



**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)**

**Fourteenth Intergovernmental Session of the IOC Sub-
Commission for the Western Pacific (WESTPAC-XIV)**

Jakarta, Indonesia, 4-7 April 2023

Item 10 of the Provisional Agenda

**WESTPAC PROGRAMME AND BUDGET FOR
MAY 2023 - APRIL 2025¹**

The WESTPAC Programme and Budget for May 2023 – April 2025 was prepared based on the planned activities by the WESTPAC Office, programmes/projects, working groups, and Regional Training and Research Centres (RTRCs). The required budget was presented in three forms: i. regular budget allotted from IOC; ii. in cash extra budget to be raised from member states; iii. in-kind contribution from member states in support of WESTPAC Programmes and activities.

As a result of the very limited regular budget from IOC, the WESTPAC Programme and Budget has served as a guide for the activities that the Sub-Commission would like to jointly promote and seek funding from various sources in support of their implementation. As usual, only 80K-100 K USD will probably be secured from the IOC Regular Budget for the period of 2024-2025. In this regard, as before, most activities of the Sub-Commission over May 2023- May 2025 will have to be carried out via extrabudgetary support from member states, either in cash or in kind.

Kindly note that given the gradual easing of the pandemic restrictions and constraints, some uncertainties remain with the planned activities, particularly for those in 2023, the Sub-Commission will adapt or further adjust its workplan to the ever-changing situation.

¹ The WESTPAC Programme and Budget mainly serves as a guide for joint activities that the Sub-Commission would like to promote and seek funding from various sources in support of their implementation. The amount of Regular Budget is based on the IOC Draft Programme and Budget for 2024-2025. The EXB will have to be sought from funding agencies.

WESTPAC PROGRAMME AND BUDGET FOR MAY 2023 - April 2025²

Updated on 18 April, with the inclusion of the newly established four Working Groups' workplans

| Project/Programme | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | | |
|--|--|---|--|--|---|--------------|-----------------------|------|
| | | | | | IOC (in-cash) | | Other in-kind sources | |
| | | | | | Regular | Extra budget | | |
| POLICY, STRATEGIC, TECHNICAL AND SECRETARIAT SUPPORT | | | | | | | | |
| 15th Intergovernmental Session | Statutory science-policy interface | Regional consensus reached on its programmes, new officers elected | Summary report and cooperative programmes established | Early 2025 | 5K | / | 120K | |
| UN Decade of Ocean Science for Sustainable Development (2021-2030) | UN Decade 2 nd Regional Conference & 11 th WESTPAC IMSC | | | April 2024 | 10K | 20K | 300K | |
| | UN Decade Actions implementation including UN 21, 22, 23, 24. | To advocate UN Decade in ocean stakeholders and implement WESTPAC-led actions in Member States | Engagement enhanced and Actions implemented | May 2023-April 2025 | 10K | / | 30K | |
| 11th WESTPAC International Marine Science Conference | Keynotes, sessions, workshops and side events | Gather marine scientists to develop multi-disciplinary collaboration | Conference Programme | April 2024 | 10K | 20K | 300K | |
| WESTPAC Advisory Group | WESTPAC Advisory Group activities | Review and provide guidance | All activities developed with high quality, effectiveness | Late 2023, mid 2024, early 2025 | 15K | 10K | 20K | |
| Coordination, including the office operation | Development, coordination and implementation, and resources mobilization of WESTPAC activities | Ensure the full operation of the Sub-Commission and implementation of workplan | New activities developed, workplan implemented and quality service provided | May 2023-April 2025 | 30K | 50K | 100K | |
| OCEAN PROCESSES AND CLIMATE IN THE INDO-PACIFIC | | | | | | | | |
| North East Asian Regional-GOOS (NEAR-GOOS) | 1. 21st Session of Coordinating Committee for NEAR-GOOS | Review progress and status of NEAR-GOOS, and discuss future plan for development | Action plans and recommendations | Late 2023, Japan | / | / | 20 K | |
| | 2. 22nd Session of Coordinating Committee for NEAR-GOOS | Review progress and status of NEAR-GOOS, and discuss future plan for development | Action plans and recommendations | Late 2024 | / | / | 20 K | |
| | 3. GOOS Regional Alliances Forum 11 | Enhance cooperation and information sharing with other GOOS Regional Alliances and the GOOS Office | Further development of NEAR-GOOS through cooperation with other GOOS Regional Alliances | Late 2023 | / | / | 5 K | |
| | 4. The Fourteenth Intergovernmental Session of the IOC-WESTPAC | Increase visibility of NEAR-GOOS and promote development of NEAR-GOOS | Support for development of NEAR-GOOS | April 2023, Indonesia | / | / | 2 K | |
| | 5. PICES Annual Meeting 2023 and 2024 | Strengthen collaboration with stakeholders | Enhanced awareness on NEAR-GOOS | Late 2023, Late 2024 | / | / | 2 K | |
| South East Asian Regional-GOOS (SEAGOOS) | Ocean Forecasting System (OFS) | 1. To operationally run the OFS in the following 2 years, and provide technical support for Thailand and Malaysia OFS | To provide operational forecast every day and distribute through WESTPAC website; and to provide operational forecast for two subdomains | Temperature, salinity, elevation and current within the following 5 days | OFS in Qingdao, Thailand OFS at PMBC of Thailand, and Malaysia OFS at UMT of Malaysia | / | / | 600K |
| | | 2. To provide forecasting products and services for IOC/WESTPAC community | To provide forecasting and services for emergent marine hazards and events | Forecasting reports | As needed | / | / | 20K |
| | | 3. To extend ocean forecasting to ocean and climate forecasting | To provide monthly climate prediction products for the following 1 year | Climate prediction system | Start in 2023 | / | / | 340K |

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| Project/Programme | | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | |
|---|--|---|--|--|------------------|------------------------|--------------|-----------------------|
| | | | | | | IOC (in-cash) | | Other in-kind sources |
| | | | | | | Regular | Extra budget | |
| South East Asian Regional-GOOS (SEAGOOS) | Ocean Acidification and its Impacts on Marine Ecosystems (OA) | 1. Workshop on strengthening the regional development of OA monitor and research on OA impacts. | <ul style="list-style-type: none"> Review the progress of the regional OA project and national activities. Develop research collaboration on the OA impacts on marine ecosystem functions and services | Actionable regional research and monitoring activities developed. | Late 2023 | / | 15K | 5K |
| | | 2. Training workshop on the regional development of OA monitor and research on OA affecting the coastal ecosystem. | <ul style="list-style-type: none"> Follow up the progresses OA activities in Member States, Identify the good practices for OA impacts study and enhance capacity for monitoring and research | National and regional capacity for OA research enhanced, and ocean stakeholders engaged | Mid or late 2024 | / | 15K | 5K |
| | | 3. Organize OA Session and workshop at the WESTPAC International Marine Science Conference, Thailand (2024) | <ul style="list-style-type: none"> Knowledges and up-to-date technologies exchange Review the progresses of OA project. Strengthen collaboration of OA research and related actions | Latest OA knowledge shared, and potential areas of cooperation identified, OA project progress reviewed. | April 2024 | / | 3K | 5K |
| | | 4. Develop a UN Ocean Decade Action | Develop a UN Ocean Decade Action in supporting the implementation of UN Ocean Decade (2021-30) | Joint proposal with other WESTPAC Projects developed as a UN Decade Action | April 2024 | / | 3K | / |
| Upwelling Studies through Ocean Data Integration towards Sustaining Ocean Health and Productivity (Upwelling studies) | 1. 3rd Upwelling Workshop in 2023 | <ul style="list-style-type: none"> Review the progress on upwelling studies, productivity and its dynamics in the South China Sea and surrounding seas Explore the possibility for joint studies and knowledge transfer among countries | <ul style="list-style-type: none"> Multi-disciplinary approach established to upwelling studies; Joint studies identified and initialed. a Book published on upwellings | Nov 2023, Malaysia | / | / | 8K | |
| | 2. Online training for Data Exploration of New Upwelling Sites. Co-organized with UMT and IODE | <ul style="list-style-type: none"> Explore existing upwelling site using available datasets and increase understanding of the physical-biological interaction dynamics of upwelling regions Construct integrated data gathering which involve field data, satellite data and wind-data at any particular upwelling site | <ul style="list-style-type: none"> Young scientists capacity enhanced. New networks established with various partners and country | June 2023, Malaysia | / | / | 10K | |
| South China Sea Fluvial Sediments and Environmental Change (FluSed) | 1. Oceanic observation cruise | Fluvial sediment source-to-sink transport mooring observation (sink) | Sediment transport and sinking mechanism in the deep sea | May 2023, South China Sea | / | / | 100K | |
| | 2. Field/estuary observation | Fluvial discharge observation (source) | Sediment discharge and climate effect mechanism in the estuary | July 2023, Mekong delta (Vietnam) | / | / | 60K | |
| | 3. 16th FluSed Workshop | Exchange of scientific results | Strengthening collaboration and discussion | November 2023, Shanghai (tentative) | / | 10K | 20K | |
| | 4. Oceanic observation cruise | Fluvial sediment source-to-sink transport mooring observation (sink) | Sediment transport and sinking mechanism in the deep sea | May 2024, South China Sea | / | / | 100K | |
| | 5. Field/estuary observation | Fluvial discharge observation (source) | Sediment discharge and climate effect mechanism in the estuary | July 2024, Cagayan estuary, Philippines | / | / | 60K | |
| | 6. 17th FluSed Workshop | Exchange of scientific results | Strengthening collaboration and discussion | November 2024, Singapor(tentative) | / | 10K | 20K | |
| MARINE BIODIVERSITY, ECOSYSTEM AND PUBLIC HEALTH, BLUE ECONOMY | | | | | | | | |

| Project/Programme | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | |
|---|--|--|--|---|------------------------|--------------|-----------------------|
| | | | | | IOC (in-cash) | | Other in-kind sources |
| | | | | | Regular | Extra budget | |
| Coral Reef Conservation and Restoration | 1. Series of seminars: Advanced applications of coral reef conservation and restoration in the WESTPAC region | <ul style="list-style-type: none"> Update advanced applications related to coral reef conservation and restoration Summarize all coral restoration and conservation techniques available within the Western Pacific region and outside the region Promote those techniques among WESTPAC member countries | Report/scientific paper | May 2023-April 2024 | / | / | 7K |
| | 2. Photo competition: Raise awareness of coral restoration in the WESTPAC region | <ul style="list-style-type: none"> Promote the awareness of coral restoration and conservation among WESTPAC member countries | Photos | May- December 2023 | / | / | 10 K |
| | 3. Workshop: updating activities of project coral reef conservation and restoration in the WESTPAC region | <ul style="list-style-type: none"> To disseminate the synthesis data on coral restoration techniques through scientific communities To have a guideline on reef rehabilitation for reef managers in Southeast Asia region | Book | December 2023 | / | / | From a book publisher |
| Coral Reef Resilience to Climate Change and Human Impacts | 1. Symposium on Coral Reef Ecotourism: Toward Carbon Neutral Destination | <ul style="list-style-type: none"> Present current knowledge from scientific research, monitoring, management, and conservation with focusing on ecotourism and carbon-neutral destinations. Promote capacity building related to management and conservation of coral reefs | <ul style="list-style-type: none"> Lessons learned from the WESTPAC concerning capacity enhancement for monitoring and research, community-based management, and carbon-neutral tourism | June 19 – 23, 2023, Singapore | / | 5K | / |
| | 2. Summer School on “Impact of Anthropogenic Forcing on Coral Reefs and Consequence at Ecosystem Level” | <ul style="list-style-type: none"> Gain knowledge on consequence of impacts of climate change and human activities on the coral reef health and interventions to reduce reef stressors, Promote capacity building related to research and managing coral reefs in the WESTPAC. | <ul style="list-style-type: none"> Report on capacity building of the project Support the UN Decade of Ocean Science | December 2023, Penang, Malaysia | / | 10K | / |
| | 3. Workshop on Coral Reef Resilience-based Management | <ul style="list-style-type: none"> Review case studies on coral reef resilience-based management for applying in the region Promote capacity building related to research and managing coral reefs in the WESTPAC | <ul style="list-style-type: none"> Good case studies on coral reef resilience-based management in the WESTPAC Support the UN Decade of Ocean Science | March 2024 Bangkok, Thailand | / | 10K | / |
| | 4. Workshop on collaboration of regional young scientists for coral reef resilience research | <ul style="list-style-type: none"> review coral reef studies in the WESTPAC for determining research collaboration on coral reef resilience Enhance network for research on coral reefs and coordination with other projects in the region Promote capacity building on coral reefs | <ul style="list-style-type: none"> 20 participated young scientists A collaborative research proposal on coral reef resilience Support the UN Decade of Ocean Science | March 2024 Bangkok, Thailand | / | 10K | / |
| | 5. Workshop to finalize a coral reef monitoring guideline for managing marine protected areas in the WESTPAC | <ul style="list-style-type: none"> Brainstorm and discuss on finalizing a coral reef monitoring guideline for managing marine protected areas Promote capacity building on coral reef monitoring and managing marine protected areas | <ul style="list-style-type: none"> Coral reef monitoring guideline for managing marine protected areas Support the UN Decade of Ocean Science | August 2023 Bangkok, Thailand | / | 5K | / |
| | 6. Workshop for training users of a coral reef monitoring guideline for managing marine protected areas in the WESTPAC | <ul style="list-style-type: none"> Train users of a coral reef monitoring guideline for managing marine protected areas Promote capacity building on coral reef monitoring and managing marine protected areas | <ul style="list-style-type: none"> Support the UN Decade of Ocean Science | March 2024 Bangkok, Thailand | / | 5K | / |
| Advance the application of remote sensing for ocean sustainable development | 1. Steering Committee Meeting | <ul style="list-style-type: none"> Identify social and technical issues and needs related to ocean remote sensing in each country and to coordinate a training course and a workshop | <ul style="list-style-type: none"> Sharing new techniques Contributing to capacity development Disseminate information | 2023 (online) 2024 (online) 2025 (online) | / | / | / |

| Project/Programme | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | |
|--|--|---|---|--|------------------------|--------------|-----------------------|
| | | | | | IOC (in-cash) | | Other in-kind sources |
| | | | | | Regular | Extra budget | |
| | 2. Demonstration of remote sensing technology in selected pilot sites in cooperation with local authorities <ul style="list-style-type: none"> • Technical meeting at three sites • Generate thematic maps at three sites • Transfer mapping technics to researchers & local authorities at three sites | <ul style="list-style-type: none"> • Demonstrate remote sensing technologies to researchers/local authorities • Share and develop the methods to monitor marine environment in broader areas • To transfer remote sensing techniques to local researchers and authorities responding to their need | <ul style="list-style-type: none"> • Thematic maps generated by local researchers/authorities • Implementing remote sensing technics for generating thematic maps from satellite images to researchers/local authorities monitoring marine environment • Recommendation to marine policy | December 2024. December 2024 April 2025. | / | 20K | 10K |
| | 3. Scaling up workshop on ocean remote sensing with remote sensing for reviewing the results of several sites | <ul style="list-style-type: none"> • To summarize the demonstration activities • To share direction of use thematic maps produced by the project • To expand demonstration sites | <ul style="list-style-type: none"> • Remote sensing technology used • reliable thematic maps developed • Dialogue with local researchers and authorities | December 2024 - April 2025 | / | 20K | 10K |
| | 4. Capacity building | <ul style="list-style-type: none"> • One capacity building activity (online) every year conducted, topics include: i) efficient field survey methods; ii) new technologies for remote sensing such as drone or Google Earth Engine; iii) new satellite image analysis methods such as AI or machine learning, etc. | Two early-career ocean scientists in WESTPAC region who participated in the capacity building activity deliver presentations on their studies by April 2025. | May 2023- April 2025 | / | / | / |
| Marine Toxins and Seafood Safety | 1. Evaluation of RTRC | Providing and sharing working environment on marine toxins and seafood safety | <ul style="list-style-type: none"> • Regional serving on TTX, STX and CTX analysis and research; • Evaluated RTRC (MOU b/w IOC/UNESCO and IO). | Apr.-Sept. 2023, IO, VN | / | 3K | 5K |
| | 2. Co-field research on “Case study in Viet Nam -Occurrence of ciguatoxin” | Strengthen regional collaboration on marine toxins study and collect evidence of Ciguatoxin occurrence in the environment | <ul style="list-style-type: none"> • Regional collaboration is strengthened; • Specimens collection (fishes, microalgae) for toxin analysis | Sept. 2023/Apr. 2024 | / | 30K | 10K |
| | 3. Expert visit for Confirmation of CTX by using advantaged techniques | Strengthen capacity on toxin analysis | <ul style="list-style-type: none"> • -2 trained persons who can work on CTX confirmation; • Scientific method on toxin study improved to obtain more reliable data for high quality publications; | June/Sept. 2023, Hong Kong/Japan | / | / | 6K |
| Distribution, source, fate and impacts of marine microplastics in the Asia Pacific region <i>Note: This project was transformed into a UN Decade Action</i> | 1. International workshop | Discussing the outcomes of this project, sharing the experience and discussion on publications. Considering the work framework on the Decade Action project. | <ol style="list-style-type: none"> 1. Project summary report outline; 2. Decade Action project work framework. | June 20th, 2023 Online | / | / | 3 K |
| | 2. Training workshops for the riverine plastic and microplastic sampling, | Based on the methodology established, train young scientists and students in the Asia-Pacific region on the using of the methodology | At least 50 young scientists and students will be trained. | June 26-28th, 2023 Hainan, China | / | / | 10 K |
| | 3. Filed sampling in pilot rivers | Collect in situ riverine plastic and microplastic data in pilot rivers | Field survey conducted | Jul-Dec 2023, | / | / | 15 K |
| | 4. International workshop | Share experiences and discuss the project progresses; Make plan for the future. | A project progress report | May 2024 Hainan, China | / | / | 8 K |
| | 5. Training workshop on the transport of plastic and MPs in rivers. | Train young scientists and students in the Asia-Pacific region on the modeling the transport of plastic and microplastic in rivers. | At least 50 young scientists and students will be trained. | Oct 16-18th,2024 Hainan, China | / | / | 8 K |
| | 6. International workshop | Share data, experiences and discuss the project outcomes | Project Tire 1 report | May 2024 Hainan, China | / | / | 8 K |
| Harmful Algal Blooms | 1. Steering meeting | Update the status of HAB information in the region and identify emerging HABs issue to address | identified national/ regional HAB training courses, identified emerging HAB issues | 2023 (in person Japan), 2024 (online), 2025 (online) | / | 20K | 10 K |

| Project/Programme | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | |
|--|---|--|--|--|------------------------|--------------|---|
| | | | | | IOC (in-cash) | | Other in-kind sources |
| | | | | | Regular | Extra budget | |
| | 2. Strengthening collaboration with other HAB related networks (EASTHAB, GlobalHAB, IPHAB, PICES S-HAB, etc.) | Join other HABs related meetings at least one time each by April 2025 | Up-to-date information and cutting-edge technique and science on HABs shared | 2023-2025 | / | / | / |
| | 3. Capacity building | One capacity building activity (online) every year conducted in line with UN Decade of Ocean Science for Sustainable Development. | 3 early-career ocean scientists in WESTPAC countries delivered presentations in the capacity building activities by April 2025. | 2023-2025 | / | / | In kind (Univ. Tokyo, Univ. Malaya, Univ. Philippines.) |
| Harmful Jellyfish Research & Networking | 1. A special symposium during the 11th WESTPAC IMSC | <ul style="list-style-type: none"> Sharing of research findings by members from member states. | A special issue on jellyfish in a selected journal or a publication. | April 2024 Bangkok | / | 10K | / |
| | 2. International Workshop on Enhancing Societal Engagement Strategies towards Jellyfish Research and Management | <ul style="list-style-type: none"> Opportunity to have trainers from social science/ mass communication background to guide jellyfish scientists on effective communication for raising awareness. Identifying target audience and goals- who do we need in our team to execute? | Social media and new techniques of societal engagement. Developing and measuring the effectiveness of Citizen science projects. | November 2023 CEMACS, Universiti Sains Malaysia (USM), Penang, Malaysia | / | 10K | / |
| | 3. Advance Workshop on Jellyfish Biology/ Taxonomy and Envenomation | <ul style="list-style-type: none"> Knowledge sharing and SOP development on advanced jellyfish biology/taxonomy and envenomation research. | Joint research projects on advanced jellyfish biology/taxonomy and envenomation. | August 2024 Universiti Kebangsaan Malaysia (UKM) | / | 10K | / |
| Healthy, Productive and Sustainable Asian Marginal Seas: Understanding changes in the marine environment in responses to global climate change | 1. Scientific session in the JpGU | Open the activities of the program to the public along with role of Project meeting | Making the program known to the public, and getting various information from the public | 21 May 2023 Japan | / | / | 5 K |
| | 2. Capacity building in Thailand; part-I, for core project 1 | Start the second case of the capacity building following the case of Indonesia and Japan | Establishing close relationship for capacity building and cooperative research | May, June 2023 Thailand | / | / | 5 K |
| | 3. Workshop on the core project 2 concerning mixing processes | Exchange information on the mixing processes and | Making mutual understanding related to cooperative research | June 2023 Japan | / | / | 8 K |
| | 4. Session in the scientific meeting of WESTPAC | Open the progress of the program to the WESTPAC community | Publicizing the activities of the program to wider community | 2024 Thailand | / | / | 5 K |
| | 5. Capacity building in Thailand; part-II, for core project 1 | Second stage of the capacity building in Thailand | Establishing close relationship for capacity building and cooperative research | 2024 Thailand | / | / | 8 K |
| | 6. Project 1; core1&core2 joint meeting, program meeting | Confirmation of the progress of Project 1, and AMS program | Mutual understanding how the nutrient footprint can be traced. | Jan 2025 | / | / | 5 K |
| Enhanced knowledge for emerging issues | | | | | | | |
| WG005: Working Group on Ocean Oxygen Network (O ₂ NE) | 1. Two webinars 2023; two webinars 2024 | Awareness raising; networking | More WESTPAC scientists engaged in O ₂ NE | Virtual | / | / | / |
| | 2. Deoxygenation session WESTPAC ISC 2024 | Reports on deoxygenation research in region; networking | More WESTPAC scientists engaged in O ₂ NE | Bangkok | / | 5 K | / |
| | 3. Deoxygenation workshop WESTPAC ISC | Networking; planning for review papers and summer training workshop | More WESTPAC scientists engaged in O ₂ NE; | Bangkok | / | / | / |
| | 4. Update the WESTPAC O ₂ NE website within the WESTPAC webpage. | Awareness raising; networking | More WESTPAC scientists engaged in O ₂ NE | Virtual | / | 2 K | / |
| WG007: Working Group on Gas hydrates and Methane Fluxes in the Indo-Pacific Region | 1. Third workshop | Further discussion on the preparation of the report | Draft report | May, 2023, on-line | / | / | / |
| | 2. Fourth workshop Face-to face | Discussion on WG report and new project on Gas-hydrates and methane studies under WESTPAC To develop the implementation plan | Draft project proposal | November, 2023, | / | 9K | 3K |
| | 3. Fifth workshop | Finalization of the proposal for joint project under WESTPAC | Project proposal | March, 2024, online | / | / | / |

| Project/Programme | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | |
|--|--|---|--|--|------------------------|--------------|------------------------------------|
| | | | | | IOC (in-cash) | | Other in-kind sources |
| | | | | | Regular | Extra budget | |
| WG008: Working Group on Rapid Detection Technologies for Harmful Algal Blooms | 1. Workshop | Review, communicate and exchange the research status of rapid detection technology for HABs; co-design and modify the rapid detection technology for HABs products towards the early warning and effective management of HABs in the region | . | March 2024, Hangzhou, China | / | / | 10K |
| | 2. Training Workshop | Study Rapid Detection Technology for Harmful Algal Blooms | Sharing the Study Method and Rapid Detection Technology for Harmful Algal Blooms | TBD | / | / | 10K |
| | 3. Business Meeting | Discuss and summarize the progress of RDT-HAB-IOC-WESTPAC | Business discussion and decision | TBD | / | / | 5K |
| WG009: Working Group on Integrated Investigation in Indo-Pacific Convergent Center -Marine Ecosystem and Biodiversity | 1. Workshops, seminars, and meetings | Communicate and discuss the research and findings on formation mechanism and status of marine biodiversity in the IPCC and their socio-economic impacts. | Better understandings on the mechanism and trend of evolution of the biodiversity center in the IPCC. | China, Indonesia, Malaysia, Bangkok, Japan | / | / | / |
| | 2. 3-4 Training courses | <ul style="list-style-type: none"> -Deep sea ecosystem -Ocean observation | More young professionals could benefit from the training and grow to be leaders. | China, Indonesia, Malaysia, Bangkok, Japan | / | / | / |
| WG010: Working Group on Small Island Research and Development (SIRaD) | 1. Workshop #1 on development of research method on small island ecosystems | To provide a gap analysis of the impact of development activities on ecosystems' services of small islands | <ul style="list-style-type: none"> Report on the methodological study on small island ecosystems Report on the current state of small islands at each country | July/Aug 2023; Jakarta, Indonesia Sep-Dec 2023; Within each member states | 5 K | 6.5K | BRIN :12.5K UNESCO Jakarta: 18K |
| | 3. Workshop #2 on the Analysis of small island ecosystem, its resources and the social condition of the local communities. | To deliver a report on the status of small island development and conservation efforts, as well as on research needs | <ul style="list-style-type: none"> Draft Report on the impacts of small island development on its ecosystem services. Papers from each country of WG will be presented A report on the status of small island development and ecosystem conservation efforts. | Jan-Dec 2024 July 2024, Lombok, Indonesia April 2025 | / | 7.5K | BRIN: 10.5K |
| | 4. Joint International Conference on Small Islands Development (hosted by IPB University) 5. Final report SIRaD | | | | | | |
| WG011: Working Group on Blue Carbon Actions in the Western Pacific | 1. Convening session | <ul style="list-style-type: none"> Promote the understanding of blue carbon among policy makers, specialists, and the wider public, while fostering a blue carbon research and practice network in the Western Pacific region Develop blue carbon-based solutions for climate mitigation, adaptation, biodiversity conservation, and sustainable development. | Report on a) member of WG from each country; b) a mission statement of the WG | Sep 2023, China | 5K | | |
| | 2. Webinars | | | Sep-Nov 2023 | / | 5K | 8K |
| | 3. Desktop study on a status report | | a status report | Jan-Jun 2024; | | | |
| | 4. Annual meeting and workshop | | | Sep 2024, China | / | 7K | 8K |
| | 5. Desktop study | | a recommendation report | Oct 2024-Jun 2025 | | | |
| | 6. Annual meeting | | | Dec 2025, China | / | 7K | 8K |
| WG012: Working Group on Advancing Marine Citizen Science: Act Local to Go Regional | 1. Sharing sessions of best practices of citizen marine science 2. Development and standardizing modules | To raise the ocean literacy of general citizens through citizen marine science | Production of modules in different local languages of the member states | Penang, Malaysia Third quarter of 2023 | 5K | 5 K | |
| | 3. Engagement and training of school children and general public | | Reports at national levels | 2023–2026, | | 8K | |

| Project/Programme | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | |
|---|---|--|--|--|------------------------|--------------|-----------------------|
| | | | | | IOC (in-cash) | | Other in-kind sources |
| | | | | | Regular | Extra budget | |
| | 4. Results sharing and feedback to communities | | Reports at national and regional levels; Publications of the works of WG member states | October 2025, | | 12K | |
| WG013: Working Group on Traditional and Local Knowledge | 1. FGD meeting to inventory of local communities' and traditional peoples' knowledge connected to ocean in each member country | <ul style="list-style-type: none"> Networking and inventorying of local communities' and traditional peoples' knowledge connected to ocean in each member country; developing and exchanging showcases and lesson learned based on the success stories of local communities' and traditional peoples' knowledge connected to ocean in each member country; building a strategic action programs of 5 years ocean literacy action based on local example/showcase to encourage communities changing their practices and habits, helping the conservation of ecosystems, biodiversity and human health to improve ocean health, as well as promoting their traditional knowledges and best practices in pro-ocean activity. | Publication on local communities' and traditional people's knowledge connected to ocean | May – Sep 2023 / | | 8K | |
| | 2. 1st seminar /Workshop on the state of traditional and local ocean knowledge in Western Pacific Region in back-to-back with Maritime Congress | | Report of the workshop on the current regional status of traditional and local ocean knowledge in the region | Sep 2023 / Jakarta, Indonesia (Maritime Congress) | 5K | | |
| | 3. 1st year reporting of traditional and local ocean knowledge WG | | 1st year report document | May 2024 | | | |
| | 4. FGD meeting and workshop to develop showcases and lesson learned | | Publication on showcase and lesson-learned based on traditional and local ocean knowledge | Jan – Dec 2024 / within each member country | | | |
| | 5. Join the session of the International Conference on Small Islands Development on the session of ocean literacy | | Proceeding from selected presented papers by participants from each member country of WG | Jul 2024 / Bali, Indonesia (| | | |
| | 6. Develop Ocean literacy action project proposal for 2025-2030 | | Project document for 2025-2030 | May 2025 | | 5 K | |
| | 7. 2nd year reporting of traditional and local ocean knowledge WG | | 2nd year report document | May 2025 | | | |
| CAPACITY DEVELOPMENT (Just on the part of RTRCs) | | | | | | | |
| Regional Training and Research Center on Ocean Dynamics and Climate (RTRC-ODC) | | | | | | | |
| UNESCO/IOC Regional Network of Training and Research Centers on Marine Sciences | 1. 12th ODC Training Course | Ocean model and data assimilation | Understanding the simulation of ocean dynamic processes, new generation ocean models, basic theory and principles of data assimilation, data assimilation method and systems for operational ocean forecast system | 2023 Qingdao | / | 20k | 60K |
| | 2. 13th ODC Training Course | Modeling of ocean ecosystem | Understand Basic dynamics of ocean circulation, surface wave, tide and mesoscale eddies in the open ocean and shelf regions, multi-processes coupling in ocean models, and numerical models of marine ecosystems. | 2024 Qingdao | / | 20K | 60K |
| | 3. Regular FYMS Activities | Related to Ocean dynamics and climate | Improve the exchange of knowledge scholars from different countries. | 2023-2024 Qingdao | / | / | 10 K |
| | Regional Training and Research Center on Marine Biodiversity and Ecosystem Health (RTRC-MarBEST) | | | | | | |
| | 1. Summer Course on tropical Mangrove Ecosystem: Vegetation and fish Monitoring | <ul style="list-style-type: none"> To enhance capacity building for monitoring mangrove ecosystems; To introduce the latest methods (e.g., app MonMang 2.0) for mangrove monitoring To strengthen networking in mangrove monitoring | Increased number of researchers and lecturers for mangrove monitoring and using application of MonMang 2.0, and establishment of networking for mangrove monitoring | June 2023 | / | 10K | 30K. |
| | 1. Fish taxonomy in coastal ecosystems | <ul style="list-style-type: none"> To attract young scientist and lecturers to study fish taxonomy | Increased number of fish taxonomists, and strengthening the | Nov-Dec 2023 | / | 10K | 15K |

| Project/Programme | Activities | Objectives | Expected outputs | Date and Place | Funding Required, US\$ | | | |
|---|--|---|--|---|------------------------|--------------|-----------------------|----------------|
| | | | | | IOC (in-cash) | | Other in-kind sources | |
| | | | | | Regular | Extra budget | | |
| | | <ul style="list-style-type: none"> To enhance capacity of fish taxonomist using various fish identification techniques To build collaborative research among fish taxonomists | collaborative works between fish taxonomists | | | | | |
| | 2. Coastal and small island management | <ul style="list-style-type: none"> To develop capacity building; To enhance partnerships To strengthen collaborative works among stakeholders | Increased number of stakeholders in understanding coastal and small island management, and establishment the networking on the related activities in the coastal and small island ecosystems | 2024 | / | 10K | 50K | |
| Regional Training and Research Center on Marine Plastic Debris and Microplastics | | | | | | | | |
| | 2. International workshop on harmonizing methodology for riverine plastic and microplastic monitoring | Develop standardized methodology for riverine plastic and microplastic monitoring and flux estimate. | A set of standardized methodology developed for riverine plastic and microplastic monitoring and flux estimate | April 20th, 2023 Online | / | 5 K | 5 K | |
| | 3. Training workshops for the riverine plastic and microplastic sampling, | Based on the methodology established, train young scientists and students in the Asia-Pacific region on the using of the methodology | At least 50 young scientists and students will be trained | June 26-28th, 2023 Sanya, Hainan, China | / | 5 K | 10 K | |
| | 4. Training workshop on the transport of plastic and MPs in rivers. | Train young scientists and students in the Asia-Pacific region on the modeling the transport of plastic and microplastic in rivers. | At least 50 young scientists and students will be trained | Oct 16-18th,2024 Sanya, Hainan, China | / | 5 K | 8 K | |
| Regional Training and Research Centers on Marine Toxins and Seafood Safety | | | | | | | | |
| | 1. High quality training on marine toxins verification/confirmation | To improve capacity for ciguatoxin verification/confirmation | 2 trained persons who can work on verification/confirmation of ciguatoxin in RTRC-MTSS | 03-04 weeks, Jun./Sept.2023, HongKong/Japan | / | 10 K | 10K | |
| | 2. Training workshop on "Scientific sampling for toxic organisms" | To provide scientific materials (protocol) and improve technical skill on scientific sampling of ciguateric organisms | <ol style="list-style-type: none"> Practical protocol for scientific sampling for ciguateric organisms which can be applied in the region. 5-10 persons who can work on scientific sampling on ciguatera for member states and RTRC-MTSS | One week, Apr/Sept. 2024, IO, VN | / | 10 K | 10K | |
| | 3. Developing practical protocols for analysis of tetrodotoxins in marine organisms (fish, gastropod and crab) | To provide scientific materials (protocol) for marine toxin analysis | 3. developed practical protocols for analysis of tetrodotoxins in marine organisms (fish, gastropod and crab) which can be applied in RTRC-MTSS | 06 months, Oct. 2024-Mar. 2025, IO, VN | / | / | 30K | |
| Sub-total | | | | | | 100 K | 526 K | 2,819 K |
| Total | | | | | | | 3,445 K | |