Exercise 2 – Workflow for dissemination of GMDSS Safety Net Bulletins

Background

The goals of the Global Maritime Distress and Safety System (GMDSS) are to provide more effective and efficient emergency and safety communications, and to disseminate Maritime Safety Information (MSI) to all ships on the world's oceans regardless of location or atmospheric conditions. MSI includes <u>navigational warnings, meteorological warnings and forecasts, and other urgent safety related information</u>. GMDSS goals are defined in the International Convention for the The Safety Of Life At Sea (SOLAS) and is applicable to vessels over 300 gross tons and passenger vessels of any size.

Goal

Put together a template for preparing messages and the workflow process for preparation of a sample bulletin that would be the method for <u>Southern Hemisphere</u> ice services to follow in implementation of ice information in GMDSS and associated services.

Example

The following is an example of the raw text components that should be included in a GMDSS sea ice bulletin:

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WHEN ISSUED (UTC) 0000 UTC DAY[M/T/W/T/F] MMM DD YYYY
AGENCY
WHEN EXPIRE [for forecast products]

ICE EDGE FOR METAREA XXX

ICE EDGE AS >> [DEFINITION]

FROM XXX to XXX°XX'S and XX°XXX.XX'E, XS°XX.XX'N ...


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NAME OF FORECASTER
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In the Arctic, a format was defined by Russia, Canada and Norway during IAW3 (Copenhagen, 2012).

METAREA-XIX is defined as "*From a position on the Norwegian Coastline at 65°N to: 65°N and 5°W, 75°N and 5°W, west to a position on the Greenland Coastline. From the border between Norway and Russia (Inland) to: 69°47.68'N and 30°49.16'E, 69°58.48'N and 31°06.24'E, 70°22'N and 31°43'E, 71°N and 30°E. From this co-ordinate (71°N -*

30°E) further north along the 30°E Meridian to: 90°N and 30°E, 90°N and 35°W, south to the Greenland coastline along the 35°W meridian".

ICE EDGE ICE EDGE RUNS THROUGH THE FOLLOWING COORDINATES IN METAREA XIX ON TUESDAY 26. APRIL: ICE BULLETIN FOR METAREA 19 ISSUED BY THE NORWEGIAN ICE SERVICE (ISTJENESTEN@MET.NO) AT 23 UTC 26 APR	Header text, standard with just date/time added.
A2 ICE N OF 7730N 00149W, 7740N 00157W, 7752N 00000E	Ice edge coordinates through different named sub-areas. Always: ICE N (or S) OF Coordinate pairs as ddmm[N/S] dddmm[W/E]
B2 ICE N OF 7500N 00524W, 7514N 00406W, 7617N 00441W, 7638N 00325W, 7657N 00124W, 7730N 00149W	
A3 ICE N OF 7752N 00000E, 7818N 00205E, 7901N 00438E, 7926N 00547E, 7932N 00734E, 7942N 01000E	
A4 ICE N OF 7942N 01000E, 7943N 01015E, 7920N 01012E, 7856N 01134E, 7837N 01101E, 7812N 01238E, 7812N 01406E, 7759N 01300E, 7730N 01311E	
B4 ICE N OF 7730N 01311E, 7719N 01315E, 7653N 01350E, 7625N 01547E, 7620N 01658E, 7637N 01815E, 7645N 01904E, 7639N 02000E ICE EDGE EXITS AREA AND RE-ENTERS AT 7535N 01959E, 7534N 01953E, 7530N 01829E, 7515N 01817E, 7510N 01929E, 7511N 01959E	
B5 ICE N OF 7639N 02000E, 7637N 02019E, 7633N 02149E, 7622N 02147E, 7601N 02058E, 7545N 02104E, 7535N 02000E ICE EDGE EXITS AREA AND RE-ENTERS AT 7511N 01959E, 7515N 02121E, 7525N 02242E, 7548N 02450E, 7559N 02603E, 7623N 02747E, 7643N 02821E, 7637N 02909E, 7625N 02959E	Can also say ice edge exits and re-enters an area.
METAREA 1 NORTH ICELAND ICE N OF 7148N 01211W, 7209N 01148W, 7301N 00923W, 7334N 00801W, 7403N 00955W, 7421N 00837W, 7452N 00503W, 7459N 00524W	Also need to include ice edge for 150 nautical miles into bordering METAREA, so for METAREA-19 this is METAREA-1 (UK MET Office) [for which MET Norway also supplies the ice edge] and METAREA-20 (Russia, AARI).
METAREA 20 01020 ICE N OF 7625N 03000E, 7557N 03154E, 7557N 03536E, 7552N 03921E, 7559N 04009E, 7625N 04010E, 7704N 04035E, 7708N 04113E	
ICE EDGE NOT FOR NAVIGATIONAL PURPOSES	Text finishes with ICE EDGE NOT FOR NAVIGATIONAL

	PURPOSES

The METAREA-XIX ice edge text is generated using a Python script that takes as input a Shapefile line drawn by the ice analyst. The text is then e-mailed to the MET Norway meteorologists and the weather forecast appended to the beginning of the file before it is posted to the internet.

The Shapefile line should contain less than 50 points for the whole METAREA and is drawn to be well outside the actual ice edge.

The latest version of the METAREA-XIX forecast can be found by clicking on "High Seas Forecast" at http://weather.gmdss.org/XIX.html.

The MET Norway *Bifrost* system also includes Python scripts for the generation of Southern Hemisphere METAREA ice edge text from passive microwave sea ice concentration products (AMSR2: University of Bremen, or OSISAF: MET Norway).

Questions

How best to include other Southern Hemisphere ice hazards such as icebergs? Should the text include NIC named iceberg positions, their forecast drift, and a limit of all known icebergs (or similar alternative such as 0°C isotherm)? An example for METAREA-XVI is shown below:

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HIGH SEAS FORECAST:

Expiration Date
FZPN04 KNHC 271615
HSFEP3

CCODE/1:31:16:01:00/AOW/NWS/CCODE
HIGH SEAS FORECAST FOR METAREA XVI
NWS NATIONAL HURRICANE CENTER MIAMI FL
1715 UTC WED APR 27 2016

SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE
HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE
MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

SECURITE
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E PACIFIC FROM 03.4S TO 18.5S E OF 120W.

SYNOPSIS VALID 1200 UTC WED APR 27.
24 HOUR FORECAST VALID 1200 UTC THU APR 28.
48 HOUR FORECAST VALID 1200 UTC FRI APR 29.

.WARNINGS.

.NONE.

.SYNOPSIS AND FORECAST.

.W OF A LINE FROM 03.4S115W TO 08S100W TO 18.5S89W WINDS 20 KT
OR LESS. SEAS 8 TO 14 FT IN MIXED SW AND NW SWELL...HIGHEST S OF
10S W OF 100W.
.24 HOUR FORECAST W OF A LINE FROM 03.4S95W TO 13S84W TO
18.5S81W WINDS 20 KT OR LESS. SEAS 8 TO 12 FT PRIMARILY IN MIXED
SW AND NW SWELL...HIGHEST CENTRAL PART.
.48 HOUR FORECAST W OF A LINE FROM 03.4S86W TO 09S79W TO
18.5S74W...EXCEPT W OF 116W...WINDS 20 KT OR LESS. SEAS 8 TO 10
FT IN MIXED SW AND NW SWELL.

.REMAINDER OF AREA WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

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.FORECASTER HUFFMAN. NATIONAL HURRICANE CENTER.