



Cathedral in Senate Square, Helsinki
(c) Damon Hart-Davis

SCOR Volunteers

I often hear comments about how productive SCOR is with such a small staff (one full-time Executive Director and one half-time Financial Assistant, aided by a quarter-time consultant). I believe that the major reason that SCOR has been able to achieve so much over the past 53 years is our large pool of enthusiastic “volunteers” (about 230-250 at any given time) who actually do most of the hard work related to SCOR working groups, large-scale research projects, and other activities. In addition, about 100 members of national SCOR committees provide the foundation for SCOR, serving as liaisons with national ocean science communities, making the case why precious national funds should be sent to the SCOR Secretariat to support international SCOR activities, and reviewing working group proposals. The SCOR Executive Committee currently includes 10 members, who help guide SCOR. SCOR staff members assist our volunteers by raising funding for activities, helping with logistics, and making connections with other international organizations. Thank you to all those who have contributed and are now contributing to SCOR’s success! From Ed Urban

Third Symposium on the Ocean in a High-CO₂ World

SCOR, IOC, and IGBP are working together to plan the third symposium on The Ocean in a High-CO₂ World. The symposium will be held on 24-27 September 2012 in Monterey, California, USA. The 14-person international planning committee for the symposium met on 2-3 December in Monterey to develop the topics and identify plenary speakers for the symposium. Based on the rapid development of this field of research and the attendance at the previous two symposia, it is expected that the 2012 symposium may attract 400 or more participants. Each of the international sponsors, as well as local hosting organizations, have committed

significant financial and staff resources to ensure that the symposium will meet its goals. The planning committee will produce several documents from the symposium to reach the scientific community and policymakers with the latest information about ocean acidification, and the symposium has been timed so that it will be able to provide input for the development of the Intergovernmental Panel on Climate Change’s Assessment Report 5.

Capacity Development

Two SCOR Visiting Scholars completed their visits since the previous newsletter.

Kurt Hanselmann spent about one month teaching biological and chemical oceanography at the University of Namibia. Hanselmann was able to visit several laboratories of the university and national agencies, and has made recommendations to his hosts about future courses, as well as other actions that could increase the ocean science capacity in Namibia.

Vadim Mokievsky spent two weeks at the Annamalai University’s Center for the Advanced Studies in Marine Biology. The main goal of his visit was to develop studies on the taxonomy and ecology of mangrove meiobenthos. The lectures, consultations, and classes on meiobenthos ecology and taxonomy of key groups (with special reference to free-living nematodes) were conducted in the form of collaborative work in the lab and in the field.

The call for applications for 2011 SCOR Visiting Scholars is open until 31 January 2011 (see http://www.scor-int.org/SCOR_Visiting_Scholars.pdf).



Kurt Hanselmann and students from the University of Namibia

Working Groups

Two SCOR working groups met in the past few months: (1) WG 137 on Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time Series Observation and (2) SCOR/LOICZ WG 132 on Land-based Nutrient Pollution and the Relationship to Harmful Algal Blooms in Coastal Marine Systems

WG 137 met for the first time in Hangzhou, China on 17-21 October. (Thanks to Mingyuan Zhu for hosting the meeting!) To address the group's objectives, participants and Chinese invitees focused on the following items:

1. linking and utilizing research interests, available databases from relevant regions, ecosystems and specific sites, and other resources (monitoring and assessment programs, data management, analytical and statistical capabilities) to WG objectives;
2. formulating directions, approaches, and contributions for conducting comparative analyses;
3. defining research questions that will help achieve the group's overall goal of comparative analyses of human- and climate-induced changes of estuarine and coastal phytoplankton community structure and function; and
4. providing a time frame and assigning specific tasks for providing and analyzing comparative data sets.

The meeting was designed to encourage short presentations of local and regional data sets, and conceptual and technical frameworks for formulating and addressing specific questions concerning the use and

comparison of key indicators, trends, and patterns of environmental change.

The meeting also developed approaches for comparing data sets across geographically, climatically, hydrologically, biogeochemically, and trophically diverse ecosystems and regions. A list of relevant questions to be considered for these systems, as well as systems yet to be included in the analyses, was formulated, and individuals were identified as lead team members to "fine tune" these questions and begin to apply them to the systems identified. All written contributions and databases will be finalized by 1 June 2011, and the next meeting of the working group will take place in autumn 2011.



Cyanobacterial bloom in Lake Taihu (China). Used with permission by Hans Paerl.

WG 132 met in Crete, Greece on 25-29 October for the final time. The working group is emphasizing application of models at multiple scales. First, GlobalNEWS models are being used as the basis for estimating nutrient loads and forms. These models have been advanced with inclusion of nutrient loads from aquaculture. Second, coastal typology models are being used to estimate nutrient retention and how it impacts nutrient loads and ratios. Third, simulations with the POLCOM-ERSEM Global coastal ocean model are being compared to total production and HAB occurrences in several specific oceanic regions. These simulations are based on GlobalNEWS data. A special issue of a journal is planned by the working group to highlight the emerging relationships among nutrient loads, phytoplankton production, biomass, and HABs.

Large-Scale Ocean Research Projects

IMBER held its second IMBIZO open science meeting at the Hellenic Centre for Marine Research in Crete, Greece on 10-14 October 2010. This symposium brought together the food web and biogeochemistry communities to consider the integration of

biogeochemistry and ecosystems in a changing ocean. More than 120 scientists attended the meeting, divided among three concurrent workshops, each structured to provide a synthesis of current knowledge and key questions for future research within IMBER. The workshops had common plenary, poster, and report-back sessions:

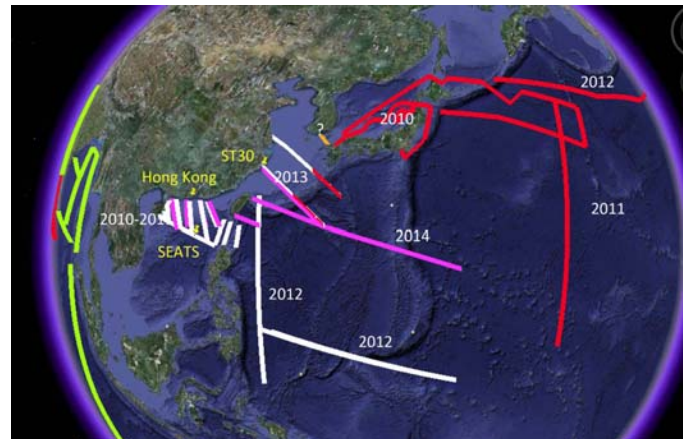
- Workshop 1 considered the effects of varying element ratios (C, N, P, Si and trace metals) on community structure at low trophic levels and food quality at mid- and high trophic levels under present oceanic conditions and in response to possible future climate changes.
- Workshop 2 reviewed regional comparisons of marine biogeochemistry and ecosystem processes over a range of space and time scales.
- Workshop 3 investigated potential effects of enhanced stratification on food webs and biogeochemical cycles.

Participants also had the opportunity to attend an interactive Data Management workshop the day before the official start of IMBIZO II.

GEOTRACES scientists held two regional meetings in October to plan research, one meeting for the Mediterranean Sea and another for GEOTRACES Asia. The Mediterranean workshop attracted about 50 participants from 15 countries around the sea. The workshop defined a major GEOTRACES east-west section, as well as other concurrent sections dedicated to specific processes in areas of the Mediterranean, Adriatic, and Black seas, and other coastal areas. Because input through the air-sea interface is so important in this region, potential cooperation between GEOTRACES and SOLAS was highlighted at this workshop.

About 65 scientists and students from China, India, Japan, Korea, the United States, and Europe attended the GEOTRACES Asia planning meeting. Following plenary talks presented in the first two days, three breakout groups were formed for further topical discussion, including water column, sinking particles, and submarine groundwater discharge (SGD) groups. It was concluded that capacity building is essential for most Asian countries prior to initiating national GEOTRACES programs. Currently, only Japan and Taiwan own clean sampling facilities and only Japan is capable of doing shipboard analysis for contamination-prone trace metals. It is thus important to select crossover stations at deep-water sites to maintain an intercalibration effort for the key trace elements and isotopes (TEIs) as Asian countries develop their capacity for clean TEI analyses. The SGD group recommended selecting SGD sampling sites in the waters along Chinese coasts to evaluate the relative importance of SGD for nutrient and trace metal inputs in comparison to

riverine and aeolian sources. The sinking particle group emphasized that the East Asian oceanic waters are regions with exceptionally high external particle inputs from both atmospheric and riverine sources and also with high gradients of external inputs over the broad continental shelves. Evaluating the fate of aerosol deposition is a high priority for study of TEIs in the region. Some of the research topics proposed during the workshop match closely with SOLAS topics and provide opportunities for future collaboration between the two projects.



Ongoing and proposed Asian GEOTRACES cruises shown on the map of Google Earth. The red line cruises are or will be carried out by Japan; the white lines by China, the pink lines by Taiwan; the green lines by India.

SCOR/IODE/MBLWHOI Library Project on Data Publication

SCOR, the International Oceanographic Data and Information Exchange (IODE) of IOC, and the Marine Biological Laboratory/Woods Hole Oceanographic Institution Library are continuing to conduct pilot projects on providing a “digital backbone” for traditional journal publications and creation of citable data sets from data center holdings. Several presentations have been made in the past few months to meetings of the data management, library, and ocean science communities about the project. A challenge was issued in mid-2010 for libraries and data centers to work together to test processes related to creating a distributed digital backbone. SCOR is working with its host institution, the University of Delaware, as one test site.

SCOR/POGO International Quiet Ocean Experiment

SCOR and the Partnership for Observation of the Global Oceans received funding from the Alfred P. Sloan Foundation to hold a workshop in October to explore the idea of an International Quiet Ocean Experiment. Workshop participants from the scientific community, industry, and several navies discussed the current knowledge of sound in the ocean, including effects on marine organisms, what could be learned if areas of the

ocean could be quieted by ceasing some or all human-generation of sound for a limited period, and other issues related to comparative studies of sound. Meeting participants concluded that there is a need for large-scale international observations and experiments in relation to sound in the ocean. An open science meeting on the topic will be planned for late 2011.

Southern Ocean Observing System

The implementation plan for the Southern Ocean Observing System (SOOS) is being finalized for publication, after community review. An Executive Officer post has been advertised at the University of Tasmania and we expect to conduct interviews for the position early in 2011. The Executive Officer will be responsible for helping SCAR and SCOR implement the plan for the system. The SCAR/SCOR Expert Group on Oceanography will serve as the scientific steering committee for SOOS for the near future.

SCOR Annual Meetings

2011—The 2011 Executive Committee meeting will be hosted by the Finnish SCOR Committee in Helsinki, Finland on 12-15 September.

2012—The 2012 SCOR General Meeting will be held in Halifax, Nova Scotia, Canada.

2013—SCOR is seeking a Southern Hemisphere host for its 2013 Executive Committee meeting.

2014—SCOR has accepted an offer from the German SCOR Committee to hold its 2014 General Meeting in Bremen, Germany.

For additional information about SCOR activities, please see the SCOR Web site: <http://www.scor-int.org>.

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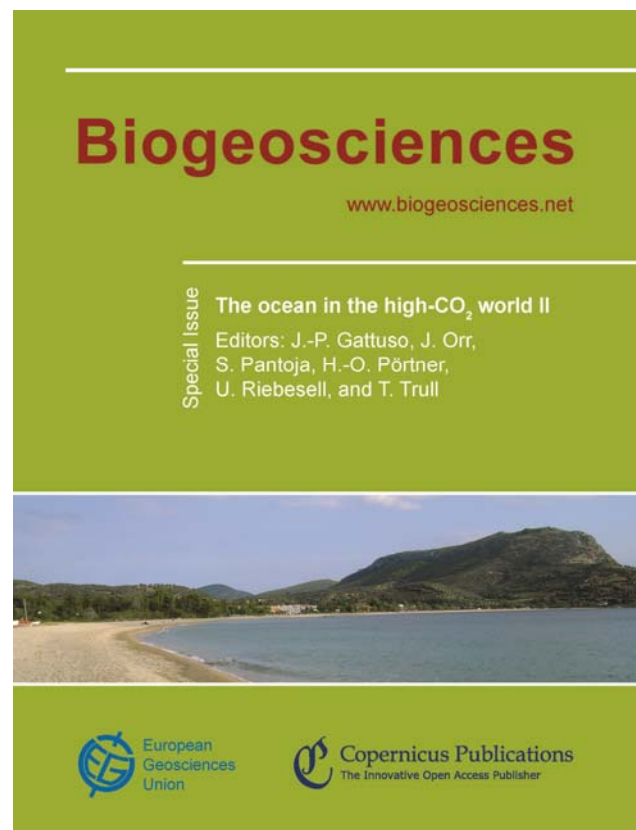
To reach Secretariat staff, please call the number above or send an email to Ed Urban (Ed.Urban@scor-int.org) or Lora Carter (Lora.Carter@scor-int.org).

Acronyms:

IGBP	International Geosphere – Biosphere Programme
IOC	Intergovernmental Oceanographic Commission of UNESCO
IODE	International Oceanographic Data and Information Exchange (IOC/UNESCO)
LOICZ	Land-Ocean Interactions in the Coastal Zone project
MBL	Marine Biological Laboratory (Woods Hole, Massachusetts, USA)
POGO	Partnership for Observation of the Global Oceans
SCOR	Scientific Committee on Oceanic Research
SGD	submarine groundwater discharge
SOLAS	Surface Ocean – Lower Atmosphere Study
TEIs	trace elements and isotopes
WG	working group
WHOI	Woods Hole Oceanographic Institution

Acknowledgements of Figures:

Page 1— Cathedral in Senate Square, Helsinki (see http://gallery.hd.org/_c/places-and-sights/_more2003/_more08/Finland-Helsinki-Senate-Square-cathedral-singers-on-stage-to-left-chirpy-song-people-watching-1-DHD.jpg.html) Damon Hart-Davis



Cover of Special Issue from Second Symposium on The Ocean in a High-CO₂ World