

GLOBAL TEMPERATURE LIKELY TO BREACH 1.5°C IN NEXT FIVE YEARS – ENVIRONEMENT

NEWS: The World Meteorological Organisation (WMO) has released the ‘**Global Annual to Decadal Climate Update (2025-2029)**’.

WHAT’S IN THE NEWS?

Key Global Temperature Projections (2024–2029)

- **Record Year – 2024:**
The year **2024 was the hottest year ever recorded** and marked a critical milestone as the **first year to breach the 1.5°C warming threshold** above the **pre-industrial baseline (1850–1900)**.
- **2025–2029 Outlook – Breaching 1.5°C Likely:**
There is a **70% probability** that the **average global temperature** during the **2025–2029 period** will remain **consistently above 1.5°C** relative to pre-industrial levels.
- **Chance of Surpassing 2024 Temperatures:**
There is an **80% likelihood** that **at least one of the next five years (2025–2029)** will exceed the **record temperatures of 2024**.
- **Frequent Breach of 1.5°C Threshold:**
There is an **86% chance** that **at least one year** in the 2025–2029 window will **exceed the 1.5°C warming level**, though this does not constitute a permanent breach.
- **Projected Warming Range:**
The **average global temperature anomaly** is projected to lie between **1.2°C and 1.9°C** above the 1850–1900 average during the 2025–2029 period.
- **Extreme Heat Warning – 2°C Breach Possibility:**
Although unlikely, there is a **1% chance** that the global average temperature could **exceed 2°C above pre-industrial levels** in **at least one year** within the next five years.

Predicted Global Precipitation Patterns (2025–2029)

- **May to September – Wetter Outlook:**
The months from **May to September** during **2025–2029** are projected to be **wetter than average**, based on global climate model simulations.

Regional Climate Outlook (2025–2029)

a) South Asia

- **Wetter-than-Usual Trend:**
Except for **2023**, most recent years saw **above-normal rainfall**, and this **wetter trend is expected to continue** across **South Asia** from **2025 to 2029**.
- **Seasonal Variation Possible:**
While the overall period may be wetter, **certain seasons could still be dry**, highlighting **variability within annual cycles**.

b) Arctic Region

- **Intensified Arctic Warming:**
The Arctic is expected to warm by an average of **2.4°C during winters (Nov–Mar)**, which is **3.5 times faster than the global average rate of warming** over the same period.
- **Sea Ice Decline:**
Sea ice is projected to **shrink further** in the **Barents Sea, Bering Sea, and Sea of Okhotsk** between 2025 and 2029, continuing the trend of polar ice loss.

c) Other Regional Anomalies

- **Wetter-than-Usual Regions:**
 - Sahel (Africa)
 - Northern Europe
 - Alaska
 - Northern Siberia
- **Drier-than-Usual Region:**
 - **Amazon Basin**, facing **reduced rainfall**, which could intensify concerns about **forest dieback and biodiversity loss**.

India's Climate Outlook

- **Monsoon Trends:**
India has received **above-normal monsoon rainfall in four of the past five years**, indicating a **recent trend of intensifying monsoons**.
- **Forecast for 2025:**
The **India Meteorological Department (IMD)** has predicted **above-normal monsoon rainfall** for **2025**, aligning with regional projections for South Asia.

Paris Agreement – Overview and Goals

- **Legally Binding Treaty:**
Adopted in **2015 during COP21**, the Paris Agreement is a **legally binding international treaty** under the **UNFCCC** framework, aimed at combating climate change.
- **Temperature Goal:**
The Agreement seeks to **limit global warming to well below 2°C**, while pursuing efforts to **limit the rise to 1.5°C** above pre-industrial levels.
- **Nature of 1.5°C Limit:**
The **1.5°C goal is aspirational**, not a **hard legal boundary**. A **single year** crossing it (e.g., 2024) does not imply a **permanent breach**, which would mean **sustained exceedance over 20–30 years**.
- **Nationally Determined Contributions (NDCs):**
Countries commit to **domestically decided climate action targets**, which must be:
 1. **Submitted and updated every five years,**

2. **Progressively ambitious** over time to reflect increasing global urgency.

- **Upcoming Review – COP30:**

Around **180 of 195 UNFCCC parties** are yet to submit their **updated NDCs** for the **2031–2035 period**, which is due ahead of **COP30**.

World Meteorological Organization (WMO)

- **Establishment and Role:**

The WMO was established in **1950** and functions as an **intergovernmental scientific body** for **meteorology (weather and climate)**, **operational hydrology**, and **related geophysical sciences**.

- **UN Affiliation:**

It is a **specialized agency of the United Nations**, providing **scientific leadership on global climate monitoring**, forecasts, and early warning systems.

- **Membership and Headquarters:**

- **Comprises 193 Member States and Territories.**
- **Headquartered in Geneva, Switzerland.**

- **Supreme Decision-Making Body:**

The **World Meteorological Congress** is the WMO's highest authority, responsible for **policy, governance, and programmatic direction**.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/earths-average-temperature-for-2025-29-likely-to-exceed-15c-limit-wmo/article69627923.ece>