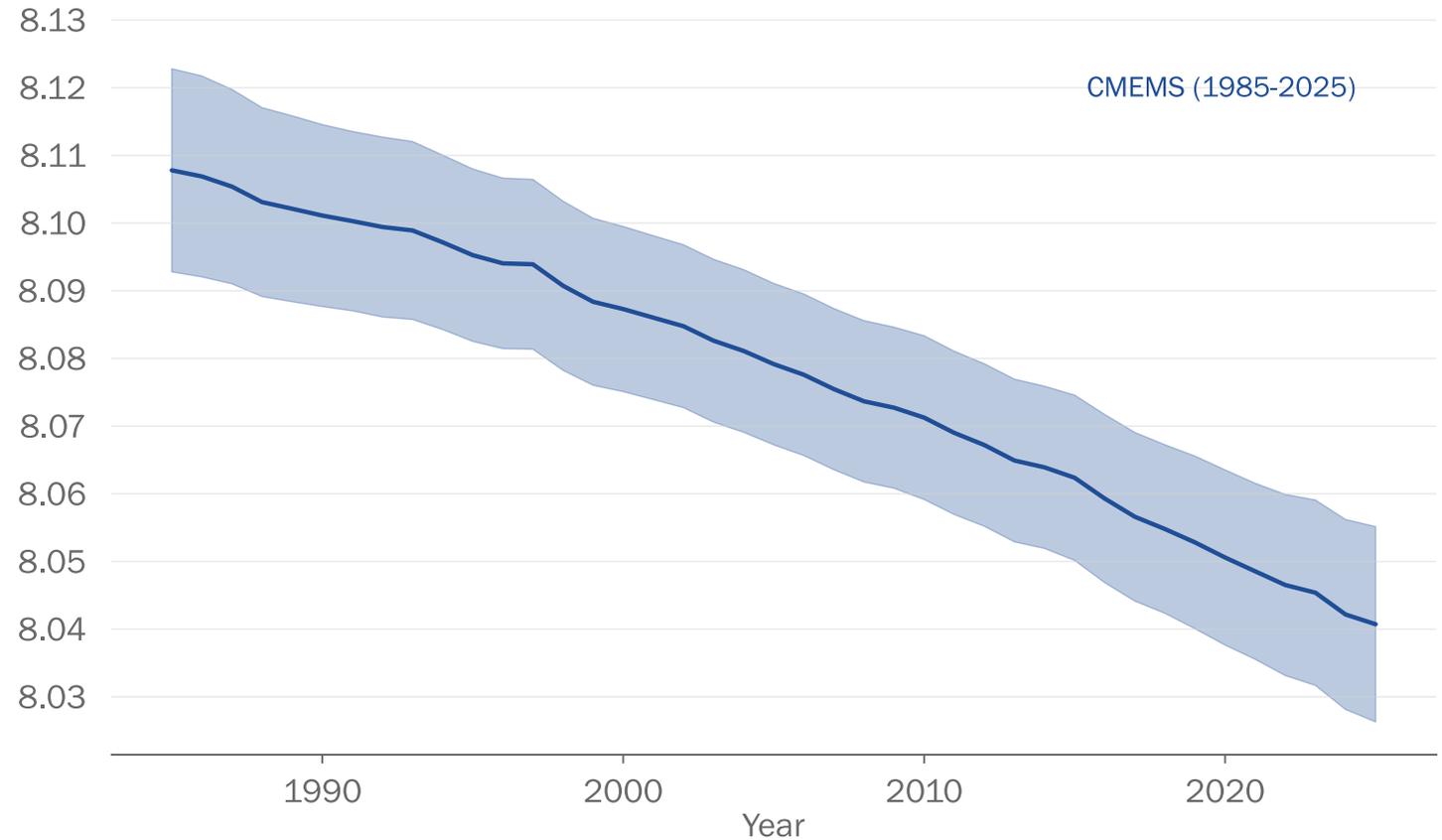
Change since 1993



Surface ocean pH continues to decline

Ocean surface pH has changed at a rate of -0.017 ± 0.001 pH units per decade over the period 1985–2025.

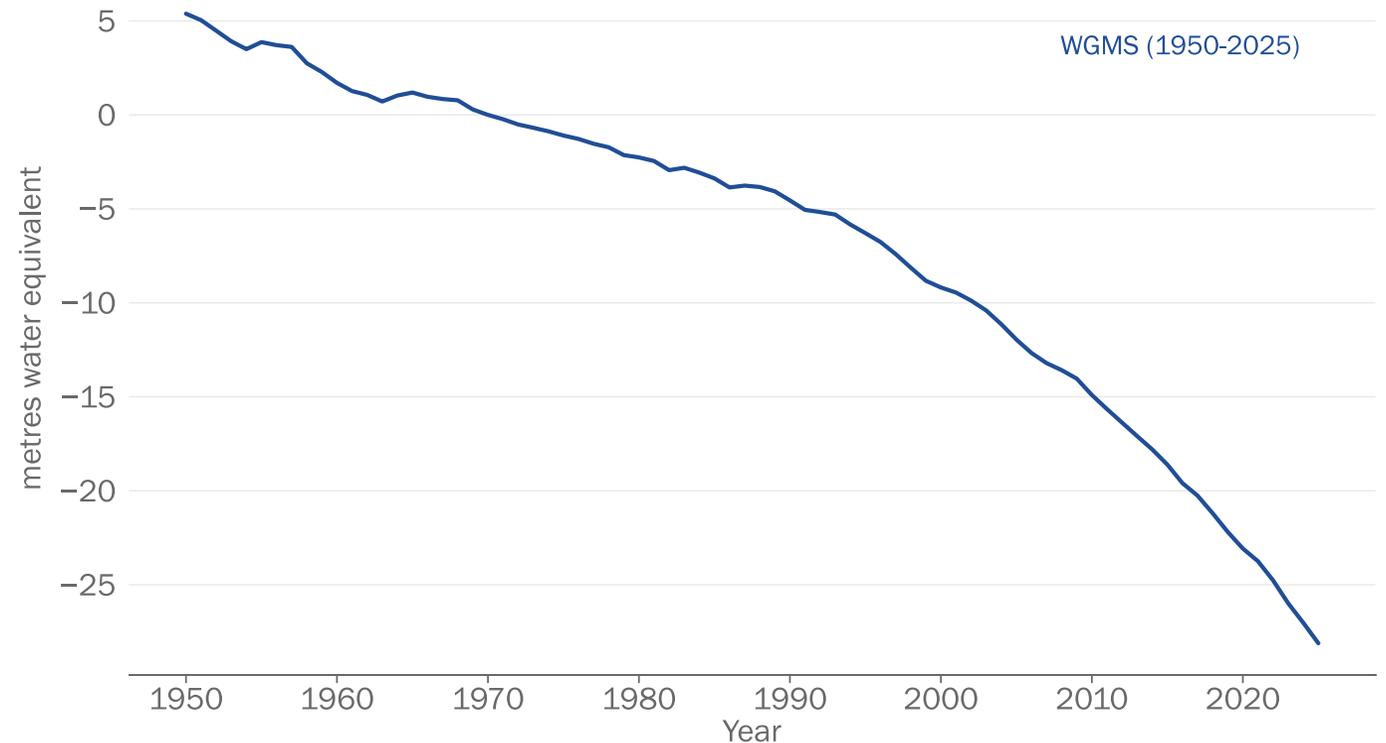
Ocean pH 1985-2025



In 2024/2025, glacier mass loss was in the top 5.

Eight of the ten most negative annual glacier mass balances since 1950 have occurred since 2016.

Reference glacier cumulative mass balance 1950-2025
Change since 1970



The annual Arctic sea-ice extent was the lowest or second lowest on record in the satellite era.

The average Antarctic sea ice extent for 2025 was the third lowest after 2023 and 2024.



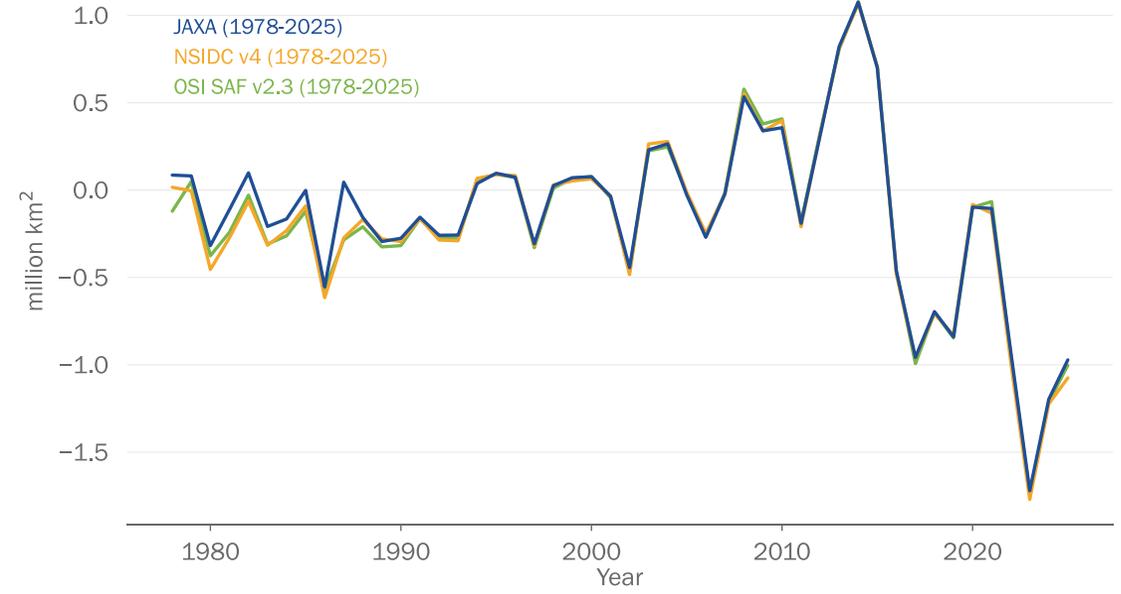
Annual Arctic sea-ice extent 1978-2025

Difference from 1991-2020 average



Annual Antarctic sea-ice extent 1978-2025

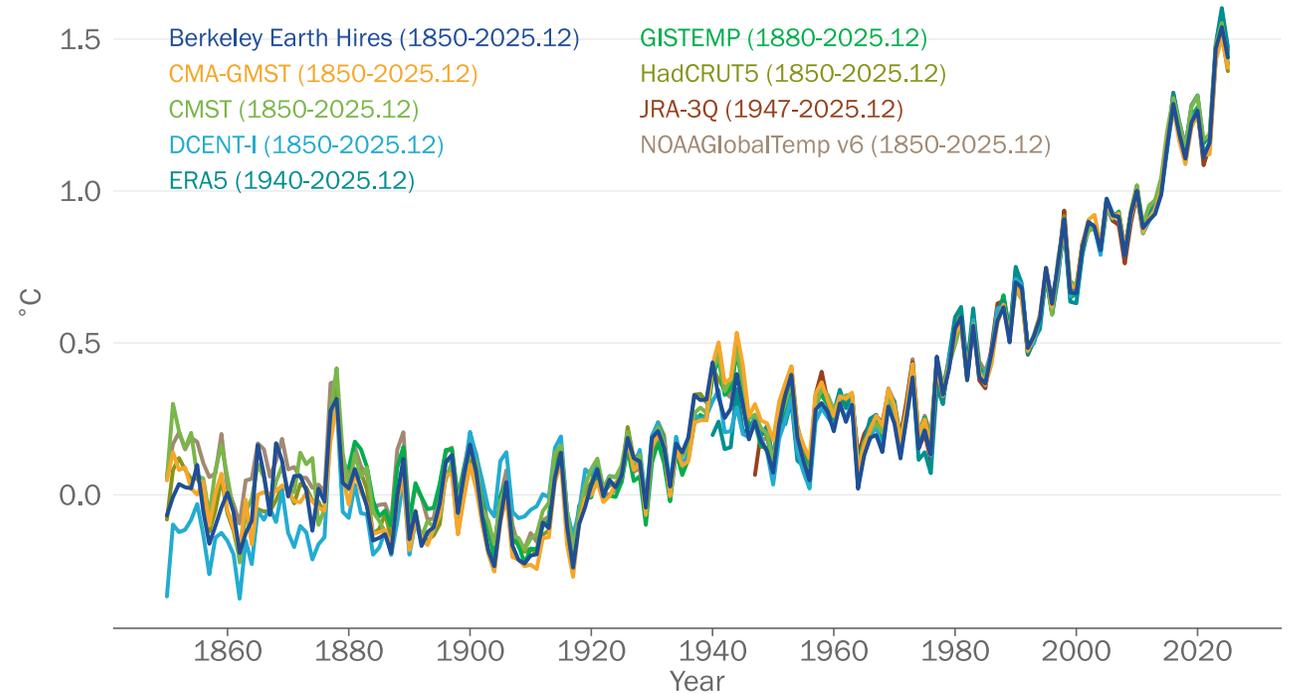
Difference from 1991-2020 average



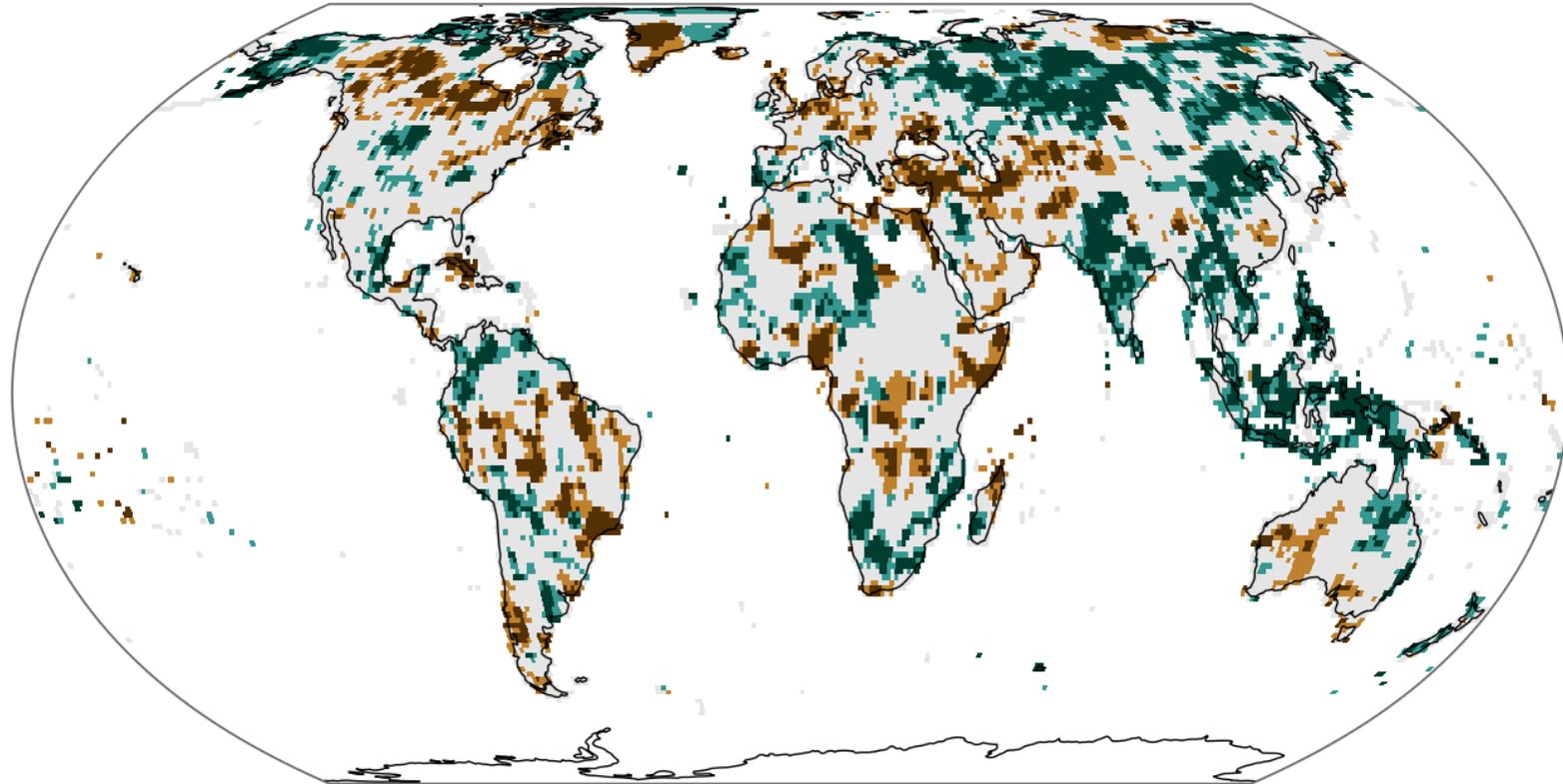
2025 was $1.43 \pm 0.13^\circ\text{C}$ above the pre-industrial average.

2025 is second or third warmest year on record. 2015-2025 is the warmest 11 years on record.

Global mean temperature 1850-2025
Difference from 1850-1900 average

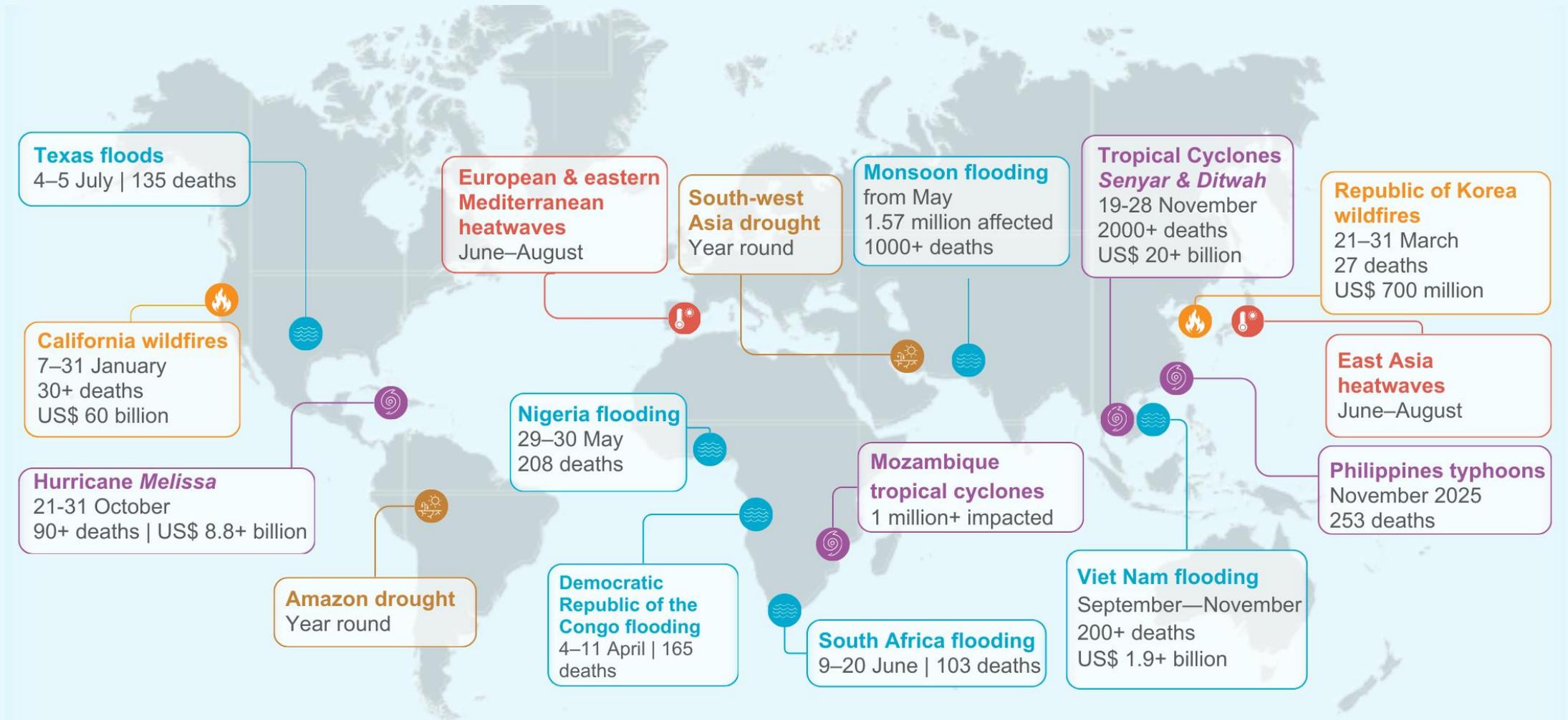


Precipitation varied around the world in 2025.



Relative to precipitation totals from 1991 to 2020

Snapshot of weather and climate events in 2025



Note on impact terminology: Displacements = the number of times people were forced to move Displaced people = the number of individuals still away from home IDP = internally displaced persons



Flooding events



Drought events



Wildfire events



Heatwave events



Tropical cyclone events

Thank you

For more information: wmo.int | <https://bit.ly/StateOfClimate2025> | media@wmo.int



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