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| ASSEMBLY  27th session  Agenda item 9 | A 27/Res.1051  20 December 2011  Original: ENGLISH |

**Resolution A.1051(27)**

**Adopted on 30 November 2011**

**(Agenda item 9)**

**IMO/WMO WORLDWIDE MET-OCEAN INFORMATION AND**

**WARNING SERVICE – GUIDANCE DOCUMENT**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization regarding the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

NOTING the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, in particular regulation V/5 (Safety of navigation – Meteorological services and warnings),

BEARING IN MIND the decisions of the 62nd Executive Council (2010) of the World Meteorological Organization (WMO),

RECOGNIZING that the IMO/WMO World-wWide Met-Ocean Information and Warning Service (WWMIWS) needs to be fully in harmony with the IMO/IHO World-Wide Navigational Warning Services and able to respond to requirements for maritime safety services expressed by IMO,

NOTING the provisions made for the promulgation of maritime safety information by   
the 1988 amendments to the 1974 SOLAS Convention concerning radio communications for the Global Maritime Distress and Safety System (GMDSS),

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee of the IMO at its eighty-ninth session,

1. ADOPTS the IMO/WMO Worldwide Met-Ocean Information and Warning Service ‒ Guidance Document, as set out in the annex to the present resolution;

2. RECOMMENDS Governments to implement wWWMIWS;

3. AUTHORIZES the Maritime Safety Committee to keep the annexed guidance document under review and update it as necessary in light of experience gained in its application, in accordance with the procedure set out in section 7 of the annex to the present resolution.

Annex

**IMO/WMO WORLDWIDE MET-OCEAN INFORMATION AND WARNING SERVICE**

**GUIDANCE DOCUMENT**

**1 INTRODUCTION**

* 1. The IMO/WMO Worldwide Met-Ocean Information and Warning Service (WWMIWS) is the internationally coordinated service for the promulgation of meteorological warnings and forecasts to vessels undertaking international or national voyages.
  2. The purpose of this document is to provide specific guidance for the promulgation of meteorological warnings and forecasts. Its guidance does not apply to purely national services which supplement these internationally coordinated services.

1.3The WWMIWS coordinates the necessary meteorological information requirements outlined in the International Convention for the Safety of Life at Sea (SOLAS), 1974   
(1974 SOLAS Convention), chapter V (Safety of Navigation), as amended, regulation 5 (Meteorological services and warnings).

1.4The WMO Executive Council, at its sixty-first session (June 2009), requested WMO to establish and develop, in collaboration with IMO, terms of reference for the development of an IMO/WMO Worldwide Met-Ocean Information and Warning ServiceWWMIWS Guidance document (WWMIWS), to complement the existing IMO/IHO World-Wide Navigational Warning Services (WWNWS) Guidance document (WWNWS), provided in resolution A.706(17), as amended.

1.6Future amendments to this guidance document will be considered formally and approved by both WMO and IMO in accordance with the procedure set out in the Annex. Proposed amendments should be evaluated by the WMO World-Wide Met-Ocean Information and Warning ServiceWWMIWS Committee (WWMIWS Committee) which includes an ex-officiorepresentative of the IMO Secretariat, prior to any extensive WMO and IMO consideration.

**2 DEFINITIONS**

For the purposes of the WWMIWS, the following definitions apply:

.1*Coastal and offshore waters* applies to areas for which Member States issue weather and sea bulletins, governed by the procedures in Annex IV of the WMO Technical Regulations, the Manual on Marine Meteorological Services (WMO-No. 558).

2. *Enhanced Group Call (EGC)* means the system for broadcasting messages via the mobile satellite communications system (operated by Inmarsat Global Limited. EGC is a part of the Inmarsat C system and supports two services: SafetyNET and FleetNET).

.3 *Global Maritime Distress and Safety System (GMDSS)* means the global communications service based upon automated systems, both satellite and terrestrial, to provide distress alerting and promulgation of maritime safety information (MSI) for mariners.

.4*HF NBDP* means High Frequency narrow-band direct-printing, using radio telegraphy as defined in Recommendation ITU-R M.688.

.5 *High Seas* applies to areas for which Member States issue weather and sea bulletins, for the purposes of the IMO/WMO Worldwide Met-Ocean Information and Warning ServiceWWMIWS, and governed by the procedures in WMONo. 558 – *Manual on Marine Meteorological Services*.

*.6 International NAVTEX service* means the coordinated broadcast and automatic reception on 518 kHz of MSIMSI by means of narrow-band directprinting telegraphy using the English language[[1]](#footnote-0).

67 *International SafetyNET and SafetyNET II services* means the coordinated broadcast and automatic reception of MSI via the Inmarsat Enhanced Group Callsystem, using the English language,   
in accordance with the

provisions of the 1974 SOLAS ConventionInternational Convention for the Safety of Life at Sea, 1974, as amended.

*.*78 *Issuing Service* means a National Meteorological Service which has accepted responsibility for ensuring that meteorological warnings and forecasts for shipping are disseminated through the International SafetyNET service to the designated area (METAREA) for which the Service has accepted responsibility under the WWMIWS[[2]](#footnote-1).

.89*Maritime safety information (MSI)*[[3]](#footnote-2)means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.

.910 *MSI service* means the internationally and nationally coordinated network of broadcasts containing information which is necessary for safe navigation.

.101 *METAREA* means a geographical sea area[[4]](#footnote-3) established for the purpose of coordinating the broadcast of marine meteorological information. The use of a roman numeral is used to distinguish different METAREAs.is The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States.

.112 *METAREA Coordinator* refers to the individual with the authority to coordinate arine Meteorological Information broadcasts by one or more National Meteorological Services acting as Preparation or Issuing Services within the METAREA.

.123 *Meteorological information* means the marine meteorological warning and forecast information in accordance with the provisions of the 1974 SOLAS Convention, as amended;

.134 *National NAVTEX service* means the broadcast and automatic reception of MSI by means of narrow-band direct-printing telegraphy using frequencies other than 518 kHz and languages as decided by the Administration concerned.

.145 *National SafetyNET and SafetyNET II services* means the broadcasting and automated reception of MSI via the Inmarsat EGC system, using languages as decided by the Administration concerned.

.156*NAVAREA* means a geographical sea area[[5]](#footnote-4) established for the purpose of coordinating the broadcast of navigational warnings. The use of a roman numeral is used to distinguish different NAVAREAs.is The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States.

*.*167 *NAVTEX* means the system for the broadcast and automatic reception of MSI by means of narrow band direct-printing telegraphy.

.178*NAVTEX Coordinator* means the authority charged with operating and managing one or more NAVTEX stations broadcasting MSI as part of the International NAVTEX service.

.189 *NAVTEX coverage area* means an area defined by an arc of a circle having a radius from the transmitter calculated according to the method and criteria given in IMO resolution A.801(19), as amended.

.920 *NAVTEX service area* means a unique and precisely defined sea area, wholly contained within the NAVTEX coverage area, for which MSI is provided from a particular NAVTEX transmitter. It is normally defined by a line that takes full account of local propagation conditions and the character and volume of information and maritime traffic patterns in the region, as given in IMO resolution A.801(19), as amended ;

.201 *Other urgent safety-related information* means MSI broadcast to ships that is not defined as a navigational warning or meteorological information. This may include, but is not limited to, significant malfunctions or changes to maritime communications systems, and new or amended mandatory ship reporting systems or maritime regulations affecting ships at sea;

.212 *Preparation Service* means a National Meteorological Service which has accepted responsibility for the preparation of warnings and forecasts for parts of or an entire designated area (METAREA) in the WMO system for the dissemination of meteorological forecasts and warning to shipping under the WWMIWS and for their transfer to the relevant Issuing Service for broadcast.

*.*223 *Recognized mobile satellite service (RMSS)*[[6]](#footnote-5)means any service which operates through a satellite system and is recognized by the Organization, for use in the GMDSS.

(Definition of Recognized Mobile Satellite Service, from MSC 99/3, A1 p4)

.234 *SafetyNET* and *SafetyNET II* means the international service for the broadcast and automatic reception of MSI via the Inmarsat EGC system. SafetyNET receiving capability is part of the mandatory equipment which is required to be carried by certain ships in accordance with the provisions of the 1974 SOLAS Convention, as amended;.

.245 *Sub-area* means a subdivision of a NAVAREA/METAREA in which a number of countries have established a coordinated system for the promulgation of MSI. The delimitation of such areas is not related to and shall not prejudice the delimitation of any boundaries between States;

.256 *Sub-area Coordinator* means the authority charged with coordinating, collating and issuing sub-area warnings for a designated sub-area;

.267 *User defined area* means a temporary geographic area, either circular or rectangular, to which MSI is addressed;

.278 *UTC* means Coordinated Universal Time which is equivalent to GMT (or ZULU) as the international time standard;

.289In the operating procedures, *coordination* means that the allocation of the time for data broadcast is centralized, the format and criteria of data transmissions are compliant as described in the *Joint IMO/IHO/WMO Manual on Maritime Safety Information* and that all services are managed as set out in resolutions A.705(17), as amended, A.706(17), as amended and A.1051(27).

**3 METEOROLOGICAL INFORMATION BROADCASTS**

**3.1 Methods**

3.1.1 **Principal methods**

Thetwo principal methods used for broadcasting marine meteorological information as part of MSI in accordance with the

provisions of the 1974 SOLAS ConventionInternational Convention for the Safety of Life at Sea, 1974, as amended.

, in the areas covered by these methods, are as follows:

.1*NAVTEX*: broadcasts to coastal and offshore areas; and

.2*EGC:* broadcasts which cover all the waters of the globe except for Sea Area A4, as defined by IMO resolution A.801(19), as amended.

3.1.2 **Additional Methods**

Administrations may also provide meteorological warning and forecast information by other means.

The World Meteorological Organization has organized an internet-based website portal to display MSI bulletins for each METAREA and some national services. The website portal also provides access to ice bulletins.

A website portal is also available to access sea-ice charts for Arctic and Antarctica waters.

3.1.3MSI Information should be provided for unique and precisely defined sea areas, each being served only by the most appropriate of the above methods. Although there will be some duplication to allow a ship to change from one method to another, the majority of MSI will be broadcast either on NAVTEX or by EGC.

3.1.4NAVTEX broadcasts should be made in accordance with the standards and procedures set out in the NAVTEX Manual.

3.1.5International SafetyNET and SafetyNET II broadcasts should be made in accordance with the standards and procedures set out in the International SafetyNET Manual.

3.1.6HF NBDP may be used to disseminate Mtime Sa\fetyIMSI in areas outside EGC and NAVTEX coverage (SOLAS regulation IV/7.1.5).

warnings and forecast

**3.2 Scheduling**

***3.2.1 NAVTEX/EGC***

3.2.1.1Meteorological warnings are issued at least 18 hours prior to the onset of expected hazardous conditions for synoptic scale systems, or as necessary depending on the nature and timing of smaller scale systems or hazards. Normally, the initial broadcast should be made as follows:

.1for NAVTEX, at the next scheduled broadcast, unless circumstances indicate the use of procedures for VITAL or IMPORTANT warnings; and

.2forEGC, broadcast is immediate .

3.2.1.2Meteorological warnings should be repeated in scheduled broadcasts in accordance with the guidelines in the NAVTEX Manual and the International SafetyNET Manual, as appropriate.

3.2.1.3At least two scheduled daily broadcast times are necessary to provide adequate promulgation of meteorological information.

***3.2.2 Schedule changes***

3.2.2.1Broadcast times for NAVTEX are defined by the B1 character of the station, allocated by the IMO NAVTEX Coordinating Panel.

3.2.2.2Times of scheduled broadcasts under the International SafetyNET service are coordinated through the International SafetyNET Coordinating Panel.

3.2.2.3Information on broadcast schedules for WWMIWS bulletins are contained in WMONo. 9, Volume D, *Information for shipping*.

EGC

**4****METEOROLOGICAL INFORMATION**

**4.1General**

4.1.1Marine meteorological services are provided to satisfy the requirements for information on marine environmental conditions and phenomena, established by national practices and international conventions in relation to marine operations.

4.1.2Marine meteorological services are designed for the safety of marine operations and to promote, where possible, the efficiency and economy of marine activities.

4.1.3The WWMIWS guidance and coordination for marine meteorological maritime safety MSI messages issued on EGC, NAVTEX and HF NBDP communication systems coverings the following areas:

* warnings and forecasts for the High Seas;
* warnings and forecasts for coastal, offshore and local waters (including ports, lakes and harbour areas).

4.1.4Operational guidance for handling and formatting meteorological information is given in detail in the Annex IV of the WMO Technical Regulations (WMO-No. 558). It is summarized in the following sections 4.2 and 4.3.

**4.2Services for the High Seas**

Marine meteorological services for the high seas include provision of:

(a) Meteorological warnings;

(b) Marine forecasts;

(c) Sea-ice information services.

***4.2.1 Meteorological Warnings***

4.2.1.1Warnings are issued for the following phenomena:

(a) Wind warnings of gale force (Beaufort force 8) and above;

(b) Hazardous ice accretion.

4.2.1.2 The severity of wind warnings will use the following categories:

• Gale force (Beaufort force 8 or 9);

• Storm-force (Beaufort force 10 or 11);

• Hurricane-force (Beaufort force 12 or over).

4.2.1.2Warnings for dangerous sea states and unusual and hazardous sea-ice conditions may be issued within some METAREAs.

4.2.1.3 Warnings will include the following information:

.1 type and severity of warning;

.2 date and time of reference in UTC;

.3 location of disturbance in terms of latitude and longitude or with reference to well-known landmarks;

.4 extent of affected area; and

.5 description of the warning phenomenon characteristics.

4.2.1.3Warnings are issued at least 18 hours prior to the onset of expected hazardous conditions for synoptic scale systems, and broadcast immediately.

***4.2.3 Marine Forecasts***

4.2.3.1Marine forecasts for the high seas are structured in three parts:

Part I: Warnings;

Part II: Synopsis of major features;

Part III: Forecasts.

4.2.3.2 The valid period of the forecast will be at least 24-hours.

4.2.3.3 Part I will include a reference to current warnings issued for the area. This reference shall be in the form of an identifier for a uniquely numbered or named warning, or include the relevant contents of the warning.

4.2.3.4 When no wind warnings are in effect, this fact will be explicitly stated within Part I of the marine forecast.

4.2.3.5 The synopsis of major features in Part II of the marine forecast will include details of significant low-pressure systems, significant fronts and tropical disturbances that are affecting, or are expected to affect, the area within or near the valid period of the forecast. The central pressure and/or intensity, location, movement and changes of intensity will be given for each system.

4.2.3.6 The forecast information provided in Part III of marine forecasts will include:

.1 wind speed or force and direction;

.2 sea state;

.3 visibility when forecast is less than six nautical miles.

4.2.3.7 The forecasts may include expected significant changes during the forecast period, significant hydrometeors such as freezing precipitation, snowfall or rainfall.

***4.2.4 Sea-ice information***

4.2.4.1 Sea-ice information services will provide the limit of sea ice and icebergs, where ice conditions pose a hazard to navigation.

4.2.4.2 Sea-ice information services may include information about sea-ice concentration and stage of development.

4.2.4.3 Descriptions of the limit of all known ice or icebergs are given using latitude and longitude coordinates. The location of the ice or the icebergs are given relative to the limit.

**4.3 Services for the coastal, offshore and local waters areas**

4.3.1.1 Marine meteorological services for coastal, offshore and local waters areas are similar to those for the high seas, but modified according to local requirements.

4.3.1.2 Naming conventions, the extent of inshore and offshore boundaries, and land boundary reference points, for areas referenced in marine forecasts will be clearly defined.

4.3.1.3 Forecasts and warnings for coastal, offshore and local waters should be considered as compleimentary to the high seas forecasts and warnings for ships navigating close to the coast.

**5 METEOROLOGICAL WARNING BROADCAST REQUIREMENTS**

**5.1 Language**

5.1.1All meteorological information should be broadcast only in English in the International NAVTEX and EGC services.

5.1.2In addition to the required broadcasts in English, meteorological information may be broadcast in a national language using nNational NAVTEX and National SafetyNET services and/or other means.

5.1.3 Marine meteorological services for broadcast on NAVTEX shall be prepared using the accepted abbreviations outlined in Appendix 1.2, Manual on Marine Meteorological Services (of WMO-No. 558).

**6 ISSUING AND PREPARATION SERVICES**

**6.1 Responsibilities**

warnings and

6.1.1 The Issuing Service is responsible for composing a complete broadcast bulletin on the basis of information input from the relevant Preparation Services and for broadcasting this in accordance with the guidelines contained within the International SafetyNET Manual and the International NAVTEX Manual.

6.1.2 The Issuing Service is also responsible for monitoring the broadcasts of SafetyNET information to its designated area of responsibility.

6.1.3 The pPreparation sService is responsible for providing the relevant information to the Iissuing sService.

warnings and warnings and

**7 METAREA COORDINATOR RESOURCES AND RESPONSIBILITIES**

**7.1 METAREA Coordinator resources**

The METAREA coordinator must have:

.1the expertise and information resources of National Meteorological Services; and

.2effective means of communication such as telephone, e-mail, facsimile and internet, with National Meteorological Services in the METAREA, with other METAREA Coordinators, and with other data providers.

**7.2 METAREA Coordinator responsibilities**

7.2.1The METAREA Coordinator must:

.1act as the central point of contact on matters relating to meteorological information and warnings within the METAREA;

.2promote and oversee the use of established international standards and practices in the dissemination of meteorological information and warnings throughout the METAREA;

.3coordinate preliminary discussions between neighbouring Members, seeking to establish and operate NAVTEX services, prior to formal application;

.4 coordinate the dissemination of meteorological bulletins on the WMO Information System (WIS), and ensure the correct display of SafetyNET and MSI messages on the WWMIWS website hosted by Météo-France;

.5 liaise with entities that have responsibility for maritime safety, marine communications, port authorities, and other relevant maritime responsibilities on the effective use of meteorological information and warning services;

.6 act as a coordination point for implementation of WMO strategic initiatives under the WMO Services Delivery Framework, including verification, quality management, Marine Forecaster Competency framework, and resilience activities;

.7 be responsible for maintaining details of marine weather services and marine communications relevant for international service documentation such as *Weather Reporting (WMO No9), Volume D -* *Information for Shipping, UKHO Admiralty List of Radio Signals, IMO GMDSS Master Plan*;

.8 contribute to the development of international standards and practices through attendance and participation in the IMO/WMO Worldwide Met-Ocean Information and Warning ServiceWWMIWS Committee meetings, and also attend and participate in relevant IMO, IHO and WMO meetings as appropriate and required;

7.2.2The METAREA Coordinator has to also ensure that within their METAREA, National Meteorological Services that act as Issuing Services have the capability to:

.1select meteorological information and warnings for broadcast in accordance with the guidance given in in the *Manual on Marine Meteorological Services (*WMO -No. 558*)*;

.2 Provide insights and monitor changes in customer requirements for updates to the Guide on Marine Meteorological Services (WMO -No. 471); and

.3 monitor the SafetyNET transmission of the bulletins, that are broadcast by the Issuing Service within the respective METAREA.

7.2.3 The METAREA Coordinator has to further ensure that within their METAREA, National Meteorological Services that act as Preparation Services have the capability to:

.1be informed of/to gather information on all meteorological events that could significantly affect the safety of navigation within their area of responsibility;

.2assess all meteorological information immediately upon receipt in the light of expert knowledge for relevance to navigation within their area of responsibility;

.3forward marine meteorological information that may require wider dissemination directly to adjacent METAREA Coordinators and/or others as appropriate, using the quickest possible means;

.4ensure that information concerning all meteorological warning subject areas listed in the *Manual on Marine Meteorological Services, (*WMO -No. 558), that may require a METAREA warning within their own area of responsibility is forwarded immediately to the appropriate National Meteorological Services and METAREA Coordinators affected by the meteorological event;

.5 Provide insights and monitor changes in customer requirements for updates to the Guide on Marine Meteorological Services (WMO No. 471); and

.6 maintain records of source data relating to meteorological information and warning messages within their area of responsibility.

**ANNEX 2**

**IMO PROCEDURE FOR AMENDING THE WORLDWIDE MET-OCEAN INFORMATION AND WARNING SERVICE GUIDANCE DOCUMENT**

.1 Proposals for amendment or enhancement of the IMO/WMO Worldwide Met-Ocean Information and Warning Service (WWMIWS) must be submitted for evaluation by the appropriate Sub-Committee. Amendments will only be adopted after the approval of the Maritime Safety Committee (MSC).

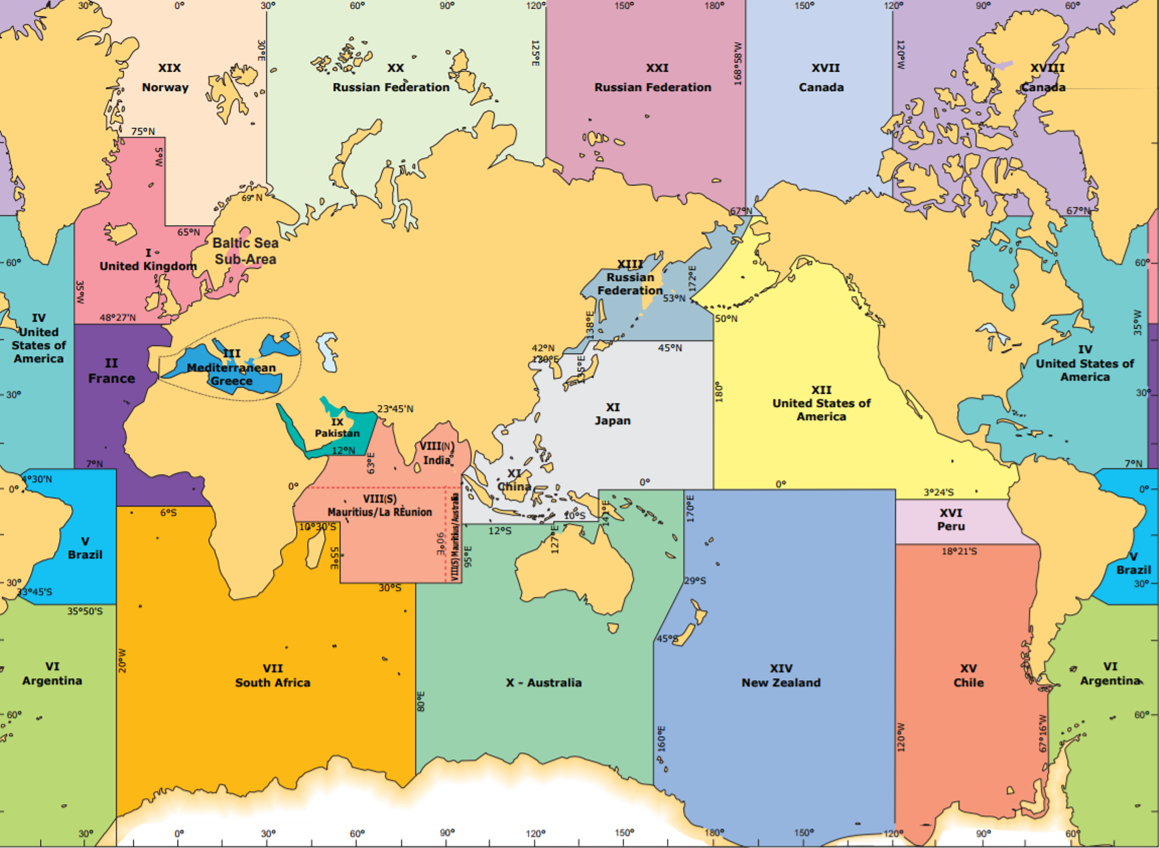
.2 Amendments to the service should normally be adopted at intervals of approximately two years or at such longer periods as may be determined by the MSC. Amendments adopted by the MSC will be notified to all concerned, will provide at least 12 months' notification and will come into force on 1 January of the following year.

.3 The agreement of the World Meteorological Organization and the active participation of other bodies must be sought according to the nature of the proposed amendments.

.4 The schedule of broadcast times and frequencies for the WWMIWS, being subject to frequent changes, will not be subject to these amendment procedures, but must be coordinated through the International SafetyNET Coordinating Panel or the IMO NAVTEX Coordinating Panel, as appropriate.

APPENDIX

**METAREAS for coordinating and promulgating meteorological warnings and forecasts**



**The delimitation of such areas is not related to and should not prejudice   
the delimitation of any boundaries between States**

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1. As set out in the IMO NAVTEX Manual. [↑](#footnote-ref-0)
2. As defined in WMO-No 558. [↑](#footnote-ref-1)
3. As defined in regulation IV/2 of the 1974 SOLAS Convention, as amended. [↑](#footnote-ref-2)
4. Which may include inland seas, lakes and waterways navigable by seagoing ships. [↑](#footnote-ref-3)
5. Which may include inland seas, lakes and waterways navigable by seagoing ships. [↑](#footnote-ref-4)
6. As defined in MSC 99/3, A1 p4. [↑](#footnote-ref-5)