

REPORT FROM AUSTRALIA

1. Introduction

Australia has responsibility under the GMDSS as the Issuing Service for MSI for Metarea X. The meteorological services of New Zealand and Fiji are recognised as Preparation Services for the eastern margins of the Metarea. The meteorological services of Mauritius and France (Reunion) are considered to be Preparation Services for the western margins.

GMDSS services in Australia are restricted to broadcasts of the GMDSS SafetyNET broadcasts via Inmarsat-C. For mainly historical, geographical and economic reasons NAVTEX has not been established in Australia.

Recently, following the takeover of Xantic, the operator of the Perth LES, by Stratos, operation of the MSI broadcasts for Metarea X for both the IOR and POR will be transferred to the Burum LES in the Netherlands during the first half of 2007. On the whole, this change is expected to be transparent to SafetyNET users, with the exception of a few transition issues. These issues will be discussed further in section 5 of this paper.

2. The SafetyNET service in Metarea X

The SafetyNET service in Metarea X comprises high seas forecasts and warnings for the Northern, North Eastern, South Eastern and Western areas of the high seas within the Australian area of responsibility (See Fig. 1) including services for selected coastal waters regions.

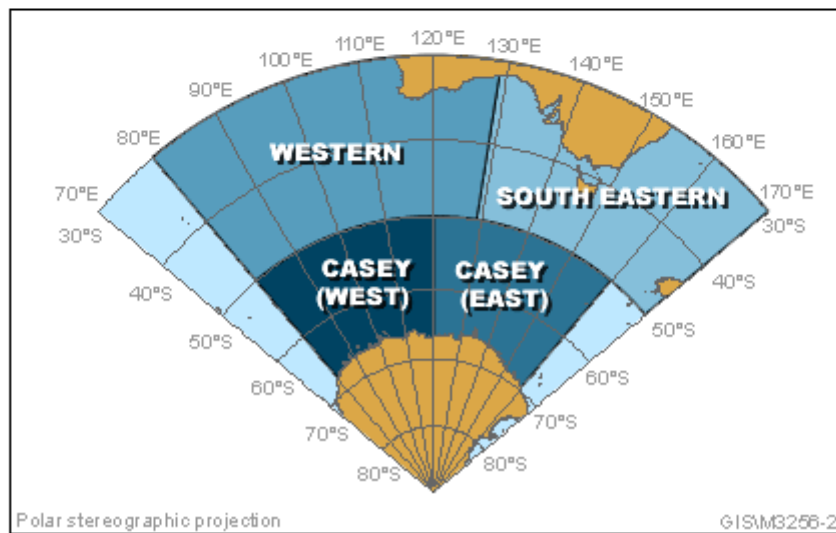
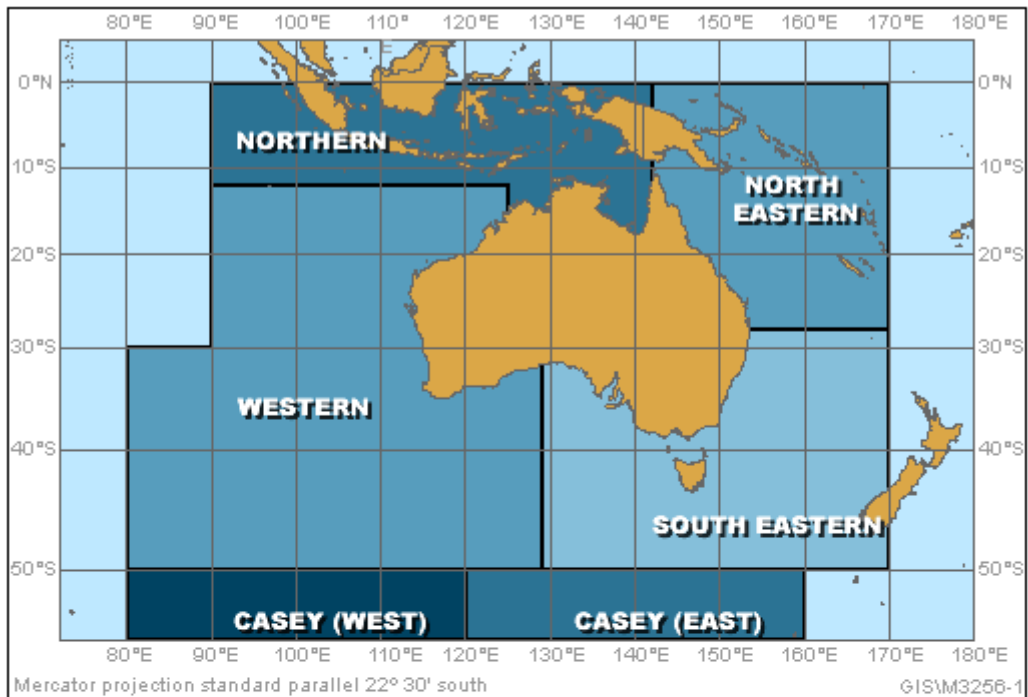
The likelihood that the service may one day be extended to all Australian coastal zones has been canvassed at various times over recent years. It has not been demonstrated that demand is strong enough for such an extension. In addition, there is a continuing concern that bandwidth in the system will not be sufficient enough to allow a significant increase in ongoing routine traffic given the number and size of the additional messages that would be involved.

3. Other sources of MSI

HF radio broadcasts continue to play a major role in disseminating MSI to very large and remote stretches of the Australian coast, especially in the absence of both a NAVTEX service and an integrated national coastal VHF radio network, and complete coverage of coastal regions by the SafetyNET service. Any vessels not covered by GMDSS regulations that operate in these coastal areas commonly rely on HF radio services to keep in touch with latest weather information. Many non-SOLAS vessels also rely on HF radio for their MSI for the high seas areas. In recognition of these basic needs, Australia has recently renewed the contract with its radio services provider to continue its HF radio marine weather services, in voice and radiofax formats for the next three years (mid-2010).

4. GMDSS SafetyNET services - detail

The Bureau of Meteorology has national responsibility for providing forecasts for ocean areas from the equator to Antarctica between approximately 80E to 170E. By international agreement the areas for which it has responsibility for issuing weather warnings are somewhat different, extending from approximately 10S to 50S, and from 80E/90E to 160E. Metarea X extends beyond the Australian warning areas, thus requiring the inclusion of warnings issued by New Zealand and Fiji for the areas to the east of 160E. The high seas forecast areas are shown in Fig. 1. The broadcast times are shown in Table 1.



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High Seas Forecast

Figure 1. Australian high seas forecast areas.

Routine broadcasts are provided for the coastal regions of the Northern Territory, Western Australia and the Bass Strait, as shown in Table 1. The coastal waters zones are shown in Fig. 2.

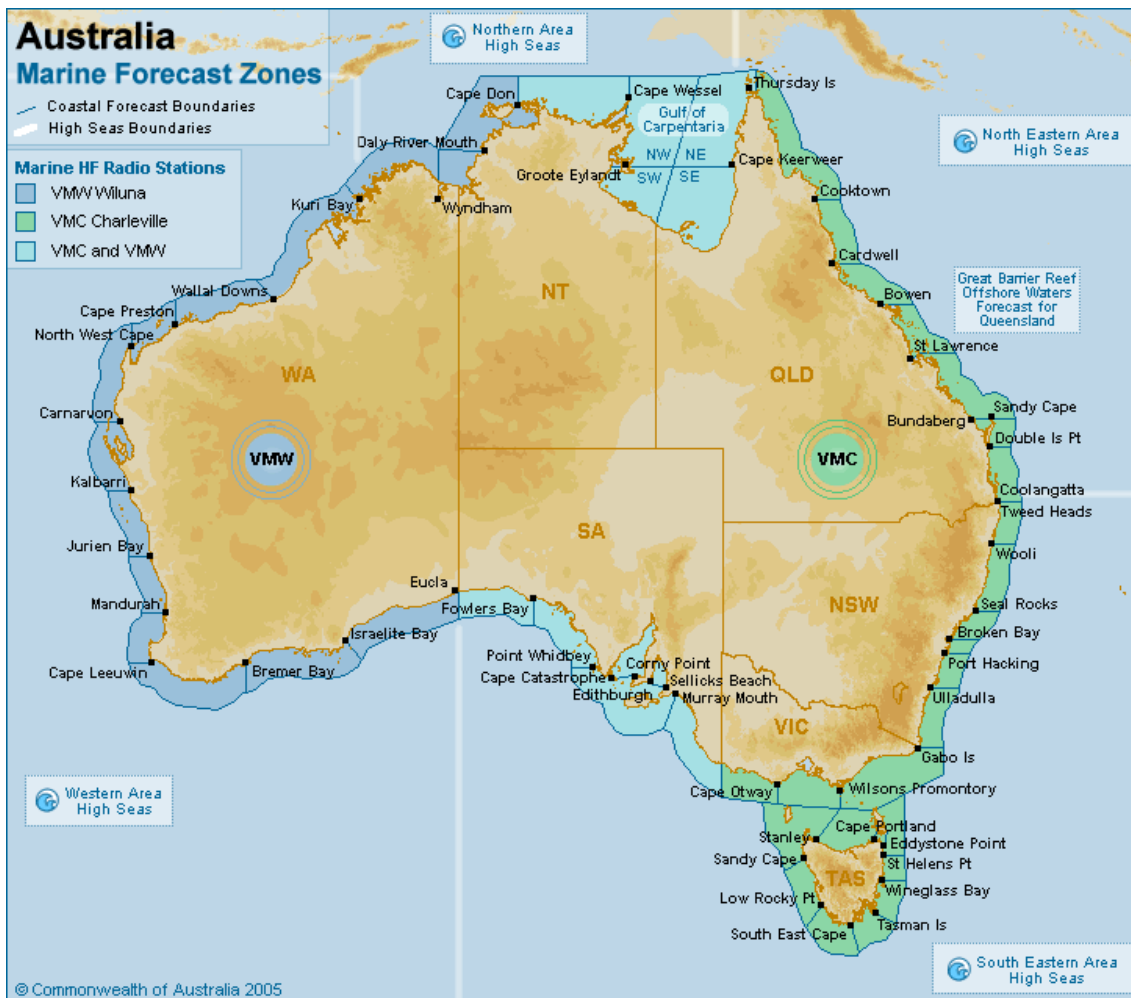


Figure 2. Australian coastal waters zones. VMC and VMW are the Bureau's HF radio broadcasting stations.

5. Changes to broadcasting arrangements

With the transfer of function from the Perth LES to Burum LES, Stratos has advised that use of the Perth LES ID 22 code will cease 1 June 2007. However, for IOR data reporting and polling, using the Perth LES ID 22 code will end earlier, in March 2007. For the POR use of LES code 22 will continue until closure in June. Importantly messaging to/from ship will continue to work in all ocean regions using the LES 22 code until closure on 1 June 2007.

While there will be an internal change to the addressing of forecasts and warnings destined for Metarea X, ships should not notice any difference with the forecast and warning messages they receive.

The code Burum LES ID 12 code will need to be used for lodgement of ship's observation reports in lieu of the Perth LES ID 22 code. The SAC 41 code cannot be used in stand-alone mode for lodging observations in the IOR, as this will route the messages to Burum instead of the Bureau of Meteorology. Stratos has suggested a new SAC 1241 code to be used to direct the reports properly to the Bureau. Stratos has set up a test system for SAC 1241. The Bureau will advise ships to set up a new address book entry in their Inmarsat C terminal equipment for lodging obs when in the Australian region using SAC 1241. The campaign to advise ships of the new ship observation lodgement arrangements will commence in February 2007. It will be based on mail and email correspondence with ship owners/operators, captains and VOS fleet managers, as well as notification on the Bureau and GMDSS websites.

It is understood that the two codes will operate in parallel until the independent operation of the

Perth LES ends (early June 2007). The following text of an advice to operators/mariners has been drafted to explain the changeover:

"Xantic/Stratos announced in November that the Perth LES 22 would close in March 2007. After this date the facility will become LES 12, and ships must use POR 212 or IOR 312 to lodge weather reports in lieu of 222 and 322 respectively. A consequence of this change is that a BBXX sent using SAC41 will be forwarded to Burum and not the Bureau as in the past. To remedy this situation and provide the Bureau with immediate access to the BBXX, all VOS trading in the Australian region are advised to use SAC1241 through POR 212 and IOR 312 from 1 March 2007."

6. Monitoring of the SafetyNET service

The Bureau implemented an on-line query service for monitoring the efficiency of the SafetyNET broadcast system in Metarea X in 2003, in line with the requirements set down at ETMSS-I. Unfortunately when the Bureau relocated its headquarters to a new building in mid-2004, the satcomms equipment, which was relocated to the roof of the new building, could not be commissioned until late 2006. As a result, the monitoring of outgoing messages from the Bureau (all routine forecasts and non-routine warnings) has not been continuous over the last 2.5 years or so.

Three reports are provided in Annex 1, showing the efficiency of the system, including messages up-linked through the Perth LES for both the IOR and POR, but not received back at the ground by the Bureau, and the delay between uplink and reception at the ground. The first report covers the period through 2006 to present. The second report covers the most recent period for which the reception facility has been in operation at the Bureau Headquarters (October 2006 to present). The third report covers 2003, which is the most recent complete year of monitoring.

These reports indicate that most messages that are successfully transmitted are received within 5-10 mins of uplink. The rate of "missing" messages has been generally quite low, and less than 1%.

7. MSI broadcasts by HF radio

HF radio broadcasts of MSI in voice, are broadcast by Kordia Pty Ltd. (formerly TVNZ Australia Pty Ltd.) under contract to the Bureau of Meteorology. Kordia is a subsidiary of the New Zealand broadcasting company, which operates as a New Zealand government business entity. The contract for broadcast of the services has recently been renewed to 30 June 2010. Routine broadcasts are provided 6 times per day, with warnings broadcast as they are issued. Services are extensively described on the Bureau's marine page on the Internet, at the following website: www.bom.gov.au/marine.

Table 1. Broadcast schedule for the Australian *SafetyNET* weather bulletins.

Satellite	Forecast type	Areas	Times
POR	High seas	North Eastern, South Eastern, Western, Northern	1100, 2300 UTC
POR	Coastal waters	Bass Strait	0530 LST; 1930 UTC* 1730 LST; 0730 UTC*
		Northern Territory (except for the area Wyndham to Daly River Mouth which will	0545 LST; 2015 UTC 1745 LST; 0815 UTC

		be broadcast on the IOR)	
IOR	High seas	Western	1030, 2330 UTC
IOR	Coastal waters	Western Australia	0430 LST; 2030 UTC** 1630 LST; 0830 UTC**

* 1 hour earlier during Australian Eastern Daylight Saving Time

** 1 hour earlier during Australian Western Daylight Saving Time

An automatically generated human voice system, based on actual human speech elements is used to drive the voice broadcasts, utilising the most up to date issues of forecasts and warnings. Current coastal weather reports are automatically updated and are broadcast when required, according to the schedule. The schedules are shown in Table 2 (for the high seas) and Table 3 (for coastal areas). Please note that EST = UTC+10, CST = UTC +9.5, WST = UTC + 8. Daylight savings now operates in all states except Queensland and the Northern Territory.

Table 2. HF radio broadcast schedules for the high seas

Location	Station	Scheduled broadcast times
Warnings for Northern, NE and SE Areas	VMC	Every hour commencing 0000 EST (0030 CST)
Warnings for Northern, Western and SE Areas	VMW	Every hour commencing 0000 WST (0030 CST)
Special Announcements	VMW/VMC	Five Minutes to every hour (25 minutes after the hour CST)
Forecasts for Northern Area	VMC	0000, 0400, 0800, 1200, 1600, 2000 CST
	VMW	0230, 0630, 1030, 1430, 1830, 2230 WST
Forecasts for North Eastern Area	VMC	0030, 0430, 0830, 1230, 1630, 2030 EST
Forecasts for South Eastern Area	VMC	0030, 0430, 0830, 1230, 1630, 2030 EST
	VMW	0330, 0730, 1130, 1530, 1930, 2330 WST
Forecasts for Western Area	VMW	0230, 0630, 1030, 1430, 1830, 2230 WST

Table 3. HF radio broadcast schedules for the coastal zones

Location	Station	Scheduled Broadcast times
Warnings for QLD, NSW, VIC, TAS and SA	VMC	Every hour commencing 0000 EST (0030 CST)
Warnings for QLD Gulf, NT, WA and SA	VMW	Every hour commencing 0000 WST (0030 CST)
Special Announcements	VMW/VMC	Five minutes to every hour (25 minutes after the hour CST)
Forecasts for Queensland	VMC	0330, 0730, 1130, 1530, 1930, 2330 EST
Forecasts for Queensland Gulf Waters	VMW	0030, 0430, 0830, 1230, 1630, 2030 EST
Forecasts for New South Wales	VMC	0130, 0530, 0930, 1330, 1730, 2130 EST
Forecasts for Victoria	VMC	0130, 0530, 0930, 1330, 1730, 2130 EST
Forecasts for Tasmania	VMC	0230, 0630, 1030, 1430, 1830, 2230 EST
Forecasts for South Australia	VMC	0200, 0600, 1000, 1400, 1800, 2200 CST
	VMW	0300, 0700, 1100, 1500, 1900, 2300 CST

Forecasts for Western Australia	VMW	0030, 0430, 0830, 1230, 1630, 2030 WST
Forecasts for Northern Territory	VMW	0300, 0700, 1100, 1500, 1900, 2300 CST
Northern Territory coast east of Cape Don	VMC	0300, 0700, 1100, 1500, 1900, 2300 CST

8. HF Radio Facsimile services

The contract with Kordia for these services was also recently renewed as part of the agreement to provide HF transmissions for the Bureau to 30 June 2010. Full details can be obtained from the marine page www.bom.gov.au/marine.

An extensive survey of users of the HF radio services was undertaken in 2006. It indicated a very significant level of support for continuing the broadcasts, particularly from the long-distance ocean cruising yachting community. It is intended to review the radio-facsimile programs early in 2007, to better meet the requirements as identified in the survey.

9. Navigation warnings

The governments of the Australian states and the Northern Territory provide limited broadcasts of navigation warnings in voice, using one of the Bureau's HF voice frequencies during the "special announcements" segment of the Bureau's voice schedule.

Monitoring of SafetyNET messages broadcast in Metarea X

1. Inmarsat-C Monitoring: Delay count from 01/01/2006 to 08/01/2007; IOR and POR; all SafetyNET traffic

This page displays the number of messages that have been transmitted from the Bureau's message switching system to the Perth LES, and received back again via satellite receiver. The columns represent the delay in seconds/minutes between transmission and reception.

The **Repeats** column is a count of repeats received, usually requested for warning products. These are usually received 7-10 minutes later, only when the receiver had a problem receiving the initial transmission. The **Missing** column is a count of missing products. The figure is the number of missing products that were not received back into the Bureau system for that product.

Pacific Ocean Region

Product	Description	< 60s	60-90s	90-120s	120-150s	150-180s	3-4 mins	4-5 mins	5-10 min	> 10 min	Repeats	Missing
IDD10210	High Seas Forecast	0	0	0	0	0	1	0	155	53	0	537
IDD10236	Coastal Waters Forecast Inmarsat-H	0	0	0	0	7	185	17	1	1	0	569
IDD20110	Coastal Waters Wind Warning	0	0	0	3	3	0	0	1	0	0	347
IDD20120	High Seas Weather Warning	0	0	0	0	0	0	0	0	0	0	3
IDD20130	High Seas Weather Warning TC	0	0	0	0	0	0	0	0	0	0	44
IDN21000	Ocean Wind Warning 1	0	23	33	2	1	1	1	1	1	0	269
IDN21100	Ocean Wind Warning 2	0	1	5	0	0	0	1	0	0	0	0
IDQ10007	High Seas Forecast EQ/28S, 142E/170E	0	0	0	0	0	1	0	155	53	0	536
IDQ20008	Ocean Wind Warning 1	0	0	0	0	0	0	0	0	0	0	190
IDQ20080	Ocean Wind Warning from Fiji	0	0	0	0	0	0	0	0	0	0	66
IDQ20081	Ocean Wind Warning from NZ	0	0	0	0	0	0	0	0	0	0	6
IDS20210	Ocean Wind Warning	4	198	67	8	0	1	0	0	1	1	804
IDT15123	Bass Strait approaches Forecast	0	0	0	0	1	68	200	263	14	1	1385
IDV10210	High Seas Forecast	0	0	0	0	0	1	0	155	53	0	536
IDV20000	Coastal Wind Warning West of Cape Otway	0	0	27	124	14	3	0	5	1	2	356

IDV20100	Coastal Wind Warning Cape Otway to Wilsons Prom	0	1	16	135	36	11	7	7	1	0	418
IDV20200	Coastal Wind Warning East of Wilsons Prom	0	0	28	163	41	16	1	7	1	1	543
IDV21000	Ocean Wind Warning	0	50	129	7	2	1	0	2	0	0	730
IDV21010	Ocean Wind Warning 2	0	37	85	9	2	0	1	1	0	0	105
IDW11900	High Seas Forecast	0	0	7	133	70	14	1	156	53	0	1106
IDW21200	Ocean Wind Warning 2	0	0	0	0	0	0	0	0	0	0	2

Indian Ocean Region

Product	Description	< 60s	60-90s	90-120s	120-150s	150-180s	3-4 mins	4-5 mins	5-10 min	> 10 min	Repeats	Missing
IDD10235	Coastal Waters Forecast Inmarsat-G	0	0	0	329	367	59	8	12	3	0	2
IDD20110	Coastal Waters Wind Warning	0	0	6	190	91	60	1	6	0	0	0
IDS20210	Ocean Wind Warning	25	722	239	34	12	8	5	13	2	2	2
IDW11150	North WA Coastal Waters Forecast - INMARSAT	0	0	0	1	0	20	515	413	12	0	5
IDW11155	South WA Coastal Waters Forecast - INMARSAT	0	0	0	0	0	2	31	858	67	0	6
IDW11900	High Seas Forecast	0	0	28	751	628	107	4	7	5	0	1
IDW20100	Coastal Wind Warning 1	0	0	67	737	305	187	31	32	4	6	3
IDW20200	Coastal Wind Warning 2	0	0	23	381	172	66	18	34	5	2	0
IDW20300	Coastal Wind Warning 3	0	0	3	26	10	16	0	1	0	0	0
IDW20400	Coastal Wind Warning 4	2	2	8	21	40	147	32	80	7	1	0
IDW21100	Ocean Wind Warning 1	0	364	334	38	6	1	0	5	0	2	250
IDW21200	Ocean Wind Warning 2	0	252	208	32	3	2	0	5	0	1	212
IDW21300	Ocean Wind Warning 3	0	95	76	5	0	1	1	1	0	1	60

2. Inmarsat-C Monitoring: Delay count from 01/10/2006 to 08/01/2007; IOR and POR; all SafetyNET traffic

Pacific Ocean Region

Product	Description	< 60s	60-90s	90-120s	120-150s	150-180s	3-4 mins	4-5 mins	5-10 min	> 10 min	Repeats	Missing
IDD10210	High Seas Forecast	0	0	0	0	0	1	0	148	50	0	1
IDD10236	Coastal Waters Forecast Inmarsat-H	0	0	0	0	7	175	17	1	1	0	0

IDD20110	Coastal Waters Wind Warning	0	0	0	3	3	0	0	1	0	0	0
IDN21000	Ocean Wind Warning 1	0	23	33	2	1	1	1	1	1	0	0
IDN21100	Ocean Wind Warning 2	0	1	5	0	0	0	1	0	0	0	0
IDQ10007	High Seas Forecast EQ/28S, 142E/170E	0	0	0	0	0	1	0	148	50	0	1
IDQ20008	Ocean Wind Warning 1	0	0	0	0	0	0	0	0	0	0	21
IDQ20080	Ocean Wind Warning from Fiji	0	0	0	0	0	0	0	0	0	0	52
IDQ20081	Ocean Wind Warning from NZ	0	0	0	0	0	0	0	0	0	0	1
IDS20210	Ocean Wind Warning	4	187	61	6	0	1	0	0	1	1	0
IDT15123	Bass Strait approaches Forecast	0	0	0	0	1	66	182	251	14	1	2
IDV10210	High Seas Forecast	0	0	0	0	0	1	0	148	50	0	1
IDV20000	Coastal Wind Warning West of Cape Otway	0	0	24	113	13	2	0	4	1	2	0
IDV20100	Coastal Wind Warning Cape Otway to Wilsons Prom	0	1	15	124	35	10	6	7	1	0	0
IDV20200	Coastal Wind Warning East of Wilsons Prom	0	0	25	154	38	16	1	7	1	1	2
IDV21000	Ocean Wind Warning	0	47	117	5	2	1	0	2	0	0	0
IDV21010	Ocean Wind Warning 2	0	36	84	9	2	0	1	1	0	0	1
IDW11900	High Seas Forecast	0	0	6	126	68	14	1	149	50	0	1

Indian Ocean Region

Product	Description	< 60s	60-90s	90-120s	120-150s	150-180s	3-4 mins	4-5 mins	5-10 min	> 10 min	Repeats	Missing
IDD10235	Coastal Waters Forecast Inmarsat-G	0	0	0	96	95	5	0	3	2	0	0
IDD20110	Coastal Waters Wind Warning	0	0	0	2	3	0	0	2	0	0	0
IDS20210	Ocean Wind Warning	4	187	58	7	2	1	0	1	1	2	0
IDW11150	North WA Coastal Waters Forecast - INMARSAT	0	0	0	0	0	1	132	133	4	0	2
IDW11155	South WA Coastal Waters Forecast - INMARSAT	0	0	0	0	0	1	0	259	12	0	3
IDW11900	High Seas Forecast	0	0	1	191	186	25	2	2	3	0	1
IDW20100	Coastal Wind Warning 1	0	0	18	209	68	38	14	10	3	2	0

IDW20200	Coastal Wind Warning 2	0	0	6	151	65	10	6	7	2	0	0
IDW20300	Coastal Wind Warning 3	0	0	2	13	3	2	0	0	0	0	0
IDW20400	Coastal Wind Warning 4	0	0	1	2	1	9	9	4	0	0	0
IDW21100	Ocean Wind Warning 1	0	69	90	9	1	0	0	1	0	0	99
IDW21200	Ocean Wind Warning 2	0	75	41	9	0	1	0	1	0	1	45
IDW21300	Ocean Wind Warning 3	0	10	10	2	0	0	0	0	0	1	12

3. Inmarsat-C Monitoring: Delay count from 01/1/2003 to 31/12/2003; IOR and POR; all SafetyNET traffic

Pacific Ocean Region

Product	Description	< 60s	60-90s	90-120s	120-150s	150-180s	3-4 mins	4-5 mins	5-10 min	> 10 min	Repeats	Missing
IDD10210	High Seas Forecast	0	0	0	0	0	1	0	256	133	0	5
IDD10230	Coastal Waters Forecast for Northern Territory and Nth Kimberley	0	0	0	1	15	893	227	67	16	0	16
IDD20110	Coastal Waters Wind Warning	0	0	165	44	13	32	2	0	1	0	6
IDN21000	Ocean Wind Warning 1	0	92	135	28	5	0	1	4	1	4	2
IDN21100	Ocean Wind Warning 2	0	2	2	0	0	0	0	0	0	0	0
IDQ10007	High Seas Forecast EQ/28S, 142E/170E	0	0	0	2	0	2	0	223	113	0	3
IDQ20008	Ocean Wind Warning 1	1	10	10	6	0	0	0	0	0	0	0
IDQ20080	Ocean Wind Warning from Fiji	7	7	1	0	0	0	0	0	0	0	0
IDQ20081	Ocean Wind Warning from NZ	14	3	1	0	0	0	0	0	0	0	0
IDS20210	Ocean Wind Warning	4	367	81	11	1	1	0	2	0	2	1
IDV10200	Bass Strait Forecast	0	0	0	0	0	12	152	613	16	2	10
IDV10210	High Seas Forecast	0	0	0	0	0	1	0	222	114	0	3
IDV20200	Coastal Wind Warning East of Wilsons Prom	48	386	26	4	0	3	1	8	2	0	2
IDV21000	Ocean Wind Warning	0	244	175	17	1	0	0	2	0	5	3
IDV21010	Ocean Wind Warning 2	0	43	71	16	0	0	0	3	1	0	1
IDW11100	Coastal Waters Forecast - WA	2	28	6	30	283	444	323	181	22	1	20
IDW11900	High Seas Forecast	0	0	19	188	163	34	6	223	118	0	9
IDW20100	Coastal Wind Warning 1	3	356	177	128	109	100	21	16	7	0	15

IDW20200	Coastal Wind Warning 2	3	189	60	13	19	4	0	6	1	0	3
IDW20300	Coastal Wind Warning 3	2	9	6	3	0	0	0	0	0	0	1
IDW21100	Ocean Wind Warning 1	0	305	168	26	0	0	0	7	1	8	4
IDW21200	Ocean Wind Warning 2	0	208	158	15	2	3	0	8	4	5	2
IDW21300	Ocean Wind Warning 3	0	45	29	2	2	1	1	3	0	0	1

Indian Ocean Region

Product	Description	< 60s	60-90s	90-120s	120-150s	150-180s	3-4 mins	4-5 mins	5-10 min	> 10 min	Repeats	Missing
IDD10230	Coastal Waters Forecast for Northern Territory and Nth Kimberley	0	0	0	1	24	382	52	18	4	0	138
IDD20110	Coastal Waters Wind Warning	0	0	82	22	17	5	1	0	1	0	2
IDS20210	Ocean Wind Warning	3	342	74	6	2	0	1	2	2	0	37
IDW11100	Coastal Waters Forecast - WA	0	0	0	78	291	273	289	105	19	0	339
IDW11900	High Seas Forecast	0	0	21	307	246	31	4	1	10	0	191
IDW20100	Coastal Wind Warning 1	2	232	140	154	107	73	21	9	6	0	187
IDW20200	Coastal Wind Warning 2	1	137	38	26	13	11	0	3	2	0	67
IDW20300	Coastal Wind Warning 3	2	6	3	3	0	0	0	0	0	0	7
IDW21100	Ocean Wind Warning 1	0	147	126	22	3	1	1	0	1	2	199
IDW21200	Ocean Wind Warning 2	0	111	121	14	2	3	0	4	4	1	133
IDW21300	Ocean Wind Warning 3	0	32	17	4	1	1	0	2	3	0	24