

2. State of The Global Climate 2025 – Environment

2025 among three warmest years on record, warns WMO. The WMO's 2025 climate update confirms 2024 as the hottest year, with 2025 as the 2nd/3rd warmest, highlighting record GHGs, doubled sea-level rise, and severe global disasters. Despite progress, 40% of nations, especially LDCs and SIDSs, still lack critical Multi-Hazard Early Warning Systems.

World Meteorological Organization (WMO) – State of the Global Climate Update 2025

This report was released by the WMO ahead of the COP30 Climate Summit in Belém, Brazil. Below are its key findings.

Key Finding 1 – Global Temperature

2025 Status – The global mean near-surface temperature from January to August 2025 was 1.42°C above pre-industrial levels.

Annual Ranking – 2025 is currently expected to rank as the second or third warmest year on record.

Warmest Year – The year 2024 remains the hottest year ever recorded.

Warmest Decade – The period from 2015–2025 is set to be the warmest decade since records began.

Key Finding 2 – Greenhouse Gas Concentrations

Record Highs – Concentrations of the primary greenhouse gases—carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O)—reached new record highs in 2024.

Continuing Trend – This upward trend of increasing concentrations has continued throughout 2025.

Key Finding 3 – Ocean Heat Content

Heat Absorption – The oceans absorb over 90% of the excess heat trapped in the global climate system.

Major Impacts – This absorption leads to severe and cascading consequences, including –

1. Marine ecosystem degradation
2. Significant Biodiversity loss
3. Fueling stronger tropical storms
4. Accelerated and faster sea-ice loss

Key Finding 4 – Sea-Level Rise

Rate of Rise – The long-term rate of global mean sea-level rise has doubled since the early satellite era.

2024 Record – The year 2024 set a new record for the highest global mean sea level observed.

2025 Anomaly – A slight temporary dip in sea level was noted in 2025, which is attributed to the climate effects of the La Niña phenomenon.

Key Finding 5 – Glacial Retreat

Consistent Loss – The 2023/24 hydrological year marked the third consecutive year of significant global glacier mass loss.

Key Finding 6 – Widespread Disasters

2025 Events – The year 2025 witnessed numerous extreme weather and climate events globally.

Specific Disasters – These included –

1. Severe floods across parts of Africa and Asia.
2. Extensive wildfires in Europe and North America.
3. Extreme heatwaves in multiple regions.
4. Destructive tropical cyclones.

Key Finding 7 – Early Warning Systems

Significant Growth – The number of countries with Multi-Hazard Early Warning Systems (MHEWSS) has more than doubled, increasing from 56 countries in 2015 to 119 in 2024.

Coverage Gap – Despite this progress, 40% of countries still lack these critical systems.

Vulnerable Nations – This gap is most pronounced in Least Developed Countries (LDCs) and Small Island Developing States (SIDSs), which are often the most at-risk.

Key Finding 8 – Heat-Driven Energy Demand

Climate Impact – Climate variability is increasingly affecting both renewable power generation and overall energy demand patterns.

2024 Demand Spike – The record-breaking heat of 2024 drove global energy demand to 4% above the 1991–2020 baseline.

Renewable Growth – In parallel, global renewable capacity grew by 15% in 2024, reaching a total of 4,448 GW.

About the World Meteorological Organization (WMO)

Overview – The WMO is a specialized agency of the United Nations. Its mission is to promote global cooperation in key scientific fields, including atmospheric science, climatology, hydrology, and geophysics.

Establishment

Formation – The WMO was officially formed in 1950.

Predecessor – It succeeded the International Meteorological Organization (IMO), which was established in 1873.

UN Status – The WMO became a UN specialized agency in 1951.

Membership and Headquarters

Headquarters – The WMO is based in Geneva, Switzerland.

Global Membership – The organization comprises 193 Member States and Territories.

India's Role – India has been a member since 1950.

Key Publications

The WMO regularly publishes critical reports on the state of the global climate, including –

1. State of the Global Climate Report
2. Greenhouse Gas Bulletin
3. State of the Climate Update
4. Global Annual to Decadal Climate Update

Source – <https://timesofindia.indiatimes.com/india/2025-set-to-be-second-or-third-warmest-year-on-record-driven-by-the-highest-ever-atmospheric-concentrations-of-ghg-wmo/articleshow/125137938.cms>