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Ocean and the Law of the Sea

Contribution of the Intergovernmental Oceanographic Commission of UNESCO to the Report of the Secretary-General

EXECUTIVE SUMMARY

As a body with functional autonomy within the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Intergovernmental Oceanographic Commission (IOC) acts as the UN system-wide focal point for ocean science and ocean services under the guidance provided by the resolutions, decisions and instructions of the IOC Assembly and reports periodically on its programme and activities to contribute to the Report of the Secretary-General on Oceans and the Law of the Sea.

In this document, the IOC reports on its recent activities in capacity development, on progress on the World Ocean Assessment, on the development of mitigation and preparedness measures for natural disasters, on climate change and on its programme for ocean data and information exchange.

DEVELOPMENTS IN THE FIELD OF OCEAN AFFAIRS AND THE LAW OF THE SEA (Part II)

Pursuant to the resolution 68/70 entitled "Oceans and the law of the sea" adopted by the General Assembly on 9 December 2013, the information below represents the contribution of the Intergovernmental Oceanographic Commission of UNESCO to the report of the Secretary General.

Capacity Building

Considering paragraph 160 of the Outcome Document of the Rio+20 Conference entitled "*The Future We Want*" and following a voluntary Commitment on "*Building Global Capacity for Marine Sciences, Observation and Transfer of Marine Technology*" taken by at the Rio+20 conference, the Intergovernmental Oceanographic Commission of UNESCO (IOC/UNESCO) has conducted a global and regional assessment of capacity development needs in the field of marine scientific research and ocean observation especially in developing nations and SIDS. This has led to the formulation of a global strategy in capacity development to implement these needs, through partnership with countries, donors, UN Agencies, global financial institutions and the private sector. In this context, a Joint Experts Group was organised by the IOC, the UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS) and the UN-Division for Ocean Affairs and the Law of the Sea/ Office of Legal Affairs (DOALOS/OLA) on "the Significance of Marine Science and Technology for SIDS and the importance of Capacity Building and Marine Technologies Transfer to SIDS to support Sustainable Development" from 14 to 19 May 2013 in New York. The Strategy will be presented to the Executive Council of the IOC during its meeting of July 2014. An Action Plan will then be developed and the consolidated Strategy and Action Plan will be presented to the 28th Assembly of the IOC in 2015 for its consideration.

While the OceanTeacher project, supported by the Government of Flanders will end early 2014, the new OceanTeacher Global Academy (OTGA), also supported by the Government of Flanders through the Flanders-UNESCO Fund-in-trust for the support of UNESCO's activities in the field of Science (FUST), commenced in May 2014. OTGA will be based on a network of Regional Training Centres (RTC) in Latin America, Africa, Indian Ocean and Western Pacific that will enable a better focus on local needs and will take into account language diversity. Between January and June 2014 all candidate centres that wish to host an RTC are being visited and assessed. India had already established its centre in 2013 (ITCOcean). By May 2014 centres were visited in Colombia, Mozambique, Senegal and South Africa.

A Memorandum of Agreement has been signed between the Government of India and the IOC for the establishment of the International Training Centre for Operational Oceanography (ITCOcean) in Hyderabad, India. The Centre will operate as a contribution to IOC's training and capacity development activities mainly in the Indian ocean rim countries. It will participate in the joint organization of training events by exchange of lecturers, the use of tele-presence and video conferencing technology-based lectures, among others. The Partnership Centre for the IODE Ocean Data Portal, established at Roshydromet (Russian Federation) was inaugurated on 10 September 2013 by the IOC Executive Secretary. During the period July-December 2013 IODE organized 5 training courses. On 2 October 2013, during the OceanTeacher Digital Asset Management course held in Mombasa, Kenya, IODE invited a trainer to lecture using video conferencing between Alexandria, Virginia, USA and Mombasa, Kenya as a first test of the OceanTeacher Global Academy concept.

World Ocean Assessment

IOC continues to follow closely the preparation of the World Ocean Assessment (WOA) report under the UN Regular Process. As requested by the UN General Assembly, the first World Ocean Assessment is to be completed by the end of 2014. It will provide a sound, scientific basis for decisions at the global level on the world's ocean and seas, and a framework for national and regional assessments and management decisions. As an observer, IOC provides technical information and resources to the Group of Experts and attended its last 2 meetings (December

2013 and May 2014). IOC also provided financial support through a contribution from France to the development of the web-based clearinghouse mechanism of the WOA (through UNEP/GRID-Arendal). IOC will also provide some resources to assist DOALOS with the editorial process of the report. Selected chapters of the report will be made available to Member States in July and then September for comments.

Development of mitigation and preparedness measures for natural disasters

Since the 27th Assembly of the IOC in 2013, the tsunami programme has continued to progress in spite of UNESCO's strained financial situation. The tsunami unit managed to keep the coordination process going last year through help from the UNESCO's emergency funds. The meetings of the North East Atlantic and Mediterranean Tsunami Warning System, that of the Intergovernmental Coordination Group (ICG) of the Pacific Tsunami Warning System and of the Caribbean Early Warning system were held as scheduled. The Seventh Meeting of the Working Group on Tsunami and other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG) was held on 12 and 13 February 2014 in Paris, France. The three TOWS Inter ICG Task teams have met and the Inter-ICG Task Team on Hazard Assessment Related to Highest Potential Tsunami Source Areas was able to meet for the first time on 24 September 2013.

A Tsunami warning exercise was carried out in Caribbean (26 March 2014). According to the registrations, over 220,000 people were registered throughout the Caribbean and Adjacent Regions (175,000 more than in 2013). Participants included 1,700 organizations and families (up from 481 in 2013 and 300 in 2011). During the exercise, the Pacific Tsunami Warning Center (PTWC), the US National Tsunami Warning Center (US NTWC) and the Puerto Rico Seismic Network (PRSN) sent out over 31,500 emails to 2000 subscribers to the special CARIBE WAVE/LANTEX 14 notification service. In the Caribbean there has been a steady growth of the number of operational sea level stations and six stations were recently installed through funds by the IOC.

Progress has continued on the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and funding was committed to Tsunami Hazard Assessment in the Indian Ocean and for collecting eyewitness accounts and other information about the 1945 tsunami in the NW Indian Ocean (Makran area).

Climate change

IOC support to the World Climate Research Programme (WCRP) continued in 2013-2014, at a reduced level. IOC responded to different requests from WCRP related to (i) changes in the memberships of the Joint Scientific Committee, which IOC has recommended being more geographical and gender balanced and also to keep oceanography as a core discipline represented in the Joint Scientific Committee, (ii) selection of a new WCRP Director. The IOC also hosted the International Polar Partnership Initiative meeting in February 2014.

IOCCP launched the biggest global sea surface CO₂ data set on June 2013. SOCAT v2 is an outstanding product of the international marine carbon research community, which provides access to synthesis and gridded CO₂ products for the ocean's surface. Version 2 of SOCAT is an update of the previous release (version 1) with more data (increased from 6.3 million to 10.1 million surface water CO₂ values) and extended data coverage (from 1968–2007 to 1968–2011). Assembling this dataset has been a major undertaking by sea-going marine carbon scientists from across the world for the last four years.

The IOC led several side events at international conferences such as GEO-GEOSS and the United Nations Framework Convention on Climate Change (UNFCCC) COP19 held in Warsaw in November 2013. The IOC is a co-convenor of the 3rd International Symposium on the Effects of Climate Change in the World's Ocean (Santos, Brazil, 23–27 March 2015).

Building on its advocating role and its contribution to new science on climate change, UNESCO through IOC is providing leadership and advice to the organization of the next UNFCCC/COP21 (Paris, November 2015) and has formulated a number of key proposals for consideration of the French authorities and the UNFCCC. In the field of coastal adaptation, a technical expert mission took place in December 2013 in Congo and Gabon with a view to assess the extent of coastal erosion problems faced by these two countries, and identify strategies and coastal adaptation measures that could be implemented to mitigate related impacts.

In a growing effort to distinguish between natural and human-induced earth system variability, the IOC is paying attention to sustained ocean time-series measurements. Shipboard biogeochemical time-series programmes provide the oceanographic community with the multi-year, high-quality data needed for characterizing ocean biogeochemistry and ecosystem variability and are receiving renewed importance as they represent one of the most valuable tools that scientists have to characterize and quantify ocean fluxes and their associated links to ecosystem functioning in a changing ocean. The IOC organized two Time Series Workshops in November 2012 and in February 2014 within the frame of the Republic of Korea Ocean Carbon Sources and Sinks project. One of the key outcomes of the workshops was the development of a global time-series network compiling more than 160 ship based time series, to improve coordination and communication among institutions compiling marine biogeochemical time-series and also the establishment of a core group of IPs leading time series programmes (International Group for Marine Ecological Time Series – IGMETS).

Ocean acidification (OA) is an emerging global concern and is a risk to marine biodiversity, ecosystems and human society. In terms of new research and networking the IOC is co-leading the Global Ocean Acidification Observing Network (GOA-ON) which is aimed to coordinate and improve ocean observation to detect the impacts of ocean acidification. The GOA-ON Executive Council met in Paris last 26-28 May 2014 to develop a roadmap and the implementation plan. The IOC is also a member of the Ocean Acidification International Coordination Center OA-ICC (based at the IAEA marine laboratory in Monaco). Other actions related with dissemination of IOC activities on OA include the organization of a side event at GEO-X in January 2014, and the preparation of a TV film for the Second International Ocean Research Conference in November 2014.

Data Exchange

On 3 September 2013 IODE published the “IOC Strategic Plan for Oceanographic Data and Information Management (2013-2016). It is available as IOC Manuals and Guides No. 66. (<http://www.iode.org/mg66>).

The Ocean Biogeographic Information System (OBIS) works at the data and science interface. This large well-integrated, high-quality and ever more comprehensive database aids scientists in improving our understanding of the ocean’s living organisms and complex ecosystems. In 2012-2013, OBIS was cited 150 times in the scientific literature (source Google Scholar). At the third session of the OBIS Steering Group, a multidisciplinary scientific advisory task team was established to steer OBIS into future directions by providing advice on the OBIS science mission and priorities, and by identifying new directions, potential pilot projects and areas of development for data-driven research and its applications. The OBIS scientific advisory group will meet for the first time in Autumn 2014.