

## Climate Change 2022

# Impacts, Adaptation and Vulnerability

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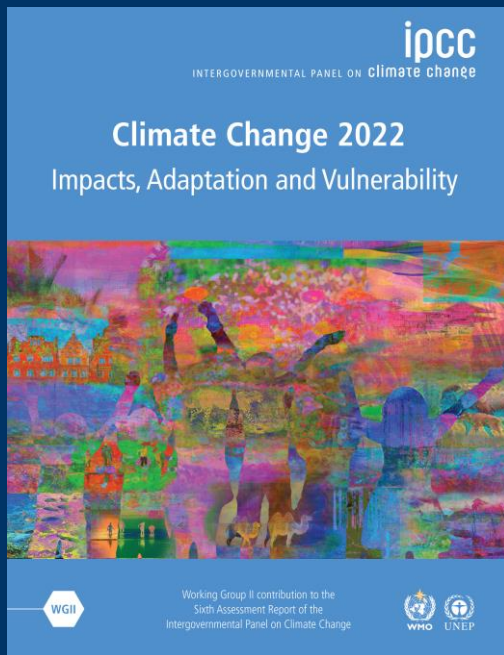
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3.3 – 3.6 billion people live in hotspots of high vulnerability to climate change.



## (b) Observed impacts of climate change on human systems

Human systems	Impacts on water scarcity and food production				Impacts on health and wellbeing				Impacts on cities, settlements and infrastructure			
	Water scarcity	Agriculture/crop production	Animal and livestock health and productivity	Fisheries yields and aquaculture production	Infectious diseases	Heat, malnutrition and other	Mental health	Displacement	Inland flooding and associated damages	Flood/storm induced damages in coastal areas	Damages to infrastructure	Damages to key economic sectors
Global	+	-	○	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-
Asia	+	+	-	-	-	-	-	-	-	-	-	-
Australasia	+	-	+	-	-	-	-	not assessed	-	-	-	-
Central and South America	+	-	+	-	-	-	not assessed	-	-	-	-	-
Europe	+	+	-	+	-	-	-	-	-	-	-	-
North America	+	+	-	+	-	-	-	-	-	-	-	-
Small Islands	-	-	-	-	-	-	-	-	-	-	-	-
Arctic	+	+	-	-	-	-	-	-	-	-	-	+
Cities by the sea	○	○	○	-	○	-	not assessed	-	○	-	-	-
Mediterranean region	-	-	-	-	-	-	not assessed	-	+	-	○	-
Mountain regions	+	+	-	○	-	-	-	-	-	na	-	-

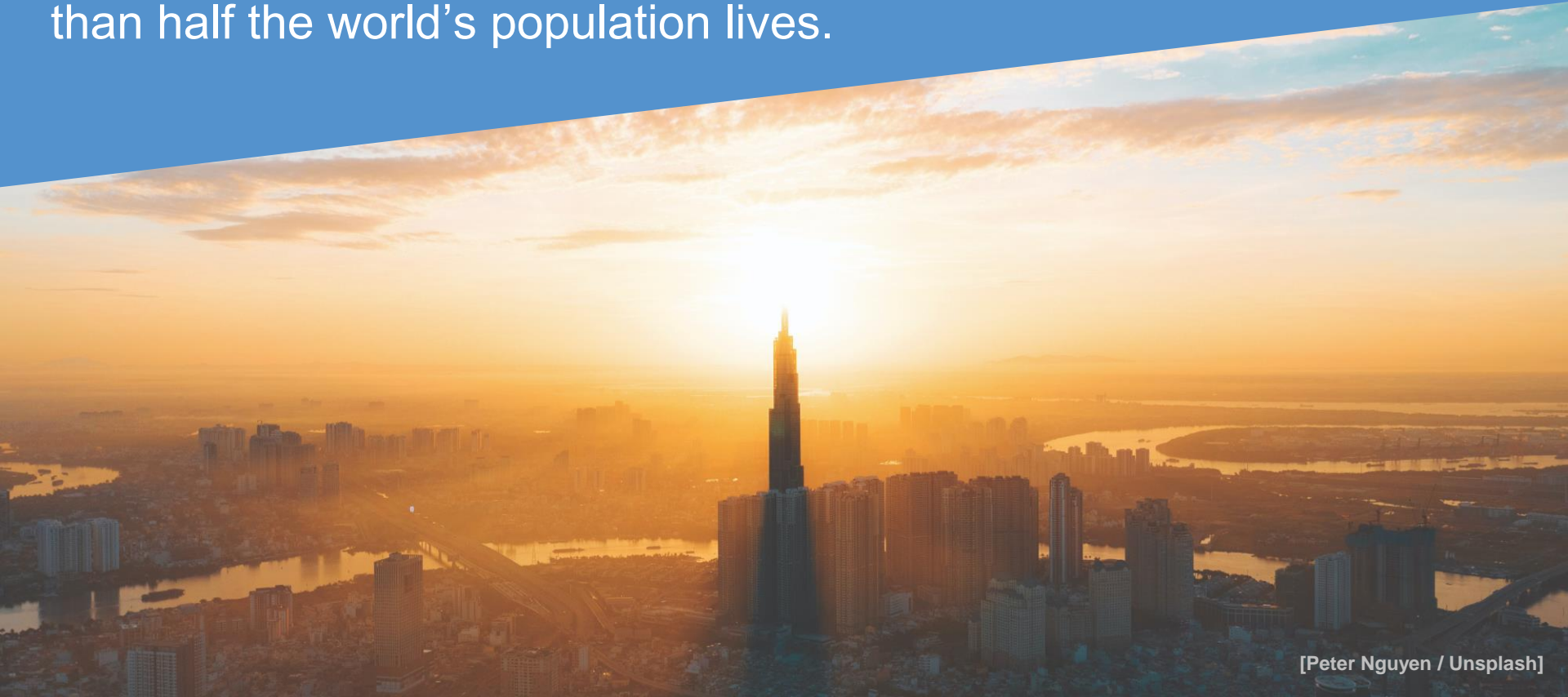


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Jointly, sudden losses of food production and access to food compounded by decreased diet diversity have increased malnutrition in many communities (*high confidence*), especially for Indigenous Peoples, small-scale food producers and low-income households (*high confidence*), with children, elderly people and pregnant women particularly impacted (*high confidence*).

Roughly half of the world's population currently experience severe water scarcity for at least some part of the year due to climatic and non-climatic drivers (*medium confidence*).

Impacts are magnified in cities where more than half the world's population lives.



# Simultaneous extreme events compound risks

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



## 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.

# Increasing urgency

Starting today,  
every action, every  
decision matters.

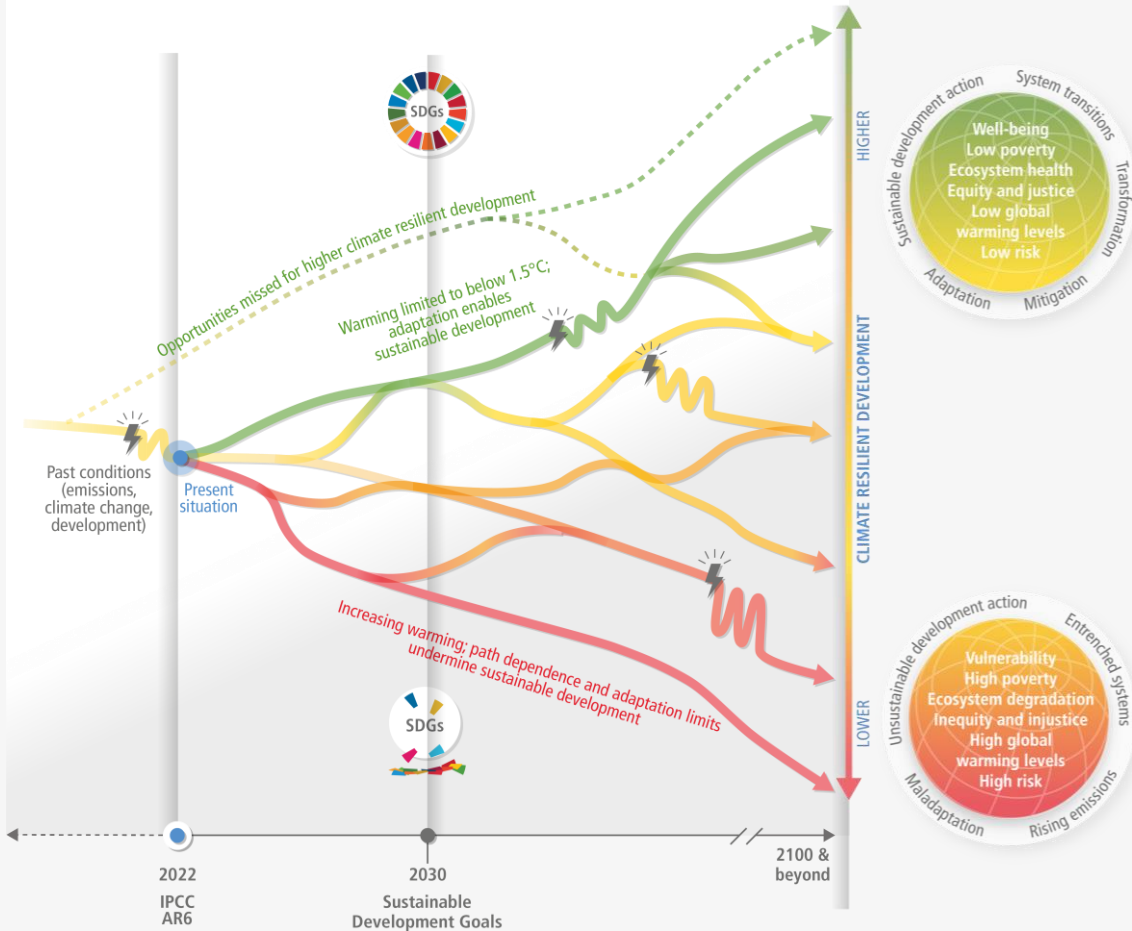
Worldwide action is more urgent  
than previously assessed.



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



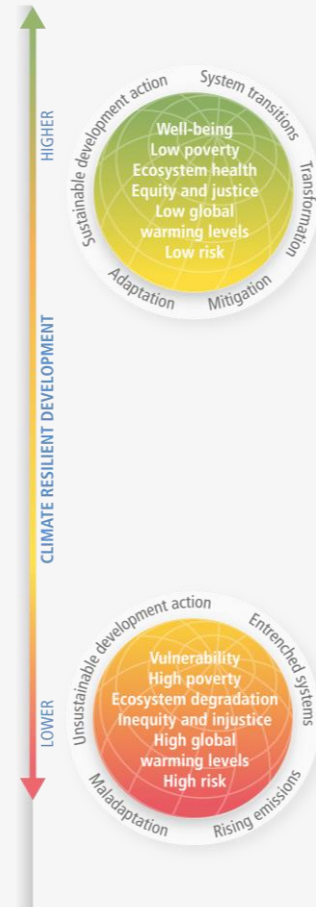
Narrowing window of  
opportunity for higher CRD



## Our future?

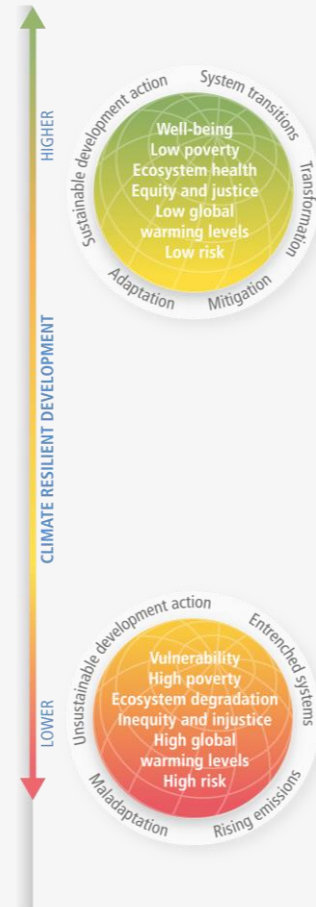
- Reduced climate risks – adaptation
- Reduced greenhouse gas emissions – mitigation
- Enhanced biodiversity
- Achieved the Sustainable Development Goals

**This is Climate Resilient Development.**



# Enabling Climate Resilient Development

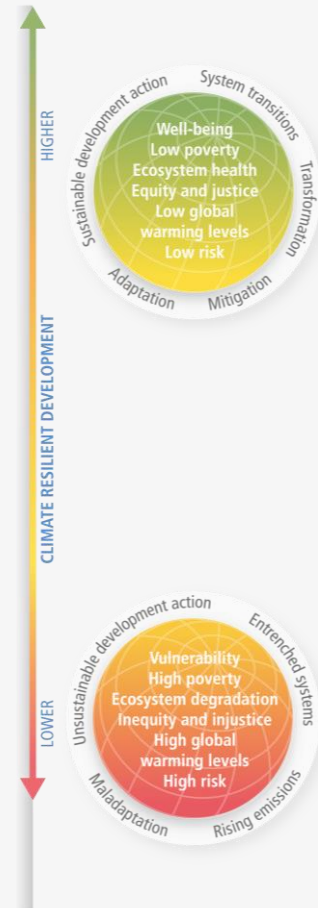
**SPM.D.2.** Climate resilient development is facilitated by international cooperation and by governments at all levels working with communities, civil society, educational bodies, scientific and other institutions, media, investors and businesses; and by developing partnerships with traditionally marginalised groups, **including women, youth**, Indigenous Peoples, local communities and ethnic minorities (*high confidence*). These partnerships are most effective when supported by enabling political leadership, institutions, resources, including finance, as well as climate services, information and decision support tools (*high confidence*).

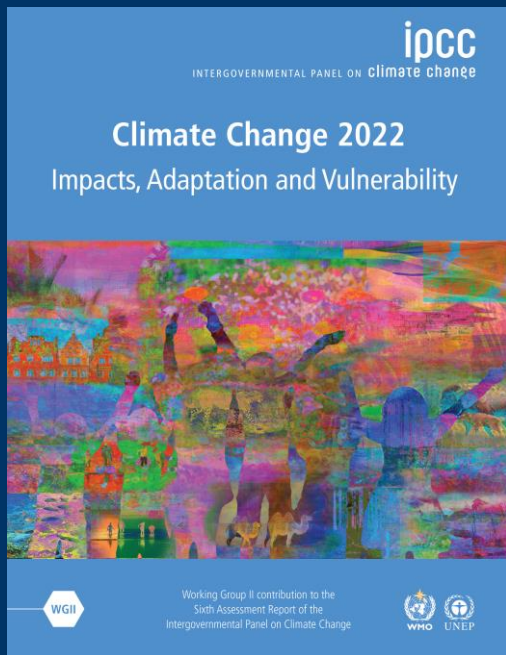


# Climate Resilient Development

## Cross-cutting options of adaptation (SPM C.2.12 – displacement):

- Some development reduces underlying vulnerabilities associated with conflict, and adaptation contributes by reducing the impacts of climate change on climate sensitive drivers of conflict (*high confidence*).
- Risks to peace are reduced, for example, by supporting people in climate-sensitive economic activities (*medium confidence*) and advancing **women's empowerment** (*high confidence*).





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.