

Report of the FUTURE Advisory Panel on *Climate, Oceanographic Variability and Ecosystems*

The FUTURE Advisory Panel on *Climate, Oceanographic Variability and Ecosystems* (AP-COVE) held its third meeting from 08:30-12:00 on October 16, 2011 in Khabarovsk, Russia. Dr. Jacquelynne R. King chaired the meeting on behalf of Dr. Hiroaki Saito, the Chairman of AP-COVE, who was unable to attend the Annual Meeting. Participating members and the agenda can be found in *AP-COVE Endnotes 1 and 2*.

AGENDA ITEM 2

Review AP-COVE Terms of Reference and draft workplan

The workplan discussed during the summer of 2011 was approved.

AGENDA ITEM 3

PICES-2012 topic sessions/workshop

Of the topic sessions proposed for PICES-2012, AP-COVE identified 4 priority sessions:

- **BIO/MEQ:** *Identifying critical multiple stressors of North Pacific marine ecosystems and indicators to assess their impacts;*
- **MEQ/FIS:** *Social-ecological systems on walleye pollock under changing environment: an inter-disciplinary approach* [later renamed to “*Social-ecological systems on walleye pollock and other commercial gadids under changing environment: An inter-disciplinary approach*”];
- **POC/FUTURE/CLIVAR** [later changed to **POC/CLIVAR/ICES** co-sponsorship]: *Challenges in understanding North Pacific climate variability and change* [later changed to *Challenges in understanding Northern Hemisphere ocean climate variability and change*];
- **FIS/POC/ICES:** *Comparison of impact of multi-decadal climate variability in North Pacific and North Atlantic ecosystems and corresponding teleconnection pattern* [merged with preceding proposal].

AGENDA ITEM 4

Potential inter-sessional FUTURE meeting

Members discussed options for a potential workshop and discussion issues during the inter-sessional meeting and suggested a 5-day meeting in Western Russia which would devote:

- 2 days to PICES/ICES modellers on regional end-to-end models;
- 1 day for core participants of a modelling working group, proposed Section on *Climate Change Effects on Marine Ecosystems* (S-CCME) and proposed Section on *Human Dimensions* to detail their Terms of Reference (TOR) and workplans and to look for means to integrate across these groups;
- 2 days for FUTURE APs to review activities to date, review the FUTURE Implementation Plan, and map out upcoming activities and milestones.

AGENDA ITEM 5

Review of TOR of new COVE-related Working Groups

Working Group on *Jellyfish Blooms around the North Pacific Rim: Causes and Consequences* (WG 26)

AP-COVE reviewed WG 26 TOR and advised the WG to add “Linkages to FUTURE Science Plan”. Other advice was that the WG clarify the proposed approach to “Provide jellyfish metrics as indicator of ecosystem

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change and resiliency”.

Working Group on *North Pacific Climate Variability and Change* (WG 27)

WG 27 Chairman, Dr. Emanuele Di Lorenzo, explained the mechanism, indices and dynamics of climate-driven ecosystem models which contribute to IPCC future projections. He also explained resiliency of climate and the ocean system to link the FUTURE Scientific Program.

Working Group on *Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors* (WG 28)

The results of an inter-sessional FUTURE workshop (April 26–28, 2011, Honolulu, USA) were described in which the workshop participants determined the weighting to be used for indicators: 1) status and trends, 2) extent of critical stressors, 3) assessing ecosystem impacts/changes. Indicators could be categorized as ecosystem status, ecosystem services and management.

AP-COVE advised the Chairs of WG 27 and WG 28 to identify areas of overlap and potential collaboration between them.

Section on *Carbon and Climate*

S-CC member, Dr. Toru Suzuki, explained the Section’s linkage to FUTURE and to upcoming topic sessions. The first steps are for the open ocean and second step is for the coastal area.

AGENDA ITEM 6

Review of Science Plan and Implementation Strategy of proposed S-SCCME

AP-COVE supports the proposal for a new Section on *Climate Change Effects on Marine Ecosystems*, and suggested that its parent committees should be POC, BIO and FIS. If approved, AP-COVE recommends a more explicit integration with WG 27.

AP-COVE supports the proposal for a Section on *Human Dimensions*. If approved, AP-COVE requests that the Section’s TOR be augmented to include a training component in order to educate the PICES scientific community on social sciences and human dimensions and how these disciplines interact with the traditional science disciplines.

AGENDA ITEM 7

Mechanisms to address high priority topics

AP-COVE suggested that the topic of resilience (and vulnerability) should be an upcoming high priority of FUTURE science. Members recommended that a workshop be convened to focus on examples of change of ecosystem status and ecosystem recovery. The workshop could lead to the establishment of a working group on resiliency in 2014.

AGENDA ITEM 8

Potential for new expert groups and timelines for establishment

AP-COVE discussed two working group proposals that are being considered by PICES scientists. The first is a working group on downscaling climate models to regional models, and the second is a working group on end-to-end models (possibly jointly with ICES). Specific proposals were not yet developed, but may be presented at PICES-2012. AP-COVE recommended that the proponents of these two groups discuss their objectives to consider if their efforts can be linked, and to identify the linkages to proposed S-CCME and to WG 27.

AGENDA ITEM 9

Action items for AP-COVE members (including “WORK TOOL”)

AP-COVE will review and revise its TOR by summer 2012 and will also review the FUTURE Implementation Plan in 2012 for possible revisions. For meetings outside of inter-sessional or Annual Meetings, AP-COVE would like to use either Skype or WebEx. For either option, it would be most suitable to arrange times that encompassed afternoon and early evening for North America and morning for the western North Pacific. Strict end times would have to be adhered to. Preference for WebEx was suggested, since this allows for voice communication, and for bulletin board services to type communication, as well as slide sharing. These features would aid non-English speaking participants.

AGENDA ITEM 10

Confirm membership of AP-COVE

AP-COVE members were requested to e-mail Drs. Saito or King to either confirm their willingness to remain as members or to step aside.

AGENDA ITEM 11

Other issues

None.

AP-COVE Endnote 1

AP-COVE participation list

Members

Emanuele Di Lorenzo (USA)
Jung-Hoon Kang (Korea)
Jacquelynne King (Canada, meeting Chair)
Vyacheslav Lobanov (Russia)
Toru Suzuki (Japan)

AP-COVE Endnote 2

AP-COVE meeting agenda

1. Welcome and Introduction
2. Review AP-COVE TOR and draft workplan
3. PICES-2012 topic sessions/workshop
4. Potential inter-sessional FUTURE meeting
5. Review of TOR of new COVE-related Working Groups
6. Review of Science Plan and Implementation Strategy of proposed SSICME.
7. Mechanisms to address high priority topics
8. Potential for new expert groups and timelines for establishment
9. Action items for AP-COVE members (including “WORK TOOL”)
10. Confirm membership of AP-COVE
11. Other issues