

A large, high-quality underwater photograph of a sea turtle swimming towards the camera. The turtle's head is in the upper right, and its body extends towards the lower left. The water is clear blue with some light rays and bubbles visible. The turtle's shell is a mottled brown and green, and its flippers are a lighter, yellowish-green color.

# Marine Bioregionalisation for Ecosystem-Based Management in ABNJ: Trends, Challenges and Opportunities

NEOPS-A04-2 2<sup>nd</sup> Symposium, University of Tokyo

17 March 2015

Daniela Diz  
WWF-Canada



# OUTLINE

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1. Marine Bioregionalisation for:
  - a) MPA networks (CBD Guidance)
  - b) Ecosystem-Approach to Fisheries Management
2. NAFO's EAFM Roadmap: progress and challenges
3. Future opportunities in Law-Making: BBNJ

# CBD: Aichi Targets, MPAs, GOODs, EBSAs

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# CBD Aichi Targets

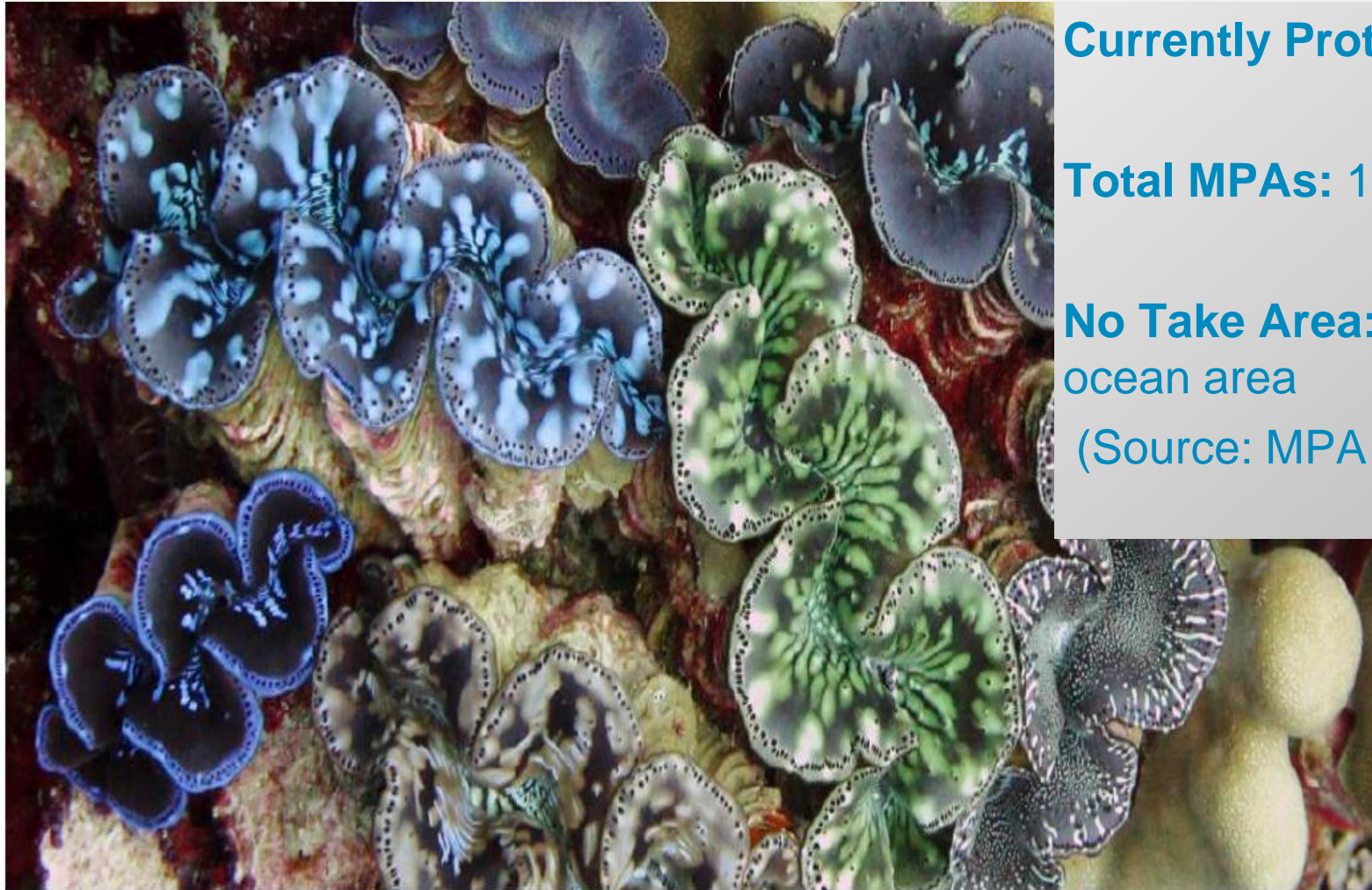


## Target 11

“By 2020, at least 17 per cent of terrestrial and inland water areas and **10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services**, are conserved through effectively and equitably managed, **ecologically representative** and **well-connected systems** of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape.”



# MPA coverage World wide



**Currently Protected: 2.12%**

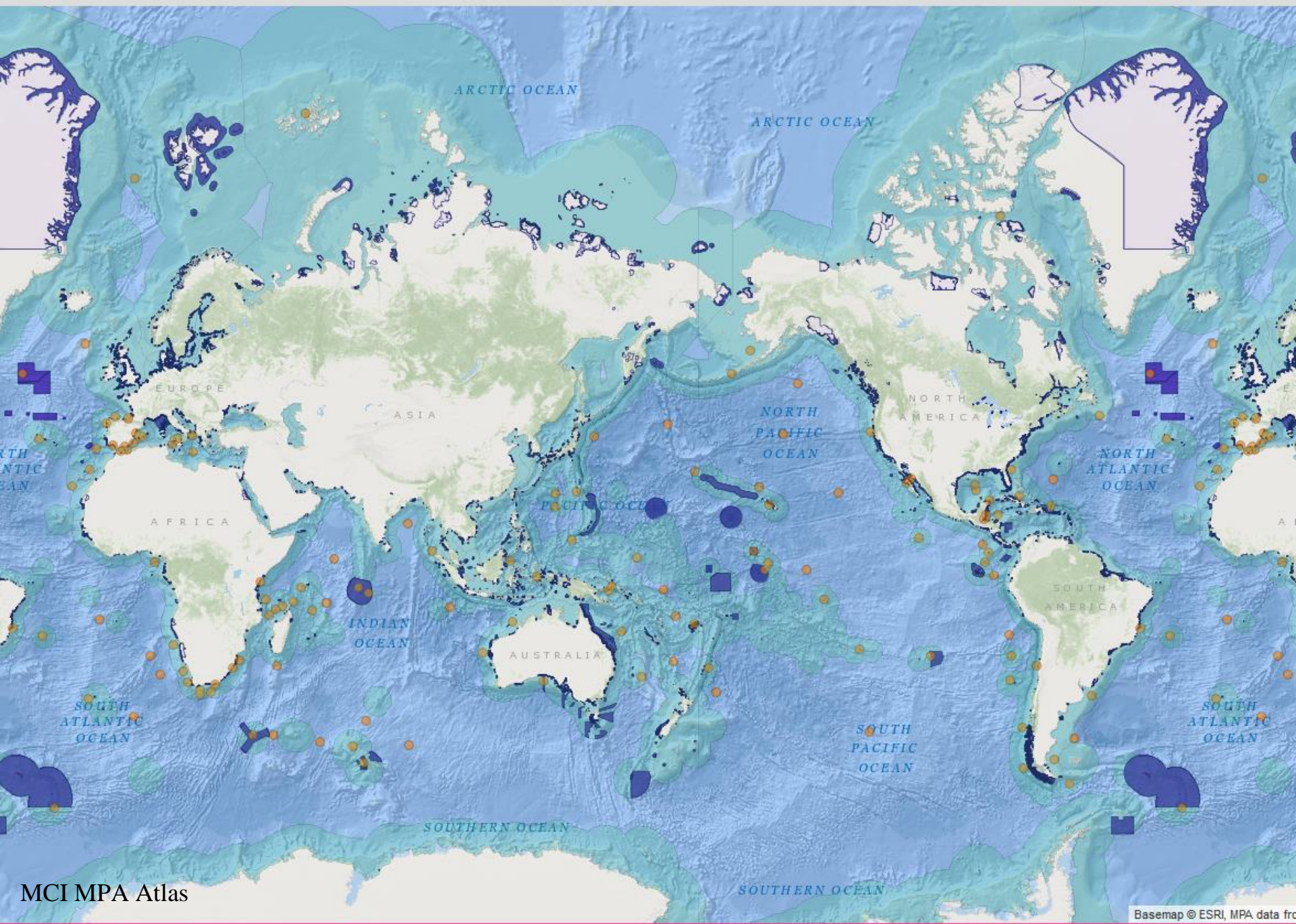
**Total MPAs: 11,333**

**No Take Area: 0.94% of  
ocean area**

**(Source: MPA Atlas)**

*Photo: Amanda Pollock / USFWS | US Pacific Remote Islands Marine National Monument*



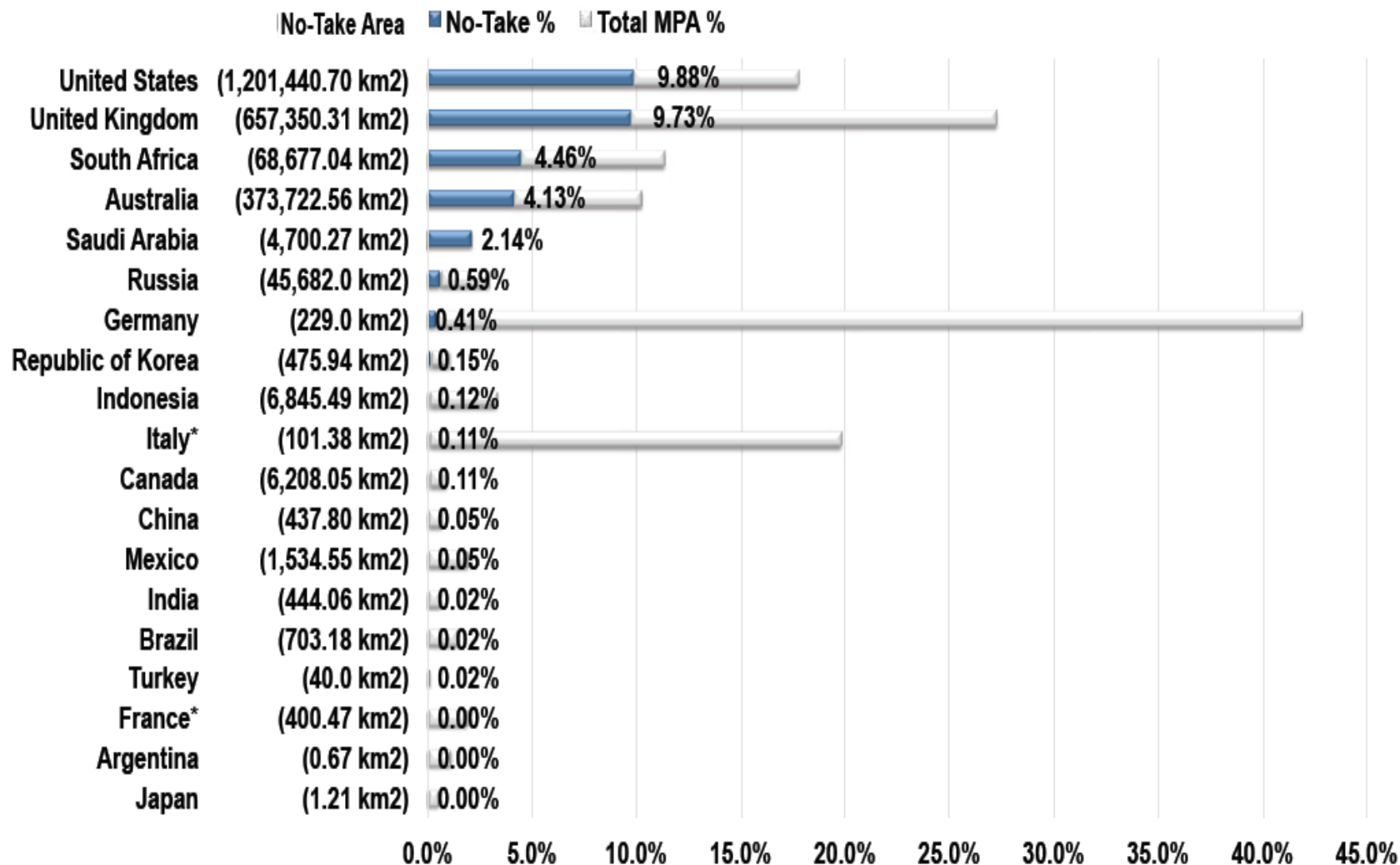




## MPA coverage in G20 Countries (MCI 2014)

<http://www.mpatlas.org/explore/>

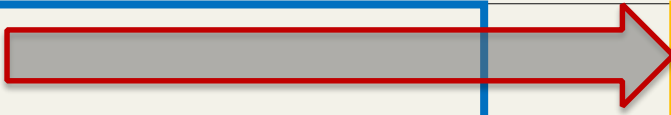
### Marine Protected Areas by G20 Nation: No-Take and Total Protected Area Coverage





## MPA network criteria CBD Decision IX/20, Annex II

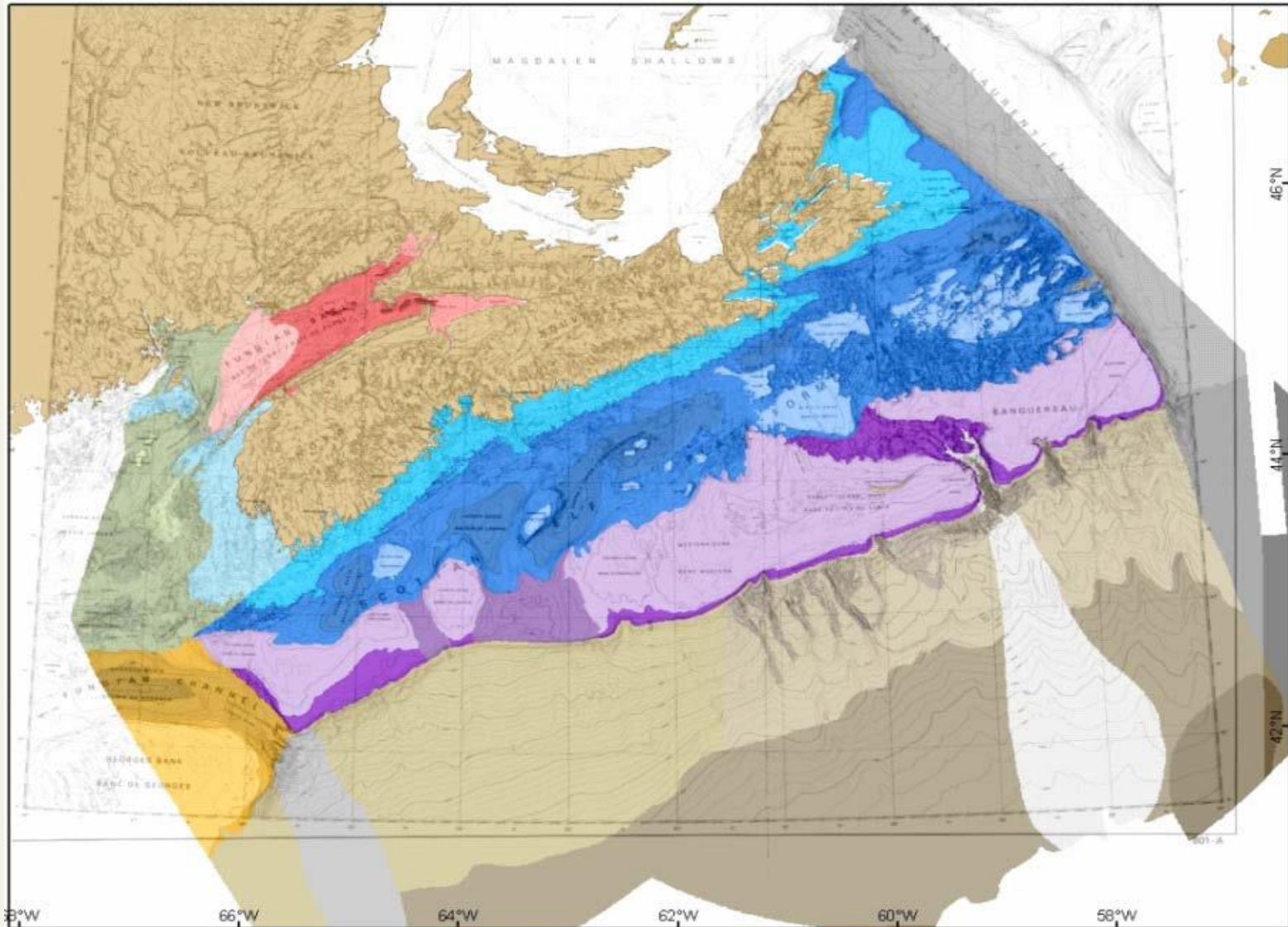
- EBSA
- Representativity
- Connectivity
- Replicated ecological features
- Adequate and viable sites



1. Uniqueness or rarity
2. Special importance for life-history stages of species
3. Importance for threatened, endangered or declining species and/or habitats
4. Vulnerability, fragility, sensitivity, or slow recovery
5. Biological productivity
6. Biological diversity
7. Naturalness

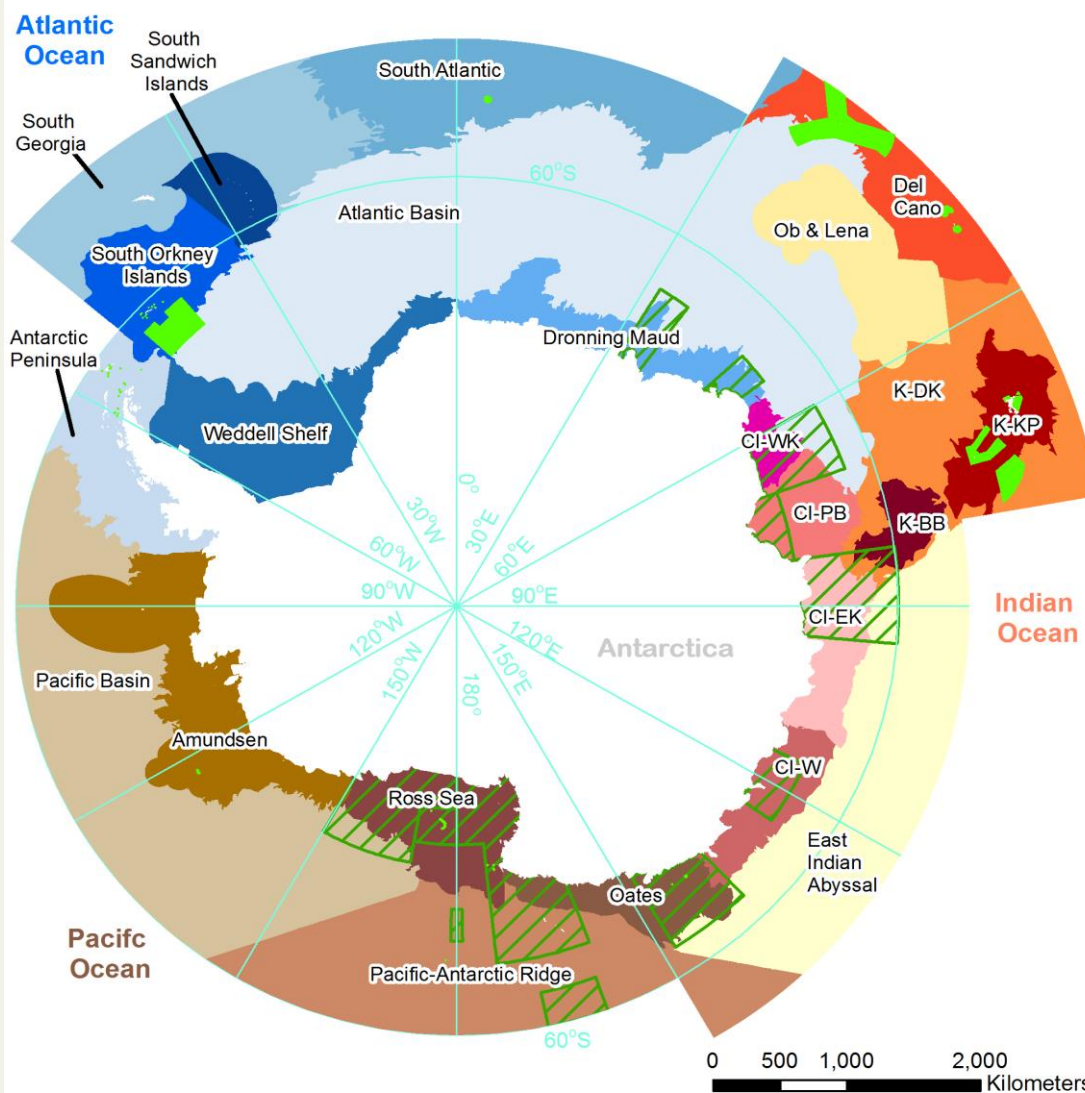


# Bioregionalisation for MPA network plans: Representativity





# CCAMLR Bioregionalisation for MPAs







- Existing Marine Protected Area
- Proposed Marine Protected Area
- Abc Benthic Ecoregion name

## Benthic ecoregion code names

- CI-EK: Central Indian - East Kerguelen Subregion
- CI-PB: Central Indian - Prydz Bay Subregion
- CI-WK: Central Indian - West Kerguelen Subregion
- CI-W: Central Indian - Wilkes Subregion
- K-BB: Kerguelen - Banzare Bank Subregion
- K-DK: Kerguelen - Deep Kerguelen Subregion
- K-KP: Kerguelen - Kerguelen Plateau Subregion



## Dinter Biogeographic regions

-  OSPAR MPAs
-  Outer boundary of OSPAR area
-  Boundary between OSPAR regions
-  Exclusive Economic Zones (VLIZ v6)

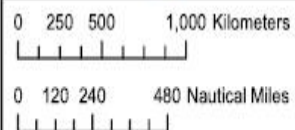
Biogeographic regions from Dinter (2001).  
Biogeography of the OSPAR Maritime Area.  
Provided 2013-03-05.

OSPAR region and MPA boundaries provided  
by OSPAR. Available at [ospar.org](http://ospar.org).  
Provided 2013-02-20.

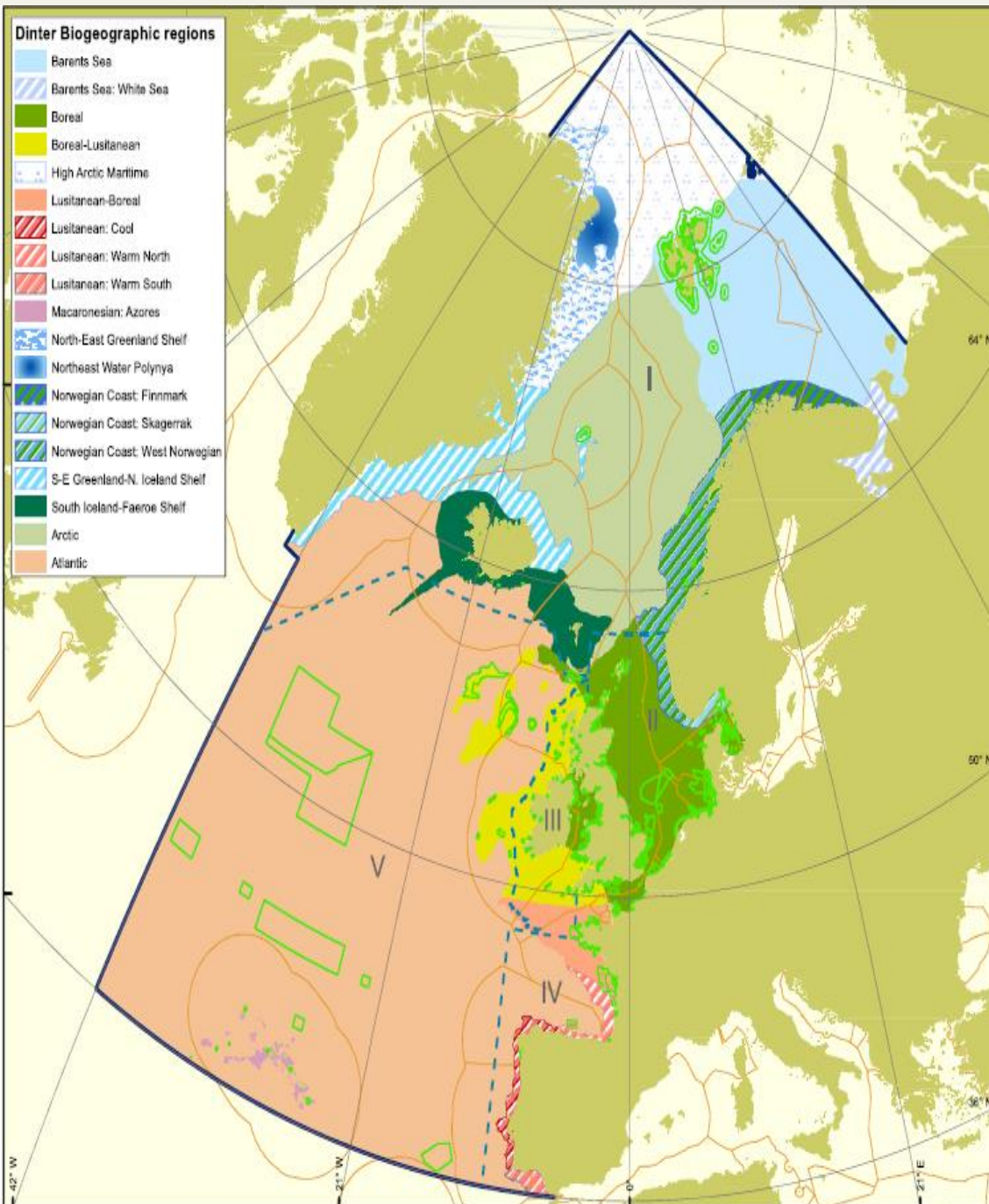
EEZ: VLIZ (2012) Maritime Boundaries  
Geodatabase, version 7. Available at  
[marineregions.org](http://marineregions.org). Consulted 2012-07-11.

Coastline: GSHHG (NOAA, 2013). Available at  
[ngdc.noaa.gov/mgg/shorelines/gshhs.html](http://ngdc.noaa.gov/mgg/shorelines/gshhs.html)  
Consulted 2013-03-05.

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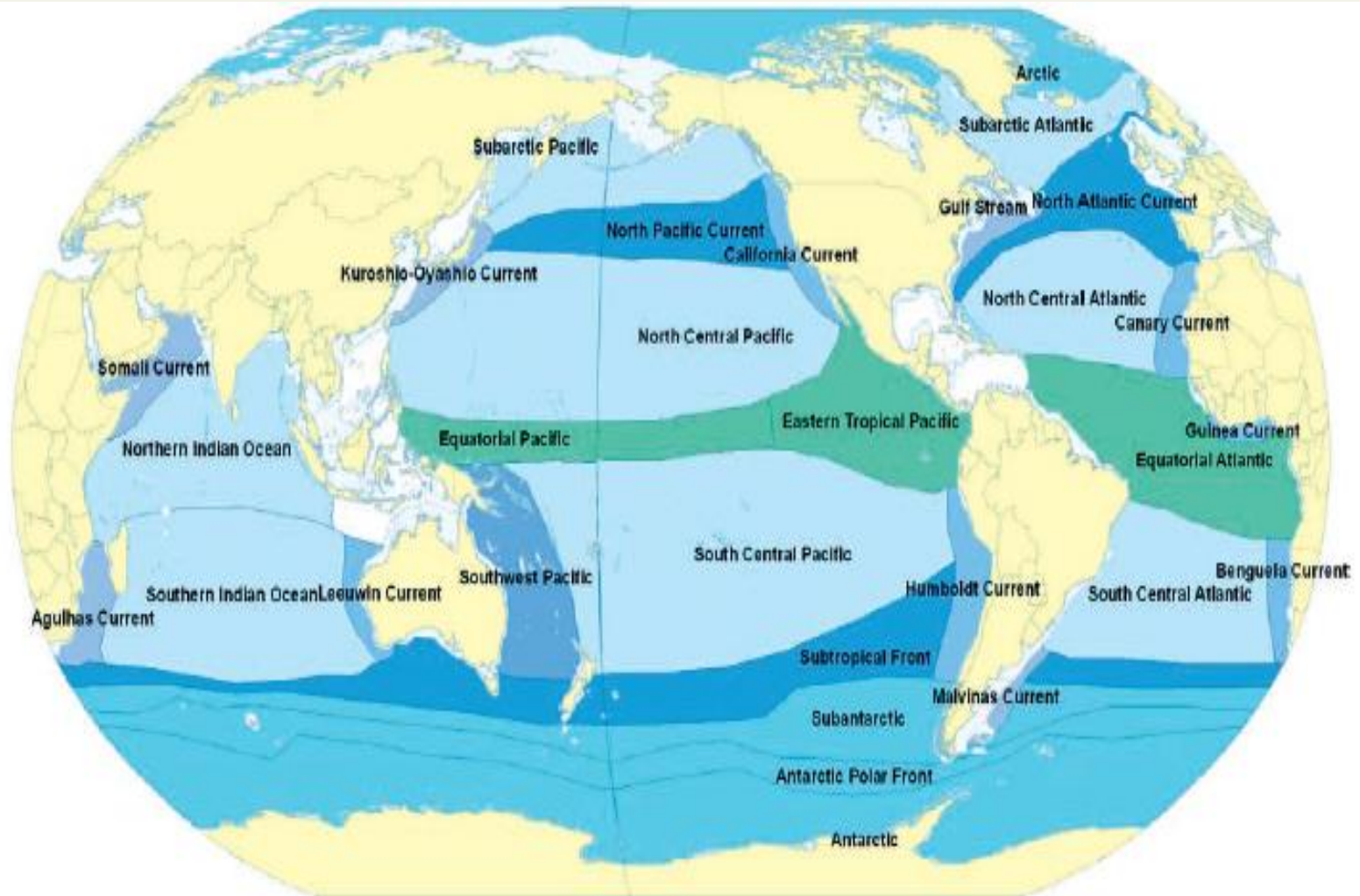
Projection: Lambert Azimuthal Equal Area  
Reference: ETRS89  
Not to be used for navigation





# GOODS

## Pelagic Provinces





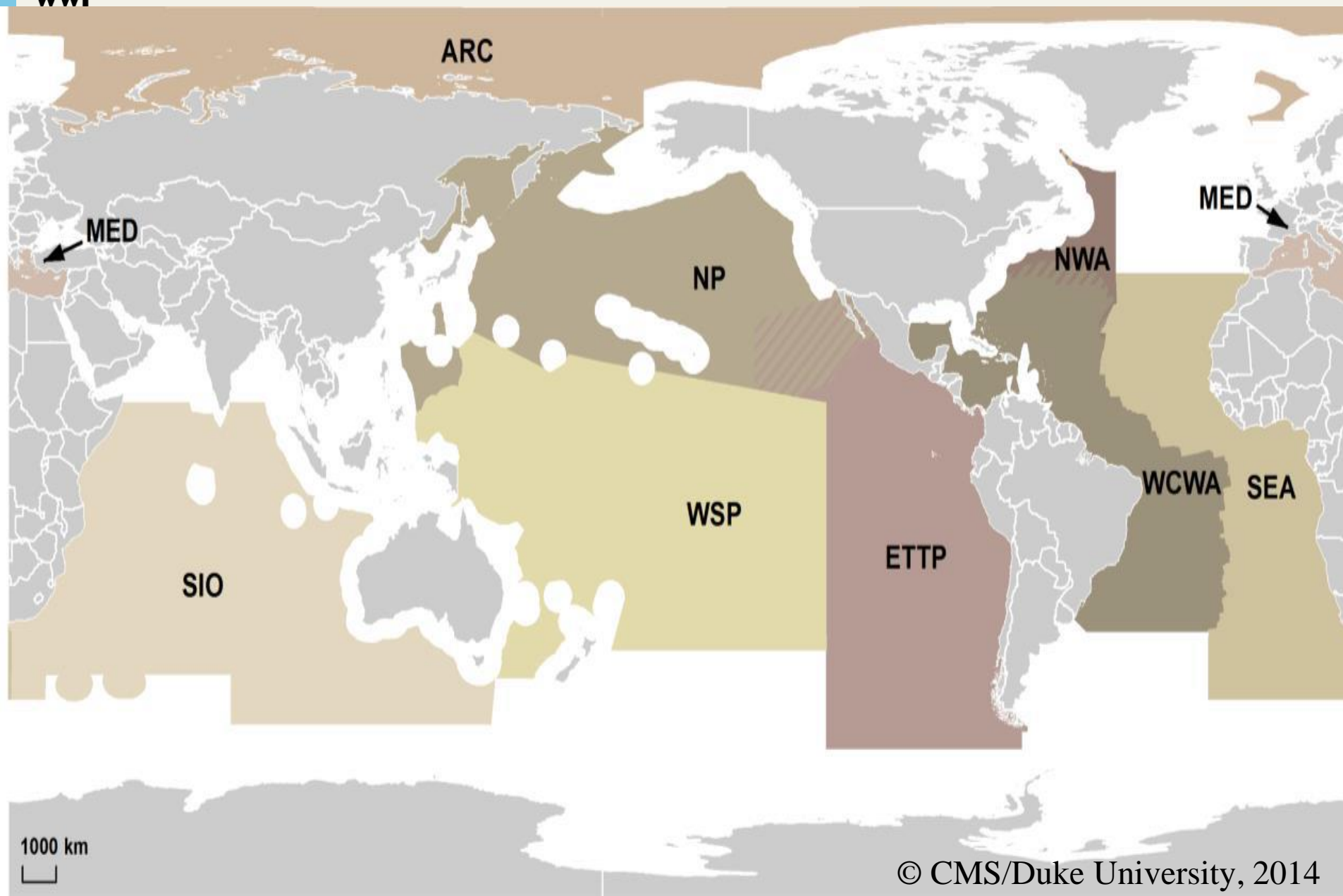
## EBSAs

EBSA Process  
COP 10  
Dec. X/29

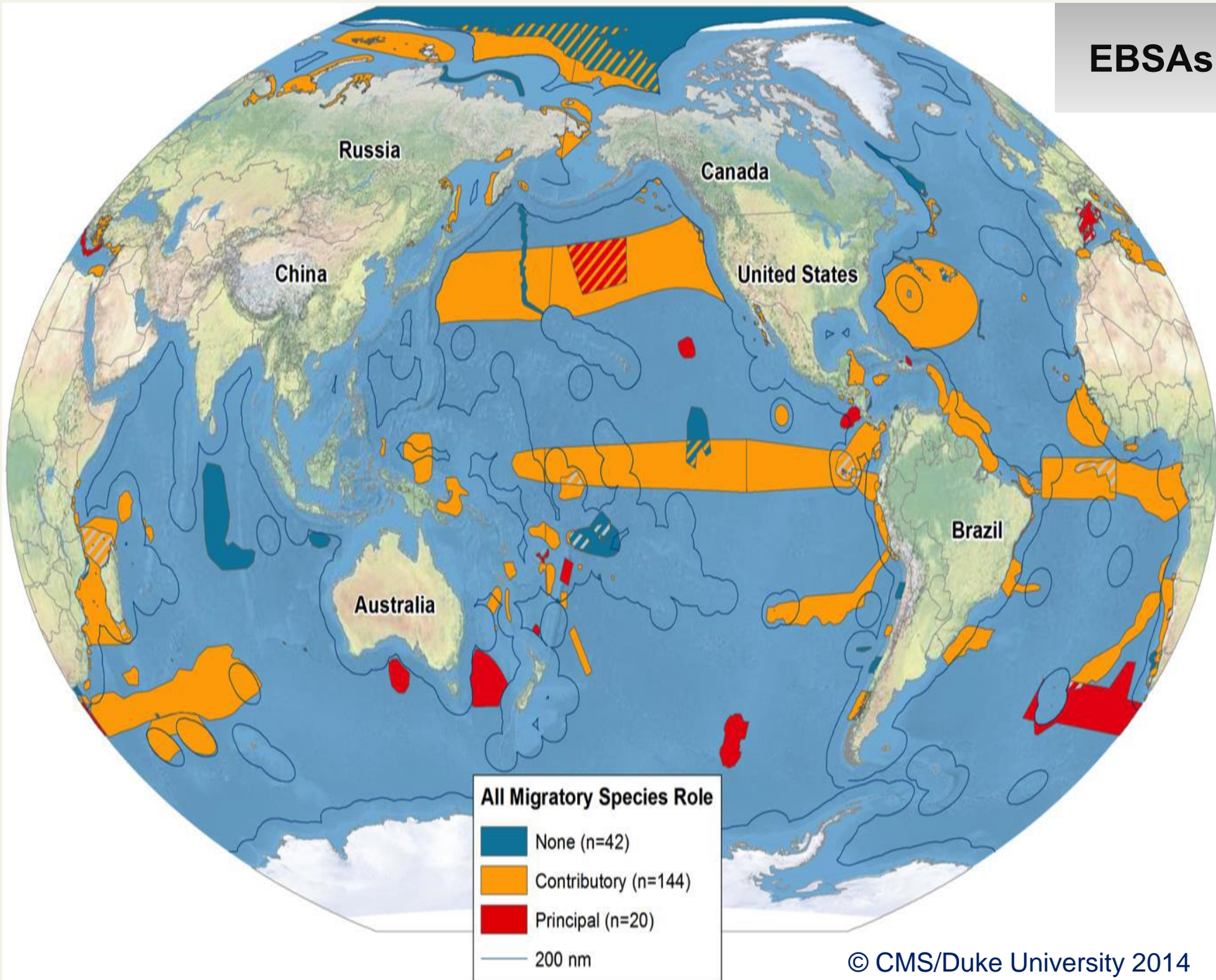
36. *Requests the Executive Secretary* to work with Parties and other Governments as well as competent organizations and regional initiatives, such as the Food and Agriculture Organization of the United Nations (FAO), regional seas conventions and action plans, and, where appropriate, regional fisheries management organizations (RFMOs), with regards to fisheries management, *to organize*, including the setting of terms of references, subject to the availability of financial resources, *a series of regional workshops*, before a future meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) prior to the eleventh meeting of the Conference of the Parties to the Convention, with a primary objective *to facilitate the description of ecologically or biologically significant marine areas through application of scientific criteria in annex I of decision IX/20 as well as other relevant compatible and complementary nationally and intergovernmentally agreed scientific criteria*, as well as the scientific guidance on the identification of marine areas beyond national jurisdiction, which meet the scientific criteria in annex I to decision IX/20;



# EBSAs: Regional Workshops







10. *Invites* Parties who find it appropriate to do so, individually, ~~in accordance with national legislation, bilaterally or jointly at the regional level, ~~in accordance with international law, to undertake, and, where appropriate,~~~~ in collaboration with competent intergovernmental organizations, in accordance with international law, including UNCLOS, ~~as appropriate, to undertake~~ scientific and technical analysis of [the status of, and [pressures on]/[trends in] ~~stressors to,~~] marine and coastal biodiversity in areas [within their respective jurisdictions of Parties or mandates of intergovernmental organizations] described as meeting the EBSA criteria and contained in the EBSA repository, to summarize the information ~~collected~~ resulting from the above process and to consider making this summarized information available through the EBSA information-sharing mechanism.





# Ecosystem Approach for Fisheries Management - EAFM

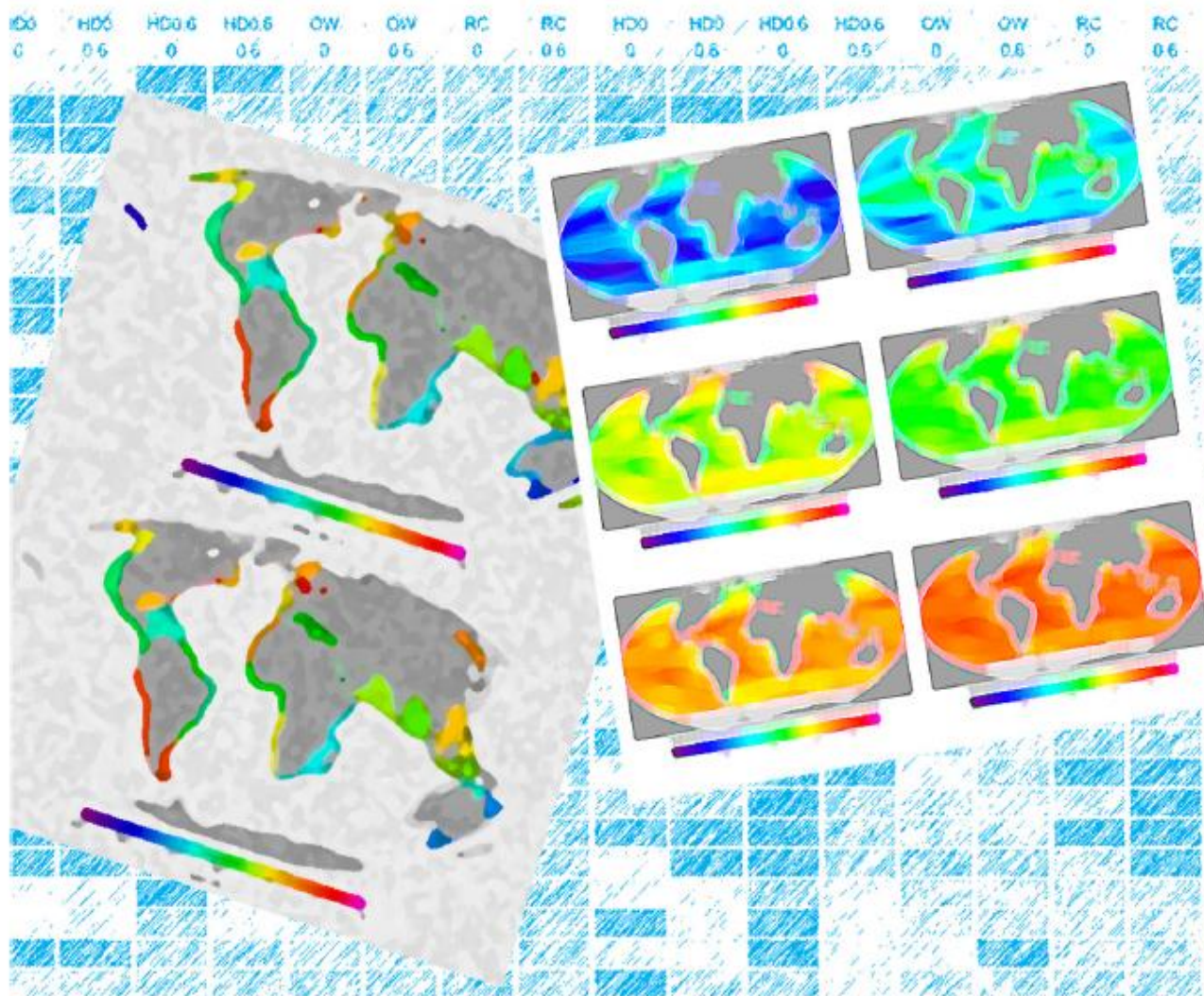


## **CBD Aichi Biodiversity Target 6:**

By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally **and applying ecosystem based approaches**, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

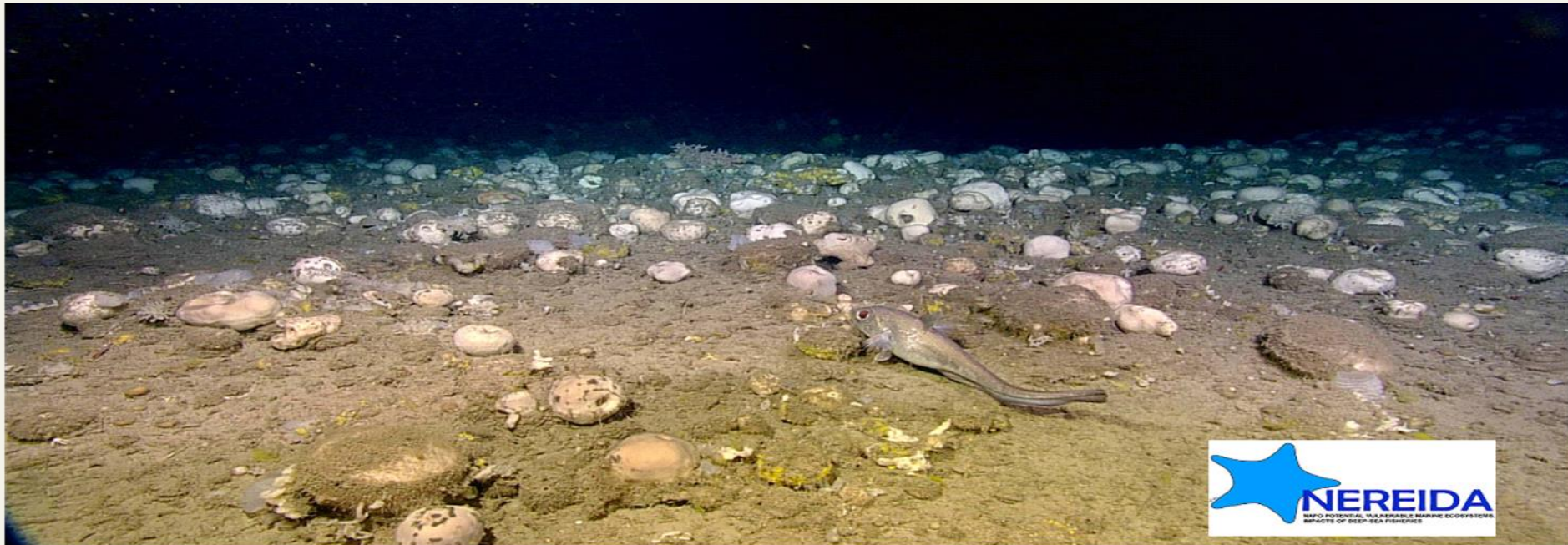


# DEVELOPING NEW APPROACHES TO GLOBAL STOCK STATUS ASSESSMENT AND FISHERY PRODUCTION POTENTIAL OF THE SEAS

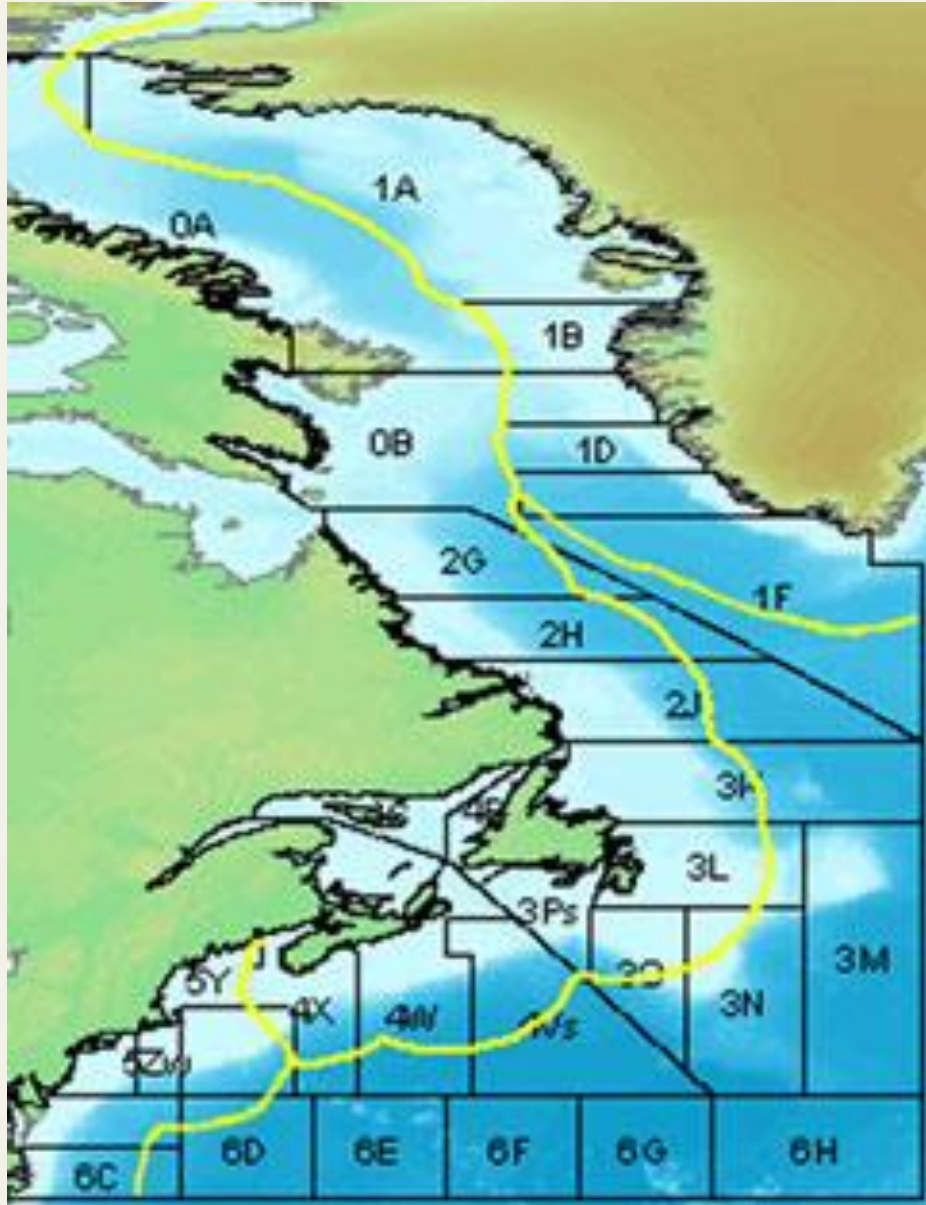


## Case Study: NAFO

Governance (policy and law – new Convention) created the enabling conditions for change on the water (e.g. VMEs and EAFM)



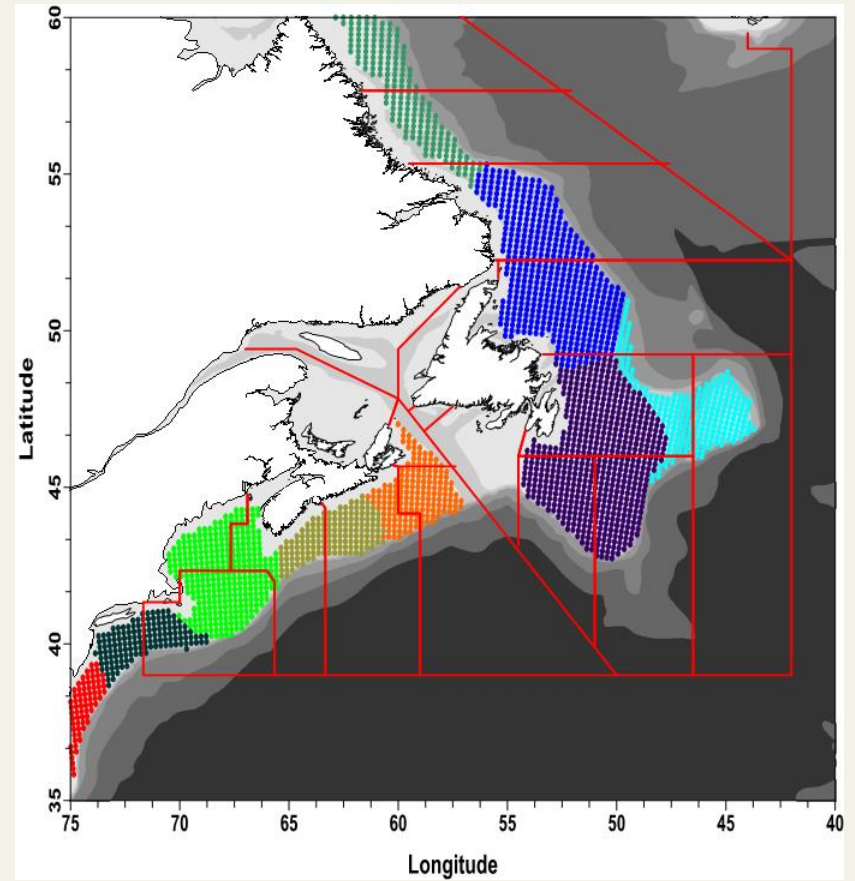
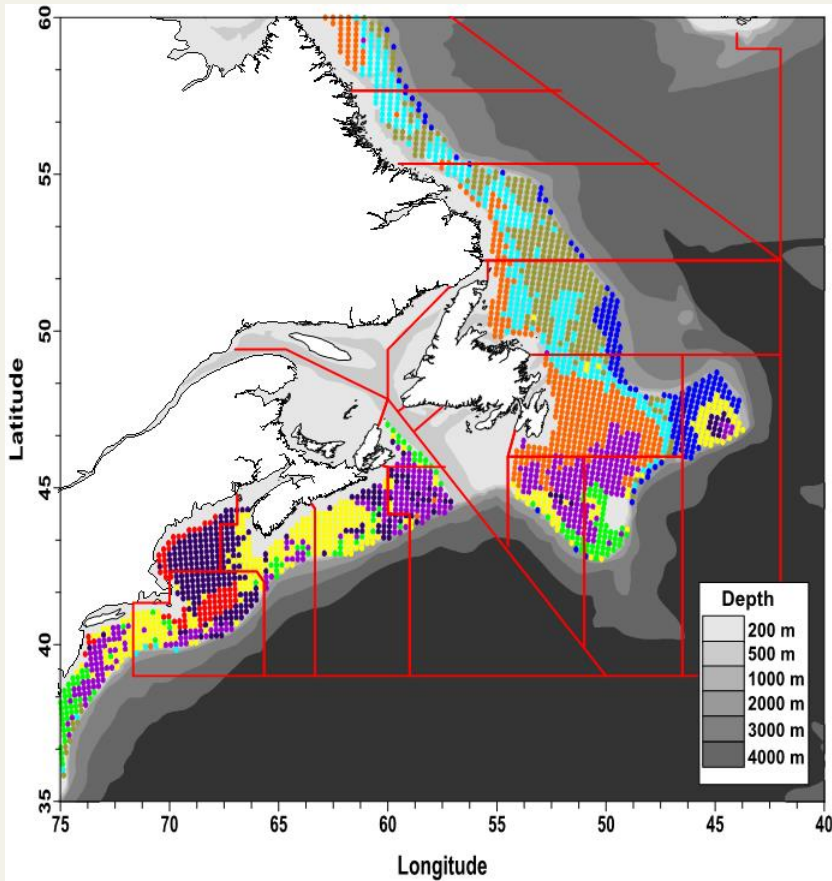




## NAFO Convention Area & Regulatory Area

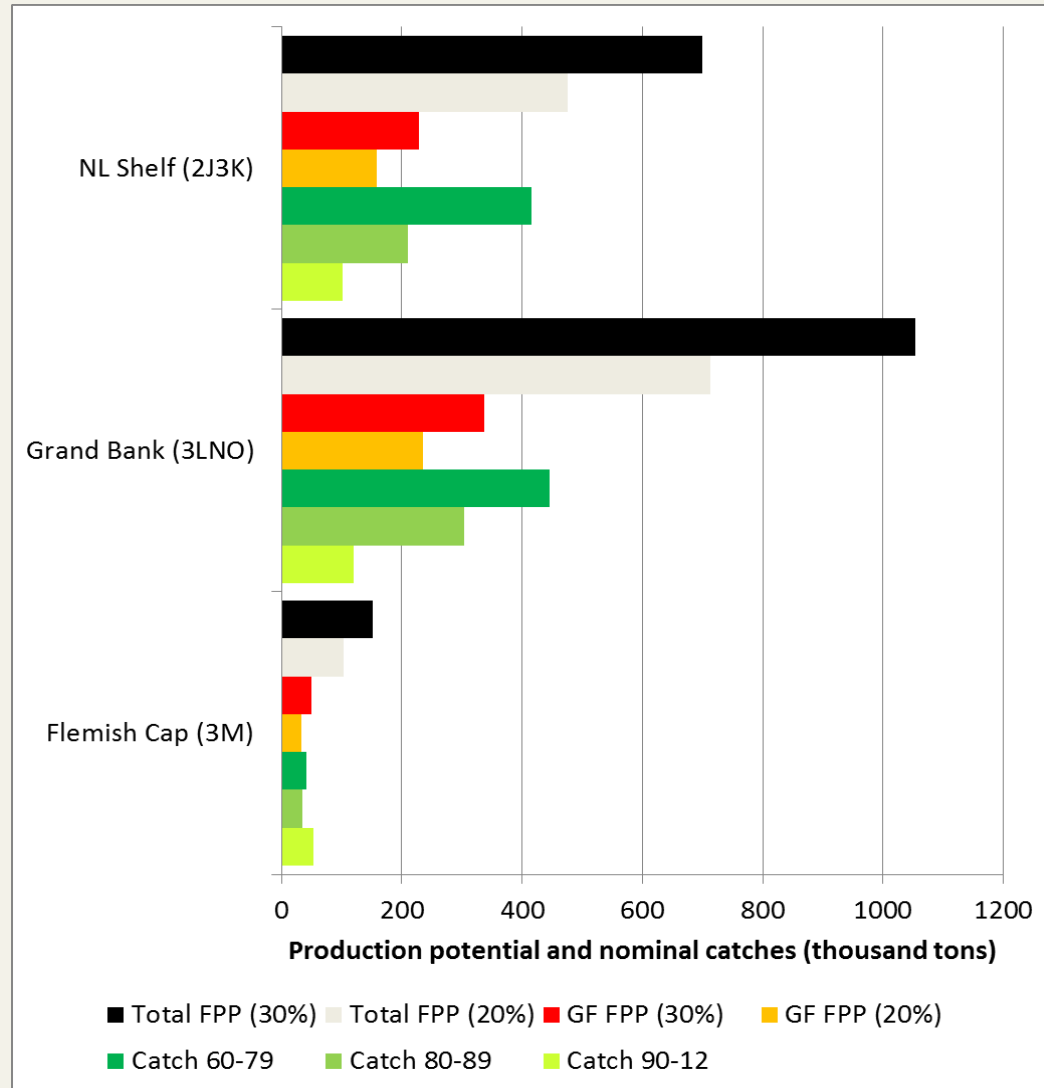
- A necessary starting point for defining “ecosystem management” units is the delineation of ecosystem boundaries and identification of major ecosystem subunits (ecoregions)
- NAFO’s ecoregion delineation has been carried out for
  - US NE Atlantic Shelf (Fogarty and Keith 2009)
  - Scotian Shelf (Zwanenburg et al. 2010)
  - Newfoundland Shelf (Pepin et al. 2010)





Ecosystem units being discussed at NAFO

# Ecosystem sustainability





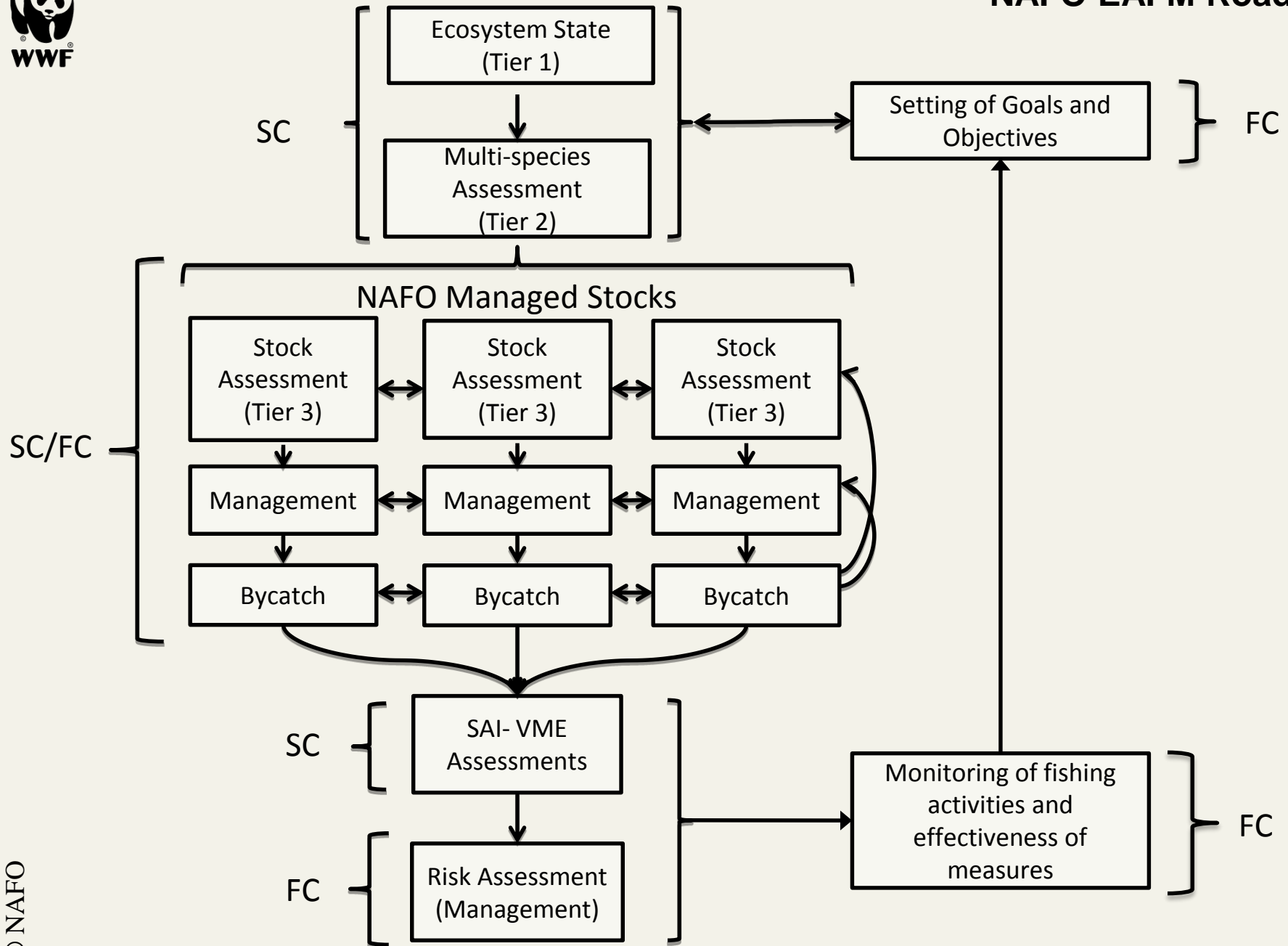


# EPP next steps



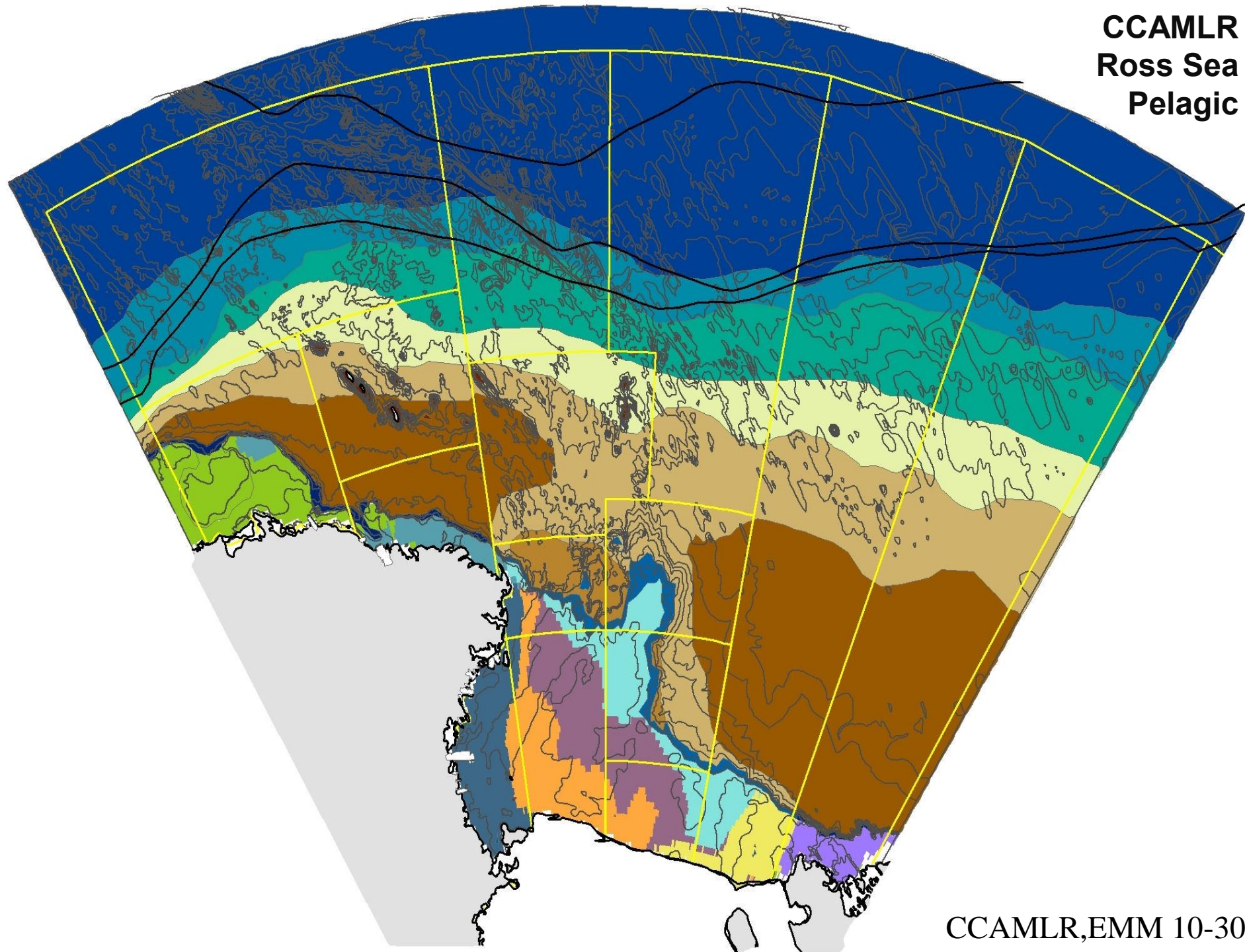


# NAFO EAFM Roadmap





**CCAMLR  
Ross Sea  
Pelagic**



CCAMLR, EMM 10-30





# Bioregionalization: Some Challenges

- Pelagic ecosystems
- Scientific Uncertainties
- Climate change and OA: shifting ecosystem structure
- Fragmented governance system: Need for enhanced Cooperation for its proper management application

# Future Opportunities: BBNJ





# Future Opportunities: BBNJ

## *BBNJ Recommendation to the UNGA (Jan 2015):*

**Decide to develop an international legally-binding instrument under the Convention on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction** and to that end:

- prior to holding an intergovernmental conference, **decide to establish a preparatory committee**, open to all Member States of the United Nations, members of specialized agencies, and Parties to the Convention, with others invited as observers in accordance with past practice of the United Nations, **to make substantive recommendations to the General Assembly on the elements of a draft text of an international legally-binding instrument** under the Convention, taking into account the various reports of the Co-Chairs on the work of the Ad Hoc Open-ended Informal Working Group established pursuant to paragraph 73 of General Assembly resolution 59/24. The preparatory committee shall start its work in 2016 and by the end of 2017 will report to the General Assembly on its progress



- **Before the end of the seventy-second session of the General Assembly**, and taking into account the aforementioned report of the preparatory committee, **will decide on the convening and on the starting date of an intergovernmental conference**, under the auspices of the United Nations, to consider the recommendations of the preparatory committee on the elements and to elaborate the text of an international legally-binding instrument under the Convention
- *Decide* that negotiations shall address the topics identified in the **package** agreed in 2011, namely the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction, in particular, together and as a whole, **marine genetic resources**, including question on the sharing of benefits, measures such as **area-based management tools**, including marine protected areas, **environmental impact assessments** and capacity building and the transfer of marine technology
- *Recognize* that this process **should not undermine existing relevant legal instrument and frameworks** and relevant global, regional and sectoral bodies





# Thank you

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[ddiz@wwfcanada.org](mailto:ddiz@wwfcanada.org)

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