



PRESIDENT: Professor Peter Burkill  
SECRETARY: Dr. Corina Brussaard  
EXECUTIVE DIRECTOR: Dr. Edward R. Urban Jr.

Secretariat: College of Earth, Ocean, and  
Environment  
Robinson Hall  
University of Delaware  
Newark, DE 19716 USA

## MEMORANDUM

TO: Attendees, 2015 SCOR Executive Committee Meeting

FROM: Ed Urban, SCOR Executive Director

RE: Background Book for Meeting

DATE: 7 November 2015

I am pleased to enclose the background book for the upcoming SCOR General Meeting in Goa, India. I hope that you have a chance to read it before the meeting, although I know that the time is limited and the background materials are extensive. Please be sure to review the annotated agenda following. I have tried to identify the actions that we need to consider at the meeting and have cross-referenced the agenda items to the pages where relevant background information can be found, so we can make the best use of our time together. Please skim the remainder of the book and focus on those sections that are most closely related to your interests and responsibilities. I hope that the book also will be a useful reference to you between SCOR meetings. The background book is also available on the Web, at <http://www.scor-int.org/2015/2015EC.htm>.

We will not be able to bring extra background books to the meeting, so please bring your copy if you requested one. Please let me know if you think other items should be made available to participants at the meeting.

I look forward to seeing each of you in Goa next month.

# 42<sup>nd</sup> SCOR EXECUTIVE COMMITTEE MEETING

Goa, India  
7-9 December 2015

## LIST OF PARTICIPANTS

### **SCOR Executive Committee:**

#### **President:**

##### **Peter Burkill (NM)**

Drake Circus  
Plymouth University  
Plymouth PL4 8AA  
UNITED KINGDOM  
Email: peter.burkill@plymouth.ac.uk

#### **Secretary:**

##### **Corina Brussaard (NM)**

NIOZ - Royal Netherlands Institute for Sea  
Research  
P.O. Box 59  
Den Burg, Texel, 1797 BA  
NETHERLANDS  
corina.brussaard@nioz.nl  
+31 222 369513

#### **Past-President:**

##### **Wolfgang Fennel (NM)**

Baltic Sea Research Institute  
Seestr. 15  
Rostock 18119  
GERMANY  
Phone: +49-381-51978  
Fax: +49-381-51978-114  
Email: wolfgang.fennel@io-warnemuende.de

#### **Vice Presidents:**

##### **Sergey Shapovalov (NM)**

P.P. Shirshov Institute of Oceanology  
36 Nakhimovsky ave  
Moscow, 117997  
RUSSIA  
smshap@ocean.ru

##### **Song Sun (NM)**

Institute of Oceanology  
Chinese Academy of Sciences  
7 Nanhai Road  
Qingdao, 266071  
PEOPLE'S REPUBLIC OF CHINA  
sunsong@qdio.ac.cn

##### **Ilana E. Wainer (NM)**

University of São Paulo  
praca do Oceanografico 191  
São Paulo, SP, 05508-120  
BRAZIL  
wainer@usp.br  
+55 11 3091 6562

#### **Ex-Officio Members:**

##### **Patricia Miloslavich (IABO)**

Project Officer GOOS Biology &  
Ecosystem Panel  
Universidad Simon Bolivar / AIMS  
PMB No. 3  
Townsville, Queensland, 4810  
AUSTRALIA  
pmilos@usb.ve  
61747534275

##### **Denise Smythe-Wright (IAPSO)**

National Oceanography Centre  
European Way  
Southampton, Hampshire, SO14 2ZH  
UNITED KINGDOM  
dsw@noc.ac.uk  
+44 (0) 1794 340614

**John Turner (IAMAS)**  
British Antarctic Survey  
High Cross, Madingley Road  
Cambridge, CB3 0ET  
UNITED KINGDOM  
jtu@bas.ac.uk  
+44 1223 221485

**Co-opted Member**

Wajih A. Naqvi  
National Institute of Oceanography  
Rajbhavan Road, Dona Paula  
Panjim, Goa, 403004  
INDIA  
naqvi@nio.org  
91-832-2450201

**SCOR Secretariat:**

**Ed Urban**  
SCOR Secretariat  
Robinson Hall  
College of Earth, Ocean, and Environment  
University of Delaware  
Newark, DE 19716  
USA  
Fax: +1-302-831-7012  
Email: ed.urban@scor-int.org

**Other Participants:**

**Virupaxa K. Banakar**  
CSIR-National Inst. Oceanography  
Raj-Bhavan Road  
Dona Paula, Goa, 403004  
INDIA  
banakar@nio.org  
+91-832-2450361

**Hermann Bange**  
GEOMAR  
Duesternbrooker Weg 20  
Kiel 24105  
GERMANY  
hbange@geomar.de  
+49-431-6004204

**Harold (Hal) Batchelder**  
North Pacific Marine Science Organization  
(PICES)  
9860 West Saanich Road  
Sidney, BC, V8L 4B2  
CANADA  
hbatch@pices.int

**Parthasarathi Chakraborty**  
National Institute of Oceanography  
Geological Oceanography Division  
Dona Paula, Panaji, Goa, 403004  
INDIA  
pchak@nio.org  
+91-832-2450495

**Nick D'Adamo**  
Intergovernmental Oceanographic  
Commission of UNESCO  
Level 5  
1100 Hay Street  
West Perth, Western Australia, 6005  
AUSTRALIA  
nick.dadamo@bom.gov.au

**Dejun Dai**  
First Institute of Oceanography  
6 Xianxialing Road, Laoshan district  
Qingdao, 266061  
CHINA  
dj dai@fio.org.cn  
86-532-88961709

**Anindita Das**  
MACS Agharkar Research Institute  
Bioenergy Group, Microbiology  
G.G. Agharkar Road  
Pune, Maharashtra, 411001  
INDIA  
anindita.ocean@gmail.com  
+91 8159906613

**Henrik Enevoldsen**  
Intergovernmental Oceanographic  
Commission of UNESCO  
Universitetsparken 4  
Copenhagen, 2100 Ø  
DENMARK  
h.enevoldsen@unesco.org

**Annalisa Griffa (NM)**  
CNR Consiglio Nazionale Ricerche  
Forte S. teresa, Pozzuolo di Lerici  
La Spezia, 19032  
ITALY  
annalisa.griffa@sp.ismar.cnr.it  
+39 348 2371949

**Karen Heywood (NM)**  
School of Environmental Sciences  
University of East Anglia  
Norwich, NR4 7TJ  
UNITED KINGDOM  
k.heywood@uea.ac.uk

**Raleigh Hood**  
University of Maryland Center for  
Environmental Science  
HPL/UMCES  
P.O. Box 775  
Cambridge, MD 21613  
USA  
rhood@umces.edu

**Venugopalan Ittekkot**  
Berner Chaussee 114  
Hamburg, 22175  
GERMANY  
ittekkot@uni-bremen.de

**Dileep Kumar (NM)**  
National Institute of Oceanography  
Dona Paula, Goa, 403004  
INDIA  
dileep@nio.org  
91-832-2450398

**Jorma Kuparinen (NM)**  
Viikinkaari 2a  
University of Helsinki  
Helsinki 00014  
FINLAND  
jorma.kuparinen@helsinki.fi  
+358 50 4150319

**Margareth S. Kyewalyanga**  
University of Dar es Salaam  
Institute of Marine Sciences  
Mizingani Road  
P. O. Box 668  
Zanzibar, 668  
TANZANIA  
mamakevin@gmail.com  
+255 24 2230741

**Valery E Lee-Detemmerman**  
Executive Director  
International CLIVAR Project Office  
FIO, SOA  
6 Xianxialing Rd, Laoshan District  
Qingdao, 266061  
CHINA  
valery.detemmerman@clivar.org  
86 185 5325 6192

**Zaharuddin M. Maideen**  
National Oceanographic Directorate  
Ministry of Science Technology and  
Innovation  
Level 6, Block C4, Complex C, Federal  
Government Administrative Centre  
Putrajaya, 62662  
MALAYSIA  
zaharuddin@mosti.gov.my  
603-88858203

**Ramaiah Nagappa**  
CSIR-National Institute of Oceanography  
Dona Paula, Goa, 403004  
INDIA  
ramaiah@nio.org  
+918322450515

**Hema S. Naik**

National Institute of Oceanography  
Dona Paula, Goa, 403 004  
INDIA  
hema@nio.org  
+ 91-832 245 0255

**Loka Bharathi Ponnappakkam**  
National Institute of Oceanography  
500/A-10, Oceanis Hsg Soc, Paclo Bagh  
Colony  
Near Goa Medical Complex  
Bambolim, Goa, 403 202  
INDIA  
lokabharathiponnappakkam@gmail.com  
0832-2458108

**Divakar Naidu Pothuri**  
National Institute of Oceanography  
Dona Paula  
Panaji, Goa, 403004  
INDIA  
divakar@nio.org  
+91-832-2450232

**V.V.S.S. Sarma**  
National Institute of Oceanography  
176 Lawsons Bay Colony  
Visakhapatnam, Andhra Pradesh, 530017  
INDIA  
sarmav@nio.org  
+91 891 2539180

**Arvind Singh**  
GEOMAR Helmholtz Centre for Ocean  
Research Kiel  
Düsternbrooker Weg 20  
Kiel, Schleswig-Holstein, 24105  
GERMANY  
av.arvind@gmail.com  
+494316004510

**Toshio Yamagata (NM)**  
Japan Agency for Marine-Earth Science and  
Technology  
3173-25 Showa-machi, kanazawa-ku  
Yokohama, Kanagawa, 236-0001  
JAPAN  
yamagata@jamstec.go.jp  
+81-45-778-5502

**Jing Zhang (NM)**  
University of Toyama  
3190 Gofuku  
Toyama, 9308555  
JAPAN  
jzhang@sci.u-toyama.ac.jp  
+81764456665

**NM = Nominated Member**

## Schedule for Meeting

	<b>Sun., Dec. 6</b>	<b>Mon., Dec. 7</b>	<b>Tues., Dec. 8</b>	<b>Wed., Dec. 9</b>		
9:00		Welcome, Logistics, and Introductions (1.1)	WG Proposals (cont.)	IQOE (3.5)		
9:15					IOCCP (4.1)	
9:30		President's Report (1.3)			SOOS (4.2)	
9:45		Exec. Dir.'s Report (1.4)				
10:00		Appointment of Finance Committee (1.5)			JCS (4.3)	
10:15		Preparations for 2016 SCOR Election (1.6)			Benthic Workshop (4.5)	
10:30		<b>BREAK</b>	<b>BREAK</b>	<b>BREAK</b>		
10:45						
11:00		SCOR Capacity Building Activities (5.0)	WG Proposals – Discussion of Proposals on Short List	ICSU (7.1) IGBP (7.1.1)		
11:15				WCRP (7.1.2) SCAR (7.1.3) Future Earth (7.1.4)		
11:30						
11:45						
12:00						
12:15						
12:30	Second International Indian Ocean Expedition (3.6)		IABO (7.21) IAMAS (7.2.2) IAPSO (7.2.3)			
12:45			InterRidge (7.3.1) IOCCG (7.3.2) GACS (7.3.3)			
13:00	SCOR Executive Committee Meets in Closed Session	<b>LUNCH</b>	<b>LUNCH</b>	<b>LUNCH</b>		
13:15						
13:30						
13:45						
14:00		Current WGs (2.1)	WG Proposals – Fine-tune advice to WGs	IOC (6.1) GESAMP (6.2) PICES (6.3) POGO (7.4.1)		
14:15						
14:30						
14:45						
15:00		<b>BREAK</b>	<b>BREAK</b>	<b>BREAK</b>		
15:15						
15:30						
15:45						
16:00		WG Proposals – Beginning of Discussion to Develop Short List (2.2)	GEOHAB/GlobalHAB (3.1/4.4)	Membership (8.1)		
16:15				Publications (8.2)		
16:30	Finances (8.3) Report of Ad Hoc Finance Committee					
16:45	SCOR-Related Meetings (9.0)					
17:00	IMBER (3.2)			SCOR Executive Committee Meets in Closed Session		
17:15	GEOTRACES (3.3)					
17:30	SOLAS (3.4)					
17:45						
18:00	SCOR Executive Committee Dinner					

# 42<sup>nd</sup> SCOR EXECUTIVE COMMITTEE MEETING

Goa, India

7-9 December 2015

## ANNOTATED AGENDA

---

### 1.0 OPENING

**1.1 Opening Remarks and Administrative Arrangements, p 1-1** *Naqvi, Burkill, Urban*

**1.2 Approval of the Agenda, p. 1-4** *Burkill*  
Additions or modifications to the agenda as distributed may be suggested prior to approval of the final version.

**1.3 Report of the President of SCOR** *Burkill*  
The President will briefly review his activities for SCOR since the SCOR Executive Committee Meeting in September 2014 in Bremen, Germany.

**1.4 Report of SCOR Executive Director, p. 1-4** *Urban*  
The Executive Director will report on his activities for SCOR since the 2014 SCOR meeting, and on the current condition of SCOR.

**1.5 Appointment of an *ad hoc* Finance Committee, p. 1-6** *Burkill*  
The SCOR Constitution requires that a Finance Committee be appointed at every SCOR meeting. It must consist of at least three members of SCOR who are not members of the Executive Committee. The Finance Committee reviews the administration of SCOR finances during the previous fiscal year and the current year, and will propose a budget for 2016 activities and dues for 2017. Members of the 2015 Finance Committee are Annalisa Griffa (Italy), Karen Heywood (UK), and Toshio Yamagata (Japan) The Committee will report to the meeting under agenda item **8.3**.

**1.6 2016 Elections for SCOR Officers, p. 1-7** *Fennell*  
The SCOR President and all three Vice-President positions are open for nominations for the 2016 elections.  
**Action: Set up Nominations Committee.**

## 2.0 WORKING GROUPS

### 2.1 Current Working Groups

The Executive Committee Reporter for each working group (or a member of the group) will present an update on working group activities and progress, and will make recommendations on actions to be taken. Working groups expire at each General Meeting, but can be renewed at the meeting and can be disbanded whenever appropriate.

#### 2.1.1 SCOR/InterRidge WG 135 on Hydrothermal energy transfer and its impact on the ocean carbon cycles, p. 2-1 *Bharathi*

WG 135 published its first article this year:

German, C.R., 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.

The group has a second paper in progress, which would be helped by keeping the group active for another year and by providing their remaining funding for a writing meeting.

**Action: Consider extending the group until the 2016 SCOR annual meeting and providing remaining support for a writing meeting.**

#### 2.1.2 WG 137: Patterns of Phytoplankton Dynamics in Ecosystems: Comparative Analysis of Time Series Observation, p. 2-3 *Ramaiah, Sun Song*

WG 137 published its special issue this year:

Klais, R., J.E. Cloern and P.J. Harrison. 2015. Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems. *Estuarine, Coastal and Shelf Science* 162:1-160.  
Special issue from WG 137:

<http://www.sciencedirect.com/science/journal/02727714/162>.

**Action: Consider disbanding the group.**

#### 2.1.3 SCOR/IGBP WG 138: Modern Planktic Foraminifera and Ocean Changes, p. 2-8 *Naidu, Brussaard*

WG 138's final event was a workshop held on Catalina Island, California, USA on 30 August-4 September 2015. The meeting attracted 50 participants, including a large group of students from undergraduates to finishing PhDs. The abstract volume serves as a record from the meeting:

[http://www.eforams.org/img\\_auth.php/e/ed/SCORWG138\\_Catalina\\_2nd\\_circular.pdf](http://www.eforams.org/img_auth.php/e/ed/SCORWG138_Catalina_2nd_circular.pdf).

The talks were videotaped and will be available later. The group continues to work on an ebook:

<http://www.eforams.org/index.php/WG138:E-book>.



**Action: Consider disbanding the group when its ebook is completed.**

**2.1.4 WG 139: Organic Ligands – A Key Control on Trace Metal Biogeochemistry in the Ocean, p. 2-10**

*Naqvi*

Databases for metal-binding ligand measurements are being compiled by several members of the working group for four key bioactive trace elements: Co, Cu, Fe and Zn. A review paper is underway and will be completed once the databases are established. A large intercalibration exercise compared the interpretation techniques routinely used for determining ligand concentrations and conditional stability constants from titration data, with 15 participants using a simulated dataset. The results of this intercalibration were published in *Marine Chemistry* as part of a special issue (<http://www.sciencedirect.com/science/journal/03044203/173>). In April 2015, a highly successful two-day symposium was held in Sibenik, Croatia. Fifty-one people attended the symposium, including 24 students and postdocs. Twenty of the attendees also participated in a training workshop held the day before the symposium (see [04-09 17-25-01 HRT4 Zupanijska panorama Zadar-Pizeta.avi](#)). Due to the success of the *Marine Chemistry* special issue and discussions at the final symposium, another special issue was initiated, in *Frontiers Marine Biogeochemistry* and the deadline for submissions to this issue is in December 2015. A total of 24 authors have confirmed their intention to contribute to this special issue.

**Action: Consider continuing group for another year without funding.**

**2.1.5 WG 140: Biogeochemical Exchange Processes at the Sea-Ice Interfaces, p. 2-17**

*Shapovalov*

The yearly meeting of WG140 took place after the Gordon Research Conference on Polar Marine Sciences in Lucca, Tuscany, Italy on 20 March 2015. 26 members of the BEPSII network, representing 12 countries, attended the meeting. The major activity in the coming year will be the continued submission of papers to the *Elementa* Special Feature (<https://home.elementascience.org/special-features/biogeochemical-exchange-processes-at-sea-ice-interfaces-bepsii/>). Since both mechanistic review papers and modeling applications will be published in this Feature, it is regarded as the main product of WG140. The group is discussing mechanisms to continue its work outside SCOR

**Action: Consider continuing group for another year without funding.**

**2.1.6 WG 141 on Sea-Surface Microlayers, p. 2-35**

*Burkill*

The Schmidt Ocean Institute has approved approximately one month of ship time (tentatively 9 October-12 November 2016) for a cruise of the R/V *Falkor* by a team representing the working group. The cruise will start in Darwin, Australia and finish in Guam. The focus of the cruise will be to study the role of the sea-surface microlayer on air-sea interactions. The group plans to meet next in February 2016 in conjunction with the Ocean Sciences meeting in New Orleans, Louisiana (USA).

**Action: Consider funding for 2016 WG meeting.**

**2.1.7 WG 142 on Quality Control Procedures for Oxygen and Other Biogeochemical Sensors on Floats and Gliders, p. 2-37**

*Prakash, Burkill*

The group met for the second time on 16-17 March 2015 in Brest, France. A major outcome of the meeting was a clear agreement among group members to prepare and publish a recommendation to the Argo community to implement an in-air measurement routine during float surfacings as an independent and reliable method to in-situ calibrate/correct oxygen optodes data from floats. Based on the evidence provided, such a QC routine would remove any calibration biases, as well as drift issues, to an overall accuracy of approximately 1%, a tremendous improvement over the current situation. The group plans to inform the wider Argo and marine biogeochemistry community about this recommendation through an *Eos* article. WG 142 plans to meet next on 27 February 2016 in conjunction with the Ocean Sciences meeting in New Orleans, Louisiana (USA).

**Action: Consider funding for 2016 WG meeting.**

**2.1.8 WG 143 on Dissolved N<sub>2</sub>O and CH<sub>4</sub> measurements: Working towards a global network of ocean time series measurements of N<sub>2</sub>O and CH<sub>4</sub>, p. 2-42**

*Bange, Turner*

WG 143's 2<sup>nd</sup> meeting was held on 4 September, at GEOMAR in Kiel, Germany. It was agreed that additional samples should be taken from Boknis Eck (BE), as a coastal reference site. It was decided to have an intercomparison exercise for both discrete and underway measurements on 12-20 Oct. 2016: A total of 12 berths are available and ship time is already allocated. Prior to the 2<sup>nd</sup> intercomparison, a method/best practice recommendation/guideline will be distributed to ensure that all participating labs are using the same equations, doing the same corrections, apply the same form of calibration curves etc. A "toolbox" for dissolved N<sub>2</sub>O/CH<sub>4</sub> concentration computations will be created, that can be used as standard routine in Matlab (or other software packages), and perhaps a video showing best practice for N<sub>2</sub>O/CH<sub>4</sub> sampling.

**Action: Consider funding for 2016 WG activities.**

**2.1.9 WG 144 on Microbial Community Responses to Ocean Deoxygenation, p. 2-47**

*Ramaiah*

The group's workshop at Saanich Inlet (Canada) in 2014 started the process of establishing a minimal core of technologies, techniques and standard operating procedures (SOPs) to enable compatible process rate and multi-molecular data collection for study of oxygen minimum zones (OMZs). These recommended techniques and SOPs should facilitate future cross-scale comparisons and time-series efforts that more accurately reflect in situ microbial community structure and functions, an important consideration for future numerical model development incorporating multi-molecular data. WG 144 held a workshop in Warnemünde, Germany on 30 August-3 September 2015, which aimed to summarize existing knowledge and to elaborate recommendations for best practices for assessing microbial communities and biogeochemical processes in OMZs.

**Action: Consider funding for 2016 WG meeting.**

**2.1.10 WG 145 on Chemical Speciation Modelling in Seawater to Meet 21st Century Needs (MARCHEMSPEC), p. 2-53** *Urban*

WG 145 met in Šibenik, Croatia, on 12-13 April 2015, immediately following the closing symposium of WG 139. WG members have submitted 10 reviews of existing speciation calculation programs using a common questionnaire format focusing on the user interface. This material will be used to develop a first draft of desirable features in a “best practice” model, which will be discussed and refined at the WG’s second meeting. The group is planning a variety of publications to announce its work and to encourage participation by the global ocean science community. The group plans to meet next on 21 February 2016 in conjunction with the Ocean Sciences meeting in New Orleans, Louisiana (USA).

**Action: Consider funding for 2016 WG meeting.**

**2.1.11 WG 146 on Radioactivity in the Ocean, 5 decades later (RiO5), p. 2-61** *Naqvi*

WG 146 met for the first time on 15-17 July 2015 at the Woods Hole Oceanographic Institution (USA). The group’s overarching goal is to improve information available to scientists, students, and the public about radioactivity in the ocean. It will do this by enhancing existing databases and writing a peer-reviewed article to reach the scientific community, develop teaching materials and hold a training workshop to reach students, and seek funding to hold an international symposium on radionuclides in the ocean to bring together academic, nuclear industry, and national laboratory experts. The group is developing a series of e-lectures on 1) Radioactivity Basics, 2) Introduction to Radionuclides in Marine Systems, 3) Radionuclides as Tracers of Marine Processes, and 4) Impacts and Radioecology. It will hold its next meeting in Xiamen, China in conjunction with public lectures on ocean radioactivity topics on World Ocean Day (8 June 2016) and a short training course for Asian students and young scientists. The SCOR Committee on Capacity Building has approved support for developing country scientists to participate in the training course.

**Action: Consider funding for 2016 WG meeting.**

**2.1.12 WG 147 on Towards comparability of global oceanic nutrient data (COMPONUT), p. 2-65** *Naik*

WG 147 has arranged for the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) to sell nutrient certified reference materials (CRMs) at cost to get them out to the global community. WG 147 has distributed a questionnaire to determine the demand for these nutrient CRMs. The questionnaire can be found at [http://www.scor-int.org/Working\\_Groups/Nutrient\\_CRM\\_Questionnaire.docx](http://www.scor-int.org/Working_Groups/Nutrient_CRM_Questionnaire.docx) and the summary of the results is at [http://www.scor-int.org/Working\\_Groups/WG\\_147\\_Questionnaire\\_Results.pdf](http://www.scor-int.org/Working_Groups/WG_147_Questionnaire_Results.pdf). There were 67 replies to the questionnaire as of 30 October 2015. The group also plans to conduct training on best practices for nutrient measurements in 2017 at the Royal Netherlands Institute for Sea

Research (NIOZ).

**Action: Consider funding for 2016 WG meeting.**

## **2.2 Working Group Proposals**

**2.2.1 Towards a Global Comparison of Zooplankton Production: Measurement, Methodologies and Applications (ZooProd), p. 2-70** *Sun Song*

**Action: Consider as new SCOR working group.**

**2.2.2 SEAmount Faunal vulnerability to impacts of Ocean Acidification and Mining (SEAFOAM), p. 2-84** *Burkill*

**Action: Consider as new SCOR working group.**

**2.2.3 BIOgeochemistry of COral REef systems (BIOCORE), p. 2-103** *Brussaard*

**Action: Consider as new SCOR working group.**

**2.2.4 Changing Ocean Biological Systems (COBS): how will biota respond to a changing ocean?, p. 2-110** *Miloslavich*

**Action: Consider as new SCOR working group.**

**2.2.5 A Functional Trait Perspective on the Biodiversity of Hydrothermal Vent Communities (FDvent), p. 2-128** *Burkill*

**Action: Consider as new SCOR working group.**

**2.2.6 Rheology, nano/micro-Fluidics and bioFouling in the Oceans (RheFFO), p. 2-143** *Fennel*

**Action: Consider as new SCOR working group.**

**2.2.7 Translation of Optical Measurements into particle Content, Aggregation & Transfer (TOMCAT), p. 2-162** *Smythe-Wright*

**Action: Consider as new SCOR working group.**

**2.2.8 Global Assessment of Nutrient Export Through Submarine Groundwater Discharge (NExT SGD), p. 2-175** *Naqvi*

**Action: Consider as new SCOR working group.**

**2.2.9 International Quality Controlled Ocean Database: Subsurface temperature profiles (IQuOD), p. 2-192** *Turner*

**Action: Consider as new SCOR working group.**

**2.2.10 The dynamic ecogeomorphic evolution of mangrove and salt marsh coastlines  
(DEMASCO), p. 2-214**

*Miloslavich*

**Action: Consider as new SCOR working group.**

**3.0 LARGE-SCALE SCIENTIFIC PROGRAMS**

SCOR currently sponsors six large-scale research projects; five of them are co-sponsored by other organizations. Each project has its own scientific steering committee (SSC) to manage the project on a day-to-day basis. SCOR and other co-sponsors are responsible to oversee the projects, which they do primarily through responsibility for the project SSC memberships and terms of reference, although sponsors also oversee the results of the projects' activities. Any proposed changes in membership or terms of reference are considered by the SCOR Executive Committee, in partnership with other co-sponsors, throughout the year. The SCOR Secretariat oversees the use of grant funds provided to the projects. SCOR uses solely grant funds for GEOHAB, IMBER, SOLAS, and GEOTRACES, but is providing SCOR support for IQOE and IIOE-2 until they are self-supporting.

**3.1 IOC/SCOR Global Ecology and Oceanography of Harmful Algal Blooms Program,  
p. 3-1**

*Enevoldsen, Sun Song*

GEOHAB continues to complete various synthesis products, including a final special issue and a summary for policymakers. SCOR and IOC have approved a follow-on project called GlobalHAB (see section 4.5).

**Action: None. GEOHAB funding is provided by specific funding from an NSF grant to SCOR.**

**3.2 SCOR/IGBP Integrated Marine Biogeochemistry and Ecosystem Research,  
p. 3-6**

*Burkill*

IMBER is nearing the end of its first 10 years as a research project and is currently drafting a request for a 10-year extension of the project. IMBER held its fourth Imbizo open science meeting at the end of October 2014 in Trieste, Italy (see <http://www.imber.info/index.php/Meetings/IMBIZO/IMBIZO-IV>). The IMBER SSC met in Santa Cruz, California in June 2015 and will meet next in New Orleans, Louisiana, USA on 19-21 February 2016, in conjunction with the Ocean Sciences 2016 meeting. Carol Robinson (UK) has been approved by SCOR and IGBP as the incoming chair of the IMBER SSC. The status of the new IMBER Science Plan/Implementation Strategy will be presented at the meeting.

**Action: None. IMBER funding is provided by specific funding from an NSF grant to SCOR.**

**3.3 GEOTRACES, p. 3-32**

*Naqvi*

The GEOTRACES Data Management Committee and Scientific Steering Committee met at the University of British Columbia in June 2015. Nations participating in GEOTRACES were active this year. Canada, Germany, and the United States ran cruises in the Arctic Ocean this summer. Germany also carried out a section cruise in the Atlantic Ocean and Australia, Germany, Japan,

Netherlands, and United Kingdom are carrying out GEOTRACES process studies in various basins. GEOTRACES is beginning mid-term project synthesis activities with an open meeting at the Royal Society in London (<https://royalsociety.org/events/2015/12/ocean-chemistry/>) on 7-8 Dec. 2015 and a smaller meeting following at Chicheley Hall (<https://royalsociety.org/events/2015/12/trace-metal-cycling/>) on 9-10 Dec. GEOTRACES has released a timeline for data submission and quality control for the 2017 GEOTRACES Intermediate Data Product (<http://www.geotraces.org/dp/intermediate-data-product-2017>). The GEOTRACES SSC and Data Management Committee will meet next in Toulouse, France on 12-16 September 2016.

**Action: None. GEOTRACES funding is provided by specific funding from an NSF grant to SCOR.**

### **3.4 Surface Ocean – Lower Atmosphere Study (SOLAS), p. 3-60** *Sarma, Turner*

SOLAS is nearing the end of its first 10 years as a research project. Its new Science Plan has been reviewed and SOLAS is working on the response to reviewer's comments. SOLAS has signed an agreement with the Future Earth initiative for sponsorship. The SOLAS SSC met in Hamburg, Germany in September 2015 and will meet next in China in 2016. It held its 2015 Open Science Conference in Kiel, Germany in September 2015. SCOR provided support for developing country scientists to participate in this conference.

**Action: None. SOLAS funding is provided by specific funding from an NSF grant to SCOR.**

### **3.5 International Quiet Ocean Experiment (IQOE), p. 3-80** *Urban, Shapovalov*

The IQOE Science Plan has been printed and released by SCOR and Partnership for Observation of the Global Oceans (POGO). The document is available in printed and electronic formats.

[Tyack, P., G. Frisk, I. Boyd, E. Urban, and S. Seeyave \(eds.\). 2015. International Quiet Ocean Experiment Science Plan.](#)

Editors and sponsors met in July in Woods Hole, Massachusetts (USA) to discuss implementation steps and formation of a Steering Committee for the project. An important initial task for the project will be to locate datasets on ambient sound and the ocean and determine how the data can be used to help meet project goals. Potential members of the IQOE Science Committee are being approached now and a nomination memo is being prepared for approval by the SCOR and POGO Executive Committees.

**Action: Consider 2016 support from SCOR to IQOE.**

### **3.6 Second International Indian Ocean Expedition (IIOE-2), p. 3-82** *Burkill*

The Science Plan for the Second International Indian Ocean Expedition (IIOE-2) has been approved by SCOR and accepted by the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The plan is being formatted for printing and will be available at the SCOR meeting. The IOC Interim Planning Committee is developing the IIOE-2 Implementation Plan. SCOR President Peter Burkill and Raleigh Hood (chair of the Science Plan Development Committee) are members of the Interim Planning Committee. The Implementation Plan will be completed by the launch of the IIOE-2 on 4 December 2015. The launch will include a formal ceremony in Goa, India, including the departure of the first IIOE-2 cruise, from Goa to Mauritius.

**Action: Discuss potential sources of funding for IIOE-2 implementation, including SCOR support.**

#### 4.0 INFRASTRUCTURAL ACTIVITIES

##### 4.1 IOC/SCOR International Ocean Carbon Coordination Project, p. 4-1 *Fennel*

IOCCP held its First International Summer Course on Best Practices for Selected Biogeochemical Sensors (oxygen, pH, pCO<sub>2</sub>, nitrate), at the Sven Lovén Center for Marine Sciences in Kristineberg, Sweden on June 22-July 1, 2015. IOCCP's coordination of the Surface Ocean CO<sub>2</sub> Atlas (SOCAT) continues. SOCAT version 3 was released in September 2015 at the SOLAS Open Science Conference, including 14.5 million surface water fCO<sub>2</sub> observations from 3,630 data sets between 1957 and 2014. Efforts related to the Global Ocean Acidification Observing Network (GOA-ON) are the main IOCCP contribution to understanding of this multidisciplinary, multi-scale, global phenomenon. Two major GOA-ON activities developed with IOCCP leadership over the past 12 months are (i) Ocean Acidification Data Portal and (ii) Ocean Acidification Data Synthesis Products.

**Actions: None. IOCCP funding is provided by specific funding from an NSF grant to SCOR.**

##### 4.2 SCAR/SCOR Southern Ocean Observing System (SOOS), p. 4-25 *Wainer*

The SOOS Scientific Steering Committee met in Hobart, Australia in June 2015. The group is working on its Implementation Plan and continues to plan and conduct workshops related to SOOS science. SOOS published its 3-Year Progress Report at <http://soos.aq/resources/reports?view=product&pid=29> and has begun to issue reports as part of a Zenodo collection (see <https://zenodo.org/collection/user-southern-ocean-observing-system?ln=en>). This is for publications that would not be appropriate as peer-reviewed publications, but which are still useful to the community, should be widely available, and are accomplishments of the project. SOOS has continued to increase its sponsorship from organizations active in the Southern Ocean. Australia and the USA submitted a joint working paper to the Committee for Environmental Protection (CEP) at the 2015 Antarctic Treaty meeting. Titled "Shared science priorities and cooperation: systematic observations and modelling in the Southern Ocean", this report highlighted the importance of international contributions to SOOS. CEP nations agreed unanimously on the importance of SOOS and supported all recommendations from the paper.

**Action: Consider 2016 funding for SOOS.**

##### 4.3 IAPWS/SCOR/IAPSO Joint Committee on Seawater, p. 4-33 *Smythe-Wright*

The Joint Committee on Seawater (JCS) exists to advise the International Association for the Properties of Water and Steam on issues related to seawater in industrial uses, as well as the continued scientific implementation of the TEOS-10 equations of state developed by WG 127. The group is managed by an Executive Committee of three people and includes another 17 members. The group meets opportunistically at events related to their three topics of interest: seawater salinity, pH, and the relative humidity of moist air. Occasional travel support is needed

by members of the JCS Executive Committee to represent the committee in pursuit of its mission.

**Action: Consider funding for 2016.**

#### **4.4 GlobalHAB, p. 4-37**

*Enevoldsen, Sun Song*

GlobalHAB is the follow-on to the Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB) project. SCOR and IOC have approved the project and NSF has provided support for the next three years. SCOR and IOC are in the process of considering the membership. The SSC will meet for the first time early in 2016.

**Action: None. GlobalHAB funding is provided by specific funding from an NSF grant to SCOR.**

#### **4.5 Workshop on Seafloor Ecosystem Functions and their Role in Global Processes**

*Urban*

SCOR supported a workshop convened by several seafloor ecologists (Paul Snelgrove, Simon Thrush, and Alf Norkko) to consider seabed ecosystem functioning on a global scale. The workshop brought together the interdisciplinary expertise necessary to address this issue and identify priority research topics. Twelve experts in seabed biology, chemistry, and geology from North America, Europe, Asia and New Zealand met for 2.5 days in September 2015, at the Stazione Zoologica in Naples, Italy. A detailed outline has been developed for the group's paper and a rough draft is being planned by the end of 2015.

**Action: None**

## **5.0 CAPACITY-BUILDING ACTIVITIES**

### **5.1 SCOR Committee on Capacity Building, p. 5-1**

*Ittekkot*

The SCOR Committee on Capacity Building oversees all capacity-building activities for SCOR and bears primary responsibility for reviewing and approving requests from organizations for travel support for scientists from developing countries and countries with economies in transition. The committee has been working remotely in 2015 and is not planning a meeting this year, to free up funding for capacity building activities related to International Symposium on the Indian Ocean.

**Action: Consider funding for 2016 activities of the committee. Consider any recommendations of the committee.**

### **5.2 SCOR Visiting Scholars, p. 5-1**

*Ittekkot*

SCOR has sent 19 Visiting Scholars to 13 different countries in the first 7 years of the program. The program has resulted in a significant outcome for a moderate investment, including a four-year Research Camp at the University of Namibia that has been developed by a two-time SCOR Visiting Scholar, Kurt Hanselmann.

**Action: None. Funding for this activity is provided by an NSF grant to SCOR.**

### **5.3 POGO-SCOR Visiting Fellowships for Oceanographic Observations, p. 5-8**

*Urban*

SCOR has co-funded this program with POGO since 2001. The program has funded more than 125 fellows so far. A SurveyMonkey questionnaire has been developed to assess the long-term



impacts of this program.

**Actions: None. Funding for this activity is provided by an NSF grant to SCOR.**

**5.4 NSF Travel Support for Developing Country Scientists, p. 5-14** *Urban*

The current SCOR grant from the National Science Foundation for travel of developing country scientists to scientific meetings runs until 30 June 2017. The funding is used primarily for travel grants, but also for the SCOR Visiting Scholars and POGO-SCOR Fellowships. The SCOR Committee on Capacity Building has approved several batches of requests since the 2014 SCOR meeting.

**Action: None. Funding for this activity is provided by an NSF grant to SCOR.**

**6.0 RELATIONS WITH INTERGOVERNMENTAL ORGANIZATIONS**

**6.1 Intergovernmental Oceanographic Commission (IOC), p. 6-1** *Enevoldsen, Burkill*

SCOR continues to co-sponsor several activities with IOC, including IOCCP (see item 4.1), the finishing GEOHAB project (see item 3.1), the soon-to-start GlobalHAB project (see item 4.4), and the Second International Indian Ocean Expedition (see item 3.6).

**Actions: None**

**6.2 Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), p. 6-13** *Urban*

NSF provided funds for SCOR to co-sponsor GESAMP Working Group 38 on Atmospheric Input of Chemicals to the Ocean. The group is in its second phase, in which a workshop was held, which may result in as many as 8 peer-reviewed publications. GESAMP has approved continued work of WG 38 and SCOR may again be requested to support this work through new funding from NSF.

**Action: Approve continued involvement of SCOR, contingent on NSF funding.**

**6.3 North Pacific Marine Science Organization (PICES), p. 6-17** *Batchelder, Sun Song*

SCOR has long-standing cooperation with PICES, which has helped SCOR-sponsored international projects with implementations in the North Pacific region. PICES has sponsored Associate Members of SCOR working groups of interest to PICES and has cooperated with SCOR in various capacity-building activities. SCOR provided support for developing country scientists to participate in SCOR-related sessions at the 2015 PICES annual meeting.

**Actions: None**

**7.0 RELATIONS WITH NON-GOVERNMENTAL ORGANIZATIONS**

**7.1 International Council for Science** *Burkill*

ICSU is reviewing SCOR and SCAR in 2015 and 2016.

**Actions: None**

**7.1.1 International Geosphere-Biosphere Program (IGBP), p. 7-1** *Burkill*

SCOR did not send a representative to the final IGBP Science Committee meeting in 2015. IGBP is working on synthesis of its second-phase activities and assisting Future Earth in its development. IGBP currently is co-sponsoring the SOLAS and IMBER projects, and WG 138. IGBP is planning a Landmark Synthesis Event at the American Geophysical Union (AGU) Fall Meeting, 14-18 December 2015, in San Francisco.

**Action: None**

**7.1.2 World Climate Research Programme (WCRP), p. 7-4** *Fennel*

WCRP co-sponsors the SOLAS project. WCRP projects particularly related to SCOR interests include the CLIVAR project and the WCRP Grand Challenge on Regional Sea-Level Change and Coastal Impacts. SCOR is co-sponsoring and providing funding for the WCRP Polar Challenge (see <http://www.wcrp-climate.org/index.php/polarchallenge>).

**Action: None**

**7.1.3 Scientific Committee on Antarctic Research (SCAR), p. 7-9** *Brussaard*

SCOR cooperation with SCAR is particularly in relation to the Southern Ocean Observing System, but SCAR conducts several other activities that may interest SCOR.

**Action: Discuss whether SCOR should offer to help with other SCAR activities.**

**7.1.4 Future Earth Initiative, p. 7-15** *Burkill*

The Future Earth initiative continues development, including announcement of a permanent distributed network structure and awarding of a group of grants for fast-track initiatives/clusters, which are cross-cutting projects among several potential Future Earth co-sponsored projects. SCOR and Future Earth signed a letter of agreement and SCOR is working with Future Earth to develop a mutually acceptable working arrangement in relation to SOLAS and IMBER. SCOR also helped plan and conduct a workshop among marine projects in Kiel, Germany in March 2015, to help them plan cooperative activities and discuss how to give ocean science a higher profile in Future Earth.

**Action: None.**

**7.2 Affiliated Organizations**

**7.2.1 International Association for Biological Oceanography (IABO), p. 7-19** *Miloslavich*

IABO has continued its work to coordinate the field of marine biodiversity research internationally, particularly through the series of World Conferences on Marine Biodiversity. SCOR provided support for developing country scientists to attend the third conference in the series, held in China in 2014.

**Action: Identify areas of future cooperation with IABO.**

**7.2.2 International Association for Meteorology and Atmospheric Sciences (IAMAS), p. 7-22** *Turner*

The international Commission on Atmospheric Chemistry and Global Pollution (iCACGP) of IAMAS co-sponsors SOLAS. iCACGP is one of 10 IAMAS commissions that form the core of IAMAS activities.

**Actions: Identify future areas of cooperation with IAMAS.**

**7.2.3 International Association for the Physical Sciences of the Oceans (IAPSO),  
p. 7-24 *Smythe-Wright***

SCOR and IAPSO have co-sponsored many working groups in the past, and are discussing IAPSO co-sponsorship of new SCOR working groups. The two organizations currently co-sponsor the Joint Subcommittee on Seawater (see item 4.3).

**Action: Identify future areas for SCOR cooperation with IAPSO.**

**7.3 Affiliated Programs**

**7.3.1 InterRidge - International, Interdisciplinary Ridge Studies, p. 7-28 *Urban***

InterRidge has been a long-time affiliated program of SCOR, and the two organizations are co-sponsoring WG 135 on Hydrothermal Energy Transfer and its Impact on the Ocean Carbon Cycles. The InterRidge IPO is in its final year in China and will be moving to a new location next year, depending on bids for the office. InterRidge operates on a subscription basis to support its IPO and recently reformed the subscription system. In the past year, InterRidge established a new working group on Ecological Connectivity and Resilience.

**Action: None.**

**7.3.2 International Ocean Colour Coordinating Group (IOCCG), p. 7-31 *Sun Song***

SCOR co-sponsors various IOCCG activities through support from the U.S. National Aeronautics and Space Administration. Currently, the SCOR/IOC GEOHAB project and IOCCG are co-sponsoring a project on applications of remote sensing to detection of harmful algal blooms. In the past year, IOCCG established a new working group on Ocean Colour Applications for Biogeochemical, Ecosystem, and Climate Modeling. SCOR recently provided support for developing country scientists to participate in the 2015 International Ocean Color Science Meeting.

**Action: None.**

**7.3.3 Global Alliance of CPR Surveys (GACS), p. 7-35 *Burkill***

GACS is SCOR's newest affiliated program. GACS continues work toward fulfilling its goals of providing a global network of Continuous Plankton Recorder surveys and has achieved some success in helping establish new CPR surveys and providing training for people responsible for these new surveys. GACS will issue the next Global Status Report in 2016 and has been significantly involved in capacity building related to CPR survey techniques.

**Action: None**

**7.4 Other Organizations**

**7.4.1 Partnership for Observation of the Global Oceans (POGO), p. 7-36 *Shapavolov***

SCOR and POGO have many areas of mutual interest and have a good history of cooperation over the 15 years of POGO's existence. The two organizations have co-sponsored a fellowship program for ocean observations since 2001 and currently are working together to develop the

International Quiet Ocean Initiative (see item 3.5). SCOR and POGO also work together in relation to global capacity building for ocean science.

**Action: Consider whether SCOR should offer to help with any POGO initiatives.**

## **8.1 Membership**

*Urban*

### **8.1.1 National Committees, p. 8-1**

*Report on Membership Changes since 2013 Executive Committee Meeting, p. 8-1*

*Member Nations and Nominated Members, p. 8-2*

*Membership in the Scientific Committee on Oceanic Research (SCOR), p. 8-3*

**Actions: None.**

## **8.2 Publications Arising from SCOR Activities, p. 8-4**

*Urban*

SCOR projects and working groups have produced many publications in the past year. Several SCOR working groups have special issues or significant papers under development, which will appear in the next year.

**Action: None**

## **8.3 Finances, p. 8-5**

*Finance Committee, Urban*

The SCOR Executive Committee approved a Finance Committee consisting of Annalisa Griffa (Italy), Karen Heywood (UK), and Toshiro Yamagata (Japan). This committee will conduct its work during the SCOR meeting and will report on (1) findings related to the 2014 Audit report, (2) recommendations related for revisions to the 2015 SCOR budget, (3) recommendations for the 2016 SCOR budget, and (4) recommendations for dues levels in 2017.

**Actions: Present (1) findings related to the 2014 Audit report, (2) recommendations related to revisions to the 2015 SCOR budget, (3) recommendations for the 2016 SCOR budget, and (4) recommendations for dues levels in 2017.**

## **9.0 SCOR-RELATED MEETINGS**

### **9.1 SCOR Annual Meetings**

#### **9.1.1 2015 Executive Committee Meeting: Goa, India, p. 9-1**

*Naqvi*

The SCOR Executive Committee meeting will be held in Goa, India on 7-9 December 2015, immediately following the symposium in Goa designed to celebrate the Golden Jubilee of the National Institute of Oceanography, the legacy of the International Indian Ocean Expedition, and the launch of the Second International Indian Ocean Expedition.

**Actions: Thank hosts for supporting this meeting.**

#### **9.1.2 2016 General Meeting: Sopot, Poland, p. 9-1**

*Burkill*

The dates for the 2016 SCOR General Meeting have been set as 5-7 September 2016. A meeting room at the Institute of Oceanology of the Polish Academy of Sciences has been reserved, as has a block of hotel rooms within walking distance of the institute.

**Action: Discuss items related to planning for the meeting**

**9.1.3 2017 Executive Committee Meeting, p. 9-1**

*Burkill*

Discuss potential locations for 2017 SCOR annual meeting.

**Action: None**

**9.2 Locations of Past SCOR Annual Meetings, p. 9-2**

**9.3 SCOR-Related Meetings Since the 2014 SCOR Executive Committee Meeting and Planned for the Future, p. 9-3**