

Report of the Physical Oceanography and Climate Committee

The Physical Oceanography and Climate Committee (POC) held two meetings during PICES-2017 in Vladivostok, Russia, one on Sunday, September 24, 2017, and one on Wednesday, September 27, 2016. The meetings were chaired by Dr. Emanuele Di Lorenzo. Participants for both meetings are given in **POC Endnote 1**.

AGENDA ITEMS 1, 2 and 3

Introductions, membership updates and agenda

Dr. Di Lorenzo welcomed members and self introductions were made. Dr. Jennifer Jackson (Canada) is a new member, replacing Dr. Charles Hannah, and Dr. SungHyun Nam (Korea) is a new member, replacing Dr. Kyung-Il Chang. The draft agenda for both meetings was reviewed and several items were rearranged in order to accommodate lengthier discussions on some topics. The agenda was then approved and is included as **POC Endnote 2**.

AGENDA ITEM 4

POC Topic Sessions at PICES-2017

POC-sponsored Topic Sessions:

- POC/FIS Topic Session (S6) on “*Interannual variability in marine ecosystems and its coupling with climate projections*”; Convenors: Yury Zuenko (Russia), Jacquelynne King (Canada), Masami Nonaka (Japan), Hee-Dong Jeong (Korea); Invited Speaker: Elena Ustinova (Pacific Fisheries Research Centre (TINRO-Centre), Russia);
- POC Topic Session (S9) on “*Meso-/submeso-scale processes and their role in marine ecosystems*”; Convenors: Hiromichi Ueno (Japan), M. Debra Iglesias-Rodriguez (USA), Sachihiko Itoh (Japan), Elena Ustinova (Russia); Invited Speakers: Sergey Prants (V.I. Il’ichev Pacific Oceanological Institute, Russia), Robert Suryan (Oregon State University, USA);
- FIS/POC Topic Session (S11) on “*Environmental variability in Arctic and Subarctic ecosystems and impacts on fishery management strategies*” Convenors: Mikhail Stepanenko (Russia), Mikhail Zuev (Russia), Thomas Helser (USA); Invited Speaker: Yury Zuenko (Pacific Fisheries Research Centre (TINRO-Centre), Russia).

AGENDA ITEM 5

Progress reports and future plans of POC expert groups

See Agenda Item 10 expert group requests having financial implications.

1. Joint PICES/ICES Section on *Climate Change Effects on Marine Ecosystems* (S-CCME)

Dr. Anne Hollowed presented on S-CCME activities in 2017. Dr. Jacquelynne King (Canada) was elected PICES Co-Chair, replacing Dr. Hollowed (USA).

- December 2016, Monaco: Scoping Meeting for the IPCC Special Report on Climate Change, the Oceans, and the Cryosphere. Dr. Shin-ichi Ito (Japan/PICES) attended from S-CCME.
- March 2017, Victoria, Canada: PICES/ICES International Symposium on “*Drivers of dynamics of small pelagic fish resources*”. Two workshops were co-convened by S-CCME members.
- March 2017, Victoria, Canada: S-CCME held a Phase 3 planning workshop prior to the pelagic fish symposium.
- March 2017, Galway, Ireland: S-CCME members met at the CERES annual Meeting to review

progress on future scenarios for EU fisheries as well as vulnerability assessments. There was much synergy between PICES and CERES.

- May 2017, Addis Ababa, Ethiopia: Dr. Hollowed gave a presentation at the Scoping meeting for the Sixth Assessment Report.
- May 2017, Anchorage, Alaska: Lowell Wakefield Symposium. S-CCME members, two from PICES and two from ICES served on the SSC.
- June 2017, Tromsø, Norway: ESSAS Open Science Meeting on Subarctic and Arctic Science. S-CCME members, three from PICES and one from ICES served on the SSC.
- June 2017: S-CCME Co-Chairs were invited to participate in a Planning Meeting to prepare an FAO Fisheries and Aquaculture Technical Paper on “*Climate change implications for fisheries and aquaculture*”. Several S-CCME members will prepare the North Atlantic/Arctic and North Pacific /Arctic sections, and several will act as national reviewers for the latter section.
- July 2017, Copenhagen, Denmark: S-CCME held a Workshop on “*Regional climate change variability assessment for large marine ecosystems of the northern hemisphere*”.
- August 2017, Copenhagen, Denmark: Dr. Myron Peck (Germany/ICES), on behalf of S-CCME, attended workshop on “*Climate-related impacts on fisheries governance*” led by the European Defence Fund.
- September 2017, Fort Lauderdale, USA: ICES ASC Theme Session A on “*Projected impacts of climate change on marine ecosystems wild captured and cultured fisheries and fishery dependent communities*” was co-convened by two S-CCME members from PICES and one from ICES.
 - A S-CCME Open Science Session on “*Physical, economic and societal impacts of climate change: testing common scenarios for future impact*” was slotted during the ASC to discuss progress on modeling nodes and to get general updates from both ICES and PICES partners.
- PICES-2017, Vladivostok, Russia: Topic Session (S6) on “*Interannual variability in marine ecosystems and its coupling with climate projections*” was co-convened by three S-CCME members.
- June 2018, Washington, DC: International PICES/ICES/IOC/FAO Symposium on “*The effects of climate change on the world’s oceans*”. Six S-CCME members are on the SSC. Dr. Ito is a Symposium Convenor.
- S-CCME has organized 25 workshops since 2012.
- Implementation Plan for Phase 3 (2018–2020): PICES-ICES strategic initiative on climate change effects on marine ecosystems next phase will add:
 - Training,
 - Considerations of data storage and data exchange,
 - Emphasis on comparative analysis and synthesis,
 - Greater emphasis on communication and outreach,
 - Accelerate development of projection modeling capabilities throughout the North Atlantic and North Pacific,
 - Provide communication tools, especially communicating uncertainty.
- S-CCME is starting a new chapter for the IPCC.
- PICES-2018 proposal for a Workshop on “*Synthesizing projected climate change impacts in the North Pacific*”. (See [S-CCME report](#) for the proposal.)

Dr. Di Lorenzo asked how POC could help to keep track of all of the information gathered by S-CCME.

- Much information has been added to S-CCME website (reports and publications);
- S-CCME does not have clear connections with the global modeling community. Can POC help by identifying a global modeling or earth system-modeling expert? It is important for S-CCME to stay updated with the modeling community.
 - In CMIP6 models will have 10 km resolution, which is the highest resolution that they will go.
 - Will CMIP6 have daily or monthly predictions for biological predications?
 - Monthly likely for many biogeochemical fields but daily is unlikely.
 - Global model organizational side is WRCP (CLIVAR)

Action item: To find global climate modeler to link with S-CCME and ICES.

- There is need for more information on the uncertainty of the parameters within the global climate models. How will this influence ecosystem projections?
- Short-term (seasonal) forecasting allows future projection and also model evaluation for biological models;
- There is a need for putting model results online for the community to use.

Action item: Michael Jacox (USA) and Anne Hollowed (USA) to draft a report that discusses synergies between WG 40 and S-CCME so that there is not much overlap.

2. Section on *Carbon and Climate* (S-CC)

Dr. James Christian (Co-Chair of S-CC) presented on S-CC activities for 2017. The Section was established at the 2005 Annual Meeting to continue the work of WG 13 (*Carbon Dioxide in the North Pacific*) and WG 17 (*Biogeochemical Data Integration and Synthesis*). At PICES-2014, the Section proposed to lead the development of a basin-wide acidification assessment (Outlook) of the North Pacific. The Outlook is expected to be published as a PICES Special Publication in 2018.

- S-CC asks for parent committee support in its request for technical assistance in completing report at a cost of up to \$10K:
 - At PICES-2016, Governing Council did not approve the request and instructed S-CC to find funding from its own national agencies,
 - There is interest from FUTURE to support this request but it wants to see more detail in the request first.
- S-CC recommends the membership of *ex officio* member, Dr. Chen-Tung Arthur Chen, representing the International Geosphere-Biosphere Programme, be ended as the IGBP has terminated;
- Requests for travel support:
 - For up to 3 early career scientists from PICES member countries to attend the 7th SOLAS Summer School in Cargèse, France, July 23–August 4, 2018,
 - For one scientist from the western Pacific to attend a workshop on ocean carbon sensor technology in Victoria, Canada.
- PICES-2018 proposal for a Topic Session on “*Ocean acidification and deoxygenation and their impact on ocean ecosystems: Synthesis and next steps*”. (See [S-CC report](#) for the proposal.);
 - Focus will be on emerging topics in ocean acidification.
- S-CC was reauthorized in 2016 to extend its term until 2019;
- S-CC next phase will focus on sensor technology.

3. WG 38: Working Group on *Mesoscale and Submesoscale Processes*

Dr. Annalisa Bracco (Co-Chair of WG 38) reported on WG 38 activities.

- An overview of WG 38’s terms of reference was presented;
- WG 38 held a Topic Session (S9) on “*Meso-/submeso-scale processes and their role in marine ecosystems*” at PICES-2017; Convenors: Hiromichi Ueno (Japan), M. Debora Iglesias-Rodriguez (USA), Sachihiko Itoh (Japan), Elena Ustinova (Russia), 13 presentations;
- WG 38 held its first meeting:
 - Ten members for all PICES member countries, except China, attended,
 - Seven presentations with overview of what is known about mesoscale variability were given,
 - Will focus on future activities and deliverables,
 - Three POC members are also members of WG 38,
 - There is a need for new members who specialize in modeling.
- Future activities:
 - Plans for synthesis paper on regional and temporal characterization of meso/submesoscale processes in PICES regions,
 - Proposal for a Topic Session on “*Seasonal to interannual variations of meso-/submeso-scale*

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processes in different areas of the North Pacific and regional characterization of the ecosystem response” at PICES-2018. (See [WG 38 report](#) for the proposal.)

- focus will be on presentations related to different observations in different regions. Ideally would like to focus on different biogeographical regions defined by WG 35.

POC members suggested a strategy be developed to attract speakers from each different region.

Action item: Find other working groups that have synergy with WG 38 and get to know those working groups.

4. WG 40: Working Group on *Climate and Ecosystem Predictability*

Dr. Masami Nonaka (PICES Co-Chair of WG 40) presented on the activities of WG 40.

- The WG is working closely with CLIVAR; 2 CLIVAR has 3 Co-Chairs, PICES has 2;
- WG 40 will focus on terms of reference 1, 2, and 3;
- Proposals:
 - A Topic Session on “*Ecological responses to variable climate changes and their applicability to ecosystem predictions*” at PICES-2018. (See [WG 40 report](#) for the proposal.)
 - An inter-sessional workshop on “*A census of marine ecosystem forecasting efforts in the North Pacific*”, June 2018, Washington, DC, during the climate change symposium. (See [WG 40 report](#) for the proposal.)

Question: Should BIO be added as a parent committee for WG 40?

Action item: Find other working groups that have synergy with WG 40 and get to know those working groups

5. AP-CREAMS: Advisory Panel for a *CREAMS/PICES Program in East Asian Marginal Seas*

Dr. Yury Zuenko reported on AP-CREAMS activities.

- All members are from western Pacific member countries and represent the oceanography, marine chemistry, and biology disciplines.
- Activities:
 - Collaborative observations (cruises) and ferry monitoring began in July 2017 with T, S and Chl-*a* measurements.

Publications:

- Supplement to NPESR-2 was technically edited in 2016, and is waiting to go to press,
- Still no decision by Governing Council.

Action item: POC to request publication of this document to Science Board

- CREAMS EAST-II report (East China and Yellow Seas) cannot be finished in 2017,
- AP members were encouraged to submit ETSOs to WG 35 for NPESR3 by November 2017.
- PICES/AP-CREAMS Summer School on “Satellite oceanography” will be held August 2018 in Seoul, Korea;
- AP-CREAMS meets twice a year: inter-sessionally and at the PICES Annual Meeting.
 - The next inter-sessional meeting is planned for April–May 2018 in Hangzhou, China (no funding requested).
- AP-CREAMS requests:
 - A 1-year extension to complete the EAST-II report,
 - Support for 5 non-Korean students and 1 foreign lecturer to attend PICES/AP-CREAMS Summer School.

AGENDA ITEM 6

FUTURE updates

FUTURE updates were presented at the FUTURE Plenary Session (S10). This topic was not discussed further.

AGENDA ITEM 7

NPESR update - North Pacific Ecosystem Status Report

WG 35 (*North Pacific Ecosystem Status Report*) is preparing the third North Pacific Ecosystem Status Report (NPESR3). The objective is to establish an online system to develop a database of Ecosystem Time Series Observations (ETSO). A new PICES classification for regional assessments has been established (regions 11 to 25).

- Regional assessments to be submitted to WG 35 by end of November;
- Synthesis and writing workshop in summer 2018;
- Plan to publish in 2019;
- Status of ETSO submissions – many regions do not have times series data submitted yet;
- Looking for more data (biological, chemical, physical) for most regions.

POC needs some clarification on what kind of data is needed. Should the lead author drive this from each region? It was decided that no action was needed by POC at this time.

AGENDA ITEM 8

Relationships with other international organizations/programs

Representatives from IOC, ICES, NPRB discussed collaborations with PICES during the Science Board meeting (see the Science Board report). Representatives from IMBeR and SCOOS did not attend the Annual Meeting.

CLIVAR

CLIVAR was represented by Dr. Annalisa Bracco, who discussed the goals of the organization.

- CLIVAR organized into a number of regional panels (Atlantic region, Pacific region, Indian Ocean, Southern Ocean, Northern Ocean);
- Also, climate dynamics, monsoons, global synthesis and observations, and ocean model development panels were described:
 - Northern Ocean Panel was just approved in 2017; this will influence PICES:
 - Held its first meeting in 2018,
 - Membership is 2/3s complete.

Action item: POC to take to Science Board regarding nominating an expert in ecosystems and regional oceanography of Arctic for the panel; give preference to representative from Korea, Japan, China or Russia.

- Have research foci (RF) that have limited (5 year) terms, *e.g.*, ENSO;
- Have grand challenges (GCs) that have longer (5–10 year) terms, *e.g.*, sea level, climate extremes;
- Overview of CLIVAR future:
 - Putting together a Science Plan to:
 - Expand on climate risk concept,
 - Provide regional climate understanding,
 - Understand mechanisms of climate variability and change,

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- Establish multi-scale approach to mitigation/ adaptation,
- Increase awareness.

- Overview of CLIVAR enabling capabilities:
 - Memorandum of understanding signed for bi-annual summer school in China,
 - Hope to expand this onto other continents.

- ENSO conference will be held October 2018 in Ecuador, with focus of impacts of ENSO;
- CLIVAR does not currently have a strong collaboration with ICES in the Atlantic.

Future Earth Ocean

Dr. Di Lorenzo gave a brief overview of this new organization, which is supported by IOC, WCRP, SCOR and UNEP. He focused on Goal 14 (Life below Water), one of the UN's sustainable development goals, and its integration with other goals, such as food and health. Knowledge-Action Networks are a mechanism for delivering Future Earth's research strategy. Oceans is one component of the Knowledge-Action Networks, and Dr. Di Lorenzo is a member of the Future Earth Ocean Development Team whose purpose is to give advice and feedback on activities and the development process of the Ocean Knowledge-Action Network. In 2016, Oceans held a scoping workshop on the "*Development of an integrated Ocean Research Network*" that laid out the framework for the establishment of Future Earth Ocean KAN, whose role is to promote and coordinate new integrated research activities, building on the marine core projects of Future Earth. Overarching areas that Ocean KAN will focus on are:

- Sustained ocean observations,
- Research on the impact and reduction of marine debris, plastics, and other marine pollutants,
- Research program on ocean disasters and extreme events,
- Engagement with WOA II,
- Development of a framework for ocean health,
- Improvement of global ocean governance
- Development of a long-term multi-regional, multi-themed "sustainable ocean lab"

AGENDA ITEM 9

New Proposals for ExGs, meetings, workshops, symposia, conferences

POC gave highest rankings for the following categories:

Topic Sessions at PICES-2018

- *Ocean acidification and deoxygenation and their impact on ocean ecosystems: Synthesis and next steps;*
- *Seasonal to interannual variations of meso-/submeso-scale processes in different areas of the North Pacific and regional characterization of the ecosystem response;*
- *Ecological responses to variable climate changes and their applicability to ecosystem predictions*
- Merge "*Ocean Mixing processes and its impacts on biogeochemistry, climate and marine ecosystems*" with "*Internal tides and nonlinear internal waves in North Pacific shallow seas: observations, modeling, and implications for coastal marine ecosystems*"

Workshops at PICES-2018

- *PICES contribution to Central Arctic Ocean (CAO) ecosystem assessment (Second);*
- *Synthesizing projected climate change impacts in the North Pacific;*
- *Identifying common reference points and leading indicators of ecosystem change.*

Inter-sessional workshops:

- *PICES contribution to Central Arctic Ocean (CAO) ecosystem assessment (First);*

- *Census of marine ecosystem forecasting efforts in the North Pacific;*
- *Regional ocean/climate forecasting and its application to HAB predictions in the North Pacific;*
- *NPESR3 Synthesis Workshop.*

SCOR Working Group proposals:

POC members ranked the SCOR working groups FLOTSAM (Floating Litter and its Oceanic Transport Analysis and Modelling) the highest, followed by EBUS (Eastern boundary upwelling systems (EBUS): diversity, coupled dynamics and sensitivity to climate change) and P-OBS (Integration of Plankton-Observing Sensor Systems to Existing Global Sampling) for PICES affiliate status.

AGENDA ITEM 10

Priority of items including funding implications

Below are requests from expert groups parented or co-parented by POC that were ranked “High priority” by the Committee.

S-CC

- Travel support for one scientist from China, Japan, Korea, or Russia to attend an Ocean Networks Canada workshop on chemical sensing technology, February 2018, Victoria, Canada (POC ranked High Priority);
- Travel support for up to 3 early career scientists from PICES member countries to attend the 7th SOLAS Summer School in Cargèse, France, July 23–August 4, 2018 (POC ranked High Priority);
- Funding for a graphic designer (up to \$10K) to lay out the North Pacific Acidification and Deoxygenation Assessment, to be published as a PICES Special Publication;
- PICES-2018 proposal for a Topic Session on “*Ocean acidification and deoxygenation and their impact on ocean ecosystems: Synthesis and next steps*” (See [S-CC report](#) for the proposal.);
- S-CC recommends the membership of *ex officio* member, Dr. Chen-Tung Arthur Chen, representing the International Geosphere-Biosphere Programme, be ended as the IGBP has terminated.

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- Proposal for a Topic Session on “*Seasonal to interannual variations of meso-/submeso-scale processes in different areas of the North Pacific and regional characterization of the ecosystem response*” at PICES-2018 (See [WG 38 report](#)).

WG 40

- POC requests the Secretariat to send a formal request to CLIVAR to support its WG 40 CLIVAR Co-Chair, Dr. Antonietta Capotondi (USA) to attend PICES-2018 in Yokohama, Japan;
- An inter-sessional workshop on “*A census of marine ecosystem forecasting efforts in the North Pacific*”, June 2018, Washington, DC, during the climate change symposium (See [WG 40 report](#));
- A Topic Session on “*Ecological responses to variable climate changes and their applicability to ecosystem predictions*” at PICES-2018 (See [WG 40 report](#));
- Inter-sessional workshop on “*Regional ocean/climate forecasting and its application to HAB predictions in the North Pacific*” to be held in May 2018 in Qingdao (**POC Endnote 3**).

AP-CREAMS

- Travel support for 5 non-Korean students and 1 foreign lecturer to attend PICES/AP-CREAMS Summer School on “*Satellite oceanography*”, August 2018, Seoul, Korea

See Agenda Item 9 for POC ranking of proposals.

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AGENDA ITEM 11

Upcoming meetings relevant to POC

- Ocean Science Meeting 2018, February 11-16, 2018, Portland, Oregon, USA
Sponsors/Organizations: ASLO, ASLO, TOC
<https://osm.agu.org/2018/>
 - Session proposal submitted by POC members:
Michael Jacox – “*Biophysical dynamics of Eastern Boundary upwelling ecosystems in a changing ocean*”
 - POC members attending: SungHyun Nam, Steven Bograd, Chan Joo Jang, Daisuke Hasegawa

- Sixth International Marine Debris Conference (6IMDC), March 12–16, 2018, San Diego, California, USA
PICES/MoE Session: “*The risks of marine debris mega-pulse events: Lessons from the 2011 Great Japan Tsunami*”
Sponsors/Organizers: NOAA and UN Environment, PICES
<http://internationalmarinedebrisconference.org/>
 - No POC members attending

- International Symposium on “*Understanding changes in transitional areas of Pacific*”, April 24-26, 2018, La Paz, Baja California Sur, Mexico
Sponsors/Organizers: PICES, CIBNOR, CICIMAR
<http://meetings.pices.int/meetings/international/2018/pacific-TA/scope>
Invited Speaker: Emanuele Di Lorenzo
 - POC members attending: Daisuke Hasegawa, Steven Bograd

- 4th International Symposium on “The effects of climate change on the world’s oceans, June 4–8, 2018, Washington DC, USA
Sponsors/Organizers: PICES, ICES, IOC, FAO, NOAA Fisheries
<http://meetings.pices.int/meetings/international/2018/climate-change/Background>
 - POC sessions:
S2: “*From prediction to projection: the role of seasonal to decadal forecasts in a changing climate*”
 - POC members attending: Fan Wang, Shin-ichi Ito, Steven Bograd, Emanuele Di Lorenzo

AGENDA ITEM 12

Publication updates

- Final Report of WG 27 on *North Pacific Climate Variability and Change*
The final report was reviewed in May 2017 by Drs. James Christian and Hiromichi Ueno. Reviewer comments were acted on and the report was submitted to the Secretariat.

- Final Report of WG 29 on *Regional Climate Modeling*
The final report was submitted to Science Board and the Secretariat March 2, 2017; Dr. Di Lorenzo was tasked to review the report. The final report contains 13 papers with contribution from all member countries. Nine recommendations were made, including:
 - 1) Live-access servers of ftp sites and links to RCM/GCM websites;
 - 2) Coordinated regional climate downwelling experiment (CODEX) – coordinated model evaluation:
 - Will likely start proposal for CMIP6-endorsed MIP,
 - Will think about extending this work as a SCOR proposal,
 - Will consider starting with a COCEAN PICES study group?

- AP-CREAMS report on “Oceanography of the Yellow and East China Seas (EAST-II region)”
AP-CREAMS requested a 1-year extension to complete the report for publication as a PICES Scientific Report.

- S-CC report on Basin-wide Ocean Acidification and De-oxygenation

A great deal of progress has been made on the acidification/deoxygenation synthesis report, but parts are still missing and completion is behind schedule. Some authors non-responsive but now have a new deadline of November 30, 2017 for a first draft. At PICES-2016 S-CC requested funds for a graphic designer to complete the report for a PICES Special Publication. This was supported by POC but was rejected by Governing Council. S-CC will request funding again this year. Plan to finish by inter-sessional.

- Supplementary chapter to the second North Pacific Ecosystem Status Report

The chapter was technically edited in 2016 and submitted to Governing Council for approval. It is still under review by the two contracting parties.

AGENDA ITEM 13

POC messaging board, documenting business meetings, topic sessions and workshops

POC established a new messaging board on Monday.com for documenting business meetings, topic sessions and workshops at PICES Annual Meetings.

AGENDA ITEM 14

POC Best Presentation and Poster Awards, early career judgment for POC

POC was tasked by the Science Board Chair, Dr. Hiroaki Saito, to judge early career scientist oral presentations and posters for Topic Session S6 and the POC Paper Session at PICES-2017.

Best Oral Presentation for his report on “*Increasing Pacific decadal variability under greenhouse forcing*” was awarded to Giovanni Liguori in the POC Paper Session. Best Poster was awarded to Suyun Noh for his presentation on “*Near-inertial internal waves observed in the vicinity of an anticyclonic eddy in the southwestern East Sea (Japan Sea)*”.

AGENDA ITEM 15

Planning for PICES-2018 and POC Action Items

PICES-2018

Dr. Di Lorenzo noted that there were few submissions for POC-sponsored sessions at PICES-2017, and encouraged members to start thinking about how to revitalize the Committee. For PICES-2018, it was suggested that POC be more topic-focused, and to work with other Committee to have interdisciplinary sessions.

Action Item Summary

Below is a short summary of all the action items listed in the report and their status as of February 12, 2018. The image below is from the POC messaging board.

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POC Action Items 2017-2018	Person	Status
S-CCME/CLIVAR Action 1: Ocean Modeling Panel of CLIVAR (Bracco/Hollowed) ①		Working on it
S-CCME Action 2: link to uncertainties for seasonal forecasts (TBD) ①		Working on it
S-CCME Action 3: synergies and overlap between S-CCME and WG40 activities (Jacox/Hollowed) ①		Working on it
WG38 Action 1: Identify relationships with other WGs and make plan to exchange updates.		Working on it
WG38 Action 2: Explore possible merger of session proposals related to WG38		Done
WG40 Action 1: Identify relationships with other WGs and make plan to exchange updates. ✎		Working on it
WG40 Action 2: Request a 2-hour overlap joint meeting with WG36 to establish synergies		Working on it
Request that D. Tommasi join WG34 as "climate" expert to establish better synergies with WG40 ①		Done
AP-CREAMS: request publication to SB that publication move forward		Awaiting decision
ICES: Identify a POC champion for promoting ICES/PICES Northern Seas/Arctic efforts		Working on it
CLIVAR: Submit nominations for for NORP Panel (Korea, China, Japan or Russian member)		Needs Review
NPESR: POC members that can provide meta-data ①		Follow-up
POC: Need to strategize on how to re-vitalize POC session at annual meeting		Needs Update

AGENDA ITEM 16

Other business

None.

POC Endnote 1

POC participation list

Members

Steven Bograd (USA)
 James Christian (Canada)
 Emanuele Di Lorenzo (USA, Chair)
 Daisuke Hasegawa (Japan)
 Jennifer Jackson (Canada)
 Chan Joo Jang (Korea)
 SungHyun Nam (Korea)
 Fangli Qiao (China)
 Hiromichi Ueno (Japan)
 Elena Ustinova (Russia)
 Yury Zuenko (Russia, Vice-Chair)

Members unable to attend

Canada: Michael Foreman
 China: Fan Wang, Lei Zhou
 Japan: Shin-ichi Ito
 Korea: Hee-Dong Jeong
 Russia: Vyacheslav Lobanov
 USA: Jerome Fiechter

POC Endnote 2**POC meeting agenda**

Sunday, September 24, 6:00pm–8:00pm

1. Welcome and introductions
2. Membership updates
3. Changes to, adoption of, agenda and appointment of rapporteur
4. POC Sessions at PICES-2017
5. ExGs Progress Reports and future plans of POC active groups
 - S-CCME: Joint PICES/ICES Section on Climate Change Effects on Marine Ecosystems (Jan 2012-2017)
 - S-CC: Section on Carbon and Climate
 - WG 38: Working Group on Mesoscale and Submesoscale Processes
 - WG 40: Working Group on Climate and Ecosystem Predictability
 - AP-CREAMS: Advisory Panel for a CREAMS/PICES Program in East Asian Marginal Seas
6. FUTURE updates
7. NPESR update - North Pacific Ecosystem Status Report
8. Relationships with other international organizations/programs

Wednesday, September 27, 2:00pm–6:00pm

9. New Proposals for ExGs, meetings, workshops, symposia, conferences
 - Proposal for new PICES ExGs (*e.g.*, WG, SG, Sections)
 - Ranking of PICES-2018 proposals (deadline September 26, 2017)
 - SCOR proposal recommendation and outcomes
10. Priority of items including funding implications
11. Upcoming meetings relevant to POC
12. Publications updates
 - Final Report of WG 27 on North Pacific Climate Variability and Change
 - Final Report of WG 29 on Regional Climate Modeling
 - Scientific Report AP-CREAMS PICES Scientific Report Oceanography of the Yellow and East China Seas (EAST-II region)
 - Report S-CC on Basin-wide Ocean Acidification and De-oxygenation
13. POC messaging board, documenting business meetings, topic sessions and workshops
14. POC Best Presentation and Poster Awards, Early career judgment for POC
15. Planning for PICES-2018 and POC Action Items
16. Other business
17. Adjourn

POC Endnote 3

**Proposal for an inter-sessional workshop on
“Regional ocean/climate forecasting and its application to HAB predictions in the North Pacific”**

Co-sponsors: CLIVAR, FUTURE Earth Ocean, Regional Forecasting Consortiums, others TBD

Harmful Algal Blooms (HABs, native and non-indigenous) are an emerging threat to coastal communities around the western and eastern sides of the North Pacific where their occurrence is becoming more frequent in a warming climate. Much work has been conducted through national and international efforts (*e.g.*, PICES Section on HABs) to understand the mechanisms leading to HABs and the role of both biological (*e.g.*, microbial dynamics) and physical (*e.g.*, upwelling, river runoff) processes. In parallel, the ocean and climate forecasting community has made advances in the development of regional ocean prediction systems that can provide reliable estimates of the physical forcing that contribute to HABs. In this workshop, we plan to bring together scientists from the climate, ocean modelling and HAB community to develop an actionable framework to combine large- and regional-scale climate and ocean forecasts with HABs mechanistic models to deliver robust predictions of HABs likelihood on monthly to seasonal timescales. The focus is on the coastal ocean around the western (China, Japan, Korea) and eastern (USA, Canada) boundaries of the North Pacific where HABs represent a societally relevant environmental concern. The format of the workshop consists of a few invited talks with group discussions that aim at developing a common interdisciplinary understanding and language across the various experts. Specifically, the workshop participants will review the current (Topic 1) efforts and state of ocean and climate regional forecasting in target coastal areas (to be identified based on interest from the PICES member countries), (Topic 2) understanding of the mechanisms that lead to HABs, and (Topic 3) attempts to predict HABs. The groups will then discuss the steps and action required to develop a common and relocatable framework to use empirical stochastic models forced by the physical forecasts to make predictions of HABs (Topic 4 and 5).

Products: Develop an actionable framework to implement a few selected case studies of HABs prediction system using empirical stochastic models. This framework will serve as a road map for the activities of PICES WG 40 on climate and ecosystem predictability and creating synergies with section on HABs and AP-NIS, and integration between PICES countries).