







"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 September 2024, Warwick Le Lagon-Vanuatu Resort, Port Vila, Vanuatu

Agenda Item 15.2: Update on the development of Guidance for the delivery to the requirements of Regulation V/5 on meteorological services and warnings of the International Convention for the Safety of Life At Sea, 1974

Purpose

 To seek endorsement of the Guidance for the delivery to the requirements of Regulation V/5 on meteorological services and warnings of the International Convention for the Safety of Life At Sea (SOLAS) 1974.

Background

- 2. In order to support sustainable economic development and protect the ocean and the marine environment of Pacific Island Countries and Territories (PICTs), it is necessary that navigation of vessels and all activities within the waters under PICTs jurisdiction are carried out safely.
- 3. The Chapter V of the SOLAS Convention adopted by the International Maritime Organization (IMO) applies to all ships and requires Contracting Governments and States to ensure safety of navigation by providing services such as navigational warnings, meteorological services and warnings, search and rescue (SAR) services, hydrographic and pollution services, ship routeing and ship reporting systems, vessel traffic services (VTS), and the establishment and operations of aids to navigation (AtoN).
- 4. The SOLAS Convention requires from Contracting Governments and States to provide and disseminate meteorological services and warning under Regulation V/5 and to use the provisions of the IMO Instruments Implementation Code (III Code) adopted by resolution A.1070(28) in the execution of their obligations and responsibilities.
- 5. The III Code under Chapter XIII of the SOLAS Convention requires IMO Member States to promulgate laws and regulations and take all other steps to give full and complete effect to the instruments to which they are Contracting Governments or Parties. By Resolution A. 1157(32), IMO adopted the 2021 non-exhaustive list of obligations under instruments relevant to the III Code that includes obligations of









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- contracting Governments/Parties and specific flag, port and coastal State obligations.
- 6. Meteorological Services and warnings are obligations of Contracting Governments/Parties in Resolution A. 1157(32) and as such are subject to audits under the IMO Member State Audit Scheme (IMSAS) to verify compliance with, and implementation of, these obligations of the SOLAS Convention by Contracting Governments/Parties. Regulation XIII/3 of the SOLAS Convention provides every Contracting Government with the responsibility to facilitate the conduct of the audit and implementation of a programme of actions to address the findings, based on the Framework and Procedures for the IMO Member State Audit Scheme adopted by resolution A.1067(28).

Update

- 7. The *Pacific Islands Meteorological Strategy (PIMS) 2017-2026* sets out the strategic context and direction for strengthening the Pacific NMHSs. Under the Key Outcome 2) Improved marine meteorological services, several national and regional priority actions have been adopted including the establishment of a Quality Management System (QMS) for marine meteorological services.
- 8. The PMC-6 recommended the development of checklist to identify gaps and monitor progress ensuring international compliance obligations related to meteorological services and warnings under the SOLAS Convention are met.
- 9. To respond to this request, a Task Team led by Solomon Islands Maritime Authority (SIMA) was established under the PIMOS. The Task Team, coordinated by SPC, approached the Australian Bureau of Meteorology to get feedback from their IMSAS Audit experiences and obtain relevant documents.
- 10. In 2023-2024, SIMA used the opportunity of leading the Task Group to review its implementation of the Regulation V/5 of the SOLAS Convention which led to the signing of a Memorandum of Understanding (MOU) between the Solomon Islands Meteorological Services (SIMS) and SIMA on 20 August 2024. The MOU provides for shared responsibilities between the two agencies representing the maritime administration in the context of the III Code implementation and having the shared responsibility in delivering meteorological services and warnings thus fulfilling the obligation of Solomon Islands as Contracting Government of the SOLAS Convention.









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- 11. As an international maritime obligation, the delivery of meteorological services and warnings must be included in the strategy recommended in Part 1 section 3 of the III Code to ensure effective implementation of this obligation and monitor performance and capability as coastal State.
- 12. Meteorological services and warnings are maritime safety information (MSI) issued within defined METAREAs under the WMO Worldwide Met-Ocean Information and Warning Service (WWMIWS) within the framework of the International Maritime Organization's (IMO's) Global Maritime Distress and Safety System (GMDSS). In this context, the delivery of meteorological services and warnings is now considered in long-term strategies under the Pacific Regional One Maritime Framework (POMF) to be adopted by the 6th Pacific Regional Energy and Transport Ministers' Meeting in 2026 in Port Moresby, Papua New Guinea. Delivery of these services is integrated in the POMF's strategies related to regional cooperation, technology uptake and innovation, and resilience of maritime infrastructure and shipping services. The POMF's strategies will contribute to the vision and key outcomes of the Pacific Islands Meteorological Strategy.
- 13. The draft WMO guidance for implementing SOLAS was submitted to the IMO. While the guidance was accepted, it was not formally endorsed and will be considered for inclusion in the next update of any IMSAS guidance. A key focus was on ensuring the proper wording to facilitate the sharing of findings with relevant in-country or regional authorities and agencies. However, fostering strong in-country relationships remains the most effective way to promote transparency and improvement. Simply including a 'shall' in an IMO document does not guarantee that audit findings will be shared between agencies. For example, in METAREA XIV, NZ MetService has an open relationship with its NavArea counterpart, Maritime NZ, allowing for the sharing of IMSAS audit findings. This can also be achieved through a Non-Disclosure Agreement (NDA) if the content is sensitive.
- 14. The checklist was largely based on the draft WMO guidance for the implementation of the SOLAS Convention and offers some contextualisation through regional examples.

Conclusions

15. As a result, the Guidance for the delivery to the requirements of Regulation V/5 on meteorological services and warnings of the International Convention for the Safety of Life At Sea (SOLAS) 1974 in **Annex 1** has been developed to assist PICTs IMO









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- Member States to achieve compliance with the SOLAS obligation, identify gaps and prepare for the IMSAS audit related to meteorological services and warnings.
- 16. Upon endorsement by PMC-7 of Annex 1 of this document, a plan will be developed to conduct verifications in the form of mock audits using the guidance in Annex 1 which will be trialled in Solomon Islands at the end of September 2024 to ensure of relevance of the guidance.

Recommendations:

- 17. The Meeting is invited to:
 - a) Endorse the Guidance for the implementation of Regulation V/5 on meteorological services and warnings of the International Convention for the Safety of Life At Sea (SOLAS) 1974 SOLAS, which is a live document.
 - **b) Encourage** Technical partners and donors to support NMHSs in the implementation of this guidance
 - c) Encourage Technical partners and donors to help address gaps through b such as the need to strengthen QMS.
 - **d) Recommend** that NMHSs establish a Memorandum of Understanding (MOU) with the in-country Maritime administration. The MOU should identify areas for collaboration to meet SOLAS requirements and include a clause for the sharing of audit findings.

References:

International Convention for the Safety of Life at Sea (SOLAS), 1974 (imo.org)

Resolution A.1070(28) on the IMO Instruments Implementation Code (III Code)

Resolution A. 1157(32) on the 2021 non-exhaustive list of obligations under instruments relevant to the III Code

IMO Member State Audit Scheme

Resolution A.1067(28) on the Framework and Procedures for the IMO Member State Audit Scheme









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MSC 99/21/10 proposing additional guidance in the context of resolution A.1067(28) on Framework and Procedures for the IMO Member State Audit Scheme, within the area of competence of the World Meteorological Organization (WMO)

MSC.1/Circ.1293/Rev.1 on Participation in the WMO Voluntary Observing Ships Scheme.

WMO No. 9 Vol D Information for Shipping | World Meteorological Organization

WMO-No 558- <u>Manual on Marine Meteorological Services - Volume I — Global Aspects :</u> Annex VI to the WMO Technical Regulations (*should be updated in 2025*)

Additional resources from (https://community.wmo.int/en/activity-

areas/Marine/Pubs/MSI) include:

Joint IMO/IHO/WMO Manual on Maritime Safety Information

IMO/WMO Worldwide Met-Ocean Information and Warning Service – Guidance Document

Recommendations on the Promulgation of Maritime Safety Information











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Annex 1

GUIDANCE FOR THE DELIVERY TO THE REQUIREMENTS OF REGULATION V/5 ON METEOROLOGICAL SERVICES AND WARNINGS OF THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA (SOLAS) 1974 (NOTE: MAJORITY OF THIS GUIDANCE WAS BASED ON A DRAFT WMO GUIDANCE SUBMITTED TO IMO)

Part1. Please complete the following relating to management of Met-Ocean Maritime Safety Information (MSI) service provision:

(a) Who is responsible for the implementation of International Convention for the Safety of Life At Sea (SOLAS), 1974 in your country?

NMHSs need to know which government agency or Ministry or administration that has been tasked by legislation/decree/regulation to oversee the implementation of SOLAS in your country. For example, the Minister responsible for Port and Marine is responsible for SOLAS implementation in Tonga (Shipping Act 2016).

Notably, SOLAS involves multiple partners including NMHS, and these partners need to work alongside one another to ensure a successful implementation of SOLAS. For example, the issuing service (usually the coastal stations) must work with the preparation service (usually the NMHS) to ensure that weather information including weather charts are provided at least twice daily. Failing of NMHSs to deliver the weather information to coastal station, will result in non-compliance of the Contracting Government with its international maritime obligations as Party to SOLAS.

(b) Are quality management systems implemented? (WMO 558 and Vol D require all participants to have a Quality Management System (QMS))

If the answer to this question is "yes", do you have a manual for meteorological services you provided to mariners/users? Do you have procedures in places for control of document and records?

If the answer to this question is "Partial" or "No", why?









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(c) Is the responsibility for providing marine meteorological services officially assigned by your government, by decree or any other legal text, to an organization within your country? If so, please specify.

If it is the NMHS, please provide the Act, regulations or MOU declaring that responsibility.

If no, perhaps it is best NMHSs should engaged with authority to ensure that the contracted company or agency complies with SOLAS.

(d) Are there regular meetings with relevant government agencies and marine users?

If the answer to this question is "yes", do you have evidence that meetings occurred regularly?

If the answer to this question is "Partial" or "No", why?

(e) Is there regular assessment of the quality of marine meteorological services?
 (Quality may be defined as performance of accuracy, or the extent to which user requirements are met.)

If the answer to this question is "yes", do you have mechanism in place (procedure) for customer satisfaction so that continual improvement is strengthening the partnership between you and users, do you have regular meetings/survey/workshops with users?

- If the answer to this question is "Partial" or "No", why?
 - (f) Is there a process for reviewing and updating the information pertaining to your national marine meteorological service in the documents: Weather Reporting (WMO-No. 9), Volume D – Information for Shipping, and the GMDSS Master Plan? (Auditor to record date of last review.)
- WMO-No 9 provides mode of transmission and transmission schedules for broadcasting weather information and warnings in the METAREA. It also gives names of the responsible preparation service and issuing service for the METAREA for High Seas. For the coastal forecast and warnings, for example, the issuing service for Fiji coastal waters is Suva radio coast station using VHF and HF radios and broadcast times are 0803, 1203,1603 and 2003 Local time. NMHS needs check if the issuing service for your country is listed in the WMO-No 9.
 - (g) Do you require capacity-building support to help develop your marine meteorological services?









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-If the answer to this question is "yes", please indicate in which aspect that support is required.











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Part 2. Please complete the following relating to the provision of met-ocean MSI (answer as Yes, No or Partial, and comments should be added where appropriate).

a) Do you provide marine forecasts and warnings for ports and coastal waters within your national jurisdiction?

If the answer to this question is "No", who is providing marine forecasts and warnings for ports and coastal waters on your behalf? And do you have any MOU in place with the provider?

b) Do you provide marine forecasts and warnings for a METAREA, as part of your designated responsibility within the IMO/WMO Worldwide Met-Ocean Information and Warning Service (WWMIWS)?

Fiji Meteorological Services is the preparation service for High Seas Forecast and Warnings for countries bounded by the area, Equator to 25S between 160E and 120W and New Zealand is the issuing service.

If the answer is "no" to both of the above, please outline reasons for not providing marine forecasts and warnings for your national jurisdiction? [Proceed to Part 4 on observations from ships]

If the answer is "yes" to either of the above, proceed with the following questions:

- a) Do met-ocean MSI forecast products include wind information?
- -if the answer to this question is "yes", where it is documented?
- -a regional office can, and should, produce and disseminate any MSI within their AOR unless requested from another agency (ideally with a MOU)
 - b) Do met-ocean MSI forecast products include sea state information?
- -if the answer to this question is "yes", where it is documented?
 - c) Do met-ocean MSI forecast products include information about reduced visibility?
- -if the answer to this question is "yes", where it is documented?









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- d) Are warnings for wind speeds greater than Beaufort 8 (34 knots) issued?
- -if the answer to this question is "yes", where it is documented?
 - e) If you have seasonal occurrence of ships reporting on ice accretion hazards in your area, do you issue ice accretion warnings? N/A for NMHS in the tropical Pacific
 - f) If annual or seasonal sea-ice (including icebergs) occurs in your area, do the MSI forecast products include information about sea-ice? N/A for NMHS in the tropical Pacific
 - g) Do you provide specific assistance to authorities responsible for Search and Rescue?
- if the answer to this question is "yes", do you have any Act/legislation/decree or MOU in place that gives you this responsibility?
 - h) Do you provide specific assistance to authorities responsible for Marine Environmental Emergency Response (e.g. oil spills, biological hazards)?
- if the answer to this question is "yes", do you have any Act/legislation/decree or MOL in place that gives you this responsibility?

Continue to section 3 on general administration of the WWMIWS.









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Part 3. General administration information for the IMO/WMO Worldwide Met-Ocean Information and Warning Service (WWMIWS)

- (a) Who is the METAREA Coordinator for your METAREA?
- e.g., New Zealand (Mr. Ramon Oosterkamp) is the METAREA coordinator for METAREA XIV and has responsibility for ensuring MSI (as per WMO 558 et al) within the area which extends to the equator, between 160E and 120W.
 - (b) Who are the Issuing Services and/or Preparation Services within your METAREA for enhanced group call (EGC) broadcasts?

Issuing Services: New Zealand MetService for METAREA XIV, Australian Bureau of Meteorology for METAREA X

Preparation Services: New Zealand MetService and Fiji Meteorological Services for METAREA XIV, Australian Bureau of Meteorology, Fiji Meteorological Services and Papua New Guinea National Weather Service for METAREA X

- (c) Are you an Issuing Service?
- if the answer to this question is "yes", do you have any legislation or MOU in place that gives you this responsibility?
- e.g. Tonga Met Service is the issuing service for Tonga and its function is not restricted to weather warnings only but it also includes navigational warnings.
 - (d) Are you a Preparation Service?
- if the answer to this question is "yes", do you have any legislation or MOU in place that gives you this responsibility?
- e.g., Tonga Meteorological Service is the preparation service for the Tonga coastal waters.

Continue to section 4 on facilitating observations from ships.









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Part 4. Facilitating observations from ships

- (a) Do you have a process to encourage vessels under your national flag to make and record weather observations, and to share these observations with the relevant meteorological service providers
- if the answer to this question is "yes", do you have any Act/legislation/decree or MOU in place that gives you this responsibility? Any process or procedure in place to ensure accuracy of instruments in Ships, and data obtained are quality check, before dissemination and exchanging?
 - if No, or partial, why?
 - (b) Who make arrangements for a selection of ships to be equipped with tested marine meteorological instruments to take, record and transmit meteorological observations?
 - -NMHSs or Maritime authority or any other Agencies
 - -If NMHS,
- i) What procedures in place for choosing the ship?
- ii) If NMHS is partially responsible, what processes in place to support these arrangements?
- (c) Who issue (distribute) weather information including warnings (gale, storm and tropical cyclones) to departing ships and mariners? Regulation 5(b)(i)
- NMHSs or Maritime authority or any other Agencies
- -If NMHS is the answer,
 - i) What systems are used to issue the weather information?
 e.g., radio HF, VHF, etc.
 - ii) How frequently is weather information suitable for shipping issued?
 - should be at least at least twice daily.
 - iii) Are weather observations transmitted free of charge to the ships concerned? Regulation 5(b)(iv)
 - should be free of charge [in contrast some NMHSs recovered their cost on providing civil aviation services by charging airlines and ICAO has no regulation to stop them]









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- iv) What guidelines are provided for ships in the vicinity of tropical cyclones regarding observation frequency? Regulation 5(b)(iv)
- v) Do you encourage harbour masters to inform ships in the vicinity whenever they experience a wind speed of 50 knots or more.
- (d) Who maintain communication with the Navigational Warning Areas (NAVAREA X (Australia) or NAVAREA XIV (New Zealand)) coordinator under the World-Wide Navigational Warning Service (WWNWS)?
- -NMHSs or Maritime authority or any other Agencies
- -If NMHSs,

What mechanism in place for communication with NAVAREA X or XIV?











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Terminologies:

Quality management of service (QMS):

is a business tool used by organizations to achieve efficiency and effectiveness, and improve relationship with customers

Marine Meteorological Services:

Broadly speaking, marine meteorological services have two functions:

- (a) To serve international shipping, fishing and other marine activities on the high seas;
- (b) To serve the various activities that take place in coastal and offshore areas, ports, lakes and on the coast.

Preparation Service: Is a National Meteorological Service which has accepted responsibility for the preparation of forecasts and warnings for parts of, or an entire, designated area (METAREA) in the WMO system for the dissemination of meteorological forecasts and warnings to shipping under the GMDSS and for their transfer to the relevant **issuing service** for broadcast.

Worldwide Met-Ocean Information and Warning Service (WWMIWS) is a website that displays the marine forecast and warning products that are provided to mariners via SafetyNet and Navtex, as part of the World Meteorological Organization's Worldwide Met-Ocean Information and Warning Service (WWMIWS), within the framework of the International Maritime Organization's (IMO) Global Maritime Distress and Safety System (GMDSS).

Enhanced Group Call (EGC) means the broadcast of coordinated Maritime Safety Information and Search and Rescue related information, to a defined geographical area using a recognized mobile satellite service.

Maritime Safety Information (MSI) means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.

METAREA Coordinator means the individual with the authority to coordinate marine meteorological information broadcasts by one or more National Meteorological and Hydrological Services acting as Preparation or Issuing Services within the METAREA.

METAREA:



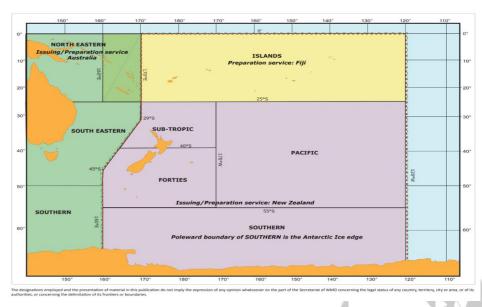


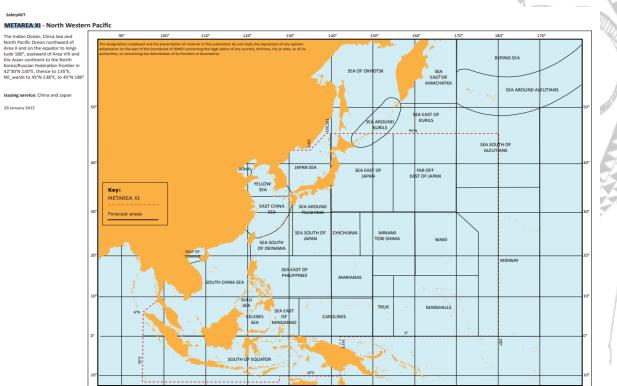




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Refers to the Worldwide Met-ocean Information and Warning Service that is coordinated across the oceans through 21 defined areas,













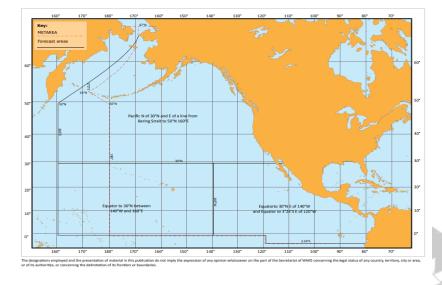
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SafetyNET

METAREA XII

The eastern part of the Pacific Ocean, west of the North and South American coasts and east of 120°W, from 3°24'S to the Equator, thence to 180°, to 50° thence north-westward to 53°N 1272°E, north-eastward following the marine frontier between the United States and Russian Federation waters to 6°7N.

Issuing service: United States of America
2 February 203°.



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The **METAREA**s are identical to the **NAVAREAs** used by the International Hydrographical Organization (IHO) for the broadcast of navigational warnings











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Annex 2

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Member States scheduled to be audited in 2025

No.	Member State	Audit period	Remark
138	Panama	October	Audit confirmed
158	Iran (Islamic Republic of)	October	Audit confirmed
167	Slovenia	September	Audit confirmed
170	Belize	November	Audit confirmed
171	Tunisia	February	Audit confirmed
172	Saint Kitts and Nevis	February	Audit confirmed
173	Belgium	March	Audit confirmed
15	El Salvador ²	February	Audit confirmed
61	Colombia ²	March	Audit confirmed
84	Croatia ²	February	Audit confirmed
13	Angola ²	March	Audit confirmed
65	Indonesia ²	February	Audit confirmed
8	Georgia ²	May	Audit confirmed
60	Cook Islands ²	October	Audit confirmed
89	Saint Vincent and the Grenadines ²	May	Audit confirmed
174	Zambia	May	Audit confirmed
175	Belarus	September	Audit confirmed
176	Armenia		(Audit postponed based on decision of C 130)
177	Nauru	September	No response yet
1	Guinea-Bissau	September	No response yet
4	Bosnia and Herzegovina	October	No response yet
39	Iraq	November	Audit confirmed
74	San Marino	September	Audit confirmed
83	Uganda	October	Audit confirmed
112	Timor-Leste	October	No response yet
90	Libya	April	Audit confirmed
179	Kyrgyzstan		(Audit to be postponed pending decision of C 132)

