Future Ocean Alliance (FOA): Enhancing ocean sustainability challenges through knowledge-based governance and decision-making

One world ocean, one world community

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FUTURE Science Program

(*Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems*)

Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems (FUTURE)

Anthropogenic Influences on Coastal Ecosystems

Climate Ocean Variability and Ecosystems

SOFE will explore how to engage potential users of North Pacific ecosystem and climate information, including the quality & uncertainty of information.

Status, Outlooks, Forecasts and Engagement

What determines an ecosystem's intrinsic resilience and vulnerability to natural and anthropogenic forcing?

How do ecosystems respond to natural and anthropogenic forcing, and how might they change in the future?

How do human activities affect coastal ecosystems and how are societies affected by changes in these ecosystems?

Ultimate goal of FUTURE is *to understand and communicate the future of North Pacific ecosystems and the potential impacts from human use [for decision-making]*

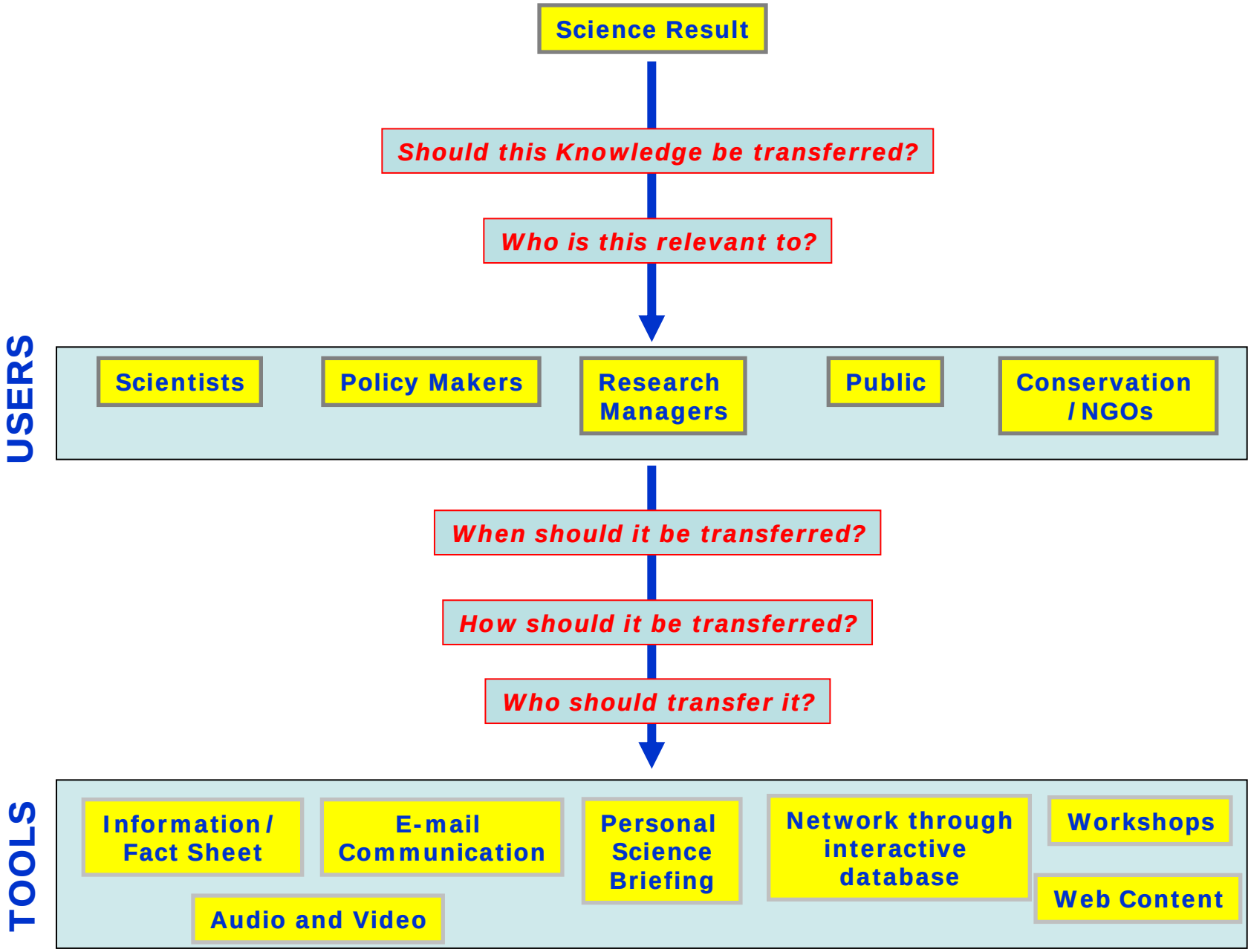
FUTURE Objectives

Objective 1: Understanding Critical Processes in the North Pacific

Objective 2: Status, Outlooks, Forecasts and Engagement (SOFE)

- Coordinate Potential PICES products
  - Engage with stakeholders to identify needs and products
  - Identify priority development areas
  - Recommend outreach form of products
  - Deliver solutions
- Feedback and Evaluation
  - Provide or arrange peer review of PICES products
  - Assess value of products
- Other Tasks
  - Recommend expert groups
  - Quantify uncertainty
  - Hypothesis generation

Modified slightly from SOFE-AP at PICES-2009

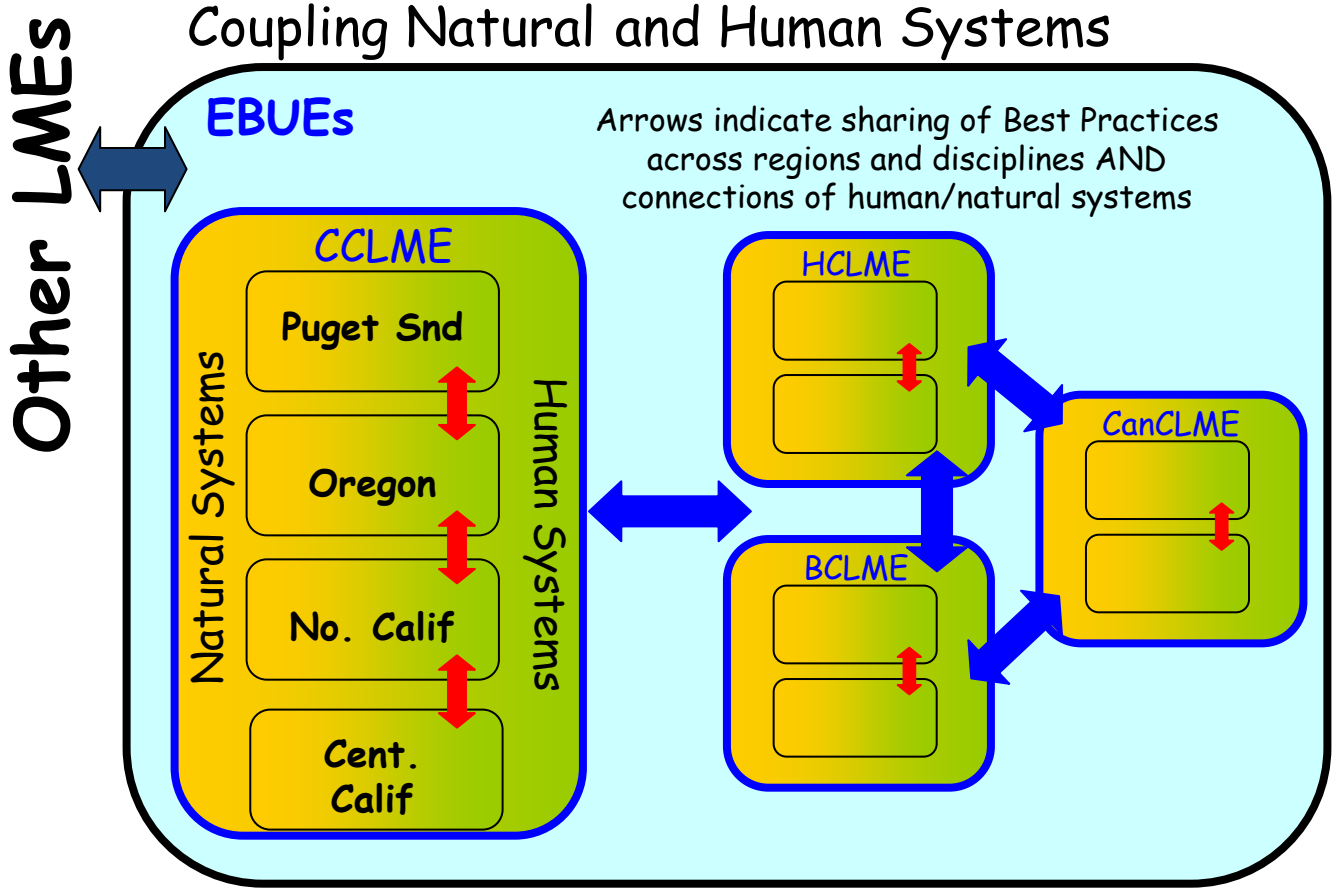


Modified from Presentation made by Manuel Barange, PICES-2009 SOFE-AP Meeting

Genesis of The Future Ocean Alliance

(2011)
Oregon
Local

A Multi-scale Nested Network of IEAs for Coupling Natural and Human Systems

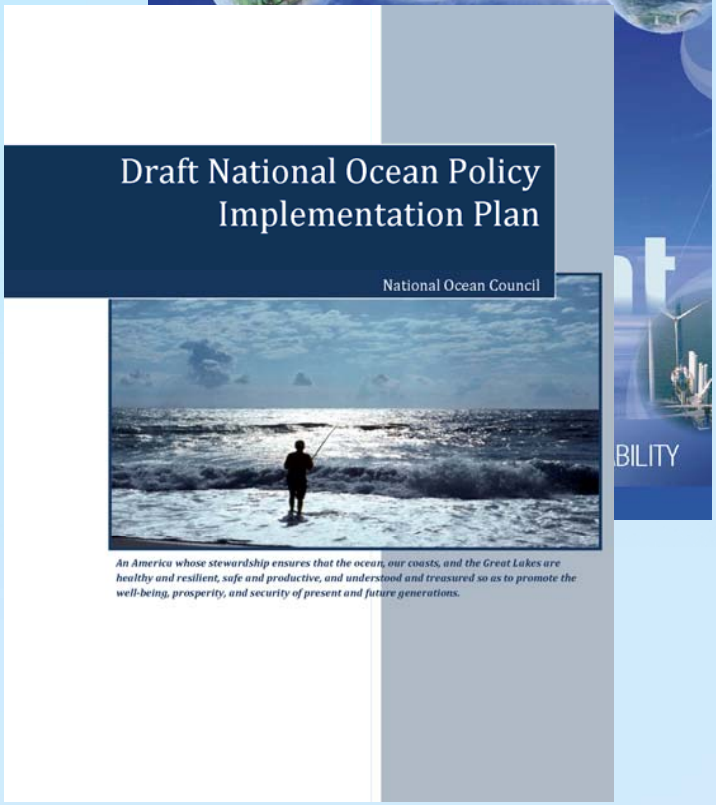


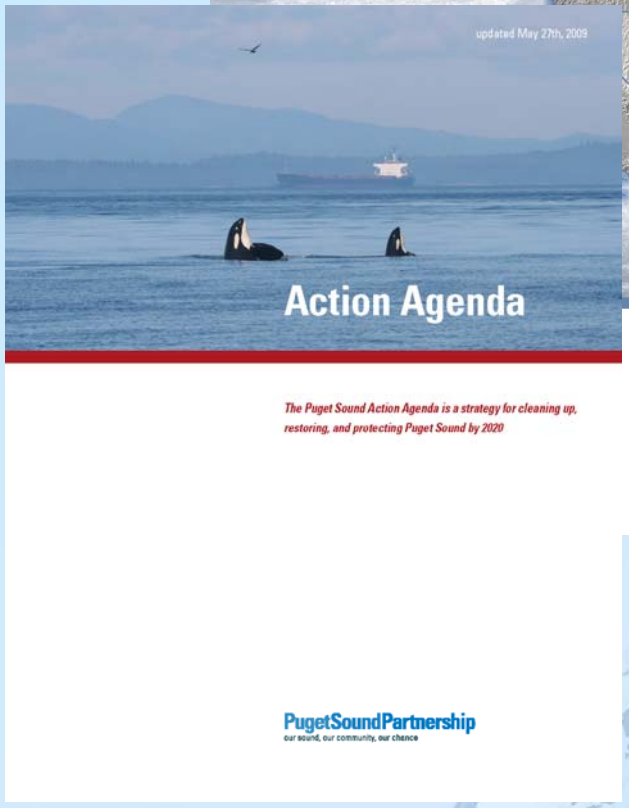
From Batchelder, Sep 2011, Corvallis Scoping Workshop

WHY?

Institutional Support and Policy Mandates for Sustainable Ecosystem Based Stewardship of our Oceans is Growing ….

AT ALL SCALES!





http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/interagency_blue_paper_ocean_rioPlus20.pdf

http://www.whitehouse.gov/sites/default/files/microsites/ceq/national_ocean_policy_draft_implementation_plan_01-12-12.pdf

http://www.westcoastoceans.org/media/WCGA_ActionPlan_lowest-resolution.pdf

http://www.psp.wa.gov/downloads/AA2009/Action_Agenda_FINAL_063009.pdf

Genesis of The Future Ocean Alliance

(2011)
Oregon
Local

→ (2012)
USOS
LMEs-CZM

→ (2012)
PuP
FOA-IT

→ (2012)
Rio+20
FOA

→ (2013)
FLAD
FOA Kick-Off

From Paper to Practice in Ocean Governance:
Mobilizing Constituencies Strategic Planning Meeting
(13-14 March 2013)

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Earth System Governance

ASCLME

LOICZ

Future Ocean Alliance (FOA): Need

Researchers and End-Users Repeat

- Lack of understanding of research results and lack of multidisciplinary dialog: ***Why and for what? What does it mean?***
- Lack of coordination of knowledge and of communities of practice: ***Who is doing what and for what? Where is the data and knowledge?***
- Overlaps and gaps***: Who is doing what and where is it accessible?***
- Research investments, especially on oceans, are expensive***: How to get answers for problem-solving in a more time and cost-effective way?***

A priori it involves a dialogue between Researchers and End-users in support of answering End-Users questions and problems: ***How may we assist you? How can we improve ocean's health? What are the gaps, needs and priorities?***

It is time to act to solve the problem: The Future Ocean Alliance

✓ Gearing a research agenda specifically towards actionable solutions and governance processes:

Research- » Problem solving «-» Decision and Policy-making

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What Are We?

An association of organizations and individuals representing the concerns of decision-makers ranging from policy, public administrators, research managers, researchers, businesses, and civil society groups dedicated to integrating knowledge and governance processes at early stages of decision-making at all scales to enhance ocean sustainability in the face of cascading changes that are threatening the health of the world's marine systems from the local level to the global level.

= A Knowledge Network

What is our Mission?

Mission

The Future Ocean Alliance mission is to build a single and inclusive ocean community, connected across levels and disciplines, that engages proactively in ecosystem based management by producing and integrating knowledge into governance processes to ensure a healthy and sustainable ocean.

What is our Vision?

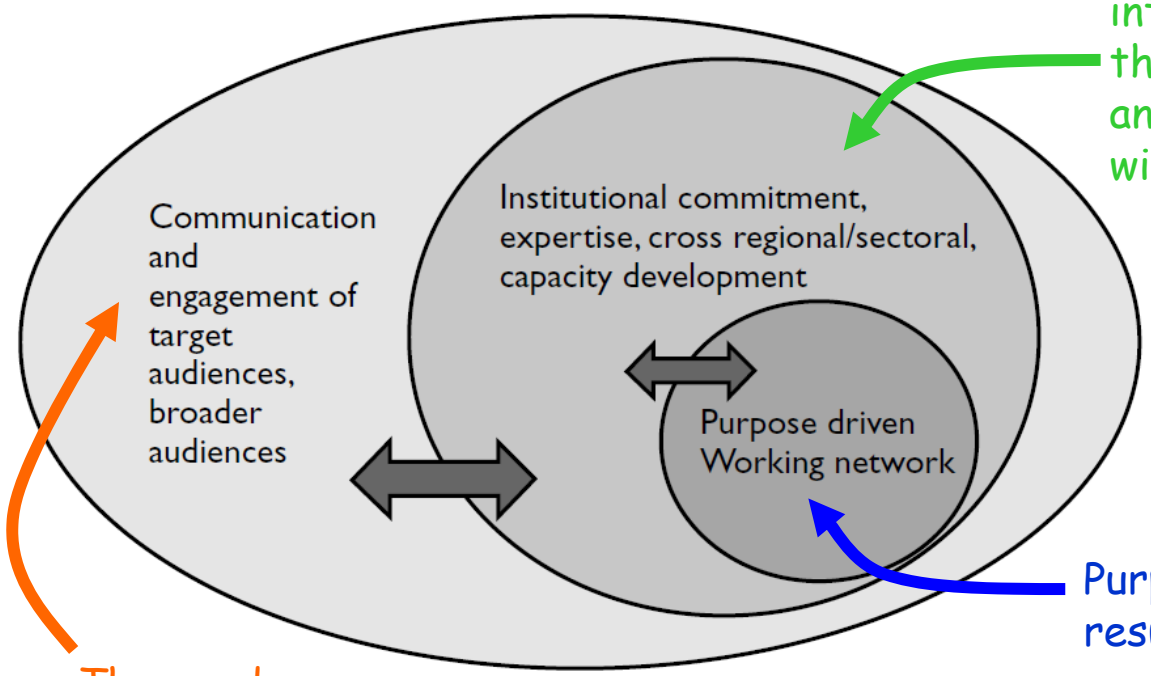
Vision

An open and transparent community of producers and users of knowledge at all levels dedicated to ensuring good governance and peaceful and sustainable human uses of marine systems- *one world ocean, one world ocean community*.

A knowledge network defined…

"A group of expert institutions (or individuals) working together on a common concern, to strengthen each other's research and communications capacity, to share knowledge bases and develop solutions that meet the needs of target decision-makers at the national and international level."

Operating principles



Membership, composition, interaction of members that strengthen reputation and provide legitimacy with decision-makers.

Network participants move beyond sharing information to working together on solutions

Purpose and how the results will be used

The need

From Creech and Willard, 2001 (Strategic Intentions)

"An underlying premise of a knowledge network is that the whole is greater than the sum of the parts. A significant benefit of participating in a knowledge network is that each of the parts becomes stronger."

- emphasize joint value creation by all the members within the network
- strengthen capacity for research and communications in all members
- identify and implement strategies to engage decision-makers more directly, moving knowledge into policy and practice

From Creech and Willard, 2001 (Strategic Intentions)

Objectives

Coordinating Research Knowledge Network

- ✓ Coupling the human and natural dimensions of oceans
  - ✓ Capacity development for multidisciplinary understanding and management of oceans
- ✓ Linking programmes:
  - ✓ Across scales (e.g. LMEs and ICZM/LOICZ)
  - ✓ Within scales (across disciplines dialogue)
- ✓ Linking, accessing, and promoting the transformation of data into knowledge:
  - ✓ All stakeholders own some knowledge
  - ✓ Data needs to be available and understood within a certain context
- ✓ Leveraging previous investments:
  - ✓ Communities of practice and their knowledge prevail beyond their programs life-span
- ✓ Promoting access to data, knowledge, and people
- ✓ Gearing a research agenda specifically towards actionable solutions:

(Research ←→ Dialogue ←→ Decison & Policy-Making) → Problem Solving

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The Need for the Future Ocean Alliance Challenges/Needs

Challenges

- ✓ Communication of science and knowledge (social and natural) in support of problem-solving for end-users ("decision-makers"=policy, administrators, managers, econ. agents) and other stakeholders
- ✓ Pressing need to provide solutions that address ocean challenges:
  - ✓ Climate Change Impacts: sea level rise, ocean acidification, change of sea temperatures, coral bleaching, adaptation to climate change
  - ✓ Living resources and the marine environment: biodiversity, fish stocks, pollution
  - ✓ Understanding, communicating, managing, and collaborating effectively across disciplines and sectors
- ✓ Financial and time resources are limited: efficiency is needed
- ✓ International consensus on the need of coordination and leadership of ocean research toward ocean problem-solving:
  - ✓ Overall agreement on what the major issues are
  - ✓ What actions need to be taken
  - ✓ **BUT it appears there is little in the way of coordination and interaction** (even when similar groups and agencies are represented on different bodies)

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The Need for the Future Ocean Alliance Windows of Opportunity

Opportunities

- ✓ New approaches for management – Dialogue across scales and disciplines:
  - ✓ Ecosystem approach and management (EBM)
  - ✓ Implementation of integrated ocean and coastal management
- ✓ New Global Research Agenda for Sustainability – cross-cutting themes: The Future Earth initiative (Rio+20). The coordination and advisory activities network that FOA is implementing will benefit other sustainability oriented initiatives
  - ✓ **Opportunity to create a global and coordinated ocean research agenda- both global and local- and a network of like-minded institutions and individuals that promote and implement: The Future Ocean Alliance**
- ✓ Innovative uses of informatics provide easier and cheaper access to knowledge, people, and organizations
  - ✓ **Opportunity for promoting cross-cutting and multi-scale dialogues, and connecting the various networks – a knowledge network- 'the network of networks- The Future Ocean Alliance:**
  - ✓ From producers to end-users of data and knowledge
  - ✓ From data to knowledge
  - ✓ From local to global levels and across scales of ocean management and research
  - ✓ From sectoral to across-disciplines language and dialogues

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Policy Decisions involve:

- empirical claims about causal relations, observable levels of key variables, and generally verifiable statements about the world, **(EXPERT KNOWLEDGE)**

- normative claims that focus attention on specific concerns and judge the acceptability of the status quo, outcome levels, or important relationships, (**STAKEHOLDER VALUES**)

- action claims that assert the need for policy changes consistent with empirical understandings and in light of normative judgments.

	Stakeholder Agreement on Guiding Values	
State of Knowledge needed to make decisions	*High*	*Low*
Well developed	Routine analysis with periodic stakeholder and expert review; Easy	Emphasis on stakeholder deliberation with periodic expert review.
Tentative/gappy	Emphasis on expert deliberation with periodic stakeholder review.	Emphasis on both stakeholder and expert deliberation. Wicked Problem.

Balint et al. (2011)

Conklin identifies the following as defining characteristics of wicked problems:

1. The problem is not understood until after the formulation of a solution.
2. Wicked problems have no stopping rule.
3. Solutions to wicked problems are not right or wrong.
4. Every wicked problem is essentially novel and unique.
5. Every solution to a wicked problem is a 'one shot operation.'
6. Wicked problems have no given alternative solutions.

Conklin (2006)

Most Natural Resource Problems and Decisions are Characterized by:

1. Complexity—no definitive problem statement, and multiple problems with multiple objectives
2. Fragmented stakeholders—in interests (values) and in tactics to pursue their values
3. Scientific messiness—multiple influencing factors, and manager can influence only some of these
4. Large uncertainty—things we don't know but could eventually, things we cannot know until it occurs, and things we don't know that we don't know
5. Conflicting risks—among objectives, and between short- and long-term objectives
6. Dynamic social, economic, knowledge and technological systems

Salwasser (2002) as modified by Balint et al. (2011)

Wicked Environmental Problem Lessons

1. Wicked problems do not have correct or best solutions
   - There is no single, broadly accepted definition of the problem
   - Relevant science is uncertain
   - Policy-making is dynamic and unstable due to unpredictable shifts in values, opinions, leadership, funding and politics
2. Seek instead a satisficing solution
   - Not an optimal solution; works within the challenges presented by a wicked problem
   - Eases gridlock and provides a foundation for progress over time; contributes to diminishing polarization (conflict)
   - Must meet minimal standards of adequacy set by feasibility, current laws and regulations, budget constraints, and contribute to group learning and trust building
3. Consider an enhanced learning network process including adaptive management
   - Requires participation of key stakeholders in a process that builds mutual learning and trust through repeated interactions over time informed by best available science

Knowledge Network Provides This!

The Future Ocean Alliance: Credits for the Kick Off

Charles Buchanan (FLAD, Portugal)
David Vousden (ASCLME, South Africa)
Hal Batchelder (Oregon State University, USA)
Hashali Hamukuaya (BCLME, Namibia)
Isabel Torres de Noronha (Universidade Lusíada, InventAr, and Future Ocean Alliance, Portugal)
João Fonseca Ribeiro (DGPM, Portugal)
Leopoldo C. Gerhardinger (Campinas State University and ESG, Brazil)
Luis Valdés (IOC/UNESCO)
Marion Glaser (ZMT and LOICZ, Germany)
Mark J. Spalding (The Ocean Foundation, USA)
Nigel Bradley (Environstrat Ltd, New Zealand)
Oran R. Young (University of California and ESG, USA)
Peter Fox (Rensselaer Polytechnic Institute, USA)
Robin Mahon (CERMES-UWI; GEF Int-TWAP; Barbados)
Ruben Zondervan (University of Lund and ESG, Sweden)
Suzanne Lawrence (Independent Consultant, USA)

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Earth System Governance

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For more info about FOA: hbatchelder@coas.oregonstate.edu

Workshop and Session at IMBER Open Science Conference
FUTURE OCEANS: 23-27 June 2014 -- Bergen, Norway

W4 & D2 - Communities of practice for supporting long-term sustainability of the world's oceans – Oran Young; Luis Valdes; Isabel Torres de Noronha; David Vousden; Ruben Zondervan; Robin Mahon; Marion Glaser; Suzanne Lawrence; Peter Fox; Leopoldo Cavaleri Gerhardinger

Global ocean governance needs to address the sustainability challenges of the 21 century. This requires linking natural and social science knowledge with that of decision-makers and ocean users in business and civil society in order to deliver science and knowledge to the governance process for more timely and effective adaptive management. There is thus a large number of individual and organisational actors engaged in the fields of knowledge generation and governance and management relating to the global oceans. Members of the recently initiated “Future Ocean Alliance” understand effective ocean governance as requiring an operational global social network which effectively links ocean governance actors across sectors, issues, regions, disciplines and interest groups. Our session will also invite the presentation of case examples on how to generate connectivity in ocean governance at various levels of the Earth system from the regional to the global (eg Agulhas and Somali Current Large Marine Ecosystems Project, Western Indian Ocean Sustainable Ecosystem Alliance; Caribbean LME project; LOICZ). The session will be accompanied by a world café type of participatory exercise in which all will be invited to engage in a digitally supported systematic mapping of ocean governance actors and their linkages. The developing global network will be made visually available during the course of the conference. A final discussion panel will examine first results at the end of the conference. This will set the scene for building a global alliance for ocean governance and also for producing a published analysis of the state of world ocean governance today.