

SROCC – Relevant expertise for the Scoping Meeting

Relevant expertise for the Scoping Meeting were diverse, as the proposed Special Report will integrate information and perspectives across the domains of all the three Working Groups of the IPCC. Participants in the meeting collectively had expertise in the following areas:

- Oceans and cryosphere in the climate system: interactions, drivers, mass and energy exchange, carbon storage and fluxes (including submarine and terrestrial permafrost), climate feedbacks (e.g., albedo), timescales of responses, abrupt change, irreversibility
- Global to regional ocean physical and biogeochemical variability and change (circulation, extreme events, heat content, salinity, sea ice, carbon cycle, acidification, oxygen, nutrients, upwelling, etc.): palaeoclimate, observations, processes, modelling and projections, model evaluation, detection and attribution to human influence
- Global to regional variability and change in the cryosphere (including mountain glaciers, ice shelves, ice sheets, permafrost): palaeoclimate, observations, processes, modelling and projections, model evaluation, detection and attribution to human influence
- Global to regional sea level variability and change: drivers, palaeoclimate, observations, processes, modelling and projections, model evaluation, detection and attribution to human influence
- Methods for the detection of climate change impacts on ecosystems and human systems associated with oceans and cryosphere, attribution of impacts to anthropogenic climate change and other human influences: palaeo- and present observations, processes, modelling and projections, model evaluation
- Cryosphere-bound ecosystems and human systems, their observed and projected changes, cryosphere changes and water availability
- Marine ecosystems, biodiversity, productivity, ecosystem services across latitudes, upwelling areas, their observed and projected changes
- Socioeconomic consequences of ocean and cryosphere changes and their implications for sustainable development across regions (natural resources, food webs, food security, health, habitat security, tourism, transportation, etc.)
- Vulnerability and scope for adaptation of natural, managed, and human systems related to oceans, coasts and the cryosphere (including human infrastructures, cities, indigenous communities, human behaviours, economies, adaptation costs, trade-offs and co-benefits)
- Risk assessments, risk perception, reasons for concern (extreme events, coastal erosion, ocean circulation, sea level rise, cryosphere retreat, ecosystem degradation, e.g., coral reefs; harmful algal blooms, adverse impacts of human response measures; climate interactions with overfishing, eutrophication and pollution, regional differentiation)
- Marine mitigation including nature-based mitigation (conservation, i.e., marine protected areas; blue carbon including changes in carbon stocks and fluxes under emission pathways, their relevance for greenhouse gas inventories and accounting) and technologies (renewable energy, carbon capture and storage and other geoengineering techniques, their feasibility and risks, ethical aspects)
- Climate change policies, instruments, international law and cooperation related to oceans and the cryosphere, regional aspects of sustainable development, equity, poverty eradication