

MS 5 – Maritime safety information (MSI) service

5.1 Submitting organizations

IHO and WMO

5.2 Coordinating bodies

IMO, IHO and WMO

5.3 Description of the Maritime Service

This Maritime 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 urgent 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.

5.4 Purpose

The purpose of this Maritime 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 SOLAS chapter IV, as part of the Global Maritime Distress and Safety System (GMDSS) and in resolution A.705(17), as amended, on *Promulgation of Maritime Safety Information*.

SOLAS regulations V/4 through V/7 govern 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 are described in the International SafetyNET Manual (MSC.1/Circ.1364, as revised).

The roles and responsibilities of a METAREA Coordinator are defined in resolution A.1051(27), as amended on *IMO/WMO Worldwide Met-Ocean Information and Warning Service – Guidance Document*, and the provision of marine meteorological services is guided by WMO No.558 (Manual on Marine Meteorological Services) and WMO No.471 (Guide to Marine Meteorological Services).

Services that constitute the Maritime Service are currently provided in a fully electronic format and, as such, there is no requirement to transition from analogue to digital information provision. Additional analogue (voice) services do exist but there is no intent to transition these to digital services.

5.5 Operational approach

The MSI Service, as defined in resolution A.705(17), as amended 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 the figure below:

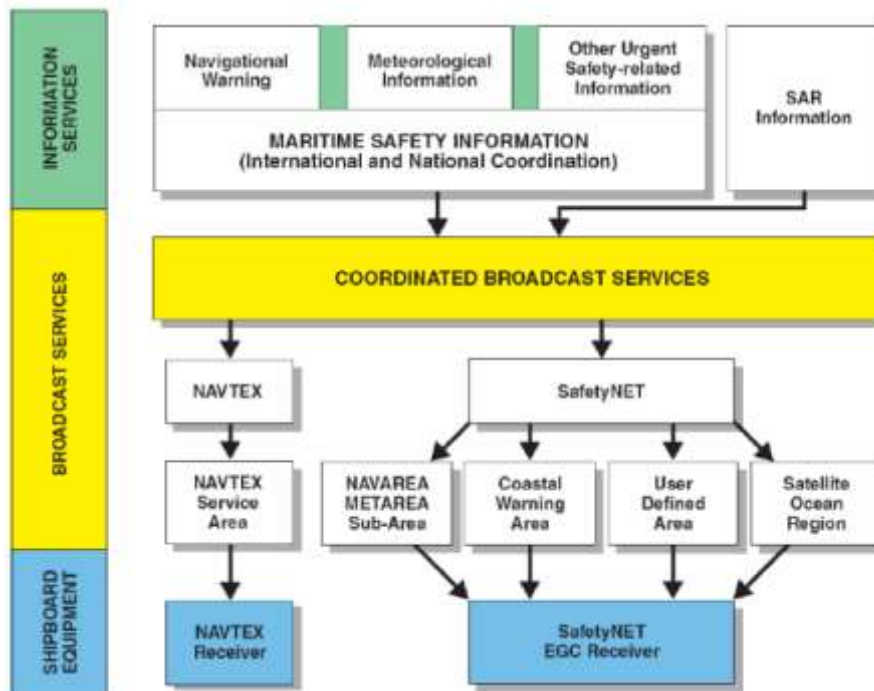


Figure 5-1: The maritime safety information service of the Global Maritime Distress and Safety System (Source: S-53)

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

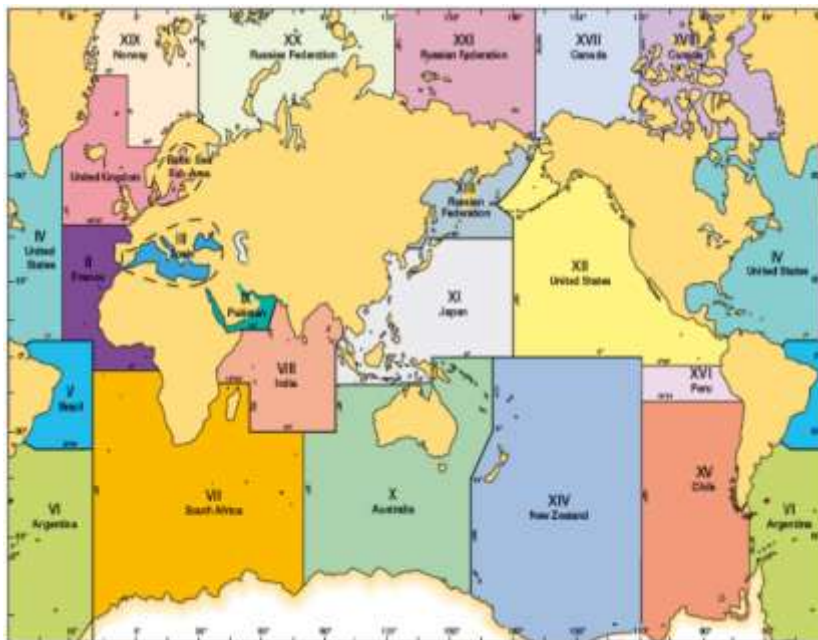


Figure 5-2: NAVAREAs for coordinating and promulgating navigational warnings under the World-Wide Navigational Warning Service (Source: S-53)



Figure 5-3: METAREAs for coordinating and promulgating meteorological warnings and forecasts under the World-Wide Met-Ocean Information and Warnings Service (Source: S-53)

5.6 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	EGC/HF NBDP
Navigation warning	Coastal warning area	NAVTEX/EGC
Meteorological warnings and forecasts	METAREA	EGC/HF NBDP
Meteorological warnings and forecasts	Coastal warning area	NAVTEX/EGC

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

Potential future services/delivery methods:

Information	Area	Service Delivery
Navigation warning	NAVAREA	VDES-SAT
Navigation warning	Coastal	VDES-TER AIS-SRM
Meteorological warnings and forecasts	NAVAREA	VDES-SAT
Meteorological warnings and forecasts	Coastal	VDES-TER AIS-SRM (warnings) AIS-ASM (forecasts)

5.7 Information to be provided

MSI Services, as listed in resolution A.706(17), as amended, on *IMO/IHO World-Wide Navigational Warning Service – Guidance Document*, as amended, for hazards to navigation, the 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: ¹
Hazards to navigation	.1 casualties to lights, fog signals, buoys and other aids to navigation affecting main shipping lanes;

¹ Examples from resolution A.706(17), as revised, Document Review Working Group 2018, and the Manual on Marine Meteorological Services.

Information related to:	Examples: ¹
	<ul style="list-style-type: none"> .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 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 radio navigation 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.
<p>Marine weather warnings and forecasts</p>	<p>For high seas areas: Forecasts shall include wind parameters, sea state and visibility.</p> <p>Warnings shall be provided for the following phenomena:</p> <ul style="list-style-type: none"> • wind warnings of gale force (Beaufort force 8) and above; and • ice accretion. <p>For coastal areas: Forecasts shall include wind parameters, waves (sea and swell) and ice accretion where applicable.</p> <p>Warnings shall be given for the following phenomena:</p> <ul style="list-style-type: none"> • winds of gale force (Beaufort 8) and above; • potentially hazardous ice accretion; and

Information related to:	Examples: ¹
	<ul style="list-style-type: none"> • unusual and hazardous sea-ice conditions. <p>Warnings should be given for the following phenomena:</p> <ul style="list-style-type: none"> • near gales (Beaufort force 7); • severe thunderstorms/squall lines; • restricted visibility (one nautical mile or less); • storm-induced water-level changes; and • tsunami.

5.8 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 EGC where no NAVTEX services exist; and
- Enhanced Group Call Services (EGC) (e.g. SafetyNET): broadcasts which cover all the waters of the globe except for Sea Area A4, as defined by resolution A.801(19) on *Provision of Radio Services for the GMDSS*, 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.

Method	ID (MRN)	Description	Standardization body
EGC services		Delivery of MSI via IMO Recognized satellite service	Resolution A.1001(25)
NAVTEX		Delivery of MSI via NAVTEX	ITU-R M.540
HF NBDP		Delivery of MSI via HF NBDP	ITU-R M.688 Resolution A.700(17)
Web platforms		Display of MSI and access to MSI data files	

S-100 format messaging will be used to pass MSI for display in ECDIS (specifically S-124, S-411 and S-412 standards).

5.9 Relation to other Maritime Services

MS 5 has relationships with other Maritime Services for the delivery of safety information.

Examples may be different depending on the coastal State arrangements.

Maritime Service	Identified responsible service provider
MS 1 – VTS Information service (INS)	VTS Authority
MS 4 – Port support service (PSS)	Local port/harbour authority
MS 11 – Nautical chart service	National hydrographic authority/ organization
MS 13 – Ice navigation service	National competent authority organization
MS 14 – Meteorological information service	National meteorological authority public institutions
MS 15 – Real-time hydrographic and environmental information services	National hydrographic and meteorological authorities
MS 16 – Search and rescue (SAR) service	SAR Authorities