

2023 Report of the FUTURE Scientific Steering Committee



The FUTURE Scientific Steering Committee (SSC) conducted an in-person (with hybrid capacity) annual meeting at PICES-2023 (Seattle, USA) on October 26, 2023. FUTURE Co-Chairs, Drs. Steven Bograd (USA) and Hanna Na (Korea) led the meeting. Dr. Ryan R. Rykaczewski acted as rapporteur.

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

Review membership needs and requests

During ISB-2023, a request was made for the Science Board to include new Early Career Ocean Professional (ECOP) members within the FUTURE SSC membership. The SSC has decided to recommend one ECOP for each member country as follows (others TBD):

- Mackenzie Mazur (Canada)
- Daiki Ito (Japan)
- Seongbong Seo (Korea)
- Erin Satterthwaite (USA)

AGENDA ITEM 3

SSC updates and general business

Dr. Na provided a summary briefing on the activities of the FUTURE SSC since its last intersessional meeting in April 2023 and the follow-up meeting in July 2023.

- *FUTURE ECOP SEES Award*: The FUTURE SSC selected the first recipient of the award (Dr. Vivitskaia Tulloch from the University of British Columbia) after the meeting in July 2023 and supported travel expenses along with an opportunity to present as an invited speaker at the Science Board Symposium S1 at PICES-2023. The SSC talked about the fact that the award is focused on the Annual Meeting and the North Pacific Social-Ecological-Environmental System (SEES) approach. The webpage describing this award (<https://meetings.pices.int/awards/FUTURE-ECS-Award>) uses the phrase “FULL travel support”; however, the SSC decided to use the language “partial support” instead

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of “full support” or “about 3,000 CAD”, as it is not certain how much of the travel support could be made for the future Annual Meetings. The SSC decided to request from the Science Board strong support for the FUTURE ECOP Award.

- *Update/revision of Liaison Table (FUTURE SSC Endnote 3) and FUTURE Schematic:* The SSC revisited the table and emphasized the need for a secondary liaison to cover for the primary liaison when that person is not available. It was also noted that the FUTURE liaison slides need to be updated and available well prior to the PICES Annual Meeting, as the expert group business meetings are often a month prior to the Annual Meeting. SSC members also need to be proactive in reaching out to co-chairs of expert groups, as there are some who are unaware of the liaison process. The SSC should check to make sure that the liaison process is included in the instructions to expert group co-chairs. It was also noted that the SEES expert group diagram should be updated to include WG 51 and to remove expiring expert groups. Finally, it was suggested that the SSC co-chairs should recommend that the ended WGs add some information on the FUTURE Product Matrix in their final reports.
- *Timeline for FUTURE Phase II Final Report:* The report and the brochure should be completed before the next Annual Meeting, where there will be a FUTURE Symposium (preferably before April 2024).

AGENDA ITEM 4

Update from FUTURE expert groups

Dr. Bograd reviewed the recent activities of one Working Group (WG) and one Advisory Panel (AP) that are parented or co-parented by the SSC: WG 49 (Climate Extremes and Coastal Impacts) and AP-ECOP (Early Career Ocean Professionals). Highlights include the following:

- **WG 49** was established in 2022 and had an in-person meeting during the PICES-2023 on the same day as the FUTURE SSC. The WG conducted a survey on extreme events and proposed a Topic Session on “*Climate extremes and coastal impacts in the North Pacific*” and a Workshop on “*Applying social-ecological frameworks to explore actionable solutions for climate extreme events across the North Pacific*” for PICES-2024. It was also reported that there are two ECOPs in the WG.
- **AP-ECOP** had an in-person meeting during PICES-2023. This AP has been a very energetic group focused on engaging ECOPs in PICES. The AP has developed a pamphlet, available in each language at the registration desk, and organized the ECOP mentorship program, which appears to be going well and should continue at future meetings. This AP has done a survey about the participation of ECOPs from different countries and had a couple of articles (Winter 2021, Vol. 29, No. 1, pp. 28–33; Winter 2023, Vol. 31, No. 1, pp. 31–34) in PICES Press. The AP will be hosting a “PICES 101” virtually (online) and then again in person at the next Annual Meeting for new participants. Dr. Makino raised the point that “101” is confusing and has no meaning in Asian university course codes; perhaps the title should be changed to “Introduction to PICES.”

AGENDA ITEM 5

Planning for 2024 FUTURE Open Science Meeting and PICES-2024

The theme of PICES-2024 is “*The FUTURE of PICES: Science for Sustainability in 2030*” with a FUTURE Symposium, which will probably be just before the Closing Session. The SSC discussed the structure of this full-day session, and some discussions and suggestions include the following:

- The timing of the symposium in the week’s schedule was discussed. There could be some advantages to having the symposium earlier in the week, but also disadvantages if people thought it was just part of the Annual Meeting.
- One suggestion is to get the former and current working group co-chairs together for invited talks, panel discussions, or to host their own parallel sessions. Dr. Makino noted that the FUTURE synthesis paper might help guide our thoughts on the structure. So, the proposed structure might look like:
 - Introductory talk on FUTURE and its Phase I and Phase II
 - Summary of a PICES review that is being conducted this year
 - Invitation to past and current WG co-chairs to give short talks or have a panel discussion on the outlook for PICES
 - Some names of potential speakers could be Drs. Shion Takemura and Emanuele Di Lorenzo as well as past and current expert group co-chairs.
 - The morning session could be in plenary and the afternoon session could be a two-hour panel discussion with the speakers and co-chairs.
 - There will be some suggested topic sessions that are not awarded space on the schedule, and the SSC could consider gathering some of those topics together for symposium discussion.

AGENDA ITEM 6

Timeline for FUTURE synthesis paper

Following FUTURE SSC’s intersessional meeting in April 2023 and the follow-up meeting in July 2023, the SSC reviewed the outline and the writing assignments for the FUTURE synthesis paper (*FUTURE SSC Endnote 4*). There was a discussion about whether the two approaches (text analysis and the product matrix) are consistent with each other and with the story that the SSC would like to tell. Thus, Ms Saeseul Kim from the Secretariat was invited to join the discussion and Dr. Takemura reviewed the results from the text analysis of the abstract books spanning PICES Annual Meeting presentations from 1993 to 2019. Some of the main discussions include the following:

- When the result of text analysis is broken down into two dimensions, the first dimension shows the shift from the Climate Change and Carrying Capacity (CCCC) program to FUTURE. When specific keywords are analysed over time, there are some clear trends, including the decrease of “sardine” and the increase of “management” and “climate”. A second dimensionality plot shows that expert groups have distinct keywords, but the keywords are moving closer together over time.
- Ms Kim quickly reviewed the product matrix, and the questions in the product matrix themselves probably contain keywords that are similar to Dr. Takemura’s text analysis. Perhaps there are trends over time in the types of questions that are addressed by the expert groups as evident in the product matrix.
- In the Introduction, it will likely be useful to show the FUTURE SEES schematic.

AGENDA ITEM 7

FUTURE SSC 2023–2024 Action Plan and timeline

The SSC reviewed its Action Plan. Members discussed the target journal for the publication of the FUTURE synthesis paper. There is some resistance to *Frontiers in Marine Science*, as the *Frontiers* series of journals is considered predatory. The second issue is the licensing agreements between the publication companies and

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access (e.g., for libraries and the public). The SSC decided to consider *ICES Journal of Marine Science* as another option.

AGENDA ITEM 8

Recommendations and requests for Science Board

The FUTURE SSC recommends ECOPs for SSC membership. Canada, Korea, and Japan have made their suggestions, and the US will also offer suggestions. The SSC will have an intersessional business meeting and a half-day meeting at the PICES-2024. The SSC will also ask for support for the FUTURE Symposium (9am-3pm at the Annual Meeting), including the invited speakers (including some current and previous working group co-chairs, Drs. Takemura and Di Lorenzo) and lunch or refreshments. Funds will also be spent on the FUTURE ECOP Award.

AGENDA ITEM 9

Writing retreat on FUTURE synthesis paper

The SSC has further developed the outline of the synthesis paper and will have the first draft ready by the end of this year. The target submission date will be the end of February 2024.

The meeting was adjourned at around 15:30 Seattle time, October 26, 2023.

FUTURE SSC Endnote 1

FUTURE SSC participation list

Members

Steven Bograd (USA, Co-Chair)
Hanna Na (Korea, Co-Chair)
Jennifer Boldt (Canada)
Daisuke Hasegawa (Japan)
Mitsutaku Makino (Japan)
Sukyung Kang (Korea)
Sinjae Yoo (Korea)
Ryan R. Rykaczewski (USA)
Vyacheslav Lobanov (Russia; virtual)

Observers

Eileen Hofman (IMBeR) Shion Takemura
Jörn Schmidt (ICES)
Shion Takemura (Japan)

Members unable to attend

Canada: Thomas W. Therriault
China: Fangli Qiao, Chengjun Sun
Russia: Oleg N. Katugin
USA: Emanuele Di Lorenzo



Participants (pictured only) at PICES-2023, Seattle, USA, from left to right: Daisuke Hasegawa, Hanna Na, Jennifer Boldt, Ryan Rykaczewski, Shion Takemura, Mitsutaku Makino, Steven Bograd, Sukyung Kang

FUTURE SSC Endnote 2

FUTURE SSC meeting agenda

1. Welcome and share the agenda
2. Review membership needs and requests (ECOPs)
3. SSC updates and general business
 - Review of 2023 Action Items
 - Review 2023 ECOP FUTURE SSC Award
 - Update/revision of Liaison Table & FUTURE Schematic
 - Timeline for FUTURE *Phase II* Final Report
4. Update from FUTURE children expert groups
 - WG 49
 - AP-ECOP
5. Planning for 2024 FUTURE Open Science Meeting & PICES-2024
6. Timeline for FUTURE synthesis paper
7. FUTURE SSC 2023–2024 Action Plan & Timeline
8. Recommendation & Requests for Science Board
9. Writing retreat on FUTURE synthesis paper

FUTURE SSC Endnote 3

FUTURE SSC Liaison Table

(Revised 28 April 2023)

	Committee	WG	Section	AP
Chengjun Sun	MEQ	WG-42*		
Fangli Qiao	TCODE*, POC	WG-50	S-CC	CREAMS
Mitsutaku Makino	HD*	WG-44, WG-51*		SciCom*
Daisuke Hasegawa		WG-50*		
Sukyung Kang	FIS*	WG-48*	S-CCME	
Hanna Na		WG-46		NPCOOS*, ECOP
Oleg Katugin	FIS, HD		S-MBM*	
Vyacheslav Lobanov	MONITOR*			CREAMS*, NPCOOS
Emanuele Di Lorenzo	POC*	WG-46*		UNDOS
Steven Bograd	POC	WG-44*, WG-49*	S-CC*, S-MBM	SciCom, UNDOS*
Ryan Rykaczewski	BIO*, TCODE	WG-43, WG-45*	S-CCME*	
Tom Therriault	MEQ*		S-HAB*	NIS*,ECOP*
Jennifer Boldt	MONITOR, FIS	WG-43*, WG-47*		
	*Primary liaison members			

FUTURE SSC Endnote 4

FUTURE synthesis paper outline

CLIMATE VARIABILITY AND ECOSYSTEM RESILIENCE IN THE NORTH PACIFIC: LESSONS LEARNED
FROM THE PICES FUTURE PROGRAM

- **Lead Authors:** Shion TAKEMURA and Mitsutaku MAKINO
- **Other Authors:** FUTURE SSC members
- **Target Journal:** ICES Journal of Marine Science?
- **Target Timeline:** Submission by February 2024

1. Introduction
 - a. Review of FUTURE Science Plan and SEES approach
 - b. Objective: evaluate success of FUTURE in addressing Science Plan; has program evolved to meet changes and needs?; identify gaps in scientific advancement; determine cause of gaps; provide lessons learned for large-scale programs
2. Methodology
 - a. Meta-analysis using quantitative text analysis
 - i. Text database
 - ii. Morphological analysis
 - iii. Correspondence analysis
 - b. Creation of product matrix
3. Scientific Advances of FUTURE
 - a. Integrative SEES approach enabled multi-disciplinary work
 - i. Changes in research activities in PICES over time (meta-analysis on keywords, i.e., data support for advances)
 - ii. Similarities in research activities (CCCC vs FUTURE, temporal evolution of select keywords)
 - b. Summary of Product Matrix results (identify integrative themes)
 - i. Example highlights...highly-cited publications of PICES science
 - ii. Meta-analysis of key themes
4. Gaps in FUTURE scientific advances
5. Discussion
 - a. How (and why) has FUTURE accomplished its scientific objectives
 - b. Why did we have gaps (lack of expertise, lack of data)

Lessons learned: best practices for planning large-scale science programs; developing data foundation for SEES studies