



# IPCC Seventh Assessment Report (AR7)

The outlines and related WGI challenges

Robert Vautard and Xiaoye Zhang

*09 April, 2025*

Traceability  
of key  
statements

A solid  
evidence  
base

“ IPCC’s role is...

to **assess** on a comprehensive, objective, open and transparent basis the **scientific, technical and socio-economic information** relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation.

Policy-relevant  
while not  
policy-prescriptive

A comprehensive  
coverage of multiple  
perspectives and  
views

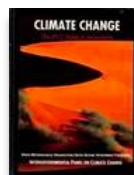
An inclusive and  
respectful working  
environment

# History | Evolution of the IPCC

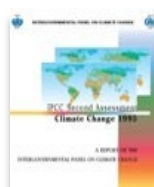
*"...the objective of the IPCC is to provide governments at all levels with scientific information that they can use to develop climate policies. IPCC reports are also a key input into international climate change negotiations."*



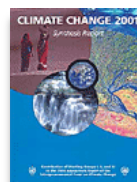
**IPCC** jointly established by WMO and UNEP



**First Assessment Report**  
Led to creation of UNFCCC in 1994



**Second Assessment Report**  
Kyoto Protocol



**Third Assessment Report**  
Focus attention on adaptation to climate change



**Fourth Assessment Report**  
2°C Limit  
Nobel Peace Prize



**Fifth Assessment Report**  
Paris Agreement - 2015



**Sixth Assessment Report**  
First Global Stocktake - COP28

1988

1990

1995

2001

2007

2014

2023

GROWTH IN SCIENTIFIC RESEARCH

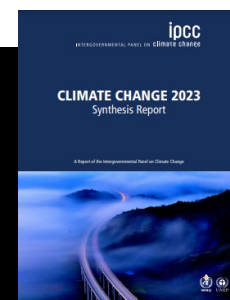
INCREASE IN STAKEHOLDER INVOLVEMENT

GROWING PUBLIC AWARENESS

# Report Process | Ten Steps



## The State of Knowledge about Climate Change

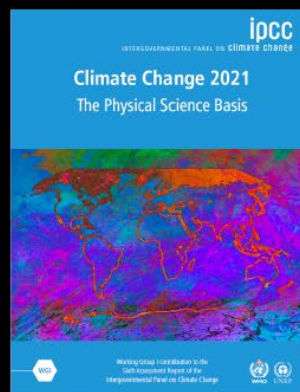


WGI

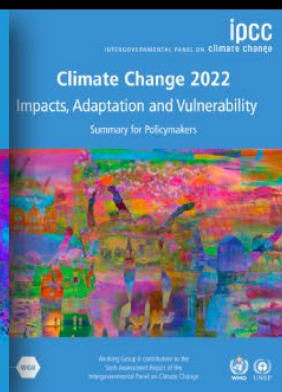
WGII

WGIII

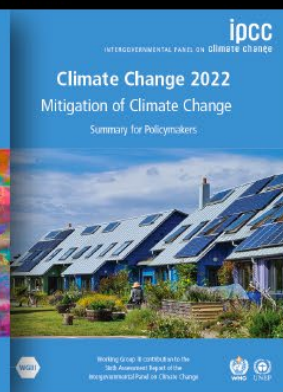
Special Report



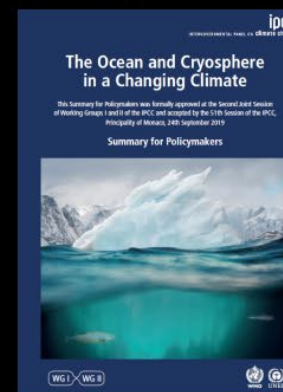
AR6 Climate Change 2021:  
The Physical Science Basis



Climate Change 2022:  
Impacts, Adaptation and  
Vulnerability



Climate Change 2022:  
Mitigation of Climate Change



Ocean and Cryosphere in a  
Changing Climate



Climate Change and Land



Global Warming of 1.5 °C

Sixth Assessment Report | Synthesis Report

ipcc  
INTERGOVERNMENTAL PANEL ON  
CLIMATE CHANGE

SEVENTH ASSESSMENT CYCLE

796

Authors

>100,000

Cited papers

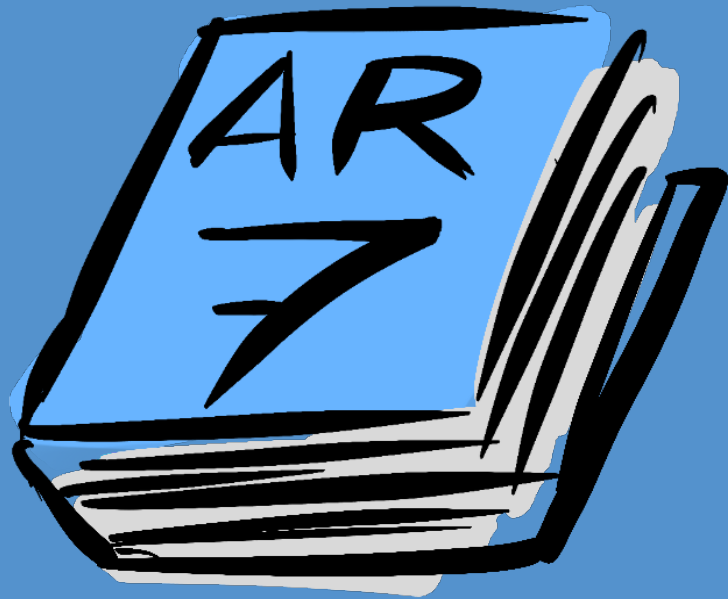
>300,000

Reviewer comments



SEVENTH ASSESSMENT CYCLE

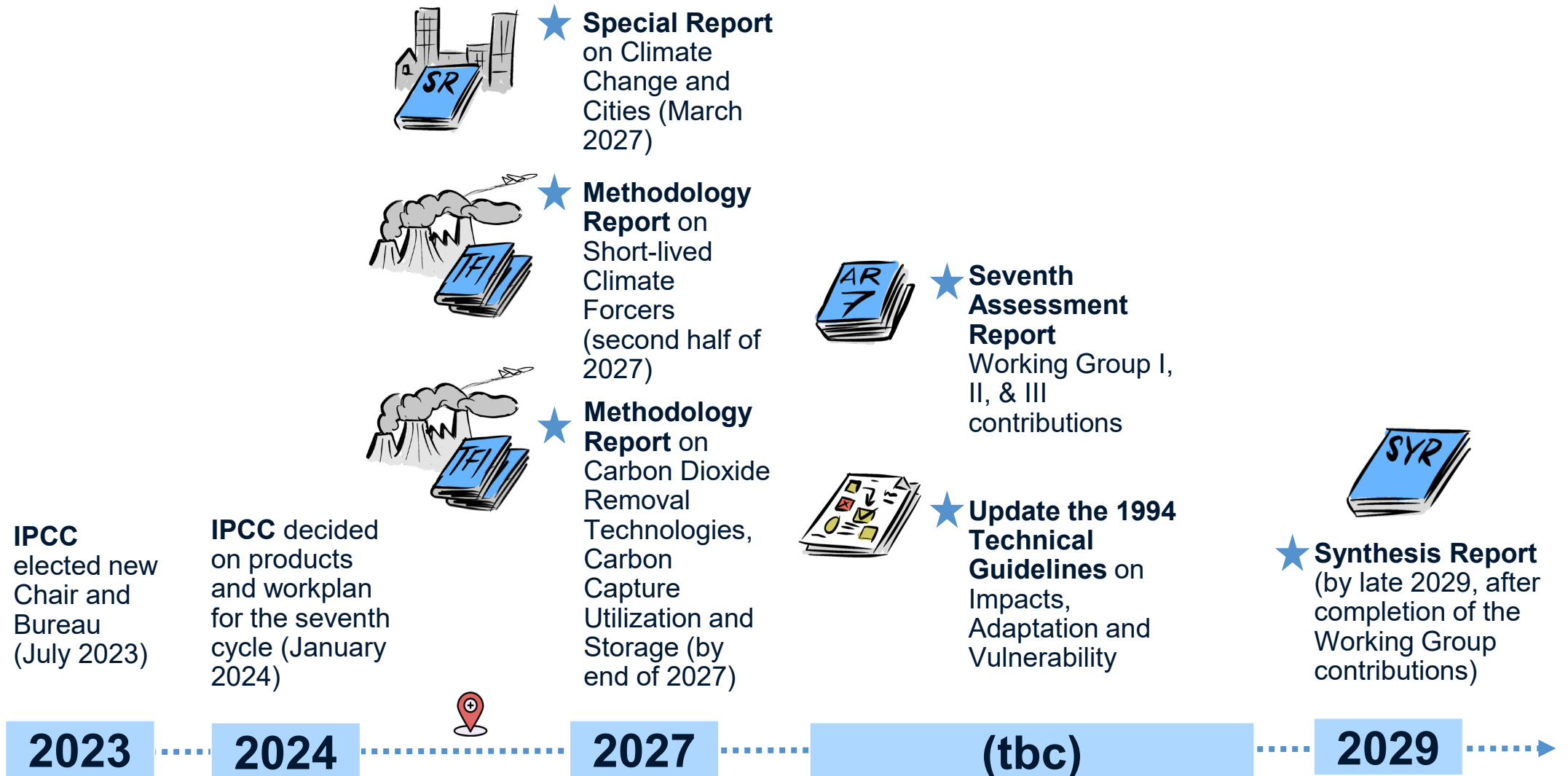
ipcc  
INTERGOVERNMENTAL PANEL ON climate change



# Introducing the 7th Assessment Cycle



# Introducing the 7th Assessment Cycle (AR7)



IPCC Working Group I, 7th Assessment Cycle




# Working Group I contribution to the 7<sup>th</sup> IPCC Assessment Report

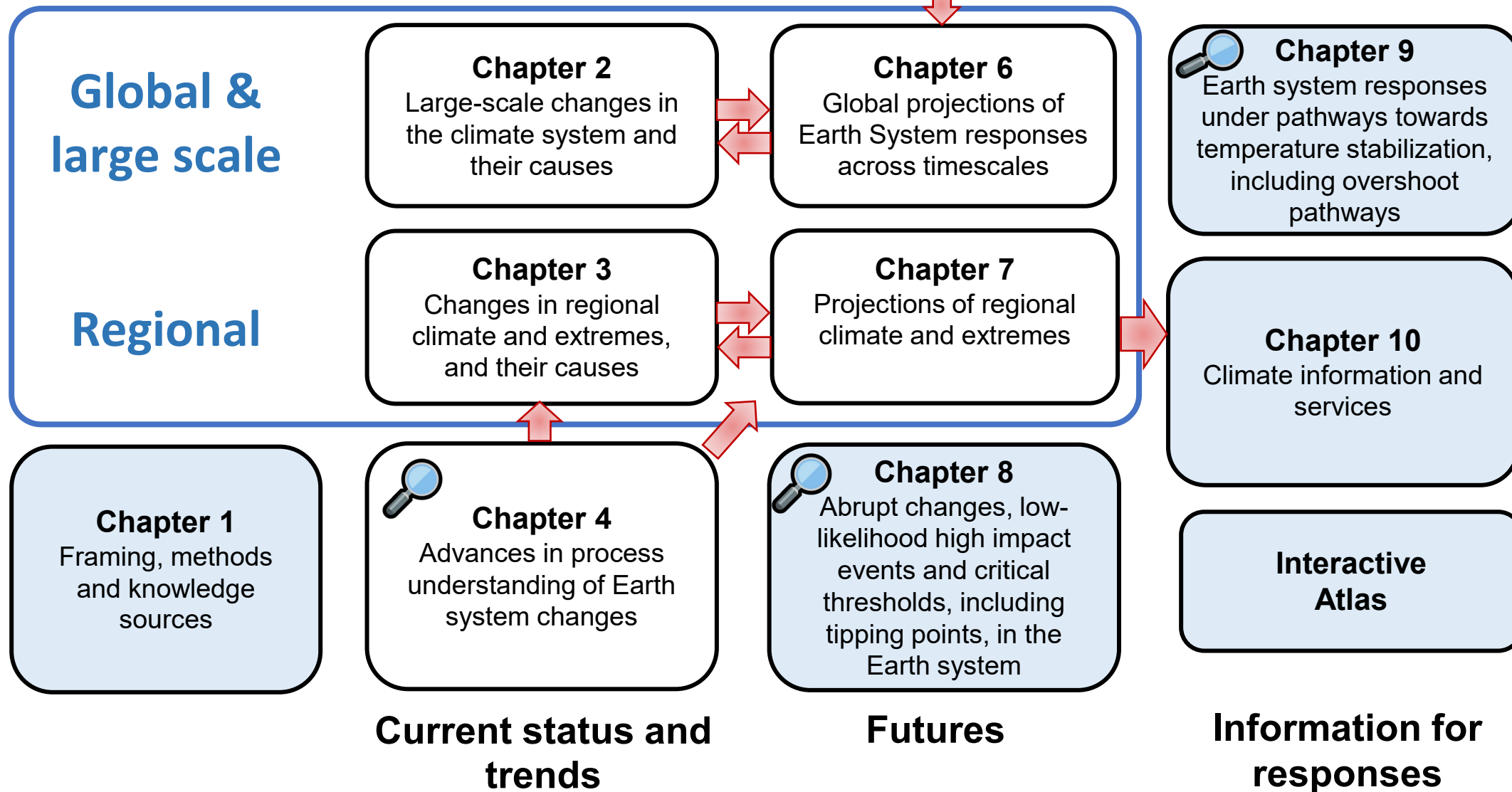
Robert Vautard and Xiaoye Zhang, Co-Chairs WGI





# AR7 WGI Structure

 = focus/deep dive  
 = core chapters  
 = xWG elements



# Highlighting key advances in science

- **Chapters 2&3:**  
Improved understanding of **recent anomalies** (outstanding regional or global extremes and values in global indices)
- **Chapter 4:**  
Integration of advances on main processes and feedbacks **at the interface of Earth system components**, and cycles (e.g., water-energy-carbon, ocean/land)
- **Chapters 5-7:**  
Global and regional **projections** based on new model developments (km scale resolution, AI, emulators), incl. extreme events
- **Chapter 8:**  
Fast increasing literature on potential **abrupt changes and events** not covered by regional projections
- **Chapters 9&10:**  
Very dynamic areas of **policy-relevant** research (climate services, stabilization and overshoot)

## Cross-cutting topics

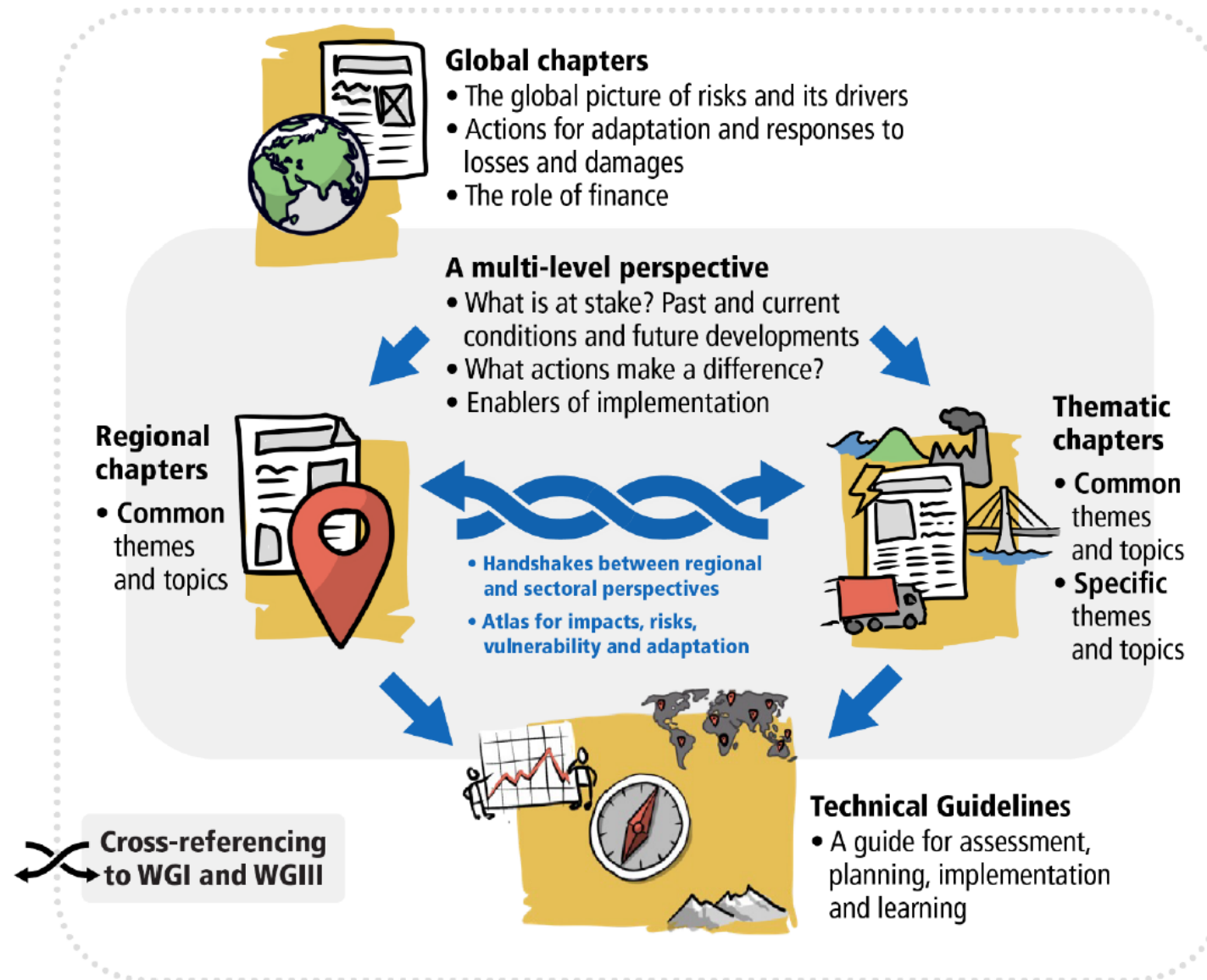
WGI Report outline reflects a number of x-WG topics that were discussed in corss-WG Break Out Groups during the scoping meeting in Kuala Lumpur, and will be coordinated during the writing process with the other WGs

- Biodiversity and Ecosystems (embedded across the Report)
- Equity and justice (CH1, 3, 7, 10)
- Health and well-being (CH10)
- (Information for) losses and damages (CH10)
- Overshoot (CH9)
- Risk assessment approaches and regionalization (CH3, 7, 10)
- Scenarios (CH5, 7, 1, 6)
- Solar Radiation Modification (CH9)
- Tipping points and large-scale singular events (CH8)
- Technical Guidelines for Impacts assessment and Adaptation (CH10)



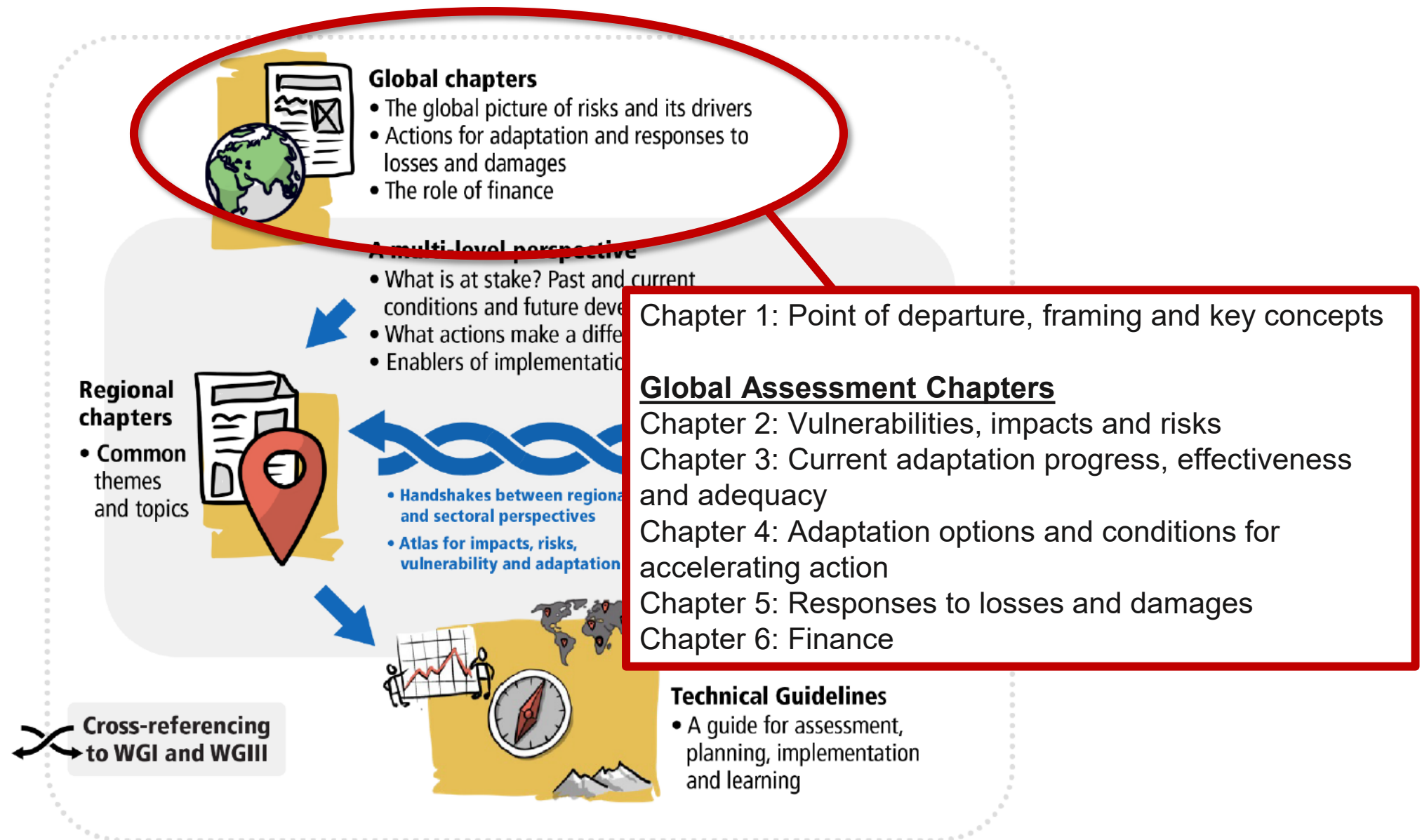
# Outline of the Working Group II contribution to the 7th Assessment Report

# Outline of WG II AR7





# Starting with global chapters



# Progressing to regional chapters

## Cross-chapter Papers

Polar regions  
Mountain regions  
Drylands and Deserts  
Least Developed Countries  
Mediterranean

## Global chapters

- The global picture of risk
- Actions for adaptation and losses and damages
- The role of finance

## A multi-level perspective

- What is at stake? Past and future conditions and future development
- What actions make a difference?
- Enablers of implementation

## Regional Assessment Chapters

Chapter 7: Africa  
Chapter 8: Asia  
Chapter 9: Australasia  
Chapter 10: Central and South America  
Chapter 11: Europe  
Chapter 12: North America  
Chapter 13: Small Islands

## Regional chapters

- Common themes and topics

- Handshake between regional and sectoral perspectives
- Atlas for impacts, risks, vulnerability and adaptation

- Common themes and topics
- Specific themes and topics

## Digital Atlas

Impacts, risks, vulnerability and adaptation

## Technical Guidelines

- A guide for assessment, planning, implementation and learning

Cross-referencing to WGI and WGIII



# Moving to thematic chapters

## Global chapters

### Thematic Assessment Chapters

Chapter 14: Terrestrial, freshwater and cryospheric biodiversity, ecosystems and their services

Chapter 15: Ocean, coastal and cryospheric biodiversity, ecosystems and their services

Chapter 16: Water

Chapter 17: Agriculture, food, forestry, fibre and fisheries

Chapter 18: Adaptation of human settlements, infrastructure and industry systems

Chapter 19: Health and well-being

Chapter 20: Poverty, livelihoods, mobility and fragility

of risks and its drivers  
on and responses to

## Objective

st and current  
e developments  
a difference?  
entation

regional  
ives

- Atlas for impacts, risks, vulnerability and adaptation

## Thematic chapters

- Common themes and topics
- Specific themes and topics

## Technical Guidelines

- A guide for assessment, planning, implementation and learning

Cross-referencing  
to WGI and WGIII

# The updated Technical Guidelines





IPCC Working Group III, 7th Assessment Cycle

# Working Group III contribution to the 7<sup>th</sup> IPCC Assessment Report

Kate Calvin and Joy Pereira, Co-chairs WGIII





### Working Group III Contribution to the IPCC Seventh Assessment Report

1. Introduction and framing
2. Past and current anthropogenic emissions and their drivers
3. Projected futures in the context of sustainable development and climate change
4. Sustainable development and mitigation
5. Enablers and barriers
6. Policies and governance and international cooperation
7. Finance
8. Services and demand
9. Energy systems
10. Industry
11. Transport and mobility services and systems
12. Buildings and human settlements
13. Agriculture, Forestry and Other Land Use
14. Integration and interactions across sectors and systems
15. Potentials, limits, and risks of Carbon Dioxide Removal

1. Introduction and framing
2. Past and current anthropogenic emissions and their drivers
3. Projected futures in the context of sustainable development and climate change
4. Sustainable development and mitigation

Past and current trends  
and futures, sustainable  
development and  
mitigation

Inclusive approach, a diverse range of  
methodologies, models, databases, and development  
tools for scenarios and emissions pathways

- 5. Enablers and barriers
- 6. Policies, governance and international cooperation
- 7. Finance

Factors that enable  
or constrain mitigation

Enablers, opportunities, barriers, and constraints for mitigation,  
including cost, capacity, environment and natural resources, finance,  
social aspects, technology, and trade

8. Services and demand
9. Energy systems
10. Industry
11. Transport and mobility services and systems
12. Buildings and human settlements
13. Agriculture, Forestry and Other Land Use
14. Integration and interactions across sectors and systems

Sectors, systems  
and  
their integration

Mitigation options for services and demand, energy systems, industry, transport and mobility services and systems, buildings and human settlements, and AFOLU with a focus on sectors, systems, and their integration

15. Potentials, limits, and risks of Carbon Dioxide Removal

Carbon dioxide  
removal

Potentials, limits, and risks of different CDR approaches, including their effectiveness at different warming levels and time scales, feasibility assessment, and permanence



# Roles in an author team



## Coordinating Lead Author (CLA)

Responsible for coordinating work on major sections of a report such as chapters.

## Lead Author (LA)

Responsible for the production of designated sections of the report within a chapter on the basis of the best scientific, technical and socio-economic information available.

## Review Editor

Help identify expert reviewers, ensure that all substantive comments are afforded appropriate consideration, and advise LAs on how to handle contentious or controversial issues.

### How do you apply?

Refer to IPCC's official call for authors ending on **17 April 2025**

## Contributing Authors

Provide specific knowledge or expertise in a given area. CLAs/LAs may enlist other experts as Contributing Authors to assist with their work.

## Chapter Scientists

Provide technical and logistical support to author teams. They can be recruited directly by CLAs or through a call via the TSU.

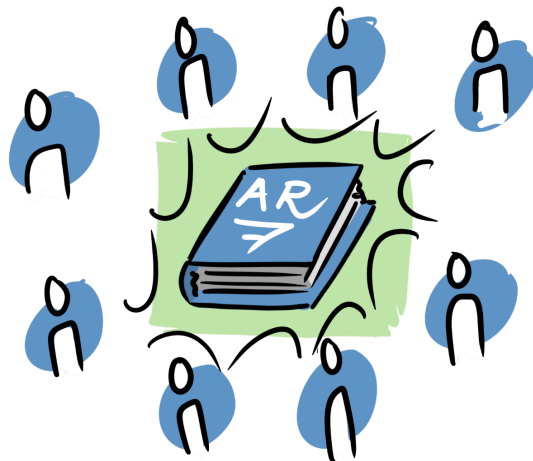
## Expert Reviewers

Experts can sign up to comment on one section of the draft report, on a complete chapter, or on the report as a whole.

### How do you apply?

Reach out to TSU or stay tuned to calls issued by the TSU and the IPCC

# Call for AR7 author nominations close on 17 April 2025!



Scan the QR code for:

- The agreed outlines of all three Working Group reports
- Resources to identify potential nominators like national Focal Points, observer organisations, IPCC Bureau members
- Resources on how authors get nominated



<https://linktr.ee/ipccar7wg2>

# How authors get nominated and selected



1

## Reach out to a potential nominator

National Focal Points, IPCC observer organisations and IPCC Bureau Members can nominate experts.

You can look for your national Focal Point on the IPCC website.



2

## Preparing your nomination

Request the nomination form from your Focal Point.

A completed form and your CV must be submitted to your Focal Point for submission on the IPCC portal **before 17 april**.



3

## Your nomination gets submitted!

Submitted nominations will undergo a selection process by IPCC Bureau Members, supported by the TSU.

# THANK YOU

## FOR YOUR ATTENTION

### STAY IN TOUCH



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