Biogeographic regionalisation for the Indian Ocean

A shared understanding of the bioregions in the Indian Ocean will effectively support conservation and sustainable use of marine biological diversity in areas within and beyond national jurisdiction.

What are bioregions?

Bioregions are areas of the ocean that are defined by their unique ecological characteristics. This can include distinct species composition, habitat types, oceanographic conditions, and ecological systems and processes. Socio-economic characteristics can also be a factor when delineating a bioregion. Bioregions are used to assist policy and decision makers, along with resource users and conservationists, in their management, conservation, and research efforts.

Why establish bioregions in the Indian Ocean?

Indian Ocean Rim Association (IORA) member states are working to develop a shared understanding of bioregions (benthic and pelagic) to protect marine ecosystems and species, implement sustainable management practices across the region, and enhance resilience to climate change. Bioregions support targeted scientific research, promote economic and social benefits, and foster international collaboration. By establishing bioregions, IORA states will support regional priorities reflected through the implementation of the BBNJ agreement and support the long-term sustainability of marine environments.

Collaborating across IORA member states

Scientists and government experts from IORA member states participated in a series of virtual and in-person workshops to increase understanding of the distribution of biodiversity in the Indian Ocean and the increase the capability to use that information. Workshop participants refined and updated CSIRO's draft bioregionalisation for the Indian Ocean to reflect the priorities of IORA member states and discussed its use for identifying and prioritising candidate areas for future protection beyond national jurisdictions. The workshops also provided an opportunity for member states to identify challenges, opportunities and recommendations for future bioregional work in the Indian Ocean.

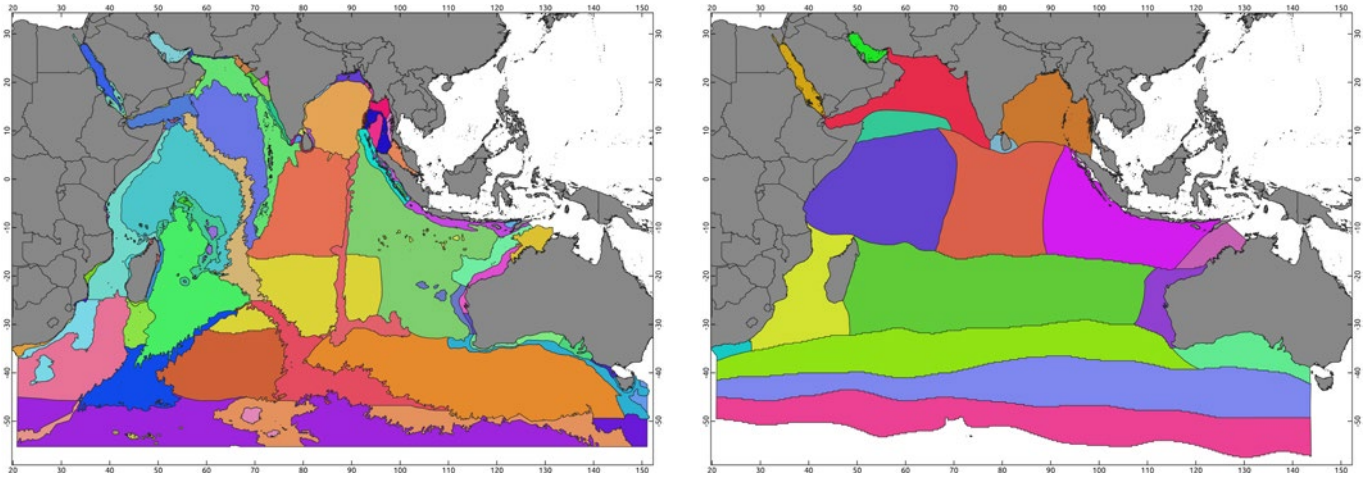
The **Agreement on Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ)**, which was opened for signature in September 2023, is an implementing agreement under the United Nations Convention on the Law of the Sea (UNCLOS) that will address regulatory gaps in the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. The treaty will enter into force 120 days after the 60th ratification.

BBNJ Agreement Annex I includes indicative criteria that can be used to identify areas that may be managed through area-based management tools such as marine protected areas.

Workshops were jointly organised by the Indian Ocean Rim Association (IORA) Secretariat, and Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO), Department of Climate Change, Energy, the Environment and Water, and Department of Foreign Affairs and Trade.

Challenges, opportunities and recommendations for future work to support bioregionalisation

CHALLENGES AND GAPS	OPPORTUNITIES	RECOMMENDATIONS
Status and pathways of migratory species	• Use novel technologies • Engage with local ecological knowledge • Foster regional collaboration	• Understand local ecological systems • Engage with organisations already collecting data on these species
Collecting and managing deep sea biodiversity data	• Collaborate with global and regional bodies to gather new data	• Develop capacity building programs • Form an expert group • Identify key indicator species to improve understanding of benthic biodiversity
Improved collaboration between member states	• IORA to provide a mechanism to do this	• Establish a technical scientific group • Build capacity of all countries
Understand future scenarios of change	• Explore human activity shifts and climate impacts on distribution of biodiversity	• Analyse dynamic economic and biological changes
Data sharing across the Indian Ocean region	• Explore a regional data depository • Establish a clearing house to collect, process, and disseminate data	• Explore options to support a regional data sharing mechanism • Marine data could be fed into a future BBNJ clearing house mechanism
Awareness and understanding of BBNJ	• Raise member awareness and capacity • Support ratification and implementation	• Establish new capacity building programs targeted to member state needs • Support improved science and policy links



Draft benthic (left) and pelagic (right) bioregionalisation produced by the IORA workshop. Each biogeographic province is represented by a different colour. Experts at the workshop identified these on the basis that each province contains distinct biodiversity.

A unified path forward

Following the workshops, Member States recommended establishing a Technical Scientific Expert Group to compile scientific knowledge related to the Annex I criteria of the BBNJ Treaty. They also requested seeking IORA Committee of Senior Officials endorsement of the Workshop Report, including the maps and recommendations. Member States will identify potential projects to assist recommendations, and projects that will raise awareness to encourage signatures and ratification of the BBNJ Treaty.

Australia is requesting that IORA member states endorse the IORA workshop bioregions as a regional approach to understanding biodiversity and implementing the BBNJ agreement.

For further information

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