IPCC Fifth Assessment Report, 2014

Chris Field & Katharine Mach
IPCC Working Group II

CLIMATE CHANGE

UNDERSTANDING, MANAGING, & REDUCING RISKS

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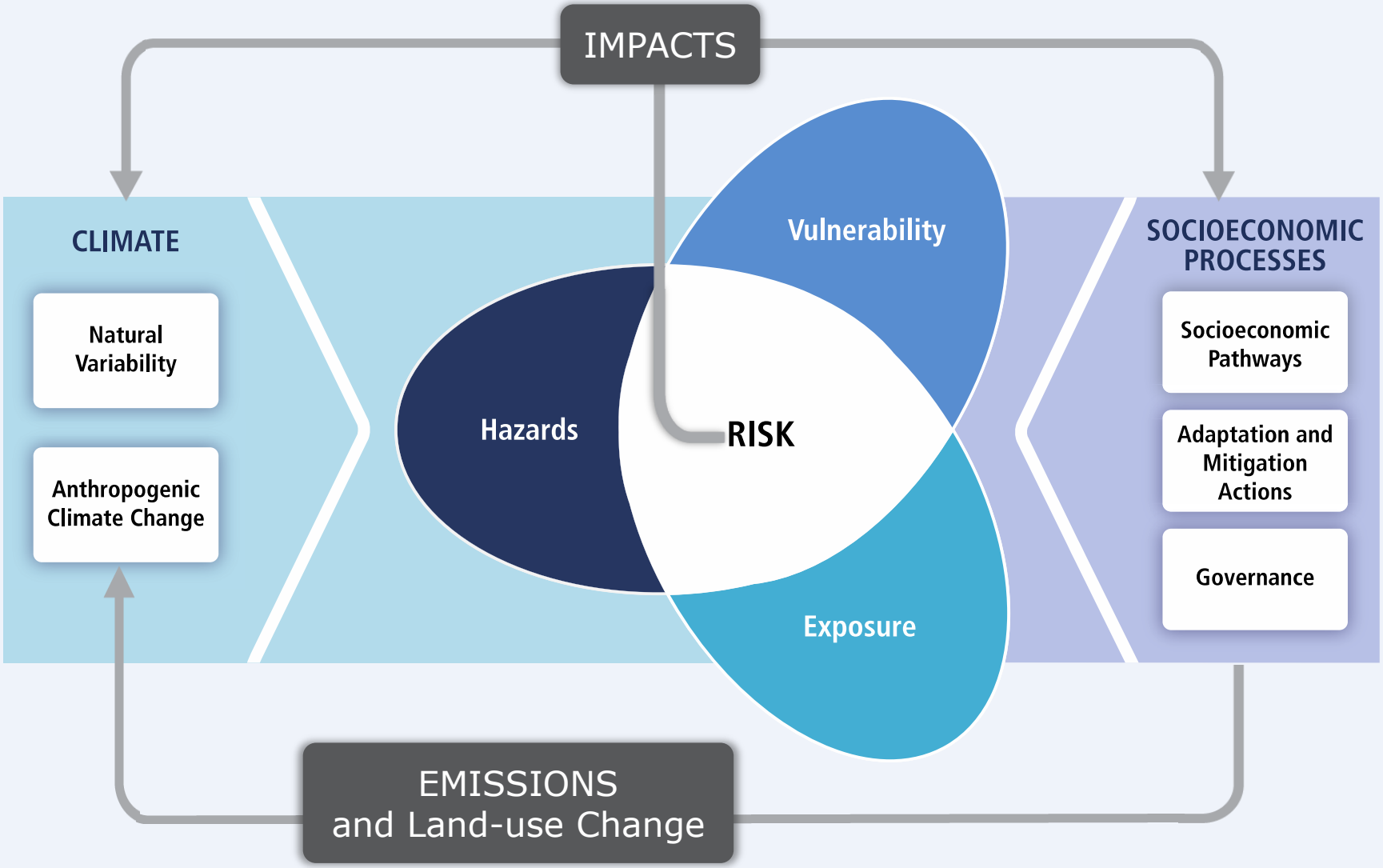
INTERGOVERNMENTAL PANEL ON Climate change



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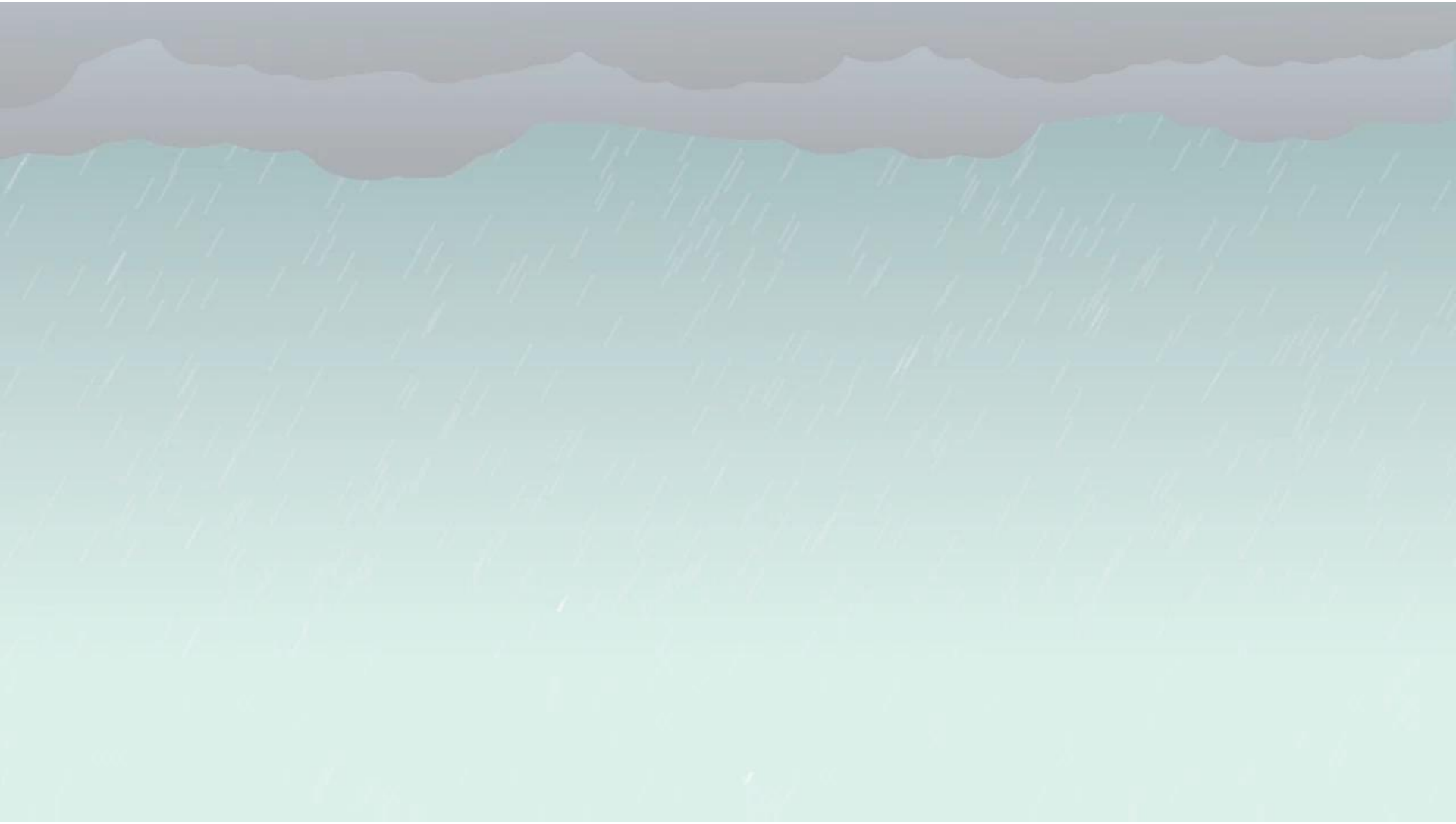

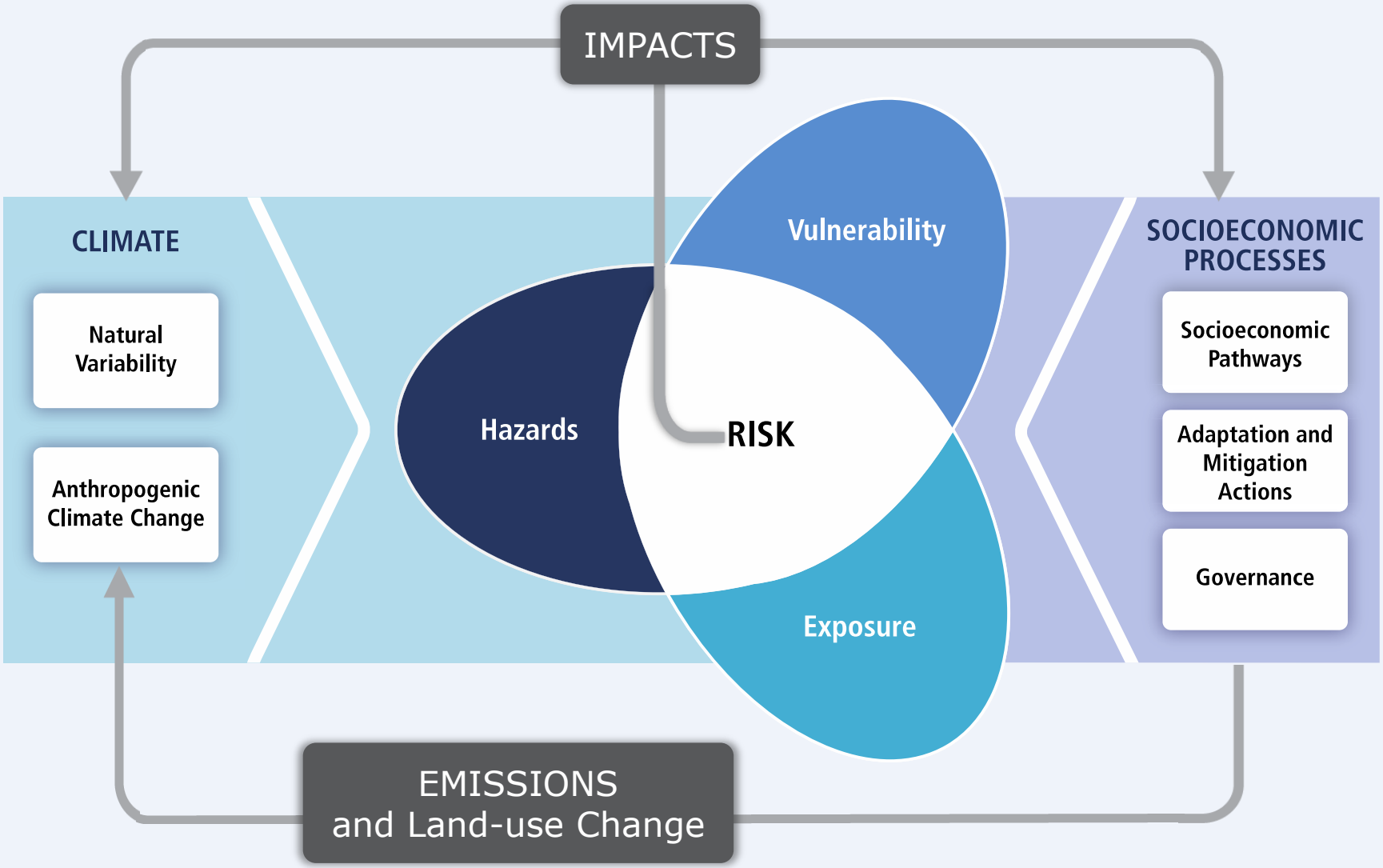

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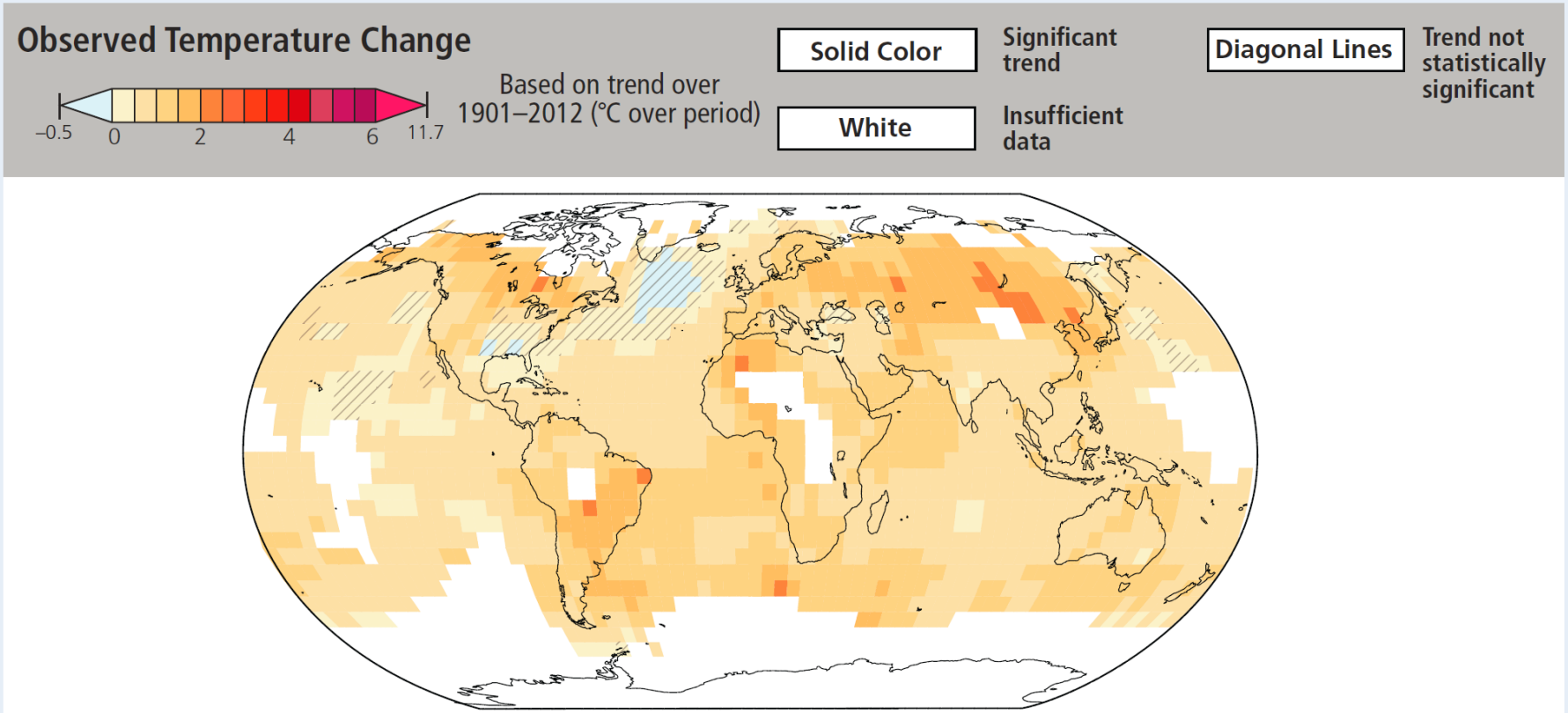
Warming over the past century



Based on WGII Figure SPM 4

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Worldwide Effects

- atmosphere, land, ocean
- extreme events
- water cycle
- sea ice, glaciers, ice sheets
- global mean sea level

Human influence on the climate system is clear


GHG EMISSIONS GROWTH
HAS ACCELERATED
DESPITE REDUCTION EFFORTS
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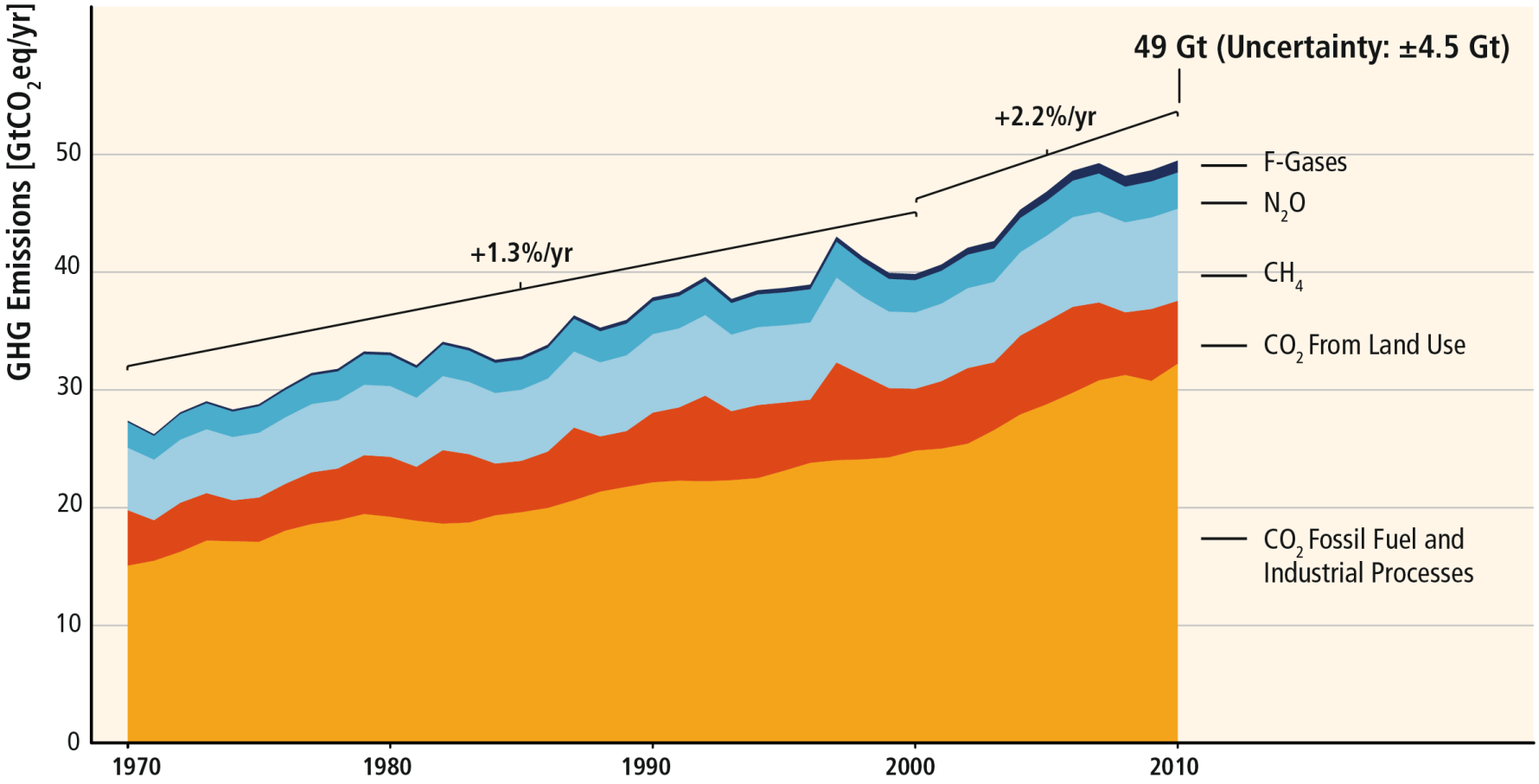
GHG emissions growth between 2000 and 2010 has been larger than in the previous three decades.



Based on WGIII Figure SPM 1

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OBSERVED IMPACTS
OF CLIMATE CHANGE
ARE WIDESPREAD
AND CONSEQUENTIAL
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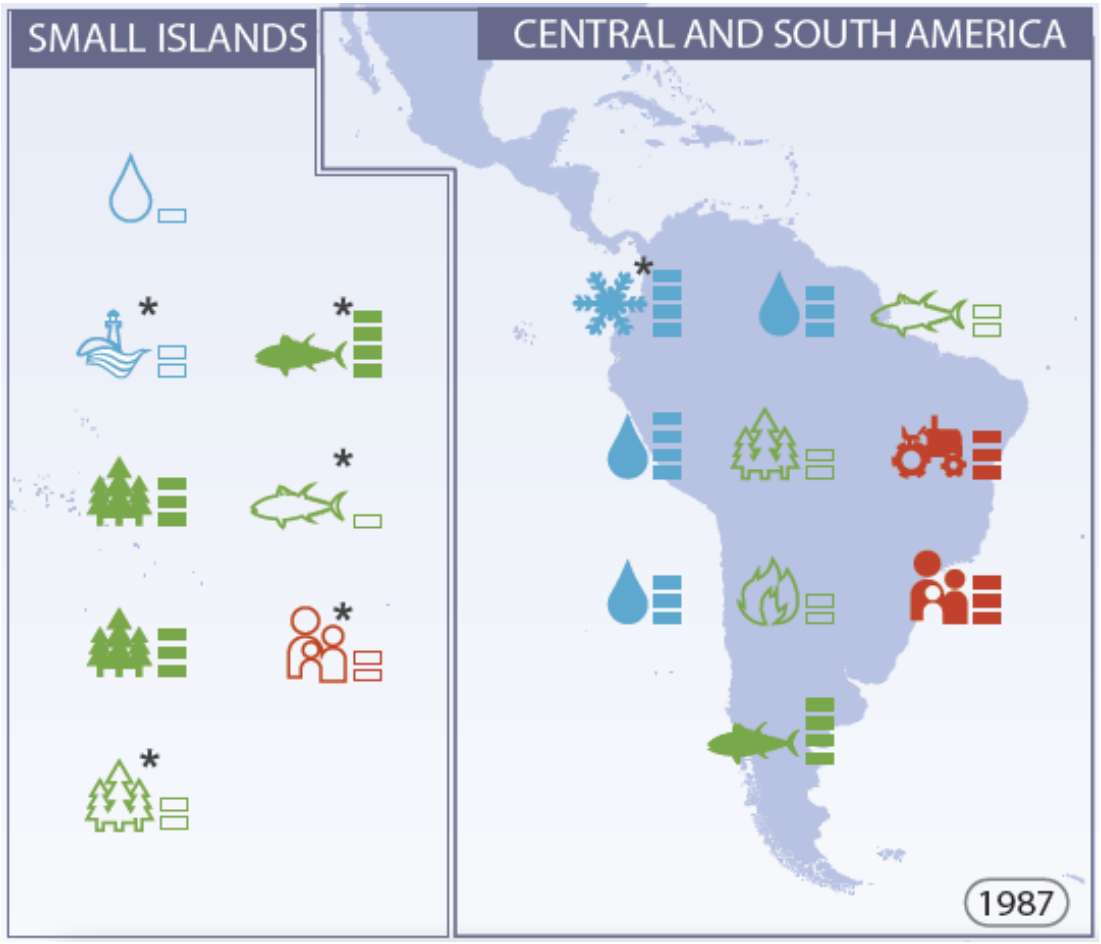


Confidence in attribution to climate change

very low *low* *med* *high* *very high*

] indicates confidence range

Observed impacts attributed to climate change for

Physical systems

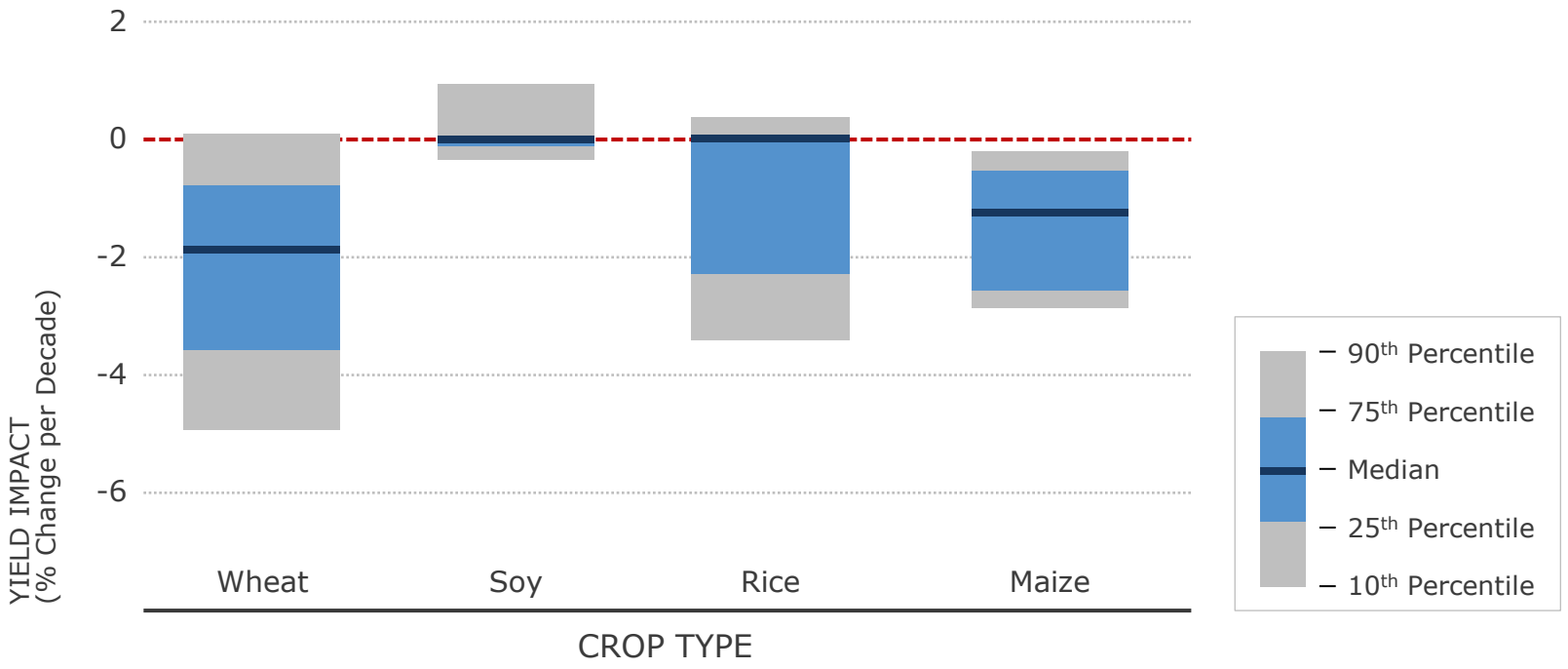
- Glaciers, snow, ice and/or permafrost
- Rivers, lakes, floods and/or drought
- Coastal erosion and/or sea level effects

Biological systems

- Terrestrial ecosystems
- Wildfire
- Marine ecosystems

Human and managed systems

- Food production
- Livelihoods, health and/or economics



WGII Figure SPM 2

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VULNERABILITY AND EXPOSURE

AROUND THE WORLD

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PEOPLE, SOCIETIES,
AND ECOSYSTEMS
AROUND THE WORLD
VULNERABLE
AND EXPOSED
IN DIFFERENT WAYS
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ADAPTATION IS
ALREADY OCCURRING
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INCREASING MAGNITUDES OF WARMING INCREASE THE LIKELIHOOD OF

SEVERE AND PERVASIVE IMPACTS

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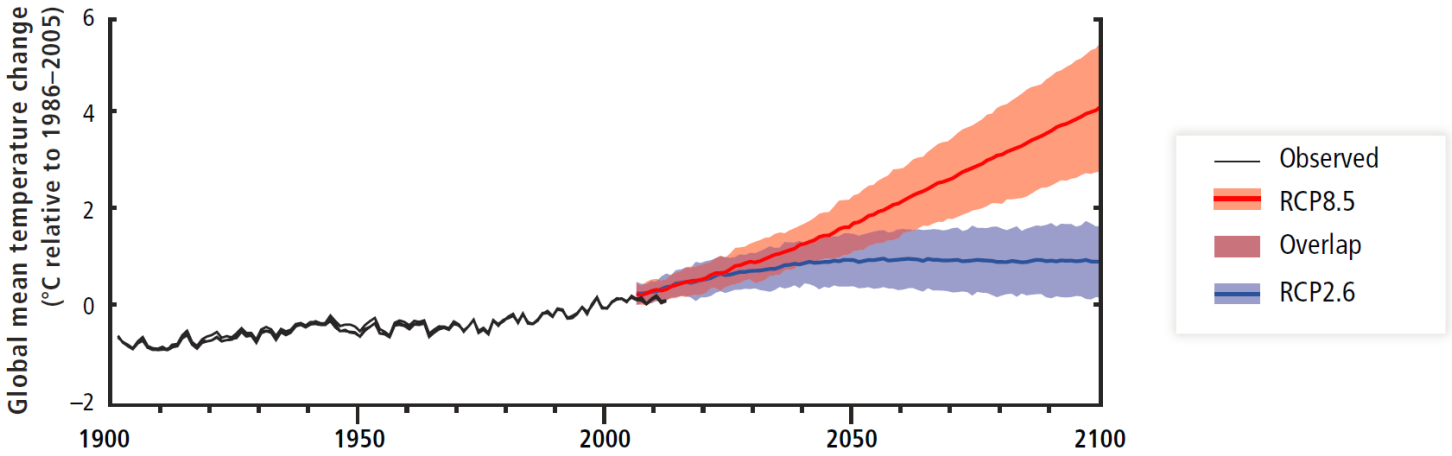
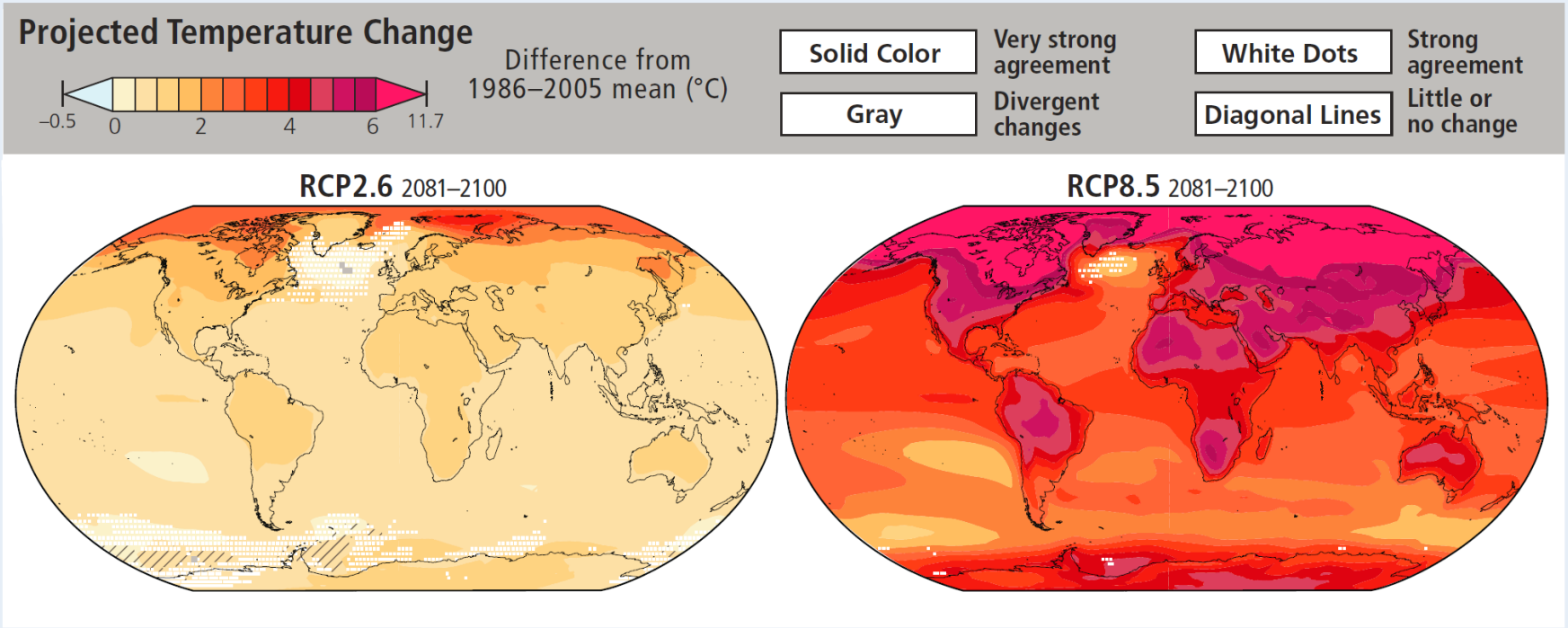
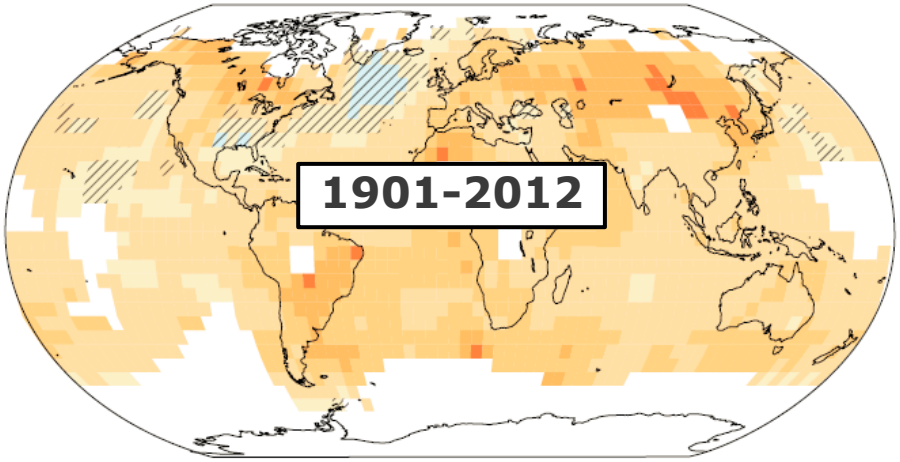
Warming over the 21st century

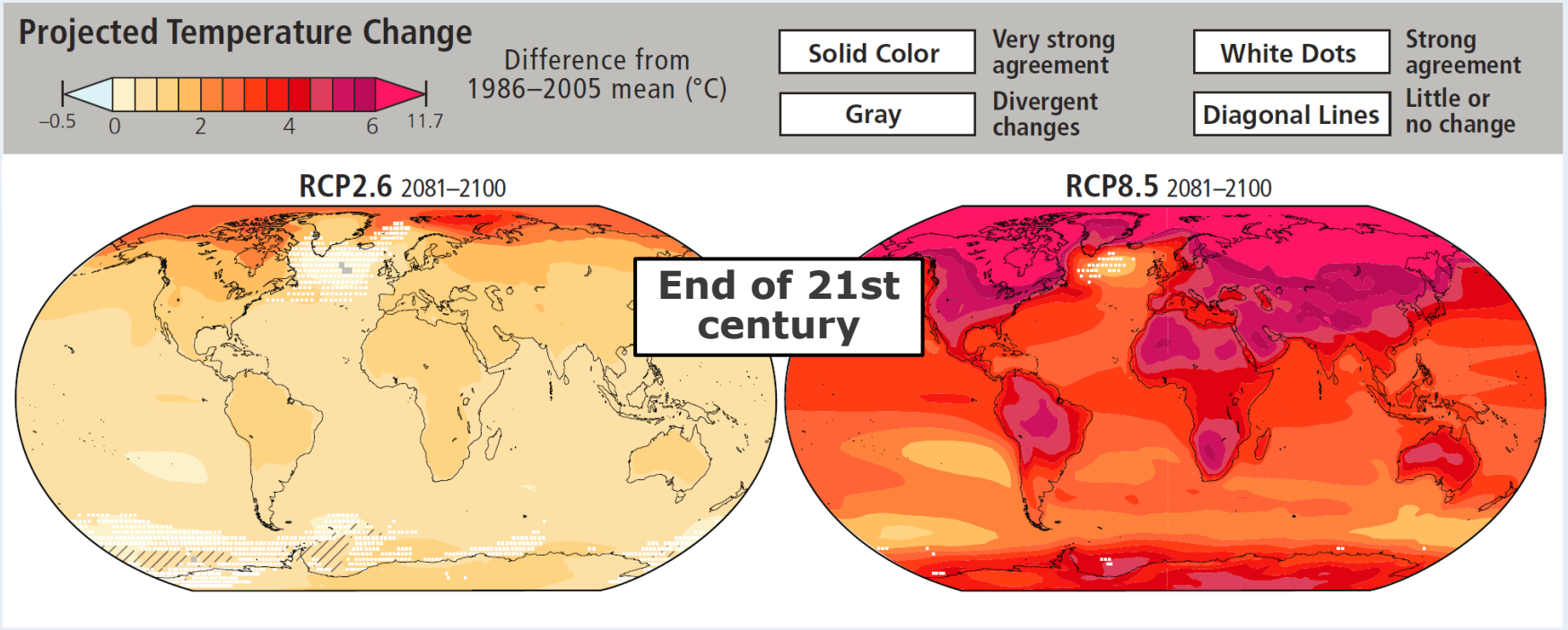




Based on WGII Figure SPM 4

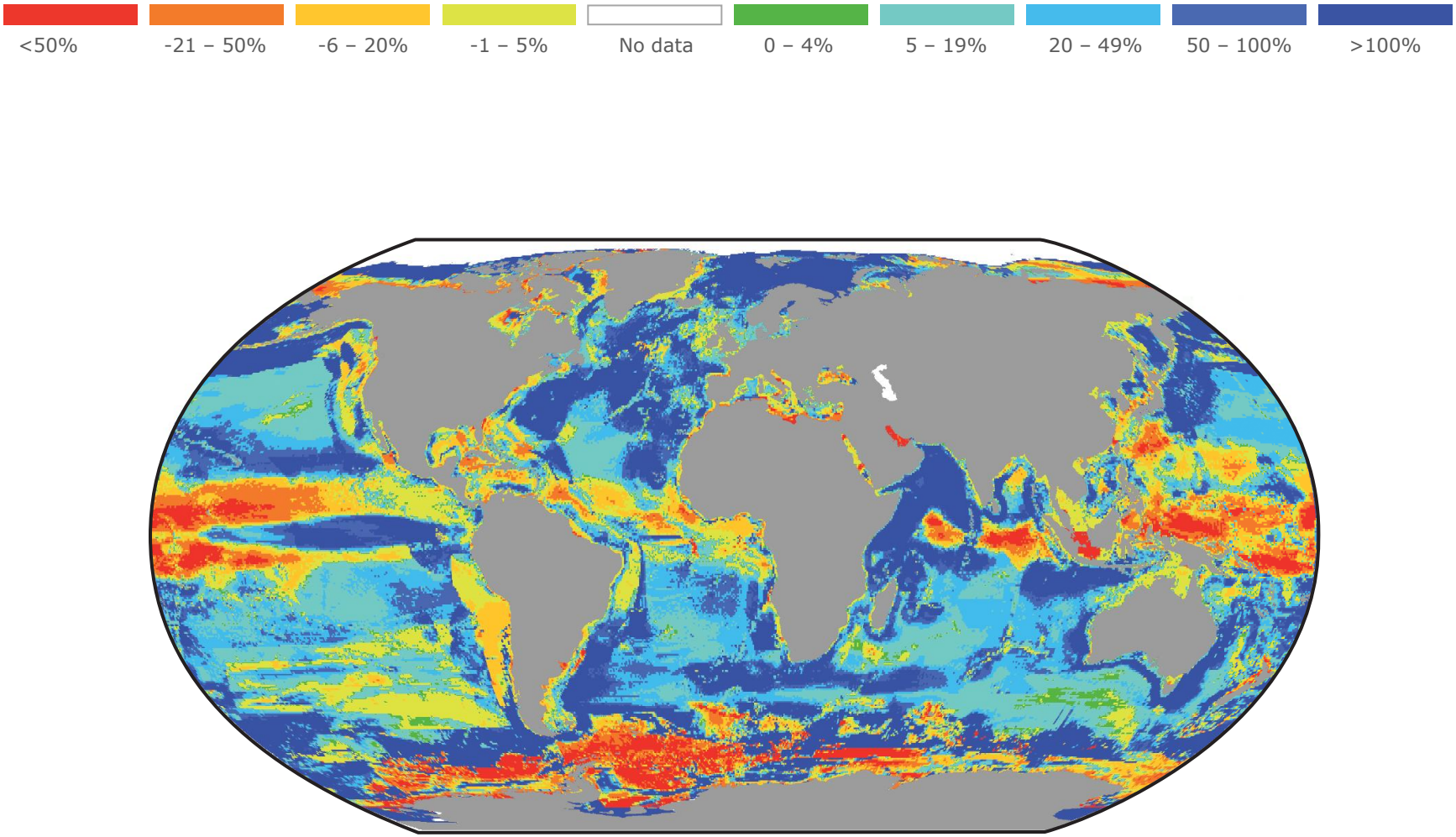
Warming over the 21st century



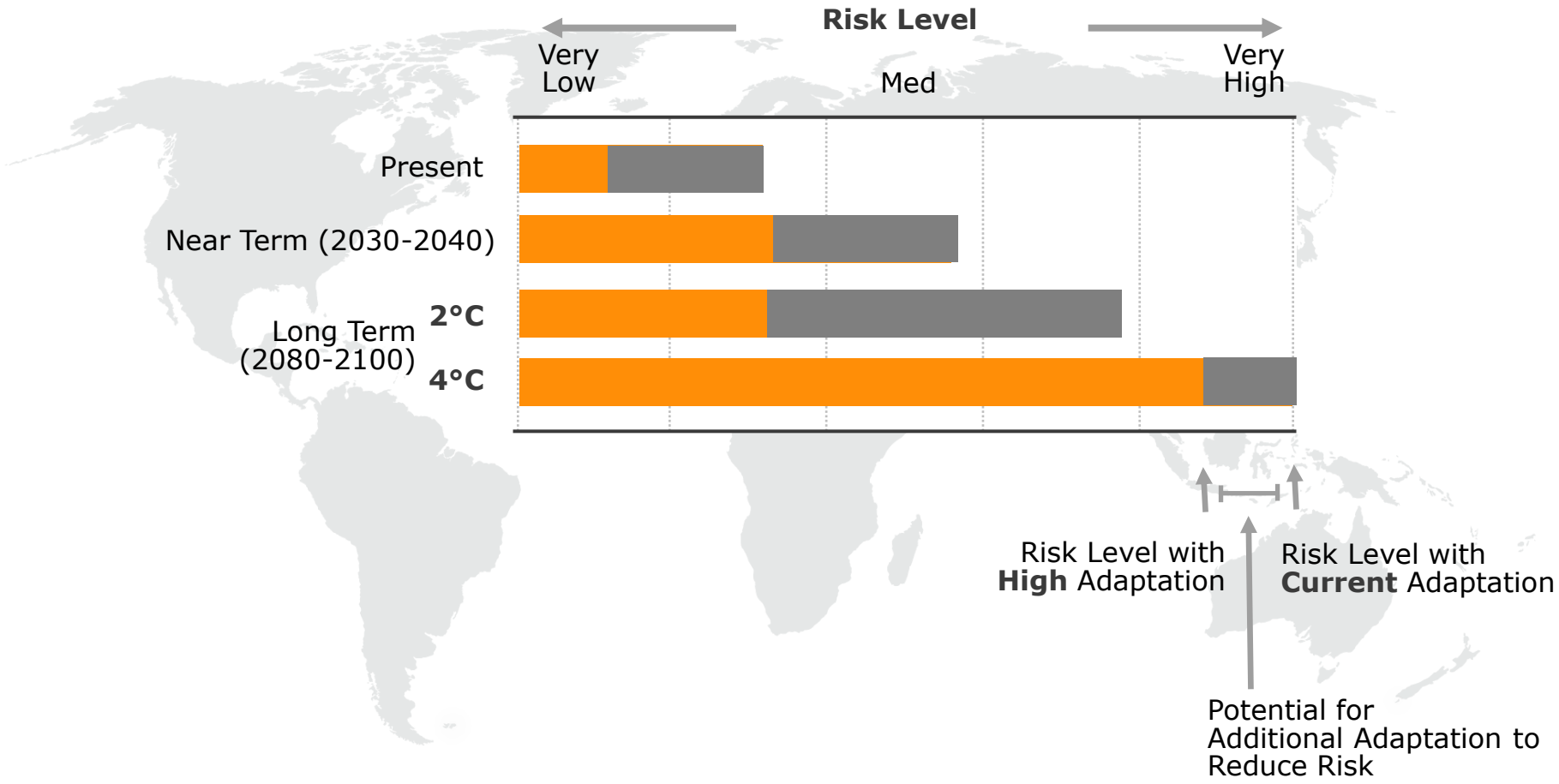


Based on WGII Figure SPM 4

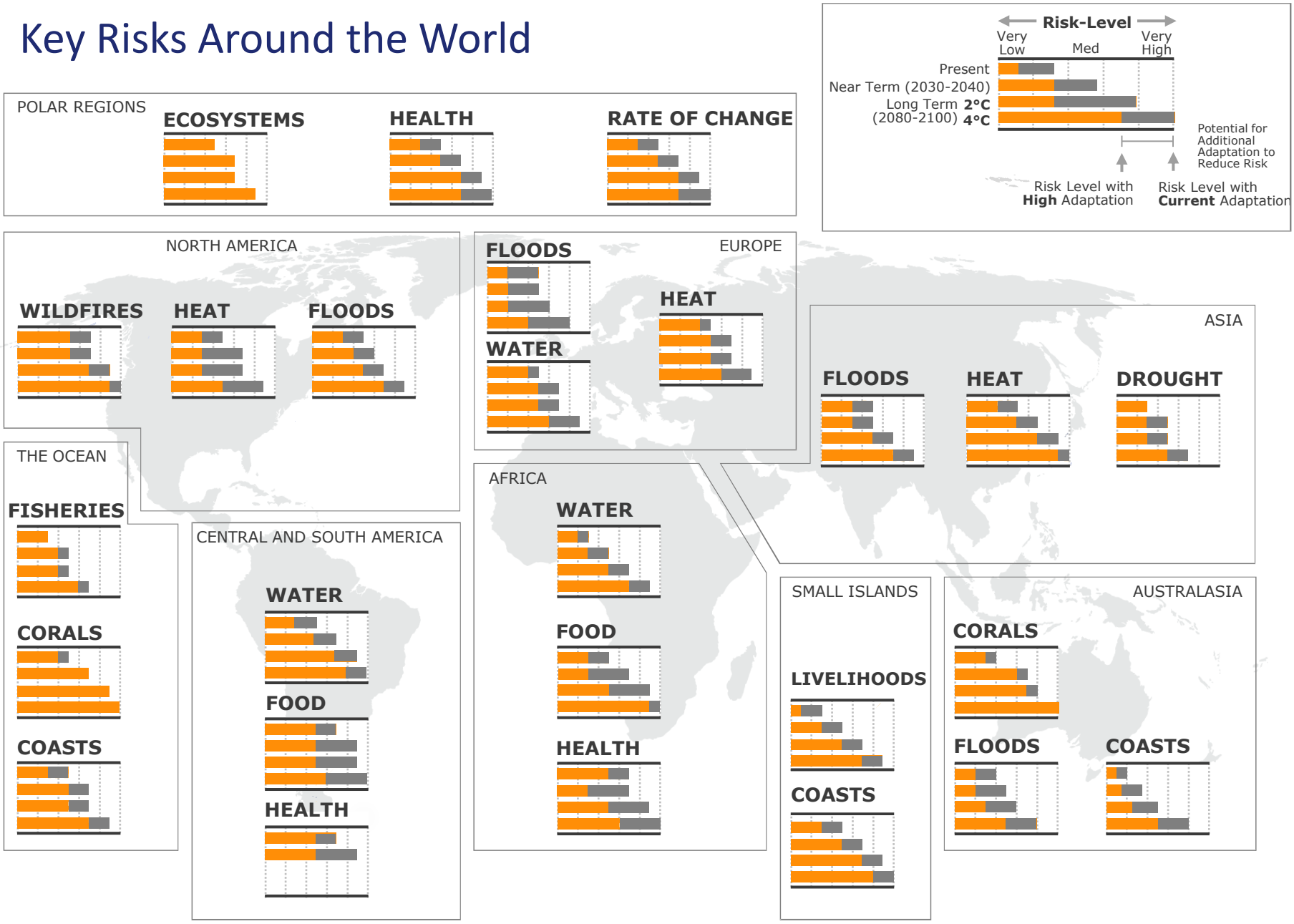
CHANGE IN MAXIMUM CATCH POTENTIAL (2051-2060 COMPARED TO 2001-2010, SRES A1B)



Levels of Risk and Potential for Adaptation



Key Risks Around the World



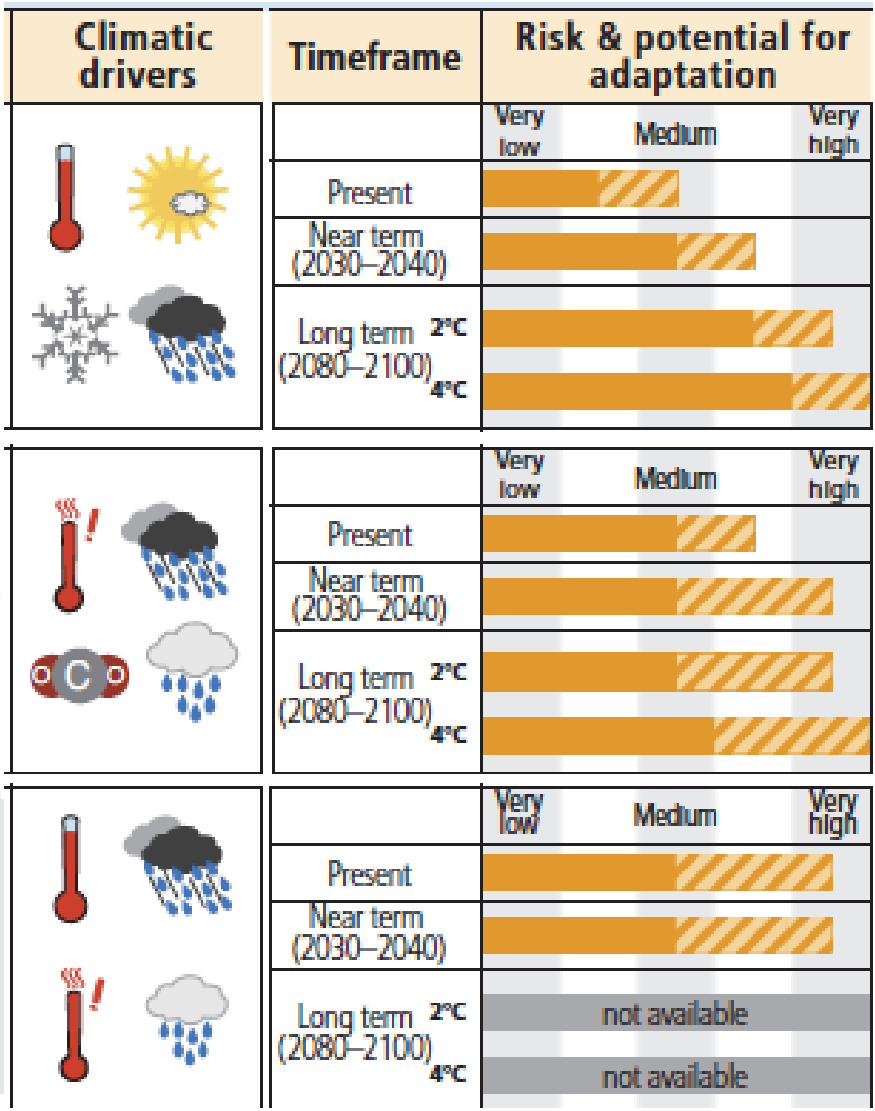
Based on WGII AR5 Box SPM.2

Central and South America

Water availability;
flooding and land slides

Decreased food security
& agricultural income

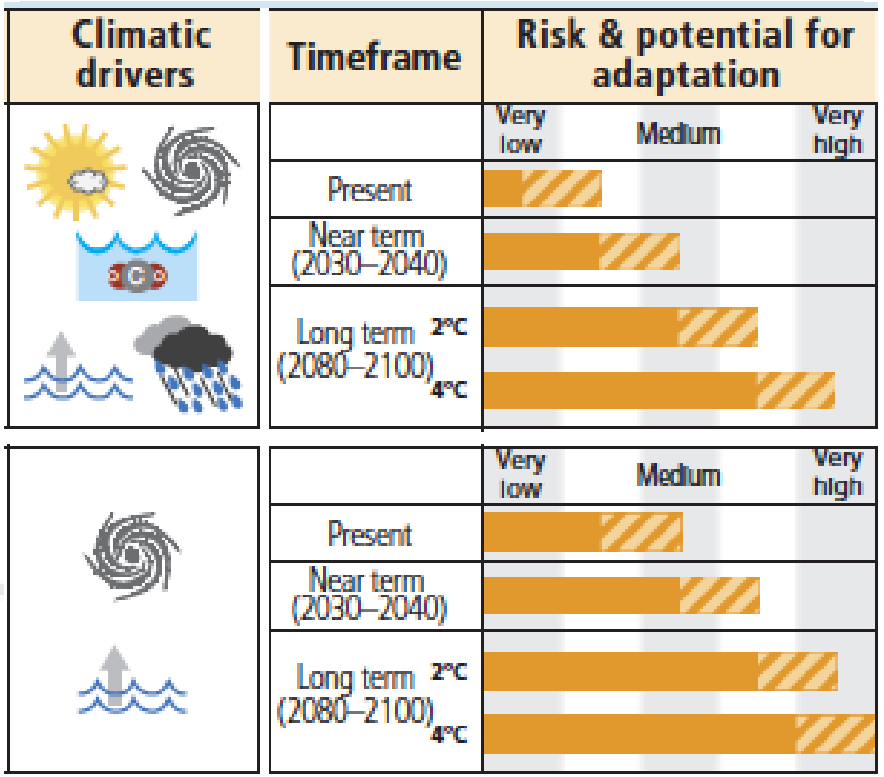
Spread of vector-borne
diseases



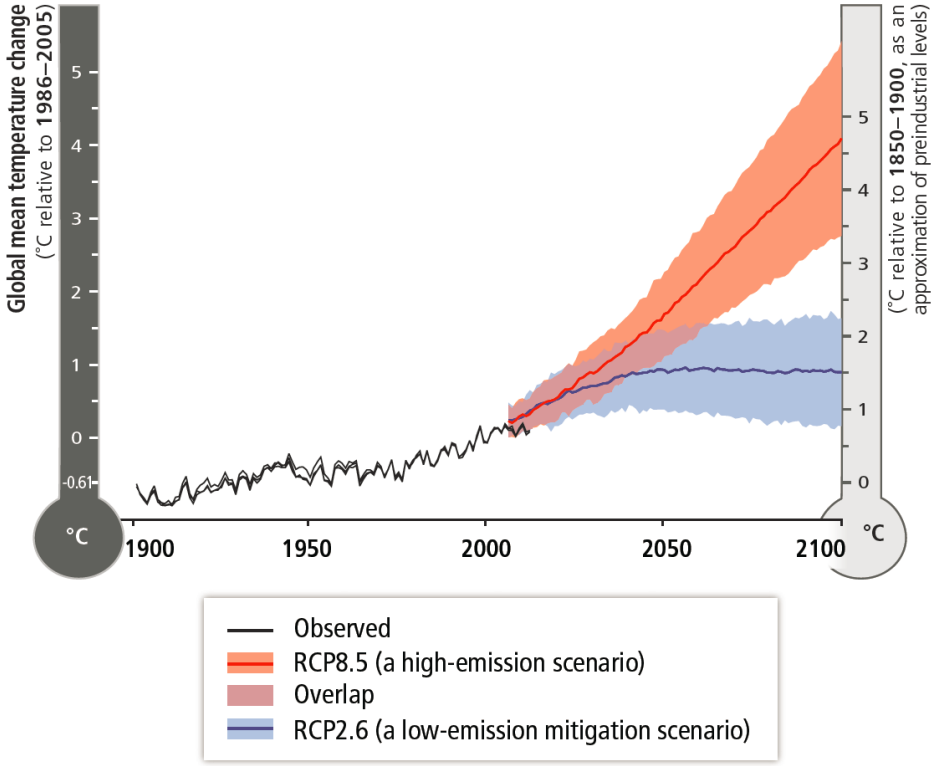
Small Islands

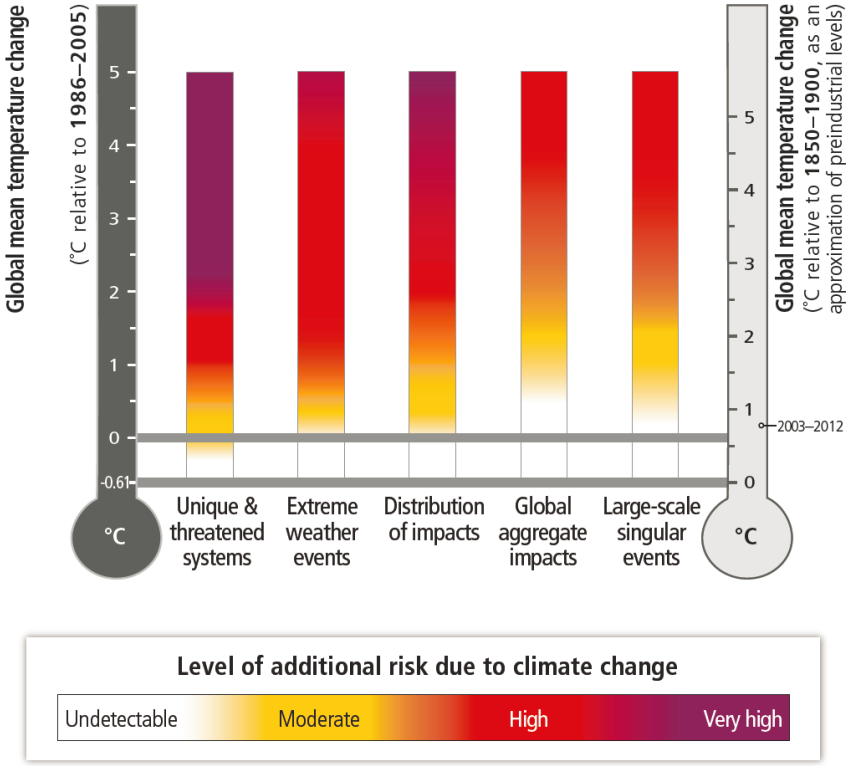
Loss of livelihoods, communities, & ecosystems

Rising sea level



A global perspective on risks





Based on WGII Box SPM 1 Figure 1

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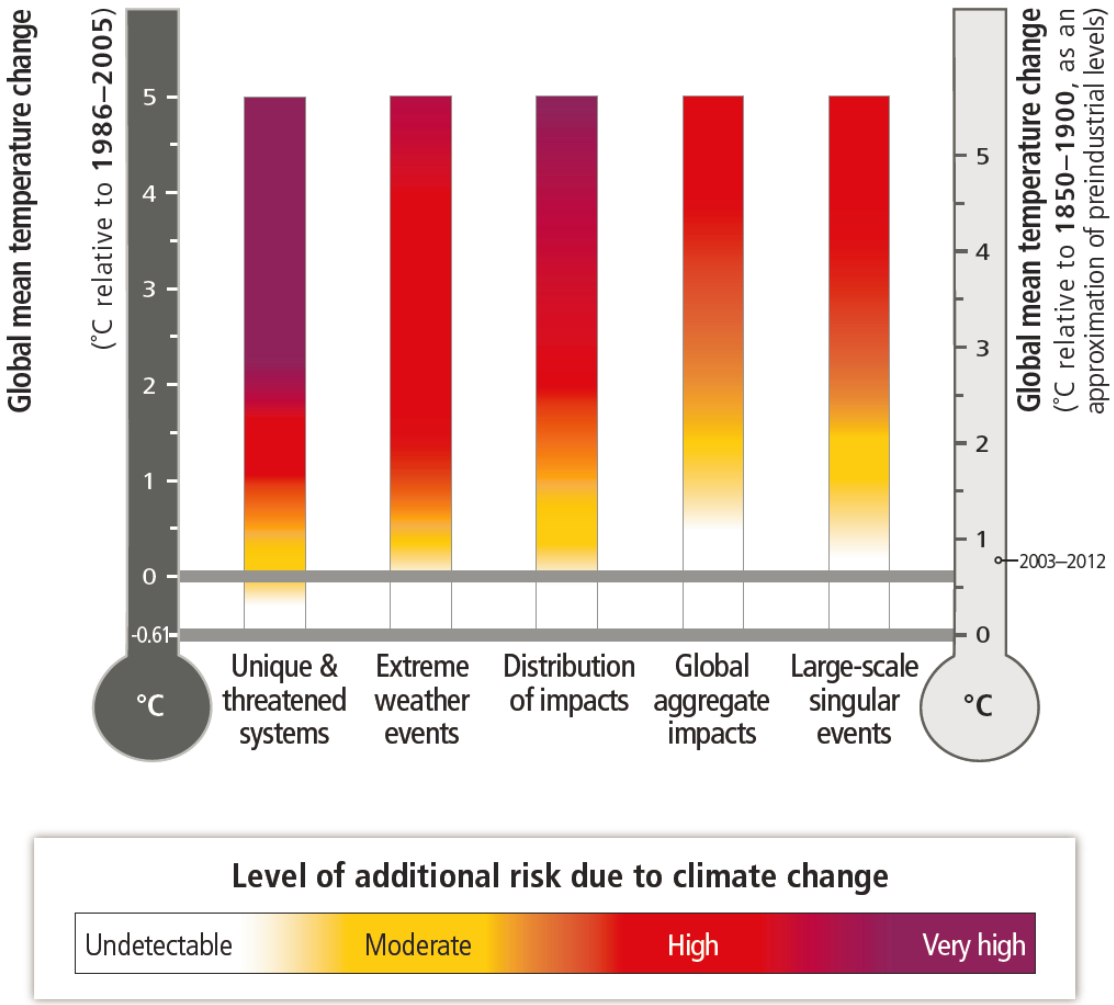

Based on WGII
Box SPM 1 Figure 1

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LIMITING WARMING TO 2°C INVOLVES SUBSTANTIAL TECHNOLOGICAL, ECONOMIC AND INSTITUTIONAL **CHALLENGES**

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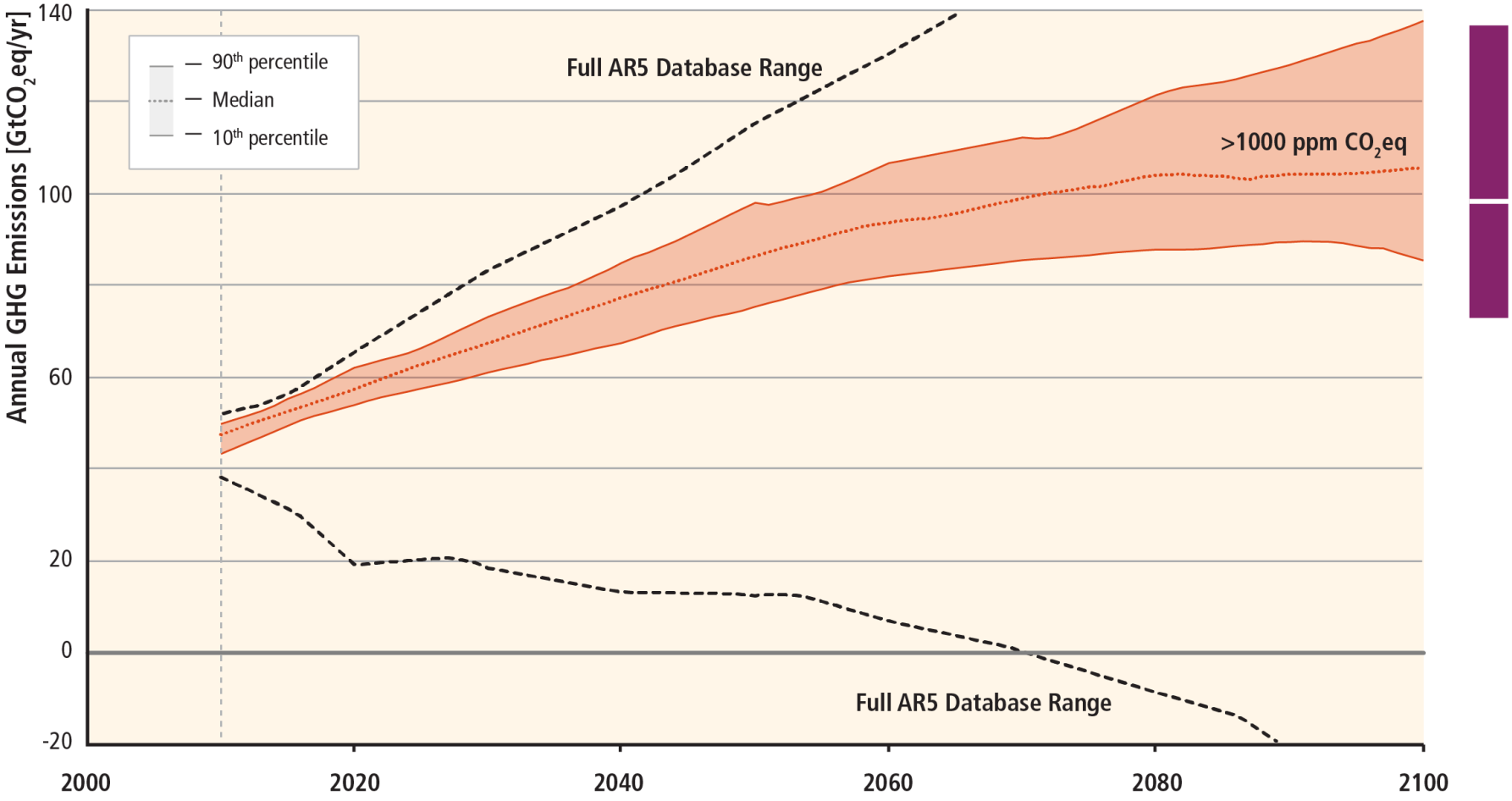
Stabilizing temperature (eventually) requires zero net emissions – regardless of the warming limit chosen



Based on WGIII Figure SPM 4

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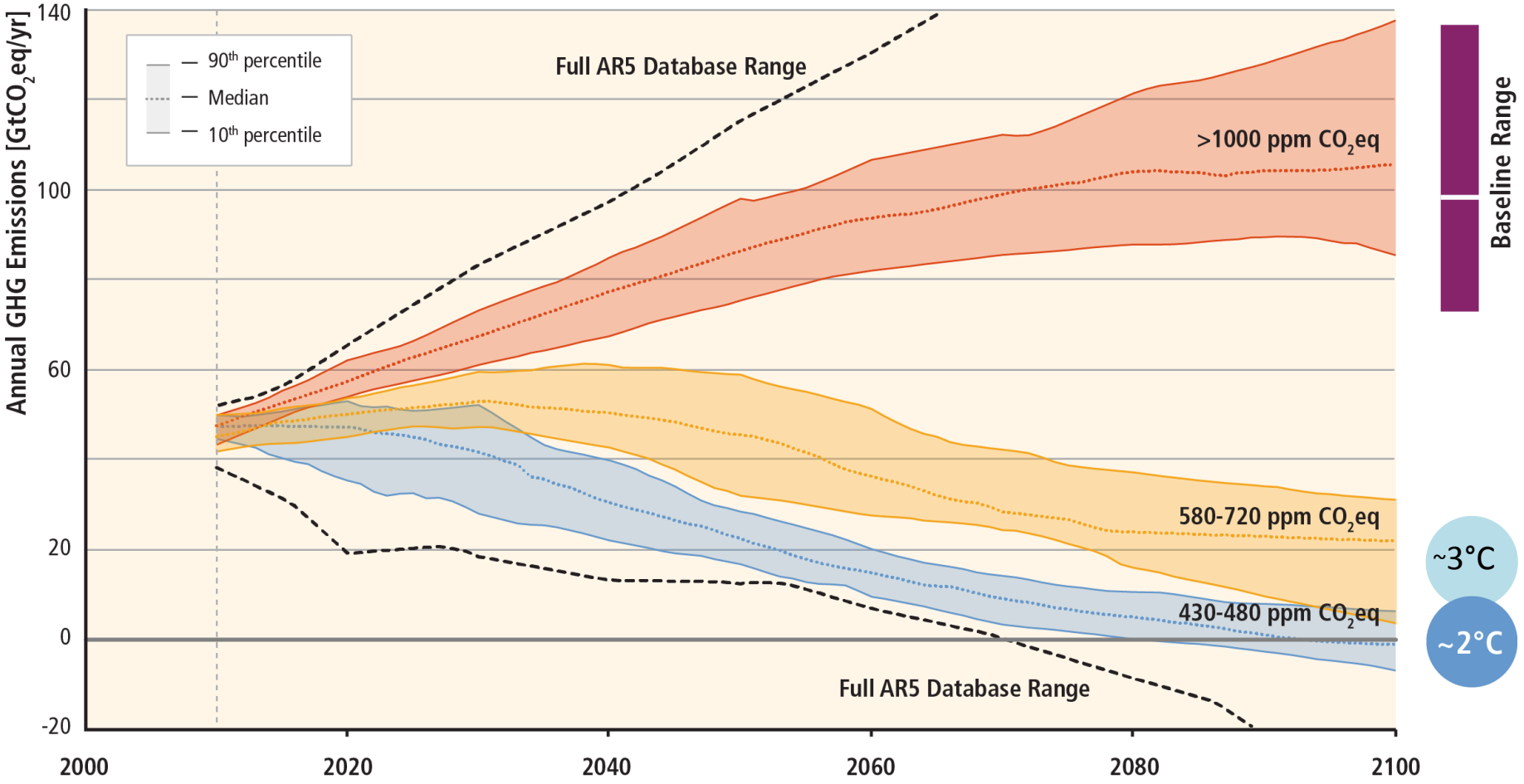
Stabilizing temperature (eventually) requires zero net emissions – regardless of the warming limit chosen



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EFFECTIVE CLIMATE CHANGE RESPONSES

A MORE VIBRANT WORLD

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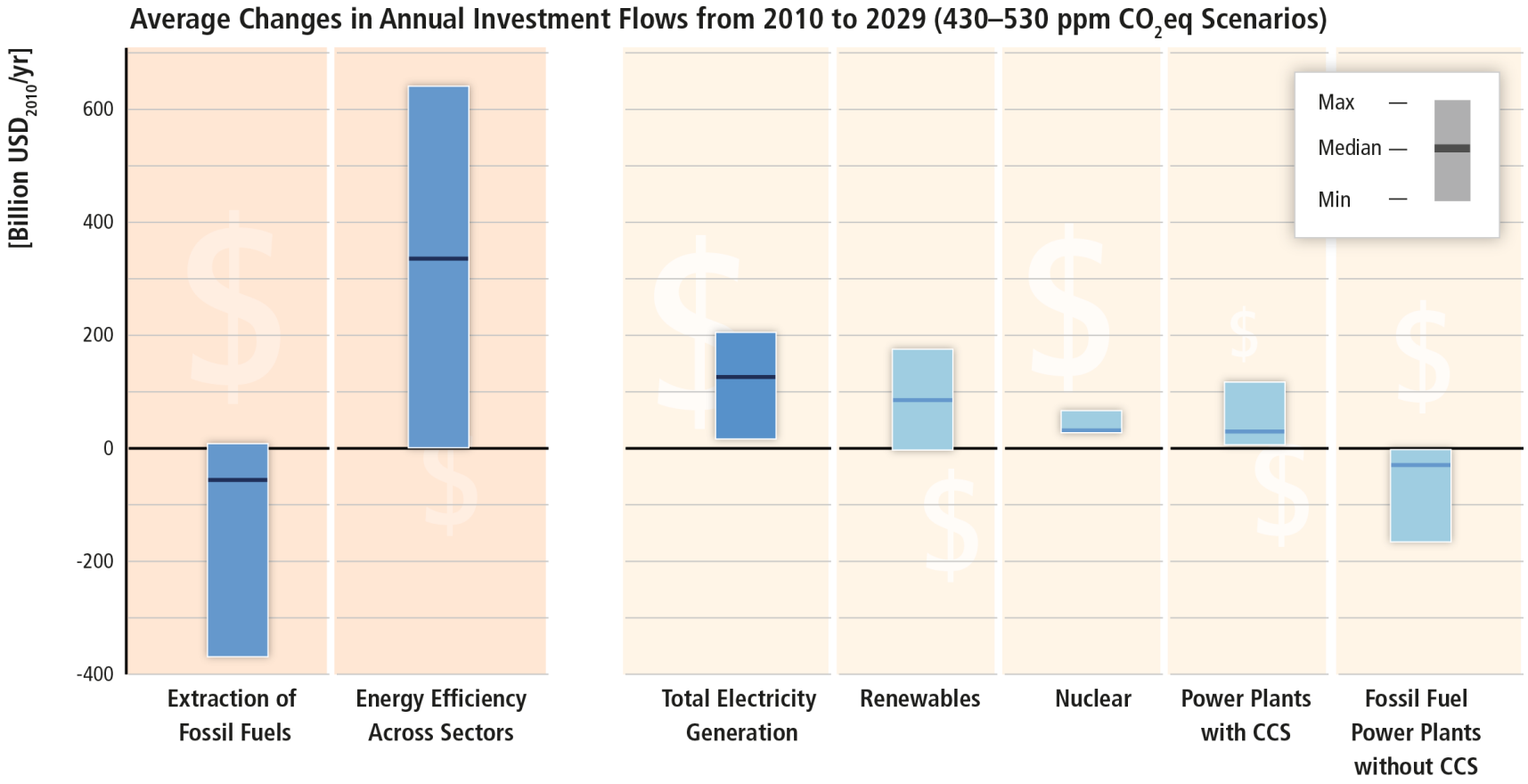
Substantial emissions reductions linked to new investments



Based on WGIII Figure SPM 9

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