# 2025 Report of the Section on *Climate Change Effects on Marine Ecosystems*

Co-Chairs: Dr. Kirstin Holsman (USA), Dr. Dongwha Sohn (Korea), Dr. Kathy Mills (ICES/SICCME, USA), Dr. Bryony Townhill (Cefas).

S-CCME continues to serve as the primary coordination mechanism between ICES and PICES on climate change impacts and adaptation in marine systems. During 2025, the group advanced integration of climate information into Ecosystem Overviews, strengthened cross-basin synthesis, and began transition planning for Phase V. S-CCME remains on track to complete Phase IV objectives in 2025, providing a strong foundation for continued ICES–PICES collaboration on climate-ready advice and ecosystem-based management.

Please note that both 2025 annual meetings of the Section on Climate Change Effects on Marine Ecosystems (S-CCME) business meetings were disrupted by the US government shutdown which impacted the capacity for the co-chair Dr. Holsman to plan or participate in the meetings. The virtual meeting was held virtually on Thur Oct. 30, 2025 16:00 - 18:30 PDT after being rescheduled due to US government disruptions. Drs. Kirstin Holsman (USA) chaired the meeting. Attendance at the virtual meeting was limited with approximately 10 participants attending, including representatives from Canada, Japan, Korea, the United States, and ICES (*S-CCME Endnote 1*). A second hybrid in-person meeting planned for the Annual Meeting was cancelled due to attendance disruptions from the US government shutdown impacting Dr. Holsman and other US government members. Despite these disruptions, co-chair Dr. Dongwha Sohn with support from S-CCME members Drs. Hollowed and Bograd, were able to provide the updated Phase V TORs to the parent committees and advance key S-CCME requests, including a request for a workshop in spring 2026.

AGENDA ITEM 1

## b. Adoption of agenda

The agenda was adopted by all members (*S-CCME Endnote 2*). Dr. Holsman reviewed the objectives of the meeting, emphasizing coordination across ICES–PICES communities and the integration of S-CCME activities into the broader context of UNDOS programs. She summarized ongoing progress on coupled modeling, ensemble projections, and vulnerability assessments of marine ecosystems under climate change and emphasized the growing engagement of partners and the importance of cross-regional collaboration in advancing the S-CCME Implementation Plan.

## d. Discussion: S-CCMEPhase V Implementation Plan review, discussion and adoption by S-CCME

Dr. Holsman provided an overview of recent accomplishments under Phase IV (2021–2025) of the S-CCME Implementation Plan, noting strong progress on collaborative synthesis, model intercomparisons, and integration of S-CCME science into international programs including the UN Decade of Ocean Science for Sustainable Development (UNDOS) and SMARTNET. Dr. Holsman then reviewed the Phase V implementation plan and incorporated feedback and discussion. The phase V implementation plan was approved by attending members (as well as virtually via email confirmation). Discussion of the revised Phase V implementation plan included future meetings and reporting organized around the proposed activities and deliverables. See the revised implementation plan here: https://meetings.pices.int/publications/other/members/Action_Plans/S-CCME-impl-Plan.pdf

## e. Discussion: joint sessions or workshops for 2025

Dr. Holsman provided a brief overview of upcoming workshops and sessions at the upcoming meetings for ICES and PICES 2025 meetings.

## h. Discussion: potential sessions or workshops for 2026

S-CCME members discussed a potential workshop for the upcoming spring in line with the Phase V goals. Potential options included the Wakefield Symposium and the Small Pelagics Meeting in La Paz. Members also discussed submitting a session proposal for PICES 2026 on Digital Twins of the Oceans (DTO).

## i. Requests/proposals to our parent committees and then SB, which includes:

Science Board requests were discussed and formal proposals were submitted for 2026 annual meeting workshops and sessions. Members discussed requesting travel support for 2 attendees / speakers at the spring 2026 workshop. Members also noted a request for Science Board ongoing support for maintaining coordination with ICES through annual workshops, strengthening UN Decade collaborations, and supporting final synthesis efforts under Phase V.

## Additional discussion items:

Some key achievements for 2024-2025 were discussed and helped provide context for the Phase V discussions and were included in the upcoming EG updates to parent committees.

S-CCME continued to identify emerging gaps in climate–ecosystem integration and develop pathways for operationalizing climate-informed advice. Key achievements include:

- Collaboration with ICES leadership and ACOM on incorporating climate information into Ecosystem Overviews (EOs).
- Development of a pilot framework for climate sections in EOs at WKEO4 (June 2025), including standardized content on observed and projected changes, socio-economic implications, and knowledge gaps.
- Coordination with Integrated Ecosystem Assessment (IEA) groups to embed climate signals and risk-based methods into advice frameworks.

S-CCME advanced synthesis and communication of climate-related knowledge and co-organized sessions and workshops throughout 2025, including:

- ICES ASC 2025 Theme Session H on ‘Managing for species distribution shifts’.
- Collaboration or contribution to PICES 2025 workshops and sessions (S6; S8, and W1) on climate-ready fisheries management and ecosystem-scale information for conservation.
- Continued engagement with UNDOS programs (SMARTNET, SUPREME, FISHSCORE) and WMO initiatives to link observing networks and advisory applications.
- Leadership on ESSAS annual Meeting (Mueter) The ESSAS Open Science Meeting 2025, titled “Past, Present and Future of Marine Biodiversity and Ecosystems,” was an international scientific conference organized by the Ecosystem Studies of Subarctic and Arctic Seas (ESSAS) program. It took place June 24–26, 2025, at the National Institute of Polar Research (NIPR) in Tokyo, Japan.
- Presenting synthesis outcomes to SCICOM–ACOM joint sessions on integrating climate change information into advice.
- Compiling inventories of climate-relevant projects (ACTNOW, MeCCAM, Blue Carbon, Fish Carbon, ACLIM/CEFI, FISHSCORE) to identify linkages.
- Planning a survey of Working Groups to catalog products and contacts for the S-CCME/SICCME network.

A road-mapping discussion at SCICOM 2025 and the S-CCME 2024 in-person business meeting focused on defining SICCME’s future role—leadership, collaborative, or supporting—in supporting PICES actionable advice and implementing ICES’s new climate strategy. Outcomes included:

- Agreement to maintain ICES–PICES collaboration under a new S-CCME 5-year plan/ 3 yr ICES SICCME TORS

- Prioritization of operationalization, shifting from synthesis to delivery of products supporting advice.
- Plans for a second ICES WKCLIMAD workshop to guide development of climate-ready advice.
- Plans for a Spring S-CCME workshop to identify actionable advice and S-CCME themes

AGENDA ITEM 2

## Adjourn

Dr. Holsman concluded the meeting by thanking participants for their ongoing commitment and collaboration. She emphasized the significant progress made under Phase IV and the importance of continued synthesis and coordination across ICES and PICES communities under Phase V. The next S-CCME Business Meeting will be held in 2026 in conjunction with the PICES Annual Meeting.

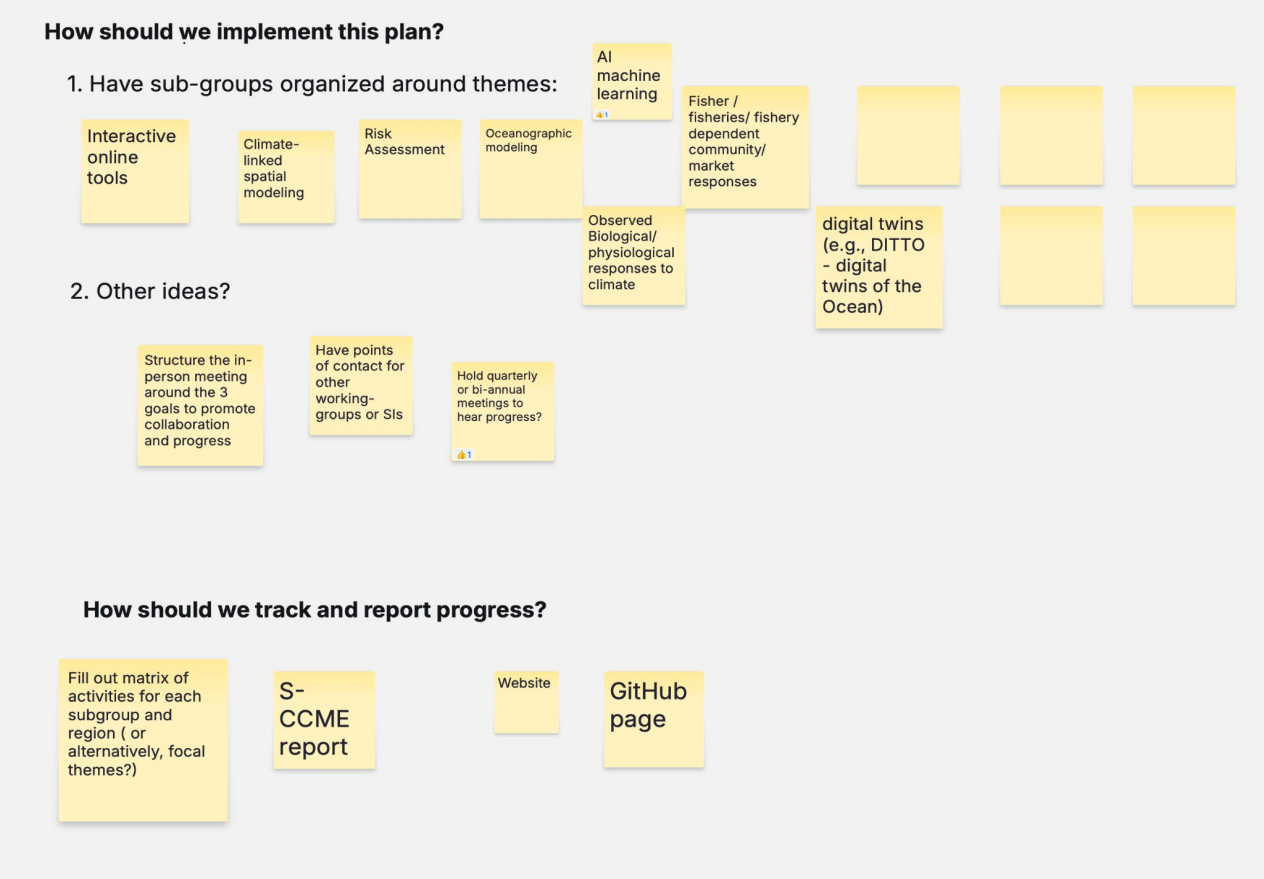



Fig. 1 Whiteboard discussion from the Virtual Business Meeting

*S-CCME Endnote 1*

## Members in attendance

**Virtual meeting**

**Members:**
Kirstin Holsman (USA), Anne Hollowed (USA), Francisco Werner (USA) Steven Bograd (USA), Sukgeun Jung (Korea), Vivitskaia Tulloch (Canada)

**Observers:** N/A

*S-CCME Endnote 2*

## S-CCME Business Meeting Agenda

### 1. Business Items (16:00-17:00)

| | | |
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| a. | Introductions and welcome | |
| b. | Adoption of Agenda | |
| c. | Business items (e.g., nomination of new members)<br>● Welcome new members<br>○ Canada: Vivitskaia Tulloch (BECI; new Member)<br>● New chairs (2024 - now)<br>○ Dongwha Sohn - PICES S-CCME<br>○ Byrony Townhill - ICES -SICCME<br>● Nomination for new co-chair?<br>○ [to cycle on for Dr. Kirstin Holsman in 2026]<br>● Confirm that google docs/drive works for everyone<br>○ Please comment in the chat if you are NOT able to access the google drive files | |
| d. | S-CCMEPhase V Implementation Plan review, discussion and adoption by S-CCME | Holsman |
| e. | Discussion: joint sessions or workshops for 2025 | Holsman |
| | 1) PICES Annual Meeting 2025 Nov 8 -14, 2025 Japan<br>a) **Hybrid virtual/In-person S-CCME Business meeting during the PICES 2025 Meeting: Nov 9, 2025 9:00-11:00**<br>○ In-person information:<br>■ ROOM:Euphony (B1F)<br>○ Virtual connection info:<br>■ Meeting Link: https://us02web.zoom.us/j/86525543611<br>■ Passcode: 2025P!CESz4<br>b) W1: FIS/HD/ POC/MONITOR/TCODE Workshop: Climate-Ready Fisheries Management: Reviewing Effective Strategies for Developing Decision Support Tools<br>Nov 8, 2025 9:00-17:20 Oshidori Room<br>Bograd, **Holsman**, Makino, Na, Berry, **Tulloch**, Satterthwaite, Reid<br>https://meetings.pices.int/meetings/annual/2025/pices/program#w1<br>c) Session 8: S8: FUTURE/S-CCME/AP-ECOP Topic Session How Can Ecosystem-Scale Information be Used to Improve Our Understanding of Climate Change Impacts, and Support Management and Conservation in the North Pacific?<br>Nov 13, 2025 9:00 - 15:30<br>**Tulloch**, Sun, **Woodworth-Jefcoats**, **Sohn**<br>https://meetings.pices.int/meetings/annual/2025/pices/program#s8<br>d) Session 6: S6: FIS Incorporation of Climate and Ecosystem Impacts in Stock Assessment Advice: Discussion of Current Approaches and Challenges, and Charting a Path Forward<br>Nov 11, 2025 9:00-10:35<br>Hyun, **Holsman**, Karp, Lin<br>https://meetings.pices.int/meetings/annual/2025/pices/program#s6<br>e) Session 2: S2: BIO/FIS/HD/ POC/MONITOR/FUTURE Topic Session: Changing Ecosystem Structure Under Global Climate | Sohn/Holsman |

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|---|---|---|
| | Change: Monitoring, Detecting, Modelling, and Socio-Ecological Impacts<br>Nov 11-12, 2025<br>**Ito**, Bold, Keister, Kim, Lobanov, Zhou<br>https://meetings.pices.int/meetings/annual/2025/pices/program#s2<br>2) 2026 Small Pelagic Fish Symposium in La Paz, Mexico<br>May 4 - 8,2026<br>https://meetings.pices.int/meetings/international/2026/pelagic/scope<br>3) JpGU-AUG Joint Meeting<br>May 24 - 29, 2026<br>https://www.jpgu.org/meeting_e2026/ | |
| f. | Update on ICES 2025 ASC & SICCME & chair activities | Mills (+ Holsman) |
| g. | AP-Scicom fact sheet or other communication | Woodworth-Jeffcoats / Holsman |
| h. | **Potential ICES or PICES 2026 sessions or workshops**<br>PICES-2026 Annual Meeting proposals:<br>1) Proposals for PICES 2026- Due<br>Climate change and mesoscale phenomena, there consequences on marine ecosystems [ Dr. Ito, Japan]<br>2) Add from form / survey<br>Workshop on the tactical (short term) and the strategic (longer term) *actionable* advice that model projections -- for the North Pacific -- can provide<br>3) Accepted Theme Session ICES 2026, Sep 15-18, 2026, Brest, France<br>a) Theme Session E: Causes and consequences of extreme temperature events: Contribute to or join this join ICES-PICES session to learn about the causes and impacts of marine heatwaves and cold spells around the world.<br>b) WKCLIMAD2 proposed for 2026<br>4) Others? | Holsman/ Sohn / Mills |
| i. | Requests/proposals to our parent committees and then SB, which includes:<br>● Travel support fund,<br>● change in members/chairs/TORs,<br>● an extension of the term (only WG),<br>● planning of capacity development event,<br>● new EG idea, etc (see the attached EG Report/Requests Form for SB about the instruction of each item) | Holsman |

**2. Wrap up (18:20-18:30)**