SEVENTH ASSESSMENT CYCLE

ipcc
INTERGOVERNMENTAL PANEL ON climate change

WMO UN environment programme

Understanding Climate Change and its Challenges: Perspectives from the IPCC

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Chair
Intergovernmental Panel on Climate Change

APEC Climate Symposium 2025

7 August 2025

How IPCC works

The role of the Intergovernmental Panel on Climate Change (IPCC) 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."

"IPCC reports should be neutral with respect to policy, although they may need to deal objectively with scientific, technical and socio-economic factors relevant to the application of particular policies."

We assess – we don't conduct research…

Principles Governing IPCC Work, paragraph 2
Source: http://www.ipcc.ch/pdf/ipcc-principles/ipcc-principles.pdf

The structure of IPCC

Intergovernmental Panel
The 195 member governments appointing National Focal Points

IPCC Plenary
Meeting of representatives of IPCC member governments

IPCC Bureau
IPCC Chair and Vice-Chairs plus Co- and Vice-Chairs of WGs and TFI

Executive Committee
IPCC Chair, IPCC Vice-Chairs, Co-Chairs of TFI and WGs

Working Groups and TFI
The three Working Groups and the TFI form the basis of the operational branch of producing the reports

WGI
The Physical Science Basis

WGII
Impacts, Adaptation & Vulnerability

WGIII
Mitigation of Climate Change

TFI
Task Force on National Greenhouse Gas Inventories

Scientists and experts
Scientists and experts from around the world are involved in the preparation of IPCC reports.

Authors & Scientists

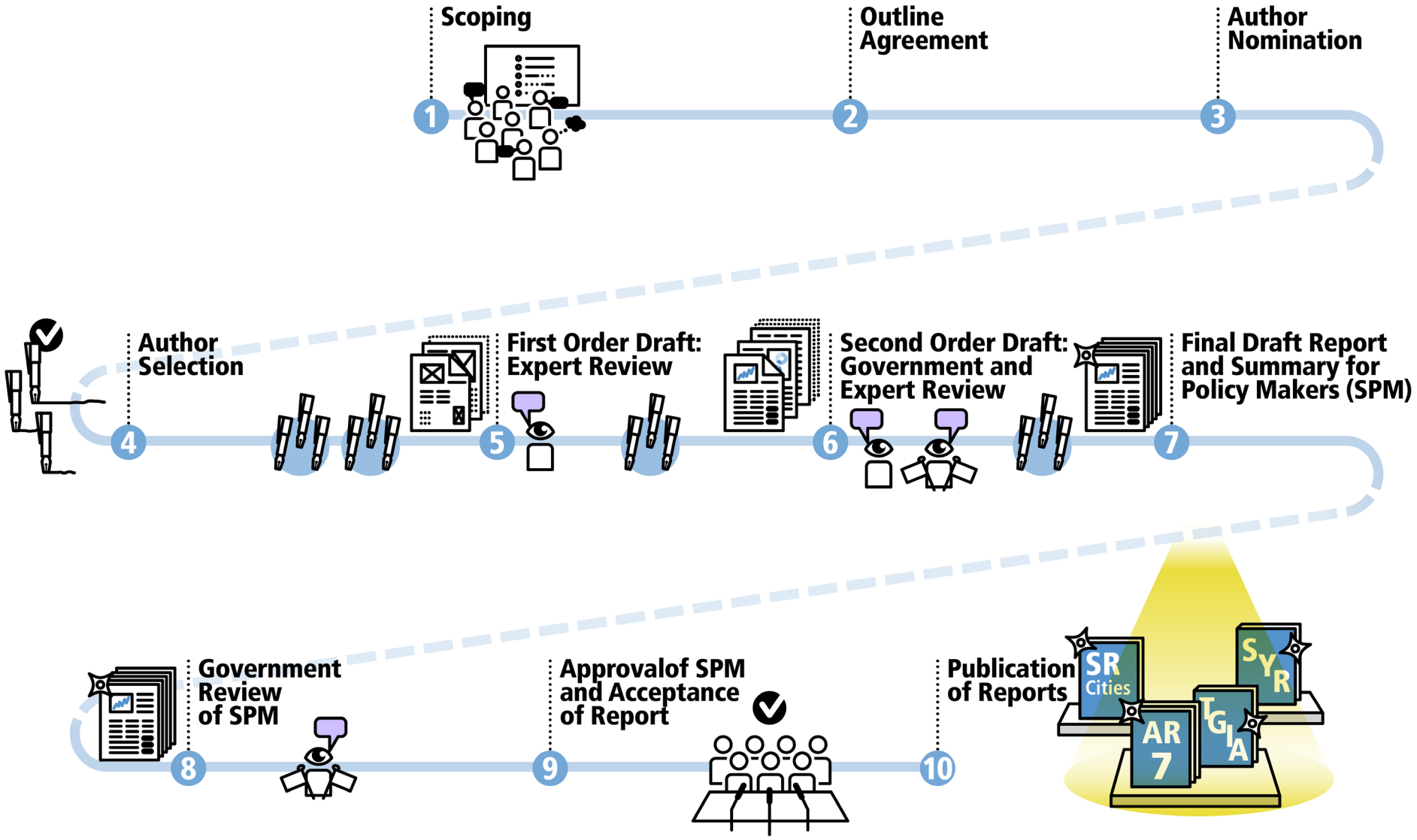
Expert Reviewers

Review Editors

Secretariat
Oversees the process and provides support

Technical Support Units (TSUs)
Each Working Group and the TFI is supported by a TSU

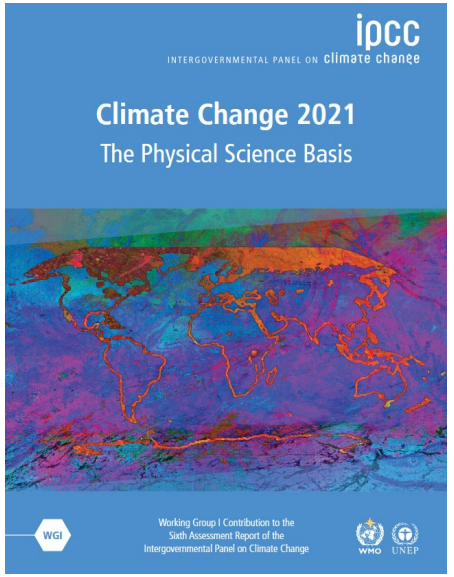
The Report process in ten steps

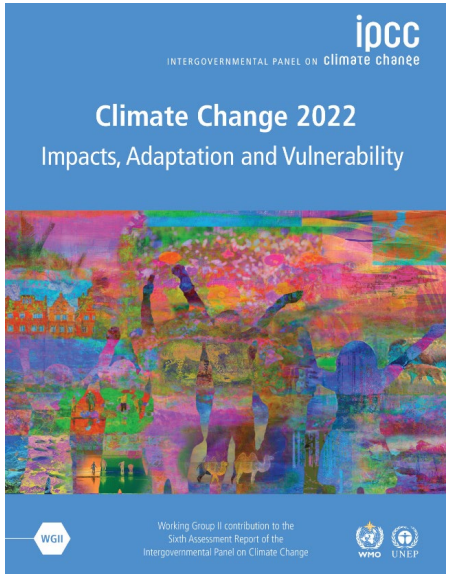


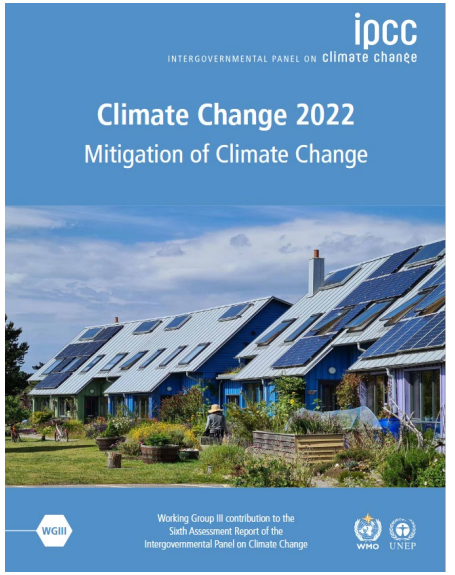
The IPCC Sixth Assessment Cycle

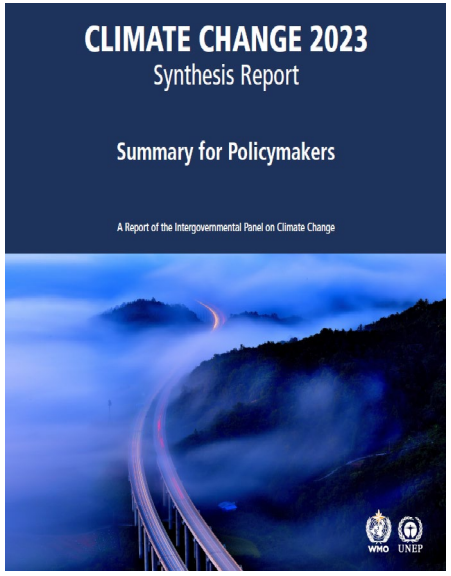
"Human activities, principally though emissions of greenhouse gases, have unequivocally caused global warming"

"Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred"



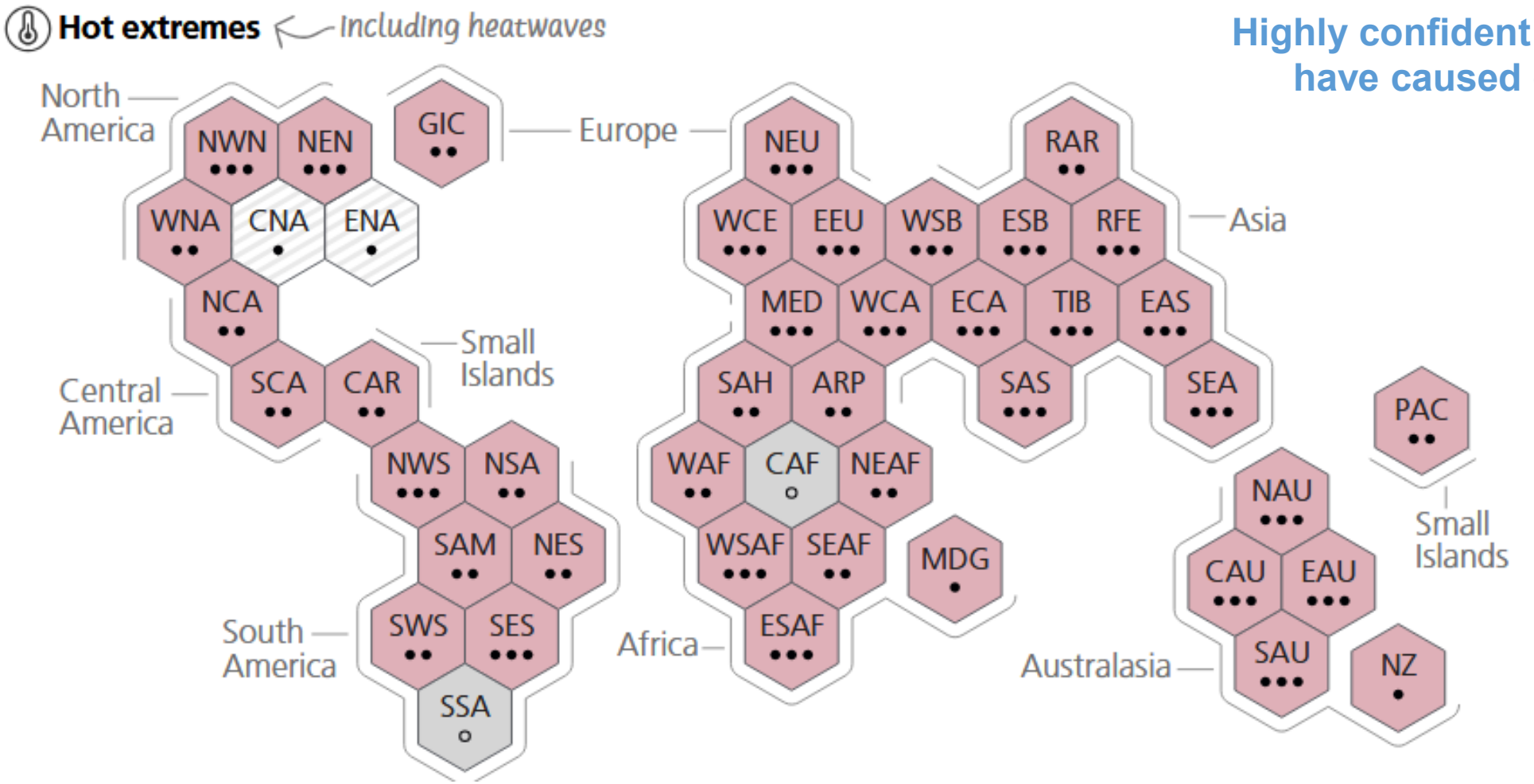






Climate change is already affecting many weather and climate extremes in every region across the globe with widespread adverse impacts

Hot extremes



Highly confident that human activities have caused observable increases in hot extremes

Key

Type of observed change since the 1950s

- Increase
- Decrease
- Limited data and/or literature
- Low agreement in the type of change

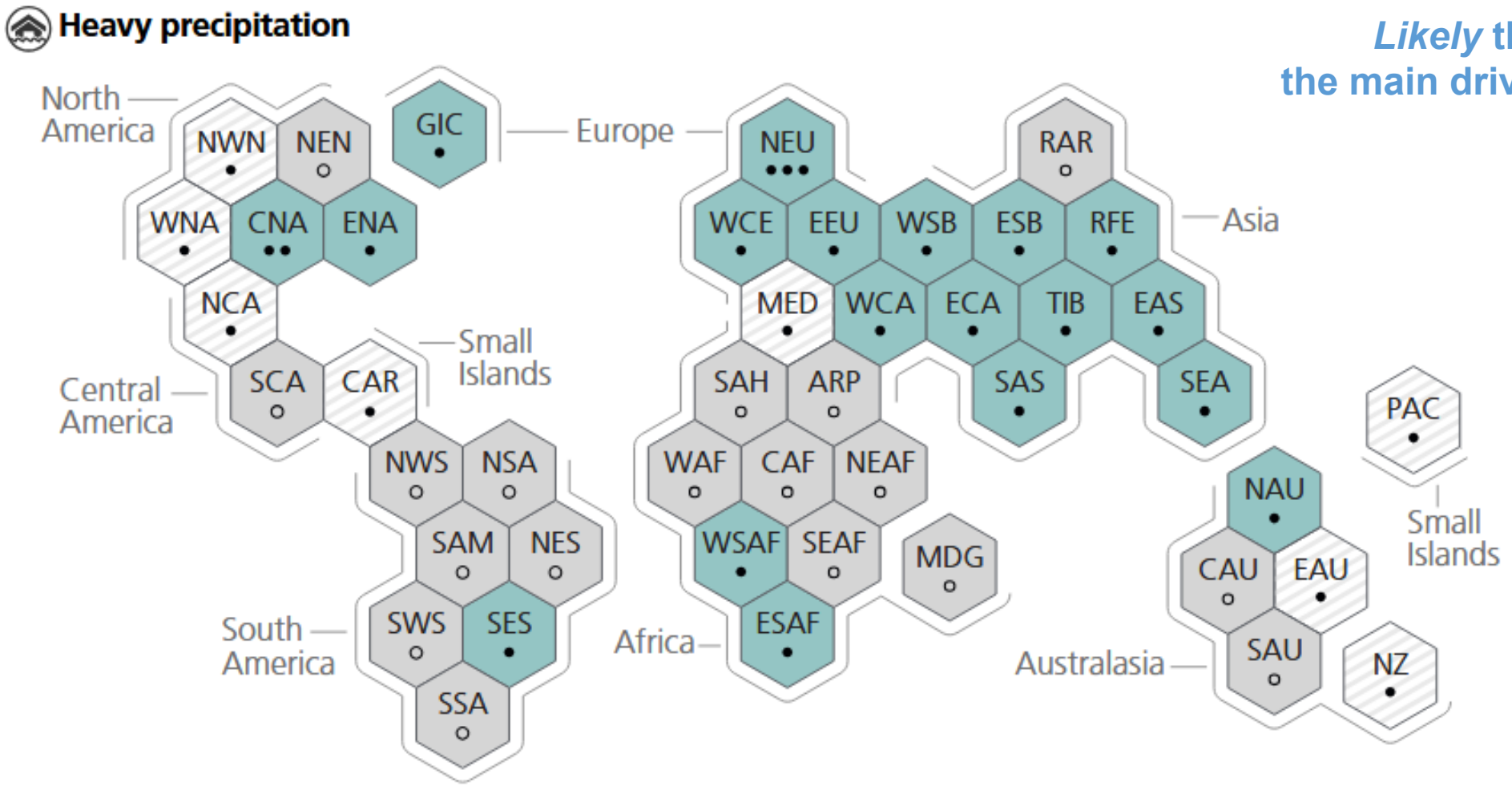
Confidence in human contribution to the observed change

- ••• High
- •• Medium
- • Low due to limited agreement
- ○ Low due to limited evidence

Each hexagon corresponds to a region

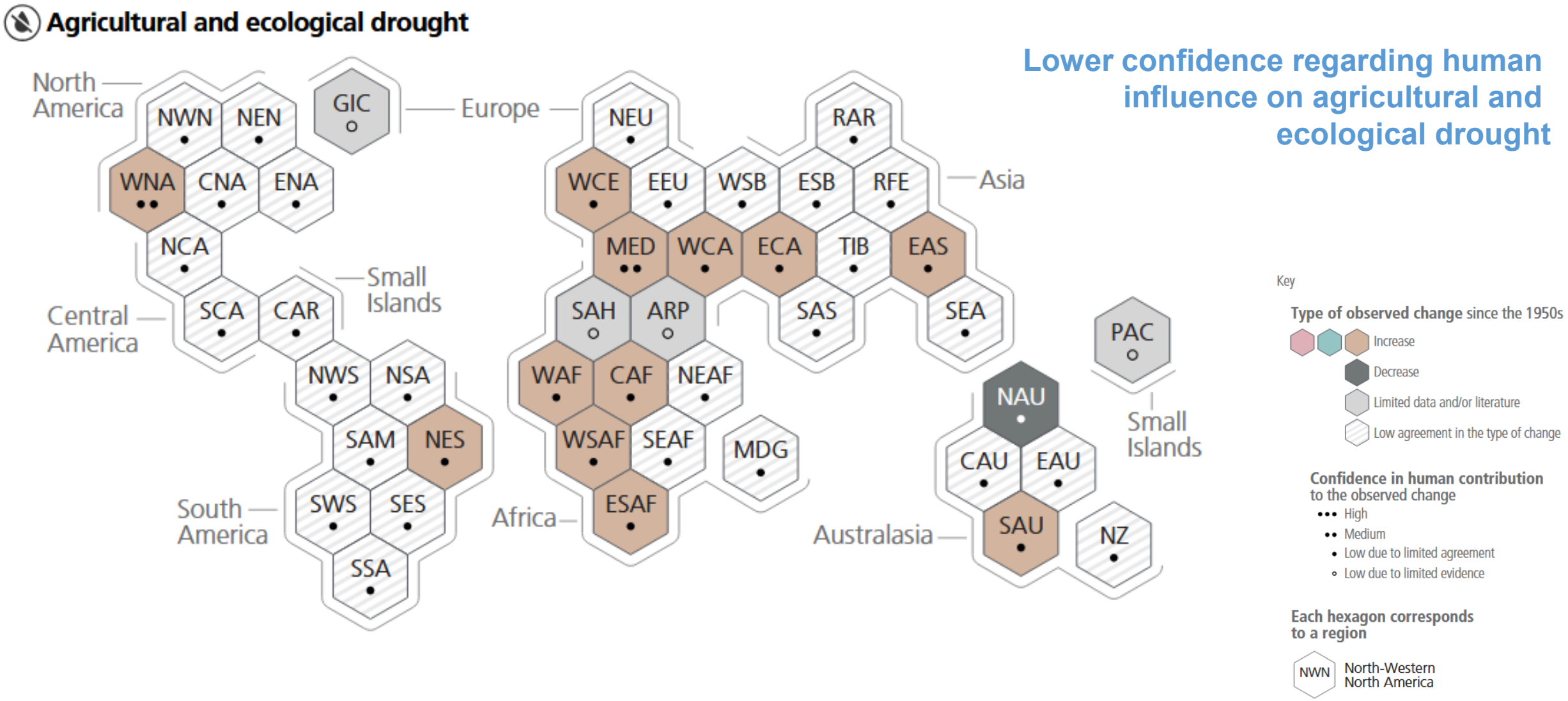
NWN North-Western North America

Heavy precipitation

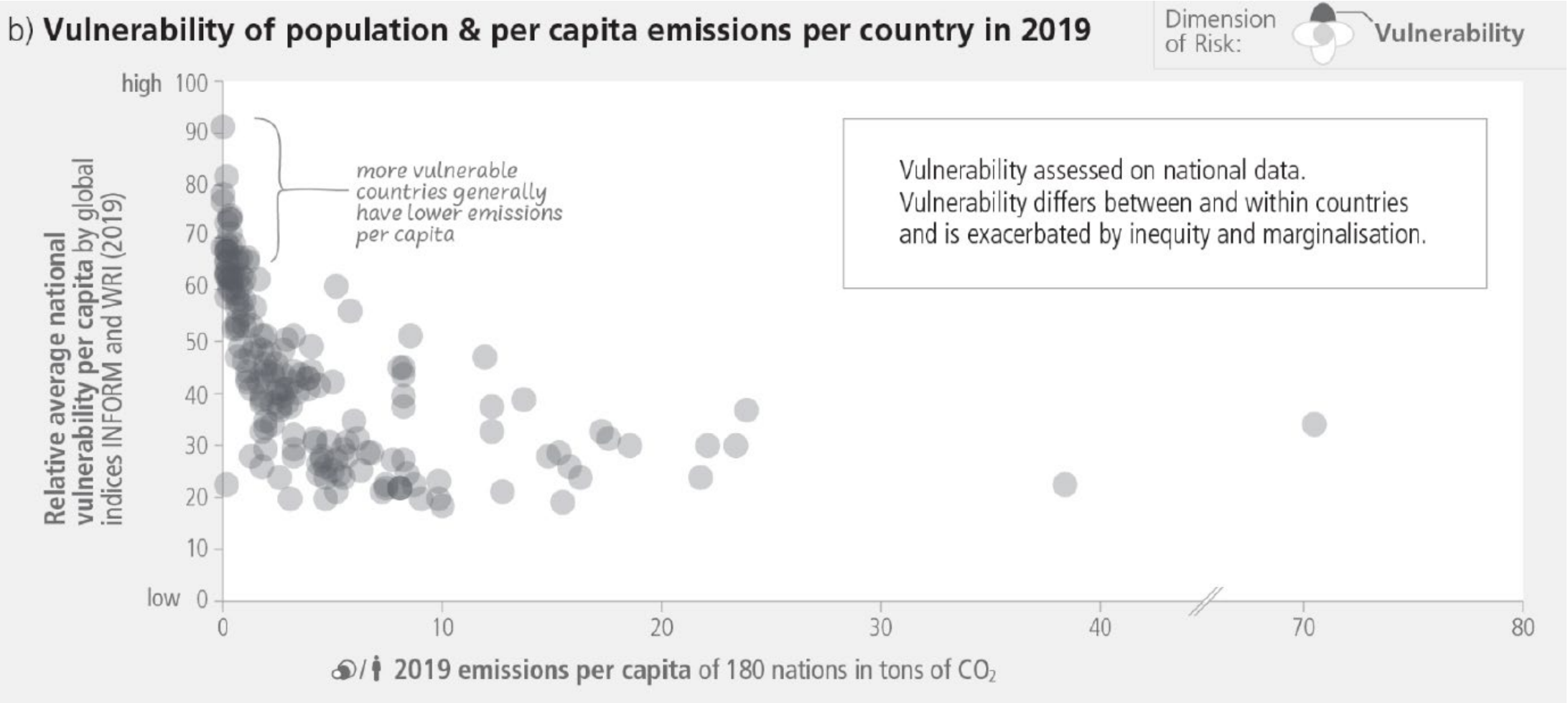


Likely **that human activities are the main driver of the intensification of heavy precipitation**

Agricultural and ecological drought

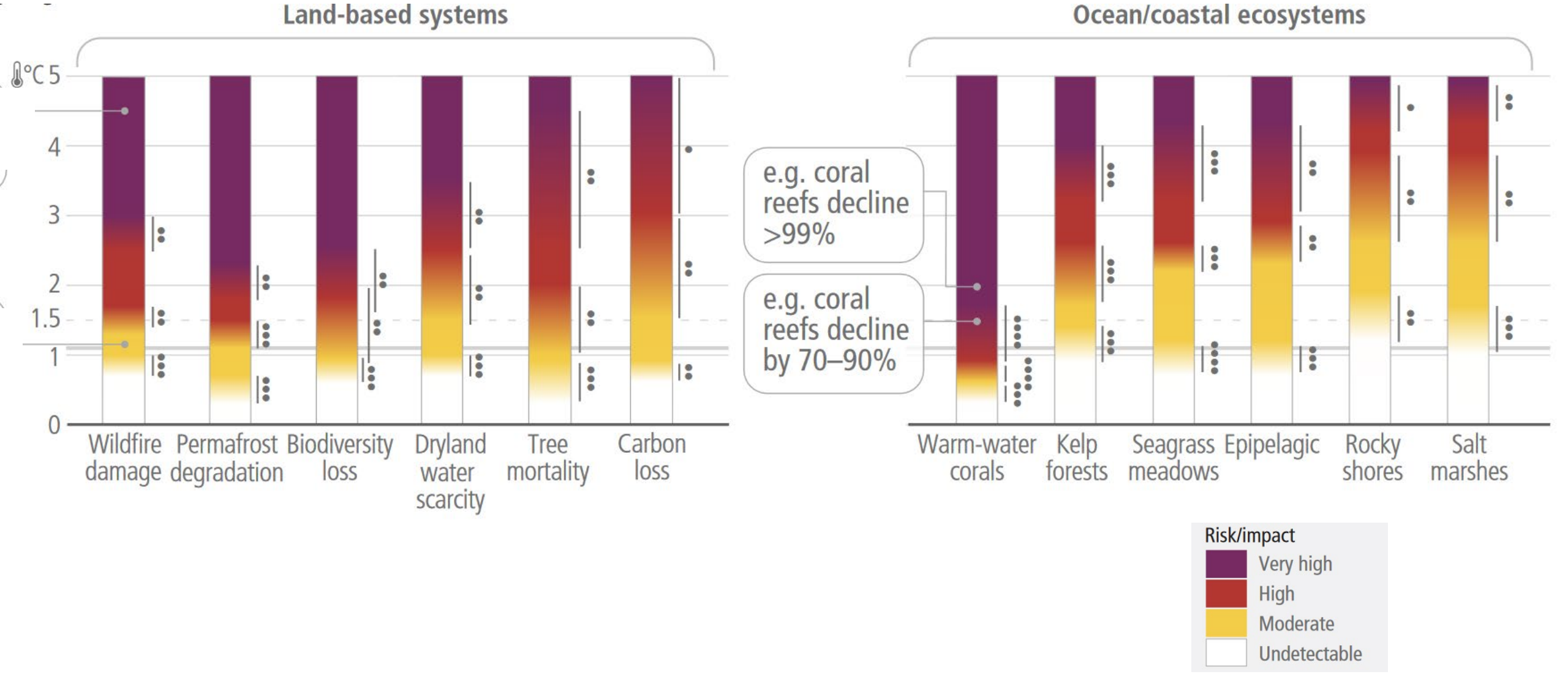


Those who have generally contributed least to climate change are most vulnerable

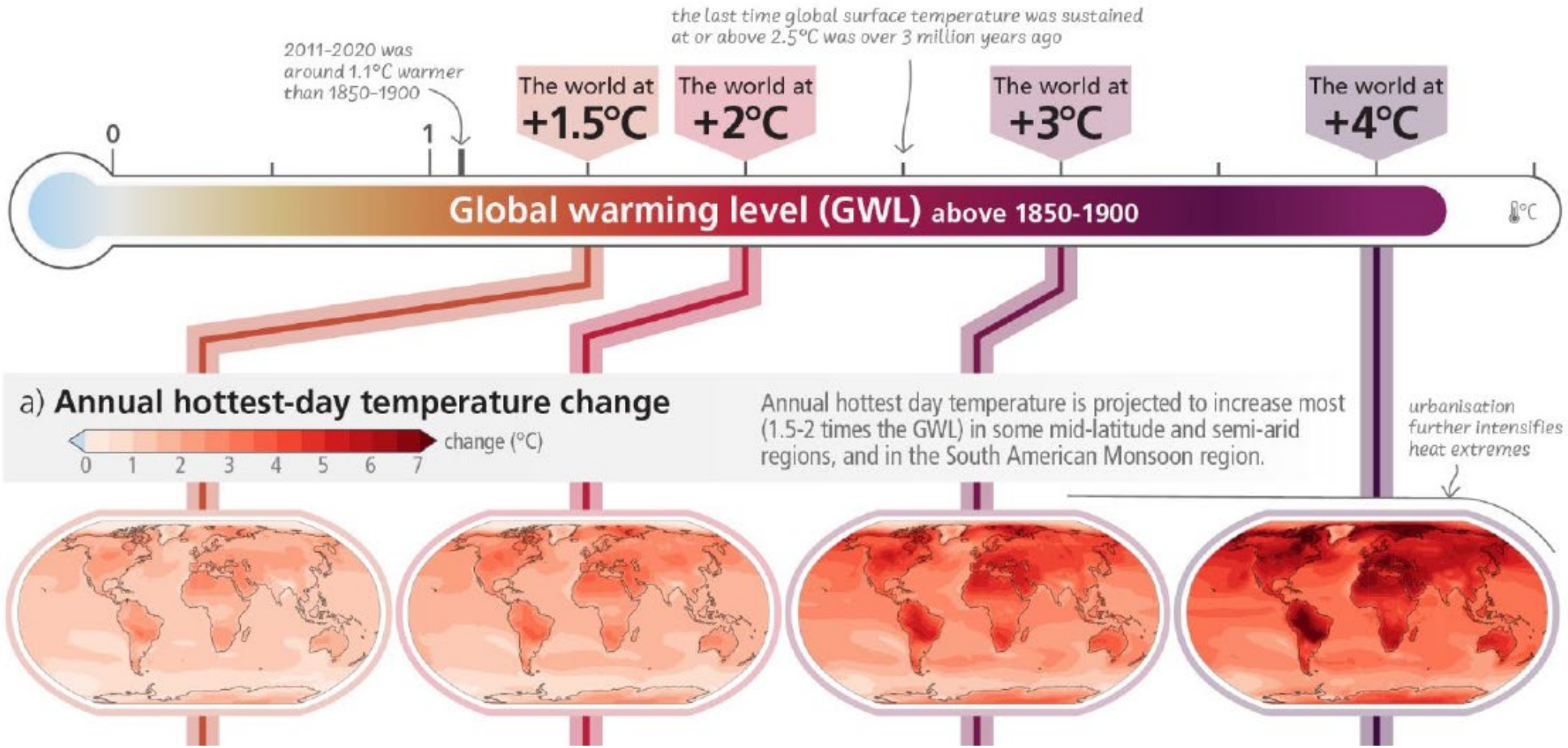


Future risks

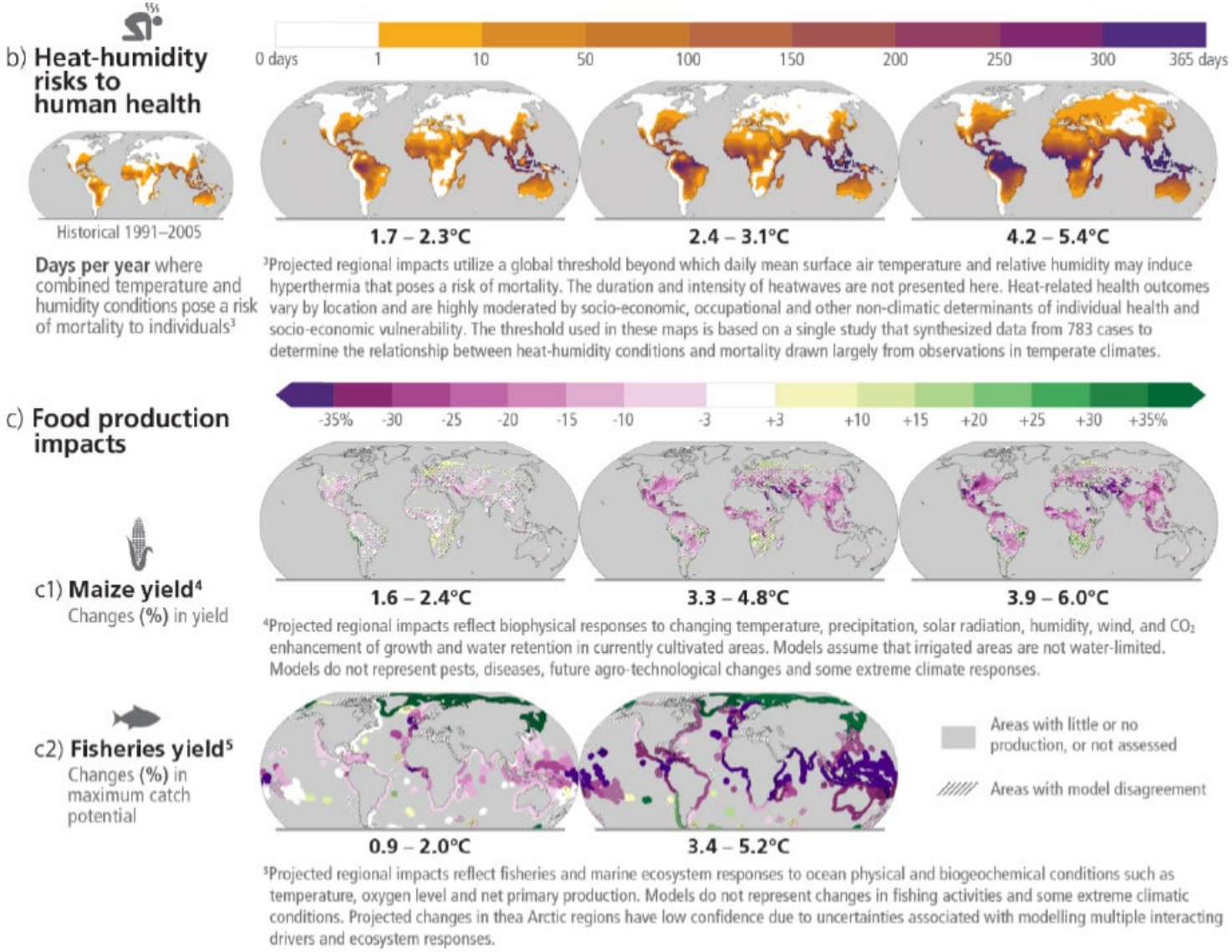
Risks differ by system



As the world warms, extremes get more pronounced and widespread

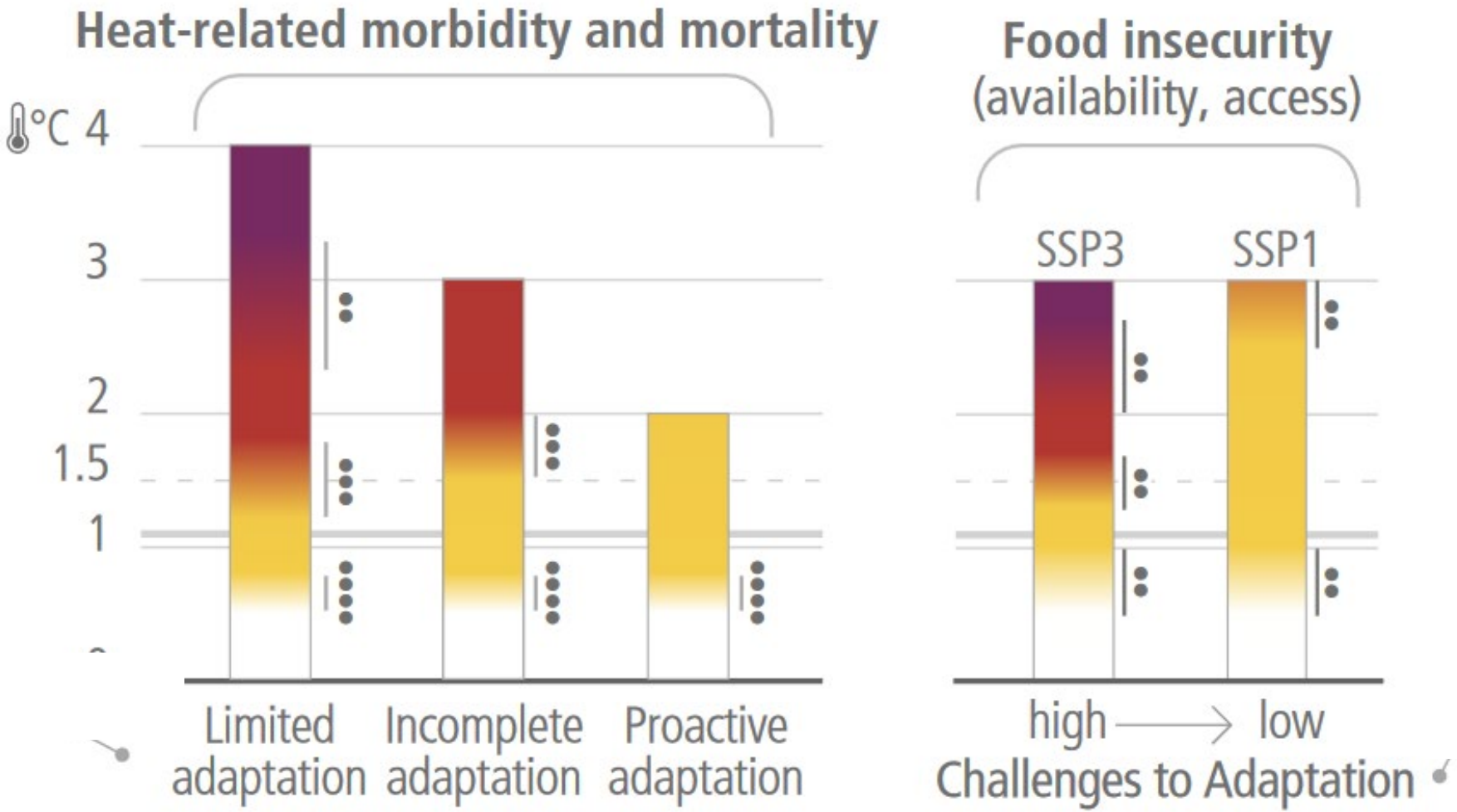


With risks for human health and food supply



“Most observed adaptation is fragmented, small in scale, incremental, sector-specific, designed to respond to current impacts or near-term risks, and focused more on planning rather than implementation”

Adaptation and socio-economic pathways affect levels of climate related risks



Introducing the 7th Assessment Cycle (AR7)

★ **Special Report** on Climate Change and Cities (March 2027)

★ **Methodology Report** on Short-lived Climate Forcers

★ **Methodology Report** on Carbon Dioxide Removal Technologies, Carbon Capture Utilization and Storage

★ **Seventh Assessment Report** Working Group I, II, & III contributions

★ **Update the 1994 Technical Guidelines** on Impacts, Adaptation and Vulnerability

IPCC elected new Chair and Bureau (July 2023)

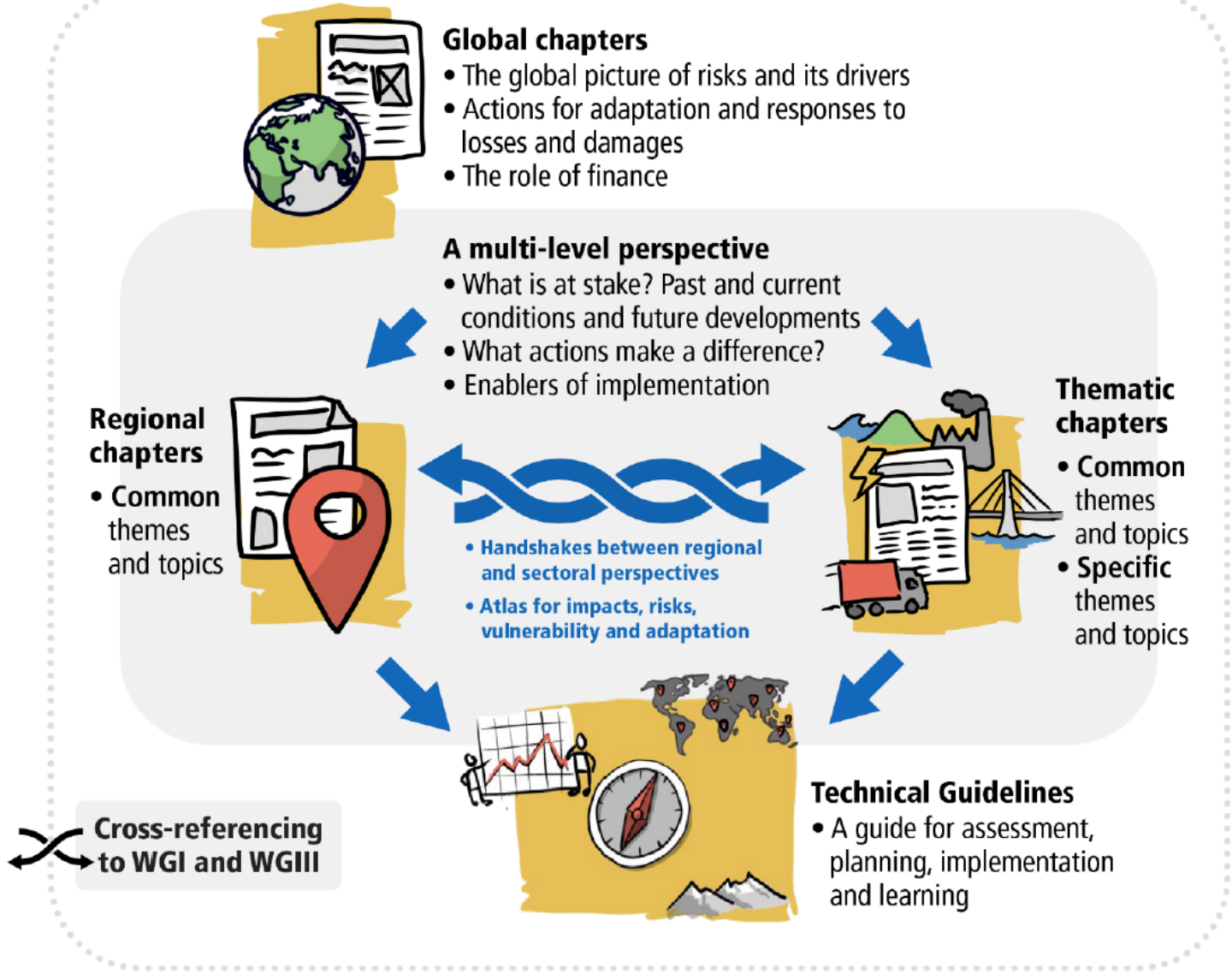
IPCC decided on products and workplan for the seventh cycle (January 2024)

★ **Synthesis Report** (by late 2029, after completion of the Working Group contributions)

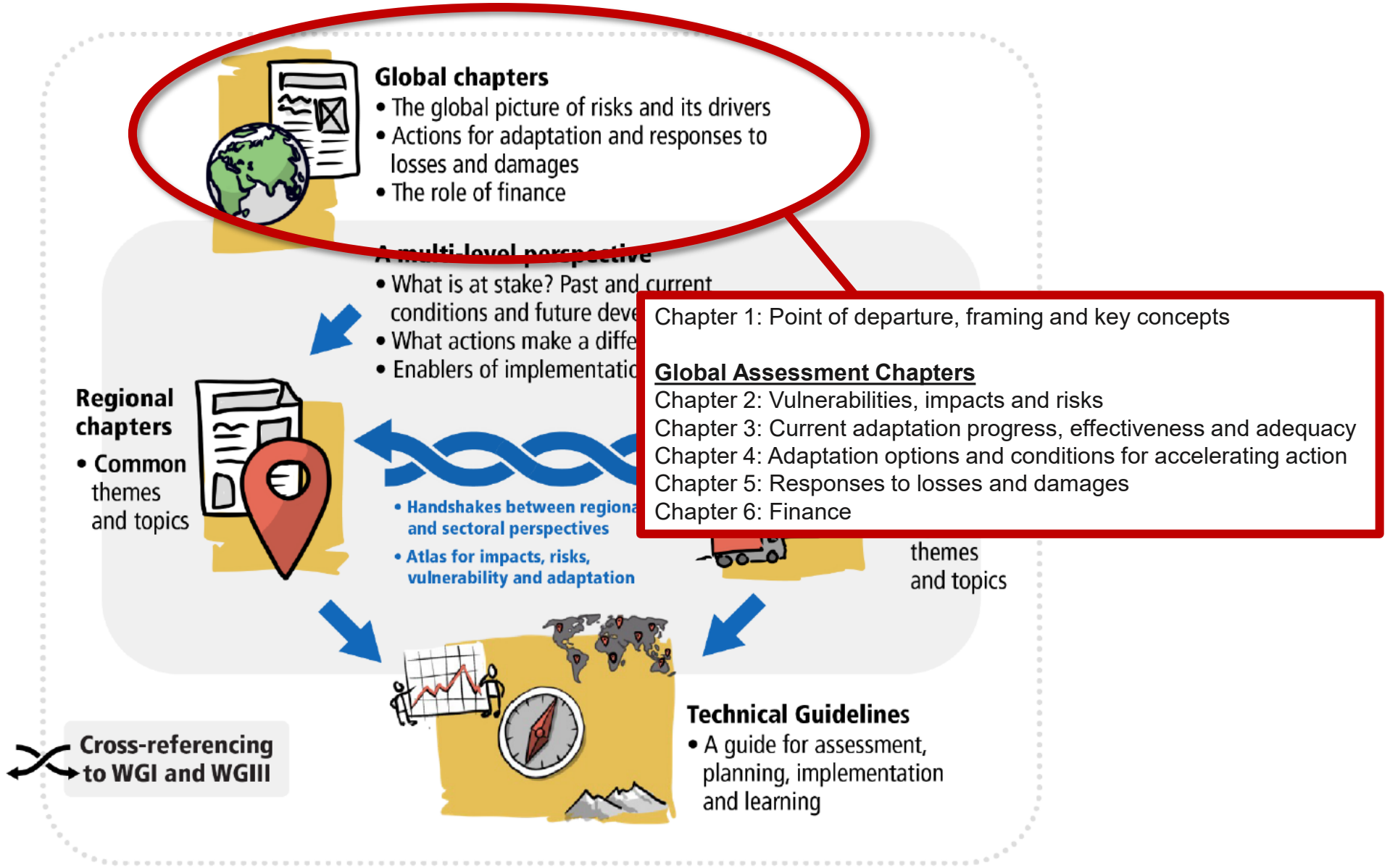
2023 ····· **2024** ····· **2027 onwards** ····· **2029** ·····▶

★ *AR7 products*

Outline of Working Group II AR7



Starting with global chapters

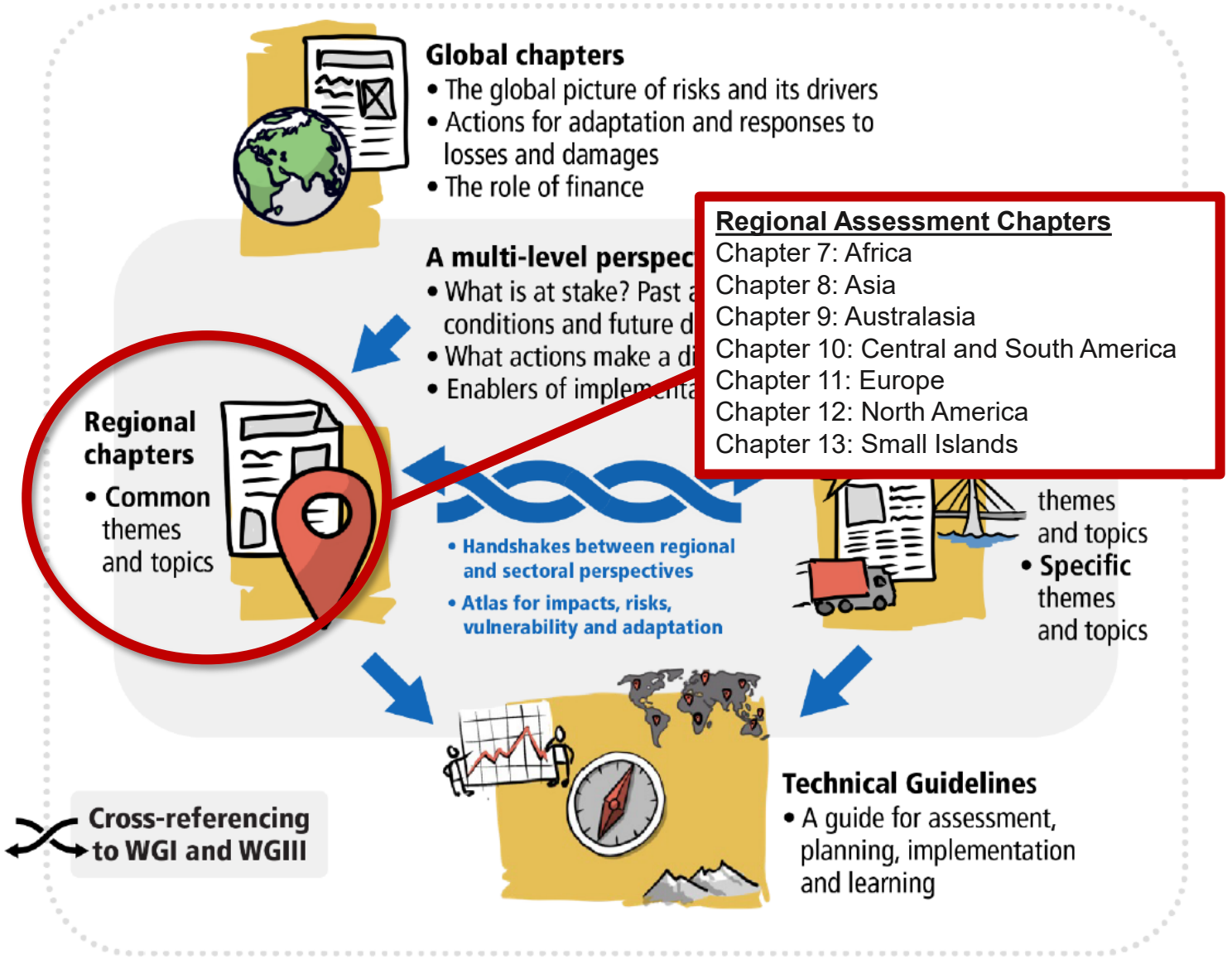


Chapter 1: Point of departure, framing and key concepts

Global Assessment Chapters

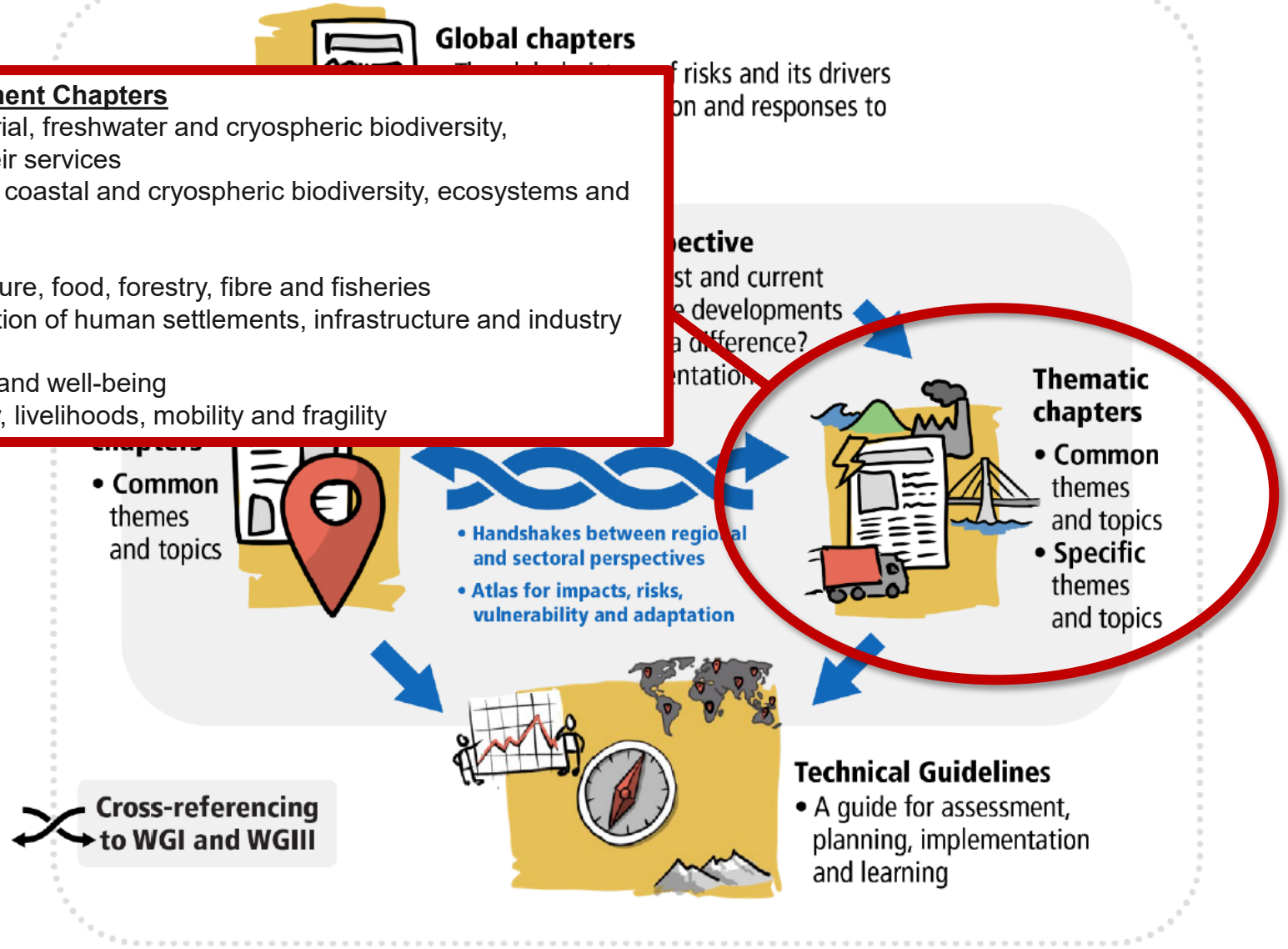
Chapter 2: Vulnerabilities, impacts and risks
Chapter 3: Current adaptation progress, effectiveness and adequacy
Chapter 4: Adaptation options and conditions for accelerating action
Chapter 5: Responses to losses and damages
Chapter 6: Finance

Progressing to regional chapters



Moving to thematic 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



WG II Chapter 19: Health and well-being

- Observed impacts and projected risks from factors such as extreme weather, emerging pathogens, and infectious diseases to physical and mental health and well-being due to multi-scale climate change, extremes, compound and cascading events
- Intersectionality of drivers of vulnerability and exposure to climate hazards within populations and communities
- Adapting health systems, and health prevention and promotion activities to reduce risk and build capacity at multiple levels
- Intersection between climate change, health and wellbeing, and non-climatic drivers of health, and other health determining factors
- Innovative and collaborative partnerships in the health sector involving different stakeholders

WG II Chapter 20: Poverty, livelihoods, mobility and fragility

- Livelihood options, households with low-income and social deprivations in rural and urban contexts, Indigenous Peoples, local communities, informal settlements, contexts of fragility, displaced, mobile and immobile populations
- Interaction of climate change and development with poverty, vulnerability and livelihoods
- Human mobility, including transhumance in the context of climate change
- Risks and adaptation in fragile contexts, and in contexts of social unrest and conflict
- Integrating adaptation and resilience into efforts towards poverty eradication, livelihood enhancement, formal and informal social protection mechanisms
- Differentiated capabilities and responsibilities, and asymmetric access to information, knowledge, finance and decision-making fora

In addition....

Alongside the Working Group II report, there will be a ***distinct product revising and updating the 1994 IPCC Technical Guidelines on [assessing] impacts and adaptation***, including adaptation indicators, metrics and methodologies.

Section 1: Introduction
Section 2: Adaptation in practice
Section 3: Technical Guidelines
- Scoping and goal setting
- Impact, vulnerability and risk assessment
- Planning
- Learning, monitoring and evaluation

Section 4:Tools, building blocks and enablers

Outline of WG III AR7

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

Past and current trends and futures, sustainable development and mitigation

Factors that enable or constrain mitigation

Sectors, systems and their integration

Carbon dioxide removal

WG III Chapter 4: Sustainable development and mitigation

- Sustainable development including and beyond SDGs as an integrative perspective for climate change responses
- Distributional consequences, within and across groups and countries
- Political economy of, co-benefits, adverse effects and livelihood and economic impacts of transitions related to mitigation
- Equity and justice (with a focus on just transitions and unpacking that at sectoral, national, regional, and global levels)
- Climate change mitigation responses in the context of multi-objective policies across scales (economic development, diversification and prosperity, poverty eradication, improving living standards, etc.)

Note: excerpts from chapter bullet points

WG III Chapter 3: Projected futures in the context of sustainable development and climate change

- Assessment of methodologies, models, databases, development tools for scenarios and emissions pathways, methods for assessing emissions scenarios (including justice and equity assumptions and implications)
- Implications of mitigation for development pathways, such as well-being, energy security, affordability and access, employment, poverty, and sustainability, including the Rio Conventions
- Assessment of how development pathways and sustainable development pathways consider and affect mitigation, including implications of Rio Conventions, meeting SDGs, and beyond
- Opportunities and challenges to enable climate action from current policies in the context of equity and justice
- Relationship(s) between equity, justice, and mitigation across, between and within countries and generations

Note: excerpts from chapter bullet points

We work towards consensus

Photos by IISD/ENB

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