



IPCC sixth assessment cycle: Key findings from the Special Reports and progress towards AR6 WGIII Mitigation Report

25th AIM International Workshop
Tsukuba, Japan
18-19, November 2019

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Sixth Assessment Cycle (AR6)

3 Special Reports

Global Warming of 1.5 °C
(SR15)

October 2018

Climate Change and Land
(SRCCL)

August 2019

Ocean and Cryosphere
(SROCC)

September 2019

UNFCCC COP24 - Talanoa (facilitative) dialogue

Methodology Report update

May 2019: 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Cities

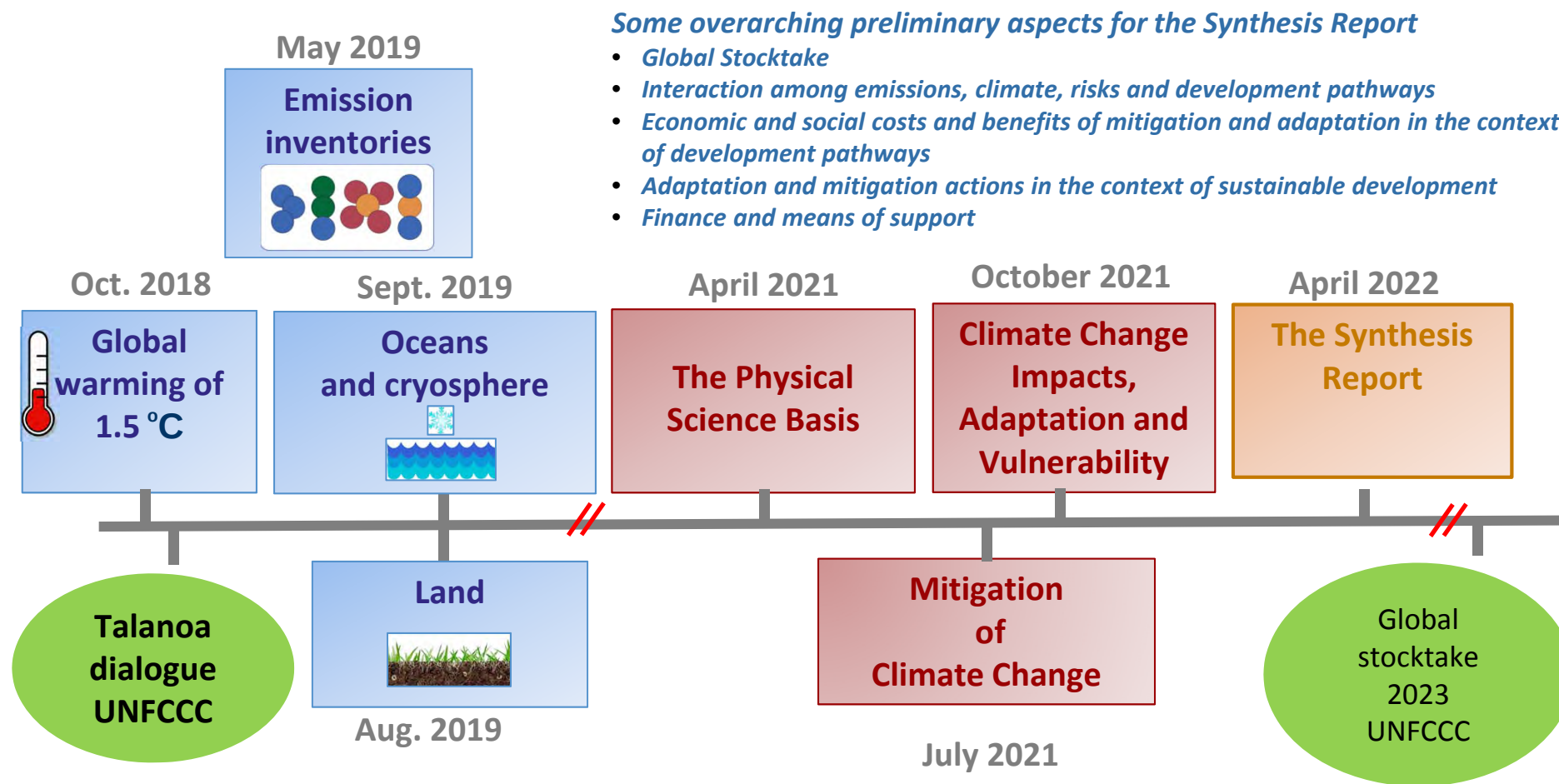
Attention on cities in AR6:
Cities conference and special report on cities in AR7
Cities Research & Action Agenda

AR6 Main Report

2021: Working Group I, II, and III contribution to the Sixth Assessment Report
April 2022: Synthesis Report to the Sixth Assessment Report

UNFCCC global stocktake 2023

IPCC Sixth Assessment (AR6)

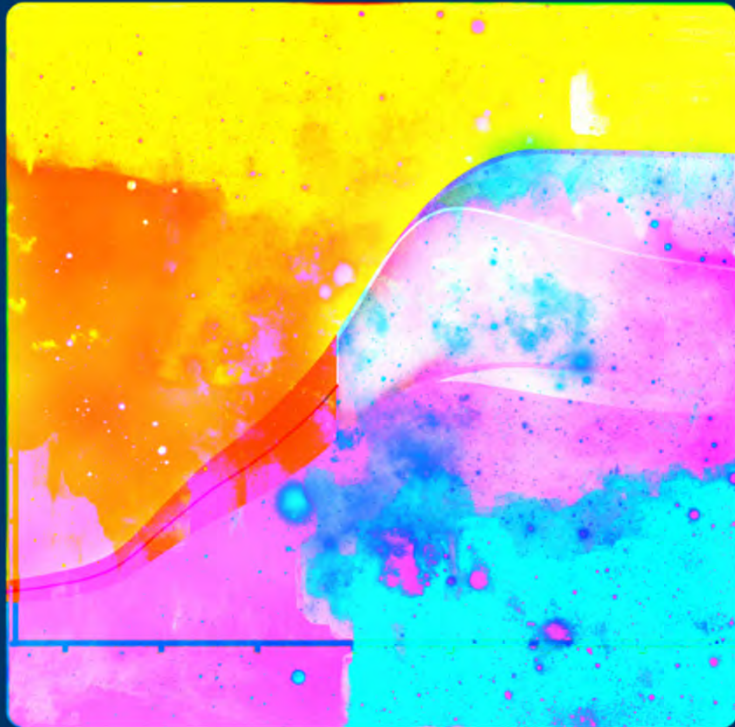


Some overarching preliminary aspects for the Synthesis Report

- *Global Stocktake*
- *Interaction among emissions, climate, risks and development pathways*
- *Economic and social costs and benefits of mitigation and adaptation in the context of development pathways*
- *Adaptation and mitigation actions in the context of sustainable development*
- *Finance and means of support*

March 2018		Cities and Climate Change Science Conference
May 2018		Expert Meeting on Assessing Climate Information for Regions
May 2018		Expert Meeting on Short Lived Climate Forcers

** Dates are subject to change*



IPCC Special Report on Global Warming of 1.5°C

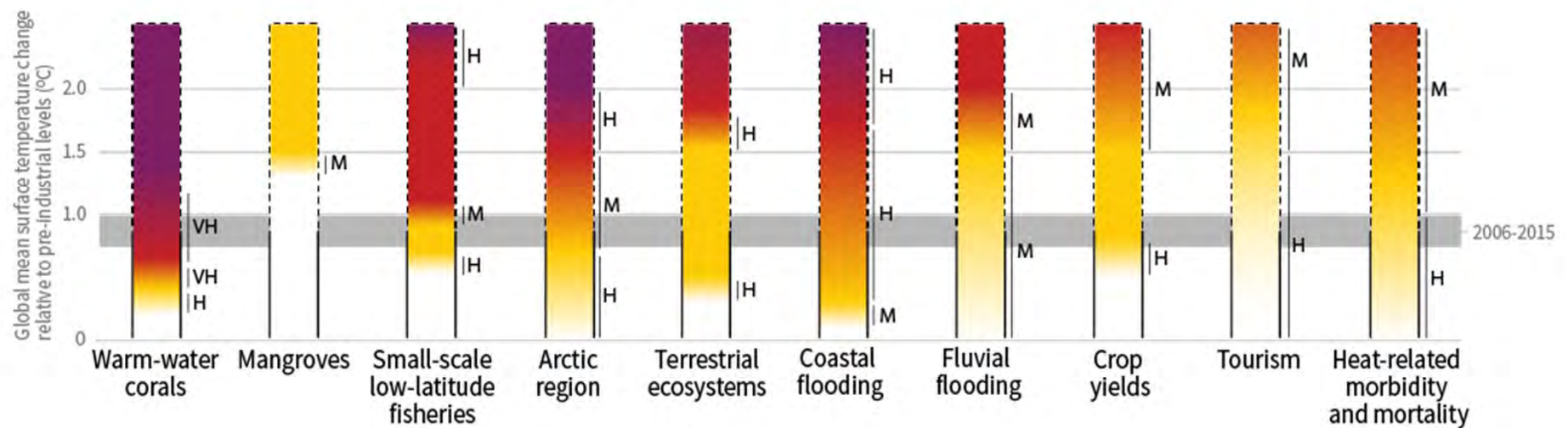
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SPM2

How the level of global warming affects impacts and/or risks associated with the Reasons for Concern (RFCs) and selected natural, managed and human systems

Impacts and risks for selected natural, managed and human systems



Confidence level for transition: L=Low, M=Medium, H=High and VH=Very high

IAMC 1.5°C Scenario Explorer hosted by IIASA

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The scenario ensemble is protected by EU sui generis database rights.

This Scenario Explorer presents an ensemble of quantitative, model-based climate change mitigation pathways underpinning the *Special Report on Global Warming of 1.5°C* (SR15) by the Intergovernmental Panel on Climate Change's (IPCC) 2018.

Copyright and License

The scenario ensemble is made publicly available to ensure reproducibility and transparency with respect to the scenario set that has been assessed in SR15. The Scenario Explorer allows for the re-use of scenario data by other research communities, under a derivative of the Creative Commons Attribution 4.0 License. Please read the guidance note and the license terms on the [License](#) page before downloading data or figures.

Background of the Scenario Explorer



IPCC Special Report on Global Warming of 1.5°C

As part of the IPCC's *Special Report on Global Warming of 1.5°C* (SR15), an assessment of quantitative, model-based climate change mitigation pathways was conducted. To support the assessment, the Integrated Assessment Modeling Consortium (IAMC) facilitated a coordinated and systematic community effort by [inviting modelling teams to submit their available 1.5°C and related scenarios](#) to a curated database. The compilation and assessment of the scenario ensemble was conducted by authors of the IPCC SR15, and the resource is hosted by the International Institute for Applied Systems Analysis (IIASA) as part of a [cooperation agreement with Working Group III of the IPCC](#).

The scenario ensemble contains more than 400 emissions pathways with underlying socio-economic development, energy system transformations and land use change until the end of the century, submitted by over a dozen research teams from around the world. The criteria for submission included that the scenario is presented in a peer-reviewed journal accepted for publication no later than May 15, 2018, or published in a report determined by the IPCC to be eligible grey literature by the same date.

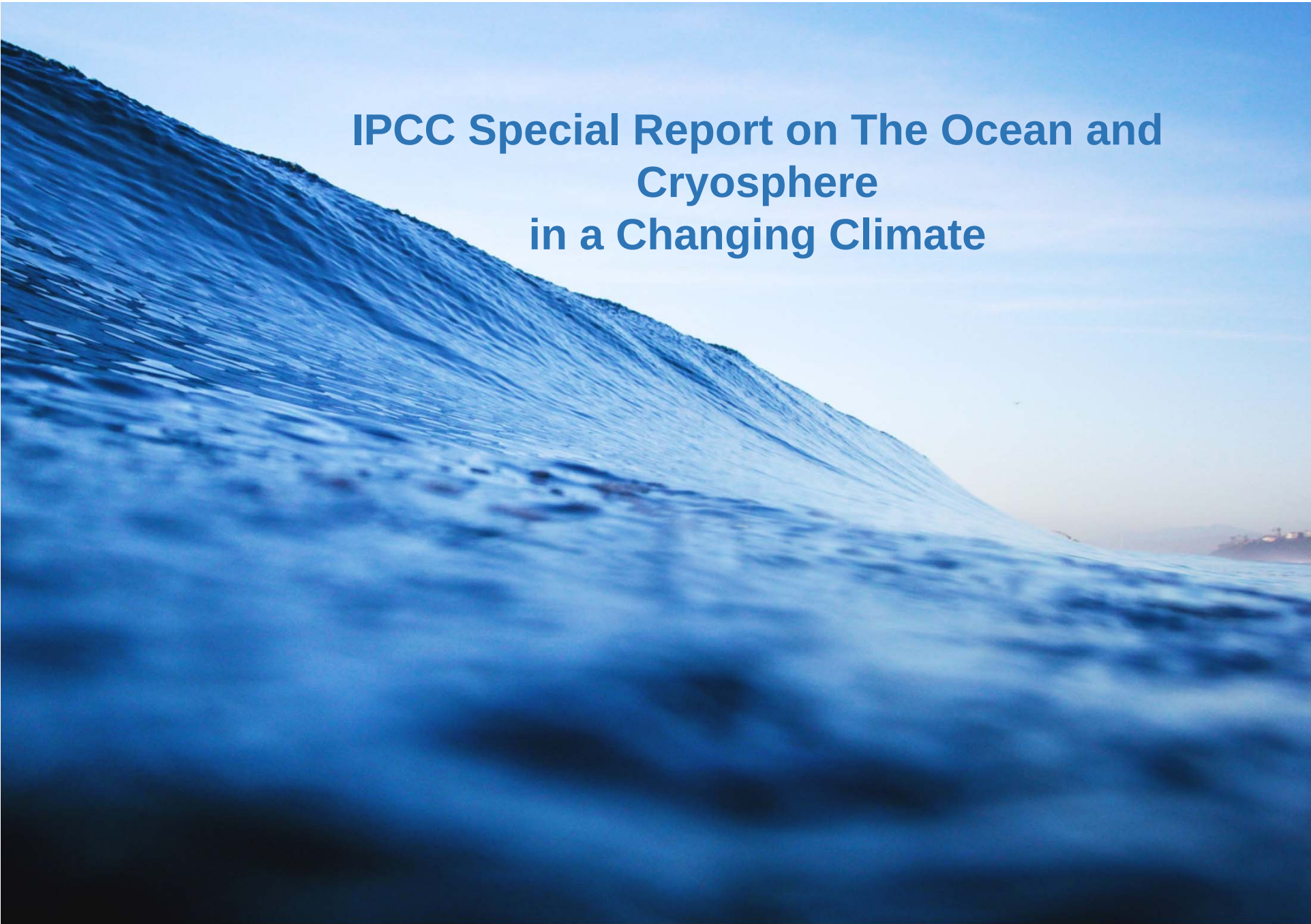
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The background of the slide is a photograph of a massive, blue, textured wall of ice or a large wave, sloping from the top left towards the bottom right. The surface of the ice/wave is highly detailed with ridges and grooves. The sky above is a clear, light blue. In the far distance on the right, some faint outlines of land or structures are visible.

IPCC Special Report on The Ocean and Cryosphere in a Changing Climate



High
Mountains



Polar
Regions

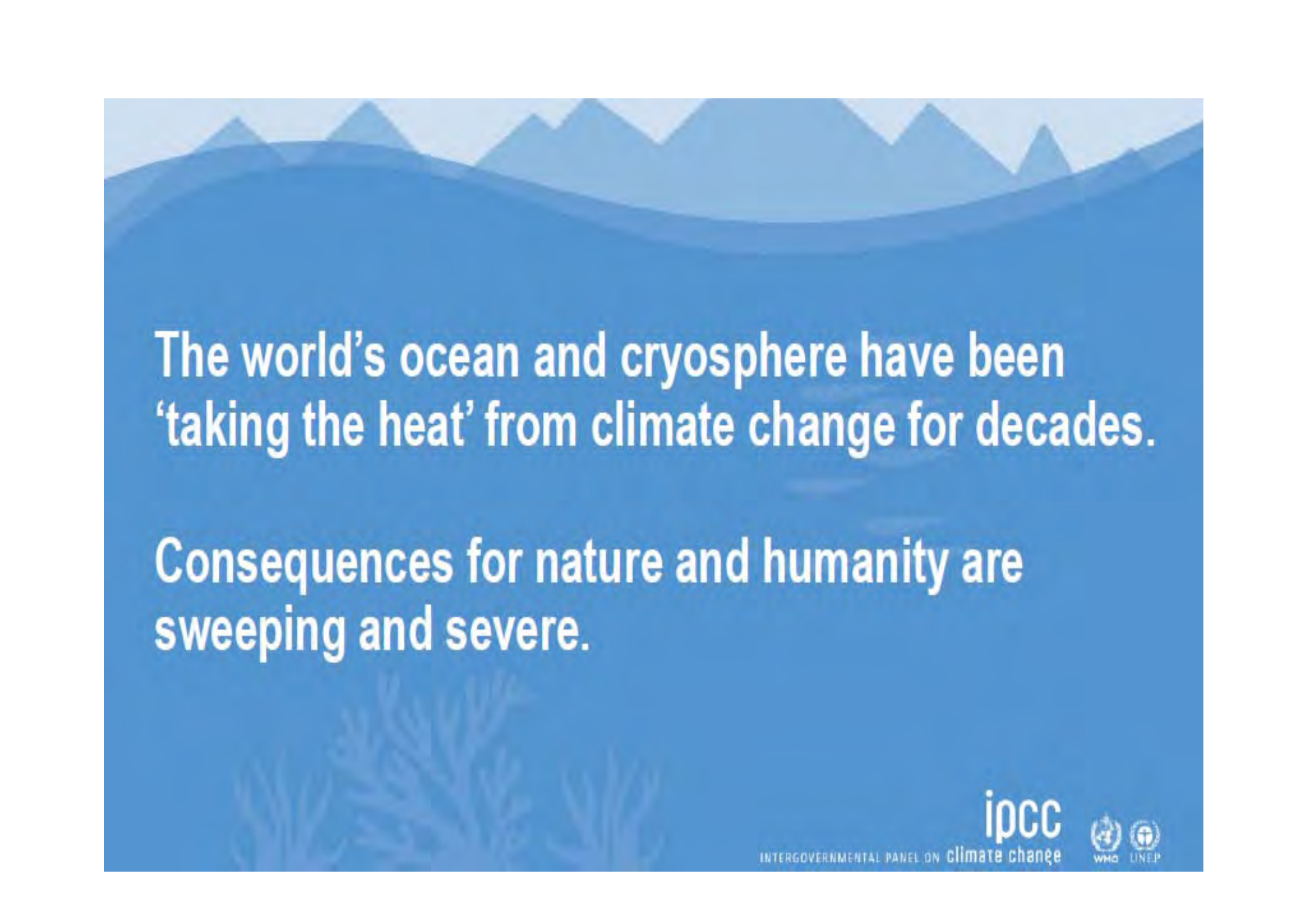


Ocean &
Marine Life

Photo: Mr. JK



Sea
Level Rise



**The world's ocean and cryosphere have been
'taking the heat' from climate change for decades.**

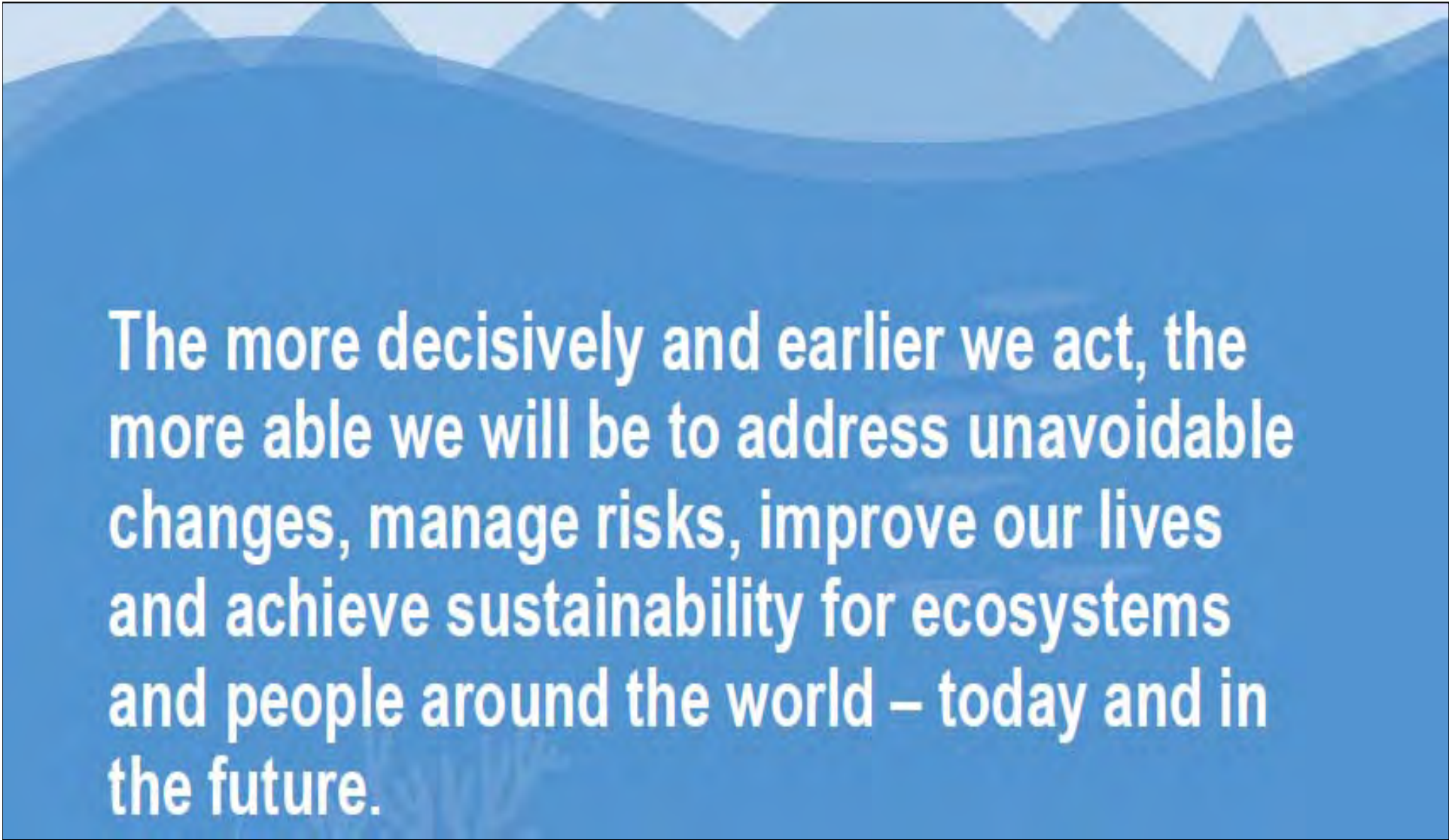
**Consequences for nature and humanity are
sweeping and severe.**

Key findings

- **Choices made now are critical for the future of our ocean and cryosphere**
- **Major changes in high mountains affecting downstream communities**
- **Melting ice, rising seas**
- **More frequent extreme sea level events**
- **Changing ocean ecosystems**
- **Declining Arctic sea ice, thawing permafrost**

Adaptation approaches

- **Protection**
- **Accommodation**
- **Ecosystem-based adaptation**
- **Coastal advance**
- **Managed relocation**

The background of the slide features a stylized, layered mountain range in various shades of blue. The mountains are depicted with simple, geometric shapes, creating a sense of depth and a clean, modern aesthetic. The text is overlaid on the lower portion of this graphic.

The more decisively and earlier we act, the more able we will be to address unavoidable changes, manage risks, improve our lives and achieve sustainability for ecosystems and people around the world – today and in the future.

CLIMATE CHANGE AND LAND

An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems.

REPORT COVER IMAGE:
Agricultural landscape between Ankara and Hattusha, Anatolia, Turkey (40°00' N – 33°35' E)
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Climate Change and Land

An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

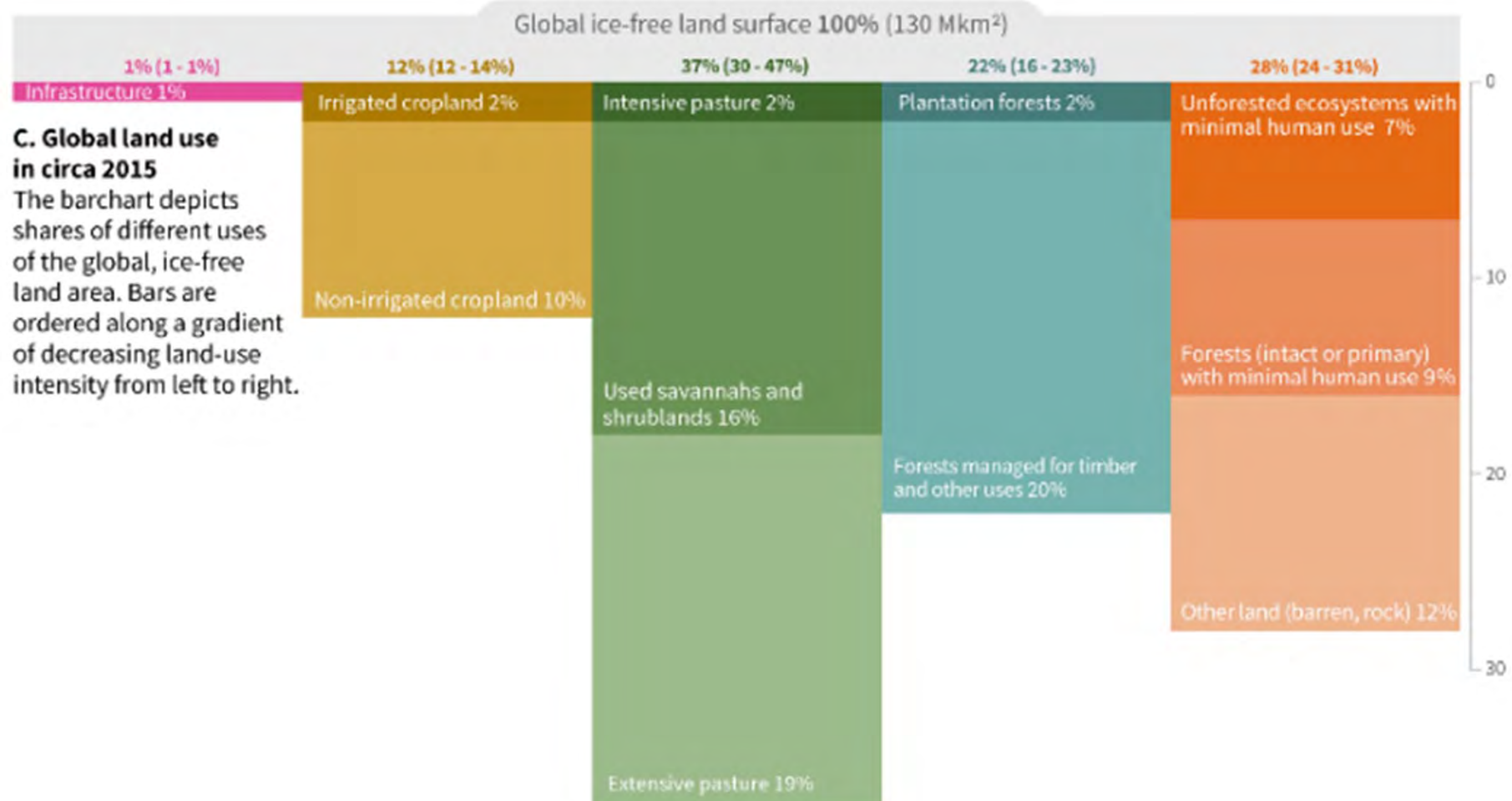
Summary for Policymakers



WG I × WG II × WG III



How we use land now?





Land and Climate change

- Climate change exacerbates land degradation
- Land degradation is a driver of climate change through emissions of GHGs and reduced uptake of carbon
- Gross emissions from AFOLU make up **1/3 of total global emissions**.
- Land accounts for **61% of anthropogenic methane** emissions.
- **50% of the nitrogen applied** to agricultural land is **not taken up** by the crop, resulting in nitrous oxide emissions.

Response Options for the food system



- **Sustainable production**
- **Consumption of healthy and sustainable diet**
- **Reducing food loss and waste**

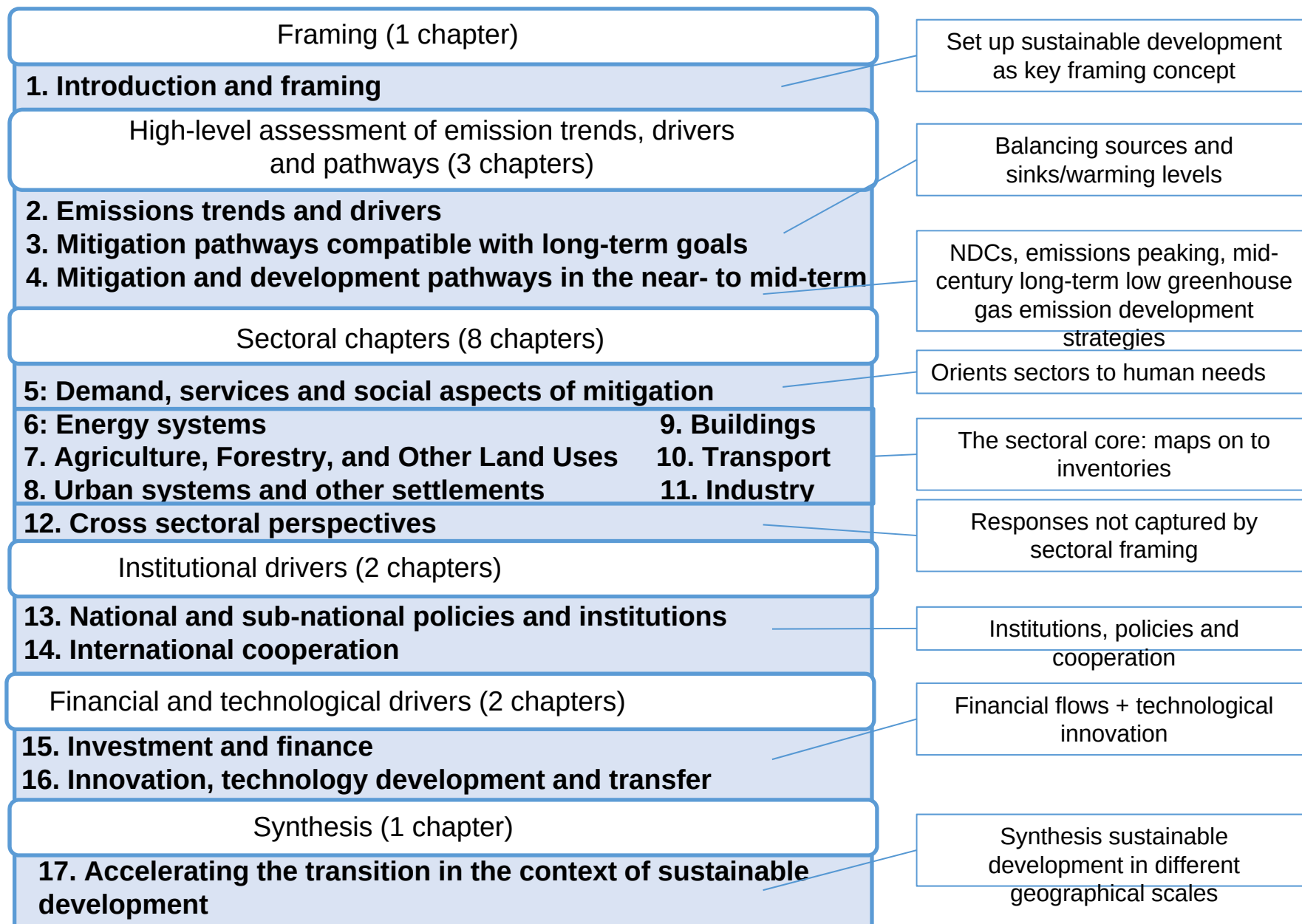


IPCC WGIII Contributions to AR6

Government questionnaire: priority topics for WG III

- Policy relevant information on the Paris Agreement goals (well below 2°C, efforts to achieve 1.5°C, climate neutrality); anticipate the global stocktake; **transformation pathways to meet 2°C and 1.5°C; social + financial + technological + sectoral + regional implications of pathways**
- **Geo-engineering**, including limits, negative emissions
- The role of **short-lived climate pollutants** and other benefits
- Options for **decarbonization pathways**, including solutions from business
- **Links between climate change and SDGs**
- Technological, economic, social, and institutional **barriers to realizing mitigation targets and benefits from carbon offset mechanisms**
- **Opportunities, challenges, barriers and co-benefits of** climate change mitigation policies and measures
- **Impacts on land-use change**, including ecosystem restoration, biodiversity and ecosystem functions and services

Outline of WG III AR6



Challenges for AR6

- To assess the **linkages between high-level climate stabilization goals and scenarios** on the one hand **and the practical steps needed in the short- and medium-term** to make the realisation of these goals possible
- To make **greater use of social science disciplines**, in addition to economics, especially for gaining insight into issues related to **lifestyle, behaviour, consumption, technological choices and socio-technical transitions**.
- To link climate change mitigation better to other agreed **policy goals nationally and internationally** (e.g. the Sustainable Development Goals - SDGs).

Timeline for WGIII contribution to AR6

2020

JAN **13 Jan-8 Mar**
Expert Review of First Order Draft

APR **15-19 Apr**
Third Lead Author Meeting (LAM3), Quito, Ecuador

JUN **15 Jun**
Literature deadline: cut-off date for submitted papers
Literature for consideration by report authors must be submitted to publishers by this date

OCT **25-31 Oct**
Fourth Lead Author Meeting (LAM4), Location TBC

JAN **19 Jan**
Literature deadline: cut-off date for accepted papers
Literature for consideration by report authors must be accepted for publication by this date

2021

JUL **9-10 Jul**
SPM Meeting, Location TBC

12-16 Jul
Approval Plenary, Location TBC

THANK YOU FOR YOUR ATTENTION!

For more information:

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