



SCOR Newsletter

October 2013 • #25



PHOTO COURTESY OF [HTTP://SCENERY-WALLPAPERS.COM](http://scenery-wallpapers.com)

Wellington Harbor and Tatarua Ranges

2013 SCOR Executive Committee Meeting

The 2013 SCOR Executive Committee Meeting will be held at the Royal Society of New Zealand on 25-27 November. The meeting Website <http://www.scor-int.org/2013EC/2013EC.htm> includes all working group proposals and logistical information (now) and background materials for the meeting (by late October). A record number of working group proposals—11—were submitted for consideration this year. Several national SCOR committees have already met to evaluate the proposals and other committees will meet soon. Following the SCOR meeting, the New Zealand SCOR Committee will host a day of presentations about national ocean science on 28 November. SCOR last held an annual meeting in New Zealand in 1991.



Royal Society of New Zealand Headquarters

SCOR WG 137 on Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time Series Observation is planning a meeting and special session at the 22nd Biennial Conference of the Coastal and Estuarine Research

Federation. The purpose of the special session will be to present the group's work so far and to encourage the inclusion of new datasets in the group's analyses.

SCOR/IGBP WG 138 on Modern Planktic Foraminifera and Ocean Changes held two parallel workshops in Prague, Czech Republic in June. The workshops focused on (1) foraminifera taxonomy and (2) standardization of foraminifera collections.

The workshop on **foraminifera taxonomy** brought together experts on taxonomy and genetics of modern planktonic foraminifera to consider how to revise, expand, and standardize the nomenclature in both fields. The group will produce a publication describing a consensus approach for documenting and standardizing morphological and genetic biodiversity in foraminifera, including a taxonomic ID template. A scheme for molecular taxonomy and targets for future research will be developed, and the group will produce an updated identification key to species of modern planktonic foraminifera; the first version was assembled and reviewed at the meeting. The workshop on **standardization of foraminifera sampling techniques** discussed the techniques used to collect modern planktonic foraminifera. The group will produce a "cookbook" describing each technique (including benefits and limitations) and a flow chart for choosing among them.

SCORWG 141 on Sea-surface Microlayers met for the first time in Vienna, Austria in April in conjunction with the European Geosciences Union meeting. Group members attending presented their research relevant to the group's work and discussed the activities and products that will be needed to achieve the group's terms of reference.

The group is planning a workshop in Qingdao, China in 2014. The four-day workshop will have an open session for Chinese students, including training in microlayer sampling. A closed

session of the workshop will focus on developing a paper that will highlight the role of microlayers in the changing ocean, aerosol chemistry, gas exchange, eutrophication, ecosystem health and hydrophysical modeling. This paper is intended to help communicate the topic beyond specialists.

The group is also organizing a special session during a major science meeting, such as the SOLAS Open Science Conference in Kiel, Germany (2015) and/or the Ocean Sciences Meeting in New Orleans, USA (2016). The special session will be designed to produce a special issue of a peer-reviewed journal, focused on microlayer research.

The group will publish a guide on research methods that will be freely available in pdf format. It is still to be decided whether the guide will focus on sampling the microlayer or will be extended to broader investigations of the ocean's surface.

News from the SCOR Committee on Capacity Building

SCOR capacity-building activities have proceeded on several fronts this year. SCOR has funded participants to attend several major ocean science meetings since the previous newsletter, as well as helping to support POGO-SCOR Fellows for Operational Oceanography. Four of the six 2013 SCOR Visiting Scholars have completed their visits so far this year, travelling to Morocco, Namibia, South Africa, and Thailand. The remaining two 2013 Scholars will travel to Argentina and Thailand. The SCOR Committee on Capacity Building will meet before the main SCOR meeting in New Zealand to review all SCOR capacity building activities and to make decisions related to new requests for travel grants.

Alice Newton of the University of Algarve (Portugal) and NILU (Norway) was hosted by **Maria Snoussi** of Université Mohammed V-Agdal (Morocco) as a SCOR Visiting Scholar in May 2013. Prof. Newton also visited Université El Jalida. She lectured to 17 post-graduate students from the Master in Geosciences, Environment and Sustainable Development. The topics of the lectures were (1) Global change and coastal systems (2) Frameworks for the analysis of socio-ecological coastal systems, (3) Conceptual diagrams of socio-ecological coastal systems, (4) Assessment of the state of the coast and ocean (Environmental report cards, Ocean Health Index, Good



Post-graduate students from the Master in Geosciences, Environment and Sustainable Development

Environmental and Ecological Status), and (5) Opportunities for Post-Graduate studies (Master and PhD) and studentships in the Erasmus Mundus programme. Prof. Newton also acted as a mentor for two undergraduate students and one PhD candidate during her stay.

Profs. Snoussi and Newton also organized and participated in a series of field trips. These were to (1) the urban coasts of El Jadidia and Rabat; (2) Oued Oum Ribia estuary; (3) the DRAPOR sand extraction unit; (4) the Sidi Moussa and Oualidia lagoons; (5) the Ostrea bivalve production unit; (6) the site of a future commercial port close to the petrochemical developments at Port Jorf Lasfer; (7) a tertiary sewage treatment plant at El Jadida; (8) eroding cliffs; (9) paleo-coasts; and (10) rocky shores where the harvest of algae (for agar-agar) is an important activity.

Ed Urban, the SCOR Executive Director, published a paper with **Roberta Boscolo** of the World Climate Research Programme (WCRP) based on experiences with early-career scientists at the Third Symposium on The Ocean in a High-CO₂ World and at the 2011 WCRP Open Science Conference. It is hoped that this publication will provide ideas and a starting point for planners of future ocean science conferences

Urban, E.R. Jr., and R. Boscolo. 2013. Using scientific meetings to enhance the development of early career scientists. *Oceanography*, <http://dx.doi.org/10.5670/oceanog.2013.16>.

An article in the magazine of the University of Delaware's Institute for Global Studies highlighted SCOR's capacity building activities in Africa and **Kurt Hanselmann's** work in Namibia (see http://www.scor-int.org/Capacity_Building/UD_Global.pdf).

Ocean Carbon Activities

The SCOR/IOC International Ocean Carbon Coordination Project (IOCCP) Scientific Steering Group members and the International Project Office were involved in three major activities since the previous newsletter:

1. Completion of an article and meeting report from the Workshop on Improving Intercomparability of Marine Biogeochemical Time Series.
2. Release of the Surface Ocean CO₂ Atlas (SOCAT) Version 2 on June 4, during the 9th International Carbon Dioxide Conference. IOCCP has been a major driver of SOCAT since the activity started. SOLAS and IMBER are co-sponsors.
3. Assistance with the 2nd International Workshop to Develop an Ocean Acidification Observing Network of Ship Surveys, Moorings, Floats and Gliders, in Scotland in July.

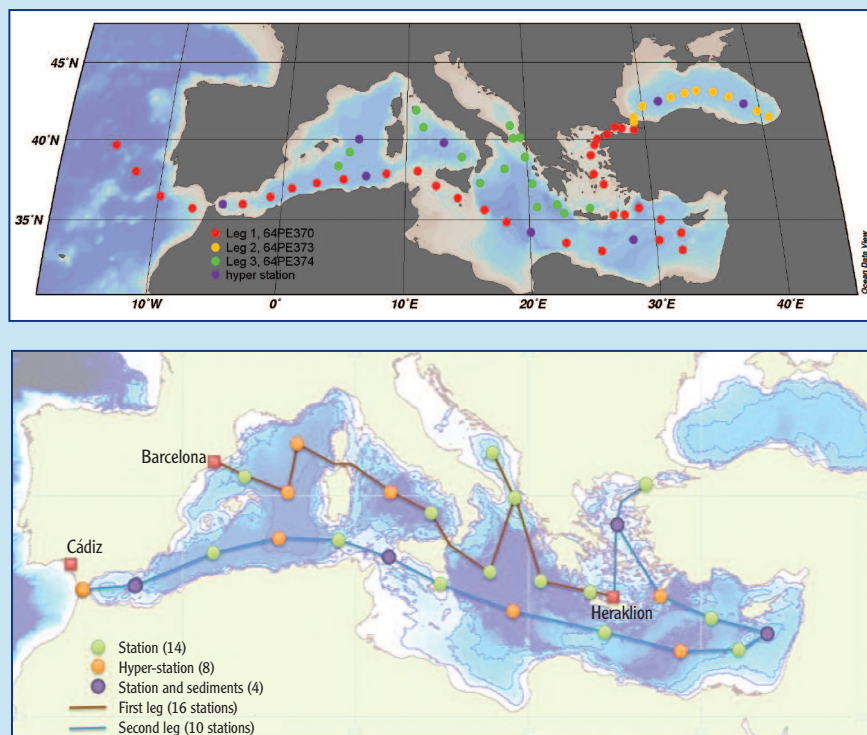
IOCCP also updated its Web site (see <http://www.ioccp.org/>).

Large-Scale Ocean Research Projects

The GEOTRACES project updated its Web site (see <http://www.geotraces.org/>). The main international GEOTRACES activity this year has been to gather and quality control data from project cruises up to the end of 2012 that will contribute to the 2014 GEOTRACES intermediate data product. This product will mostly contain data from Atlantic Ocean and polar cruises.

Dutch and Spanish scientists conducted intensive sampling in the Mediterranean and Black seas in the past few months.

SCOR provided travel support for a Tunisian scientist to participate in the Dutch cruise.



Dutch Cruises (above) and Spanish cruises (below)

The GEOTRACES Scientific Steering Committee, Data Management Committee, and Standards and Intercalibration Committee will meet together for the first time, in Bremerhaven, Germany on 30 September-4 October 2013.

The Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB) project held its final open science conference at IOC Headquarters in Paris in April. The meeting presented a synthesis of GEOHAB results and proposed a follow-on program to GEOHAB called GlobalHAB. The SCOR Executive Committee will discuss future SCOR involvement in HAB science at its meeting in November.

GESAMP Working Group 38 on the Atmospheric Deposition of Nitrogen and Its Impact on Marine Biogeochemistry

GESAMP Working Group 38 gathered 21 participants for a four-day workshop in Norwich, UK in February. The goals of the workshop were to:

- update the geographical estimates of anthropogenic nitrogen deposition to the global ocean made in a Duce et al. paper in *Science* in 2008, which were based on data from 2005 and earlier;
- on the basis of the above update, re-estimate the amount of additional CO₂ that could be drawn down from the atmosphere to the ocean as a result of the increased productivity in the ocean resulting from the additional anthropogenic nutrient nitrogen deposited;
- provide a much more accurate estimate of the impact of atmospheric anthropogenic nitrogen deposition on the production of additional nitrous oxide in the ocean and its subsequent emission to the atmosphere;
- evaluate the extent to which anthropogenic nitrogen delivered to the coastal zone via rivers, atmospheric deposition, etc. is transported to the open ocean, in which regions this may happen, and what its impact is there; and
- do a much more detailed estimate of the input and impact of anthropogenic nitrogen in the area of the northern Indian Ocean (Arabian Sea, Bay of Bengal) and the South China Sea and other areas east of Asia - the areas that are

expected to show the greatest increase of anthropogenic nitrogen deposition over the next decade or so.

Partial funding for the workshop was provided from the U.S. National Science Foundation through SCOR. As many as 9 peer-reviewed papers may result from the workshop.

Publications

- Bouwman, A.F., A.H.W. Beusen, C.C. Overbeek, D.P. Bureau, M. Pawlowski and P.M. Glibert. 2013. Hindcasts and Future Projections of Global Inland and Coastal Nitrogen and Phosphorus Loads Due to Finfish Aquaculture. *Reviews in Fisheries Science* 21:112-156. – WG 132
- Feistel, R., R. Tailleur, and T. McDougall. Thermophysical properties of seawater. *Ocean Science* http://www.ocean-sci.net/special_issue14.html - Special Issue from WG 136

Data Publication Project

The data publication project continues to publicize its Cookbook (see <http://www.scor-int.org/Publications/mg64.pdf>) and is discussing the possibility of replicating its pilot projects in new locations. Printed copies of the Cookbook are available from the SCOR Secretariat, as well as from other participating organizations.

International Indian Ocean Expedition 50th Anniversary Symposium

SCOR is discussing with other partners various activities related to the 50th anniversary of the completion of the International Indian Ocean Expedition (IIOE). The SCOR Executive Committee and IOC have agreed to work with a planning committee from India to convene a symposium in Goa, India from 30 November to 4 December 2015. The symposium will celebrate the 50th anniversary of the formation of the Indian National Institute of Oceanography and will highlight scientific results from the IIOE. In addition, part of the symposium will look to the future, reporting out the results of a parallel activity, in which IOC is leading an effort to create a research focus for the Indian Ocean for the period 2015 to 2020. This activity will include all ongoing and planned international ocean projects in the Indian Ocean and will also initiate some new research projects that will help address important societal issues in the region.

SCOR/SCAR Workshop on Ecosystem Essential Ocean Variables

SCOR and the Scientific Committee on Antarctic Research (SCAR) were awarded funding from the International Council for Science (ICSU) to plan and convene a workshop designed to identify and evaluate potential Ecosystem Essential Ocean Variables (eEOVs) that would be monitored through an enhanced Global Ocean Observing System. The focus of the

workshop will be the Southern Ocean and the results will apply directly to the Southern Ocean Observing System, but the process could be a model for other regions. Understanding has grown that changes in ocean climate and acidification could result in altered dynamics of marine ecosystems which, in turn, will need to be considered in decisions about how to maintain ecosystem health, services, and robustness/resilience to future change. Sustainable marine ecosystem management will require indicators of the underlying status of marine ecosystems, and new means to monitor such indicators. The workshop will result in two publications, one for the natural science literature and the other for the marine policy literature. The workshop will be the first and foundational phase of a long-term activity. It will be held at the Institute of Marine and Coastal Science, Rutgers University, New Jersey, USA in March 2014.

Future SCOR Annual Meetings

- 2014** SCOR will hold its 2014 General Meeting in Bremen, Germany.
- 2015** SCOR will hold its 2015 Executive Committee Meeting in Goa, India.
- 2016** SCOR will hold its 2016 General Meeting in Sopot, Poland.

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

CACGP	Commission on Atmospheric Chemistry and Global Pollution
GEOHAB	Global Ecology and Oceanography of Harmful Algal Blooms project
ICSU	International Council for Science
IGBP	International Geosphere-Biosphere Programme
IMBER	Integrated Marine Biogeochemistry and Ecosystem Research project (co-sponsored by SCOR and IGBP)
IOC	Intergovernmental Oceanographic Commission
IOCCP	International Ocean Carbon Coordination Project
IODE	International Oceanographic Data and Information Exchange (IOC/UNESCO)
SCAR	Scientific Committee on Antarctic Research
SCOR	Scientific Committee on Oceanic Research
SOCAT	Surface Ocean CO ₂ Atlas
SOLAS	Surface Ocean – Lower Atmosphere Study (Co-sponsored by SCOR, IGBP, WCRP, and CACGP)
SOOS	Southern Ocean Observing System
WCRP	World Climate Research Programme
WG	working group