

FAQs

IPCC releases part of the Sixth Assessment Report

Q. What is the context?

A. The Intergovernmental Panel on Climate Change (IPCC) released the second part of its sixth assessment report. The first part was released in 2021.

Q. What is IPCC?

A.

- The IPCC, an intergovernmental body was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP).
- It was later endorsed by the UN General Assembly. Membership is open to all members of the WMO and UN.
- The IPCC produces reports that contribute to the work of the UN Framework Convention on Climate Change (UNFCCC), the main international treaty on climate change.
- The objective of the UNFCCC is to “stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system.”

Q. What are the Assessment Reports?

A.

- Every few years, the IPCC produces assessment reports that are the most comprehensive scientific evaluations of the state of earth’s climate.
- Instead, it asks scientists from around the world to go through all the relevant scientific literature related to climate change and draw up the logical conclusions.
- So far, five assessment reports have been produced, the first one being released in 1990.
- The IPCC’s Fifth Assessment Report was a critical scientific input into the UNFCCC’s Paris Agreement in 2015.

Q. What are highlights of the recent report ?

A.

- **Rapidly advancing climate change:** From the melting of the Greenland ice sheet to the destruction of coral reefs, climate related impacts are hitting the world at the high end much more quickly than previously assessed by the IPCC.

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- **Limitations of technology:** The use of some technologies designed to limit warming or reduce CO₂ could make matters worse rather than better.
- **Impact of urbanization:** While large cities are hotspots for climate impacts, they also offer a real opportunity to avoid the worst impacts of warming.
- **Limited opportunity for mitigation:** The report has warned the opportunity for action will only last for the rest of this decade.

Q. What are some projections of the first part of 6th Report ?

A. Apart from incorporating the latest available scientific evidence, the Sixth Assessment Report is also attempting to provide more actionable information to help governments take policy decisions.

- **Regional focus:** It is expected that this report would likely state what the scenarios for sea-level rise in the Bay of Bengal region is, not just what the average sea-level rise across the world is likely to be.
- **Rise of extreme events:** There is expected to be bigger focus on extreme weather events, like the ones we have seen in the last few weeks.
- **Vulnerabilities of urban areas:** Densely populated mega-cities are supposed to be among the most vulnerable to impacts of climate change. The report is expected to present specific scenarios the climate change impacts on cities and large urban populations, and also implications for key infrastructure.
- **Synergy of climate action is needed:** IPCC is expected to present a more integrated understanding of the situation, cross-link evidence and discuss trade-offs between different options or pathways, and also likely to cover social implications of climate change action by countries.

Q. What are key highlights of previous assessment reports ?

A. First Assessment Report (1990)

- Emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases.
- Global temperatures have risen by 0.3 to 0.6 degree Celsius in last 100 years. In business-as-usual scenario, temperatures likely to increase by 2 degree Celsius compared to pre-industrial levels by 2025, and 4 degree Celsius by 2100
- Sea-level likely to rise by 65 cm by 2100

This report formed the basis for negotiation of the UN Framework Convention on Climate Change in 1992.

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Second Assessment Report (1995)

- Revises projected rise in global temperatures to 3 degree Celsius above pre-industrial levels by 2100, sea-level rise to 50 cm, in light of more evidence.
- Global rise in temperature by 0.3 to 0.6 degree Celsius since late 19th century, “unlikely to be entirely natural in origin”.

This report was the scientific underpinning for Kyoto Protocol in 1997.

Third Assessment Report (2001)

- Revises projected rise in global temperatures to 1.4 to 5.8 degree Celsius by 2100 compared to 1990. Projected rate of warming unprecedented in last 10,000 years.
- Rainfall will increase on an average. The report also predicts that by 2100, the sea level is likely to rise by as much as 80 cm from 1990 levels. Glaciers to retreat during the 21st century.
- Frequency, intensity and duration of extreme weather events to increase.
- Presents new and stronger evidence to suggest that global warming is mostly attributable to human activities.

Fourth Assessment Report (2007)

- Greenhouse gas emissions increased by 70 per cent between 1970 and 2004.
- Atmospheric concentrations of CO₂ in 2005 (379 ppm) the maximum in 650,000 years.
- In worst case scenario, global temperatures could rise 4.5 degree Celsius by 2100 from pre-industrial levels. Sea-levels could be 60 cm higher than 1990 levels.

The report won the 2007 Nobel Peace Prize for IPCC and was the scientific input for the 2009 Copenhagen climate meeting.

Fifth Assessment Report (2014)

- More than half the temperature rise since 1950 attributable to human activities.
- Atmospheric concentrations of carbon dioxide, methane and nitrous oxide “unprecedented” in the last 800,000 years.
- Rise in global temperatures by 2100 could be as high as 4.8 degree Celsius from pre-industrial times
- More frequent and longer heat waves “virtually certain”.
- “Large fraction of species” face extinction. Food security would be undermined.

This report formed the scientific basis for negotiations of the Paris Agreement in 2015.

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Q What is UNFCCC?

A

- The UNFCCC established an international environmental treaty to combat “dangerous human interference with the climate system”, in part by stabilizing greenhouse gas concentrations in the atmosphere.
- It was signed by 154 states at the UN Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro from 3 to 14 June 1992.

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