

## Report of the FUTURE Scientific Steering Committee

The FUTURE SSC held two meetings at PICES-2017 in Vladivostok, Russia, in September 2017. FUTURE Co-Chairs, Drs. Steven Bograd and Sukyung Kang convened a FUTURE Plenary Session, and participated in a lecture for students at the Far Eastern Federal University (FEFU).



FUTURE SSC participants, back row, from left: Steven Bograd, Sinjae Yoo, Hal Batchelder, Emanuele Di Lorenzo, Sukyung Kang, Jacquelynne King, Toyomitsu Horii, Fangli Qiao, Ryan Rykaczewski; front row from, left: Hiroaki Saito, Mitsutaku Makino, Ian Perry, Vyacheslav Lobanov, Thomas Therriault, Oleg Katugin. Missing from photo: Guangshui Na.

### *September 24 and 26, 2017*

Two meetings of the FUTURE SSC were held to report on and plan FUTURE activities. All SSC members were present for one or both of the meetings (*FUTURE SSC Endnote 1* and *FUTURE SSC Endnote 2*). Co-Chairs Drs. Bograd and Kang reviewed recent SSC activities including:

1. A report on the SSC meeting held inter-sessionally in Honolulu, Hawaii, in April 2017;
2. 2017 SSC Action Plan accomplishments and 2018 plans;
3. Terms of reference of the new FUTURE-parented Working Groups 36 and 40;
4. The partly completed FUTURE product matrix and synthesis paper.

The Co-Chairs also gave an overview of FUTURE SSC plans for the 2017 Annual Meeting, which included a FUTURE Plenary Session (S10) on “*Emerging issues in understanding, forecasting and communicating climate impacts on north pacific marine ecosystems*” (see further details under *September 27*) and a lecture given to students at FEFU (see further details under *September 28*).

Members discussed FUTURE’s presence on the PICES website, and prepared a list of documents and links that the SSC recommends to be added by the Secretariat. Members also discussed ideas for developing a survey for the PICES community to solicit ideas about the next PICES integrative science program. The

## **FUTURE – 2017**

SSC decided that, while this is a useful exercise, it would be more appropriate for the SSC to assist Science Board in preparing this survey. Finally, the SSC prepared a 2018 Action Plan to guide its activities over the next year (*FUTURE SSC Endnote 3*). For PICES-2018, the SSC decided to go back to having a FUTURE Mini-Symposium (see FUTURE SSC Endnote xx). Members also discussed the idea of having a final FUTURE Symposium in 2019 or 2020.

The newly formed Working Group 36 (*Common Ecosystem Reference Points across PICES Member Countries*) and Working Group 40 (*Climate and Ecosystem Predictability*), which are parented by the FUTURE SSC, met for the first time at the 2017 Annual Meeting. SSC members participated in both Working Group meetings.

Several decisions were made by the FUTURE SSC that required Science Board consideration, as outlined below:

### **Meeting requests for 2018**

- Inter-sessional SSC meeting (\$6,000 requested),
- Inter-sessional Working Group 36 and 40 meetings (\$11,500),
- PICES-2018 SSC meeting (\$2,000),
- PICES-2018 FUTURE Plenary Session (Mini-Symposium; see *FUTURE SSC Endnote 4*).

### **Recommendation**

- SSC recommends yielding to Science Board to develop of a PICES survey on the next integrative science program.

*September 27, 2017*

The FUTURE SSC convened a Plenary Session on “*Emerging issues in understanding, forecasting and communicating climate impacts on North Pacific marine ecosystems*”. Five presentations were given (see the Session summary for S10 in [Session and Workshop Summaries for PICES-2017](#)), including invited talks by Drs. Zhongyong Gao (China) and Desiree Tommasi (USA; Early Career Scientist). Following these science presentations, Bograd gave an overview of the FUTURE science program, highlighting recent advances and identifying remaining research gaps. The final 45 minutes of the Session was devoted to informal presentations and discussion. Representatives of the new FUTURE-parented Working Groups (35, 36 and 40) briefly described their planned activities in support of FUTURE, and Drs. Bograd and Kang led a plenary discussion of ongoing FUTURE activities and ideas for the next PICES integrative science program. The Plenary Session was well attended, and the discussion lively.

*September 28, 2017*

The FUTURE SSC Co-Chairs participated in a public lecture to university students at FEFU (see PICES Press article on capacity building, [Vol. 26, No. 1](#), pp. 11–14). Dr. Bograd gave a short introduction to the FUTURE program, emphasizing the international collaboration implicit in PICES. Additional lectures were given by Peter Chandler (WG 35, on the third North Pacific Ecosystem Status Report) and Ryan Rykaczewski (on climate impacts on marine ecosystems of the North Pacific). Several students expressed significant interest in PICES, and conversed with the speakers following the lectures.

***FUTURE SSC Endnote 1***

**FUTURE participation list**

Members

Steven Bograd (USA, Co-Chair)  
 Sinjae Yoo (Korea)  
 Emanuele Di Lorenzo (USA)  
 Sukyung Kang (Korea, Co-Chair)  
 Jacquelynne King (Canada)  
 Toyomitsu Horii (Japan)  
 Fangli Qiao (China)  
 Ryan Rykaczewski (USA)  
 Mitsutaku Makino (Japan)  
 Ian Perry (Canada)  
 Vyacheslav Lobanov (Russia)  
 Thomas Therriault (Canada)  
 Oleg Katugin (Russia)

Observers

Harold (Hal) Batchelder (PICES Secretariat)  
 Hiroaki Saito (Science Board Chair)

***FUTURE SSC Endnote 2***

**FUTURE meeting agenda**

*September 24, 2017, 14:00–17:00 and September 26, 2017, 19:00–21:00*

1. Introductions and nomination of a rapporteur
  2. Adoption of agenda
  3. Review FUTURE SSC activities, tasks and timeline
    - Review 2017 Action Plan
    - Review FUTURE SSC liaisons and schematic
    - Review FUTURE SSC activities at 2017 Annual Meeting
    - Review FUTURE SSC liaison power point
    - Discuss FUTURE outreach activities (FUTURE logo, buttons, brochure, videos, poster; presence at other meetings; social media)
  4. Review ToRs and proposed activities of Working Groups 36 and 40
  5. Review revised FUTURE product matrix and discuss dissemination
  6. Discuss PICES survey for next science program
    - Format and Implementation
    - New Working Groups?
  7. Discuss FUTURE synthesis paper: Finalize writing assignments
  8. Plan 2018 FUTURE SSC activities
    - Inter-Sessional Business Meeting
    - Inter-Sessional Workshops (SSC, WG 36, WG 40)
    - Topic Session proposal for 2018 Annual Meeting
    - Workshop proposal for 2019 Annual Meeting
  9. FUTURE roadmap and tasks: Summary
  10. Other SSC business
- Adjourn

***FUTURE SSC Endnote 3***

**FUTURE SSC 2018 Action Plan**

- Submit FUTURE SSC Annual Meeting report to Secretariat [Chairs; Nov 1]
- Submit Session 10 Report to Secretariat [Chairs; Nov 1]
- Advise Secretariat on FUTURE presence on PICES website [Chairs; Nov 1]
  - Product matrix with built-in links to the products
  - FUTURE schematic with built-in links to expert groups, Liaison table
  - PICES Press articles, meeting reports
  - FUTURE Open Science meeting link
  - 2014-16 Mini-Symposium ppts
  - Previous and current SSC action plans
  - Co-Chair videos on FUTURE
- Finalize FUTURE Product Matrix [Jan 15]
- Send FUTURE Product Matrix to Expert Group chairs and past product developers to refine Matrix, obtain brief descriptions of how FUTURE objectives are being addressed [Chairs; Feb 15]
- Prepare FUTURE Synthesis Paper for *Progress in Oceanography* [All; Mar 1]
- Develop FUTURE outreach [Chairs, Manu; Apr 1]
  - Chairs 5-minute video (walk-through of FUTURE schematic)
  - Handout for registration packet (schematic + liaison table + blurb)
- 2018 Inter-Sessional Business Meeting [All; Apr 1]
  - Finalize draft of FUTURE synthesis paper
  - Develop 2-year Action Plan

***FUTURE SSC Endnote 4***

**Proposal for a FUTURE Plenary Session (Mini-Symposium) on  
“The FUTURE of PICES: Next steps in understanding, forecasting and communicating climate  
impacts on North Pacific marine ecosystems” at PICES-2018**

Convenors: Sukyung Kang (Korea) and Steven Bograd, (USA)

Duration: ½ day

Invited speakers: TBD (two early career scientists)

‘Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems’(FUTURE) is the flagship integrative Scientific Program undertaken by the member nations and affiliates of PICES. Since its inception in 2009, FUTURE has contributed to guiding PICES science 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. FUTURE is scheduled to conclude in 2019, so this is a good time to reflect on its accomplishments, to identify remaining gaps in fulfilling its research objectives, and to contemplate new directions for PICES science. In this session, we will conduct a FUTURE ‘Mini-Symposium’ to update the PICES community on FUTURE progress and to coordinate activities amongst the PICES Expert Groups. Each Expert Group will provide a brief review of their past, current and planned activities as they relate to the FUTURE Science Program, which will be followed by a plenary discussion on the future path of PICES science in the coming years.