TEMPLATE FOR A MARITIME SERVICE

This template should be used by international organizations to describe the maritime services that are within their remit. Descriptions of maritime services provided to IMO using this template will enable IMO to exercise, leadership and overarching oversight and to provide a globally harmonized list of maritime services.

To ensure a standardized approach in the development and implementation of maritime services, the content should include a general description of the operational services, and a reference to associated technical services that will enable the exchange of information in digital format.

1. Title of the maritime service (Maritime Service number)

Maritime Safety Information (MSI) Service (MSP/DMS 5)

2. Submitting Organization

METAREA, NAVAREA and National Coordinators [Possibly WWNWS/WWMIWS? Discuss at joint meeting]

3. Description of the maritime service

The MSI Service describes the provision of navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.
The MSI Service is the internationally and nationally coordinated network of broadcasts containing information which is necessary for safe navigation, received in ships by equipment which automatically monitors the appropriate transmissions, displays information which is relevant to the ship and provides a print capability.

4. Purpose

The purpose of the MSI Service is to provide the mariner with information related to navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages.

The provision of MSI makes available to mariners, prior to and during voyages, information that improves their situational awareness and assists with safety of navigation.

The promulgation of MSI is defined in IMO Resolution A.705(17) and it is further defined by Chapter IV in the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), as amended, as part of the “The Global Maritime Distress and Safety System (GMDSS)”.

SOLAS Chapter V, regulations 4 through 7 governs the contracting government’s responsibilities with regards to providing MSI.

The Revised Joint IMO/IHO/WMO Manual on MSI, Publication S-53 (the Joint Manual on MSI) describes the provision of the service and the receiving methods in more detail.

The delivery methods have been described by the International SafetyNET Manual MSC.1/Circ. 1364.

The roles and responsibilities of a METAREA Coordinator are defined in the IMO Resolution A.1051(27), and the provision of marine meteorological services is guided by WMO No.558

(Manual on Marine Meteorology) and WMO No.471 (Guide to Marine Meteorological Services).

As the service works fully electronic, a transition from analogue to digital information provision is not needed. [I think we're saying that our MSI is provided via analogue in addition to, rather than instead of digital services, so we wouldn't need to transition. Seek clarification at joint meeting]

5. Operational approach

The MSI Service, as defined in Resolution A.705(17), is "the internationally and nationally coordinated network of broadcasts containing information which is necessary for safe navigation, received in ships by equipment which automatically monitors the appropriate transmissions, displays information which is relevant to the ship and provides a print capability. This concept is illustrated in figure below.

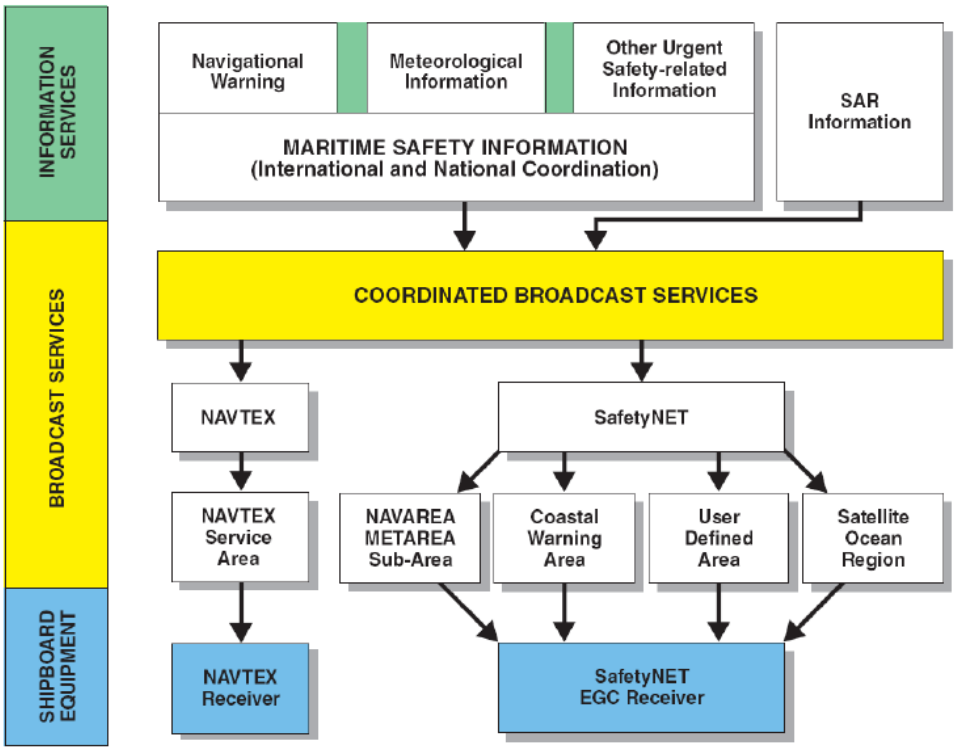

Figure -1 The maritime safety information service of the Global Maritime Distress and Safety System (Source: S-53)

Within GMDSS, Maritime Safety Information is promulgated to defined areas that are managed by area coordinators as illustrated in the figures below

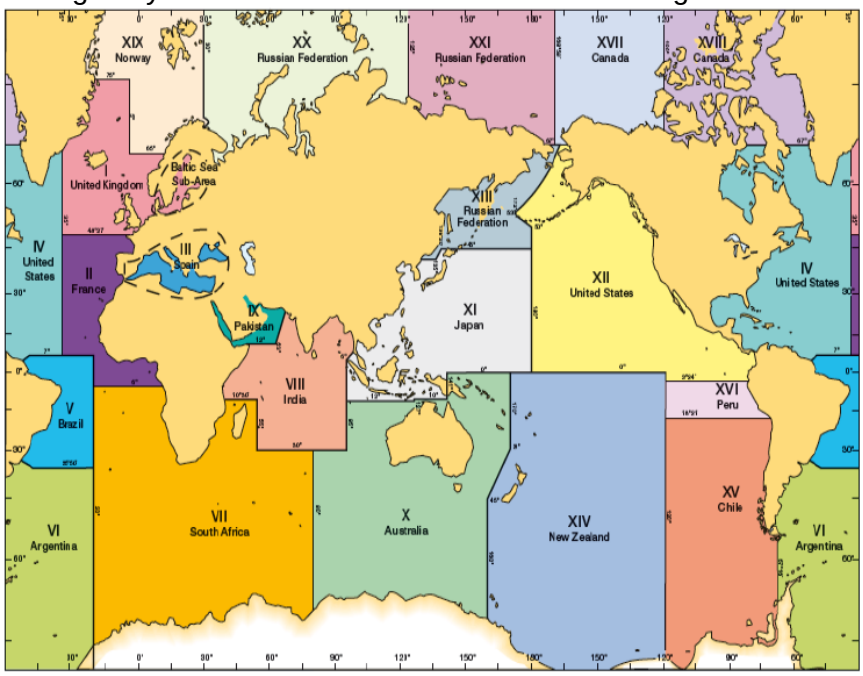

Figure Error! No text of specified style in document.**-2 NAVAREAs for coordinating and promulgating navigational warnings under the World-Wide Navigational Warning Service (Source: S-53)**

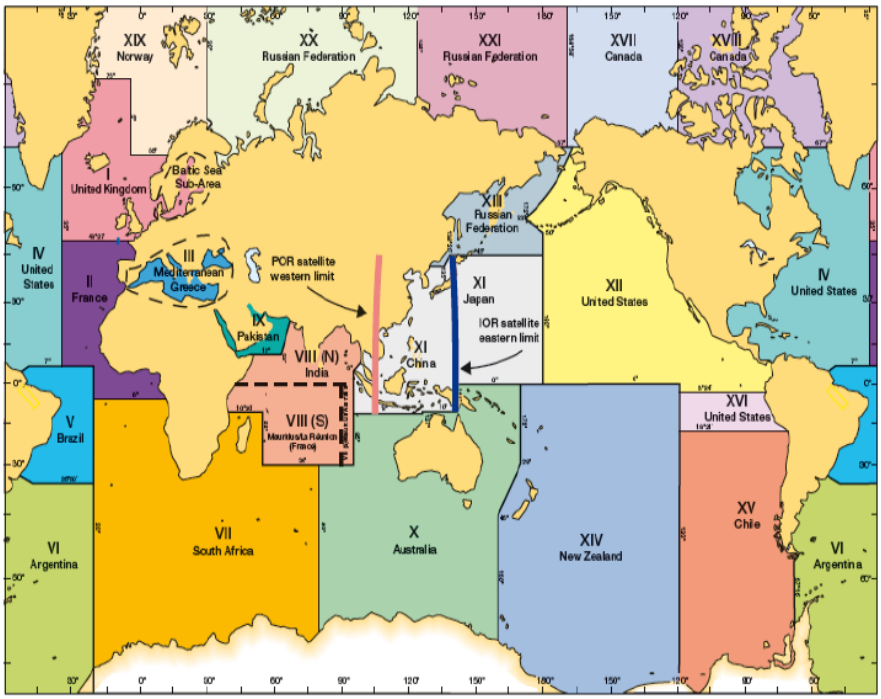

Figure 3 METAREAs for coordinating and promulgating meteorological warnings and forecasts within the GMDSS (Source: S-53)

6. User needs

To meet the needs of GMDSS users, NAVAREA, METAREA and National MSI Coordinators promulgate MSI to their respective areas of responsibility via approved GMDSS methods as follows:

Typical MSI services and delivery:

Information	Area	Service Delivery
Navigation Warning	NAVAREA	SafetyNET/HF NBDP
Navigation Warning	Coastal Warning Area	NAVTEX/SafetyNET
Meteorological Warnings and Forecasts	METAREA	SafetyNET/HF NBDP
Meteorological Warnings and Forecasts	Coastal Warning Area	NAVTEX/SafetyNET

To meet the needs of non- GMDSS users, NAVAREA, METAREA and National MSI Coordinators may promulgate MSI to their respective areas of responsibility via other methods as follows:

Information	Area	Service Delivery
Navigation Warning	NAVAREA	HF Voice
Navigation Warning	Coastal Warning Area	VHF/ MF Voice
Meteorological Warnings and Forecasts	METAREA	HF Voice
Meteorological Warnings and Forecasts	Coastal Warning Area	VHF/ MF / HF Voice
Navigational Warning	NAVAREA and Coastal Warning Area	Web service
Meteorological Information	METAREA and Coastal Area	Web service

7. Information to be provided

MSI Services, as listed in Resolution A.706(17) for hazards to navigation, WMO 558 – Manual on Marine Meteorological Services, and in the Joint Manual on MSI for marine weather warnings and forecasts are listed below.

Information related to:	Examples:
Hazards to Navigation	1. Casualties to lights, fog signals, buoys and other aids to navigation affecting main shipping lanes; 2. The presence of dangerous wrecks in or near main shipping lanes and, if relevant, their marking; 3. Establishment of major new aids to navigation or significant changes to existing ones, when such establishment or change might be misleading to shipping; 4. The presence of large unwieldy tows in congested waters; 5. Drifting hazards (including derelict ships, ice, mines, containers, other large items over 6 metres in length, etc.); 6. Areas where search and rescue (SAR) and anti-pollution operations are being carried out (for avoidance

Information related to:	Examples:
	of such areas); 7. The presence of newly discovered rocks, shoals, reefs and wrecks likely to constitute a danger to shipping, and, if relevant, their marking; 8. Unexpected alteration or suspension of established routes; 9 Cable or pipe-laying activities, the towing of large submerged objects for research or exploration purposes, the employment of manned or unmanned submersibles, or other underwater operations constituting potential dangers in or near shipping lanes; 10. The establishment of research or scientific instruments in or near shipping lanes; 11. The establishment of offshore structures in or near shipping lanes; 12. Significant malfunctioning of radionavigation services and shore-based maritime safety information radio or satellite services; 13. information concerning events which might affect the safety of shipping, sometimes over wide areas, e.g. Naval exercises, missile firings, space missions, nuclear tests, ordnance dumping zones, etc. It is important that where the degree of hazard is known, this information is included in the relevant warning. Whenever possible such warnings should be originated not less than five days in advance of the scheduled event and reference may be made to relevant national publications in the warning; 14. Acts of piracy and armed robbery against ships; 15. Tsunamis and other natural phenomena, such as abnormal changes to sea level; 16. World Health Organization (WHO) health advisory information; and 17. Security-related requirements

Information related to:	Examples:
Marine weather warnings and forecasts	**1. For high seas areas:** Forecasts shall include: (i) Wind speed or force, and direction (ii) Sea state (significant wave height, total sea) (iii) Visibility, when forecast to be less than 6 nautical miles (10 kilometres) Warnings shall be provided for the following phenomena, and be issued at least 18 hours prior to the onset of expected warning conditions for synoptic scale systems, and broadcast immediately: • Wind warnings of gale force (Beaufort force 8) and above; • Ice accretion. **2. For coastal areas:** Forecasts include a description of: (i) Wind speed or force and direction; (ii) Visibility – when less than 6 nautical miles (10 kilometres) visibility is forecast; (iii) Phenomena that may restrict visibility; (iv) Ice accretion, where applicable; (v) Waves (sea and swell). Warnings shall be given for the following phenomena: a) Winds of gale force (Beaufort 8) and above; b) Potentially hazardous ice accretion; c) Unusual and hazardous sea-ice conditions. Warnings should be given for the following phenomena: a) Near gales (Beaufort force 7); b) Severe thunderstorms/squall lines; c) Restricted visibility (one nautical mile or less); d) Storm-induced water-level changes; e) Tsunami;

[Does the information from the source instruments need to be repeated in this table, or just include references to these Instruments? For discussion at joint meeting]

8. Associated technical services

Two principal methods are used for broadcasting MSI in accordance with the provisions of the SOLAS Convention, as amended, in the areas covered by these methods, as follows:

- NAVTEX: broadcasts to coastal waters, or SafetyNET where no NAVTEX services exist; and
- SafetyNET: broadcasts which cover all the waters of the globe except for Sea Area A4, as defined by IMO resolution A.801(19), annex 3, as amended.

Additionally, HF NBDP may be used to promulgate MSI to Sea Area A4 (SOLAS regulation IV/7.1.5).

Ships are required to be capable of receiving MSI broadcasts for the area in which they operate in accordance with the provisions of the SOLAS Convention, as amended.

Name	ID (MRN)	Description	Architect(s)	Standardization body
SafetyNET		Delivery of MSI via IMO approved satellite provider		IMO A1001.25
NAVTEX		Delivery of MSI via NAVTEX		ITU-R M.540
HF NBDP		Delivery of MSI via HF NBDP		ITU-R M.688 A.700(17),
Web Services		Display of MSI and access to MSI data files	XML	
NAVDAT		Delivery of MSI via NAVDAT		ITU_R M.2010
S124 and S412 data file		Delivery of MSI in the S124 and S412 format for display in ENC & ECDIS		IHO S124 and S412 Standard
AIS-T – ASM AIS-S – ASM AIS – VDES		Delivery of MSI via AIS: • Message 14 • Message 8 • Message 21 • Data via VDES		ITU 1371-5 IMO SN. 1/Circ.289 IALA 124
Maritime Connectivity Platform		Provision of MSI [to be described once developed]		IALA

9. Relation to other maritime services

DMS5 has relationships with other services for the delivery of safety information:

Examples may be different depending on the coastal state arrangements.

DMS No	Identified Services	Identified Responsible Service Provider
1	VTS Information Service (INS)	VTS Authority
4	Local port Service (LPS)	Local Port/Harbour Authority
11	Nautical Chart Service	National Hydrographic Authority / Organization
13	Ice navigation Service	National Competent Authority Organization
14	Meteorological information service	National Meteorological Authority Public Institutions
15	Real time hydrographic and environmental information service	National Hydrographic and Meteorological Authorities
16	Search and Rescue Service	SAR Authorities