

# The IPCC Special Report on Ocean and Cryosphere in a Changing Climate - a view from the mountain tops to the deepest depths

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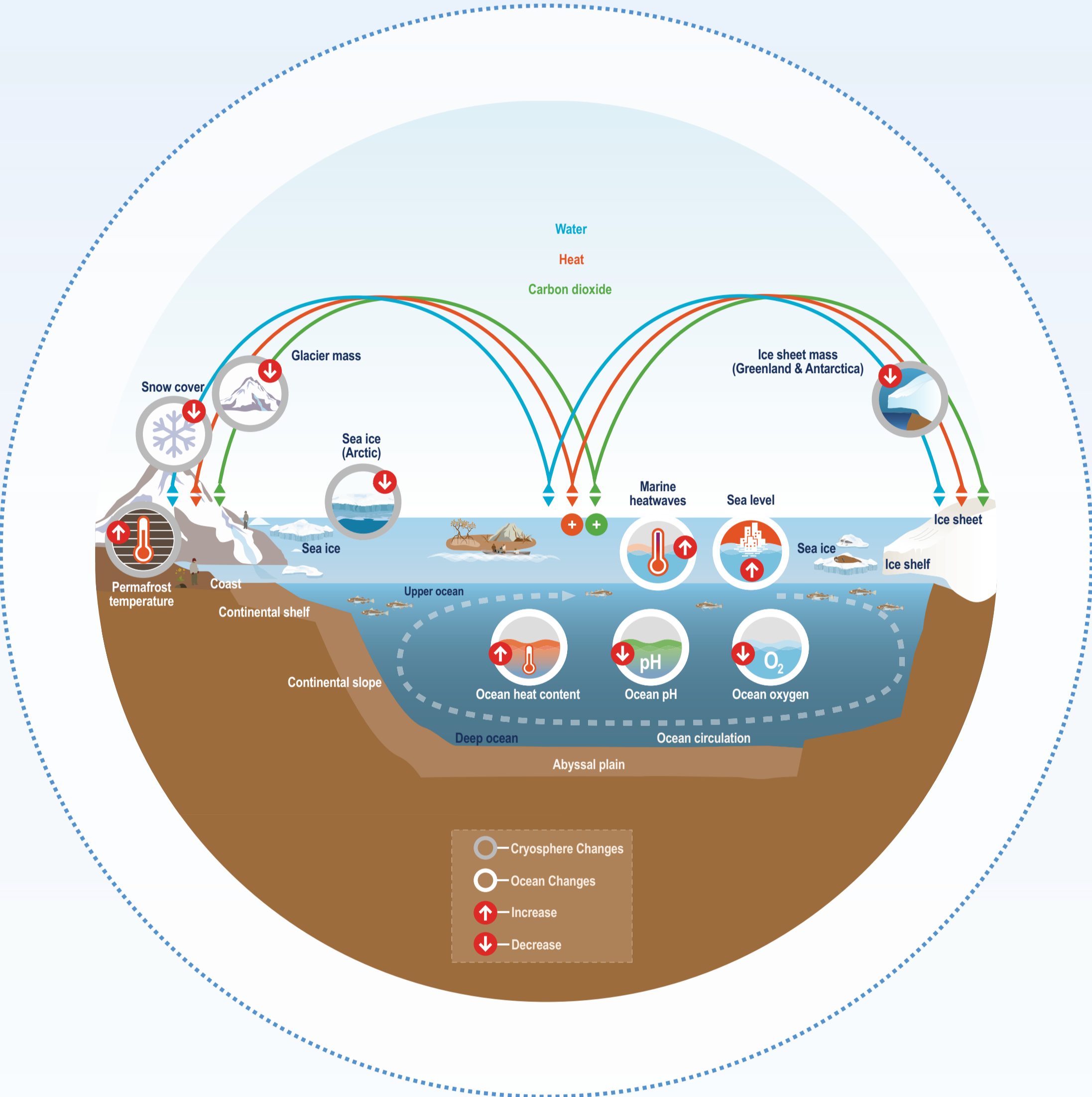
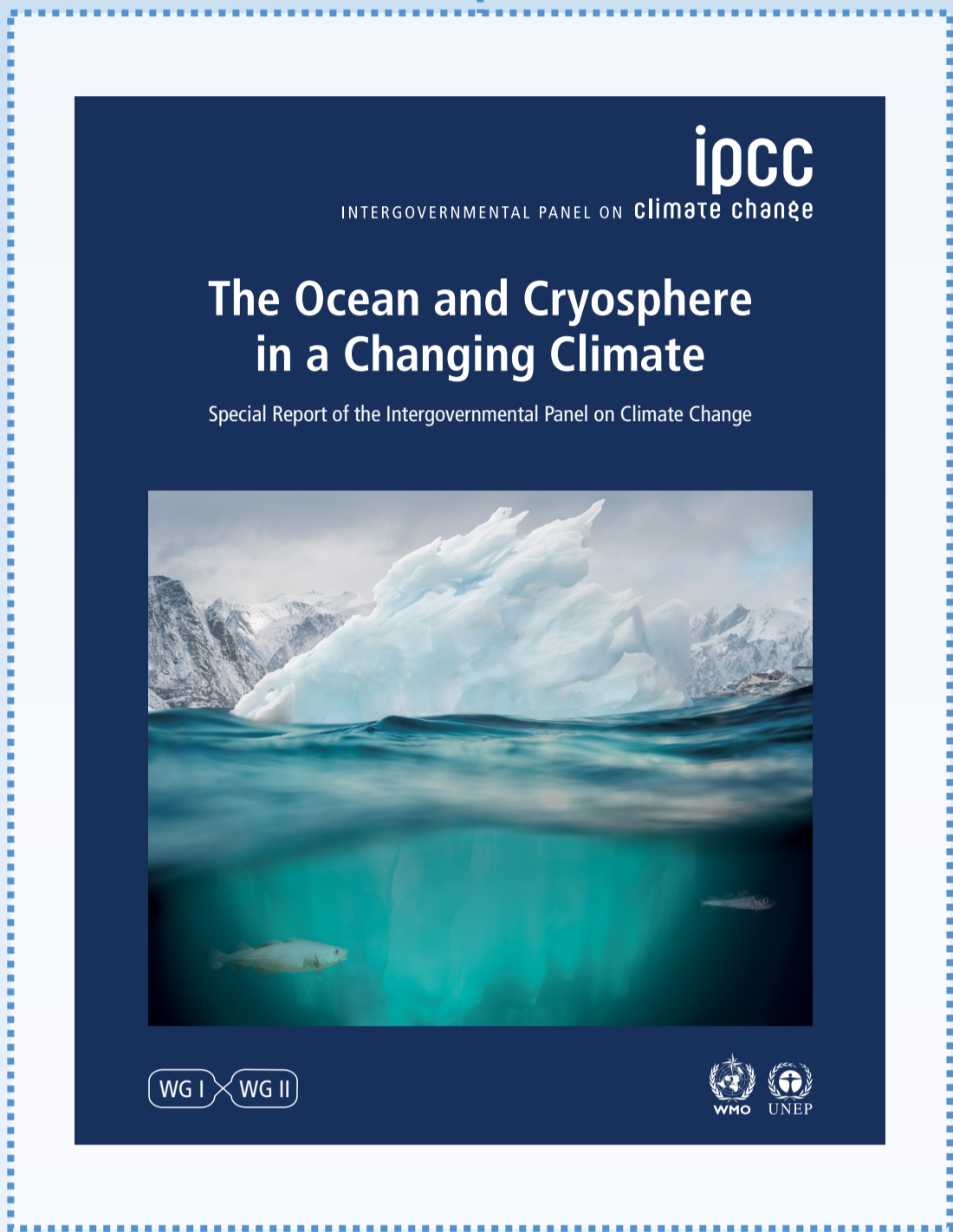
## Abstract

Alterations in the ocean and polar and mountain cryosphere from climate change have the potential for far-reaching impacts on ecosystems and human systems all over the world. The IPCC Special Report on Ocean and Cryosphere in a Changing Climate (SROCC) was prepared in response to proposals of member governments and observer organisations for Special Reports assessing highly policy-relevant issues. This report focuses on observed and projected changes in the ocean and cryosphere; impacts, vulnerability and risks to ecosystems and human systems, as well as adaptation options. The SROCC is structured in six chapters: Framing and context of the report; high mountain areas; polar regions; sea level rise and implications for low lying islands, coasts and communities; changing ocean, marine ecosystems, and dependent communities; extremes, abrupt changes and managing risks; together with an integrative cross-chapter box on low-lying islands and coasts. Over 100 scientists from 36 countries led the assessment of the latest scientific knowledge in more than two years of intense work. This presentation will provide some background information, an overview on the milestones during report development and focus on the key messages from the report's Summary for Policymakers.

# The IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC) – A view from the mountain tops to the deepest oceans

SROCC summarizes the characteristics and interconnection of ocean and cryosphere and highlights their importance in the earth system and for human societies in the light of climate change (Chp 1). Changes in high mountain cryosphere and their impacts on local mountain communities and far beyond (Chp 2), the state of knowledge concerning changes and impacts in the Arctic and Antarctic ocean and cryosphere systems including challenges and opportunities for societies (Chp 3), and changes in the ocean and marine ecosystems including risks to ecosystem services and vulnerability of the dependent communities (Chp 5) are addressed. Chp 4 assesses regional and global changes in sea level and the associated risk to low-lying islands, coasts and human settlements, and response options. Chp 6 assesses extremes and abrupt or irreversible changes in the ocean and cryosphere in a changing climate, and identifies sustainable and resilient risk management strategies.

Our Ocean and Cryosphere –  
They sustain us  
They are under pressure  
Their changes affect all our lives –  
The time for action is now



Schematic illustration of key components and changes of the ocean and cryosphere, and their linkages in the Earth system through the global exchange of heat, water, and carbon. Climate change-related effects (increase/decrease indicated by arrows in pictograms) in the ocean include sea level rise, increasing ocean heat content and marine heat waves, increasing ocean oxygen loss and ocean acidification.

Changes in the cryosphere include the decline of Arctic sea ice extent, Antarctic and Greenland ice sheet mass loss, glacier mass loss, permafrost thaw, and decreasing snow cover extent. For illustration purposes, a few examples of where humans directly interact with ocean and cryosphere are shown.

104

Authors from 36 Countries

6981

Publications referenced

31,176

Comments from Expert Reviewers  
and Governments

## Content:

- 1. Framing and Context of the Report
  - 2. High Mountain Areas
  - 3. Polar Regions
  - 4. Sea level rise and implications for low-lying islands, coasts and communities
  - 5. Changing ocean, marine ecosystems and dependent communities
  - 6. Extremes, abrupt changes and managing risks
- Integrative cross-chapter box on low-lying islands and coasts



[www.ipcc.ch/srocc](http://www.ipcc.ch/srocc)

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