FLOODING IN NORWAY

AUGUST 2023

LESSONS LEARNT AND REFLECTIONS

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Hans

CLIMATE CHANGE 2023
Synthesis Report

Climate change is already affecting every inhabited region across the globe, with human influence contributing to many observed changes in weather and climate extremes

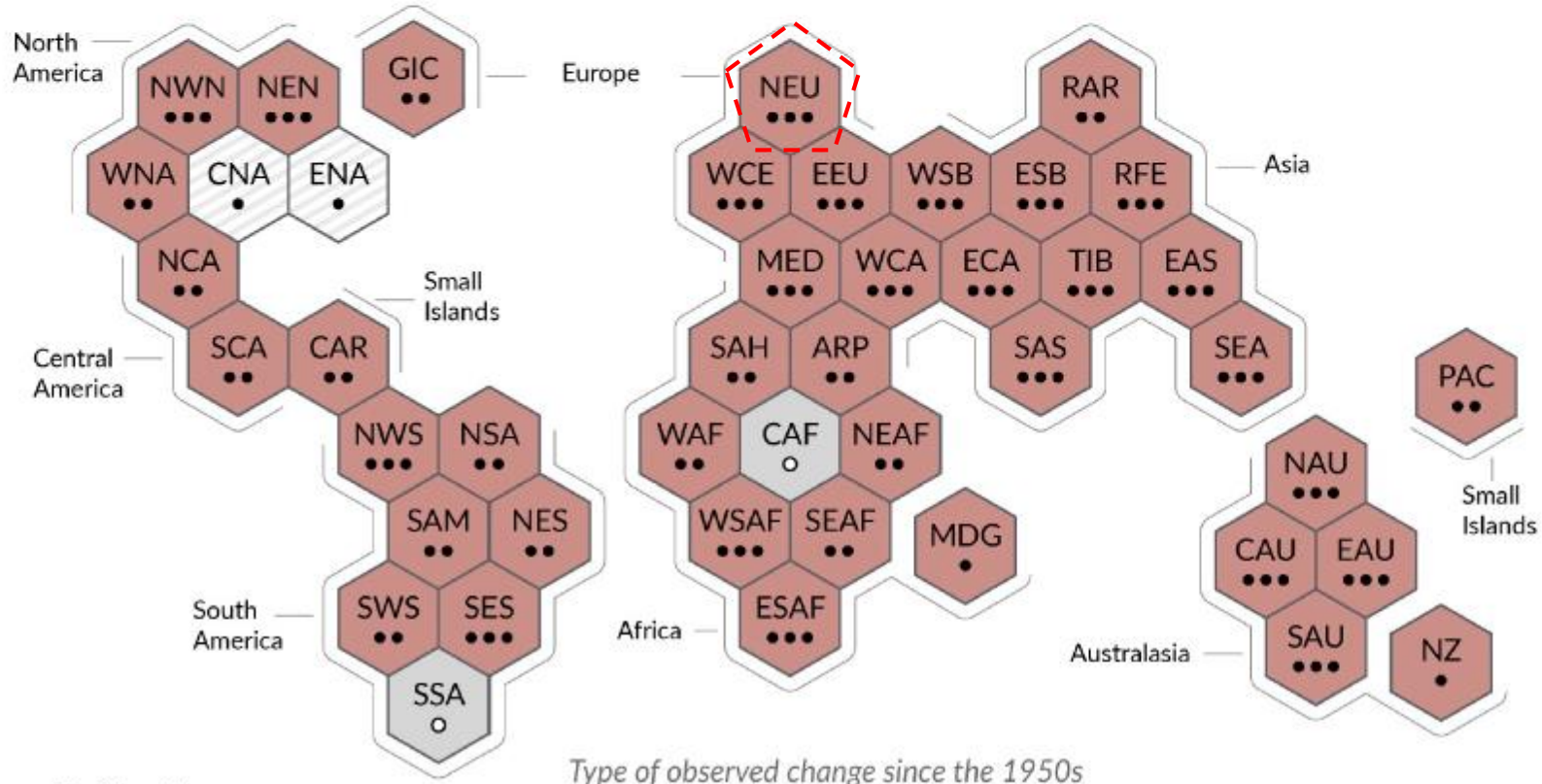
a) Synthesis of assessment of observed change in **hot extremes** and confidence in human contribution to the observed changes in the world's regions

Type of observed change
in hot extremes

- Increase (41)
- Decrease (0)
- Low agreement in the type of change (2)
- Limited data and/or literature (2)

Confidence in human contribution
to the observed change

- ●●● High
- ●● Medium
- ● Low due to limited agreement
- ○ Low due to limited evidence



Type of observed change since the 1950s

SPM: Summary for policymakers, https://www.ipcc.ch/report/ar6/wg1/

Climate change is already affecting every inhabited region across the globe, with human influence contributing to many observed changes in weather and climate extremes

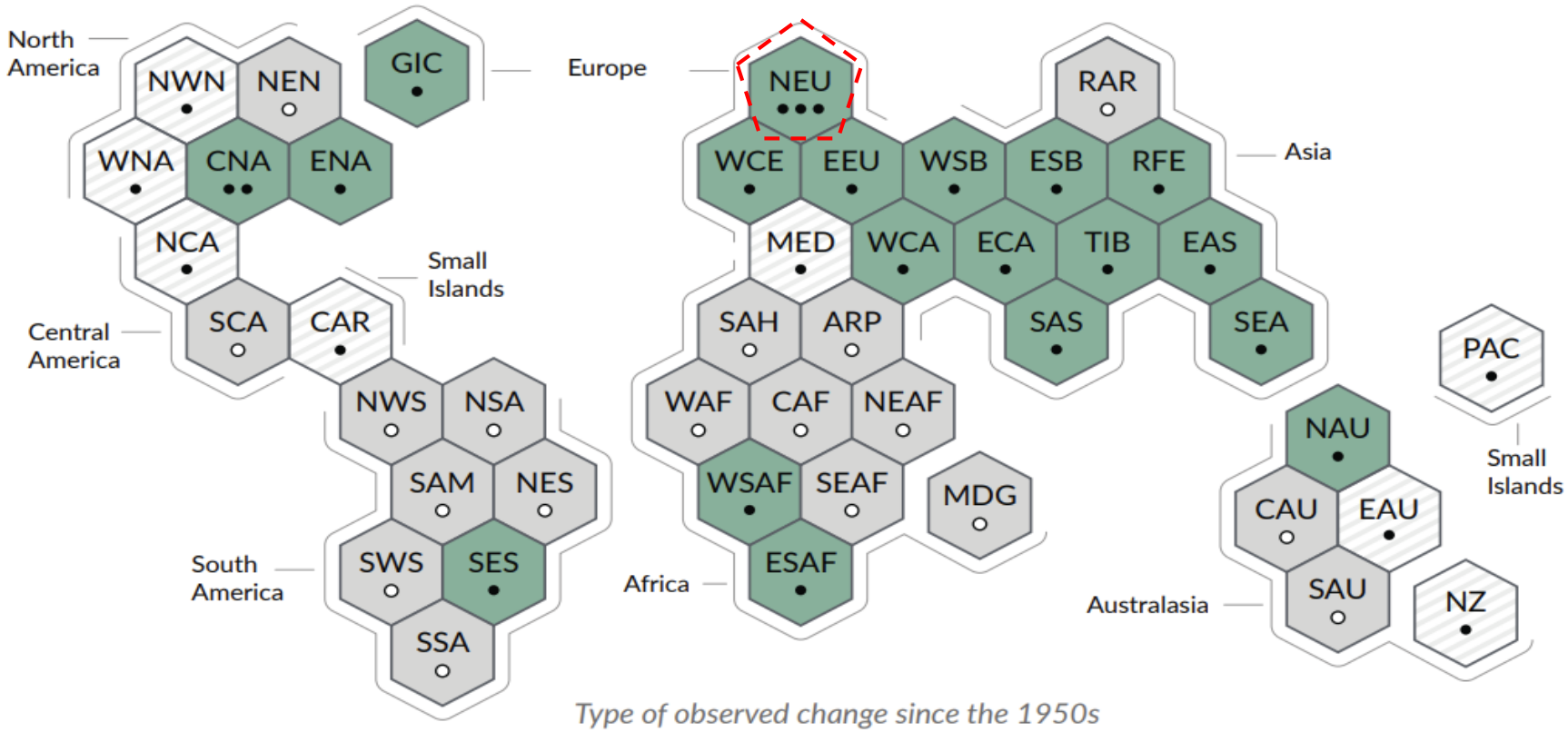
(b) Synthesis of assessment of observed change in **heavy precipitation** and confidence in human contribution to the observed changes in the world's regions

Type of observed change
in heavy precipitation

- Increase (19)
- Decrease (0)
- Low agreement in the type of change (8)
- Limited data and/or literature (18)

Confidence in human contribution
to the observed change

- ●●● High
- ●● Medium
- ● Low due to limited agreement
- ○ Low due to limited evidence



Type of observed change since the 1950s

SPM: Summary for policymakers, https://www.ipcc.ch/report/ar6/wg1/

Climate change is already affecting every inhabited region across the globe, with human influence contributing to many observed changes in weather and climate extremes

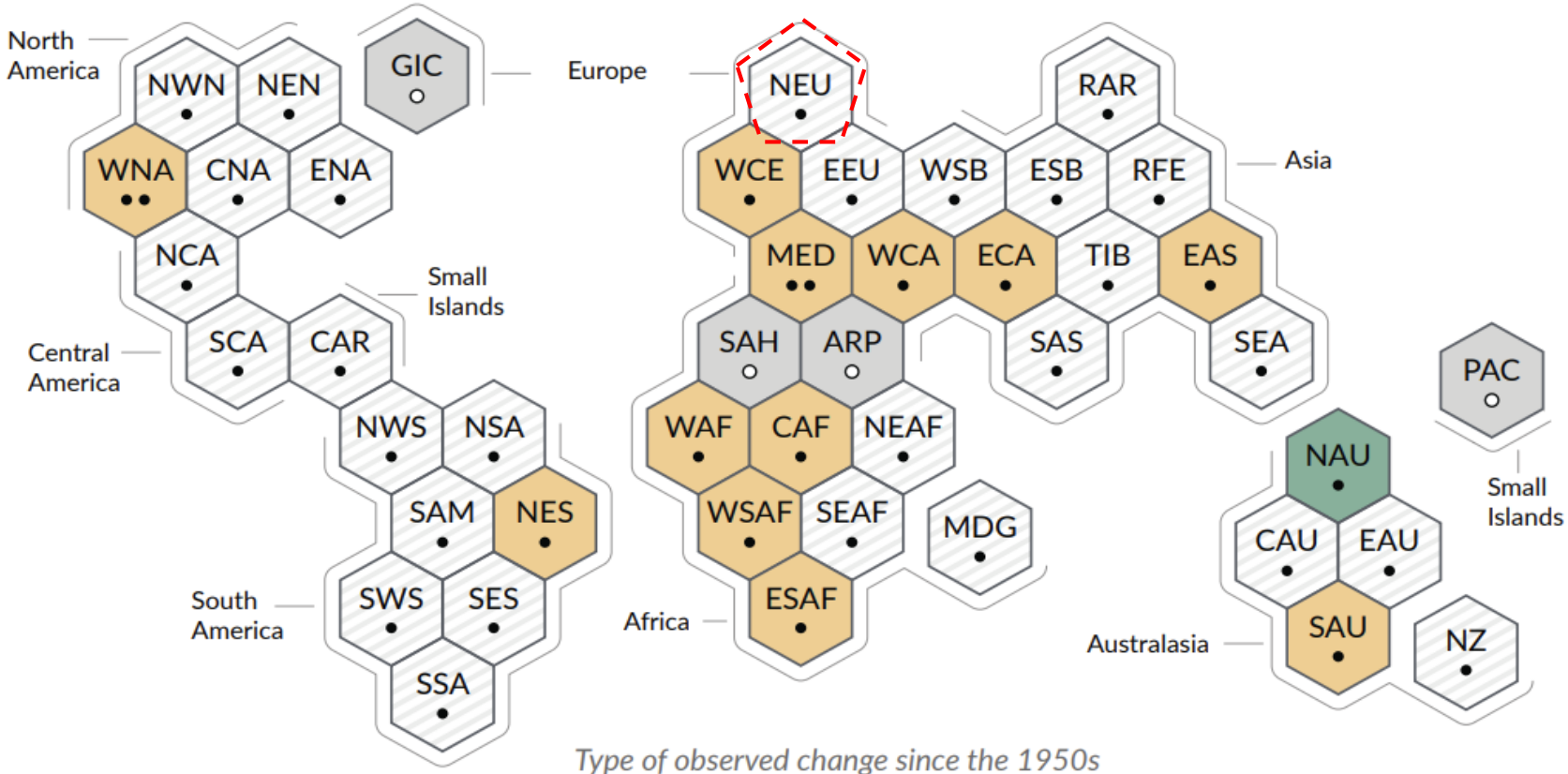
(c) Synthesis of assessment of observed change in **agricultural and ecological drought** and confidence in human contribution to the observed changes in the world's regions

Type of observed change
in agricultural and ecological drought

- Increase (12)
- Decrease (1)
- Low agreement in the type of change (28)
- Limited data and/or literature (4)

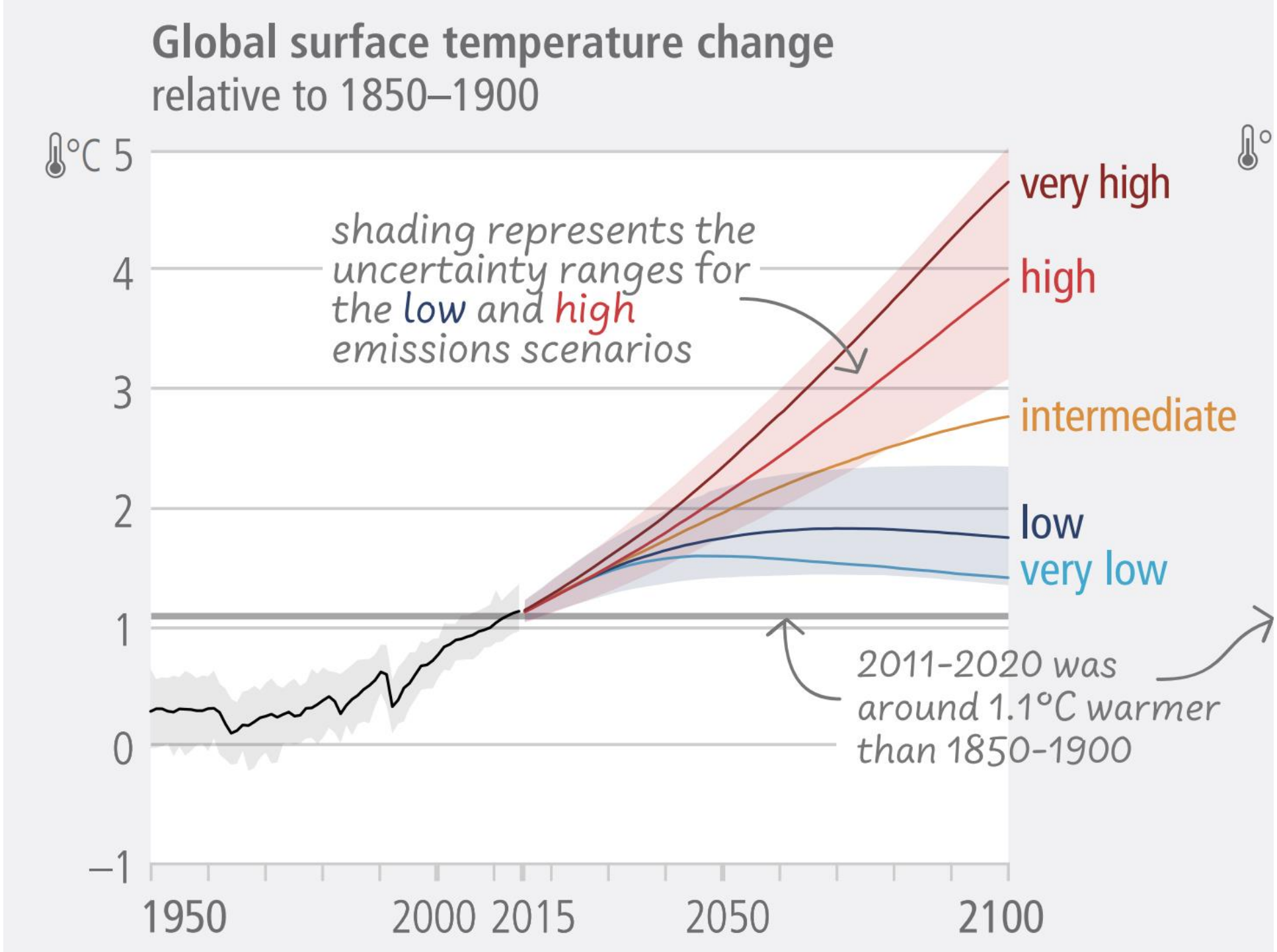
Confidence in human contribution
to the observed change

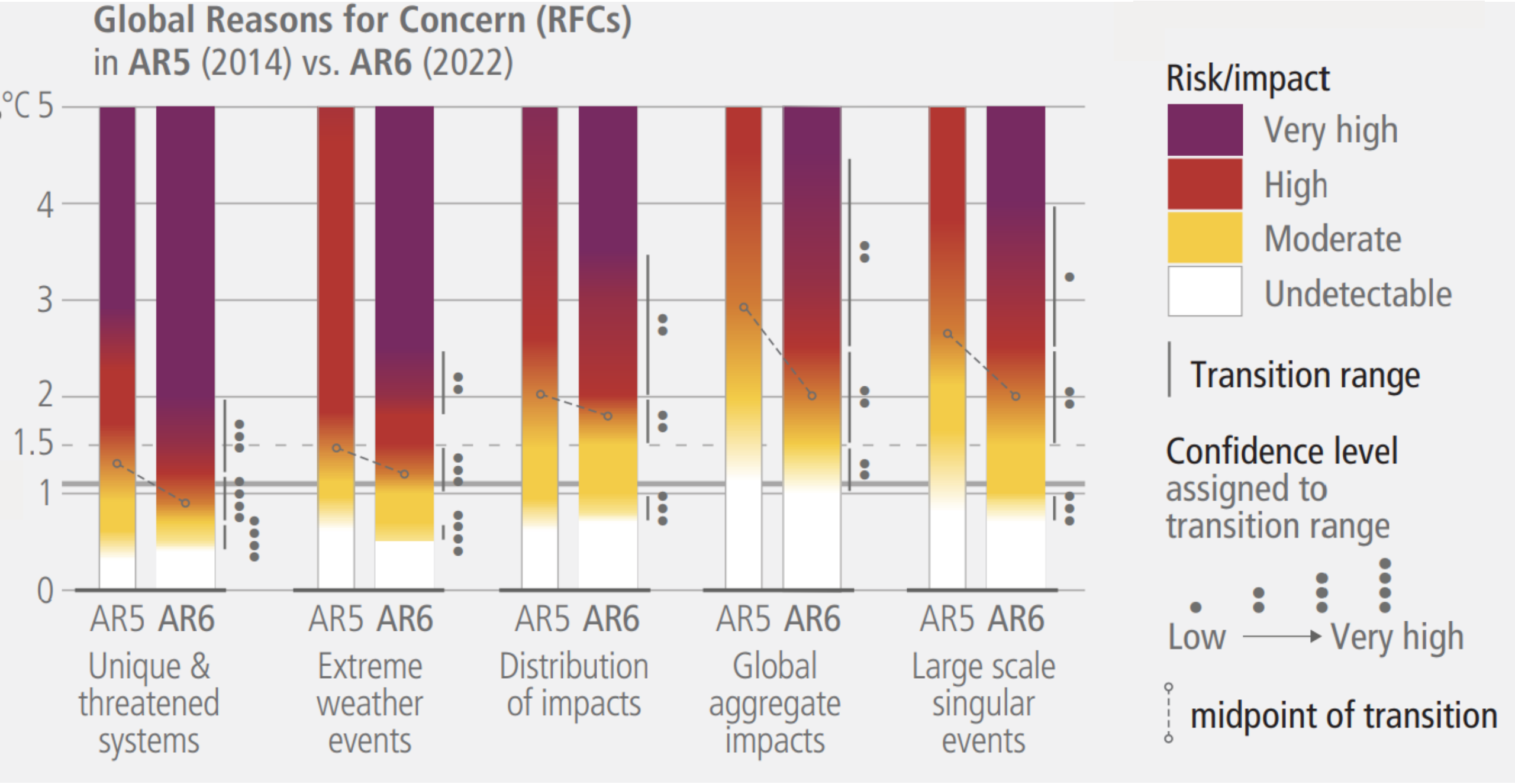
- ●●● High
- ●● Medium
- ● Low due to limited agreement
- ○ Low due to limited evidence



Type of observed change since the 1950s

SPM: Summary for policymakers, https://www.ipcc.ch/report/ar6/wg1/


Global surface temperature change
relative to 1850–1900
°C
5
4
3
2
1
0
–1
1950
2000
2015
2050
2100
shading represents the uncertainty ranges for the low and high emissions scenarios
very high
high
intermediate
low
very low
2011-2020 was around 1.1°C warmer than 1850-1900


Global Reasons for Concern (RFCs)
in AR5 (2014) vs. AR6 (2022)
°C
5
4
3
2
1.5
1
0
AR5 AR6
Unique & threatened systems
AR5 AR6
Extreme weather events
AR5 AR6
Distribution of impacts
AR5 AR6
Global aggregate impacts
AR5 AR6
Large scale singular events
Risk/impact
Very high
High
Moderate
Undetectable
Transition range
Confidence level
assigned to transition range
Low
Very high
midpoint of transition

How do we ensure that weather and climate information is adequately considered in decision-making?!

Decision makers ask

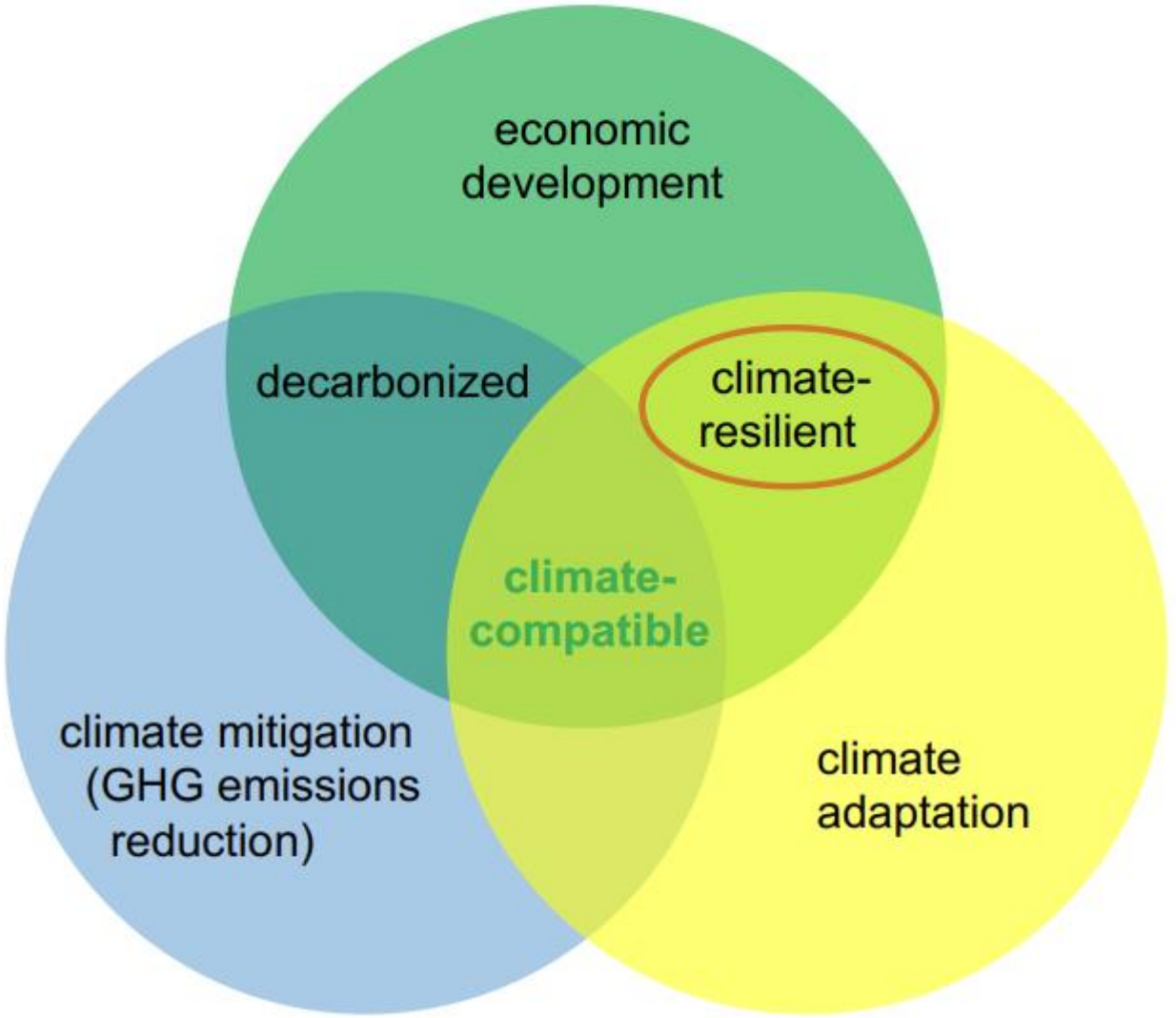
What is the potential climate-related impact on our economies and societies today and over the coming decades?

How can we best manage, what options do we have?

What investment will be required to fund these measures - and will the benefits of these investment outweigh the costs?

What is a climate resilient economy?

The capacity to survive, successfully adapt and prosper in the face of change and uncertainty related to disturbances, whether they be caused by resource stresses, societal stresses and/or acute [weather and climate-related] events



Bresch et al., 2014, Turbulence, Amsterdam University Press

https://oapen.org/download?type=document&docid=477310

Enabling climate-resilient development
Economics of Climate Adaptation

Provide decision makers on local to national scales with the facts and methods necessary to design and execute an adaptation strategy to natural hazards in a changing climate, in a robust and replicable way

Rigorous risk management approach to assess (quantify) risk today, additional risk due to socio-economic development and climate change

Rigorous risk management approach to propose, appraise and prioritize a basket of adaptation measures to address weather and climate risk on an economic basis

What are the impacts of delayed mitigation and adaptation action?

Increase global warming and losses and damages will rise and additional human and natural systems will reach adaptation limits.

Risk of cost escalation, lock-in of infrastructure, stranded assets, and reduced feasibility and effectiveness of adaptation and mitigation options.

Increase in projected adverse impacts in Africa, Central and South America, Asia and the Arctic, and will disproportionately affect the most vulnerable populations.

Thank you