

FUTURE SSC Inter-Sessional Meeting 2018

FUTURE (Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems) is the second integrative science program of PICES, launched in October 2009. The goals of FUTURE are to understand how marine ecosystems in the North Pacific respond to climate change and human activities, to forecast ecosystem status based on a contemporary understanding of how nature functions, and to communicate new insights to its members, governments, stakeholders and the public. To better integrate the activities of FUTURE into PICES Committees and Expert Groups, the FUTURE changed its governance structure from 3 Advisory Panels (COVE, AICE, and SOFE) to a Scientific Steering Committee (SSC) in 2014.

A 3-day FUTURE SSC inter-sessional meeting was held April 10–12, 2018 in Honolulu, Hawaii, USA. Co-Chair Steven Bograd (USA) led the meeting and Co-Chair Sukyung Kang (Korea) served as rapporteur. The meeting was attended by 11 participants (eight SSC members, Science Board Chair, a representative from the PICES Secretariat, and one guest from the NOAA Pacific Islands Fisheries Science Center; Figure 1). The meeting agenda is included in Appendix A.

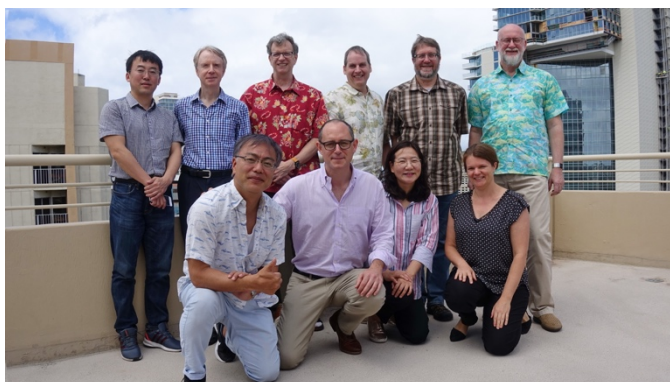


Fig.1: FUTURE SSC members and guests at inter-sessional meeting in Honolulu, HI, USA in April 2018. Back row, from left: Guangshui Na (China), Ian Perry (Canada), Harold (Hal) Batchelder (PICES Deputy Executive Secretary), Thomas Therriault (Canada), Steven Bograd (FUTURE SSC Co-Chair/USA), Vyacheslav Lobanov (Russia). Front row, from left: Mitsutaku Makino (Japan), Emanuele Di Lorenzo (USA), Sukyung Kang (FUTURE SSC Co-Chair/Korea), Siri Hakala (PIFSC, NOAA). Missing from photo: Hiroaki Saito (SB Chair).

Review of 2017–2018 Activities

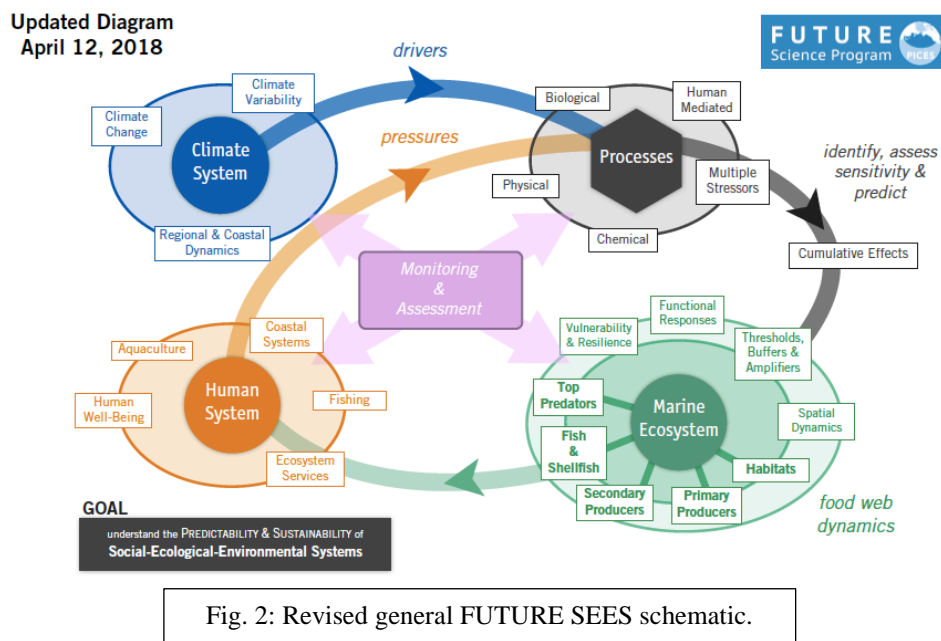
The FUTURE SSC reviewed its activities since our last meeting at the 2017 Annual Meeting in Vladivostok, Russia. An important task identified last year was to populate the PICES website with easily accessible information about the FUTURE program, including its history, structure and activities. The SSC outlined a new format within the Projects and Programs page and identified material that still needs to be posted (Product Matrix, when completed; meeting reports; FUTURE highlights; and presentations from prior meetings). We also discussed other means to provide improved outreach and communication about the FUTURE program and decided on a short video of the Co-Chairs discussing the FUTURE framework, to be posted online, as well as information on the program to be included in the next Annual Meeting program. The SSC reviewed recent and planned activities of the expert groups that FUTURE (co)parents: Working Groups 35 (*Third North Pacific Ecosystem Status Report*), 36 (*Common Ecosystem Reference Points across PICES Member Countries*), 40 (*Climate and Ecosystem Predictability*), and 41 (*Marine Ecosystem Services*). It was noted that WG 36 will hold an inter-sessional meeting at the PICES/ICES/IOC/FAO Symposium on “*The effects of climate change on the world’s oceans*” (ECCWO) in Washington, D.C. in June 2018. The SSC also confirmed the current SSC liaison assignments (Appendix B) and reviewed its Terms of Reference. While the existing ToRs are still appropriate and are being actively addressed, it was decided that a new term be added to charge the SSC with leading the development of plans for the next, post-FUTURE, PICES integrative science program.

The FUTURE SSC was asked, and agreed, to contribute funding (\$5K) to the publication of a report on ocean acidification being prepared by the Section on *Carbon and Climate*. We also discussed other

potential budgeting items, including support for Working Group inter-sessional workshops and support for a postdoctoral scholar or visiting scientist to work on FUTURE priority activities.

Synthesis of FUTURE Framework

A significant portion of our inter-sessional meeting was used to discuss the existing FUTURE framework, as represented by the FUTURE schematic (Figure 2), and to outline a synthesis paper to describe the development and implementation of the FUTURE framework. In general, FUTURE is structured to facilitate communication and interaction amongst the components of our Social-Ecological-Environmental System (SEES). The SSC revised the general FUTURE schematic and constructed a detailed outline for the synthesis paper with individual writing assignments. We also developed customized schematics and narrative outlines for four case studies that demonstrate the utility of the FUTURE framework to address SEES issues: (a) species alternation in the western Pacific, (b) ecosystem impacts of an extreme event in the Northeast Pacific, (c) jellyfish blooms in the western Pacific, and (d) warming and distributional shifts of migratory species in the North Pacific. The synthesis paper will be prepared over summer 2018 by all SSC members, with a target submission to the journal *Frontiers of Marine Science* in October 2018.



Plan for 2018-2019 Activities

The FUTURE SSC will participate in three PICES-sponsored meetings in 2018: (a) an International Symposium on Pacific Transitional Areas (PTA) in La Paz, Mexico, in late April; (b) an International Symposium on “The Effects of Climate Change on the World’s Oceans” (ECCWO) in Washington, D.C., USA, in June; and (c) the PICES 2018 Annual Meeting in Yokohama, Japan, in October. At the PTA, Steven Bograd will present an overview of the FUTURE program at the Mexico–PICES Summit, with the aim of alerting Mexican marine scientists to the program’s activities and offering potential for collaboration. A poster of the FUTURE program will also be presented. At ECCWO, members of the FUTURE SSC will attend a WG 36 workshop on “Quantifying thresholds in driver-response relationships to identify reference points”. At PICES-2018, FUTURE will sponsor a plenary session on “The FUTURE

of PICES: Next steps in understanding, forecasting and communicating climate impacts on North Pacific marine ecosystems”, which will serve to summarize FUTURE activities and priorities for the PICES community and allow key Expert Groups to present their FUTURE-related activities and products. The FUTURE SSC will also conduct a business meeting and will propose a workshop on “*A guide to communicating PICES science to scientists, governments, stakeholders and the public*” at PICES-2019 in Victoria, Canada, which will address one of the key objectives of the FUTURE program, i.e., developing strategies for communicating PICES science to a variety of stakeholders. Another workshop on “*Implementation for SEES for Early Career Scientists*” may be proposed for a future Annual Meeting.

Finally, the FUTURE SSC prepared an Action Plan for the remainder of 2019, which includes: (a) finalizing and distributing the FUTURE Product Matrix; (b) revising the Terms of Reference to include planning for the next PICES integrative science program; (c) developing FUTURE outreach products (video and conference booklet information); (d) preparing for the PICES-2018; and, most importantly, (e) finalizing the FUTURE synthesis paper for submission.

APPENDIX A: FUTURE SSC Inter-Sessional Meeting Agenda

Dates: April 10-12th, 2018

Venue: Honolulu, HI, USA

1. Introductions and nomination of a rapporteur
2. Adoption of agenda
3. Review 2018 FUTURE SSC Action Plan
4. Update on Activities of Working Groups 35, 36 and 40
5. Review revised FUTURE Product Matrix and discuss dissemination
6. Review FUTURE SSC Terms of Reference
7. Discuss Survey on next Integrative Science Program
8. Discuss status of Draft FUTURE Synthesis Paper
 - Writing breakout team 1 (1/2 day)
 - Writing breakout team 2 (1/2 day)
9. Continue discussion of FUTURE Synthesis Paper; finalize writing assignments
10. Plan 2018–2019 FUTURE SSC activities
 - Activities at PTA Symposium and PICES–Mexico Summit in April
 - Activities at the ECCWO Symposium in DC in June
 - Activities at the PICES Annual Meeting in Yokohama in October
 - Plans for FUTURE outreach
 - Plans for SSC summer WebEx meetings
 - Other FUTURE publications in the pipeline
 - Workshop proposal for 2019 Annual Meeting
 - Finalize Action Plan for 2018–2019
11. Other SSC business

Adjourn

APPENDIX B: FUTURE SSC Members and Liaison Table (revised April 5, 2017)

	Committee	WG	Section	AP/SG
Jacquelynne King	FIS	WG-34*, WG-36	S-CCME*	
Ian Perry	BIO*, HD	WG-32, WG-37*		
Guangshui Na	MEQ	WG-31*, WG-39*	S-HAB	
Fangli Qiao	POC, TCODE		S-CC	CREAMS
Mitsutaku Makino	HD*	WG-36*		SG-MES
Toyomitsu Horii	MEQ	WG-30*	S-HAB*	
Sukyung Kang	FIS*	WG-34	S-CCME	
Sinjaee Yoo	BIO	WG-33*, WG-35*		NPCOOS
Oleg Katugin	FIS	WG-32*	S-MBM*	
Vyacheslav Lobanov	MONITOR*	WG-38		CREAMS*/NPCOOS*
Emanuele Di Lorenzo	POC*	WG-38*, WG-40		
Steven Bograd	POC, MONITOR	WG-33, WG-35	S-CC*, S-MBM	
Ryan Rykaczewski	TCODE*, BIO	WG-37, WG-40*		
Tom Therriault	MEQ*	WG-39		NIS*
	*Primary liaison members			