

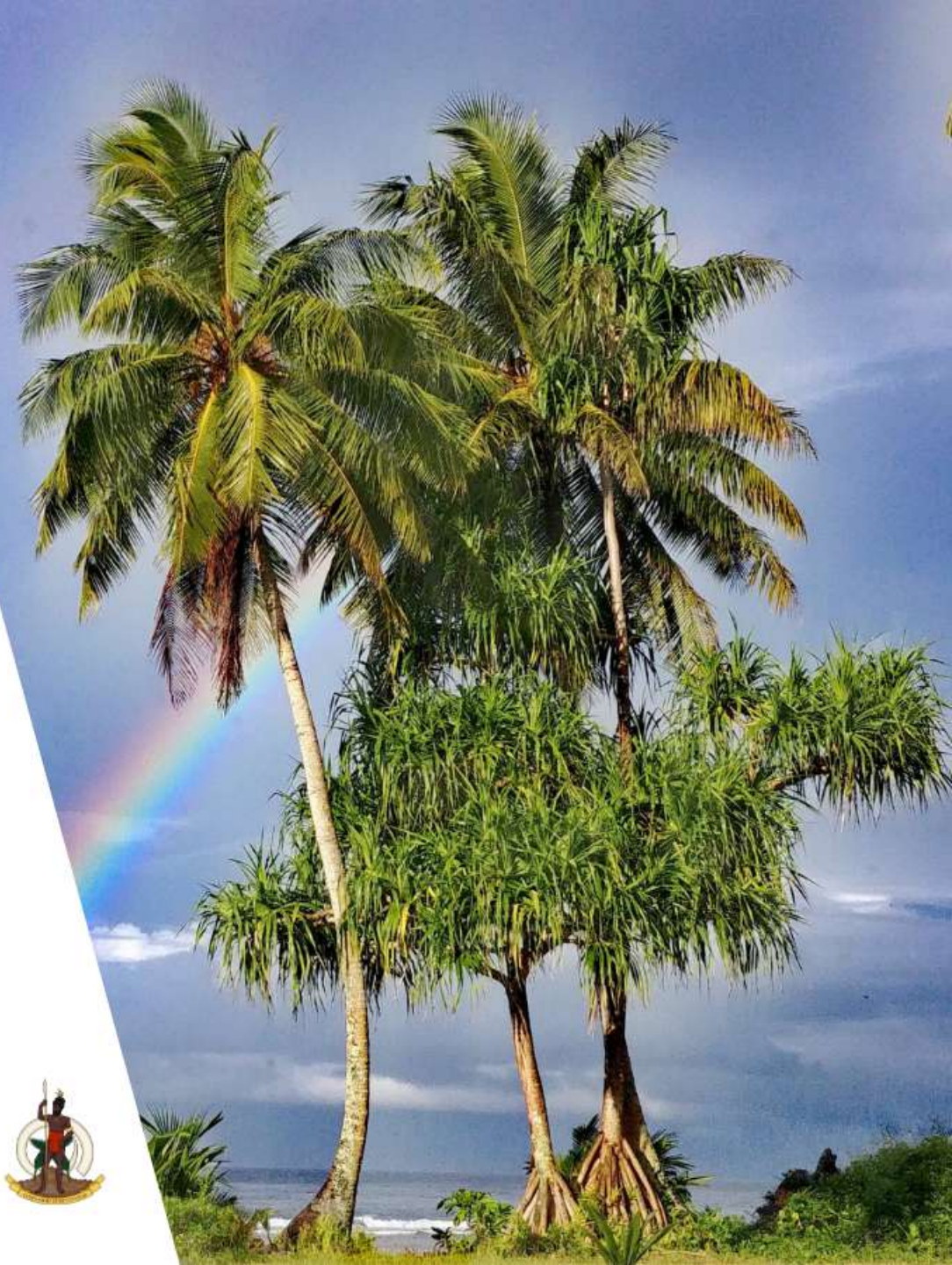


# HRC48 Side Event

Addressing the adverse impact  
of **Climate Change** on the full and  
effective enjoyment of **human rights**

15 SEPTEMBER 2021 | 13.30-15.00 CEST

**>>> <http://tiny.cc/HRC48Climate>**







# HRC48 SIDE EVENT

**ADDRESSING THE ADVERSE IMPACT OF  
CLIMATE CHANGE ON THE FULL AND EFFECTIVE  
ENJOYMENT OF HUMAN RIGHTS**

**15 SEPTEMBER 2021 | 15.00 CEST**

**CO-SPONSORS**







## HRC48 SIDE EVENT

# ADDRESSING THE ADVERSE IMPACT OF CLIMATE CHANGE ON THE FULL AND EFFECTIVE ENJOYMENT OF HUMAN RIGHTS

15 SEPTEMBER 2021 | 13.30 CEST

## Speakers

*By order of intervention*



**H.E. Mereswalesi FALEMAKA**  
(Moderator)

Ambassador/Permanent Observer,  
Delegation of the Pacific Islands Forum  
to the UN and other IO in Geneva



**H.E. Mohamed NASHEED**  
CVF Ambassador for Ambition



**Greg FLATO**  
WGI Vice-Chair, IPCC



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EU Special Representative for Human  
Rights



**Benjamin SCHACHTER**

Environment and Climate Coordinator,  
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**Melissa GROENINK**

Programme Manager, Natural Justice







# H.E. Mereswalesi FALEMAKA

**Ambassador/Permanent Observer,  
Permanent Delegation of the Pacific Islands  
Forum to the UN and other IO in Geneva**







**Dr. Greg FLATO**

**WGI Vice-Chair, IPCC**



# SIXTH ASSESSMENT REPORT

Working Group I – The Physical Science Basis

15 Sept 2021

# IPCC Key Findings

**Gregory M. Flato**

*Vice Chair, IPCC Working Group I*

*and*

*Research Scientist, Environment and Climate Change Canada*

#ClimateReport #IPCC





## Physical Science Assessment released August 9, 2021 (WGII and WGIII reports to follow in early 2022)



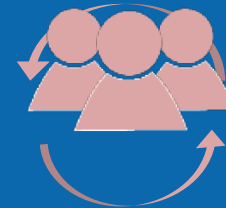
**14,000** scientific publications assessed



**Author Team**

**234** lead authors from **65** countries

Plus hundreds of contributing authors



**Review Process**

**78,000+** review comments

**46** countries commented



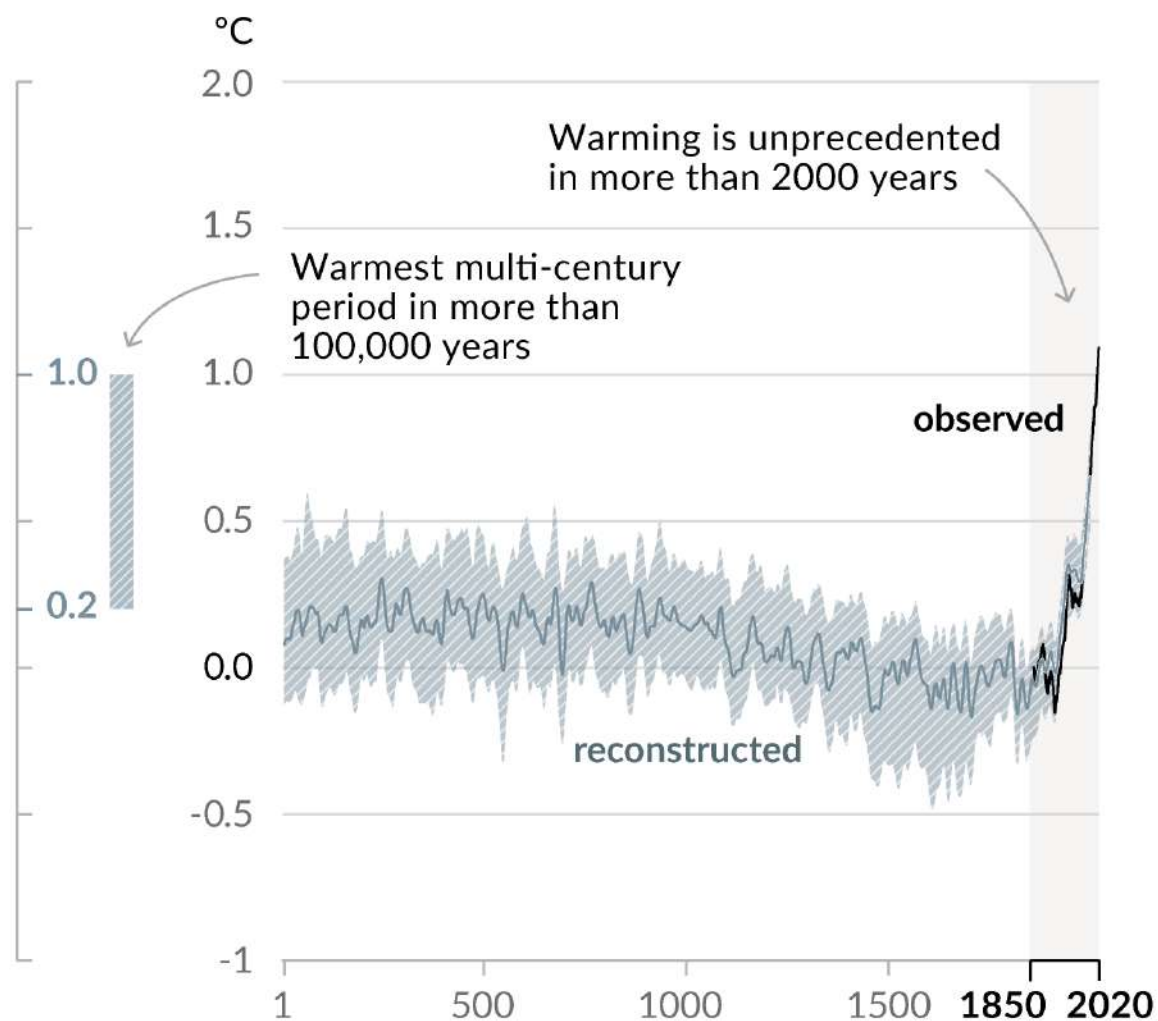
[Credit: NASA]

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



a) Change in global surface temperature (decadal average)  
as **reconstructed** (1-2000) and **observed** (1850-2020)

*Figure SPM.1*







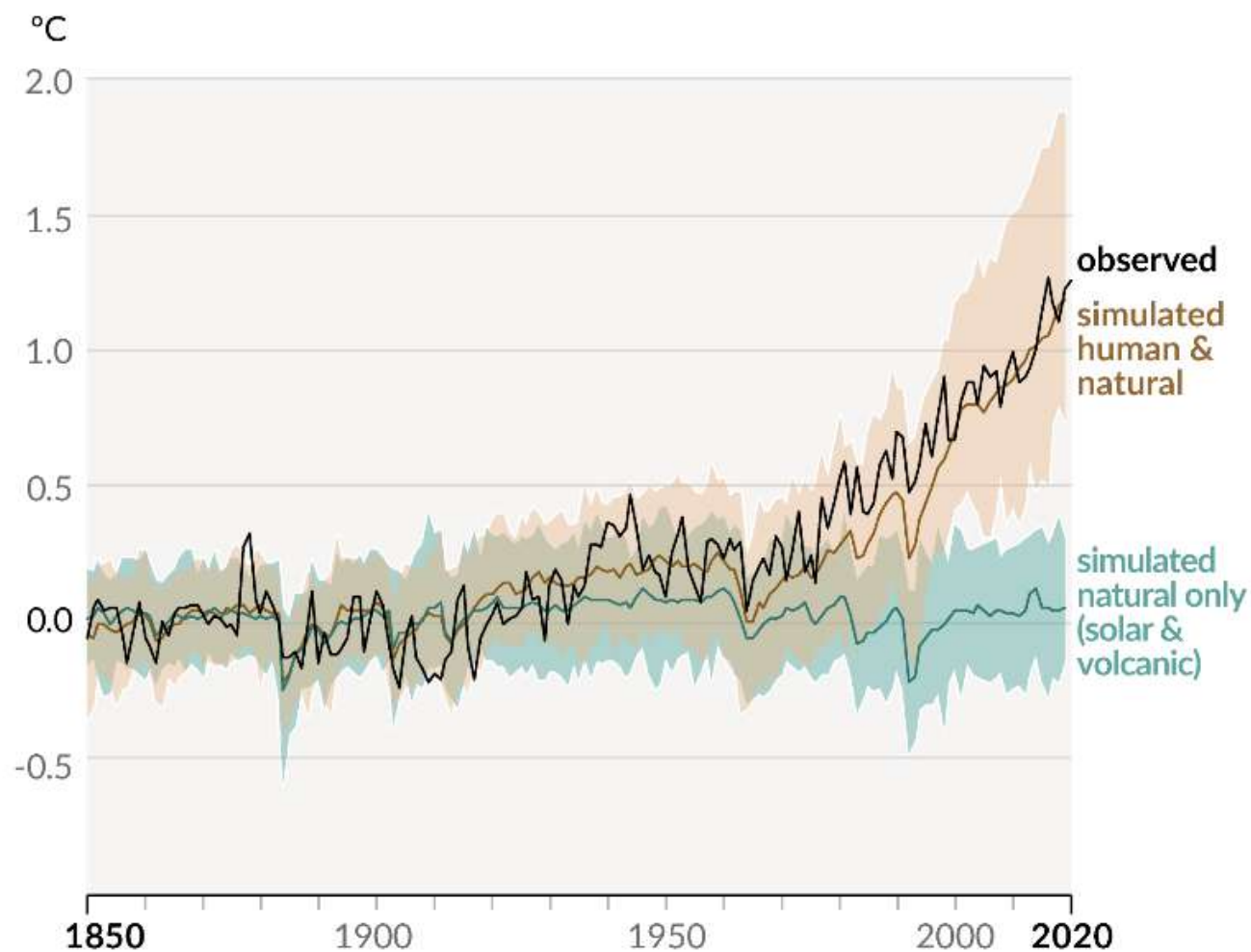
[Credit: Yoda Adaman | Unsplash]

“It is indisputable that human activities are causing climate change, making extreme climate events, including heat waves, heavy rainfall, and droughts, more frequent and severe.



*Figure SPM.1*

b) Change in global surface temperature (annual average) as **observed** and simulated using **human & natural** and **only natural** factors (both 1850-2020)







[Credit: Hong Nguyen | Unsplash]

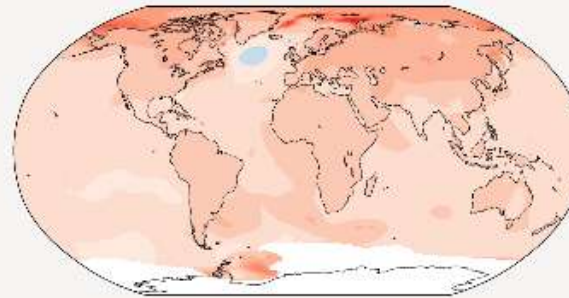
“Climate change is already affecting every region on Earth, in multiple ways.

The changes we experience will increase with further warming.

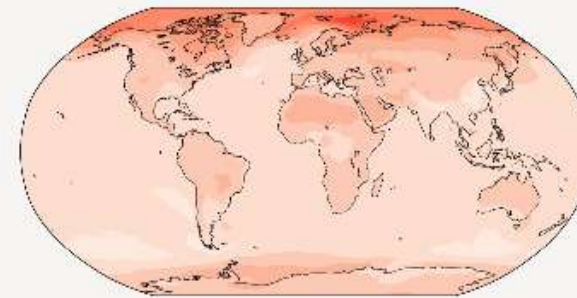
## a) Annual mean temperature change (°C) at 1 °C global warming

Warming at 1 °C affects all continents and is generally larger over land than over the oceans in both observations and models. Across most regions, observed and simulated patterns are consistent.

Observed change per 1 °C global warming



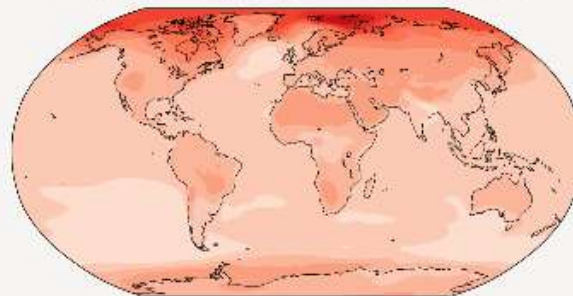
Simulated change at 1 °C global warming



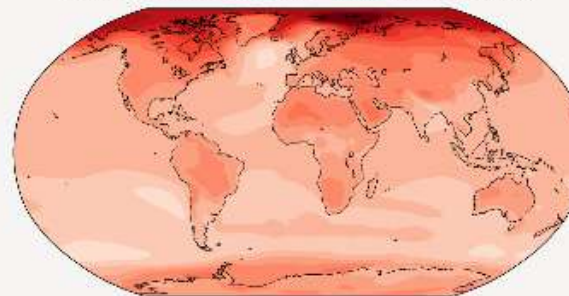
## b) Annual mean temperature change (°C) relative to 1850-1900

Across warming levels, land areas warm more than oceans, and the Arctic and Antarctica warm more than the tropics.

Simulated change at 1.5 °C global warming



Simulated change at 2 °C global warming



Simulated change at 4 °C global warming

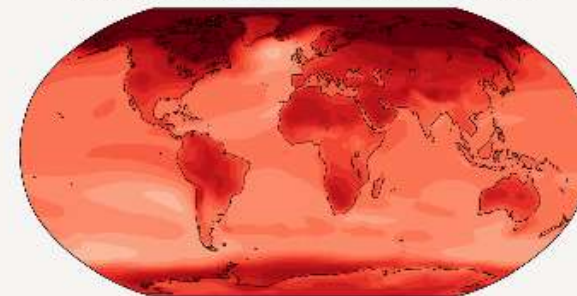


Figure SPM.5

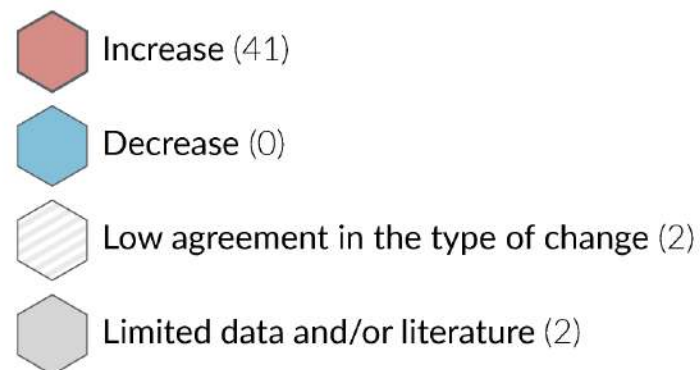


## Climate change is already affecting every inhabited region

Figure SPM.3

a) Synthesis of assessment of observed change in **hot extremes** and confidence in human contribution to the observed changes in the world's regions

Type of observed change  
in hot extremes



Confidence in human contribution  
to the observed change

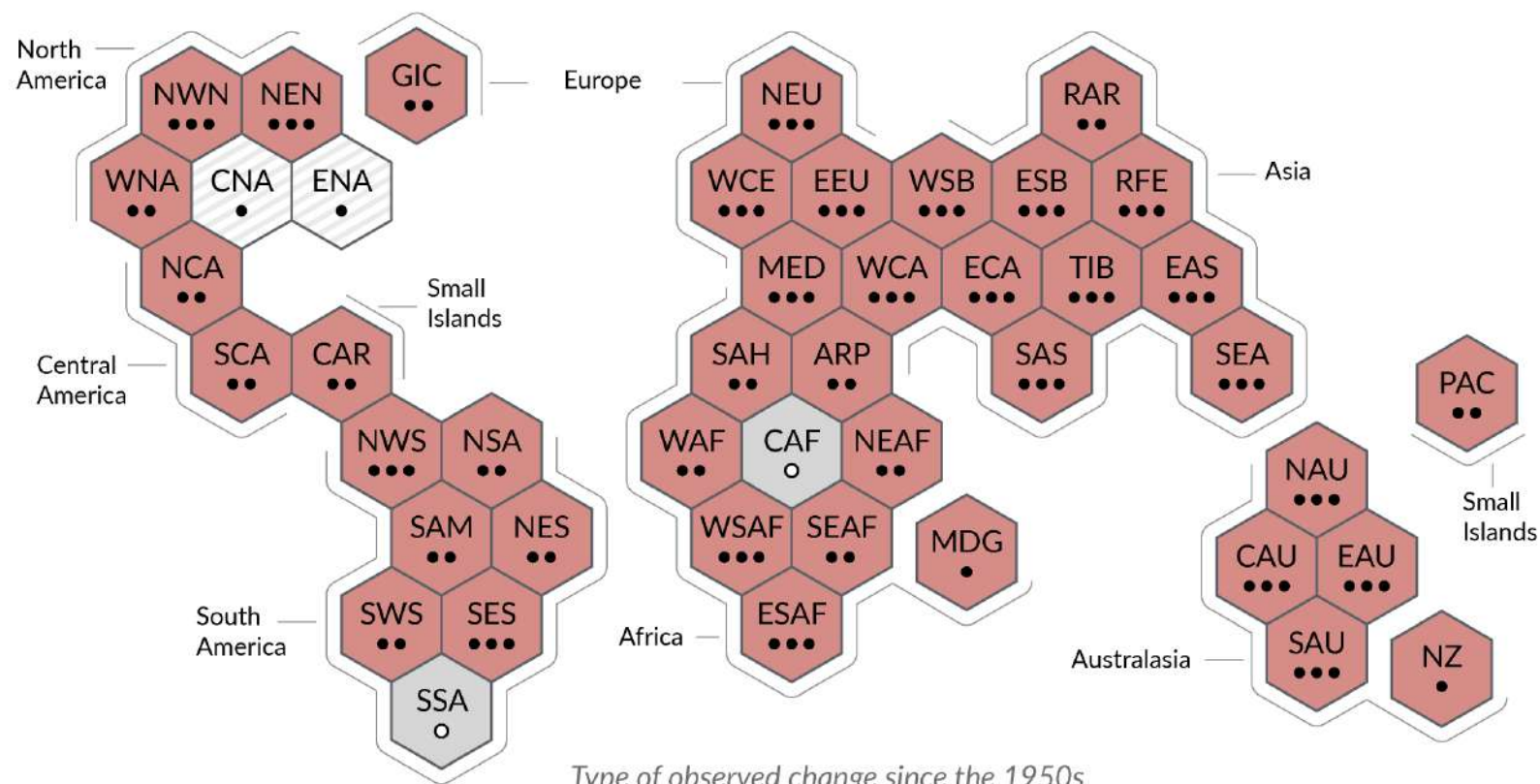
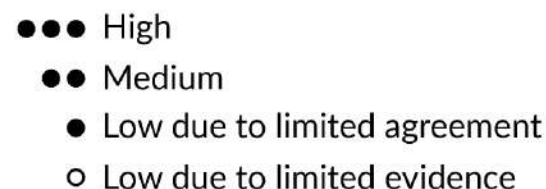
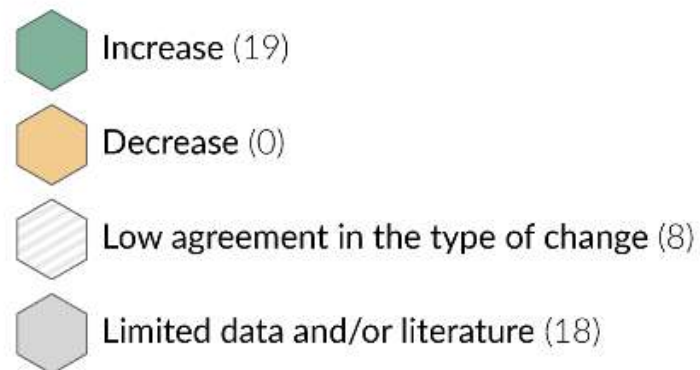


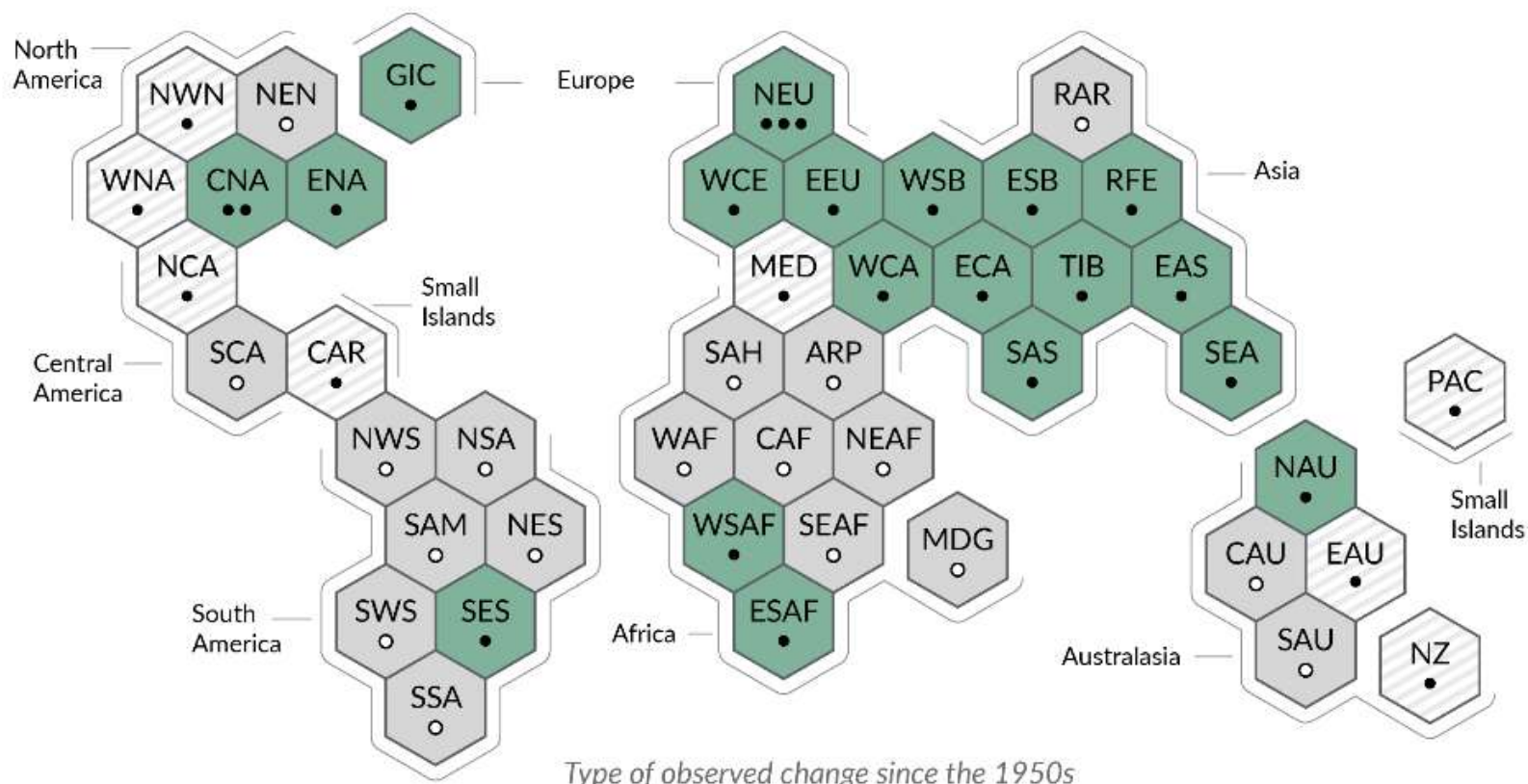
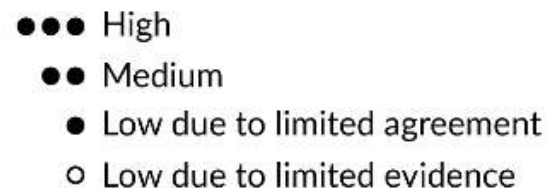
Figure SPM.3

b) Synthesis of assessment of observed change in **heavy precipitation** and confidence in human contribution to the observed changes in the world's regions

Type of observed change  
in heavy precipitation



Confidence in human contribution  
to the observed change





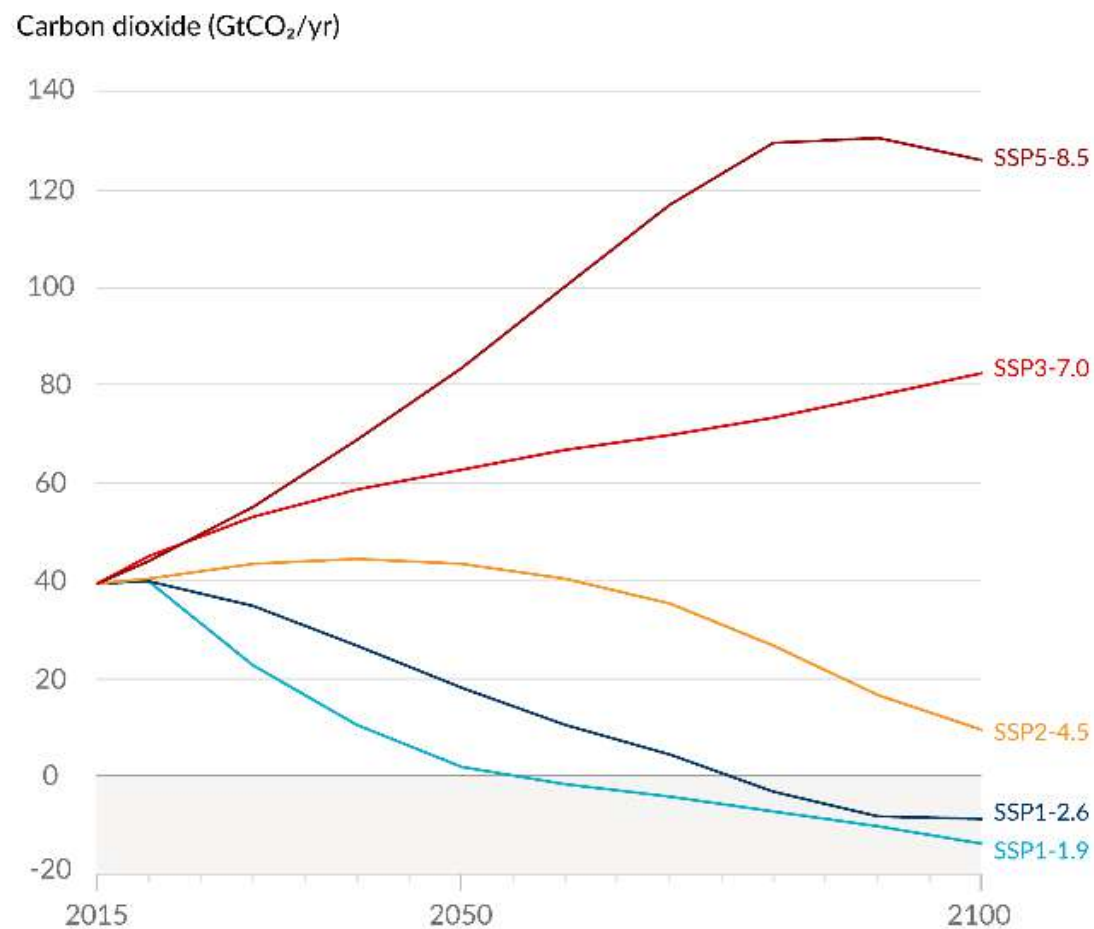


[Credit: Peter John Maridable | Unsplash]

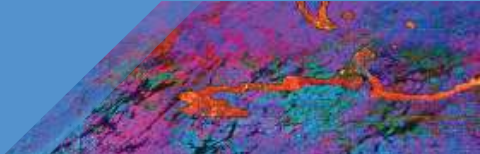
“Unless there are immediate, rapid, and large-scale reductions in greenhouse gas emissions, limiting warming to 1.5°C will be beyond reach.

## Future emissions cause future additional warming, with total warming dominated by past and future CO<sub>2</sub> emissions

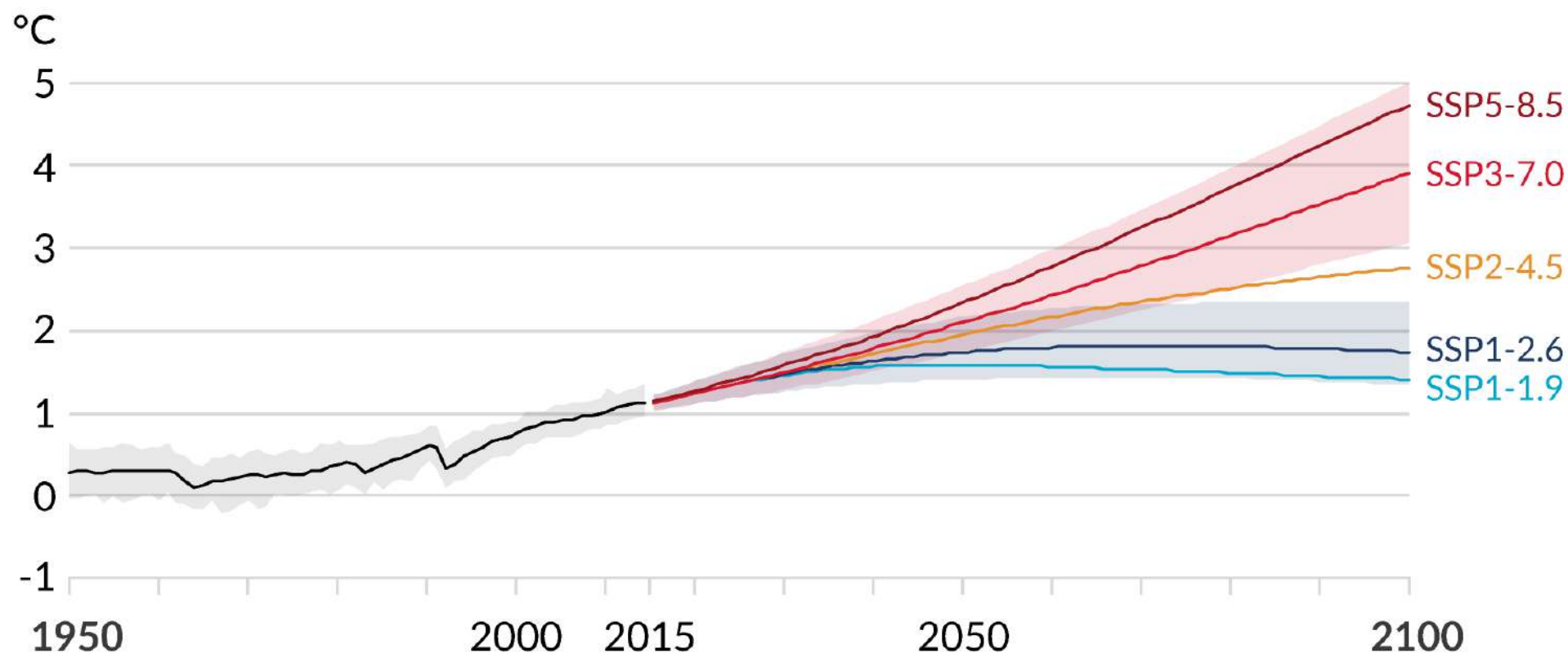
Figure SPM.4





*Figure SPM.8*

### a) Global surface temperature change relative to 1850-1900





[Credit: Jenn Caselle | UCSB]

“There’s no going back from some changes in the climate system...”



Figure SPM.8

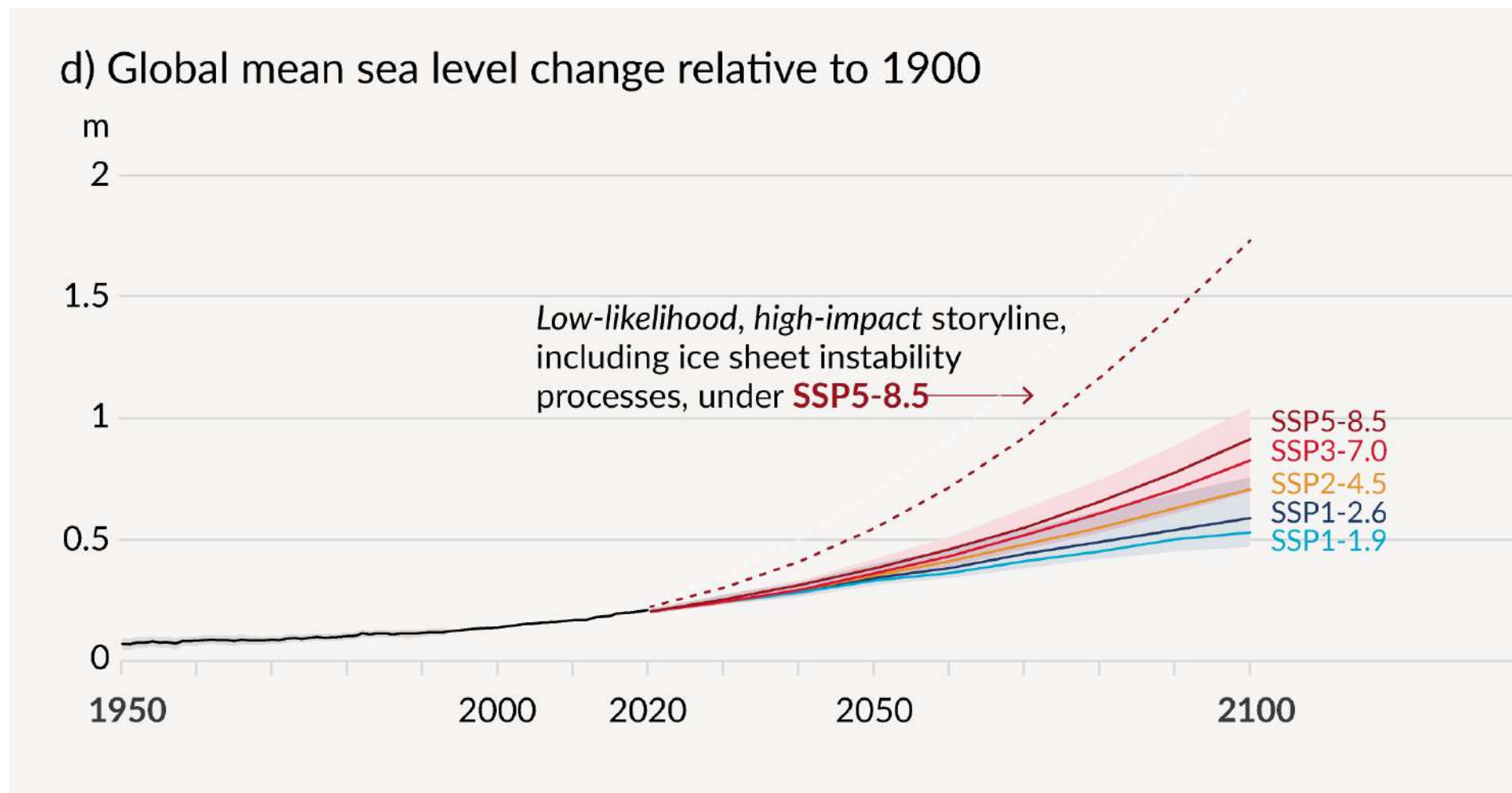
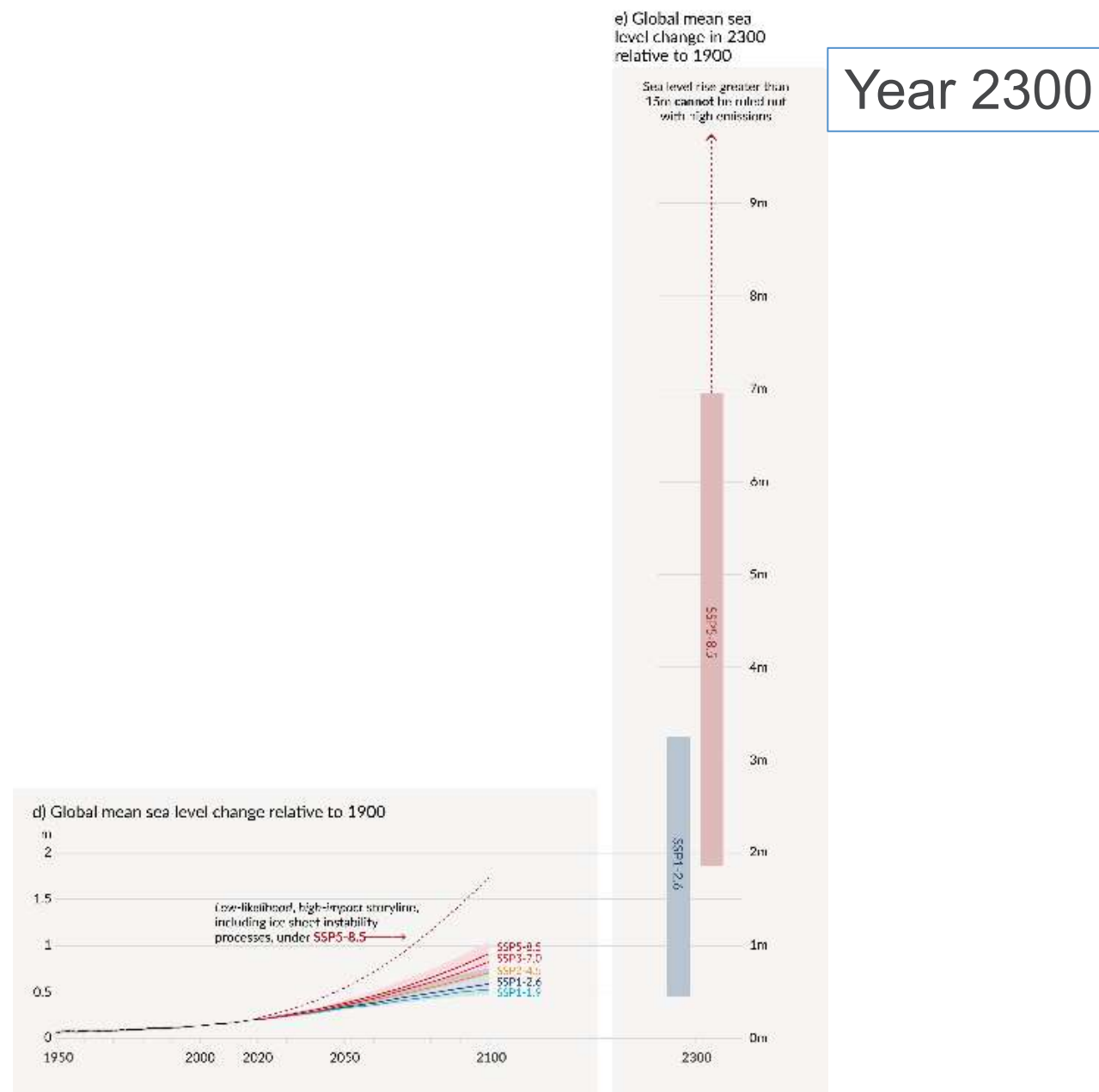


Figure SPM.8







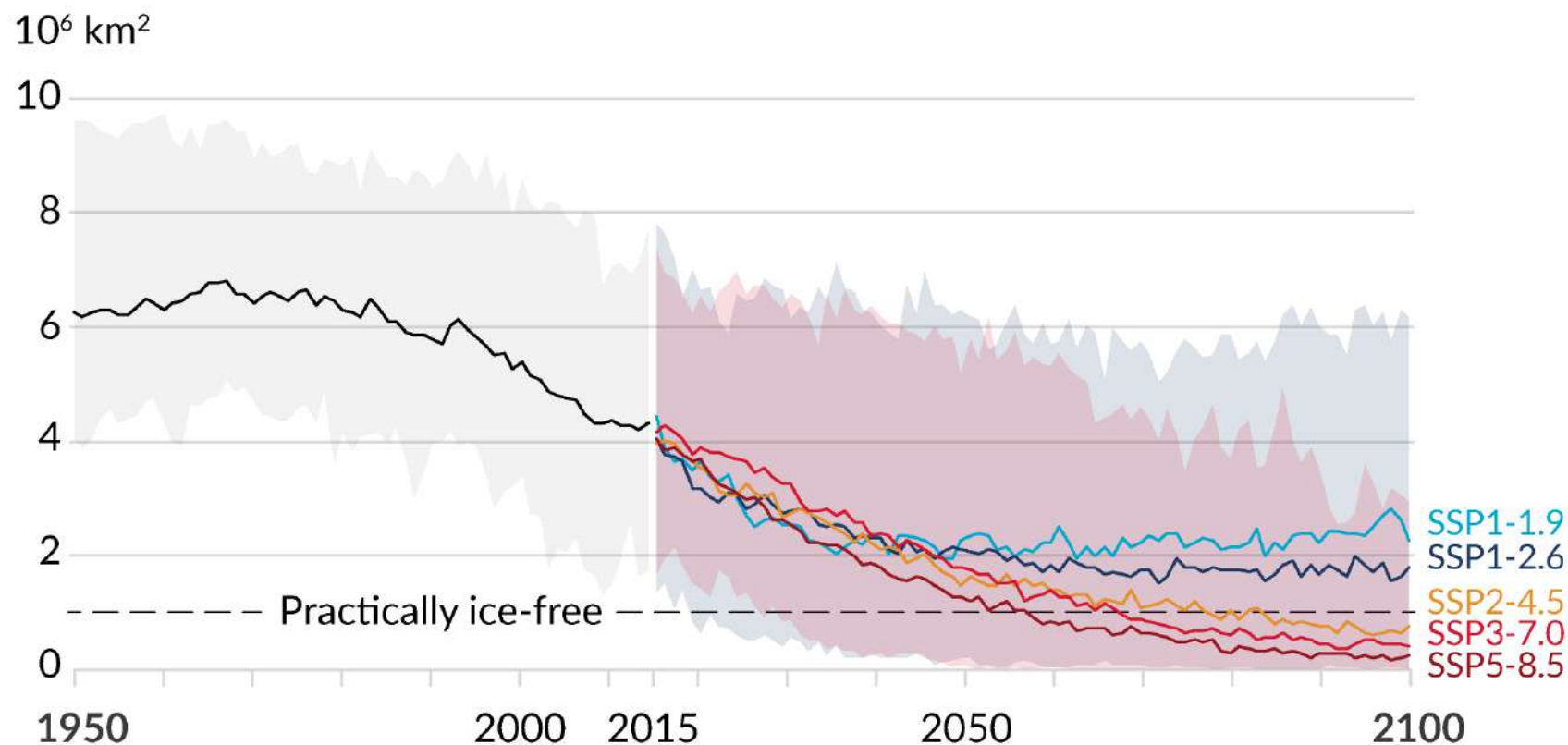
[Credit: Andy Mahoney | NSIDC]

“...However, some changes could be slowed and others could be stopped by limiting warming.

# Human activities affect all the major climate system components, with some responding over decades and others over centuries

Figure SPM.8

## b) September Arctic sea ice area

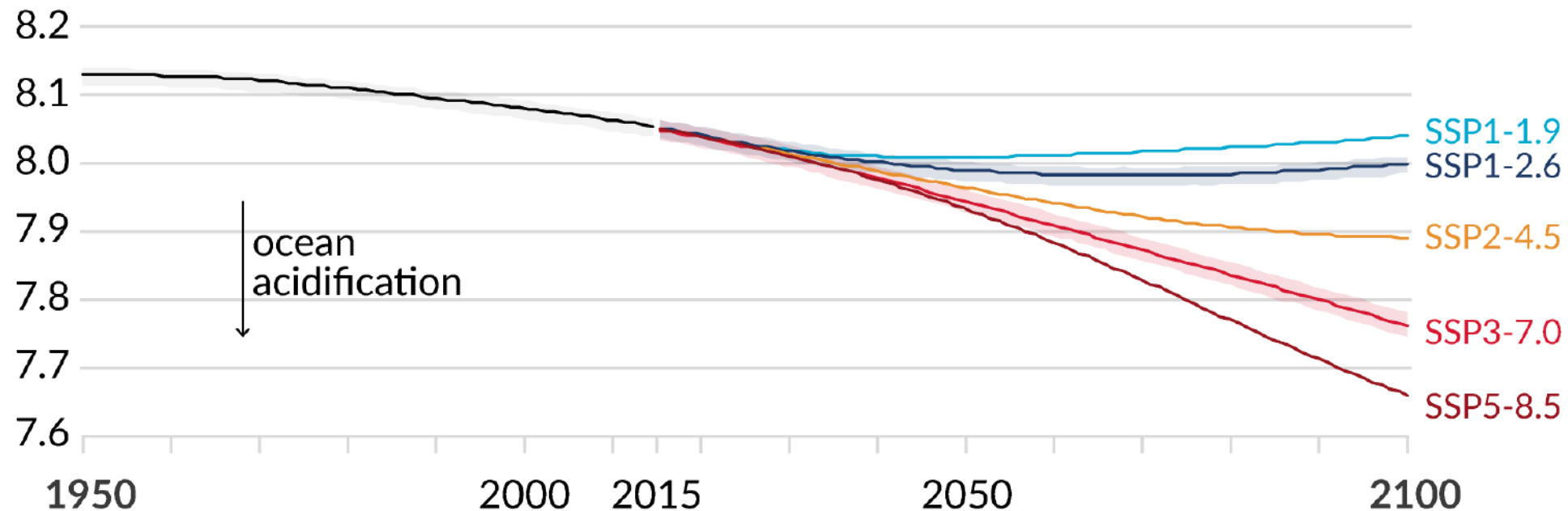




## Human activities affect all the major climate system components, with some responding over decades and others over centuries

*Figure SPM.8*

### c) Global ocean surface pH (a measure of acidity)





[Credit: Evgeny Nelmin | Unsplash]

“

To limit global warming, strong, rapid, and sustained reductions in CO<sub>2</sub>, methane, and other greenhouse gases are necessary.

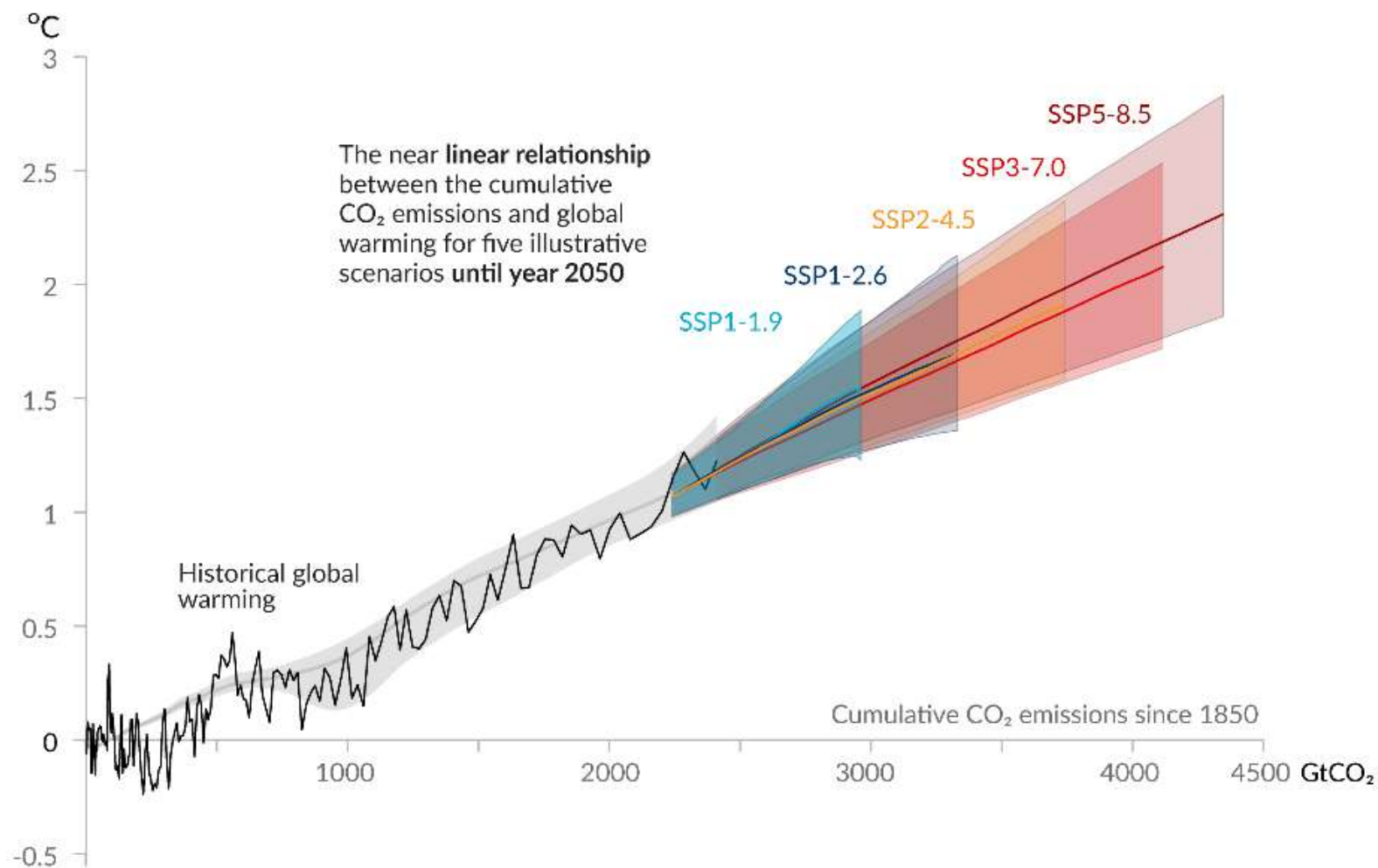
This would not only reduce the consequences of climate change but also improve air quality.



# Every tonne of CO<sub>2</sub> emissions adds to global warming

Figure SPM.10

Global surface temperature increase since 1850-1900 (°C) as a function of cumulative CO<sub>2</sub> emissions (GtCO<sub>2</sub>)



# Thank you.

## More Information:

IPCC: [www.ipcc.ch](http://www.ipcc.ch)

IPCC Secretariat: [ipcc-sec@wmo.int](mailto:ipcc-sec@wmo.int)

IPCC Press Office: [ipcc-media@wmo.int](mailto:ipcc-media@wmo.int)

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# OPEN DISCUSSION







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# WHAT ELSE IS HAPPENING IN GENEVA?



EVENT | VIRTUAL

## HRC48 Side Event | The right to science in the context of toxic substances

22 SEP 2021 13:30 - 15:00

Online | Webex

Human Rights and Environment |  
Chemicals and Pollution

SDG3 | SDG12



EVENT | VIRTUAL

## HRC48 Side Event | Plastics and Human Rights

23 SEP 2021 13:30

Online | Webex

Human Rights and Environment |  
Chemicals and Pollution

SDG3 | SDG12