

2024 Report of the FUTURE Scientific Steering Committee



The FUTURE Scientific Steering Committee (SSC) held several online meetings in 2024, mainly to 1) plan the FUTURE Symposium and 2) prepare the FUTURE synthesis paper. In addition, the FUTURE SSC conducted an in-person annual meeting with hybrid capacity at PICES-2024 in Honolulu, USA, on October 27, 2024. FUTURE Co-Chairs, Drs. Steven Bograd (USA) and Hanna Na (Korea), led the meeting. Dr. Jennifer Boldt made a note during the meeting.

AGENDA ITEM 1

Welcome and share the agenda

Self-introductions were made (*FUTURE SSC Endnote 1*), and the agenda was adopted without modification (*FUTURE SSC Endnote 2*).

AGENDA ITEM 2

SSC updates

- FUTURE SSC has been recruiting new ECOP members from each member country, and four members have been officially appointed so far: Mackenzie Mazur (Canada), Hitomi Oyaizu (Japan), Seongbong Seo (Korea), and Erin Satterthwaite (USA).
- The FUTURE synthesis paper was submitted to the ICES Journal of Marine Science in October 2024, just before the annual meeting (currently under revision as of February 2025).
- The FUTURE SEES ECOP Awardee chosen was Dr. Rachel Seary. ([link](#) to the PICES Press article)
- FUTURE SSC Liaison was revisited (*FUTURE SSC Endnote 3*).
 - Updates were suggested for Working Groups 51, 52, and 53.
 - It was pointed out that primary and secondary liaisons should communicate to ensure that someone provides an update to working groups, preferably in person for business meetings held during the annual science meeting.
 - It was noted that new SSC members need to be added.

AGENDA ITEM 3

Children reports

- **AP-ECOP** held a series of training sessions online, which was very well received. In addition, the AP has developed a fact sheet about PICES specifically designed for ECOPs who attend annual meetings,

which has also been translated into different languages. PICES supported three ECOPs in participating in the recent Ocean Decade conference, which is relevant to SmartNet activities.

- **AP-SciCom** will be holding a science jam at PICES-2024 during the morning break. Attendees will have the opportunity to receive training on science communication and develop 1-page brochures for expert groups.
- **WG-49** has been focused on a couple of projects, including: 1) Bibliographic literature (scientific and popular press) and 2) Impact of extreme events (currently in the early stages of developing a workshop). This WG evolved from discussions amongst members of WG 36, 40, and 41; integration across these WGs had been limited, so WG49 was purposely developed to be more interdisciplinary in addressing the issue of climate extremes, and so far it has been successful.

AGENDA ITEM 4

Discussion on the PICES External Review Panel Report ([link to the report](#))

- FUTURE SSC has reviewed the report and discussed the success and challenges of the program as the current flagship science program of PICES. FUTURE has been successful in developing the Social-Ecological Environmental System (SEES) framework. The SEES diagram highlights how FUTURE has synergized connections between different disciplines and various factors, as summarized in the FUTURE synthesis paper (Takemura et al., under revision). WG 45, the Joint ICES/PICES Working Group on Impacts of Warming on Growth Rates and Fisheries Yields (GRAFY), explores the relationship between the climate system, various processes, the marine ecosystem, and the human system. One of the recent working groups on climate extremes, WG 49, would be another example of how the SEES approach has been applied to transdisciplinary studies.
- However, there has been criticism that FUTURE has been too ambitious and that its science plan is relatively vague. Questions on ecosystem resilience and vulnerability would be difficult to answer within the life cycle of FUTURE. Some of the difficulties FUTURE has experienced may come from constraints on operation within the PICES structure, specifically limits on its flexibility. The most important thing we need to aim for a better future of FUTURE, and PICES science more generally, would be better communication of our activities both within and outside of the PICES community.
- The next Integrated Science Program will probably have more specific and achievable questions. The keywords would include actionable science, deliverables, and metrics of success.

AGENDA ITEM 5

FUTURE Symposium

The FUTURE symposium was planned for October 28, 2024. The SSC conducted final preparations, including finalizing the panels for discussion and determining how to receive questions for the panels from the audience. The symposium was a success, as discussed in the PICES Press article ([link](#)), and it was also reviewed during the “Special Panel” on November 1.

AGENDA ITEM 6

Requests to Science Board

There was one recommendation for a new ECOP member from China, Dr. Peng Lian.

FUTURE SSC Endnote 1

FUTURE SSC participation list

Members

Steven Bograd (USA, Co-Chair)
Hanna Na (Korea, Co-Chair)
Jennifer Boldt (Canada)
Mazur Mackenzie (Canada; virtual)
Fangli Qiao (China)
Daisuke Hasegawa (Japan)
Hitomi Oyaizu (Japan)
Mitsutaku Makino (Japan)
Sukyung Kang (Korea)
Seongbong Seo (Korea)
Vyacheslav Lobanov (Russia; virtual)
Ryan R. Rykaczewski (USA)
Erin V. Satterthwaite (USA)

Observers

Jo Foden (ICES)
Alan Haynie (ICES)
David Reid (ICES)
Yutaka Hiroe (F&A; Japan)
Peng Lian (China)



FUTURE SSC Endnote 2**FUTURE SSC meeting agenda**

1. Welcome and share the agenda
2. SSC Updates
 - New members
 - FUTURE synthesis paper submitted
 - FUTURE SEES ECOP Award
 - FUTURE SSC Liaisons
3. Update from children expert groups
 - AP-ECOP
 - AP-SciCom
 - WG 49
4. Discussion on the PICES External Review Panel Report
5. FUTURE Symposium
6. Requests to Science Board

FUTURE SSC Endnote 3**FUTURE SSC Liaison Table**

	Committee	WG	Section	AP
Jennifer L. Boldt	MONITOR, FIS	WG-47*, WG-53		
Mackenzie Mazur				
Thomas W. Therriault	MEQ*		HAB*	NIS*, ECOP*
Fangli Qiao	TCODE*, POC	WG-50	CC	CREAMS
Chengjun Sun	MEQ		MPP*	
Daisuke Hasegawa		WG-50*		
Mitsutaku Makino	HD*	WG-51*		SciCom*
Hitomi Oyaizu				
Sukyung Kang	FIS*	WG-48*	CCME	
Hanna Na				NPCOOS*, ECOP
Seongbong Seo				
Oleg N. Katugin	FIS, HD		MBM*	
Vyacheslav B. Lobanov	MONITOR*			CREAMS*, NPCOOS
Steven J. Bograd	POC	WG-49*	CC*, MBM	SciCom, UNDOs*
Emanuele Di Lorenzo	POC*			UNDOs
Ryan R. Rykaczewski	BIO*, TCODE	WG-53	CCME*	
Erin Vera Satterthwaite		WG-52*		
* Primary liaison members				