



## SEVENTH MEETING OF THE PACIFIC METEOROLOGICAL COUNCIL (PMC-7)

*"AT THE FRONTLINE OF WEATHER, CLIMATE, WATER, AND OCEAN ACTION IN THE PACIFIC"*

## SEVENTH MEETING OF THE PACIFIC METEOROLOGICAL COUNCIL (PMC-7)

*"At the Frontline of Weather, Climate, Water, and Ocean Action in the Pacific"*

17-19 septembre 2024, Warwick Le Lagon-Vanuatu Resort, Port Vila, Vanuatu

### Agenda Item 15.1: Update and progress on Marine Weather and Ocean Services (PIMOS)

#### Purpose:

1. To inform PMC on the updates from the Pacific Islands Marine and Ocean Services (PIMOS) Panel.
2. To inform PMC on emerging opportunities from strengthened ocean prediction and monitoring services.
3. To seek endorsement from PMC on PIMOS recommendation towards strengthening ocean prediction and monitoring services.

#### Background:

1. The Pacific Island Marine and Ocean Services Panel (PIMOS Panel) was established by the Third Meeting of the Pacific Meteorological Council (PMC-3) in Nuku'alofa, Tonga in 2015 to serve in the capacity of an advisory committee to the Pacific Meteorological Council (PMC) on marine and ocean services matters in the Pacific region. The purpose of the PIMOS Panel is to provide technical advice to the PMC on matters related to marine and ocean services, with an emphasis on oceanography and marine meteorology, to strengthen coastal multi-hazard early warning systems (Coastal MHEWS), national preparedness and maritime safety support mechanisms at the national and regional level, as prescribed in the Pacific Islands Meteorological Strategy 2017-2026 and other international and regional frameworks such as the Sendai Framework for Disaster Risk Reduction

#### 2. Update:

##### 2.1 Meetings.

Since the last PMC, the PIMOS Panel met five times: 17/06/2024 (face-to-face), 01/08/2024 (virtual), 06/09/2024 (virtual) and 13/09/2024 (face-to-face).



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### 2.2 Leadership.

Tuvalu was elected as the new chair 12<sup>th</sup> August before PMC-6 last year, and the Pacific Community (SPC) to remain as vice-chair. PIMOS would like to acknowledge the former chair Ms Rossy Mitiepo for her leadership.

### 2.3 Changes proposed to the PIMOS Terms of Reference:

PIMOS TOR was revised based on the following PMC-6 recommendations:

1. The PMC-6 recommends that all panels include people centred approach in their Term of References and encourage representation of vulnerable groups.
2. The PMC-6 encourages PMC PIMOS Panel to dedicate a Task Team on activities of the PTWS WG-PICT and ORSNET.

The proposed changes to the PIMOS TOR are described below.

#### 2.3.1 Purpose

The purpose statement was modified with the insertion of *"inclusive and accessible (meaning all demographics' needs and barriers to accessing services are considered when advising on matters)* in subsection 2.1.

#### 2.3.2 Roles and Responsibilities

Under the Roles and Responsibilities section, PIMOS proposes to insert *"inclusive and accessible"* in the first line of subsection 3.1 and first line of 3.1b, and *"to provide inclusive and accessible services"* in the second line of 3.1d.

#### 2.3.3 Membership

Under the Membership section, PIMOS replaced the mention of "four task teams" with "five task teams" in subsection 4.3 and included a fifth task team on Tsunami. Information on the composition of the tsunami task team, aligned with the tsunami Working Group established under PTWS was also included in the TOR as follow:

5. *Tsunami: Chair-Vanuatu, vice-chair-PNG, Pacific Island Countries and Territories (PICTs), Council of Regional Organizations in the Pacific (CROP) Agencies, International Tsunami Information Centre (ITIC) and WMO.*

The updated TOR (Annex 1) also acknowledges the inclusion of CSIRO to the Ocean Acidification task team and NIWA to Coastal Inundation MHEWS task team and individual countries as "PMC member countries".



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### 2.4 Term of References of PIMOS Task Teams

A TOR for each of the 5 PIMOS Task Teams was developed. The TORs are appended to this paper for PMC's acknowledgement.

The PIMOS task teams are:

- 1 SOLAS compliance (Annex 2)
- 2 Ocean Acidification (Annex 3)
- 3 Coastal Inundation (Annex 4)
- 4 Coordination and Partnership (Annex 5)
- 5 Tsunami (Annex 6)

### 2.5 PI-GOOS update

PMC-6 tasked PIMOS to report to the PMC on the progress and activities of PI-GOOS. Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO) appointed Pacific Community (SPC) to host the PIGOOS. Mr Bipendra Prakash has been recruited as the PI-GOOS coordinator based at SPC. The PIGOOS is actively pursuing activities to support ocean observations in the Pacific Island region, including coordination of observation activities, technical work towards improving the discoverability and accessibility of ocean observation data, and resource mobilisation effort to improve ocean observation and prediction.

## 3. Technical Advice:

### 3.1 PIMOS to develop regional SOP templates and guidelines for ocean observation to strengthen sustainability of ocean monitoring services

PIMOS would like to acknowledge the efforts of NMHSs towards strengthening ocean monitoring services over recent years. A noticeable example is the partnerships established between NMHS and Fisheries which has provided a promising way forward towards strengthening the sustainability of real-time wave observation stations (wave buoys), capitalising on existing in-country expertise.

In spite of these good efforts, generally NMHSs seem to face common challenges towards ensuring the sustainability of ocean monitoring services.

To address some of these common challenges, PIMOS would like to propose the development of regional SOP templates and guidance documents across the value



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chain related to ocean monitoring (e.g. deployment, maintenance, data accessibility and management).

These templates and guidelines would be readily available to NMHS and partners as tools that could be further tailored to the national context.

### **3.2 A regional approach to coastal inundation forecasting and warning**

In recent years, investments have been made to enhance coastal inundation forecasting and warning services across various sites within the region. These efforts have facilitated the development of a diverse range of tailored approaches, as detailed by PIMOS at PMC-6. Notably, some of these approaches are less data-intensive and provide an opportunity for the establishment of a regional approach to coastal inundation forecasting, ensuring comprehensive coverage and that no one is left behind.

PIMOS recommends the prioritizing of a regional coastal inundation forecast system, providing NMHSs with improved coastal inundation warning capacities for coastal communities across the region.

PIMOS recommends prioritizing the establishment of a first-pass regional coastal inundation forecasting system. Such a system would enhance the capabilities of National Meteorological and Hydrological Services (NMHSs), improving coastal inundation warning capacities for all coastal communities throughout the region.

To address this need comprehensively and collaboratively, we propose conducting a feasibility study to explore the necessary infrastructure, governance, and other factors required to implement a regional system.

However, it is crucial to emphasize that while a regional approach provides valuable benefits, it does not address the need for investment in localized coastal inundation forecast systems and high-quality baseline data in specific key areas across the region.

### **3.3 To seek guidance on ways to align relevant initiatives with Weather Ready Program.**

Weather Ready Pacific is the legitimate regional initiative to support the strengthening of regional and national capacities of key early warning pillars (i.e. Detection and Warning services, Communication and Dissemination). That being said, during this early stage of this decadal programme, PIMOS would like to seek guidance from PMC and its secretariat on possible mechanisms to support alignment and endorsement of





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relevant projects (e.g. Early Warning for All) and activities with WRP. Such mechanism could ensure more effective regional coordination as well as offer resource mobilisation opportunities for coordination roles within WRP.

### 3.4. Emerging opportunities from Investing in Strengthened National Ocean Prediction Services

As investment in climate change adaptation solutions is ramping-up across the region, the need for tailored ocean services supporting daily operation of international construction companies to build or upgrade coastal infrastructures is also expected to increase.

International marine construction companies, such as those involved in dredging, reclamation work or building seawalls, are generally required to subscribe to marine services to support:

- 1. Safety Regulations:** Many jurisdictions have stringent regulations that require marine construction companies to use marine forecasting services to ensure safety and compliance. This includes forecasting for weather, sea conditions, and potential hazards, which are crucial for minimizing risks on site.
- 2. Operational Efficiency:** Accurate marine forecasts help in planning operations more efficiently. Companies need to understand sea conditions to schedule work, manage resources, and avoid delays, which can be costly.
- 3. Insurance and Liability:** Insurance policies often require that companies use professional marine services to mitigate risks. Failing to do so could affect claims and liability in case of accidents or damage.
- 4. International Standards:** Adhering to international standards and best practices often involves subscribing to marine services. This is especially important for projects in international waters or in regions with complex marine environments.

By enhancing its ocean prediction services, NMHSs can strategically be positioned to engage with these companies through public-private partnerships and generate new income streams through the provision of tailored ocean services.

Such opportunity is well illustrated by a recent success story from Tuvalu. The Tuvalu government partnered with Hall Contracting to implement coastal adaptation solutions and port upgrades under the Tuvalu Coastal Adaptation Project (TCAP).



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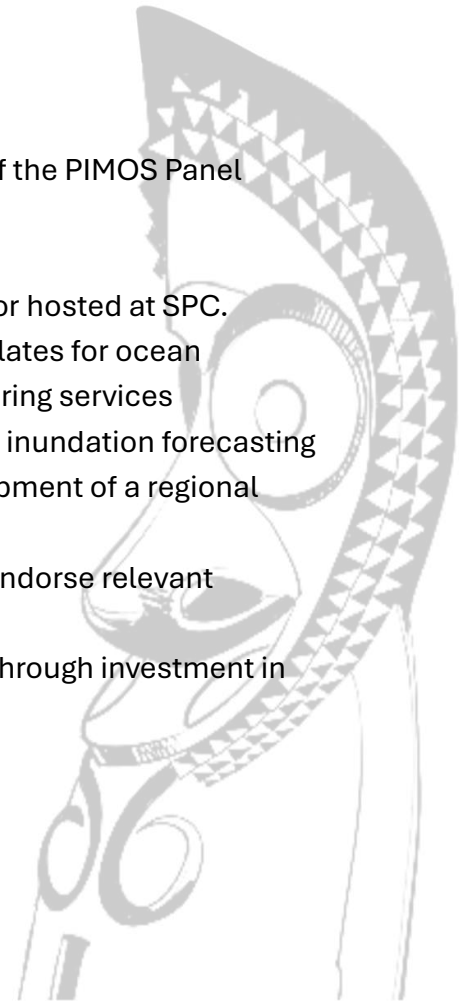
With support from the WMO CREWS project, Tuvalu Meteorological Services (TMS) developed a high-resolution wave and inundation forecasting system using high-quality baseline data (Lidar data funded through TCAP). This system has enabled TMS to offer comprehensive ocean services across its islands. Recognizing TMS's enhanced capabilities, Hall Contracting collaborated with TMS to create tailored daily ocean forecasts across their construction sites. This partnership, facilitated by the UNEP GCF CIS-Pac5 project, included co-designing tailored products and developing a new product generation module within the forecast system. Since mid-2023, TMS has been successfully providing Hall Contracting with daily tailored ocean services through a public-private partnership.

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### Recommendations:

The Meeting is invited to:

1. **Endorse** the inclusion of the Tsunami Task Team as part of the PIMOS Panel
2. **Endorse** the updated PIMOS ToR
3. **Acknowledge** the ToR for the 5-task teams.
4. **Note** Mr Bipendra Prakash as the new PIGOOS Coordinator hosted at SPC.
5. **Task** PIMOS to develop regional guidelines and SOP templates for ocean observations to strengthen sustainability of ocean monitoring services
6. **Acknowledge** the need for a regional approach to coastal inundation forecasting
7. **Task** PIMOS to undertake a feasibility study on the development of a regional coastal inundation forecast system.
8. **Request** PMC for guidance on mechanisms to align and endorse relevant initiatives by Weather Ready Pacific
9. **Note** the emerging opportunities for new income stream through investment in strengthened ocean services





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## Annex 1

# Pacific Meteorological Council

## Pacific Islands Marine and Ocean Services Panel

### Terms of Reference

(Version: 13 September 2024)

#### 1. Introduction

- 1.1 The Pacific Island Marine and Ocean Services Panel (PIMOS Panel) was established by the Third Meeting of the Pacific Meteorological Council (PMC-3) in July 2015 to serve in the capacity of an advisory committee to the Pacific Meteorological Council (PMC) on marine and ocean services matters in the Pacific region (<https://www.pacificmet.net/pmc/meetings/pmc-3>).

#### 2. Purpose

- 2.1. The purpose of the PIMOS Panel is to provide inclusive and accessible (meaning all demographics' needs and barriers to accessing services are considered when advising on matters) technical advice to the PMC on matters related to marine and ocean services, with an emphasis on oceanography and marine meteorology, to strengthen coastal multi-hazard early warning systems (Coastal MHEWS), national preparedness and maritime safety support mechanisms at the national and regional level, as prescribed in the Pacific Islands Meteorological Strategy and other international and regional frameworks such as the Sendai Framework for Disaster Risk Reduction 2015-2030, the S.A.M.O.A Pathway and the UN Decade for Ocean Science for Sustainable Development.
- 2.2. The PIMOS Panel may advise relevant agencies and entities, as required by PMC, at the national and regional level that are providers or users of marine and ocean services (e.g., NDMO, Ports, fisheries, geological services, etc.).



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### 3. Role and Responsibility of the PIMOS Panel

3.1. The PIMOS Panel will provide inclusive and accessible technical advice to the PMC on the following topics:

- a) Establish linkages and coordinate with appropriate international organizations such as UN agencies, Global Earth Observations (GEO), International Hydrographic Organisation (IHO), and regional organisations and bodies such as CROP agencies, research agencies, universities and product providers with related work on marine and oceans services and provide updates from PIMOS to relevant forums, meetings, conferences and bodies.
- b) Provide inclusive and accessible technical advice to the PMC on matters related to marine and ocean services, with an emphasis on marine meteorology, coastal inundation and relevant met-ocean and geo-hazards, maritime safety, monitoring, detection of and advising/warning on the impacts of climate change on oceans, information related to coastal zone management and marine spatial planning, at the community, national and regional levels.
- c) Support resource mobilisation and strengthen the coordination, continuity and integration of current and future programmes, projects and initiatives that support marine and ocean services at the community, national and regional levels.
- d) Strengthen the functions, resilience and capabilities of Pacific Islands National Meteorological and Hydrological Services (NMHSs) to provide inclusive and accessible services by exploring and supporting capacity development opportunities for robust and sustained data and information accessibility, collection, management, analysis, production and dissemination of products and services.
- e) Foster engagement between provider(s) of marine and ocean services and its users to enhance education and outreach to communities and individuals.
- f) Support for national and regional tsunami monitoring, early warning systems, and standard operating procedures, competency of national operational centres and develop relevant awareness programs, including support for and coordination with the ICG/PTWS Pacific Islands Countries and Territories Regional Working Group on Tsunami Warning and Mitigation System.





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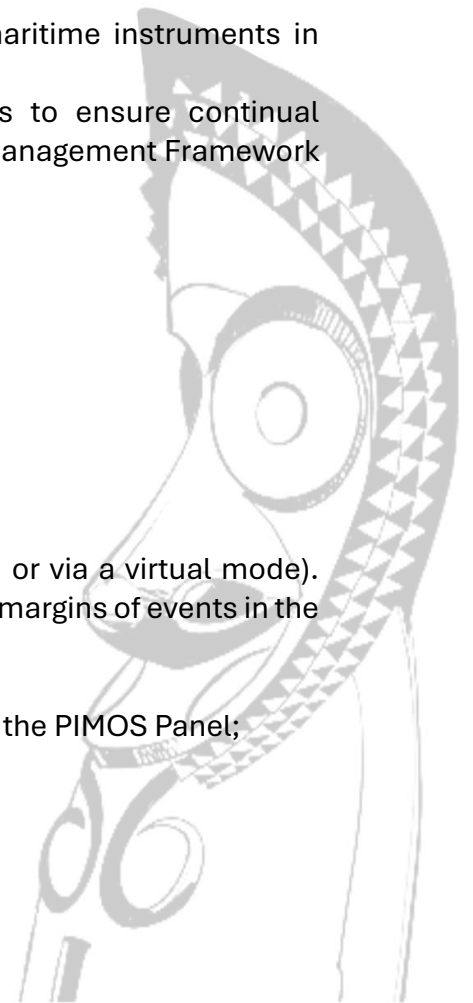
- g) Provide guidance on current ocean observing and marine forecasting efforts and explore how countries can contribute to, and expand, ocean observing and forecasting efforts, including support for and making recommendations through the Pacific Islands Global Ocean Observing System (PI-GOOS) to the Global Ocean Observing System (GOOS) and related global observing efforts such as the Argo program and Tropical Pacific Observing System.
- h) Provide guidance on regional marine and ocean services needs across relevant sectors, and in particular in the areas of capacities to deliver predictions and projections, data services, research and development, coordination, and training and co-development of sectorial or tailored products.
- i) Provide guidance on implementation of international maritime instruments in relation to marine meteorological services.
- j) Recommend data management and reporting systems to ensure continual improvement of products, in-line with the WMO Quality Management Framework (WMO-No.1100).

### 3.2 The PIMOS organizational arrangements shall include:

- a) Meeting as required, at least 3 times per year (in-person or via a virtual mode). Panel may take advantage of opportunities to meet on the margins of events in the region
- b) Regular reporting to the PMC members on the progress of the PIMOS Panel;
- c) Drafting an Implementation (Action) Plan

## 4. Membership

- 4.1. The PIMOS Panel core membership is comprised of PMC member countries, WMO, UNESCO-IOC, SPC, IRD, SPREP, and USP, consistent with the decision of PMC-5.





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- 4.2. The PIMOS Panel will appoint its Chair, serving a maximum of four years, and if necessary, a vice-Chair.
- 4.3. The PIMOS Panel may establish Task Team(s) to carry out specific time bound task(s) for limited time periods. The task teams are required to appoint a chair and develop terms of reference to be approved by PIMOS. There are five task teams under this panel

The task teams consist of:

1. SOLAS Compliance: SPC, Tonga, Samoa, Solomon Is, Vanuatu, NOAA, USP and Bureau of Meteorology and New Zealand MetService. (Solomon Islands Maritime Authority to lead, SPC to coordinate).
  2. Ocean Acidification: SPREP, SPC, Samoa, Marshall Islands, USP, NOAA, NIWA and CSIRO.
  3. Coastal Inundation MHEWS: SPC, Fiji, Tuvalu, Tonga, Samoa, WMO, IOC-UNESCO, USP, NIWA and NOAA.
  4. Coordination and Partnership: SPC, SPREP, USP, NOAA, BoM, IOC-UNESCO, NIWA, Samoa, Solomon Islands.
  5. Tsunami: Chair-Vanuatu, vice-chair-PNG, Pacific Island Countries and Territories (PICTs), Council of Regional Organizations in the Pacific (CROP) Agencies, International Tsunami Information Centre (ITIC/NOAA) and WMO.
- 4.4. The PIMOS Panel meetings are open to all PMC members and may invite experts either from its PMC members, partners, or marine and ocean users to its meetings, discussions and Panel activities including Task Teams.
  - 4.5. Meetings of the PIMOS Panel shall be coordinated and convened by its Chair, with the support of SPREP/SPC/WMO/Pacific Meteorological Desk Partnership (PMDP).

## 5. Appointment of Chair/vice-chair and duration of appointment

- 5.1. The PIMOS Panel chair(s)/vice chair(s) serve for four (4) years.
- 5.2. At the end of each term, the current chair will advise the secretariat to call for expressions of interest in the chair/vice chair roles. This may take the form of a member indicating they intend on nominating someone for one or both roles or a member indicating their interest in a role. If there is no nominations and the chair(s) and vice



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chair(s) wish to continue they do so for a second term. The number of terms is not restricted.

5.3. Should the current chair/vice-chair step down, this triggers the process of election of chair/vice-chair (5.2).

5.4. The election process can either held by face-to-face or online ballot. At least 50% of the core members need to participate in the voting process. Only one vote per member is recognised.

5.5. The secretariat will update the ToR to include current changes.

## 6. Review and Approval of Terms of Reference

6.1. The PIMOS Panel may develop recommendations to the PMC to revise the Panel's ToR.

6.2. The PMC will be invited to consider and approve the PIMOS Panel ToR and related amendments.





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### Annex 1: PIMOS Panel Core Members

#### PMC-3 Decision

PMC Working Group	PIMOS Panel
Members:	PMC member countries, WMO, UNESCO-IOC, SPC, IRD, SPREP, USP, and a representative of the WMO RA-V
Chair:	Tuvalu
Vice Chair:	SPC
Secretariat	SPREP/SPC/WMO/PMDP

Last updated: 13 September 2024 by PIMOS Panel

Last updated: 12 August 2023 by PIMOS Panel

Last updated: 26 April 2021 by Molly Powers

Last updated: 5 August 2019 by Rossy Mitiepo

Last updated: 12 March 2019 by Maria Sapatu

Last updated: 1 August 2017 by Tommy Moore

Last updated: 23 May 2016 by 2<sup>nd</sup> PIMOS Panel Meeting

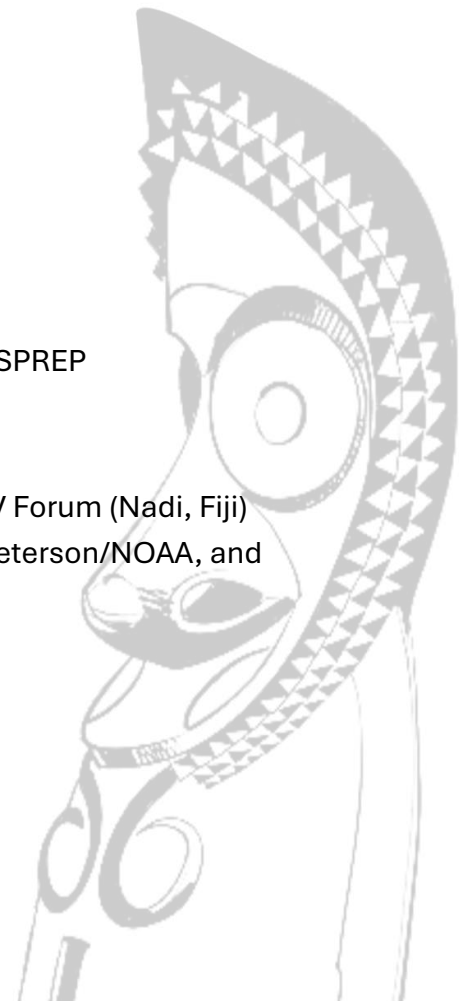
Last updated: 11 February 2016, consolidated by Tommy Moore/SPREP

Reviewed: 13 October 2015 by Henry Taiki/WMO

Reviewed: 17 October 2015 by Tommy Moore/SPREP

Reviewed: 28 October 2015 by PIMOS Panel during WMO RA V Forum (Nadi, Fiji)

Reviewed: 30 October 2015 by Jennifer Lewis/NOAA, Arthur Peterson/NOAA, and Tommy Moore/SPREP







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## Annex 2 SOLAS COMPLIANCE

### Terms of Reference

**Title:** Safety of Life at Sea (SOLAS) Convention Compliance Task Team

### Introduction

The Pacific Islands Marine and Ocean Services (PIMOS) Panel under the Pacific Meteorological Council (PMC) has established a Safety of Life at Sea (SOLAS) Convention Compliance Task Team (SCCTT), as endorsed during the Pacific Meteorological Council Meeting (PMC 6).

**Reporting to:** Pacific Islands Marine and Ocean Services (PIMOS), Panel under the Pacific Meteorological Council (PMC)

**Purpose:** The SCCTT is established to support the effective implementation of the International Maritime Organization (IMO)'s International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, within the Pacific region. The SCCTT will provide technical and regulatory guidance, promote compliance, and facilitate capacity building among Pacific Island nations to enhance maritime safety and protection of the marine environment.

### Scope:

- Review and interpret SOLAS regulations and amendments to ensure relevance and applicability in the provision of marine meteorological services within the Pacific context.
- Develop specific guidelines and adapt best practices to support NMHSs as part of the IMO Member States Audit processes for the SOLAS component.
- Coordinate with national maritime authorities to support the implementation of strategies and enforcement mechanisms relating to marine meteorological services.
- Support the facilitation of training programs and workshops to increase local expertise and understanding of SOLAS requirements.
- Support the development of pathways to address gaps as identified during the pre or internal audit processes.
- Monitor and report on the progress of SOLAS implementation aligned with marine meteorological services across Pacific Island nations.
- Provide a forum for the exchange of information, experiences, and technical knowledge related to maritime safety.

**Membership:** The SCCTT shall comprise representatives from:

- National Maritime Administrations of Pacific Island countries.



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- National Meteorological and Hydrological Services.
- Pacific Community
- SPREP
- Regional shipping and maritime industry stakeholders.
- Relevant other regional and international organizations and NGOs.
- Experts in maritime safety, law, and environmental protection.
- Other members as required

**Meetings:** The SCCTT will convene monthly or as required. Extraordinary meetings may be called to address urgent matters.

### **Governance and Reporting:**

The PIMOS panel will appoint a Chair of the task team and SPC will provide secretariat support.

The SCCTT will report to the PIMOS panel quarterly, providing updates on activities, progress, and challenges.

SCCTT is to develop a yearly workplan to guide its functions to be presented to the PIMOS Panel annual meeting and progress to be reported every 6 months.

Recommendations for action or will be included as necessary.

**Duration:** The SCCTT is established for an initial period of three years, after which its functions will be reviewed.

**Approval:** This Terms of Reference (ToR) is subject to approval by the PIMOS panel and may be amended as required to fulfill its mandate effectively.

This draft ToR is based on the general structure and objectives of the SOLAS Convention and is tailored to the specific needs and circumstances of the Pacific Islands region. It is designed to be a living document that can evolve with the changing needs for maritime safety and marine meteorological services.

### **Document Revision:**

1<sup>st</sup> draft- 25<sup>th</sup> July 2024 by Pacific Community

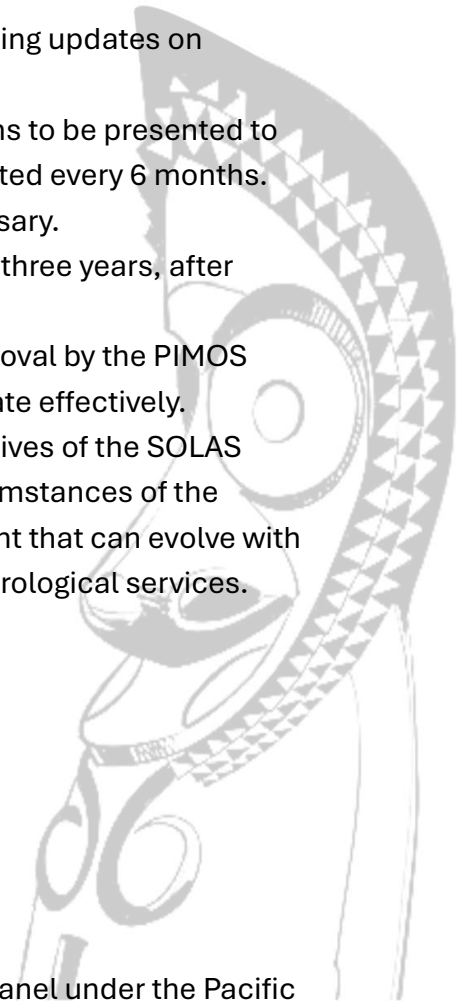
## **Annex 3 OCEAN ACIDIFICATION**

### **Terms of Reference**

**Title:** Ocean Acidification Task Team

**Authority:** Pacific Islands Marine and Ocean Services (PIMOS), Panel under the Pacific Meteorological Council (PMC)

### **Introduction:**





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The Pacific Islands Marine and Ocean Services Panel (PIMOS) under the Pacific Meteorological Council (PMC) has established an Ocean Acidification Task Team (OATT) as endorsed during the Pacific Meteorological Council Meeting (PMC 6).

**Purpose:** The Ocean Acidification Task Team (OATT) is established to address the growing concerns of ocean acidification and its impact on marine ecosystems and communities in the Pacific region. The OATT will work towards understanding, mitigating, and adapting to the effects of ocean acidification on Pacific Island nations.

### Scope:

- To enhance regional coordination and collaboration in addressing ocean acidification.
- Strengthen the understanding and monitoring of ocean acidification and its impacts.
- Support capacity building and training initiatives related to ocean acidification research and monitoring.
- Raise awareness about ocean acidification and its impacts on marine ecosystems and communities.
- Support the development of strategies to mitigate the impacts of ocean acidification on marine biodiversity, particularly coral reefs, shellfish, and plankton.
- Secure funding to ensure the sustainability of monitoring activities and infrastructure development to enable regional coordination in addressing ocean acidification.
- Supporting existing Pacific led and owned initiatives such as the Pacific Islands Ocean Acidification Centre, enhancing its capacity to lead research, monitoring, and training efforts across the region.
- Ensure that the importance of ocean acidification is reflected in policy actions at national and regional levels, including the integration of OA concerns into climate adaptation and marine management strategies.
- Seek out affordable, easy-to-use, and low-cost ocean acidification monitoring equipment to support resource-constrained communities and institutions in collecting high-quality data across the Pacific Islands region.



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**Membership:** The OATT shall comprise representatives from:

- National Fisheries, Marine and Environmental agencies.
- National Meteorological and Hydrological Services
- Pacific Community
- SPREP
- Regional scientific and research institutions.
- Non-governmental organizations with expertise in marine conservation.
- Community leaders and representatives from affected sectors.

**Meetings:** The OATT will meet monthly or as required. Special meetings may be convened to address urgent issues.

### **Governance and Reporting:**

The PIMOS panel will appoint a Chair of the task team and SPC will provide secretariat support.

The OATT will report to the PIMOS panel quarterly, providing updates on activities, progress, and challenges.

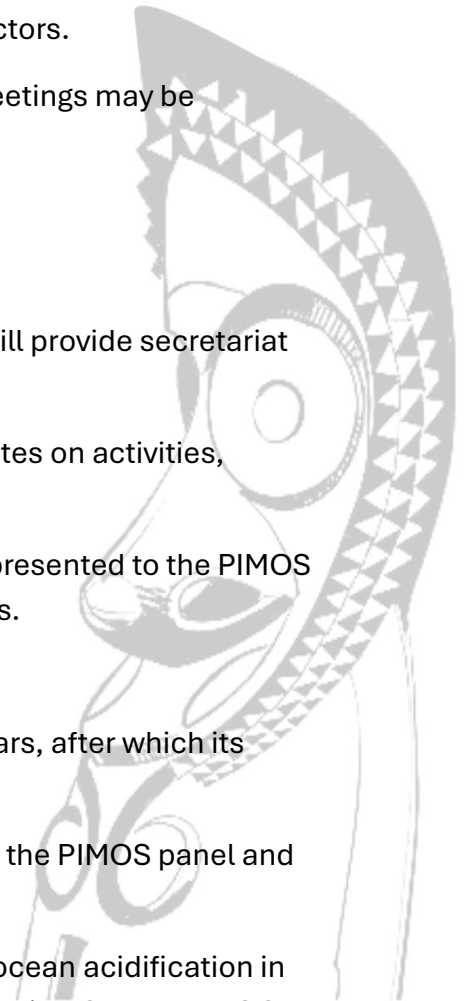
OATT is to develop a yearly workplan to guide its functions to be presented to the PIMOS Panel annual meeting and progress to be reported every 6 months.

Recommendations for action or will be included as necessary.

**Duration:** The OATT is established for an initial period of three years, after which its functions will be reviewed.

**Approval:** This Terms of Reference (ToR) is subject to approval by the PIMOS panel and may be amended as required to fulfill its mandate effectively.

This draft ToR is informed by the existing efforts and research on ocean acidification in the Pacific, such as the work of the Pacific Islands Ocean Acidification Centre (PIAOC) and aims to create a structured approach to tackling the challenges posed by ocean acidification in the Pacific region.







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### Document Revision:

1<sup>st</sup> draft- 25<sup>th</sup> July 2024 by Pacific Community

## Annex 4 COASTAL INUNDATION

### Terms of Reference

**Title:** Coastal Multi-hazard Early Warning System Task Team

### Introduction:

The Pacific Islands Marine and Ocean Services (PIMOS), one of the 6 panels under the Pacific Meteorological Council (PMC) has developed a task team on Coastal Multi-hazard Early Warning System (CMEWS) as endorsed during the Pacific Meteorological Council Meeting (PMC 6). The Task Team will support National Meteorological and Hydrological Services (NMHSs) in enhancing the development, implementation, and maintenance of early warning systems for coastal hazards, including tsunamis, storm surges, and coastal flooding, for the benefit of coastal communities in the Pacific Island Countries.

**Reporting to:** Pacific Islands Marine and Ocean Services (PIMOS), Panel under the Pacific Meteorological Council (PMC).

**Purpose:** The CMEWS Task Team is established to support and guide the development, implementation, and maintenance of comprehensive early warning systems for coastal hazards including tsunamis, storm surges, and coastal flooding, for the benefit of coastal communities in the Pacific Island Countries.

### Scope:

- Assess the status of early warning systems in the Pacific region and identify gaps.
- Develop a regional strategy or guideline for coastal multi-hazard early warnings that includes detection, monitoring, risk analysis, warning dissemination, and preparedness and response mechanisms.
- Promote the integration of traditional knowledge with scientific methods for hazard assessment and warning.
- Collaborate with NMHSs to strengthen their role in the CMEWS.
- Establish guidelines for the operationalization of standard operating procedures (SOPs) for coastal multi-hazards.



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- Facilitate the sharing of best practices, data, and information among Pacific Island countries.
- To enhance regional coordination and collaboration in the development and implementation of coastal multi-hazard early warning systems.
- To support the continuous enhancements of the CMEWS by improving the accuracy, reliability, and timeliness of early warning information for coastal hazards.
- To strengthen the capacity of Pacific Island countries in operating and maintaining early warning systems.
- To promote community awareness and preparedness for coastal hazards.
- To support the integration of early warning systems into national and regional disaster risk reduction strategies.

**Membership:** The CMEWS Task Team shall comprise representatives from:

- Pacific Island NMHSs.
- Pacific Community
- IOC-UNESCO
- National Disaster Management Offices
- PNG, Solomon Islands, Tonga and French Polynesia (members of the PTWS technical group)
- Regional and international organizations with expertise in early warning systems.
- Community representatives and non-governmental organizations.
- Other members as required

**Meetings:** The CMEWS Task Team will convene monthly or as required. Extraordinary meetings may be called to address urgent matters.

**Governance and Reporting:**

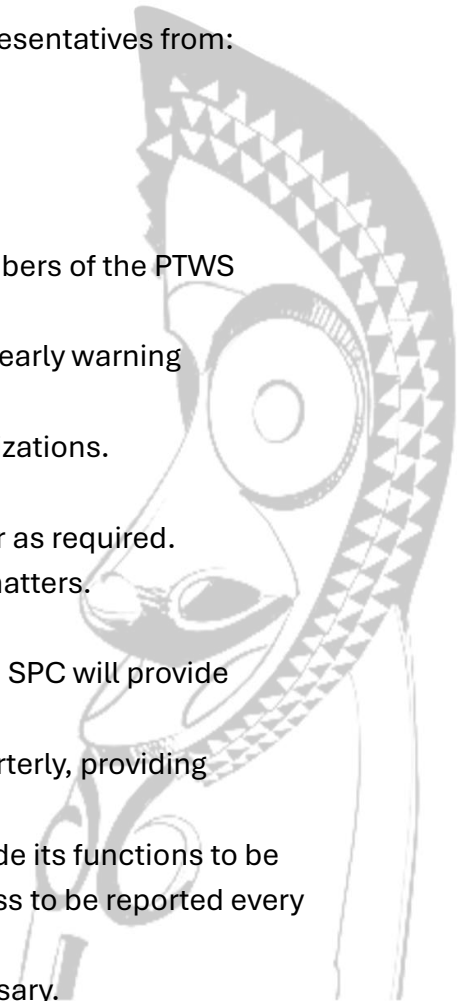
The PIMOS panel will appoint a Chair of the task team and SPC will provide secretariat support.

The CMEWS Task team will report to the PIMOS panel quarterly, providing updates on activities, progress, and challenges.

CMEWS Task team is to develop an yearly workplan to guide its functions to be presented to the PIMOS Panel annual meeting and progress to be reported every 6 months.

Recommendations for action or will be included as necessary.

**Duration:** The CMEWS Task Team is established for an initial period of three years, after which its functions will be reviewed.





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**Approval:** This Terms of Reference (ToR) is subject to approval by the PIMOS panel and may be amended as required to fulfill its mandate effectively. This draft ToR is designed to be a dynamic document that can be updated as the task team progresses in its objectives.

Document Revision

1<sup>st</sup> draft 25<sup>th</sup> July 2024 by Pacific Community

## Annex 5 COORDINATION AND PARTNERSHIP

### Terms of Reference

**Title:** Regional Coordination and Partnership Task Team

**Authority:** Pacific Islands Marine and Ocean Services (PIMOS), Panel under the Pacific Meteorological Council (PMC)

### Introduction:

The Pacific Islands Marine and Ocean Services (PIMOS) Panel under the Pacific Meteorological Council (PMC) has established a Regional Coordination and Partnership on Ocean Science and Services Task Team (RCPTT), as endorsed during the Pacific Meteorological Council Meeting (PMC 6).

**Purpose:** The Regional Coordination and Partnership on Ocean Science and Services Task Team (RCPTT) is established to foster a collaborative environment for the advancement of ocean science and the enhancement of marine services. The RCPTT will serve as a central hub for the coordination of regional efforts, promoting partnerships and integration of activities related to ocean science and services.

### Scope:

- Enhance regional capacity for ocean observations, data management, and service delivery through targeted training and capacity-building programs.
- Coordinate regional responses to ocean-related challenges, including climate change, biodiversity loss, and pollution.
- To enhance regional coordination and collaboration in ocean science and services.
- To foster partnerships among national, regional, and international stakeholders.
- To improve the delivery and accessibility of ocean science and services in the Pacific region.



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- To promote the integration of ocean science into regional and national policies and decision-making processes.
- To support Pacific Island countries with resource mobilization the development of initiatives to strengthen ocean science and services at a national level.
- Provide advise to Pacific Island Global Ocean Observing System (PIGOOS) and report to PIMOS on PIGOOS activities.

**Membership:** The RCPTT shall comprise representatives from:

- National Meteorological and Hydrological Services of Pacific Island countries.
- Pacific Community
- SPREP
- Regional intergovernmental organizations and development partners.
- Technical, Scientific and academic institutions with expertise in oceanography and marine services.
- Non-governmental organizations and civil society groups with interests in ocean conservation and sustainable use.

**Meetings:** The RCPTT will convene monthly or as required. Extraordinary meetings may be called to address urgent matters

### **Governance and Reporting:**

The PIMOS panel will appoint a Chair of the task team and SPC will provide secretariat support.

The RCPTT will report to the PIMOS panel quarterly, providing updates on activities, progress, and challenges.

RCPTT is to develop a yearly workplan to guide its functions to be presented to the PIMOS Panel annual meeting and progress to be reported every 6 months. Recommendations for action or will be included as necessary.

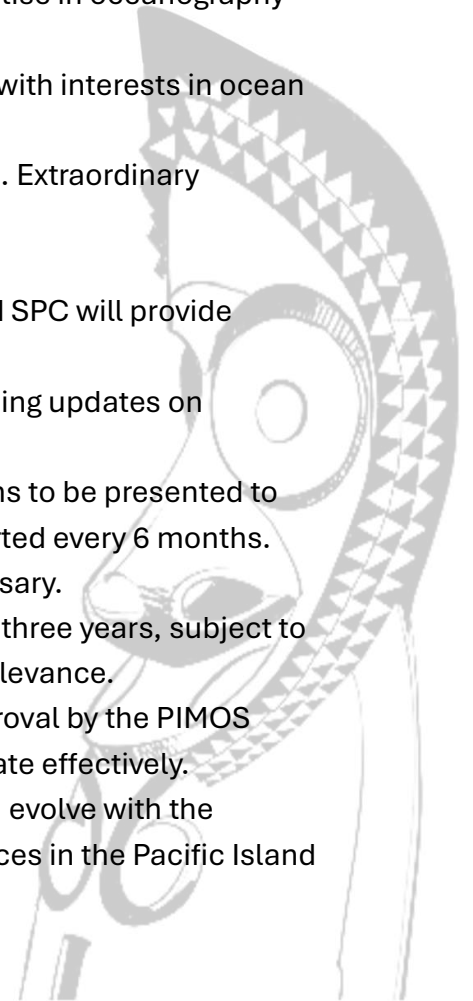
**Duration:** The RCPTT is established for an initial period of three years, subject to renewal based on a performance review and continued relevance.

**Approval:** This Terms of Reference (ToR) is subject to approval by the PIMOS panel and may be amended as required to fulfill its mandate effectively.

This draft ToR is designed to be a living document that can evolve with the changing priorities to strengthen ocean science and services in the Pacific Island Countries.

### **Document Revision**

1<sup>st</sup> draft 25<sup>th</sup> July 2024 by Pacific Community







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### Annex 6 TSUNAMI

#### **Pacific Islands Countries and Territories Regional Working Group on Tsunami Warning and Mitigation (WG-PICT)**

**Chair:** Mrs. Esline Garaebiti (Vanuatu), (January 2021 – 2025)

**Vice-chair** Mr. Mathew Moihoi (Papua New Guinea), January 2021 - 2025

#### **Terms of reference (updated in Jan 2023):**

1. To continually review and evaluate capabilities of, and evaluate capabilities of, and make recommendations for improvements to countries in the Pacific Islands and Territories (PICT) Region for providing end to –end tsunami warning and mitigation services within the multi-hazard framework.
2. To support the involvement and contribution of PICT in the activities of the ICG/PTWS
3. To promote and facilitate the tsunami hazard and risk studies in the PICT region.
4. To facilitate cooperation in the establishment and upgrading of earthquake and tsunami monitoring networks in the region and the interoperability of these systems in accordance with ICG/PTWS requirements.
5. To facilitate training and capacity building in the end-to-end tsunami warning and mitigation system in the region.
6. To encourage the sharing of tsunami information, including but not limited to the free and open exchange of data.
7. To facilitate tsunami awareness in school curricula, and development and dissemination of public educational materials
8. To work in cooperation with PTWS Working Group 1, 2, & 3 and relevant task teams, especially on activities that strengthen country capacity in tsunami warning, risk mitigation & emergency response. Support the implementation of Tsunami priorities under the UN Decade.

#### **Membership:**

Members composed of representatives from Pacific Island Countries and Territories (PICTs), Council of Regional Organizations in the Pacific (CROP) Agencies, International Tsunami Information Centre (ITIC) and WMO, Chair and



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Vice-Chair elected by the members of the Working Group AND endorsed by the ICG.

### **PIMOS TOR**

- a. Provide technical advice to the PMC on matters related to marine and ocean services, with an emphasis on marine meteorology, coastal inundation and relevant met ocean and geo-hazards, ,maritime safety, monitoring, detection of and advising/warning on the impacts of climate change on oceans, information related to coastal zone management and marine spatial planning, at the community, national and regional levels.

### **WG-PICT TASK TEAMS**

1. **WG-PICT TASK TEAM INFORMATION SHARING PLATFORMS**
2. **TASK TEAM SEISMIC DATA SAHRING IN THE SOUTHWEST PACIFIC**
3. **TASK TEAM CAPACITY DEVELOPMENT**

