

**DEVELOPMENT OF AN S-100 BASED PRODUCT SPECIFICATION FOR OCEAN  
FORECASTS**

Submitted by UK

**SUMMARY**

Executive Summary: This document provides details of the work undertaken by the US Office of Coast Survey and the US National Weather Service in the development of an S-100 Based Product for Ocean Forecasting.

Action to be taken: Paragraph 2.

Related documents: None

1. See attached document.
2. The Sub-Committee is invited to note the contents of this document.

## 4<sup>th</sup> IHO-HSSC Meeting Taunton, UK, 25-28 September 2012

### Paper for Consideration by HSSC

#### Development of an S-100 Based Product Specification for Ocean Forecasts

<b>Submitted by:</b>	United States (NOAA)
<b>Executive Summary:</b>	The Office of Coast Survey is assisting the National Weather Service in the development of an S-100 Based Product for Ocean Forecasting.
<b>Related Documents:</b>	N/A
<b>Related Projects:</b>	N/A

#### Introduction / Background

The recently concluded 4<sup>th</sup> Session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) identified a number of high priority tasks for enhancing maritime safety services (MSS) for the inter-sessional period (2012-2017). Among them is to "Develop, in accordance with existing standards (e.g. from IHO), graphical/numerical product specification for marine parameters, foremost wind, sea state, currents and sea ice, in Electronic Navigation Chart Systems (ENCs)"<sup>1</sup>. The JCOMM Expert Team on Maritime Safety Services (ETMSS) will lead this effort.

This is a follow up effort to the JCOMM Expert Team on Sea Ice (ETSI) initiative to develop a product specification for sea-ice, which TSMAD has been providing expert advice and the IHO is hosting the sea-ice register.

NOAA's National Weather Service is responsible for the Western North Atlantic and Eastern North Pacific METAREAs that deliver marine meteorological and oceanographic safety information (warnings and forecasts) to the mariner via the Global Maritime Distress Safety System (GMDSS).

In 2012 NOAA's National Weather Service asked for the assistance of NOAA's Office of Coast Survey to further this work and develop an S-100 based product specification to provide a common standard for the delivery of Met-Ocean information to mariners and that can be used on an S-100 based ECDIS system and potentially be delivered to the mariner on a daily basis via a small dataset that will display the meteorological forecast.

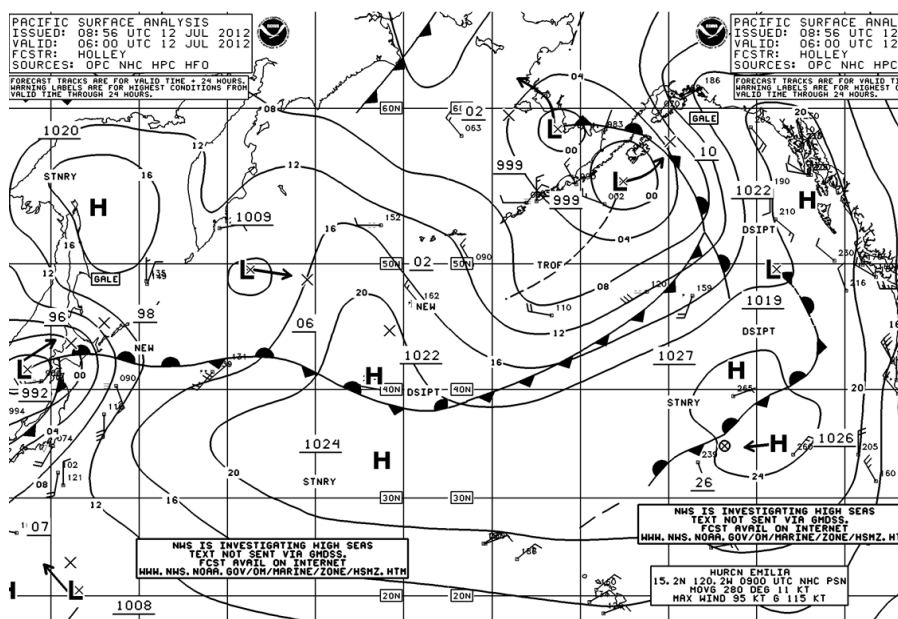
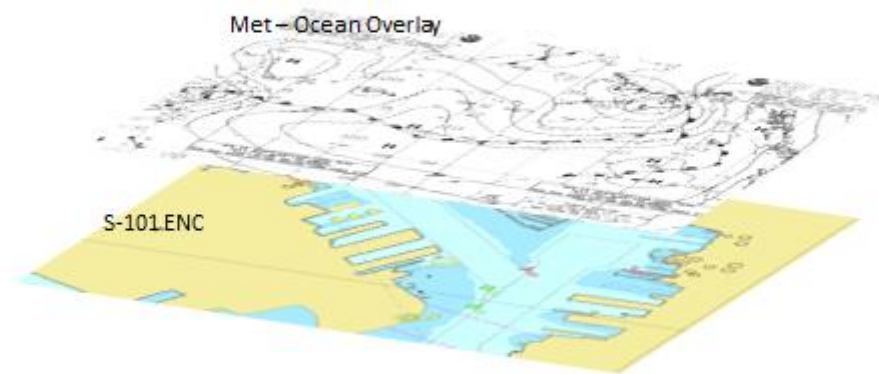


Figure 1 - Surface Analysis (Pacific)

<sup>1</sup> Expert Team on Maritime Safety Services Terms of Reference

## Analysis/Discussion

In 2009, the WMO began preliminary work on defining Met-Ocean Object and Attributes as an S-57 catalogue. The progress to date has been slow and has not reached the stage of developing a product specification that could be used to create vector products that would be an overlay to the ENC.



**Figure 2 - S-100 Integrated ECDIS**

The United States (NOAA) feels that the development of an S-100 based product specification for meteorological forecasts that can be used in conjunction with an S-101 ENC is the type of improvement that will support a changeover from an S-57 based ECDIS to an S-100 based ECDIS.

Currently, this information is delivered to the mariner in different formats, NAVTEX, High Seas text messages, and graphical charts via HF radiofax. It is the graphical format that lends itself to an overlay within an S-100 based ECDIS and would provide the mariner with a cohesive navigational picture.

## Recommendations

Noting that this project is still in its early stages, the United States (NOAA) is requesting that TSMAD provide guidance on the development of an S-100 based product specification to ETMSS and liaise with ETMSS on how to best facilitate a register for the met-ocean features.

## Justification and Impacts

This project should have a low impact on the TSMAD workplan as the effort is being led by the WMO/JCOMM ETMSS and TSMAD is just providing technical advice on the building of an S-100 based product specification.

## Action Required of HSSC

The HSSC is invited to:

- a. note the work being done by the National Weather Service on behalf of ETMSS
- b. agree for TSMAD to provide expert advice on the creation of an S-100 based product specification for Ocean Forecasting