



Hydrographic Services and Standards Committee

Report of WMO/JCOMM to HSSC7

November 2015

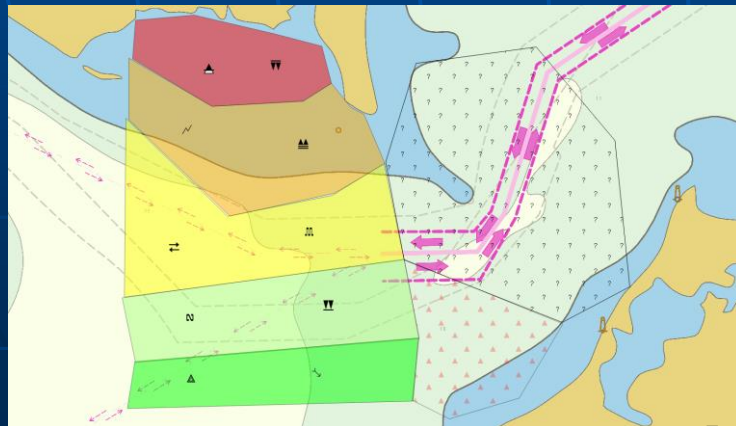
# S-411 Sea ice

December 2013: first operational S-411 ice charts available and viewable in GIS programs.

June 2014: S-411 Ice Information Product Specification approved

December 2015: most operational ice charts available in S-411

Mid 2016: hopefully first S-411 capable commercial ECDIS



INTERNATIONAL HYDROGRAPHIC ORGANIZATION

JCOMM



**Ice Information Product Specification**

Edition 1.1.0, June 2014

Special Publication JCOMM S-411

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Example of S-411 portrayal.



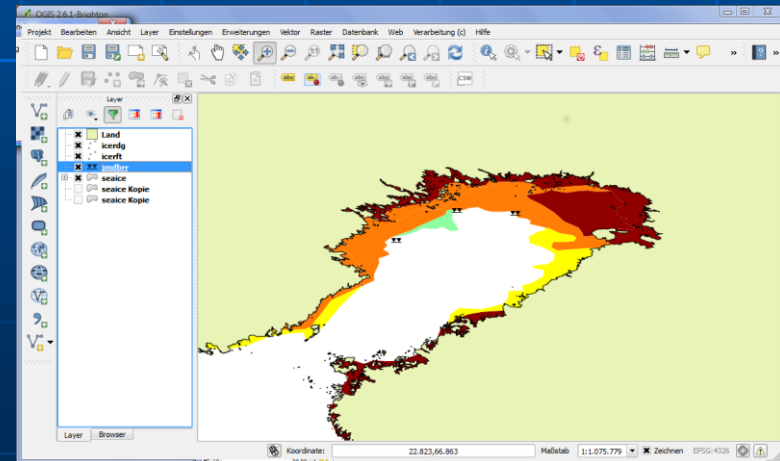
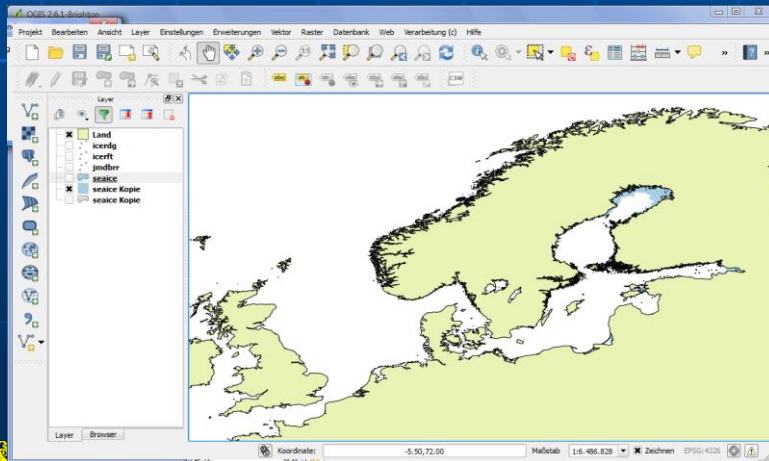
# Planned development of S-411 in 2016/2017

A) better iceberg objects (points, lines and polygons)

B) Adjust the „traffic light“ portrayal according to discussions and decisions in the context of the IMO polar code

C) scale dependent representation based on predefined rules:

- unify nearby/overlapping symbols of the same category
- join nearby/overlapping symbols of different categories into a new symbol
- do not represent some symbols in small scale maps or join them into a polygon area
- incorporate smaller polygon areas into larger areas
- change the polygon representation on small scale maps



Same S-411 chart shown at different scales



# S-412 -Completed to Date: Feature Catalog Draft

- ✦ GOAL: Define the definitions of objects and their attributes that mariners *may* want as situational awareness over the next *20 years*
  - Included different maritime industries, scientific research
- ✦ October 2012 - April 2013: Initial Development
- ✦ July 2013 - March 2014: ETMSS Feature Catalog review and revisions
- ✦ April 2014 - May 2014: Final draft completed, submitted to ETMSS for



# Completed to Date: IHO Registry

- ✦ Registered as S-412: Weather Overlay
- ✦ Solidified World Meteorological Organization (WMO) authority over weather definitions in S-100
- ✦ Adding features into IHO Registry

Main Index	
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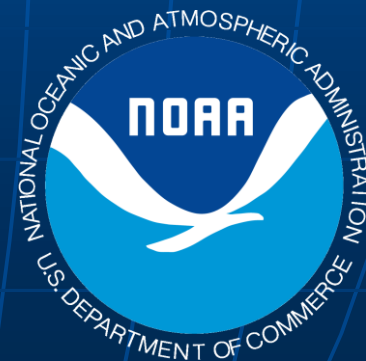
  

WXO Feature	
Feature Details	
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<b>Name:</b>	Atmospheric Pressure
<b>Alias:</b>	Unspecified
<b>camelCase:</b>	AtmosphericPressure
<b>Use Type:</b>	Geo
<b>Definition:</b>	Pressure (force per unit area) exerted by the atmosphere on any surface by virtue of its weight; it is equivalent to the weight of a vertical column of air extending above a surface of unit area to the outer limit of atmosphere.
<b>Source Reference:</b>	A2930
<b>Source:</b>	WMO 182
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<b>Amended:</b>	0000-00-00
<b>Distinction:</b>	Unspecified
Recommended Attributes	
Unspecified	
This Feature Data Dictionary does not mandate the use of any attributes. The attributes listed here are recommended as being relevant to this particular feature. However, for some applications, certain attributes may be designated as mandatory for specific feature classes. These attributes must be listed in the appropriate product specification.	



# Development: Portrayal

- ✦ Defining features in XML
  - Point features (SVG)
  - Line features
  - Area features
- ✦ Development assistance from the international community
  - Brazil's "Science Without Borders Program"

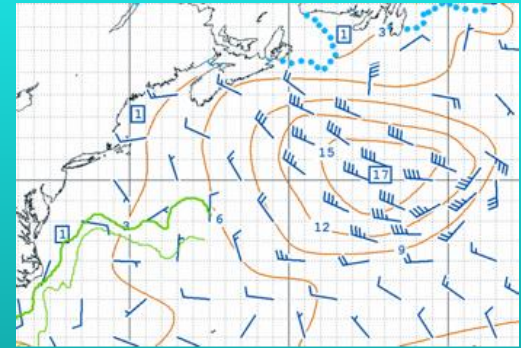




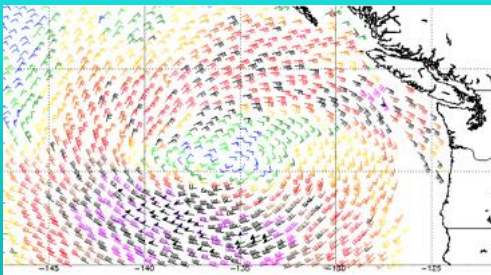
# Portrayal Challenges

- ✦ International Standards
  - WMO Definitions
  - Portrayal Standards
- ✦ Wind and Wave Portrayal

Option 1



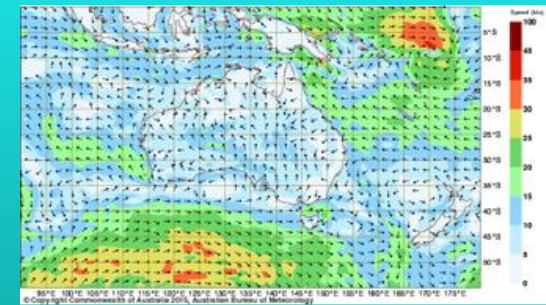
Option 2



Option 3



Option 4



# Point Features



High



Tropical



Surface



Low



Freezing






# Line Features

———— Air Pressure

●●●●●● Ice Edge

∩∩∩∩∩∩ Ridge

 Convergent

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Fronts













































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# Looking to the Future

- ✦ Gridded data - Brazil
  - Model data
  - Gridded forecasts
- ✦ Continue portrayal for vector and gridded forecasts

