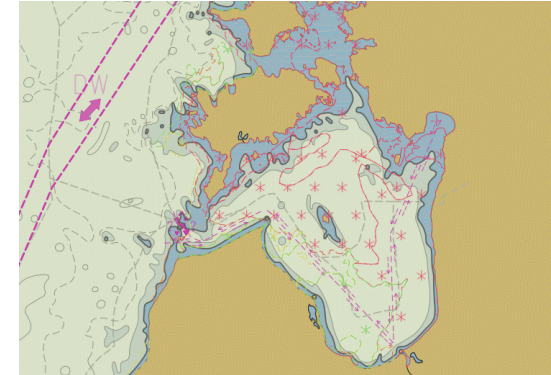# Ice Charts for ECDIS

Integration of Ice Data into ECDIS

or

similar Systems

German Ice Service
Dr. Jürgen Holfort
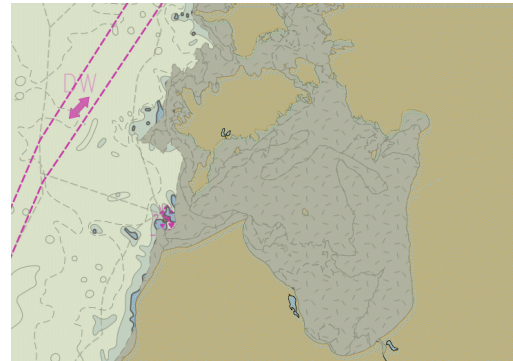Alexander Benke

Ice Data Producing
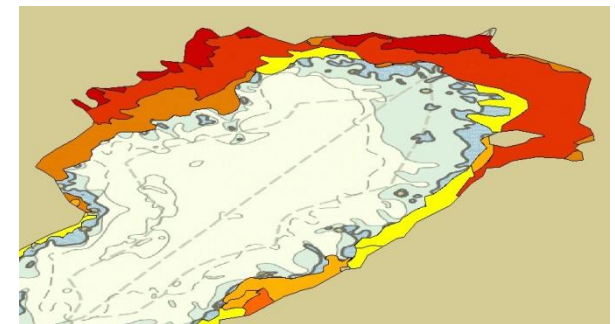
Operational Data Producing in Winter 2012/2013:

S-57   Marine Information Overlay

S-57   AML

S-10X   According to Draft Sea Ice Product Specification (testdata) in XML and ??? formats

Ice Data Producing

- **Every Day - new Chart**

- **Data transmission in northern or southern polar regions is more difficult then in other areas of the earth**

- **Simplified Geometries for reducing of data volume**
  - **Data are also placed over the land area**
  - **Need to put the data under land area layer or cut the data to match coastline directly in ECDIS on board**

S-10X Ice Data

- **Ice Features are already in IHO Registry (from Ice Objects Catalogue Version 5.0)**
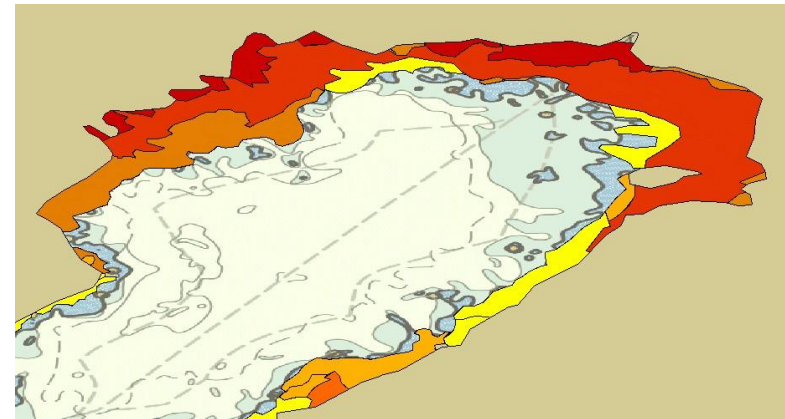

- **Ice Objects Catalogue Version 5.1 is available**

- **Common Ice Features:**
    - **Sea Ice (Ice Concentration + Stage of Development)**
    - **Ice Ridge**
    - **Ice Rafting**

S-10X Ice Data

- **First Draft of S-10X Sea Ice Product Specification**
- **Portrayal (WMO Colors) in Symbology Encoding XML**
  - **WMO Colors are not really optimal for using as overlay in nautical charts**
  - **More portrayals planned using patterns of symbols, SVG symbols and transparency**
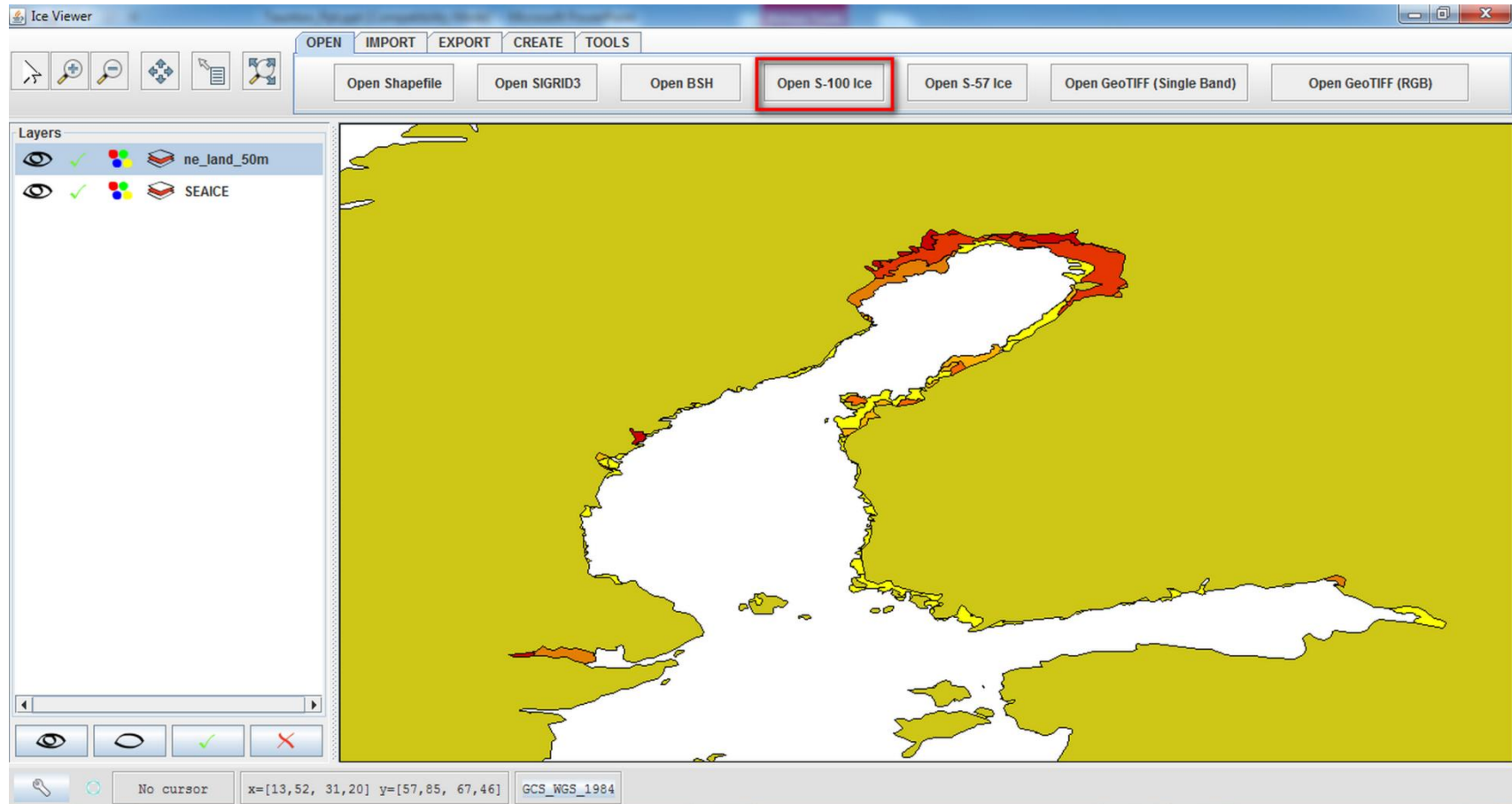

Ice Portrayal (WMO Colors)

- **Metadata ISO 19115 XML**
- **Development of Ice Viewer**

Ice Viewer

More Info

- https://sites.google.com/sites/iceecdis

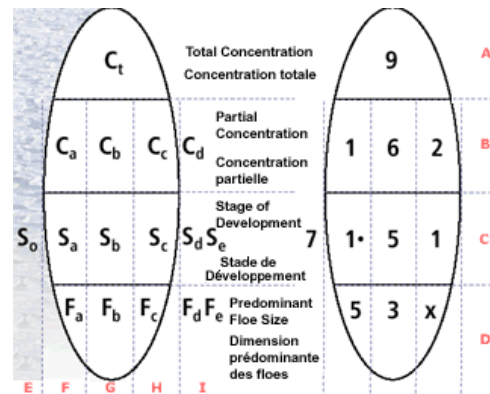- ftp://ftp.bsh.de/outgoing/m12/ECDIS/

Contact:

Juergen.Holfort@bsh.de

Alexander.Benke@bsh.de

Conclusions

- **Using of transparency, patterns and SVG for displaying**

- **Pick report including Ice Egg**

- **Prefered data formats (xml, ESRI Shapefiles, etc.)**