

16th Lme

Meeting with
Coastal Partners

Paris (FR) 8 - 11 July 2014



16 years of LME assessments

Authors: **Kenneth Sherman & Ned Cyr**
Institution: **NOAA**

Session 1: **Putting the LME Global Partnership in Motion**

Day of presentation: **Tuesday 8 July 2014**



IOC-UNESCO, IUCN, NOAA Annual LME Consultative Meetings 1997-2014

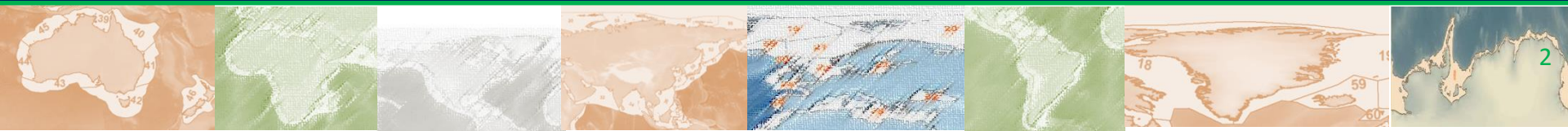
LME partners engaged in 16 consecutive annual consultative meetings of GEF-supported LME project practitioners, convened at IOC-UNESCO, Paris since 1997

Participants included GEF-supported LME project leaders, representatives from 5 UN agencies, 2 NGOs, joined by scientific and technical experts from other organizations

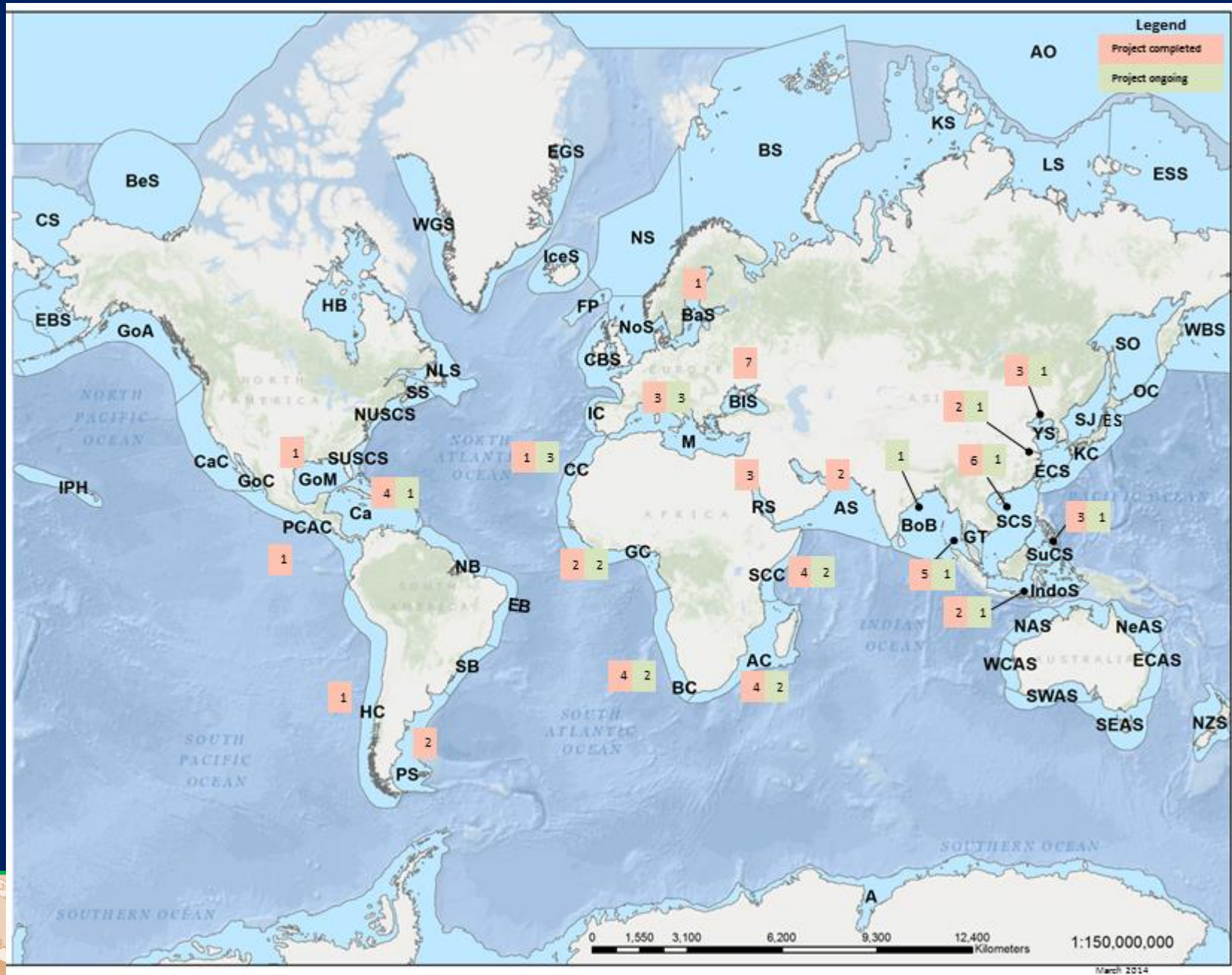
LME Projects extended from Gulf of Guinea and Yellow Sea to 22 LMEs over the 16 years

110 economically developing countries participating in introduction and implementation of adaptive ecosystem based management (EBM) in LMEs around the globe

LME projects supported with \$3.15 billion in financial assistance from GEF, World Bank, national and donor contributions



GEF Supported EBM Projects in 22 LMEs Since 1994



Reports of the 15 IOC-UNESCO-UNEP- IUCN- NOAA Annual Meetings in Paris

<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>First Session Paris, France 23-24 January 1997</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Second Session Paris, France 15-16 March 1998</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Third Session Paris, France 13-14 June 2000</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Fourth Session Paris, France 8-9 January 2002</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Fifth Session Paris, France 3-4 March 2003</p>
<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Sixth Session Paris, France 29-30 March 2004</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Seventh Session Paris, France 5-6 July 2005</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Eighth Session Paris, France 3-4 July 2006</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Ninth Session Paris, France 10-11 July, 2007</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Tenth Session Paris, France 8-9 July, 2008</p>
<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-IUCN-NOAA Consultative Committee Meeting on Large Marine Ecosystems (LMEs)</p> <p>Eleventh Session Paris, France 9 - 10 July 2009</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Twelfth Session Paris, France 8 - 9 July, 2010</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Thirteenth Session Paris, France 12 - 13 July, 2011</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Fourteenth Session Paris, France 5 - 6 July, 2012</p>	<p>Intergovernmental Oceanographic Commission Reports of Meetings of Experts and Equivalent Bodies</p>  <p>IOC-UNEP-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs)</p> <p>Fifteenth Session Paris, France 10 - 11 July, 2013</p>

Strong Scientific (natural and social) foundation supports ecosystem-based management (EBM) of LMEs

1984 Introduction of LME approach to EBM at annual meeting of American Association for the Advancement of Science

1986 First volume on LME approach to EBM published, “Variability and Management of Large Marine Ecosystems” by AAAS

- Chapter contributions by natural and social scientists
- Contributing authors included J. Beddington, U.K. (policy); G. Kullenberg, IOC (Policy), N. Daan, ICES (fisheries), F. Christy, FAO (economics), R. Scully, U.S. State Dept., (policy); M. Belsky (law); M. Terizaki, Japan (oceanography); and others

Recommendations from First Global Conference on LMEs, Monaco, 1990

Establish ad hoc International Large Marine Ecosystems Committee with representatives from NOAA, IOC, FAO, UNEP and IUCN

Membership should include experts in LME approach, science managers, donor institution representatives, coastal managers and experts in global and regional regimes relevant to ocean use management

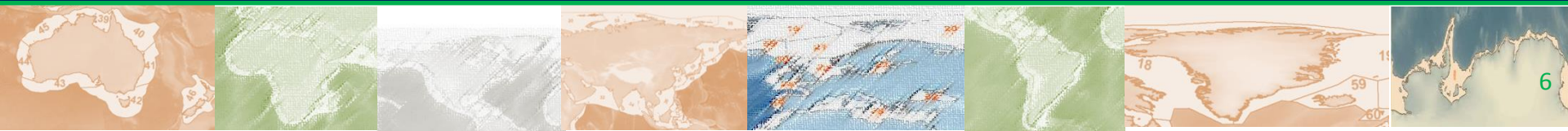
Produce a map of LMEs

Convene regional workshops to plan LME projects with developing country representatives

REFERENCES:

The Large Marine Ecosystem (LME) Concept and its Application to Regional Marine Resource Management. 1-6 October 1990, Monaco: Conference Summary and Recommendations. 1992. NOAA Technical Memorandum NMFS-F/NEC-91, 37 p.

Large Marine Ecosystems: Stress, Mitigation, and Sustainability. 1993. Vol 5. AAAS. Wash. DC 376p.



1991 – First IOC-UNESCO LME Meeting

**The ad hoc Committee on Large Marine Ecosystems
22-23 March 1991. IOC-UNESCO Headquarters,
Paris; Agenda items:**

Designation of LMEs around the globe

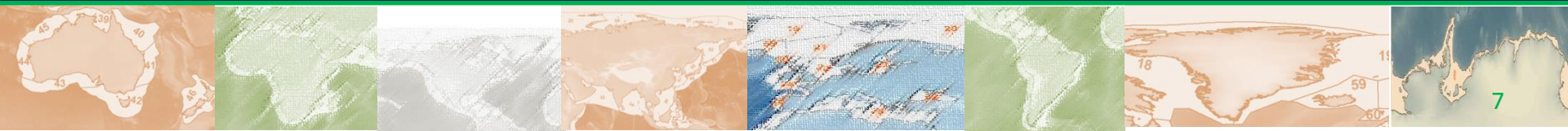
Monitoring of LMEs

Modeling of LMEs

**Holding regional workshops and conducting
comparative LME studies**

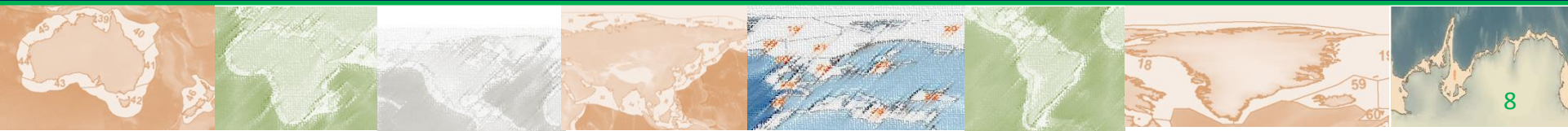
REFERENCES

**IOC-IUCN-NOAA Ad hoc Consultative Meeting on Large Marine Ecosystems. Paris, France. 23-24 January 1997.
Intergovernmental Oceanographic Commission. Reports of Meetings of Experts and Equivalent Bodies. UNESCO. 14p +26p
Annex**



Agenda Items (con't.)

- Need to overcome sectoral approach to marine resources management
 - Overcome general view of UN agency sectoral approach with LME multisectoral and multidisciplinary ecosystem-based strategy
 - Promote regional LME workshops (e.g. Indian Ocean Workshop 1992 at KMFRI, Bay of Bengal meeting in India, Cornell University Workshop on LME Methodologies 1991)
- REFERENCE
- Report of the Meeting of the ad hoc Committee on Large Marine Ecosystems, 22-23 March 1991, UNESCO Headquarters, Paris, France. NOAA Technical Memorandum NMFS-F/NEC-92, 19p.



LME Methods Workshops

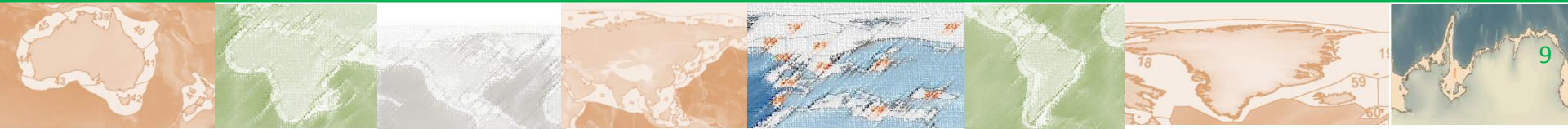
- 1992 Monitoring Workshop, Cornell University
- 1993 LME Monitoring Workshops at Narragansett and Cornell

Outcome:

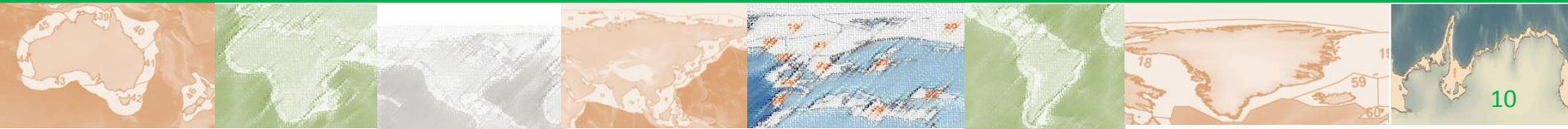
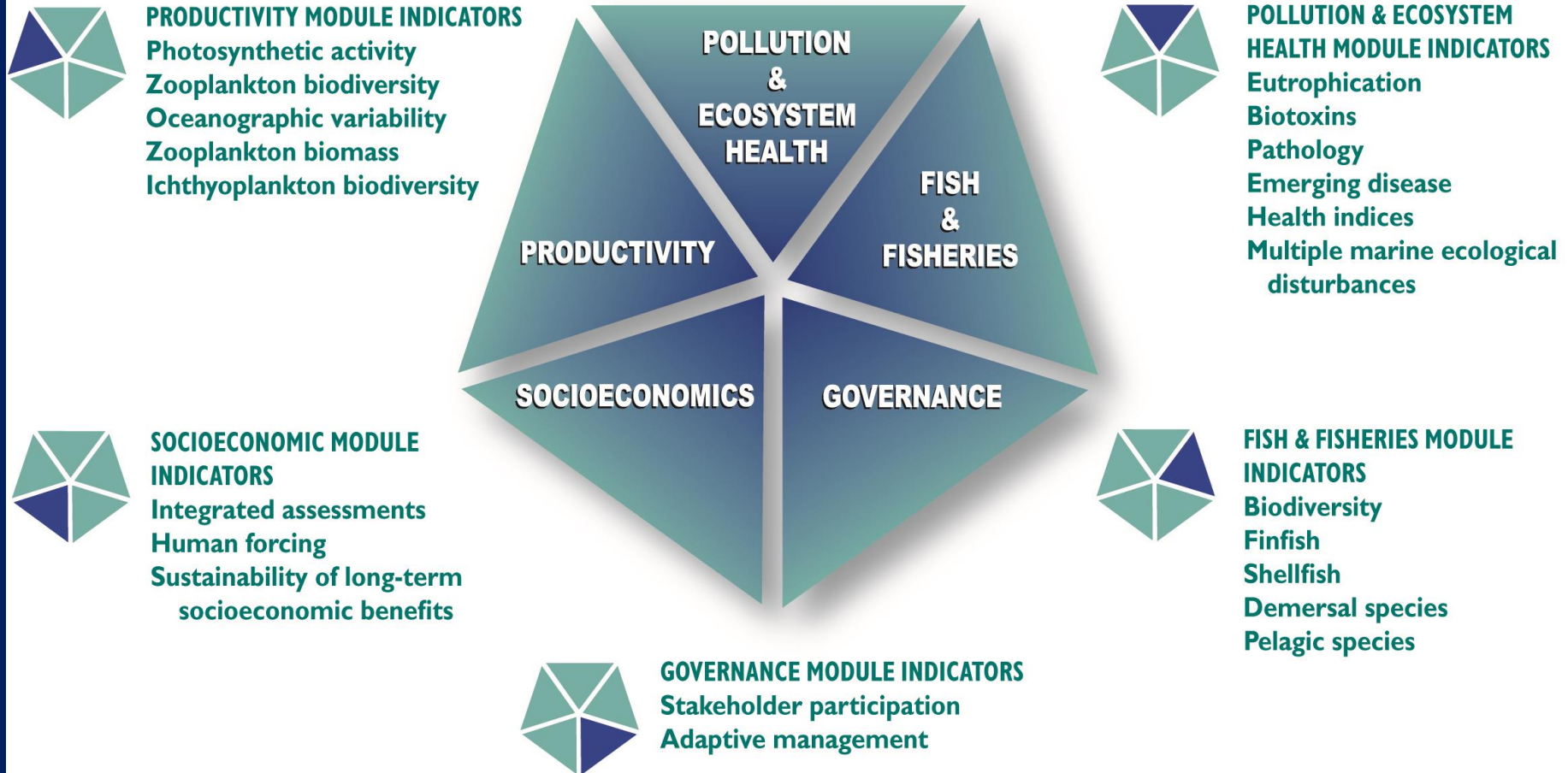
5-module strategy for time-series metrics on LME Productivity, Fish and Fisheries, Pollution and Ecosystem Health, Socioeconomics, and Governance

REFERENCES

1992. LME Monitoring Workshop Report, July 1991, Cornell University, Ithaca, New York. NOAA Technical Memorandum NMFS-F/NEC-93
1993. Emerging Theoretical Basis for Monitoring the Changing States (Health) of Large Marine Ecosystems: Summary Report of Two Workshops, 23 April 1992, National Marine Fisheries Service, Narragansett, Rhode Island, and 11-12 July 1992, Cornell University, Ithaca, New York. NOAA Technical Memorandum NMFS-F/NEC-100



Modular Assessments for Sustainable Development



Regional Workshops and Symposia Led to 1996—2006 LME Case Study Volumes

1996 The Northeast Shelf Ecosystem

1998 Large Marine Ecosystems of the Indian Ocean

1999 The Gulf of Mexico Large Marine Ecosystem

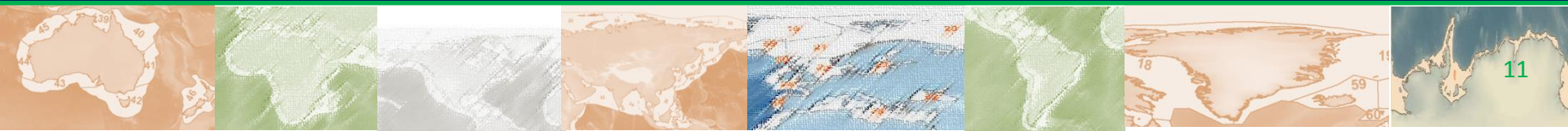
2002 Large Marine Ecosystems of the North Atlantic

2002 The Gulf of Guinea Large Marine Ecosystem

2003 Large Marine Ecosystems of the World

2005 Sustaining Large Marine Ecosystems: The Human Dimension

2006 Benguela: Protecting a Large Marine Ecosystem



Variability and Management of Large Marine Ecosystems

Edited by Kenneth Sherman
and Lewis M. Alexander



AAAS Selected Symposium 99

Biomass Yields and Geography of Large Marine Ecosystems

Edited by Kenneth Sherman
and Lewis M. Alexander

AAAS Selected Symposium 111

LARGE PATTERNS MARINE PROCESSES ECOSYSTEMS AND YIELDS

Edited by Kenneth Sherman,
Lewis M. Alexander and
Barry D. Gold

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

FOOD CHAINS, YIELDS, MODELS, AND MANAGEMENT OF LARGE MARINE ECOSYSTEMS



edited by
Kenneth Sherman,
Lewis M. Alexander,
and Barry D. Gold

Wiley Press

LARGE MARINE ECOSYSTEMS

Stress, Mitigation, and Sustainability

Kenneth Sherman
Lewis M. Alexander
Barry D. Gold
editors

THE NORTHEAST SHELF ECOSYSTEM

Assessment, Sustainability, and Management

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LARGE MARINE ECOSYSTEMS OF THE INDIAN OCEAN

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LARGE MARINE ECOSYSTEMS OF THE PACIFIC RIM

Assessment, Sustainability, and Management

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THE GULF OF MEXICO LARGE MARINE ECOSYSTEM

Assessment, Sustainability, and Management

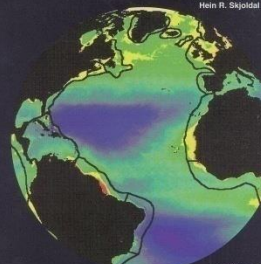
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Large Marine Ecosystems of the North Atlantic

Changing States and Sustainability

Edited by
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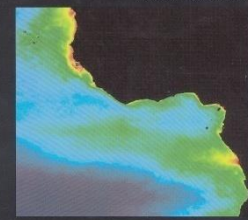


ELSEVIER
Large Marine Ecosystems Series

The Gulf of Guinea Large Marine Ecosystem

Environmental Forcing & Sustainable Development of Marine Resources

Edited by
Jacqueline M. McCleave
Philippe Gury
Kwame A. Koranteng
Nicholas J. Hardman-Boufford

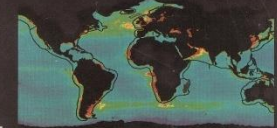


ELSEVIER
Large Marine Ecosystems Series

Large Marine Ecosystems of the World:

Trends in Exploitation, Protection, and Research

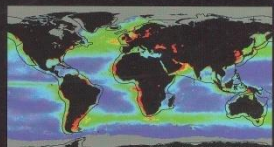
Edited by
Godthulf Hempel
Kenneth Sherman



Large Marine Ecosystems Series 12

Sustaining Large Marine Ecosystems: The Human Dimension

Edited by
Timothy Minobe
Jon Sutin



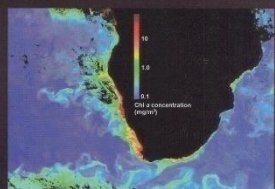
Large Marine Ecosystems Series 13

Benguela:

Predicting a Large Marine Ecosystem

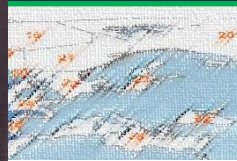


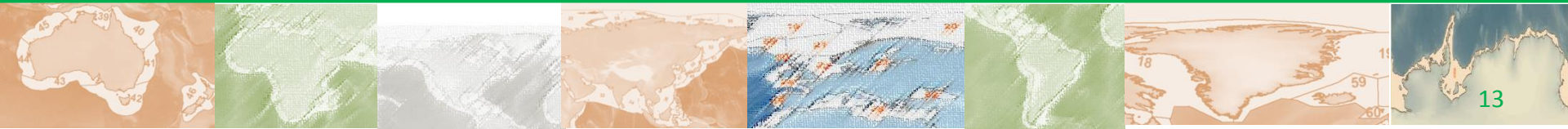
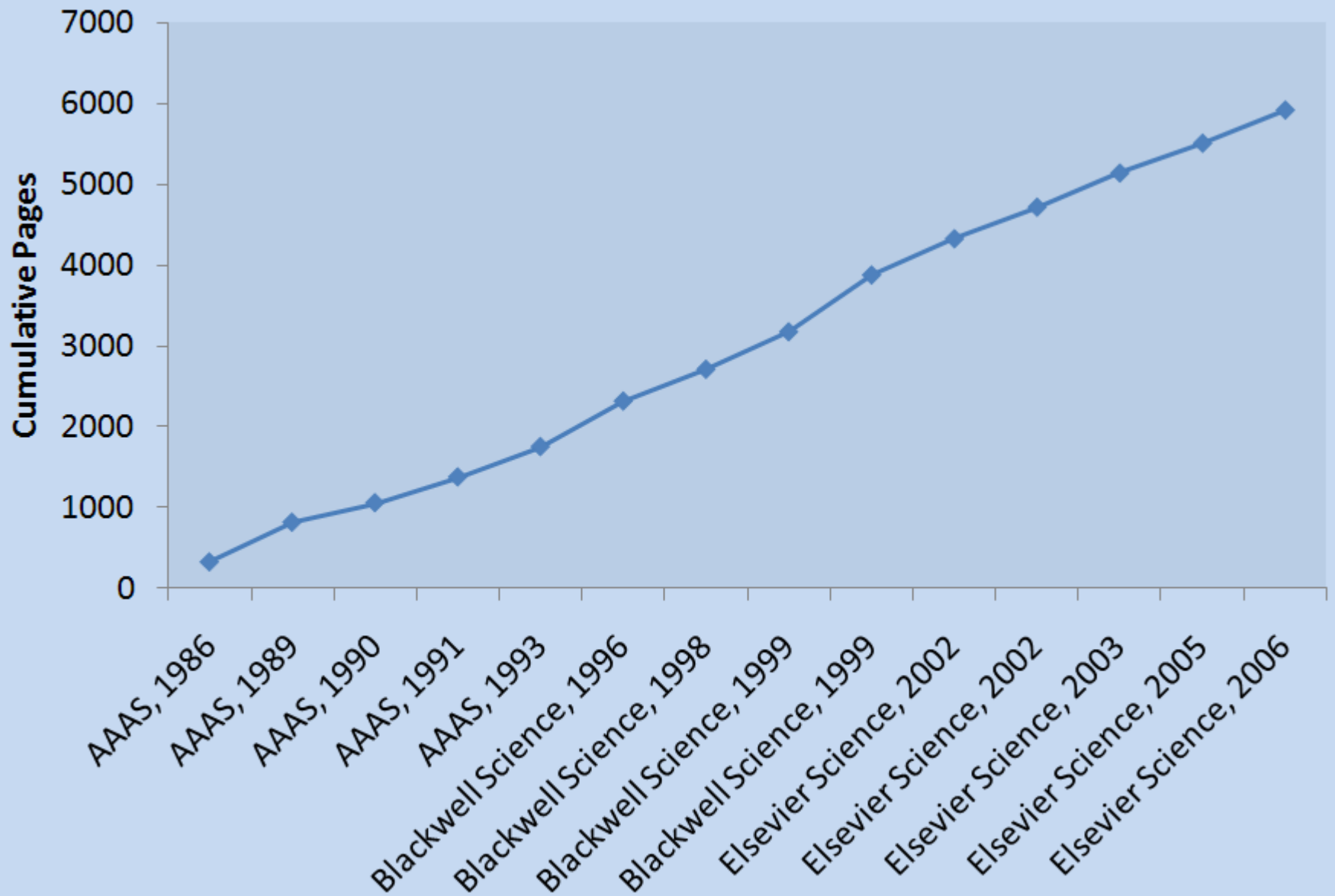
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Yves Serrano
Godthulf Hempel
Paola Matanhe-Rizzoli
Colin Moloney
John Woods



Large Marine Ecosystems Series 14

Seminal LME Published Volumes





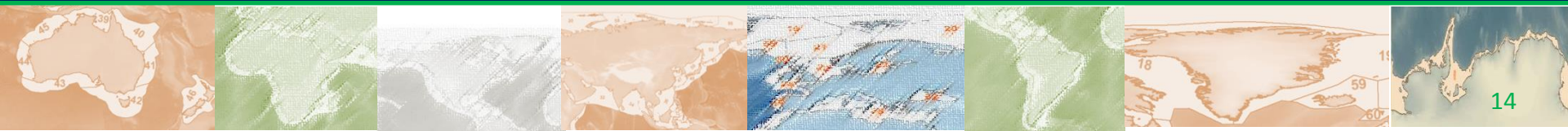
The GEF and LME Projects

LMEs included in GEF Operational Program Guidance, included LMEs as appropriate global areas for implementing EBM practices

NOAA provides EBM scientific and technical support to some projects and UN agencies throughout the TDA and SAP project development and implementation process.

REFERENCES

2004. NOAA Fisheries Service's Large Marine Ecosystems Program: Status Report. NOAA Technical Memorandum NMFS-NE-183, 21p. Eds, K. Sherman, P. Celone, and S. Adams
2007. Global Applications of the Large Marine Ecosystem Concept 2007-2010. NOAA Technical Memorandum NMFS-NE 208. 71p. Eds, K. Sherman, M. Aquarone, and S. Adams
2014. Towards Ecosystem-Based Management (EBM) of the world's Large Marine Ecosystems During Climate Change. Environmental Development. In press.



Expression of unity JF Kennedy Library Conference in 2013

Concordance on LME approach for moving forward toward sustainable development of coastal ocean goods and services

NOAA Administrator Dr. Jane Lubchenco

GEF CEO Dr. Naoko Ishii

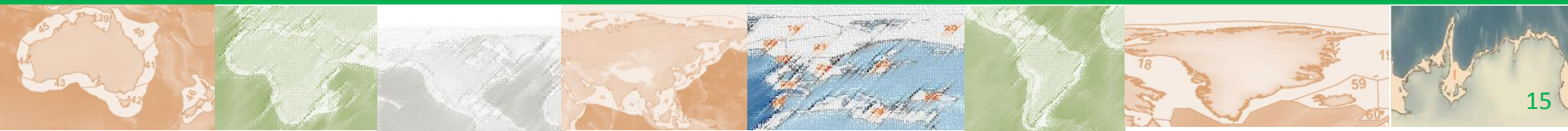
ICES Gen. Sec. Dr. Anne Christine Brusendorff

IOC-UNESCO Exec. Sec. Dr. Wendy Watson-Wright

UNDP Water/Energy Dr. Andrew Hudson, Dr. Veerle Vandeweerd

REFERENCE

2013 Stress, Sustainability, and Development of Large Marine Ecosystems During Climate Change: Policy and Implementation. Printed by the Global Environment Facility, Washington, DC. ©United Nations Development Programme. 146p.



NOAA's Continuing Focus on LMEs

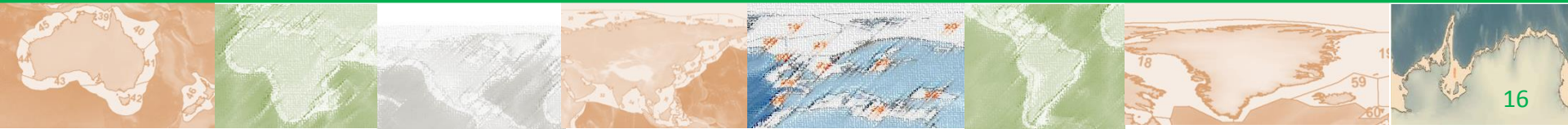


THE WHITE HOUSE COUNCIL ON ENVIRONMENTAL QUALITY

*Final Recommendations
Of The
Interagency Ocean Policy
Task Force
July 19, 2010*



National Ocean Plan
designates 11 LMEs
in coastal U.S. waters



LME Governance Breakthroughs

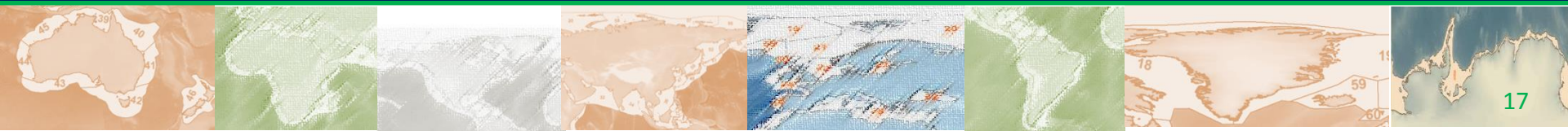
2006 Abuja Declaration establishes the Interim Guinea Current Commission

2008 Establishment of the Benguela Current Commission

2009 Planning in SAP for Yellow Sea LME Commission

2010 EBM for LMEs in U.S. President's Ocean Policy

2013 Establishment of the Benguela Current Convention



Going Forward 2014 - 2018

Assist LME Network in EBM coordination and integration of an estimated \$3.5 billion in GEF supported EBM projects in:

Fisheries recovery and sustainability

Pollution and ecosystem health

Habitat Recovery

Marine Protected Areas (MPAs)

Integrated Coastal Management (ICM)

Marine Spatial Planning (MSP)

