



IPCC Special Report on Global Warming of 1.5° C

Knowledge gaps related to observation systems

Valérie Masson-Delmotte
Co-Chair of IPCC Working Group I



valmasdel

ipcc
INTERGOVERNMENTAL PANEL ON climate change



Global warming of 1.5°C (SR1.5)

Chapter 1: Framing and context (integration WGI-WGII-III)

Chapter 2: Mitigation pathways compatible with 1.5°C in the context of sustainable development (integration WGI-WGIII, pathways)

Chapter 3: Impacts of 1.5°C global warming on natural and human systems (integration WGI-WGII, global – regional)

Chapter 4: Strengthening and implementing the global response to the threat of climate change (systems transitions, behaviour, dimensions of feasibility)

Chapter 5: Sustainable development, poverty eradication and reducing inequalities (ethics, equity, societal transformation, SDGs)



Knowledge gaps : climate information for mitigation pathways

- Earth system feedbacks, especially permafrost
- Monitoring of short lived climate forcers (global, sectorial, regional emissions, climate responses), links with carbon sinks
- Monitoring emissions from the agricultural sector (incl. energy crops)
- Monitoring and understanding aerosol-cloud interaction and associated effective radiative forcing



Knowledge gaps : climate information for impacts and risks

- Impacts of 0.5°C observed warming, attribution of both events and observed impacts to climate drivers, changes in storminess
- Response of terrestrial, coastal and oceanic ecosystems and species (incl. phenology, range shifts, local adaptation)
- Deep sea processes, habitats, ecosystems
- Climate change and freshwater resources
- Feedbacks associated with changes in land use and land cover (carbon cycle, biophysical aspects)
- Antarctic ice sheet dynamics (past, present, processes)



Knowledge gaps : climate information for impacts and risks

- Cumulative effect of multiple hazards for impacts and risks in oceans, for particularly sensitive and exposed coastal areas, and over land
- Health, food security, well being, including public health, occupational health, air quality and infectious diseases
- Livelihood and poverty, especially for rural communities, indigenous people and marginalized people
- Micro-climates at urban scales, risks and adaptation potential, within cities and in interaction with surroundings



Knowledge gaps : strengthening the global response to climate change

- Regional research in the implementation of adaptation options, factors enabling adaptation behaviour
- Socio-cultural perspectives and impacts of adaptation options (esp. for coastal protection, agriculture, biodiversity management)
- Co-benefits and trade-offs of SLCF mitigation
- Technical and institutional feasibility of educational options
- Socio-economic benefits of climate services

Knowledge gaps : climate information and well-being for all

- Climate information at the scale of households, livelihoods, communities
- Differential localised impacts and cross-sector interacting and cascading effects, with implications for societal vulnerability, poverty and inequalities
- Lack of standard indicators to monitor and compare low emission and climate-resilient development pathway (evidence grounded in specific contexts)
- Challenges for connecting local-level visions with global trajectories, and for better understanding how to reconcile urgent climate action with well-being for all



[ipcc.ch/report/sr15](https://www.ipcc.ch/report/sr15/) :

Summary for Policy Makers

10 Frequently Asked Questions

5 Chapters

Glossary