



Financial Reporting for Climate – in conversation with Deloitte and HSBC

10 February 2022



## Our panel



### [Michaela Wright](#)

Head of Corporate Sustainability for HSBC UK. Michaela is responsible for the execution of the Sustainability strategy within the core themes of future skills and inclusion, and supporting the transition to a Net Zero carbon economy.



### [Professor Richard Allan](#)

Professor of climate science at University of Reading, Professor Allan is a leading climate change scientist and was co-author of the recent [United Nations report](#) warning of the damaging effects of climate change that can already be seen across the globe.



### [Michael Miller](#)

Michael is responsible for HSBC's leveraged relationships across the South UK where the team manages more than 135+ private equity backed clients across a range of sectors.



### [Mike Barber](#)

Mike is Deloitte's UK climate change lead partner, working in their Risk Advisory practice. Mike is responsible for a variety of activities including delivering carbon free solutions, measuring climate based data, and working with innovators to bridge challenges and possibilities.

**Professor Richard Allan**

Professor of climate science at University of Reading

# The IPCC 2021 WGI report on the physical science basis for global climate change

Professor Richard Allan, IPCC WGI Lead Author

University of Reading

Department of Meteorology and National Centre for Earth Observation

[www.ipcc.ch/report/ar6/wg1](http://www.ipcc.ch/report/ar6/wg1)

14,000 scientific publications assessed

234 authors from 65 countries

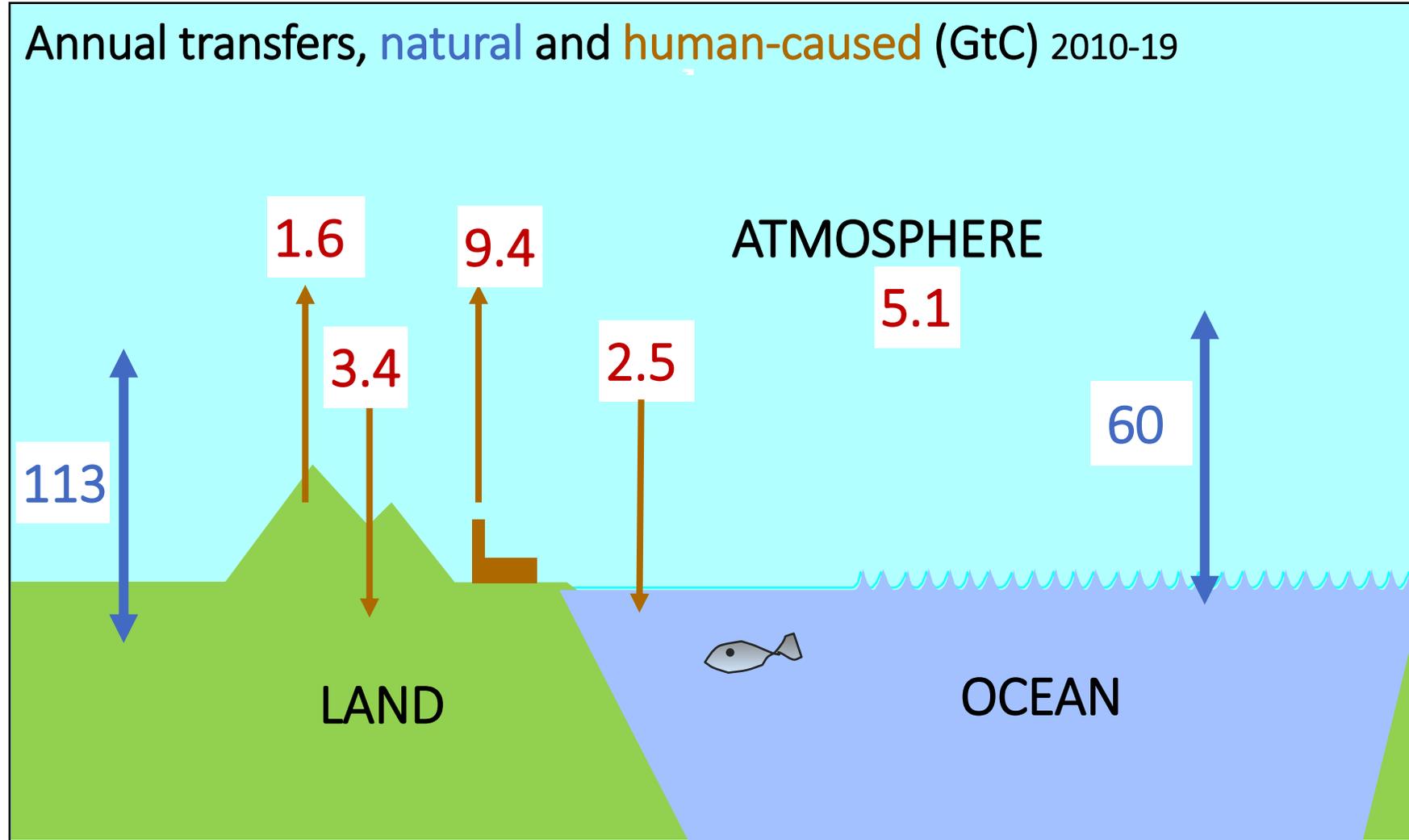
78,000+ review comments

# Key Messages (abridged)

- Earth's climate has always varied but it is an established fact that human activities are now driving climate change
- Recent changes in climate are widespread, rapid and unprecedented in thousands of years.
- Human activities are intensifying extreme climate events, including heat waves, heavy rainfall, and droughts
- Every bit of global warming increases the magnitude of regional climate change including the severity of extremes
- Limiting warming to 1.5°C requires immediate, rapid, and large-scale reductions in greenhouse gas emissions



# Natural & human-influenced carbon cycle

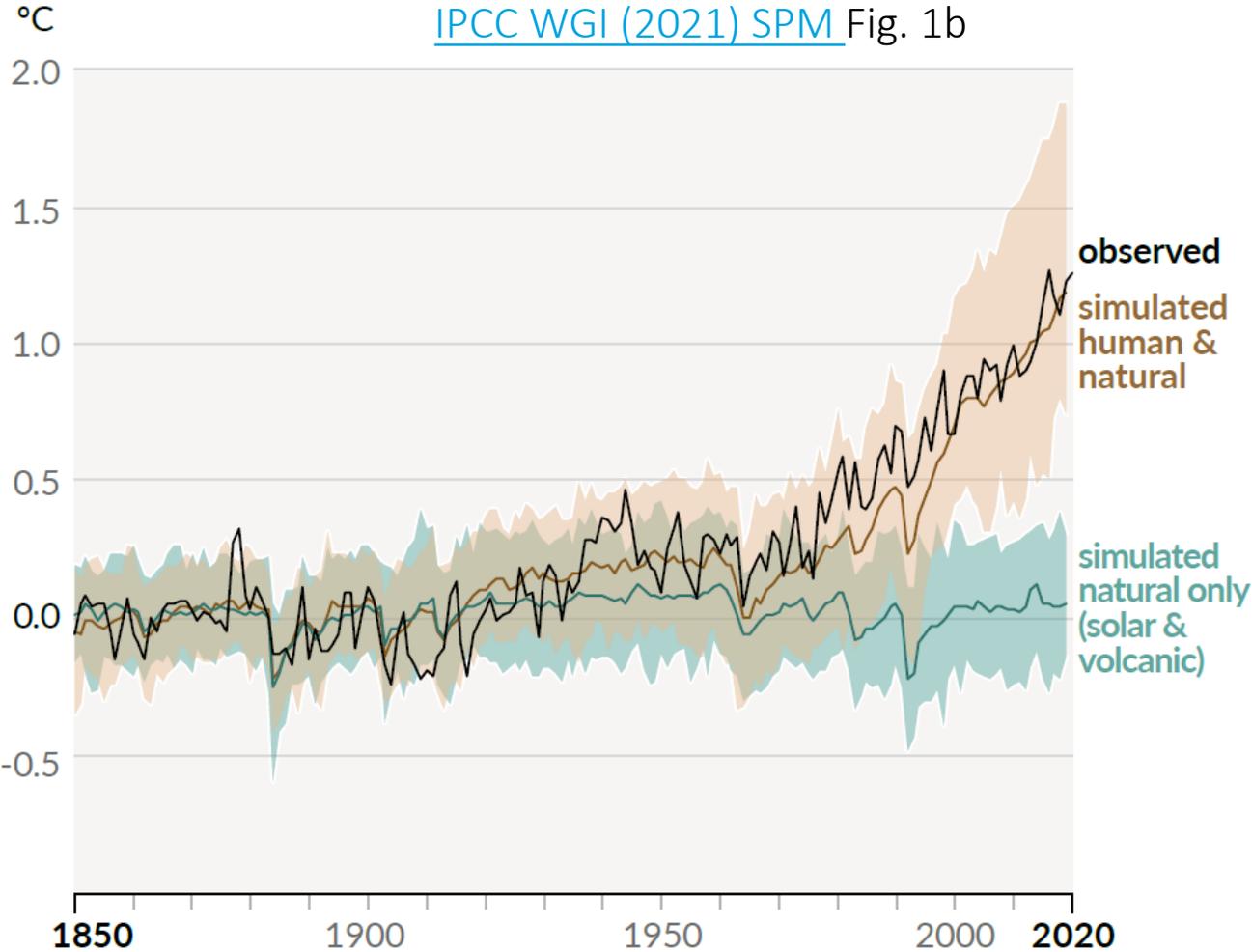


- Human activities have tipped the natural carbon cycle out of balance
- This is driving increases in atmospheric CO<sub>2</sub> concentrations
- CO<sub>2</sub> concentrations highest in at least 2 million years

Values in billions of tonnes of Carbon per year from [IPCC \(2021\) Ch5](#)

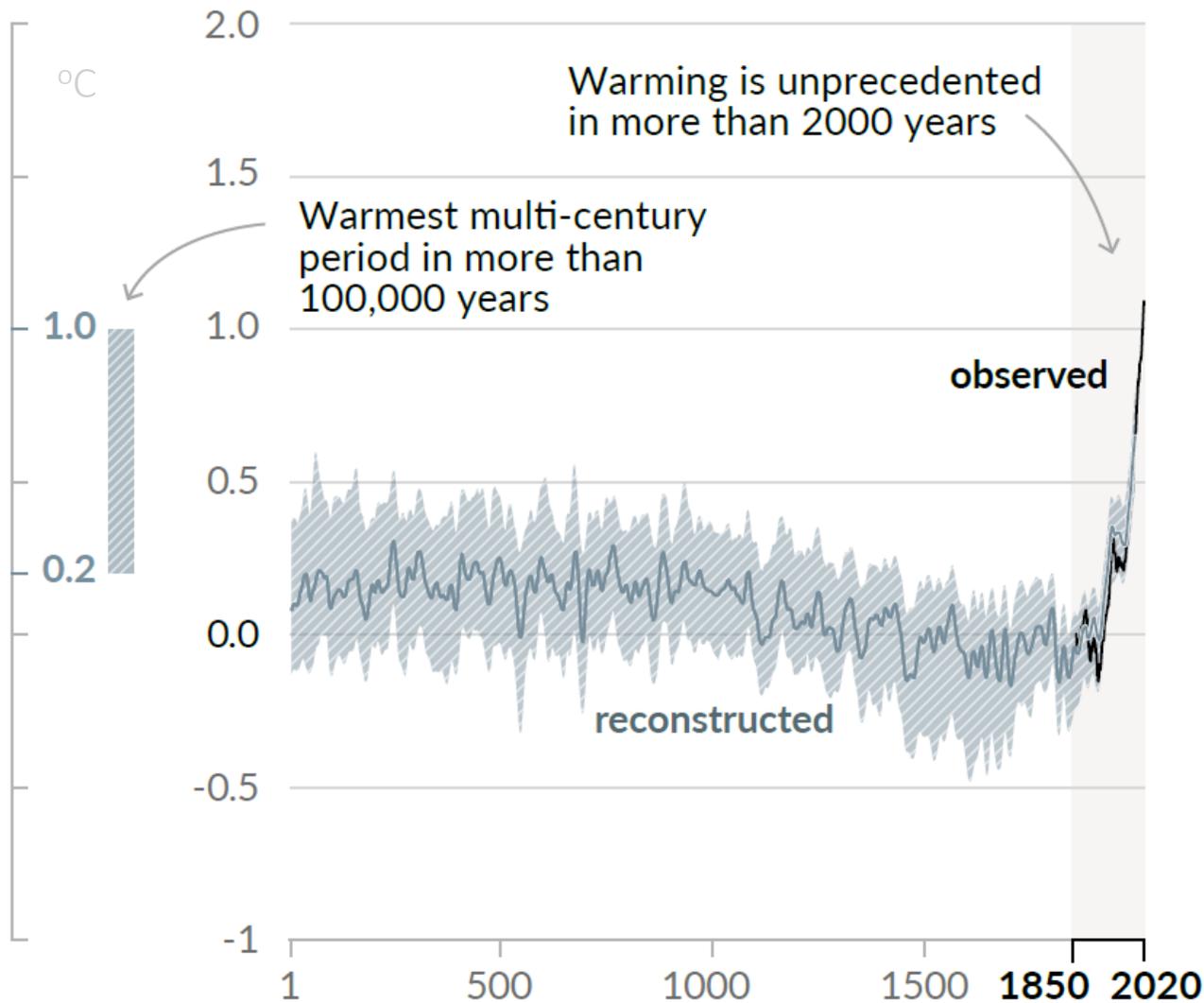
# It is indisputable that human activities are causing climate change

IPCC WGI (2021) SPM Fig. 1b



- ▶ Observed warming is driven by emissions from human activities
- ▶ Greenhouse gas warming has been partly masked by aerosol cooling
- ▶ Warming is amplified by feedback loops involving water vapour, ice & clouds
- ▶ Natural factors do not contribute to rapid warming over past 5 decades

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

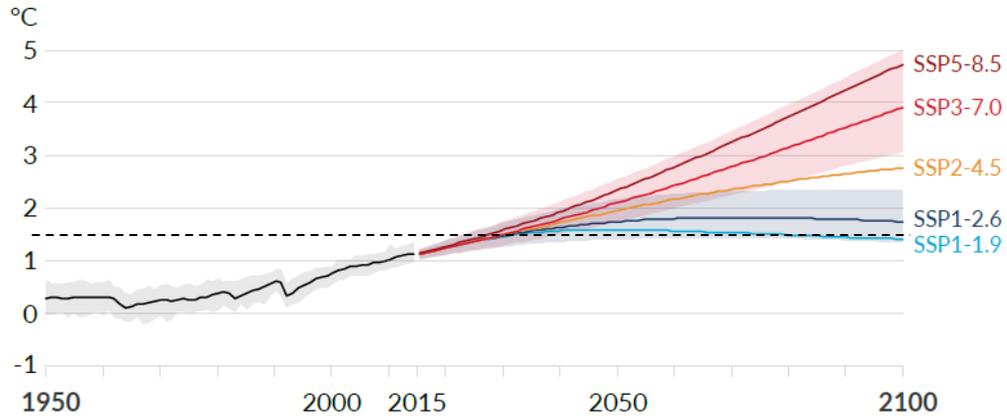


- Global mean surface temperature increased faster since 1970 than in any other 50 year period over at least the last 2000 years
- Warmth of past decade comparable to last interglacial 125,000 years ago *[when peak sea level was 5-10m higher than today]*

[[IPCC WGI 2021 SPM](#)]

# Some changes in the climate system are irreversible but many changes can be slowed or stopped by limiting warming

a) Global surface temperature change relative to 1850-1900

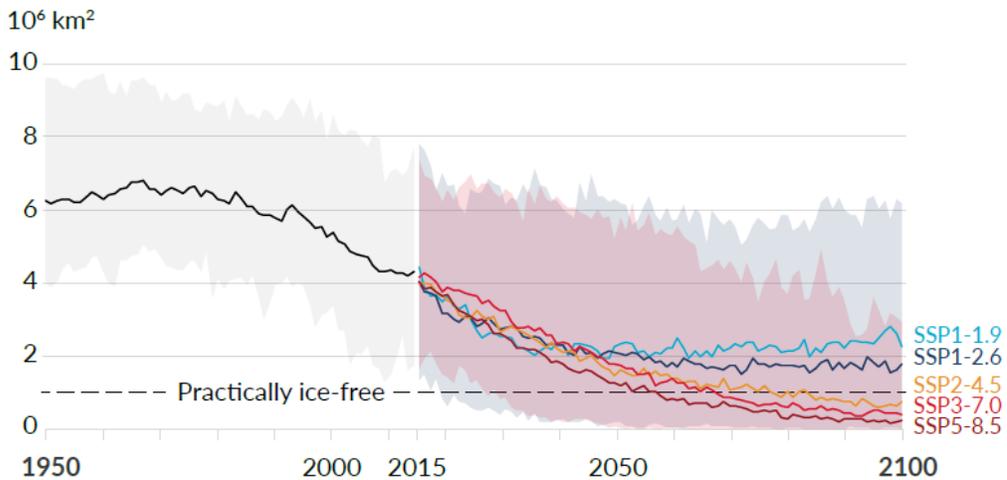


Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO<sub>2</sub> and other greenhouse gas emissions occur in the coming decades

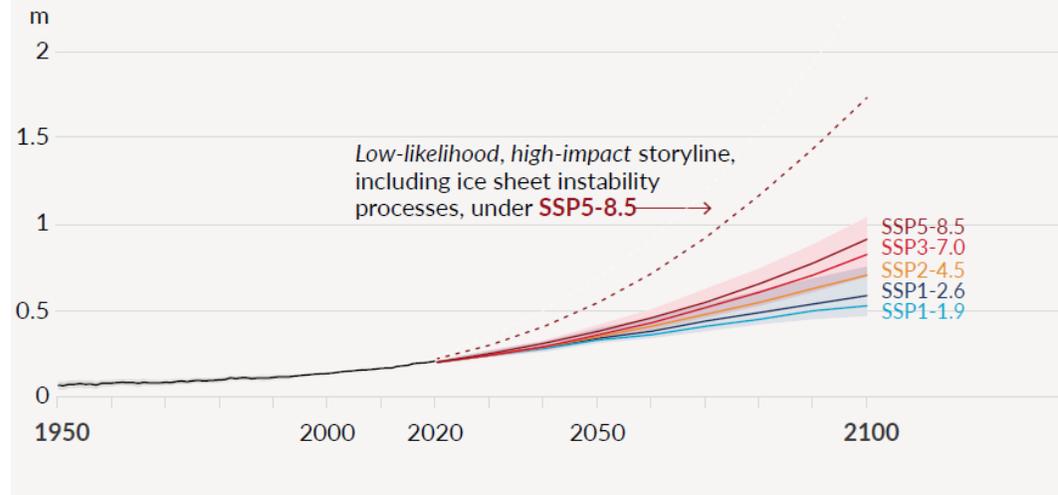
[IPCC (2021) [WG1 SPM](#)]



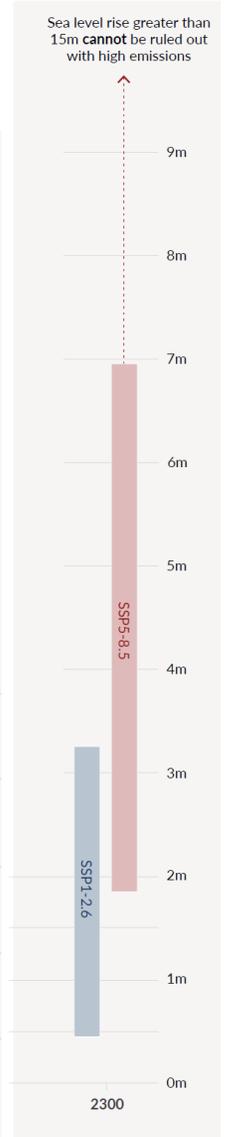
b) September Arctic sea ice area



d) Global mean sea level change relative to 1900

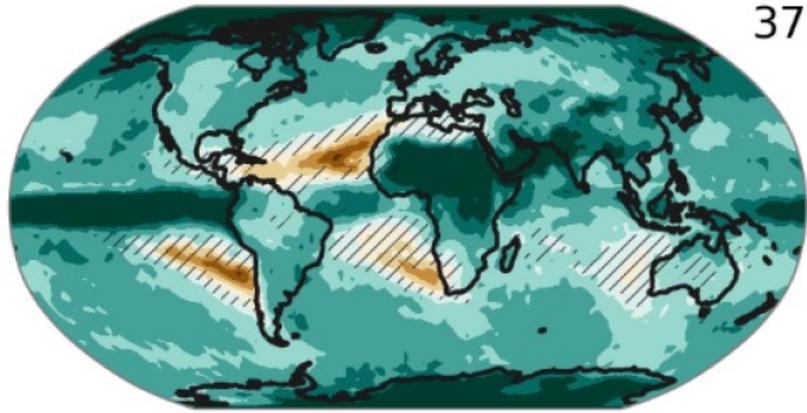


e) Global mean sea level change in 2300 relative to 1900

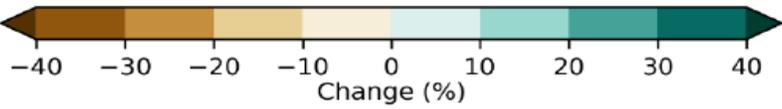


Precipitation intensity (Rx1day)

37



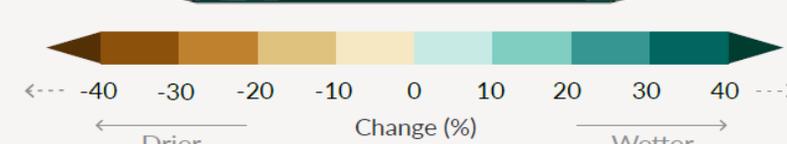
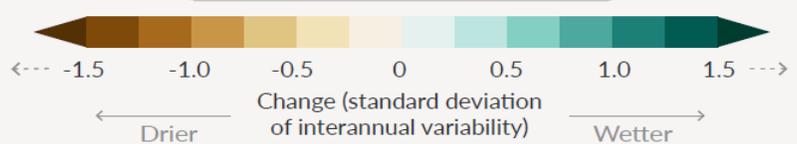
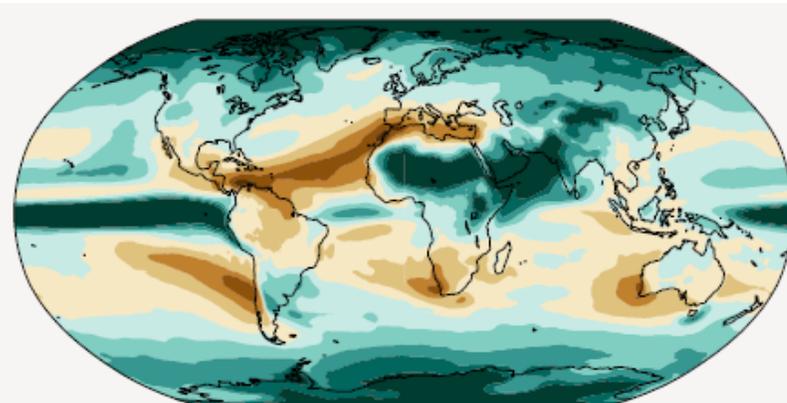
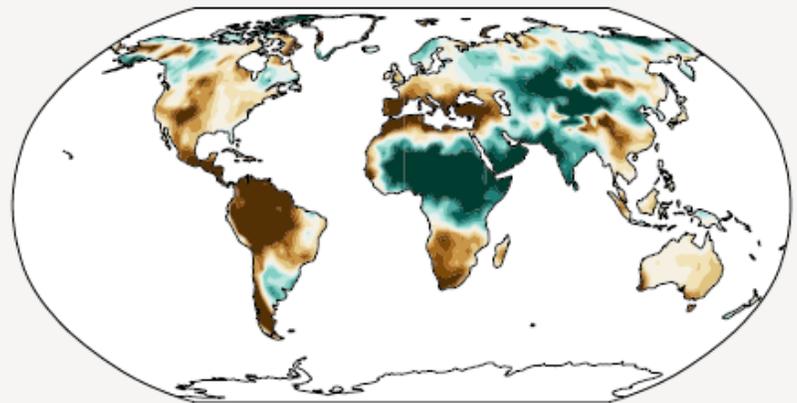
% change



Continued global warming is projected to further intensify the global water cycle including the severity of wet and dry events

Total Column Soil Moisture

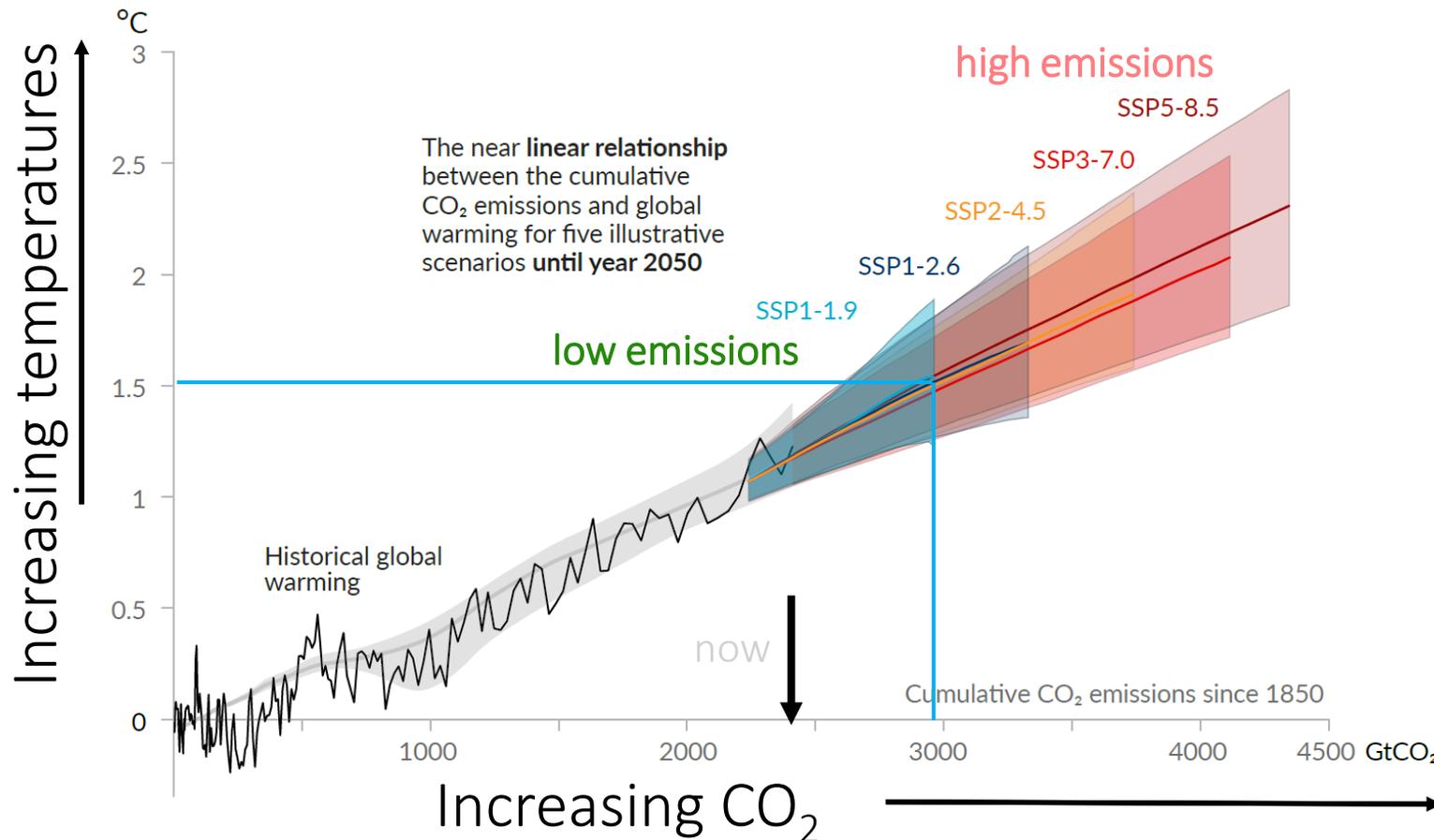
Mean Precipitation



Water cycle changes at 4°C warming

[IPCC WG1 \(2021\)](#) Chapters 11, 4, 8 and SPM; see also Technical Summary BoxTS.6

# Mitigation of Climate Change



[[IPCC WGI 2021 SPM](#)]

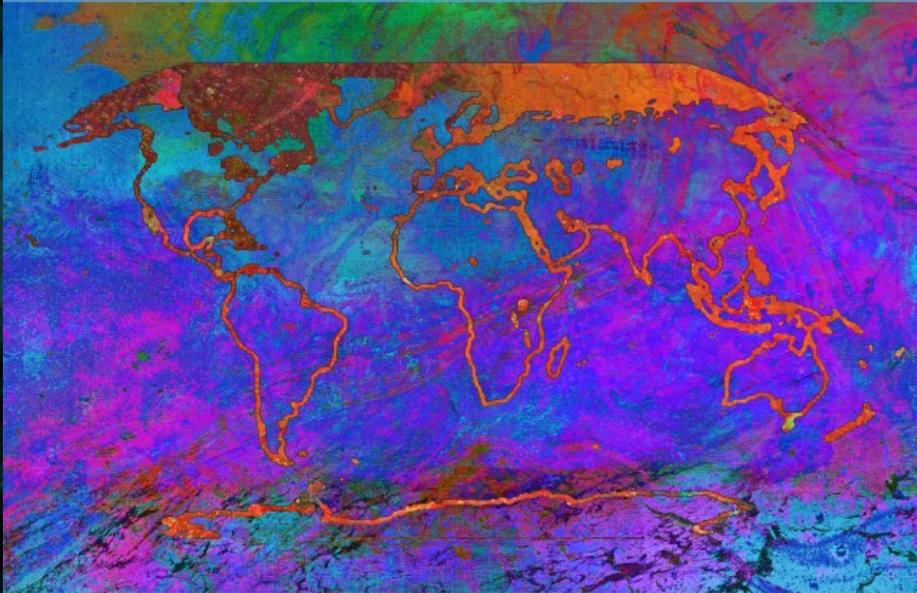
- Each 1000 billion tonnes of CO<sub>2</sub> emission increases global temperature by ~0.5°C
- It is still physically possible to limit global warming to 1.5°C, but that requires deep reductions in CO<sub>2</sub> and other greenhouse gas emissions in the coming decades
- Reductions in methane emissions would limit warming effect resulting from declining particulate pollution and would improve air quality

ipcc

INTERGOVERNMENTAL PANEL ON climate change

# Climate Change 2021

## The Physical Science Basis



WGI

Working Group I contribution to the  
Sixth Assessment Report of the  
Intergovernmental Panel on Climate Change



[www.ipcc.ch/report/ar6/wg1](http://www.ipcc.ch/report/ar6/wg1)

## **Panel discussion**

Please post your questions in the Q&A

Find out more

**Deloitte's Path to Net Zero content hub**

<https://www2.deloitte.com/uk/en/explore/sustainability-and-climate-change.html/#->

**HSBC Sustainable Finance hub**

<https://www.sustainablefinance.hsbc.com/>

**IPCC Climate Change 2021 report**

<https://www.ipcc.ch/report/ar6/wg1/>



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