



# Coral Reef Resilience to Climate Change and Human Impacts

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# Guidelines



## What

To take stock of the **implementation status** and further catalyze ocean science solutions for sustainable development, this ppt template is designed to:

- Gather information on the **current development status** of the WESTPAC Programme/Project/Working Group, particularly since the Fourteenth Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-XIV) in *April 2023*.
- More importantly, assess its **future development**, along with **potential action plans** for future implementation, i.e., for the period of *2025-2026 and beyond*.

## Why

- The Information will facilitate considerations concerning how to harness, stimulate and empower interdisciplinary ocean research that can increase our understanding and inform policy and decision-making.
- It will also aid in improving programme efficiency and effectiveness that will serve the requirement of Member States and the Sub-Commission as a whole.

## How

Filling out the following slides, which should not take much time, and return the completed slides to [iocwestpac@unesco.org](mailto:iocwestpac@unesco.org) by **20 September 2024**. We appreciate your kind cooperation.

### Note:

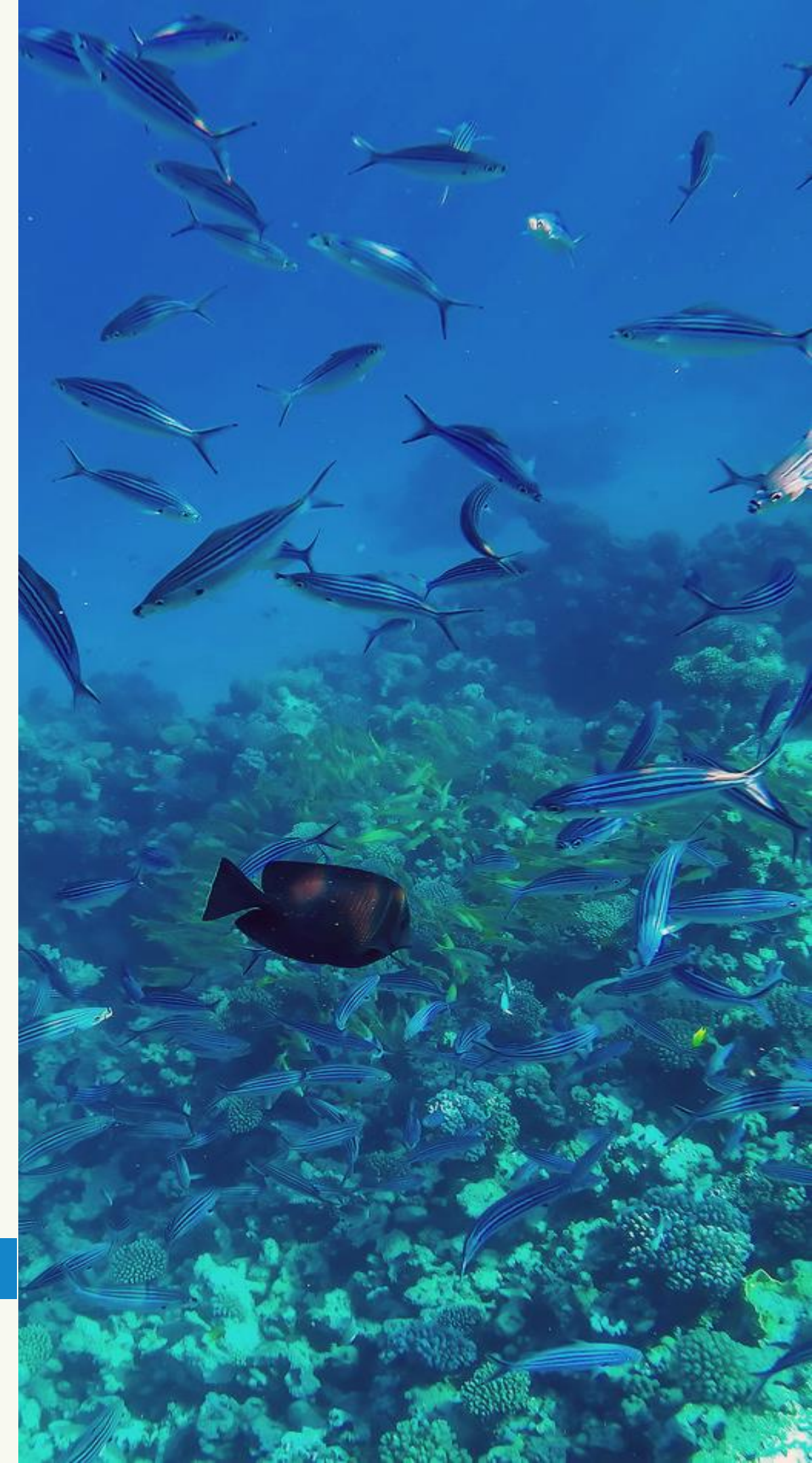
- *Feel free to use a different slide layout if it better suits your summary content.*
- *Failure to submit will be considered as a lack of substantive activity and may indicate difficulties in continuing the project.*



# Summary Outline



1. Justification
2. Objectives
3. Major activities, outputs & outcomes (particular those accomplished during 2023-2024)
4. Problems encountered and recommended actions
5. Strategic considerations/thoughts for future development
6. Potential action plans for 2025-2026 and beyond



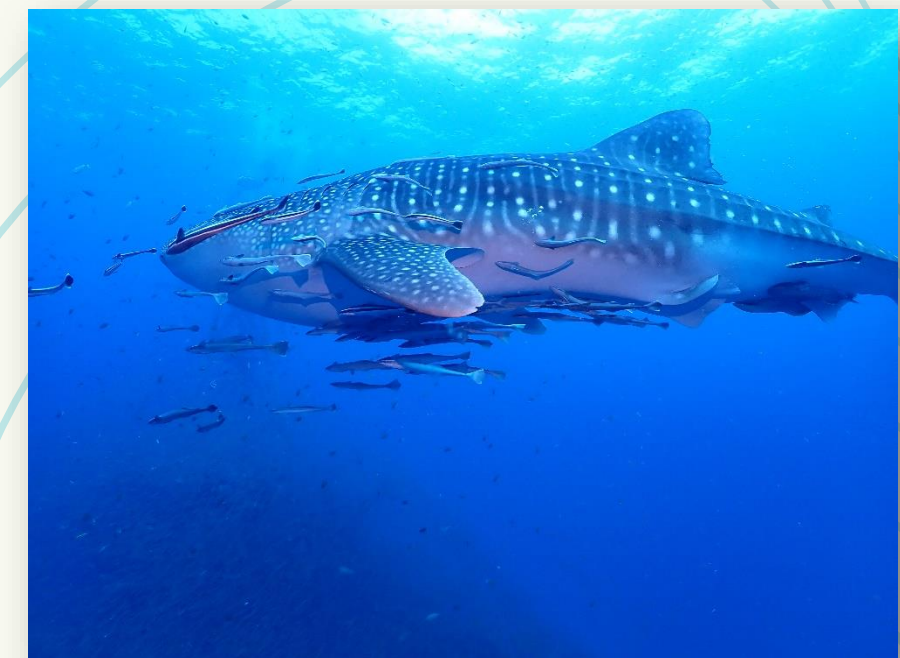
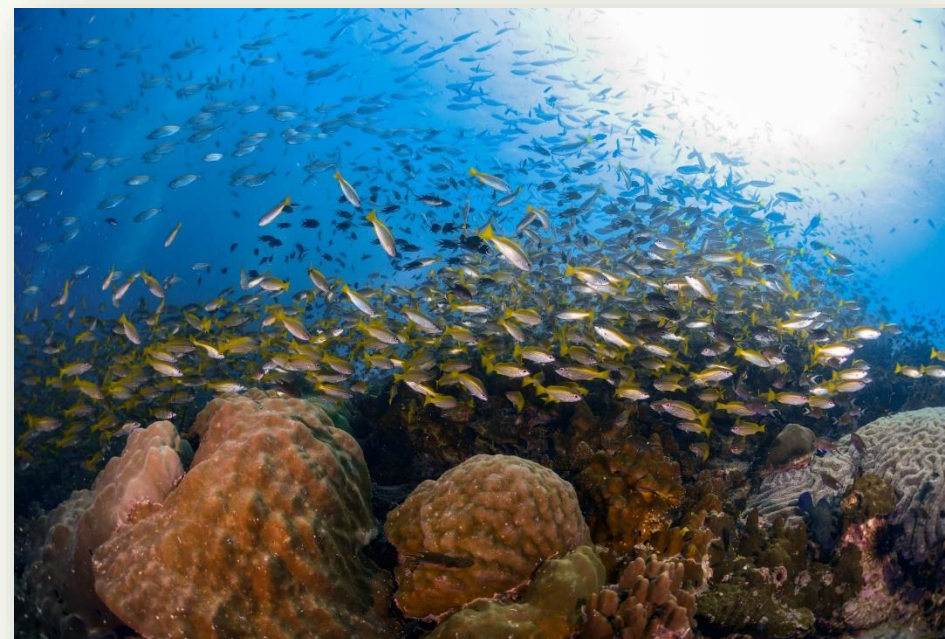


# 1. Justification



(Why this programme/project/working group is needed for the Sub-Commission)

- The UN Decade of Ocean Science for Sustainable Development (2021–2030), especially the decade outcome for a healthy and resilient ocean, will be supported by Coral Reef Resilience to Climate Change and Human Impacts Program. It will also support the Sustainable Development Goals, especially SDG 14, for conservation and sustainable use of the ocean, seas, and marine resources.
- Additionally, this program will support the UN Framework Convention on Climate Change's (UNFCCC) legal and policy framework as well as the Convention on Biological Diversity's (CBD) post-2020 Global Biodiversity Framework.



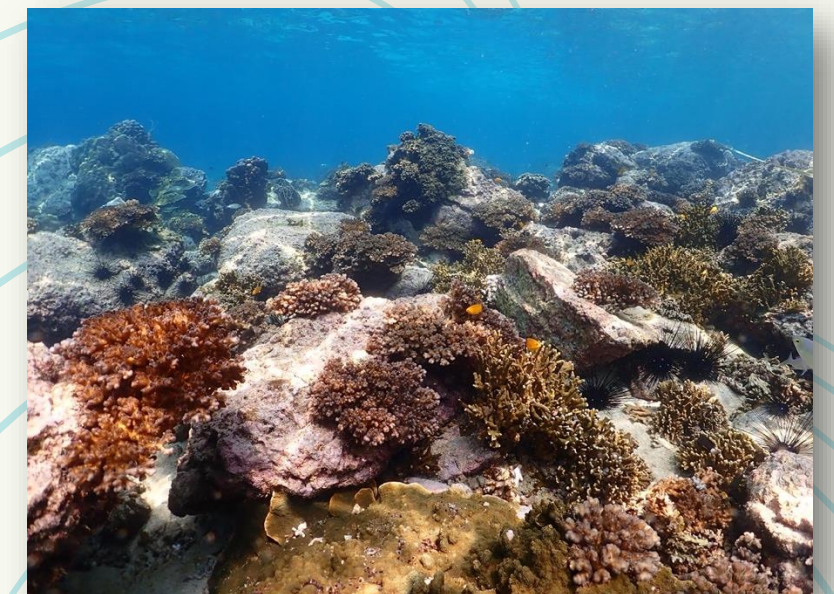


## 2. Objectives



# Coral Reef Resilience to Climate Change and Human Impacts Program

- To understand the biogeochemical and ecological processes for enhancing coral reef resilience in the WESTPAC in different geographic, physical and environmental settings, as well as different types of human interventions;
- To evaluate the consequence of impacts of climate change and other human activities on the health of coral reefs and their sustainable use, and
- To promote capacity building related to research and managing coral reefs through sharing scientific knowledge and training activities, as well as collaboration within research networks in the WESTPAC.



# 3. Major activities, outputs & outcomes



Latest accomplishment, particular those during 2023 to 2024

## Major activities

- Organized the Scientific Session B<sub>4</sub>: Coral reef resilience to climate change and human impacts at the 2nd UN Ocean Decade Regional Conference & 11th WESTPAC International Marine Science Conference, on April 23, 2024, The Berkeley Hotel Pratunam, Bangkok, Thailand

## Outputs & Outcomes

- Extensive research is needed to understand how corals and reef associated organisms respond to extreme conditions and coral bleaching events.
- Prioritizing management interventions and identifying resilient coral reefs in the Western Pacific are urgently needed.
- Strong cooperation within the WESTPAC is required to advance coral reef resilience research and develop capacity in this area.
- It is necessary to arrange a webinar or workshop to summarize the problems with coral reef resilience in the Western Pacific area.

## Timeframe

Project start year: 2008

# 3. Major activities, outputs & outcomes



Latest accomplishment, particular those during 2023 to 2024

## Major activities

- Organized the Decade Action Incubator 7: Coral reef monitoring guidelines for MPA management at the 2nd UN Ocean Decade Regional Conference & 11th WESTPAC International Marine Science Conference, on April 25, 2024, The Berkeley Hotel Pratunam, Bangkok, Thailand

## Outputs & Outcomes

- Proposed indicators for coral reef monitoring from different countries
- Proposed new technologies/methods for coral reef monitoring
- Recommendations on managing of coral reef monitoring programs
- A plan for submission to be registered as one of the UN Ocean Decade projects

## Timeframe

Project start year: 2008



# 3. Major activities, outputs & outcomes



Latest accomplishment, particular those during 2023 to 2024

## Major activities

- Organized the Decade Action Incubator 8: Mobilizing actions for enhancing coral reef resilience at the 2nd UN Ocean Decade Regional Conference & 11th WESTPAC International Marine Science Conference, on April 25, 2024, The Berkeley Hotel Pratunam, Bangkok, Thailand

## Outputs & Outcomes

- Highlighting the significance of collaboration between scientists and policymakers
- Guidelines for standard operating procedures to acquire the assessment of coral reef resilience results
- Employ ecological models to forecast and evaluate the resilience of coral reefs.
- Enhancing effective communication (understandable language for the local community or non-scientists)
- Revised draft outline of Resilience Based Management technical guidelines for coral reefs in the Western Pacific region and submission to be registered as one of the UN Ocean Decade projects

## Timeframe

Project start year: 2008



# 3. Major activities, outputs & outcomes



## Latest accomplishment, particular those during 2023 to 2024

- Co-organized and presented at the 1st Sustainable Island Tourism Symposium : BCG Action on Islands From Local to Global, June 8-10, 2023, Ko Tao, Surat Thani Province, Thailand
- Presented at the GCRMN East Asia Regional Workshop 2023 organized by Ministry of the Environment, Japan, Japan Wildlife Research Center (JWRC) and GCRMN East Asia Region, June 17-18, 2023, Singapore
- Co-organized and Presented the Scientific Session of Coral Reef Ecotourism: Toward Carbon Neutral Destination at the 5<sup>th</sup> Asia-Pacific Coral Reef Symposium, June 19-23, 2023, Singapore
- Presented at the 6th World Conference on Marine Biodiversity, July 2-5, 2023, Penang, Malaysia
- Participated in the 2023 Biodiversity Science Forum and the Ninth Meeting of the ACB Scientific Advisory Committee, October 10-12, 2023, Grand Mercure Bangkok Atrium Hotel, Thailand
- Presented at the 2023 SCESAP Biodiversity Symposium at National Sun Yat-sen University, Kaohsiung, Taiwan, Oct 27 – 31, 2023
- Keynote Speaker at the Indian Ocean Rim Association (IORA) Workshop on Coastal and Marine Protection and Conservation Issues and its Importance to the Blue Economy organized by Ministry of Tourism, Arts and Culture Malaysia (MOTAC) and the Centre for Marine and Coastal Studies (CEMACS), Universiti Sains Malaysia, Malaysia, during October 31 – November 1, 2023, Penang, Malaysia

## Timeframe

Project start year: 2008



# 3. Major activities, outputs & outcomes



## Latest accomplishment, particular those during 2023 to 2024

- Participated at the National Ecosystem Assessment Initiative's (NEA Initiative) Global Workshop 2023 organized by United Nations Environmental Program-World Conservation Monitoring Center: UNEP - WCMC), International Climate Initiative (IKI), United Nations Development Programme (UNDP) and United Nations Educational, Scientific and Cultural Organization (UNESCO), November 27-December 1, 2023, UK
- Presented at the 9th Asian Pacific Phycological Forum (APPF 2024) organized by the Asian Pacific Phycological Association and Hokkaido University, April 14-18, 2024, Hokkaido, Japan
- Presented at the IX International Sandy Beaches Symposium , June 24-27, 2024, Lecce, Italy
- Participated at the 2nd Thailand Sustainable Island Tourism Symposium 2024 : Awakening New Depths - Adding Value to Thailand's Islands, Ko Lanta, Krabi Province, Thailand
- Presented at the Increasing resilience to climate change impacts in marine and coastal areas along the Gulf of Thailand Project organized by United Nations Development Programme (UNDP), Department of Climate Change and Environment (DCCE) and Department of Marine and Coastal Resources (DMCR), August 1, 2024, Songkhla Province, Thailand

## Timeframe

Project start year: 2008



# 4. Problems encountered & recommended actions



## Problems encountered

- The implementation of several research projects that support this programme was delayed.
- Reorganization of relevant agencies such as Office of Natural Resources and Environment Policy and Planning (ONEP), Department of Climate Change and Environment (DCCE)

## Timeframe

Project start year: 2008

## Actions

- Rearrange the workplan in accordance with the revised financial plan of the research projects.
- Improve the workplan to be suitable for the new policies and implementation of those agencies



# 5. Strategic considerations/thoughts for future development

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- Enhance effective communication and strengthen the network for research and collaborative coordination by organizing both online and onsite meetings more frequently
- Use public relations to promote the project information through various social media channels
- Regularly observe and collect information from the members to ensure that the provision of training matches their needs
- Consolidate and integrate outputs of past activities for the establishment of coral reef monitoring guidelines through intensive workshops

## 6. Potential action plans for future implementation

for the period of 2025-2026 and beyond

- To Establish a network for research on coral reefs and collaborative coordination with 3 projects in the region by 2026
- To promote capacity building in the WESTPAC through enhancing networks of 40 young marine scientists by 2026,
- To mainstream biodiversity conservation and climate change to support net zero pathway by providing trainings on nature-based solution and climate mitigation
- To develop coral reef monitoring guideline for managing marine protected areas in the WESTPAC in accordance with the UN Decade of Ocean Science for Sustainable Development by 2026
- To publish 2 training materials for coral reef researches in the WESTPAC by 2026



# Planned activities (2025-2026)



Program	Plan				Funding Required		Remark
	Activities	Objectives	Expected outputs/outcomes	Date and place	IOC	Other sources (i.e. from national or international)	
Coral Reef Resilience to Climate Change and Human Impacts	1. Summer School on “Impact of Anthropogenic Forcing on Coral Reefs and Consequence at Ecosystem Level”	<ul style="list-style-type: none"><li>-To gain knowledge on consequence of impacts of climate change and human activities on the coral reef health and interventions to reduce reef stressors,</li><li>- To use a book of Coral Reefs of the Western Pacific Ocean in a Changing Anthropocene and relevant materials for the trainees,</li><li>- To promote capacity building related to research and managing coral reefs in the WESTPAC.</li></ul>	<ul style="list-style-type: none"><li>- 20 trained young marine scientists</li><li>- Report on capacity building of the project</li><li>- Support the UN Decade of Ocean Science</li></ul>	March 2025 Penang, Malaysia	-	US\$ 10K	

# Planned activities (2025-2026)



Program	Plan				Funding Required		Remark
	Activities	Objectives	Expected outputs/outcomes	Date and place	IOC	Other sources (i.e. from national or international)	
Coral Reef Resilience to Climate Change and Human Impacts	2. Workshop on collaboration of regional young scientists for coral reef resilience research	- To review coral reef studies in the WESTPAC for determining research collaboration on coral reef resilience	- 20 participated young scientists - A collaborative research proposal on coral reef resilience - Support the UN Decade of Ocean Science	December 2025 Bangkok, Thailand		US\$ 10K	
	3. Workshop to finalize a coral reef monitoring guideline for managing marine protected areas in the WESTPAC	- To brainstorm and discuss on finalizing a coral reef monitoring guideline for managing marine protected areas - To promote capacity building on coral reef monitoring and managing marine protected areas	- 20 participated scientists/managers - Coral reef monitoring guideline for managing marine protected areas - Support the UN Decade of Ocean Science	March 2026, Bangkok, Thailand		US\$ 5K	



# Planned activities (2025-2026)



Program	Plan				Funding Required		Remark
	Activities	Objectives	Expected outputs/outcomes	Date and place	IOC	Other sources (i.e. from national or international)	
Coral Reef Resilience to Climate Change and Human Impacts	4. Workshop for training users of a coral reef monitoring guideline for managing marine protected areas in the WESTPAC	<ul style="list-style-type: none"> <li>- To train users of a coral reef monitoring guideline for managing marine protected areas</li> <li>- To promote capacity building on coral reef monitoring and managing marine protected areas</li> </ul>	<ul style="list-style-type: none"> <li>- 20 trainees for coral reef monitoring and managing marine protected areas in the WESTPAC</li> <li>- Support the UN Decade of Ocean Science</li> </ul>	June 2026 Bangkok, Thailand		US\$ 5K	
	5. Workshop for trainings on nature-based solution and climate mitigation	-To introduce the concept and application o ecosystem services and nature-based solutions in strengthening climate mitigation and adaptation	<ul style="list-style-type: none"> <li>- 20 participated scientists/managers</li> <li>- Support the UN Decade of Ocean Science</li> <li>- Support the regional implementation on climate change</li> </ul>	November 2026 Bangkok, Thailand		US\$ 5K	



# Thank You

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