Adaptation aux Changements Climatiques : Le contexte global

Dr. Claudia Hitaj

Klimadag
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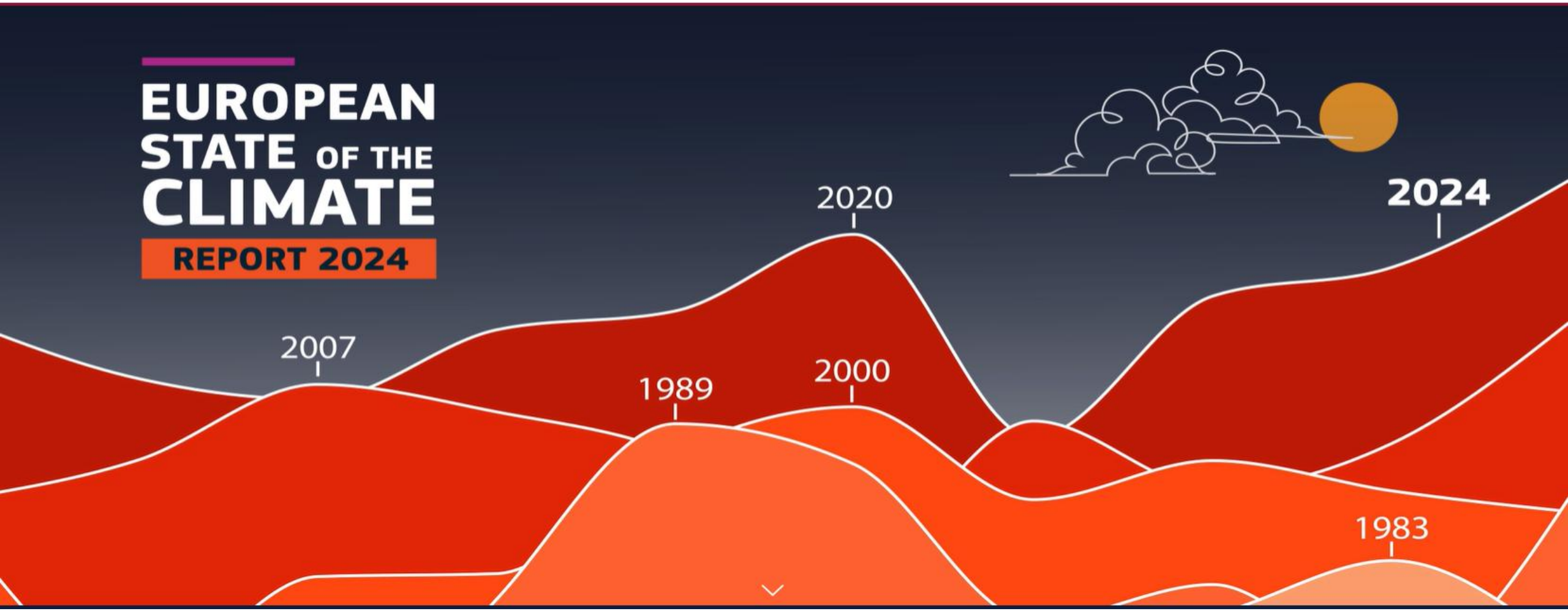
THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of the Environment,
Climate and Biodiversity

Climate Change

Latest news from the European State of the Climate 2024 Report


EUROPEAN
STATE OF THE
CLIMATE
REPORT 2024
2024
2020
2007
1989
2000
1983

EUROPEAN STATE OF THE CLIMATE
REPORT 2024

Trends in Climate Indicators

Climate indicators show the long-term evolution of several key variables that are used to assess global and regional trends in a changing climate.

Sea surface temperature

Increase since the 1980s

Global (60°S–60°N) **+0.6°C**

WMO Regional Association VI (Europe) **+1.0°C**

Mediterranean Sea **+1.3°C**

Latest five-year averages

Ocean heat content*

Increase since 1993

Global **+0.16°C**

Northeastern Atlantic **+0.03°C**

In the upper 2000 m

Sea level

Average annual increase since 1999

Global **+3.7 mm**

European **+2–4 mm**

January 1999 to July 2024

Temperature

Increase since pre-industrial (1850–1900)

Global **+1.3°C**

European **+2.4°C**

WMO Regional Association VI (Europe) **+2.5°C**

Arctic **+3.3°C**

Latest five-year averages

Greenhouse gases

Average annual increase since 2020

Carbon dioxide **+2.4 ppm**

Methane **+12 ppb**

Averaged over the whole atmospheric column for 60°S–60°N

Sea ice

Ice loss since the 1980s

Arctic (September) **-2.7 million km² (-36%)**

Antarctic (February) **-0.7 million km² (-20%)**

Last five years, relative to 1980s

Glaciers

Ice loss since 1976

Global **-9200 km³**

European **-915 km³**

Ice loss for Europe does not include peripheral glaciers in Greenland

Ice sheets

Ice loss since the 1970s

Greenland **-6776 km³**

Antarctica **-5253 km³**

1972–2023 for Greenland, 1979–2023 for Antarctica

*Ocean heat content is traditionally expressed in joules, as it represents the total energy stored in the ocean. To provide a more intuitive understanding of temperature-related changes, this report presents these statistics in °C.

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Copernicus Europe's eyes on Earth

Climate Change Service

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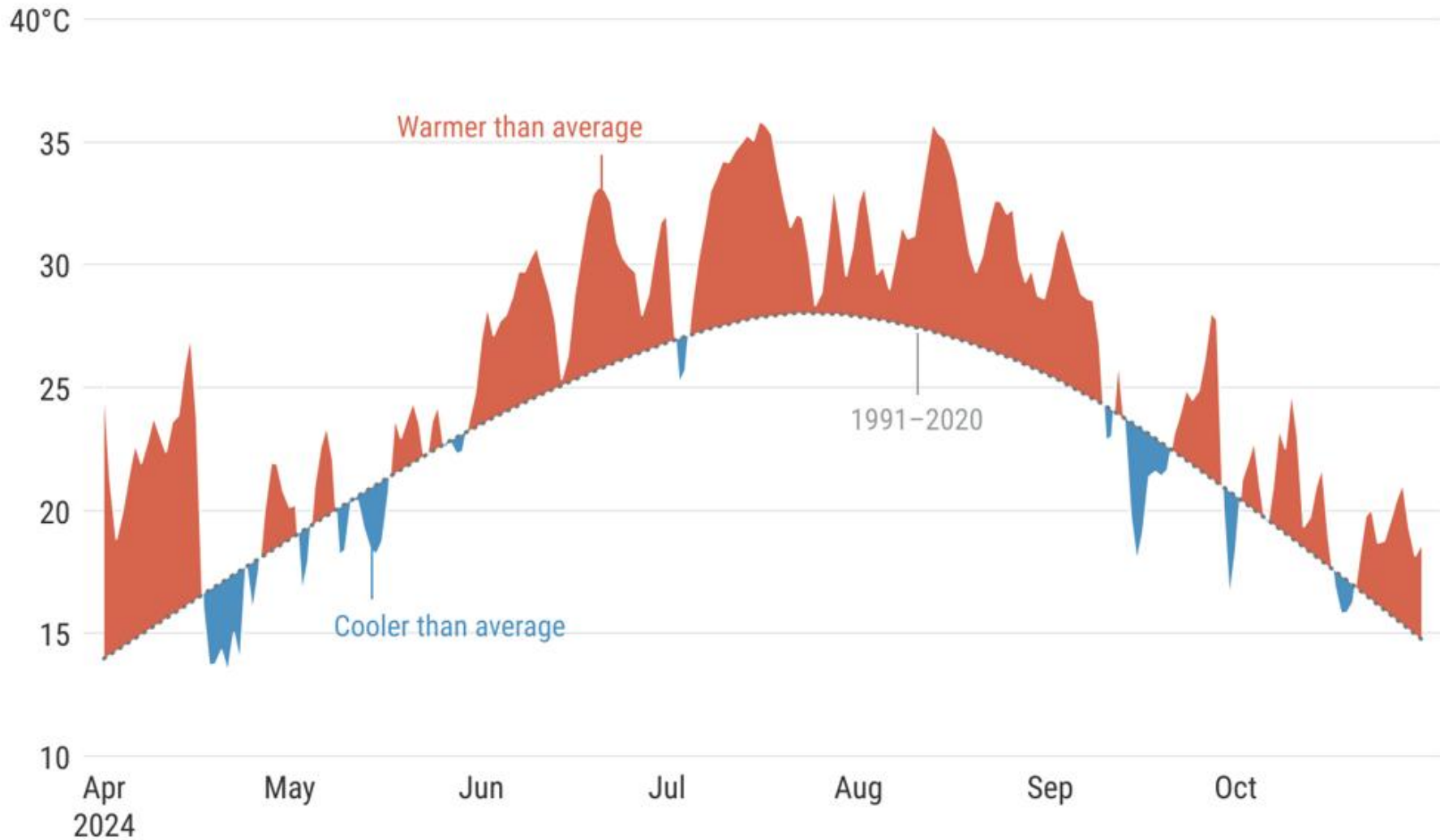
WORLD METEOROLOGICAL ORGANIZATION

Daily maximum temperatures

Daily maximum surface air temperature averaged over southeastern Europe land for April to October 2024



Southeastern Europe is defined here as 39°–46°N, 15°–30°E

Data: E-OBS • Reference period: 1991–2020 • Credit: KNMI/C3S/ECMWF

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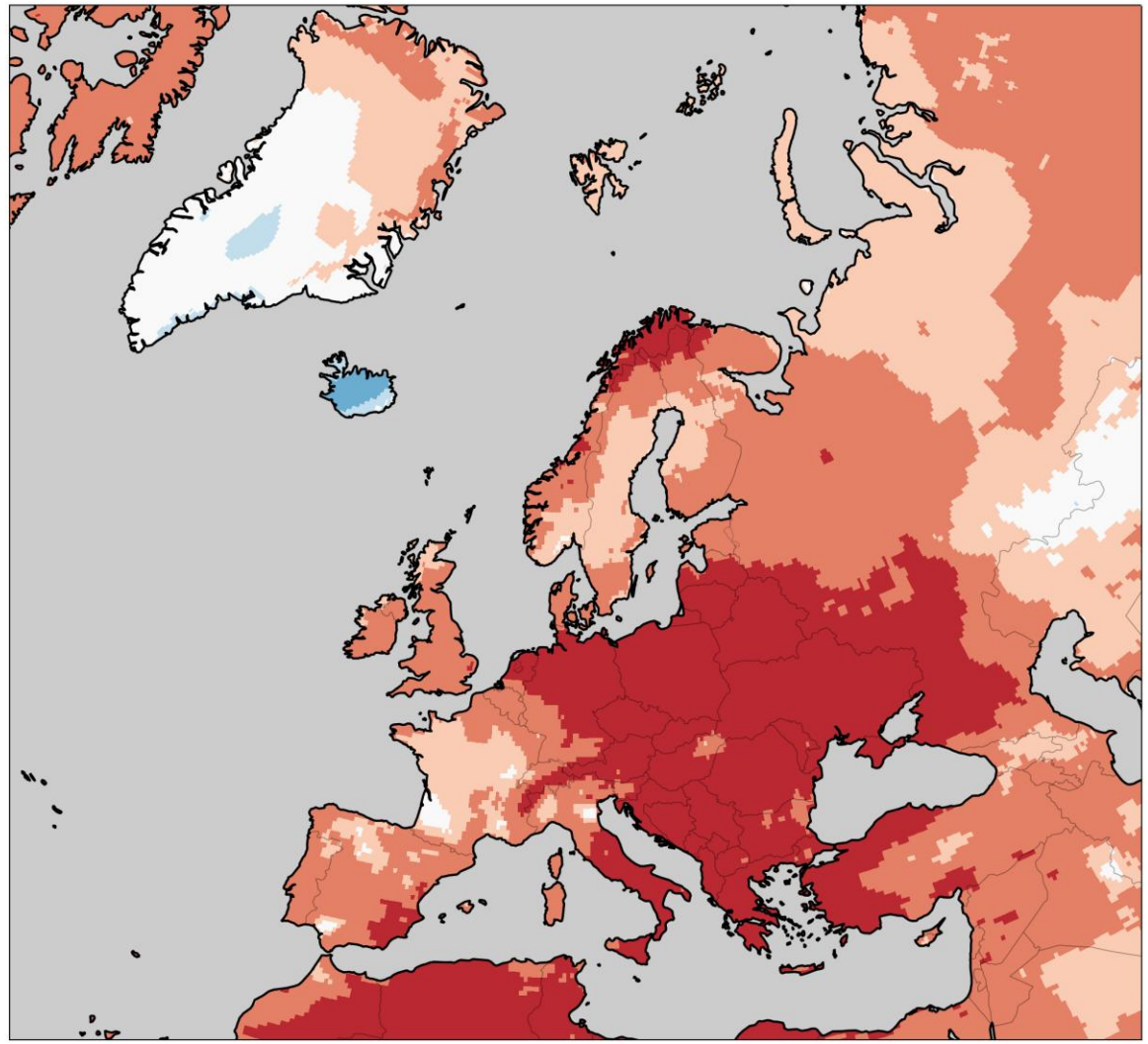
Anomalies and extremes in surface air temperature in 2024

Data: ERA5 (1979–2024) • Reference period: 1991–2020 • Credit: C3S/ECMWF



Coolest | Much cooler than average | Cooler than average | Near average | Warmer than average | Much warmer than average | Warmest

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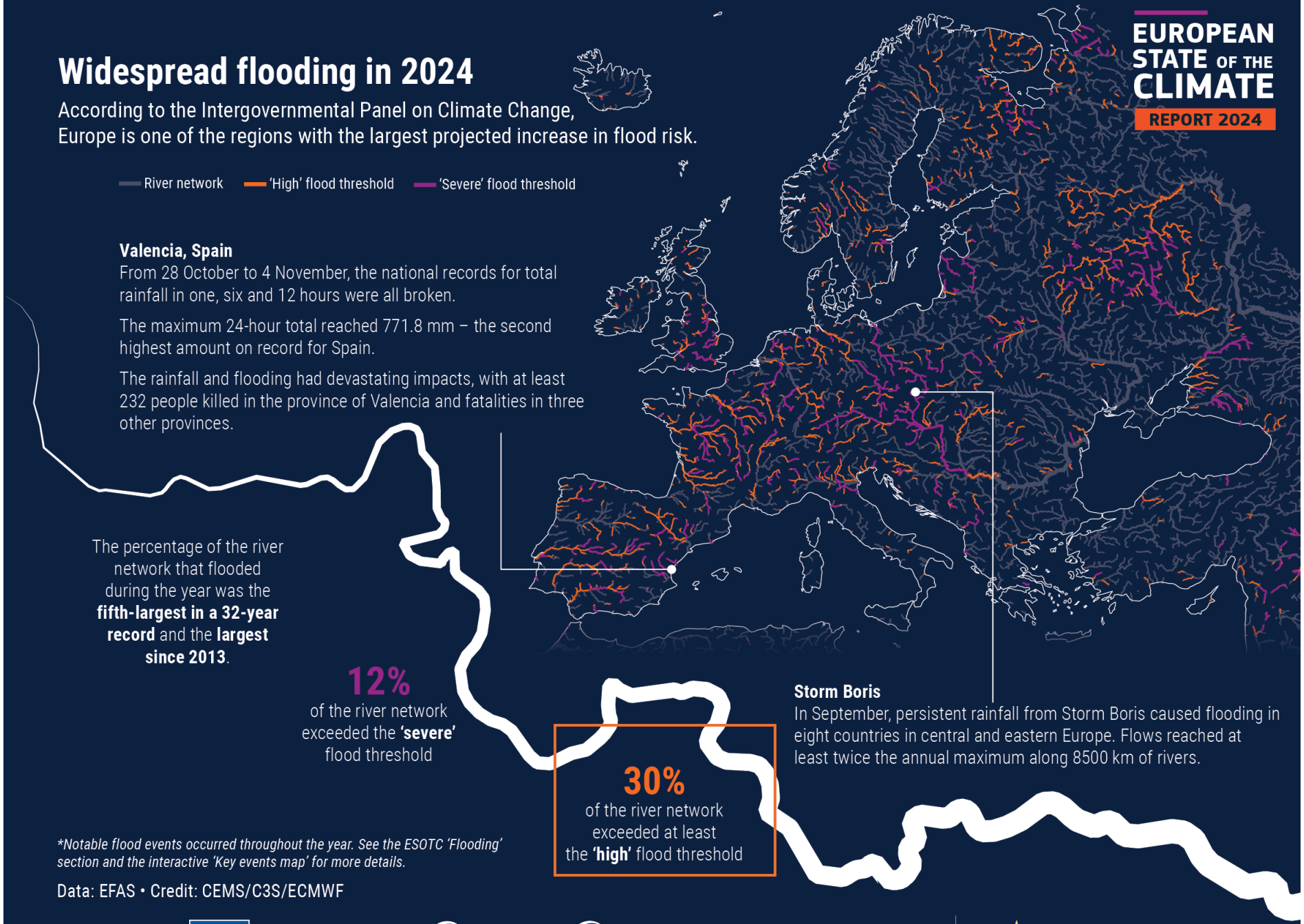
Widespread flooding in 2024

According to the Intergovernmental Panel on Climate Change, Europe is one of the regions with the largest projected increase in flood risk.

EUROPEAN STATE OF THE CLIMATE
REPORT 2024

River network — 'High' flood threshold — 'Severe' flood threshold



Valencia, Spain
From 28 October to 4 November, the national records for total rainfall in one, six and 12 hours were all broken.

The maximum 24-hour total reached 771.8 mm – the second highest amount on record for Spain.

The rainfall and flooding had devastating impacts, with at least 232 people killed in the province of Valencia and fatalities in three other provinces.

The percentage of the river network that flooded during the year was the **fifth-largest in a 32-year record** and the **largest since 2013**.

12%
of the river network exceeded the **'severe'** flood threshold

30%
of the river network exceeded at least the **'high'** flood threshold

Storm Boris
In September, persistent rainfall from Storm Boris caused flooding in eight countries in central and eastern Europe. Flows reached at least twice the annual maximum along 8500 km of rivers.

**Notable flood events occurred throughout the year. See the ESOTC 'Flooding' section and the interactive 'Key events map' for more details.*

Data: EFAS • Credit: CEMS/C3S/ECMWF

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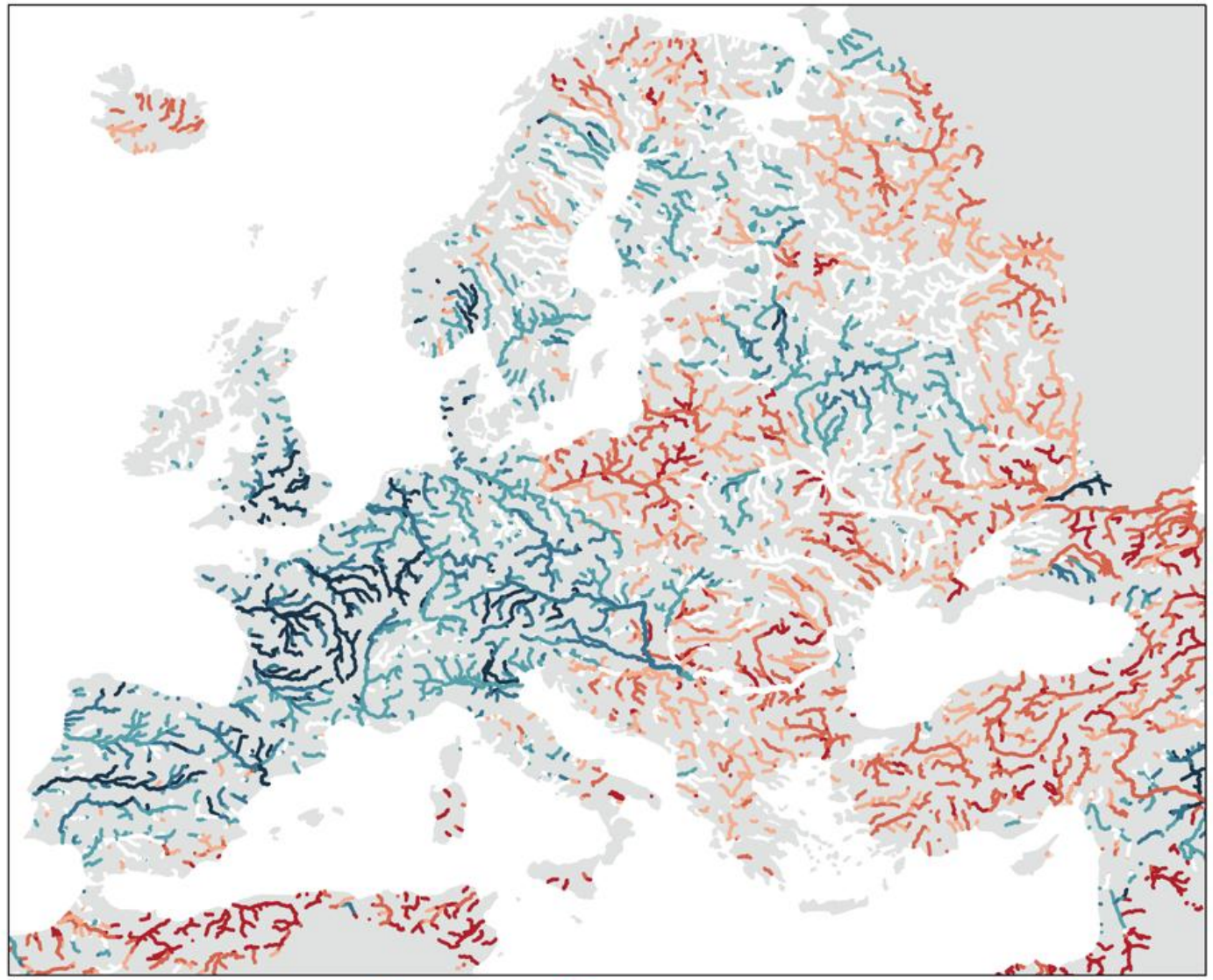
Anomalies and extremes in annual average river flow in 2024

Data: EFAS • Reference period: 1992-2020 • Credit: CEMS/C3S/ECMWF

Lowest | Much lower than average | Lower than average | Near average | Higher than average | Much higher than average | Highest



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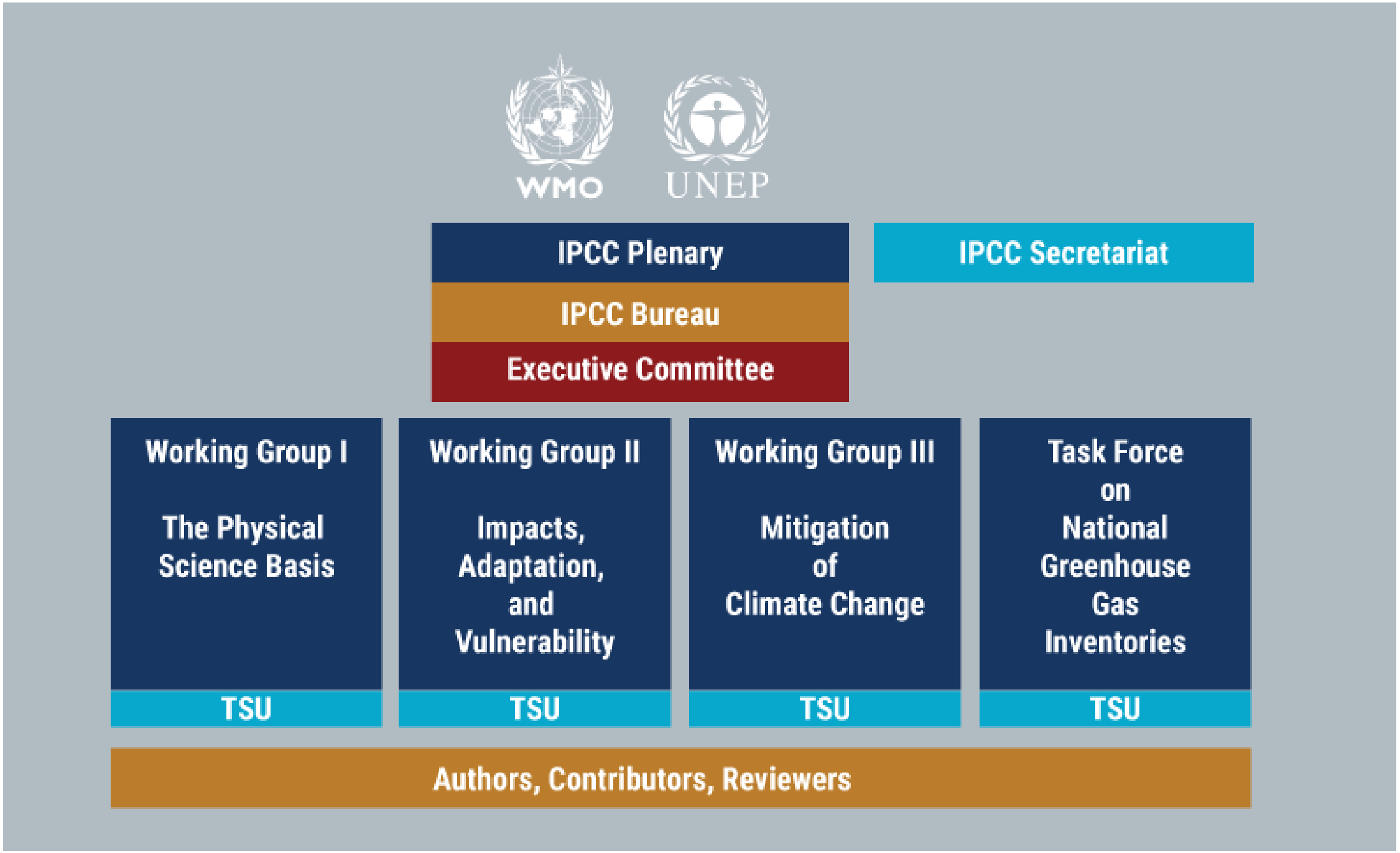
Emergency Management

Adaptation in the IPCC

Intergovernmental Panel on Climate Change (IPCC / GIEC)

Intergovernmental Panel on Climate Change



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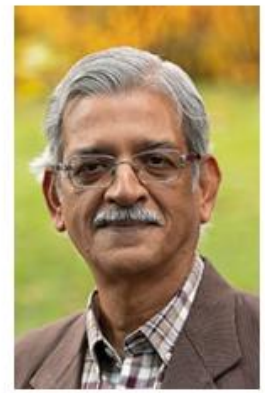

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IPCC Assessment Cycles and Reports

Sixth Assessment Report

- Working Group I *Climate Change 2021: the Physical Science Basis* (2021)
- Working Group II *Climate Change 2022: Impacts, Adaptation and Vulnerability* (2022)
- Working Group III *Climate Change 2022: Mitigation of Climate Change* (2022)
- Synthesis Report (2023) distils and integrates the findings of the three Working Group assessments as well as the three Special Reports
- Special Reports
  - *Global Warming of 1.5°C* (2018)
  - *Climate Change and Land* (2019)
  - *Ocean and Cryosphere in a Changing Climate* (2019)

IPCC 7th Assessment Cycle (start: July 2023)

- WGI Report on the Physical Science Basis
- WGII Report on Impacts, Adaptation and Vulnerability
- WGIII Report on Mitigation
- Synthesis Report (late 2029)
- Special Reports
  - Climate Change and Cities (March 2027)
  - Methodology Report on Short-lived Climate Forcers (late 2027)
  - Methodology Report on Carbon Dioxide Removal Technologies, Carbon Capture Utilization and Storage
  - Revision of the 1994 IPCC Technical Guidelines on impacts and adaptation as well as adaptation indicators, metrics and guidelines

Content of WGII Report (1/3)

Title: Climate Change 202X: Impacts, Adaptation and Vulnerability

- Summary for Policymakers
- Technical Summary
- Chapter 1: Point of departure, framing and key concepts
- Chapter 2: Vulnerabilities, impacts and risks
- Chapter 3: **Current adaptation progress, effectiveness and adequacy**
- Chapter 4: **Adaptation options and conditions for accelerating action**

Content of WGII Report (2/3)

- Chapter 5: Responses to losses and damages
- Chapter 6: Finance
- **Regional Assessment Chapters (including Europe)**
- 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

Content of WGII Report (3/3)

- Chapter 18: Adaptation of human settlements, **infrastructure and industry systems**
- Chapter 19: **Health and well-being**
- Chapter 20: **Poverty, livelihoods, mobility and fragility**

Regional Assessment Chapters

(3 out of 14 bullet points)

- Consider regional setting, including intra-regional variabilities, areas of special concerns, such as hotspots and geographies, socio-political contexts and the thematic assessment chapters
- **Observed and projected impacts**, including economic and non-economic losses and damages, building on both slow onset and extreme Climatic-Impact Drivers
- **Perception, beliefs, values, behavioural aspects** and cultural practices of adaptation, including **locally led adaptation and community-based responses**

Interactions between hazard, exposure and vulnerability

VBD, WBD, and FBD stand for Vector-borne disease, Water-borne disease, and Food-borne disease

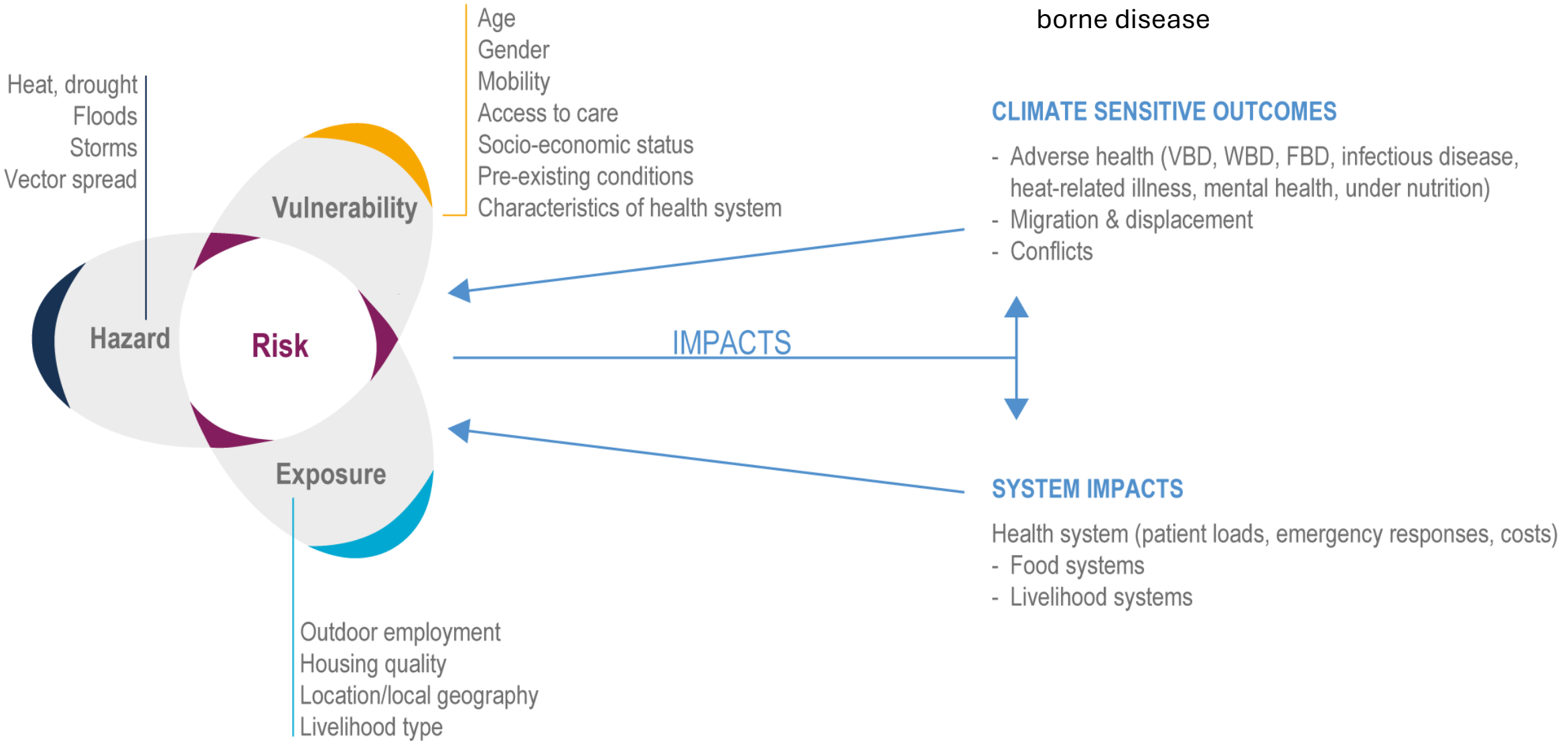


Figure 7.4, AR6, WGII Report

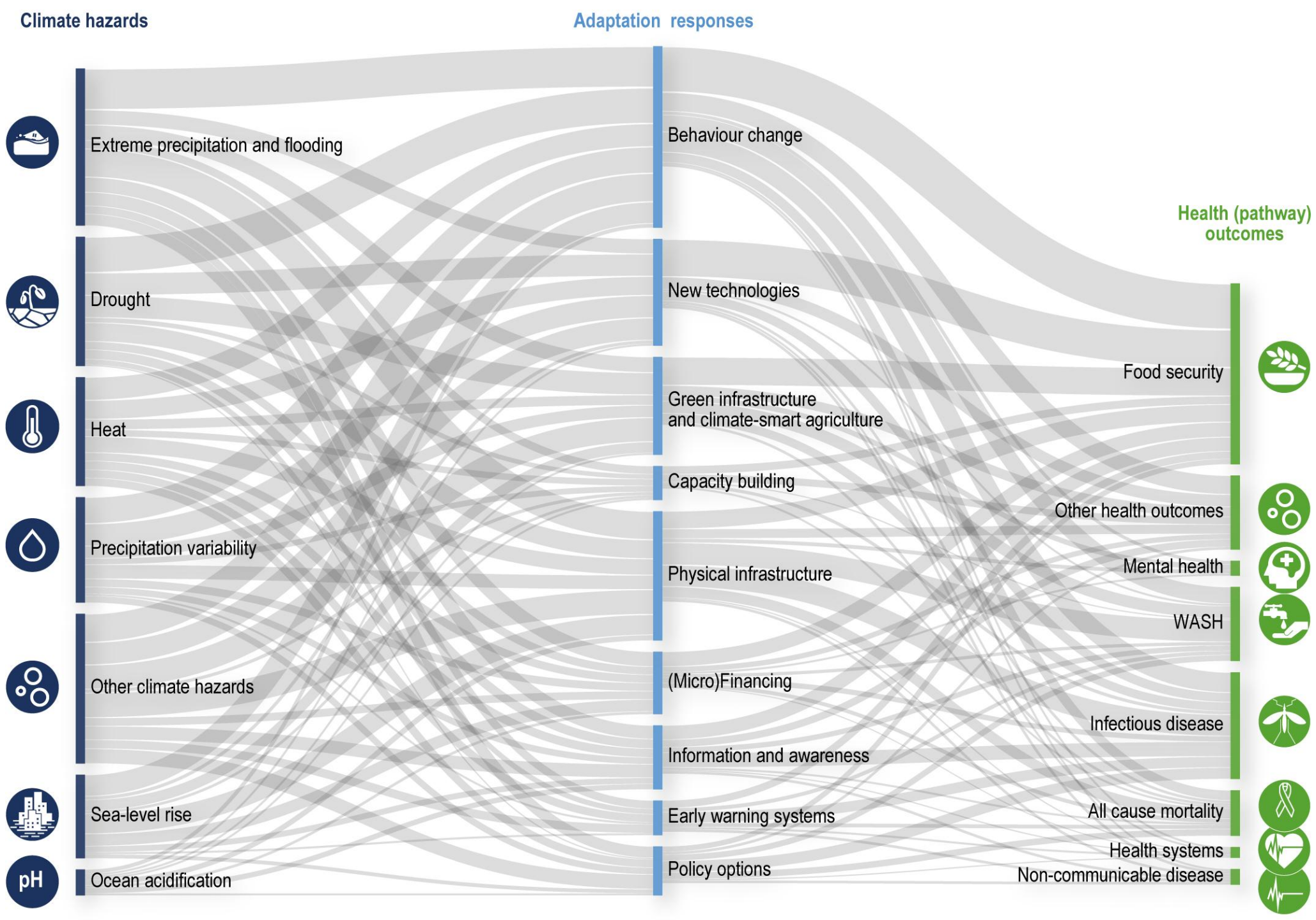


Figure 7.14, AR6, WGII Report

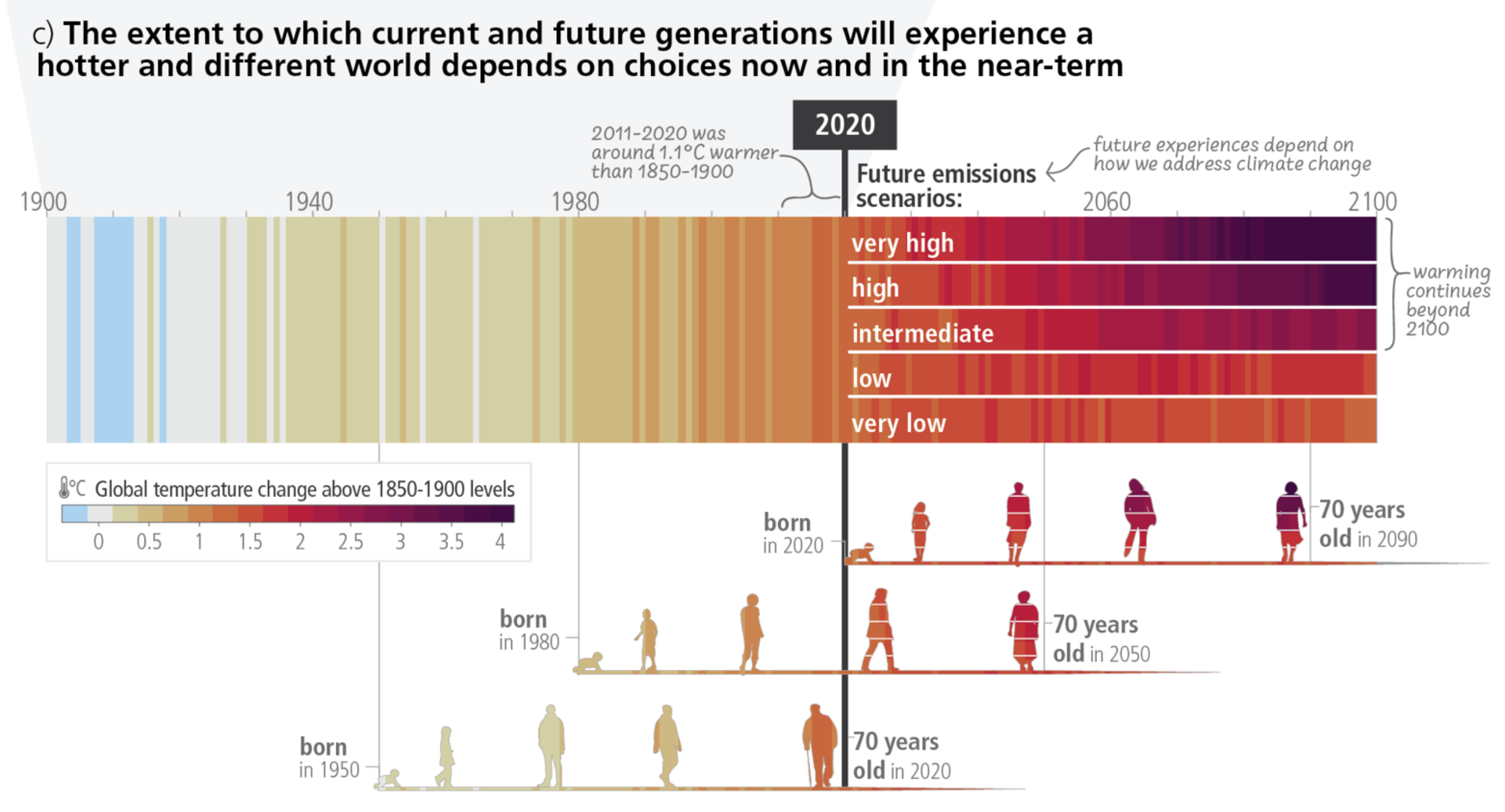
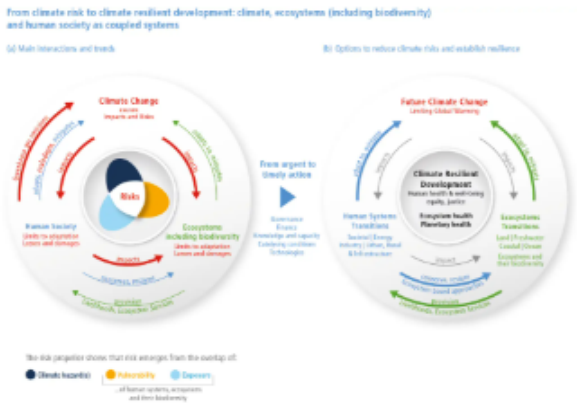


Figure SPM.1, AR6 SYR, Summary for Policymakers

Figure SPM.1



VIEW DETAILS

Figure SPM.2

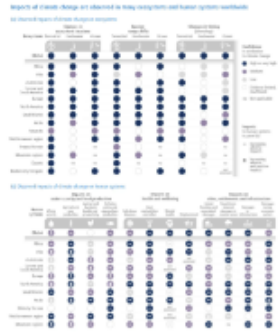


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Figure SPM.3(abcde)

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Figure SPM.3(f)

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Figure SPM.4(a)

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Figure SPM.4(b)

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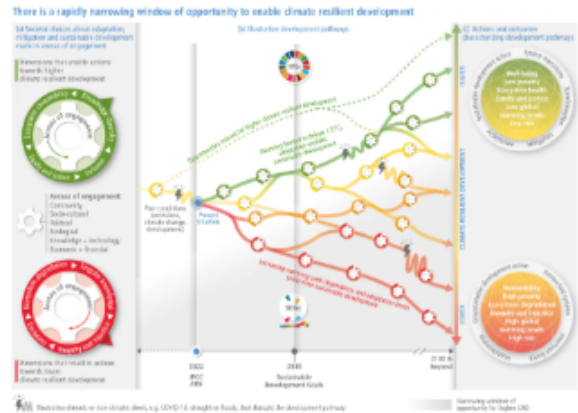
Figure SPM.5



VIEW DETAILS

Adaptation within the UNFCCC COP process

United Nations Framework Convention on Climate Change (UNFCCC / CCNUCC)

Conference of the Parties (COP)

United Nations Framework Convention on Climate Change (UNFCCC / CCNUCC)

- International treaty designed to address climate change (197 Parties)
- It was adopted in 1992 and entered into force in 1994 with the ultimate goal of preventing dangerous human interference with the Earth's climate system.
- Outcome of the Rio Summit in 1992 (along with Convention on Biological Diversity – CBD, and UN Convention to Combat Desertification – UNCCD)
- The UNFCCC serves as the parent treaty for
  - Kyoto Protocol (adopted in 1997)
  - Paris Agreement (adopted in 2015)
- Annual Conference of the Parties (COP) meetings are the main decision-making bodies of the UNFCCC.

Global Goal on Adaptation

The Goal of enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change was established in Article 7 of the Paris Agreement (2015).

- At CMA 3 (2021), parties launched a work programme to flesh out the GGA in more detail.
- At CMA 5 (2023), they established the GGA Framework that includes a range of thematic and dimensional targets for climate adaptation and resilience, and launched a technical process aimed at defining adaptation indicators.
- At CMA 6 (2024), it was decided that the indicators may include a manageable set of no more than 100 indicators that are globally applicable and constitute a menu that captures various contexts of adaptation.

What to expect at COP30 (10-21 Nov)

Significant emphasis on adaptation

- finalizing a framework to track progress toward the Global Goal on Adaptation (GGA)
- submission of National Adaptation Plans (NAPs) from developing country Parties
- ensuring climate finance for adaptation
- strengthening nature-based solutions and a focus on biodiversity
- promoting inclusivity
- accelerating implementation

Thank you

claudia.hitaj@mev.etat.lu