

**Science (Natural, Social) and Policy Efforts  
to Advance Oceans and Climate Issues in  
the UNFCCC and other International Fora**

***Strategic Action Roadmap on Oceans and  
Climate: 2016 to 2021***

**Dr. Biliana Cicin-Sain**

**Global Ocean Forum and University of Delaware**

**ATLAS General Assembly**

**April 27, 2017**

**Mallorca, Spain**

- **Great potential for ATLAS to contribute important synthesis of information (natural and social sciences and policy) to international decisionmaking fora, especially the BBNJ agreement– North Atlantic wide and also drawing lessons on connectivity between EEZ and ABNJ ecosystem management**
- **Show example of a related effort to advance the consideration of oceans and climate issues in the context of the UNFCCC and other international decisionmaking fora**

# Advancing the Oceans and Climate Issues: Of Central Concern to the Oceans Community

- **Oceans and climate are intertwined, with oceans driving climate and climate change affecting ocean health and coastal and island peoples. Oceans cycle over 93% of carbon dioxide in the atmosphere, produce 50% of the oxygen we breathe, store 50% of all naturally sequestered carbon, and absorb 90% of the heat added to the global system in the past 200 years.**
- **Oceans, seas, and coastal areas are experiencing an increased frequency and intensity of climate extremes, including stronger hurricanes, typhoons, and cyclones. Changes in ocean chemistry and temperature are causing ocean acidification, sea level rise, and fluctuations in ocean circulation and salinity. Coastal populations and small island developing States (SIDS) in 183 countries will be most affected by climate change and typically have insufficient resources to combat these changes.**
- **And yet oceans and coasts have generally featured little in the UNFCCC climate negotiations**
- **Plus the international ocean governance system is very fragmented whereby the ocean-related fora do not generally consider climate change issues**



# Oceans Day at Copenhagen

*The Importance of Oceans, Coasts, and Small Island Developing States in the Climate Regime*

December 14, 2009, European Environment Agency



# The Oceans Day at Cancún

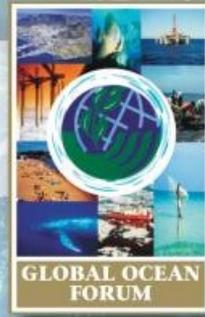
*Oceans: Essential to Life, Essential to Climate*

at the UNFCCC COP 16

Saturday, December 4, 2010

9:00 AM to 6:00 PM

Now Jade Riviera Hotel,  
Cancún, Mexico



# Oceans Day at Durban

*At the 17th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP 17)*

**December 3, 2011**

**Rio Conventions Pavilion, Climate Change Response Expo  
Centrum Car Park, Bram Fisher Road, Durban, South Africa**



- Past Oceans Days efforts credited with raising awareness of the oceans and climate issues and especially advancing some issues: **Blue carbon, understanding of the impacts of sea level rise and of ocean acidification**
- But a **long-term and constant effort is needed**. At the Oceans Day at COP 21, began to develop a set of recommendations for action on oceans and climate for the **next five years**

# Toward a Strategic Action Roadmap on Oceans and Climate: 2016 to 2021



**Policy Recommendations on Oceans and Climate for Consideration  
at UNFCCC COP 22 and Beyond**

*Prepared with the support of:*



*Part of the Global Strategic Action Initiative on Oceans and Climate*



# Oceans Day at COP 21

## 46 Organizers

**Over 30 high level speakers, including two heads of state (Monaco and Palau)**

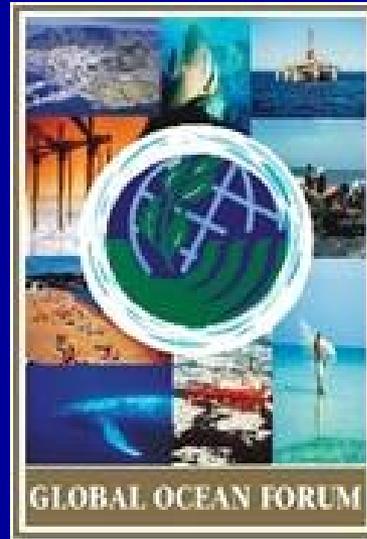
**400 participants from all regions**

- **Highlighted the major climate and oceans issues, with emphasis on the impacts on the most vulnerable peoples and ecosystems, and suggested next steps, both within and outside the UNFCCC framework**
- **Engaged political leaders to move forward on the major climate and oceans issues and solutions**
- **Mobilized collaboration in the development of a five-year strategic plan on oceans and climate to guide policy and action**

# 46 Organizers



Intergovernmental  
Oceanographic  
Commission/ UNESCO



Global Ocean Forum



United Nations  
Environment  
Programme



Ocean Policy Research  
Institute, Sasakawa  
Peace Foundation, Japan



Ocean and Climate  
Platform



University of Delaware,  
Gerard J. Mangone Center  
for Marine Policy

# Co-Organizers

## Governments



Government of Grenada,  
Ministry of Foreign Affairs



Government of  
Indonesia, Ministry of Marine  
Affairs and Fisheries



Government of Portugal,  
Ministry of Foreign Affairs,  
Ministry of Agriculture and  
Sea, and Portuguese Trade  
and Investment Agency



Government of  
Seychelles, Ministry  
of Foreign Affairs



Government of South Africa,  
Ministry of Environmental Affairs  
and Ministry of Foreign Affairs



Government of Sweden,  
Ministry of Environment

## Intergovernmental/International Organizations



Global Environment  
Facility



Convention on  
Biological Diversity  
Secretariat



Food and Agriculture  
Organization of the  
United Nations



GEF/UNDP/UNEP African  
Large Marine Ecosystem  
Projects



International Atomic  
Energy Agency



Pacific Islands  
Forum Secretariat



The Pacific  
Community (SPC)



Secretariat of the Pacific  
Regional Environment  
Programme



World Bank



World  
Meteorological  
Organization

# Co-Organizers

## Non-Governmental Organizations/Foundations (National/International)



Coastal & Marine Union  
(Eucc)



Forum do Mar, Brazil



Global Island  
Partnership



Institute for Sustainable  
Development and  
International Relations  
(IDDRI), France



Institut Océano-  
graphique, Fondation  
Albert I<sup>er</sup>, Prince de  
Monaco



International Union  
for Conservation of  
Nature (IUCN)



Partnership for Climate,  
Fisheries, and  
Aquaculture



Prince Albert II of  
Monaco Foundation



The Nature Conservancy



World Ocean Network



World Ocean Observatory



World Wide Fund for Nature



Nausicaá

# Co-Organizers

## Academic/Scientific Institutions



Center for Coastal Studies, Provincetown, Mass., USA



Centre National de la Recherche Scientifique, France



Duke University, Nicholas Institute for Environmental Policy Solutions



Global Change Institute, University of Queensland



Instituto Politécnico Nacional, Mexico



Monmouth University, Urban Coast Institute



Oceanário de Lisboa  
Sempre diferente.

Oceanário de Lisboa



Plymouth Marine Laboratory



Turkish Marine Research Foundation



Scripps Institution of Oceanography, University of California San Diego



Tara Expeditions

# Preparation of the Strategic Action Roadmap on Oceans and Climate

- Mobilized an International Expert Working Group on Oceans and Climate, with 37 participants
- Strategic Action Roadmap focused on the following major issues:
  - The central role of oceans in climate
  - Mitigation
  - Adaptation, and Blue Economy
  - Displacement
  - Financing
  - Capacity development (including scientific monitoring and public education)

# Strategic Action Roadmap 2016-2021

- **For each issue, examined:**
  - **the current status of the issue (and, as relevant, the science related to the issue)**
  - **the current state of play of the issue within the UNFCCC**
  - **the opportunities and pathways that may be available within the UNFCCC to advance the issue in the next five years**
  - **the opportunities and pathways that may be available outside of the UNFCCC to advance the issue**
  - **financial considerations regarding each issue**
- **Presented initial recommendations for discussion at the Oceans Day at COP 21 Paris, developed the analysis and the recommendations over 2016 and presented these at COP 22 Marrakech**

# Toward a Strategic Action Roadmap on Oceans and Climate: 2016 to 2021



**Policy Recommendations on Oceans and Climate for Consideration  
at UNFCCC COP 22 and Beyond**

# Major Recommendations: 1. Mitigation

Further develop and apply mitigation measures using the oceans, including implementing “blue carbon” policies, reducing CO<sub>2</sub> emissions from ships, developing ocean-based renewable energy, and considering ocean-based carbon capture and storage.

## *Sub-recommendations:*

- Conserve and sustainably manage coastal ecosystems as major carbon sinks and **integrate the management of the coastal carbon ecosystems (“Blue Carbon”) into the policy and financing processes of the UNFCCC**
  - Account for these ecosystems in the national reports to the UNFCCC, the INDCs (Intended Nationally Determined Contributions)
- Further accelerate progress in addressing **air emissions from ships**
- Sustainably develop **ocean-based renewable energy**
- Consider potential for **ocean-based carbon capture and storage** with appropriate regulatory measures

# Recommendations: 2. Adaptation

Implement ecosystem-based adaptation strategies through integrated coastal and ocean management institutions at national, regional, and local levels to reduce vulnerability of coastal/ocean ecosystems and of human settlements, and build the management capacity, preparedness, resilience, and adaptive capacities of coastal and island communities.

## *Sub-recommendations:*

- Adaptation measures should be carried out through *the integrated coastal and ocean management institutions and apply ecosystem-based approaches* to adaptation
- Establish and effectively *manage coherent networks of marine protected areas* to protect marine biodiversity and to enhance resilience of marine ecosystems to climate change
- Follow the global *Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries*, taking into account the differential impacts of natural and human-induced disasters and climate change on small-scale fisheries
- Promote and apply *Blue Economy approaches* with emphasis on low-carbon solutions and economic benefits to developing countries and SIDS (following SDG target 14.7)

## Recommendation 3. Displacement

### *Current and Projected Scope of Climate-induced Displacement*

Estimates from various organizations of the number of refugees that could be displaced within the century range from *50 million to 1 billion*. The International Organization for Migrants (IOM) projects 200 million will be displaced by 2050 due to overall environmental changes.

### *Recommendation*

Develop and support measures to address the issues associated with the displacement of coastal and island populations as a result of climate change, which will necessitate *improvement of international law in terms of definitions, rights and procedures for climate-induced refugees and migrants, including the development and implementation of financing measures.*

## Recommendations: 4. Financing

Adaptation and mitigation efforts in coastal and SIDS countries /communities should receive sufficient funding, through:

### *Sub-recommendations:*

- Thorough examination of *assessments of costs of adaptation, mitigation, and displacement* (existing assessments inadequate, for example, do not account for ecosystem services)
- Development of a *financial tracking mechanism* to report on financial flows to support climate change efforts related to oceans and coasts
- *Earmarked funds in global public finance mechanisms* to support adaptation and mitigation in coastal areas and SIDS
- *Earmarked private sector investments* (e.g., work with the private sector to earmark 10% of investment in “gray” coastal infrastructure for coastal habitat protection and restoration)

# Recommendations: 5. Capacity Development

Provide technical and financial assistance to SIDS, developing countries, and economies in transition to build capacity in the form of knowledge, tools, and scientific and political expertise to implement mitigation and adaptation measures, develop adaptive management capacity, early warning systems, and disaster risk reduction, and to develop knowledge management mechanisms to share knowledge among all countries within and outside the UNFCCC frameworks.

## *Sub-recommendations:*

- Promote the further enhancement of **marine policy centers** in developing countries and SIDS to build capacity in management and policy related to oceans and climate
- Strengthen the **advancement of global marine observations, research,** and related capacity development within the UNFCCC processes and beyond
  - Support the creation of the **IPCC report on Oceans**--to integrate and update the assessment of AR5 using scientific findings on the central role of oceans and climate and likely scenarios and consequences

# Recommendations: 5. Capacity Development

- **Sustained ocean observation** should be included as part of national commitments, particularly within the framework of the UNFCCC and Agenda 2030/ SDG 14, in response to the call to increase knowledge to manage marine ecosystems sustainably, and understand the impacts of climate change and ocean acidification
- Enhance technical capacity development of vulnerable countries through the establishment of **regional oceanographic centers** to increase cooperation among States on ocean-climate research and multi-disciplinary observation (in accordance with SAMOA Pathway decision 58.f)
- **Minimize and address the impacts of ocean acidification**, including through enhanced scientific cooperation at all levels and the further development of the **Global Ocean Acidification Observing Network**.
- **Expand public outreach and education efforts**, following the Lima Declaration on Education and Awareness-raising (COP 20, 2014), to enhance individual capacity and public understanding of the ocean's role in planetary survival and in global and national well-being, of the risks posed to SIDS and coastal communities by climate change, and to catalyze public support for mitigation and adaptation responses.

# Oceans Day at COP 21 Outcomes

The Oceans Day at COP 21 Paris stressed the need for:

- Concluding an ambitious legally binding agreement with stringent reductions in greenhouse gas emissions as essential to avoid disastrous consequences for the ocean and for coastal and island peoples.
  - *An important start was achieved with the landmark Paris Agreement and the addition of “oceans” in the Preamble*

# The Paris Agreement

**Historic agreement, landmark achievement, marks a common political will to stem the rise of global warming and shift from fossil fuels**

**Gives hope to avoid disastrous consequences associated with climate change**

- *The Paris Agreement includes provisions for:*
  - **Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C, recognizing that this would significantly reduce the risks and impacts of climate change**

# The Paris Agreement

- *The previous global goal had been to hold the global average temperature increase to 2 °C above pre-industrial levels. The 1.5 °C goal had long been advocated by the 44 small island developing States, “1.5 to stay alive,” referring to the threats of sea level rise, increased floods and storms which could obliterate their homes and nations.*

## The Paris Agreement provides that:

- *Developed country Parties* should continue taking the lead by undertaking *economy-wide absolute emission reduction targets*.
- *Developing country Parties* should continue enhancing their mitigation efforts, and are encouraged to move over time *towards economy-wide emission reduction* or limitation targets in the light of different national circumstances.

# The Paris Agreement

## *The Paris Agreement provides for:*

- A system of **national reports (NDCs)** by all countries reporting on reductions to emissions and other matters every five years, and a **transparent system of accounting and verification**, with periodic “**global stocktake**,” with a first facilitative dialogue in 2018
- Greater emphasis on **Adaptation**
- **Financing** by developed countries to assist developing countries with respect to both mitigation and adaptation
  - *Prior to 2025 the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement shall set a new collective quantified goal **from a floor of USD 100 billion** per year, taking into account the needs and priorities of developing countries*
- **Strengthening of capacity development** regarding mitigation and adaptation programs, and cooperative action on technology development and transfer
- Averting, minimizing, and addressing **human displacement issues** related to the adverse impacts of climate change

# National Level and Local Level

## *National Level:*

- 189 nations have submitted their NDCs to the UNFCCC
- 66% of all NDCs submitted to the UNFCCC cover oceans and coasts
- 38 out of 39 SIDS addressed oceans (both mitigation and adaptation) (*Gallo, Victor, and Levin, 2016*)

## *Local Level:*

- e.g., sustainable cities network, International Alliance to Combat Ocean Acidification

# Oceans Action Event at COP 22 Marrakech

*Part of the Global Climate Action Agenda*

12 November 2016 Blue Zone (9:30 to 21:00)  
*The Oceans Action Day at COP 22*



**Showcase Segment**  
10:00 to 12:30 Room Arctic

**Dialogue Segment**  
13:30 to 16:00 Room 10

**Regional Dialogues**  
17:00 to 20:00  
Morocco and France Pavilions

**Reception**  
20:00 to 21:00  
Morocco Pavilion

## Main Organizers:



ROYAUME DU MAROC  
Ministry of the Sea, Fisheries and Aquaculture

Royaume du Maroc



Ministère de la Pêche, de l'Aquaculture et de la Richesse Maritime  
Département de la Pêche Maritime



Prince Albert II of Monaco Foundation



Global Ocean Forum  
International Coastal and Ocean Organization



Ocean and Climate Platform

## Co-Organizers:



International Geosphere and Biosphere Programme  
United Nations Educational, Scientific and Cultural Organization



Oceans Policy Research Institute of the National Science Foundation



Océano Azul Foundation  
Oceano Azul Foundation and Oceano Azul de Lisboa, Portugal



The World Bank

- **The Oceans Action Day at Marrakech resulted in the oceans being included as one of the major six themes to be emphasized in the UNFCCC Global Climate Action Agenda, led by the two High-Level Champions on Global Climate Change**

*United Nations Conference to Support the Implementation of  
Sustainable Development Goal 14: Conserve and Sustainably Use the Oceans,  
Seas and Marine Resources for Sustainable Development*

*Preparatory Meeting, New York, 15-16 February 2017*

**Side Event on**

# **Oceans and Climate and the Blue Economy**

**February 15, 2017, 1:15 PM to 2:30 PM**

**Conference Room 12**



# Substantive Priorities for 2017

**1. Planning meeting to operationalize the Roadmap** (on mitigation, adaptation, Blue Economy, displacement, financing, and capacity development, and on means of tracking progress on these), May 22-23, 2017, IOC/UNESCO Paris

## **2. Report on NDCs (Nationally Determined Contributions)**

Review the oceans and coasts content of NDCs submitted by nations (2/3 of all NDCs submitted cover oceans, 38 of 39 SIDS NDCs address oceans). Determine how these can be supported and realized. **Special focus on Blue Economy.**

Develop a guide for nations on the inclusion/consideration of oceans/coasts in their future NDCs

## **3. Financial Tracking Mechanism**

Development of a **Financial Tracking mechanism** to examine and report on financial flows to support climate change responses in coastal and SIDS countries/communities

## **4. Capacity Development**

Input ocean/coastal/SIDS recommendations into the newly established UNFCCC <sup>33</sup> Committee on Capacity Building

# **In conclusion:**

**The Paris Agreement offers us hope for averting the worst impacts of climate change**

**--We must take advantage of it and influence every aspect of it**

**--We must steadfastly promote the oceans and climate and SIDS agenda within and outside of the UNFCCC**

**Lessons from the effort**

**--importance of the nexus between good science (natural and social) and policy experts and high level decisionmakers**

**--Persistence and dedication pays off**

**--When the opportunities come, must be ready to take advantage with very specific operational actions**

**Contact information:**  
**Biliana Cicin-Sain**  
**[bc@udel.edu](mailto:bc@udel.edu)**  
**[www.globaloceanforum.com](http://www.globaloceanforum.com)**