Scientific evidence of climate change: Key messages from the IPCC

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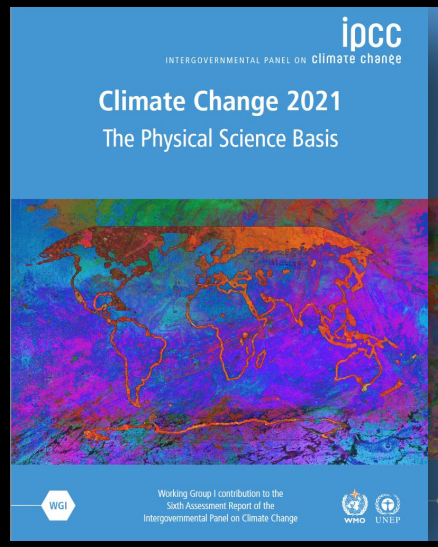
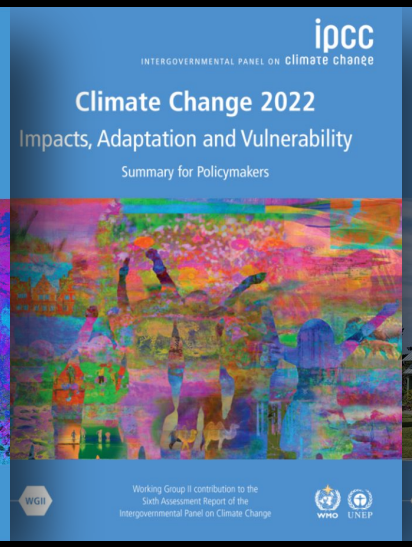
The state of knowledge about climate change: The scientific evidence is unequivocal

WGI



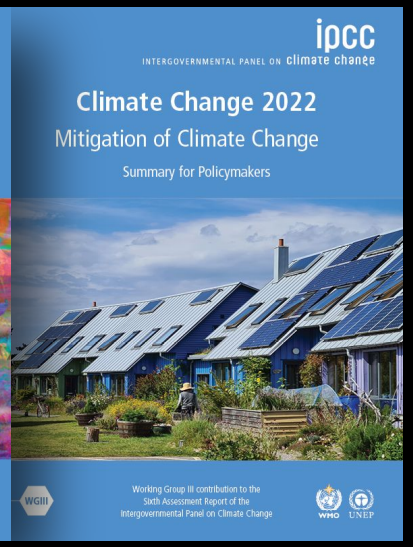
AR6 Cambio Climático 2021: La base de la ciencia física

WGII



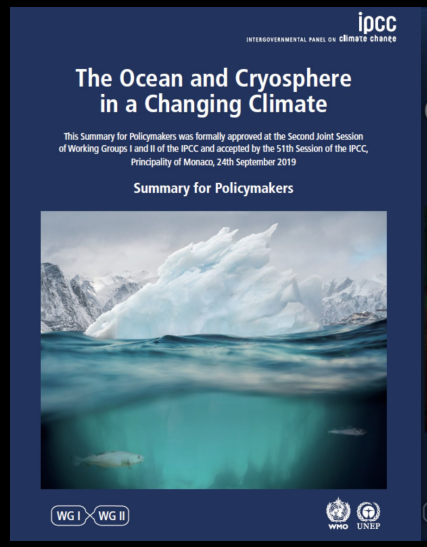
Cambio Climático 2022: Impactos, Adaptación y Vulnerabilidad

WGIII

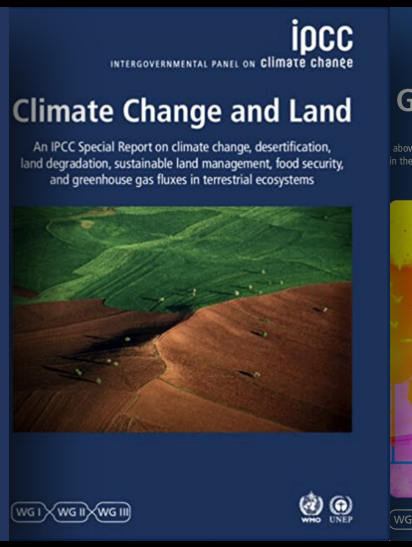


Cambio Climático 2022: Mitigación del Cambio Climático

Reportes Especiales



Océano y Criósfera en un Clima Cambiante



Cambio Climático y Suelo

Calentamiento Global de 1.5 ºC

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[Credit: Peter John Maridable]

> Immediate, rapid and large-scale reductions in greenhouse gas emissions are required to limit warming to 1.5°C.

Future emissions cause additional future warming

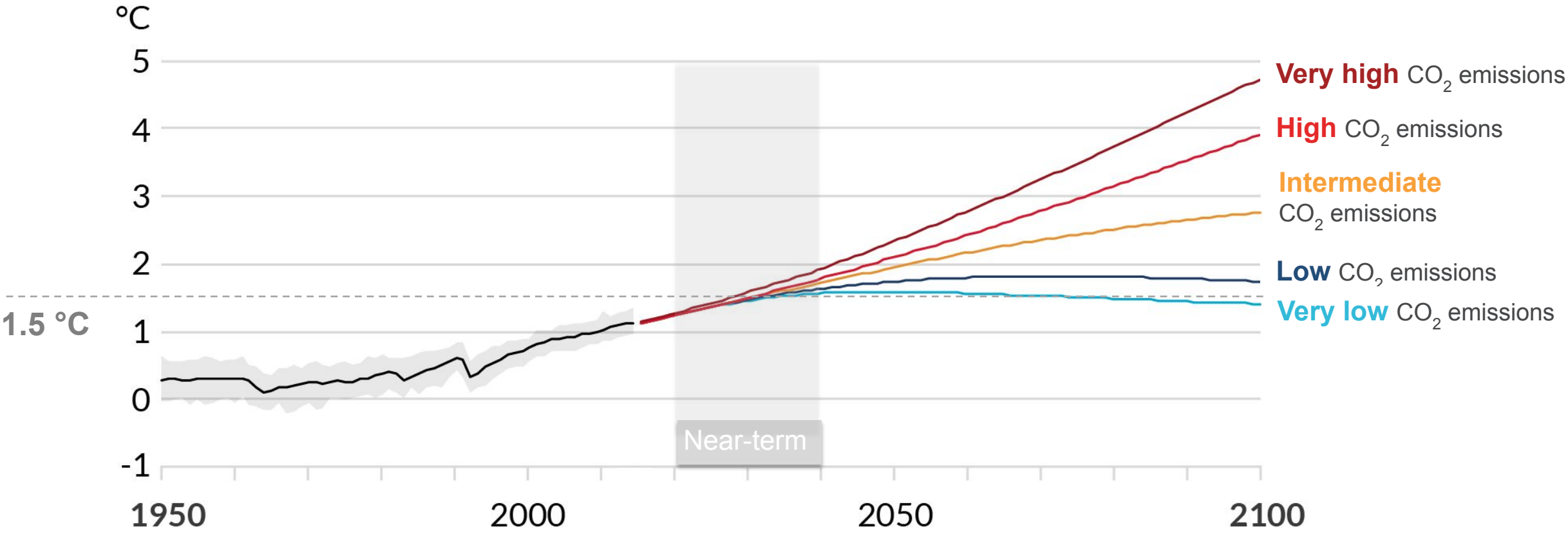
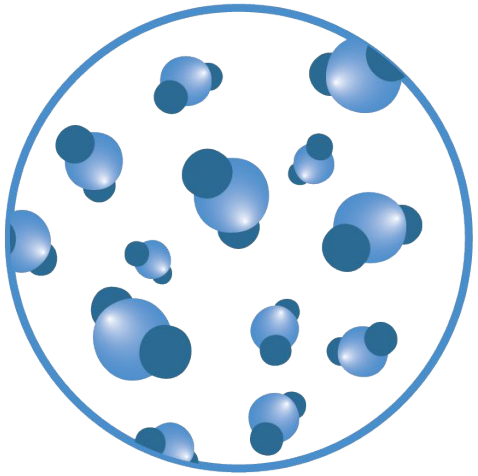


Figura 1 Box SPM.1

[Credit: NASA]

> “Recent changes in climate are widespread, rapid and increasingly intense, and are unprecedented in thousands of years.

Concentration of CO_2



The highest

in at least

2 million years

Rise in sea level

Faster pace in

at least

3000 years

Area of sea ice in the arctic

Lowest level in

at least

1000 years

Glacier retreat

Without

precedents in

at least

2000 years

[Credit: Yoda Adaman | Unsplash]

> It is indisputable that human activities are causing climate change, making extreme weather events such as heat waves, torrential rains, droughts, fire weather and impacts on the ocean more frequent and severe.

Central and South America is a highly exposed and vulnerable region, and strongly impacted by climate change.

All sectors and subregions of Central and South America have already been impacted by climate change

[Credit: Hong Nguyen | Unsplash]

“

The changes we experience will increase with further warming.

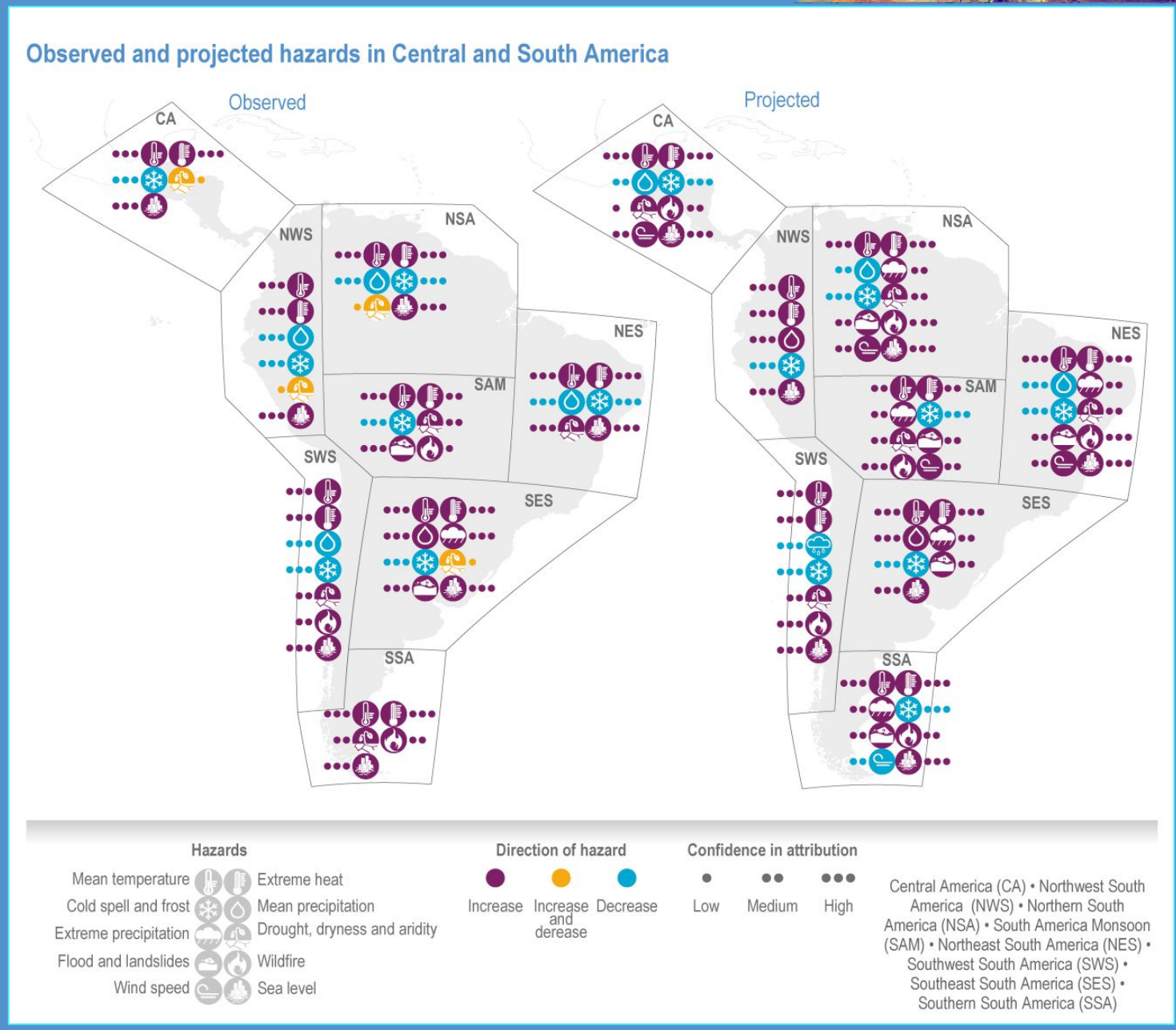
Observed and projected threats

Common for the Region:

- Temperature increase
- Increase in heat waves
- Increase in fires (SWS)
- Increased frost (SSA exception)
- Rising sea levels

Diversity in patterns in the Region:

- Precipitation
- Droughts

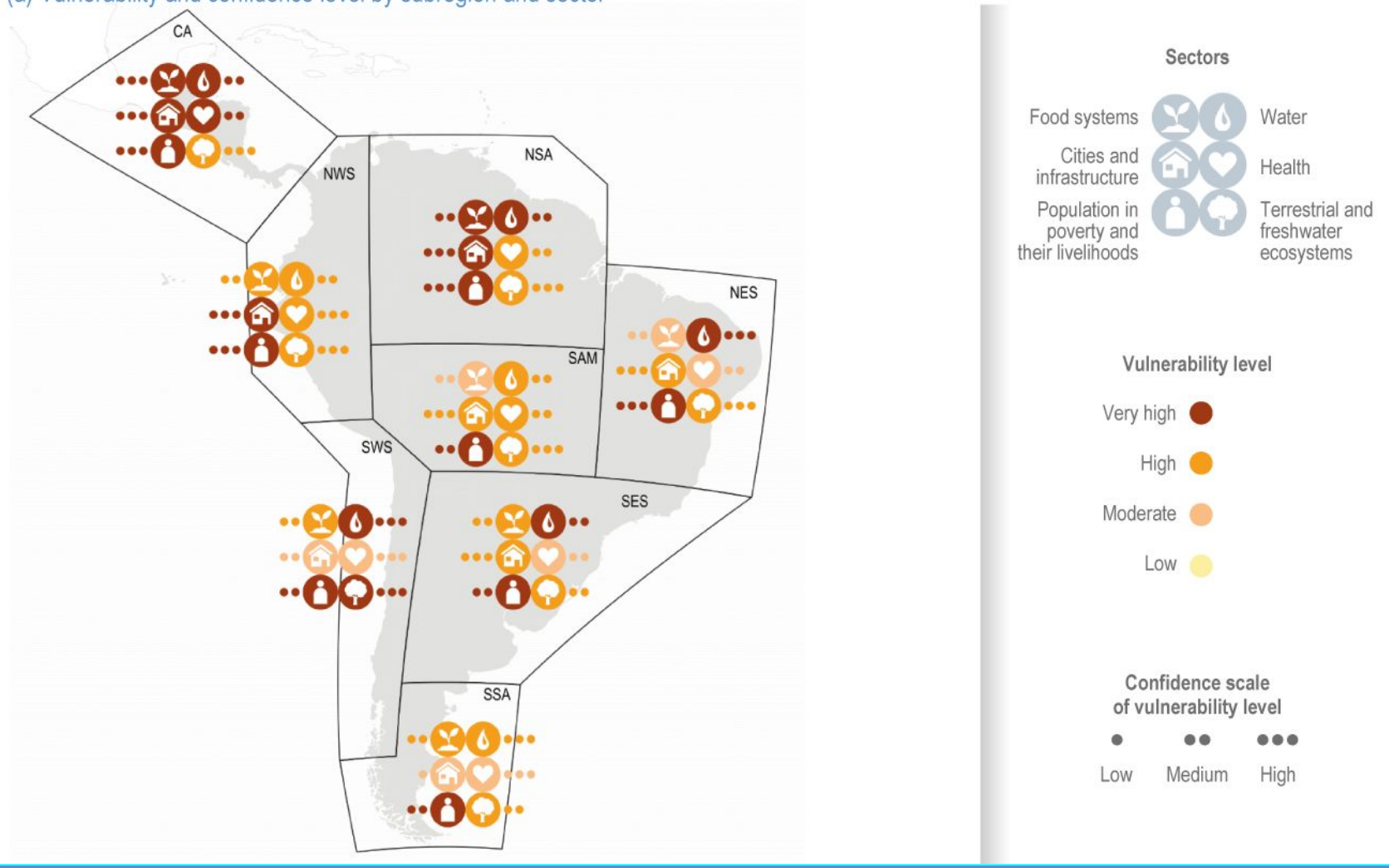


Observed:
Agriculture, water and cities are the most vulnerable to change climate

Climate change is generating conditions to increase the inequality and poverty in all subregions of Central and South America

Sectoral distribution of vulnerability to climate change for Central and South America

(a) Vulnerability and confidence level by subregion and sector



Main impacts observed

- Massive loss of glaciers (30–50% total mass in the last 40 years)
- Landslides and floods have increased erosion, water availability and quality in all regions
- Synergies between fire, land use and deforestation with impacts on ecosystems, human health, food security and assets of human communities
- Impacts on agricultural production
- Changes in transmission and habitability of vectors such as dengue or Zika
- High sensitivity to displacements (Brazil, Central America)
- Differential impacts between men and women

[Credit: Jenn Caselle | UCSB]

> There is no going back from some of changes in the climate system…

Oceans and cryosphere

Melting ice sheets

Photo Credits: Konrad Steffen

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Every small increase in warming will result in greater risks.

[Ocean Image Bank / The Ocean Agency]

Risks in Central and South America

1. Food Security due to drought
2. Life and infrastructure due to floods and landslides
3. Water security
4. Epidemics
5. Infrastructure and public services
6. Changes in the Amazon biomes
7. Coral bleaching
8. Coastal communities and ecosystems in the face of sea level rise, storms and coastal erosion

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Climate change is affecting the lives of billions of people, despite efforts to adapt.

[NLRC via IFRC CC BY-NC 2.0]

Urgent climate action can ensure a liveable future for all

HOPE

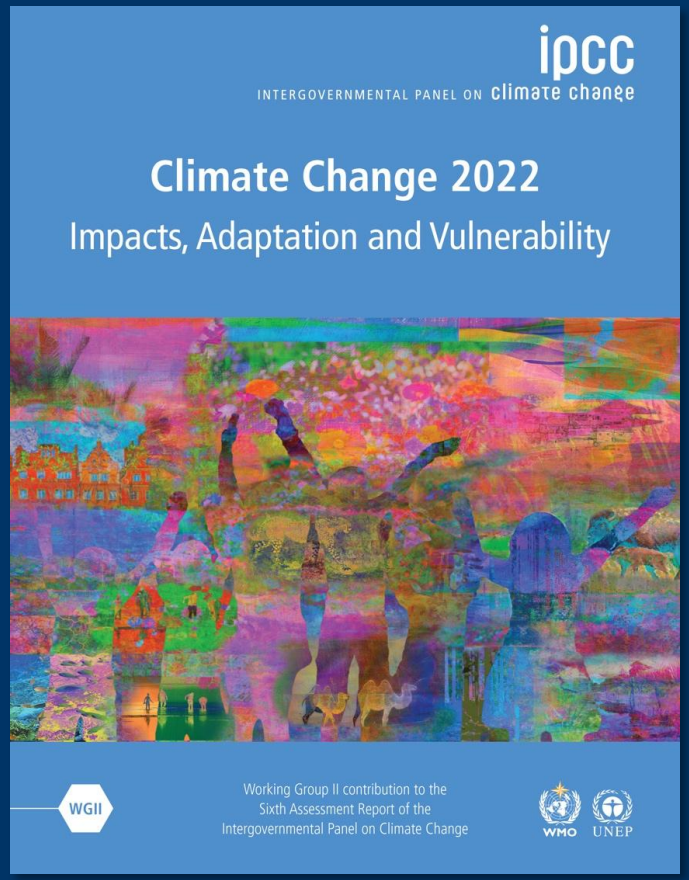
Action on adaptation has increased, but progress is uneven and we are not adapting quickly enough.

[Boskalis / Rijkswaterstaat]

“There are increasing gaps between the adaptation measures adopted and what is needed.

These gaps are greater among lower-income populations.

They are expected to grow.



“ The science is clear.

Any further delay in concerted global action will result in missing the rapidly closing window to secure a livable future.

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