

# Nature-based Solutions (NbS) for Climate Resilience

RODEL D. LASCO



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Science for Climate Resilient Communities



# 'Delay means death': We're running out of ways to adapt to the climate crisis, new report shows. Here are the key takeaways

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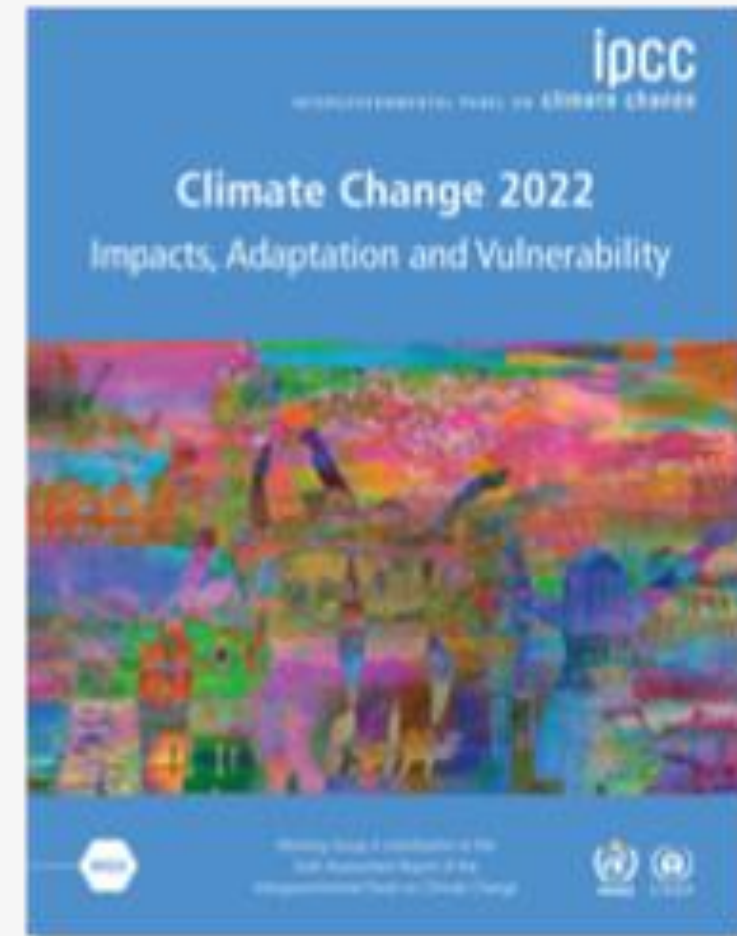
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**Climate change is intensifying Earth's water cycle at twice the predicted rate, research shows**

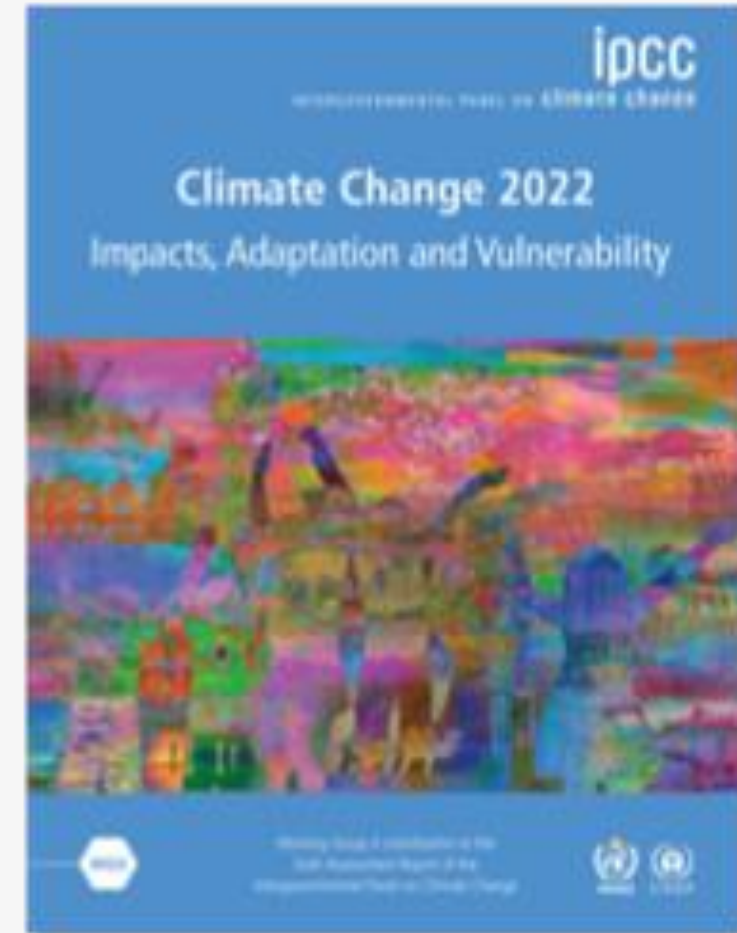
## KEY MESSAGE

- The cumulative scientific evidence is unequivocal: **climate change is a threat** to human wellbeing and the health of the planet.
- Any further delay in **concerted global action** will miss a brief and rapidly closing window to secure a liveable future.

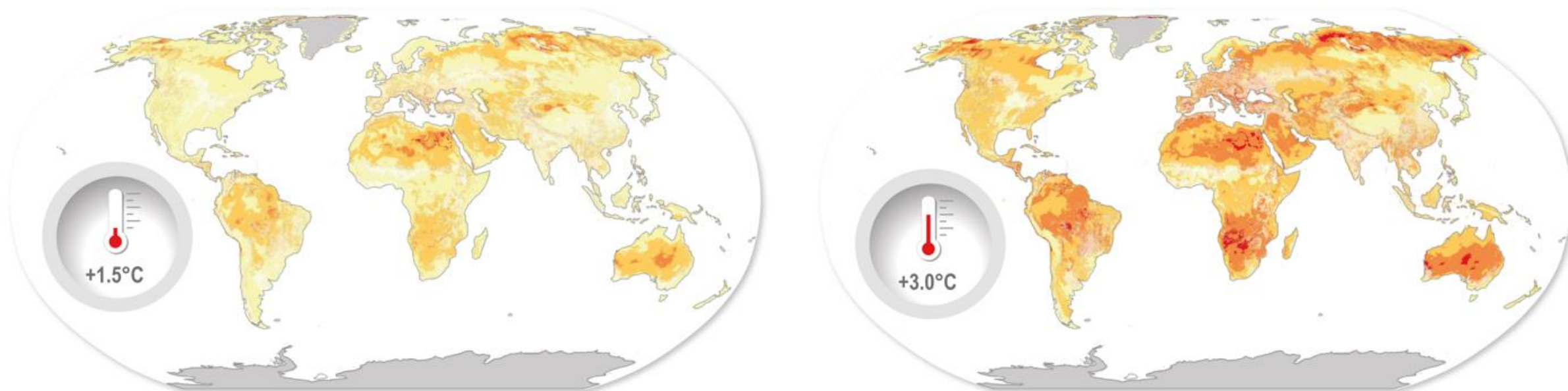


## CC impacts on the IPs and the poor (SPM B.1.3)

- Sudden losses in food production and access to food...have increased malnutrition in many communities, especially for Indigenous Peoples, small-scale food producers and low-income households.



# Biodiversity loss at different warming levels

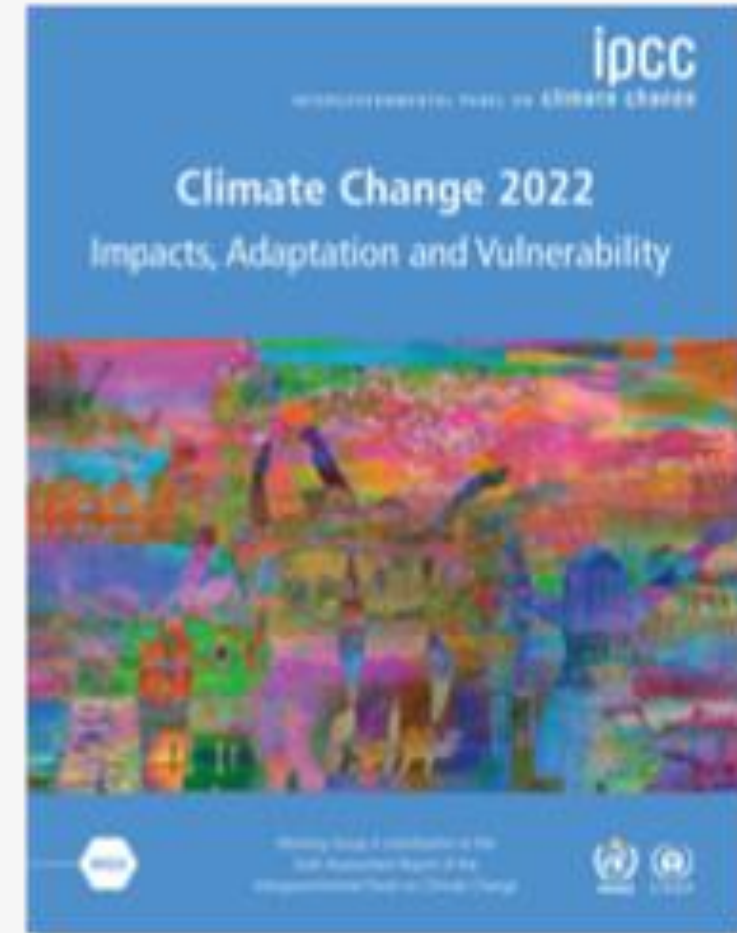


Loss of biodiversity



## CC impacts on the IPs and the poor (SPM B.2.1)

- Loss of ecosystems and their services has cascading and long-term impacts on people, especially for Indigenous Peoples and local communities who are directly dependent on ecosystems, to meet basic needs.



## The wider benefits of adaptation



For more than 3.4 billion people in rural areas: improved roads, reliable energy, clean water, food security

**SDG 1: No poverty**



Green buildings, green spaces, clean water, renewable energy, sustainable transport – in cities

**SDG 3: Good health and wellbeing**



Policies that increase youth access to land, credit, knowledge and skills can support agri-food employment

**SDG 10: Reduced inequality**

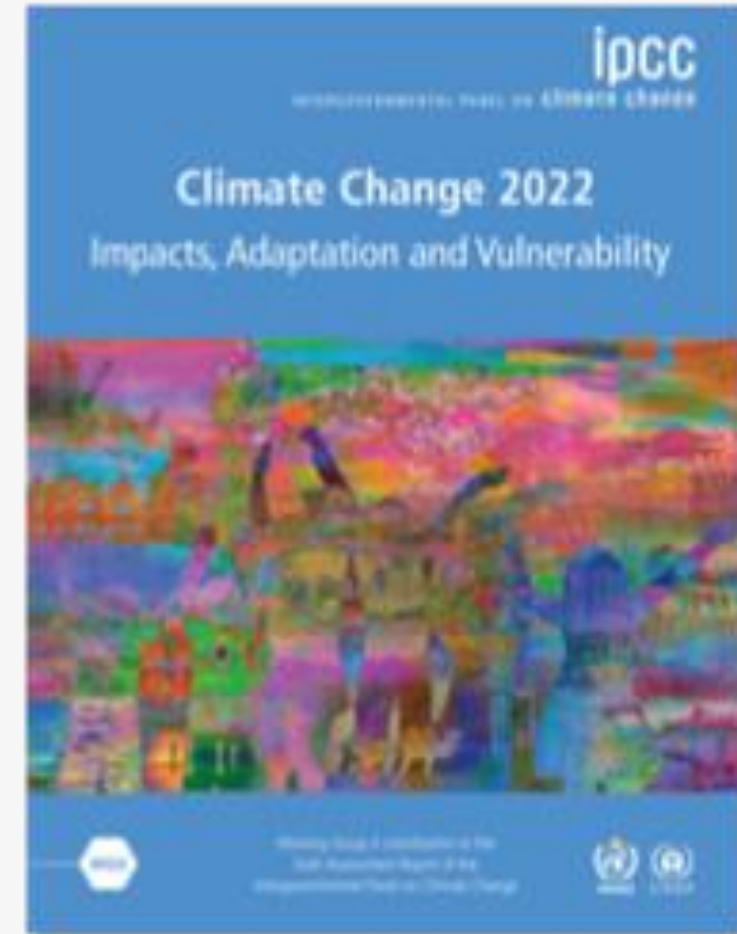


Restored and connected habitats can provide corridors for vulnerable species

**SDG 14/15: Life on land & below water**

## Maladaptation (misguided adaptation) (C.4.3 )

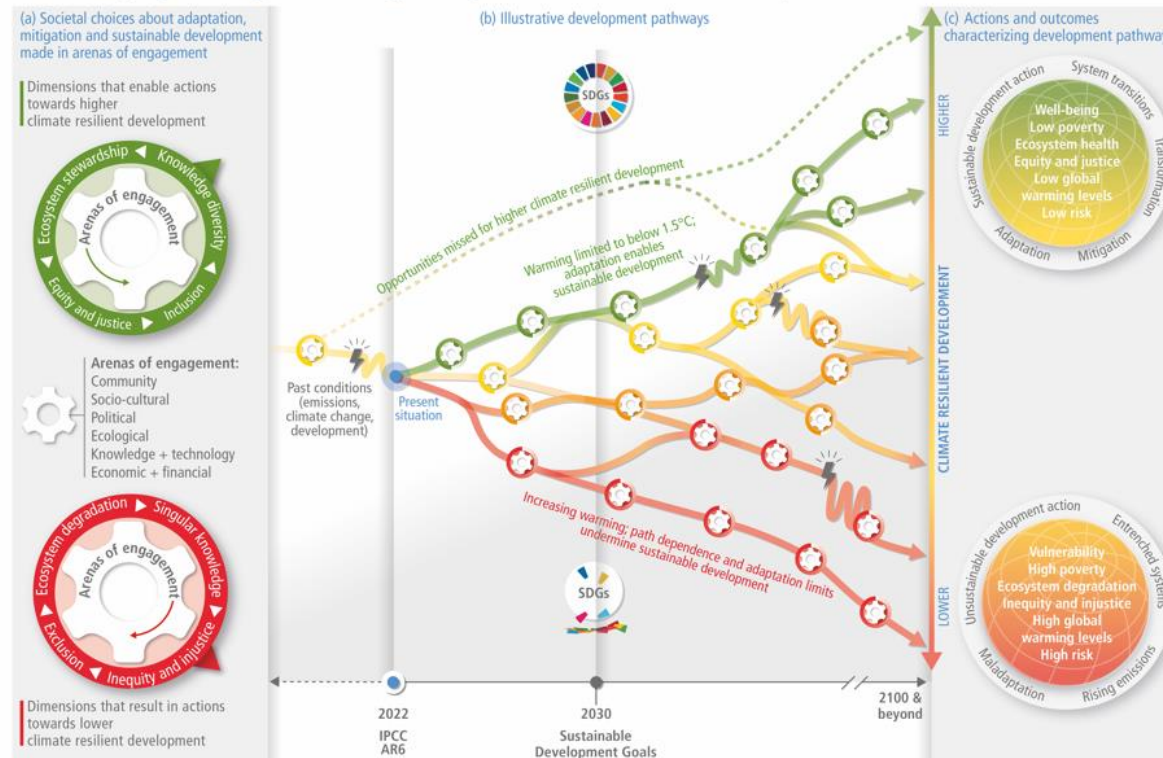
- Maladaptation especially affects marginalised and vulnerable groups adversely (e.g., Indigenous Peoples, ethnic minorities, low-income households, informal settlements), reinforcing and entrenching existing inequities.





# Climate-resilient development

There is a rapidly narrowing window of opportunity to enable climate resilient development



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

## MESSAGE D.4

Safeguarding biodiversity and ecosystems is fundamental to climate resilient development



## MESSAGE D.4

CRD is facilitated by... developing partnerships with traditionally marginalised groups, including women, youth, Indigenous Peoples, local communities and ethnic minorities



# Climate Change 2022

## Mitigation of Climate Change

Summary for Policymakers



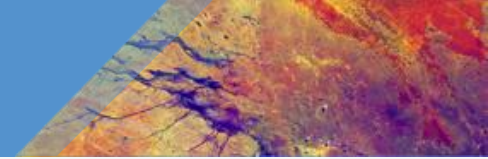
This Summary for Policymakers was formally approved at the 14th Session of Working Group III and accepted by the 56th Session of the IPCC virtual meeting on 4 April 2022. - SUBJECT TO COPY EDIT -

Working Group III contribution to the  
Sixth Assessment Report of the  
Intergovernmental Panel on Climate Change



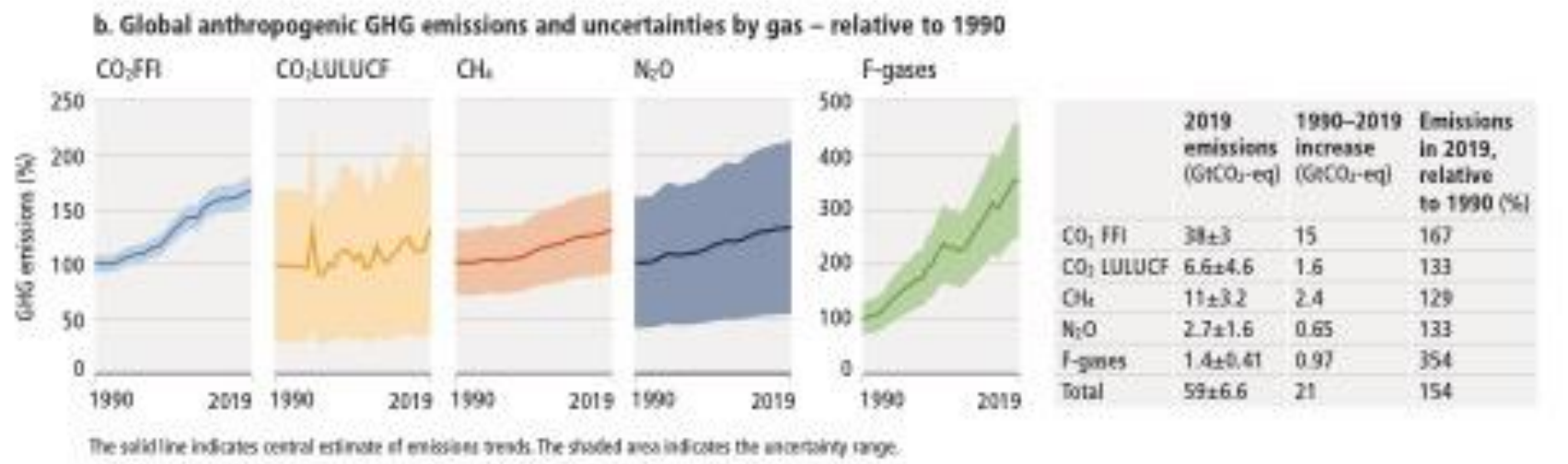
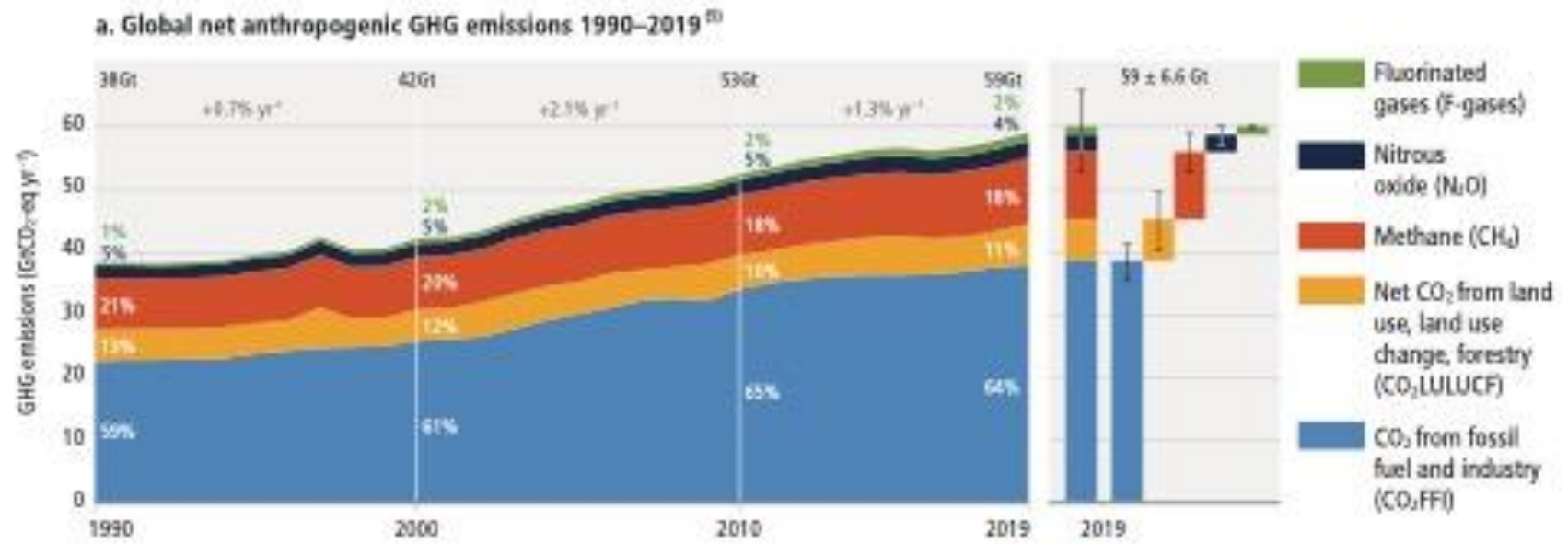
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**GHGs  
continue  
to rise**

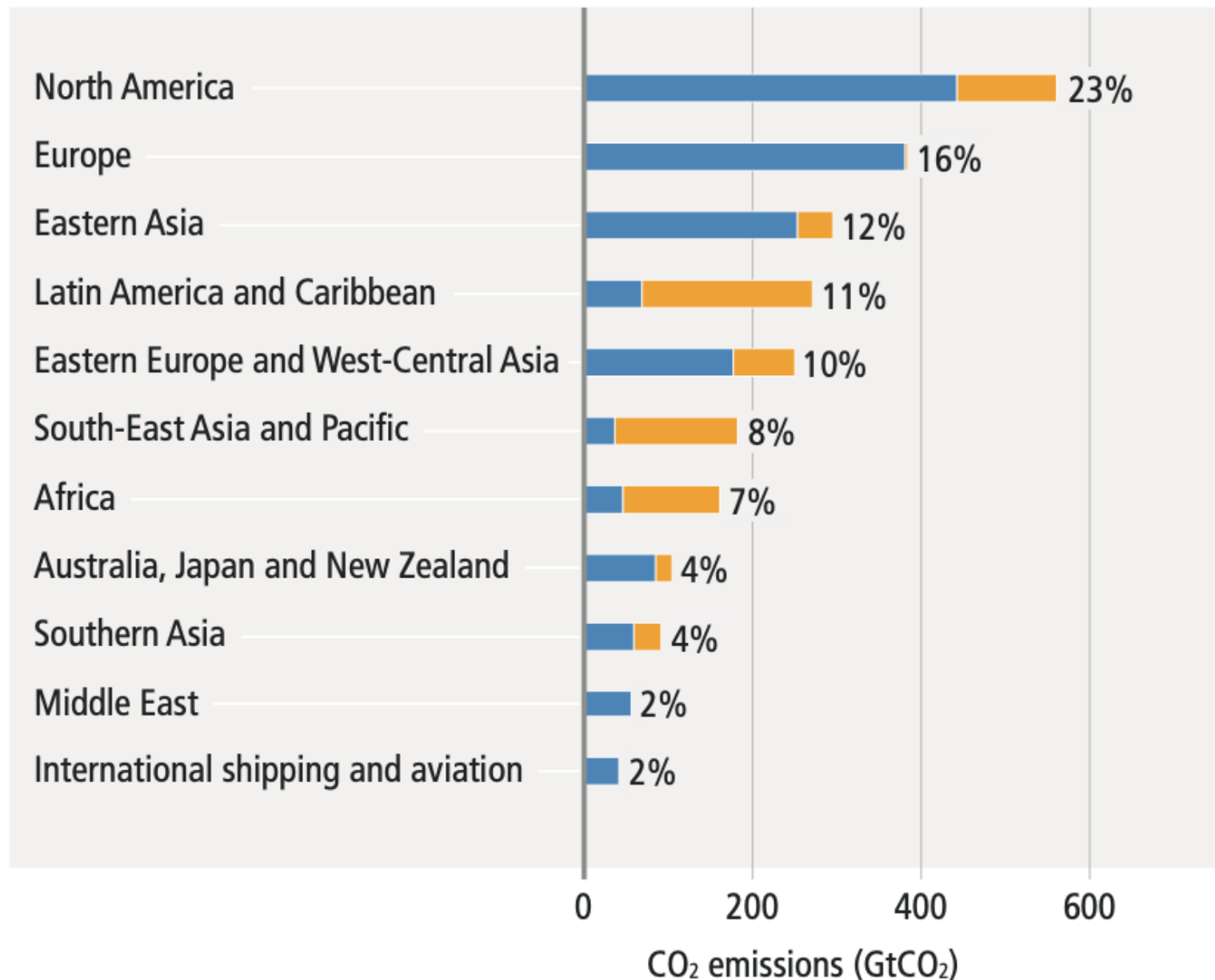
**Global net anthropogenic emissions have continued to rise across all major groups of greenhouse gases.**



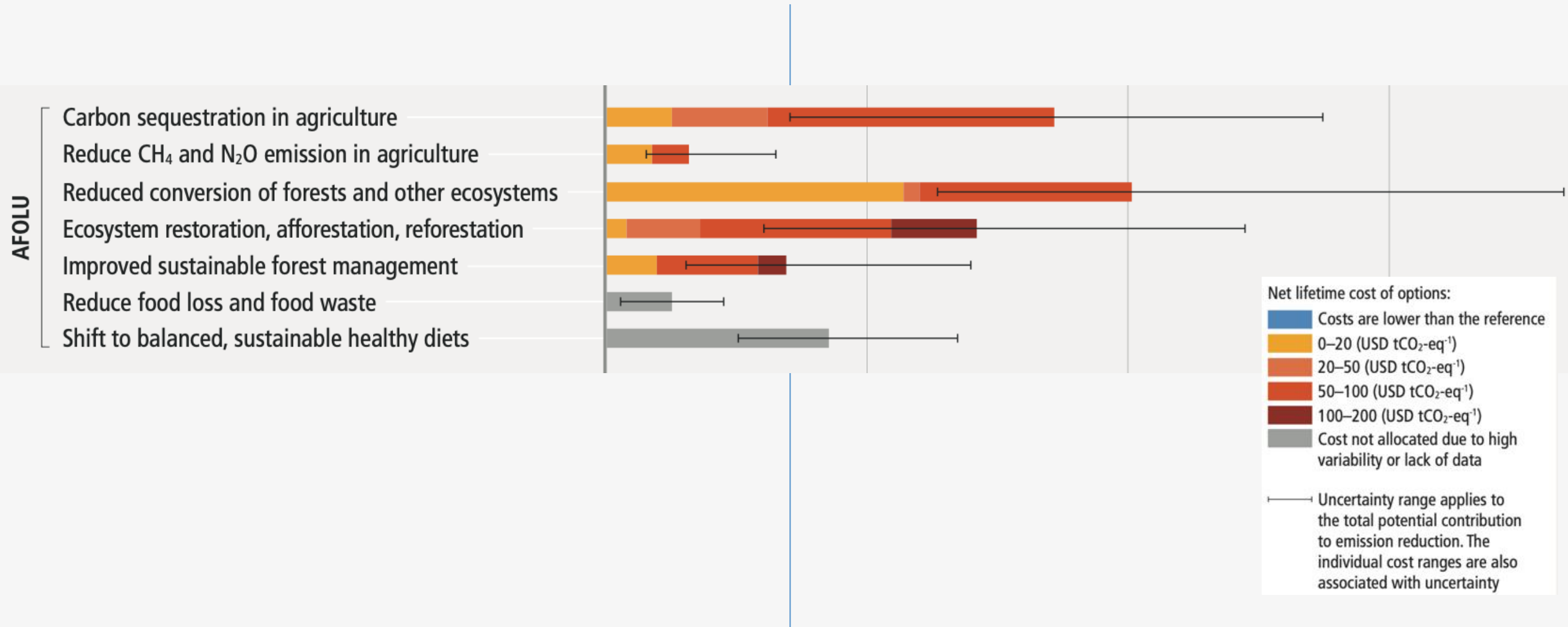
**b. Historical cumulative net anthropogenic CO<sub>2</sub> emissions per region (1850–2019)**

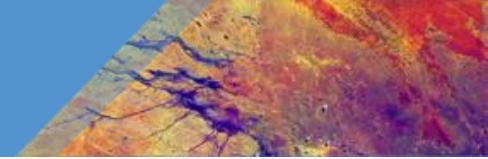
**Fossil fuel and industry (CO<sub>2</sub>FFI)**

**Net CO<sub>2</sub> from land use, land use change, forestry (CO<sub>2</sub>LULUCF)**



# Mitigation potential of AFOLU





# Impacts on the SDGs

Agriculture, Forestry and Other Land Use (AFOLU)

Carbon sequestration in agriculture <sup>1</sup>	+	+	•	+		+	•	+	+	+	Sections 7.3, 7.4, 7.6		
Reduce CH <sub>4</sub> and N <sub>2</sub> O emission in agriculture		•	+	•		•		+	+	+	Section 7.4		
Reduced conversion of forests and other ecosystems <sup>2</sup>	•	-	+	+		•		•	+	+	•	•	Section 7.4
Ecosystem restoration, reforestation, afforestation	+	•	+	•		-	•	+	•	+	+	Section 7.4	
Improved sustainable forest management	+	•	+	+	•	+	+	•	•	+	+	Section 7.4	
Reduce food loss and food waste	+	+	+	+	+			+	+	+	+	+	Section 7.5
Shift to balanced, sustainable healthy diets	•	+	+	+	+		•	+	+	+	+	Section 7.4	
Renewables supply <sup>3</sup>	•	•	•	•	•	+	+			•	•	Section 7.6	





# Nature-based Solutions Initiative

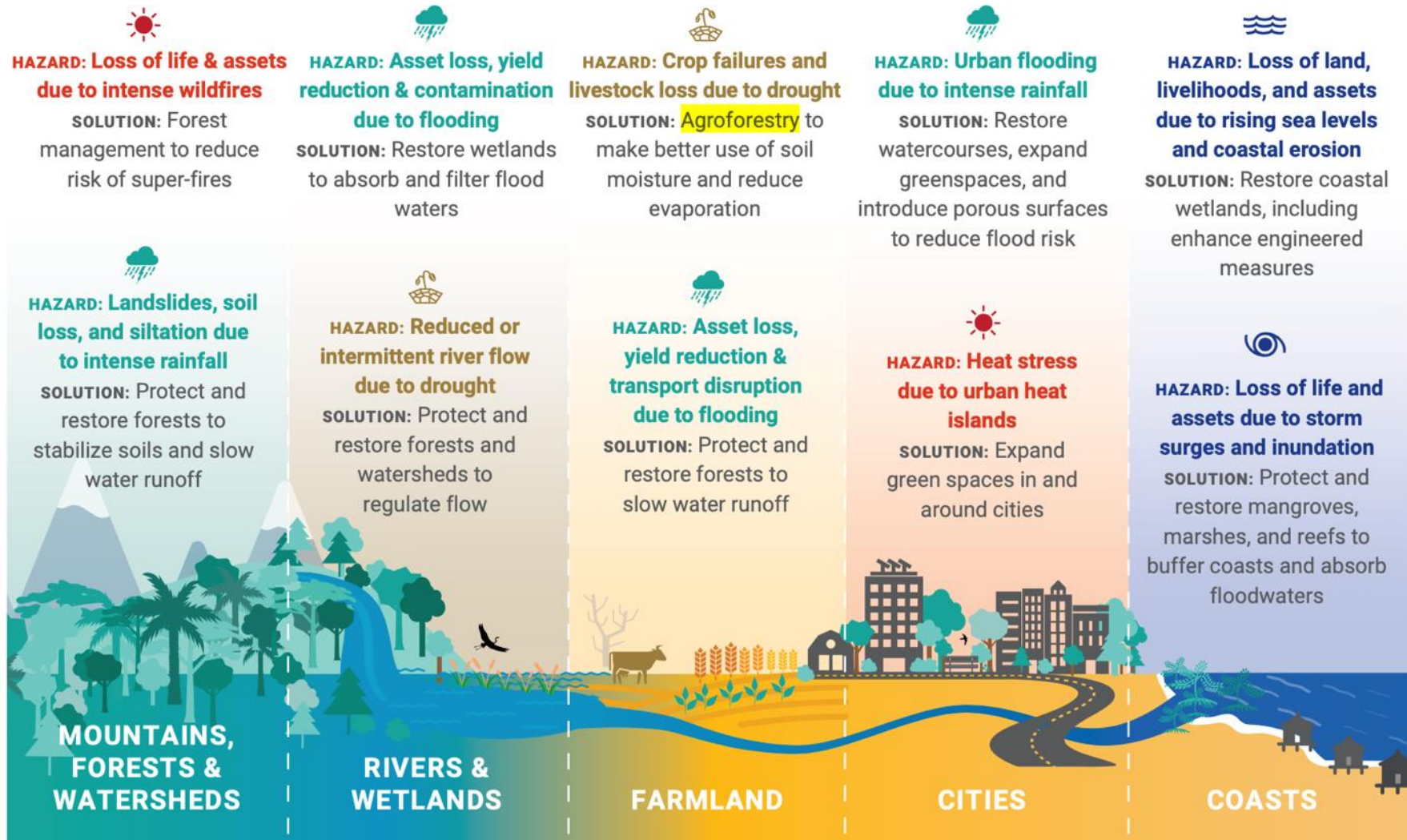
*University of Oxford*



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# Nature-Based Solutions Can Work Together across Landscapes to Build Resilience



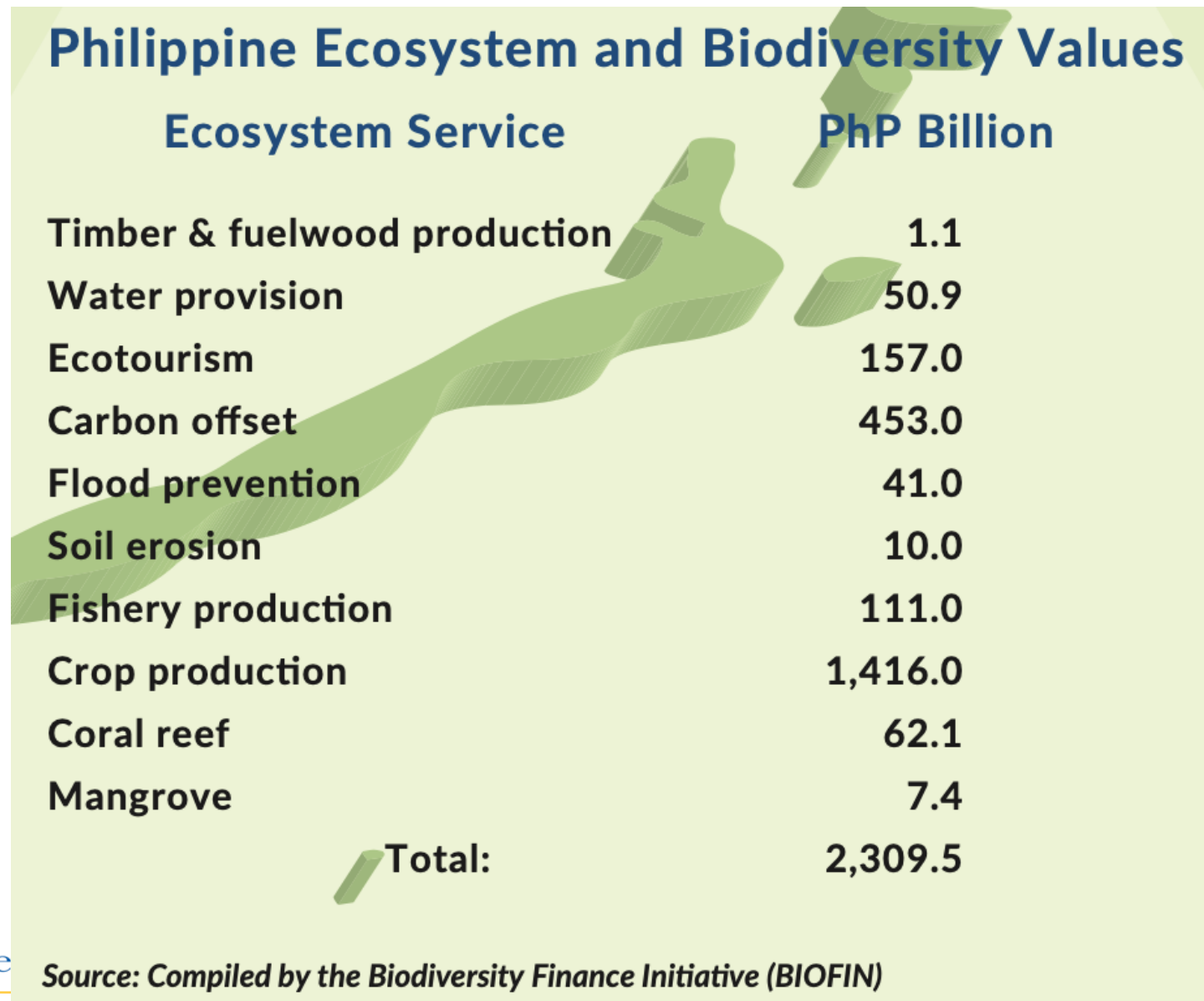
From: Global Commission on Adaptation, 2019



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# Philippine biodiversity worth more than PhP 2.3 trillion



BMB, 2016



# Natural forests store vast amounts of carbon



# Tree cutting reduces carbon stocks...



# Tree planting increases carbon stocks...



# Trees help farmers adapt to climate change

- Trees enhance coping capacity of smallholder farmers to climate risks
- Through crop and income diversification...
- Soil and water conservation...
- Efficient nutrient cycling and conservation



# Forests Help Provide Water

- Forested watersheds provide stable water supply for domestic needs, irrigation, industry, and power





# PH Forests and Climate Change

## DENR's Ten (10) Priority Programs



# Adaptation and Mitigation

- More stable water flows
- Provision of goods and services
- Protection of biodiversity
- Increased income and livelihoods
- Carbon stocks conservation
- Increase in carbon sequestration
- Reduced GHG emissions



# Why We Need Mangroves

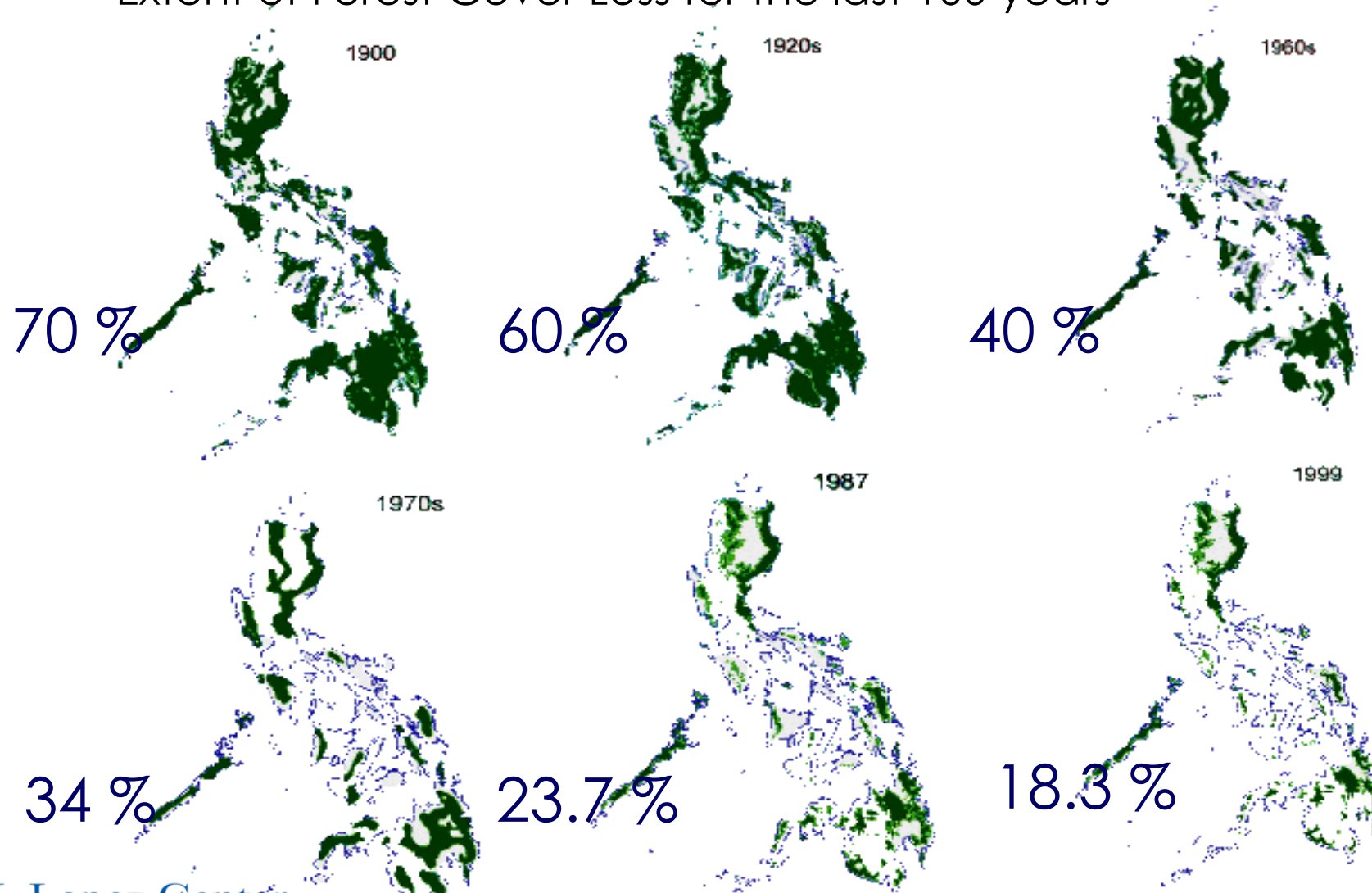
- If the current mangroves, were lost, 24% more people would be flooded annually, i.e., an additional 613,000 more people
- Damages to property would increase by 28% to more than US\$1 billion annually; and 766 km of roads would be flooded.
- One hectare of mangroves provides more than US \$3200/year of direct flood reduction benefits.

*Losada, I.J., et. al. 2017. Valuing Protective Services of Mangroves in the Philippines : Technical report. World Bank, Washington, DC.*



# The vanishing Philippine forests...

Extent of Forest Cover Loss for the last 100 years



Source: Dolom, 2006; Adapted from Environmental Science for Social Change, 1999



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# National Greening Program



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## BINHI GREENING LEGACY

BINHI Program is one of the country's biggest private-sector led reforestation initiatives. It was launched as part of EDC's commitment to protect and conserve the environment not only to its area of operations but nationwide.

The team led by EDC's Corporate Social Responsibility group collaborated with the country's top botanists to rescue and secure all 96 most threatened and premium tree species of our Philippine forests trees and employ a painstaking process and sophisticated technology to allow the rescued wildlings and seeds to germinate and grow.

Since its launch in 2008, BINHI has planted over

**6.5 million**

seedlings of indigenous forest trees

in  
around

**9,570 hectares**

of degraded and open forests in watersheds and protected areas.



# We need science-based information







# Take home messages...

- Natural ecosystems are critical in enhancing climate resilience of our people, especially the IPs and other vulnerable groups
- We must support efforts to conserve and manage wisely our natural resources



# Thank You!



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