

Achievements of the Arctic Council Implementing the Ecosystem Approach to Management

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Definition – Ecosystem Approach to Management (EA) or Ecosystem-based Management (EBM)

“the comprehensive integrated management of human activities based on the best available scientific and traditional knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity”

Synonymous terms

- **Ecosystem Approach** (to Management) – EA
- **Ecosystem-based Management** – EBM
- Ecosystem-based Approach to Management
- Etc
- 'Ecosystem approach to fisheries'
- Recommended use: **Ecosystem considerations**
... in fisheries, in management of marine mammals, in shipping, etc.

Achievements

- **BePOMAr** - Best Practices in Ecosystem-based Oceans Management in the Arctic – 2007-2009
- **Expert Group on Ecosystem-Based Management** – 2011-2013
- AOR - **Arctic Ocean Review** – Phase I 2009-2011, Phase II 2011-2013
- **Ecosystem Approach Expert Group – EA-EG**
 - Established in 2007 by PAME
 - Broadened as Joint Group in 2011 – including AMAP, CAFF and SDWG

BePOMAr – Core elements

- The **geographical scope** of ecosystems defined by **ecological criteria**.
- The development of **scientific understanding** of systems and of the relationship between human actions and changes in other system components.
- The application of the **best available scientific and other knowledge** to understand ecosystem interactions and manage human activities accordingly.
- An **integrated and multidisciplinary approach** to management that takes into account the entire ecosystem, including humans.
- **Area-based management** and use of scientific and other information on ecosystem changes to continually adapt management of human activities.
- The **assessment of cumulative impacts** of different sectors on the ecosystem, instead of single species, sectoral approaches.
- A **comprehensive framework** with explicit conservation standards, targets and indicators in order to facilitate responses to changes in the ecosystem
- **Transboundary arrangements** for resolution and handling of transboundary ecosystems and issues.

BePOMAr - Conclusions

- **Flexible application** of effective ecosystem-based oceans management
- Decision-making must be **integrated** and **science based**
- **National commitment** is required for effective management
- **Area-based approaches** and **transboundary perspectives** are necessary
- Stakeholder and Arctic resident **participation** is a key element

Expert Group on Ecosystem-Based Management - Recommendations

- Policy commitment
- Definition
- Nine principles
- Activities to be undertaken:
 - Policy and implementation
 - Institutional
 - Science and information

Arctic Ocean Review – Ch 7 EBM Recommendations

- Arctic states should recognize, in accordance with the recommendations from the Arctic Council EBM Expert Group and the PAME lead Ecosystem Approach expert group, the **importance of the following elements when implementing marine Ecosystem-based Management** in the Arctic Council Working Groups: identification of the ecosystem, description of the ecosystem, setting ecological objectives, assessing the ecosystem, valuing the ecosystem and managing human activities.

Arctic Ocean Review – Ch 7 EBM Recommendations

- The Arctic Council should **promote common understanding** and the **mutual exchange of lessons learned** by periodically convening Arctic Council-wide meetings on EBM to:
 - share knowledge and experiences with respect to management and science across Large Marine Ecosystems; and
 - review information on integrated assessments.

Ecosystem Approach Expert Group

- Five workshops
- Progress Reports
- Two main achievements:
 - EA framework
 - Arctic LME map

Five EA workshops

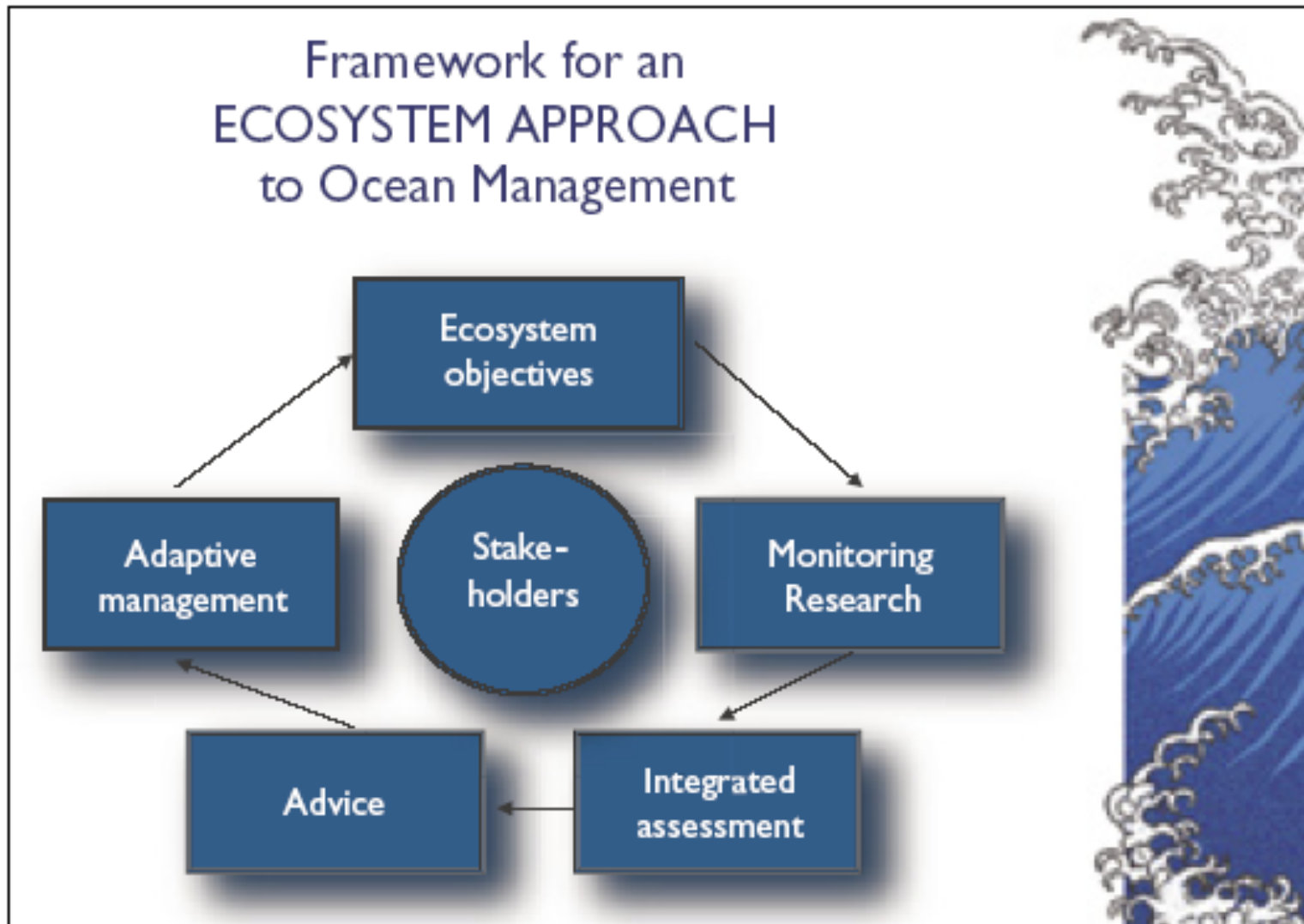
- 1st – Tromsø, Norway , January 2011
 - LME boundaries
- 2nd – Stockholm, Sweden, March 2012
 - EA concept, scale issues, role of IEA
- 3rd – Reykjavik, Iceland, June 2013
 - Data issues
- 4th – Vancouver, Canada, June 2014
 - IEA – two cases: Beaufort and Barents
- 5th – Bergen, Norway, May 2015
 - Ecological objectives

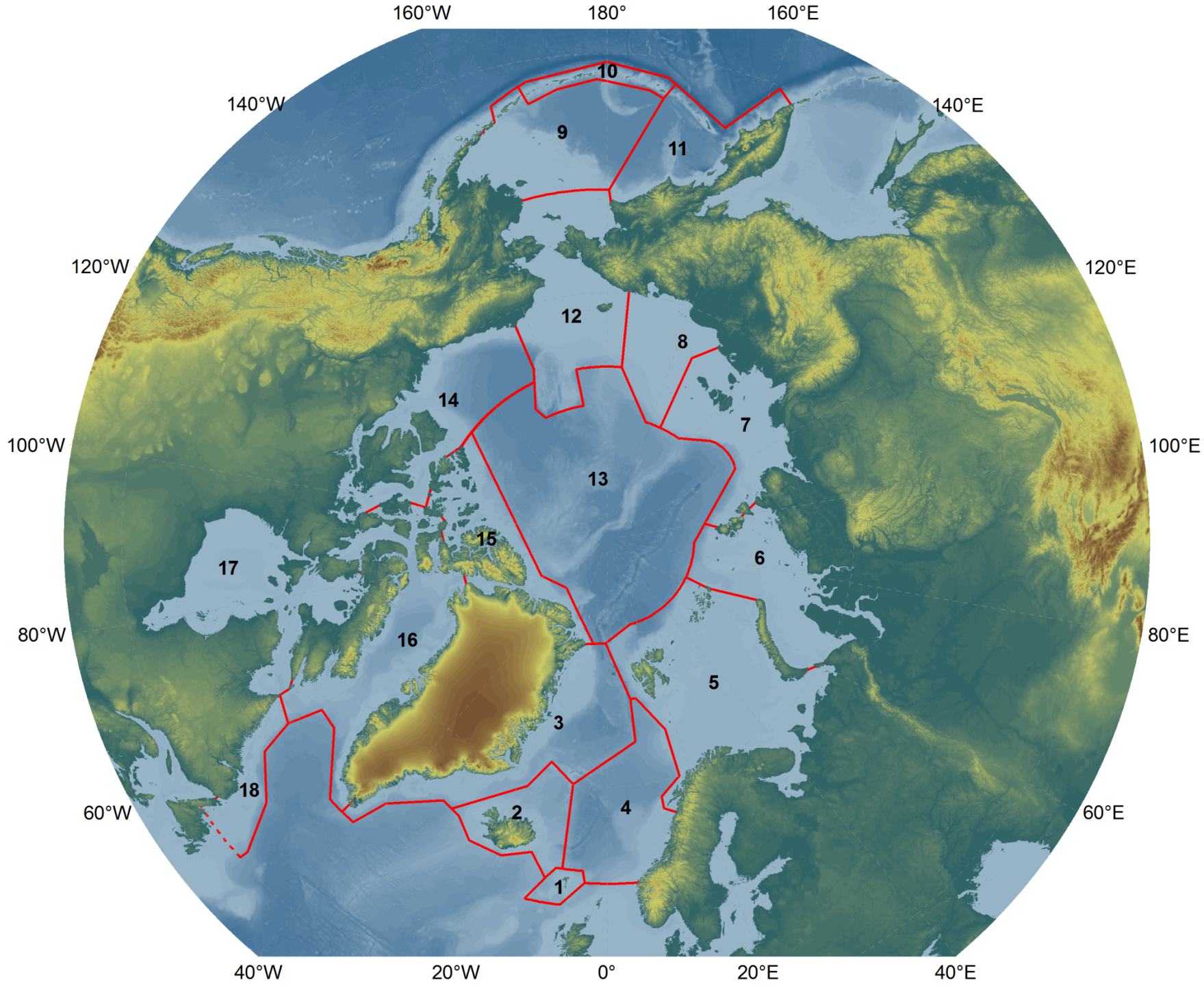
EA framework

- Define the ecosystem
- Describe the ecosystem
- Set ecological objectives
- Assess the ecosystem - IEA
- Value the ecosystem
- Manage human activities

BEST AVAILABLE SCIENTIFIC INFORMATION!!

'Bergen model' - 2002





The Arctic area and Arctic LMEs

- Includes boreal, sub-arctic and Arctic environments
- Open water boreal and subarctic areas with **major commercial fisheries**, versus
- Ice-covered waters with **subsistence harvest** and stronger focus on **conservation** related to loss of sea ice

Arctic LMEs

- **One country only**
 - Hudson Bay LME – Canada
 - Laptev Sea LME – Russia
- **Transboundary** – spans EEZs of two or more countries
 - Northern Bering – Chukchi sea LME – Russia and USA
 - Beaufort Sea LME – Canada and USA
 - Canadian Eastern Arctic-West Greenland LME – Canada and Denmark/Greenland
 - Barents Sea LME – Norway and Russia
- **Includes High Seas**
 - Barents Sea, East Bering Sea, Norwegian Sea LMEs
 - Central Arctic Ocean LME

140°W

160°W

180°

160°E

140°E

60°N

60°N

60°N

60°W

40°W

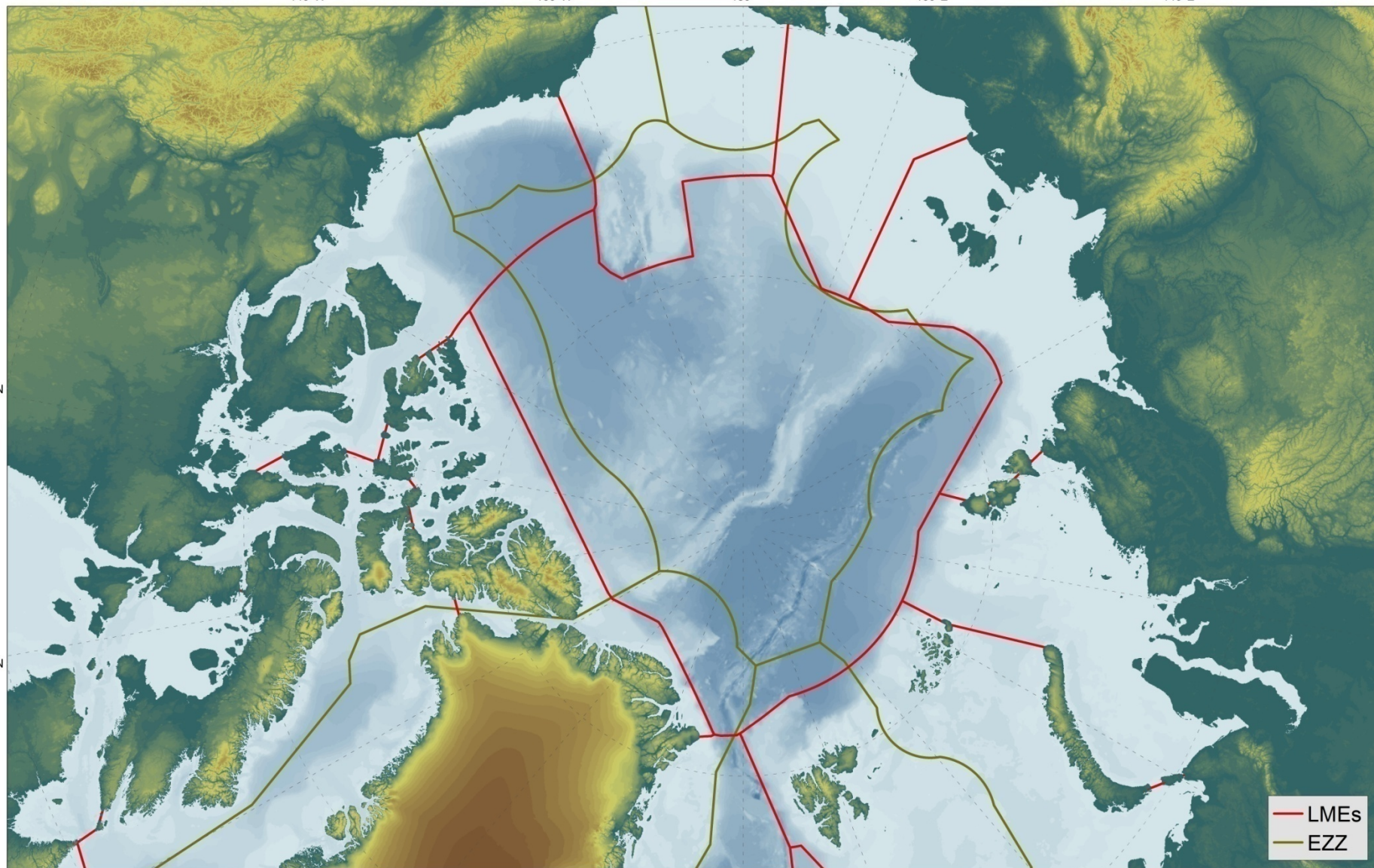
20°W

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— LMEs
— EEZ