Examining Effectiveness in Regional Ocean Governance Regimes

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Motivation for Ocean Governance

Oceans and coasts, covering 72% of earth's surface, provide a host of services that support our lives

Service

- ~½ of the global population lives in coastal areas, where 70% of the world's megacities are located
- coastal zones yield 90%of the global fisheries on which 400 million fishers rely
- 90% of world trade it carried by ship
- coral reef resources contribute ~$375 billion/yr to the global economy
- oceans serve as a sink, absorbing wastes and ~ ½ of all anthropogenic CO_2

Threat

- Coastal development has led a 50% loss of the world's mangroves; excessive nutrients contributed to the creation of about 150 oxygen-deprived 'dead zones' in the ocean
- 75% of global fisheries are either fully utilized or overutilized
- ~ 3,000 species of plants and animals are transported in ships' ballast water each day
- ~ 58% of global coral reefs are threatened
- the 'sink effect' is changing ocean chemistry, stifling the growth of plankton, corals, and invertebrates that form the primary level of the marine food chain

Motivation for Regional Ocean Governance

- **Major Underpinnings**
  - UNCLOS Art. 123
  - UNCLOS Art. 197
  - UNGA 2006 Resolution on Oceans and the Law of the Sea

- **Regional Ocean Governance Regimes**
  - UNEP Regional Seas Programmes (RSPs)
  - Large Marine Ecosystem Projects (LMEs)
    - FAO and Regional Fishery Bodies (RFBs) (a.k.a. Regional Fishery Management Organizations (RFMOs))

UNEP/Regional Seas Programmes & Large Marine Ecosystem Projects

UNEP/RSPs

- Mitigate the accelerating degradation of the global oceans and coastal areas through sustainable management and use of the marine environment

Management

- Actions Plans
- Conventions / Protocols
- Regional Coordinating Units (RCU)
  - Regional Activity Centers (RAC)

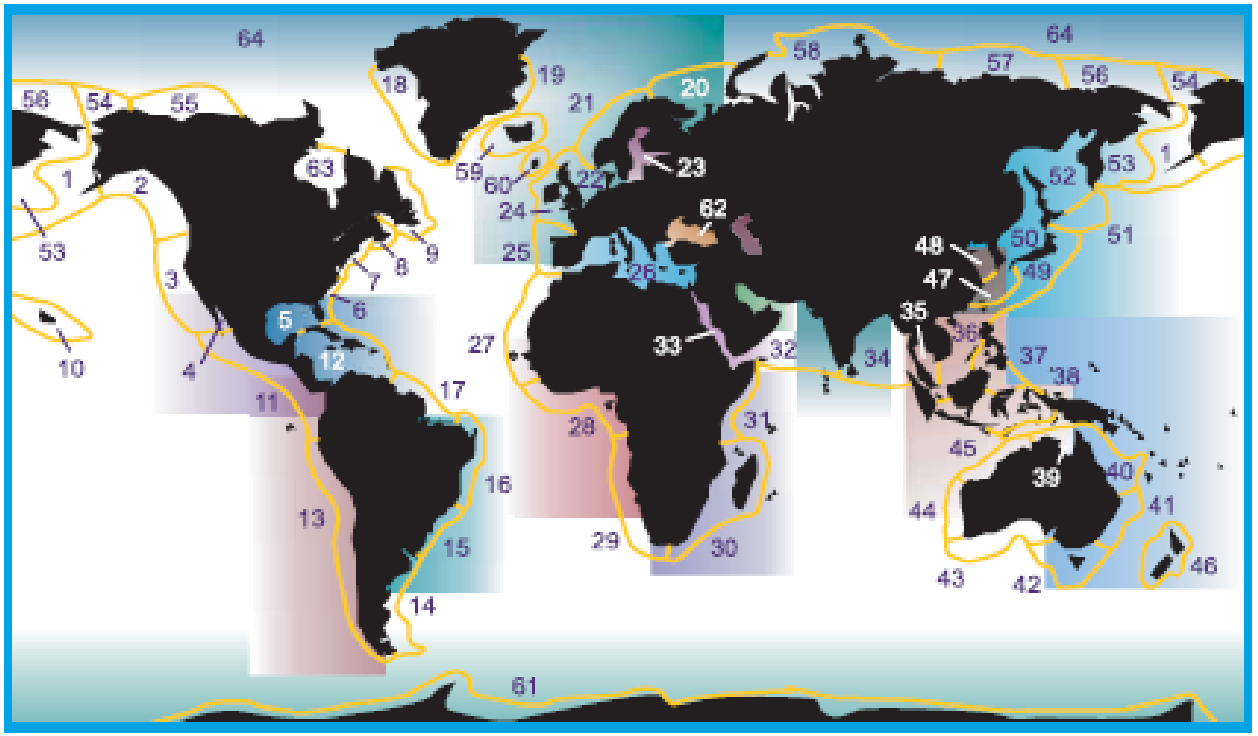
LME Projects

- Improve the long-term sustainability of resources and environments of the world's LMEs and linked watersheds

Management

- Modules are customized for each LME through a Transboundary Diagnostic Analysis (TDA) and a Strategic Action Program (SAP)
  - TDA identifies key factors in the productivity, fisheries, pollution, and socioeconomic modules
  - SAP applies to the governance module

Regional Seas & Large Marine Ecosystems

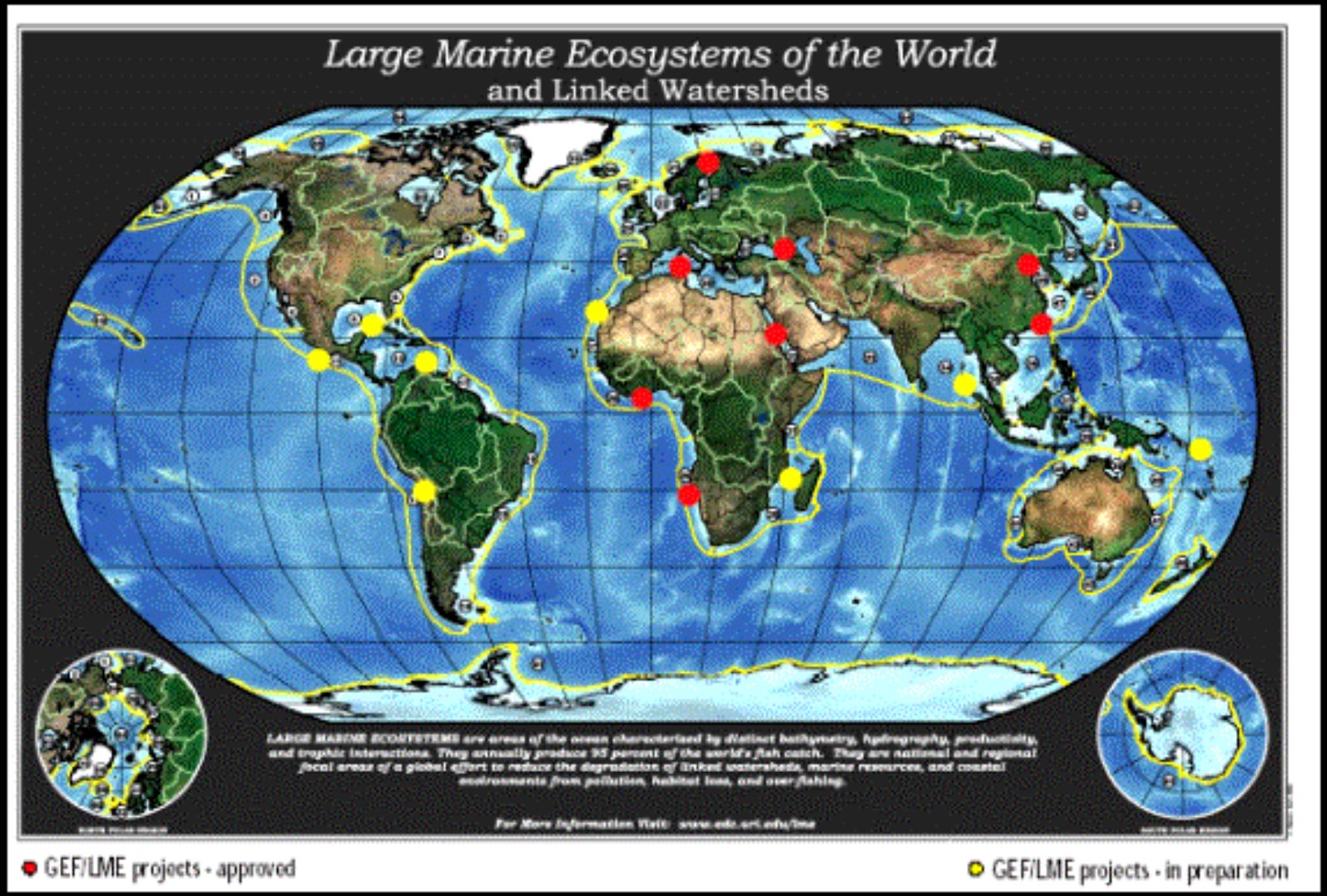


Regional Seas, West to East: North-East Pacific • South-East Pacific • Wider Caribbean • South-West Atlantic • West & Central Africa Mediterranean • Black Sea • Eastern Africa • Red Sea & Gulf of Aden • ROPME Sea Area • South Asian Seas • East Asian Seas North-West Pacific • South Pacific **Independent Partners:** Arctic • North-East Atlantic • Baltic Sea • Caspian Sea • Antarctic

64 LMEs of the World

1 East Bering Sea
2 Gulf of Alaska
3 California Current
4 Gulf of California
5 Gulf of Mexico
6 Southeast U.S. Continental Shelf
7 Northeast U.S. Continental Shelf
8 Scotian Shelf
9 Newfoundland-Labrador Shelf
10 Insular Pacific-Hawaiian
11 Pacific Central-American Coastal
12 Caribbean Sea
13 Humboldt Current
14 Patagonian Shelf
15 South Brazil Shelf
16 East Brazil Shelf
17 North Brazil Shelf
18 West Greenland Shelf
19 East Greenland Shelf
20 Barents Sea
21 Norwegian Shelf
22 North Sea
23 Baltic Sea
24 Celtic-Biscay Shelf
25 Iberian Coastal
26 Mediterranean Sea
27 Canary Current
28 Guinea Current
29 Benguela Current
30 Agulhas Current
31 Somali Coastal Current
32 Arabian Sea
33 Red Sea
34 Bay of Bengal
35 Gulf of Thailand
36 South China Sea
37 Sulu-Celebes Sea
38 Indonesian Sea
39 North Australian Shelf
40 Northeast Australian Shelf-Great Barrier Reef
41 East-Central Australian Shelf
42 Southeast Australian Shelf
43 Southwest Australian Shelf
44 West-Central Australian Shelf
45 Northwest Australian Shelf
46 New Zealand Shelf
47 East China Sea
48 Yellow Sea
49 Kuroshio Current
50 Sea of Japan
51 Oyashio Current
52 Okhotsk Sea
53 West Bering Sea
54 Chukchi Sea
55 Beaufort Sea
56 East Siberian Sea
57 Laptev Sea
58 Kara Sea
59 Iceland Shelf
60 Faroe Plateau
61 Antarctic
62 Black Sea
63 Hudson Bay
64 Arctic Ocean

Source: UNEP and NOAA 2005


Large Marine Ecosystems of the World
and Linked Watersheds
LARGE MARINE ECOSYSTEMS are areas of the ocean characterized by distinct bathymetry, hydrography, productivity, and trophic interactions. They annually produce 95 percent of the world's fish catch. They are national and regional focal areas of a global effort to reduce the degradation of linked watersheds, marine resources, and coastal environments from pollution, habitat loss, and over-fishing.
For More Information Visit: www.edc.uri.edu/lme
GEF/LME projects - approved
GEF/LME projects - in preparation

Research Goal

- The objective of this research is to expand the knowledge base regarding the effectiveness of regional ocean governance regimes.
  - *The literature to date suggests that while some regimes appear to have a higher degree of effectiveness than others, limited work has been completed to explain this variance.*



Definitions

- *Regional Ocean Governance Regime*
  - A social institution composed of geographically proximate states that maintain agreed upon (sustainable) principles, norms, rules, procedures and programs that govern the interactions of actors in their respective ocean area.

- *Effectiveness in Regional Ocean Governance Regimes*
  - A regional ocean governance regime is effective when it changes the behavior of actors in a regional ocean area in such a manner that the problems and issues for which the regime was formed are solved or greatly reduced.

Research Questions

1. What is the regional ocean governance regime attempting to achieve? Why was the specific regime formed?

2. What are the 'on the ground' effects of the regime at the international and national levels, and how do these effects relate to the overall goals of the regime?

3. To what extent do various features of the regime play a role in increasing or decreasing regime effectiveness?

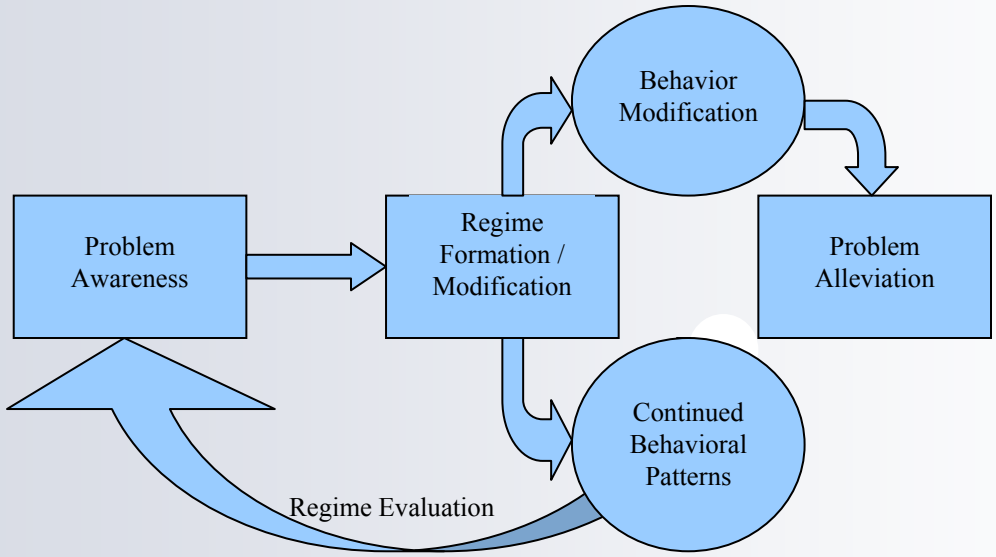
Methodology

Table 3: Case study selection

Regime	Principles, protocols, procedure	Actor behavior	Environ-mental / social data	Access to managers / experts	Management at various scales
UNEP/RSP					
Nairobi Convention (1996)	X	X	X	X	X
Parties to the Convention: Comoros, France (La Reunion), Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, the United Republic of Tanzania and South Africa					
Independent RSP					
OSPAR Convention (1998)	X	X	X	X	X
Parties to the Convention: Belgium, Denmark, European Union, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom					
LME project					
Benguela Current LME Programme (2002)	X	X	X	X	X
Participating countries: Angola, Namibia and South Africa					
Case selection for application of lessons learned					
Western Pacific Warm Water Pool-SIDS LME	X	X	X	X	X
Participating countries: Cook Islands, Micronesia, Fuji, Kiribati, Marshall Islands, Nauru, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu					

Regime Theory

Theory within international relations that argues that international institutions affect the behavior of states (or other actors), and further that regimes represent examples of international cooperation.



Factors Affecting Effectiveness

(Breitmeier, Young, and Zurn 2006)

Regime formation

- play of power, interests and knowledge;
- actors as pushers or laggards; and
- relevance of the actors.

Regime attributes

- degree of synergy among regimes;
- significant features giving individual regimes distinct character;
- other behavioral pathways that may influence outcomes and impacts;
- existence of incentives for compliance;
- procedures used to discern the nature of problems, monitor behavior, verify compliance, etc.; and
- regime's principles, norms, rules, decision-making process and goals.

Regime consequences

- outputs, outcomes and impacts;
- legal bodies created remain in existence, are operative and generate authoritative decisions;
- members have translated commitments into domestic obligations;
- degree of actor compliance;
- level of improvement in knowledge; and
- level of goal attainment.

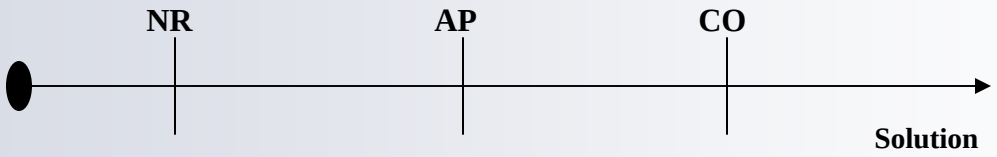
Regime dynamics

- changes in the legal frameworks, institutions and actor behavior;
- continuous role for scientific research and review; and
- relevance of changing relationships between states and nonstate actors.

Theoretical Framework

- Speth and Haas (2006) developed three levels of accomplishment to conceptually measure regime effectiveness:
  - What the situation would have been without the regime (NR)
  - The actual performance (AP) obtained under the regime
  - The best result that could be accomplished, or, the 'collective optimum' (CO)

Figure 2



Effectiveness Score: $E = \frac{AP-NR}{CO-NR}$

Speth and Haas 2006

Theoretical Model

(under investigation)

Example (Mitchell 2002)

$$EMISS = \alpha + \beta_1 * MEMBER + \beta_2 * INCOME + \beta_3 * POP + \beta_4 * COAL + \beta_5 * EFFIC + \beta_n * OTHER \ldots$$

EMISS = annual emissions of sulfur dioxide

MEMBER - coded 0 in years of nonmembership and 1 in years of membership

INCOME - per capita income

POP - population

COAL - fraction of energy derived from coal power plants in a country

EFFIC - average efficiency of the coal burning power plants

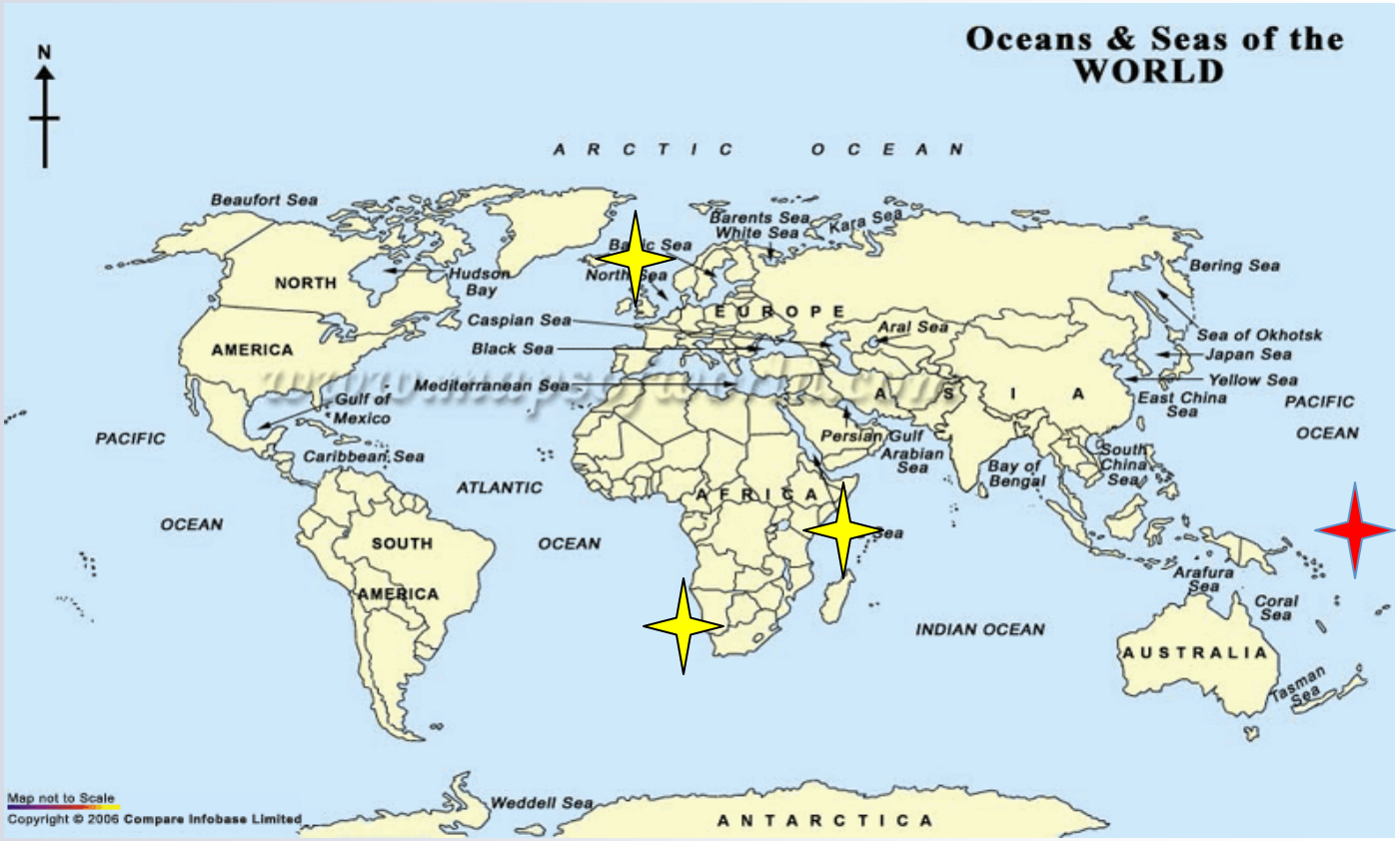
OTHER - other variables

β1 - expected difference in emissions if a country became a member

t-test - likelihood that the change in emissions occurred by chance

Policy Contribution

The research will attempt to provide sound advice and policy recommendations on enhancing effectiveness to regional ocean governance regimes.



Thank you!

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