

PRESIDENT: Professor Wolfgang Fennel

SECRETARY: Dr. Mary Feeley

EXECUTIVE DIRECTOR: Dr. Edward R. Urban

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

MEMORANDUM

TO: Attendees, 2012 SCOR General Meeting

FROM: Ed Urban, SCOR Executive Director

RE: Background Book for Meeting

DATE: 20 September 2012

I am pleased to enclose the background book for the upcoming SCOR General Meeting in Halifax. 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 issues 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.scorint.org/2012GM/2012GM.htm.

We will not be able to bring many extra background books to the meeting, so please bring your copy. 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 Halifax next month.

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XXXIth SCOR GENERAL MEETING

Halifax, Nova Scotia, Canada 21-23 October 2012

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Agenda for 2012 SCOR General Meeting					
	Sat., Oct. 20	Sun., Oct. 21	Mon., Oct. 22	Tues., Oct. 23	Wed., Oct. 24
9:00 9:15	SCOR Committee on Capacity Building Meets	Welcome, Logistics, and Introductions	WG Proposals (cont.)	Welcome to BIO	BIO 50 th Anniversary
9:30		President's Report Approval of Agenda		GEOTRACES	
9:45		Exec. Director's Report Announcement of		IMBER	
10:15		2012 SCOR Officer Election Results		GEOHAB	
10:30 10:45		BREAK	BREAK	BREAK	
11:00 11:15 11:30 11:45 12:00		SCOR Capacity Building Activities	WG Proposals (cont.)	IOCCG InterRidge IABO, IAMAS, IAPSO	
12:15 12:30		Current WGs		IGBP and WCRP SOOS and AOSB	
12:45 13:00 13:15 13:30 13:45		LUNCH	LUNCH	LUNCH	
14:00 14:15 14:30 14:45		WG Proposals	WG Proposals (cont.)	POGO IOC	
15:00 15:15				PICES and ICES	
15:30 15:45		BREAK	BREAK	BREAK	
16:00 16:15	SCOR Executive Committee Meets in Closed Session	WG Proposals (cont.)	WG Proposals (cont.)	Finances Report of Ad Hoc Finance Committee Closing Session SCOR Executive Committee Meets in Closed Session	
16:30 16:45 17:00 17:15			IOCCP High-CO ₂ IQOE		
17:30 17:45			SOLAS		
18:00	SCOR Executive Committee Dinner		7:30 p.m Dinner at Maritime Museum		

XXXIth SCOR GENERAL MEETING

Halifax, Nova Scotia, Canada

21-23 October 2012

ANNOTATED AGENDA

1.0 OPENING

1.1 Opening Remarks and Administrative Arrangements, p 1-1

Lewis, Fennel, Urban

1.2 Approval of the Agenda, p. 1-1

Fennel

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, p. 1-1

Fennel

The President will briefly review his activities for SCOR since the SCOR Executive Committee Meeting in September 2011 in Helsinki.

1.4 Report of SCOR Executive Director, p. 1-1

Urban

The Executive Director will report on his activities for SCOR since the 2011 SCOR meeting, and on the current condition of SCOR.

1.5 Appointment of an *ad hoc* Finance Committee, p. 1-4

Fennel

The SCOR Constitution requires that a Finance Committee be appointed at every SCOR meeting. It must consist of three members of SCOR who are not members of the Executive Committee. The Executive Committee approved Corina Brussaard (Netherlands), Colin Devey (Germany), and Sun Song (China-Beijing) as the three members. The Finance Committee reviews the administration of SCOR finances during the previous fiscal year and the current year, and will propose a budget for 2013 activities. The Committee will report to the meeting under agenda item **8.3**.

1.6 2012 Elections for SCOR Officers, p. 1-4

Sundby

The SCOR President and all three Vice-President positions were open for nominations for the 2012 elections. The results of the election will be announced.

Action: None.

2.0 WORKING GROUPS

2.1 Disbanded Working Groups

2.1.1 WG 125—Global Comparisons of Zooplankton Time Series, p. 2-1 Costello

The group's special issue appeared in *Progress in Oceanography*¹ in mid-2012. The group was disbanded and sent thank-you letters.

Action: None.

2.1.2 SCOR/IAPSO WG 127 on Thermodynamics and Equation of State of Seawater, p. 2-3 Smythe-Wright

The group has been transformed into a Joint Steering Committee on Seawater with the International Association for the Properties of Water and Steam (IAPWS) and IAPSO (see agenda item 4.3.4). An article on this group's work was published in the open-access journal *Ocean Science*.² The group was disbanded and sent thank-you letters.

Action: None

2.1.3 SCOR WG 130 on Automatic Plankton Visual Identification, p. 2-4

Costello

The group was disbanded and members were thanked for their work.

Action: None.

2.1.4 SCOR/IAPSO WG 133: OceanScope, p. 2-5

Feeley

The OceanScope report was finalized and released in early 2012 (see http://www.scor-int.org/Publications/OceanScope_Final_report.pdf). Working group members continue to work on implementation of the report. The group was disbanded and sent thank-you letters.

Action: None.

2.2 Current Working Groups

The Executive Committee Reporter for each working group will present an update on working group activities and progress, and will make recommendations on actions to be taken. Any working group chairs present will be given time to make comments about their group. Meeting participants will make preliminary decisions, based on the progress of working groups and the merits of the requests, about whether funding should be provided for 2013 activities of working groups that have funds remaining. The Finance Committee will take into account the recommendations of the Executive Committee as it develops the 2013 SCOR budget, which is then subject to final approval by the meeting.

2.2.1 SCOR WG 131 on The Legacy of in situ Iron Enrichment: Data Compilation and Modeling, p. 2-7 Compton

The group has completed a database that can be accessed at the Biogeochemical and Chemical

¹ Pepin, P., D. Mackas, and H. Verheye. 2012. Global Comparisons of Zooplankton Time Series. *Progress in Oceanography* Volumes 97-100, pp. 1-186.

² Pawlowicz, R., T. McDougall, R. Feistel, and R. Tailleux. 2012. An historical perspective on the development of the Thermodynamic Equation of Seawater – 2010. *Ocean Science* 8:161–174, 2012, www.ocean-sci.net/8/161/2012/

Oceanography Data Management Office (BCO-DMO). The database will be publicized through two articles, in *EOS* and *Oceanography* magazine. The group was finally allowed access to data from the EIFEX and LOHAFEX experiments, so all the iron addition experiments are now covered.

Action: Consider whether to disband the group after completion of its publications.

2.2.2 SCOR/LOICZ WG 132 on Land-based Nutrient Pollution and the Relationship to Harmful Algal Blooms in Coastal Marine Systems, p. 2-9 Taguchi

The group held its final SCOR-funded meeting in Crete, Greece, in conjunction with the 14th International Conference on Harmful Algae in October 2010, but conducted one subgroup meeting (funded by other sources) to continue working on publications. The group has published several papers related to its activities and has several more papers in preparation. SCOR funding for the group has been completed.

Action: Consider disbanding the group.

2.2.3 SCOR WG 134 on The Microbial Carbon Pump in the Ocean, p. 2-17 Sundby

This working group met for the third time at the Hansa Institute for Advanced Studies in Delmenhorst, Germany in August 2012, primarily funded by local sources. The group was successful in having its topic approved as one of the three topics in the 2013 IMBER IMBIZO. SCOR funding remains for one final meeting of the group.

Action: Consider funding for 2013 meeting.

2.2.4 SCOR/InterRidge WG 135 on Hydrothermal energy transfer and its impact on the ocean carbon cycles, p. 2-25 Coustenis

The group is developing two models to guide its work. One is a water column iron model. A preliminary version of this model was completed by early 2012, and model development is continuing. A similar approach has been initiated for a seafloor ecosystem model. The group is planning its final meeting and workshop for Banyuls, France in early 2013, to discuss the models and model results.

Action: Consider funding for 2013 meeting.

2.2.5 SCOR/WCRP/IAPSO Working Group 136 On the Climatic Importance of the Greater Agulhas System, p. 2-28 Compton

The group has one final activity, a Chapman Conference, for which we have budgeted the remainder of its funds, less than necessary for a full working group meeting. The AGU Chapman Conference on The Agulhas System and its Role in Changing Ocean Circulation, Climate, and Marine Ecosystems will be held on 8–12 October 2012, in Stellenbosch, Western Cape, South Africa (see http://www.agu.org/meetings/chapman/2012/ecall/). This conference will continue the group's outreach in the southern Africa region. (It is the first Chapman Conference to be held in Africa.) SCOR's Committee on Capacity Building approved funding for travel support to developing country scientists to the conference and IAPSO helped arrange IUGG funds to the conference.

Action: Consider disbanding the group.

2.2.6 WG 137: Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time Series Observation, p. 2-45 *Volkman*

The group met for the second time in Naples, Italy, during 27-30 September 2011, with partial funding from the Stazione Zoologica A. Dohrn, Villa Communale, Italy. The Web site for data sets has been set up (see http://wg137.net/). The group will meet next as part of the special session at the 2012 PICES meeting in Hiroshima, Japan, immediately before the SCOR meeting. **Action: Consider funding for 2013 meeting.**

2.2.7 WG 138: Modern Planktic Foraminifera and Ocean Changes, p. 2-73 Feeley

WG members have been busy in the past year working toward individual products. A special issue of an open-access journal is being developed, summarizing the status of knowledge on modern planktonic foraminifera. A Web site has been developed for the group on the eForams platform (http://www.eforams.org/index.php/WG138_Startpage) and is currently being filled with content. A taxonomic database and an annotated list of references also are being developed. The priority for the WG's second year will be to achieve progress in two important areas: standardization of taxonomy and standardization of methods. Two topical workshops will be held in 2013, rather than a single full group meeting.

Action: Consider funding for 2013 meetings.

2.2.8 WG 139: Organic Ligands – A Key Control on Trace Metal Biogeochemistry in the Ocean, p. 2-75

This group met for the first time immediately before the Ocean Sciences meeting in Salt Lake City, Utah, USA, in February 2012, and plans to meet again immediately before the 2013 ASLO meeting. The group published articles in EOS^3 and Chemistry International⁴ to announce its work. The group is conducting an intercalibration now and will publish the results. A database for trace metal binding data is planned. The group will hold its second meeting on 16 February 2013, immediately before the ASLO meeting in New Orleans. As with the first meeting, this will minimize travel costs for the meeting. The group has had a special session accepted for the ASLO meeting, on "Biogeochemistry of metal-binding organic ligands in the ocean: Sources, composition and impacts on trace metal cycling."

Action: Consider funding for 2013 meeting.

2.2.9 WG 140: Biogeochemical Exchange Processes at the Sea-Ice Interfaces (BEPSII) Volkman

The group finalized its set of Full Members. It held an opportunistic meeting in conjunction with the SOLAS Open Science Conference in May. In the group's annual report is given simplified terms of reference and clarification of the products expected from the group. To achieve the group's goals, three task groups will be formed, on methods, data, and models. The group is making connections with other projects with similar interests. The chair is exploring the possibility for a video conference of members in November 2012 and an in-person meeting in 2013.

Action: Consider funding for 2013 meeting.

³Sander, S., K. N. Buck, and M. Lohan. 2012. Improving understanding of organic metal-binding ligands in the ocean. *EOS* 93: 244.

⁴Buck, K. N., M. C. Lohan, and S. G. Sander. 2012. Metal-binding organic ligands as the focus of a new SCOR Working Group. IUPAC *Chemistry International*. 34(4).

2.3 New Working Group Proposals

Seven working group proposals were received by the SCOR Secretariat. SCOR can probably fund two new working groups to begin in 2013, pending recommendations from the Finance Committee.

2.3.1 SCOR Working Group on Surface Waves in Ocean Circulation and Climate System, p. 2-94

Coustenis

Action: Evaluate proposal for potential as new SCOR working group.

2.3.2 SCOR Working Group on an "International Nutrients Scale System" to improve the global comparability of nutrient data, p. 2-101 Action: Evaluate proposal for potential as new SCOR working group.

Taguchi

2.3.3 SCOR Working Group on Marine ecosystem reorganisation under climate change, p. 2-109

Costello

Action: Evaluate proposal for potential as new SCOR working group.

2.3.4 SCOR Working Group on Sea-Surface Microlayers, p. 2-118 Action: Evaluate proposal for potential as new SCOR working group.

Volkman

2.3.5 SCOR Working Group on Quality Control Procedures for Oxygen and Other Biogeochemical Sensors on Floats and Gliders, p. 2-128

Feeley

 $\label{eq:constraint} \textbf{Action: Evaluate proposal for potential as new SCOR working group.}$

2.3.6 SCOR Working Group to identify Ecosystem Essential Ocean Variables for measuring change in the biological properties of marine ecosystems, p. 2-134

Costello

Action: Evaluate proposal for potential as new SCOR working group.

2.3.7 SCOR Working Group on The reassessment of marine dinitrogen fixation methodology and measurements, p. 2-143

Sundby

Action: Evaluate proposal for potential as new SCOR working group.

3.0 LARGE-SCALE SCIENTIFIC PROGRAMS

SCOR currently sponsors four large-scale research projects; three 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. SCOR does not use discretionary funds (funds from SCOR member nation dues) for the research projects it sponsors, instead writing grant proposals to fund meetings and other activities of the research projects. The SCOR Secretariat oversees the use of grant funds provided to the projects.

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

Taguchi

A writing group for the CRP on Benthic HABs has completed the Science Plan from its June 2010 Open Science Meeting and it is in the process of being prepared for printing. The Core Research Projects on Fjords and Coastal Embayments and on Stratified Systems recently held open science meetings to update their plans. There will be a final open science meeting for the SCOR-IOC phase of the project at IOC Headquarters in Paris in April 2013. Discussions are ongoing as to how SCOR and IOC will work together after 2013 in relation to the topic of harmful algal blooms.

Action: None.

3.2 SCOR/IGBP Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) Project, p. 3-3 Sundby

The IMBER SSC met most recently in June 2012 in La Paz, Baja California, Mexico. The third IMBER Summer School was held at the Ankara University in August 2012. The theme was the feedbacks between ecosystems, biogeochemistry, and the Earth System in a warming world. The third IMBER IMBIZO will be held in India in early 2013. IMBER has held workshops at its IMBIZOs to increase awareness of the importance and benefits of establishing and following data management procedures, and to provide hands-on training on data management and data preservation and will do the same at IMBIZO III. The three themes of the IMBIZO are (1) Biogeochemistry-ecosystem interactions on changing continental margins; (2) The impact of anthropogenic perturbations on open ocean carbon sequestration via the dissolved and particulate phases of the biological carbon pump; and (3) Understanding and forecasting human-ocean-human interactions, drivers and pressures, with respect to global change. The IMBER International Project Office moved to the Institute for Marine Research in Bergen, Norway, in early 2012 and a new Executive Officer was hired. IMBER will hold its first open science meeting in Bergen in 2014. SCOR and IGBP approved the addition of Tatiana Rynearson (USA) to the IMBER SSC.

Action: Consider request for funding of Third IMBER IMBIZO.

3.3 GEOTRACES Project, p. 3-44

Sundby

The GEOTRACES project is well into cruise implementation, primarily accomplishing GEOTRACES-related IPY cruises and GEOTRACES cruises in the Atlantic Ocean. Cruise implementation is increasingly shifting to the Pacific Ocean, where Japanese, Australian, New Zealand, and French cruises have already taken place. The GEOTRACES Scientific Steering Committee held its sixth meeting in Xiamen, China in September 2011, immediately after a meeting of the GEOTRACES Data Management Committee. The next SSC and Data Management Committee meetings will be held in Goa, India, in late October 2012. The International GEOTRACES Standards and Intercalibration Committee coordinated publication of the results from the intercalibration in a special issue of *Limnology and Oceanography: Methods.*⁵ This committee also analyzed data for crossover stations and found the results generally satisfactory. GEOTRACES helped support a regional meeting focused on the Arctic

⁵ see http://www.aslo.org/lomethods/si/intercal2012.html.

Ocean in May 2012 and the Russian Academy of Sciences is planning a follow-on meeting later this year. The South American regional planning meeting is planned for November 2012. The project has announced its intentions to produce an intermediate data product in 2014, which will help stimulate date submission and show that GEOTRACES is making progress. SCOR approved the following new GEOTRACES SSC members in 2012: Tung-Yuan Ho (China-Taipei), Phoebe Lam (USA), Katharina Pahnke (Germany), Micha Rijkenberg (Netherlands), Alakendra Roychoudhury (South Africa), Geraldine Sarthou (France), and Yoshiki Sohrin (Japan).

Action: None.

3.4 SCOR/IGBP/WCRP/CACGP Surface Ocean-Lower Atmosphere Study, p. 3-59 Wainer

SOLAS conducted its fourth Open Science Conference (OSC) in Cle Elum, Washington State, USA in May 2012 and is planning its sixth summer school in 2013, in a new location, at Xiamen University in China. The SOLAS Scientific Steering Committee (SSC) met in Seattle, Washington following the OSC in May 2012. The SOLAS SSC continues development of its 7 mid-term strategy topics. SCOR WG 140 on Biogeochemical Exchange Processes at the Sea-Ice Interfaces will contribute to one of the SOLAS mid-term strategy themes. Each topic is at a different stage in its implementation, but there is much scientific activity ongoing and planned. SOLAS resources (e.g., travel funds, meeting support, newsletters, Web page, outreach activities) are being used to highlight/advertise/define/refine the topics and their associated scientific questions and develop white papers (see www.solas-int.org/mts); identify groups of investigators worldwide that are capable of tackling the topics; motivate these groups to coordinate their proposal writing and link their experimental/modelling activities at the international level; and plan and conduct the research with a view to facilitating data and idea exchange that will permit an international, comprehensive synthesis. Anja Enge (Germany), Michelle Graco (Peru), and Hui-Wang Gao (China-Beijing) were approved by the SOLAS cosponsors for their first three-year terms on the SOLAS SSC. Funding of the IPO ends in January 2013. Renewal options are being investigated.

Action: None

4.0 OCEAN CARBON AND OTHER ACTIVITIES

4.1 IOC/SCOR International Ocean Carbon Coordination Project (IOCCP), p. 4-1 Fennel, Telszewski

IOCCP continues to focus on coordination of carbon data, from collection through serving the data, particularly through the Surface Ocean CO₂ Atlas (SOCAT) project. Discussions continue regarding a potential role for IOCCP in relation to advising the Global Ocean Observing System on biogeochemical Essential Ocean Variables. The U.S. National Science Foundation is the primary financial sponsor of IOCCP and has asked that the project demonstrate multinational interest in IOCCP by diversifying its funding sources. The project office is seeking complementary funding from IOC, Poland, and other sources.

Action: Discuss potential new funding sources

4.2 Symposia on The Ocean in a High-CO₂ World, p. 4-15

Volkman

The meeting has attracted, so far, about 540 registered participants, significantly more than expected, but the budget should be sufficient to cover expected expenses. 421 abstracts were received for oral and poster presentations. The International Planning Committee decided to have three parallel sessions during the symposium, which will make it possible for 135 oral presentations to be made, beyond the 10 plenary presentations. This limitation required establishment of a process to select oral presentations and only about 60% of those requesting to make oral presentations could be accommodated; the others were asked to present posters. Funding was arranged from various sources to support (partially or fully) about 50 early-career scientists. The symposium is notable for a large participation of early-career scientists and women scientists.

Action: None.

4.3 Other Activities

4.3.1 Data Publication Activity, p. 4-16

Costello

SCOR, IOC's International Oceanographic Data and Information Exchange (IODE), and the MBLWHOI Library have been working together for the past several years on a project to promote getting data associated with research papers, as well as stand-alone data sets, into national and international data management systems in forms that can be cited. The group is conducting two pilot projects and the results of these pilot projects have been reported at meetings of ocean scientists, data managers, and ocean librarians. The principals will meet next in Woods Hole, Massachusetts, USA in mid-October 2012 to assess progress on the pilot projects and to plan activities for the coming year.

Action: Consider budgeting funds for 2013.

4.3.2 SCOR/POGO International Quiet Ocean Experiment, p. 4-16

Feeley

An open science meeting was held at UNESCO Headquarters in Paris, France on 30 August-1 Sept. 2011 to develop a science plan for the project (see www.iqoe-2011.org). The Science Plan is nearly completed and ready for review, and reviewers have been selected. Scientists from several nations have already begun planning activities that would fit within the IQOE framework.

Action: None

4.3.3 Joint Committee on Seawater (SCOR/IAPWS/IAPSO), p. 4-17

Urban

SCOR agreed to form a Joint Subcommittee on Seawater with IAPSO and the International Association for the Properties of Water and Steam (IAPWS). This group is a spin-off of SCOR/IAPSO Working Group 127 on the Thermodynamic Properties of Seawater. The Joint Subcommittee is a subgroup of the IAPWS Working Group Thermophysical Properties of Water and Steam. It will be launched at the IAPWS annual meeting at the end of September and should be able to report to SCOR by the time of the annual meeting. The SCOR Executive Committee has approved an Executive Committee and Terms of Reference for the group, which will come

back to the co-sponsors with nominations for the full group. The chair has requested funding for 2013.

Actions: Consider funding for 2013.

5.0 CAPACITY-BUILDING ACTIVITIES

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

Ittekkot

The committee will meet in Halifax immediately before the SCOR General Meeting to prepare for the SCOR meeting discussions. A meeting will be hosted by the University of Namibia in early November to focus on continued extension of SCOR capacity-building activities in southern Africa. SCOR has sent a SCOR Visiting Scholar to the University of Namibia twice. **Actions: Consider any requests from the Committee's meeting.**

5.2 SCOR Visiting Scholars, p. 5-2

Ittekkot

SCOR started a program of SCOR Visiting Scholars in 2009 and has now appointed 9 different Visiting Scholars. The program provides airfare and some funding for subsistence for ocean scientists to teach and mentor students for several weeks to months. Local hosts are expected to provide some support for local expenses. The program has resulted in new exposure for SCOR in countries like Ghana, Myanmar, and Thailand.

Action: Consider providing support for SCOR Visiting Scholars in 2013.

5.3 Regional Graduate Networks of Oceanography and Marine Environmental Sciences, p. 5-6

This activity is still unfunded, but the Committee on Capacity Building and SCOR staff continue to promote the idea in regional forums, including a meeting focused the Asia/Pacific region in August 2012 and a planned meeting for the southern Africa region in November 2012 **Action: None.**

5.4 POGO-SCOR Visiting Fellowships for Oceanographic Observations, p. 5-6 *Urban* POGO and SCOR have co-funded this program since 2001 and have supported more than 100 participants so far. Both recipients and hosts have expressed that this has been a worthwhile program.

Action: Consider whether to provide funding in 2013.

5.5 NSF Travel Support for Developing Country Scientists, p. 5-20

Urban

The grant to SCOR from the U.S. National Science Foundation continues at a level of \$75,000 per year. The grants have been an important source of support for several SCOR-related meetings in the past year.

Action: Consider recommendations of the SCOR Committee on Capacity Building.

5.6 SCOR Reports to Developing Country Libraries, p. 5-29

Urban

One book, *Phytoplankton Pigments Characterization, Chemotaxonomy and Applications in Oceanography*, was distributed to libraries in developing countries and countries with economies in transition in the past year.

Action: None

6.0 RELATIONS WITH INTERGOVERNMENTAL ORGANIZATIONS

6.1 Intergovernmental Oceanographic Commission, p. 6-1

Fennel

Ed Urban attended the abbreviated IOC Executive Council meeting in June 2012 to represent SCOR and ICSU. SCOR and IOC cooperate on several different activities, as discussed in other sections: Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB) Program, the International Ocean Carbon Coordination Project, and the Symposium on the Ocean in a High-CO₂ World. IOC also partners with SCOR on capacity-building activities. IOC support for joint activities has been significantly curtailed because of drastic cuts in activity funding at IOC resulting from the United States and other nations withdrawing their funding to UNESCO.

Action: None

6.2 International Council for Exploration of the Seas, p. 6-3

Fennel

Much ICES work focuses on climate change and impacts on ecosystems and fisheries. ICES has been involved in various SCOR activities in the past few years, including co-sponsoring a regional program of GLOBEC. New Strategic Initiatives are on Biodiversity Science and Advice, Spatial Planning and Area-based Management, and Stock Assessment Methods. ICES is sponsoring a workshop on ocean observation and the role of the maritime shipping and offshore industry during the SeaTech week in October 2012, and have invited the OceanScope leaders to participate.

Action: Identify new areas of cooperation with ICES?

Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), p. 6-5

Urban

SCOR provided support for one meeting of GESAMP Working Group 38 on The Atmospheric Input of Chemicals to the Ocean, which has published two papers, in which SCOR support was credited. The group has been extended and NSF is providing support through SCOR for a workshop in February 2013 at the University of East Anglia.

Action: None.

6.4 North Pacific Marine Science Organization (PICES), p. 6-7

Taguchi

PICES' goals are to (1) advance scientific knowledge and capacity available for the member countries, including information on human activities affecting, and affected by, marine ecosystems, and (2) to provide a mechanism for collaboration among scientists in addressing timely and critical scientific questions. PICES conducts several activities that are relevant to SCOR interests and that implement SCOR activities in the North Pacific region and often

supports members of SCOR working groups related to PICES activities. A PICES representative is a member of the SCOR Committee on Capacity Building.

Action: Consider request for developing country scientist travel support and identify new areas of cooperation with PICES.

7.0 RELATIONS WITH NON-GOVERNMENTAL ORGANIZATIONS

7.1 International Council for Science

Fennel

ICSU has designated SCOR its representative at IOC annual meetings. ICSU has a new Executive Director since April, Steven Wilson. ICSU officially launched the Future Earth initiative at the Rio+20 summit in June 2012. The initiative will bring together IGBP, DIVERSITAS, and the International Human Dimensions Programme (IHDP) in a new structure entitled *Future Earth: research for global sustainability*. The World Climate Research Programme will initially have observer status in the new initiative. An interim Future Earth governing body should be in place by 2013 and a secretariat will be established by mid-2014. More information is available at http://www.icsu.org/future-earth/.

Action: None

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

Fennel

Wolfgang Fennel attended the 2012 IGBP Science Committee meeting in Bergen, Norway to represent SCOR. SCOR and IGBP staff members have ongoing discussions in relation to cosponsored projects. SCOR and IGBP are co-sponsoring WG 138 on Modern Planktic Foraminifera and Ocean Changes, and SCOR contributed support for travel of developing country scientists to two IGBP Fast-Track Initiatives. James Syvitski is the chairperson of IGBP since 1 January 2012. (Syvitski was co-chair of SCOR/LOICZ WG 122 on Mechanisms of Sediment Retention in Estuaries.) The 2012 Planet Under Pressure conference, sponsored by the global change programs and ICSU, attracted 3000 scientists, decision makers, business representatives, journalists and others.

Action: Determine which SCOR decisions need to be transmitted to IGBP for comment and joint action.

7.1.2 World Climate Research Programme (WCRP), p. 7-5

Wainer

WCRP is focused on the climate aspects of different parts of the Earth system, including the ocean. WCRP is co-sponsoring the SOLAS project, SCOR/WCRP/IAPSO WG 136 on Climatic Importance of the Greater Agulhas System, and development of the Southern Ocean Observing System. SCOR projects (including IOCCP) are working well with CLIVAR, the part of WCRP most relevant to SCOR. The WCRP Open Science Conference entitled "Climate Research in Service to Society" was held in Denver, Colorado, USA, in October 2011 and attracted more than 1900 scientists and stakeholders, many of them oceanographers, from 86 countries. Based on output from this meeting, the WCRP Joint Scientific Committee identified scientific and programmatic challenges to WCRP for the next decade. Ocean observations is an area of potential future cooperation between SCOR and WCRP.

Action: None.

7.1.3 Scientific Committee on Antarctic Research (SCAR), p. 7-16

Wainer

SCAR and SCOR are co-sponsoring the Southern Ocean Observing System (SOOS), which released its *Initial Science and Implementation Strategy* since last year's SCOR meeting. Ed Urban and Lora Carter worked on editing the text, obtaining permissions to reprint graphics, getting some figures redrawn, and having the report formatted and printed at the University of Delaware. An office to promote implementation of the SOOS plan is being funded by Australia, and Louise Newman, formally of the PAGES office, is the project director there. The SOOS SSC met in February 2012 in conjunction with the Ocean Sciences meeting in Salt Lake City, Utah, USA, and will meet next in China in 2013.

Action: Consider 2012 funding for SOOS Scientific Steering Committee.

7.2 Affiliated Organizations

7.2.1 International Association for Biological Oceanography (IABO), p. 7-17 *Costello* Action: Discuss potential areas of interaction with IABO.

7.2.2 International Association for Meteorology and Atmospheric Sciences (IAMAS), p. 7-17

Coustenis

IAMAS is a parent of the international Commission on Atmospheric Chemistry and Global Pollution (iCACGP), which is a co-sponsor of SOLAS. The IAMAS Business meeting will be held in Paris, France on 15-16 November 2012. The first day of the meeting will be devoted to discussions of collaboration with IAMAS partners and other associations and of the IAMAS contribution to future meetings. IAMAS has invited SCOR to participate and contribute to these discussions.

Action: Discuss potential areas of interaction with IAMAS.

7.2.3 International Association for the Physical Sciences of the Oceans (IAPSO), p. 7-17 Smythe-Wright

SCOR and IAPSO are currently co-sponsoring WG 136 on Climatic Importance of the Greater Agulhas System (with WCRP) and the new IAPWS/SCOR/IAPSO Subcommittee on Seawater. The next IAPSO Assembly will be held in 2013 in Gothenberg, Sweden.

Action: None.

7.3 Affiliated Programs, p. 7-15

The benefit of continued affiliation to SCOR is evaluated at each General Meeting, but annual reports are requested from the programs for information.

7.3.1 International Marine Global Changes Study (IMAGES), p. 7-17 Compton

A new science plan draft has been finalized and discussions are ongoing about whether IMAGES-type work and coring may be considered for inclusion as part of the Integrated Ocean Drilling Program.

Action: None.

7.3.2 InterRidge - International, Interdisciplinary Ridge Studies, p. 7-18

Compton

InterRidge has an active program of working groups and scientific meetings, as well as significant education and outreach activities. Working Groups are the principal mechanism for implementing the InterRidge program, their main function being to identify new areas of high-priority scientific research. There are currently seven active InterRidge Working Groups, including the SCOR/InterRidge WG 135 on Hydrothermal Energy Transfer and its Impact on the Ocean Carbon Cycles. The InterRidge program office will be moving from the National Oceanography Center, Southampton, UK to the Peking University at the beginning of 2013. The new chair will be John Chen (School of Earth and Space Sciences, Peking University, Beijing) and Jiabiao Li (Second Institute of Oceanography, Hangzhou). InterRidge has been working on its Third Decadal Plan throughour 2012.

Action: None.

7.3.3 International Ocean Colour Coordinating Group (IOCCG), **p. 7-23** *Stuart, Volkman* IOCCG scientific activities are carried out by specialized scientific working groups which investigate various aspects of ocean-color technology and its applications, and produce a report on the topic, published in the growing *IOCCG Report* series (12 reports published to date). The Joint GEOHAB/IOCCG WG on HABs has met twice and is working on an *IOCCG Report* and a special journal issue. Over the past decade, IOCCG has played an important role in training and capacity building on a global scale.

Action: None.

7.4 Other Organizations

7.4.1 Partnership for Observation of the Global Oceans (POGO), p. 7-32 *Field, Fennel* POGO is a non-profit consortium of oceanographic institutions from around the world. POGO promotes global oceanography, particularly the implementation of international and integrated global ocean observing systems. POGO has focused much of its attention in recent years on interactions with the Group on Earth Observations (GEO) to represent ocean observation issues. A new Task on "Oceans and Society: the Blue Planet" is included in the GEO Workplan, and this task draws together POGO and many of the other organizations and projects involved in ocean observations. POGO is convening a kick-off symposium for the task, to be held in Brazil on 19-21 November 2012. POGO and SCOR are cooperating on development of the International Quiet Ocean Experiment (IQOE) and co-fund the POGO-SCOR Visiting Fellowships for Oceanographic Observations. Ed Urban attended the 2012 POGO annual meeting to represent SCOR and to participate in a discussion of IQOE.

Action: None.

7.4.2 Scientific Committee on Problems of the Environment (SCOPE), p. 7-37 *Urban* SCOPE continues to be a partner with IGBP in the International Nitrogen Initiative. It participates in the SCOPE-Zhongyu Environmental Awards on a regular basis, and SCOPE and the Zhongyu Environmental Technologies Corporation have started an International Forum series to "provide a framework for 2-way information exchange between the scientific community and decision makers on multiple aspects of environmental sciences, challenges and opportunities at international scale and perspectives to help better manage world resources."

Elsevier and SCOPE are cooperating to publish a new quarterly journal called *Environmental Development*, started in 2011. SCOPE continues to work with UNEP and UNESCO on various policy publications, including the *UNESCO-SCOPE-UNEP Policy Brief Series*.

Action: None.

7.4.3 Arctic Ocean Sciences Board (AOSB), p. 7-40

Fennel

The Arctic Ocean Sciences Board (AOSB):Marine Working Group of the International Arctic Science Committee (IASC) is a non-governmental body that includes members and participants from research and governmental institutions in all 19 IASC countries. It was established in May 1984 to fill a recognized need to coordinate the priorities and programs of countries and institutions engaged in research in the Arctic Ocean. The ASOB:MWG has identified the following priority themes for 2011-2015: Arctic Ocean System: predicting and understanding rapid changes in the Arctic; sea ice structure dynamics and the Arctic system; ecosystem responses to changing physical parameters in the Arctic; understanding geochemical process in the Arctic Ocean and Sub-Arctic Seas; and improving access to the geological record of the Arctic Ocean. There may be potential interactions between some of these groups and SCOR WG 140 on Biogeochemical Exchange Processes at the Sea-Ice Interfaces.

Action: None.

8.0 ORGANIZATION AND FINANCE

8.1 Membership

8.1.1 National Committees, p. 8-1

Urban

The changes in Nominated Members since the 2011 Executive Committee Meeting are given on **p. 8-1.**

Action: None.

8.2 Publications Arising from SCOR Activities, p. 8-5

Urban

SCOR-sponsored research projects have produced many peer-reviewed publications, as listed in their project reports in Tab 3. One SCOR working group completed a special issue from its work in the past year, and several other groups published articles about their work in *EOS* and other publications. Finally, a book from a special SCOR project on techniques for phytoplankton pigment analysis was completed this year.

2011 SCOR Proceedings—The Proceedings was distributed in electronic form only.

SCOR Web site—The SCOR Web site is updated and checked for dead links regularly. Many historical documents from the SCOR files have been scanned and are available on the SCOR History page (http://www.scor-int.org/history.htm). The papers of Robert Snider (first coordinator of the International Indian Ocean Expedition) were scanned and are available on a specific page for the IIOE (http://www.scor-int.org/IIOE_History.htm).

SCOR Newsletter—The SCOR Newsletter was started late in 2004, to provide more frequent updates about SCOR activities between annual meetings. Twenty-two issues have been distributed so far. (All are available on the SCOR Web site.) The Newsletter is printed in hard copy occasionally for limited distribution.

Action: Are additional changes needed to the Web site and/or the SCOR Newsletter?

8.3 Finances, p. 8-6

Finance Committee, Urban

All SCOR staff worked to prepare information for the auditors this year. The financial records and financial controls were found to follow accepted standards. New U.S. government requirements resulted in a more expensive audit and more work for SCOR staff.

SCOR received the following new or renewal grants since the 2011 SCOR meeting:

- Three-year renewal of NSF grant for SCOR scientific activities
- Grant from NASA for SOLAS Open Science Conference
- Grant from the Gordon and Betty Moore Foundation to support early-career scientists attending the Third Symposium on The Ocean in a High-CO₂ World

Actions: (1) Approve revised 2012 SCOR budget, (2) approve 2013 SCOR budget, and (3) approve any dues increases for 2014, as recommended by the Finance Committee.

9.0 SCOR-RELATED MEETINGS

9.1 SCOR Annual Meetings

Meeting participants will consider potential locations in which to hold future meetings, particularly in nations that have not recently hosted annual meetings.

9.1.1 2012 General Meeting – Halifax, Canada, p. 9-1

Fennel

Action: Thank hosts.

9.1.2 2013 Executive Committee Meeting – New Zealand, p. 9-1

Fennel

The SCOR Executive Committee has accepted an offer from New Zealand to hold its 2013 meeting there, at a location still to be determined, during the week of 25-29 November 2013. **Action: None.**

9.1.3 2014 General Meeting – Bremen, Germany, p. 9-1

Fennel

The SCOR Executive Committee has accepted an invitation to hold the 2014 SCOR General Meeting in Bremen, Germany.

Action: None

9.1.4 2015 Executive Committee Meeting, p. 9-1

Fennel

The SCOR Executive Committee is considering an invitation for the 2015 Executive Committee meeting and will announce its decision at the meeting.

Action: None

9.1.5 2016 General Meeting, p. 9-1

Fennel

The SCOR Executive Committee is considering options for the 2016 General Meeting. **Action: None**

- 9.2 Locations of Past SCOR Annual Meetings, p. 9-2
- 9.3 SCOR-Related Meetings Since the 2011 SCOR Executive Committee Meeting and Planned for the Future, p. 9-3