

Report of the Biological Oceanography Committee

The Biological Oceanography Committee (BIO) held its meeting from 18:00–19:30 h on October 13 and 14:50–18:15 h on October 16, 2013 in Nanaimo, Canada. The Chairman, Dr. Atsushi Tsuda, called the meeting to order and welcomed the participants (*BIO Endnote 1*). The proposed agenda was reviewed and is provided in *BIO Endnote 2*.

AGENDA ITEM 3

Annual review of BIO activities

The BIO Committee is parent to 6 subsidiary groups (S-CCME, S-CC, AP-MBM, WG 26, WG 28 and WG 29) whose aim are to understand the biological aspects of the North Pacific ecosystems. S-CC finalized a data base of physical and biogeochemical parameters (PACIFICA) last year, and they are preparing synthesis papers. AP-MBM renewed its activity plan in 2011, focusing on the spatial ecology of marine birds and mammals and actively working through Annual Meeting Workshops and Topic Sessions with other groups. WG 26 is in its final year and preparing its final report. The WG held an inter-sessional meeting in June in Hiroshima, Japan, during the 4th International Jellyfish Blooms there. WG 28 is in its 3rd year, and their progress is obvious through the proposed Topic Session on ecological indicators of multiple stressors for PICES-2014. The final reports of Working Group on *Iron Supply and its Impact on Biogeochemistry and Ecosystems in the North Pacific Ocean* (WG 22) and Working Group on *Comparative Ecology of Krill in Coastal and Oceanic Waters around the Pacific Rim* (WG 23) were published this year. Both reports include valuable data and synthesis on iron as a micro-nutrient and krill biology, respectively. The BIO Action Plan was discussed at the Committee meeting at PICES-2012 and was finalized at this year's Committee meeting.

AGENDA ITEM 4

Oral and Poster Awards

Procedure to select the Awards for the Closing Session at PICES-2013 was confirmed as follows: Each Committee member was to list two top candidates for an oral presentation by an early career scientist in the BIO Paper Session and BIO-sponsored Topic Session S5, and provide the names to the BIO Chairman. For the Poster presentation (open eligibility), each Committee member was to list two top candidates and provide the names to the BIO Chairman by email. Rankings were compiled by the Chairman. The Best Presentation Award for a BIO-sponsored topic session was given to Dr. Jeffrey Dorman ([*Modeling krill 'hotspots' in the central Californian Current: Results from variation in diel vertical migration schemes*](#)) and BIO Best Poster Award to Mr. Daichi Arima ([*Seasonal changes in the zooplankton community and number of generations per year of small copepods in Ishikari Bay, Sea of Japan*](#)). Further details on award recipients can be found at the end of the Session Summaries section in the [2013 Annual Report](#).

AGENDA ITEM 5

Report from FUTURE APs

Reports synthesizing the activities of AICE, COVE, and SOFE were summarized by Dr. Hiroaki Saito (BIO member and AP-COVE Chairman):

- a) The FUTURE road map was summarized and discussed.
- b) A summary of activities since last year was given.
- c) Communications between Committees and FUTURE still require some improvement.
- d) Planning for the FUTURE Ocean Science Meeting in Hawaii in 2014 was described.
- e) The procedure for development of NPESR III was briefly described by SOFE members in a plenary before the Committee meeting (see the report of AP-SOFE for details). BIO committee members felt that proposed

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idea and the procedure were immature at this stage to make a decision. The frequent updates from time-series observations in the North Pacific was a good idea but it could be difficult to carry out.

- f) Some ways to encourage early career scientists to be involved in FUTURE were presented; BIO representatives on FUTURE APs are: Hiroaki for COVE; William Peterson for SOFE, but no representative for AICE from BIO Committee. The BIO Chair will discuss a candidate for AICE with AP Chair. It was agreed that for FUTURE AP meetings, if the BIO representative cannot attend, someone else from BIO should go as replacement. It is also important for the AP to report back to the Committee, for good communication.

AGENDA ITEM 6

Reports from subsidiary bodies

Section on Climate Change Effects on Marine Ecosystems (S-CCME)

S-CCME Co-Chairman, Dr. Suam Kim, gave a brief report on the Section's activities, including the outline and outcome from their workshop in St. Petersburg, Russia, in May 2013, which is part of a 9 year-program spread over three 3-year cycles. The full report can be found at http://www.pices.int/publications/annual_reports/Ann_Rpt_13/ann_rep_2013.aspx.

Advisory Panel on Marine Birds and Mammals (AP-MBM)

A report summarizing the meeting of AP-MBM, held October 12, 2013, was presented by AP-MBM Co-Chairman, Dr. Yutaka Watanuki. An overview of topic session (*AP-MBM Endnote 7*) proposed for 2014 PICES Annual Meeting was presented. The end of the AP's project on Spatial Ecology and Conservation will end in 2015. New directions of AP-MBM from 2015–2017 were presented. Four possibilities for themes were suggested; continuing the same theme as this cycle could also be considered. The timeline for preparing this plan was discussed because BIO must evaluate AP-MBM's performance at the 2014 Annual Meeting.

Section on Carbon and Climate (S-CC)

A summary of activities was given by S-CC Co-Chairman, Dr. James Christian. A written report also will be submitted. S-CC is due to be reviewed by its parent Committees, BIO and POC, for another 3-year extension (Rule of Procedure 13(iii)(d)). A suggestion was made to request a 6 month extension to give S-CC time to prepare a workplan for reauthorization (*S-CC Endnote 4*).

Working Group on Jellyfish Blooms around the North Pacific Rim: Causes and Consequences (WG 26)

WG 26, chaired by Drs. Shin-ichi Uye and Richard Brodeur, has a 3-year term from 2010-2013. Unfortunately, the WG 26 meeting was cancelled during this 2013 Annual Meeting, but a summary of activities was presented in a document. WG 26 had an inter-sessional meeting in association with the 4th International Jellyfish Bloom Symposium in Hiroshima in June 2013. The final report will be prepared according to schedule.

Working Group on Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors (WG 28)

WG 28, chaired by Drs. Motomitsu Takahashi and Ian Perry, has a 4-year term from 2011–2014. A summary of activities, including the outcome from the inter-sessional joint PICES-ICES workshop in St. Petersburg, Russia. The WG has prepared a Table of Contents for its final report and has assigned members to prepare each section with the goal to complete of the final version by mid-2015.

Working Group on Regional Climate Modeling (WG 29)

WG 29, chaired by Drs. Chan Joo Jang and Enrique Curchitser, has a 3-year term from 2011–2014, but has asked for an extension of 1 year to examine models appropriate to fill gaps in ecosystems in FUTURE. Dr. Angelica Peña summarized the activities of the WG 29, and the Committee discussed its commitment to this WG, of which the main focus is physical models on a regional scale.

AGENDA ITEM 7

International relationships*International Whaling Commission (IWC)*

Dr. Hidehiro Kato could not come to this meeting but he presented a written document to the Committee. A details is presented in MBM report (*AP-MBM Endnote 4*).

BEST-BSIERP/NPRB (Bering Sea Project)

Dr. Jeff Napp was not able to attend the Annual Meeting, but Dr. Franz Mueter was able to give a short summary. This program is now in its synthesis stage. A 1-day final meeting for summary talks will be held at the AGU/ASLO meeting in Hawaii in February 2014.

Ecosystem Studies of Sub-Arctic Seas (ESSAS)

Dr. Mueter briefly introduced ESSAS, an IMBER regional program. The Committee agreed that ESSAS is a valuable collaboration for BIO/PICES. The ESSAS and PICES meetings have sessions with similar themes, overlapping personnel, and other linkages.

Surface Ocean – Lower Atmospheric Studies (SOLAS)

Dr. Lisa Miller gave a brief summary of SOLAS and relations with BIO/PICES. SOLAS appreciates its special connection to PICES, especially for the financial support provided for the SOLAS summer school in Xiamen, China (August 23–September 2, 2013) in which 36% of the students were from PICES member countries and a best presentation award was given to a PICES-supported student. A workshop was proposed for PICES-2014 to solicit community support for the renewal of SOLAS under the FutureEarth umbrella. BIO members expressed some concern about whether this was a good theme for a PICES topic session.

International Council for the Explorations of the Sea (ICES)

The Committee members discussed the proposed theme sessions for the 2014 ICES ASC. BIO was supportive of #17 on gelatinous zooplankton, but neutral about the others.

Scientific Committee on Oceanic Research (SCOR)

BIO evaluated the SCOR working proposals and recommended three proposals on the PICES list, especially on “Studying Ocean Acidification Effects on Continental Margin Ecosystems” and “Production Measurement Methodologies and Their Applications”. Dr. Lisa Miller introduced the activities of SCOR WG140 on Sea-ice Biogeochemistry at the Interface.

AGENDA ITEM 8

Topic sessions and workshops completed at PICES-2013

- S2 Are marine ecosystems of the North Pacific becoming more variable? (BIO/FIS/POC), Co-Convenors: Steven Bograd (USA), Elizabeth Logerwell (USA), William Sydeman (USA) and Yutaka Watanuki (Japan)
- S5 Marine ecosystem services and the contribution from marine ecosystems to the economy and human well-being (BIO/FIS), Co-Convenors: Shang Chen (China), Keith Criddle (USA), Ekaterina Golovashchenko (Russia), Mitsutaku Makino (Japan), Jungho Nam (Korea), Minling Pan (USA) and Ian Perry (Canada)
- S6 Recent trends and future projections of North Pacific climate and ecosystems (BIO/POC/TCODE/MONITOR/FUTURE), Co-Convenors: Jack Barth (USA), James Christian (Canada), Enrique Curchitser (USA), Chan Joo Jang (Korea) and Angelica Peña (Canada)
- S8 Ecosystem indicators to characterize ecosystem responses to multiple stressors in North Pacific marine ecosystems (BIO/FIS/MEQ/TCODE/FUTURE), Co-Convenors: Vladimir Kulik (Russia),

Chaolun Li (China), Ian Perry (Canada), Jameal Samhoury (USA), Peng Sun (China), Motomitsu Takahashi (Japan) and Chang-Ik Zhang (Korea)

- BIO Paper Session Co-Convenors: Michael Dagg (USA) and Atsushi Tsuda (Japan).
- W2 Identifying mechanisms linking physical climate and ecosystem change: Observed indices, hypothesized processes, and “data dreams” for the future. (POC/BIO/MONITOR/FUTURE) Co-Convenors: Jack Barth (USA), Emanuele Di Lorenzo (USA), Marc Hufnagl (Germany) Jacquelynne King (Canada), Arthur Miller (USA), Shoshiro Minobe (Japan), Ryan Rykaczewski (USA) and Kazuaki Tadokoro (Japan)
- W3 Marine bird and mammal spatial ecology. (BIO), Co-Convenors: Robert Suryan (USA), Rolf Ream (USA), William Sydeman (USA) and Yutaka Watanuki (Japan)

AGENDA ITEM 9

Proposed Workshop and Topic Sessions for PICES-2014

Proposals for topic sessions and workshops in the next year, including the 2014 PICES Annual Meeting were summarized. Topic sessions had previously been ranked by BIO Committee members but there was some proposed modification to the workshop list. BIO will recommend the rankings as they are unless anyone has strong recommendations later. There was some discussion about the new procedure which does not allow the committee to know what the proposed topic sessions are before the list is prepared for ranking. There was some dissatisfaction with this new system. Submitters should ask the committee first.

BIO rankings of proposed Topic Sessions for PICES-2014 is provided below.

Proposal ID	BIO Rating	Proposed by	Title
p-7	20	WG 28	<i>Tippling points: defining reference points for ecological indicators of multiple stressors in coastal and marine ecosystems</i>
p-14	20	CREAMS	<i>Use of long time series of plankton to inform decisions in management and policy concerning climate, ecosystems and fisheries</i>
p-6	17	S-CCME	<i>Dynamics of pelagic fish in the North Pacific under climate change</i>
p-9	17	MEQ	<i>Marine debris in the Pacific Ocean: Source, transport, fate and effects of macro- and micro-plastics</i>
p-13	17	S-CCME	<i>Climate change impacts on spatial distributions of marine fish and shellfish</i>
p-4	16	AP-MBM	<i>Strengths and limitations of habitat modeling: techniques, data sources, and predictive capabilities</i>
p-5	16	WG 21 (AP-COVE, BIO)	<i>Ecosystem changes and driving factors in marginal seas of the Pacific Rim</i>
p-2	15	S-CCME	<i>Variability in advection and its biological consequences for Subarctic and Arctic ecosystems</i>
p-12	15	S-CCME	<i>Recent assessments of climate change impacts on marine ecosystems</i>
p-15	15	WG 29	<i>Regional climate modeling in the North Pacific</i>
p-3	14	FIS	<i>Ecosystem considerations in fishery management of cod and other important demersal species</i>
p-8	14	SG-SC-NP	<i>Towards improved understanding of linkages between Pacific salmon and their marine ecosystems</i>
p-10	13	S-HD	<i>Marine ecosystem services and economics of marine ecological resources</i>
p-11	11	S-HD	<i>Ecological and human social analyses and issues relating Integrated Multi Trophic Aquaculture</i>
p-1	10	S-HAB	<i>Emerging issues with lipophilic shellfish toxins</i>

AGENDA ITEM 10

Additional financial requests

None

AGENDA ITEM 11

Revision of BIO Action Plan

The BIO Action Plan has not been revised since 2007 and a new PICES Strategic Plan was presented after the establishment of the FUTURE program. The BIO Committee has discussed about the Action Plan for over an year. A new BIO Action Plan have finalized in the committee meeting this year.

AGENDA ITEM 12

Election of new chairperson of BIO

Explanation of rules given by Secretariat General . Dr. Angelica Pena was nominated by Atsushi Tsuda, and agreed to serve. Vice-Chair - Atsushi Tsuda nominated unopposed, and agreed to serve.

AGENDA ITEM 13

Other items

None

AGENDA ITEM 14

Adjourn

The meeting was adjourned at 18:15 hr.

BIO Endnote 1

BIO participation list

Members

Michael Dagg (USA, Vice-Chairman)
 Se-Jong Ju (Korea)
 Hyung-Ku Kang (Korea)
 Boris Kotenev (Russia)
 Alexei Orlov (Russia)
 Angelica Peña (Canada)
 Hiroaki Saito (Japan)
 Atsushi Tsuda (Japan, Chairman)

Observers

Harold (Hal) P. Batchelder (USA)
 James Christian (Canada, S-CC)
 Masao Ishii (IOCCP)
 Suam Kim (Korea, S-CCME)
 Lisa Miller (SOLAS)
 Franz Mueter (ESSAS)
 Linda Stevenson (APN)
 Motomitsu Takahashi (Japan, WG 28)
 Yutaka Watanuki (Japan, AP-MBM)
 Sinjae Yoo (Science Board Chairman)
 Mikhail Zuev (Russia)

BIO Endnote 2

BIO meeting agenda

1. Welcome, introductions
2. Meeting agenda
3. Annual review of BIO activities
4. Oral and Poster Awards
5. Report from FUTURE APs
6. Reports from subsidiary bodies
7. International relationships
8. Topic sessions and workshops (completed) at PICES-2013, and inter-sessional meeting
9. Proposed workshop and Topic Sessions for the 2014 PICES Annual Meeting in Korea
10. Additional financial requests
11. Revision of BIO Action Plan
12. Election of new chairperson of BIO
13. Other items
14. Adjourn