# The Global Climate 2011-2020: WMO

For Prelims: <u>World Meteorological Organization</u>, The Global Climate 2011-2020: A Decade of Acceleration, El Niño event, <u>Greenhouse gases (GHG)</u>, <u>Marine Heatwaves</u>, <u>Glaciers</u>.

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

#### Source: TH

#### Why in News?

Recently, the <u>World Meteorological Organisation (WMO)</u> 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 <u>El</u> <u>Niño</u> event) and 2020 standing out as the warmest years.

2011-2020 warmest decade on record for both the land and ocean by a clear margin.	10-year Global Mean Te Compared to 1850-1900 average   10 HedCRUTS HODAL INFECC   10 HECAN INFECC   11 HECAN INFECC   12 HECAN INFECC	0.89±0.12 °C
--	---	--------------

#### Greenhouse Gas Emissions:

- Atmospheric concentrations of major <u>greenhouse gases (GHG)</u> continued to rise, especially CO2, 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:
  - <u>Glaciers</u> 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 <u>Montreal Protocol</u>.
  - 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 <u>United Nations</u> for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- Headquarters:
  - Geneva, Switzerland.

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

TheVision