



# The Intergovernmental Panel on Climate Change

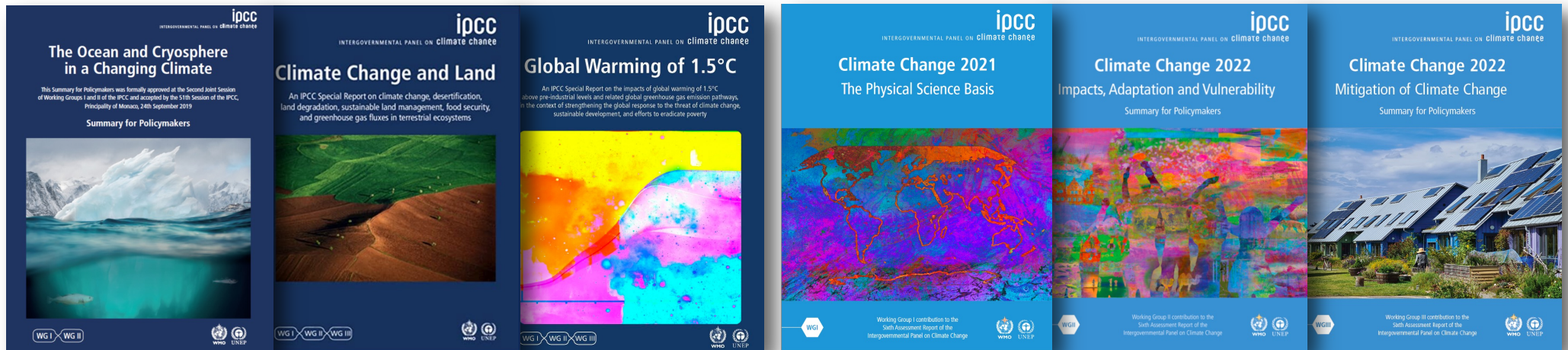
## Sixth assessment report of climate change

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# The state of knowledge on climate change



Ocean and Cryosphere in a Changing Climate

Climate Change and Land

Global Warming of 1.5 °C

AR6 Climate Change 2021: The Physical Science Basis

Climate Change 2022: Impacts, Adaptation and Vulnerability

Climate Change 2022: Mitigation of Climate Change

Synthesis Report of the Sixth Assessment Report



# IPCC and international policy



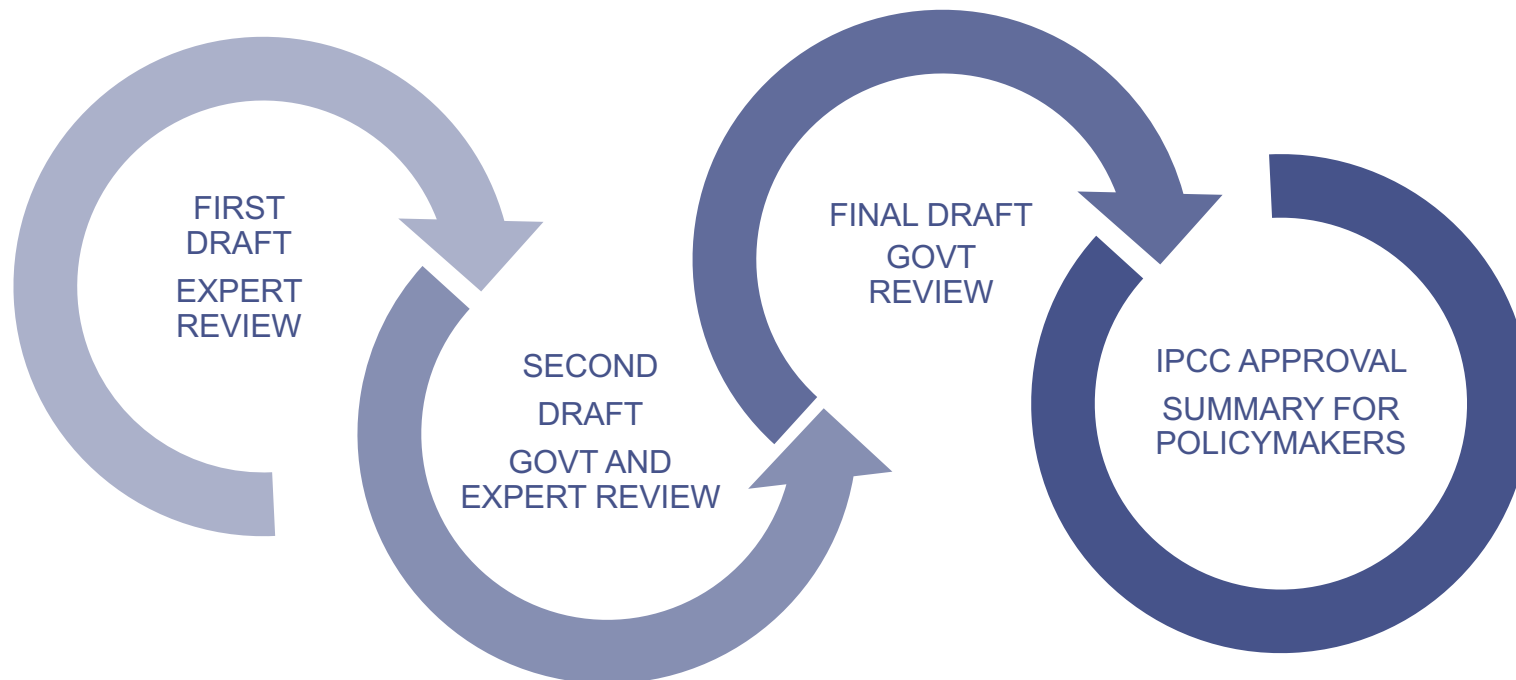
# IPCC and international policy



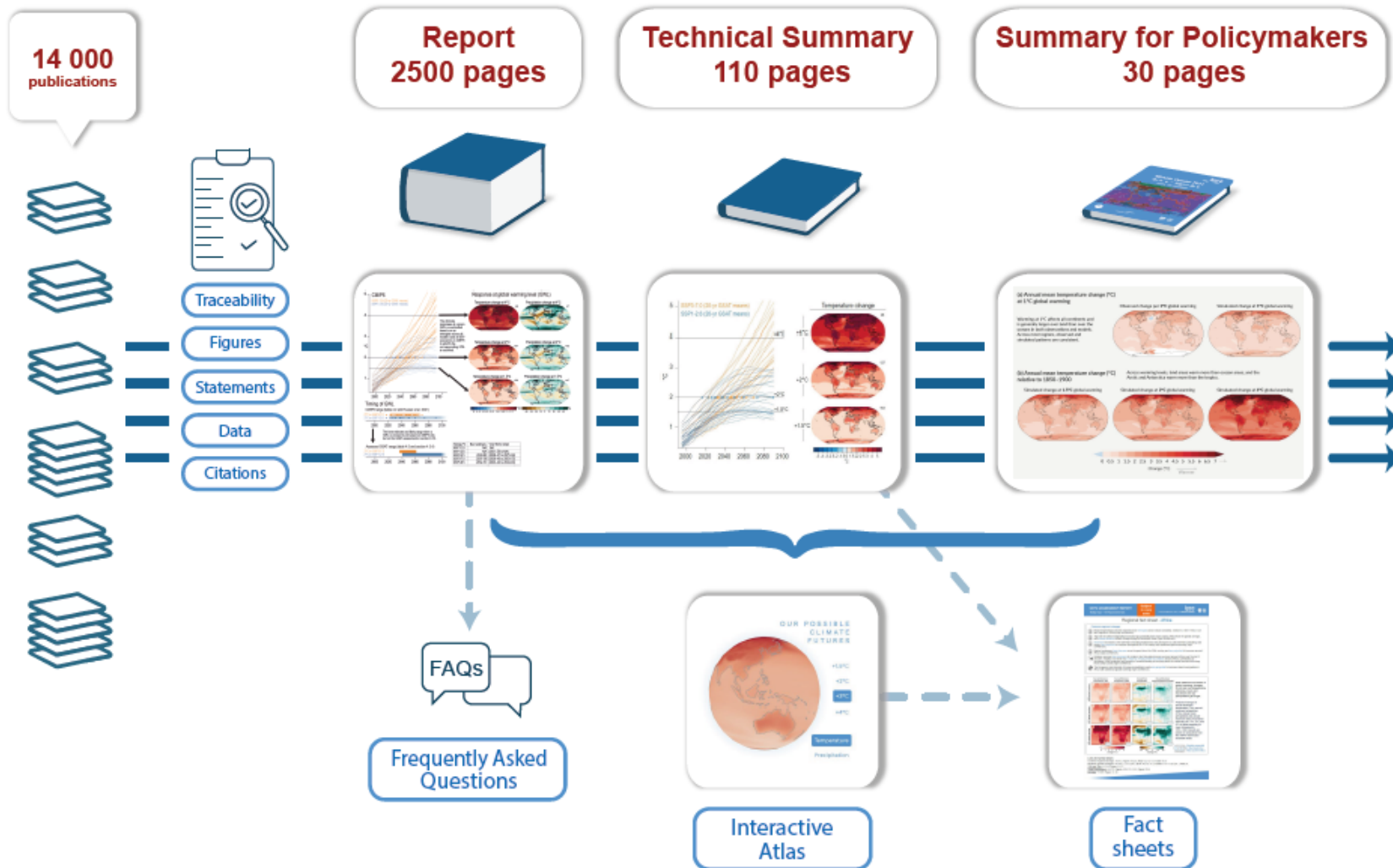


# A unique science-policy interface

- IPCC reports are neutral with respect to political choices.
- The IPCC does not conduct its own research nor produce datasets.
- Scientists assess evidence from scientific, technical and socioeconomic publications.

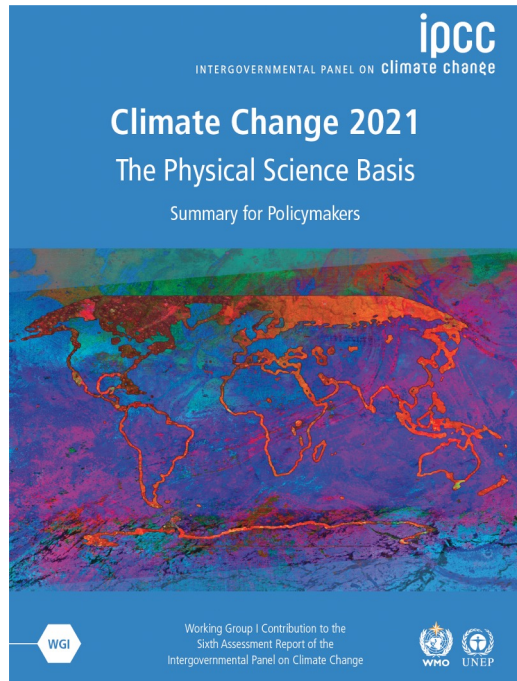


# Traceability of the assessment

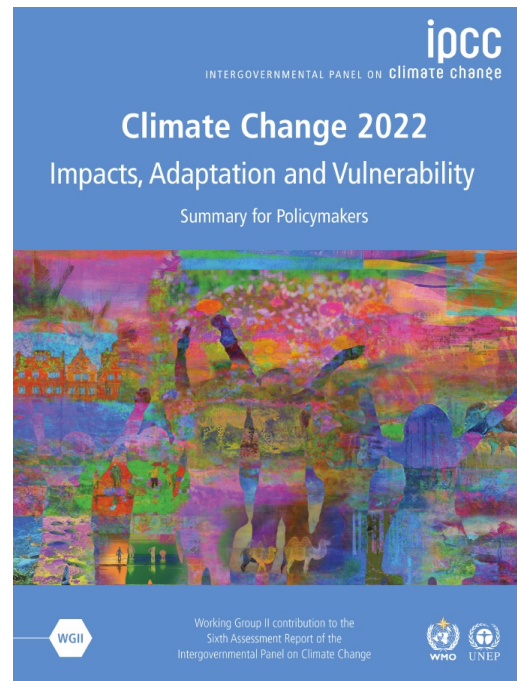




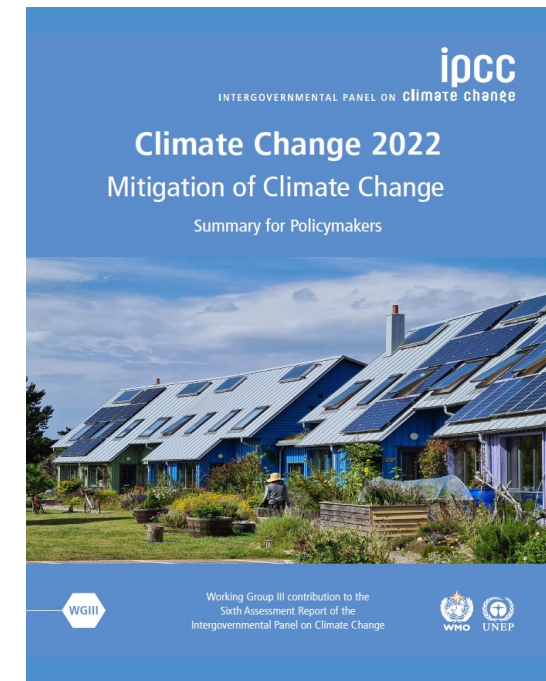
# The AR6 Climate Report



**234** authors, **65** countries  
**14,000+** scientific papers  
**78,000+** review comments



**270** authors, **67** countries  
**34,000+** scientific papers  
**62,000+** review comments



**278** authors, **65** countries  
**18,000+** scientific papers  
**59,000+** review comments

# Role of national delegates

National policymakers co-develop the structure of the report, participate in the review process and approve the Summary for Policymakers (SPM) line by line.





# Approval line by line of the Summary for Policymakers



Session conjointe  
des de travail I et II  
Session du GIEC

Second Joint Session  
of IPCC Working Groups I and II  
and the 51<sup>st</sup> Session of the IPCC





# Approval line by line of the Summary for Policymakers

2 **4.4.4.4** This assessment of the ocean and cryosphere in a changing climate  
 3 reveals the benefits of ambitious mitigation and effective adaptation for sustainable  
 4 development and, conversely, the escalating costs and risks of delayed action. The  
 5 potential to chart Climate Resilient Development Pathways varies within and among  
 6 ocean, high mountain and polar land regions. Realising this potential depends on  
 7 transformative change. This highlights the urgency of prioritising timely, ambitious  
 8 coordinated and enduring action. This assessment reinforces findings in IPCC SR1.5,  
 9 and SRCCL, and IPBES. (*very high confidence*) {1.1, 1.8, Cross-Chapter Box 1, 2.3,  
 10 2.4, 3.5, 4.2.1, 4.2.2, 4.3.4, 4.4, Table 4.9, 5.5, 6.9, Cross-Chapter Box 9, SR1.5,  
 11 SRCCL, IPBES 2019, Figure SPM.5}  
 12  
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2 accounting for uncertainty in content-specific risks beyond 2050 (high confidence) and building  
 3 improved coordination of sea level rise responses across scales, sectors and policy domains to  
 4 address sea level rise impacts and risks (high confidence). Third, governing considerations for  
 5 promote fair and just climate resilience to address social vulnerability and equity requires efforts to  
 6 creating safe community settings for meaningful public deliberation and conflict resolution (medium  
 7 confidence). Finally, public awareness and understanding about sea level rise risks and responses can  
 8 be improved by drawing on local, indigenous and scientific knowledge systems, targeted media  
 9 (4.4.4, 4.4.5, Table 4.9, Figure SPM.5) (Box 2.4, 4.4.4, 4.4.5, Table 4.9, Figure SPM.5)  
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SSID : IPCCDelegates  
Password : ipcc2019



Deuxième session conjointe des Groupes de travail I et II et 51ème session du GIEC  
 20-23 SEPTEMBRE 2019, PRINCIPAUTÉ DE MONACO  
 Second Joint Session of IPCC Working Groups I and II and the 51st Session of the IPCC  
 20-23 SEPTEMBER 2019, PRINCIPALITY OF MONACO  
 giec  
 GROUPE D'EXPERTS INTERGOUVERNEMENTAL SUR l'évolution du climat  
 FONDATION PRINCE ALBERT II DE MONACO  
 ipcc

E CALVO BUENDIA  
CO-CHAIR IPI





[Credit: NASA]

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Recent changes in the climate are widespread, rapid, and intensifying, and unprecedented in thousands of years

# Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere

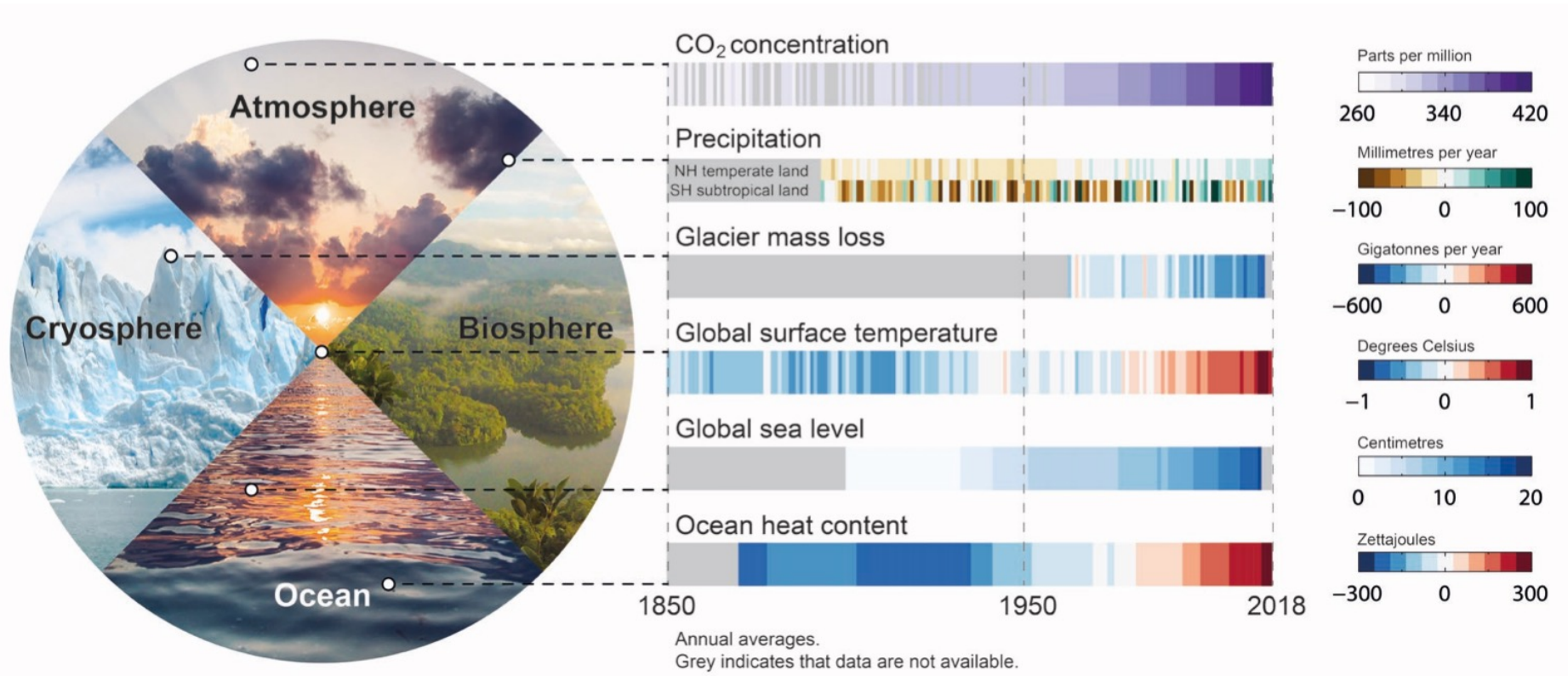


Figure 1.4 Working Group I, Sixth Assessment Report

# Human activities have unequivocally caused climate change

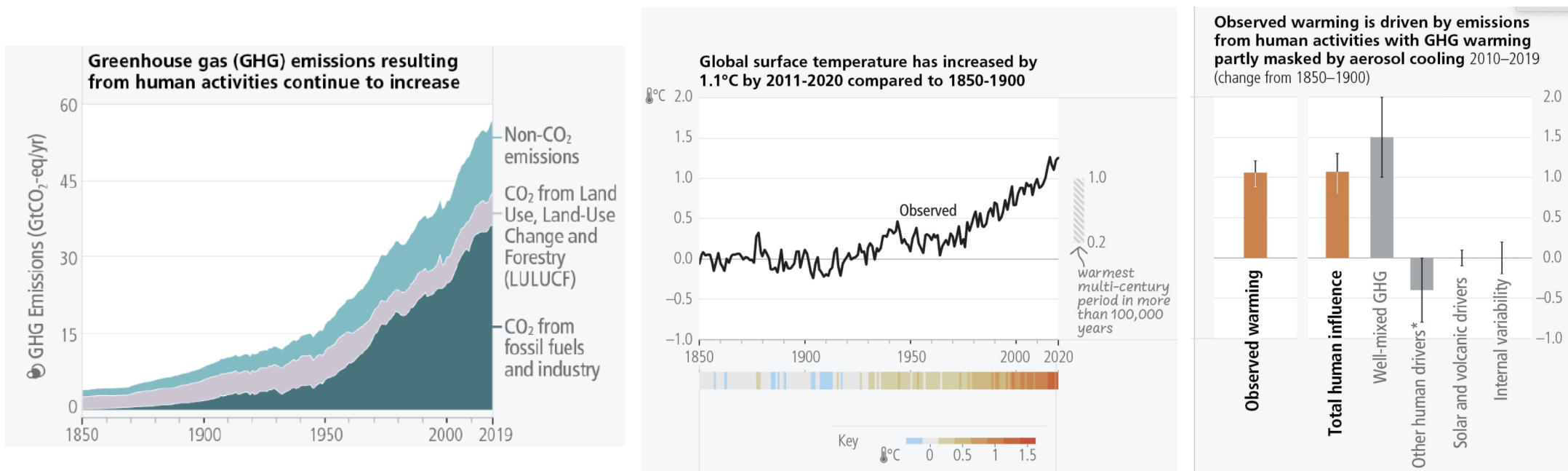


Figure 2.1a, c, d  
Synthesis Report of the Sixth Assessment Report



# Observed widespread and substantial impacts and related losses and damages attributed to climate change

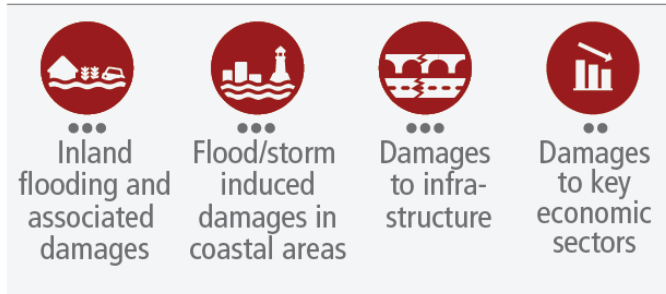
## Water availability and food production



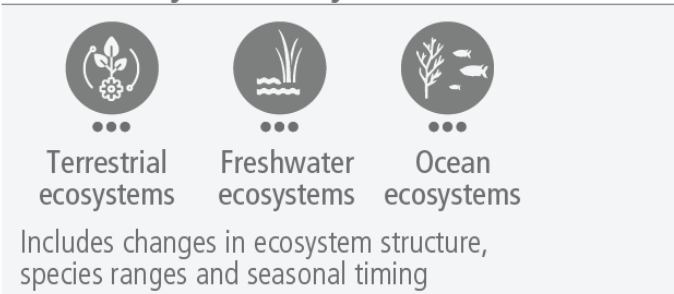
## Health and well-being



## Cities, settlements and infrastructure



## Biodiversity and ecosystems



**Key**

Observed increase in climate impacts to human systems and ecosystems assessed at **global level**

- Adverse impacts
- Adverse and positive impacts
- Climate-driven changes observed, no global assessment of impact direction

**Confidence in attribution to climate change**

- High or very high confidence
- Medium confidence
- Low confidence

Figure SPM.1a  
Synthesis Report of the Sixth Assessment Report

# With every increment of global warming, regional changes in mean climate and extremes become more widespread and pronounced

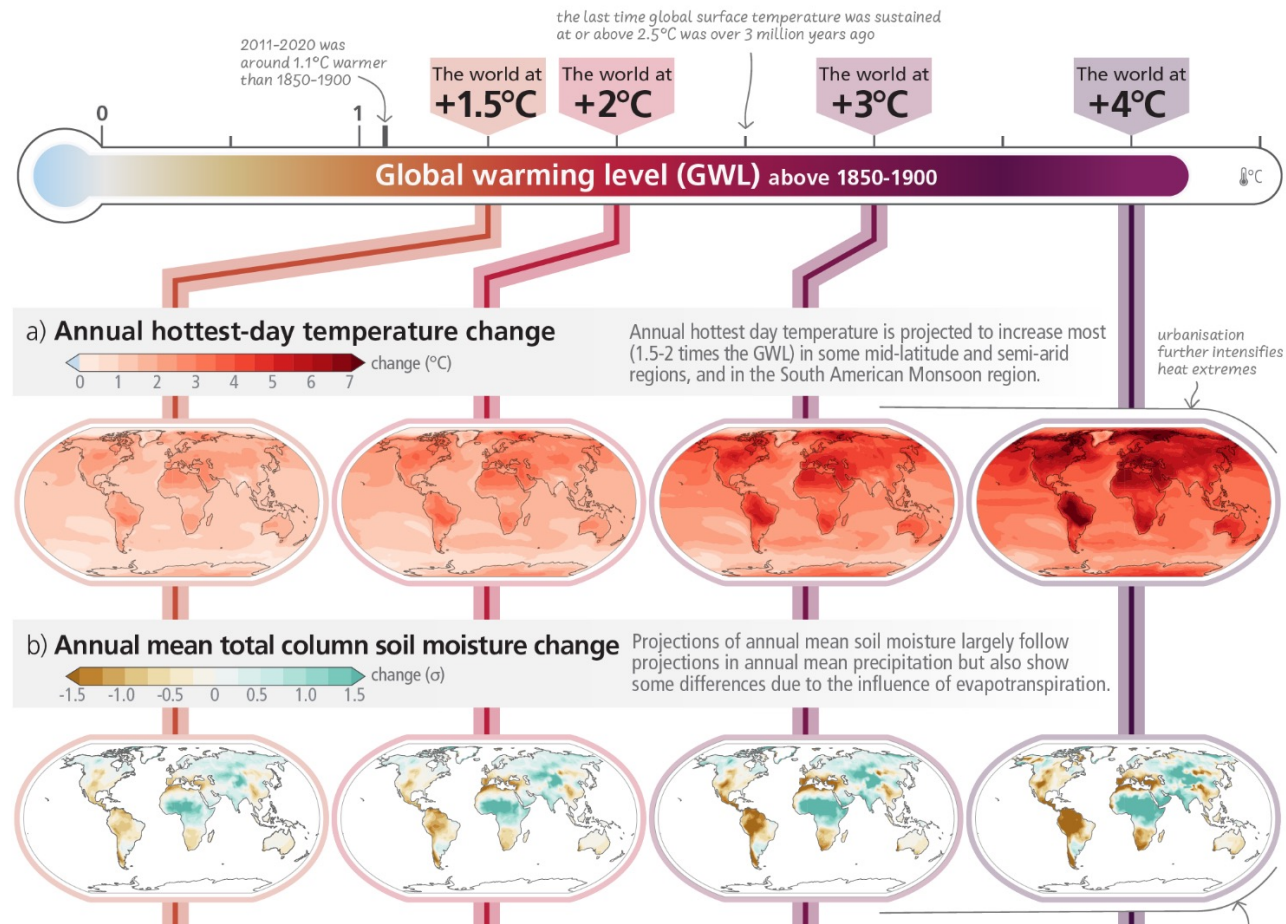
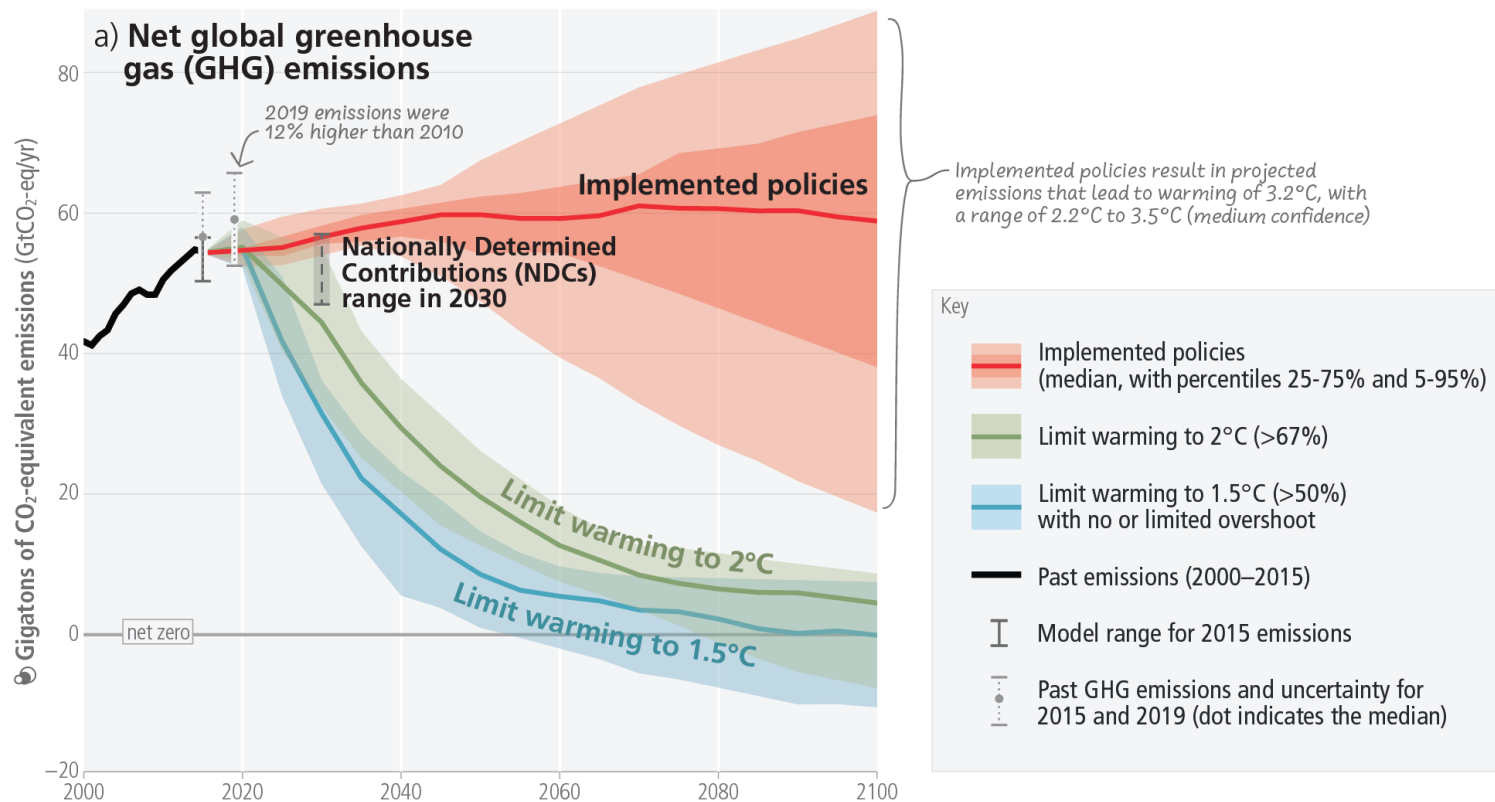


Figure SPM.2a, b  
 Synthesis Report of the Sixth Assessment Report

# Limiting warming to 1.5° C and 2° C requires immediate, rapid and deep reductions in greenhouse gas emissions in all sectors



Implemented policies result in projected emissions that lead to warming of 3.2°C, with a range of 2.2°C to 3.5°C (medium confidence)

Figure SPM5.a  
Synthesis Report of the Sixth Assessment Report



# There are multiple opportunities for scaling up climate action

## a) Feasibility of climate responses and adaptation, and potential of mitigation options in the near-term

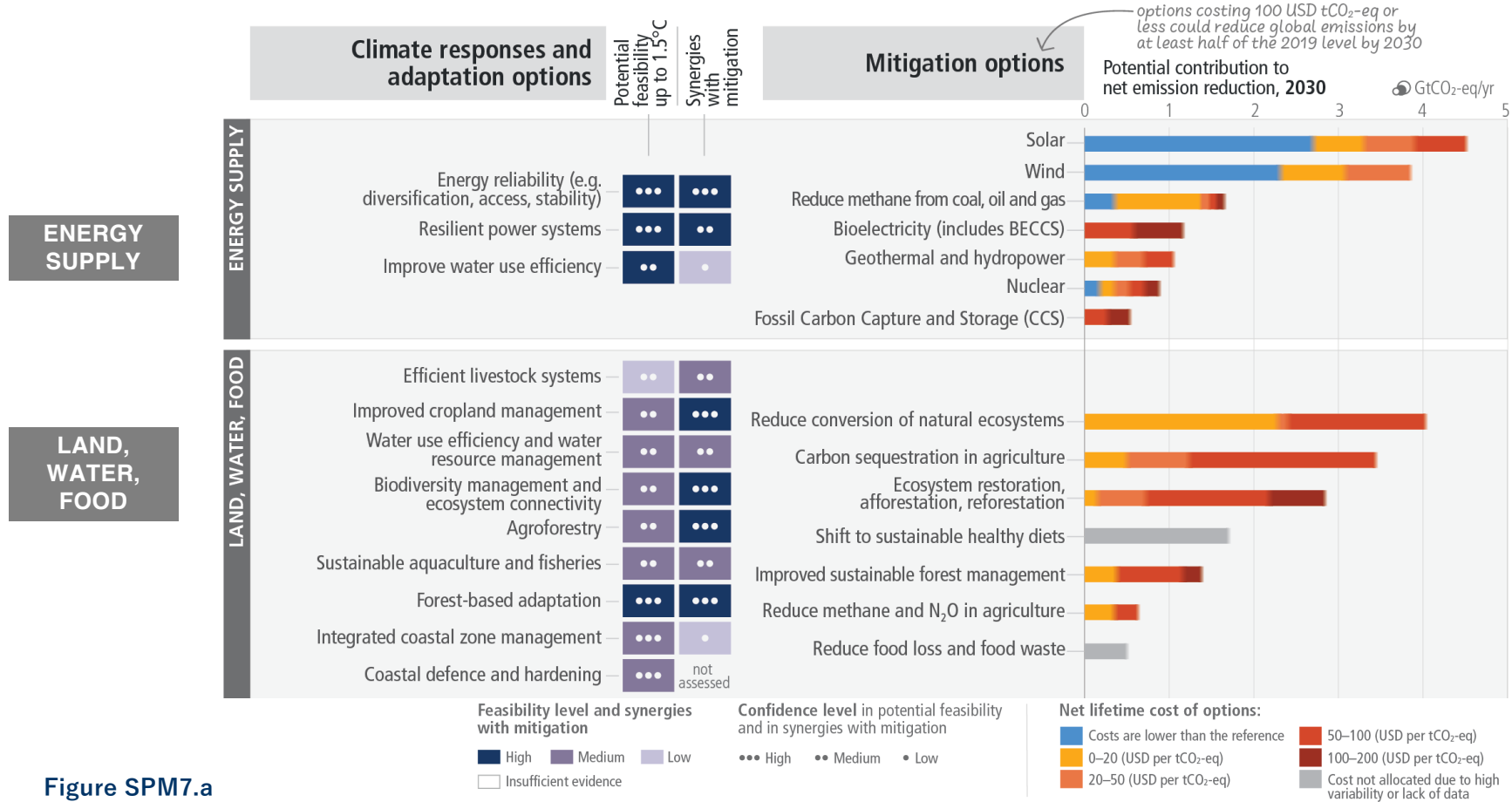


Figure SPM7.a  
Synthesis Report of the Sixth Assessment Report

# There are multiple opportunities for scaling up climate action

## a) Feasibility of climate responses and adaptation, and potential of mitigation options in the near-term

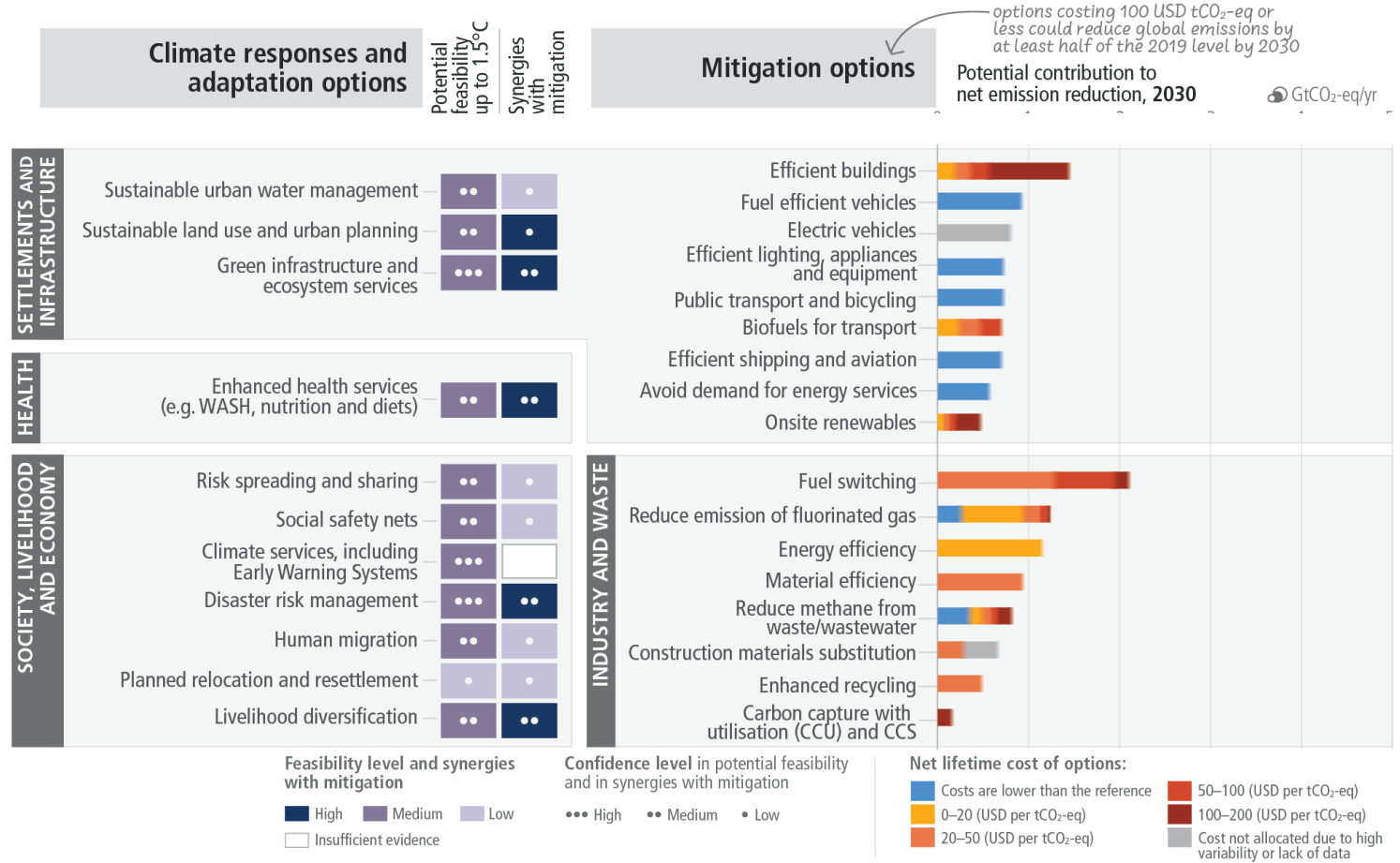


Figure SPM7.a  
Synthesis Report of the Sixth Assessment Report



# The extent to which current and future generations will experience a hotter and different world depends on choices now and in the near term

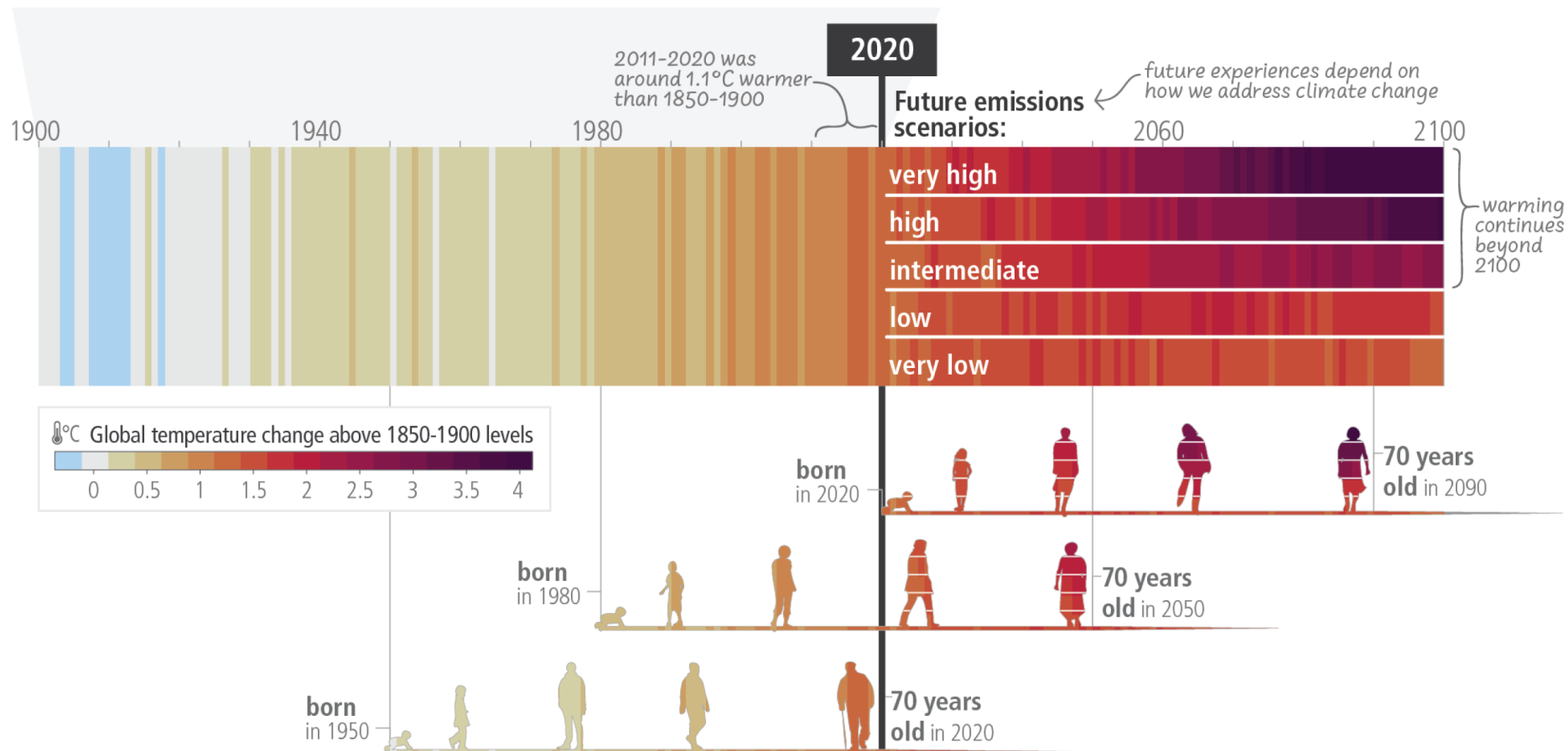


Figure SPM.1c  
Synthesis Report of the Sixth Assessment Report

*Thank you*

IPCC

<https://www.ipcc.ch>

AR6 Synthesis Report

<https://www.ipcc.ch/report/sixth-assessment-report-cycle/>