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Our Changing Polar Regions - Some Context for COP25

IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC)

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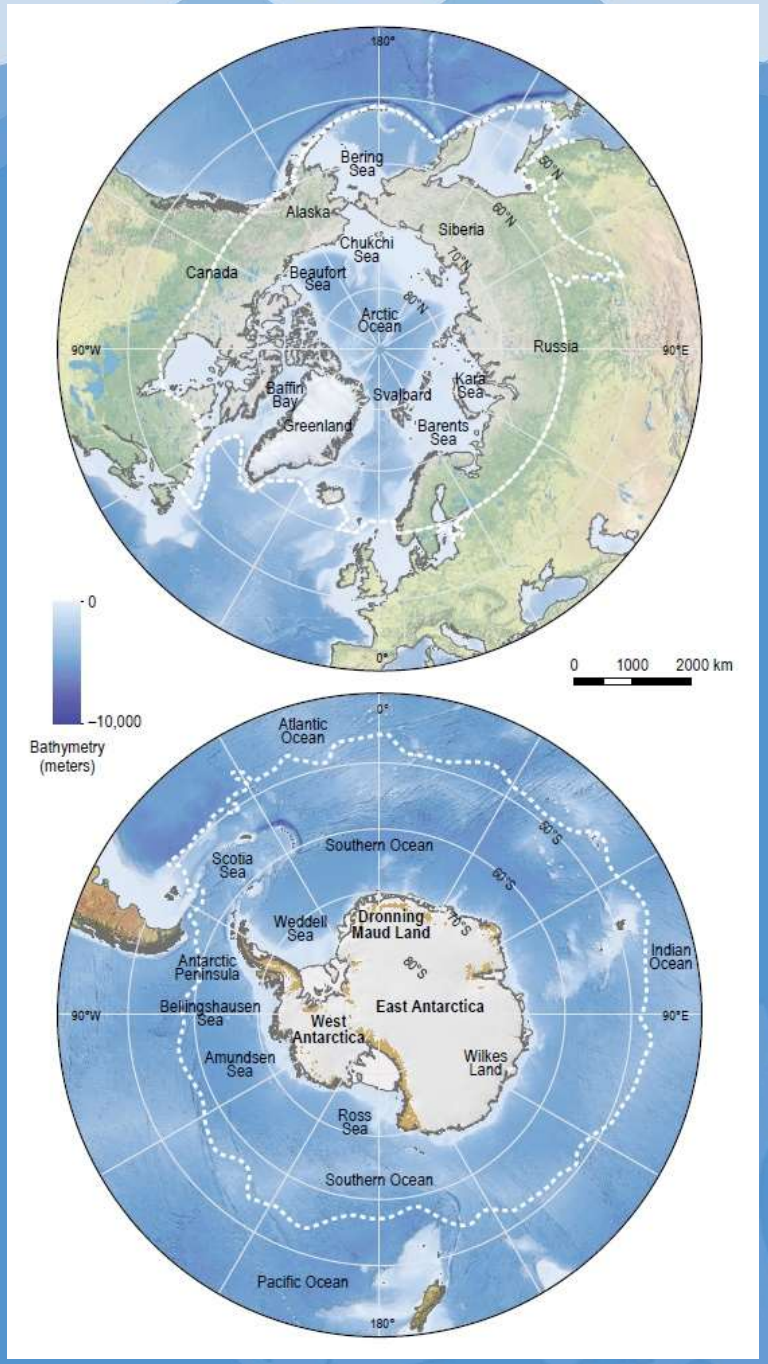

Synopsis Polar Regions

I. The polar regions are losing ice, and their oceans are changing rapidly, with regional and global impacts.

II. The polar regions of the future will appear profoundly different, dependent on the degree of warming.

III. Choices are available that limit impacts and build resilience, but their efficacy needs to be enabled.

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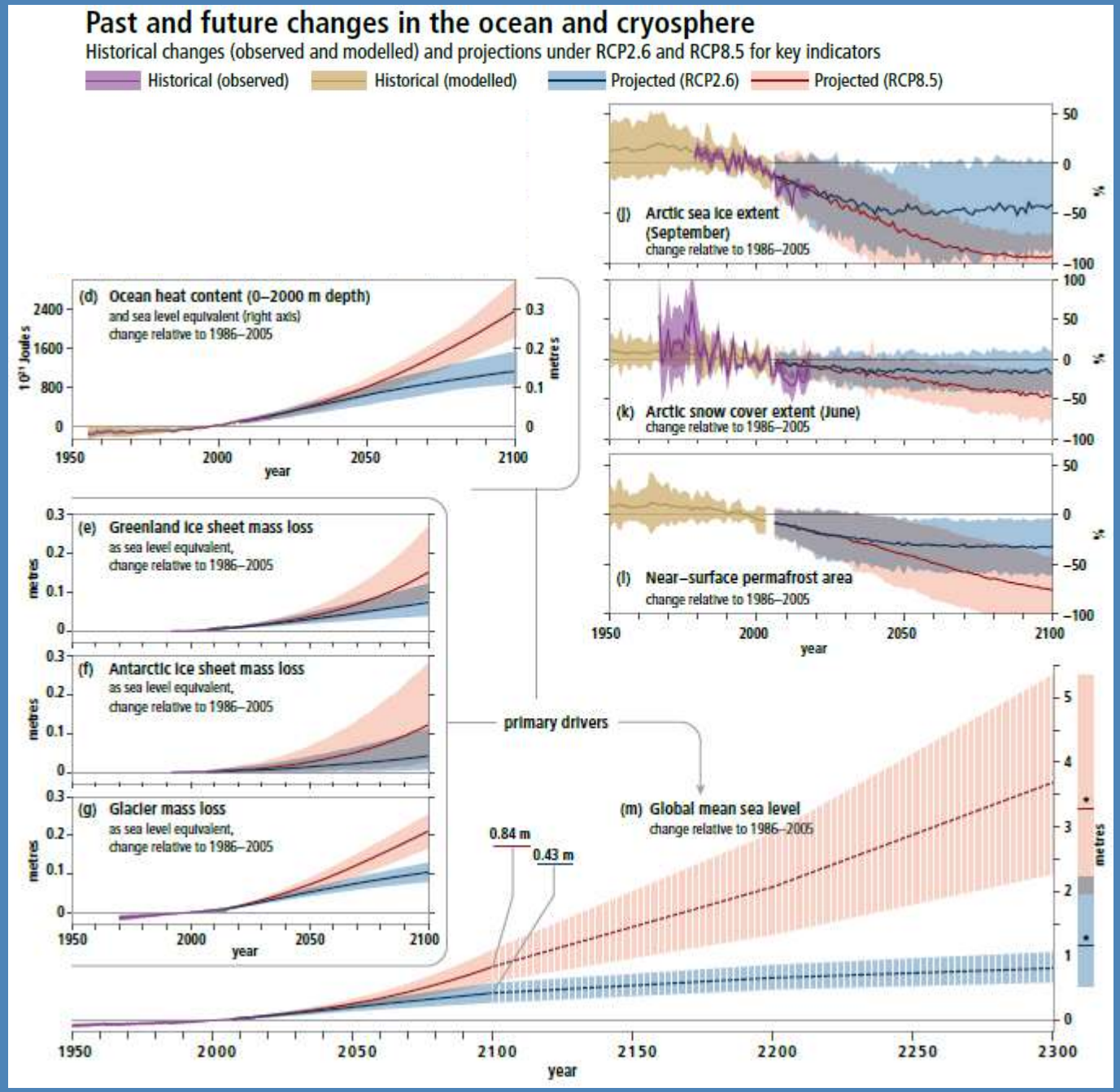
Ambition.

Nature.

People.



- Urgently choosing a future
- Some polar cryosphere elements:
  - Irreversible changes
  - Multi-century commitment

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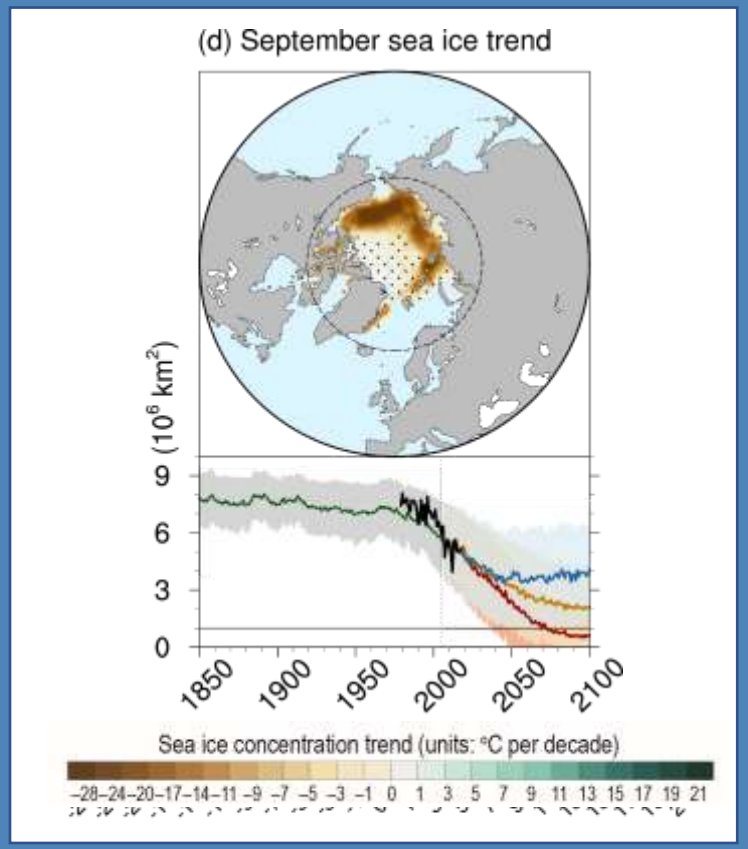
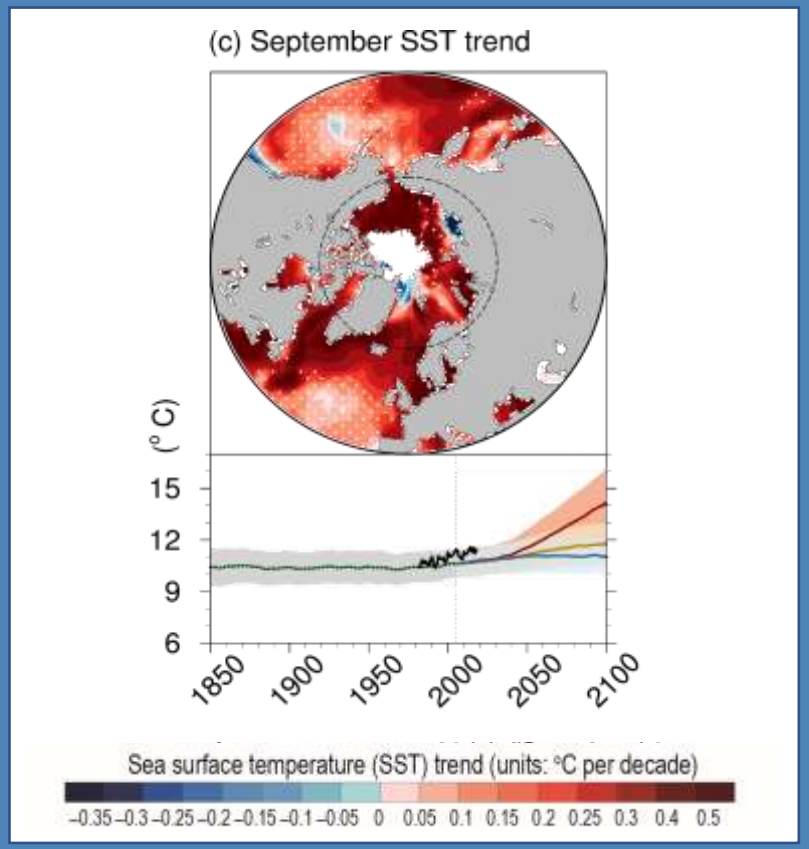
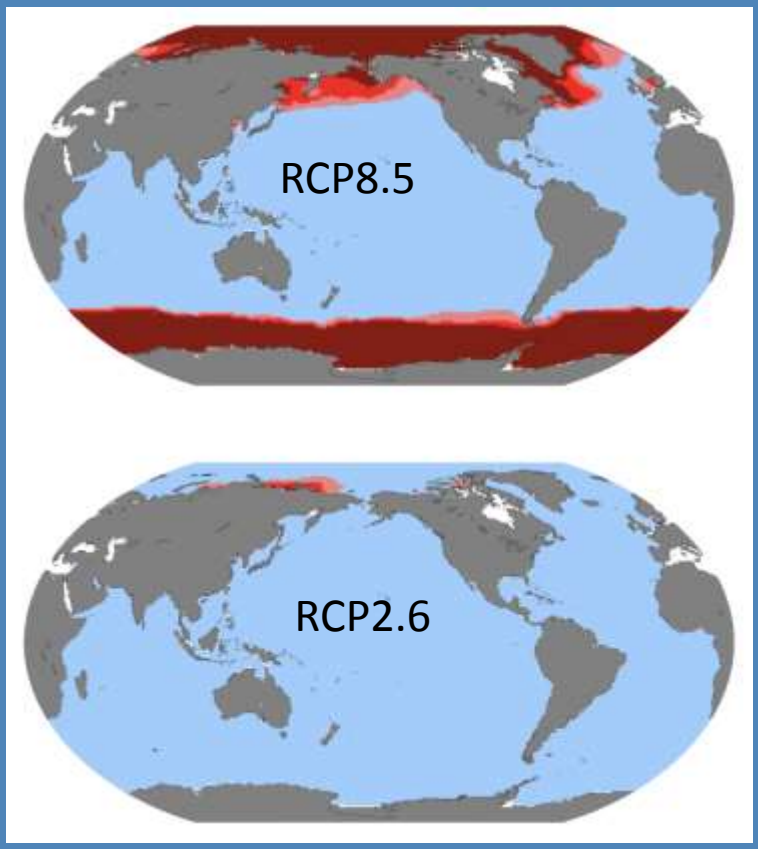
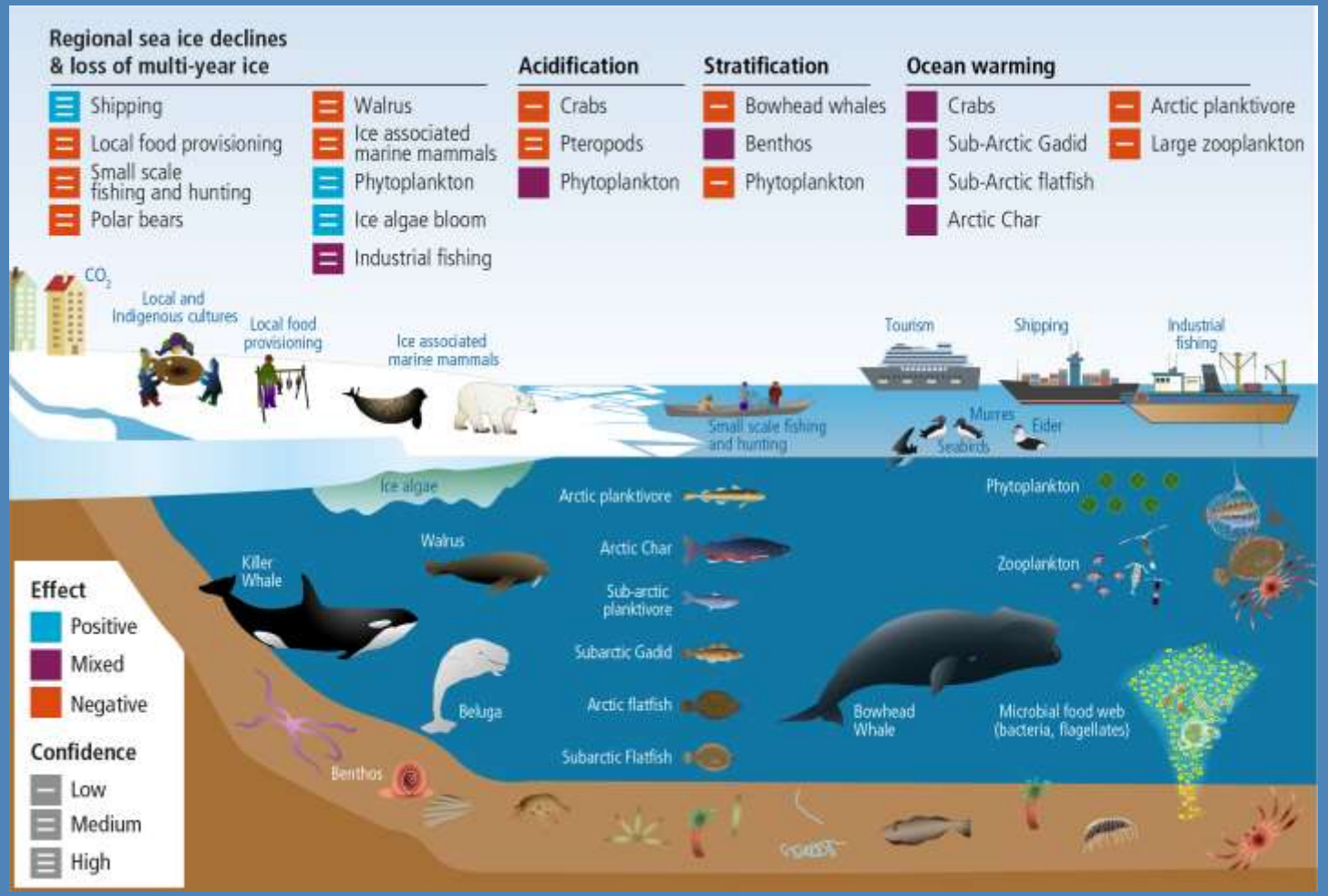
Transition to unprecedented polar oceans environments







Impacts on Arctic marine biodiversity, ecosystems, human systems, and people



- Not uniform,
  but more negative than positive.
- Regional differences
- Arctic and sea ice associated species are loosing habitat
- Income, livelihoods, food security, well-being, and cultural values deeply negatively impacted
- Some economic sectors benefit, but also create new risks

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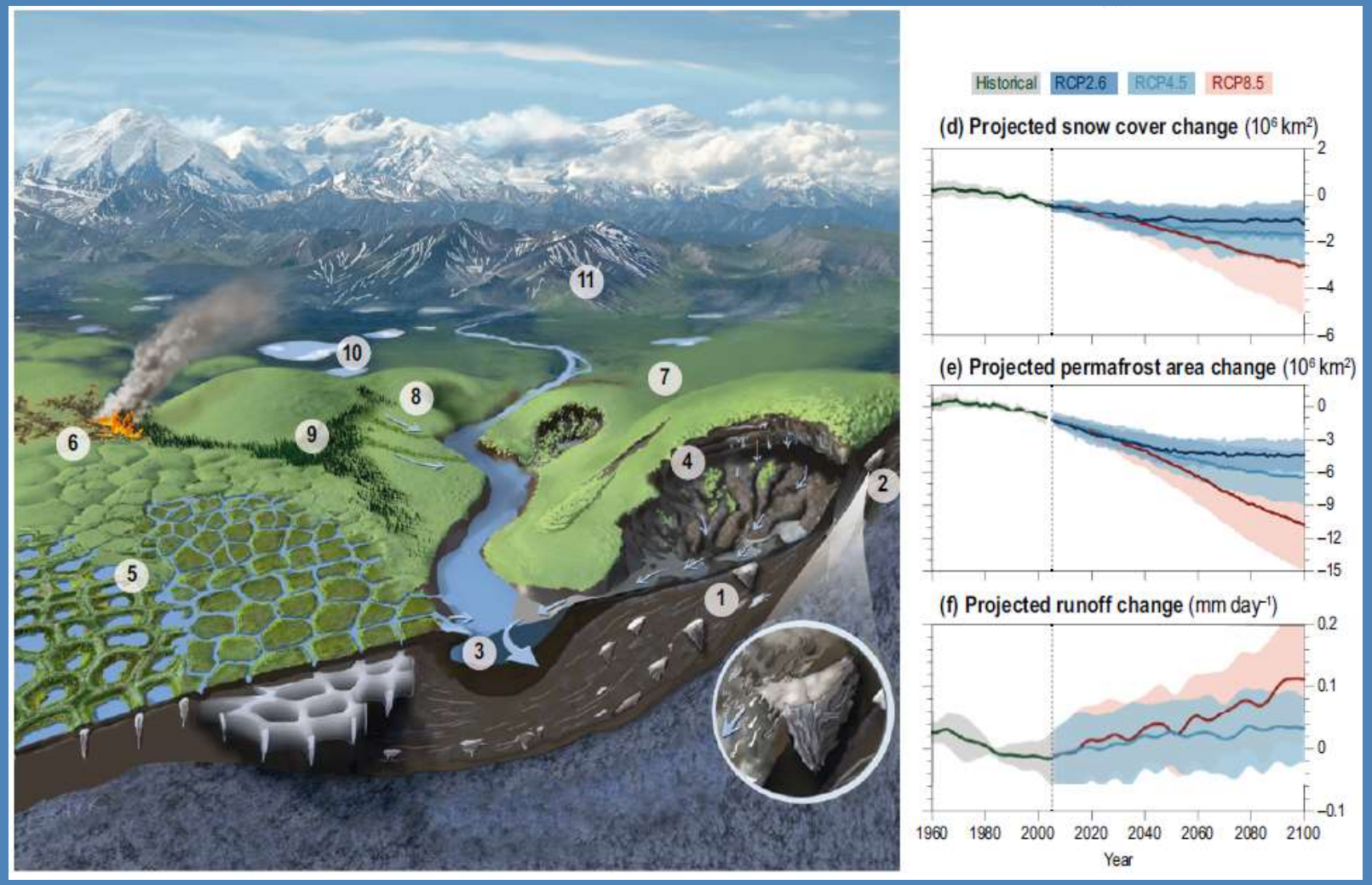
Impacts on Arctic land biodiversity, ecosystems, human systems, and people



- Interactions between permafrost thaw and hydrology is causing landscape change.
- Infrastructure at risk
- 24-52% of tundra projected to be lost by 2050
- Income, livelihoods, food security, well-being, and cultural values deeply and negatively impacted

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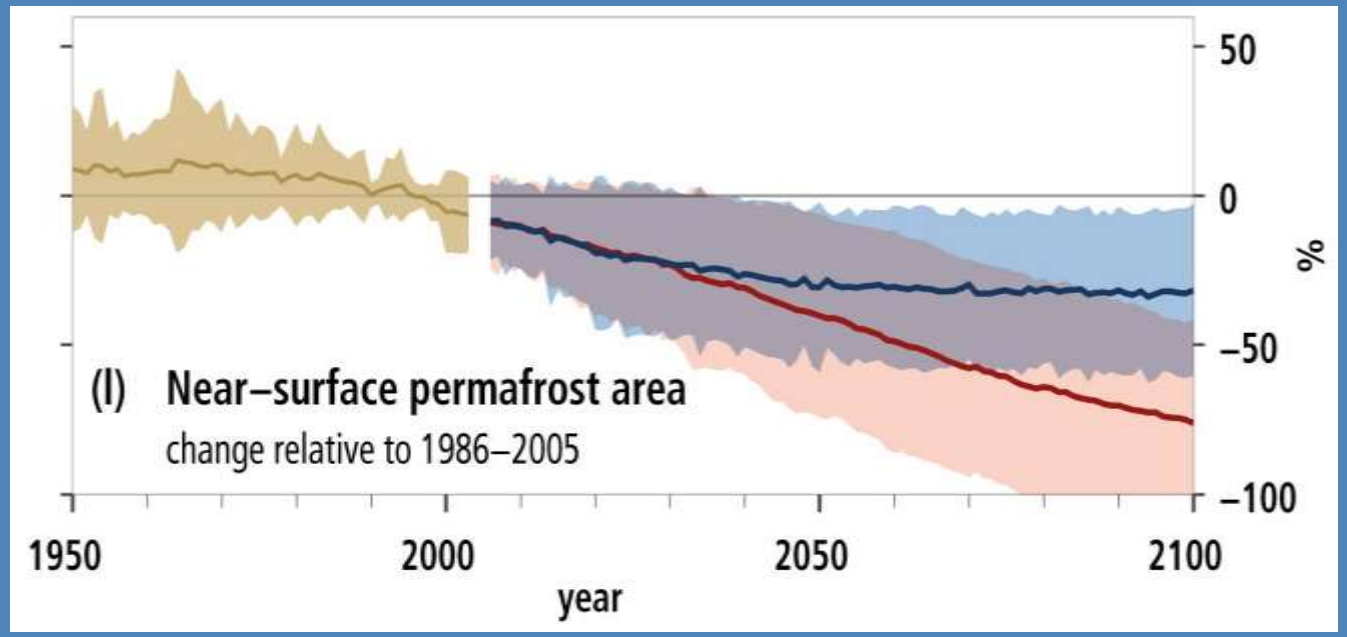
Permafrost carbon potential to exacerbate global warming



- High emission scenario: cumulative release of tens to hundreds of GtC of permafrost carbon by 2100
- Methane fraction not well constrained
- Increased plant growth is projected to replenish some soil carbon but not to match carbon releases over the long term.

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Pathways to Polar Region Resilience

- Urgent, ambitious, and sustained emissions reductions
- Strengthening multiscale linkages of governance arrangements across sectors, jurisdictions, and timeframes
- Supporting effective responses through investing in capacity building and linking multiple forms of knowledge with decision making in adaptive governance
- Cautious and highly adaptive management along trajectories of projected change applying the ecosystem approach and preparing for surprises
- Establishing networks of protected areas to strengthen biodiversity resilience and ecosystem adaptation

Our ocean and cryosphere –

They sustain us.
They are under pressure.
Their changes affect all our lives.

The time for action is now.

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