Regional and sectoral information - Outreach lab

« **WGI regional and sectoral fact sheets** » by Nada Caud (20 mn)
« **WGIII sectoral fact sheets** » by Sigourney Luz (20 mn)
« **WGII regional and crosscutting fact sheets** » by Komila Nabiyeva (20 mn)
« **WGI Summary for actuaries and Summary for all** » by Sarah Connors (20 mn)
Discussion and wrap up (10)

SIXTH ASSESSMENT REPORT
Working Group I – The Physical Science Basis

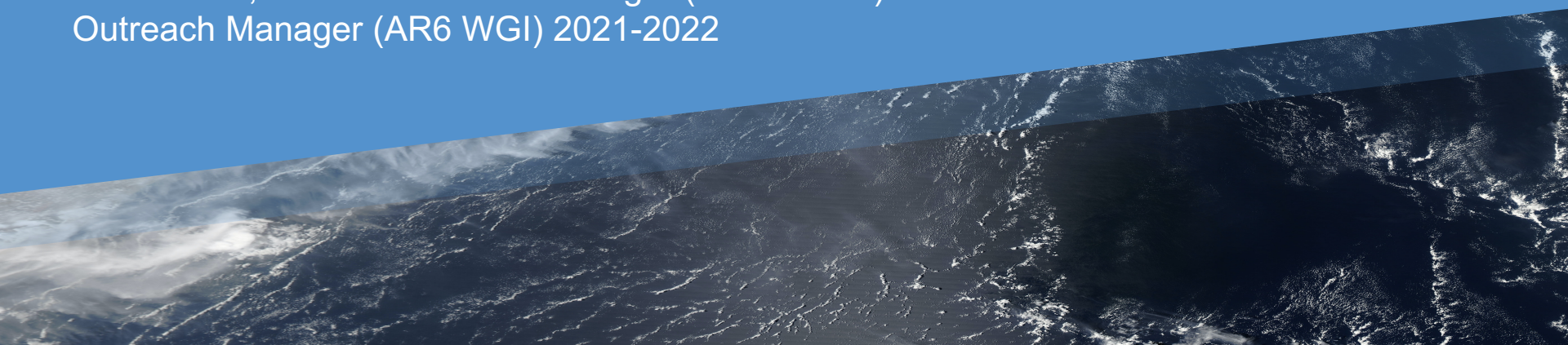
ipcc
INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

June 7th, 2023 - Trieste

« WGI Regional and sectoral fact sheets »

Nada Caud, Communications Manager (LSCE-IPSL)
Outreach Manager (AR6 WGI) 2021-2022



WGI regional and sectoral fact sheets

- Which audience?
- Which content?
- Which process?

Targeted audience

High level policymakers/stakeholders

They need very brief and robust notes
They may have no scientific background

Practitioners/engineers in companies/climate services

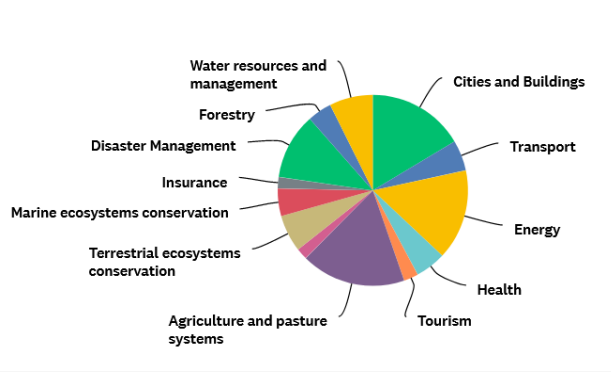
They need more technical information
They need to access to the physical climate data (to run their own impact models…)

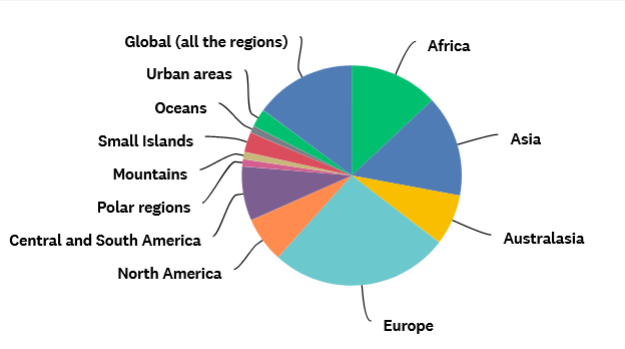
Scientists

They need to access to the scientific litterature
They need to access to the data

Results of the survey

Some numbers:
391 participants (22%-Governments, 9%-other public sector, 21%-private sector, 8%-consultancy, 9% NGOs, 40%-research…)
186 provided their emails to be contacted for further consultation

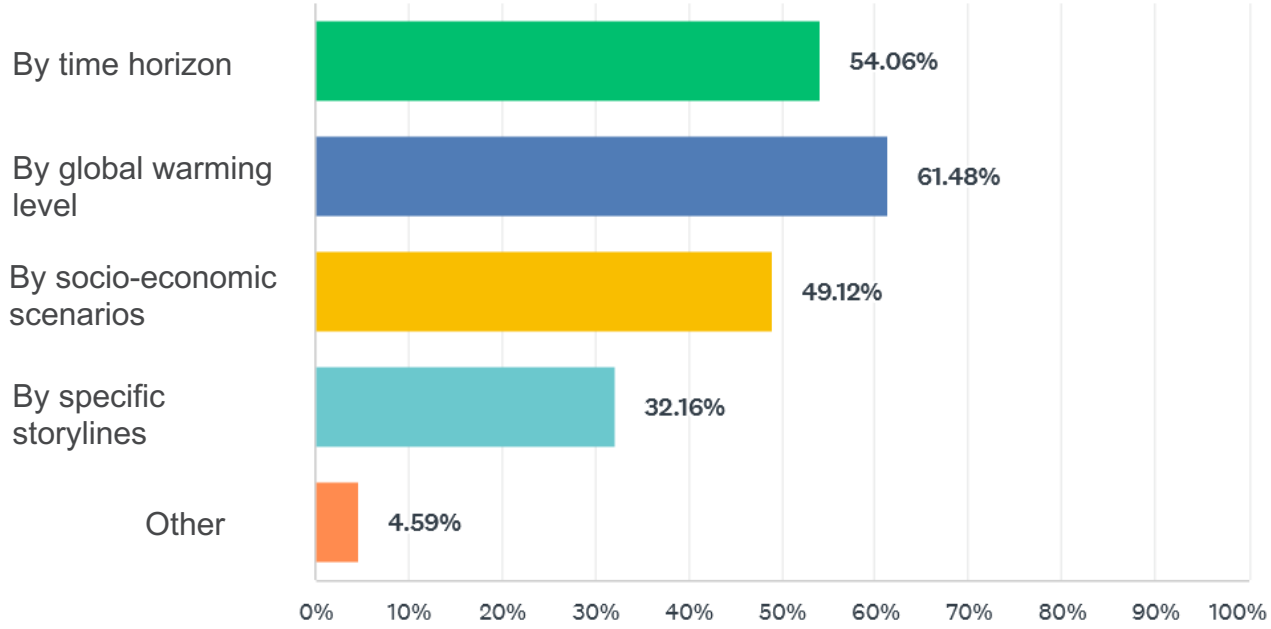




- Climate information (quantitative/qualitative/both)
- Climate data they use
- List of CIDs relevant for their sectors
- Worst case scenario
- Preferred time/spatial scale
- GWLs/SSPs/Time horizons/storylines
- Climate statistics (means, extremes, both…)
- Do they need uncertainty?
- Preferred presentation for the fact sheets (bullet points, paragraphs, tables, maps, …

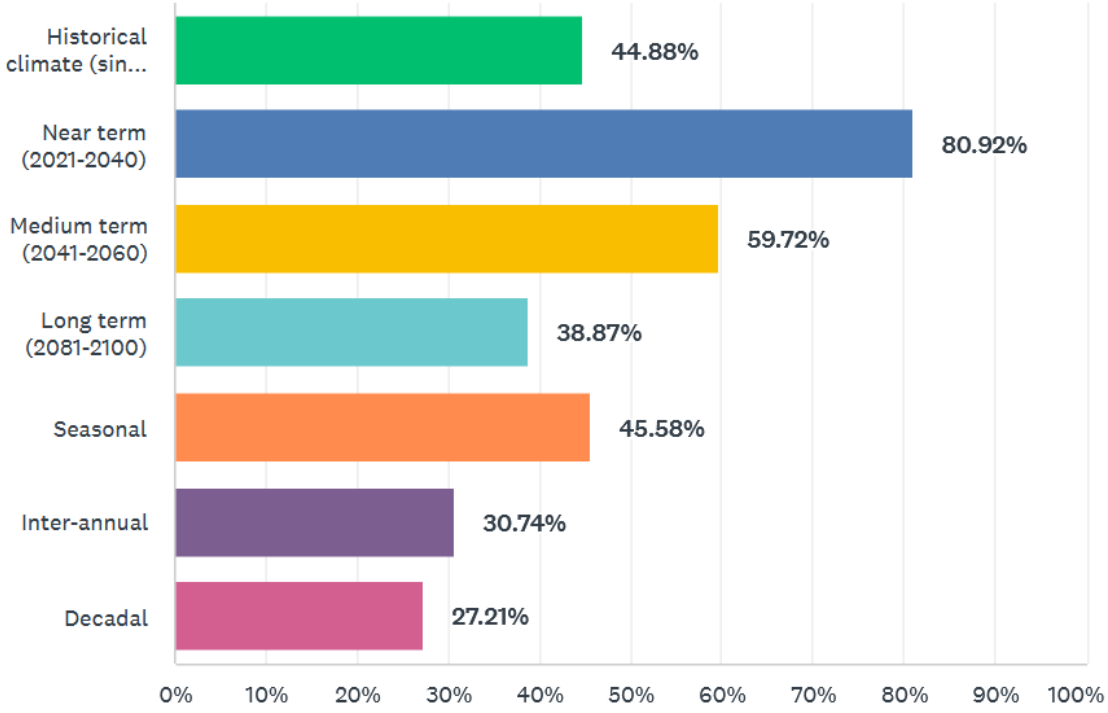
For future climate changes, which of the following is a preferred way of presenting information for your sector?

Answered: 283 Skipped: 108 (multiple answers allowed)



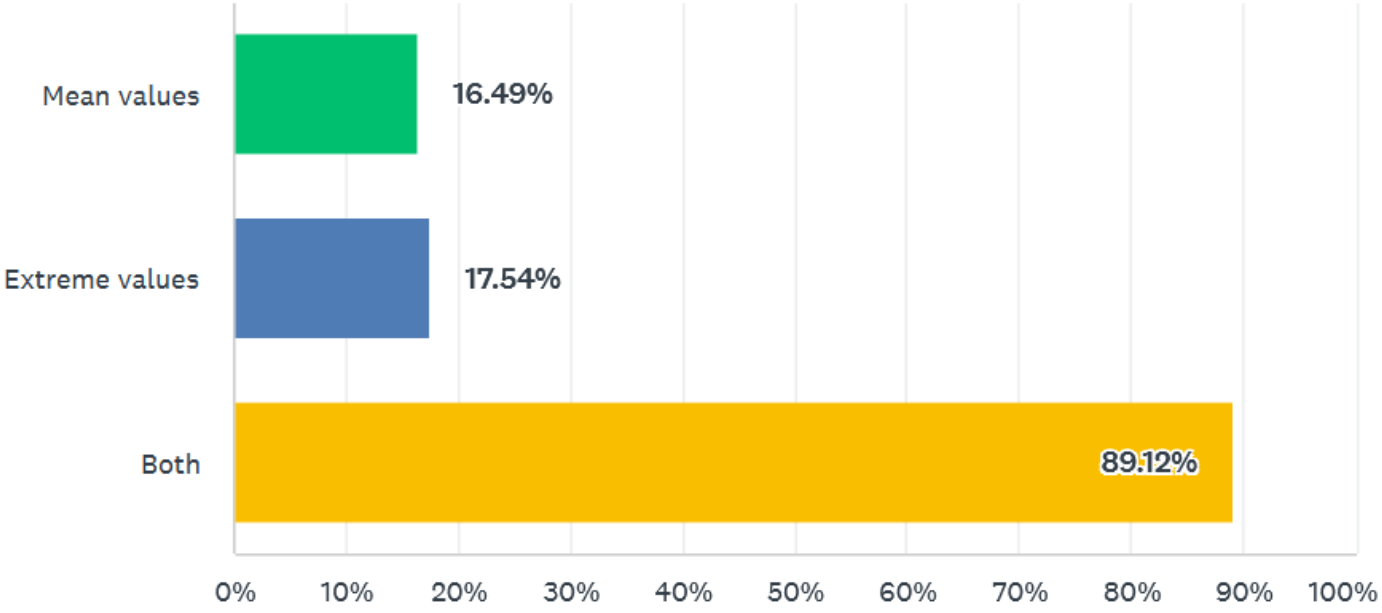
Which is your time scale of interest?

Answered: 283 Skipped: 108 (multiple answers allowed)



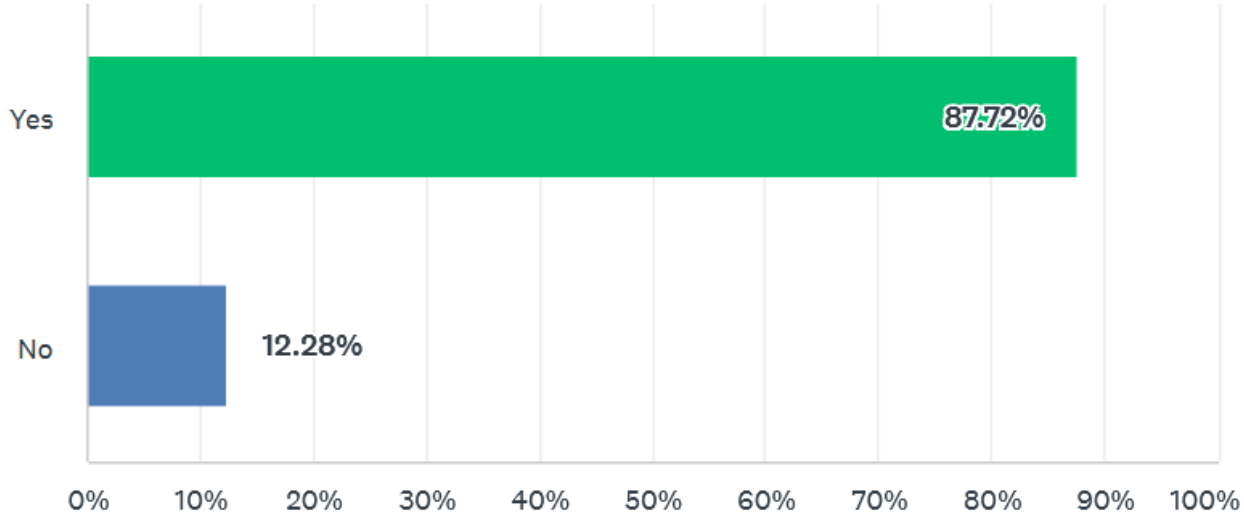
Which climate statistics are you interested in?

Answered: 285 Skipped: 106 (multiple answers allowed)



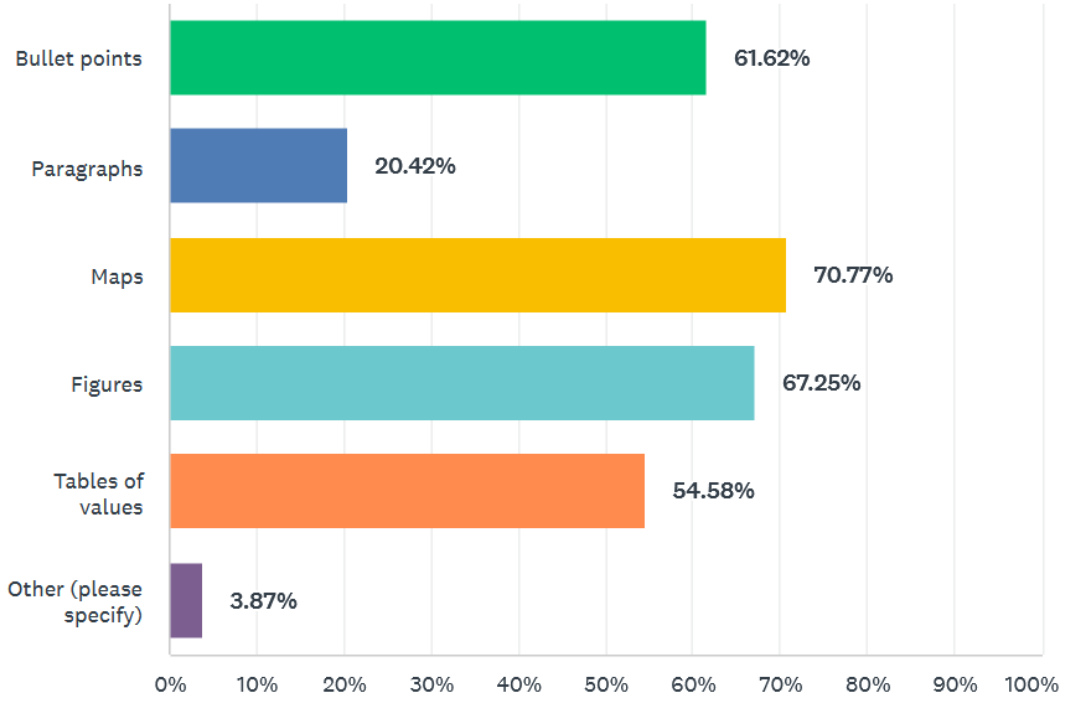
Do you need the information about uncertainty?

Answered: 285 Skipped: 107



Preferred presentation format in a two pages fact sheets?

Answered: 284 Skipped: 108 (multiple answers allowed)



WGI regional and sectoral fact sheets

- Which audience?
- Which content?
- Which process?

Most of the users focus mainly on the Summary for Policymakers

but

there is more detailed climate information that is relevant for their region or sector in the Report.

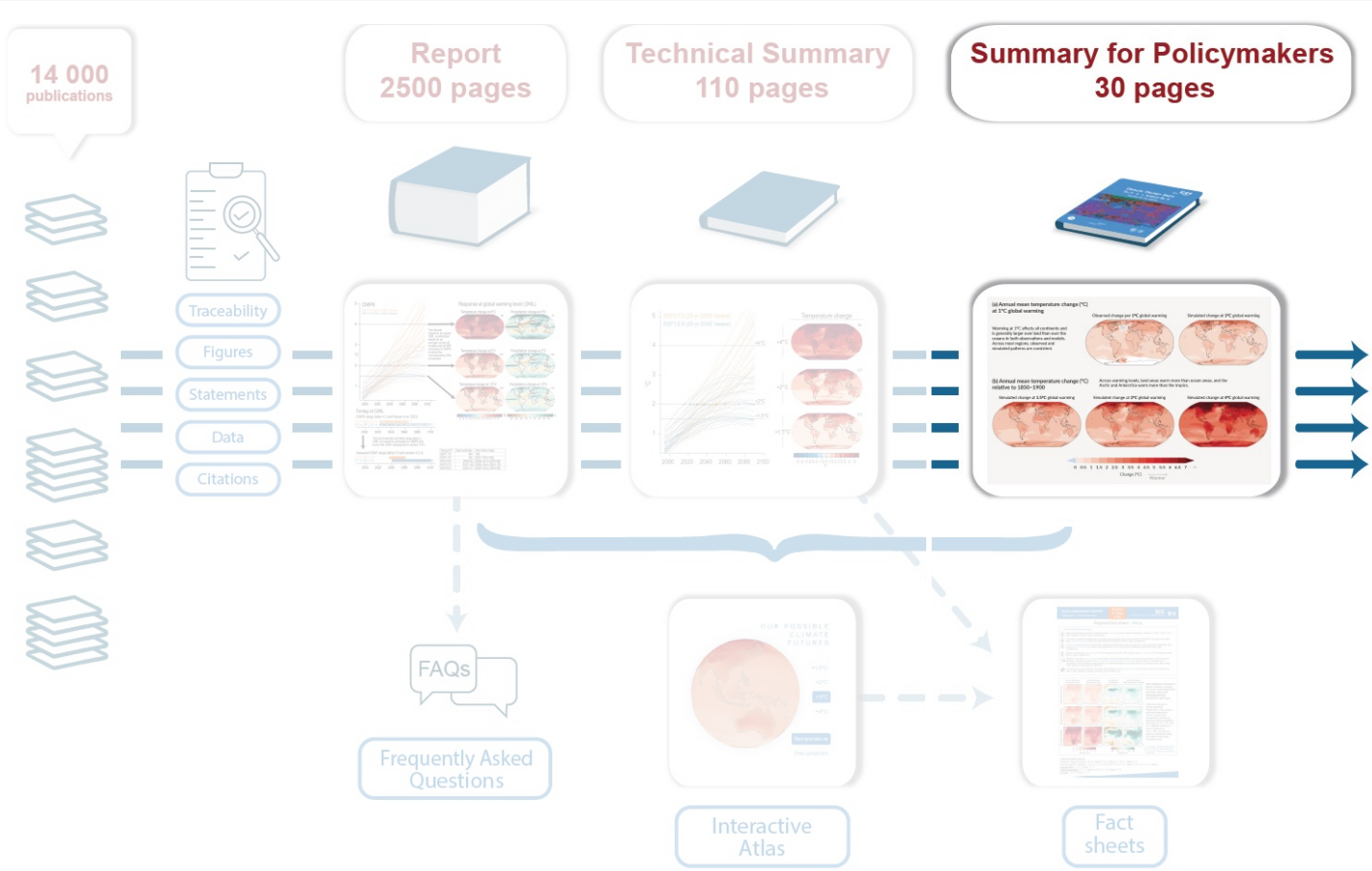


Table TS.5 | Summary of confidence for climatic impact-driver changes in each AR6 WGI reference region (illustrated in Figure TS.25) across multiple lines of evidence for observed, attributed and projected directional changes. The colours represent their projected aggregate characteristic changes for the mid-21st century, considering scenarios RCP4.5, SSP2-4.5, SRES A1B, or above (RCP6.0, RCP8.5, SSP3-7.0, SSP5-8.5, SRES A2), which approximately encompasses global warming levels of 2.0°C to 2.4°C. Arrows indicate *medium* to *high confidence* trends derived from observations, and asterisks indicate *medium* and *high confidence* in attribution of observed changes. (North Africa is not an AR6 WGI reference region, but assessment here is based upon the African portion of the Mediterranean reference region). [Tables 12.3–12.11 and Tables 11.4–11.21]

Climatic Impact-driver																																
Heat and Cold				Wet and Dry										Wind				Snow and Ice						Coastal and Oceanic					Other			
Mean air temperature	Extreme heat	Cold spell	Frost	Mean precipitation	River flood	Heavy precipitation and pluvial flood	Landslide	Aridity	Hydrological drought	Agricultural and ecological drought	Fire weather	Mean wind speed	Severe wind storm	Tropical cyclone	Sand and dust storm	Snow, glacier and ice sheet	Permafrost	Lake, river and sea ice	Heavy snowfall and ice storm	Hail	Snow avalanche	Relative sea level	Coastal flood	Coastal erosion	Marine heatwave	Ocean and lake acidity	Air pollution weather	Atmospheric CO_2 at surface	Radiation at surface
Africa																																
North Africa	↗	↗ ***	↘ ***						↗	↗	↗			3									↗		4	↗	↗		↗	
Sahara	↗	↗ **	↘ **																				↗		4	↗	↗		↗	
Western Africa	↗	↗ **	↘ **		1	↗			↗ 1	↗ 1	↗ 1												↗		4	↗	↗		↗	
Central Africa	↗				↘ 1,2						↗												↗		4	↗	↗		↗	
North Eastern Africa	↗	↗ **	↘ **		↘				1	1	1						↗						↗		4	↗	↗		↗	
South Eastern Africa	↗	↗ **							1	1	1				3		↗						↗		4	↗	↗		↗	
West Southern Africa	↗	↗ ***	↘ ***		↘	↗	↗				↗												↗		4	↗	↗		↗	
East Southern Africa	↗	↗ ***	↘ ***		↘	↗	↗				↗				3								↗		4,5	↗	↗		↗	
Madagascar	↗	↗	↘												3								↗		4,5	↗	↗		↗	

Note: There are several region-specific qualifiers/exceptions attached to some of the directions of change/confidence levels indicated above. [12.4]

Key for observational trend evidence ↗ Past upward trend (*medium* or *higher confidence*) ↘ Past downward trend (*medium or higher confidence*)

Key for attribution evidence *** *High confidence* (or more) ** *Medium confidence*

Key for level of confidence in future changes *High confidence* of increase (or more); *Medium confidence* of increase (or more); *Low confidence* in direction of change; *Medium confidence* of decrease; *High confidence* of decrease; Not broadly relevant

IPCC WGI
Technical Summary
Table TS.5

Table 12.2 | Relevance of key climatic impact-drivers (and their respective changes in intensity, frequency, duration, timing and spatial extent) for major categories of sectoral assets, as assessed with at least *medium confidence* in Section 12.3 across many studies and applications. 'High relevance' indicates climatic impact-drivers that are most prominent and widely studied for their direct connection to assets, while lower relevance indicates weaker linkages and less commonly-studied driving behaviours. Specific levels of risk and opportunity depend on the changing character of regional hazards, vulnerability and exposure as assessed in WGII.

		Climatic Impact-driver																																
		Heat and Cold				Wet and Dry									Wind				Snow and Ice						Coastal			Open Ocean					Other		
Sector	Asset	Mean air temperature	Extreme heat	Cold spell	Frost	Mean precipitation	River flood	Heavy precipitation and pluvial flood	Landslide	Aridity	Hydrological drought	Agricultural and ecological drought	Fire weather		Mean wind speed	Severe wind storm	Tropical cyclone	Sand and dust storm	Snow, glacier and ice sheet	Permafrost	Lake, river and sea ice	Heavy snowfall and ice storm	Hail	Snow avalanche	Relative sea level	Coastal flood	Coastal erosion	Mean ocean temperature	Marine heatwave	Ocean acidity	Ocean salinity	Dissolved oxygen	Air pollution weather	Atmospheric CO_2 at surface	Radiation at surface
Terrestrial and Freshwater Ecosystems (WGII Chapter 2)	Tropical forests	High	Low/moderate	None/low confidence	None/low confidence	Low/moderate	Low/moderate	None/low confidence	None/low confidence	Low/moderate	None/low confidence	High	High		None/low confidence	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate
	Temperate and boreal forests	High	High	Low/moderate	High	Low/moderate	Low/moderate	Low/moderate	None/low confidence	Low/moderate	None/low confidence	High	High		None/low confidence	Low/moderate	None/low confidence	None/low confidence	Low/moderate	Low/moderate	None/low confidence	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate
	Lakes, rivers and wetlands	High	Low/moderate	Low/moderate	Low/moderate	High	High	Low/moderate	None/low confidence	Low/moderate	High	High	Low/moderate		Low/moderate	None/low confidence	None/low confidence	Low/moderate	Low/moderate	Low/moderate	High	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate
	Grasslands and savanna	High	High	Low/moderate	Low/moderate	High	Low/moderate	Low/moderate	None/low confidence	High	Low/moderate	High	Low/moderate		None/low confidence	None/low confidence	None/low confidence	High	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate
	Deserts	High	High	Low/moderate	Low/moderate	High	Low/moderate	High	None/low confidence	High	Low/moderate	High	Low/moderate		None/low confidence	None/low confidence	None/low confidence	High	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate
	Mountains	High	Low/moderate	High	High	Low/moderate	Low/moderate	High	High	Low/moderate	None/low confidence	High	Low/moderate		Low/moderate	None/low confidence	None/low confidence	Low/moderate	High	High	Low/moderate	Low/moderate	None/low confidence	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate
	Polar	High	High	High	High	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate	None/low confidence	High	Low/moderate		None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	High	High	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate
Ocean and Coastal Ecosystems (WGII Chapter 3)	Coastal land and intertidal zones	High	Low/moderate	None/low confidence	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate		None/low confidence	None/low confidence	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate	None/low confidence	None/low confidence	None/low confidence	High	High	High	High	High	High	Low/moderate	Low/moderate	Low/moderate	High	Low/moderate
	Coastal seas	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence		Low/moderate	None/low confidence	Low/moderate	Low/moderate	None/low confidence	Low/moderate	Low/moderate	None/low confidence	None/low confidence	None/low confidence	High	None/low confidence	High	High	High	High	Low/moderate	High	None/low confidence	None/low confidence	Low/moderate
	Shelf seas and upwelling zones	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence		Low/moderate	None/low confidence	None/low confidence	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	High	High	Low/moderate	High	None/low confidence	None/low confidence	Low/moderate
	Polar seas	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence		Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	High	High	Low/moderate	High	None/low confidence	None/low confidence	Low/moderate
	Open ocean and deep sea	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence		Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	High	High	Low/moderate	High	None/low confidence	None/low confidence	Low/moderate
Water (WGII Chapter 4)	Cryosphere reservoir	High	Low/moderate	None/low confidence	Low/moderate	High	None/low confidence	None/low confidence	None/low confidence	Low/moderate	Low/moderate	None/low confidence	Low/moderate		None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	None/low confidence	None/low confidence	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence
	Aquifers and groundwater	None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	Low/moderate	Low/moderate	Low/moderate	High	High	None/low confidence	None/low confidence		None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence
	Streamflow and surface water	None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	High	High	Low/moderate	High	High	None/low confidence	None/low confidence		None/low confidence	None/low confidence	None/low confidence	Low/moderate	High	None/low confidence	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence
	Water quality	Low/moderate	Low/moderate	None/low confidence	None/low confidence	Low/moderate	Low/moderate	Low/moderate	None/low confidence	Low/moderate	Low/moderate	None/low confidence	Low/moderate		None/low confidence	None/low confidence	None/low confidence	Low/moderate	Low/moderate	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	High	Low/moderate	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence	None/low confidence

None/low confidence | Low/moderate | High

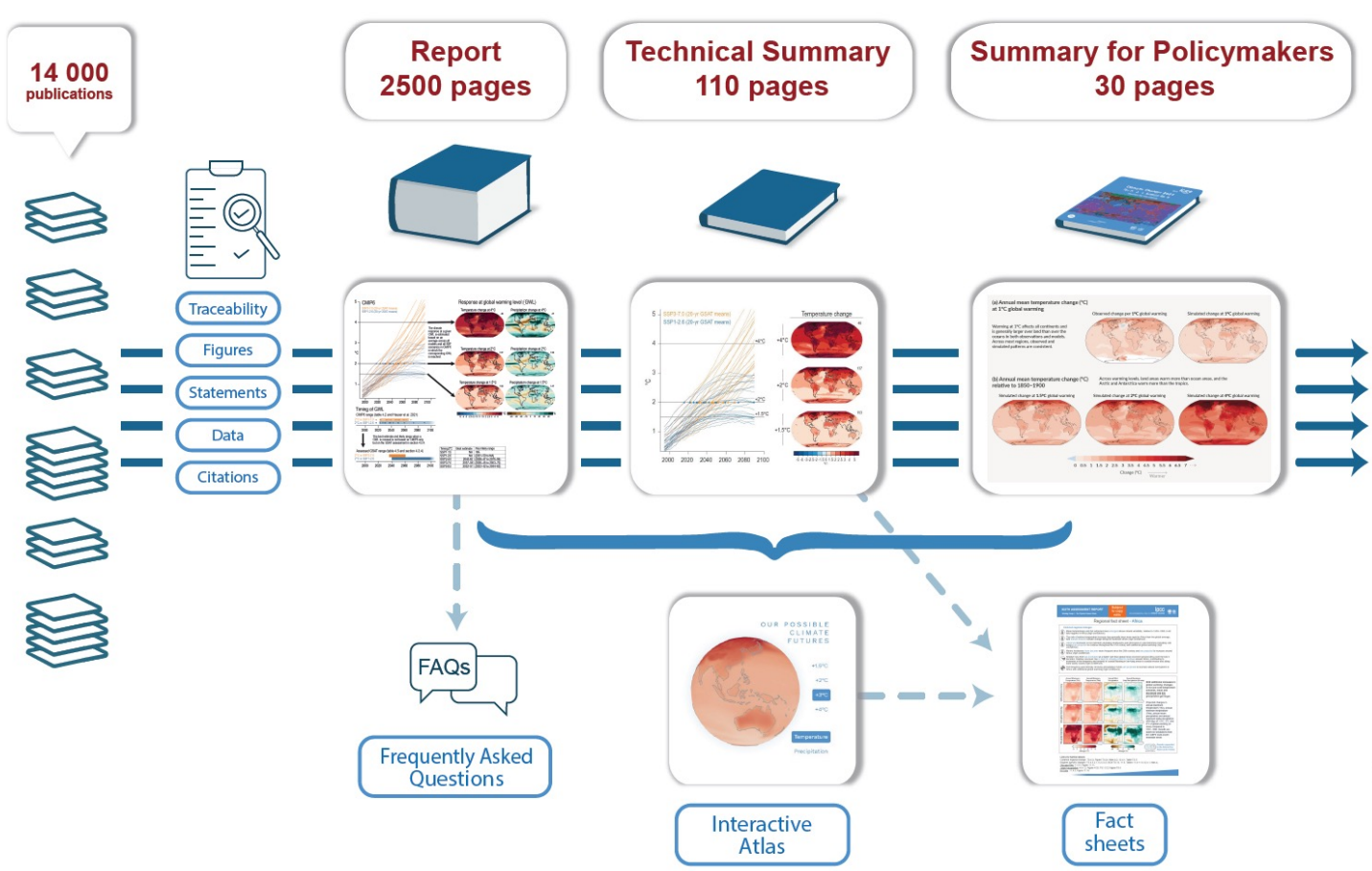
Impacts and risk relevance

IPCC WGI
Chapter 12
Table 12.2

The **challenge** is to guide the users to the relevant sections for their needs in the:

- Interactive Atlas
- Technical Summary
- Full Report

In only two pages



WGI regional and sectoral fact sheets

- Which audience?
- Which content?
- Which process?

Co-construction process

Working closely with WGI authors/TSU/Bureau

- Accuracy and robustness
- Traceability to the Report

Surveys and meetings with the stakeholders/practitioners

- The usefulness and relevance
- The clarity

Interaction with WGII/WGIII Working Groups

- Consistency

Making editorial choices

- An harmonized structure across the full set
- With some flexibility to respect the specificities of each fact sheet

Regional fact sheets

- 11 regional fact sheets (2 pages)
- 70 contributors
- Survey (WGI, WGII, WGIII, Delegates/Focal Points)

Regional Fact Sheets

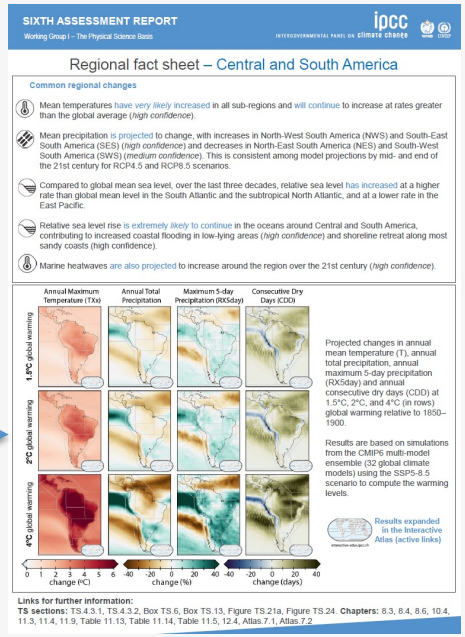
Regional fact sheets are an outreach product that is fully traceable to the Chapters, the Technical Summary and the Interactive Atlas. They constitute an entry point for regionalized information in the AR6 Working Group I report. (11 fact sheets)

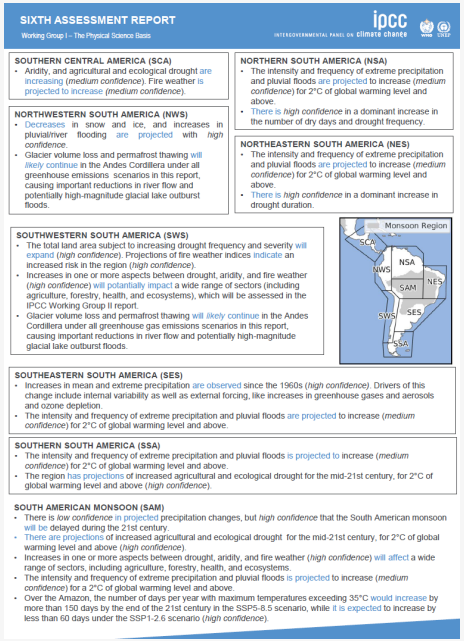
Download Regional Fact Sheets

Introduction	DOWNLOAD
Africa	DOWNLOAD
Asia	DOWNLOAD
Australasia	DOWNLOAD
Central and South America	DOWNLOAD
Europe	DOWNLOAD
Mountains	DOWNLOAD
North and Central America	DOWNLOAD
Ocean	DOWNLOAD
Polar regions	DOWNLOAD
Small Islands	DOWNLOAD
Urban areas	DOWNLOAD
Contributors	DOWNLOAD

The content is fully traceable to the Report

The maps are linked to the Interactive Atlas



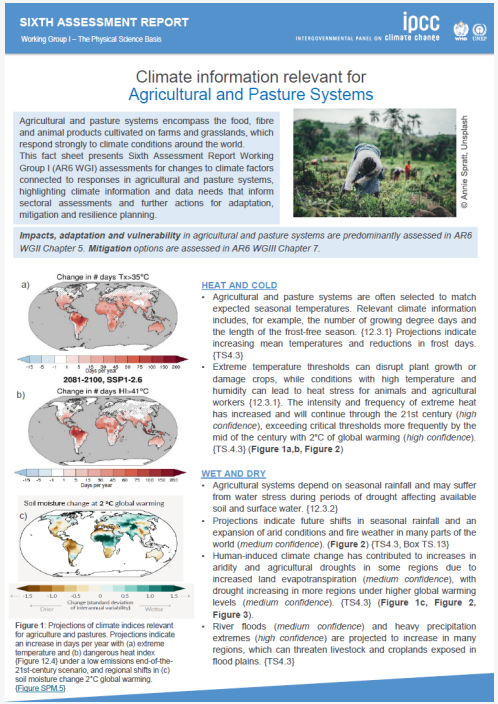


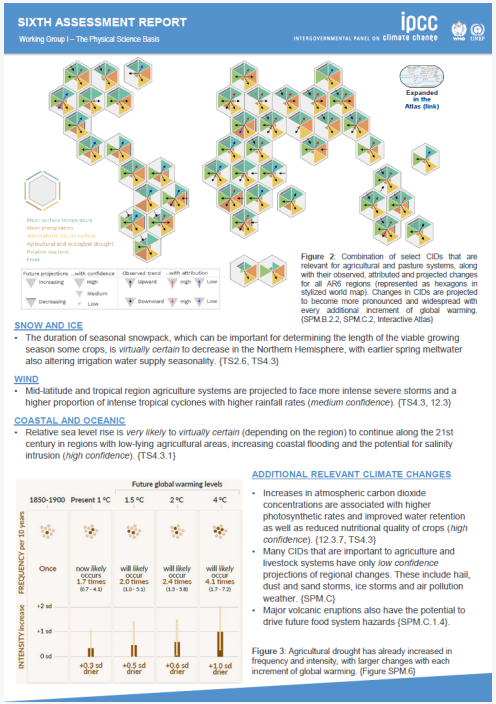
https://www.ipcc.ch/report/ar6/wg1/resources/factsheets

WGI fact sheets for the sectors

Introduction to Fact Sheets	DOWNLOAD
Agricultural and Pasture Systems	DOWNLOAD
Cities, Buildings and Transport	DOWNLOAD
Disaster Management and Insurance	DOWNLOAD
Energy sector	DOWNLOAD
Forestry	DOWNLOAD
Health	DOWNLOAD
Marine Ecosystems, Fisheries and Aquaculture	DOWNLOAD
Terrestrial and Freshwater Ecosystems	DOWNLOAD
Tourism	DOWNLOAD
Water resources management	DOWNLOAD
List of contributors	DOWNLOAD

- 10 sectors (2 pages)
- ~60 contributors
- Surveys and meetings with the stakeholders, WGI, WGII, WGIII Working Groups, IPCC Focal Points…





https://www.ipcc.ch/report/ar6/wg1/resources/factsheets

THANK YOU

Nada Caud
Communications Manager (LSCE – IPSL)
nada.caud@lsce.ipsl.fr
@NadaCaud