



# Ice Services Requirements Questionnaire – Summary Report

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# Background

- During 2006 and 2007, the International Ice Charting Working Group distributed a questionnaire on requirements to the national Ice Services to identify areas where the Ice Services might have common requirements
  - particularly with respect to accessing and processing satellite image data.
- To date, the questionnaire has been completed by eight Ice Services:
  - Canadian Ice Service (CIS)
  - Finnish Ice Service (FIMR)
  - Norwegian Ice Service (NIS)
  - Danish Meteorological Institute (DMI)
  - German Ice Service (BSH)
  - Icelandic Meteorological Office (IMO)
  - Japan Meteorological Agency - Office of Marine Prediction (JMA)
  - International Ice Patrol (IIP)

# Questionnaire Summary Addresses

- Current Service
- Imagery
- Processing
- Products
- Standards
- Software
- Data Storage
- End Users

# CONCLUSION

- It is premature to draw broad conclusions from this draft report
  - somewhat limited sampling of the national Ice Services
  - Need a larger sample, particularly including the Ice Services of the Russian Federation and the United States as well as some more Baltic Sea Ice Services,
- Report has been drafted at this time to demonstrate the kind of information that could be made available within the International Ice Charting Working Group with the cooperation of all of its members.

# Potential to Share Satellite Data

- **Baffin Bay – Davis Strait:**
  - IIP, CIS, DMI
- **Nares Strait – Ellesmere Island waters:**
  - CIS, DMI
- **Labrador Sea:**
  - CIS, IIP
- **Waters around Cape Farewell:**
  - IIP, DMI
- **Denmark Strait:**
  - IMO, DMI, NIS
- **Greenland Sea – Lincoln Sea:**
  - DMI, NIS
- **Baltic Sea:**
  - FIMR, BSH

# Satellite Imagery

<b>Imagery</b>	<b>Number of Respondents Using This Type of Imagery</b>	<b>Total Number of Scenes Used Per month by all Respondents</b>	<b>Cost per scene</b>
NOAA AVHRR	7	>1200	\$0-8
NASA MODIS	6	325	\$0
JMA MTSAT	1	300	\$0
CSA RADARSAT-1	5	458	Ranges from about \$150 to \$4000*
ESA ENVISAT ASAR	5	155	Ranges from \$0 to about \$700*
NOAA QuikSCAT	3	90	\$0
DMSP SSM/I	3	90	\$0
NASA AMSR-E	2	60	\$0

# Products

- Sea Ice Charts
- Ice Thickness Charts
- Ice Drift
- Ice Forecasts
- Ice Edge
- Icebergs
- Limit of All Known Ice (LAKI)
- Sea ice – satellite images
- Sea ice edge

# Distribution Methods

Distribution Method	Number of Respondents using this Method
Website	8
E-mail	7
Marine RadioFax Broadcast	6
NAVTEX	3
ftp download	4
Telefax (Facsimile)	4
CD / DVD	1

# GEOSPATIAL DATA STANDARDS

Only 4 respondents indicated use of standards

- Three use ArcGIS standards
- One uses a proprietary geospatial format based on TIFF;
  - but also provides products in the ESRI shapefile format
- Three provide products in SIGRID-3 format
- All use raster formats including .gif, .jpeg, .png and .pdf.
- Two respondents noted use of GEOTIFF
- One indicated that they use bzip2 for distribution of compressed products
- One respondent noted a conversion to S-57 is in progress



Questions?