



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission

Building Blue Partnerships for the Future We Want



IOC Sub-Commission for the Western Pacific (WESTPAC)
Intergovernmental Oceanographic Commission of UNESCO



Contents

2

The lifeblood of billions

4

WESTPAC: from Science to Solution

5

What we do

6

How we work

8

Exploration, Innovation, Inspiration: WESTPAC Priorities

9

Ocean Processes and Climate Change

10

Marine Biodiversity, Seafood Safety and Security

12

Health of Ocean Ecosystem

14

Emerging Ocean Science Issues

16

Join WESTPAC

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The lifeblood of billions



“With every drop of water you drink, every breath you take, you’re connected to the sea. No matter where on Earth you live”

Sylvia Earle

The ocean is the lifeblood of planet Earth and humankind, as it regulates the Earth’s climate, supplies fresh water and oxygen, absorbs excess carbon dioxide emissions, and provides enormous resources and job opportunities.

Despite the fact that the ocean is vital for our existence on Earth, we, however, have put the ocean under tremendous threat by unregulated exploration and overharvesting, increasing pollution, climate change and ocean acidification.

We must become better stewards of our ocean. To restore the ocean health and ensure the sustainable future for us and the generations to come, it is imperative to understand well how the ocean functions, how human interacts with the ocean, and what solutions are available to support both sustainable use and stewardship of our blue planet.

WESTPAC: from Science to Solution

The Western Pacific and its adjacent regions are of vast environmental, social and economic importance, thus vital to humans' survival and prosperity not only in the region, but in the whole world.

Recognizing the need to advance ocean knowledge and foster science-policy interface,

IOC Sub-Commission for the Western Pacific (WESTPAC), since its establishment in 1989, has been committed to promoting international cooperation in marine research, observations, services and capacity development in the Western Pacific and its adjacent regions, in order to seek solutions to sustainable development of ocean, seas and marine resources.



What we do

WESTPAC acts as:

A strategic link between global objectives and national priorities and actions;

An essential driver to forge joint actions of scientific community in addressing development challenges in the region;

An indigenous clearinghouse for transfer of marine technology; and

A regionally-rooted capacity developer to empower Member States to enhance their research capacities for sustainable development.



How we work

WESTPAC operates at multiple levels ranging from individual and institutional, to national, regional and global level, working to achieve its objectives and contributing to **IOC Mission and UNESCO Strategic Objectives**.

Primarily, **at the regional level**

advocate and advance marine science, and strengthen science-policy interface for ocean governance;

develop and strengthen sustained ocean observations, data exchange and services underpinning sustainable development;

cross-fertilize the vast regional experience and expertise, and facilitate knowledge sharing of sustainable innovation and technology solutions.

At the national and institutional level

engage research institutions, universities and competent governmental agencies into joint development and implementation of international programs;

assist in establishing cooperation among research institutions, universities and competent governmental agencies in the areas of their common interest;

enhance institutional and national research capacity towards sustainable development;

provide technical assistance to address emerging issues such as harmful algal blooms

At the individual level

provide grand opportunities for developing his/her science leadership, establishing research collaborations;

offer a wide range of training and networking for early career scientists to advance their capacities, enhance their knowledge, and engage in marine science cooperation.

Meanwhile, **WESTPAC also acts at the global level:** promoting and supporting the engagement of scientists, institutions and Member States into global agendas to ensure that regional needs are reflected, and indigenous knowledge and practices are integrated into global development agenda.

Integrated programme framework



Exploration, Innovation, Inspiration: WESTPAC Priorities

Based on priority interests of the Member States in the region and in line with IOC's High Level Objectives, WESTPAC defines its strategic direction, develop, coordinate and implement a wide range of programs and activities addressing critical development challenges with innovative solutions in four priority areas:

Ocean processes and climate change

Marine biodiversity, seafood safety and security

Health of ocean ecosystems

Emerging ocean science issues

MOMSEI Cruise on R/V MADIDIHANG-03 (2012)



Ocean Processes and Climate Change

The ocean plays a fundamental role in shaping the climate zones on land. The Indo-Pacific is universally recognized as one major influence on the global climate system as it receives the strongest levels of solar irradiances on the planet and affecting global atmosphere and ocean circulation systems. It has an important role in regional ocean-climate processes such as the Asian-Australian Monsoon and also shorter time scale severe weather events such as typhoons and cyclones. Combinations and interactions

among these phenomena cause significant climate variability over the region, with profound meteorological effects transmitting to adjacent and relatively remote land masses.

From process study and observations to model development and forecasting, WESTPAC endeavors to help Member States enhance understanding on these complex processes, and prepare for climate variability and change, ocean-related risks and opportunities.



Ocean Observation and Analysis, MONSOPAC, the Eastern Indian Ocean, 2012



Image credit: Department of Marine and Coastal Resources, Thailand

Marine Biodiversity, Seafood Safety and Security

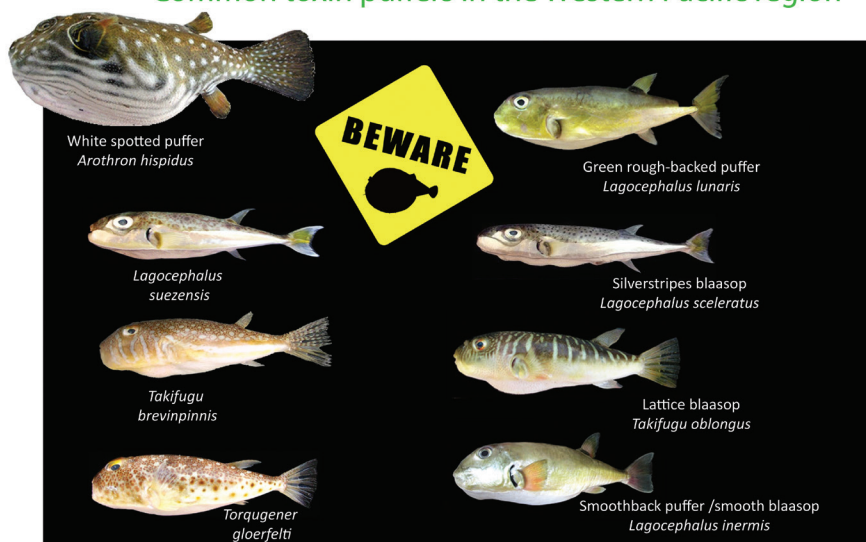
This region also has the highest concentration of marine biodiversity and endemism in the world, serving as the epicenter of marine life abundance and diversity on the planet with more than 75% of all known coral species, 50% of the world's coral reefs, 3000 fish species and the greatest extent of mangrove forests of any region in the world.

From field sampling and laboratory experiment, to species identification and restoration techniques, WESTPAC strives to assist countries in knowing their

biodiversity status and associated stressors, provides scientific advice for informed decision on marine biodiversity conservation.

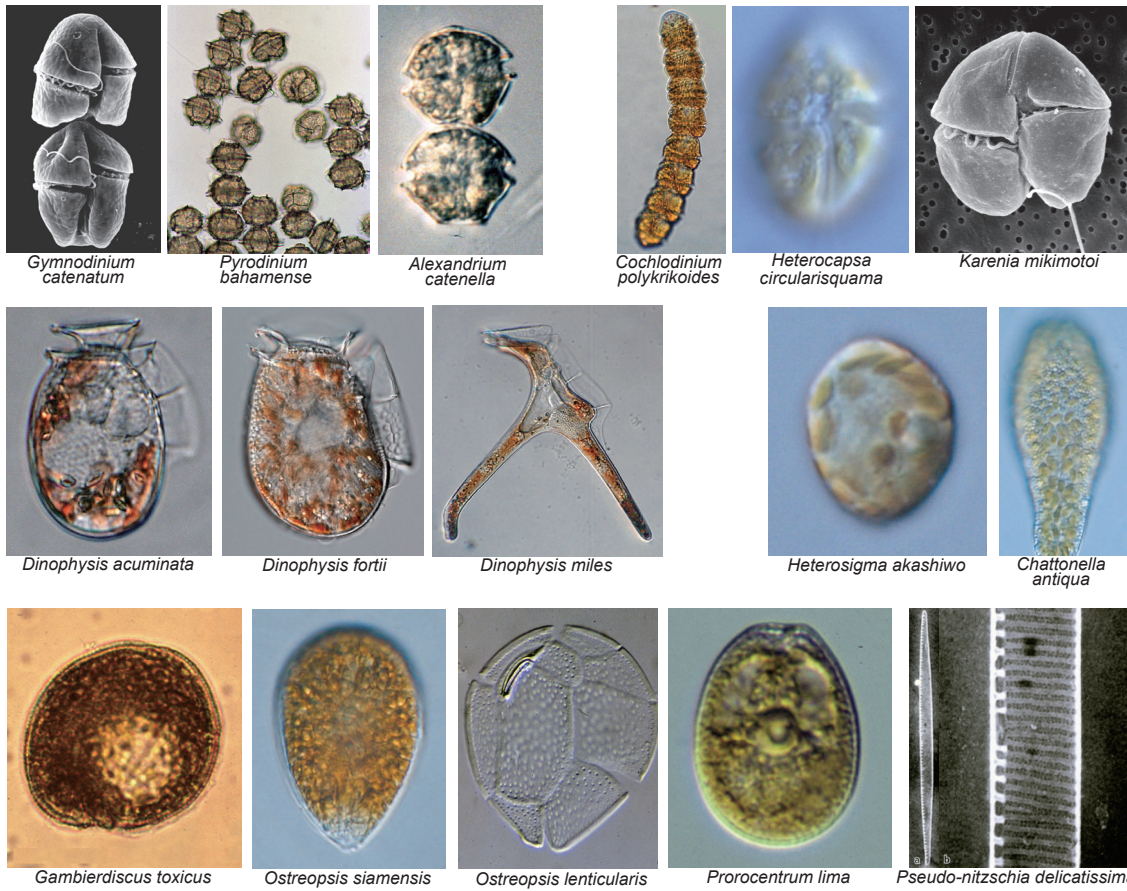
PUFFER FISH POISONING

Common toxin puffers in the Western Pacific region



Results from WESTPAC Programme on Marine Toxic Organisms

HAB SPECIES IN THE WESTERN PACIFIC



Results from WESTPAC programme on Harmful Algal Blooms

Rocky shore and sandy beach assessment for marine alien species



Health of Ocean Ecosystems

A healthy ocean can supply ecosystem goods and services to societies and sustain marine life without compromising their fundamental structure and functioning. Over 60% of the population in the region live in the coastal

areas with high reliance on the ocean. A wide range of stressors such as eutrophication, ocean acidification, habitat destruction and loss of biodiversity, can modify ecosystem services and impact human health.



Shaping its work on ocean ecosystem health around a series of cross-cutting stressors to ocean ecosystem, WESTPAC helps member states apply ecosystem-based management by nurturing expertise, providing emergency technical

assistance, and developing relevant monitoring procedures and tools to describe current ecosystem health and effects of stressors.



Emerging Ocean Science Issues

Recognizing a broad range of emerging environmental issues such as microplastics, harmful jellyfish, marine renewable energies, and ocean international frameworks, WESTPAC addresses the need, mainly via its working groups, to encourage scientific research, technical analyses and syntheses of scientific information needed to effectively address these emerging issues, inform policy, and advance solutions in a timely manner.



Jellyfish maneuver below the surface of a lagoon in the Pacific Ocean.

Image credit: David Doubilet



Autonomous Reef Monitoring Structures (ARMS) processes for monitoring the change and ecological impacts of ocean acidification on coral reefs



A Plastic bag floats in the sea off the Philippines.

Image credit: Keith A. Ellenbogen

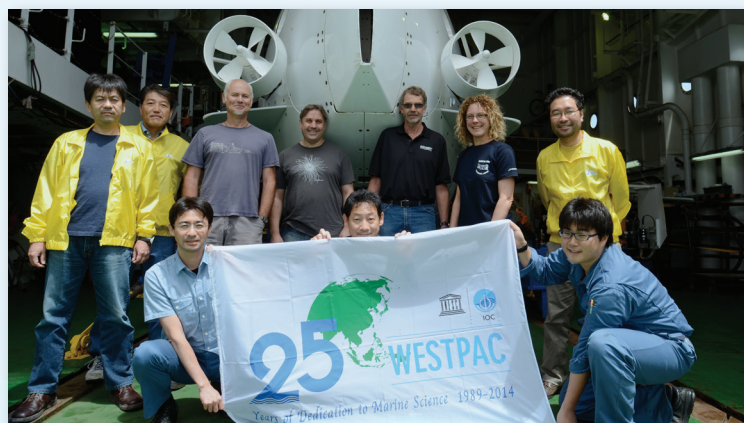


Field studies on the impact of lowered pH on coral reefs at natural underwater hydrothermal vents in the Straits of Malacca.

Image credit: Aileen Tan Shau Hwai



Exploring the Indo-Pacific with joint cruises flagged for WESTPAC's 25th Anniversary



Join **WESTPAC**

WESTPAC develops and forges partnerships with Member States, institutions, individuals, and partners via the following channels:



Science and policy interface;

Knowledge dissemination via WESTPAC
International Marine Science Conferences;

Research collaboration;

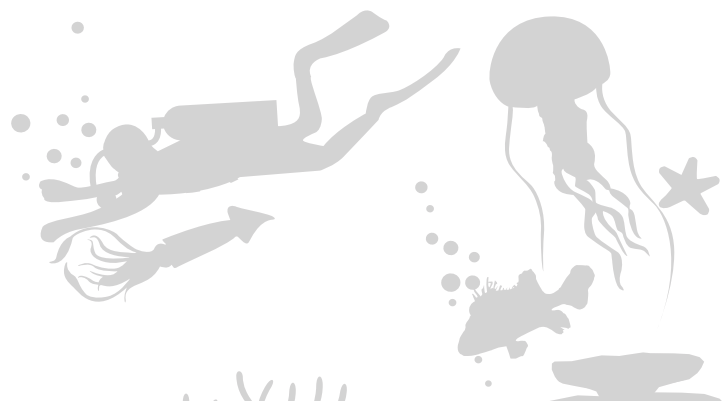
Capacity building via Regional Training
and Research Centers (RTRCs); tailored
national/regional trainings/workshops/
summer schools; and internship at the
WESTPAC Office;

Outreach activities to educate school
students on ocean and marine science;

Awards such as “WESTPAC Outstanding
Scientist Award” and “WESTPAC Best
Young Scientist Award”;

Travel Grant to participate in the WESTPAC
International Marine Science Conference.





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