

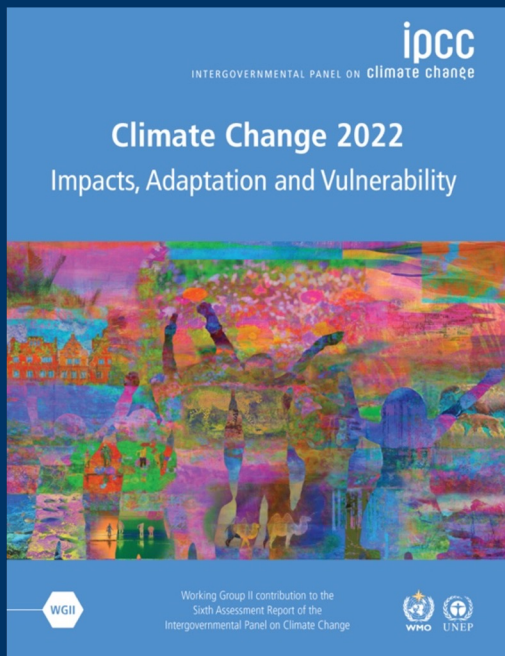
Structured Expert Dialogue, June 2022

Part I: Long-term Global Goal - Climate

IPCC Working Group II Author Team



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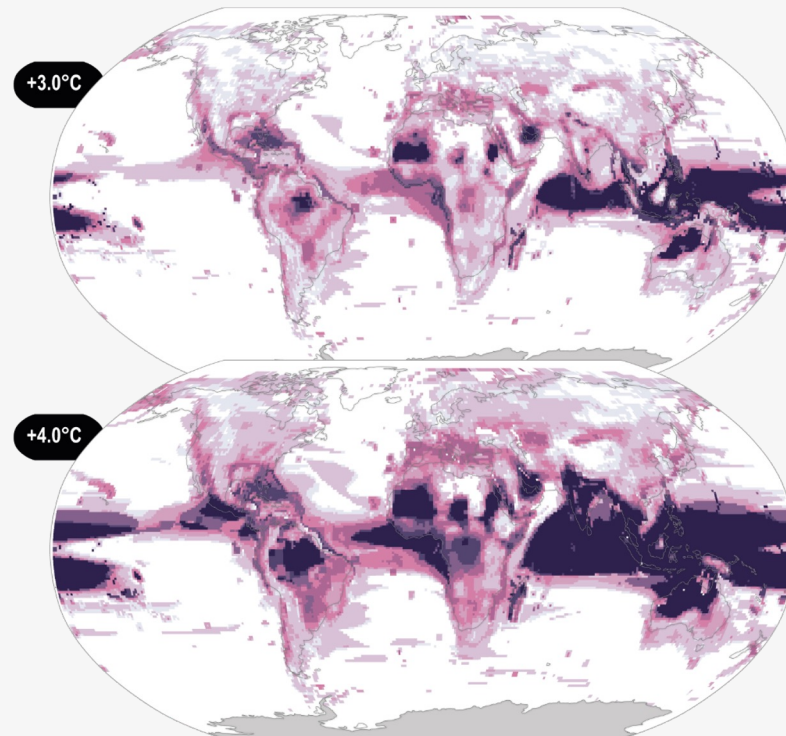
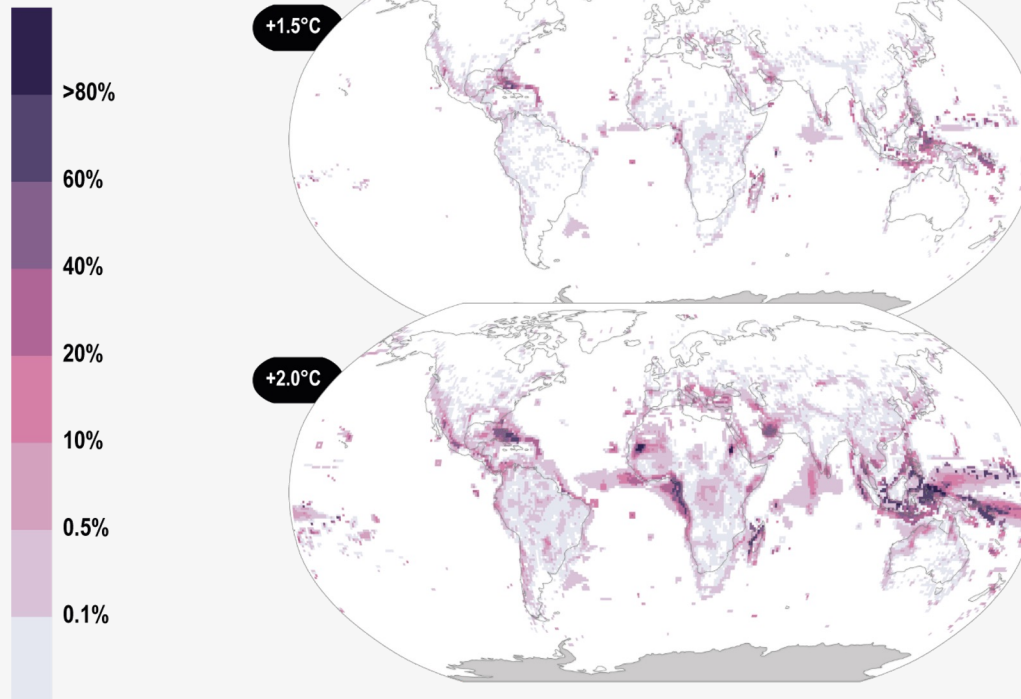


“ The scientific evidence is unequivocal: climate change is a threat to human well-being and the health of the planet.

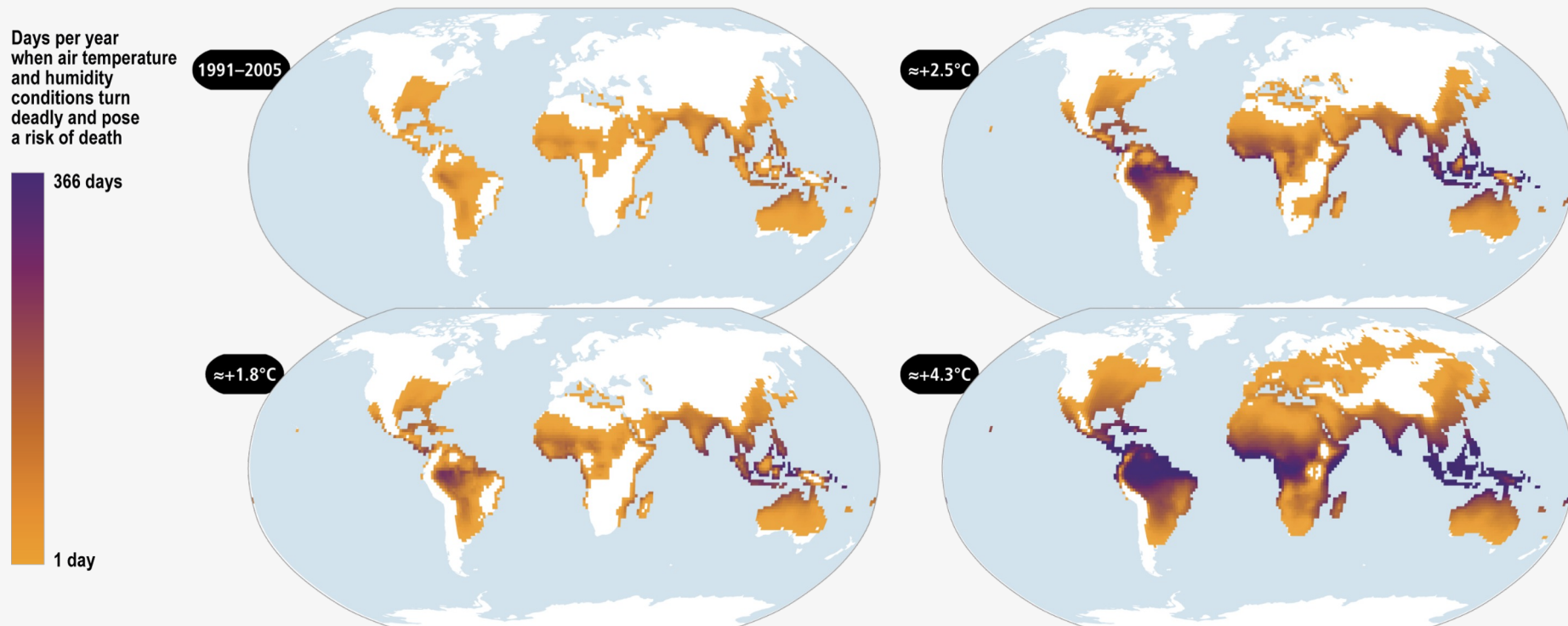
WGII results provide GUIDANCE for selecting the long-term climate goals and associated mitigation and adaptation efforts.

Species exposed to potentially dangerous climate conditions

Percentage of
biodiversity
exposed



Global distribution of population exposed to hyperthermia from extreme heat and humidity - Projections for year 2100



Future global climate risks



Heat stress

Exposure to heat waves will continue to increase with additional warming.



Water scarcity

At 2°C, regions relying on snowmelt could experience 20% decline in water availability for agriculture after 2050.



Food security

Climate change will increasingly undermine food security.



Flood risk

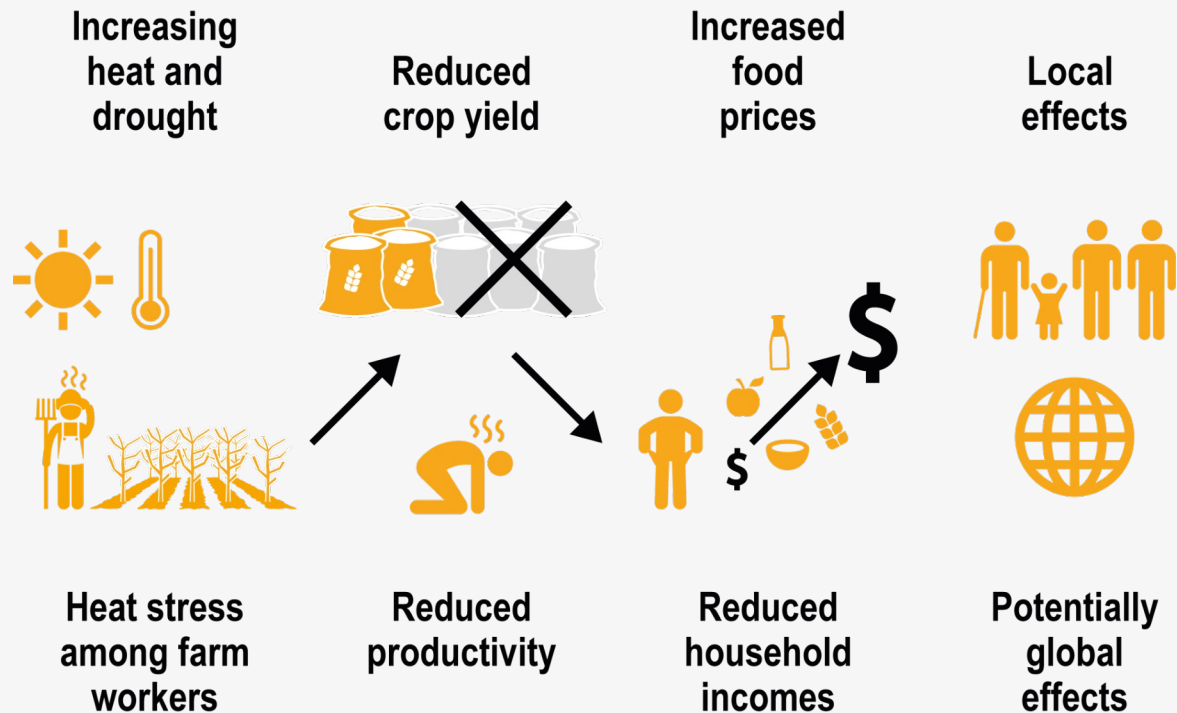
About a billion people in low-lying cities by the sea and on Small Islands at risk from sea level rise by mid-century.

Simultaneous extreme events compound risks

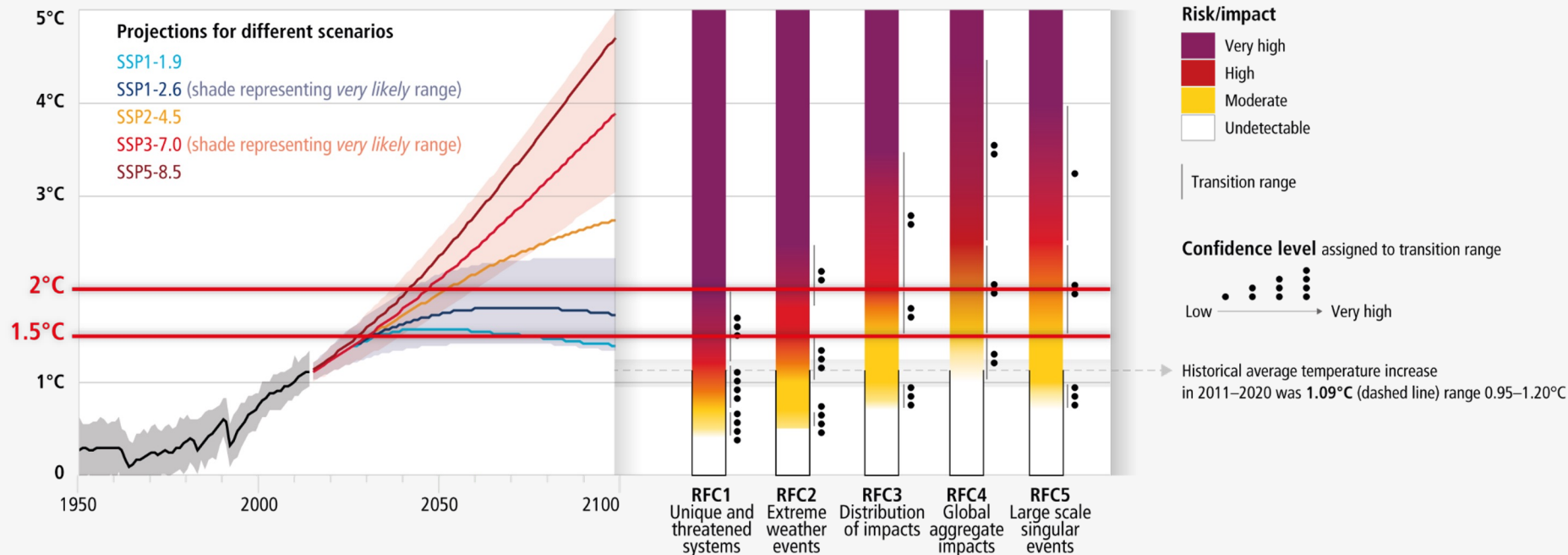
Multiple extreme events that compound the risks are more difficult to manage

... e.g. reductions in crop yields, made worse by heat stress among farm workers

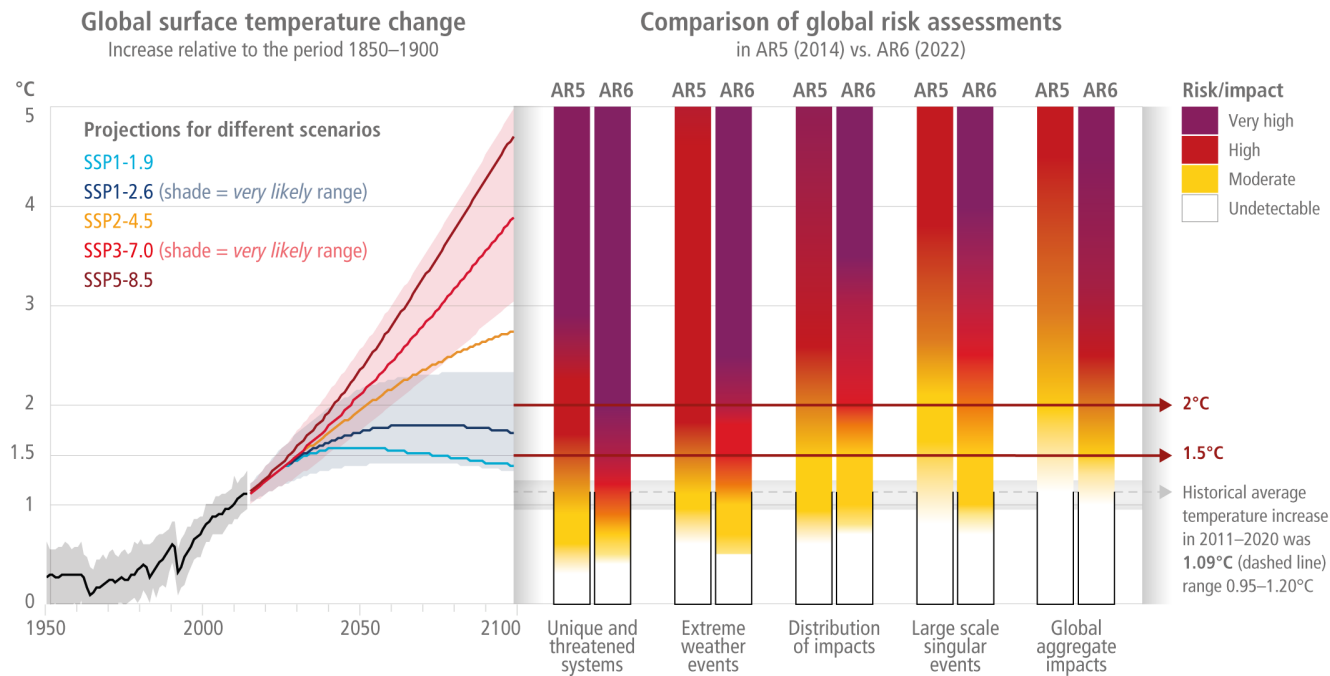
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Global and regional risk provide orientation for action (adaptation and mitigation)

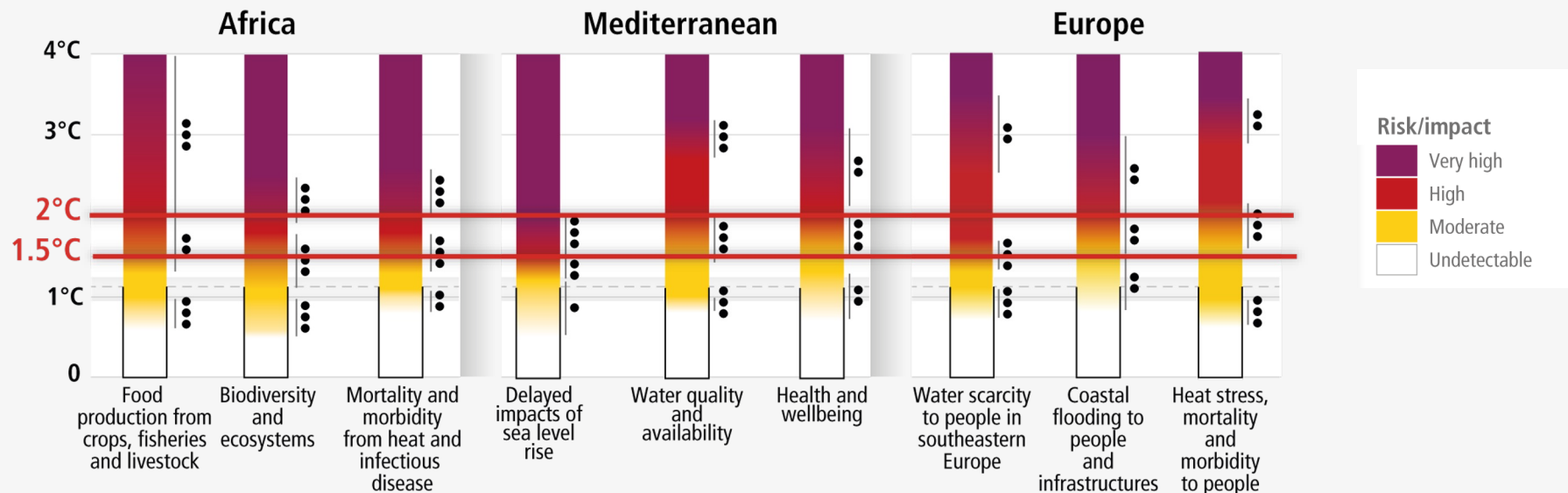


AR6 insight: Risks are developing sooner than assessed in AR5



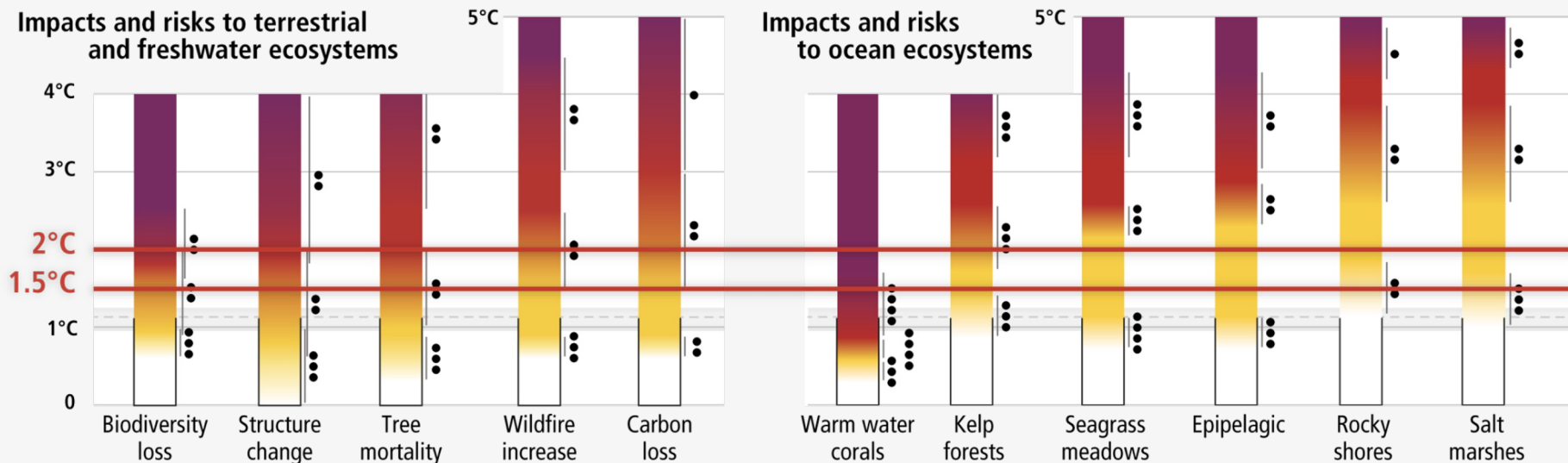
Global and regional risk provide orientation for action

... risk can be kept at moderate more often by keeping global warming below 1.5°C

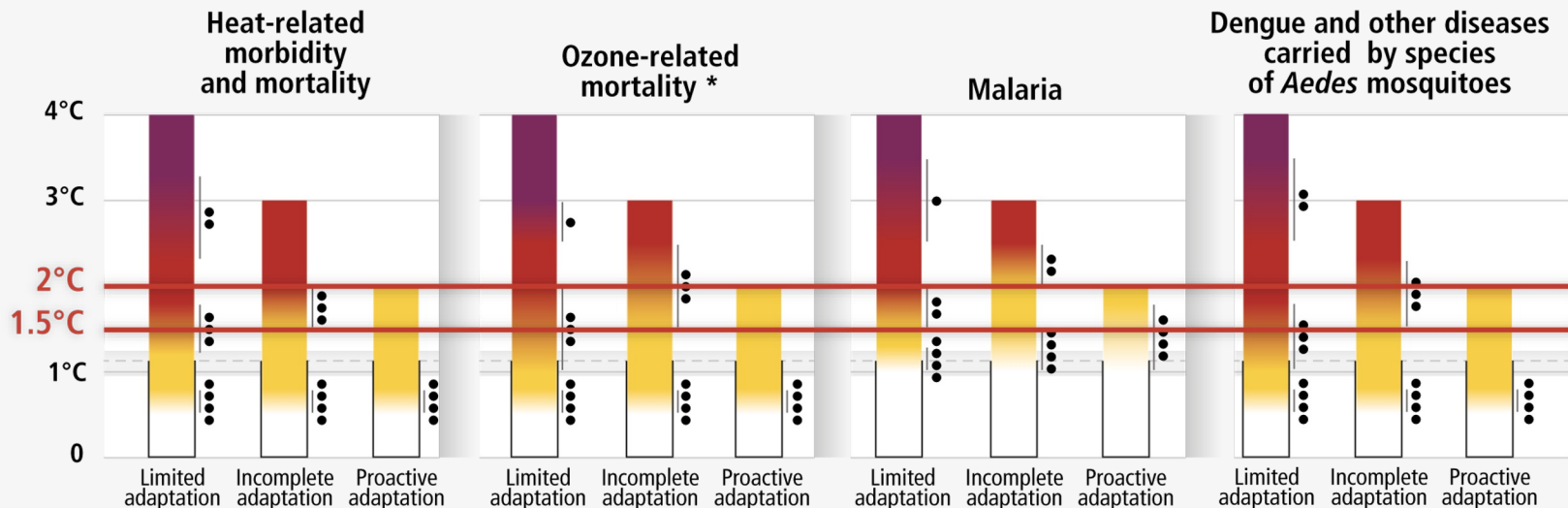


Global and regional risk provide orientation for action

... risk can be kept at moderate more often by keeping global warming below **1.5°C**



Risk development and reduction under 3 adaptation scenarios: human health



Scenario narratives

Limited adaptation: Failure to proactively adapt; low investment in health systems

Incomplete adaptation: Incomplete adaptation planning; moderate investment in health systems

Proactive adaptation: Proactive adaptive management; higher investment in health systems

* Mortality projections include demographic trends but do not include future efforts to improve air quality that reduce ozone concentrations.

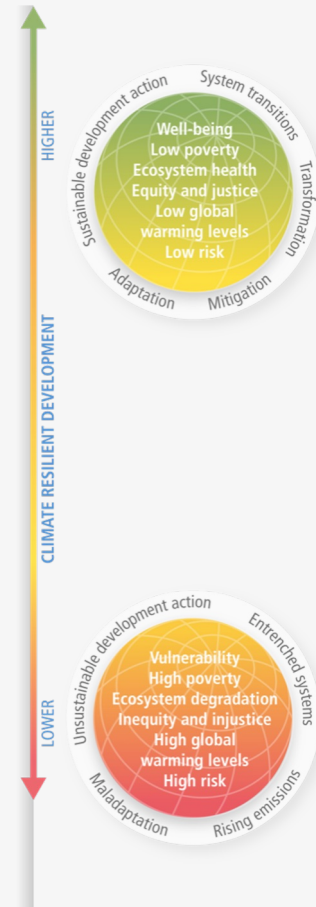
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Regardless of where we look:
every small increase in warming
will result in increased risks,
escalating above 1.5° global
warming.

Our desired future considering temperature goals?

- Reduced climate risks – adaptation and mitigation
- Reduced greenhouse gas emissions – mitigation
- Enhanced biodiversity
- Achieved the Sustainable Development Goals, *e.g.: no poverty, zero hunger, good health and well-being, and access to clean water and sanitation.*

This is Climate Resilient Development which is the solutions framework that works best at warming levels not exceeding 1.5°C...






Key message I

- Since AR5, climate risks are appearing faster and will get more severe sooner.
- Impacts cascade through natural and human systems, often compounding with the impacts from other human activities.



There are limits to adaptation

- Even effective adaptation cannot prevent all losses and damages
- Above 1.5°C some natural solutions may no longer work.
- Above 1.5°C, lack of fresh water could mean that people living on small islands and those dependent on glaciers and snowmelt can no longer adapt.
- By 2°C it will be challenging to farm multiple staple crops in many current growing areas.



Climate change
combines with
unsustainable use of
natural resources,
habitat destruction,
growing urbanization
and inequity

... reducing the
capacity to adapt.

Key message II

- For many locations on Earth, the capacity for adaptation is already significantly limited.
- The maintenance and recovery of natural and human systems will depend on the achievement of mitigation targets.





Key message III

- The magnitude of observed impacts and projected climate risks indicate the scale of decision-making, funding and investment needed over the next decade if climate resilient development is to be achieved.
- Available evidence on projected climate risks indicates that opportunities for adaptation to many climate risks will likely become constrained and have reduced effectiveness should 1.5°C global warming be exceeded...



Increasing urgency for Climate Resilient Development

Starting today, every action, every decision matters.

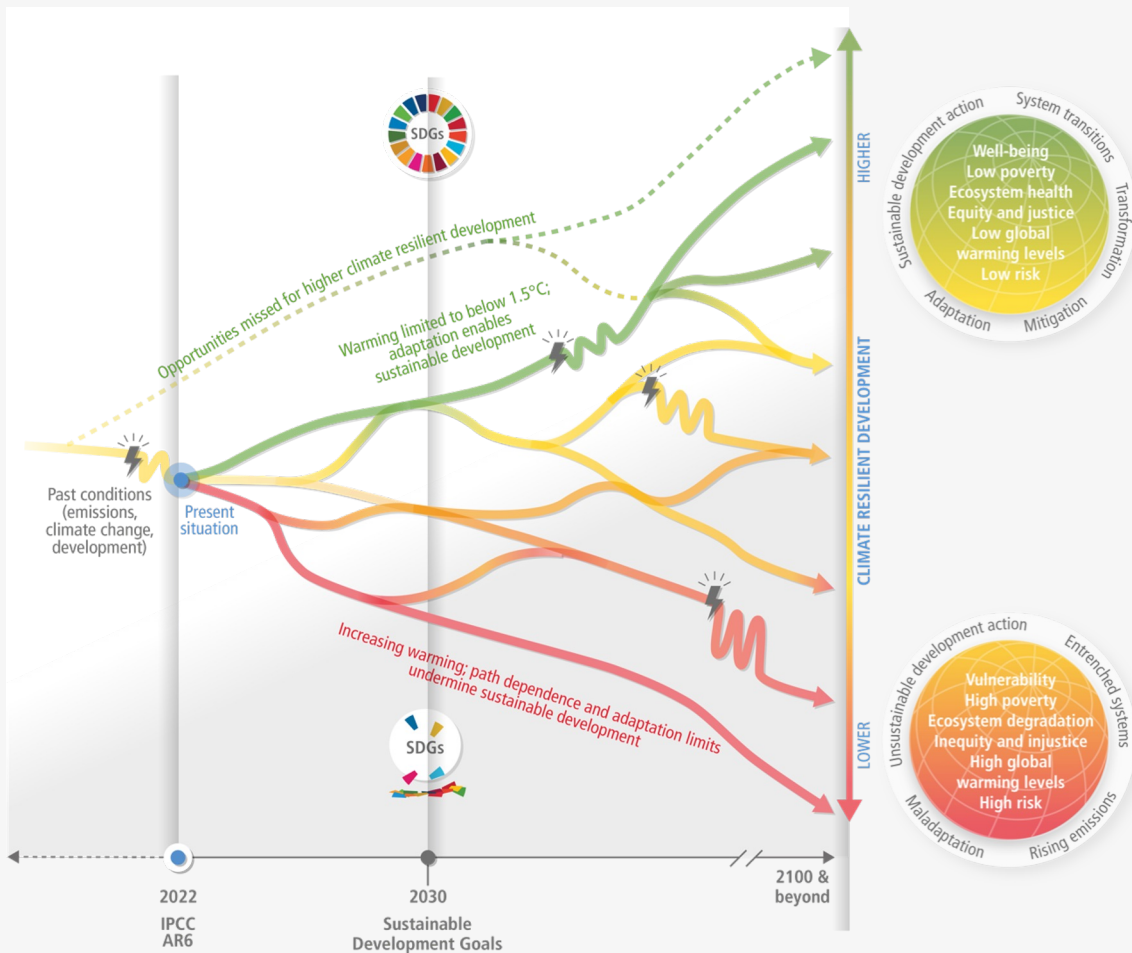
Worldwide action is more urgent than previously assessed.



Illustrative climatic or non-climatic shock, e.g. COVID-19, drought or floods, that disrupts the development pathway



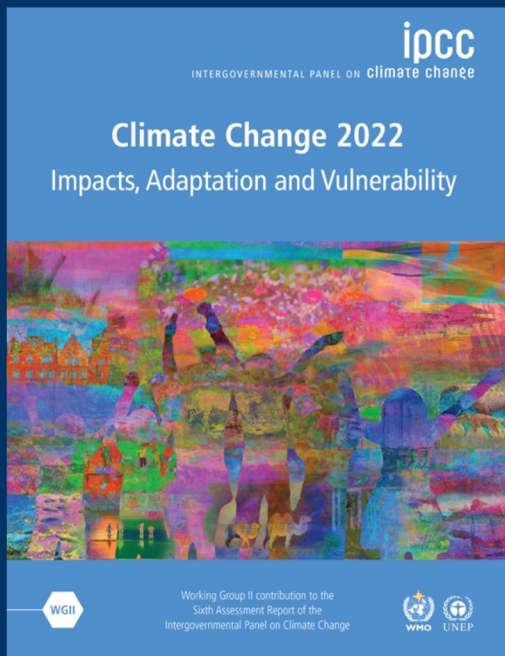
Narrowing window of opportunity for higher CRD



“

Climate resilient development is already challenging at current global warming levels.

The prospects will become further limited if warming exceeds 1.5°C and may not be possible if warming exceeds 2°C.



The science is clear.

Any further delay in concerted global action will miss a brief and rapidly closing window to secure a liveable future.

This report offers solutions to the world.