



SCOR Newsletter May 2015 • #29



2015 SCOR Annual Meeting location at the
National Institute of Oceanography in Goa, India

Twitter: @SCOR_Int

Website: www.scor-int.org

SCOR Web Site Redesigned

A redesigned SCOR Web site was launched in early January, providing easier navigation to all content related to SCOR activities.



Publications

- C.R. German, L.L. Legendre, S.G. Sander, N. Niquil, G.W. Luther III, L. Bharati, X. Han, and N. Le Bris. 2015. Hydrothermal Fe cycling and deep ocean organic carbon scavenging: Model-based evidence for significant POC supply to seafloor sediments. *Earth and Planetary Science Letters* 419:143-153 – WG 135.
- M.C. Lohan, K.N. Buck, and S.G. Sander (eds.). 2015. Organic ligands – A key control on trace metal biogeochemistry in the oceans. *Marine Chemistry* 173 – WG 139.

News from SCOR Working Groups

SCOR WG 139 on Organic Ligands – A Key Control on Trace

Metal Biogeochemistry in the Ocean held its final meeting and **final workshop** in Šibenik, Croatia on 7-11 April. In addition to the special issue of *Marine Chemistry* just published, the group is considering publication of another special issue.

SCOR WG 140 on Biogeochemical Exchange Processes at the Sea-Ice Interfaces (BEPsII) produced a major review article in the new journal *Elementa: Science of the Anthropocene*. The article is entitled “Methods for biogeochemical studies of sea ice: The state of the art, caveats, and recommendations” and was led by Lisa Miller (Canada). The article can be accessed at: <http://elementascience.org/article/metrics/info:doi/10.12952/journal.elementa.000038#sthash.vlXB0BoH.dpuf>. This is the first article in an *Elementa* Special Feature being produced by WG 140.

SCOR WG 145 on Chemical Speciation Modelling in Seawater to Meet 21st Century Needs (MARCHEMSPEC) held its first meeting in Šibenik, Croatia, on 12-13 April. A major focus of the meeting was the preparation of a prioritized list of the chemical components (major and minor seawater ions, and trace elements) to be modelled; the relevant temperatures, salinities and pressures; and planning the review of the availability of thermodynamic data. The meeting also discussed activities to be carried out over the next 12 months. These activities include preparation of an article describing the list, giving the practical justifications for the different items, and its publication in the chemical and geochemical literature; compilation of external contacts for consultation; plans for securing additional funding; and a review of the user interfaces in selected speciation modelling packages. In addition, a Working Group Web site will be established. The results of these activities will be reviewed at the second meeting of the Working Group, which will be held in conjunction with Ocean Sciences 2016 in New Orleans.



Participants at first meeting of WG 145 in Šibenik, Croatia

SCOR WG 146 on Radioactivity in the Ocean, 5 decades later (Rio5)

will hold its first meeting in Woods Hole, Massachusetts, USA on 15-17 July. The group has established a Web site at <http://www.whoi.edu/CMER/rio5-working-group>. The meeting will discuss existing and developing radionuclide databases and will explore available data to develop global distribution maps of radioactivity in the ocean. Outlines will be developed for synthetic papers to present the current state of the global ocean for natural and artificial radionuclides, based on data from the databases identified. Spatial distributions and evolution as well as a global overview of potential risk will be the focus of the artificial radionuclide datasets, while objectives for naturally occurring radionuclides include their relevance to applications and newly available tools. The meeting will discuss challenges and frontiers in marine radiochemistry and radioecology. Participants will also discuss plans to increase the content of the group's Web site and how to build and disseminate educational materials for the public and students. Finally, planning will be initiated for an international symposium on marine radioactivity.

SCOR WG 147: Towards Comparability of Global Oceanic Nutrient Data (COMPONUT)

held its first meeting on 14-15 April in Vienna, Austria, in conjunction with the General Assembly of the European Geosciences Union. The meeting discussed the use of reference materials and certified reference materials, and the current status of nutrient measurements in seawater.

Large-Scale Ocean Projects

Planning for the **Second International Indian Ocean Expedition-2 (IIOE-2)** continues. The SCOR-sponsored Science Plan Development Committee (SPDC) completed the draft IIOE-2 Science Plan. The plan was revised based on comments received from the international ocean science community. The IOC-led Interim Planning Committee (IPC) has started its work to develop an implementation plan for the IIOE-2. SCOR is participating in the IPC through Peter Burkill, SCOR President, and Raleigh Hood, SPDC chair. The first cruise of the IIOE-2 will be launched by India at the end of the Goa Symposium (see below). This cruise will sample from Goa to Mauritius and will include scientists from India and other nations.

The **International Quiet Ocean Experiment (IQOE)** has been accepted as a project of SCOR and the Partnership for Observations of the Global Ocean (POGO). The IQOE Science Plan is being formatted for publication. Seed funding has been arranged to begin project implementation.

The **Integrated Marine Biogeochemistry and Ecosystem Research (IMBER)** project will be convening its fourth IMBIZO open science meeting on 26-30 October 2015 in Trieste, Italy. The theme of this IMBIZO is "Marine and human systems: Addressing multiple scales and multiple stressors" (see <http://www.imber.info/index.php/Meetings/IMBIZO/IMBIZO-IV>



IMBER is preparing its proposal for project extension to be considered by SCOR and the Future Earth initiative.

The **GEOTRACES** project is planning mid-life synthesis activities that will build on its 2014 Intermediate Data Product (IDP). These synthesis activities will focus on processes, rather than on geographic regions or cruises:

- One synthesis activity will focus on supply and removal of trace elements and isotopes at ocean

interfaces. An open workshop on this topic will be held at the Royal Society in London in December 2015, followed by a smaller workshop at Chicheley Hall, Buckinghamshire.

- A second synthesis activity will focus on internal cycling of trace elements and isotopes in the ocean. The synthesis workshop in 2016 will be co-sponsored by GEOTRACES and the U.S. Ocean Carbon and Biogeochemistry program.
- GEOTRACES and the Past Global Changes (PAGES) project are discussing a joint workshop in 2018 that would take advantage of the outcomes of the 2015 and 2016 workshops and the publication of the 2017 GEOTRACES Intermediate Data Product.
- GEOTRACES will continue planning related to regional science in the next few years, including workshops focused on planning GEOTRACES cruises and research in the Indian Ocean region, Latin America, and East Asia.

The **Surface Ocean – Lower Atmosphere Study (SOLAS)** will be holding its 2015 Open Science Conference in Kiel, Germany on 7-11 September (see <https://www.confmanager.com/main.cfm?cid=2778>). The process for adding Future Earth as a sponsor of SOLAS, in place of the International Geosphere-Biosphere Programme, continues. The Science Plan for the second phase of SOLAS has entered peer review.



Integrated Marine Research Network

A meeting of ocean-related global science projects was convened in Kiel, Germany on 4-5 March 2015, in conjunction with the Ocean Sustainability Science Symposium. The purpose of the meeting was to explore how the ocean-related projects could work together to implement the work of Future Earth, the World Climate Research Programme (WCRP), SCOR, the Global Ocean Observing System (GOOS), and other marine-oriented global activities. Representatives from all ocean-related projects sponsored by SCOR, IGBP, WCRP, and GOOS were invited to the meeting. The meeting resulted in two major achievements (1) a set of themes that could guide future interactions among the projects and (2) an idea for an Integrated Marine Science Network that would serve as a mechanism to stimulate interactions among the projects. Preliminary funding has been obtained to support a Network Coordinator.



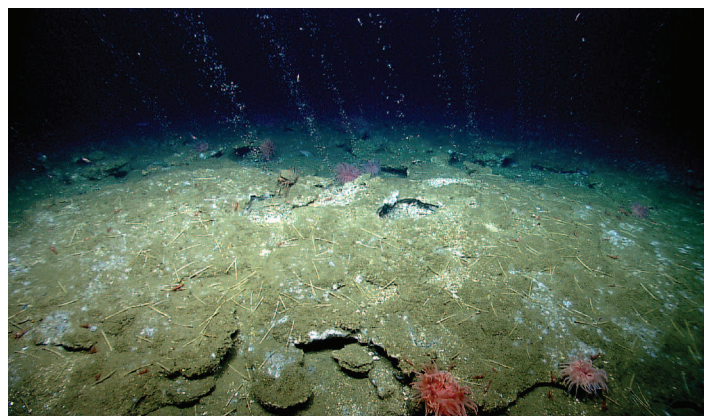
PHOTOGRAPH BY JAN DREYER, THE FUTURE OCEAN

Group picture from Marine Projects Meeting in Kiel, March 2015

Workshop on Seafloor Ecosystem Functions and their Role in Global Process

SCOR is sponsoring a workshop on “Seafloor Ecosystem Functions and their Role in Global Processes”, to be held 16-18 September in Naples, Italy. Paul Snelgrove of Memorial University of Newfoundland (Canada) will convene the meeting for SCOR. Processes that occur at, immediately above, and just below the seafloor play an important role in global biogeochemical cycles, from coastal areas to the deep ocean. The workshop will assemble 12 participants with different perspectives, to generate an exciting, productive, and inclusive conversation to advance this topic. The goal of the workshop will be to produce an article for a peer-reviewed journal that could form the basis for a broader discussion by interested scientists. The group will provide advice to SCOR on future research needs on benthic ecosystems and processes in the global ocean.

The workshop aims to consider, synthesize, and define critical challenges and needs related not only to fundamental biogeochemical and biophysical science but also in relation to more focused issues of marine ecosystem services and pathways to sustainability of marine ecosystems.



*Methane bubbles at a cold-water methane seep site
(Credit: NOAA OKEANOS Explorer Program,
2013 ROV Shakedown and Field Trials:*

<https://www.flickr.com/photos/noaaphotolib/14526221693/>

Capacity Building

The SCOR Committee on Capacity Building selected four SCOR Visiting Scholars for 2015:

Nagappa Ramaiah (India) will teach and mentor on the subject of biological oceanography in June 2015 at the University of Dhaka (Bangladesh). Ramaiah is a scientist at the National Institute of Oceanography in Goa. He is a Full Member of SCOR WG 137 on Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time Series Observation and of SCOR WG 144 on Microbial Community Responses to Ocean Deoxygenation.



Kunio Takahashi (Japan) will contribute to a training course on the Continuous Plankton Recorder in Goa, India later this year.



Tony Koslow (USA) will present seminars and lectures on the development of ocean observation systems for sustainable management of marine ecosystems at the national fisheries agency (IMARPE) in Peru in April/May 2015

Bill Burnett (USA) will teach a short course in Brazil on "Applications of Isotopic Techniques for Coastal Studies". Burnett co-chaired SCOR/IMAGES WG 112 Magnitude of Submarine Groundwater Discharge and its Influence on Coastal Oceanographic Processes.



SCOR will support the travel of early-career scientists from Bangladesh, Madagascar, Mauritius, Pakistan, and Sri Lanka to the symposium described in the next item and will provide a mentoring program at the symposium for these early-career scientists.

Symposium in Goa

SCOR, the Intergovernmental Oceanographic Commission (IOC), and the Indian government are co-convening an International Symposium on the Indian Ocean to celebrate The Golden Jubilee of National Institute of Oceanography, Goa and 50th Anniversary of the Completion of International Indian Ocean Expedition (IIOE). The symposium will take place from 30 November to 4 December 2015 in Goa, India. The Web site for the symposium is available at <http://www.io50.incois.gov.in/>.

Dynamics of the Indian Ocean: Perspective and Retrospective



International Symposium on the Indian Ocean

30 November - 4 December 2015
Goa, India



The Indian Ocean remains one of the least studied ocean basins and is remarkable for its dynamic features of monsoonal oscillations that are not seen in other basins. This symposium will explore the history of research in the Indian Ocean and discuss future research directions. It will be held in celebration of the 50th anniversary of India's National Institute of Oceanography and 50 years of ocean science in the region since the completion of the first International Indian Ocean Expedition in 1965.

Symposium Web site: <http://www.io50.incois.gov.in/>

Future SCOR Annual Meetings

2015—SCOR will hold its 2015 Executive Committee Meeting in Goa, India on 7-9 December.

2016—SCOR will hold its 2016 General Meeting in Sopot, Poland.

The SCOR Executive Committee is accepting invitations from national SCOR committees to host the 2017 SCOR annual meeting.

For additional information about SCOR activities, please see the SCOR Web site: <http://www.scor-int.org>. To reach Secretariat staff, please send an email to Ed Urban (Ed.Urban@scor-int.org).

ACRONYMS

GOOS	Global Ocean Observing System
iCACGP	international Commission on Atmospheric Chemistry and Global Pollution
IGBP	International Geosphere-Biosphere Programme
IIOE	International Indian Ocean Expedition
IMBER	Integrated Marine Biogeochemistry and Ecosystem Research project (co-sponsored by SCOR and IGBP)
IOC	Intergovernmental Oceanographic Commission
IQOE	International Quiet Ocean Experiment
PAGES	Past Global Changes project
POGO	Partnership for Observation of the Global Oceans
SCOR	Scientific Committee on Oceanic Research
SOLAS	Surface Ocean – Lower Atmosphere Study (Co-sponsored by SCOR, IGBP, WCRP, and iCACGP)
WCRP	World Climate Research Programme
WG	working group