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## 6.0 RELATIONS WITH INTERGOVERNMENTAL ORGANIZATIONS

### 6.1 Intergovernmental Oceanographic Commission

The two organizations have a variety of joint projects that have been discussed under previous agenda items, including

- Global Ocean Ecosystem Dynamics (GLOBEC) Project
- Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB) Program
- International Ocean Carbon Coordination Project (IOCCP)
- Symposium on the Ocean in a High-CO<sub>2</sub> World

Wolfgang Fennel and Ed Urban attended the IOC Executive Council in June 2010 to represent SCOR and ICSU. They made the following interventions:

Thank you, Mr. Chairman. In response to the Russian intervention, there are no projects to study large-scale iron additions. However, SCOR already sponsors several projects that are studying iron in the ocean that will contribute information for this issue. The Surface Ocean – Lower Atmosphere Study helped create the summary for policymakers that is under discussion. The GEOTRACES project is measuring concentrations of iron from the surface to the deep ocean, in all ocean basins. SCOR WG 131 is compiling data and metadata from the 13 small-scale iron-addition experiments into an open-access database. We hope this information will be useful for this process.

Thank you, Mr. Chairman. SCOR wishes to express its congratulations to IOC for its 50 years of service to the ocean sciences and to thank IOC for cooperation with SCOR for these 50 years. IOC has been SCOR's major partner for the past 50 years and even today, in activities related to harmful algal blooms (the GEOHAB Program), ocean carbon, ocean acidification, and data publication. We look forward to working with the new IOC Executive Secretary and other IOC staff on important ocean science issues in the coming years.

Thank you, Mr. Chairman. IOC has an outstanding history in capacity building and we hope IOC can find funding to continue its work in this area. SCOR is also committed to capacity building for ocean science, and many other organizations conduct complementary activities. Therefore, we are planning a meeting in August in Bremen, Germany to bring together non-governmental and intergovernmental organizations interested in ocean science capacity building, to coordinate our efforts and plan new activities. We have invited representatives from IOC and other organizations with capacity-building activities and interests. We look forward to IOC involvement in this meeting and welcome other organizations and national capacity-building programs to contact us for more information about this meeting. Thank you.

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### **NEWS2USE**

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In June 2009 the IOC Assembly endorsed the further development of a new activity on integrated coastal research, with a particular focus on developing scenarios for effects of nutrient loading on ecosystems. The IOC has established a Steering Committee for 2010-2011 in order to have broad involvement in the final design of the programme. The IOC appreciate that SCOR has accepted the invitation to be represented on the Steering Committee. The next step in the process is a stakeholder workshop in order to tailor the research activity to suit end-user needs and expectations. The Draft Plan, “Coastal Eutrophication: Linking Nutrient Sources to Coastal Ecosystem Effects and Management: NEWS2USE” is available at:

([http://www.ioc-unesco.org/hab/index.php?option=com\\_oe&task=viewDocumentRecord&docID=3574](http://www.ioc-unesco.org/hab/index.php?option=com_oe&task=viewDocumentRecord&docID=3574)).

### **Ocean Fertilization**

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The IOC is in the process of finalising a ‘Scientific Summary for Policymakers on Ocean Fertilization’ in collaboration with the global research program ‘The Surface Ocean – Lower Atmosphere Study’ (SOLAS). The draft is available at:

[http://www.ioc.unesco.org/index.php?option=com\\_oe&task=viewDocumentRecord&docID=5533](http://www.ioc.unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=5533)

The Summary is part of the series of Watching Briefs on ocean carbon sequestration published with SCOR, and it will be published as a product within the framework of the IOC-SCOR International Ocean Carbon Coordination Project, The Summary also represents an UN inter-agency coordination on scientific and technical advice and will serve the process on legal regulation of ocean fertilization under the London Convention-London Protocol.

## 6.2 International Council for the Exploration of the Sea (ICES)



SCOR Annual Meeting  
14–17 September 2010

Report to the SCOR Annual Meeting, Toulouse, France,  
14-17 September 2010  
Adi Kellermann, Head of ICES Science Programme

### ICES International Activities 2009/2010

ICES international activities have two dimensions: international cooperation among institutions from the 20 member countries and cooperation of the ICES community with other international organizations/networks. The latter has recently, among others, been centered around the following issues:

Climate change and impacts on ecosystems and fisheries: the ICES and PICES Joint Working Group on Forecasting Climate Change Impacts on Fish and Shellfish (WG FCCIFS) has continued its work. That included the development and organization of a scientific symposium, jointly co-sponsored with FAO, entitled “Climate Change Effects on Fish and Fisheries: Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating Management Strategies” which was held in Sendai, Japan, 25–29 April in 2010. The symposium was well attended by more than 300 participants from 36 countries and included six workshops, 210 oral presentations and 115 posters. The theme sessions spanned a diverse range of topics: forecasting impacts from physics to fish, and from fish to markets, downscaling variables from global models, specific-specific and ecosystem responses, latitudinal and other gradients of responses to climate variability, evaluating human responses, management strategies and economical implications, as well as reviewing contemporary and future approaches. The results of the symposium were presented to the Workshop of the Fisheries Committee of the OECD (Organization for Economical Cooperation and Development), held in Busan, Korea 10-11 June 2010. As a follow-up to the meeting of the Arctic Ocean Science Board of the International Arctic Science Council (IASC) at ICES Headquarters in Copenhagen in January 2010, the ICES secretariat on behalf of SCICOM invited the AOSB to formalize cooperation on science issues. The Arctic Ocean is explicitly mentioned in the 2009–2013 ICES Science Plan under the topic of sensitive ecosystems, and it may receive much more attention under changing climate regimes and changed hydrology, which is another topic of the Science Plan. The draft Letter of Agreement between the two organizations was agreed by the IASC and the ICES Bureau in spring 2010.

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Cooperation with PICES continues on various fields, including the organization of several science symposia 2011 and 2012. There will be a first meeting of the joint PICES/ICES Study Group on Strategic Cooperation.

SCICOM nominated nine experts from the ICES community to be considered as Coordinating Lead Authors, Lead Authors, or Review Editors for the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC). Appointment letters are anticipated to be sent in the late spring of 2010, but so far ICES has not been informed of an outcome of nomination process.

OceanObs'09 Working Group IFSOO-TT (Integrated Framework for Sustained Ocean Observations Task Team): ICES is represented in the Working Group on Promoting and Implementing operational Ocean Observing Systems Worldwide which is a follow-up of the 2009 OceanObs'09 conference on operational oceanography. ICES contributions will be based on WGOOFE, WGHABD, IGWG, and on its cooperation with existing networks such as EuroGOOS and MyOcean. The WG will consider the outcomes and recommendations from the OceanObs'09 Conference and, in consultation with the organisations they represent, shall "Develop a recommended framework for moving ocean observations forward in the next decade that will ensure the continuation of current observations and the integration of biogeochemical and ecosystem observations; including a recommended governance for an integrated ocean observing system, considering how best to take advantage of existing structures".

Other major international cooperation activities in 2010 include symposia and scientific conferences:

- ICES/PICES/FAO Symposium on "Climate Change Effects on Fish and Fisheries: Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating Management Strategies". Sendai, Japan, from 26-29 April 2010. Conveners: Anne Hollowed (United States), Manuel Barange (United Kingdom), Shin-ichi Ito (Japan), Suam Kim (Republic of Korea), and Harald Loeng (Norway).
- Third International Symposium on "Research and Management of Eutrophication in Coastal Ecosystems". Nyborg, Denmark, from 15–18 June 2010. Conveners: Jørgen Erik Larsen (DK), Suzanne Bricker (US), Jesper Andersen (DK).
- ICES Symposium on "Making the Most of Fisheries Information – Underpinning Policy, Management and Science". Galway, Ireland, from 23-26 August 2010. Conveners: Norman Graham (Ireland), Kjell Nedreaas (Norway), William Karp (USA), and Richard Grainger (FAO).
- 26th Lowell Wakefield Symposium on "Ecosystems 2010: Global Progress on Ecosystem-based Fisheries Management". Anchorage, USA, from 8-11 November 2010. Conveners: Gordon H. Kruse (USA), Pat Livingston (USA), Douglas Woodby (USA), Diana Evans (USA), Chang Ik Zhang (Korea), Glen Jamieson, (Canada).

### **6.3 Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)**

#### **GESAMP Working Group WG 38 - Atmospheric Input of Chemicals to the Ocean**

The Terms of Reference of GESAMP Working Group 38 are as follows:

- Assess the need for the development of new model and measurement products for improving our understanding of the impacts of the atmospheric deposition of nitrogen species and dust (iron) to the ocean;
- Review the present information on the atmospheric deposition of phosphorus species to both the marine and terrestrial environments, considering both natural and anthropogenic sources, and evaluate the impact of atmospheric phosphorus deposition on marine and terrestrial ecosystems. Consider whether such a review of any other substance would be useful; and
- Work with the World Meteorological Organization (WMO) Sand and Dust Storm Warning and Assessment System and with the WMO Precipitation Chemistry Data Synthesis and Community Project to evaluate the needs of the marine community and assist in clearly articulating them in the development of these WMO efforts.

Term of Reference No. 3 was satisfied by the development of two letter reports, including recommendations, at the Working Group's first meeting, held in Tucson, Arizona, USA in December 2008. These letter reports were reviewed by GESAMP and were submitted by GESAMP to WMO in April 2009. SCOR provided some important financial support for the first meeting of Working Group 38.

In the intersessional period between the first and second meetings of Working Group 38, Terms of Reference No. 1 and No. 2 were addressed by gathering information for three separate papers that the Working Group began to develop in the areas of phosphorus, nitrogen, iron and organic matter deposition from the atmosphere to the ocean.

The second meeting of Working Group 38 took place in London at the International Maritime Organization (IMO) from 12-15 January 2010, and this meeting was supported by WMO, IMO, and the Swedish International Development Agency (SIDA). During the meeting Working Group members broke up into three sub-groups, each addressing the drafts of the three papers, which are outlined below. At the completion of the meeting significant progress had been made on finishing the three papers. The titles of these three papers and their current status is as follows:

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- 1) Impacts of atmospheric nutrient deposition on marine productivity: roles of nitrogen, phosphorus, and iron. This paper went through a number of drafts and was submitted in May 2010 to *Global Biogeochemical Cycles*. Reviews have been received and it is now being revised for re-submission and publication.
- 2) Impacts of anthropogenic SO<sub>x</sub>, NO<sub>x</sub> and NH<sub>3</sub> on acidification of coastal waters and shipping lanes. This paper was submitted for publication in *Geophysical Research Letters* in May 2010. Reviews have been returned, and the paper is now being revised for final submission.
- 3) Atmospheric organic material and the nutrients it carries to the ocean. This is a much longer and more detailed paper than the other two, and it is expected that it will be submitted for publication in *Global Biogeochemical Cycles* by the end of the summer, 2010.

At both meetings of the Working Group all but two of the members were able to attend - different people for each meeting. For the second meeting both of the two individuals who could not attend participated by phone during the meeting.

In order to more specifically elaborate the role of chemicals carried by dust which are responsible for marine biological production, WMO proposed the extension of Working Group 38 activities for another year or two beyond 2010, with the aim of achieving a more detailed description of the atmospheric transport and deposition process of iron- and phosphorus-carried minerals to the ocean. Working Group 38 would establish a close cooperation with the WMO Sand and Dust Storm Warning and Assessment System (SDS-WAS) in order to exploit the already existing modelling and observational capabilities of the SDS-WAS project, and a meeting at Malta in March 2011 would be joint between Working Group 38 and SDS-WAS. The proposed specific themes of the joint activities to be discussed at this workshop are as follows:

- Specifying test-bed regions for studies (Central Atlantic; North Pacific; Indian Ocean; possibly others);
- Employing dust/iron/phosphorus models with resolutions as high as possible;
- Improving quantitative estimates of geographical distribution of mineral fractions;
- Long-term (re-analyses) and case-study assessment of mineral ocean input and marine response provided by dust/Fe/P and ocean modelling and by remote-sensing and in-situ observations; and
- Environmental and climate consequences.

This proposal was accepted by the full GESAMP at its 37<sup>th</sup> meeting, in Bangkok in February 2010. GESAMP Working Group 38 appreciates very much the important seed money provided by SCOR for the first meeting of the group. We do not expect to request any additional support from SCOR for the working group's future activities.

**6.4 North Pacific Marine Science Organization (PICES)**