

The
Intergovernmental
Oceanographic
Commission

and
COP 21

ONE PLANET, ONE OCEAN, ONE CLIMATE

STRENGTHENING SCIENCE
FOR OCEAN AND CLIMATE

#OCEANFORCLIMATE



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission

Ocean and Climate Change

Covering 71% of the globe, the ocean provides essential services for maintaining life on Earth and is as important as forests in the supply of world oxygen. As a natural regulator of the Earth's climate and cornerstone of the global climate system, its importance can no longer be underestimated.

Ocean circulation – also known as the Ocean Conveyor Belt – connects all ocean basins (the Atlantic, Pacific, Indian, Arctic and Southern). This global ocean has absorbed more than 25% of the CO₂ and 93% of excess heat generated by humans since industrialization. But its climate regulating role is threatened: warmer atmosphere and increasing concentration of greenhouse gases, pollution from land, overfishing, unsustainable coastal development and increasing population, are all degrading the health and functionality of Earth's most treasured and useful resource.

From greater risk to coastal areas due to rising sea levels, strong winds, storms and cyclones, to food insecurity among island populations linked to declining marine resources, an unhealthy ocean in a changing climate can yield great environmental, economic and social imbalances.

As the COP 21 seeks to redefine and strengthen the climate regime, the Intergovernmental Oceanographic Commission (IOC) of UNESCO proactively engages with the policy, research and civil society communities for more effective integration of ocean perspectives into climate change mitigation and adaptation mechanisms, while also promoting the importance of a robust scientific knowledge base to support policy development.



IOC and COP 21: Flagship Events

IOC will co-organize three flagship ocean events at COP 21 to engage various stakeholder groups. Under the lead coordination of IOC, the Global Ocean Forum and the Ocean and Climate Platform, the events will involve over 100 agencies, groups and organizations. The overarching aim is to advance climate change solutions in open ocean and coastal areas, in support of both a potential COP 21 agreement and the recently endorsed UN “2030 Agenda for Sustainable Development”.

► **Ocean and Climate Forum**

CLIMATE GENERATIONS AREAS

(full day - 3 December 2015, 10:30-18:30, Nelson Mandela Room)

The **Ocean and Climate Forum** will present the objectives and the common agenda of the ocean-related events at COP 21. Different stakeholder groups – scientists, youth, economic actors, and decision-makers – will host an interactive debate to showcase the ocean as both an element of and a potential solution to climate change mitigation and adaptation, and to ensure that future research and funding needs are met.

► **Oceans Day at COP 21**

CLIMATE GENERATIONS AREAS

(full day - 4 December 2015, 10:30-18:30, Rio Conventions Pavilion)

Building on the recommendations and solutions put forward by the Ocean and Climate Forum, the **Oceans Day at COP 21** will aim to advance the ocean and climate agenda of the UNFCCC and beyond. It will, particularly, draw high-level political attention to the need to settle on an ambitious agreement at COP 21, showcase successful efforts in policies on ocean and climate, and consider specific steps to take the ocean and climate agenda forward. An international working group will prepare a policy brief as well as a five-year strategic action plan around priority issues including mitigation, adaptation, financing, capacity development, public education, and scientific monitoring.

► **Ocean and Climate Moment**

CLIMATE GENERATIONS AREAS

(10 December 2015, 11:00-13:00, UNESCO Pavilion)

As a follow-up to all ocean-themed scientific events taking place during COP 21, the **Ocean and Climate Moment** will bring together representatives of Member States and UN Agencies as well as international scientific experts and civil society actors to recap and highlight the major scientific justifications and recommendations for policy action. The event will also propose subsequent steps toward scientific efforts to support decision-making around the ocean and climate nexus.



IOC Activities around Climate Change

Ocean Observation and Science

Ocean science and sustained global ocean observations are absolutely necessary to understand the impact of changing climate, assess regional vulnerability, and monitor the efficacy of adaptation and mitigation efforts. Under IOC lead, the **Global Ocean Observing System (GOOS)** operates an observing system based on Member States collaboration with regard to climate monitoring and projections, weather forecasting, and safety of life at sea and on the coasts. This observing system contributes directly to the Global Observing System for Climate, which influences decisions taken in the context of the United Nations Framework Convention on Climate Change (UNFCCC). IOC also strongly supports coordination and cooperation of science efforts with regard to ocean acidification and climate change, for example through the **Global Ocean Acidification Observing Network**.

Data Management

In order to facilitate oceanographic data and information exchange, crucial in the study of climate change, IOC's **International Oceanographic Data and Information Exchange (IODE)** program coordinates a global network of oceanographic data centers and marine libraries. The **Ocean Biogeographic Information System (OBIS)** of IODE, which integrates over 1,900 online open-access databases, has become a reference point for tracking the impact of climate change on marine biodiversity distribution.

Coastal Disasters Prevention and Reduction

From tsunamis and harmful algal blooms to tropical cyclones and storm surges, IOC has facilitated a global expansion of **Multi-Hazard Warning Systems**. Climate change trends will alter their frequency, intensity, temporal and spatial variability, creating an urgent need for enlarging the scope of these multi-hazard warning systems. IOC assists in developing capacities toward preparedness against climate-related ocean hazards, and providing guidance on coastal observing systems and tools for managing coastal challenges.



Capacity Development

IOC works at global and regional levels to ensure that Member States have the necessary human, technical, and technological capacity to face a changing climate. The **Adaptation to Climate Change on the Coasts of West Africa (ACCC)** project developed ecosystem and socio-economic resilience to climate change. The **Coastal Blue Carbon manual** facilitates the measuring of carbon sinks in coastal and marine ecosystems. And closer to the policy-making processes, IOC's **Integrated Coastal Area Management (ICAM)** program helps integrate climate change resilience in the planning and management of coastal areas.

Advocating for Ocean and Climate

IOC has been an active advocate for ocean and climate issues in previous UNFCCC COPs. Its preparation for COP 21 started on June 8 at UNESCO Headquarters with the organization of the **UN World Oceans Day (WOD)** in cooperation with the Ocean & Climate Platform, which also launched its **Ocean's Call for Climate**. WOD assembled Heads of State and 1,200 representatives from the youth, scientific community and civil society, and marked the start of global public education on the role of the ocean in the climate system.

Numerous events taking place at Le Bourget (in the Climate Generations areas), organized within our partnerships with the Ocean & Climate Platform and the Global Ocean Forum, will endeavor to raise audience awareness and draw the attention of decision-makers to the need for an ambitious agreement at COP 21.



ocean-climate.org



FULL CALENDAR OF IOC EVENTS DURING COP21

The Ocean at COP 21

A series of major ocean-related events will be held during the UNFCCC COP 21, both at the Bourget conference site (in the Blue Zone, accessible to UNFCCC accredited delegates, and the Climate Generations areas, open to civil society organizations) and elsewhere in Paris, to underscore the critical role of the ocean for the world's climate and the need for action.

■ BLUE ZONE

■ CLIMATE GENERATIONS AREAS IOC FLAGSHIP EVENTS

■ EXHIBITS AND EVENTS IN CENTRAL PARIS

■ 12 nov. - 18 dec. 2015

TARA PAVILION "OCEAN & CLIMATE"
Pont Alexandre III, Paris

■ 30 nov. - 11 dec. 2015

ONE UN EXHIBIT
– Science Booth: IOC's "Home Booth"
(IOC-UNESCO, WMO)

■ 1 dec. 2015

**DOCUMENTARY FILM "+/- 5 MÈTRES"
AND COCKTAIL**
19:00-23:00, UNESCO Headquarters, Room 1

■ 2 dec. 2015

**ONE OCEAN, ONE CLIMATE, ONE UN:
WORKING TOGETHER FOR A HEALTHY
AND RESILIENT OCEAN**
(UN-Oceans)
11:30-13:00, Room 1

■ 3 dec. 2015

OCEAN AND CLIMATE FORUM
(IOC-UNESCO, GOF, OCP)
10:30-18:30, Nelson Mandela Room

■ 3 dec.-4 dec. 2015

**OCEAN-THEMED EXHIBITS AND ACTIVITIES
AT THE UNESCO PAVILION**

■ 4 dec. 2015

OCEANS DAY AT COP 21
(IOC-UNESCO, GOF, OCP)
10:30-18:30, Rio Conventions Pavilion

■ 4 dec. 2015

**SCIENCE-BASED CLIMATE
INFORMATION – BUILDING ON EVIDENCE
TO IMPLEMENT POLICIES**
(UN System)
13:15-14:45, Room 8

■ 5 dec. 2015

**PLACE TO B – INTERACTIVE PRESS
CONFERENCE**
(IOC-UNESCO, OCP)
Saint Christopher's Inn,
5 rue de Dunkerque, Paris

■ 7 dec. 2015

**OCEAN ACIDIFICATION AND OTHER CLIMATE
STRESSORS (OR IMPACTS) ON THE OCEAN
– WHERE WE ARE HEADING, AND WHAT WE
NEED TO STOP IT**
(IUCN, WCPA, GMPP, IOC-UNESCO, et al.)
11:45-13:15, IUCN Pavilion

■ 7 dec. 2015

**THE IMPORTANCE OF ADDRESSING OCEANS
AND COASTS IN AN AMBITIOUS AGREEMENT
AT THE UNFCCC COP 21**
(GOF, South Africa, IOC-UNESCO, et al.)
16:45-18:15, Room 2

■ 8 dec. 2015

**MOBILIZING TOWARDS THE
IMPLEMENTATION OF THE OCEANS AND
CLIMATE ACTION PLAN AND OTHER
RECOMMENDATIONS FROM OCEANS DAY
AT COP 21**
(GOF, IOC-UNESCO)
10:30-11:15, Room 5

■ 9 dec. 2015



**OCEAN RECEPTION HOSTED BY IUCN, IOC-
UNESCO, THE GLOBAL OCEAN FORUM AND
THE OCEAN AND CLIMATE PLATFORM**
17:30-19:00, IUCN Pavilion

■ 10 dec. 2015

**THE ROLE AND NEEDS FOR HOMEGROWN
SCIENTIFIC RESEARCH, TECHNOLOGY AND
INNOVATIONS RELATED TO CLIMATE CHANGE**
(NASAC, IOC-UNESCO)
18:00-19:30, Africa Pavilion

■ 10 dec. 2015

OCEAN AND CLIMATE MOMENT
(IOC-UNESCO, OCP)
11:00-13:00, UNESCO Pavilion

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