



2021 United Nations Decade
of Ocean Science
2030 for Sustainable Development



ECOP
Early Career
Ocean Professionals

2023-2024 K-ECOP Report: Survey Results and Activity Highlights



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1. Introduction

South Korea, officially known as the Republic of Korea, is a nation located on the southern section of the Korean Peninsula, surrounded by three major bodies of water—the Yellow Sea, the East China Sea, and the East Sea of Korea (also known as the ‘Donghae’ or ‘Sea of Japan’). With a territorial sea area nearly 4.5 times larger than its land area, South Korea has a strong connection to the ocean that has shaped its history and development. This rich maritime heritage has driven significant advancements in maritime technology, fisheries, and marine science research. South Korea is home to some of the world’s leading marine research institutions, and its scientists have made significant contributions to our understanding of ocean dynamics, marine ecosystems, and climate change.

ECOP South Korea (hereinafter referred to as ‘K-ECOP’) is a network of Early Career Ocean Professionals (ECOPs) in South Korea, composed mainly of young early career experts who are passionate about understanding the ocean to advance ocean sustainability. The expertise of K-ECOP members spans a broad range of topics, including ocean circulation, biogeochemistry, marine biology, and climate change. With access to state-of-the-art research institutions and facilities, and a supportive scientific community, K-ECOP strives to facilitate entry and engagement with the UN Decade of Ocean Science for Sustainable Development (‘UN Ocean Decade’), promote both domestic and international research networks for oceanographic research, and foster an ‘Ocean Sustainability Nexus’ for researchers and other ocean stakeholders, including local communities.

K-ECOP's initiatives were launched as part of the UN Ocean Decade framework. Through participating in international ECOP activities, such as the [virtual ECOP \(V.ECOP\) Day held in 2021](#), the necessity for establishing and promoting an ECOP network in South Korea became evident. Consequently, the K-ECOP node was launched, and a dedicated page was created on the ECOP Programme's website (<https://www.ecopdecade.org/south-korea/>), marking the official commencement of K-ECOP activities. From the first online meeting of Korean ECOPs in 2022, the K-ECOP node was established with the following key objectives:

- 1. Building a domestic network of ECOPs,**
- 2. Sharing information on career, educational opportunities, and events,**
- 3. Encouraging K-ECOP activities,**
- 4. Supporting the next generation of ocean leaders.**

Currently, the K-ECOP steering group consists of 18 members leading various activities, including regularly hosting ECOP sessions at domestic conferences, publishing newsletters, and facilitating information sharing to promote K-ECOP activities.

In this report, we first present the findings from the 2023 K-ECOP National Survey, which was conducted from October to December 2023. This survey, endorsed by the ECOP Programme, serves as a foundation for understanding the needs of Korean ECOPs and guiding the future direction of K-ECOP initiatives. We then provide an overview of the key activities and plans undertaken by the K-ECOP Team from 2023 to 2024. These initiatives, aligned with the goals of the UN Ocean Decade, aim to foster professional development, enhance community engagement, and strengthen the role of K-ECOP within the global ECOP network.

2. 2023 K-ECOP National Survey

From October to December 2023, we conducted a bilingual national online survey in Korean and English. The primary goal of this survey was to gather information and feedback on the status, challenges, and future expectations of ECOPs living in South Korea and Korean ECOPs residing abroad, and to use this information to guide future K-ECOP activities. Our K-ECOP online survey was conducted using a Google form ([see Appendix](#)) and consisted of 23 questions divided into four main sections:

- 1) ***Basic information and career***, where we gathered demographic details and career backgrounds to understand the diversity of our respondents;
- 2) ***ECOP and the UN Ocean Decade***, where we assessed awareness of and engagement with these initiatives;
- 3) ***Status, challenges, and future expectations of K-ECOP***, where we identified ongoing issues and aspirations for the network; and
- 4) ***K-ECOP membership and additional remarks***, where we collected feedback on membership, its management, and suggestions for improvements.

To maximize the number of survey participants, our questionnaire was distributed through various communication channels, including personal and group emails, the K-ECOP email listserv, conferences, social media posts, and existing oceanographic communities.

2.1. Results

Section 1: Basic Information and Career

Gender, Nationality, and Places of Residence

A total of 72 respondents answered this survey, including 34 males (47.2%) and 38 females (52.8%) (**Figure 1A**). They unanimously identified their nationality as South Korean, with the majority residing in South Korea (88.9%; n=64), followed by the United States of America (9.7%; n=9) and Australia (1.4%; n=1) (**Figure 1B**). Among the 64 respondents residing in South Korea, the majority live in Busan (45.3%; n=29), followed by Seoul (23.4%; n=15), and Incheon (9.4%; n=6). All other regions of residency, including Gyeonggi, Daegu, Daejeon, and Jeju Island, each accounted for less than 5% of the responses (i.e., three or fewer respondents) (**Figure 2**).

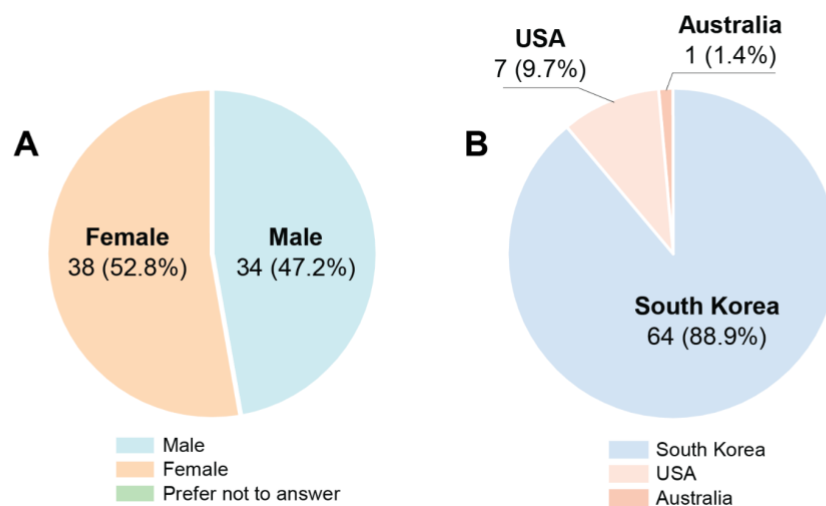


Figure 1 | A) Gender distribution of respondents; and B) Current country of residence.

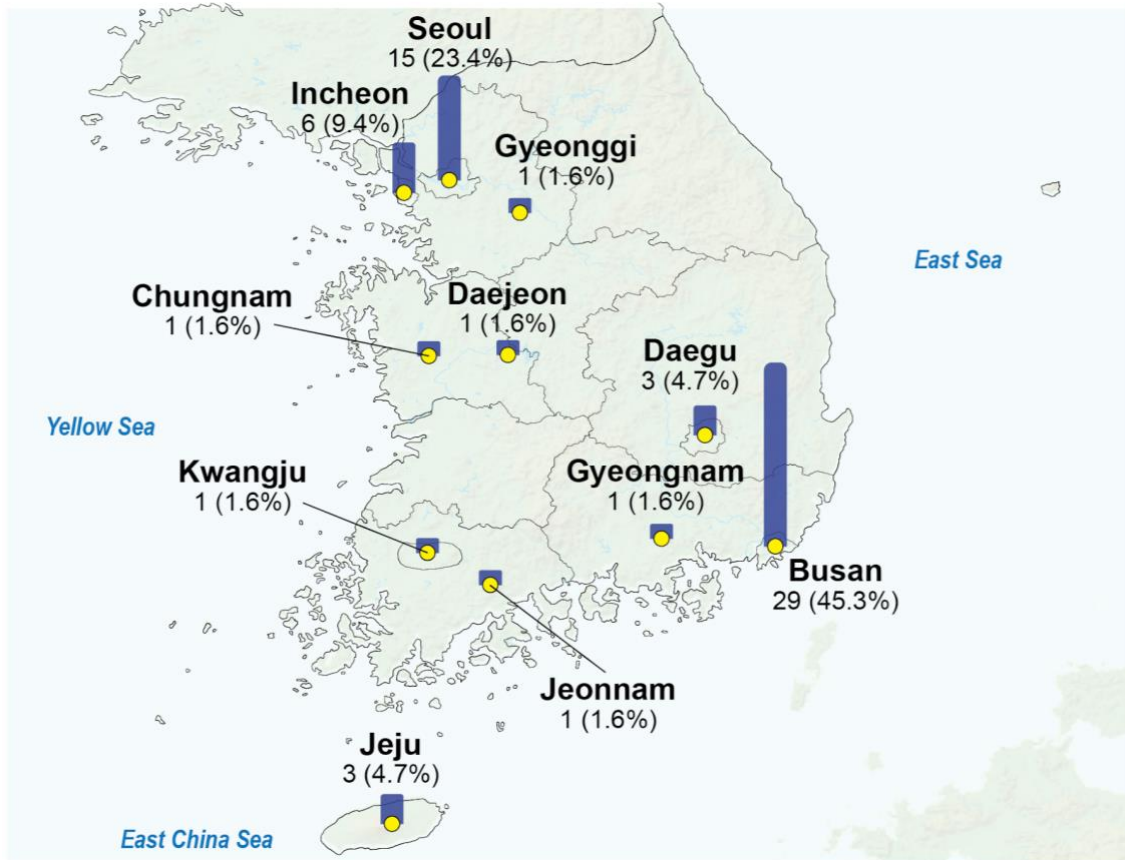


Figure 2 | Places of residence of respondents in South Korea

Education and Professional Stages/Careers

Regarding the highest level of education achieved by survey respondents, 33.3% (n=24) had completed a doctoral degree, followed by 29.2% (n=21) with a bachelor's degree, and 27.8% (n=20) with a master's degree, while one respondent had attained a Juris Doctor degree. Those with a high school diploma accounted for 8.3% (n=6) (**Figure 3**). In terms of sectors, 95.8% of respondents (n=69) had occupations related to 'Science and Research', while other sectors such as 'Government & Policy' and 'Innovation & Entrepreneurship & Business' each accounted for 1.4% (n=1) (**Figure 4**).

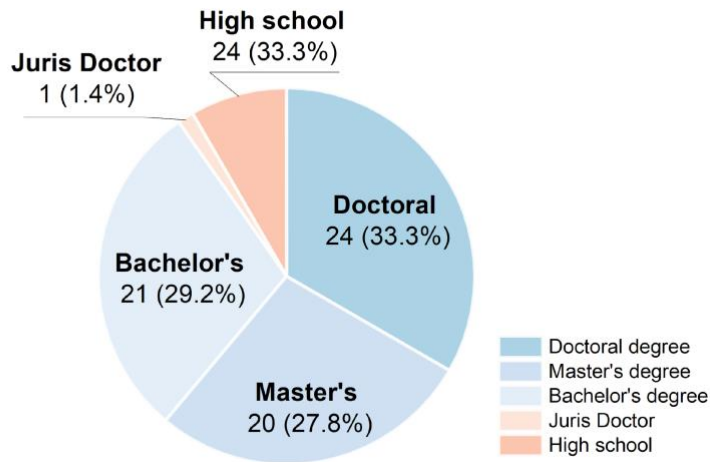


Figure 3 | Highest level of education of ECOPs in South Korea

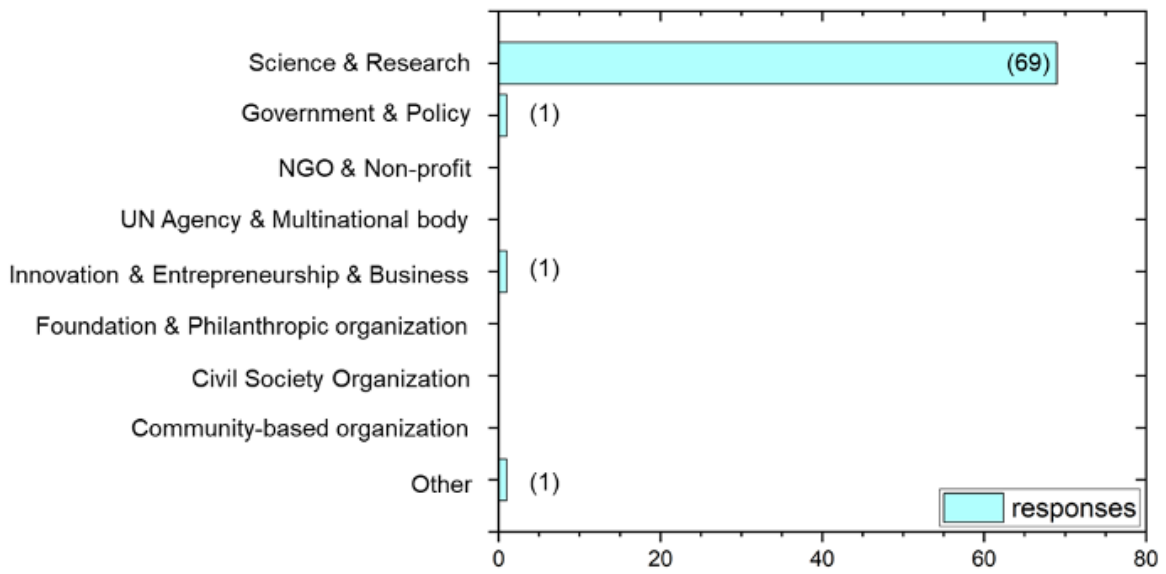


Figure 4 | Occupations and sectors of ECOPs in South Korea (multiple selections allowed)

Expertise and Research Area

Most respondents described their area of expertise as ‘Oceanography’ (88.9%; n=64) (Figure 5). Other fields included ‘Climate Science’ (5.6%; n=4), while ‘Biological Science’, ‘Engineering’, ‘Fishery Science’, and ‘Law/Political Science’ were each selected by one respondent.

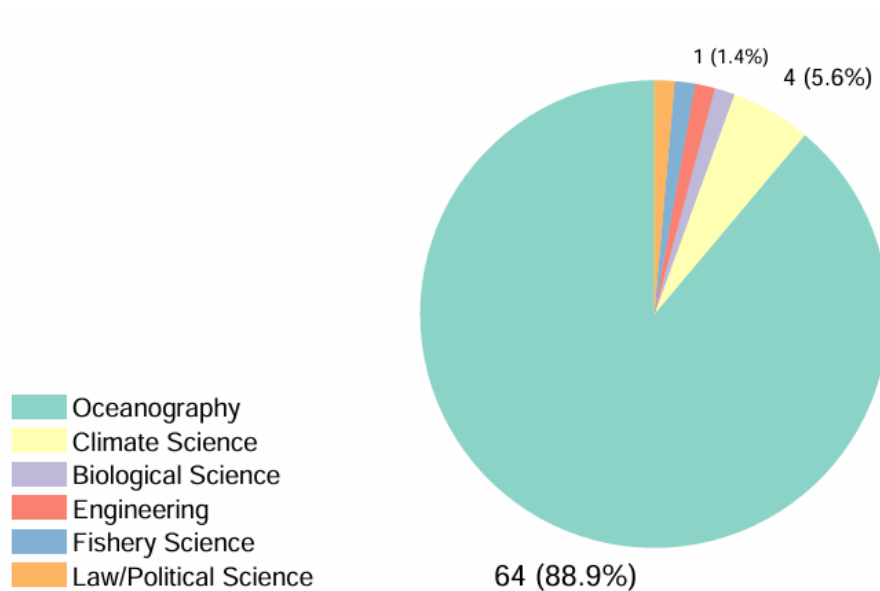


Figure 5 | Area of expertise of respondents

For respondents with expertise in ‘Oceanography’, we further asked their specific oceanographic fields as a non-mandatory question (Figure 6). Among the four major core subdisciplines in Oceanography, ‘Physical Oceanography’ was the most selected one at 42% (n=27), followed by ‘Biological Oceanography’ (33%; n=21), and ‘Chemical Oceanography’ (26%; n=17). ‘Geological Oceanography’ remained the least selected subdiscipline, accounting for 6% of responses (n=4). Others who responded ‘Satellite Oceanography’ and ‘Not decided yet’, accounted for the remaining 4% (n=3).

K-ECOP's Major Oceanographic Disciplines

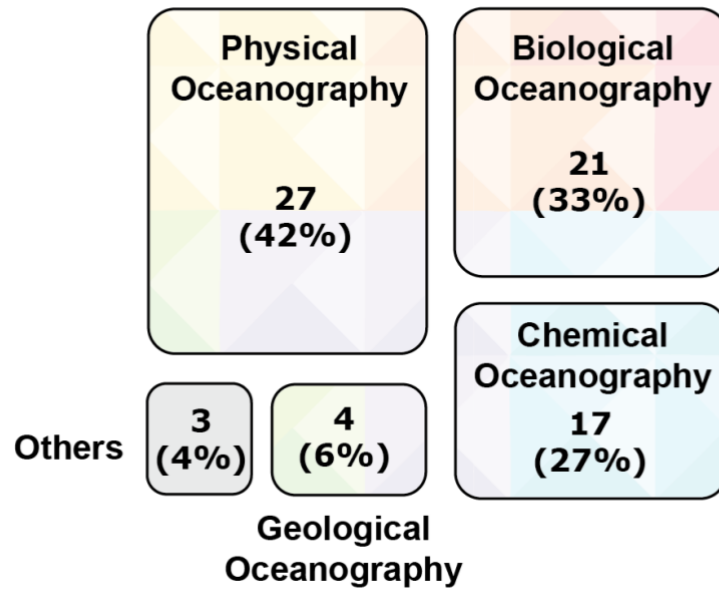


Figure 6 | Major oceanographic disciplines of the 64 respondents who identified ‘Oceanography’ as their area of expertise (see Figure 5). A total of 72 responses were recorded, as multiple selections were allowed.

Regarding the respondents’ primary research or work area, the majority selected ‘Coastal Ocean’ (43%) and ‘East Sea/East China Sea/Yellow Sea’ (47%), with each accounting for over 30 responses. It is followed by the ‘Antarctic or Southern Ocean’ (26%; n=19), ‘Global Ocean’ (24%; n=17), and ‘Arctic Ocean’ (21%; n=15). It is also worth noting that 8 respondents (11%) primarily focus on ‘Freshwater systems’ in their study or work (Figure 7).

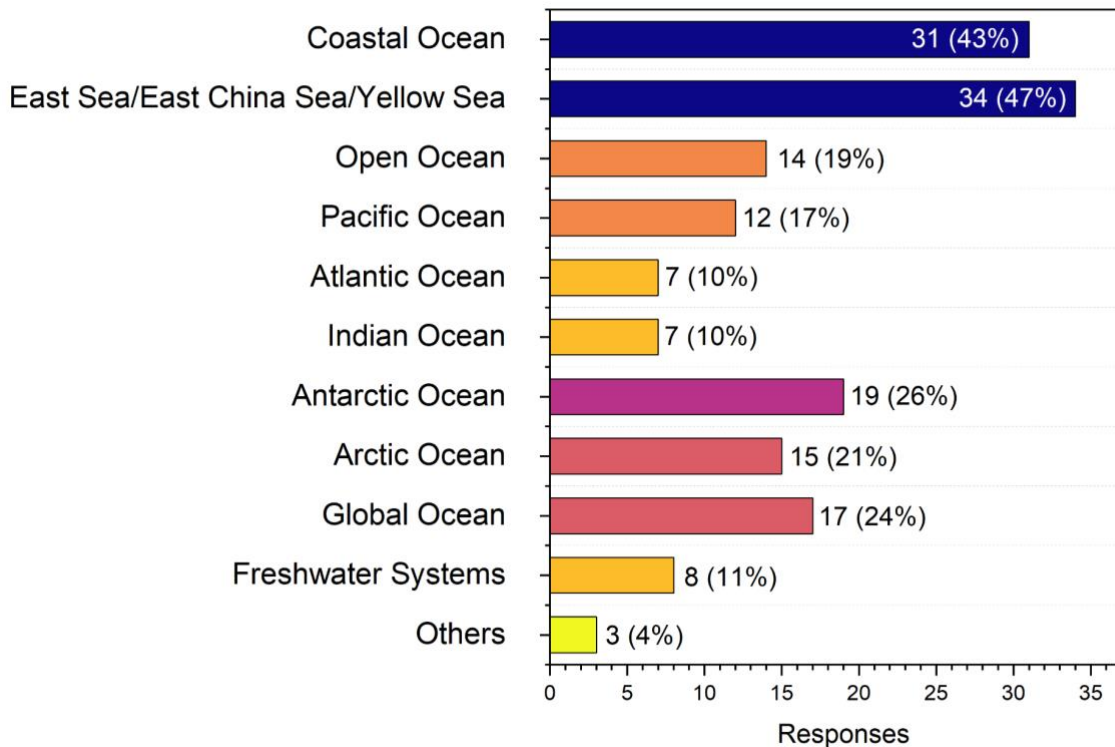


Figure 7 | Number and percentage (%) of respondents who selected each primary research or work area (multiple selections allowed).

Section 2: ECOP and the UN Ocean Decade

In this section, respondents were asked what the concept of ECOP means to them and how familiar they are with the ECOP Programme and the UN Ocean Decade.

Self-identification as ECOP

When asked whether they self-identified as ECOP, 64 respondents (89%) answered 'Yes', while 8 respondents (11%) either did not consider themselves early career or were uncertain about their status (**Figure 8**). The survey defined an ECOP as 'a person who self-identifies as being early in their

career (10 years or less of professional experience) within any field and sector related to the ocean (not only employed/paid positions)'.¹

Do you self-identify as an ECOP?

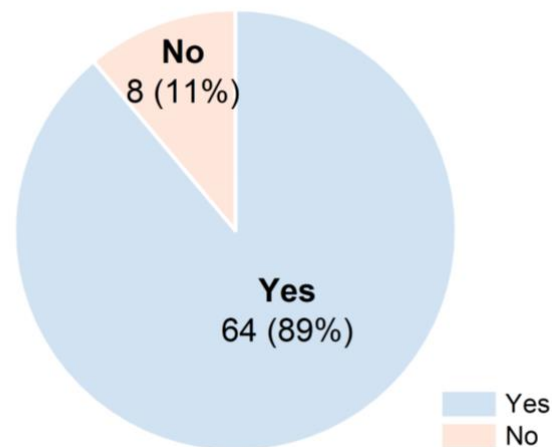


Figure 8 | Percentage (%) of respondents who self-identify as ECOP

In addition, as respondents reflected on the first word that came to mind when thinking of the term 'Early Career Ocean Professionals (ECOP)', they frequently mentioned words such as 'potential', 'early-career', 'PhD', 'fresh', and 'passionate', as depicted in [Figure 9](#). Other keywords included 'career development', 'job', 'challenges', 'creativity', 'oceanographers', 'energetic', 'future', 'funding', 'new ideas', and more.

¹ Since the completion of the K-ECOP survey in 2023, the [ECOP Programme](#) has slightly revised its official definition of an ECOP, which reads as follows: 'For the purpose of the ECOP Programme, an ECOP is a person who self-identifies as being early in their career, within 10 years or less of professional experience in any field related to the ocean. This definition **includes post-secondary students and any volunteer roles**, so not only employed/paid positions. The term "professional" is used in order to be inclusive of professionals from various sectors of society.'



Figure 9 | Word cloud displaying some of the commonest words that came to respondents' minds when thinking about ECOPs. Note: The more frequently a word is mentioned, the larger it appears in the word cloud.

Understanding of the UN Ocean Decade

Respondents were then asked how familiar they are with the UN Ocean Decade framework (**Figure 10**). Nearly 14% (n=10) reported knowing a lot about it and participating in it, while a combined 67% responded to either 'read about it but never participated in related activities or programs' (35%; n=25) or 'heard about it but never tried to know more about it' (32%; n=23). Finally, around 19% (n=14) admitted they had never heard of it.

Understanding of the UN Ocean Decade

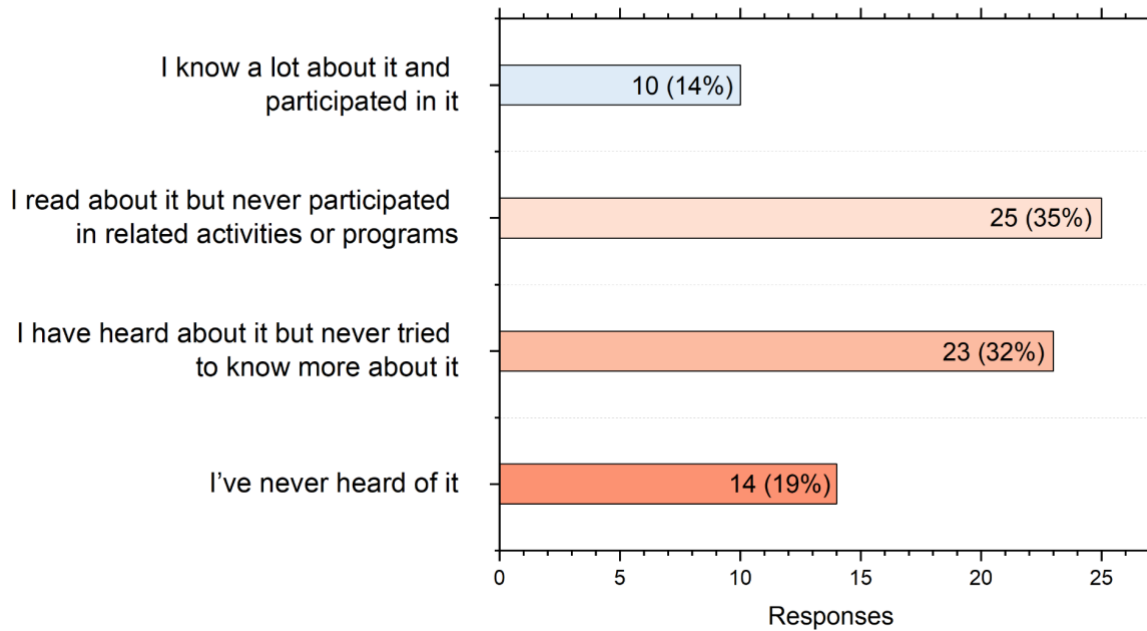


Figure 10 | Number and percentage (%) of respondents who indicated different levels of understanding of the UN Ocean Decade.

Among the seven Ocean Decade Outcomes that describe the 'Ocean We Want'², respondents were asked to select which one(s) are most aligned with their work, study, or interest. Specifically, they focused primarily on 'A predicted ocean' (60%) and 'A healthy and resilient ocean' (53%) (**Figure 11**). These two top choices were followed by 'An accessible ocean' (36%), 'A clean ocean' (28%), 'A productive ocean' (22%), 'A safe ocean' (17%), and 'An inspiring and engaging ocean' (15%).

² Learn more about the seven Ocean Decade Outcomes here: <https://oceandecade.org/vision-mission/>

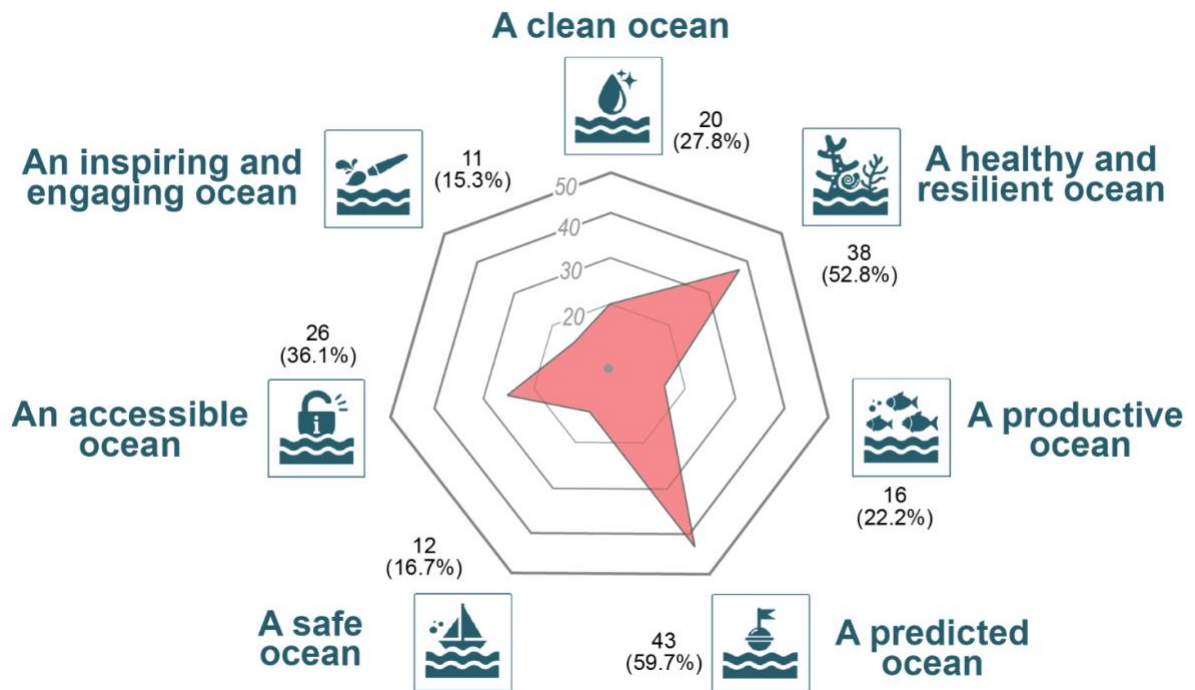


Figure 11 | Number and percentage (%) of respondents selecting each UN Ocean Decade outcome in which they are involved and/or interested in (multiple selections allowed). Heptagon contours (in gray) indicate response numbers.

Challenges in participating in the ECOP Programme

Respondents provided valuable input on the factors affecting their participation in the UN Ocean Decade-endorsed ECOP Programme. The most significant barriers highlighted were a 'lack of channels to receive relevant information' (50%), and poor awareness of available opportunities to participate and register as an ECOP (43%) (**Figure 12**). Other notable challenges included a lack of awareness about the ECOP Programme's purpose and what participation entails (24%), as well as a relative scarcity of information available in Korean (21%). In addition, some respondents mentioned a 'lack of sufficient funding sources in terms of achieving associated goals' and noted that it can be 'unclear whether the research area is associated with [the] ECOP Programme'.

Barriers to contribute to ECOP Programme

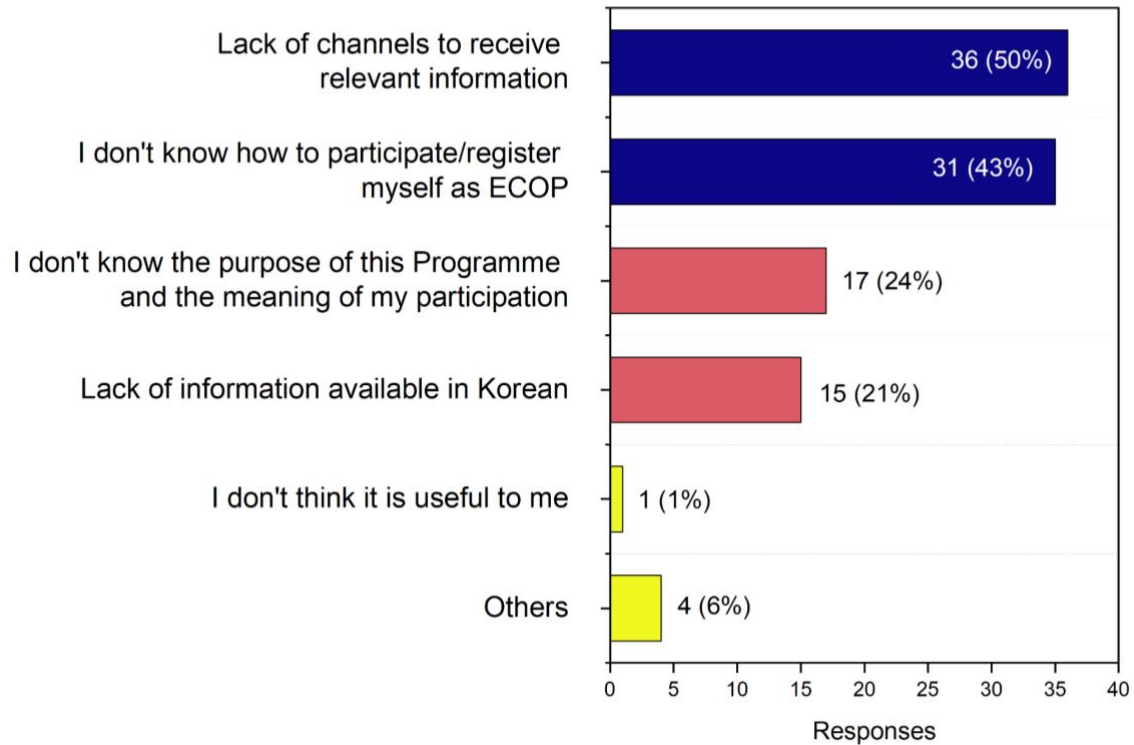


Figure 12 | Number and percentage (%) of respondents identifying factors affecting their ability to contribute to the ECOP Programme (multiple selections allowed, including an open-ended option).

Ocean-related networks and initiatives

Of the 72 respondents, 21% (n=15) indicated their involvement in ocean-related or early-career networks and initiatives, either in South Korea or internationally (**Figure 13**). **Table 1** presents a compilation of all the reported networks, including early-career and academic research groups.

Participation in any early-career networks or initiatives

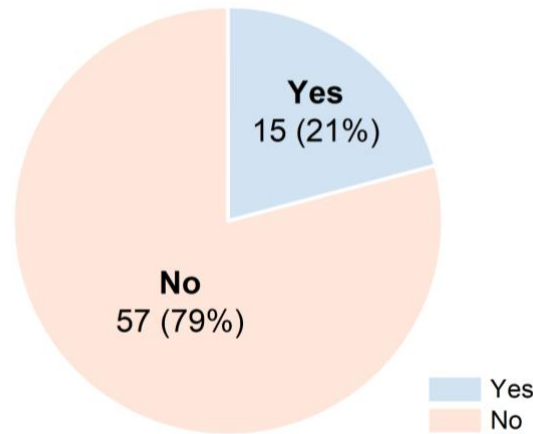


Figure 13 | Number and percentage (%) of respondents who indicated participating in ocean-related or early-career networks and initiatives, including UN Ocean Decade Actions.

Table 1 | List of ocean-related or early-career networks and initiatives that survey respondents shared with us as a follow-up to **Figure 13**.

Network/initiative name	Link to website (if available)
<i>K-ECOP (ECOP South Korea node)</i>	https://www.ecopdecade.org/south-korea/
<i>ECOP Asia node</i>	https://www.ecopdecade.org/asia/
<i>Association of Polar Early Career Scientists (APECS)</i>	https://www.apecs.is/
<i>Polar Science Early Career Community Office (PSECCO)</i>	https://psecco.org/

<p><i>GEOMASS (Informal Korean study group between geophysics and mathematics researchers)</i></p>	<p><i>No official link available.</i></p>
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In addition, respondents who indicated that they are not part of any networks or initiatives—the 79% (n=57) who answered 'No' in **Figure 13**—were then asked about their interest in joining the global ECOP network or any other endorsed UN Ocean Decade Actions. Of these, 66% (n=39) answered 'Yes', while 31% (n=18) were uncertain, and 3% (n=2) admitted not being interested (**Figure 14**). Becoming a member of the ECOP Programme can take various forms, allowing for different levels of engagement based on individual capacities. From active roles such as joining a national coordinating team (e.g., [K-ECOP](#)) or a regional working group (e.g., [Ocean Literacy hub for Asia](#)), engagement can also be more passive, including subscribing to the monthly newsletter³, following the ECOP Programme on social media, and/or sharing contact details with the global ECOP registry⁴.

³ You can subscribe to the monthly ECOP newsletter and join the registry by filling in [this short form here](#).

⁴ The global ECOP registry is curated and strictly managed by the core ECOP Programme team. As of November 2024, the registry comprises contact details of around 6,000 ECOPs from 159 countries. More information can be found in the ECOP Programme's Onboarding Handbook, which is publicly available [at this link here](#).

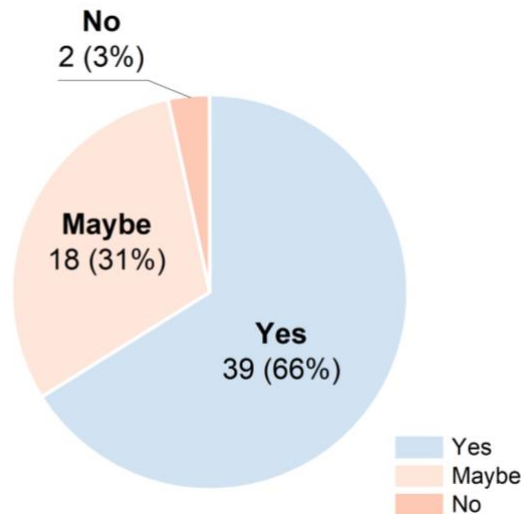


Figure 14 | Number and percentage (%) of respondents interested in joining the ECOP Programme or any other endorsed UN Ocean Decade Actions. This was a non-mandatory question aimed at respondents who answered 'No' in **Figure 13**.

Section 3: Status, Challenges & Future Expectations of K-ECOP

In Section 3 of the survey, respondents shared key insights on the ongoing challenges and aspirations of Korean ECOPs, along with feedback on anticipated initiatives and activities for the K-ECOP node.

Systemic Challenges and Aspirations of Korean ECOPs

Based on the responses of all 72 survey participants, the most frequently cited challenge, mentioned by 47 respondents (65%), was a 'lack of community and network' (**Figure 15**). ECOPs benefit greatly from interacting with peers, mentors, and experts in their field. Establishing robust networks and communities can facilitate knowledge exchange, collaboration, and support, which are vital for professional development and research innovation.

Another major challenge was a 'lack of funding', highlighted by 40 respondents (56%). Indeed, adequate financial support is crucial for conducting

research, attending conferences, and participating in international collaborations. Without sufficient funding, ECOPs struggle to initiate and sustain their projects, limiting their contributions to the field of ocean science.

Finally, other important challenges that respondents drew attention to include: a 'lack of career opportunities' (35%), 'lack of training opportunities' (25%), and 'language barriers (15%)'. Although mentioned by only one respondent (1%), gender inequality remains a concern (**Figure 15**).

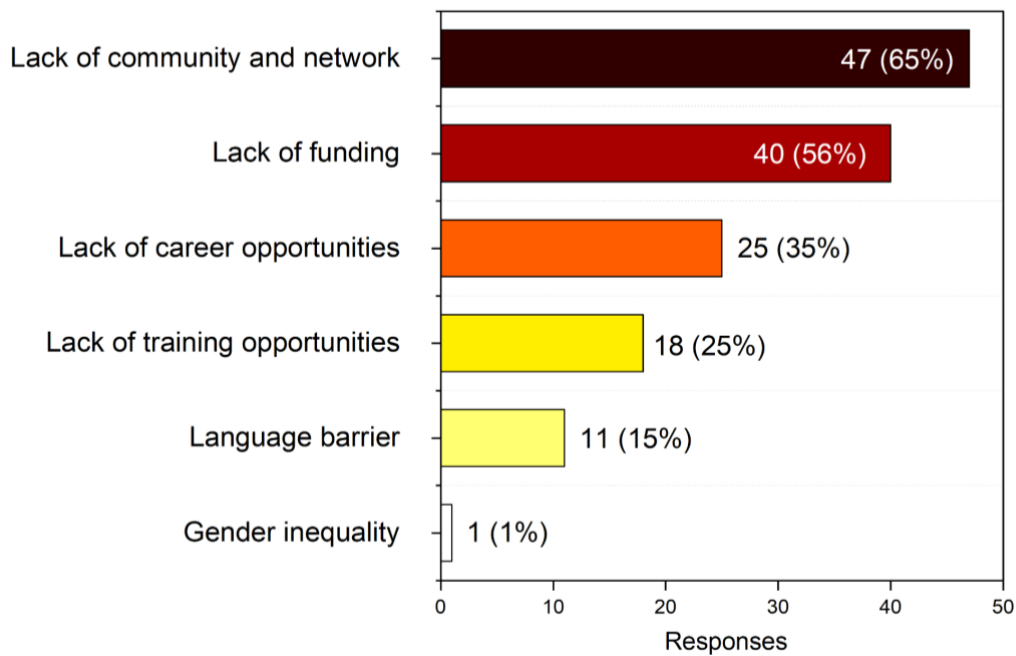


Figure 15 | Number and percentage (%) of respondents identifying ongoing challenges faced by Korean ECOPs (multiple selections allowed).

Respondents also provided input on which funding options should be prioritized for Korean ECOPs. A five-point Likert scale⁵ revealed that 'Research funding and grants' (57%) and 'Academic scholarships and bursaries' (50%) were deemed essential or very important (**Figure 16**). These were followed by

⁵ In this survey, the 5-point Likert scale provided the following rating options: 1: 'Not important', 2: 'Slightly important', 3: 'Neutral', 4: 'Important', and 5: 'Very important'.

‘Paid internships’ (37.5%) and ‘Travel, accommodation and registrations fees to attend in-person events’ (36%). On average, 74% of respondents considered the four funding pathways mentioned above at least important, while only 40% felt the same about ‘Financial support to start-ups, NGOs and young non-profits’ (Figure 16).

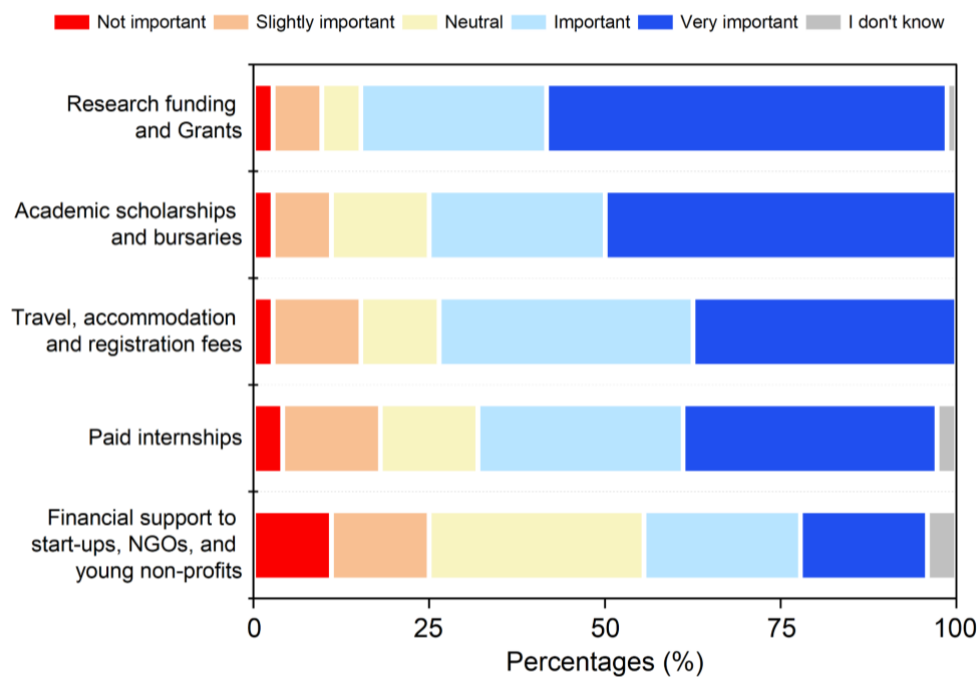


Figure 16 | Ranked preferences (%) of funding options for Korean ECOPs using a five-point Likert scale.

Additional support mechanisms that were mentioned by some respondents include: academic exchange, international postdoctoral fellowships, enhancing public awareness of oceanography (ocean literacy), encouraging research motivation, hiring staff exclusively for K-ECOP activities, aligning training costs with the objectives of K-ECOP, and marketing costs for K-ECOP (Figure 17).

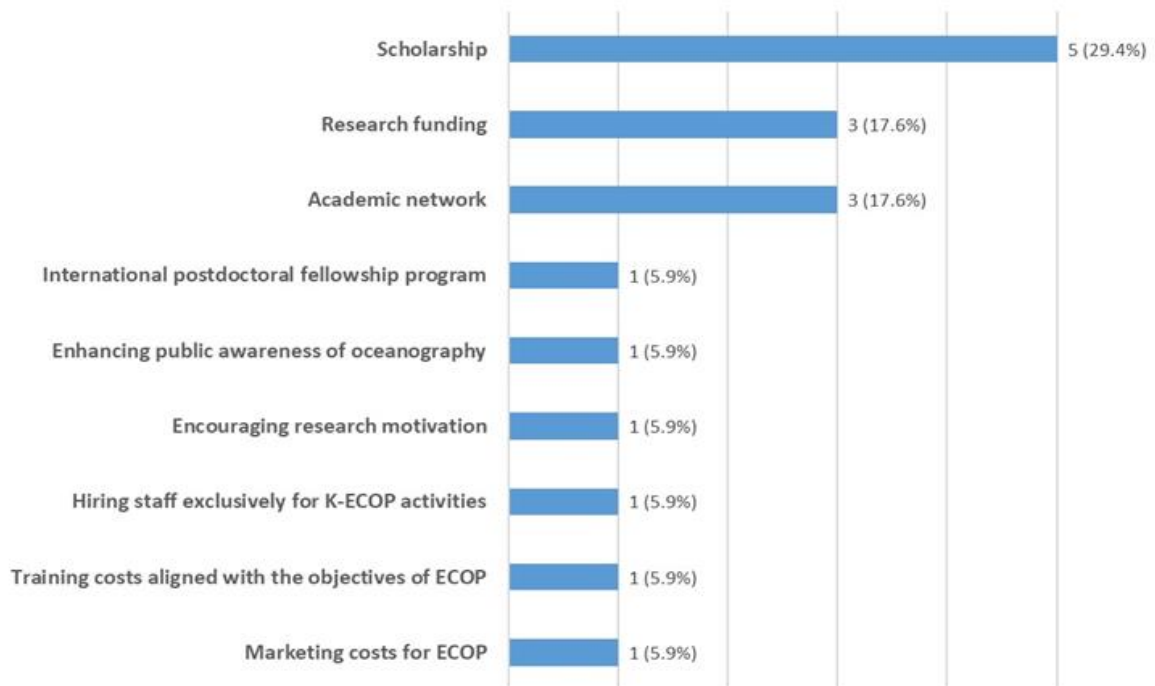


Figure 17 | Additional responses on funding options to prioritize in South Korea (open-ended, non-mandatory follow-up question).

Future of K-ECOP

During the survey period, the K-ECOP node had seven major projects either ongoing or planned. We shared these initiatives with survey respondents and asked which ones they found most interesting.

According to the results shown in **Figure 18**, the 'Active dissemination of ocean career-related information (e.g., jobs, research, conferences)' was the most popular initiative (74%). In addition, approximately half of the respondents, on average, expressed interest in five other K-ECOP projects: **1.** 'Mentor/mentee program' (53%), **2.** 'ECOP session within conferences' (56%), **3.** 'Small group activities by research/work area (for collaborative research, sharing of information, developing new friendships)' (54%), **4.** 'Regular exchanges with other national ECOP nodes' (47%), and **5.** 'Quarterly

K-ECOP meetings' (42%). Finally, the promotion of the K-ECOP node and production of member introduction videos was the least popular project among the major ones listed, with only 10% of respondents expressing interest (**Figure 18**).

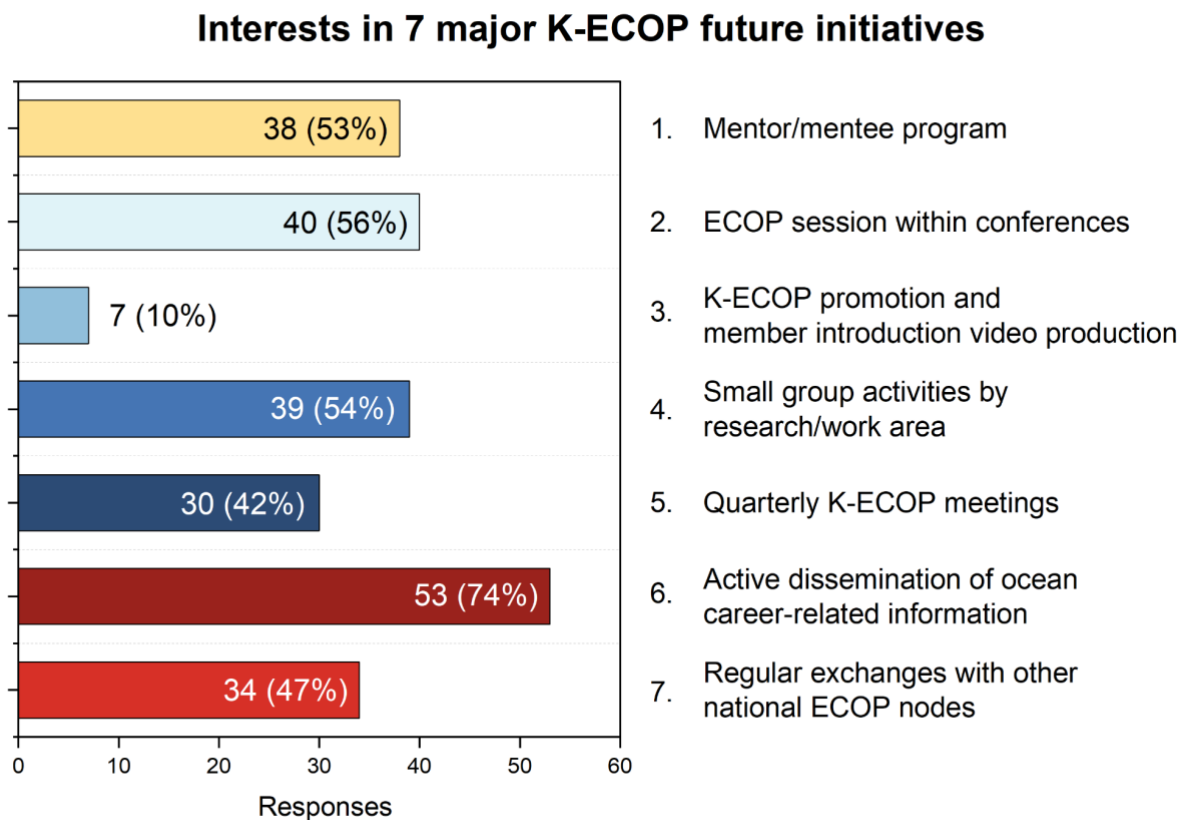


Figure 18 | Number and percentage (%) of respondents interested in one or more of the seven major K-ECOP initiatives (multiple selections allowed).

Survey participants were also invited to suggest additional activities or ideas that the K-ECOP team could promote and pursue, beyond the seven major tasks listed in **Figure 18**. As a result, various opinions were collected, highlighting educational sessions and dialogues focused on current ocean issues, the development of multidisciplinary research projects among K-ECOP members, and international knowledge exchanges and mentorship schemes. Specific comments are detailed in **Table 2** below.

Table 2 | Additional activities and ideas shared by survey participants for consideration by the K-ECOP node coordination team (open-ended question).

<i>'Briefing session on key issues that meet the eye level of ECOPs (e.g. safety management and regulation of marine products due to Japan's radioactive contaminated water discharge, issue of official labeling of the East Sea as the Sea of Japan, possibility of carbon neutrality, status of Korean marine NGO activities, etc...)'</i>
<i>'Encourage voluntary communication/activities by accepting mentor-mentee applications during academic activities'</i>
<i>'K-ECOP joint research project by physics/chemistry/biology/geology section'</i>
<i>'Domestic mentor-mentees are good, but a mentor-mentee system with overseas scientists is also necessary through exchanges with overseas ECOPs'</i>

Finally, we asked if survey participants would be interested in learning more about K-ECOP activities and assisting with their coordination and implementation. As shown in **Figure 19**, 40% responded 'Yes', while 56% and 4% answered 'Maybe' and 'No', respectively.

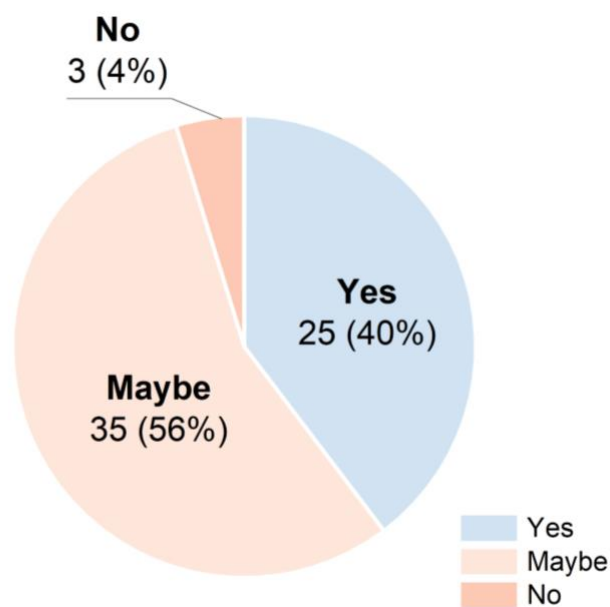


Figure 19 | Number and percentage (%) of respondents interested in learning more about K-ECOP activities and assisting with their coordination and implementation (non-mandatory question).

Section 4: K-ECOP Membership and Additional Remarks

In the last section of our K-ECOP survey, we asked the participants whether they would be willing to register as a member of the [K-ECOP node](#). A total of 32 participants (44.4%) responded ‘Yes’ and provided both their email address and KakaoTalk ID—[KakaoTalk](#) being South Korea’s primary messaging platform—to subscribe and receive K-ECOP-related news and announcements.

Furthermore, in order to foster connections and social networking among future Korean ECOPs, we asked survey respondents what other social media apps and platforms they preferred, aside from the ubiquitous KakaoTalk (**Figure 20**). Among the 47 survey participants who answered this question, ‘Instagram’ (53%; n=25) and ‘YouTube’ (51%; n=24) were, by far, the two most preferred platforms, followed by ‘X’ (previously ‘Twitter’) at 15% (n=7) and ‘Facebook’ (6%; n=3). One person would like to see an ‘Independent Webpage’⁶, while four respondents showed no interest in subscribing or receiving K-ECOP news on social media (9%).

⁶ In fall 2022, the K-ECOP node launched a dedicated page on the ECOP Programme website, which has been regularly updated since. It can be accessed here: <https://www.ecopdecade.org/south-korea/>.

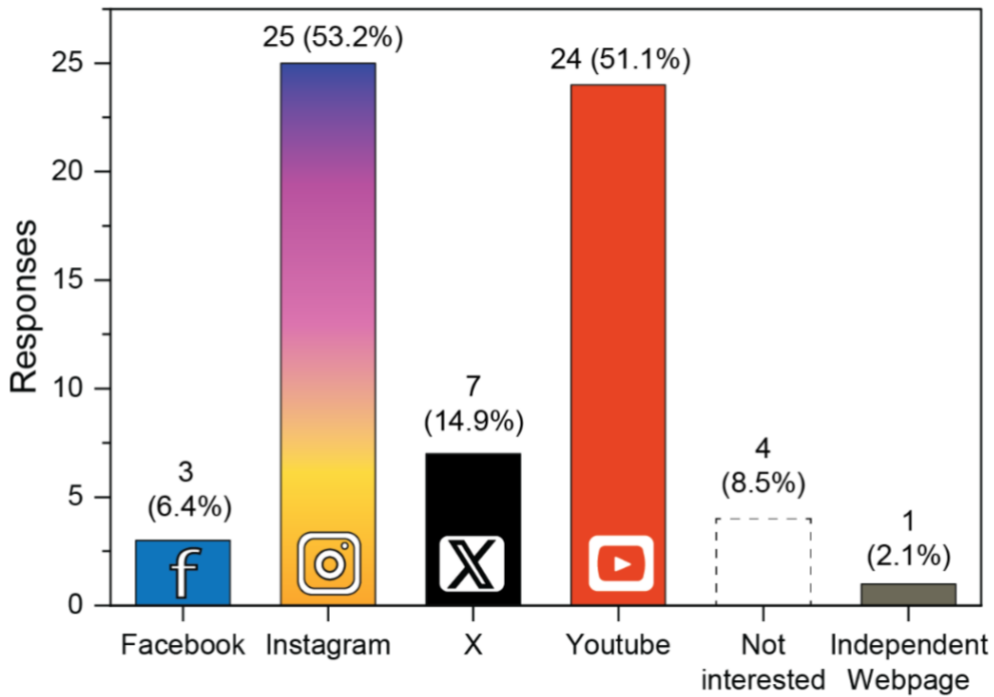


Figure 20 | Number and percentage (%) of respondents interested in social media apps and platforms other than KakaoTalk (multiple selections allowed). This optional question was answered by 65% of survey participants (n=47). Note: Two open-ended responses: ‘KakaoTalk’ and ‘Already subscribed’, are not shown.

Finally, in the last survey question, which was open-ended, we welcomed any additional thoughts, comments, and/or questions that respondents were willing to share with us. These are detailed in **Table 3** below.

Table 3 | Survey feedback shared by three respondents (translated from Korean)

<i>‘I hope for more active K-ECOP actions rather than a formal activity.’</i>
<i>‘You are doing great!’</i>
<i>‘We are grateful to the experts who contribute to a sustainable ocean.’</i>

2.2. Summary and Future

The 2023 K-ECOP national survey provided an in-depth overview of the status and needs of ECOPs residing in South Korea and abroad. Below is a summary of the findings from each section of the survey:

1. *Basic information and career*

- A total of 72 respondents participated in the survey, with a nearly equal gender distribution (53% female, 47% male; **Figure 1A**) and the majority residing in South Korea (89%; **Figure 1B**).
- Busan (45%), Seoul (23%), and Incheon (9%) were the most common cities of residence among the respondents living in South Korea, reflecting a geographic clustering of Korean ECOPs around coastal and urban centers where major universities with an Oceanography department are located (**Figure 2**).
- Most respondents held advanced degrees—doctoral degree (33%), master’s degree (28%), bachelor degree (29%), and Juris Doctor (1%) — indicating a highly educated community of early-career professionals (**Figure 3**).
- Career-wise, ~96% were employed as scientists or researchers, which includes students, further emphasizing the academic and scientific orientation of the K-ECOP community (**Figure 4**). Oceanography emerged as the predominant field of expertise (89%; **Figure 5**), with a notable focus on Physical and Biological Oceanography (75%; **Figure 6**), the two most commonly cited disciplines.
- Other ocean-related fields and disciplines, such as climate science, biology, engineering, fisheries, and law, were selected by fewer than 4%

of respondents, underscoring the relatively low engagement of Korean ECOPs in interdisciplinary and non-traditional ocean sciences ([Figure 5](#)).

2. ECOP and the UN Ocean Decade

- A majority of respondents (89%) self-identified as ECOPs, highlighting their alignment with the ECOP Programme’s definition⁷ ([Figure 8](#)).
- 'Career' and 'Potential' were the two most frequently mentioned words associated with ECOP, calling attention to how respondents perceive themselves within a framework of growth and professional development. Additionally, other keywords such as ‘fresh’, ‘passionate’, ‘creativity’, ‘ideas’, ‘energetic’, and ‘future’ reflect the essential qualities that define the current and next generation of ocean professionals ([Figure 9](#)).
- Although the survey showed a strong focus on Oceanography, it revealed limited engagement of Korean ECOPs within the UN Ocean Decade framework. Only 14% of respondents actively participated in activities and initiatives related to the Ocean Decade, while 67% had merely heard or read about it without direct involvement. The remaining 19% were entirely unaware of the UN Ocean Decade ([Figure 10](#)).
- In terms of [UN Ocean Decade Outcomes](#), respondents prioritized 'A predictive Ocean (60%)' and 'A healthy and resilient ocean' (53%), reflecting strong interest in sustainable ocean management and climate-related modeling research focused on future projections ([Figure 11](#)).

⁷ 'For the purpose of the [ECOP Programme](#), an ECOP is a person who self-identifies as being early in their career, within 10 years or less of professional experience in any field related to the ocean. This definition includes post-secondary students and any volunteer roles, so not only employed/paid positions. The term “professional” is used in order to be inclusive of professionals from various sectors of society.'

- The two primary barriers preventing Korean ECOPs from effectively contributing to the ECOP Programme were a 'lack of channels to receive relevant information' (50%), and 'poor awareness of available opportunities to participate and register as an ECOP' (43%) (**Figure 12**).
- While most participants identified themselves as ECOPs, only a minority (21%) were involved in ocean-related early-career networks or initiatives (**Figure 13**).
- However, more than half of the respondents who were not already part of a network or initiative recognized the importance of joining one, including the global ECOP network and endorsed Ocean Decade Actions (**Figure 14**).

3. Status, Challenges, and Future Expectations of K-ECOP

- The most common challenges faced by Korean ECOPs were a 'lack of community and network' (65%) and 'lack of funding' (56%), indicating systemic issues that hinder career development and limit opportunities for scientific collaboration both domestically and internationally (**Figure 15**).
- In terms of financial support, ECOPs ranked 'research funding and grants' (57%) and 'academic scholarships' (50%) as very important or essential (**Figure 16**). These preferences underscore the need for improved financial mechanisms to support the research and professional development of Korean ECOPs, many of whom feel that funding opportunities are limited. Paid internships and travel grants to attend in-person events were also identified as important funding pathways to advance ECOPs' careers.

- Encouragingly, survey participants expressed interest in learning more about the K-ECOP network and contributing to future initiatives. The initiative that resonated most with Korean ECOPs was the 'Active dissemination of ocean career-related information (e.g., jobs, research, conferences etc)' (74%). Other popular initiatives included 'ECOP session within conferences' (56%), 'Small group activities by research/work area' (54%), and a 'Mentor/mentee program' (53%) (**Figure 18**).
- These findings suggest that community belonging, career development, leadership, mentorship, and access to relevant news and updates in the ocean space are highly valued within the Korean ECOP community. These priorities will serve as a foundation for guiding the future activities of the K-ECOP node.

4. K-ECOP Membership and Additional Feedback

- Approximately 44% of survey respondents expressed their willingness to officially join the K-ECOP node, demonstrating a solid foundation of engaged members and emerging talents for the network to build upon.
- Interested ECOPs prefer to stay connected primarily through [KakaoTalk](#), South Korea's leading messaging platform. However, Instagram (53%) and YouTube (51%) were also identified as popular tools for networking and staying informed (**Figure 20**).

Overall, the survey results offer valuable insights into the current status, challenges, and future opportunities for Korean ECOPs. As the K-ECOP network progresses, addressing existing gaps and harnessing the enthusiasm of its members will be essential for its continued growth and success.

First, the survey reveals that Korean ECOP respondents are highly educated and primarily belong to the science and research community, with the majority specializing in Oceanography. However, there is limited engagement in interdisciplinary ocean sciences, and the lack of diversity in represented disciplines and sectors highlights the need for the K-ECOP network to expand its outreach and broaden its membership scope. Future initiatives should aim to integrate young professionals from underrepresented groups, such as social scientists, NGO staff, and civil servants, to foster a more holistic approach to addressing ocean sustainability challenges.

Second, while many Korean ECOPs express interest in the goals and objectives of the UN Ocean Decade, only a small number are currently participating in this global initiative. This stresses the need for improved communication channels and more effective dissemination of information about opportunities within the Ocean Decade and its endorsed Programmes and Projects, including the ECOP Programme. Enhancing access and visibility to these opportunities will empower Korean ECOPs to take a more active role in international ocean sustainability efforts.

Lastly, the most pressing challenges faced by Korean ECOPs—a lack of community and insufficient funding—underscore the need for a robust and more enduring support system. Networking, mentorship, and access to financial resources should be at the core of K-ECOP's future activities. Prioritizing initiatives such as career information dissemination, dedicated ECOP sessions at conferences, ECOP-led working groups, and mentor-mentee programs can advance the professional development of Korean ECOPs while fostering collaboration and leadership in the ocean field.

3. 2023–2024 K-ECOP Activity Highlights

Established in August 2022 as part of the UN Ocean Decade-endorsed ECOP Programme, the [K-ECOP node](#) began with six coordinating team members. It has since expanded to include 18 steering members and has actively undertaken several activities and initiatives. Here we provide an overview of the progress achieved by K-ECOP since its formation.

3.1. Regular In-person / Virtual ECOP Meetings

On August 22, 2022, the first meeting of K-ECOP (33 participants) was held virtually and led by Dr. Jae-Hyoung Park ([Figure 21](#)). The meeting began with brief self-introductions from all participants, followed by an overview of the ECOP Programme, an introduction to K-ECOP, and a discussion on the future integration of K-ECOP within the ECOP structure and broader UN Ocean Decade framework.

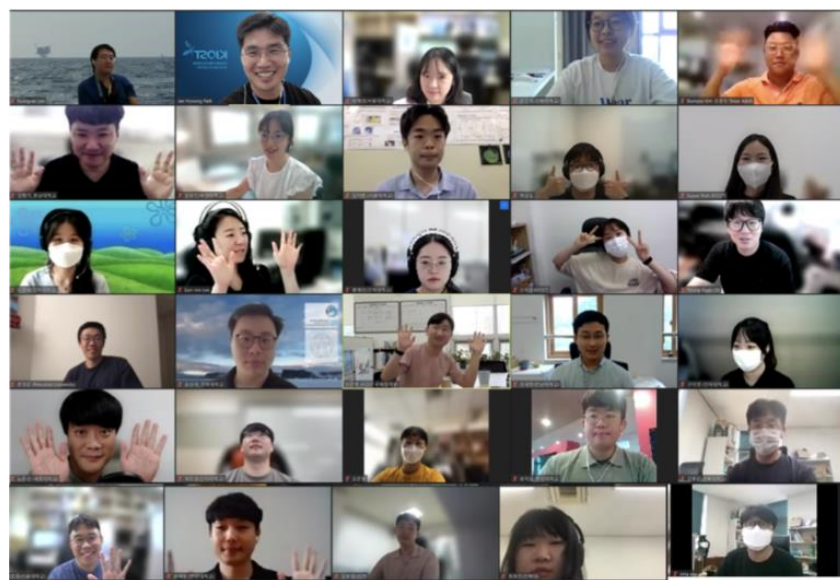


Figure 21 | Group photo of participants during the first (virtual) meeting of K-ECOP.

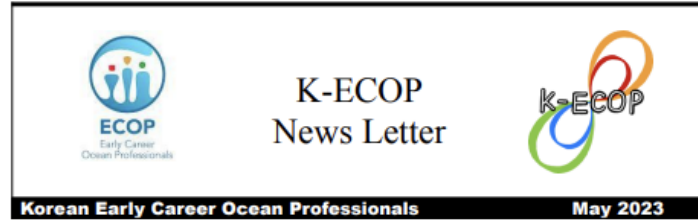
Since then, K-ECOP has been holding in-person and virtual committee meetings at least quarterly to discuss and plan the future direction and activities of K-ECOP (**Figure 22**). All meeting agendas are archived in a shared Google Drive.



Figure 22 | Photo of K-ECOP committee in-person meeting

3.2. K-ECOP Newsletter

As a first task, the K-ECOP coordinating team generated a newsletter to disseminate updates on K-ECOP activities, including a calendar of upcoming domestic and international ocean-related conferences and recent publications by K-ECOP members. Content for each newsletter is contributed by K-ECOP members through requests made via a contact listserv, using the K-ECOP staff email (ko.ecop.staff@gmail.com). The first K-ECOP Newsletter was distributed on May 1, 2023 (**Figure 23**).



K-ECOP 소개

안녕하세요? United Nations 에서는 해양의 중요성을 인식하여 2021~2030년간 "Decade of Ocean Science for Sustainable Development (해양과학10년)"를 시작했습니다. 신진 해양 종사자들(Early Career Ocean Professional)의 참여를 매우 강조하며 중요 프로그램 중 하나로 선정하였습니다. 이러한 시류에 발 맞추어 한국에서도 대학원생부터 학위 후 10년 이내에 해당하는 신진 해양종사자(K-ECOP)들의 자발적인 활동을 시작하였습니다.

K-ECOP의 활동의 목적은 아래와 같습니다.

- 1) 국내·외 ECOP간 네트워크 형성
- 2) 취업, 연구, 홍보 등 정보 공유
- 3) ECOP 활동 촉진
- 4) 다음 세대 해양 분야

이를 통해 K-ECOP이 좀 더 다양한 방법으로 활발히 활동할 수 있도록 하겠습니다.

감사합니다.

K-ECOP 준비위원회 드림

Ko.ecop.staff@gmail.com

Figure 23 | Introductory page of the first K-ECOP Newsletter, which was distributed on May 1, 2023.

3.3 K-ECOP-led Programs and Sessions at the Biannual Meetings of the Korean Society of Oceanography

The [Korean Society of Oceanography](#) (KSO), first established in 1966, is the leading academic organization dedicated to advancing marine sciences and related fields in South Korea. Annually, the organization hosts two conference meetings in the Spring and Fall, serving as key platforms for the presentation

of cutting-edge research, the exchange of ideas, and networking among experts.

Using these biannual KSO meetings as important communication and engagement channels with the next-generation of Korean ECOPs, the steering members of K-ECOP actively volunteered and spearheaded various programs and sessions, including:

- A voluntary session titled **'Dissertation symposium'**, which was held during the 2023 Spring Meeting, featuring 6 oral and 4 poster presentations by Korean ECOPs (**Figure 24**).



Figure 24 | Photo compilation from the 'Dissertation Symposium' held during the 2023 Spring Meeting of the Korean Society of Oceanography.

- An **'ECOP Post-it Table'**, which facilitated communications among K-ECOP members during the 2023 KSO Spring Meeting (**Figure 25**).



Figure 25 | Photos from the 'K-ECOP Post-it Table' held during the 2023 Spring Meeting of the Korean Society of Oceanography.

- A **'Special Career Session'** aimed at sharing the goals and activities of K-ECOP. It included breakout group discussions led by three invited mentors, covering various topics such as 'career', 'funding/scholarship', and 'work/life balance' (**Figure 26**).



Figure 26 | Photo compilation from the 'Special Career Session' organized during the 2023 Spring Meeting of the Korean Society of Oceanography.

- A **buddy-matching (mentorship) program**, initiated and spearheaded by the K-ECOP team during the 2024 KSO Spring Meeting. They paired mentors with one or more mentees, engaging them in science communication and networking. A total of 18 mentors and 26 mentees participated in the program throughout the meeting (**Figure 27**).

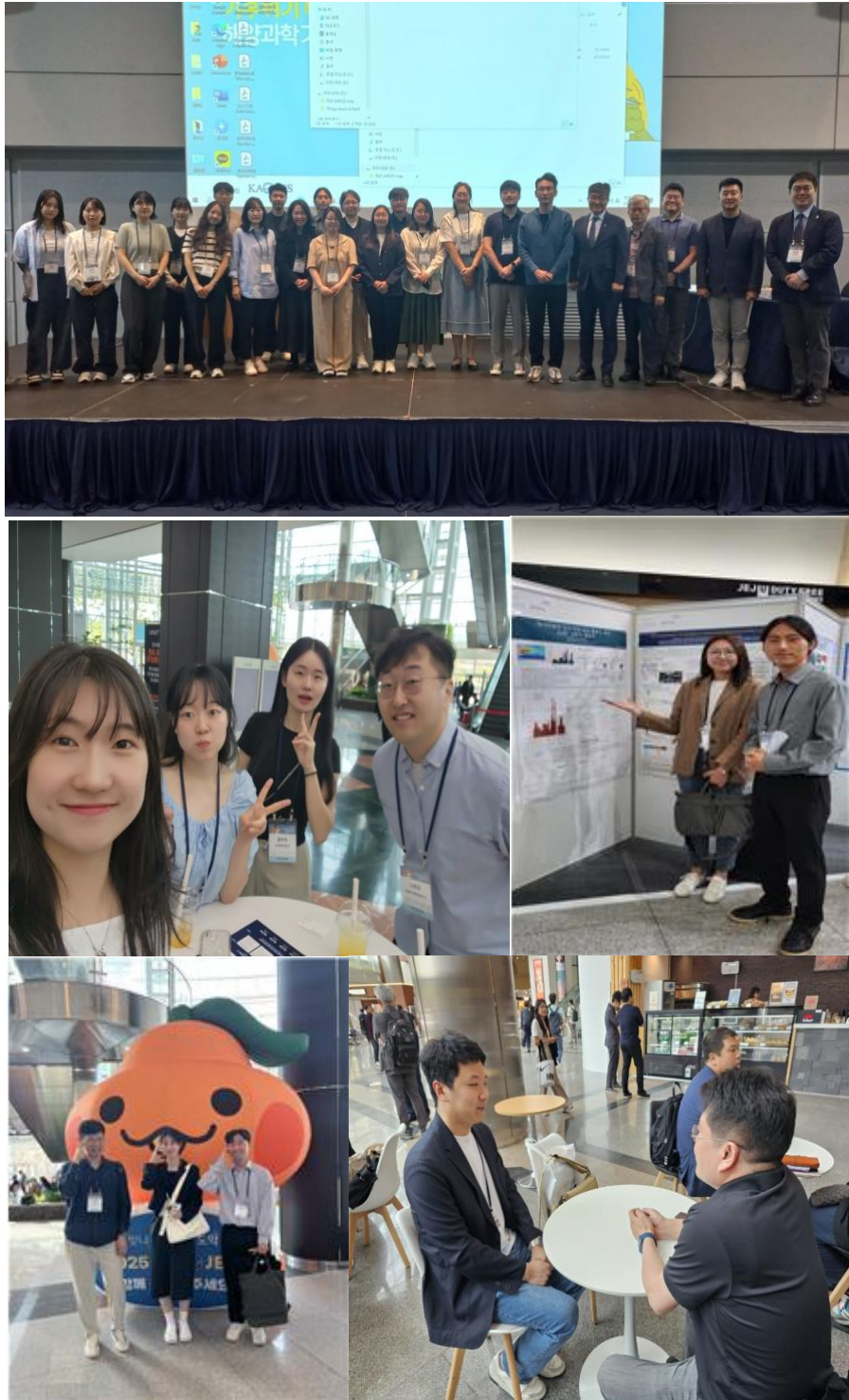


Figure 27 | Photo compilation from the 'Buddy-matching mentorship program' held during the 2024 Spring Meeting of the Korean Society of Oceanography.

3.4. Ocean Science Big Data Contest and K-ECOP Mentoring

The [3rd Ocean Science Big Data Competition](#), which was endorsed as an Ocean Decade Activity and held from September 1 to December 19, 2023, focused on enhancing ocean data literacy through the involvement of the K-ECOP node (**Figure 28**). Sixteen K-ECOP members played crucial roles as mentors, problem designers, and judges, guiding and supporting middle and high school student participants. The competition featured categories in data analysis and visualization, attracting twice as many participants as the previous year. Finalists received valuable feedback through mentoring sessions, enhancing their ocean and data literacy. This initiative aimed to promote a sustainable ocean environment by supporting two of the [UN Ocean Decade outcomes](#): 'An accessible ocean' and 'An inspiring and engaging ocean'.

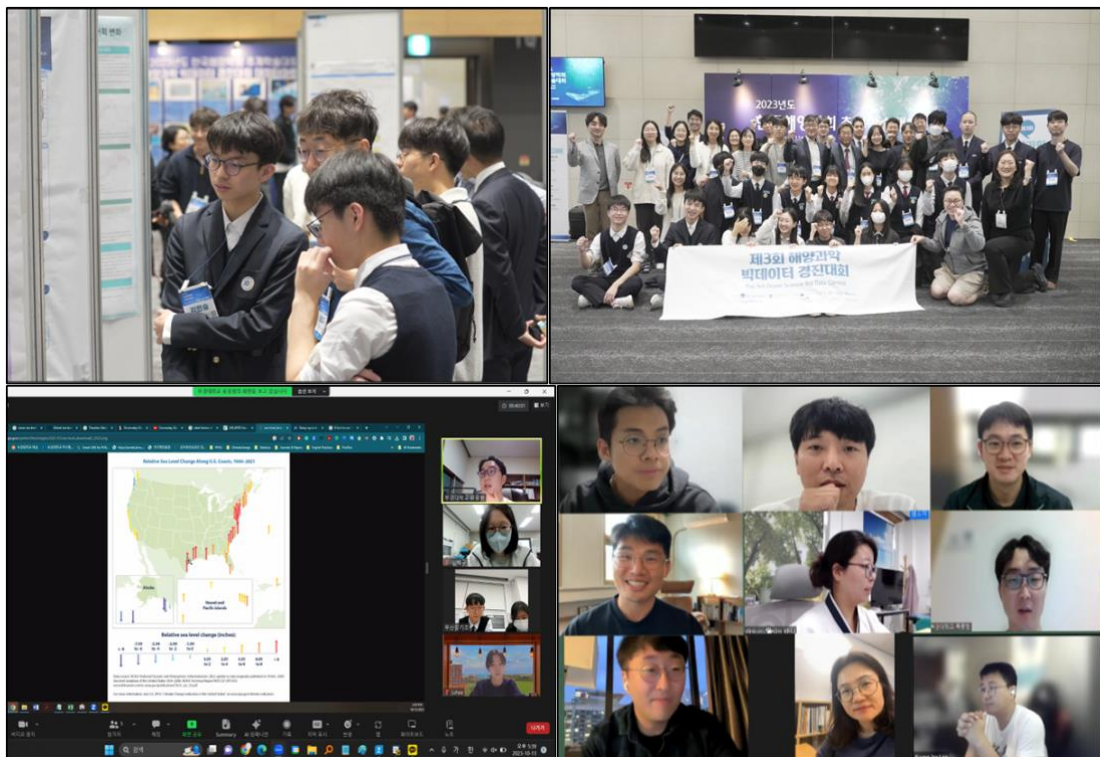


Figure 28 | Photo compilation from the 3rd Ocean Science Big Data Competition (top) and K-ECOP mentoring sessions (bottom).

3.5. K-ECOP Recognition in Professional Conferences

- The [Zhu-Peterson Early Career Scientist Award](#) was granted to Dr. Minkyong Kim at the [2023 PICES Annual Meeting in Seattle, USA](#) (**Figure 29**). Dr. Minkyong Kim is also an active co-chair of the [PICES Advisory Panel on Early Career Ocean Professionals](#) (AP-ECOP).

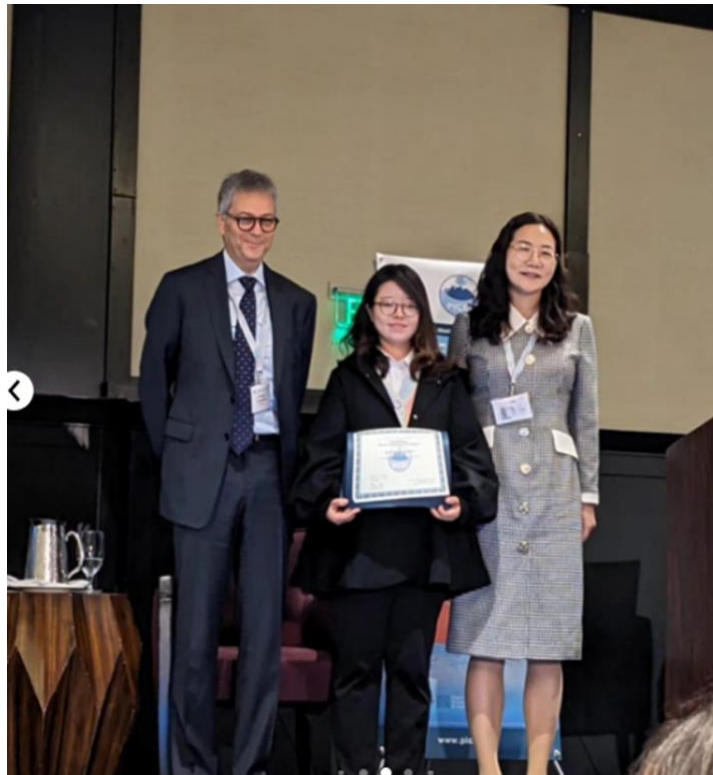


Figure 29 | Dr. Minkyong Kim (middle) holding the Zhu-Peterson Early Career Scientist Award at the 2023 PICES Annual Meeting (Seattle, USA).

- The Minister of Oceans and Fisheries Award was granted to Dr. Seung-Tae Yoon at the 2023 Fall Meeting of the Korean Society of Oceanography (**Figure 30**).



Figure 30 | Dr. Seung-Tae Yoon (right) receiving the Minister of Oceans and Fisheries Award at the 2023 Fall Meeting of the Korean Society of Oceanography.

- ‘The 3rd Ocean Science Big Data Competition’ Contributing Award was presented to the K-ECOP Team (**Figure 31**).



Figure 31 | Dr. Seung-Tae Yoon (left) holding ‘The 3rd Ocean Science Big Data Competition’ Contributing Award on behalf of K-ECOP.

3.6. YouTube Video Spotlighting K-ECOP

In November 2023, the Korean Society of Oceanography released a [YouTube video](#) titled 'Ocean and Humans Episode 8: MZ, Studying the Ocean / K-ECOP, a group of young ocean scientists in Korea', spotlighting K-ECOP team members (**Figure 32**). The video can be accessed [at this link here](#).



Figure 32 | Thumbnail of a YouTube video titled 'Ocean and Humans Episode 8: MZ, Studying the Ocean / K-ECOP, a group of young ocean scientists in Korea'.

4. Acknowledgements

We would like to extend our gratitude to the [Korean Society of Oceanography](#) (KSO) for their support in organizing regular ECOP sessions and assisting with the production of promotional videos. We also thank the [Korea Institute of Ocean Science and Technology](#) (KIOST) for providing information that has enabled the K-ECOP team to engage in international activities. Additionally, our appreciation goes to HAEBOM DATA Inc. for encouraging K-ECOP activities through the annual [Ocean Science Big Data Contest, now in its fourth iteration](#).

5. Contact Us

For any inquiries on K-ECOP (ECOP South Korea node), please contact us at: ko.ecop.staff@gmail.com

6. Appendix

2023 K-ECOP Online Survey Questionnaire (English version)

This online survey is brought to you by the [South Korea node \(K-ECOP\)](#) of the [Early Career Ocean Professionals \(ECOP\) Programme](#), which was endorsed by the [UN Decade of Ocean Science for Sustainable Development \('UN Ocean Decade'\)](#) in June 2021.

Through this survey, we aim to gather information on the status, challenges, and future expectations of K-ECOPs in South Korea and those residing abroad, and to link this information to guide future activities. This will be critical as we strive to co-design meaningful capacity-building approaches for K-ECOPs, co-deliver professional development opportunities, and build a stronger sense of community belonging.

We would highly appreciate your participation in this survey, which should take around 5-10 minutes to complete. Responses given to this survey will be treated with the utmost confidentiality, following the [ECOP's data privacy policy](#). We will report the results and insights back to you, through our K-ECOP newsletter and the Korean Society of Oceanography Spring/Fall Conferences.

For any inquiries on the survey and our K-ECOP (ECOP South Korea node), contact us: ko.ecop.staff@gmail.com

Section 1 - Basic information and career

1. Which gender do you identify with?

- Female
- Male
- Prefer not to answer
- Others

2. What is your nationality?

- South Korea
- Other:

3a. What is your current country of residence?

- South Korea
- Other:

3b. If you are currently living in South Korea, which province are you based in (e.g., Seoul, Gyeongbuk, Jeju etc)?

- (Open answer)

4. What is your highest level of education achieved/completed?

- Nine-year compulsory education
- High school
- Undergraduate degree
- Master's degree
- Doctoral degree
- Other:

5. Check all that apply to your current ocean profession/field. (Select all that apply)

- Science & Research
- Government/Policy
- NGOs/Non-profit
- UN Agency/Multilateral body
- Innovation/Entrepreneurship/Business
- Foundation/Philanthropic organization
- Civil Society Organization
- Community-based organization
- Other:

6. Which best describes your area of expertise?

- Oceanography
- Advertisement/Communication
- Anthropology/Sociology
- Climate Science
- Biological Science
- Data Science
- Physical Science
- Ecology
- Business & Economics
- Biogeochemical Science
- Education
- Engineering
- Environmental Chemistry
- Fishery Science

- Geography
- Journalism
- Law/Political Science
- Psychology
- Public Policy
- Other:

7. If you selected 'Oceanography' in question 6, what is your major oceanographic discipline(s)? (Select all that apply)

- Physical oceanography
- Chemical oceanography
- Biological oceanography
- Geological oceanography
- Other:

8. What is your primary research/work area? (Select all that apply)

- Coastal Ocean
- East Sea/East China Sea/Yellow Sea
- Open Ocean
- Pacific Ocean
- Atlantic Ocean
- Indian Ocean
- Antarctic Ocean
- Arctic Ocean
- Global Ocean
- Freshwater systems
- Other:

9. How many years have you been working/involved in the marine-related field?

- Less than one year (including undergraduate)
- 1~3 years
- 4~6 years
- 7~9 years
- More than 10 years
- Other:

Section 2 - ECOP and the UN Ocean Decade

10. Do you self-identify as an ECOP*? *For the purpose of the ECOP Programme, an ECOP is a person who self-identifies as being early in their

career (10 years or less of professional experience) within any field and sector related to the ocean (not only employed/paid positions).

- Yes
- No

11. What is the first one word that comes to your mind when you think about Early Career Ocean Professionals (ECOPs)? (optional)

- (open answer)

12. Launched in 2021, the United Nations Decade of Ocean Science for Sustainable Development (2021-2030), the 'Ocean Decade', aims to advance global scientific research and innovation to ensure the sustainable management and protection of oceans and marine resources for the benefit of present and future generations.

Which one best describes your understanding of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) or 'Ocean Decade'?

- I know a lot about it and participated in it
- I read about it but never participated in related activities or programs
- I have heard about it but never tried to know more about it
- I have never heard of it
- Other:

13. In which of the seven UN Ocean Decade Outcomes is your primary area(s) of involvement or (if willing to be involved) interest? (Select all that apply)

- Outcome 1: A clean ocean where sources of pollution are identified and reduced or removed
- Outcome 2: A healthy and resilient ocean where marine ecosystems are understood, protected, restored and managed
- Outcome 3: A productive ocean supporting sustainable food supply and a sustainable ocean economy
- Outcome 4: A predicted ocean where society understands and can respond to changing ocean conditions
- Outcome 5: A safe ocean where life and livelihoods and protected from ocean-related hazards
- Outcome 6: An accessible ocean with open and equitable access to data, information and technology and innovation

- Outcome 7: An inspiring and engaging ocean where society understands and values the ocean in relation to human well-being and sustainable development
- I don't know

14. What barriers constrain your participation in the ECOP Programme? (Select all that apply)

- I don't know the purpose of this Programme and the meaning of my participation
- I don't know how to participate/register myself as ECOP
- Lack of channels to receive relevant information
- Lack of information available in Korean
- I don't think it is useful to me
- Other:

15a. Are you part of any Ocean related or Early Career Networks and initiatives? (Including UN Decade Actions)

- Yes
- No

15b. If you answered 'Yes', can you share their names and key focus areas?

- (open answer)

15c. If you answered 'No', would you be interested in joining a UN Decade Action and/or becoming part of the global ECOP network? (optional). You can also subscribe to the global ECOP newsletter (and registry) at this link.

- Yes
- No
- Maybe

Section 3 - Status, challenges, and future expectations of ECOPs in South Korea

16. What do you think are the challenges ECOPs face in South Korea? What barriers are constraining their work/studies and what resources do they need to thrive? (Select all that apply)

- Lack of funding
- Lack of career opportunities
- Lack of community and network
- Lack of training opportunities

- Language barrier
- Gender inequality
- Other:

17a. How important to you are the following funding options for ECOPs in South Korea?

- Academic scholarships/bursaries
 - Research funding and Grants
 - Paid internships
 - Financial support to start-ups, NGOs, and young non-profits
 - Travel, accommodation & registration fees to attend in-person events (e.g., training, workshops and conferences)
-
- Not important
 - Slightly important
 - Neutral
 - Important
 - Very important
 - I don't know

17b. Any other funding options that should be prioritized in South Korea, in particular for ECOPs, in addition to the ones mentioned above? (Please specify)

- (open answer)

18. K-ECOP has planned 7 major future initiatives in order to foster a strong sense of community between Korean ECOPs, facilitate collaborative research, and create inclusive working environments, etc. Which of the following projects would you be interested in? (Select all that apply)

- Mentor/mentee program
- ECOP session within conferences
- K-ECOP promotion and member introduction video production
- Small group activities by research/work area (for collaborative research, sharing of information, developing new friendships, etc.)
- Quarterly K-ECOP meetings
- Active dissemination of ocean career-related information (e.g., jobs, research, conferences etc.)
- Regular exchanges with other national ECOP nodes in Asia and around the world

19a. Please feel free to share/recommend any other activities or ideas besides the currently planned/promoted K-ECOP activities mentioned in question 18.

- (open answer)

19b. Would you be interested in learning more about the activities mentioned in question 18 and help us facilitate them? If so, please contact us at ko.ecop.staff@gmail.com

- Yes
- No
- Maybe

20. Do you have any other suggestions for K-ECOP to play a key role in the context of the UN Ocean Decades, global ECOP initiatives, and for the Korean ECOPs community? (optional)

- (open answer)

Section 4 - ECOP South Korea membership and additional remarks

21. Would you like to register as a member of K-ECOP and receive related news? If yes, please provide your name, email, and Kakaotalk ID below. (optional). Alternatively, you can sign up for K-ECOP membership and subscribe to the newsletter through this link.

- Name
- Email address
- Kakaotalk ID

22. Would you be interested in connecting, networking, and/or receiving K-ECOP related news via other social media app and platform besides Kakaotalk? If so, which do you prefer? (Select all that apply)

- Facebook
- Instagram
- X (previously, Twitter)
- Youtube
- I'm not interested in joining a K-ECOP group or receiving K-ECOP related news on social media
- Other:

23. Lastly, any other thoughts, comments or questions you would like to share with us? (optional)

- (open answer)



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