ACCELERATING OCEAN SCIENCE SOLUTIONS FOR SUSTAINABLE DEVELOPMENT:

Summary of the 2nd UN Ocean Decade Regional Conference & 11th WESTPAC International Marine Science Conference

22-25 April 2024, Bangkok, Thailand

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

WESTPAC Advancing Knowledge for a Healthy Ocean

unesco Intergovernmental Oceanographic Commission

Department of Marine and Coastal Resources

Monitoring outplants with Coralku at Pulau Lang Tengah, Terengganu, Malaysia
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1. Background

The Western Pacific and its adjacent areas are the most densely populated region and home to the highest level of marine biodiversity and endemism in the world. As its position as the growth engine of the world economy has intensified in recent years, escalating human activities have been putting the ocean under the risk of irreversible damage. Achieving ocean sustainability in this region is vital for the survival and prosperity of not only the people and countries within the region but also those around the world.

The advancement of ocean science and international cooperation is essential for the sustainable development of ocean, marine and coastal resources. Since 1986, the IOC* Sub-Commission for the Western Pacific (WESTPAC) has organized the WESTPAC International Scientific Symposium every three years, hosted by Member States on a rotational basis. Its primary objectives are to foster the exchange of the latest marine scientific knowledge, methodology, and technological advancements, while promoting international cooperation among individuals, institutions, and Member States in the region.

Over the past decade, the WESTPAC International Scientific Symposium - renamed in 2014 as the 'WESTPAC International Marine Science Conference' - has grown into one of the largest international conferences in the region for marine research communities and ocean stakeholders from diverse sectors. It has become a cornerstone event for advancing ocean knowledge, fostering multi- and trans-disciplinary collaboration, and strengthening partnerships among scientists, resource managers, governmental officers, private/ business sectors, NGOs, and foundations

*IOC - Intergovernmental Oceanographic Commission of UNESCO

towards the improvement in management practices and decision-making processes for the conservation and sustainable use of ocean, seas and marine resources for sustainable development.

To ensure ocean science can fully support countries in achieving the 2030 Agenda, the United Nations General Assembly proclaimed in 2017 a Decade of Ocean Science for Sustainable Development (2021-2030) (the 'Ocean Decade'). The Ocean Decade provides a critically important convening framework for scientists and stakeholders from diverse sectors to co-design ocean science solutions to achieve the 2030 Agenda. The UNGA mandated IOC/UNESCO to coordinate the preparations and implementation of the Decade.

Responding to the global call for actions, the Sub-Commission organized the UN Ocean Decade Regional Kick-off Conference for the Western Pacific and its adjacent areas on 25-26 November 2021, marking the beginning of region-wide efforts in the development and implementation of substantive Decade Actions.

Three years later, the Sub-Commission, in collaboration with the Government of Thailand, Ministry of Natural Resources and Environment, its Department of Marine and Coastal Resources, and a wide range of national and international partners, organized the 2nd Decade Regional Conference and the 11th WESTPAC International Marine Science Conference in Bangkok, Thailand, from 22 to 25 April 2024.

The event brought together a wide range of ocean stakeholders, including governments, research communities/academia, private and business sectors, philanthropic foundations, UN agencies and international organizations (UNESCAP, NOWPAP, COBSEA, PEMSEA, CTI-CFF, IUCN, SEAFDEC), NGOs and civil society, to present the current status of ocean knowledge, examine the past three years' achievements of the Ocean Decade Actions, outline future priorities, forge partnerships, and further catalyse concrete actions for transformative ocean-based solutions to sustainability challenges in today's Asia-Pacific region, such as resource depletion, marine pollution; biodiversity loss and habitat degradation; climate change and ocean acidification; and natural hazards.

2. Conference Overview

Under the banner, 'We commit to accelerating ocean science solutions for sustainable development!', the resolute voices of 1,200 participants, 45% of whom are female, from over 40 countries resonated throughout the event, held in Bangkok from 22 to 25 April 2024.

The remarkable turnout set a new benchmark in the history of the Sub-Commission. Unfolded with a prestigious opening attended by the Deputy Prime Minister of Thailand, the Conference featured:

• **7 Keynotes** delivered by invited speakers of different ocean stakeholder groups to share their insider knowledge and fresh perspectives about the ocean;

• **25 Scientific Sessions** dedicated to sharing and disseminating the latest knowledge about ocean priority issues in the region;

• **13 Decade Action Workshops** to examine development progress and formulate action plans for endorsed Decade programmes and projects (Decade Actions);

• **11 Decade Action Incubators** established to transform ideas into concrete Decade Actions;

• **A Townhall** discussion centred on the outcomes of the Barcelona Conference and the Decade Vision 2030, offering insights and actionable recommendations to tackle ocean priority issues in the region towards sustainable development;

Participants at the meeting's opening ceremony © WESTPAC Office*

- **A Special Forum on the South China Sea**, held in collaboration with the UNEP/GEF SCS SAP project, reviewed the project's scientific findings and their applications to local management in the South China Sea and Gulf of Thailand;

- **8 Side Events** were arranged on the sidelines of the Conference, showcasing the latest development in ocean science and technology, such as marine ecological ranching, the ocean satellite GOCI-II;

- **A Photo Competition on Coral Reef Restoration 2024** to enhance public awareness and engagement in coral reef restoration and marine conservation.

Additionally, as a longstanding tradition of the WESTPAC International Marine Science Conference, **the Outstanding Scientist Awards 2024**, presented on 23 April, honoured five ocean scientists for their scientific achievement, and great contribution to international ocean science development and cooperation in the region. In a bid to ignite youth enthusiasm for ocean science and cooperation, the Conference spotlighted **6 Best Young Scientist Oral Presentation Awards**, and **2 Best Young Scientist Poster Presentation Awards** meticulously selected from a pool of 300 applications.

The Conference culminated in **the issuance of the Early Career and Mid-Career Ocean Professionals Statement (ECOPs and MCOPs), and the Bangkok Declaration**. These collective commitments from all participants aimed at accelerating the development of ocean science solutions, empowering diverse stakeholders as co-architects of ocean stewardship, nurturing ocean leaders through widespread literacy and education, harnessing technical and technological innovations, supporting early career ocean professionals, and advancing international ocean science development and cooperation in the region for a sustainable ocean.

Lastly, the Sub-Commission embraced the invitation from the Government of the Philippines to host the 12th WESTPAC International Marine Science Conference and the 3rd UN Ocean Decade Regional Conference in 2027.

3. Key Conference Components

3.1 Keynote presentation

Keynote presentations were delivered by 7 invited speakers from different ocean stakeholder groups sharing their insider knowledge and fresh perspectives in the frontier line of Ocean research, governance,

management and public engagement. Keynotes covered pressing marine challenges and suggested actions for the future.

Julian Barbiere (Intergovernmental Oceanographic Commission, UNESCO) provided a comprehensive summary and emphasized the key achievements and persisting challenges of the UN Ocean Decade, emphasizing the need for continued scientific collaboration addressing identified challenges, enhancing partner engagement with private sectors and optimizing the Decade architecture.

Denise Breitburg (Smithsonian Environmental Research Center, USA) raised alarms over declining oxygen levels in the ocean, stressing the need for policy, technological solutions as well as financial investment and incentives to address deoxygenation and generating co-benefits for the region.

Rokhmin Dahuri (the former Minister of Marine Affairs and Fisheries, Indonesia) outlined the main ocean challenges in the Asia-Pacific and showcased the role and potential of the Blue Economy to unlock sustainable development opportunities, highlighting the vital role of regional cooperation and integrated ocean governance in addressing these multidimensional issues with marine sciences as a basis.

Peter Mumby (University of Queensland, Australia) called for enhanced coral reef management with anticipated intervention benefits and time scales, in response to mounting global and regional climate pressures, adding value by embracing citizen science and AI, building greater custodianship and increasing regional partnerships in meeting challenges.

Padermsak Jarayabhand (Chulalongkorn University, Thailand) highlighted the importance of marine biodiversity by showcasing a study on exploring biodiversity around a retired offshore infrastructure in the Gulf of Thailand and urged greater collaboration in offshore biodiversity research for enhanced offshore resources and environment management and policymaking.

Mariglo Laririt (Ten Knots Group in Palawan, the Philippines) advocated successful eco-tourism cases of collaboration between business sectors, researchers and local communities in Palawan, demonstrating how sustainable business practices can actively contribute to marine protection while delivering economic benefits to local communities.

Abe Woo Sau Pinn (Universiti Sains Malaysia, Malaysia) emphasized the importance of opportunities and mentorship for Early-Career Ocean Professionals (ECOPs). Drawing from his personal journey and experience with IOC-WESTPAC activities, he underscored the value of platforms and long-term support mechanisms to foster the next generation of ocean leaders.

More information about the keynote speakers is available at: https://www.iocwestpac2024.com/keynote/

3.2 Scientific Sessions & Special Forum

Scientific sessions provide opportunities to present, share and exchange the latest scientific knowledge, identify knowledge gaps, and, if feasible, explore transformative ocean science solutions for sustainable ocean and livelihoods in the region. All sessions are structured around common priority issues of countries in the region. Each session consists of oral and poster presentations.

The Scientific Sessions and Special Forum have received about 650 oral presentation submissions and 830 poster presentation submissions. In total, about 410 oral presentations and 170 poster presentations were selected by session conveners to be presented during the Conference. The scientific sessions featured four sub-themes, covering ocean processing and climate change; marine biodiversity, seafood safety and security; ocean and human health; and emerging ocean science and cross-cutting issues.

The list of Scientific Sessions and Special Forum is as below:

Sub-theme A: Ocean Processes and Climate Change	
Number	**Scientific Session Title**
A1	Unveil the Kuroshio and its role in climate and ocean: Observational and modelling perspectives on multi-scale variability and multi-disciplinary aspects of the Kuroshio
A2	Western Pacific Marginal Seas: Physics, biogeochemistry and ecosystem
A3	Advance the understanding of marine heatwaves and their impacts
A4	Ocean environmental and climate changes in the past: High and low latitude connections in the Asian Continental Margins
A5	Sediment source-to-sink processes responding to rapid climate change
A6	Climate variability in the Indo-Pacific Maritime Continent (IPMC): Understanding impacts on atmosphere-ocean dynamics

Sub-theme B: Marine Biodiversity, Seafood Safety and Security	
Number	**Scientific Session Title**
B1	Biogeography and dispersal of marine life in the Western Pacific
B2	Systematics, taxonomy, and phylogenetics of marine life in the Western Pacific
B3	Vulnerability of the coral reef ecosystem towards extreme environmental fluctuations
B4	Coral reef resilience to climate change and human impacts
B5	Fisheries, biodiversity and dynamics of mangroves' aquatic ecosystem
B6	Conservation of marine endangered species

Sub-theme C: Ocean and Human Health	
Number	**Scientific Session Title**
C1	Marine chemical Contaminants of Emerging Concern (CEC)
C2	Source, transport, fate, impacts and mitigation strategies of marine plastics and microplastics
C3	Deoxygenation in the Western Pacific: Implications for coastal and open ocean ecosystems
C4	Ocean acidification and its impacts on marine ecosystems
C5	Mitigation and management of harmful algal blooms
C6	Marine toxins and seafood safety
C7	Harmful jellyfish in the South-East Asian region: Networking across the oceans

Sub-theme D: Emerging Ocean Science and Cross-cutting Issues	
Number	**Scientific Session Title**
D1	Ocean observing technology and systems in the Indo-Pacific: Major advances and challenges
D2	Advanced molecular technologies in marine ecosystem research
D3	Satellite and airborne remote sensing techniques for marine ecosystem monitoring and management
D4	Deep-sea exploration and research in the Western Pacific
D5	Gas hydrates and methane fluxes in the Indo-Pacific region
D6	Sustainable financing of blue carbon
Special Forum	Science for local-level environmental management, ecosystem conservation and sustainable use in the South China Sea and Gulf of Thailand

Development of coral nurseries for selecting high stress tolerant coral fragments from shallow reef flats
© Sittiporn Pengsakun

3.3 UN Decade Workshops

The Decade Action Workshops allow the endorsed UN Ocean Decade Actions (Decade Programmes and Decade Projects), particularly those which have a focus on the region, to bring together Action partners, review their development progress, catalyse new partnerships, and deliberate on action plans. The Decade Workshops enhanced the co-development of the Decade Actions by fostering participation and engagements of ocean stakeholders, including scientists, policy-makers, philanthropic foundations, UN agencies, governments, NGOs and civil society, and private and business sectors.

In total, there were 13 Decade Action Workshops organized during the conference, focusing on Ocean and Coast Prediction, Global Estuaries Monitoring, Marine Spatial Planning, Asia's riverine plastic emissions, the 2nd Cooperative Study of Kuroshio, Marine Biodiversity Monitoring and Research, Ocean Literary, and Early Career Ocean Professionals (ECOPs).

The list of Decade Workshops is as below:

Number	Decade Workshop Title
W1	GEM: Global Estuaries Monitoring Programme
W2	MBON and ML2030: Marine biodiversity monitoring and research in East and South-East Asia
W3	UN 21: Accelerate marine spatial planning in the Western Pacific and its adjacent areas
W4	UN 22: Stem the tide of Asia's riverine plastic emission into the ocean
W5	UN 24: How CSK-2 could provide solutions for society
W6	Ocean Prediction: Developing a regional network in the Western Pacific and Marginal Seas of South and East Asia for bridging the gaps in ocean prediction and applications
W7	GEMS Ocean: Upscaling ocean observation, monitoring, and modelling for early warning in the East Asian Seas
W8	Mitigation of natural incidence towards an increased oceanic resilience
W9	Ocean Literacy with all: Dialogue with ECOPs
W10	ECOP: UN Decade Actions and multidisciplinary practices addressing ECOP challenges
W11	UN23: Accelerating capacity development transformation in the Western Pacific – Regional Network of Training and Research Centers (RTRCs) on Marine Science
W12	Ocean Biomolecular Observing Network (OBON)
W13	CoastPredict - Transforming observation and prediction of the Global Coastal Ocean to support coastal resilience

3.4 UN Decade Incubators

The Decade Action Incubator serves as an interactive forum to catalyse partnerships, strengthen dialogue from ocean knowledge generators to knowledge users, initiate co-designing processes, and facilitate the development of potential Decade programmes or projects. Each of the Decade Action Incubators also addresses one or more of the seven Ocean Decade Outcomes: a clean ocean, a healthy and resilient ocean, a productive ocean, a predicted ocean, a safe ocean, a transparent and accessible ocean, and an inspiring and engaging ocean.

In total, there were 12 Decade Action Incubators organized during the conference, featuring citizen science, coral reef resilience, blue carbon, deoxygenation, remote sensing applications, harmful algal bloom management, MPA management, eDNA and ocean solutions to coastal ecosystem sustainability.

The list of Decade Incubators is as below:

Number	Decade Incubator Title
1	ECOPs' effort in citizen science
2+10	Coastal ecosystems as nature-based solution for climate change mitigation
3	Deoxygenation effects on fisheries and aquaculture: Linking ecological changes to human welfare in the Western Pacific
4	Ocean Solutions: Understanding multiple stressors on coastal ecosystems and providing scientific solutions to sustainable healthy coasts
5	Advancing the application of remote sensing for ocean sustainability
6	Establishing decision-support tools for Eutrophication and Harmful Algal Blooms (EuHABs) management
7	Coral reef monitoring guidelines for MPA management
8	Mobilizing actions for enhancing coral reef resilience
9	Advancing marine conservation in the Coral Triangle region
11	Jellyfish morphological and molecular identification for ocean health assessment
12	Environmental DNA (eDNA) technology for coastal ecosystem management-development and application

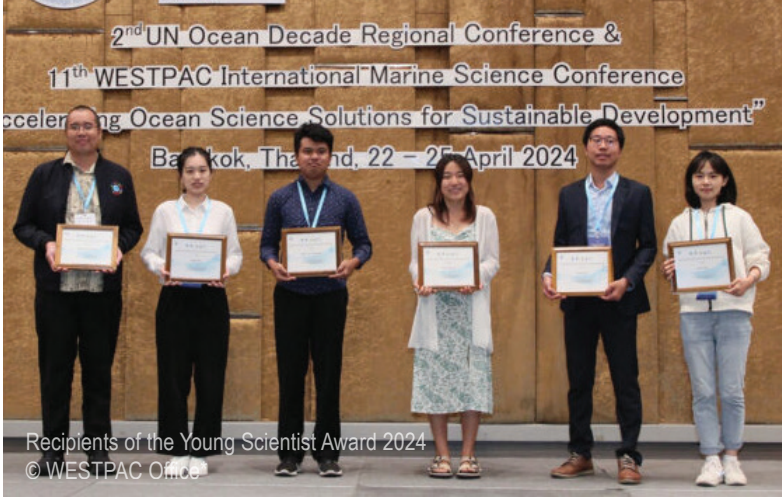
3.5 Town Hall Session

In responding to the strategic ambition setting process of the UN Ocean Decade (known as 'Vision 2030'), the Townhall Session was organized and gathered regional ocean professionals and experts, and aims to develop a better understanding of the Vision 2030 and the outcomes of the Barcelona Conference, share perspectives, together with actionable recommendations towards addressing ocean priority issues and achieving sustainable development in the region, and foster engagement of partners and stakeholders in the Decade development and implementation.

3.6 Young Scientist Award 2024

Chosen through a rigorous selection process from a pool of approximately 300 applicants, these awardees represent the pinnacle of emerging talents in marine science. Since its inception in 2011, the 'WESTPAC Best Young Scientist Award' has been a beacon for nurturing and motivating young marine scientists in the region to excel in ocean science.

With the purpose of recognizing and encouraging young scientists for their excellence and engagement, the IOC Sub-Commission for the Western Pacific (WESTPAC) proudly unveiled eight recipients of its Best Young Scientist Oral and Poster Presentation Awards 2024 at the Closing Ceremony of the Conference:



Recipients of the Young Scientist Award 2024
© WESTPAC Office

Best Young Scientist Oral Presentation Awards 2024

Name	Institution & Country	Topic
Aleksandra Borovkova	Far Eastern Federal University, Russia	POPs in Pacific Salmon from the Russian part of the Northwest Pacific
Arachaporn Anutaliya	Burapha University, Thailand	18 Years of the upper Gulf of Thailand observations: physical and chemical properties
Chisa Higuchi	Kyushu University, Japan	How much should we reduce plastic waste emission to achieve the Osaka Blue Ocean Vision? – global predictions of marine plastic litter abundance
Jingyi Zhu	City University of Hong Kong, Hong Kong SAR, China	The occurrence, trophodynamics, and potential health risks of marine lipophilic phycotoxins in coral reef fish of representative small island developing states
Shaun Wee	National University of Singapore, Singapore	The marine environment sensing network research and monitoring buoy-a modular design for R&D and test-bedding of marine technologies
Yawei Shen	Xiamen University, China	Divergent carry-over effects of hypoxia during the early development of abalone

Best Young Scientist Poster Presentation Awards 2024

Name	Institution & Country	Topic
Apple AJ Langcamon	University of San Carlos, the Philippines	Patterns of plastic occurrence during the pre- and postsuper Typhoon Rai (Odette) event in Olango Island Wildlife Sanctuary (OIWS), Philippines
Suriyapong Kumsopar	Chulalongkorn University, Thailand	Biomagnification of mercury in marine organisms from Rayong Bay, Thailand

Recipients of the Outstanding Scientist Award 2024
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3.7 Outstanding Scientist Award 2024

Initiated during the 9th WESTPAC International Scientific Symposium in 2014 in Viet Nam, the WESTPAC Outstanding Scientist Award was established in recognition of and appreciation for marine scientists' long-term dedication to regional marine science development and cooperation in the region. The selection involved broad consultations with various scientific communities in the region, with nominations put forth by the WESTPAC Advisory Group. Also, the 'Outstanding Scientist Award' serves as a testament to the enduring commitment of ocean scientists who have made significant contributions to ocean science development and cooperation in the region.

Five ocean scientists were honoured with the Outstanding Scientist Award 2024:

Outstanding Scientist Award 2024	
Name	**Institution & Country**
Gil Suico Jacinto	University of the Philippines, the Philippines
Zainal Arifin	National Research and Innovation Agency, Indonesia
Vo Si Tuan	Institute of Oceanography, Viet Nam
Thamasak Yemin	Ramkhamhaeng University, Thailand
Daoji Li	East China Normal University, China

3.8 Photo Competition on Coral Reef Restoration 2024

The 2024 Photo Competition on Coral Reef Restoration, a cornerstone of public engagement, aims to inspire coral reef restoration actions and promote citizen science and ocean literacy. In total, more than 80 entries were submitted from not only the region but also from across the globe. With meticulous selection and evaluation, the winners in each category were chosen and unveiled (see below). These stunning photographs will serve as potent reminders of the collective responsibility to protect our oceans for generations to come.

I. Open competition:		
Winner	Febrianne Sukiato	Indonesia
1st Runner-up	Watchara Samsuvan	Thailand
2nd Runner-up	Chun Hong Tan	Malaysia

II. Youth competition:		
Winner	Kan Sukarakan	Thailand
1st Runner-up	Pattarawadee Kraipa	Thailand
2nd Runner-up	Patthira Karnpakob	Thailand

III. Special prize for participants in the 2nd UN Ocean Decade Regional Conference & 11th WESTPAC International Marine Science Conference		
Winner	Izzat Irfan, Woo Sau Pinn	Malaysia
1st Runner-up	Sittiporn Pengsakun	Thailand
2nd Runner-up	Kiu Yee Tong	Malaysia

A coral elongated and dispersing tiny eggs to the environment from a reef in Langkawi recently restored
© Izzat Irfan & Woo Sau Pinn*

4. Conclusions and Recommendations

The remarkable engagement of diverse stakeholders underscores the pivotal role of the Sub-Commission in advancing ocean science, strengthening the science-policy-society interface, fostering international collaboration, and coordinating the UN Ocean Decade in the region. It also underscores the steadfast commitment of the Government of Thailand—particularly its Department of Marine and Coastal Resources and its dedicated staff—to promoting international cooperation in marine science and conservation.

A significant number of participants came from South-East Asian countries, reflecting both the region's growing marine research capacity and a strong willingness to engage in meaningful collaboration to share knowledge, transfer ocean technology, bridge knowledge gaps, and develop ocean science solutions to address regional and global challenges.

The conference reaffirmed the essential role of the triennial WESTPAC International Marine Science Conference as a platform for sharing the latest research, building partnerships, assessing the progress of Ocean Decade Actions, and incubating new initiatives to achieve 'the Science We Need for the Ocean We Want'.

However, the conference also revealed that, despite notable progress, the contribution of ocean science to policy and decision-making remains limited and needs enhancing. Additionally, strengthening ocean science leadership is essential. Strong leadership—whether by individuals, organizations, or nations—is vital for driving research advancement, fostering innovation, shaping impactful policy, and enhancing international collaboration.

Aligning Ocean Science with Societal Needs, including National and International Frameworks

The Conference reaffirmed that ocean science must serve as a powerful tool for tackling societal challenges, enhancing coastal

livelihoods, informing decision-making and policy, and promoting inclusive and sustainable development. Aligning ocean science with societal needs is essential for bridging the gap between research and public well-being. Participants emphasized the importance of demonstrating the value of ocean science in supporting the effective implementation of the Agenda 2030 for Sustainable Development, as well as other international agreements and frameworks, such as the Kunming-Montreal Global Biodiversity Framework (GBF), the recently adopted Agreement on Marine Biodiversity Beyond National Jurisdiction (BBNJ), and the ongoing international negotiation on a global plastic treaty.

Ocean-based Solutions to Climate Change

Discussions highlighted the significance of ocean processes in the region in the regional and global climate system, with a focus on the Kuroshio Current—the largest ocean current in the Pacific—as well as the increasing frequency of marine heatwaves and extreme weather events. While enhancing ocean observations and model development remains a priority, there is an urgent need for the Sub-Commission to intensify its effort in ocean-based solutions to mitigate climate change impacts and build resilience. These solutions include, but are not limited to:

- Conservation and restoration of blue carbon ecosystems,

- Marine carbon sequestration strategy,

- Promotion of sustainable fisheries and aquaculture.

Marine Biodiversity Research and Conservation

The importance of marine biodiversity research, conservation, and sustainable use has never been more critical. The conference addressed a wide range of topics from marine biogeography, species dispersal, taxonomy, endangered species, to key habitats such as coral reefs and mangroves. Emphasizing the need to develop or expand relevant research networks and standardize monitoring protocols, participants recommended that the Sub-Commission:

- Explore the application of molecular techniques, especially environmental DNA (eDNA), for biodiversity conservation and ecosystem management, including MPAs or Other Effective Area-Based Conservation Measures (OECMs),

- Engage key stakeholders, particularly coastal communities, in marine biodiversity monitoring (e.g. eDNA sampling) and conservation efforts,

- Develop, share, and replicate innovative approaches to enhance the resilience of habitats such as coral reefs against climate change.

Ocean and Public Health

A broad range of ongoing research was highlighted in the conference, addressing chemical contaminants of emerging concerns (CEC), including pharmaceuticals and personal care products (PPCPs), marine plastics and microplastics, ocean acidification, deoxygenation, harmful algal blooms, marine toxins, and harmful jellyfish.

Relevant Ocean Decade Actions have been established, including GEM- Global Estuaries Monitoring, Harmful Algae Bloom Solutions, UN 22: Stem the tide of Asian riverine plastic emissions to ocean; and UN 39: Ocean Solutions in the East Asian Seas.

Emerging Ocean Science Priorities

The conference identified the need for the Sub-Commission to advance molecular techniques, particularly environment DNA, for biodiversity conservation, and intensify its effort in using remote sensing for habitat mapping, monitoring and management.

Meanwhile, it was recommended that the Sub-Commission initiate a working group on deep sea research and exploration, transform its working group on gas hydrates and methane fluxes into an international project, and accelerate seagrass research and conservation, given its significant ecological, social, and economic benefits.

Efforts in the Ocean Decade

The Conference recognized the key role of the Sub-Commission in bringing together research communities and relevant ocean stakeholders to develop Ocean Decade Actions and meaningful partnerships.

Its ongoing Decade Actions aim to address plastic pollution, investigate the largest ocean current in the region for improved regional weather forecasts and climate predictions and informed fisheries and aquaculture management, transform capacity development through the Regional Network of Training and Research Centers, and accelerate marine spatial planning in the Western Pacific.

Opportunities for synergies were also identified with other Ocean Decade Actions such as the Global Estuaries Monitoring (GEM), Ocean Prediction, GEMS Ocean-Upscaling Ocean observation, monitoring, and modelling for early warning, and Ocean Biomolecular Observing Network (OBON).

Additionally, new Ocean Decade Actions were proposed at the conference, including CoastPredict for South-East Asian waters; a Decade Action to advance multidisciplinary research and engage local stakeholder to co-design science-based solutions to benefit coastal communities, nature, and livelihoods; and mobilizing actions to enhance coral reef resilience.

Role of Early Career Ocean Professionals (ECOPs)

The conference witnessed strong engagement from Early Career Ocean Professionals (ECOPs), emphasizing their vital role in shaping the future of ocean science. It was recommended that ECOPs not only seek opportunities but actively contribute to research, learn from senior experts, and inspire younger generations. Additionally, ECOPs play a crucial role in promoting citizen science and ocean literacy.

The **Early Career and Mid-Career Ocean Professionals Statement (ECOP/MCOP Statement)** and **the Bangkok Declaration**, were issued, both serving as guiding principles for collaborative efforts towards a sustainable future for the ocean. The widespread support and endorsements from participants reaffirm a shared commitment to accelerating ocean science solutions and empowering diverse stakeholders to address the pressing challenges facing marine environments in the region.

Anemonefish supervising Coralku's restoration work at Pulau Lang Tengah, Terengganu, Malaysia
© Kiu Yee Tong

Scan the QR codes for more information:

The ECOPs and MCOPs Statement and Bangkok Declaration

The keynote speakers

The Scientific Sessions and Special Forum

The UN Decade Workshops

The UN Decade Incubators

The Townhall Session

The Young Scientist Award 2024

The Outstanding Scientist Award 2024

The Photo Competition and photo gallery

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Back cover photo: The tree of coral restoration © Kan Sukarakan*
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