

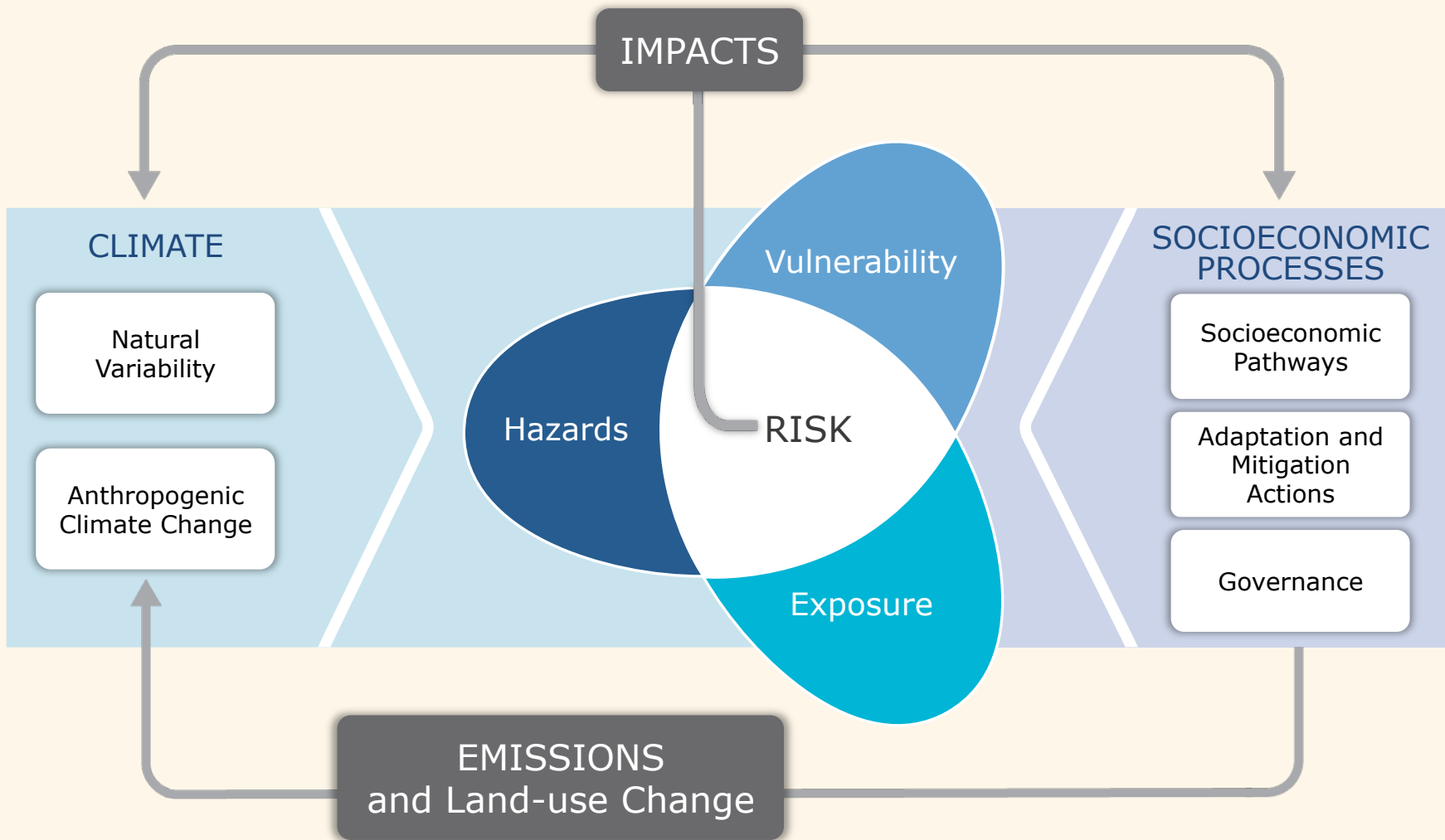
THE WORKING GROUP II

CONTRIBUTION TO THE IPCC'S FIFTH ASSESSMENT REPORT



CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY







**WIDESPREAD
OBSERVED IMPACTS**

A CHANGING WORLD

An underwater photograph of a coral reef. The water is a deep, dark green, and sunlight rays are visible filtering down from the surface. The coral is diverse, with a prominent, light-colored, fan-shaped coral in the center. The overall scene is dimly lit, emphasizing the textures and colors of the marine life.

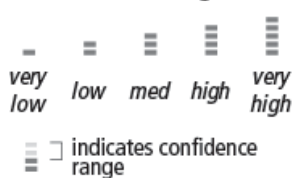
WIDESPREAD OBSERVED IMPACTS

A CHANGING WORLD

(A)



Confidence in attribution to climate change

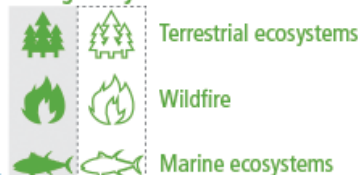


Observed impacts attributed to climate change for

Physical systems



Biological systems



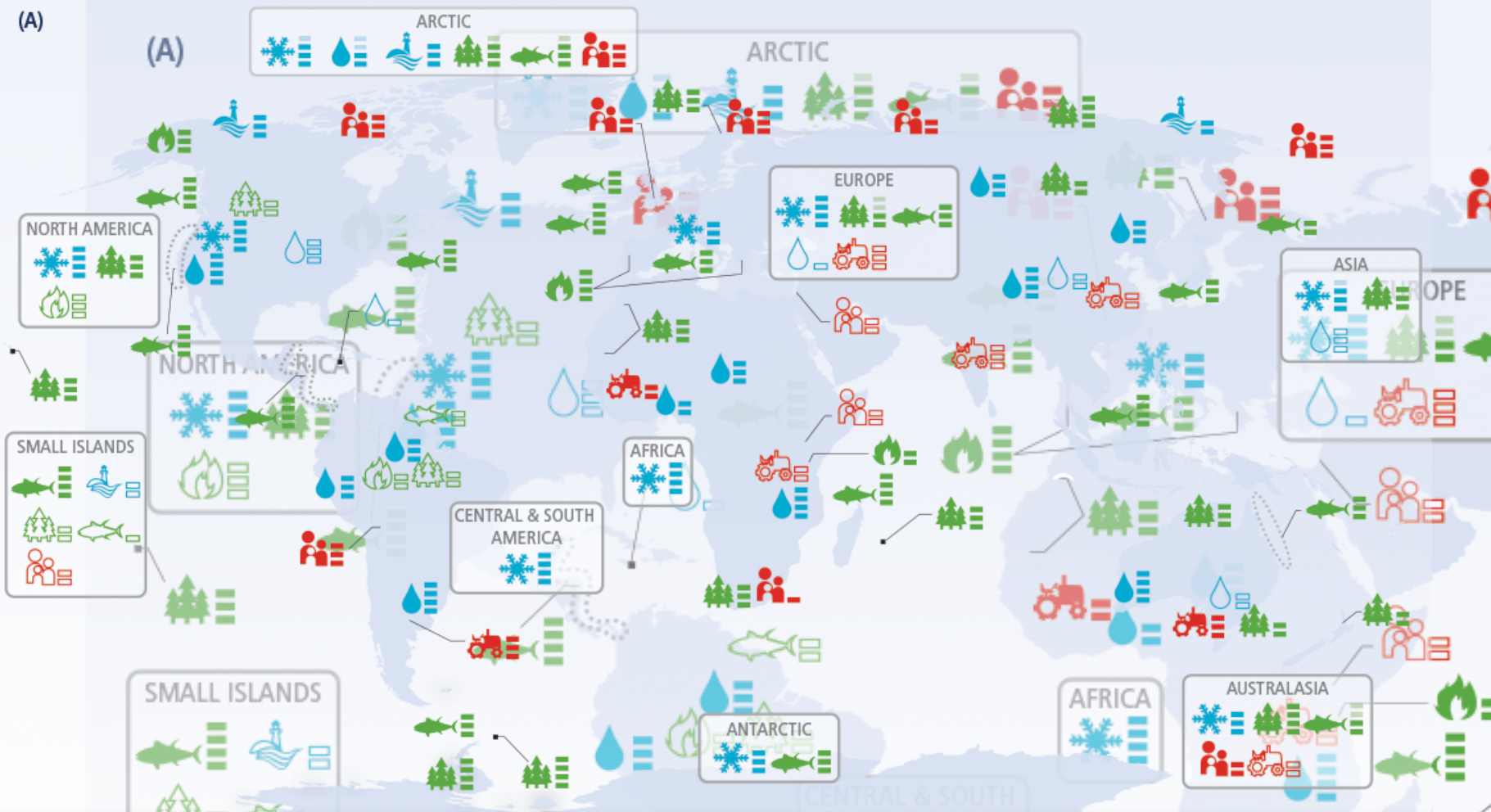
Human and managed systems



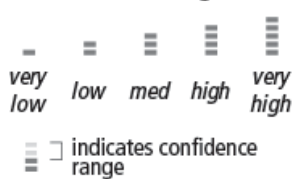
□ Regional-scale impacts

Outlined symbols = Minor contribution of climate change
Filled symbols = Major contribution of climate change

(A)



Confidence in attribution to climate change

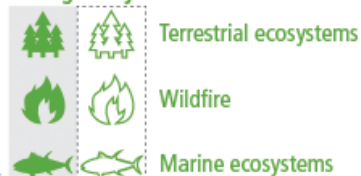


Observed impacts attributed to climate change for

Physical systems



Biological systems

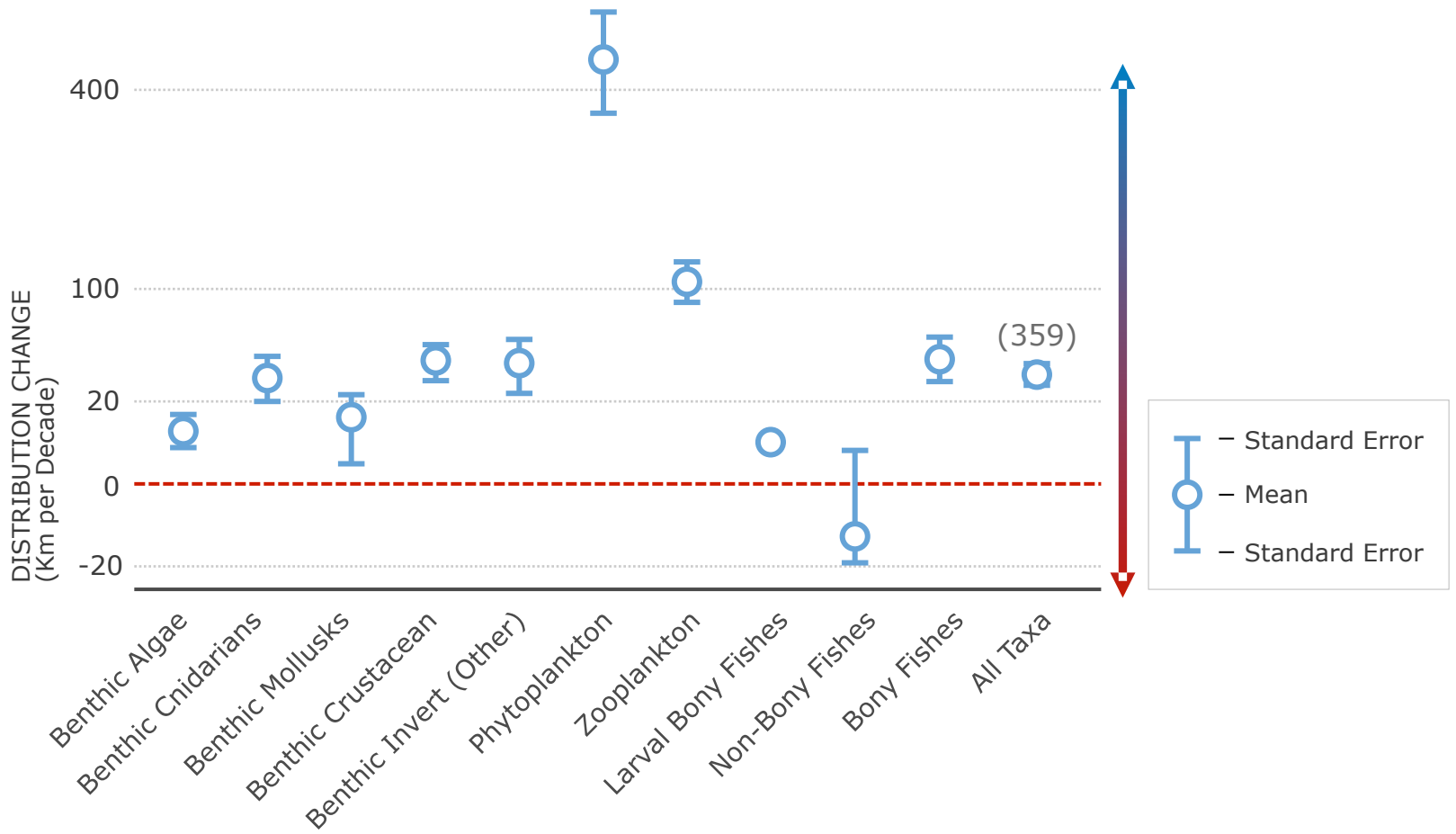


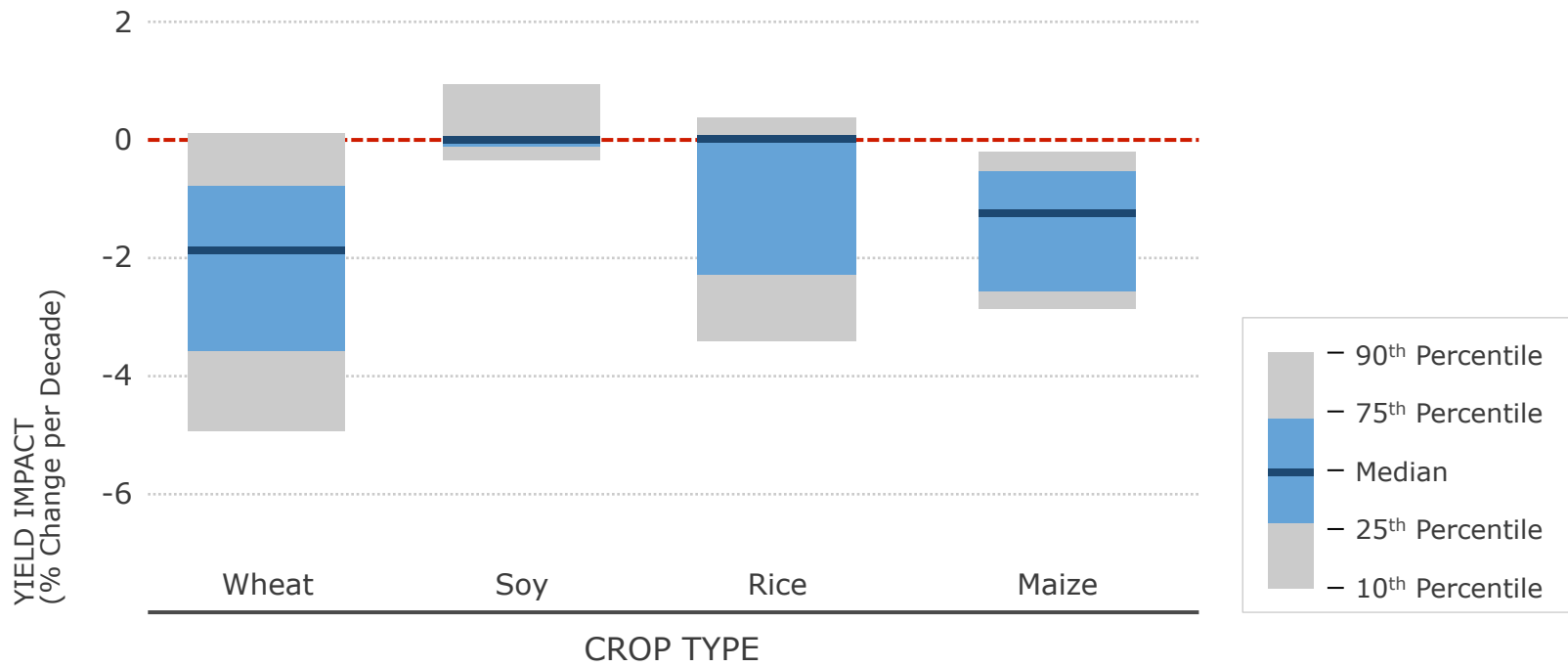
Human and managed systems



□ Regional-scale impacts

Outlined symbols = Minor contribution of climate change
Filled symbols = Major contribution of climate change







VULNERABILITY AND EXPOSURE

AROUND THE WORLD

A photograph of a city street completely flooded with water. The water is dark and reflects the surrounding buildings and sky. On the left, a tall brick building with many windows lines the street. On the right, another brick building with a modern glass and metal facade is visible. In the distance, a person in a red shirt is wading through the water, and a dark car is partially submerged. The sky is overcast and grey.

VULNERABILITY AND EXPOSURE

AROUND THE WORLD



ADAPTATION IS ALREADY OCCURING



**ADAPTATION IS
ALREADY OCCURING**



CLIMATE CHANGE

REDUCING AND MANAGING RISKS

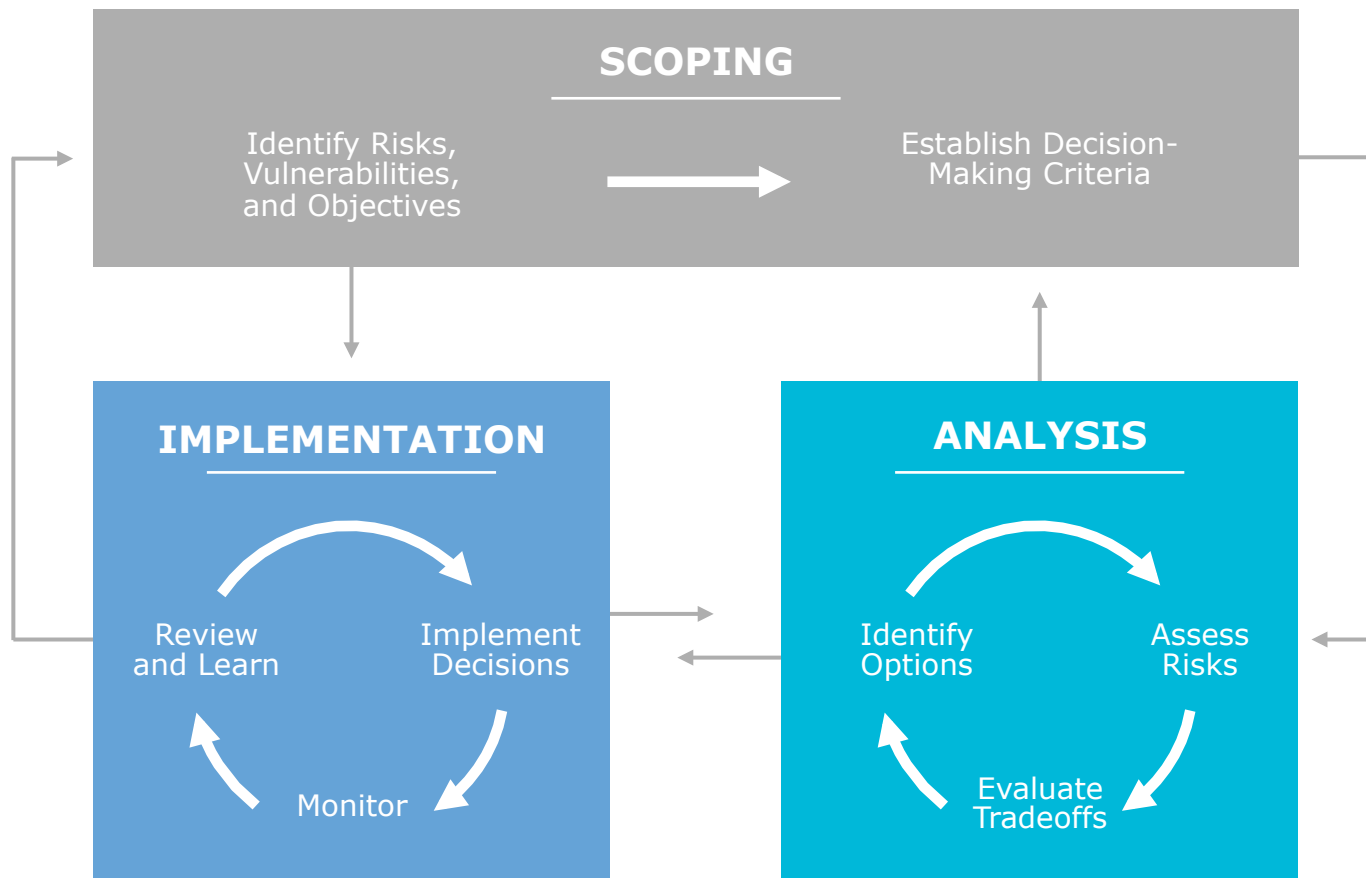
ipcc

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



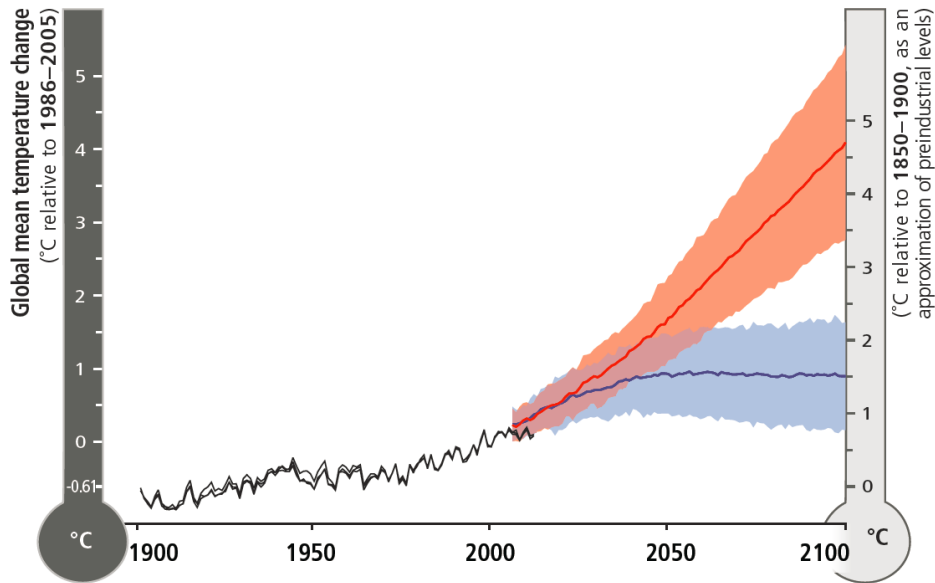
INCREASING MAGNITUDES
OF WARMING INCREASE
THE LIKELIHOOD OF

**SEVERE AND
PERVASIVE IMPACTS**

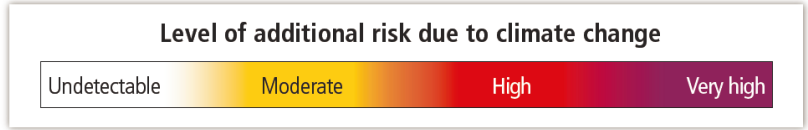
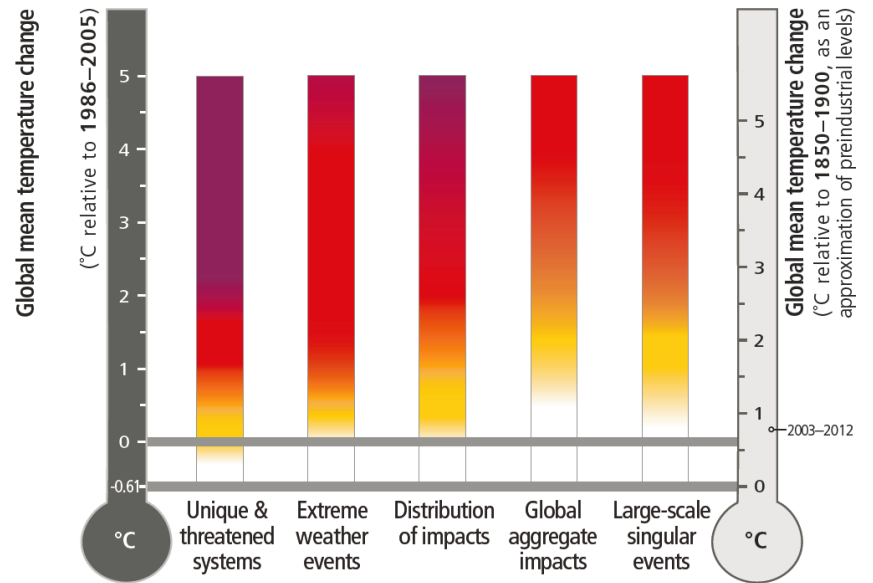




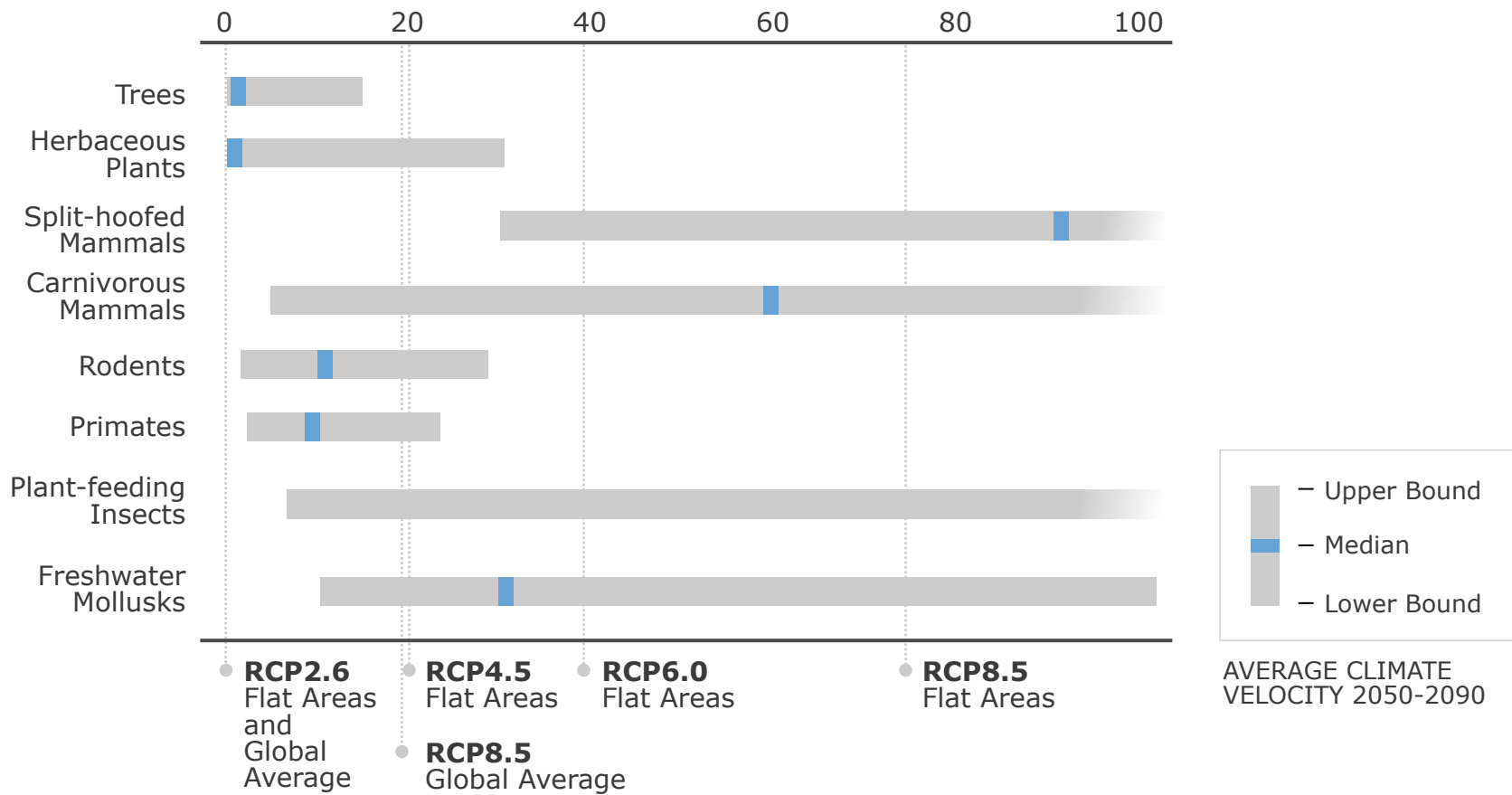
RISKS OF
CLIMATE CHANGE
INCREASE
WITH CONTINUED
HIGH EMISSIONS



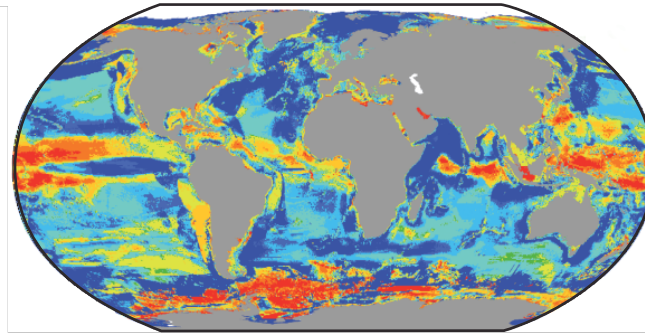
- Observed
- RCP8.5 (a high-emission scenario)
- Overlap
- RCP2.6 (a low-emission mitigation scenario)



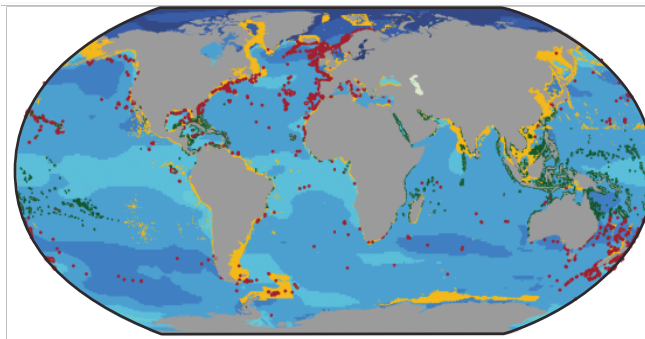
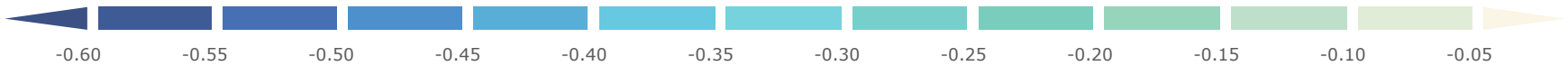
MAXIMUM SPEED AT WHICH SPECIES CAN MOVE (km per decade)



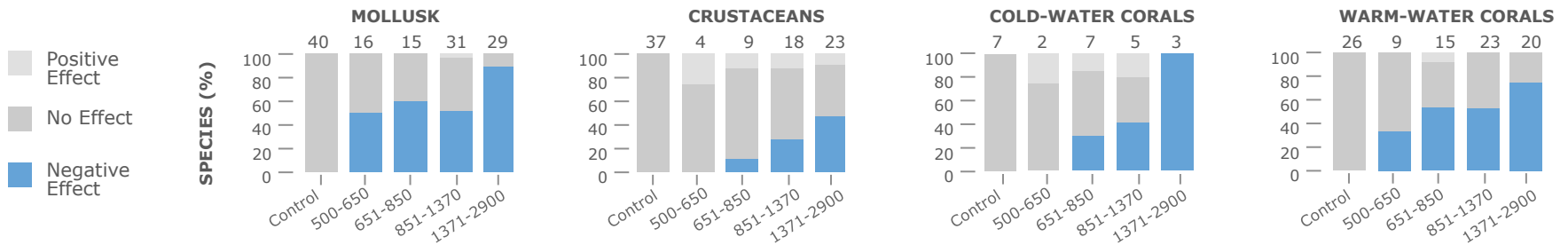
CHANGE IN MAXIMUM CATCH POTENTIAL (2051-2060 COMPARED TO 2001-2010, SRES A1B)



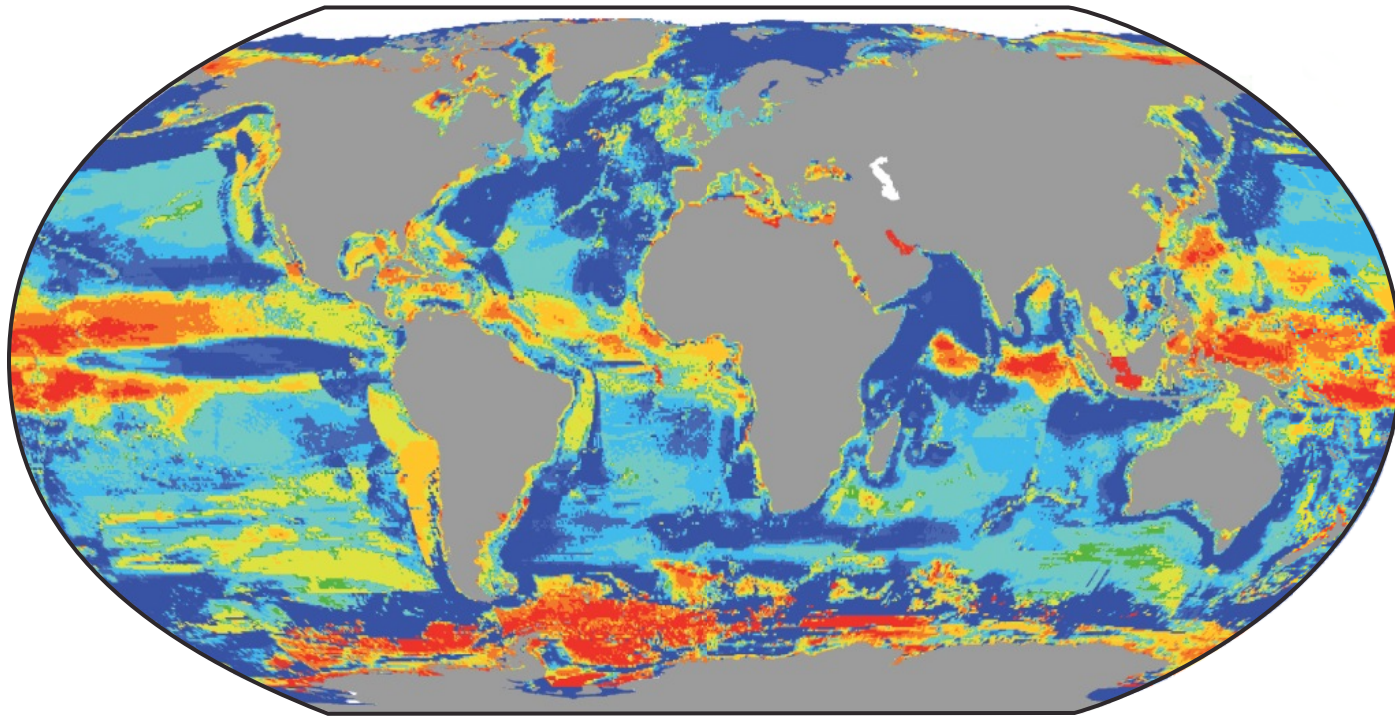
CHANGE IN pH (2081-2100 COMPARED TO 1986-2005, RCP 8.5)

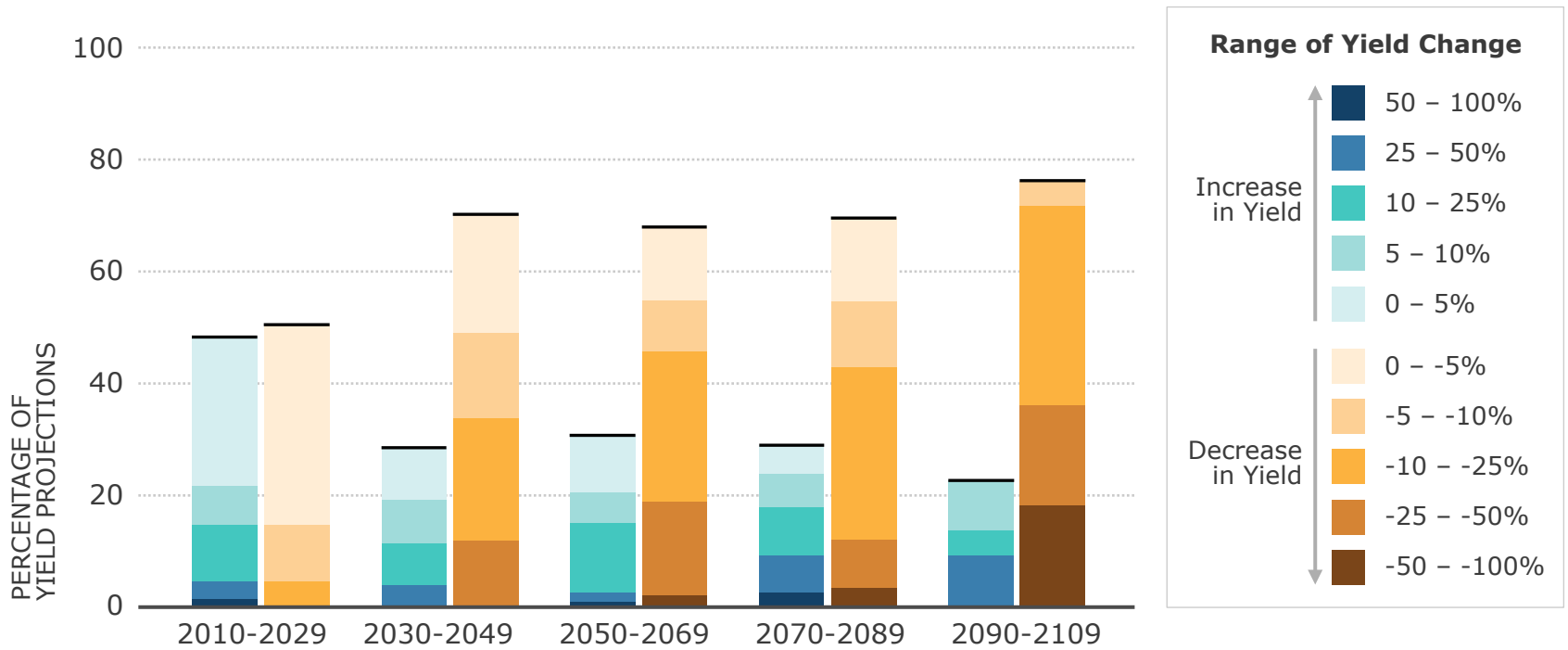


- Mollusk and Crustacean Fisheries
Present-day annual catch rate ≥ 0.005 tonnes km^2
- Cold-Water Corals
- Warm-Water Corals



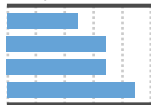
CHANGE IN MAXIMUM CATCH POTENTIAL (2051-2060 COMPARED TO 2001-2010, SRES A1B)



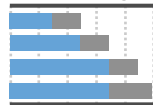


POLAR REGIONS

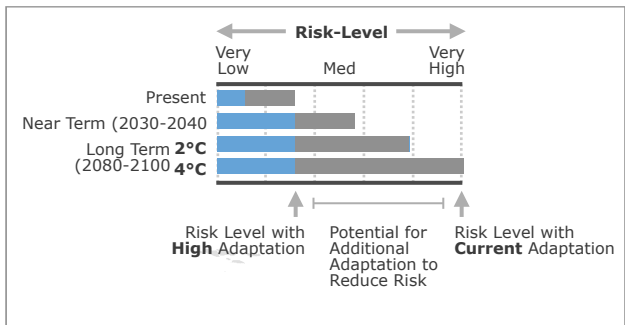
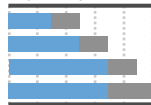
Risks for Ecosystems



Risks for Health and Well-Being

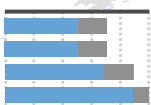


Unprecedented Challenges, Especially from Rate of Change

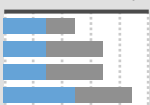


NORTH AMERICA

Increased Risks from Wildfires



Heat-Related Human Mortality

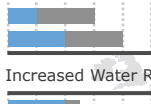


Damages from River and Coastal Urban Floods

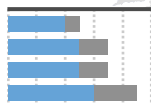


EUROPE

Increased Flood Losses and Impacts



Increased Water Restrictions



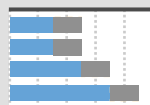
EUROPE

Increased Losses and Impacts from Extreme Heat Events

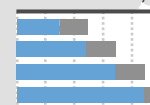


ASIA

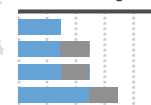
Increased Flood Damage to Infrastructure, Livelihoods, and Settlements



Heat-Related Human Mortality

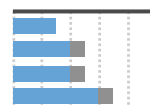


Increased Drought-Related Water and Food Shortage

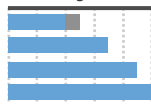


THE OCEAN

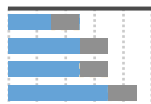
Reduced Fisheries Catch Potential at Low Latitudes



Increased Mass Coral Bleaching and Mortality



Coastal Inundation and Habitat Loss

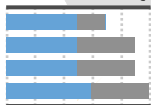


CENTRAL AND SOUTH AMERICA

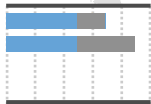
Reduced Water Availability and Increased Flooding and Landslides



Reduced Food Production and Quality

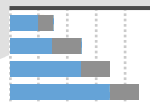


Vector-Borne Diseases

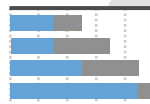


AFRICA

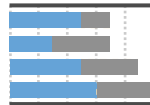
Compounded Stress on Water Resources



Reduced Crop Productivity and Livelihood and Food Security

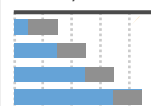


Vector- and Water-Borne Diseases

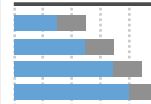


SMALL ISLANDS

Loss of Livelihoods, Settlements, Infrastructure, Ecosystem Services, and Economic Stability



Risks for Low-Lying Coastal Areas



AUSTRALASIA

Significant Change in Composition and Structure of Coral Reef Systems



Increased Flood Damage to Infrastructure and Settlements



Increased Risks to Coastal Infrastructure and Low-Lying Ecosystems





EFFECTIVE CLIMATE CHANGE ADAPTATION

A MORE VIBRANT WORLD