

# Sixth Assessment Report

## FACT SHEET

The Sixth Assessment Report (AR6) comprises three Working Group contributions: Working Group I (the physical science basis), Working Group II (impacts, adaptation and vulnerability) and Working Group III (mitigation) and a Synthesis Report.

The Synthesis Report integrates the three Working Group reports as well as the findings from the three cross-Working Group Special Reports prepared during this assessment cycle: *Special Report on Global Warming of 1.5°C* (SR15, October 2018), *Special Report on Climate Change and Land* (SRCCL, August 2019) and *Special Report on the Ocean and Cryosphere in a Changing Climate* (SROCC, September 2019).

During the AR6 cycle the IPCC also updated its methodologies with the *2019 Refinement to the 2006 Guidelines on National Greenhouse Gas Inventories* (May 2019).

Updated in April 2022

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# Schedule

The schedule for the approval plenaries is as follows:

Working Group I – 26 July - 6 August 2021

Working Group II – 14 - 25 February 2022

Working Group III – 21 March 1 - April 2022

Synthesis Report – 26 - 30 September 2022 tbc

In general the report is released at a press conference on the Monday following the approval plenary. The Working Group I report was released on 9 August 2021. The Working Group II report was released on 28 February 2022.

The Working Group II contribution to the Sixth Assessment Report is available [here](#).

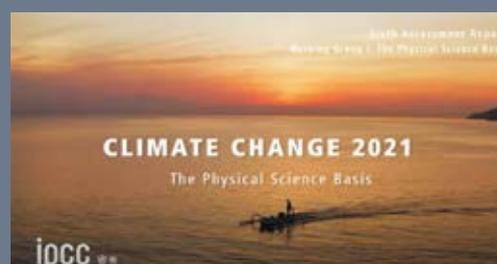
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## Videos

[What is IPCC's Sixth Assessment Report?](#)



[Climate Change 2021: The Physical Science Basis](#)



# Report structure and contents

The agreed outlines of the reports can be found on our website:



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## Working Group I



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## Working Group II



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## Working Group III

Compared with previous IPCC assessments, there is a greater focus on solutions across all Working Groups, more regional information, and more integration across Working Groups (e.g. boxes on specific topics to which more than one Working Group has contributed and which may appear in more than one report).

All reports in this cycle cover the topic of cities and climate change, ahead of a Special Report on this topic in the next assessment cycle.

The Working Group I report addresses the most updated physical understanding of the climate system and climate change, bringing together the latest advances in climate science, and combining multiple lines of evidence from paleoclimate, observations, process understanding, global and regional climate simulations. It shows how and why climate has changed to date, and the improved understanding of human influence on a wider range of climate characteristics, including extreme events. There is a greater focus on regional information that can be used for climate risk assessments.

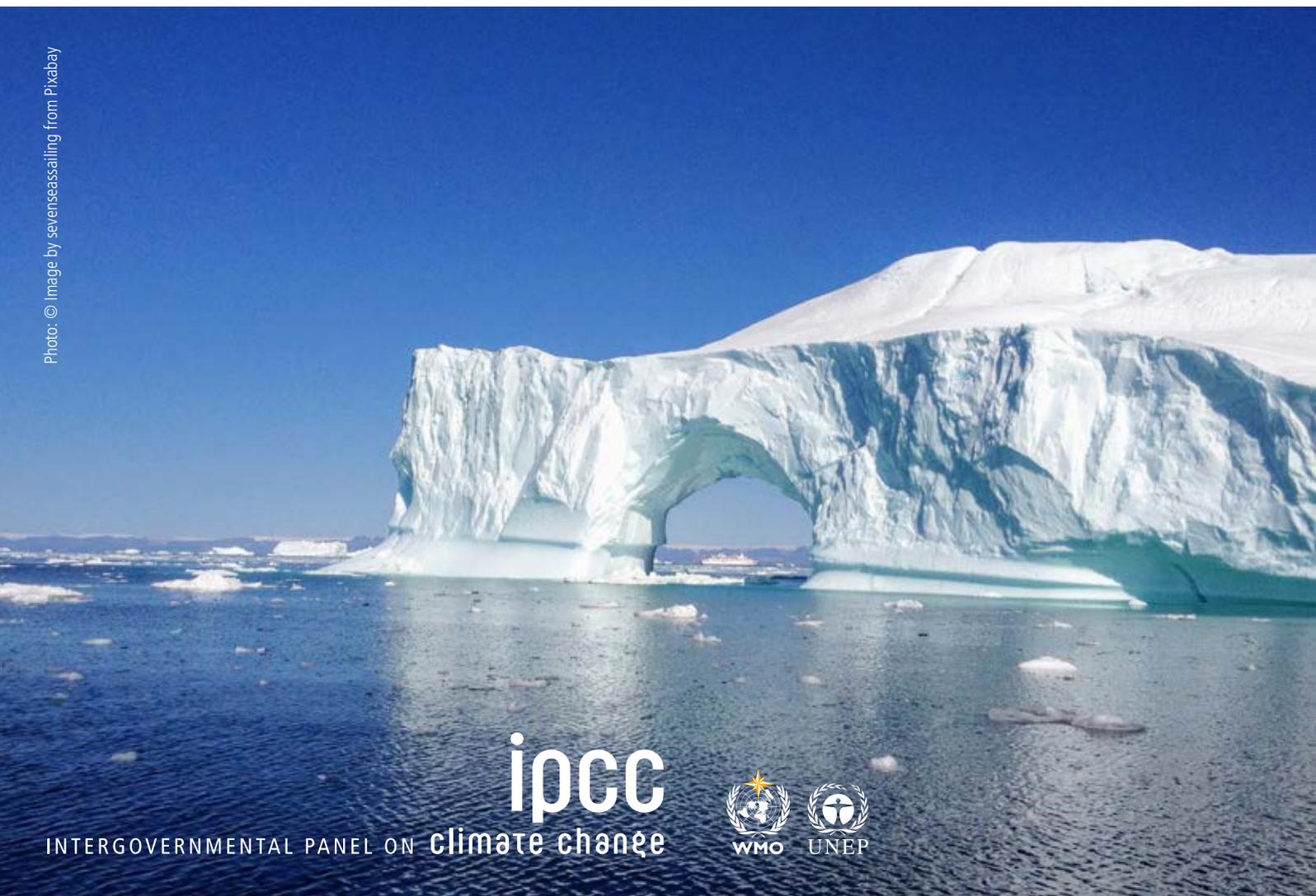
## Report structure and contents (*cont.*)

Working Group II assesses the impacts of climate change, from a world-wide to a regional view of ecosystems and biodiversity, and review the implications for humans and their diverse societies, cultures and settlements. The report considers the vulnerabilities and the capacities and limits of the natural world and of human societies to adapt to climate change. It thereby informs adaptation and mitigation efforts to reduce climate-associated risks together with options for creating a sustainable, resilient and equitable future for all.

Working Group III will assess progress in limiting emissions, and the range of available mitigation options in energy and urban systems, and in sectors such as agriculture, forestry and land use, buildings, transport and industry. It will consider these in the context of sustainable development. The report will also assess the connection between short to medium-term actions and long-term emission pathways that limit global warming.

The agreed outlines linked above indicate the following innovations and changes in the Sixth Assessment Report:

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## Working Group I

- The new structure of the Working Group I report shows **more integrated knowledge** and understanding compared to the previous report. In the Fifth Assessment Report (AR5) there were separate chapters on the assessment of models, observational evidence, paleo-climate records etc, now these topics are integrated together across multiple chapters, for example, Chapter 8 (Water cycle changes) incorporates all these when assessing water cycle changes due to climate change.
- There is a far greater emphasis on **regional climate change** in the Working Group I report; the final third of the chapters all have a regional focus. These chapters cover the large advances in scientific knowledge on changes in extreme events and attributing these events to man-made climate change, notably in Chapter 11 (Weather and climate extreme events in a changing climate), a new dedicated chapter on this topic.
- Chapter 12 (Climate change information for regional impact and for risk assessment) looks not just at extremes but also other factors that are relevant for risk assessments that might appear over longer time scales (e.g. droughts, changes in snow cover etc). This information can help with risk and impact assessments - part of Working Group I's contribution to solutions.
- Chapter 10 (Linking global to regional climate change) is a new chapter connecting the global to the local, and highly relevant to the needs of local policymakers.
- Interactive online regional atlas featuring data underpinning the Working Group I assessment, including observed and projected climate change information. Users can perform spatial and temporal analyses using many datasets used in the assessment, access synthesized regional information for climatic impact drivers and download data.
- There's a greater focus on how the **Earth responds to climate change** in the Working Group I report, looking for example at how the oceans and atmosphere respond when greenhouse gas emissions are reduced or if carbon removal techniques are used, and the timelines associated with these actions. There is also an updated assessment of our understanding of how sensitive the Earth's temperature is to carbon dioxide emissions.
- In the Fifth Assessment Report, four Representative Concentration Pathways (RCPs) were used to simulate future climate change. This time the IPCC uses **Shared Socio-Economic Pathways (SSPs)** that look at a far great range of options / scenarios. There's a greater focus on lower degrees of warming because of these scenarios. Levels of warming like 1.5°C and 2°C can be assessed more rigorously than in AR5. The assessment can also look at the timing of when we could see a global mean temperature of these global warming levels.

## Working Group II

- The WGII AR6 report puts greater emphasis on regional information including additional regions and cross-sectoral topics in the new cross-chapter papers in order to better understand the context for both impacts and responses.
- It provides new information on risks under warming levels including cascading, compounding and transboundary risks.
- There is an increased emphasis on adaptation and the contribution of adaptation to solutions with adaptation integrated into each chapter and cross-chapter paper. This includes the challenges, opportunities and limits to adaptation and the contribution of adaptation to meeting multiple societal goals including poverty reduction and sustainable development.
- It highlights links between the natural world and humans, such as impacts of climate change on ecosystems and biodiversity in Chapters 2 and 3, on human health/pandemics, food/nutrition, wellbeing in e.g. Chapter 5 (Food, fibre and other ecosystem products), and Chapter 7 (Health, wellbeing and the changing structure of communities), and adaptation options and limits.
  - The WGII AR6 report emphasizes the role of cities as places of increasing vulnerability (population growth) but also opportunities for climate adaptation/mitigation action in Chapter 6 (Cities, settlements and key infrastructure) and Cross-Chapter Paper 2 (Cities and Settlements by the Sea).
  - It includes three synthesis chapters 16 (Key risks across sectors and regions), 17 (Decision-making options for managing risks) and 18 (Climate resilient development pathways) that are likely to be of high interest to policymakers.
  - Its WGII Global to Regional Atlas integrates and expands on key messages in the chapters and cross-chapter papers providing visual narratives.

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## Working Group III

- The WG III report places climate change firmly in the context of sustainable development, assessing wider risks and co-benefits (Chapters 1,17).
- The report explores synergies and trade-offs between mitigation and adaptation, linking to the WG II AR6 report.
- The report documents and explains recent developments in emission and mitigation efforts (Chapter 2).
- The report considers emission pathways and corresponding mitigation efforts over the 21st century, linking to the WG I AR6 report (Chapter 3).
- A chapter on mitigation and development pathways in the near to mid-term covers national perspectives and assesses the aggregate impact of national pledges in relation to longer term goals (Chapter 4).
- For the first time, the WG III AR6 report includes a chapter on social aspects of mitigation that covers factors shaping consumption patterns and opportunities to reduce emissions on the demand side (Chapter 5).
- The report also includes for the first time a chapter dedicated to innovation and technology (Chapter 15).
- Mitigation opportunities and associated risks and co-benefits in energy, agriculture, land use, settlements, buildings, transport, and industry are explored in depth (Chapters 6-11).
- Mitigation options that cut across sectors, including carbon dioxide removal techniques, are covered in a separate chapter (Chapter 12).
- Actions needed to strengthen mitigation efforts are covered in chapters on institutions and policy, international cooperation, finance, and technology development and transfer (Chapters 13-16).

# Statistical background

## *Working Group I*

- Author team (Coordinating Lead Authors, Lead Authors, Review Editors)	234
- Review comments	
First order draft (experts)	23,462
Second order draft (experts and governments)	51,387
Final draft (governments)	3,158
- Number of citations	over 14,000

## *Working Group II*

- Author team (Coordinating Lead Authors, Lead Authors, Review Editors)	270
- Review comments	
First order draft (experts)	16,348
Second order draft (experts and governments)	40,293
Final draft (governments)	5,777
- Number of citations	over 34,000

## *Working Group III*

- Author team (Coordinating Lead Authors, Lead Authors, Review Editors)	278
- Review comments	
First order draft (experts)	21,703
Second order draft (experts and governments)	32,555
Final draft (governments)	4,954
- Number of citations	over 18,000

For further information or comments  
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