Agenda 3.3.1

Major results of the 12\textsuperscript{th} Intergovernmental Session of the IOC Sub-Commission of the Western Pacific

(WESTPAC-XII, 2-5 April 2019, Manila, the Philippines)


30\textsuperscript{th} Session of the IOC Assembly, Paris, France
Some 100 delegates from 16 Member States, and regional partners, including (CTI-CFF), (PEMSEA), (SEAFDEC), (GEBCO) Seabed 2030, and the United Nations Environment/ (COBSEA)
People & Ocean in the region

12th WESTPAC Session

A mini science symposium, 2 April

A brainstorming session on the UN Decade of Ocean Science, 3 April
People & Ocean in the region

12th WESTPAC Session

A signing ceremony on new Regional Training and Research Centers (RTRCs)

University of the Philippines Diliman
State Key Laboratory of Estuarine and Coastal Research, East China Normal University
Institute of Oceanography, Vietnam
WESTPAC: Building an enabling environment

Program priorities & Areas of action

- Strengthen science-policy interface for informed decisions
- Develop sustained ocean observations and services for maritime activities
- Advance knowledge on climate change, marine biodiversity and ecosystem health
- Bolster institutional and human capacity for the Future We Want

Ocean processes and climate change
Marine biodiversity and seafood security
Ocean ecosystem health
Emerging ocean science issues
WESTPAC International Marine Science Conference

**Ocean Observations & Services**
- NEAR-GOOS
- SEAGOOS
- Air-Sea Interaction in the Kuroshio Extension
- Upwelling Studies
- IPOVAI

**Marine Science & Applications**
- Coral Reef Conservation
- Coral Reef Resilience to Climate & Human Impacts
- DNA Taxonomy & Recruitment Monitoring of Coral Reef Marine Organisms
- Marine Toxins & Seafood Safety
- Harmful Algal Blooms
- Ocean Remote Sensing
- Marine Endangered Species
- SCS Fluvial Sediments

**Capacity Development**
- Training & Research Centers
- Specific trainings under projects
- WESTPAC Best Young Scientist Award
- WESTPAC Young Scientist Travel Grant
- IOC RTRC on ODC
- IOC RTRC on MarBEST

**Working Groups**
- WG 005: WESTPAC Ocean Oxygen Network
- WG 006: Marginal Seas

WESTPAC Office, Bangkok
WESTPAC Advisory Group

**WESTPAC Session**

**WESTPAC Structure**

**Jan 2017 – Dec 2018:**
- 2012 participants, (41% are woman scientists)
- 1 International conference
- 1 intergovernmental sessions
- 12 trainings/summer schools
- 33 regional science workshops
WESTPAC: Building Blue Partnerships

Strengthen science-policy interface for informed decisions

UN-ASEAN Plan of Action on Comprehensive Partnership (2016-2020)
Areas: Environment and climate change; cultural and education

Programme Area: Health of the coasts and ocean
WESTPAC: Building Blue Partnerships

Strengthen science-policy interface for informed decisions

“Advancing Ocean Knowledge, Fostering Sustainable Development: from the Indo-Pacific to the Globe”

17-20 April 2017, Qingdao, China
Strengthen science-policy interface for informed decisions

A Regional Workshop, under the auspices of the United Nations, in support of the 2nd WOA
Bangkok, Thailand, 29-30 November 2017
WESTPAC: Building Blue Partnerships

Develop sustained observations and services

http://221.215.61.118:2018/#/
SEAGOOS OFS application in the search and rescue of a ferry accident on 5 July 2018, Phuket, Thailand
WESTPAC: Building Blue Partnerships

Develop sustained observations and services

A regional ocean acidification monitoring network, as part of GOA-ON

WESTPAC: Building Blue Partnerships

Develop sustained observations and services

WESTPAC concluded its science symposium and 5th regional workshop for ocean acidification

5-7 November 2018, in Xiamen, China
WESTPAC: Building Blue Partnerships

Develop sustained observations and services

Marine microplastic monitoring and assessment

Inception workshop, 20-22 Sep 2017, Phuket, Thailand

2nd workshop (15-17 Oct, Shanghai, China)
WESTPAC: Building Blue Partnerships

Develop sustained observations and services

Marine microplastic monitoring and assessment

Engagement in the ASEAN’ efforts and GESAMP

ASEAN CONFERENCE
on Reducing Marine Debris in ASEAN Region
22-23 Nov 2017, Phuket, Thailand

Special ASEAN Ministerial Meeting
on Marine Debris
5 March 2019
The Sukhothai Bangkok, Thailand

Regional expert consultation with GESAMP, 15 June 2018, Bangkok, Thailand)
WESTPAC: Building Blue Partnerships

Advance knowledge for ocean processes, marine biodiversity & ecosystem health

Transfer of marine molecular technique

Identification and preservation of specimen collection for DNA analysis
Identification of Causative Ciguatoxins in Red Snappers *Lutjanus bohar* Implicated in Ciguatera Fish Poisonings in Vietnam

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Abstract: Ciguatera fish poisoning (CFP) is a type of food poisoning caused by the consumption of a variety of toxic ciguatoxins in fish species in the tropical and subtropical waters. Although there have been a large number of suspected CFP cases in Southeast Asian countries, few were confirmed with causative ciguatoxins (CTXs), and reliable information on the symptoms still remains rather limited. In the present study, CTX in red snapper *Lutjanus bohar* implicated in two suspected CFP cases in Vietnam in 2014 and 2016, were determined by use of the single-quadrupole selected ion monitoring (SIM) liquid chromatography/mass spectrometry (LC/MS). Ciguatoxin-1B (CTX-1B), 54-deoxyCTX-1B, and 53,54-deoxy-CTX-1B were detected in the red snapper by our LC/MS method. Moreover, CTX-1B, 54-deoxyCTX-1B, and 53,54-deoxy-CTX-1B were further identified by the time of flight (TOF) LC/MS with the exact mass spectrum. The CTX profile of the red snapper in Vietnam is similar to those of ciguatera fish from Australia, Okinawa Islands in Japan, Kiribati, and Hong Kong. This is the first comprehensive report unambiguously identifying the causative toxins in fish implicated with reliable information on the poisoning symptoms in CFP in Vietnam and/or Southeast Asian countries.

Keywords: ciguatera fish poisoning (CFP); ciguatoxin-1B (CTX-1B); LC/MS; red snapper; TOF; Vietnam

Key Contribution: The first comprehensive report unambiguously identifying CTX-1B in fish implicated with reliable information on the poisoning symptoms in CFP in Vietnam and/or Southeast Asian countries is presented.

1. Introduction
WESTPAC: Building Blue Partnerships

Advance knowledge for marine biodiversity & ecosystem health

Scientific diving from benthic dinoflagellate sampling and processing

Coral in Situ Metabolism and Energetics (CISME) training in confine pool

Underwater group photo during confine water training

Microscopic observation of benthic dinoflagellates cells for samples extracted from seaweed and sediments

Benthic and Epiphytic Toxic Algae (BETA) sampler training in open water environment
WESTPAC: Building Blue Partnerships

Advance knowledge for ocean processes, marine biodiversity & ecosystem health

Feasibility study on the 2nd Cooperative Study of Kuroshio and its adjacent regions

Draft Version 2 of the CSK-2 Review Report for IOC/WESTPAC

Review report for new Kuroshio and marginal sea research

(Draft)

Kentaro Ando, Xiaopei Lin, Cesar Villanoy (Lead Authors)

Mikhail Danchenkov, Jae-Hak Lee, Hui-Jun Liu, Quian Liu, Yang Liu, Vyacheslav Lobanov, Xiao-Lin Ma, Hanung Agus Mulyadi, Akira Nagano, Jin-Ling Ren, Augy Syahaliatua, Yongjun Tian, Lunyu Wu, Jing Zhang, Linlin Zhang, Mei-Xun Zhao, and Jingjing Zheng

(Contributing Authors, in alphabetical order)
Development of “UNESCO/IOC Regional Network of Training and Research Centers (RTRCs) on Marine Science”

Inclusion of capacity building into WESTPAC research programmes and conduct of a series of regional and national tailored trainings (or training workshops) in Member States, on a rotation basis

“Training Through Research” via the engagement of early career scientists into WESTPAC research programmes

Establishment of “WESTPAC Best Young Scientist Award” and “WESTPAC Young Scientist Travel Grant” to nurture young science leaders and facilitate international exposure of young scientists

Meanwhile, WESTPAC has been exploring more feasible tools to develop capacity at different level, including:

Initiation of “WESTPAC Young Scientist Forum” for WESTPAC early career scientists to exchange their perspective on marine science development and cooperation

Conduct of “Bring Marine Science to School” to inspire young generations/school students on ocean and marine science

Integrated capacity development tools
Develop research capacity and transfer of marine technology through the UNESCO/IOC Regional Network of Training and Research Centers (RTRCs) on Marine Science in the Western Pacific and adjacent regions in support of the SDG 14.a

by Intergovernmental Oceanographic Commission of UNESCO, via its Sub-Commission for the Western Pacific (WESPAC) (United Nations entity)
Regional Training and Research Center on Ocean Dynamics and Climate

RTRC-ODC

A total of 401 early career scientists from 43 countries in 2011-2019
Regional Training and Research Center on Ocean Dynamics and Climate

RTRC-ODC

A total of 401 early career scientists from 43 countries in 2011-2019
Regional Training and Research Center on Marine Biodiversity and Ecosystem Health

RTRC-MarBEST
Regional Training and Research Center on Marine Biodiversity and Ecosystem Health

RTRC-MarBEST

2016
Training on Crustacean Taxonomy

2017
Training on Molecular Taxonomy

2018
Training on Coral Reef Health Index
Workshop on carbon

2019
Training on coral reef Health Index (batch II)

2020
Training on Seagrass Health Index

2021
Training on Mangrove Health Index

2022
Training On Molecular Taxonomy

Biodiversity

Biodiversity

Ecosystem Health

Ecosystem Health & Blue Carbon

Ecosystem Health

Ecosystem Health

Biodiversity
Future Development
Regional Training and Research Centers

Future RTRCs networking in the WESTPAC region
23-24 Jan 2018, Tokyo, Japan
Capacity Development

Tailored national & regional trainings /summer schools

Harmful Jellyfish Sampling Protocol and Data Analysis, Penang, 5-7 December 2017

Sampling and Microplastics study in sediment from sandy beaches in Thailand

Applying analytical method for detecting Ciguatoxins (CTXs) in fish, Nha Trang, Vietnam, 5-9 April 2018

Scientific Diving for Marine Benthic Dinoflagellates Sampling and Processing, Phuket, 17-21 September 2018

Laboratory training on molecular genetics, Bangkok, 13-17 November 2017

12 trainings/summer schools, and 33 regional science development workshops/consultative meetings
Recommendation SC-WESTPAC-XII.1

UN Decade of Ocean Science for Sustainable Development (2021-2030)
WESTPAC-XII (2-5 April 2019, Manila, the Philippines)

Major Decisions & Recommendations

Recommendation SC-WESTPAC-XII.3

An Inter-Sessional Working Group of the Feasibility Study on the Second Cooperative Study of the Kuroshio and Adjacent Regions (IWG-CSK2)

Cooperative Study of the Kuroshio and its Adjacent Regions (CSK-1, 1965-1979)
UNESCO/IOC Regional Network of Training and Research Centers (RTRCs) on Marine Science

**Recommendation SC-WESTPAC-XII.4**

**UNESCO/IOC Regional Network of Training and Research Centers (RTRCs) on Marine Science**

**Reef Management and Restoration**
University of the Philippines Diliman

**Phuket Marine Biological Center, Thailand**

**Marine Toxins and Seafood Safety**
Institute of Oceanography, Vietnam

**Ocean Dynamics and Climate**
First Institute of Oceanography, MNR, China

**Marine Biodiversity and Ecosystem Health**
Indonesian Institute of Sciences

**Marine Plastic Debris and Microplastics**
State Key Laboratory of Estuarine and Coastal Research, East China Normal University
WESTPAC-XII (2-5 April 2019, Manila, the Philippines)

**Structure**

MAY 2019 – APR 2021

WESTPAC International Scientific Conference

- Ocean Observations & Services
  - NEAR-GOOS
  - SEAGOOS
  - Air-Sea Interaction in the Kuroshio Extension
  - Upwelling Studies
  - IPOVAI
- Marine Science & Applications
  - Coral Reef Conservation
  - Coral Reef Resilience to Climate & Human Impacts
  - DNA Taxonomy & Recruitment Monitoring of Coral Reef Marine Organisms
  - Marine Toxins & Seafood Safety
  - Harmful Algal Blooms
  - Ocean Remote Sensing
  - Marine Endangered Species
  - SCS Fluvial Sediments
- Capacity Development
  - Training & Research Centers
    - Specific trainings under projects
    - WESTPAC Best Young Scientist Award
    - WESTPAC Young Scientist Travel Grant
  - Harmful Jellyfish Research
  - Marine Microplastic
- Working Groups
  - WG 005: WESTPAC Ocean Oxygen Network
  - WG 006: Marginal Seas

1 **International Marine Science Conference**
2 **regional GOOS Alliance**
14 programme / projects / WGs

1 regional network of Training and Research Centers
Recommendation SC-WESTPAC-XII.5

WESTPAC Programme and Budget for May 2019–April 2021

Total estimated budget
$6.78M

Regular budget
$100K

Guidance on the activities that Member States would like to jointly promote and seek funding from various sources in support of their implementation
Major Decisions & Recommendations

Recommendation SC-WESTPAC-XII.6

WESTPAC 13th Intergovernmental Session

Appreciates the kind offers of:

Indonesia and Bangladesh to host the 13th Session in 2021
Welcome!

Regional Consultative and Planning Workshop towards the UN Decade of Ocean Science for Sustainable Development (2021-2030)

For the North Pacific and Western Pacific Marginal Seas

31 July- 2 August 2019, Tokyo, Japan
First Announcement

11th WESTPAC International Marine Science Conference
Jakarta, Indonesia, 25-28 August 2020

Call for Session and Workshop Proposals

Science Themes:
A. Ocean Processes and Climate Change
B. Marine Biodiversity, Seafood Safety and Security
C. Health of Ocean Ecosystems
D. Emerging Ocean Science Issues
E. Exploring the Deep Sea

Please send the proposals to: iocwestpac@unesco.org by 15 October 2019.

IMPORTANT DATES:
15 October 2019: Deadline for session and workshop proposal submission
15 November 2019: Registration and abstract submission, travel grant application, and Best Young Scientist Award application open
15 March 2020: Deadline for early registration, abstract submission, travel grant application, and Best Young Scientist Award application
15 April 2020: Abstract acceptance notification & travel grant notification
15 June 2020: Confirmation of participation by paper & oral presenters
25 August 2020: 11th WESTPAC International Marine Science Conference opens