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ipbes-ipcc Co-Sponsored Workshop Report on Biodiversity and Climate Change

What we need to know and consider ...

- The Earth's climate and biodiversity are inextricably connected with each other, and with human futures.** They reinforce each other and therefore cannot be managed in isolation from one another.

Three Intertwined Systems:
The changing Climate
The changing Biosphere
Human society / Quality of life

Climate change exacerbates risks to biodiversity and natural and managed habitats; at the same time, natural and managed ecosystems and their biodiversity play a key role in the fluxes of greenhouse gases, as well as in supporting climate change adaptation.

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What is already happening ...

2. **Human pressure on biodiversity is increasing constantly.** At the same time conservation efforts have not been sufficient to stem the loss of biodiversity on a global scale.

Human caused climate change is increasingly threatening nature and its contributions to people, causing:

Losses in ... **Overfished Stocks** ... **Excessive Drought** ... **Heatwaves**

... **Excessive Wildfires**

Photos: Unsplash.com, Facebook/ Help Save the Wildlife and Bushlands in Campbelltown, Madeleine Nicolas / imaggeo.egu.eu

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(a) Thermal windows for animals: limits and acclimatization

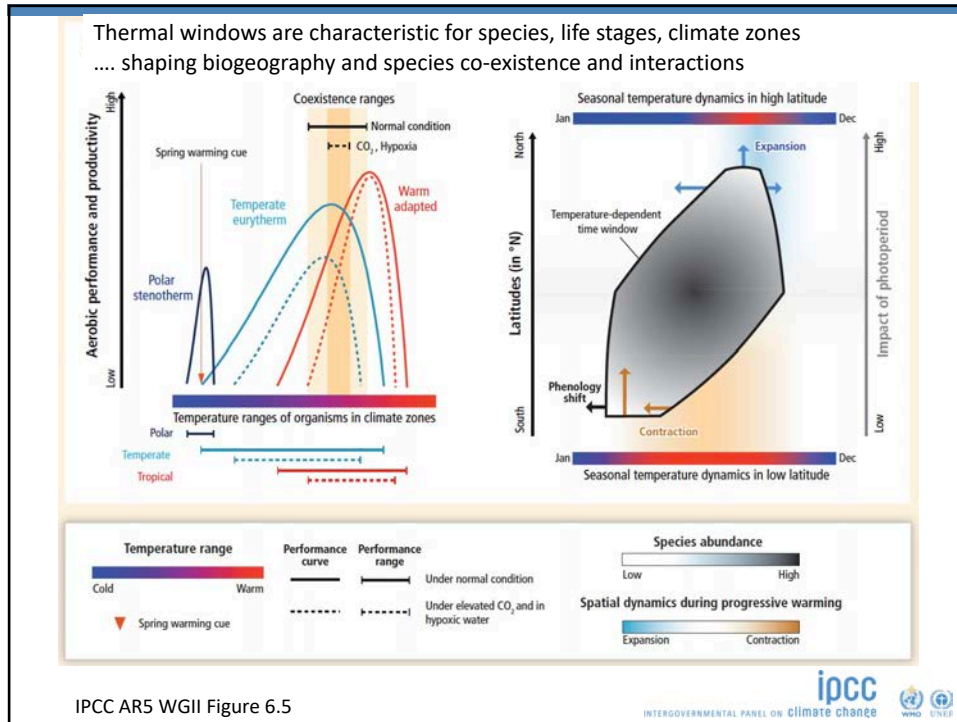
Common functional background :
specialization on limited ranges of ambient temperature, reflected in dynamic thermal performance curves, constrained by other drivers (CO₂, hypoxia etc.)

IPCC AR5 WGII Figure 6.5

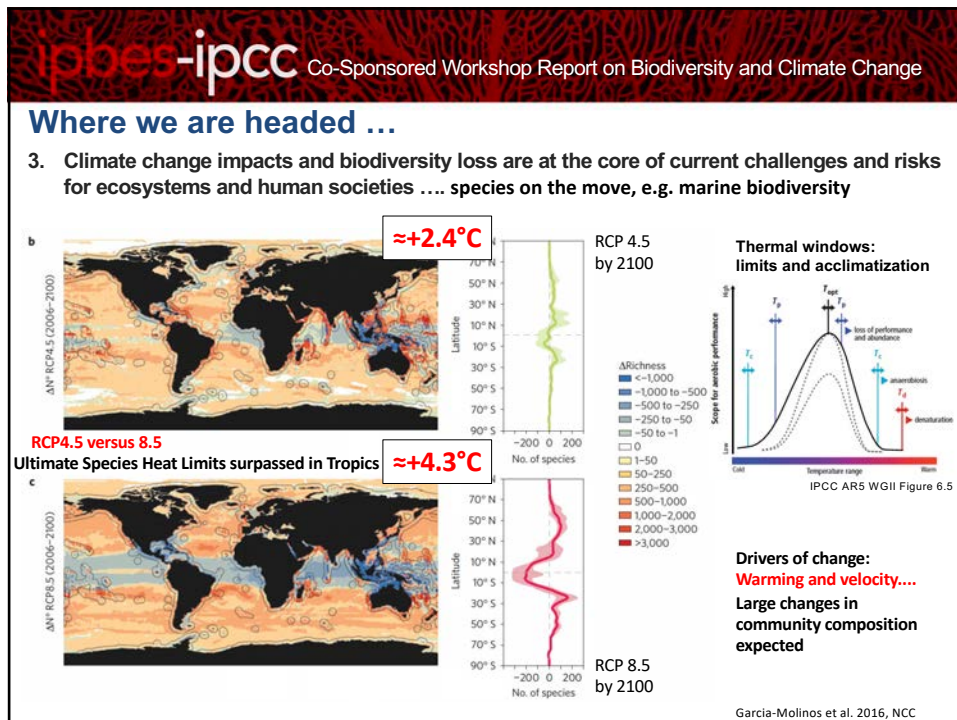
ipcc
INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

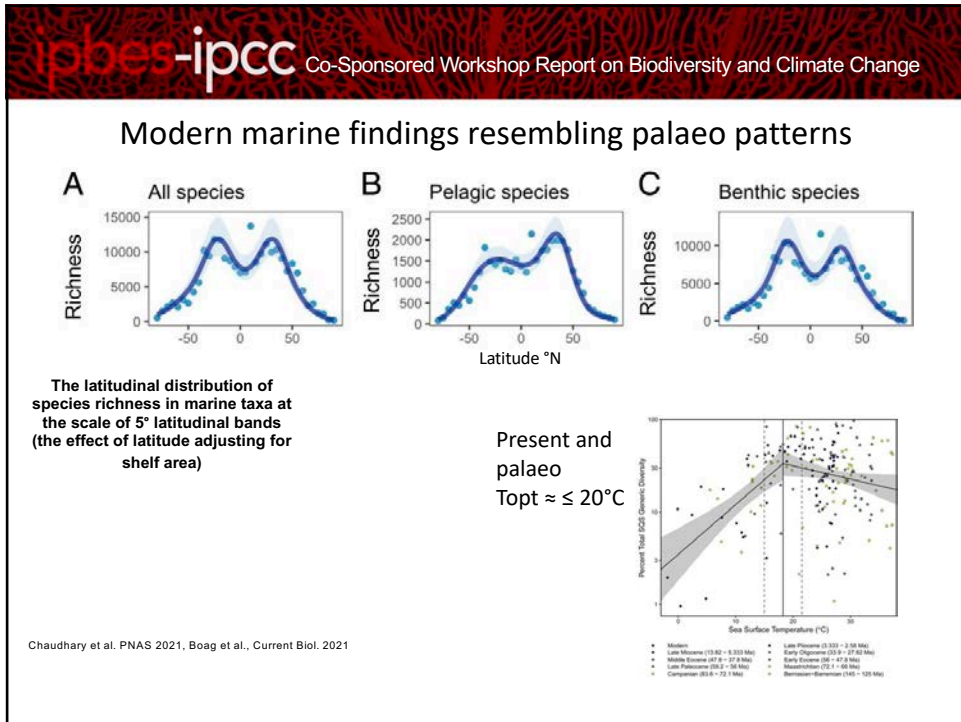
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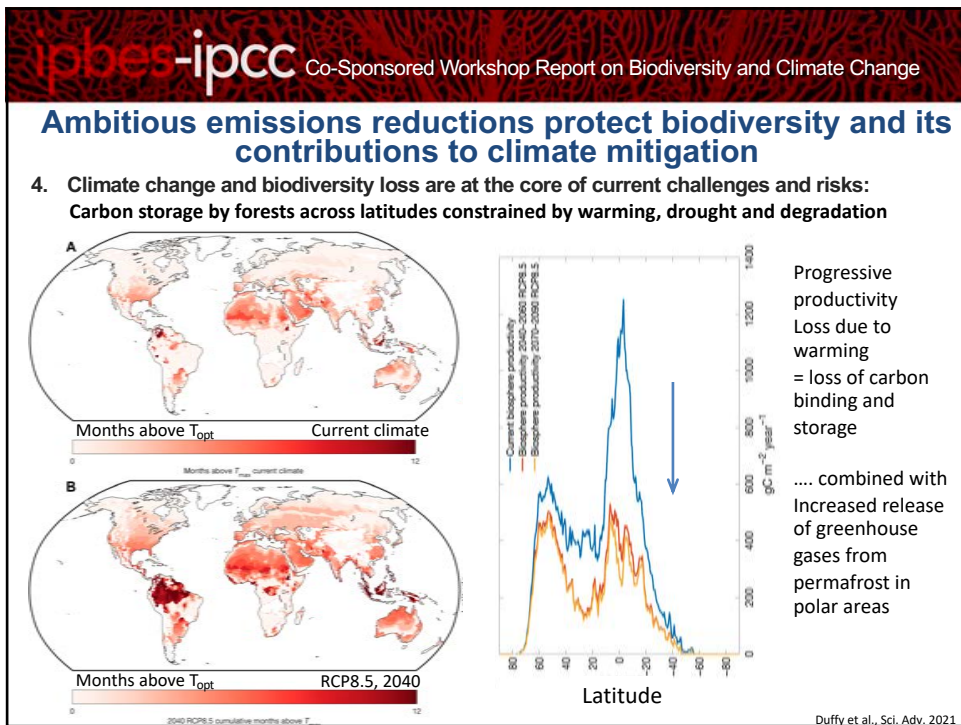
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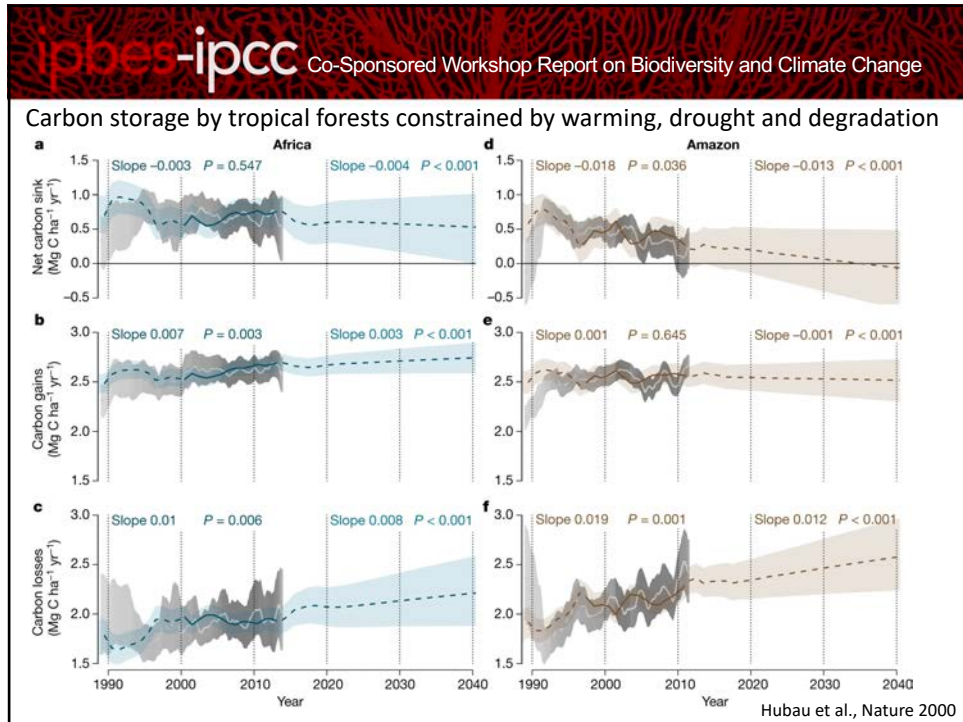
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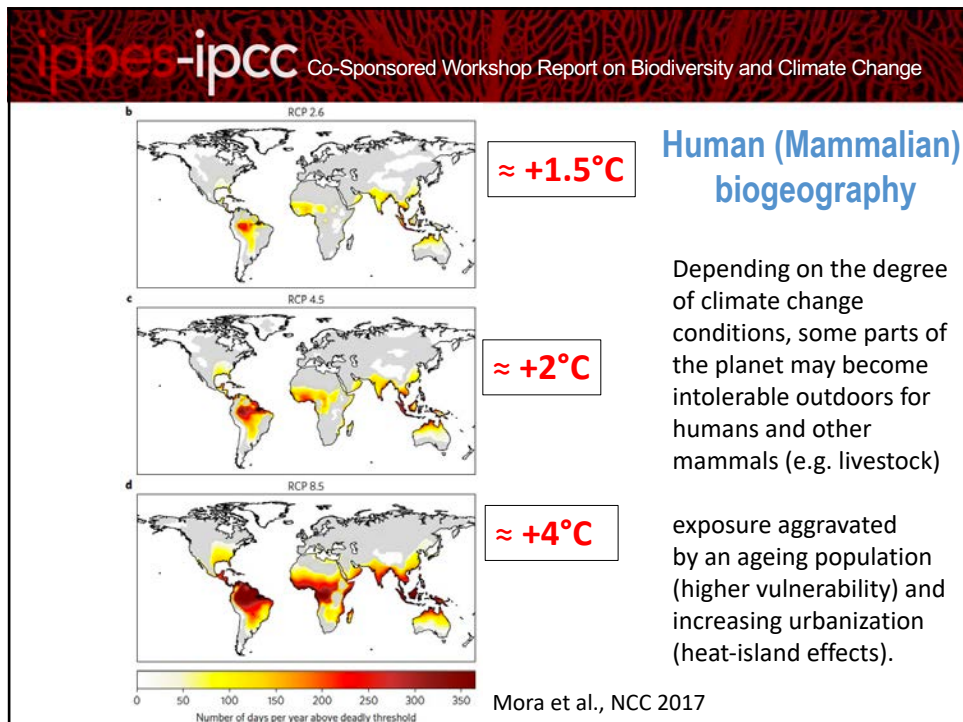
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Making choices

5. Actions taken to mitigate climate change can have either beneficial or harmful effects on biodiversity depending on policy. Ignoring the inseparable nature of climate, biodiversity, and human quality of life will result in non-optimal solutions.



	
<p>Corn field (Waldemar Brandt / Unsplash.com)</p>	<p>Mangroves (Timothy K./Unsplash.com)</p>
<p>Bioenergy crops covering large shares of land are threatening biodiversity and food security for people.</p>	<p>Restoring natural ecosystems enhances carbon storage and benefits biodiversity and people.</p>

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Conserving biodiversity supports adaptation to climate change

6. Biodiversity assists people and ecosystems to adapt to climate change. Actions that halt, slow or reverse biodiversity loss can also help mitigate climate change. To support intact and fully functional habitats under climate change and halt biodiversity loss, around 30 to 50 percent of the world's ocean and land would be effectively conserved.

	
<p>Rainforest</p>	<p>Coral reef</p>

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Integrating conservation, climate and societal actions

7. Treating climate, biodiversity, and human society as coupled systems is key to successful outcomes. To be successful, conservation and climate actions would go hand in hand across landscapes, in cities as well as in rural areas.

When climate and conservation actions also take people's needs into consideration, benefits and outcomes for climate and biodiversity protections as well as humans can be maximized.

Corridors and mosaic of natural habitats enable climate migration:

- 1 Forest ecosystems
- 2 Savannah ecosystems
- 3 Mountain slopes
- 4 Ocean ecosystems

Corridors connect the mosaic of natural habitats in shared spaces with reservoirs

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Integrating conservation, climate and societal actions.

8. Nature is offering solutions which can be effective if paralleled by strong emission reductions in all sectors. Effective conservation, climate and societal actions would go hand in hand.

Climate actions

- Ecosystem**
 - Conserve forest sinks
 - Conserve blue carbon
 - Forest restoration
 - Blue carbon restoration
 - Conserve and restore peatlands
 - Sustainable forest management
 - Afforestation
- Food**
 - Climate-smart agriculture
 - Improve livestock and grazing management
 - Reduce food waste
 - Dietary change
- Energy**
 - Bioenergy and BECCS
 - Solar energy
 - Hydropower
 - Other alternative energy

Biodiversity actions

- Protect**
 - Avoid loss of natural ecosystems
 - Increase and improve protected areas
- Restore**
 - Restore degraded ecosystems
 - Rewild and restock species
- Manage**
 - Sustainable agriculture
 - Sustainable fisheries
 - Reduce pressure on ecosystems
- Transform**
 - Fire management
 - Reform subsidies
 - Sustainable production and consumption

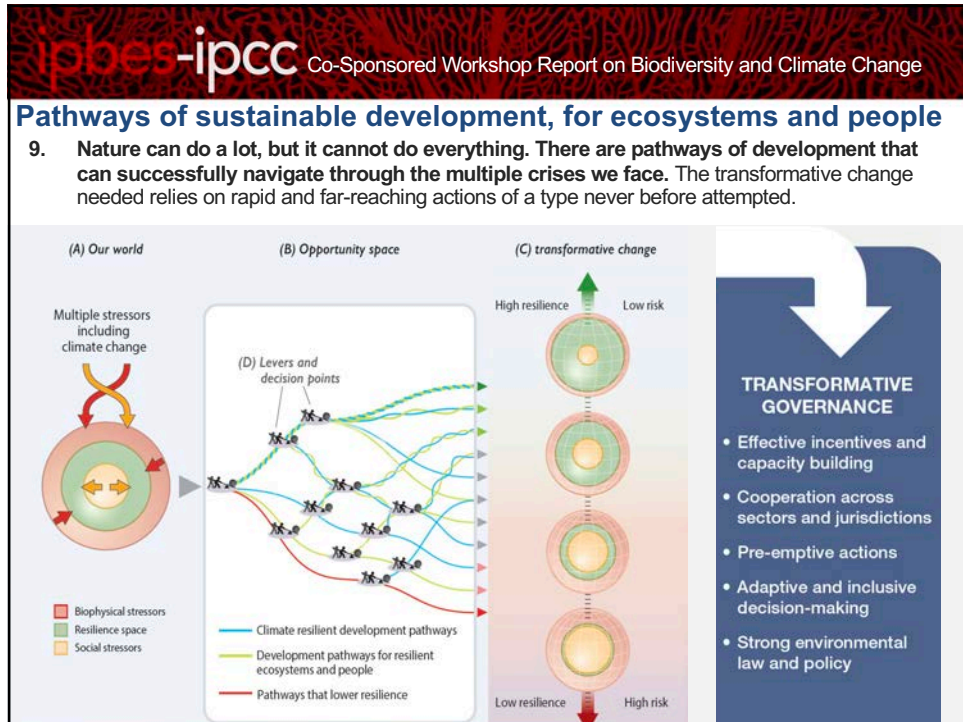
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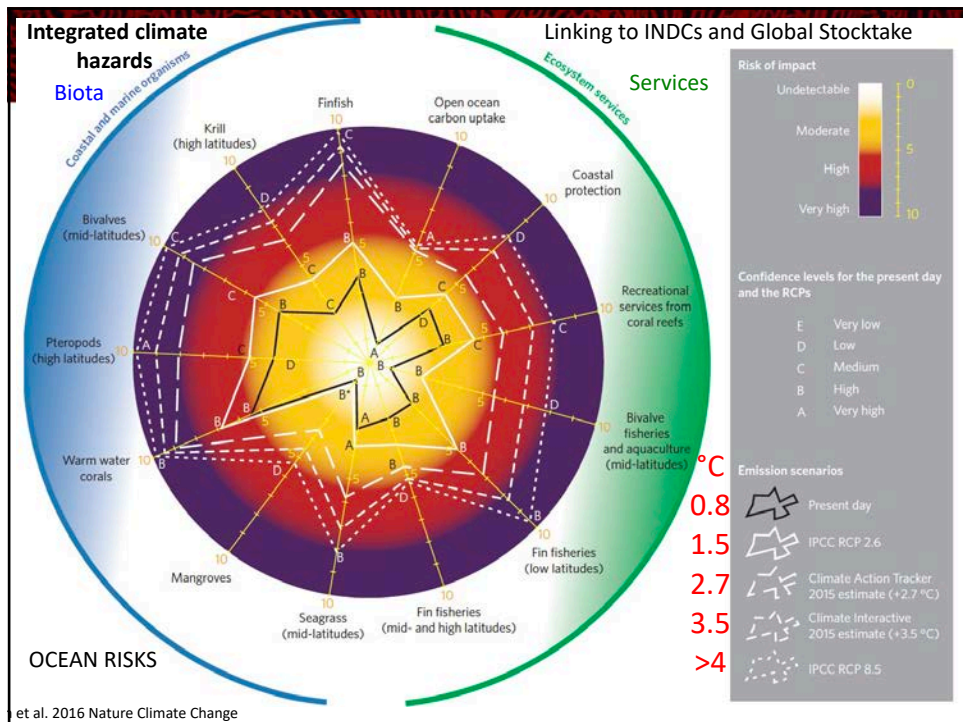
Positive ...
Negative ...
... effects on biodiversity actions

Positive ...
Negative ...
... effects on climate actions

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Learning from this and earlier reports

SUCCESSFUL IMPLEMENTATION DEPENDS ON RAPID ENTRY INTO ACTION:

- ... ambitious emissions reductions from fossil fuels
- ... restoring a resilient biosphere and biodiversity
- ... addressing justice and equality, eradicating poverty

Overall...

- ... every bit of warming matters
- ... every lost species and degraded ecosystem matters

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Thank you!

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