International Council for Science

Scientific Committee on Oceanic Research

SCOR Electronic Newsletter #3
July 2005

The Scientific Committee on Oceanic Research (SCOR) is an international nonprofit organization whose purpose is to promote international cooperation in all branches of oceanic research. This purpose is achieved through the sponsorship of large-scale ocean research projects, working groups and panels on specific ocean science topics, and activities designed to increase the research capacity of developing nations.

SCOR Ocean Carbon Activities

SCOR and the Intergovernmental Oceanographic Commission (IOC) have agreed to transform their Advisory Panel on Ocean CO_2 to the International Ocean Carbon Coordination Project (IOCCP). A Scientific Steering Group (SSG) has been approved for the project, which will

1. Work with the ocean carbon research projects and broader international community to collect and compile information on current and planned ocean carbon observations and research activities, and develop and maintain a central international information center on ocean carbon research and observations.
2. Provide an international forum for initiatives to promote high-quality observations needed to understand the ocean component of the global carbon cycle.
3. Advise IOC, SCOR, OOPC [Ocean Observing Panel for Climate], GOOS [Global Ocean Observing System], GCOS [Global Climate Observing System], and JCOMM [Joint WMO/IOC Commission for Oceanography and Marine Meteorology] on observations and data products needed for large-scale monitoring of the global carbon cycle.

Information on IOCCP is available at the Ocean Carbon Portal maintained by the group at http://ioc.unesco.org/ioccp/.

The Surface Ocean – Lower Atmosphere Study (SOLAS) and Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) project are in the process of forming an SSG to help coordinate the joint SOLAS-IMBER ocean carbon research activities and work with the IOCCP SSG on issues of common interest. The two groups will meet together annually, for the first time at the 7th International Carbon Dioxide Conference later this year.

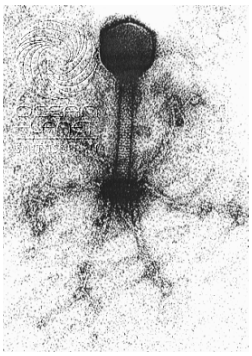
Sixteen technical papers from the first symposium on The Ocean in a High-CO_2 World have been accepted for publication later in 2005 in the *Journal of Geophysical Research—Oceans*. SCOR and IOC have begun discussions about repeating the symposium on a regular basis, as a way to continue documenting this rapidly advancing area of science, and as a contribution to the Intergovernmental Panel on Climate Change (IPCC) process.

SCOR has agreed to participate in a "Fast-Track Initiative" of the International Geosphere-Biosphere Programme (IGBP) focused on trying to determine how the ocean reacted during previous high-CO_2 periods in Earth's history.

News about Working Groups

SCOR WG 116 on Sediment Trap and ^{224}Th Methods for Carbon Export Flux Determination held its final meeting in Xiamen, China in April 2005. The main purpose of the meeting was to complete the group's major review article for the journal *Progress in Oceanography*. The meeting also provided an opportunity for the group to meet with faculty, staff, and students at Xiamen University. Working Group members gave two half-days of presentations at the university. Group members also have contributed to several related papers in *Marine Chemistry*. See http://www.jhu.edu/scor/wg116front.htm.

SCOR WG 125 on Global Comparisons of Zooplankton Time Series, approved at the 2004 SCOR General Meeting in Venice, Italy, finalized its set of Full Members in March 2005. In addition to the allowed 10 Full Members of the group, the North Pacific Marine Sciences Organization (PICES) and Global Ocean Ecosystem Dynamics (GLOBEC) project have each agreed to support on Associate Member. The group will initiate its work in November 2005 at its first meeting in Silver Spring, Maryland, USA. See http://www.jhu.edu/scor/wg125.htm.



SCOR WG 126 on The Role of Viruses in Marine Ecosystems held an opportunistic meeting in conjunction with the meeting of the American Society of Limnology and Oceanography in Santiago de Compostela, Spain to begin its work. The working group is working on several activities simultaneously: (1) production of a textbook on methods in aquatic virology; (2) planning of its next meeting, in Victoria, B.C., Canada in June 2006; and (3) development of international collaborative studies, such as virology research as part of the International Polar Year. See http://www.jhu.edu/scor/wg126.htm.

News About Major Projects Sponsored by SCOR

GEOTRACES—The GEOTRACES Planning Committee is working hard and making rapid progress. It circulated the draft GEOTRACES Science Plan widely in late February, including to the worldwide ocean chemistry research community, SCOR Nominated Members, working group chairs, liaisons, and other SCOR-sponsored research projects. The planning committee met in Vienna, Austria at the beginning of May to revise the GEOTRACES Science Plan on the basis of comments received, to prepare the plan for review by SCOR. The committee also worked on planning implementation activities. The GEOTRACES Science Plan is now being reviewed by 9 external reviewers. See http://www.jhu.edu/scor/GEOTRACES.htm.

SCOR/IGBP Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) Project— The IMBER project has appointed Dr. Sylvie Roy as its Executive Officer. Sylvie is currently at the Canadian SOLAS Office. She will take up her new position in early July at the IMBER IPO based at the Institut Universitaire Europeen de la Mer in Brest, France. The IMBER IPO is being supported by Centre National de la Recherché Scientifique CNRS), Institut de Recherche pour le Développement (IRD), the Université de Brentagne Occidentale, and the Brittany Region. SCOR thanks the French SCOR Committee and several French scientists who worked to establish the IMBER IPO in France. See http://www.jhu.edu/scor/IMBER.htm.

Recent Publications From SCOR-Related Activities

Jickells, T.D. et al. 2005. Global iron connections between desert dust, ocean biogeochemistry, and climate. *Science* 308:67-71.

This paper is a major review of the global iron cycle. It resulted from an IGBP Fast-Track Initiative that was co-sponsored by SCOR. Because of the low solubility of iron in seawater, the supply of iron via dust deposition from the atmosphere has a major impact on marine productivity, carbon export from the surface ocean, atmospheric CO_2 concentrations, and climate change. The study group suggested that more research is needed to understand how the global iron cycle interacts with climate change and recommended research on "(i) dust deposition processes, (ii) aerosol iron bioavailability, and (iii) the impact of iron on marine nitrogen fixation and trace gas emissions." Such research is needed to improve global climate models.

GEOHAB. 2005. *Research Plan on HABs in Upwelling Systems*. IOC, Paris.

This is the first of four research plans for GEOHAB Core Research Projects, which are meant to compare similar ecosystems in different locations. The plan describes the California Current, Iberian, and Benguela Current upwelling systems in terms of their physics and their history of harmful algal blooms. The plan next presents 8 important research topics that must be pursued so that the onset and evolution of harmful algal blooms in upwelling systems can be understood and, ultimately, predicted. Finally, the plan describes "Framework Activities" and next steps required to implement the GEOHAB Core Research Project on Harmful Algal Blooms in Upwelling Systems.

Daan et al. (eds.). 2005. Quantitative Ecosystem Indicators for Fisheries Management. *ICES Journal of Marine Science* 62:307-614.

SCOR approved its Working Group 119 on Quantitative Ecosystem Indicators for Fisheries Management at the 2000 SCOR General Meeting in Washington, D.C., USA. The working group was co-sponsored by the Intergovernmental Oceanographic Commission and additional funding was provided by the U.S. National Marine Fisheries Service. The main focus of the working group was the planning and conduct of a symposium to bring together information on environmental indicators, including habitat changes, species-based indicators, size-based indicators, trophodynamic indicators, integrated indicators, selection criteria, data sets and reviews, and frameworks for implementing indicators. An important conclusion of the symposium was that a suite of ecosystem indicators is needed, covering different data, groups, and processes and covering bottom-up effects of climate and the physical environment of the ocean, top-down effects of fishing, single species and general ecosystem condition.

Wang, P. et al. 2005. Evolution and variability of the Asian monsoon system: State of the art and outstanding issues. *Quaternary Science* Reviews 24:595-629.
This paper was the final product of SCOR/IMAGES Working Group 113 on Evolution of the Asian Monsoon in Marine Records: Comparison Between Indian and East Indian Subsystems. The paper provides "an overview of past and current paleomonsoon research on tectonic to interannual time scales with a primary focus on marine sediment records." The paper identified the need for better proxies of monsoon expression in marine sediments and a better geographic distribution of sediment cores, so that the linkage of Indian and East Asian subcomponents of the Asian monsoon, and their interaction with global climate, can be understood.

2005 SCOR Executive Committee Meeting
The 2005 SCOR Executive Committee Meeting will be held in Cairns, Australia, on 29 August-1 September, during the week following the IAG/IAPSO/IABO meeting. The meeting will be held at the Cairns Conference Centre. Six working group proposals were submitted by the 30 April 2005 deadline, on topics of physical oceanography, fisheries, bathymetry, coastal modeling, and hypoxia (see http://www.jhu.edu/scor/2005EC.htm for working group proposals and other information about the meeting).

Travel Grants for Scientists from Developing Countries and Countries With Economies in Transition
SCOR's travel grant from the U.S. National Science Foundation has been renewed through mid-2008. During the three years of the recently completed grant, 237 individual scientists from 46 countries received full or partial travel support that enabled them to attend 47 different scientific meetings or training programs during this period. About 70% of the scientists were from SCOR member nations, down from 82% for the previous grant. This change resulted from a greater number of travel grants being granted to individuals in countries of Latin America, Africa, and Eastern Europe that are not SCOR members.

National SCOR Committees
Links to six national SCOR committees can be found on the SCOR Web site at http://www.jhu.edu/scor/nations.htm. The Canadian National Committee for SCOR publishes a regular electronic newsletter, which can be obtained through this Web link. SCOR encourages all national SCOR committees to increase their efforts to provide a linkage between their national oceanographic communities and international SCOR, through establishment of national committee Web sites, newsletters, and other mechanisms.

For additional information about SCOR activities, please see the SCOR Web site at http://www.jhu.edu/scor.

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