Ensuring the Sustainable Development of Oceans and Coasts
A CALL TO ACTION

Co-Chairs’ Report from
The Global Conference on Oceans and Coasts at Rio+10
Held at UNESCO, Paris
December 3-7, 2001
Editor’s note:

The Co-Chairs’ Summary is based on the papers presented at the conference, the panel discussions, the Working Group reports, and background materials prepared by the Secretariat. The Co-Chairs’ Summary has been prepared by the Co-Chairs, with the advice of the Conference Executive Committee, and it does not necessarily reflect the views of all the Conference participants.

Additional Conference reports, including a Ministerial Perspectives Volume containing the speeches of ministers attending the conference and the reports of the Working Groups, will be available in early February, 2002.

For copies of this report or the other publications, please contact:

Julian Barbière
Intergovernmental Oceanographic Commission
1, rue Miollis, 75732 Paris Cedex 15, France
Tel: 33-1 4568 4045
Fax 33-1 4568 5812
Email: j.barbiere@unesco.org

Catherine Johnston
Center for the Study of Marine Policy
University of Delaware
301 Robinson Hall
Newark, Delaware
19716 USA
Tel. +1(302) 831-8086
Fax +1(302) 831-3668
Email: johnston@udel.edu
Ensuring the Sustainable Development of Oceans and Coasts

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Co-Chairs’ Summary

Prepared by Dr. Patrico Bernal,
Intergovermental Oceanographic Commission (IOC),
and Dr. Biliana Cicin-Sain,
Center for the Study of Marine Policy (CSMP)
with Stefano Belfiore (CSMP) and
Julian Barbière (IOC)
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Foreword

The Global Conference on Oceans and Coasts at Rio+10: Toward the 2002 World Summit on Sustainable Development, Johannesburg convened from December 3-7, 2001 at UNESCO in Paris. The Conference involved over 400 participants from 61 countries, assembling an array of experts from a diverse range of sectors including governments, United Nations agencies and other intergovernmental organizations (IGOs), and nongovernmental organizations (NGOs) representing environmental, industry, and scientific/technical perspectives.

The Conference was convened nearly ten years after the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, with the aim of assessing the present status of oceans and coasts and progress achieved over the past decade, addressing continuing and new challenges, and laying the groundwork for the inclusion of an oceans perspective at the 2002 World Summit on Sustainable Development (WSSD), to be held in Johannesburg.

The Earth Summit put into motion many changes related to ocean and coastal management—including the adoption of a number of international agreements on oceans; substantial new investment by international and national donors; extensive efforts by national governments to establish programs in coastal and ocean management; and significant advances in global scientific efforts to understand and better manage oceans and coasts.

This is a crucial time for oceans and coasts. After a decade of significant change at international, national, and local levels, Oceans and Coasts at Rio+10 provided an opportunity to take stock, to assess what has been accomplished on oceans and coasts since the Earth Summit. Agenda 21 established an ambitious program of action. But, the world has changed and new priorities have emerged. From the ministerial perspectives, the panel speakers, and the working group discussions that occurred at the conference, a clear and central theme emerged: *It is imperative that oceans and coasts be included in the discussions at the WSSD, as sustainable development and poverty reduction cannot be achieved without healthy oceans and coasts.*

*There was a general consensus among participants of declining trends in ocean and coasts around the world. Fisheries, marine mammals, coral reefs, and coastal ecosystems such as mangrove swamps are among our marine assets presently at risk, and demand attention at all levels. Although some of the statistics and trends are troubling, and indeed alarming, inclusion of ocean issues at the WSSD provides a key opportunity for governments from around the world to chart the course over the next decade for one of mankind's richest natural heritages: our oceans.*

We are deeply thankful to the many Governmental, NGO, and IGO organizations that have provided support for the conference and which are listed at the beginning of this volume. We especially appreciate their encouragement and faith that an unusual "hybrid" meeting like this one—which brought together Governments, NGOs, and IGOs together in the same venue—could produce significant results for consideration by the international community.

We would also like to extend our gratitude to all of the participants at the conference, both for their thorough panel presentations and their enduring devotion to the working groups before, during, and after the conference.

Finally, we would like to offer our heartfelt thanks to the Conference Executive Committee, the Conference Organizing Committee, and the Secretariat Staff for their many contributions to the conference.

Dr. Patricio Bernal
Intergovernmental Oceanographic Commission, UNESCO

Dr. Biliana Cicin-Sain
Center for the Study of Marine Policy,
University of Delaware
## List of Acronyms

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<th>Full Form</th>
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<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>CIDA</td>
<td>Canadian International Development Agency</td>
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<td>CSMP</td>
<td>Center for the Study of Marine Policy</td>
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<tr>
<td>CBD</td>
<td>Convention on Biological Diversity</td>
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<td>DANIDA</td>
<td>Danish International Development Agency</td>
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<tr>
<td>EEZ</td>
<td>Exclusive Economic Zone</td>
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<tr>
<td>GCRMN</td>
<td>Global Coral Reef Monitoring Network</td>
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<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
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<tr>
<td>GIWA</td>
<td>Global International Water Assessment</td>
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<td>GOOS</td>
<td>Global Ocean Observing System</td>
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<tr>
<td>GPA</td>
<td>Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities</td>
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<td>ICM</td>
<td>Integrated coastal and ocean management</td>
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<tr>
<td>IGBP</td>
<td>International Geosphere-Biosphere Programme</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>IMO</td>
<td>International Maritime Organization</td>
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<td>IOC</td>
<td>Intergovernmental Oceanographic Commission</td>
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<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<td>IUCN</td>
<td>World Conservation Union</td>
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<tr>
<td>IUU</td>
<td>Illegal, unregulated and unreported [fishing]</td>
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<tr>
<td>LME</td>
<td>Large marine ecosystem</td>
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<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>MPA</td>
<td>Marine protected area</td>
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<tr>
<td>ODA</td>
<td>Official development assistance</td>
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<tr>
<td>RFO</td>
<td>Regional fishery organization</td>
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<td>SIDA</td>
<td>Swedish International Development Agency</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNCED</td>
<td>United Nations Conference on Environment and Development</td>
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<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<tr>
<td>USAID</td>
<td>U.S. Agency for International Development</td>
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<td>WSSD</td>
<td>World Summit on Sustainable Development</td>
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<td>WTO</td>
<td>World Trade Organization</td>
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EXECUTIVE SUMMARY

The Global Conference on Oceans and Coasts at Rio+10: Toward the 2002 World Summit on Sustainable Development: Assessing Progress, Addressing Continuing and New Challenges, held at UNESCO in Paris from December 3-7, 2001, assessed global progress on oceans and coasts in the implementation of Chapter 17 of Agenda 21 and related instruments. The Conference involved 424 participants from 61 countries—164 ocean experts from governments, 162 members of non-governmental organizations and academic institutions, and 98 members of intergovernmental, international, and regional organizations. This Summary by the two Co-chairs highlights the main conclusions. Detailed recommendations are given in the body of the document and summarized in table format at the end of the document.

Poverty reduction during the coming decade will require more access to sustainable economic livelihoods and wealth derived from the ocean, and development of safer, healthy coastal communities

The UN Millennium Declaration notes the need to halve, by 2015, the proportion of very poor people in the world, and to reduce the scourge of diseases like malaria and water-borne infections. Today, 250 million clinical cases of gastroenteritis and upper respiratory diseases are caused annually by bathing in contaminated sea water. This is a key concern, and perhaps one of the most difficult challenges facing our use of the oceans. Meeting these needs requires new commitments to make the benefits of trade and globalization available to coastal communities, participatory management of resources, programs specifically targeted to reducing vulnerability of coastal people and infrastructure, and commitments to full participation of women and youth in decision-making and activities related to locally-based coastal and ocean decisions.

Full implementation and effective compliance with international agreements is needed

The significant number of international agreements that have come into effect since 1992 now need to be properly implemented and enforced, and their implications for national level action more fully addressed. There is an urgent need for better cooperation and coordination among regional and international bodies governing oceans and fisheries to ensure harmonized and efficient implementation. For example, the implementation of the fishing instruments concluded in recent years (UN Straddling Fish Stocks Agreement, the Code of Conduct for Responsible Fishing, and the Compliance Agreement) is an essential element in putting fisheries on a sustainable development path that could address existing overfishing of many species.

Capacity building for good governance of coastal and ocean use is necessary

Scientific advances and technology development will continue to open untapped potential for use of coastal, offshore and Exclusive Economic Zones, and deep ocean areas. Yet our understanding of the role and vulnerability of these new resources and habitats is still limited. All countries, rich and poor, lack the needed capacity to manage even the existing level of development in a well-integrated way. Thus the capacity of local and national governments to apply effective institutional and legal frameworks for integrated coastal and ocean management must be strengthened. This will enable them to pursue opportunities for economic development in the coasts and oceans while protecting their ecological integrity and biodiversity. It will require, among other things, raising public awareness of coastal and ocean issues, the re-targeting of financial assistance to take into account lessons learned from experience, and the building of the capacity of the educational institutions in coastal nations. Capacity building is required within governments, local communities, and NGOs, as well as to enable effective involvement of the private sector.

The health of the oceans and coasts is directly linked to the proper management of river basins, including freshwater flows to the marine environment

Eighty percent of marine pollution comes from land-based sources. In the developing world, more than 90% of sewage and 70% of industrial wastes are dumped untreated into surface waters where they pollute agricultural lands, water supplies and coastal waters. Ecosystem approaches that link management of river basins to marine ecosystems, such as those promoted by the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, must be effectively implemented. This is especially important in the context of the coastal megacities (70% of cities over 8 million people are coastal), such as Lagos, Nigeria—where 65% of the estimated 13.4 million population live in poverty.

Protecting coastal and marine areas and biodiversity takes an ecosystem approach

The very significant shift from a sectoral to an ecosystem-based approach that recognizes precaution and linkages among activities is an important achievement of the past decade. The Convention on Biological Diversity provides an international framework for an ecosystem-based approach that will depend upon protection of marine habitats at regional and national levels. Ecosystem-based fisheries management strategies have been developed and applied by Regional Fisheries Organizations. A global representative system of marine protected areas is now needed as one essential component for ecosystem understanding, management and biodiversity protection.
Strengthening science-based monitoring and assessment of the oceans is essential for managing the long-term sustainability of marine ecosystems

Effective international coordination needs to be put in place to support an integrated assessment of the status of oceans and coasts, and their use. A periodic, comprehensive global report on the State of Oceans and Development is needed, building upon existing regional and sectoral efforts. It could be complemented by similar reports at the national level designed to be used to discharge the reporting duties of countries under several international agreements. This report should anticipate and plan for emerging ocean and coastal issues, such as offshore aquaculture and bioprospecting of marine genetic resources.

The special problems and issues of Small Island Developing States must be addressed

Small island developing states have special problems and opportunities related to the oceans which need to be recognized and addressed. These nations, small in land area, typically have control and stewardship responsibilities over huge expanses of ocean: their Exclusive Economic Zones.

Small island states are a special case since many of them are vulnerable to climate change phenomena, such as sea level rise. Small islands states are responsible for the stewardship of vast areas of the oceans, containing high biological diversity, the most extensive coral reef systems in the world, and significant seabed minerals. Small islands states have a critical role to play in the sustainable development of the oceans.

An urgent call

A substantial body of scientific evidence supports the urgent call by the conference to place coastal and ocean issues squarely on the World Summit’s agenda. As the world’s population continues to grow and to concentrate in coastal areas, there will be even greater pressures on coastal and ocean resources. In contrast with the many deteriorating trends affecting oceans and coasts today, there is an alternative vision for the future—one of healthy and productive seas, clean coastal waters, and prosperous coastal communities. Given the pivotal role of oceans and coasts in global sustainable development, it is imperative that the World Summit develops the action plan needed to insure the sustainability and life-support functions of the world’s oceans and coasts.

GENERAL CONCLUSION

The Conference wishes to transmit a sense of urgency to the WSSD for addressing the issues surrounding the sustainable development of oceans and coasts. Participants at the Conference generally agreed that we are in a critical situation of declining trends that requires immediate actions by nations and governing bodies worldwide. This sense of urgency and priority was corroborated in ministerial statements, as well as by non-governmental, governmental, and international experts, scientists, commercial fishing, and industrial representatives attending the meeting. It is essential that we link economic development, social welfare, and resource conservation in order to achieve sustainability of oceans and coasts. The Conference issues an urgent call to action to decision makers in the WSSD process to develop a detailed action plan for the sustainable development of the world’s oceans and coasts.
1. INTRODUCTION: THE IMPORTANCE OF OCEANS AND COASTS FOR SUSTAINABLE DEVELOPMENT


Oceans and coasts are an integral aspect of global sustainable development. The oceans—comprising 72% of the Earth’s surface—are what link our far away continents together, they provide the essential life-support function without which life on earth would not be possible, they provide the cheapest form of transportation for our goods, they provide us with energy, food, recreation, and spiritual renovation. Of all the areas covered in Agenda 21, sustainable development can perhaps best be realized in oceans and coasts with considerable savings. Oceans and coastal areas present excellent opportunities for development if conducted in a sustainable manner. However, extending the old and proven institutions operating on land under the jurisdiction of the national states to oceans and coasts is not a minor task. An integrated approach to governance is needed to take full advantage of the benefits that the marine environment offers—be they economic, social, recreational, or cultural.

Coastal areas are crucial to supporting life on our planet. They comprise 20 percent of the Earth’s surface yet contain over 50 percent of the entire human population. By the year 2025, coastal populations are expected to account for 75 percent of the total world population (UN, 1992). More than 70 percent of the world’s megacities (greater than 8 million inhabitants) are located in coastal areas (IOC, 1999). Coastal ecosystems are highly productive, they yield 90 percent of global fisheries and produce about 25 percent of global biological productivity. Yet they are responsible for cleaning and chemically reprocessing the ever-increasing flow of artificial fertilizers and other side-products of modern economic activities. Over 500 million people depend on coral reefs for food and income (Wilkinson, 2001).

Oceans and coasts support a diverse array of activities yielding enormous economic and social benefits, e.g.:

- Marine transportation accounts for 90 percent of international trade;
- Exploitation of coastal and offshore mineral resources provides about 25 to 30 percent of the world’s energy supplies and continues to expand, especially in deeper waters (UN, 2000);
- Fisheries are important both socially and economically; the industry provides direct and indirect livelihood for 400 million people;
- Marine aquaculture represents a rapidly growing industry and globally accounts for 30 percent of the world’s fish consumption;
- The travel and tourism industry is the fastest growing sector of the global economy. It is estimated to have generated $3.5 trillion in revenues and close to 200 million jobs in 1999. Coastal tourism is a major portion of the gross domestic product in many small island nations (WRI, 2001).

The multitude of activities supported in ocean and coastal areas is placing increasing pressure on the integrity of the coastal and marine ecosystems and many of the ocean and coastal resources are threatened through overexploitation. For example:

- 47 percent of global fisheries are fully utilized and 28 percent are overutilized. Overall, 75 percent require urgent management to freeze or reduce capacity (FAO, 2000).
- Of 126 species of marine mammals, 88 are listed on the IUCN Red List of Threatened Species (Marsh et al, 2001).
- 11 percent of coral reefs were completely destroyed prior to the 1998 El Niño event while 16 percent were severely degraded in 1998 alone. Another 20 to 30 percent are threatened in the next 10 years, while current projections indicate possible losses of 50 to 60 percent within 30 years (Wilkinson, 2001).
- It is estimated that overall 50 percent of the world’s mangrove forests have been lost (WRI, 2001).
- Important seagrass habitats, occupying over 600,000 km² are rapidly being destroyed; in South East Asian countries, 20 to 60 percent of seagrass beds have been lost (Fortes, 2001).
- 12 billion tons of ballast water containing, at any one time, 10,000 marine species are shipped around the globe each year, spreading alien and invasive species (Bax and Aguerro 2001).
- Over the past two decades, the frequency of recorded harmful algal blooms resulting in mass mortality and morbidity of marine organisms has increased significantly (WRI, 2001).
- The projections of the Intergovernmental Panel on Climate Change (IPCC) note that continued use of fossil fuels will exacerbate global climate changes with severe consequences for ocean and coastal ecosystems. Forty-six million people per year are currently at risk of flooding from storm surges and, without adaptation measures, a 1-m sea-level rise might displace tens of million people in Bangladesh (IPCC, 2001).
- Food security for an increased human population drives the intensification of agricultural production and results in the increased application of fertilizers, pesticides, and herbi-
cides. For example, synthetic fertilizer use is predicted to more than double globally between 1990 (74 million tons/year of Nitrogen) and 2050 (182 million tons/year) (Seitzinger and Kroeze 1998; Kroeze and Seitzinger 1998). Atmospheric deposition, associated with the combustion of fossil fuels, is predicted to almost double (22 to 39 million tons/year) to terrestrial systems over that same time period, as is nitrogen in human sewage (9 to 16 million tons/year of Nitrogen). As a result, inorganic nitrogen inputs to coastal ecosystems are predicted to double (from 21 to 42 million tons/year of Nitrogen) (Kroeze and Seitzinger 1998). The increased inputs of nitrogen to terrestrial and aquatic systems will undoubtedly lead to increased human health and environmental degradation, including degradation of coastal ecosystems.

The United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, and the 1997 Special Session of the General Assembly reviewing the implementation of Agenda 21 urged national, regional, and international institutions to take action for the sustainable development of coastal and marine areas.

Three existing major international agreements incorporate the principles, objectives and actions needed to ensure the sustainable development and protection of oceans and coasts: The United Nations Convention on the Law of the Sea (UNCLOS); Agenda 21, in particular, Chapter 17, Protection of the Oceans, All Kinds of Seas, Including Enclosed and Semi-Enclosed Seas, and Coastal Areas for the Protection, Rational Use and Development of Their Living Resources; and the Rio Declaration on Environment and Development.

Following UNCED 1992, progress has continued in building the legal and institutional support for the sustainable development of oceans and coasts. New international agreements, such as the United Nations Fish Stocks Agreement, the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA), and the Jakarta Mandate of the Convention on Biological Diversity (CBD), have been concluded providing more detailed frameworks for addressing critical aspects of the sustainable management of the oceans, especially through better compliance and enforcement.

The importance of oceans and coasts for sustainable development has recently been restated by a series of global and regional intergovernmental and expert meetings. The Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem (Reykjavik, 1-4 October 2001) has called for the adoption of the ecosystem approach in managing the world's fisheries. The Intergovernmental Review Meeting of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (Montreal, 26-30 November 2001) has given new impetus to the improvement of international coastal and oceans governance under ocean-related conventions and provided a specific plan of action for the control of sewage and for new sources of financing. The Bonn Freshwater Meeting (Bonn, 3-7 December 2001) has focused on strategies that will help manage fresh water supplies and better address the interconnections between coastal areas and adjacent water basins. The Regional Preparatory Committees (PrepComs) to the World Summit on Sustainable Development (WSSD) have highlighted the importance of marine and coastal resources to the development of regional economies and have called for enhanced environmental protection. All the regional PrepComs held in preparation of the WSSD1 highlighted the importance of developing at the WSSD specific initiatives for addressing oceans and seas, coastal zones, and fresh water and sanitation. In this regard, integrated coastal management (ICM) is recognized as the appropriate approach to ensure comprehensive management of land and bodies of water, ecosystem-based marine resource management, and integrated water resource management.

The World Summit for Sustainable Development, to be held in Johannesburg in September 2002, presents a unique opportunity to agree upon a limited number of targets as universal benchmarks for a focused action-oriented program addressing the main issues and causes of marine degradation, based on renewed political and financial commitments at all levels. Integrated coastal and ocean management approaches can help to generate the necessary multi-disciplinary and cross-sectoral frameworks needed to develop coastal and ocean areas appropriately, enhancing the welfare of coastal communities, while maintaining ecological integrity and biodiversity.

As is detailed in this report, significant progress has been made since UNCED in laying the groundwork toward sustainable development of the oceans—a new cluster of global agreements provide the direction for good governance of coastal and ocean use; many countries, both developing and developed, have experimented with various approaches to ocean and coastal management; significant funding, by both national and international donors has taken place; and a significant body of knowledge and practical experience on ocean and coastal management has been accumulated.

However, ocean resources and environmental conditions have continued to decline, and, unless oceans and coasts are given high priority by the world's governments, under present trends and circumstances, the outlook for oceans and coasts in the year 2020, leaves little room for optimism. Action is required now to correct the present course. As the world's population continues to grow and to concentrate in coastal areas, there will be even greater pressures on coastal and ocean resources. There is an alternative vision for the future—one of healthy and productive seas, clean coastal waters, and prosperous coastal communities. Given the pivotal role of oceans and coasts in global sustainable development, it is imperative that the World Summit develops the action plan needed to insure the sustainability and life-support functions of the world's oceans and coasts.

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2. OBJECTIVES AND CONDUCT OF THE CONFERENCE


The Conference addressed all aspects of oceans and coasts and their interrelationships. Recognizing that several specialized bodies of the United Nations were holding conferences assessing specific aspects of the marine realm, such as fisheries, in anticipation of the Johannesburg meeting, the Conference organizers decided to take an overall look at progress achieved on all aspects of oceans and coasts since UNCED. This comprehensive perspective is inspired by both UNCLOS which in its Preamble emphasized that the problems of ocean space are closely interrelated and need to be considered as a whole, and by Chapter 17 of Agenda 21 which emphasized that new approaches to marine and coastal area management are needed, approaches which are integrated in content and precautionary and anticipatory in ambit.

The aim of the Conference was to make a scorecard, as to where we are 10 years after Rio. The aim was to assess:

**How much has been achieved?**

✧ What problems/constraints have been encountered?
✧ What lessons have been learned?
✧ What works and what does not?
✧ What trends are present now that were not present 10 years ago?
✧ What efforts need to be refocused or redirected? and,
✧ To make targeted recommendations for the global agenda for oceans and coasts for the next decade.

The conference was attended by 424 participants from 61 countries and dependencies: 164 ocean experts from governments, 162 members of non-governmental organizations (including private sector, environmental organizations, academic/scientific groups), and 98 members of intergovernmental, international and regional organizations.

The Conference was jointly organized by a consortium of public and private institutions from governmental, intergovernmental, and nongovernmental sectors and was co-chaired by Dr. Patricio Bernal, Executive Secretary, Intergovernmental Oceanographic Commission (IOC), of UNESCO, and Dr. Biliana Cicin-Sain, Director, Center for the Study of Marine Policy (CSMP), University of Delaware, USA. The CSMP and IOC served as the Conference’s Secretariats.

The Conference received funding and in-kind and travel support from a wide variety of governmental, nongovernmental, and intergovernmental organizations from around the world (See list on page ii).

The Conference was addressed by a number of Ministers and other Eminent Persons:


Hon. Seoung-Yong Hong, Vice-Minister, Ministry of Maritime Affairs and Fisheries, Korea

Hon. Herb Dhaliwal, Minister, Department of Fisheries and Oceans, Canada

Hon. Rokhmin Dahuri, Minister, Ministry of Maritime Affairs and Fisheries, Indonesia

Hon. Exequiel Ezcurra, President, National Institute of Ecology, Secretary of Environment and Natural Resources, Mexico

Hon. Otu-Ekong Imeh T. Okopido, Minister of State, Federal Ministry of Environment, Nigeria, and Chairman of AMCEN

Hon. José Sarney Filho, Minister, Ministry of Environment, Brazil, presented by Ambassador Jose Israel Vargas

Hon. Árni Mathiesen, Minister, Ministry of Fisheries, Iceland

Hon. Francisco Mabjaia, Vice-Minister, Ministry for Coordination of Environmental Action, Mozambique

Hon. Victor Kaluyuzhnii, Deputy Minister of Foreign Affairs, Russian Federation, and Special Representative of the President in the Caspian Region

Hon. Ni Yuefeng, Deputy Administrator, State Oceanic Administration, China

Hon. Roberto Tortoli, Undersecretary, Ministry of Environment, Italy

Hon. David Kemp, Minister, Ministry for the Environment and Heritage, Australia, presented by Veronica Sakell, Director, National Oceans Office, Australia

Ambassador Satya Nandan, Secretary-General, International Seabed Authority, Jamaica

Ambassador Mary Beth West, U.S. Department of State

Ambassador Tuiloma Neroni Slade, Permanent Representative, Mission of Samoa to the United Nations, and Chair, Alliance of Small Island Developing States

Ambassador Peter Stenhund, Chair, Arctic Council Secretariat, Finland

The Conference was concluded with a special address by:

Hon. Rejoice T. Mabudafhasi, Deputy Minister, Department of Environmental Affairs and Tourism, South Africa, who specifically welcomed delegates to participate in the Johannesburg Summit.

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2 Participants came from the following countries/dependencies: Australia, Bangladesh, Barbados, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Comoros, Costa Rica, Croatia, Cuba, Denmark, Fiji, Finland, France, Germany, Greece, Guyana, Iceland, India, Indonesia, Israel, Ireland, Italy, Jamaica, Japan, Kenya, Korea, Malta, Mauritius, Mexico, Mozambique, Netherlands, New Caledonia, Nigeria, Norway, Palau, Philippines, Poland, Portugal, Russian Federation, Samoa, Senegal, Singapore, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Turkey, Ukraine, Uruguay, United Kingdom, United States of America.
The Conference heard presentations and panel discussions on the following topics:

Panel 1—Ministerial Perspectives on Oceans and Coasts at Rio+10
Panel 2—Implementation of International Agreements on Oceans and Coasts and Their Harmonization
Panel 3—Patterns and Issues in Donor Investments in Oceans and Coasts
Panel 4—The State of the Ocean Commons: Results of Major Ocean Research Programs
Panel 5—Biodiversity, Critical Habitats and Species at Risk
Panel 6—Integrated Coastal Management (ICM), Conditions and Efforts: Global and Regional Perspectives
Panel 7—Private Sector Initiatives for Sustainable Development and Conservation of Oceans and Coasts
Panel 8—Integrated Coastal Management (ICM), Tying Efforts to Outcomes: National and Local Perspectives.
Panel 9—National Ocean Policy—EEZ Planning and Management
Panel 10—Fisheries and Aquaculture: A Sustainable Use Perspective for Areas of National Jurisdiction and the High Seas
Panel 11—Present Status and Future Directions in Marine Protected Areas
Panel 12—Status of and Prospects for the Marine Environment
Panel 13—Issues in Small Island Developing States
Panel 14—Building Capacity for Improved Ocean and Coastal Management: A Roundtable
Panel 15—The Regional Scale of Ocean Governance: Examining Key Ingredients for Success in Regional Cooperation
Panel 16—Emerging Issues in Ocean and Coastal Management
Panel 17—Improvements in Global and Regional Ocean Governance

The Conference considered the information presented in these panels and the discussions held by eight Working Groups during the conference to discuss the following topics:

Working Group 1—Harmonizing International Agreements, Governance Improvements, Regional Perspectives, and Emerging Issues
Working Group 2—Targeting Donor Aid
Working Group 3—Assessing and Managing the Marine Environment
Working Group 4—Marine Biodiversity and Protected Areas
Working Group 5—Integrated Ocean and Coastal Management
Working Group 6—Sustainable Fisheries and Aquaculture
Working Group 7—Small Island Perspectives
Working Group 8—Capacity Building

This Co-Chairs’ Summary is based on the papers presented at the conference, the panel discussions, the Working Group reports, and background materials prepared by the Secretariat. The Co-Chairs’ Summary has been prepared by the Co-Chairs, with the advice of the Conference Executive Committee, and it does not necessarily reflect the views of all the Conference participants.

The report identifies concrete actions that could be taken by governments, international organizations, and others to address outstanding issues on oceans and coasts in the World Summit on Sustainable Development process.

The report also takes into account the results of the preparatory work to the WSSD and in particular the African Regional Preparatory Process, and builds on the results of the Reykjavik Conference on Responsible Fisheries, the Montreal Intergovernmental Review of the GPA, and the Bonn Water Meeting.

Discussions from the conference have been summarized by The Earth Negotiations Bulletin and may be found at http://www.iisd.ca/linkages/sd/ocrio+10. An interactive discussion of the results of the Conference is taking place at http://icm.noaa.gov.

3. MAJOR ACCOMPLISHMENTS AND CONSTRAINTS AT THE GLOBAL LEVEL SINCE UNCED

A. Review of the Implementation of Chapter 17 of Agenda 21

Chapter 17 of Agenda 21 stresses both the importance of oceans and coasts in the global life support system and the positive opportunities for sustainable development that ocean and coastal areas represent. Seven major program areas are included in Chapter 17: (a) integrated management and sustainable development of coastal areas, including Exclusive Economic Zones, (b) marine environmental protection, (c) sustainable use and conservation of marine living resources of the high seas, (d) sustainable use and conservation of marine living resources under national jurisdiction, (e) addressing critical uncertainties in management of the marine environment and climate change, (f) strengthening international, including regional, cooperation and coordination, and (g) sustainable development of small islands.
Progress in achieving the objectives of Chapter 17 is reported for all program areas. Significant progress has been achieved over the past decade in promoting an integrated approach to coastal management. Both the precautionary approach and the ecosystem-based approach have been progressively incorporated into measures to achieve marine environmental protection. A great deal of progress has been achieved in the area of responsible fisheries development and management as a result of UNCLOS and the adoption of a number of complementary international instruments and voluntary agreements. The past 10 years have seen a turning point in terms of understanding and measuring the role of the oceans in global climate change and in developing the observational tools needed to forecast change. International cooperation on the oceans has developed new modes of action and thinking, including the establishment of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) in 2000 (UN, 2001).

It is very clear that significant progress and institutional change has been achieved since the Rio Earth Summit (Cicin-Sain and Bernal, 2001). This has been manifested in four major ways:

- The adoption and implementation of a number of major ocean agreements
- New funding of initiatives in ocean and coastal management
- Many new actions by governments at national and local levels
- Significant progress in the development of scientific knowledge, data, and information systems on oceans and coasts

### International Agreements

Following UNCED, a number of conventions, agreements, and programs of action have been negotiated, adopted, or entered into force to address different ocean and coastal issues (see Table 1). In addition, the precautionary approach and the polluter pays principle—endorsed at UNCED—are now widely recognized and used as key elements in the development of international environmental law in the protection of ocean and coasts.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Agreement</th>
<th>Date (Status)</th>
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<tbody>
<tr>
<td></td>
<td>International Seabed Authority (ISBA)</td>
<td>1996 (operational)</td>
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<td></td>
<td>International Tribunal on the Law of the Sea (ITLOS)</td>
<td>1997 (operational)</td>
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<td></td>
<td>Commission on the Limits of the Continental Shelf (CLCS)</td>
<td>1997 (operational)</td>
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<td></td>
<td>Convention on the Protection of the Black Sea against Pollution</td>
<td>1994</td>
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<td></td>
<td>Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)</td>
<td>1995</td>
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<td></td>
<td>Agreement establishing the South Pacific Environment Programme (SPREP)</td>
<td>1995 (into force)</td>
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<td></td>
<td>International Convention on Oil Pollution Preparedness and Response</td>
<td>1995 (into force)</td>
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<td></td>
<td>Protocol to the London Convention</td>
<td>1996</td>
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<td></td>
<td>Declaration on the Establishment of the Arctic Council</td>
<td>1996</td>
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<td></td>
<td>Annex VI to MARPOL 73/78 on Regulations for the Prevention on Air Pollution from Ships</td>
<td>1997</td>
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<td></td>
<td>Convention for the Protection of the Marine Environment of the North East Atlantic</td>
<td>1998 (into force)</td>
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<td></td>
<td>OSPAR and Helsinki Convention</td>
<td>1998 (into force)</td>
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<td>Theme</td>
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<tr>
<td>Marine environment</td>
<td>Protocol on Environmental Protection to the Antarctic Treaty</td>
<td>1998 (into force)</td>
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<tr>
<td>continued</td>
<td>New timetable for Annex I to MARPOL 73/78 (Oil Discharges) for phasing out single hull oil tankers</td>
<td>2001</td>
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<td></td>
<td>International Convention on the Control of Harmful Antifouling Systems on Ships</td>
<td>2001</td>
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<td>Stockholm Convention on POPS</td>
<td>2001</td>
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<td></td>
<td>Liability Protocol to the Basel Convention</td>
<td>1999</td>
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<td></td>
<td>International Convention on Civil Liability for Bunker Oil Pollution Damage</td>
<td>2001</td>
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<tr>
<td>Sustainable use and conservation of marine living resources</td>
<td>Agreement to Promote Compliance with International Conservation and Management Measures by Vessels Fishing in the High Seas (“Compliance Agreement”)</td>
<td>1993</td>
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<td></td>
<td>New regional fisheries management organizations established or in preparation (Helsinki Convention, Commission for the Conservation of the Southern Blue Tuna—CCSBT, South East Atlantic Fisheries Organization—SEAFO, West and Central Pacific Organization, Convention for the Conservation and Management of Pollock Resources in the Central Bering Sea)</td>
<td>After 1993</td>
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<td></td>
<td>Code of Conduct for Responsible Fishing and four related International Plans of Action (IPOAs)</td>
<td>1995</td>
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<td>Marine biodiversity</td>
<td>Jakarta Mandate on the “Conservation and Sustainable Use of Marine and Coastal Biological Diversity”</td>
<td>1995</td>
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<td></td>
<td>International Coral Reef Initiative (ICRI)</td>
<td>1995</td>
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<td></td>
<td>Annex VI to OSPAR Convention</td>
<td>1996</td>
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<td>Protocol on Specially Protected Areas and Biological Diversity in the Mediterranean</td>
<td>1996</td>
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<td></td>
<td>Cartagena Protocol on Biosafety</td>
<td>2000</td>
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<tr>
<td>Sustainable development of small islands</td>
<td>Barbados Programme of Action for the Sustainable Development of Small Island Developing States</td>
<td>1994</td>
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<td></td>
<td>Regulations on prospecting and exploration for polymetallic nodules in the international seabed area</td>
<td>2000</td>
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<tr>
<td>Underwater cultural heritage</td>
<td>Convention for the Protection of the Underwater Cultural Heritage (UNESCO)</td>
<td>2001</td>
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<tr>
<td>River basins</td>
<td>ECE Convention on Transboundary Lakes and Rivers</td>
<td>1992</td>
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<tr>
<td></td>
<td>UN Convention on the Non-navigational Uses of International Watercourses</td>
<td>1997</td>
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</table>
New Funding

In the last decade, significant new funding for coastal and marine programs and activities has been provided by many multilateral and national donors, and financial institutions such as the World Bank, the Asian Development Bank, the Inter-American Development Bank, SIDA, CIDA, JICA, DANIDA, USAID, among many others. In Latin America, for example, the investments by international donors in coastal management between 1992 and 2000 totaled approximately $1.3 billion (Rivera-Arriaga, 2001). The World Bank strategy for coastal and marine areas has entailed investments of the order of $500 million in Africa (Hewawasam, 2001) and of $175 million in lending operations in the Asia-Pacific region. The Asian Development Bank has invested $1.2 billion for marine resources projects in the Asia-Pacific region (King 2001).

The restructuring of international funding mechanisms led to the establishment of the Global Environment Facility (GEF) and related programs (GEF 2001):

♦ The International Waters initiative has funded 53 projects totaling $438 million between 1991 and 2000, operationalizing an integrated approach to river basin and coastal/marine management.

♦ The Biodiversity Initiative has funded 58 projects totaling $244 million through 2000 to protect coastal, marine, and freshwater ecosystems.

♦ The Climate Change initiative has funded many projects to assist small island developing nations in addressing impacts from climate change, totaling $60 million by 1999.

National Efforts at Integrated Coastal Management

Following UNCED, national and subnational governments have undertaken many initiatives to protect and develop coastal and marine areas and to build capacity for integrated coastal management. In 1993, there were 59 nations engaged in ICM initiatives at national and/or local levels (Sorensen 1993). In 2000, there were 98 nations engaged in ICM initiatives at national and/or local levels (Cicin-Sain et al., 2001). In terms of institutional changes, in 2000, a recent study noted that 46 percent of coastal countries have enacted coastal-related legislation, while 42 percent of countries report having some sort of coordinating mechanism for ocean and coastal management (Cicin-Sain et al, 2001). There are, however, significant regional differences in the way nations approach ICM; for example, regarding the distribution of authority and responsibility between national and subnational authorities, the influence of external donors, the number of demonstration or pilot projects, and the role of regional organizations in promoting ICM.

Significant progress in the development of scientific knowledge, data, and information systems on oceans and coasts

One of the major lessons learned since UNCED is that the transition towards sustainable development must be science-based and supported by the appropriate engineering and technology.

The past 10 years have seen a turning point in terms of the understanding the role of the oceans in global climate change. With significant improvements of models and technology to monitor climate changes, the scientific community has been able to narrow the level of uncertainty on many ocean processes. The collection of previously unavailable information is now being organized and utilized through a concerted interagency and intergovernmental effort to continuously monitor the major planetary processes. The building of the institutional framework for developing the much-needed Earth System Science is well underway. The World Climate Research Project, the International Geosphere and Biosphere Programme and the International Human Dimensions Programme on Global Environmental Change are visible testimony to this success.

The success of these programmes hinges upon the existence of a number of high quality worldwide observational networks. In order to acquire the critical data necessary for understanding global change, these networks need to be maintained and sustained in time. The full and open exchange of environmental data that is essential for the protection of life-supporting natural systems, is a principle that calls for universal recognition.

Since 1998, the three UN-sponsored Global Observing Systems, the Global Ocean Observing System (GOOS), the Global Terrestrial Observing System (GTOS) and the Global Climate Observing System (GCOS) have been working together as part of a single Integrated Global Observing Strategy (IGOS), in partnership with national space agencies, for better observation of the atmosphere, oceans and land.

Answering a call from Agenda 21, the Global Ocean Observing System (GOOS) is being developed by UNESCO/IJC together with the WMO and the International Council of Scientific Unions (ICSU). With an initial system already operating, GOOS is capable today of predicting El Niño and other ocean phenomena and is responsible for producing a large and open data stream from the ocean for weather and climate forecasting.

A crucial role in developing global governance for sustainable development is the establishment of authoritative statements based on scientific assessments. The Intergovernmental Panel on Climate Change (IPCC), jointly sponsored by UNEP and WMO has been very successful in this regard. The new report by the IPCC, released in 2001, found there is new and stronger evidence that most of the global warming observed over the last 50 years is attributable to human activities. Floods, drought and extremely high tem-
temperatures could threaten the life and livelihoods of millions of people living in low-lying coastal areas. Residents of small island developing States would be most at risk from warmer temperatures and rising sea levels, while the degradation of coastal habitats including coral reefs could accelerate.

B. Major Problems and Constraints Faced

Despite the positive progress in the last decade in implementation of Chapter 17 of Agenda 21, problems and constraints still remain hindering the achievement of sustainable ocean and coastal development.

As noted earlier in section 1, the “on-the-ground” condition of coastal and ocean resources is one of the declining trends that are cause for significant concern and call for immediate action by nations and governing bodies worldwide.

In addition, a number of other factors—related to the implementation of efforts at coastal and ocean management at international, regional, and national levels—prove problematic. These can be summarized as follows (Mabudafhasi 2001):

- Increased fragmentation and lack of coordination among international conventions and institutions;
- Complexity of the governance systems, emerging from this pattern of institutionalization, hindering the participation and ownership by developing countries;
- Shortcomings in the results of international conventions due to the lack of appropriate compliance and enforcement mechanisms;
- Development institutions under-funded and often ineffective;
- Donor funds not always aligned to developing country priorities; and
- Poor implementation of the international Agenda development targets.

The coordination and harmonization of international agreements has been made difficult by a series of factors. These include: (a) excess of zeal in the protection of the individual mandates inhibiting cooperation; (b) insufficient attention given to the need of harmonizing national reporting, which represents a heavy burden on many countries, especially small developing countries; (c) insufficient implementation and coordination of efforts at the national level; (d) lack of coherent national policies; (e) inadequate and inconsistent compliance and enforcement at the national level because of the absence of adequate financial resources, access to technical expertise, and appropriate legislation and institutional frameworks; (f) insufficient use of environmental and performance indicators to measure the effectiveness of the agreements; (g) the budgetary constraints of most secretariats of international agreements (UNEP, 2001).

Donor funding has been constrained by: (a) lack of awareness, which translates into lack of political will; (b) ocean and coastal related agencies, being at an early stage of development, do not receive adequate financial or other resources; and (c) lack of ability to conceptualize and develop viable projects. While international support for integrated ocean and coastal management initiatives around the world has increased significantly, challenges have persisted at many different levels, posing obstacles to implementation. These challenges include problems of governance, single-issue orientation and limitations in scope and financing. While UNCED emphasized the interconnection of environment and development issues, the focus of donor aid is often tied to a single issue, whether biodiversity, vulnerability to climate change, or addressing coastal erosion. Typically, there are many such “single issue” projects funded by multiple donors in the same national context that are characterized by the scarcity of domestic resources, and results in few connections among the projects. The challenge is to create synergy among such projects by establishing clear incentives built into the funding process so that they are woven into a comprehensive integrated coastal and ocean management effort (Working Group 2 Report, 2001).

Over-fishing and over-capacity—exacerbated by technological progress—remain a problem worsened by illegal, unregulated and unreported (IUU) fishing, poor gear selectivity, and discarding both on the high seas and within Exclusive Economic Zones (EEZs). The problem is sometimes compounded by the low capacity of some developing countries to effectively control the fishing operations of long-range fleets operating under access agreements, and by the lack of measures to prevent the relabelling of vessels to avoid rules of regional fishery management organizations (RFMOs). In this regard, the World Trade Organization (WTO) should coordinate and support the efforts by the RFMOs to deter and eliminate IUU fishing. These factors not only jeopardize the natural recovery of such fish stocks, but also threaten the cultural heritage and cause extreme social and economic hardships on small fishing families, coastal people, and indigenous peoples in particular (Working Group 6 Report, 2001).

In terms of marine and coastal protected areas, while the oceans comprise over 70% of the earth’s surface, less than 1% of the marine environment is within protected areas, compared with nearly 9% of the land surface. Management of these areas is mixed, since many marine protected areas are only “paper parks” (Ehler, 2001; Working Group 4 Report, 2001).

Despite substantial efforts in education and training, insufficient local capacity remains a major barrier to meaningful implementation of ocean and coastal management programs. Possibly there has been too much emphasis since 1992 on formal education and training (university degrees, short courses, etc. typically taken abroad) and not sufficient emphasis on building a critical mass of practitioners and other key stakeholders and providing them with the enabling conditions and
continued support they need to develop and implement programs. Capacity building programs also seem to have concentrated on technical and scientific material rather than a broader coverage taking in areas such as policy matters, decision making methods, institutional capacity building and the formation of true partnerships between groups. In addition, capacity programs have not specifically targeted under-represented groups such as women and youth. The still high “failure” rate of sustaining coastal and marine projects after donor support ends, the apparent “added-on” nature of many training programs, the heavy reliance on outside expertise in coastal management projects in developing countries and the continued use of non-local examples in training programs suggests that meaningful capacity-building remains today as an urgent and essential action item for achieving sustainable development in coastal regions (Working Group 8 Report, 2001).

4. DISCUSSION OF MAJOR OCEAN AND COASTAL ISSUES

A. Poverty Reduction and Healthier Coastal Communities

Issue

More than half of the world’s population currently lives within 100 km of the coast, and by 2025 it is estimated that 75% of the world’s population, or 6.3 billion people, will live in the coastal zone, concentrated in coastal megacities and many living in poverty on less than two dollars a day.

Poverty reduction during the coming decade will require increased access to sustainable economic livelihoods and wealth derived from the ocean, and development of safer, healthier coastal communities. In the developing world, more than 90% of sewage and 70% of industrial wastes are dumped untreated into surface waters where they pollute water supplies and coastal waters. 250 million clinical cases of gastroenteritis and upper respiratory diseases are caused annually by bathing in contaminated sea water (GESAMP, 2001).

A key to poverty reduction and the attainment of healthier coastal communities is through the establishment of programs in integrated coastal management (ICM) which are designed to guide ocean and coastal development while maintaining (or achieving) environmental quality. ICM is intended to achieve sustainable development of coastal and marine areas, to reduce vulnerability of coastal communities to natural hazards, and to maintain essential ecological processes, life support systems, and biological diversity. ICM addresses implications of development, conflicting uses, and interrelationships among physical processes and human activities, and promotes linkages and harmonization between sectoral coastal and ocean activities. It is essential that ICM include the major economic activities related to ocean and coastal resources which can provide sources of livelihood to coastal residents—especially fishing, tourism, and aquaculture.

Fishing remains the most widespread economic activity in the ocean in many regions in the world. The future integrity of coastal communities and of the world’s food security is directly curtailed due to decline of resources; it is therefore essential to assist communities in the generation of alternative livelihoods.

Coastal tourism is a major economic activity in many developing country contexts and, as is well known, it must be properly managed to ensure, inter alia, proper siting of tourist facilities to avoid coastal erosion and environmental damage. Incentives must be put in place for local populations to directly benefit from tourism.

Aquaculture, a growing practice in many developing countries, must be properly planned, sited, and monitored to avoid typically-occurring problems of pollution and resulting land loss for other coastal uses.

Public health in coastal communities must be enhanced, especially through the financing and operation of proper sewage treatment facilities.

Another factor contributing to poverty are ocean-related natural disasters, which include the effects of extreme El Niño events, long-term sea level rise, tropical cyclones and their associated waves, storm surges and flooding, and tsunamis, which have their maximum impacts in coastal areas and small islands. These impacts can result in massive loss of human life and property as well as in the destruction of coastlines and natural habitats. Restoration measures from disasters cost millions of dollars annually to developing and developed countries alike.

Vision

The UN Millennium Declaration calls to halve, by 2015, the proportion of very poor people in the world, and to reduce the scourge of diseases like malaria and water-borne infections. This is perhaps one of the most difficult challenges facing the use of the oceans.

Meeting these needs requires new commitments to making the benefits of trade and globalization available to coastal communities, participatory management of resources, programs specifically targeted to reducing vulnerability of coastal people and infrastructure, and commitments to full participation of women and youth in decision-making and activities related to locally-based coastal and ocean decisions.

Achievements

In many contexts, ICM programs are effective in providing a governance framework for multiple-use coastal and ocean management. These programs, however, must be of an appropriate scale to guide the development of important economic activities such as tourism and aquaculture, which is difficult to achieve in some cases where ICM encompasses only a small part of a nation’s coastal zone.

The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) pro-
vides a useful framework for developing countries to combat coastal pollution and the associated health hazards, emanating from municipal sewage systems and other land-based sources. Protocols, guidelines and targets are being established through the development of National Plans of Action.

Progress has been made in the area of responsible fisheries development and management as a result of the coming into force of UNCLOS in 1994 and the adoption of a number of complementary international instruments and voluntary agreements, most notably the Fish Stocks Agreement that entered into force on 11 December 2001.

A number of regional fishery management organizations (RFMOs) have undertaken a systematic review of their mandate and functioning with the view to improving their performance in management. Cooperation among governments, non-governmental organizations and industry has led to the elaboration of a series of Guidelines in support of the Code of Conduct for Responsible Fishing in the areas of sustainable aquaculture, fisheries operations, fishery management, fish processing and trade, precautionary approach, and indicators of sustainable development in fisheries, including species introductions. Guidelines are also under preparation for ecosystem-based fisheries management. Significant progress toward such guidelines has been made in some nations (Working Group 6 Report).

Constraints and Challenges

There is a strong need to address poverty reduction through sustainable development in ocean and coastal regions by strengthening the ability of nations to identify and examine in a systematic manner, the interdependencies between poverty, the many types of ocean-based livelihoods and the current management practices of ocean and coastal resources. This in turn may: (a) reduce people’s vulnerability to risks by getting information to poor communities and empowering them to adapt; (b) enhance livelihoods of poor people by helping them to secure access to resources and markets and strengthening their ability to use those resources sustainably; and (c) improve people’s health by raising their awareness of and reducing their exposure to environmental factors.

Key Recommendations (A)

1.1 Establish and implement programs in integrated coastal and ocean management to guide development opportunities in coastal areas of developing countries while maintaining or achieving environmental quality.

1.2 Target donor aid more explicitly to achieve poverty reduction/public health improvement in coastal areas of developing countries, for example:

- Encourage the GEF to analyze how project proposals funded under the GEF will address poverty alleviation/public health gains.

B. Implementation and Compliance with International Agreements

Issue

The significant number of international agreements that have come into effect since 1992 now need to be properly implemented and enforced, and their implications for national level action more fully addressed. There is an urgent need for better coordination and cooperation among regional and international bodies governing oceans and fisheries to ensure harmonized and efficient implementation.

The sheer number of different treaty and legal regimes affecting marine and coastal issues, each with its own governance arrangements, risks non-coordination and wasteful duplication of efforts. In a few key areas, small improvements in coordination could significantly enhance compliance and enforcement. Clusters of related conventions could start to be jointly implemented in the short term, with no additional institutions and little restructuring. Such clusters could benefit from co-location of secretariats and agencies especially in the regions, with consequent coordination of work on substantive issues, including the work of their scientific bodies, as...
well as cooperation on thematic, functional, and crosscutting issues. Existing environmental (UNEP), fisheries (FAO), and science (IOC) regional organizations could meet regularly in joint sessions improving coordination of their programs. Clusters could also help coordinate and streamline national reporting requirements by identifying key indicators for common reporting so as to reduce the burden on developing states and to leverage reporting incentives over different regimes (Freestone, 2001).

Vision

Coordination between global and regional bodies should exploit the comparative advantages of each. Global agreements have a major role in agenda setting, in identifying synergies as well as lacunae in the existing systems and in identifying new issues and approaches. Regional or ecosystem-based arrangements are crucial for successful implementation. They rely heavily on the commitment of member countries and can more effectively translate global agendas into regional action, be sensitive to particular regional needs and priorities, and exploit important regional synergies. In order for countries with limited human and financial capacity to participate effectively in the plethora of legal instruments and agreements, whenever feasible, efforts could be made to encourage individual country representation to be delegated to the regional level (Kimball, 2001).

Achievements

Since UNCED 1992, important progress has been made towards sustainable ocean governance: (a) A number of international agreements, voluntary instruments, and programs of action on oceans and coasts have been negotiated and/or come into force; (b) there have been evolving new approaches to ecosystem management; (c) regional instruments and programs continue to develop; (d) new actions have been undertaken by national authorities; and (e) considerable discussion on international mechanisms for cooperation on ocean issues has taken place.

Constraints and Challenges

Despite considerable progress, persistent challenges still remain. At the global level, there is a need to consider to develop new instruments in some cases and to ensure full ratification, full implementation, and enforcement, as well as harmonization of multilateral agreements on oceans and coastal areas and greater cooperation and coordination of intergovernmental institutions. Regionally and nationally, there is a need to harmonize coastal and ocean activities through integrated frameworks for the planning and management of coastal areas and exclusive economic zones. At all levels, there is a need to achieve greater transparency, participation, and accountability in decision making on oceans and coasts.

Key Recommendations (B)

2.1 Develop a common Global Vision for Oceans, Seas, and Coasts which provides the goals and objectives for the governance of the oceans and coasts, to which the multitude of international regulatory regimes and institutions contribute.

2.2 Promote transparency, participation, and accountability in decision-making on oceans and coasts at all levels.

2.3 Undertake a broad diplomatic process for wider ratification and implementation of multilateral agreements related to oceans and coasts, and develop strategies for insuring peace and security of oceans and coasts, including peaceful settlement of ocean disputes.

2.4 Promote joint implementation of clusters of international legal instruments and programs addressing oceans at global, regional and national levels, through, for example: memoranda of understanding among governing bodies, joint work of scientific bodies, joint consideration of related agreements, and joint work programs.

2.5 Streamline national reporting around clusters of international legal instruments and programs addressing oceans and coasts.

2.6 Encourage the creation of national ocean and coastal councils to formulate national policies on oceans and coasts and to implement, in a coordinated fashion, clusters of international agreements on oceans and coasts.

2.7 Regional scales of ocean governance should be recognized and promoted as an essential approach to pursue the sustainable development of oceans and coasts and to integrate global approaches with local ones.

C. Capacity Building for Governance of Ocean and Coastal Areas

Issue

Scientific advances and technology development will continue to open untapped potential for use of coastal, offshore and Exclusive Economic Zones, and deep ocean areas. Yet our understanding of the role and vulnerability of these resources and habitats is still limited. All countries, rich and poor, lack the needed capacity to manage even the existing level of development in a well-integrated way.

Thus the capacity of local and national governments to apply effective institutional and legal frameworks for integrated coastal and ocean management must be strengthened. This will enable them to pursue opportunities for economic development in the coasts and oceans while protecting their ecological integrity and biodiversity. It will require, among other things, raising public awareness of coastal and ocean issues, the re-targeting of financial assistance to take into
account lessons learned from experience, and building of the capacity of the educational institutions of coastal nations. Capacity building is required within governments, local communities, and NGOs, as well as to enable effective involvement of the private sector.

**Vision**

Integrated ocean and coastal and management should be promoted as an effective framework that facilitates good governance, especially by increasing accountability, transparency in decision making, as well as the alleviation of poverty through ensuring alternative sustainable livelihood options for local coastal communities, and enhancing food and economic security. To this end, enabling conditions for investment opportunities within the context of sustainable development must be established (Working Group 5 Report).

**Achievements**

Since 1992, there have been increased interventions in coastal and marine resource management worldwide, both in the formulation and improvement of policy and institutions, and in the design and implementation of management programs and projects. As noted earlier, there are currently close to 100 coastal nations that have developed some type of integrated ocean or coastal management initiatives either at national or local levels, indicating almost a doubling of effort since UNCED. It is significant to note that most initiatives in less developed nations have been supported by the donor community, often as a means of addressing serious poverty problems in coastal areas.

**Constraints and Challenges**

Notwithstanding the extensive institutional development that has taken place, along most coasts, the environmental trends remain negative. Human activities have, and continue to significantly reduce the capacity of coastal ecosystems to produce the goods and services that together are the life support system for increasing populations and intensities of coastal use. Not only are the qualities of the natural environment under assault, but so are the health and well being of millions of people who depend on coastal resources as their primary source of food and income. Numerous efforts have been undertaken, but integrated coastal management at the local scale will not flourish unless national governments provide national enabling conditions, including policy, legislation, and coordinating mechanisms. Success in scaling up integrated coastal management and successful sustained local efforts require governance systems that can produce mutually reinforcing and integrated planning and decision-making that ranges from individual communities to provinces, nations, and to collaborative regional efforts.

**Key Recommendations (C)**

3.1 Involve both the national and subnational levels of government in the development and implementation of integrated coastal management programs, avoiding exclusive reliance on pilot projects which often do not “scale up” to include other parts of the coastal zone.

3.2 Increase the capacity of local governments and community-based groups to manage coastal and marine areas with appropriate scientific inputs and participatory processes.

3.3 Take decisive actions to ensure effective management measures for the coastal areas of each nation, moving from the implementation of demonstration projects to a more complete coverage of each nation’s coastline, by committing to working toward the following targets:

- 20% of national coastlines under management by 2012
- 60% of national coastlines under management by 2022
- 100% of national coastlines under management by 2032

3.4 Promote the formulation of policies for the management of exclusive economic zones (EEZ) as a new frontier to maximize the economic return from ocean resources, in particular through the development of common visions for sustainable development across all ocean sectors using an ecosystem-based approach and the setting of national and regional ocean management objectives and priorities.

3.5 Encourage donors to create synergy among many “single issue” projects (such as biodiversity, coastal erosion) funded by multiple donors in the same national context which often operate with few connections among them, and to weave these into a comprehensive coastal management effort.

3.6 Promote good practice and performance measurement standards for donor-funded projects in integrated coastal management and encourage progress and accountability at all levels.

3.7 Improve the interconnection between education and training in integrated coastal management to allow for more systematic capacity building in the field. To this end, donors and governments should consider the establishment of regional consortia of local universities on integrated coastal management.

3.8 Promote the development of Regional Partnership aimed at improving the management of coastal and marine resources, following successful cooperation models such as the African Process for the Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa recently endorsed by the Summit of the Organization of African States and the African Regional Preparatory Process for WSSD.
D. Protection of Coastal and Marine Areas and Biodiversity

Issue

Coastal and marine biodiversity are subject to increasing pressures from multiple and often competing human activities. The diversity of coastal and marine species is declining or under threat of extinction: out of 126 species of marine mammals, 88 are on the threatened species list and 70% of the world coral reefs are threatened.

Vision

The conservation of coastal and marine biodiversity requires the involvement of all interested parties, the adoption of the ecosystem approach in resource management, and a variety of measures, including the establishment of networks of marine protected areas and no-take zones incorporated into integrated coastal management and fisheries management strategies.

Accomplishments

In the last decade, the Convention on Biological Diversity has established itself as the recognized forum for the development of policy measures for biodiversity, reinforced, for the coastal and marine component, by the Jakarta Mandate and the promotion of ICM as a governance framework. The 2000 Cartagena Protocol attached to the CBD addresses issues with genetically modified organisms. Other achievements include the establishment of a clearinghouse mechanism, the 1995 Global Biodiversity Assessment, the 1995 International Coral Reef Initiative, and the 1995 Ecosystem Assessment. Increased use of coastal and marine protected areas (MPAs) for biodiversity conservation and fisheries management is to be lauded, but it remains inadequately applied at the ecosystem level. Currently, there are more than 1,300 MPAs in the world. Increasingly, MPAs are being created as part of systems of coastal management – a key tenet of national ocean policy planning – moving beyond MPAs as isolated islands of conservation to work at the watershed and ecosystem scale.

Constraints and Challenges

Despite the concentration of efforts and resources in data collection and processing, there is yet no sufficient information and knowledge on coastal and marine biodiversity to properly inform decision-making. Consumption patterns and anthropogenic pressures continue to grow with little promise for reversing the trend. The increasing reliance on coastal and marine resources creates a feedback loop that harms both communities and the richness of species. The management of coastal and marine resources is still prevalently sectoral, which impedes the consideration of biodiversity as a crosscutting theme in development instruments. The integration of the CBD into the WTO process to reflect the real value of ecological processes and the role of species in maintaining them remains insufficient. Concerning marine protected areas, while the oceans comprise over 70% of the earth's surface, less than 1% of the marine environment is within protected areas, compared with nearly 9% of the land surface, and management of these areas is mixed, many are only “paper parks.” Also, fisheries and aquaculture and MPA communities often have little interaction and efforts are needed to better integrate MPAs in ICM programs.

Key Recommendations (D)

4.1 Consider a timetable and specific resource commitments to further implement the Jakarta mandate on marine and coastal biodiversity under the CBD.

4.2 Develop an internationally accepted marine biodiversity classification system for the marine realm that supports the development of a rationale for MPA systems within jurisdictions.

4.3 Establish and expand a comprehensive global representative network of marine protected areas that includes regional and national systems of highly protected/no take areas for the maintenance of connectivity and corridors.

4.4 Ensure the effectiveness of existing MPAs through the development and application of performance measures.

4.5 Incorporate marine protected areas into an overall integrated coastal and ocean management system using the social sciences to enhance the participatory process, and assess and address impacts on local human communities.

4.6 Consider establishing MPAs or special conservation areas in the high seas in areas under threat, such as seamounts.
E. Monitoring and Assessment of the Marine Environment

**Issue**

Coastal ecosystems are increasingly and inadvertently being altered by human activities. The production of food and energy and the pressures of human population are directly linked to these alterations and some attempts at direct manipulation of the coastal as well as open ocean environments are now underway without adequate management and regulation. The world ocean plays a fundamental role in controlling atmospheric climate. In turn, climate variability and global climate change affect human activities and the marine environment. The effective management of coastal and oceanic ecosystems in this changing environment will require the causes and effects of these changes to be fully understood.

Eighty percent of marine pollution comes from land-based sources. In the developing world, more than 90% of sewage and 70% of industrial wastes are dumped untreated into surface waters where they pollute water supplies and coastal waters. It is thus important to recognize that the health of oceans and coasts is directly linked to the proper management of river basins, including freshwater flows to the marine environment.

**Vision**

A major challenge for the next decade is formulation and implementation of comprehensive environmental policies for integrated management of the marine environment and its natural resources. Meeting this challenge requires (a) significant advances in the acquisition, analysis, and synthesis of interdisciplinary environmental data, and (b) the establishment of mechanisms to enhance the exchange of data and information between the science and management communities. A central element is the implementation of an operational observing system that is adequate for the detection of changes occurring in the marine environment from estuaries to the deep sea and the development and application of modeling and forecasting techniques to achieve operational capabilities analogous to weather prediction (Working Group 3 Report).

Ecosystem approaches that link management of river basins to marine ecosystems, such as the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, must be effectively implemented. This is especially important in the context of coastal megacities (70% of cities over 8 million people are coastal), such as Lagos, Nigeria—where 65% of the estimated 13.4 million people live in poverty.

**Accomplishments**

Success has been achieved in several different areas since the Earth Summit. A number of initiatives have been taken by the intergovernmental agencies, which will provide a framework for the global application of scientifically based and coordinated action. Some of these are the Global Ocean Observing System (GOOS)—introduced by the IOC in 1991 and co-sponsored by WMO and UNEP; the Global Coral Reef Monitoring Network (GCRMN); the UNEP Regional Seas Program; the Large Marine Ecosystems (LME) projects; and the Global International Water Assessment (GIWA). There have been three major conceptual advances in coastal science. First, humans are now thought of as forming an integral component of the ecology and function of ecosystems. Second, the water continuum of river basin catchments into the coastal ocean has been identified as a fundamental unit for coastal assessment and management. Third, the ecosystem approach to management has been developed and is an important consideration in managing coastal areas. New monitoring tools are also in place now, from molecular-level assays to space platform observations. Specific international programs that have made great significant strides since UNCED including the IGBP program which is completing its first 10-year stage assessment of global change with several core projects addressing the coastal zone and the marine environment. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), adopted in 1995, provides the major programmatic framework for addressing anthropogenic sources of marine pollution.

**Constraints and Challenges**

Additional efforts must be undertaken to jointly address the problems of fresh water and coastal and marine pollution from land-based activities. For a more effective implementation of the GPA and advancement of ocean governance, coordination and cooperation among the many different institutions and economic sectors, as well as additional financial resources are required. A global assessment of the marine environment is urgently needed, bringing sectoral assessments together in an integrated way and forecasting changes in ocean/coastal uses and their implications. The development of environmental, socio-economic, and program performance indicators is also needed to assess the effectiveness of coastal and ocean management programs.

**Key Recommendations (E)**

5.1 Develop a periodic, comprehensive global report on the State of Oceans and Development building on existing regional and sectoral efforts. This report should anticipate and plan for emerging ocean and coastal issues, such as offshore aquaculture and bioprospecting of marine genetic resources.

5.2 To support the global assessment, implement an operational observing system that is adequate to detect changes occurring in the marine environment from estuaries to the deep sea and the development and application of modeling and forecasting techniques to achieve operational capabilities analogous to weather prediction.
5.3 Advance the scientific understanding of interactions among marine, terrestrial and atmospheric systems and of how human activities influence these interactions through synthesis and improved understanding of: (a) the ocean-climate system, and of (b) coastal systems that are affected by the ocean-climate system and land-based human activities.

5.4 Improve the linkage between science and management through partnerships that enable more effective use and exchange of data and information to the benefit of communities and society as a whole, by including, inter alia, the socio-economic aspects of marine pollution and physical degradation in the State of the Oceans and Development report, and through the development of environmental and socio-economic indicators measuring the performance of management actions related to oceans and coasts.

5.5 Support the implementation and financing of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities.

F. Small Island Developing States (SIDS)

Issue
Both Agenda 21 and the 1994 Barbados Programme of Action highlight the fact that islands are faced with the greatest complexities and challenges of sustainable development. One of the most useful definitions of the challenge is found in Agenda 21 that recognized “Small Island Developing States, and islands supporting small communities are a special case both for environment and development. They are ecologically fragile and vulnerable. Their small size, limited resources, geographic dispersion and isolation from markets, place them at a disadvantage economically and prevent economies of scale.”

Vision
To make progress to reverse the trends, a vision for the sustainable development of small islands is needed based on: replacing the conventional concept of economic growth with that of human development; emphasizing self sufficiency and domestic and inter-regional markets before international; promoting in-country value-adding to products and processes; harnessing investment in coastal and marine areas to provide equitable opportunities to improved livelihoods; reviewing aid practices to ensure full involvement of stakeholders in the conceptualization and design of both large and small projects; increasing the amount of, and access to, ‘small project funds’ as these represent useful amounts of money; improving cross-sectoral integration at the regional level; developing a code of ethics for donors; and encouraging inter-regional exchanges between civil society.

Achievements
From the review of current policy for small islands, it is clear that there have been some successful approaches to addressing their pressing environmental and sustainable development concerns. These include: community-centered environmental initiatives; improved coordination at national and, in particular, regional levels; increased capacity in the public sector to deal with environmental issues; increased awareness within communities and increasing participation; and a strengthened regional legal framework to deal with common environmental concerns (Working Group 7 Report).

Constraints and Challenges
The following constraints or impediments to the sustainable development of small islands can be recognized: (a) lack of capacity at the national and community levels; (b) fragmented institutional arrangements with a lack of vertical and horizontal integration across marine sectors; (c) inconsistent short and long-term goals that do not safeguard the rights of future generations; (d) sustainable development strategies in the framework of climate change and globalization; (e) aid dependency; (f) use of geopolitical conflicts to underpin support for developing countries; (g) donor-driven relationship between official development assistance (ODA) which is declining and direct foreign investment which is growing, with consequent inequitable distribution of benefits; and (h) connection between poverty reduction and sustainable development – poverty reduction should not simply be a shift from subsistence to cash economies since increase in power to consume has no connection with sustainable development (Working Group 7 Report).

Key Recommendations (F)
6.1 Integrate economic, environmental, and social vulnerability factors into a vulnerability index with special applicability to SIDS.

6.2 Secure greater and sustainable returns from ocean resources through improved domestic policies and legislation, improved terms of trade in ocean resources, and higher levels of domestic and foreign investment.

6.3 Build capacity for the sound management of the exclusive economic zones of Small Island Developing States.

6.4 Call for Barbados +10 to be convened as a full and comprehensive review to focus on achievements, constraints and new initiatives necessary to significantly advance sustainable development within SIDS.
**G. Emerging issues**

**Issue**

In addition to the persistent challenges posed by global and regional ocean governance, new issues are emerging, and others are evolving that will need to be addressed. Emerging issues can be identified in five main clusters. (a) **Population-related and societal issues** such as management of coastal megacities and consideration of gender and indigenous people issues; (b) **Environment-related issues**, such as expanding pathways for emergent diseases and invasive species which may affect marine species, human health, and the environment. (c) **Issues related to trade and to marine industry-related issues**, such as addressing conflicts between world trade and sustainable development of marine resources; impacts of tourism on marine environments; decommissioning of offshore platforms; megaships and expansion of ports, and recycling of ships; (d) **Issues linked with new uses of the sea** such as the exploration of the genetic resources of the deep seabed, the protection of underwater cultural heritage, the expansion of offshore aquaculture, and marine eco-tourism; (e) **Issues associated with security and peace**, as well as with combating piracy and other crimes at sea such as drug trafficking and the smuggling of migrants (Working Group 1 and Secretariat Background document 2001).

**Vision**

The international community needs to develop the capacity to assess and anticipate trends in the use of ocean and coastal resources and areas, such as through the establishment of a *State of Oceans and Development* report. Emerging trends and their implications should also be the subject of discussion at international forums bringing together governments, NGOs, and IGOs.

**Achievements**

Progress can be reported in the development of governance and management frameworks of some of the above areas. For example, the GPA has adopted the Strategic Action Plan of Municipal Wastewater, which can improve the environmental and health conditions of urban coastal waters. Rules and standards for the decommissioning and disposal of offshore installations have been adopted under the London Convention. The International Maritime Organization (IMO), the International Labour Organization (ILO), and the United Nations Environment Programme (UNEP) are attempting to develop guidelines for the re-cycling of ships. UNESCO has adopted a Convention for the Protection of the Underwater Cultural Heritage. IMO has adopted Guidelines on Management of Ships’ Ballast Waters and is working on a Draft International Convention for the Control of Alien Organisms and Pathogens in Ships’ Ballast Waters.

**Constraints and Challenges**

Some of the emerging issues in oceans and coasts have not yet been addressed by the existing governance and management frameworks. International, regional, and national governance frameworks should develop, as appropriate, by revising existing or by creating new legal instruments and measures to address emerging issues, including those beyond national jurisdiction. The use of codes of conduct, protocols, and charters should be considered. Among the most pressing issues are the management of the genetic resources of the deep seabed and the possible establishment of marine protected areas in the high seas to protect especially vulnerable areas.

**Key Recommendations (G)**

7.1 Consider international instruments or voluntary guidelines to manage access to and exploitation of the genetic resources of the deep seabed (for example, through protocols in the form of a protocol or voluntary guidelines attached to the CBD and/or to UNCLOS).

7.2 Address the human health issues posed by genetically modified organisms through the ratification and implementation of the Cartagena Protocol on Biosafety attached to the CBD and the control of alien and invasive species.

7.3 Address issues in the high seas, including considering the establishment of marine protected areas in deep hydrothermal vent areas and the conservation of sensitive habitats such as seamounts.
SUMMARY OF MAJOR RECOMMENDATIONS

Table 2 provides a summary of the major recommendations of this report of the Global Conference on Oceans and Coasts at Rio+10.

Table 2—Summary of major recommendations

<table>
<thead>
<tr>
<th>Issue</th>
<th>Recommendations</th>
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| Poverty reduction and healthier coastal communities | 1.1 Establish and implement programs in integrated coastal and ocean management to guide development opportunities in coastal areas of developing countries while maintaining or achieving environmental quality.  
1.2 Target donor aid more explicitly to achieve poverty reduction/public health improvement in developing countries, such as, for example:  
   —Encourage the GEF to analyze how project proposals funded under the GEF will address poverty alleviation/public health gains.  
   —Encourage donors to set up a “Small Project Fund” for addressing ocean and coastal issues. “Small grants” of usually less than $25,000 per project can be useful sources for: (a) capacity building, particularly among local authorities and non-governmental organizations; (b) dissemination of good practice; (c) preparation of larger project proposals; and (d) demonstration projects to promote sustainable livelihoods.  
1.3 Recognize sustainable aquaculture and responsible fisheries as parallel and essential elements of a common strategy to ensure global seafood security and fill the supply gap forecasted for the next decade.  
1.4 Focus on innovative approaches to small-scale fisheries and aquaculture, empowering the sector, establishing fishing rights including access to necessary infrastructure to support livelihoods and tenure systems, integrating fisheries into coastal management, and taking account of the interactions and compatibilities between aquaculture and harvest fisheries.  
1.5 Support the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, and in particular the Strategic Action Plan on Municipal Wastewater.  
1.6 Prevent destruction, loss of human lives and associated costs through appropriate forecasting, early warning, prevention, preparedness, and mitigation measures of ocean-related natural disasters. |
| Implementation and compliance with international agreements | 2.1 Develop a common Global Vision for Oceans, Seas, and Coasts which provides the goals and objectives for the governance of the oceans and coasts, to which the multitude of international regulatory regimes and institutions contribute.  
2.2 Promote transparency, participation, and accountability in decision-making on oceans and coasts at all levels.  
2.3 Undertake a broad diplomatic process for wider ratification and implementation of multilateral agreements related to oceans and coasts (such as UNCLOS, Fish Stocks Agreement, etc.), and develop strategies for ensuring peace and security of oceans and coasts, including peaceful settlement of ocean disputes.  
2.4 Promote joint implementation of clusters of international legal instruments and programs addressing oceans at global, regional and national levels, through, for example: memoranda of understanding among governing bodies, joint work of scientific bodies, joint consideration of related agreements, and joint work programs. |
### Implementation and compliance with international agreements

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<td>2.5 Streamline national reporting around clusters of international legal instruments and programs addressing oceans to ease countries’ reporting burdens.</td>
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<td>2.6 Encourage the creation of national ocean and coastal councils to formulate national policies on oceans and coasts and to implement, in a coordinated fashion, clusters of international agreements on oceans and coasts.</td>
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<td>2.7 Regional scales of ocean governance should be recognized and promoted as an essential approach to pursue the sustainable development of oceans and coasts and to integrate global approaches with local ones.</td>
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### Capacity building for governance of ocean and coastal areas

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4.2 Develop an internationally accepted marine biodiversity classification system for the marine realm that supports the development of a rationale for MPA systems within jurisdictions.  
4.3 Establish and expand a comprehensive global representative network of marine protected areas that includes regional and national systems of highly protected/no take areas for the maintenance of connectivity and corridors.  
4.4 Ensure the effectiveness of existing MPAs through the development and application of performance measures.  
4.5 Incorporate marine protected areas into an overall integrated coastal and ocean management system using the social sciences to enhance the participatory process, and assess and address impacts on local human communities.  
4.6 Consider establishing MPAs or special conservation areas in the high seas in areas under threat, such as seamounts. |
| Monitoring and assessment of the marine environment | 5.1 Develop a periodic, comprehensive global report on the *State of Oceans and Development*, building on existing regional and sectoral efforts. This report should anticipate and plan for emerging ocean and coastal issues, such as offshore aquaculture and bioprospecting of marine genetic resources.  
5.2 To support the global assessment, implement an operational observing system that is adequate to detect changes occurring in the marine environment from estuaries to the deep sea and the development and application of modeling and forecasting techniques to achieve operational capabilities analogous to weather prediction.  
5.3 Advance the scientific understanding of interactions among marine, terrestrial and atmospheric systems and of how human activities influence these interactions through synthesis and improved understanding of: (a) the ocean-climate system, and of (b) coastal systems that are affected by the ocean-climate system and land-based human activities.  
5.4 Improve the linkage between science and management through partnerships that enable more effective use and exchange of data and information to the benefit of communities and society as a whole, by including, inter alia, the socio-economic aspects of marine pollution and physical degradation in the *State of the Oceans and Development* report, and in particular through the development of environmental and socio-economic indicators measuring the performance of management actions related to oceans and coasts.  
5.5 Support the implementation and financing of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities. |
| Small island developing states                      | 6.1 Integrate economic, environmental, and social vulnerability factors into a vulnerability index with special applicability to SIDS.  
6.2 Secure greater and sustainable returns from ocean resources through improved domestic policies and legislation, improved terms of trade in ocean resources, and higher levels of domestic and foreign investment. |
GENERAL CONCLUSION

In conclusion, the Conference wishes to transmit a sense of urgency to the WSSD for addressing the issues surrounding the sustainable development of oceans and coasts. Participants at the Conference generally agreed that we are in a critical situation of declining trends that requires immediate actions by nations and governing bodies worldwide. This sense of urgency and priority was corroborated in ministerial statements, as well as by non-governmental, governmental, and international experts, scientists, commercial fishing, and industrial representatives attending the meeting. It is essential that we link economic development, social welfare, and resource conservation in order to achieve sustainability of oceans and coasts. The Conference issues an urgent call to action to decision makers in the WSSD process to develop a detailed action plan for the sustainable development of the world’s oceans and coasts.
7. REFERENCES


Global Conference on Oceans and Coasts at Rio +10
Towards the 2002 World Summit on Sustainable Development, Johannesburg

List of Participants

Mr. Thorkild Aarup
Intergovernmental Oceanographic Commission
Paris, France

Dr. Gayatri Acharya
World Bank Institute
Washington, D.C., USA

Mr. Tim Adams
Secretariat of the Pacific Community
Noumea, New Caledonia

Ms. Lorena Aguilar Revelo
Senior Gender Advisor
The World Conservation Union (IUCN)
San José, Costa Rica

Mr. Justin Ahanhanzo
Intergovernmental Oceanographic Commission
Paris, France

Dr. T. Olatunde Ajayi
Director
Nigerian Institute for Oceanography and Marine Research
Lagos, Nigeria

Dr. Rolf Akesson
Ministry for Agriculture and Fisheries
Stockholm, Sweden

Mr. Robert Koami Akpablí
Environmental Manager
Carl Duisberg Gesellschaft
Bremen, Germany

Dr. Bernardo Aliaga
Intergovernmental Oceanographic Commission
Paris, France

Dr. Maria Fátima Alves
Researcher
Universidade de Aveiro
Aveiro, Portugal

Mr. Jens Ambsdorf
Executive Director
Lighthouse Foundation
Hamburg, Germany

Dr. Franco Andaloro
Research Director
Central Institute for Marine Applied Research
Rome, Italy

Ms. Melissa Anderson
Intergovernmental Oceanographic Commission
Paris, France

Mr. Nelson Andrade
Coordinator
UNEP Caribbean Environment Programme
Kingston, Jamaica

Mr. Francisco Arias Isaza
Director General
Marine and Coastal Research Institute of Colombia (INVEMAR)
Santa Marta, Colombia

Dr. Salvatore Aricò
Liaison with the Secretariat of the CBD
Man and the Biosphere Programme, UNESCO
Paris, France

Mr. Zainal Ariffin
Indonesian Institute of Sciences
Jakarta, Indonesia

Dr. Josef Aschbacher
Coordinator
European Space Agency (ESA)
Paris, France

Mr. Stefán Ásmundsson
Legal Advisor in International Law
Ministry of Fisheries
Reykjavík, Iceland

Dr. Milton Asmus
Dean for Research and Graduate Studies, Department of Oceanography
Fundação Universidade do Rio Grande Rio Grande do Sul, Brazil

Ms. Margarita Astrálag
Regional Coordinator for the Americas Ramsar Convention Bureau
Gland, Switzerland

Mr. Larry Awosika
Nigerian Institute for Oceanography and Marine Research
Lagos, Nigeria

Dr. Rhodora Azanza
Professor
Marine Science Institute
University of the Philippines
Quezon City, Philippines

Dr. Isaac Azuz-Adeath
CETYS-University
Mexico

Ms. Nelia Badilla Forest
University of California-Berkeley
Berkeley, CA, USA

Mr. Francois Bailet
International Ocean Institute
Dalhousie University
Halifax, Nova Scotia, Canada

Ms. Miriam Balgos
Center for the Study of Marine Policy
University of Delaware
Newark, DE, USA

Dr. Rhoda Ballinger
Cardiff University
Cardiff, United Kingdom

Dr. Manuel Barange
Plymouth Marine Laboratory
Plymouth, United Kingdom

Dr. Charles Barber
Vice President
International Marinelife Alliance
Honolulu, HI, USA

Mr. Julian Barbière
Intergovernmental Oceanographic Commission
Paris, France

Ms. Tonya Barnes
Writer/Editor
Earth Negotiations Bulletin
New York, NY, USA

Mr. Philippe Barré
Ministry of Foreign Affairs
Paris, France
Ms. Sophie Bastien-Daigle  
Department of Fisheries and Oceans  
Monchon, Canada

Ms. Sapna Batish  
Sea Grant Fellow  
National Oceanic and Atmospheric Administration (NOAA)  
Silver Spring, MD, USA

Mr. Jay Batongbacal  
Philippine Center for Marine Affairs, Inc.  
Quezon City, Philippines

Mr. Bruno Bautil  
Consultant  
Grez-Doiceau, Belgium

Dr. Nic Bax  
Centre for Research on Introduced Marine Pests  
Hobart, Tasmania, Australia

Dr. Reginald Beach  
Associate Director for Ocean Atmosphere and Space  
Office for Naval Research  
London, United Kingdom

Mr. Stefano Belfiore  
Center for the Study of Marine Policy  
University of Delaware  
Newark, DE, USA

Ms. Kathy Belpaeme  
Province of West Flanders  
Brugge, Belgium

Dr. Leah Bendell-Young  
Associate Professor  
Simon Fraser University  
Burnaby, B.C., Canada

Dr. Patricio Bernal  
Executive Secretary  
Intergovernmental Oceanographic Commission  
Paris, France

Dr. Barbara Best  
Coastal Resource and Policy Advisor  
U.S. Agency for International Development  
Washington, D.C., USA

Ms. Diénaba Beye  
Intergovernmental Oceanographic Commission  
Paris, France

Mr. Raphael Bille  
Ph.D. candidate  
Ecole Nationale du Genie Rural des Eaux et Forets (ENGREF)  
Paris, France

Professor Patricia Birnie  
Visiting Fellow  
London School for Economics and Political Science  
London, United Kingdom

Mr. Byron Blake  
Assistant Secretary-General  
CARICOM  
Georgetown, Guyana

Mr. Joao Lanari Bo  
Conselheiro  
Brazil Delegation to UNESCO  
Brazil

Mr. Patrice Boned  
Intergovernmental Oceanographic Commission  
Paris, France

Ms. Virginie Bonnet  
Intergovernmental Oceanographic Commission  
Paris, France

Ms. Roberta Boscolo  
International CLIVAR Program Office  
Southampton, United Kingdom

Ms. Yvonne Bouquet  
Intergovernmental Oceanographic Commission  
Paris, France

Mr. Michel Bourgeot  
Interpreter  
Paris, France

Mr. Jean-Pierre Boyer  
Secretary General  
French Commission for UNESCO  
Paris, France

Ms. Sarah Brandel  
U.S. Senior Arctic Official  
U.S. Department of State  
Washington, D.C., USA

Ms. Charlotte Breide  
Maritime Lawyer  
DJ Freeman Solicitors  
London, United Kingdom

Mr. Leo Brewster  
Deputy Director  
Coastal Zone Management Unit  
St. Michael, Barbados

Dr. Peter Bridgewater  
Director, Division of Ecological Sciences  
UNESCO  
Paris, France

Mr. Philip Burgess  
Director, Marine and International Environment Australia  
Canberra, ACT, Australia

Mr. Hermien C. Busschbach  
International Water Policy Advisor  
Ministry of Transport, Public Works and Water Management  
The Hague, The Netherlands

Dr. Paula Caballero  
Advisory Committee on Protection of the Sea (ACOPS)  
Bogota, Colombia

Mr. Etienne Cailliau  
International Hydrographic Organization  
Brest, France

Dr. Fabiana Callegari  
Università degli Studi di Genova  
Genoa, Italy

Mr. Patrick Canel  
Sr. Urban Management Specialist  
World Bank Institute  
Washington, D.C., USA

Mr. Robert Canning  
Department of Environment, Food and Rural Affairs (DEFRA)  
London, United Kingdom

Dr. Gillian Cambers  
University of Puerto Rico  
Mayaguez, Puerto Rico

Mrs. Virginia Chadwick  
The Great Barrier Reef Marine Park Authority  
Townsville, QLD, Australia

Dr. Young-Tae Chang  
Korea Maritime Institute  
Seoul, Republic of Korea

Dr. Russell Chapman  
Louisiana State University  
USA
Co-Chairs' Report – The Global Conference on Ocean and Coasts at Rio+10

Ms. Lisa Dropkin  
Research Director  
SeaWeb  
Washington, D.C., USA

Mr. Chowdhury Mohammad Farouk  
Chief Campaigner  
Friends of the Earth  
Dhaka, Bangladesh

Dr. Caroline Dublin-Green  
Nigerian Institute for Oceanography and Marine Research  
Lagos, Nigeria

Dr. Jeremy Firestone  
Assistant Professor, Graduate College of Marine Studies  
University of Delaware  
Newark, DE, USA

Dr. Robert Duce  
Texas A&M University  
College Station, TX, USA

Ms. Giselle Firme  
National Oceanic and Atmospheric Administration  
Washington, D.C., USA

Mr. Serge Duval  
Ministère de la Recherche  
Paris, France

Mr. John Fleming  
Servicio Hidrografico y Oceanografico de la Armada de Chile  
Valparaiso, Chile

Dr. Milen Dyoulgerov  
Consultant  
Annapolis, MD, USA

Mr. Roderick Forbes  
A/Chief, International Policy Coordination  
Department of Fisheries and Oceans  
Ottawa, Ontario, Canada

Mr. Charles Ehler  
Director, International Program Office  
National Oceanic and Atmospheric Administration (NOAA)  
Silver Spring, MD USA

Mr. John Fleming  
Servicio Hidrografico y Oceanografico de la Armada de Chile  
Valparaiso, Chile

Mr. Henrik Enevoldsen  
IOC Project Coordinator-Harmful Algae Bloom Programme  
University of Copenhagen  
Copenhagen, Denmark

Mr. Onderick Forbes  
A/Chief, International Policy Coordination  
Department of Fisheries and Oceans  
Ottawa, Ontario, Canada

Mr. Sten Engdahl  
Intergovernmental Oceanographic Commission  
Paris, France

Mr. Christos Fragogis  
Scientific Officer  
Directorate General, Research Environment and Sustainable Development Programme  
Commission of European Union  
Brussels, Belgium

Mr. William Erb  
Head, Perth Regional Programme Office  
Bureau of Meteorology  
West Perth, WA, Australia

Dr. Miguel Fortes  
Professor  
Marine Science Institute, College of Science  
University of the Philippines  
Quezon City, Philippines

Mr. Francois Gerard  
President- French Committee Météo France  
Paris, France

Dr. Exequiel Ezcurra  
President  
National Institute of Ecology  
Jardines en la Montaña, Tlalpan C.P. Mexico D.F.

Dr. Robert Fournier  
Professor of Oceanography  
Dalhousie University  
Halifax, Nova Scotia, Canada

Mr. Matthew Gianni  
Oceans Campaign Coordinator  
Greenpeace International  
Amsterdam  
The Netherlands

Dr. Bernhard Glaeser  
Social Science Research Center Berlin (WZB)  
Berlin, Germany

Ms. Irene Gazagne  
Intergovernmental Oceanographic Commission  
Paris, France

Mrs. Deirdre Gilbert  
Sea Grant Fellow  
Office of Rep. Tom Allen  
U.S. House of Representatives  
Washington, D.C., USA

Dr. Patricia Gallaugher  
Director, Centre for Coastal Studies  
Simon Fraser University  
Burnaby, B.C., Canada

Dr. Serge Garcia  
Fisheries Resources Division  
Food and Agriculture Organization (FAO)  
Rome, Italy

Dr. Guillermo Garcia Montero  
President  
National Oceanographic Committee  
Habana, Cuba

Dr. Veronique Garcon  
Centre National de la Recherche Scientifique  
Toulouse Cedex, France

Mr. Francois Gerard  
President- French Committee Météo France  
Paris, France

Dr. Véronique Garçon  
Centre National de la Recherche Scientifique  
Toulouse Cedex, France

Ms. Irene Gazagne  
Intergovernmental Oceanographic Commission  
Paris, France

Mr. Francois Gerard  
President- French Committee Météo France  
Paris, France

Dr. Makram Gerges  
Intergovernmental Oceanographic Commission  
Paris, France

Mr. Matthew Gianni  
Oceans Campaign Coordinator  
Greenpeace International  
Amsterdam  
The Netherlands

Mrs. Deirdre Gilbert  
Sea Grant Fellow  
Office of Rep. Tom Allen  
U.S. House of Representatives  
Washington, D.C., USA
Ensuring the Sustainable Development of Oceans and Coasts – A Call to Action

Ms. Nicole Glineur
World Bank
Washington, D.C., USA

Mr. Lyle Glowka
Founder
Biodiversity Strategies International
Bonn, Germany

Mr. Kevin Goldstein
Center for the Study of Marine Policy
University of Delaware
Newark, DE, USA

Mr. Jens Grabo
Lighthouse Foundation
Hamburg, Germany

Dr. Adolfo Gracia
Director, Instituto de Ciencias del Mar y Limnología
Universidad Nacional Autonoma de Mexico
Mexico D.F., Mexico

Hon. James Greenwood
U.S. Congressman and President of GLOBE International
Globe USA
Washington, D.C., USA

Mr. Peter Greim
Managing Director
Frozen Fish International
Bremerhaven, Germany

Ms. Cécile Grignon-Logerot
Chargée de mission
Ministère de l’Equipement des Transports et du Logement
Paris, France

Mr. Jorge Gutierrez
Centro EPOMEX
Universidad Autonoma de Campeche
Campeche, Mexico

Ms. Lynne Hale
Associate Director
Coastal Resources Center
University of Rhode Island
Narrangasett, RI, USA

Ms. Cláudia Hamacher
Researcher
Rio de Janeiro Catholic University
Rio de Janeiro, Brazil

Dr. Ben Ahmad Hamzah
President
Maritime Consultancy Enterprise (Mariconsult)
Kuala Lumpur, Malaysia

Dr. Arthur Hanson
Ministerial Ocean Ambassador, Canada
Department of Fisheries and Oceans and International Institute for Sustainable Development
Winnipeg, Manitoba, Canada

Dr. S.M. Haq
France

Mr. Mafaniso Hara
University of the Western Cape
Bellville, South Africa

Ms. Virginie Hart
Consultant
Advisory Committee on Protection of the Sea (ACOPS)
United Kingdom

Dr. Marea Hatzios
World Bank
Washington, D.C., USA

Mr. Moritaka Hayashi
Waseda University School of Law
Tokyo, Japan

Dr. Yves Hénocque
Chef du Laboratoire Cotier Environnement
French Research Institute for Exploitation of the Sea (IFREMER)
La Seyne-Sur-Mer, France

Mr. Hans Herrman
Head of Program, Conservation and Biodiversity
North America Commission for Environmental Cooperation
Montreal, Quebec, Canada

Dr. Indumathie Hewawasam
Africa Region
World Bank
Washington, D.C., USA

Ms. Annie Hillary
International Program Office
National Oceanic and Atmospheric Administration (NOAA)
Silver Spring, USA

Ms. Miki Himeno
The Nippon Foundation
Tokyo, Japan

Mr. Lennox Hinds
Senior Marine Affairs and Fisheries Policy Advisor
CIDA
Hull, Quebec, Canada

Dr. Michael Hirshfield
OCEANA
Washington, D.C., USA

Dr. Alf Håkan Hoel
Professor
University of Tromsoe
Tromso, Norway

Dr. Tegan Hoffmann
University of California, Berkeley
Paris, France

Dr. Antonio Hoguane
Senior Lecturer, Physics
Eduardo Mondlane University
Maputo, Mozambique

Mr. Geoffrey Holland
Past Chairman
Intergovernmental Oceanographic Commission
Saltspring Island, BC, Canada

Mr. Paul Holthus
Executive Director
Marine Aquarium Council
Honolulu, HI, USA

Dr. Seoung-Yong Hong
Vice-Minister of Maritime Affairs and Fisheries
Seoul, Korea

Dr. Maria Hood
Intergovernmental Oceanographic Commission
Paris, France

Dr. Antonio Hoguane
Faculty of Sciences
Eduardo Mondlane University
Maputo, Mozambique

KH. A. Hussein
National Institute of Oceanography and Fisheries
Cairo, Egypt
Co-Chairs’ Report — The Global Conference on Ocean and Coasts at Rio+10

Mr. Thorir Ibsen  
Acting Director, Department of Natural Resources and Environmental Affairs  
Ministry for Foreign Affairs  
Reykjavík, Iceland

Dr. Richard Kenchington  
Senior Director  
RAC Marine Pty Ltd.  
Jamison ACT  
Australia

Mr. Tom Laughlin  
Deputy Director, International Affairs Office  
National Oceanic and Atmospheric Administration (NOAA)  
Washington, D.C., USA

Dr. Natarajan Ishwaran  
UNESCO World Heritage Centre  
Paris, France

Dr. Lee Kimball  
Consultant  
The World Conservation Union (IUCN)  
Washington, D.C., USA

Ms. Andrea Lazzari  
Ministry of the Environment  
Rome, Italy

Dr. Venugopalan Ittekkot  
Zentrum Fuer Marine Tropenoekologie (ZMT-Bremen)  
Bremen, Germany

Dr. Peter King  
Manager, Office of Pacific Operations  
Asian Development Bank  
Mandaluyong City, Philippines

Mr. Gilles Le Chatelier  
Cabinet Director  
Ministère de la Recherche  
Paris, France

Mr. Elie Jamarche  
Director, International Relations  
French Research Institute for Exploitation of the Sea (IFREMER)  
Isy-les-Moulineaux, France

Mr. Matthew King  
Assistant Deputy Minister, Oceans Sector  
Department of Fisheries and Oceans  
Ottawa, Ontario, Canada

Ms. Christiane Le Conan  
Intergovernmental Oceanographic Commission  
Paris, France

Ms. Diane James  
Chairman  
Victorian Coastal Council  
E. Melbourne, Victoria, Australia

Dr. Richard Kenchington  
Senior Director  
RAC Marine Pty Ltd.  
Jamison ACT  
Australia

Mr. Robert Y.T. Lee  
Chief Fisheries Officer  
Agri-food and Veterinary Authority  
Singapore, Singapore

Ms. Cathy Johnston  
Center Program Coordinator  
Center for the Study of Marine Policy  
University of Delaware  
Newark, DE, USA

Ms. Andrea Lazzari  
Ministry of the Environment  
Rome, Italy

Dr. Su Jilan  
Advisor to the Administrator  
State Oceanic Administration  
Hangzou, Zhejiang, China

Mr. Robert Y.T. Lee  
Chief Fisheries Officer  
Agri-food and Veterinary Authority  
Singapore, Singapore

Mr. Magnus Johannesson  
Secretary-General  
Ministry for the Environment  
Reykjavík, Iceland

Mr. Kazuhiro Kitazawa  
Special Assistant to the Minister  
Ministry of Education, Culture, Sports, Science and Technology  
Yokosuka, Japan

Ms. Nicole Lenôtre  
ARN  
Bureau de Recherche Géologique et Minières (BRGM)  
Orléans, France

Ms. Marjaana Kokkonen  
UNESCO World Heritage Center  
Paris, France

Dr. Haiqing Li  
Deputy Director General, Department of International Cooperation  
State Oceanic Administration  
Beijing, China

Dr. Lawrence Juda  
Professor  
University of Rhode Island  
Kingston, RI, USA

Dr. Hartwig Hubertus Kremer  
Land-Ocean Interactions in the Coastal Zone (LOICZ)  
Den Burg, The Netherlands

Dr. Cuauhtemoc León  
Academic Coordinator, LEAD-Mexico  
El Colegio de Mexico  
Mexico, D.F, Mexico

Mr. Victor Kalyuzhnyi  
Deputy Minister  
Ministry of Foreign Affairs  
Moscow, Russian Federation

Dr. Gunnar Kullenberg  
Executive Director  
International Ocean Institute—Headquarters  
Gżira, Malta

Dr. Olof Linden  
Coordinator, Global International Waters Assessment (GIWA)  
Kalmar, Sweden

Mr. Geoffrey Lipman  
Chairman  
Green Globe 21  
Bournemouth, United Kingdom

Mr. Matt Kamoetie  
Head of Office for the Deputy Minister  
Department of Environmental Affairs and Tourism  
Pretoria, Gauteng, South Africa

Mr. Kazuhiro Kitazawa  
Special Assistant to the Minister  
Ministry of Education, Culture, Sports, Science and Technology  
Yokosuka, Japan

Dr. Hartwig Hubertus Kremer  
Land-Ocean Interactions in the Coastal Zone (LOICZ)  
Den Burg, The Netherlands

Dr. Barbara Kwiatkowska  
Deputy Director  
Netherlands Institute of Law of the Sea  
Utrecht, The Netherlands

Mr. Geoffrey Lipman  
Chairman  
Green Globe 21  
Bournemouth, United Kingdom
Ensuring the Sustainable Development of Oceans and Coasts – A Call to Action

Ms. Tracy London
General Manager
Oceans Blue Foundation- Canada
Vancouver, BC, Canada

Ms. Maria Carolina Lorduy
Permanent Delegation of Colombia to UNESCO
Paris, France

Mr. Olivier Lozachmeur
Faculty of Law
University of Nantes
Moelan Sur Mer, Bretagne, France

Mr. Carl Lundin
Head, Global Marine Programme
The World Conservation Union (IUCN)
Gland, Switzerland

Ms. Indrani Lutchman
Fisheries Consultant
SCALES Inc.
St. Michael, Barbados

Hon. Francisco Mabjaia
Vice-Minister
Ministry for the Coordination of Environmental Action
Maputo, Mozambique

Mrs. Rejoice Mabudafhasi
Deputy Minister
Ministry of Environmental Affairs and Tourism
Pretoria, South Africa

Mr. Anthony MacDonald
Executive Director
Coastal States Organization
Washington, USA

Mr. Ismael Madrigal Monarrez
Permanent Mission of Mexico to UNESCO
Paris, France

Dr. Camille Mageau
Director, Marine Ecosystems Conservation Branch
Department of Fisheries and Oceans
Ottawa, Ontario, Canada

Dr. Said Mahmoudi
Faculty of Law
Stockholm University
Sweden

Dr. Robin Mahon
Senior Program Officer
Coastal and Marine Management Program
Caribbean Conservation Association
St. Michael, W.I., Barbados

Dr. Thomas Malone
Director
Horn Point Laboratory
Center for Environmental Science
Cambridge, MD, USA

Ms. Teruko Manabe
World Meteorological Organization
Geneva, Switzerland

Ms. Jenny Mandel
Earth Negotiations Bulletin
New York, NY, USA

Dr. Elisabeth Mann-Borgese
International Ocean Institute
Dalhousie University
Halifax, Nova Scotia, Canada

Mr. Mao Bin
Deputy Permanent Representative of the People’s Republic of China to the International Seabed Authority
Kingston, Jamaica

Ms. Anahita Marker
Center for the Study of Marine Policy
University of Delaware
Newark, DE, USA

Dr. Helene Marsh
Professor of Environmental Science
School of Tropical Environment Studies and Geography
James Cook University
Townsville, Qld, Australia

Ms. Chantal Martens
Sedimentary and Engineering Geology
State University of Gent
Gent, Oost-Vlaanderen, Belgium

Dr. Filomena Maria Martins
Universidade Aveiro
Portugal

Hon. Árni Mathiesen
Minister
Ministry of Fisheries
Reykjavik, Iceland

Ms. Lisa Max
National Oceanic and Atmospheric Administration (NOAA)
Silver Spring, MD, USA

Dr. Monde Mayekiso
Chief Director
Department of Environmental Affairs and Tourism
Cape Town, South Africa

Dr. Moira McConnell
Professor
Maritime Affairs
World Maritime University
Malmo, Sweden

Mr. Dan McDougall
Director General, Oceans
Department of Fisheries and Oceans
Ottawa, Ontario, Canada

Dr. Angs McEwan
Senior Science Adviser
Division of Marine Research
CSIRO
Hobart, Tasmania, Australia

Mr. Lou McGuire
Senior Policy Advisor to the Minister
Department of Fisheries and Oceans
Ottawa, Ontario, Canada

Mr. Anthony McKenzie
National Environment and Planning Agency
Kingston, Jamaica

Ms. Elizabeth McLanahan
National Oceanic and Atmospheric Administration
Silver Spring, MD, USA

Ms. Bernice McLean
Center for the Study of Marine Policy
University of Delaware
Newark, DE, USA

Ms. Evelyne Meltzer
Chief, Marine Policy
Department of Fisheries and Oceans
Dartmouth, Nova Scotia, Canada

Dr. Jennifer Merrill
Ocean Studies Board
The National Academies
Washington, D.C., USA

Ms. Lynne Mersfelder-Lewis
International Affairs Specialist, International Program Office
National Oceanic and Atmospheric Administration
Silver Spring, MD, USA
Dr. Yuriy Mikhaylichenko  
Chief Specialist  
Department of Life and Earth Sciences  
Ministry of Industry, Science and Technology of the Russian Federation  
Moscow, Russian Federation

Dr. Andre-Serge Mikouiza  
IOI - Caspian Sea  
Astrakhan, Russian Federation

Dr. Ed Miles  
School of Marine Affairs  
University of Washington  
Seattle, WA USA

Mr. Fernando Mingram  
Director  
Servicio Hidrographico y Oceanographico de la Armada de Chile  
Valparaiso, Chile

Mr. Jean François Minster  
Director General  
IFREMER  
Issy-les-Moulineaux, France

Professor Alain Miossec  
Institute of Geography  
University of Nantes  
Nantes, France

Mr. Kesav Mohan  
Duke University  
Durham, NC, USA

Dr. Erlend Moksness  
Institute of Marine Research  
Flodevigen Marine Research Station  
His, Norway

Ms. Alessandra Molina  
Permanent Delegate  
Permanent Delegation of Italy to UNESCO  
Paris, Italy

Mr. Gérard Monediaire  
University of Limoges Crideau  
Limoges, France

Mr. Francesco Montoya  
Deputy General of Coastal Management  
Ministry of the Environment  
Madrid, Spain

Dr. Berrien Moore  
Chair, Scientific Committee  
International Geosphere-Biosphere Programme (IGBP)  
University of New Hampshire  
Durham, NH, USA

Mr. David Morante  
Conseiller  
Italian Permanent Representative to UNESCO  
Delegation to UNESCO-MIDLUS  
Italy

Dr. Nicole Morcom  
Geographical and Environmental Studies  
Adelaide University  
Napier, Australia

Dr. Jacques Morelli  
Chercheur  
Centre National de la Recherche Scientifique (CNRS)  
Villefranche Sur Mer, Alpes Maritimes  
France

Ms. Sarah Morison  
Sea Grant Fellow  
Alexandria, VA, USA

Ms. Cristina Mormorunni  
Asia Pacific Environmental Exchange  
Santa Fe, NM, USA

Ms. June Marie Mow  
Coralina, Colombia

Ms. Annette Muelig-Hofmann  
CSI  
UNESCO  
Paris, France

Ms. Magdalena Muir  
Research Associate  
Arctic Institute of North America  
University of Calgary  
Calgary, Alberta, Canada

Mr. Ashley D. Naidoo  
Marine and Coastal Management Department of Environmental Affairs and Tourism  
Roggebaai, Western Cape, South Africa

Mr. Hiroyuki Nakahara  
Research Institute for Ocean Economics  
Minato-Ku, Tokyo, Japan

Dr. Satya Nandan  
Secretary General  
International Seabed Authority  
Kingston, Jamaica

Mr. Young Nwafor  
D.P.D.  
Delegation of Nigeria to UNESCO  
Paris, France

Ms. Mary O’Connell  
Environment Research Institute  
University College Cork  
Cork, Ireland

Hon. Otu-Ekong Imeh Titus Okopido  
Minister  
Federal Ministry of Environment  
Abuja, Nigeria

Mr. Armann Ólafsson  
Political Advisor to the Minister  
Ministry of Fisheries  
Reykjavik, Iceland

Dr. Louri Oliounine  
Intergovernmental Oceanographic Commission  
UNESCO  
Paris, France

Mr. Stephen Olsen  
Director  
Coastal Resources Center  
Graduate School of Oceanography  
University of Rhode Island  
Narragansett, USA

Mr. Dieng Ousseynou  
Ministry of Tourism  
Dakar  
Senegal

Professor Phillipe Ozanne  
European Federation of Marine Sciences and Technology  
Paris, France

Mr. Hermes Pacule  
Ministry for the Coordination of Environmental Affairs  
Maputo, Mozambique

Francesca Palmisani  
Intergovernmental Oceanographic Commission  
Paris, France

Dr. Costas Papaconstantinou  
Institute of Marine Biological Resources National Centre for Marine Research  
Athens, Greece

Mr. Kwang Youl Park  
Marine Environment Division  
Ministry of Maritime Affairs & Fisheries  
Seoul, Republic of Korea
Ensuring the Sustainable Development of Oceans and Coasts – A Call to Action

Mr. Pietro Parravano
President
Pacific Coast Federation on Fishermen’s Associations (PCFFA)
Half Moon Bay, CA, USA

Dr. Scott Parsons
Department of Fisheries and Oceans
Ottawa, Ontario, Canada

Dr. Edward Patterson
Suganthi Devadason Marine Research Institute
Tuticorin, Tamil Nadu, India

Dr. Daniel Pauly
Professor
Fisheries Centre
University of British Columbia
Vancouver, B.C., Canada

Dr. Matti Perttila
Finnish Institute of Marine Research
Helsinki, Finland

Ms. Laurence Petitguillaume
Oceans and Polar Environment
DGAFAI- International Affairs Service
Ministry of Environmental Management
Paris, France

Dr. Jonathan Phinney
Executive Director
American Society of Limnology and Oceanography
Washington, D.C., USA

Dr. Richard Pickrill
Geological Survey of Canada
Bedford Institute of Oceanography
Dartmouth, Nova Scotia, Canada

Dr. Nicolas Pilcher
Research Fellow
Universiti Malaysia Sarawak
Kota Samarahan, Sarawak, Malaysia

Ms. Daniela Pinto
Environmental Secretariat of the State of Rio de Janeiro
Rio de Janeiro, Brazil

Mr. Peter Pissiersens
Intergovernmental Oceanographic Commission
Paris, France

Mr. Tiago Pitta Cunha
Legal Counsellor
Ministry of Foreign Affairs of Portugal
New York, NY, USA

Professor Marc Poirier
Seton Hall University Law School
Newark, NJ, USA

Ms. Cigie Pontes
Intergovernmental Oceanographic Commission
Paris, France

Ms. Geneviève Pouquet El-Chami
French Delegation
Permanent Delegation to UNESCO
Paris, France

Ms. Mary Power
South Pacific Regional Environment Program
Apia, Samoa

Dr. David Pugh
Natural Environment Research Council
Southampton Oceanography Centre
Southampton, Hampshire
United Kingdom

Ms. Kimberly Puglise
Sea Grant Fellow
Office of Representative Bart Stupak
U.S. Congress
Washington, D.C., USA

Dr. Sian Pullen
Head
Marine Conservation Programme
Godalming, Surrey, United Kingdom

Ms. Betty Queffelec
Université de Bretagne Occidentale
Centre de Droit et d’Économie de la Mer Brest, France

Mr. Laurent Rabier
Intergovernmental Oceanographic Commission
Paris, France

Mr. Seth Race
Center for the Study of Marine Policy
University of Delaware
Newark, DE, USA

Mr. Robert Race
International Ocean Institute
Halifax, Nova Scotia, Canada

Dr. Viktoriya Radchenko
IOI-Ukraine
Sevastopol, Crimea, Ukraine

Dr. K. Radhakrishnan
Director
Indian National Centre for Ocean Information Services
Department of Ocean Development
Jubilee Hills, Hyderabad, India

Dr. R. Rajagopalan
International Ocean Institute, Operational Center, Foundation for Sustainable Development
Indian Institute of Technology
Tamil Nadu, India

Dr. Giulietta Rak
Central Institute for Marine Applied Research (ICRAM)
Rome, Italy

Mr. Jon Ramberg
Deputy Director General
Department of Trade Policy, Resources and Environment
Ministry of Foreign Affairs
Oslo, Norway

Mr. Oscar Ramirez-Flores
UNEP Regional Office for Latin America & the Caribbean and Latin America
Mexico City, DF, Mexico

Dr. Mac Rawson
Georgia Sea Grant Program
University of Georgia, USA

Mr. Jean-Paul Rebert
Chargé de Mission
Département Milieux et Environnement
Institut de Recherche pour le Développement (IRD)
Paris, France

Mr. Greg Reed
Intergovernmental Oceanographic Commission
Paris, France

Mr. Philip Reynolds
Consultant and Former Chief Water Programme
United Nations Development Programme (UNDP)
New York, NY, USA

Ms. Ma. Antonieta Ricoy
Assistant to the Minister
Ministry of the Environment and Natural Resources (SEMARNAP)
Mexico City, DF, Mexico
Co-Chairs’ Report – The Global Conference on Ocean and Coasts at Rio+10

Dr. Evelia Rivera-Arriaga
Centro EPOMEX
Universidad Autonoma de Campeche
Campeche, Mexico

Dr. Eduard Sarukhanian
Director
World Weather-Watch-Applications
World Meteorological Organization
Geneva, Switzerland

Professor Allan Robinson
Department of Earth and Planetary Sciences
Harvard University
Cambridge, MA, USA

Dr. Giovanni Scabia
Centro Ricerche Ambiente Marino
Agency for New Technologies, Energy and Environment (ENEA)
Portici, Italy

Ms. Inger O. Rosvik
Norwegian Ministry of Fisheries
Oslo, Norway

Dr. Victor Scarabino
Intergovernmental Oceanographic Commission
Paris, France

Mr. Jean-Yves Roy
House of Commons for Matapédia-Matane
Ottawa, Ontario, Canada

Ms. Framboise Schiller- Ricotou
Intergovernmental Oceanographic Commission
Paris, France

Mr. Robert Rutherford
Program Manager, Coastal and Oceans
Department of Fisheries and Oceans
Dartmouth, Nova Scotia, Canada

Ms. Christel Schipmann
Carl Duisberg Gesellschaft
Bremen, Germany

Mr. Seiji Saeki
Japan External Trade Organization
Paris, France

Mr. Carl-Christian Schmidt
OECD
Paris, France

Mr. Robert Rutherford
Program Manager, Coastal and Oceans
Department of Fisheries and Oceans
Dartmouth, Nova Scotia, Canada

Ms. Veronica Sakell
Director
National Oceans Office
Hobart, Tasmania, Australia

Mr. Joe Schittone
Program Officer
Coordination Office
UNEP/GPA
The Hague, The Netherlands

Dr. Ilkay Salihoglu
Metu Institute of Marine Sciences
Icel, Turkey

Dr. Carl-Christian Schmidt
OECD
Paris, France

Eduardo Salles de Novaes
Secretary for the Quality of the Environment
Brazil

Dr. Tullio Scovazzi
Faculty of Law
University of Milano-Bicocca
Milan, Italy

Dr. Paola Salmona
Dipartimento Polis
Universita degli Studi di Genova
Genova, Italy

Dr. Viktor Sebek
Executive Director
Advisory Committee on Protection of the Sea
London, United Kingdom

Hon. Gabriele Sardo
Permanent Delegate
Permanent Delegation of Italy to UNESCO
Paris, France

Mr. Suresh Chundre Seeballuck
The Office of the Prime Minister
Port-Louis, Mauritius

Dr. Sybil Seitzinger
Intergovernmental Oceanographic Commission
Paris, France

Ms. Rebecca Seidenfeld-Cerroni
Wildlife Conservation Society
Bronx, NY, USA

Ms. Chandrika Sharma
Programme Associate
International Collective in Support of Fishworkers
Madras, Chennai, India

Mr. Sunil M. Shastri
University of Hull
Scarborough, N. Yorks
United Kingdom

Mr. Ken Sherman
Narragansett Laboratory
NOAA National Marine Fisheries Service
Narragansett, RI, USA

Mr. Alan Sielen
Counsellor for International Activities
Environmental Protection Agency
Washington, D.C., USA

Mrs. Paula Sierra-Correa
Marine and Coastal Research Institute of Colombia
Santa Marta, Colombia

Mr. Jóhann Sigurjónsson
Director-General
Marine Research Institute
Reyjkavik, Iceland

Mr. Daniel Silvestre
Secretary General of the Sea
Government of France
Paris, France

Dr. Greco Silvestro
Central Institute for Marine Applied Research
Rome, Italy

Dr. Alan Simcock
Chairman
OSPAR
London, United Kingdom
Ensuring the Sustainable Development of Oceans and Coasts – A Call to Action

Mr. Mark Simmonds
The Whale and Dolphin Conservation Society
Bath, United Kingdom

Mr. Benjamin Sims
Intergovernmental Oceanographic Commission
Paris, France

Hon. Tuiloma Neroni Slade
Chairman
Permanent Samoan Delegation
Alliance for Small Island States
New York, NY, USA

Ms. Lauren Small
Policy Analyst
Department of Foreign Affairs and International Trade
Ottawa, Ontario, Canada

Dr. Hance Smith
Department of Earth Sciences
Cardiff University
Cardiff, Wales, United Kingdom

Dr. Mário Luiz Gomes Soares
Oceanography Department
University of the State of Rio de Janeiro
Rio de Janeiro, Brazil

Dr. Arcady Sokolsky
IOI-Caspian Sea
Russian Federation

Dr. Jens Sorensen
Harbor Coastal Center
University of Massachusetts
Boston, MA, USA

Mr. David Souter
International Coral Reef Initiative
Stockholm, Sweden

Dr. G. Robin South
Director
International Ocean Institute-Pacific Islands
Marine Studies Programme-University of the South Pacific
Suva, Fiji

Ms. Lesley Squillante
Coastal Resources Center
University of Rhode Island
Narragansett, RI, USA

Professor Jan Stel
Head of Department
Ocean Space and Human Activity
International Centre for Integrative Studies
Maastricht, The Netherlands

Hon. Peter Stenlund
Chairman
Arctic Council
Ministry for Foreign Affairs, Unit for Northern Dimension
Helsinki, Finland

Mr. Mark Stone
Parks Victoria
Melbourne, Victoria, Australia

Dr. Daniel Suman
Division of Marine Affairs and Policy
University of Miami
Miami, USA

Dr. Colin Summerhayes
Intergovernmental Oceanographic Commission
Paris, France

Ms. Hone-Ling Sun
Environmental Protection Administration
Taiwan, Chinese Taipei

Dr. Dean Swanson
National Marine Fisheries Service (NMFS)
National Oceanic and Atmospheric Administration (NOAA)
Silver Spring, MD, USA

Ms. Despina Symons
Director
European Bureau for Conservation and Development (EBCD)
Brussels, Belgium

Dr. Keisuke Taira
Professor
Ocean Research Institute
University of Tokyo
Tokyo, Japan

Mr. Hiroshi Tamama
Ship and Ocean Foundation
Minato-Ku, Tokyo, Japan

Mr. Sen Min Tan
Chief
Marine Fisheries Research Department
Southeast Asian Fisheries Development Center (SEAFDEC), Singapore

Mr. Chris Tompkins
Marine Land and Liability Division
Department of the Environment
London, United Kingdom

Dr. Hiroshi Terashima
Executive Director
The Nippon Foundation
Tokyo, Japan

Ms. Danielle Tesch
Center for the Study of Marine Policy
University of Delaware
Newark, DE, USA

Dr. Chua Thia-Eng
Regional Program Director
PEMSEA, International Maritime Organization
Quezon City, Philippines

Ms. Danielle Thibault
Department of Fisheries and Oceans
Ottawa, ON, Canada

Dr. James Tobey
Coastal Resource Center
University of Rhode Island
Narragansett, Rhode Island, USA

Mr. Brendan Tobin
Director
Law and Policy Program
International Marine life Alliance
Honolulu, HI, USA

Dr. Cesar Toro
IOCARIBE Secretariat
Casa del Marques de Valdehoyos
Calle de la Factoria Centro
Cartagena, Colombia

Hon. Dr. Roberto Tortoli
Undersecretary of State
Ministry of Environment and Land Protection
Rome, Italy

Mr. Yves Tréglos
Intergovernmental Oceanographic Commission
Paris, France

Mr. Michel Trinquier
Under-Director DJ/MER
Ministry of Foreign Affairs
Paris, France
Dr. Dirk Troost  
Chief  
Coastal and Small Islands Unit  
UNESCO  
Paris, France

Ms. Gisèle Trubey  
Program Officer  
Canadian Commission for UNESCO  
Ottawa, Ontario, Canada

Dr. Ivica Trumbić  
Director  
Priority Actions Programme, Regional Activity Centre (PAP/RAC)  
United Nations Environment Programme  
Split, Croatia

Dr. Martin Tsamenyi  
Professor  
Center for Maritime Policy  
University of Wollongong  
Wollongong, Australia

Dr. Tamari'i Tutangata  
Director  
South Pacific Regional Environment Program (SPREP)  
Apia, Samoa

Dr. Umit Unluata  
Intergovernmental Oceanographic Commission  
Paris, France

Mr. Andrei Urnov  
Embassy of the Russian Federation  
Paris, France

Dr. Luigi Vagaggini  
Director of the Cabinet  
Ministry of Environment and Land Protection  
Rome, Italy

Mr. Christophe Valia-Kollery  
Conseiller pour les sciences  
Commission français pour l'UNESCO  
Paris, France

Mr. Eric Valin  
National Council for Management and Development of Territory/DATAR  
Ecrainville, France

Dr. Adalberto Vallega  
First Vice-President, International Geographical Union  
Departamento Polis  
University of Genoa  
Genoa, Italy

Dr. Frank van der Meulen  
EUCC - The Coastal Union  
Leiden, The Netherlands

Prof. Jon Van Dyke  
Professor of Law  
School of Law  
University of Hawaii at Manoa  
Honolulu, HI, USA

Dr. Veerle Vandeweerdt  
Director  
GPA Coordination Office  
UNEP  
The Hague, The Netherlands

Mr. Adrien Vannier  
Intergovernmental Oceanographic Commission  
Paris, France

Dr. Joeli Veitayaki  
International Ocean Institute-Pacific Islands  
University of the South Pacific  
Suva, Fiji

Mr. Ole Vestergaard  
Intergovernmental Oceanographic Commission  
Paris, France

Dr. Ziatsev Viacheslav  
Professor  
IOI-Caspian Sea  
Astrakhan Technical State University  
Astrakhan, Russian Federation

Dr. Marjo Vierros  
Programme Officer  
Marine and Coastal Biological Diversity Secretariat of the Convention on Biological Diversity  
Montreal, Quebec, Canada

Ms. Caroline Vieux  
South Pacific Regional Environment Program  
Apia, Samoa

Dr. Guillermo Villalobos  
Head  
Coastal Management Department  
Universidad Autonoma de Campeche  
Campeche, Mexico

Dr. Amanda Vincent  
Project Seahorse, Biology  
McGill University  
Montreal, Canada

Dr. Cherdaks Virapat  
Thailand Operations Center  
IOI-Thailand  
Office of Thai Marine Policy and Restoration Committee  
Bangkok, Thailand

Ms. Kelly Vodden  
Graduate Student  
Department of Geography  
Simon Fraser University  
Burnaby, BC, Canada

Mr. Richard Volk  
Manager, Coastal and Aquatic Programs  
EGAT/Environment USAID  
Washington, D.C. USA

Dr. Hein Von Westernhagen  
Deputy Director  
Alfred-Wegener Institute  
Bremerhaven, Germany

Mr. Bambang Wahyudi  
Ministry of Marine Affairs and Fisheries  
Jakarta, Indonesia

Mr. Robert Wayland  
Office of Wetlands, Oceans and Watersheds  
Environmental Protection Agency  
Washington, D.C., USA

Dr. Geoffrey Wescott  
Associate Professor  
School of Ecology and Environment  
Clayton, Australia

Ambassador Mary Beth West  
Division of Marine Law and Policy  
U.S. Department of State  
Washington, D.C., USA

Ms. Ann Kristin Westberg  
Assistant Director General  
Department of Resources  
Ministry of Fisheries  
Oslo, Norway

Ms. Cherie Whelan  
Intergovernmental Oceanographic Commission  
Paris, France

Ms. Anna Widén  
Institute of Marine Studies  
University of Plymouth  
United Kingdom
Mrs. Damayanthi Sujatha Wijetilleke
Consultant
Saviya Development Foundation
Galle, Sri Lanka

Mr. Tim Wilkins
Intertanko
London, United Kingdom

Dr. Clive Wilkinson
Coordinator
Global Coral Reef Monitoring Network
Australian Institute of Marine Science
Townsville MC, QLD, Australia

Ms. Meriwether Wilson
Director
International Coral Reef Action Network
Cambridge, United Kingdom

Dr. Ni Yuefeng
Deputy Administrator
State Oceanic Administration
Beijing, China

Mr. Eugenio Yunis
Chief of Section
Sustainable Development Tourism
World Tourism Organization
Madrid, Spain

Dr. Andrew Zacharek
National Oceans Office
Hobart, Tasmania, Australia

Mr. Viacheslav Zaitsev
IOI - Caspian Sea
Russian Federation

Mrs. Marguerita Zaitseva
Astrakhan Technical State University
Astrakhan, Russian Federation

Ms. Michelle Zouiche
Intergovernmental
Oceanographic Commission
Paris, France

Mr. Kees Zwanenburg
Bedford Institute of Oceanography
Dartmouth, Nova Scotia, Canada
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**Mr. Hiroshi Terashima**, The Nippon Foundation, Japan

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**Prof. Jon M. Van Dyke**, Ocean Governance Study Group, William S. Richardson School of Law, University of Hawaii, USA

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**Dr. Marea Hatziolos**, Senior Coastal and Marine Resource Specialist, Environment Department, World Bank

**Dr. Indumathie Hewawasam**, Africa Region, World Bank

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**Dr. Su Jilan**, China, Chairman, IOC, UNESCO

**Mr. Phil Reynolds**, United Nations Development Program Consultant and Former Chief, Water Program, UNDP

**Dr. Will Steffen**, Executive Director, International Geosphere-Biosphere Programme (IGBP), Sweden

**Dr. Narasimhan Sundararaman**, Secretary, Intergovernmental Panel on Climate Change (IPCC), Switzerland

**Dr. Dirk Troost**, Environment and Development in Coastal Regions and in Small Islands (CSI), UNESCO, France

**Mr. Ivica Trumbic**, Regional Activity Centre for Priority Actions Programme, Croatia

**Dr. Tamari Tutangata**, Director, South Pacific Regional Environment Programme

**Dr. Veerle Vandeweerd**, Coordinator UNEP/GPA Coordination Office, The Hague, Netherlands
Dr. Clive Wilkinson, Global Coral Reef Monitoring Network, The Australian Institute of Marine Science, Australia

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Mr. Daniel Basta, National Marine Sanctuary System, U.S. National Oceanic and Atmospheric Administration

H. Victor Lichtinger, Minister, Ministry of Environment, Natural Resources, Mexico

H. Herb Dhaliwal, Minister, Department of Fisheries and Oceans, Canada

H. Rawle C. Eastmond, Minister, Ministry of Environment, Energy and Natural Resources, Barbados

Mr. Charles Ehler, National Ocean Service, U.S. National Oceanic and Atmospheric Administration

Mr. Lennox Hinds, Canadian International Development Agency

H. Robert Hill, Minister, Ministry for the Environment, Australia

H. Diane James, Chair, Victorian Coastal Council, Australia

Mr. Victor I. Kalyuzhnyi, Deputy Minister of Foreign Affairs, Russian Federation

Prof. Vladimir A. Knyazhev, Deputy Minister of Industry, Science and Technology, Russian Federation

Mr. Tom Laughlin, U.S. National Oceanic and Atmospheric Administration

H. Rokhmin Dahuri, Minister, Ministry of Marine Affairs and Fisheries, Indonesia

Dr. Yuriy Mikhaylichenko, Ministry of Industry, Science and Technology, Russian Federation

Mr. Haiqing Li, State Oceanic Administration, China

H. Francisco Mabjaia, Vice Minister, Ministry for the Environment, Mozambique

Ms. Camille Mageau, Department of Fisheries and Oceans, Ottawa, Canada

Ms. Evelyne Meltzer, Department of Fisheries and Oceans, Halifax, Canada

Dr. Magnus Ngoile, Director-General, Natural Resources Management Council, Tanzania

H. Ambassador Tuiima Neroni Slade, Chairman, Alliance for Small Island States and Ambassador/Permanent Representative of Samoa

H. Jose Sarney Filho, Minister, Ministry for Environment, Brazil