



International experience on defining favourable conservation status and modelling of distribution of benthic habitats in Estonian marine areas

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About GRID-Arendal

- Norwegian Foundation est. 1989
- Norway Ministries of Environment and Foreign Affairs
- UNEP collaborating center
- Core Marine, Polar and Assessment competencies



About GRID-Arendal

- International organisation
- Projects throughout the globe
 - Africa
 - Arctic
 - Pacific Islands
 - Caribbean Islands
 - Caspian Sea
 - Himalayas
 - Baltic

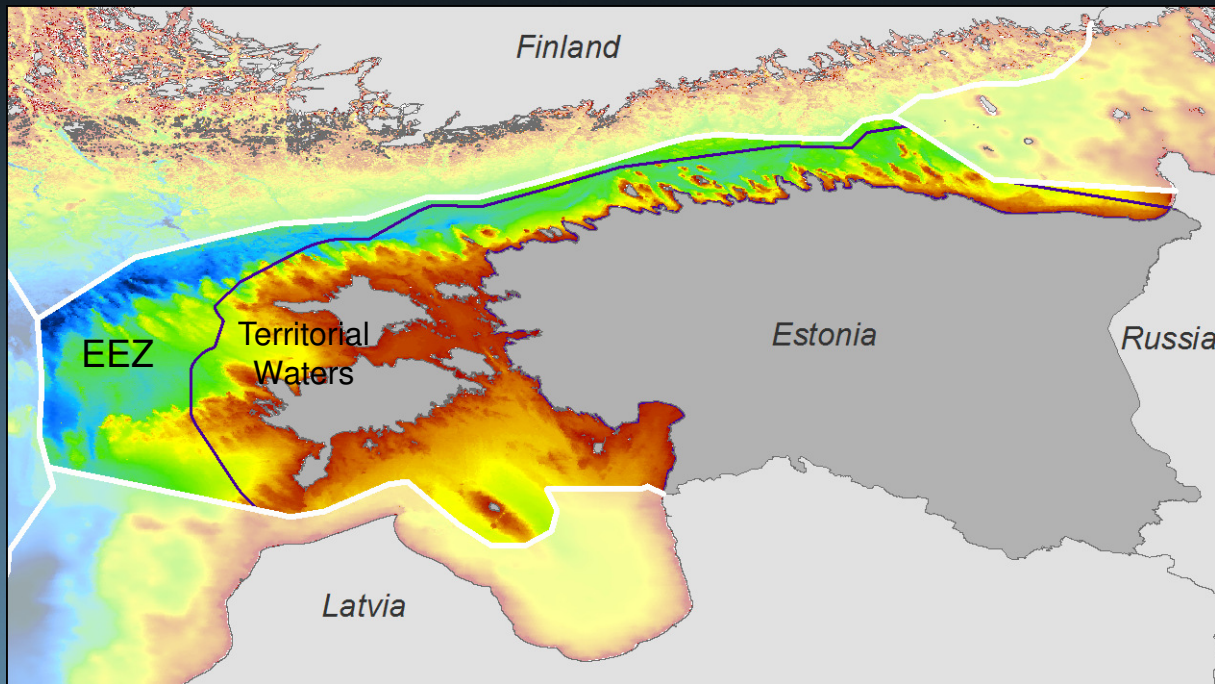


GRID-Arendal role in NEMA

- Develop a habitat map for Estonian EEZ
- Report on conservation status of Annex I marine habitat types in Estonian coastal sea
- Monitoring methodology for conservation status of marine habitat types in Estonian sea areas

Habitat Map

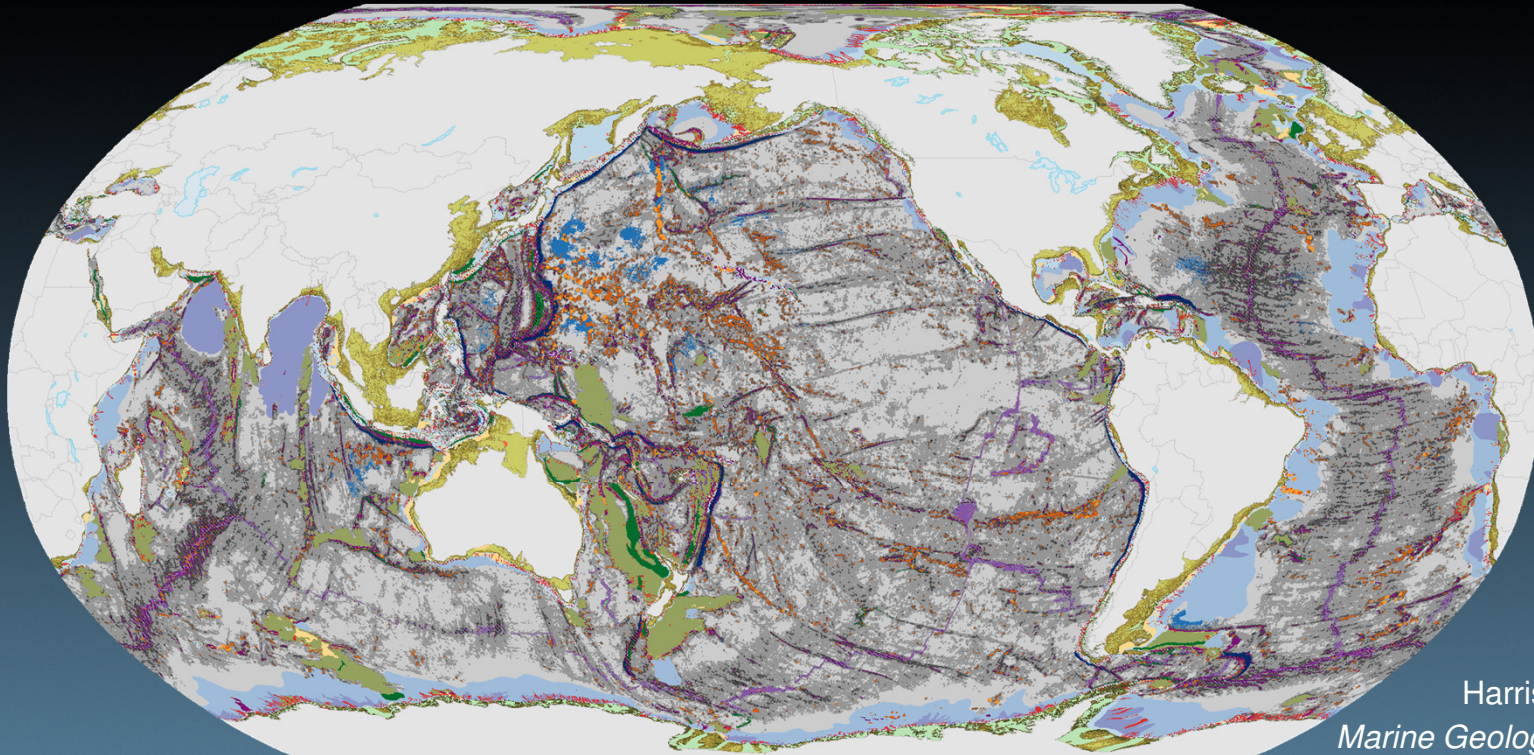
- Habitat modelling based on available geophysical and environmental variables



Relevant Project Experience

- Global Seafloor Geomorphic Features Map
- Global Seascapes
- Habitat mapping and monitoring in Australia
- State of Marine Environment reporting

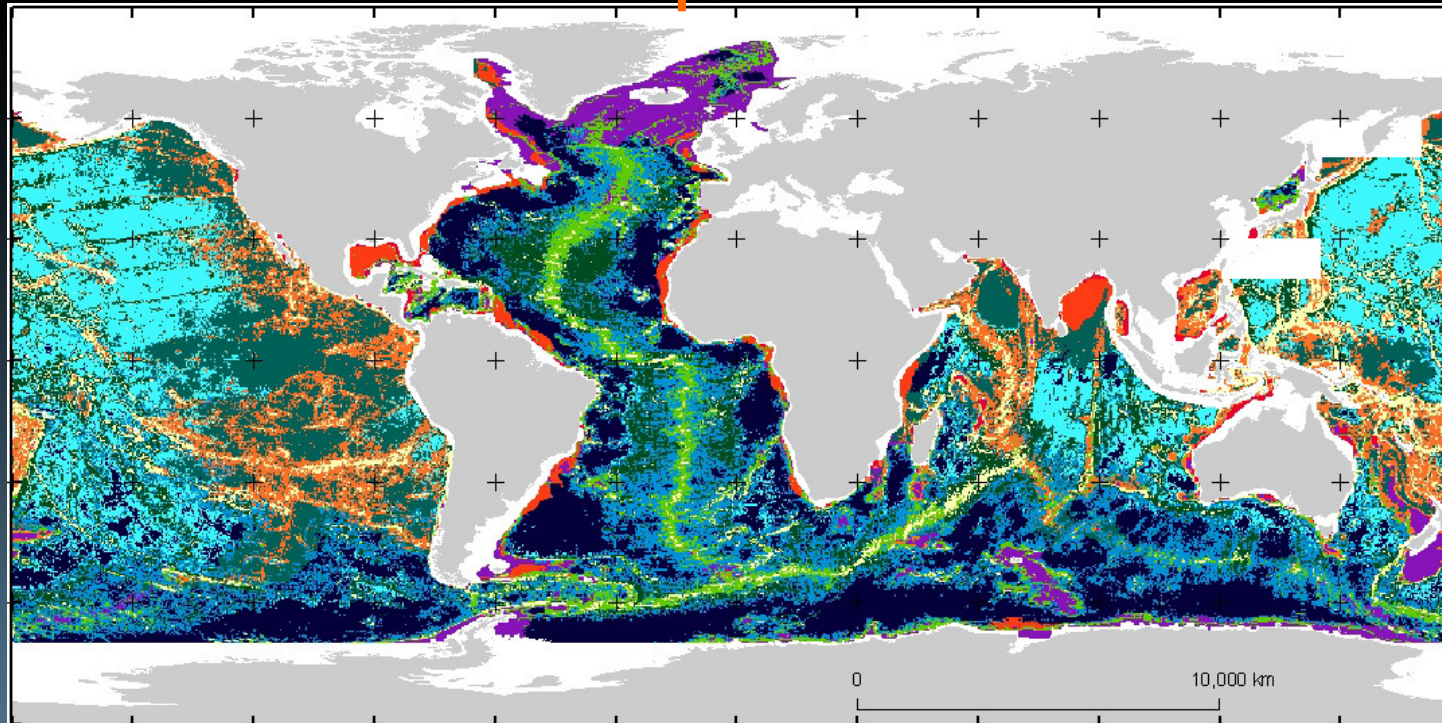
Global Seafloor Geomorphic Feature Map



Harris *et. al.* 2014
Marine Geology, 352 4-24

Shelf - high profile	Abyss - mountains	canyon	sill	glacial trough	fan
Shelf - medium profile	Abyss - hills	guyot	escarpment	trough	rise
Shelf - low profile	Abyss - plains	seamount	shelf valley	ridge	terrace
Slope	Hadal	bridge	rift valley	spreading ridge	trench
				plateau	

Global Seascapes Classification

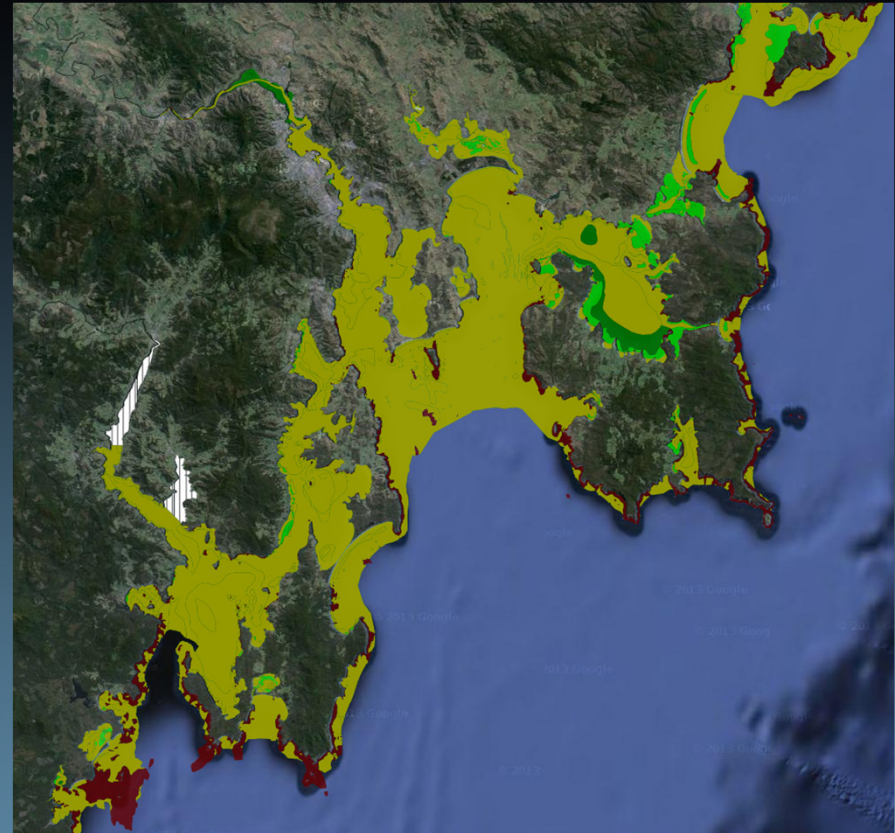


- 1.) Upper Bathyal, shallow shelf, very low DO, very high PP, thick sediment, very warm
- 2.) Lower Bathyal, deep shelf (submerged), Marginal plateaus, flat, very high DO, high PP, thick sediment, warm
- 3.) Lower Bathyal, continental slope, high PP, very thick sediment, warm
- 4.) Lower Bathyal, volcanic ridges and highs, Island arcs, Central rift zone, steep, high DO
- 5.) Lower Bathyal, ridges and plateaus, flat sedimented plains of marginal seas, central rift zone, low DO
- 6.) Lower Bathyal (Abyssal-Hadal), deep water trenches, island arcs, trenches controlled by fracture zones, volcanic ridges and plateaus, very steep, low PP, thin sediment
- 7.) Abyssal, flat sedimented plains of marginal seas, flat, low DO
- 8.) Abyssal, volcanic ridges and highs, ridge flanks, cold
- 9.) Abyssal plains with slightly undulating seafloor, continental rise, very flat, high DO, cold
- 10.) Abyssal (Hadal), deep water trenches, trenches controlled by fracture zones, steep, very low PP, very thin sediment
- 11.) Abyssal, hilly plains, large (arched) uplifted structures, low PP, very thin sediment

Harris and Whiteway (2009)
*Ocean & Coastal
 Management* 52:22-38.

Habitat mapping and monitoring in Australia

- Baseline mapping of marine habitats
- Habitat condition assessment
- Monitoring seagrass in response to water quality



State of Marine Environment Reporting

- Expert elicitation methodology
- Monitoring data often poor, sparse or out of date
- Use expert knowledge to supplement available data
- Assessments completed in West Africa, South China Sea and Australia