

Strategic Initiative Resolutions

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Strategic Initiative on the Human Dimension (SIHD)

2020/2/ACOMSCICOM01 The ICES Strategic Initiative on the Human Dimension (SIHD), chaired by Alan Haynie (US) and Katell Hamon*, will conduct activities from 2020 to 2022. SIHD will promote consideration of human dimensions to strengthen ICES progress towards achieving its vision “to be a world-leading marine science organization, meeting societal needs for impartial evidence on the state and sustainable use of our seas and oceans.” SIHD will strive to expand the role and consideration of social science in ICES. This involves recognition of seas and oceans as socio-ecological systems and the interdisciplinary nature of scientific challenges. It also involves enhanced communication and engagement of both natural and social scientists with maritime stakeholders - resource users, policy makers, and other interest groups.

SIHD will pursue activities to support implementation of ICES Advisory Plan priorities of “Incorporating innovation” and “Evolving advice” and to support delivering all aspects of the ICES Science Plan, especially tasks under “Conservation and management science” and “Sea and Society”. SIHD will centre its work around three areas of activity (detailed in the ToRs) which are complementary and inter-dependent:

1. **Coordination.** Lead the integration of social science throughout ICES.
2. **Social Science Research.** SIHD will develop and synthesize research methods and procedures within and across ICES-related social science research (disciplinary), across ICES expert groups (social and natural sciences; interdisciplinary), and through stakeholder participatory processes, especially in Integrated Ecosystem Assessments (IEAs), ecosystem overviews, and fisheries overviews.
3. **Communication and outreach:** this field of activity addresses outreach activities (conferences, workshops, and webinars), networking, and knowledge (communicating SIHD work).

Year	Meeting dates	Venue	Reporting details	Comments (change in Chair, etc.)
2020	March	-	Update to SCICOM March meeting	Change in chairs
	September	Copenhagen, Denmark	Update to SCICOM September meeting	Side meeting in conjunction with ICES ASC
2021	March	Copenhagen, Denmark	Update to SCICOM March meeting	New Chair will begin
	September	ICES ASC	Update to SCICOM September meeting	Side meeting in conjunction with ICES ASC
2022	March	Copenhagen, Denmark	Update to SCICOM March meeting	
	September	ICES ASC	Update to SCICOM September meeting	Side meeting in conjunction with ICES ASC

Terms of Reference (ToR) Descriptors 2020–2022

TOR	DESCRIPTION	BACKGROUND	DURATION	<u>SCIENCE PLAN CODES</u>	POTENTIAL DELIVERABLES AND ACTIVITIES
a	Coordinate social science activities across ICES; represent social science in the Science Committee and other ICES bodies	Supporting SIHD-related expert groups and support delivering Science Plan tasks	3 years	6.1-6.6, 7.1-7.7	Attend EG meetings; organize workshops with SIHD expert groups; quarterly communication with expert group chairs; summarize social science activities to diverse ICES groups
b	Further develop interdisciplinary discourse and methods across ICES	Support of effective communication between ICES social and natural sciences	3 years	1.9, 2.1, 2.7, 3.1, 4.1, 5.7, 6.5, 6.6, 7.1, 7.2	Develop and communicate best practices for interdisciplinary research and integrated advice; SIHD annual meeting at the ASC
c	Expand social science research, methods, and data in the ICES advisory process and products and wider marine decision-making venues	Support and highlight the needs of the advisory process and requestors of advice and support coherent and evidence-based policy	3 years	1.9, 2.1, 2.7, 3.1, 4.1, 5.7, 6.2, 6.3, 6.5, 6.6, 7.2, 7.4, 7.6	Specify key components of ICES IEAs, ecosystem, aquaculture, and fisheries overviews which can benefit from the involvement of social scientists; WKCONSERVE2
d	Support implementation of the ICES Strategic Plan, Science Plan and Advisory Plan through the SIHD Roadmap	Reflect and share the evolving priorities and work of the ICES SIHD community and support implementation of ICES priorities	3 years	2.1, 2.7, 3.1, 3.2, 3.5, 4.1, 4.3, 4.4, 5.1, 5.3, 5.4, 5.8, 6.1-6.6, 7.1-7.7	Revised and ongoing development of SIHD Roadmap; SIHD Expert Group chairs workshop
e	Develop methods and procedures to integrate social scientific knowledge, evidence, and research	Objective of including more economic, social, and cultural information in its advisory products; support description, assessment, and valuation of state of and changes in the human dimension of EBM	3 years	2.1, 2.7, 3.1, 3.2, 3.5, 4.1, 4.3, 4.4, 5.1, 5.3, 5.4, 5.8, 6.2, 6.5, 6.6, 7.1, 7.2, 7.5	Develop and use social, governance-related, cultural and economic indicators; expert group papers (e.g. on best practices for social sciences inclusion in interdisciplinary work; comparative research)

f	Explore means and approaches to enhance participatory and informatory processes to consult stakeholders and involve wider civil society	Seek opportunities to enhance legitimacy of ICES science and advice	3 years	3.6, 6.3, 7.4, 7.5	Stakeholder interaction workshop (WKSHOES)
g	Strengthen and develop links with existing organizations and initiatives outside ICES dealing with social science in the marine realm.	Expand the ICES human dimensions network Strengthening social sciences partnerships, including with PICES	3 years	6.1, 6.2, 6.3, 6.6, 7.7	Present research in conferences and workshops (e.g. MSEAS 2021, 2024); provide a point of entry for social scientists to participate in ICES work; engage in dialogue with human dimensions networks outside the ICES community
h	Extend SIHD outreach through academic papers, presentations and other communication channels	Structuring and synthesizing SIHD knowledge and evidence for outreach	3 years	3.6, 6.1, 6.2, 6.3, 6.6, 7.7	Present research in conferences (e.g. MSEAS 2021, 2024); initiation of a SIHD-related theme session at ASCs

Summary of the Work Plan

The work plan is centered around the delivery of regular outputs as listed in the ToRs, in the three focus areas outlined above. In addition, the initiative will contribute to new workshops, expert groups, webinars, and other outputs as appropriate. Annual meetings are planned as part of the 2020, 2021 and 2022 ICES ASC. Additional, intersessional communication will occur via email, expert group gatherings, online meetings, etc. While the ToRs note a number of specific Science Plan codes, it should be recognized that there are human dimensions elements to most of the Science Plan and the codes listed in the ToRs are not all-inclusive.

Human Dimensions includes all social sciences and humanities research that is focused on the role of humans in the marine environment. Throughout these ToR, we use 'human dimensions' and 'social science' interchangeably, recognizing that some researchers may consider their field to be part of the humanities or may identify primarily with a particular social science discipline such as economics.

Supporting Information

Priority	High. ICES has placed human dimensions activities, research, and advice at the core of its Strategic, Advisory, and Science Plans.
Scientific justification	The ICES Mission is "to advance and share scientific understanding of marine ecosystems and the services they provide and to use this knowledge to generate state-of-the-art advice for meeting conservation, management, and sustainability goals." Clearly, people, institutions, and markets are central to this Mission. The Science Plan similarly places understanding human behavior, impacts, management, and experience as central to ICES scientific priorities. The Advisory Plan also recognizes the importance of social scientific

understanding, data, and analysis and its focus on incorporating innovation and evolving advice beckons more human dimensions contributions.

The SIHD was created in 2015 with reference to a number of questions that defined human activities and outlined the needs for human dimensions work in ICES with a strong focus on IEAs. The Strategic, Advisory, and Science Plans and the SIHD Roadmap have laid out a range of goals and priorities for SIHD in coming years. Over recent years, three new SIHD-related expert groups have been created: WGECON, WGSOCIAL, and WGBESEO. These groups complement a number of human dimensions expert groups, including WGMARS and WGSEDA. A large number of other expert groups have some level of human dimensions involvement, and a significant challenge for ICES in coming years is how to effectively expand and coordinate participation across groups, which reinforces the need for SIHD leadership and coordination.

The SIHD Roadmap developed in 2018 by SIHD Co-chairs with input from ICES scientific leaders and SIHD members provided concrete steps and aspirational goals for SIHD. The Roadmap is being revised and will be presented to SCICOM. Over the coming years, the Roadmap will be revised as priorities, needs, and activities for human dimensions in ICES change.

An ongoing challenge for human dimensions work in ICES is how to effectively communicate with stakeholders to meet research and policy analysis priorities. Working with SCICOM and ACOM, SIHD will improve stakeholder involvement in ICES through the WKSHOES workshop and other means to help ensure that ICES human dimensions activities are as responsive to stakeholder needs as possible.

Resource requirements	Secretariat support for running theme sessions, workshops, and conferences.
Participants	20–25 core members help to lead human dimensions activities in ICES, embedded in a large network of researchers active in SIHD workgroups, workshops, and ICES ASC theme and network sessions.
Secretariat facilities	Assistance with organising workshops and symposia (the latter being dependent on successful symposia resolutions)
Financial	<p>Funding will be provided by Council for the period 2020–2022 to support key activities of the SIHD. Specific planned activities for coming years include:</p> <ul style="list-style-type: none"> ● 2020/2021 ACOM/SCICOM Workshop on the future of the HD within ICES Travel money for SIHD co-chairs + invited experts (20'000 DKK); This WK will synthesise the work done in SIHD and develop a strategy for further work on social, cultural and economic issues within ICES for 2021 - 2024. ● 2021 ICES Ecosystem Advice meeting - Support Attendance of one SIHD Co-chair at (15'000 DKK) ● 2021 WKCONSERVE2 workshop - Support Attendance of one SIHD Co-chair (15'000 DKK).
Linkages to advisory committees	ACOM
Linkages to other committees or groups	IEASG, EPDSG, EPISG, WGMARS, WGIMM, WGSEDA, WGRMES, WGMPCZM, WGECON, WGSOCIAL, WGBESEO.
Linkages to other organizations	PICES, EC, EEA, Regional Seas Conventions, FAO, World Bank, IMBER, International Institute of Fisheries Economics and Trade (IIFET), EAFE, IPBES, STECF, JRC, IASC (International Association of the Study of the Commons), MARE.

Strategic Initiative on Climate Change Impacts on Marine Ecosystems (SICCME)

2020/2/ACOMSCICOM02 The ICES-PICES Strategic Initiative on Climate Change Impacts on Marine Ecosystems (SICCME), chaired by Kirstin Holsman (USA, PICES), Shan Xiujuan (China, PICES), Kathy Mills* (USA, ICES) and Alan Baudron* (United Kingdom, ICES) will work on ToRs and generate deliverables as listed in the Table below.

	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
2020	March	-	Update to SCICOM March meeting	Change in chairs
	Sept	Copenhagen, Denmark	Update to SCICOM Sept. meeting	Side meeting in conjunction with ICES ASC
2021	March	-	Update to SCICOM March meeting	
	Sept	ICES ASC	Update to SCICOM Sept. meeting	Side meeting in conjunction with ICES ASC
2022	March	-	Update to SCICOM March meeting	
	Sept	ICES ASC	Update to SCICOM Sept. meeting	Side meeting in conjunction with ICES ASC

ToR descriptors

TOR	DESCRIPTION	BACKGROUND	SCIENCE PLAN CODES	DURATION	EXPECTED DELIVERABLES
a	Foster collaborative research between ICES and PICES to investigate the impacts of climate change on marine ecosystems, under the ICES-PICES strategic framework for cooperation	Strategic collaboration between ICES and PICES	1.1, 2.5, 6.1	3 years	Strong and ongoing interactions between ICES and PICES
b	Communicate and advance our understanding of climate change and its impacts on marine ecosystems by organizing workshops, theme sessions and conferences over the next 3 years	Help coordinate climate-change science within ICES and PICES	2.5, 5.2, 6.1	3 years	Initiation of at least one explicitly SICCME-related theme session per ICES ASC and PICES Annual Meeting. Contribution to organisation of ECCWO conferences.

c	Define and foster research activities needed to understand, assess, predict and project climate change impacts on marine ecosystems for sustaining the delivery of ecosystem goods and services;	Support to achieving Science plan goals	2.5, 6.1, 7.6	3 years	Provision of ongoing support for expert groups in delivering Science Plan tasks
d	Define and quantify the vulnerability of marine ecosystems and key living marine resources to climate change, including the cumulative impacts and synergetic effects of climate and marine resource use;	Support to achieving Science plan goals	2.2, 2.5, 6.6	3 years	Provision of ongoing support for expert groups in delivering Science Plan tasks
e	Combine and compare available projections of climate impacts stemming from national and/or regional programmes examining marine habitats, living marine resources fish and the human communities that depend on them across the ICES, PICES and other areas	Provide basis for intercomparisons and collaborations between work in ICES and PICES	2.5, 6.1, 7.6	3 years	Organisation of an intercomparison workshop
f	Synthesize and share among expert groups and the wider ICES and PICES community the knowledge developed through achieved through working experts groups, workshops and symposia in reports, publications and other high level communications	Help coordinate climate-change science within ICES and PICES	2.5, 5.2, 7.6	3 years	Provision of ongoing support for expert groups in delivering Science Plan tasks
g	Provide knowledge to the scientific community (including ICES advisory products), national and global advisory bodies such as the IPCC and IPBES, on the impacts of climate change on marine ecosystems	Support Science Plan goals and activities of advisory bodies	6.1, 7.6	3 years	Inputs of knowledge and exchange of knowledge among science and advisory bodies
h	Identify scientific priorities relating to the study of the impacts of climate change on marine ecosystems and report on these at least annually to the ICES Science Committee and the PICES Science Board so the priorities can be considered for development within relevant groups or programs	Support to Science Plan goals and SCICOM	2.5, 6.1, 7.6	3 years	Annual update to Sept. SCICOM meeting on scientific priorities and relevant developments

Summary of the Work Plan

The work plan is centered around the delivery of regular outputs (e.g. contributions to conferences, ToR b, identifying science priorities (ToR h)). In addition, the initiative will also contribute to new initiatives as appropriate and as they become available. Annual meetings are key to these new initiatives

and are planned as part of the 2020, 2021 and 2022 ICES ASC. Additional meetings will be held opportunistically in association with (as side events) ICES-PICES sponsored symposia. A key event is the 5th Effects of Climate Change on the World's Oceans Symposium (tentatively scheduled for June 2023 in Bergen, Norway). Additional, intersessional communication will occur via email, online meetings, etc.

Supporting information

Priority	High. ICES has several strategic research plans and documents related to understanding and investigating the impacts of climate change on marine ecosystems, and wants to strengthen collaborative ties with PICES. This initiative will address both issues. It will also contribute to ICES capacity to provide a joint ICES-PICES goal of becoming the leading international organization providing science and advice related to the effects of climate change and variability on marine resources and ecosystems. It will also contribute to PICES capacity to provide joint ICES-PICES monitoring programs, international collaborations and research which relating to projecting climate change impacts on marine ecosystems and developing strategies for sustaining the delivery of ecosystem goods and services.
Resource requirements	Secretariat support for running theme sessions, workshops, and conferences
Participants	8–10 core members . Up to 75 participants at SICCME events.
Secretariat facilities	Assistance with organising workshops and with website (increased functionality)
Financial	The budget request of SICCME is 60,000 DK. These funds will be used over a 3-year period from 2020-2022: 1) 36 000 DK to cover rental costs (rooms and food) associated with 4 regional comparison (PI) workshops (9000 x 4). The remaining 24 000 DK will be used to cover travel costs of early career researchers (6000 x 4) to workshops and training courses.
Linkages to ACOM and groups under ACOM	ACOM
Linkages to other committee or groups	Ecosystem Processes and Dynamics Steering Group (EPDSG) Human Activities, Pressures and Impacts Steering Group (HAPISG) Strategic Initiative on Human Dimensions (SIHD) Working Group on Seasonal-to-Decadal Prediction of Marine Ecosystems (WGS2D) Working Group on Integrative, Physical-biological and Ecosystem Modelling (WGIPEM) Working Group on Impacts of Warming on Growth Rates and Fisheries Yields (WGGRAFY)
Linkages to other organizations	EC, EEA, Regional Seas Conventions, IPCC, IPBES, FAO, IOC, World Bank, large marine science programs (e. g., IMBER, Future Earth)

Strategic Initiative on Integration of Early Career Scientists (SII ECS)

2021/2/ACOMSCICOM03 The **Strategic Initiative on Integration of Early Career Scientists (SII ECS)**, chaired by Amanda Schadeberg (Netherlands), Fedor Lishchenko (Russian Federation), and Alina Wieczorek (Ireland), will work on ToR and generate deliverables as listed in the Table below. The SII ECS will strive to engage early career scientists (ECS) in the activities of ICES in a mutually beneficial way.

The activities of SII ECS (detailed in the ToR below) can be loosely divided into two domains: outward facing (i.e. aiming to raise the profile and accessibility of ICES for marine ECS) and inward facing (i.e. aiming to improve the inclusion of ECS in ICES and helping ECS contribute to the overall goals of the organisation). The activities can be summarised as follows:

Outward-facing

- a. Promote ICES amongst ECS from the global marine science community
- b. Connect with other marine ECS groups

Inward-facing

- c. Participate in ICES discussion and action on equity, diversity and inclusion
- d. Encourage inclusion of ECS in ICES WGs and other activities
- e. Foster interdisciplinary work by connecting ECS from ICES WGs
- f. Contribute to basic statistics on the number of ECSs per ICES country or WG

Meeting dates

SII ECS aims to have a monthly general assembly meeting of 1–2 hours with all core members. Beyond that, SII ECS will meet according to the following schedule.

YEAR	MEETING DATES	VENUE*	REPORTING DETAILS	COMMENTS
2021	September	Online	One-day progress meeting	On Sunday before ASC and Friday after ASC. Launch of SI and promotion of activities to potential participants.
2022	January	Online	Multi-day annual meeting of SI	Back to back with WGCHAIRS
	September	Same location as ASC, hybrid	Multi-day annual meeting of SI	
2023	January	Online	One-day progress meeting	
	September	Same location as ASC, hybrid	Multi-day annual meeting of SI	Change in chairs
2024	January	Online	One-day progress meeting	
	September	Same location as ASC, hybrid	Multi-day annual meeting of SI	

* Physical meetings will be offered as hybrid meetings (allowing online participation) to ensure those ECSs unable to travel (e.g., limited funding, travel restrictions, etc.) will still be able to join.

ToR Descriptors 2021-2024

TOR	DESCRIPTION	BACKGROUND	SCIENCE PLAN CODES	DURATION	POTENTIAL DELIVERABLES AND ACTIVITIES
a	Promote ICES amongst ECS from global marine science community	At present ICES wishes to increase its visibility amongst ECS that are not already connected to ICES via supervision or other professional networks.	NA	2 years	<ul style="list-style-type: none"> i. Develop an attractive video or a document explaining the ICES structure and how ECS can become involved in ICES. Distribute this via social media and early career networks. ii. Contribute to FAQs for new members of ICES.
b	Connect with other marine ECS groups	Rather than operate in isolation, it would be useful to meet with various marine ECS groups to learn from their activities and better connect ICES to other marine networks	NA	4 years - ongoing	Once per year, represent ICES by distributing materials or showcasing activities at marine science conferences (e.g. UN Decade of Ocean Science) or other similar activities with other ECS groups (e.g. PICES ECS or OYSTER).
c	Participate in ICES discussion and action on diversity, Equity and Inclusion (DE&I)	Early career voices need to be represented in the development of a robust and fair DE&I strategy.	NA	2 years - ongoing	<ul style="list-style-type: none"> i. Contribute to network sessions on DE&I (e.g. ASC 2021). ii. Liaise with the DE&I leaders from ICES to represent ECS interests.
d	Encourage inclusion of ECS in ICES WGs and other activities	Many ICES WGs would benefit from the meaningful integration of ECS. The ECS can assist in the ToR of the WGs and in return gain valuable experience within the ICES structure.	NA	4 years - ongoing	<ul style="list-style-type: none"> i. Initiate at least one action annually, where ECS are being promoted to the wider ICES audience (e.g. at WGCHAIRS). ii. Encourage integration of ECS in WGs by creating and showcasing successful examples of ECS contributions to ICES WG ToR (e.g. at ICES ASC). iii. Develop a proposal for SCICOM to include a regular ECS keynote at ICES ASC
e	Foster interdisciplinary work by connecting ECS from various ICES WGs	There is a call for interdisciplinary networks to support innovation in marine science	NA	4 years - ongoing	Initiate joint ECS-led projects, publications, submissions arising from this SI network (e.g. Food for Thought article in ICES JMS, original empirical research, ECS theme session at ASC)

f	Contribute to the collection of the basic statistics on the number of ECSs per ICES country or WG, the stage of their career (e.g., number of years after the Ph.D.), main field of interests, etc.	To more effectively engage ECS, it would be useful to track the number of ECS involved in ICES and identify areas of opportunity for engagement. This will also help assess the effectiveness of the SII ECS.	NA	4 years - ongoing	<ul style="list-style-type: none"> i. Collaborate with the ICES Secretariat to collect data from relevant ECS and/or chairs to build a directory or summary of the ECS community in ICES ii. Interpret this data in a way that can be useful for ICES community
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Summary of Work Plan

The work plan aims to deliver regular outputs on the internal and external dimension as listed in the ToR. SII ECS aims to include ECS from all ICES-related disciplines and backgrounds. Activities run by the SII ECS will be open to all ECS as participants. As for membership, in keeping with ICES protocols, members can either be nominated by national delegates or invited by the chairs. Requests for membership coming from individuals are to be handled by the chairs. We aim for a group structure of roughly 20 members, of which 2-3 are chairs. All members are expected to actively contribute to the realisation of the ToR. Membership will be reviewed after each 3-year term.

On the definition of “early-career scientist”, we take a loose interpretation of the category. All activities run by SII ECS will be open to anyone who would identify themselves as an ECS. We would like to highlight that we welcome individuals from various backgrounds (e.g. industry, engineering, communication) and the term “scientist” can include everyone with a (scientific) interest in our seas. For the SII ECS core membership and chair positions, we welcome motivated members who are engaged with the ICES community and consider themselves to be at an early stage of their career. We offer a suggested guideline for ECS as anyone from bachelor students to ~10 years of post-PhD work, but we do not wish to place strict guidelines on participation because we are aware that career breaks and/or career changes can affect trajectories.¹

Supporting Information

Priority	High. Early Career Scientists (ECS) are the next generation of researchers. In order for ICES to continue its mission, <i>to advance and share scientific understanding of marine ecosystems and the services they provide and to use this knowledge to generate state-of-the-art advice for meeting conservation, management, and sustainability goals</i> , it is essential that ECS are central within ICES to promote networking, communication and education.
Resource requirements	Secretariat support for running theme sessions, workshops, and conferences.
Participants	<p>The activities of the Strategic Initiative are relevant for two groups: Core Members and Participants, defined below:</p> <ul style="list-style-type: none"> ● <u>Core Members</u> <p>The core member group consists of roughly 20 members (depending on number of ToR) who identify themselves as an ECS and who want to actively participate in the organisation and activities of the group. Active participation involves the attendance of meetings, the drafting of documents and setting up events or activities. On application or invitation, core members will</p>

¹ Note that this definition of ‘early-career scientist’ may differ from the definition used in ICES formal administration. According to ICES, an applicant must be under 35 years of age and/or have finished a PhD within the past five years. This definition is used in situations such as administration of travel funds to the ASC.

	<p>need to argue why they identify themselves as an ECS and how they wish to contribute to the goals of the group.</p> <ul style="list-style-type: none"> ● <u>Participants</u> <p>Anyone who identifies themselves as an ECS can participate in activities or events organised by the group (e.g., ToR d and e).</p>
Secretariat facilities	Assistance with data collection, organising workshops and with the website (increased functionality).
Financial	Financial and/or in-kind support for annual in-person meetings. Furthermore, many ECS are employed on short-term contracts and/or have stringent demands in terms of publication outputs, which means participation in this Strategic Initiative may come at the expense of other performance indicators for their employers. We therefore wish to incentivise active participation in this Strategic Initiative by offering free or discounted participation in ICES training programs for Members. All core members will have access to benefits (to be negotiated) as acknowledgement of their investment in the SI. We hope to grant chairs access to these benefits for up to one year after 'stepping down' from the position of chair (even if they are no longer a core member of the group) in recognition of leadership duties.
Linkages to ACOM and groups under ACOM	ACOM
Linkages to other committees or groups	All ICES WGs
Linkages to other organizations	PICES Study Group on Early Career Ocean Professionals (ECOPs), Orienting Young Scientists of EuroMarine (OYSTER) Network, IMBeR Interdisciplinary Marine Early Career Network (IMECAN), International Conference for YOUNG Marine Researchers (ICYMARE), UN Ocean Decade Early Career Ocean Professionals, Association of Polar Early Career Scientists (APECS), others
