



SCOR Newsletter

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University of Plymouth Marine Station

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Proposals for New SCOR Working Groups Available for Review

Nine proposals were submitted for new SCOR working groups:

- Active Chlorophyll fluorescence for autonomous measurements of global marine primary productivity
- The Surface Ocean CO₂ Mapping intercomparison initiative: Phase 2 (SOCOMv2)
- Ocean Governance and Policy Analysis for Ocean Deoxygenation (WG-OGOD)
- Carbonate system intercomparison forum (CSIF)
- Toward a new global view of marine zooplankton biodiversity based on DNA metabarcoding and reference DNA sequence databases (MetaZooGene)
- The Caribbean Upwelling Research Network (CURNet)
- A Framework for Ocean Observation for the Next Generation - expanding quantifiable methods and Best Practices (FOO-BP)
- Coordinated Global Research Assessment Of Seagrass Systems (C-GRASS)
- Co-ordinated approach for Aerosol Trace element Solubility and Bioavailability Research in Oceanography (CoATS-BRO)

The proposals can be reviewed on the [2018 SCOR meeting Website](#). Comments are requested from national SCOR

committees, partner organizations, and anyone in the global ocean science community, by 1 August 2018. It is likely that SCOR will support two new working groups to start in 2019.

SCOR at Ocean Sciences 2018

Many thanks to individuals who volunteered at the SCOR Booth: Eric Achterberg, Bob Anderson, Adrian Burd, Jay Cullen, Steve Diggs, Jessica Gier, Vanessa Hatje, Eileen Hofmann, Raleigh Hood, Phoebe Lam, Bill Landing, Li Li, Maite Maldonado, Lisa Miller, Pere Masque, Carol Robinson, Tatiana Rynearson, Maciej Telszewski, David Turner, and Ed Urban. The booth was visited by many people who were learning about SCOR for the first time, some who wanted to discuss new ideas for SCOR working groups, and other friends of SCOR.

Several SCOR working groups and research projects met in conjunction with Ocean Sciences and/or convened special sessions, as described in previous *SCOR Newsletters*.

SCOR-Supported Research Projects

The Scientific Steering Committee (SSC) on the **Surface Ocean – Lower Atmosphere Study (SOLAS)** met on 2–4 May 2018 in Victoria, British Columbia, Canada. In conjunction with the SSC meeting, SOLAS convened a meeting of other organizations on 1 May to facilitate joint activities in global environmental change research. The [SOLAS Summer School 2018](#) is scheduled to take place from 23 July to 3 August 2018 in Cargèse, Corsica, France. The [SOLAS Open Science Conference 2019](#) will take place on 21–25 April 2019 in Sapporo, Hokkaido, Japan.

The International Quiet Ocean Experiment (IQOE) Science Committee (SC) met at the Alfred Wegener Institute in Bremerhaven, Germany on 13–14 March to review the project's progress. The SC also discussed additional enhancements of the IQOE Website (www.iqoe.org) to make it more useful for the international ocean acoustics and bioacoustics communities, and submission of an abstract for the OceanObs'19 meeting in September 2019 in Honolulu, Hawaii. IQOE-involved scientists will work with other ocean acousticians to produce a white paper for OceanObs'19. IQOE also held a forum on research on the effects of sound on marine organisms, on 6 May at the Acoustical Society of America meeting in Minneapolis, Minnesota, USA.



IQOE Science Committee Meeting

The next **GEOTRACES** synthesis activity will be the **[GEOTRACES-PAGES Synthesis workshop: Trace Element and Isotope Proxies in Paleooceanography](#)** in December 2018. GEOTRACES scientists will contribute information about trace element observations for a white paper being written for OceanObs'19.

The **GlobalHAB** Website was launched earlier this year at <http://www.globalhab.info/>. The GlobalHAB SSC met on 10–11 April 2018 in Villefranche-sur-Mer, France to continue implementation of GlobalHAB activities, including activities related to understanding how harmful algal blooms might change with climate change. GlobalHAB is creating a manual for conducting experiments on the effects of global change on harmful algal blooms.



2018 GlobalHAB SSC Meeting

The **Integrated Marine Biosphere Research (IMBeR)** project SSC met in Hobart, Tasmania, Australia on 16–19 April 2018. Meeting participants continued IMBeR implementation, with particular focus on Grand Challenge III on Improving and Achieving Sustainable Ocean Governance and a special session hosted by the University of Tasmania's Centre for Marine Socioecology. The next IMBeR Open Science Conference will be held in Brest, France in June 2019.

SCOR Working Groups

Members of **WG 143 on Dissolved N₂O and CH₄ measurements: Working towards a global network of ocean time series measurements of N₂O and CH₄** obtained funding from the U.S. Ocean Carbon and Biodiversity (OCB) Program to hold an OCB workshop at Lake Arrowhead, California, USA on Oceanic Methane and Nitrous Oxide: The Present Situation and Future Scenarios (see <https://web.whoi.edu/methane-workshop/>).

WG 145 on Modelling Chemical Speciation in Seawater to Meet 21st Century Needs (MARCHEMSPEC) met for the third time in February 2018 in conjunction with the Ocean Sciences Meeting in Portland, Oregon, USA. Members of the group obtained a three-year NERC/NSF grant entitled "A Thermodynamic Chemical Speciation Model for the Oceans, Seas, and Estuaries", which will be helpful for fulfilling the terms of reference of the group.



WG 153 Meeting in San Diego

WG 153 on Floating Litter and its Oceanic Transport Analysis and Modelling (FLOTSAM) met for the first time in San Diego, California in April 2018, in conjunction with the 6th International Marine Debris Conference. The focus of the group is on key scientific questions to improve knowledge of sea surface processes affecting transport of marine debris. The plenary session and discussion in subgroups addressed gaps in understanding the physical processes controlling movement of marine debris and its biological, ecological, and economic impacts. The group discussed in situ and remote sensing capabilities, as well as advanced modelling that are needed to fill these gaps. Eighteen scientists from all continents participated in the meeting, including three PhD students and two stakeholders, who participated as observers. The group has established a Website at <http://scor-flotsam.it/>.

WGs 154 on Integration of Plankton-Observing Sensor Systems to Existing Global Sampling Programs (P-OBS)

held its first meeting at the Ocean Sciences Meeting in Portland, Oregon, USA in February 2018. The group has published an article in *L&O Bulletin* to describe the work of the group. The working group is reviewing biological sensing technologies and measurements that are ready for integration into existing regional and global ocean observing programs. Multidisciplinary sets of measurements, guided by research and societal benefit goals, will transform our understanding of ocean biology and its impacts on Earth systems.

WG 155 on Eastern boundary upwelling systems (EBUS): diversity, coupled dynamics and sensitivity to climate change

met on 2–3 June 2018 in conjunction with the Fourth symposium on the Effects of Climate Change on the World's Oceans in Washington, D.C. The group discussed its terms of reference, plans for future meetings, and products, including a review paper on the state of knowledge about Eastern Boundary Upwelling Systems.

Namibian SCOR Committee Launched

Namibian scientists and administrators launched the Namibian SCOR Committee on 28 March 2018. The occasion was marked with a special symposium highlighting the ocean science activities currently underway in Namibia, as well as plans for the future. The SCOR Executive Committee, Committee on Capacity Building, and Secretariat were represented at the symposium by Marie-Alexandrine Sicre, Venu Ittekkot, and Ed Urban, respectively. Representatives of the Italian and Swiss SCOR Committees also participated.



Hilkka Ndjaula, Marie-Alexandrine Sicre, Venu Ittekkot, Sam Mafwila, Kenneth Matengu, Osmund Mwandemele, and Ed Urban with a plaque presented by SCOR celebrating the launch of the Namibian SCOR Committee on 28 March 2018

2018 SCOR Visiting Scholars Named

Seven SCOR Visiting Scholars were approved for 2018:

Stuart Bishop (North Carolina State Univ., USA) will be teaching a course at the Institute of Oceanography at Universidade Federal do Rio Grande (FURG) in Brazil. The course will focus on the dynamics of western boundary current confluence regions, their observational and modeling challenges, and their links to biogeochemistry variability. Bishop will be in Brazil in mid-2018. The course will be open to undergraduate and graduate students, and local researchers.



Julia M. Diaz (Univ. of Georgia, USA) will be teaching on phosphorus cycling, utilization, and sustainability in the marine environment, at Morocco VI Polytechnic University. Morocco has a large percentage of the global reserve of phosphorus, which is a nonrenewable and limiting resource important for global food security. Diaz will be in Morocco in November 2018.

She will use the exchange to help develop future cooperation between the University of Georgia and the Morocco VI Polytechnic University.

Baban Ingole (National Institute of Oceanography, India) served as a SCOR visiting Scholar to the University of Dhaka in 2016. He will serve again in 2018, teaching and mentoring on the topics of biodiversity, benthic biology, and the environmental impacts of pollution, seasonal upwelling, hypoxia, and climate change on the Bay of Bengal ecosystem.

Kedarnath Mahapatra (Tokai Univ., Japan) will focus his teaching and mentoring on the integration of satellite-derived variables from various ocean sensors and relevant ship observation data being collected during the Second International Indian Ocean Expedition (IIOE-2) to address research questions in the tropical Indian Ocean. Dr. Mahapatra will serve at the Bogor Agricultural University, Indonesia for two weeks in 2018. He will teach about the application of marine remote sensing technology to undergraduate and postgraduate students at the university.

Manuel António E. Malaquias (Univ. of Bergen, Norway) will teach a course on “Curation, management, and databasing of marine biodiversity collections: a teaching and scientific tool” at the University Lurio (Mozambique) in August–September 2018. Biodiversity collections, if properly cared for and organized, can be used as a tool on the teaching of conservation, biodiversity, and taxonomy, and simultaneously constitute a valuable resource to aid research and to document long-term changes in local biodiversity.



Cristian A. Vargas Gálvez (Univ. of Concepción) will teach on the topic of ocean acidification at the Charles Darwin research Center in the Galapagos Islands (Ecuador). Vargas' scholarship is being funded by the Intergovernmental Oceanographic Commission. The [course](#) will be held on 19–28 August 2018,

and will focus on the CO₂ vents at Roca Redonda, Galapagos Islands as a natural laboratory for long-term multidisciplinary ocean acidification experiments and capacity building.

Ana Širović (Texas A&M Univ. Galveston) will teach in early 2019 at the Blue World



Institute in Croatia, on marine mammals and using ocean ambient noise in the Adriatic Sea. Širović will include training on instrument deployment and setup, data processing, and data analysis. The Blue World Institute focuses on the ecology of large marine vertebrates of the Adriatic Sea with the aim of achievement of their protection and conservation.



Publications

Boyd, P.W., S. Collins, S. Dupont, K. Fabricius, J.-P. Gattuso, J. Havenhand, D.A. Hutchins, U. Riebesell, M.S. Rintoul, M. Vichi, H. Biswas, A. Ciotti, K. Gao, M. Gehlen, C.L. Hurd, H. Kurihara, C.M. McGraw, J.M. Navarro, G.E. Nilsson, U. Passow, and H.-O. Pörtner. 2018. Experimental strategies to assess the biological ramifications of multiple drivers of global ocean change—A review. *Global Change Biology* DOI: 10.1111/gcb.14102 – WG 149

Schmidt, H., S. Seitz, E. Hassel, and H. Wolf. 2018. The density–salinity relation of standard seawater. *Ocean Sci.* 14:15–40. <https://doi.org/10.5194/os-14-15-2018> - SCOR/IAPWS/IAPSO Committee on the Properties of Seawater (JCS)

Siccha, M., and Kucera, M. 2017. ForCenS, a curated database of planktonic foraminifera census counts in marine surface sediment samples. *Sci. Data* 4:170109 doi: 10.1038/sdata.2017.109. – WG 138

Snelgrove, P.V.R., K. Soetaert, M. Solan, S. Thrush, C.-L. Wei, R. Danovaro, R.W. Fulweiler, H. Kitazato, B. Ingole, A. Norkko, R.J. Parkes, and N. Volkenborn. 2018. Global Carbon Cycling on a Heterogeneous Seafloor. *Trends in Ecology and Evolution* 33(2):96–105. DOI: <http://dx.doi.org/10.1016/j.tree.2017.11.004>

The special issue of *Frontiers in Marine Science* from SCOR WG 139 on Organic Ligands – A Key Control on Trace Metal Biogeochemistry in the Ocean is available for download at https://www.frontiersin.org/books/Organic_Ligands_in_Marine_Trace_Metal_Biogeochemistry/1431.

A special issue of *Frontiers in Marine Science* has been launched by SCOR WG 150 on Translation of Optical Measurements into particle Content, Aggregation & Transfer (TOMCAT) (see <https://www.frontiersin.org/research-topics/7817/we-shed-light-optical-insights-into-the-biological-carbon-pump>).

SCOR and Social Media

If you received this newsletter directly from SCOR, you are on the email list. Anyone not yet on the list can join by clicking the link below.

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Future SCOR Annual Meetings

2018— The 2018 SCOR Annual Meeting will be held in Plymouth, UK on 4–6 September 2018, followed by tours of local ocean science institutions on 7 September. The meeting will review all SCOR activities and approve new SCOR working groups and other SCOR activities for 2019. See the [meeting Website](#) for additional information.

2019— The 2019 SCOR Annual Meeting will be held in Toyama, Japan on 23–25 September 2019. The meeting will be preceded by a public lecture and followed by the annual meeting of the Japan Oceanography Society.

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

iCACGP	International Commission on Atmospheric Chemistry and Global Pollution
IIOE-2	Second International Indian Ocean Expedition (co-sponsored by SCOR, IOC, and IO-GOOS)
IMBeR	Integrated Marine Biosphere Research project (co-sponsored by SCOR and Future Earth)
IOC	Intergovernmental Oceanographic Commission
IQOE	International Quiet Ocean Experiment (co-sponsored by SCOR and POGO)
SCOR	Scientific Committee on Oceanic Research
SOLAS	Surface Ocean – Lower Atmosphere Study (co-sponsored by SCOR, Future Earth, WCRP, and iCACGP)
SSC	Scientific Steering Committee
WCRP	World Climate Research Programme
WG	working group