



## The Global Climate 2011-2020: WMO

**For Prelims:** [World Meteorological Organization](#), The Global Climate 2011-2020: A Decade of Acceleration, El Niño event, [Greenhouse gases \(GHG\)](#), [Marine Heatwaves](#), [Glaciers](#).

**For Mains:** The Global Climate 2011-2020: WMO, Environmental pollution and degradation.

[Source: TH](#)

### Why in News?

Recently, the [World Meteorological Organisation \(WMO\)](#) has published a report titled- **The Global Climate 2011-2020: A Decade of Acceleration**, concerning the alarming acceleration of climate change and its multifaceted impacts across the planet.

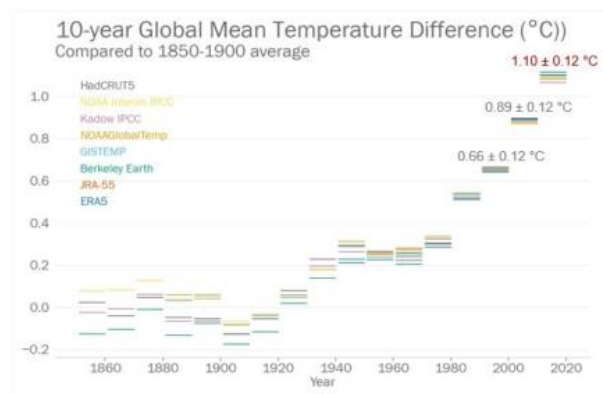
### What are the Key Highlights of the Report?

#### ▪ Temperature Trends:

- The decade 2011-2020 emerged as the warmest on record for both land and ocean.
- Global mean temperature soared to **1.10 ± 0.12 °C above the 1850-1900 average**, with each decade since the 1990s surpassing previous ones in warmth.
- Record high temperatures were reported in numerous countries, with 2016 (due to an [El Niño event](#)) and 2020 standing out as the warmest years.

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**2011-2020 warmest decade on record for both the land and ocean by a clear margin.**



#### ▪ Greenhouse Gas Emissions:

- Atmospheric concentrations of major [greenhouse gases \(GHG\)](#) continued to rise, **especially CO<sub>2</sub>, reaching 413.2 ppm in 2020**, primarily due to fossil fuel combustion and land-use changes.
- The decade witnessed an **increase in average growth rates of CO<sub>2</sub>**, highlighting the pressing need for sustainable emissions reduction to stabilize the climate.

- **Oceanic Changes:**
  - Ocean warming rates accelerated **significantly, with 90% of accumulated heat stored in the ocean**. Warming rates doubled in the **upper 2000m depth from 2006-2020**, impacting marine ecosystems.
  - Ocean acidification due to CO<sub>2</sub> absorption posed challenges for marine organisms, affecting their shell and skeleton formation.
- **Marine Heatwaves and Sea Level Rise:**
  - [Marine Heatwaves](#) increased in frequency and intensity, **affecting about 60% of the ocean's surface** between 2011 and 2020.
  - Global mean sea level rise **accelerated to 4.5mm/yr from 2011-2020**, mainly due to ocean warming and ice mass loss.
- **Glacier and Ice Sheet Loss:**
  - [Glaciers](#) globally thinned by **about 1 meter/year between 2011 and 2020**, with unprecedented mass loss, affecting water supplies.
  - Greenland and Antarctic ice sheets **lost 38% more ice compared to 2001-2010**, contributing significantly to rising sea levels.
- **Arctic Sea Ice Decline:**
  - Arctic sea ice continued its decline during the summer melt season, with a mean seasonal minimum extent 30% below the 1981-2010 average.
- **Ozone Hole and Successes:**
  - The Antarctic ozone hole diminished in the **2011-2020 period, credited to successful international action** under the [Montreal Protocol](#).
  - Efforts led to reduced chlorine entering the stratosphere from ozone-depleting substances.
- **Impact on Sustainable Development Goals (SDGs):**
  - Extreme weather events hindered progress toward SDGs, impacting food security, human mobility, and socioeconomic development.
  - Improved early warning systems reduced casualties but **economic losses from extreme events escalated**.
  - The 2011-2020 decade was the first since 1950 when there was not a single **short-term event with 10,000 deaths or more**.

## What are the WMO's Recommendations for Mainstreaming Action on Climate and Development Goals?

- Enhancing collective resilience against **current and future global crises through collaboration and cooperation** with international organizations and their partners
- Strengthening **science-policy-society** interaction to advance synergistic action
- **Promoting institutional capacity-building** and cross-sectoral and international collaboration at national, institutional, and individual levels, especially for the global South.
- **Ensuring policy coherence** and coordination among policymakers across sectors and departments for **enhancing climate and development synergies** at the national, sub-national, and multi-national levels.

## What is WMO?

- **About:**
  - It is an **intergovernmental organization** with a membership of 192 Member States and Territories. India is a member.
  - It originated from the International Meteorological Organization (IMO), which was established after the 1873 Vienna International Meteorological Congress.
- **Establishment:**
  - Established by the ratification of the **WMO Convention on 23<sup>rd</sup> March 1950**, WMO became the **specialized agency of the [United Nations](#)** for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- **Headquarters:**
  - Geneva, Switzerland.

PDF Refernece URL: <https://www.drishtias.com/printpdf/the-global-climate-2011-2020-wmo>

