



The Intergovernmental Panel on Climate Change (IPCC)

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This Information Bulletin describes the Intergovernmental Panel on Climate Change (IPCC) and it serves as knowledge base for Policy Briefs detailing the scientific findings of the Physical Science Basis of its Sixth Assessment Report (AR6).

The IPCC and what it does

- Created by the United Nations Environment Programme (UN Environment) and the World Meteorological Organization (WMO) in 1988, the IPCC was established by the United Nations General Assembly ([UNGA 1988](#)).
- It is a collaborative and transdisciplinary organisation - operating at the interface of science and policy - that focuses on building inter-regional dialogue and international consensus on climate change.
- The main activity of the IPCC is the preparation of reports assessing the state of scientific knowledge on climate change. The reports are drafted and reviewed using existing literature and knowledge as a means to increase objectivity and transparency. The philosophy guiding IPCC reports are based upon principles of presenting facts that are neutral, policy-relevant but not policy-prescriptive.
- The IPCC's main aim is to bridge the gap between science and policy by:
 - providing policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation; and
 - providing a scientific basis for governments at all levels to develop climate-related policies.
- While the IPCC's primary target audience are Governments and policymakers at all levels (including the United Nations Framework Convention on Climate Change (UNFCCC), the UN-wide system and other intergovernmental processes), its reports speak to a broader spectrum of audiences comprising IPCC observer organisations, scientific communities, the education sector, NGOs, the business sector, the media and the general public.
- The IPCC does not conduct its own research. It identifies where there is agreement in the scientific community on topics related to climate change, and where further research is needed. For transparency and clarity, the IPCC makes use of an uncertainty language to assess underlying evidence and degrees of agreement.
 - The level of confidence for key statements is expressed using five qualifiers, namely: very low, low, medium, high and very high confidence.
 - The assessed likelihood of an outcome or a result are expressed as follows:
 - o virtually certain (indicating 99–100% probability),
 - o extremely likely (95–100% probability)
 - o very likely (90–100% probability),
 - o likely (66–100% probability),
 - o more likely than not (>50–100% probability)
 - o about as likely as not (33–66% probability),
 - o unlikely (0–33% probability),
 - o very unlikely (0–10% probability),
 - o extremely unlikely (0–5% probability)
 - o exceptionally unlikely (0–1% probability).

BOX 1

Use of uncertainty language in IPCC Reports (IPCC 2021a)

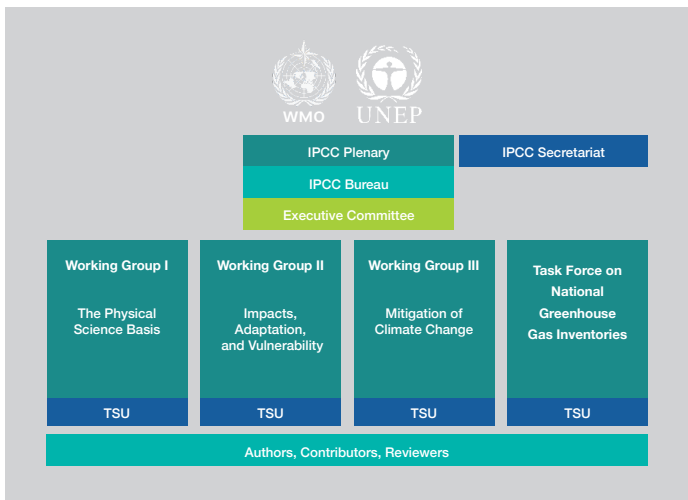
“In 2019, atmospheric CO₂ concentrations were higher than at any time in at least 2 million years (*high confidence*)”

“Human influence is *very likely* the main driver of the global retreat of glaciers since the 1990s and the decrease in Arctic Sea ice area between 1979–1988 and 2010–2019”

“It is *virtually certain* that the global upper ocean (0–700 m) has warmed since the 1970s and *extremely likely* that human influence is the main driver”

- Four technical groups focussing on different aspects of climate change have been set up to achieve its objectives:
 - Working Group I on the Physical Science Basis;
 - Working Group II on Climate Change Impacts, Adaptation and Vulnerability;
 - Working Group III on Mitigation of Climate Change; and
 - Task Force on National Greenhouse Gas Inventories.

The structure of the IPCC (IPCC 2021b)



Historical production of key IPCC reports

- In 1990, the IPCC First Assessment Report ([FAR](#)) underlined the importance of climate change as a challenge with global consequences and requiring international cooperation. It played a decisive role in the creation of the UNFCCC, the key international Convention to prevent irreversible global warming and to address the consequences of climate change.
- The Second Assessment Report ([SAR](#)) (1995) provided important material for governments to draw from in the run-up to the adoption of the Kyoto Protocol in 1997, which operationalised the UNFCCC by committing industrialised countries and economies in transition to limit greenhouse gases (GHGs) according to individual targets.
- The Third Assessment Report ([TAR](#)) (2001) focused attention on the impacts of climate change and the need for adaptation.
- The Fourth Assessment Report ([AR4](#)) (2007) laid the ground work for a post-Kyoto agreement, focusing on limiting human-induced warming to 2°C relative to the pre-industrial level.
- The Fifth Assessment Report ([AR5](#)) was finalized between 2013 and 2014. It provided the scientific input to the Paris Agreement, the legally binding international treaty

on climate change that was adopted by 196 countries in 2015, and which came into force in 2016 with a view to limit global warming to well below 2 °C, and preferably to 1.5 °C relative to the pre-industrial level.

- The IPCC is currently in its Sixth Assessment cycle, where it has been tasked to prepare three Special Reports, a Methodology Report and the Sixth Assessment Report.
 - The first of these Special Reports, Global Warming of 1.5°C ([SR15](#)), was requested by world governments under the Paris Agreement and was finalised in October 2018.
 - In May 2019, the IPCC finalised the [2019 Refinement](#) – an update to the 2006 IPCC Guidelines on National Greenhouse Gas Inventories.
 - The Special Report on Climate Change and Land ([SRCCL](#)) was finalised in August 2019, and the Special Report on the Ocean and Cryosphere in a Changing Climate ([SROCC](#)) published in September 2019.
 - The Sixth Assessment Reports (AR6) are expected to be finalized by September 2022, in time for the first global stocktake the following year.

The IPCC's Working Groups and timelines for publication for the AR6

- On 9 August 2021, the IPCC Secretariat presented the Summary for Policy Makers of the Working Group I (WG I) contribution to the AR6, “Climate Change 2021: The Physical Science Basis”.
- The WGI's contribution to the AR6 addresses the most up-to-date physical understanding of the climate system and climate change, bringing together the latest advances in climate science, and combining multiple lines of evidence including paleoclimate, observations, understandings of the physical, chemical and biological climate processes, and global and regional climate simulations.
- The WGI of the AR6 has been drafted by 234 authors from 65 countries. It has assessed around 14,000 scientific publications, and addressed more than 78,000 review comments.
- The other reports forming the basis of the AR6 will be published as follows:
 - Working Group 2 on Climate Change Impacts, Adaptation and Vulnerability will be finalised by February 2022;
 - Working Group 3 on Mitigation of Climate Change will be finalised in March 2022; and
 - AR6 Synthesis Report will be published in September 2022.

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