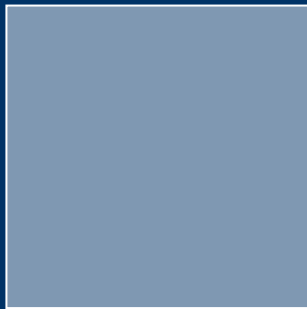




# EO-Based Services for Climate Change Adaptation



Space and the Arctic, October 20 - 21 2008, Stockholm,  
Sweden

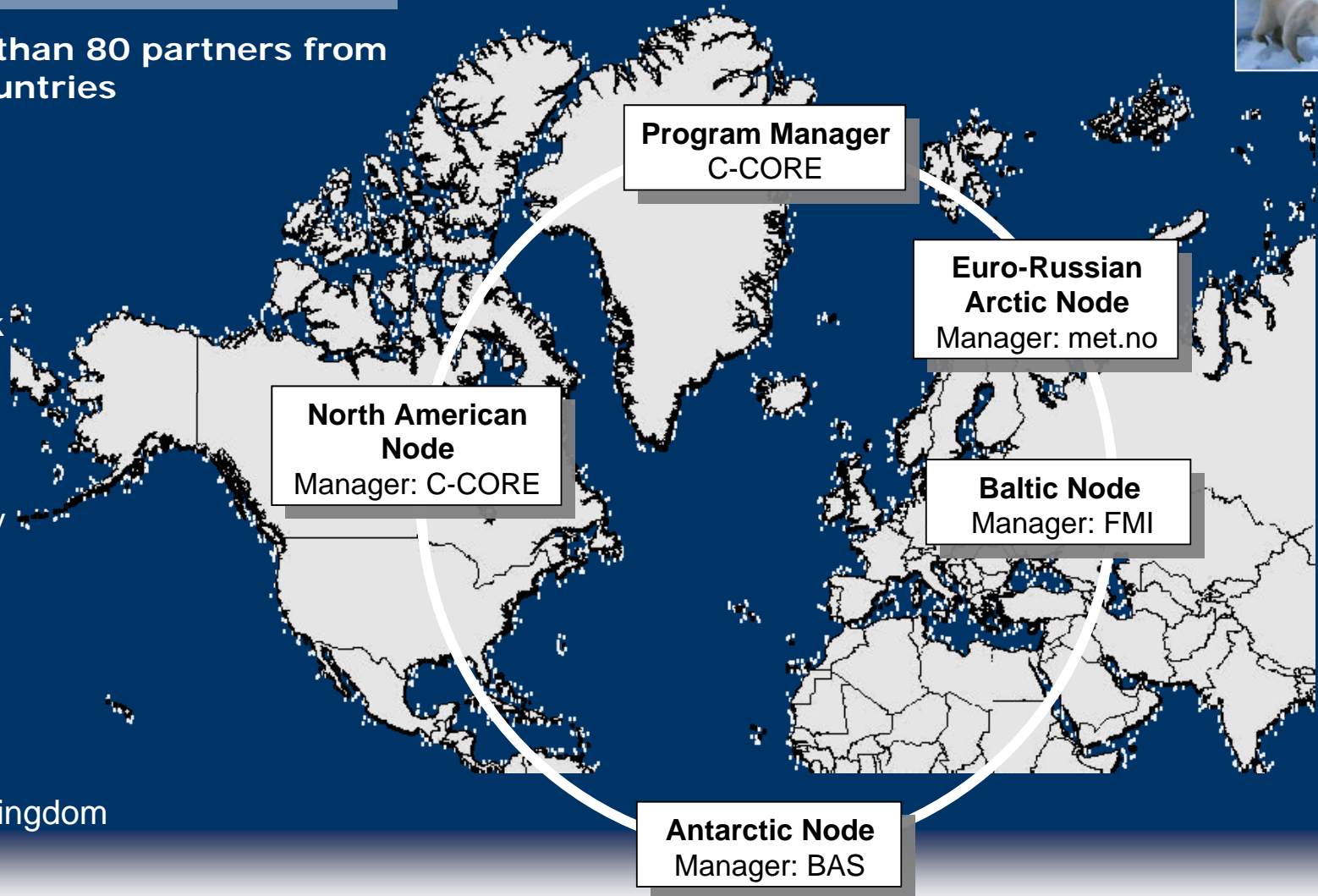


# Polar View Network

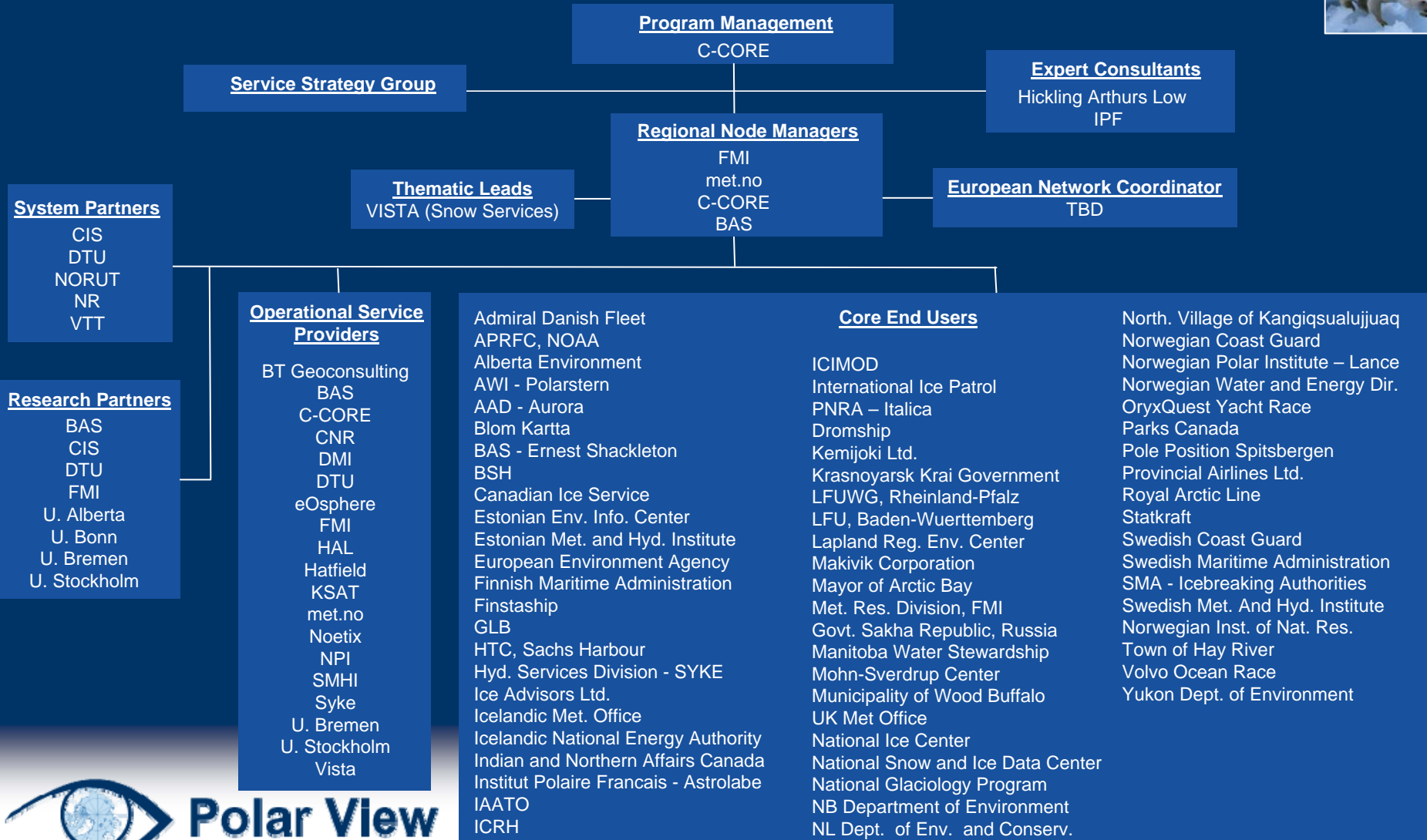
More than 80 partners from  
16 countries



-  Australia
-  Austria
-  Belgium
-  Canada
-  Denmark
-  Estonia
-  France
-  Finland
-  Germany
-  Iceland,
-  Italy
-  Norway
-  Sweden
-  Russia
-  United Kingdom
-  USA



# Polar View Network



# Polar View Service Portfolio



## Services

### Sea Ice and Icebergs

- High-resolution ice charts
- Medium-resolution ice charts
- Sea ice thickness charts
- Ice forecasts
- Floe edge maps
- Iceberg detection reports
- Global sea ice products

### River and Lake Ice

- Ice classification maps
- Ice cover change maps
- Annotated imagery
- Ice conditions history
- Freeze-up/melt-onset timing

### Glaciers and Snow

- Glacier facies maps
- Mass-balance modelling report
- Glacier velocity maps
- Snow cover maps
- Snow water equivalent

## User Concerns

### Safety

- Shipping
- Offshore operations
- Hunting and fishing

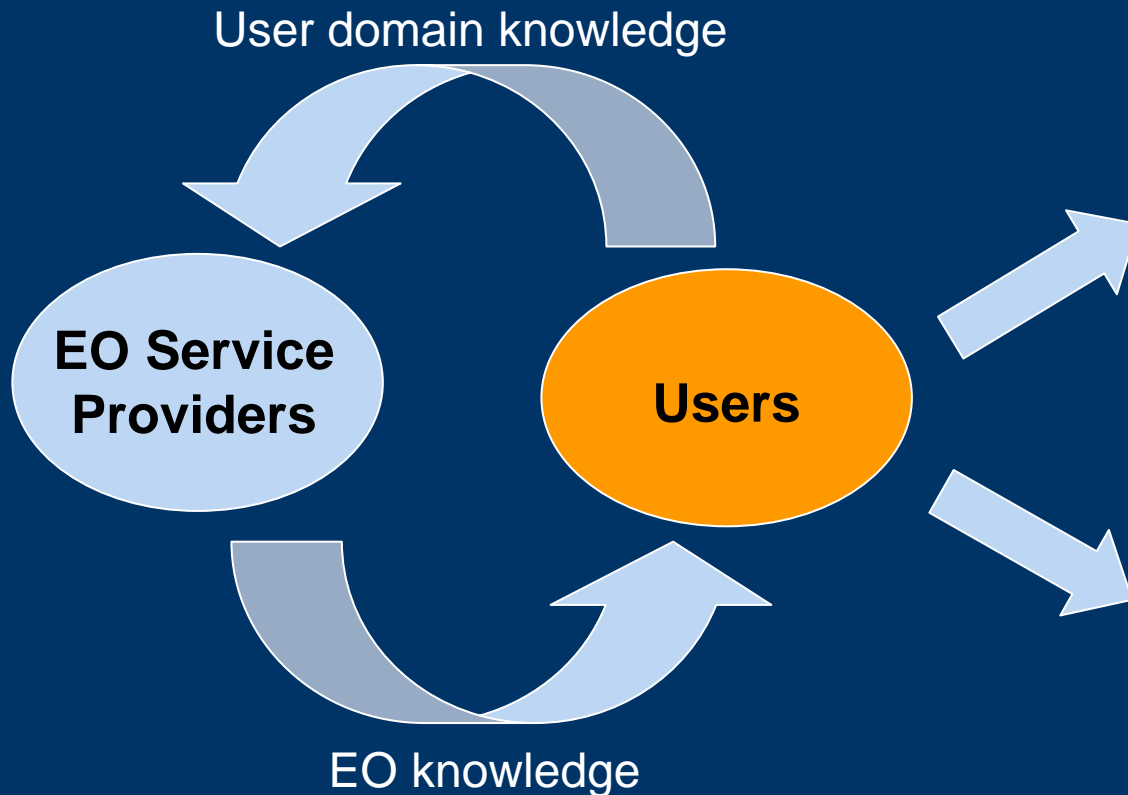
### Water and Environment

- Water resources management
- Flood forecasting
- Hydropower management
- Pollution transport

### Adapting to Climate Change

- Shipping
- Offshore operations
- Hunting and fishing
- Water resources management
- Flood forecasting
- Hydropower management

# User Engagement



Effective Integration of  
EO-based methods with  
existing processes

Application of EO-based  
approaches in other  
areas of interest

# Climate Change Adaptation



Changing ice  
regimes

Changing snow  
regimes



Reliance on past data is  
no longer sufficient for  
effective decision making



Recent observations are  
necessary

Continue/expand  
monitoring systems

Share information, work  
across jurisdictions

- UNFCCC Nairobi Work Programme Expert meeting in March 2008
- Vulnerability and Adaptation to Climate Change in the Arctic (VACCA) workshop in October 2008
- United Nations Climate Change Conference in December 2008



# Navigating Ice Infested Waters



## ❖ User concerns

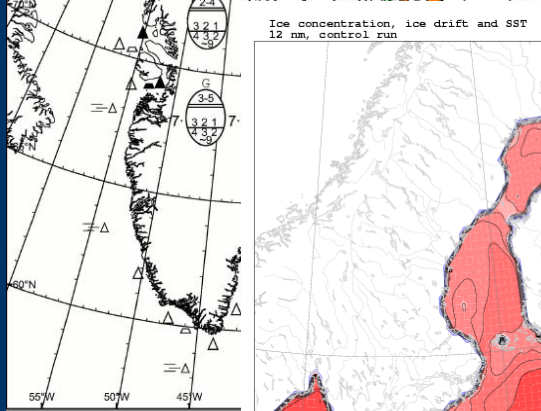
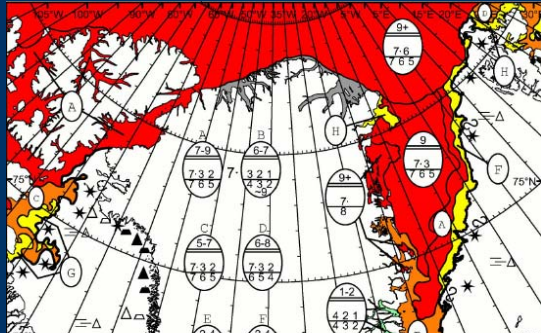
- Safe shipping and operations in ice infested waters

## ❖ EO-derived information

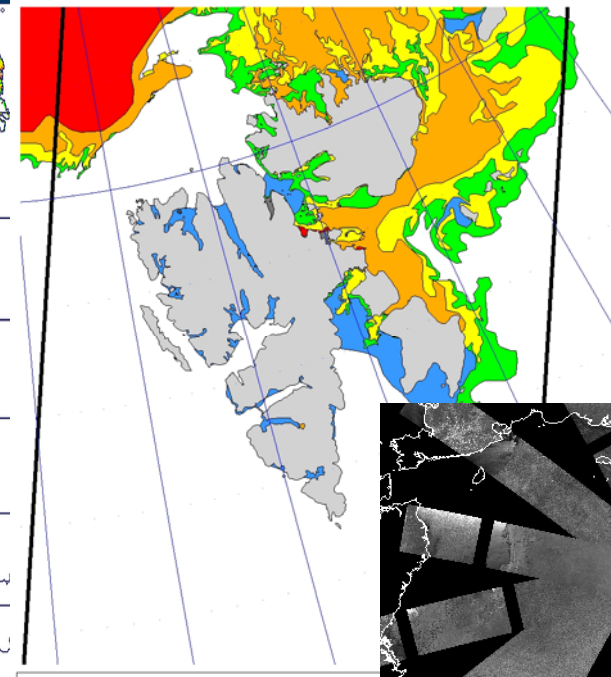
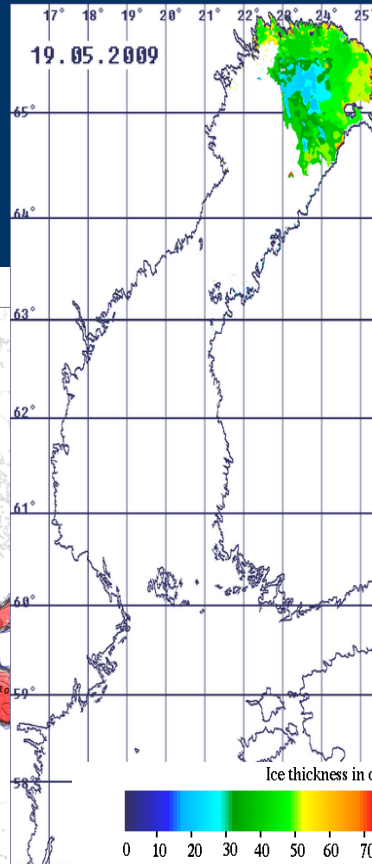
- High-resolution and regional ice charts
- Ice forecasts
- Global ice cover and concentration
- Iceberg location and population statistics



# Navigating Ice Infested Waters



Greenland Ice Chart  
omi  
Danish Meteorological Institute

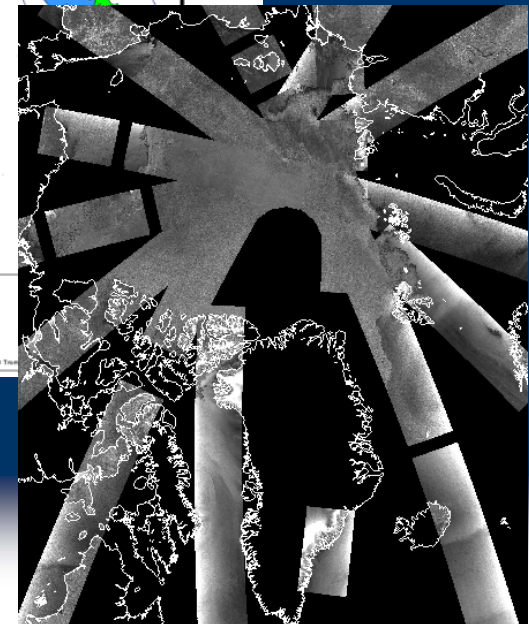


Svalbard - high resolution ice chart



Polar View

Sun 18 Oct 2009 00Z +00h  
valid Sun 18 Oct 2009 00Z





# Assisting Arctic Indigenous Communities



## ❖ User concerns

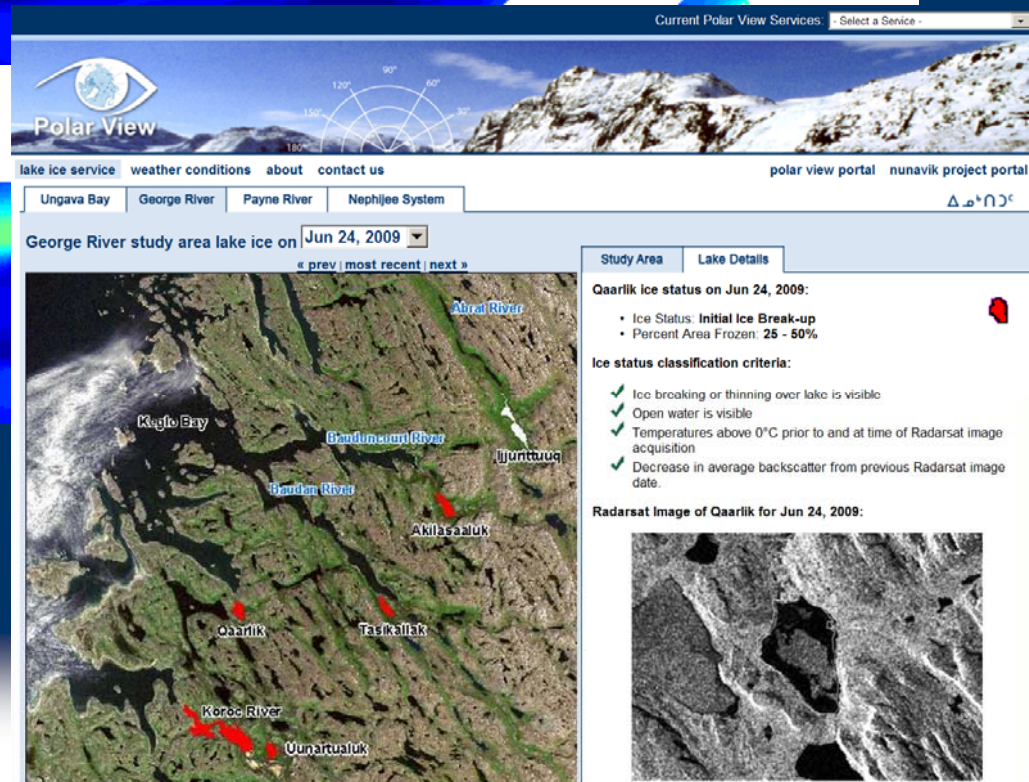
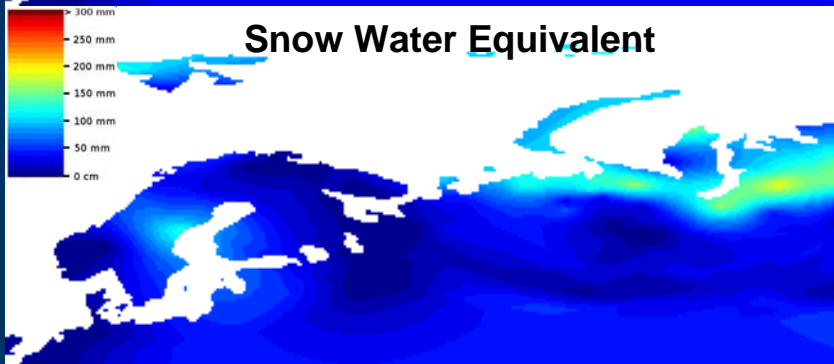
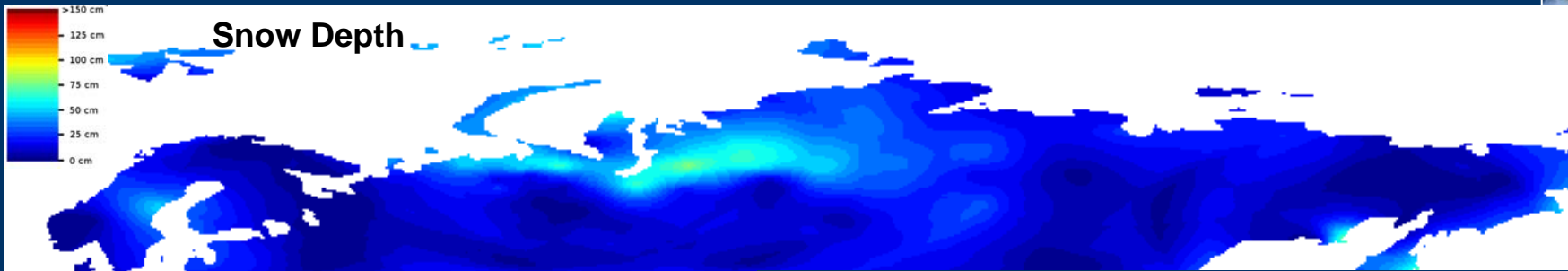
- Safe and efficient hunting and travel
- Sustainable reindeer husbandry
- Sustainable fisheries

## ❖ EO-derived information

- Floe edge advisory
- Lake ice distribution and development
- Continental snow cover
- River ice types



# Assisting Arctic Indigenous Communities



# Flood Forecasting and Water Management



## ❖ User concerns

- Mitigate impacts of flooding related to snow and ice
- Efficient hydropower production

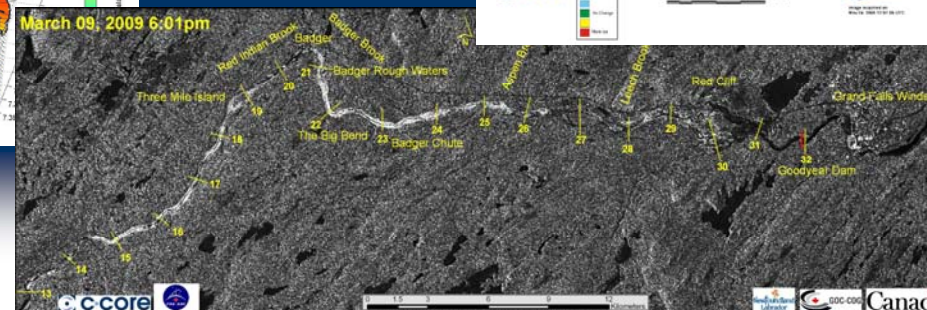
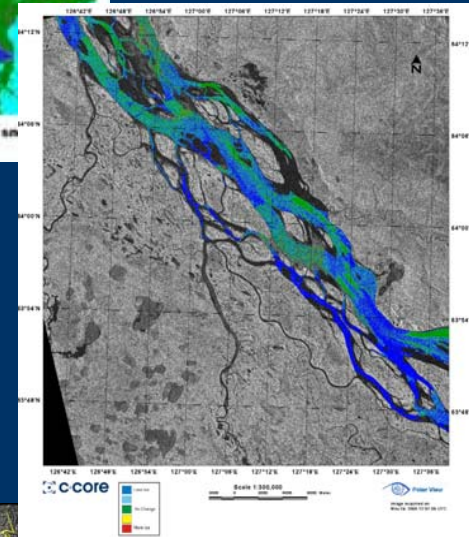
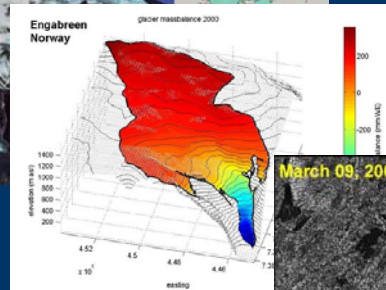
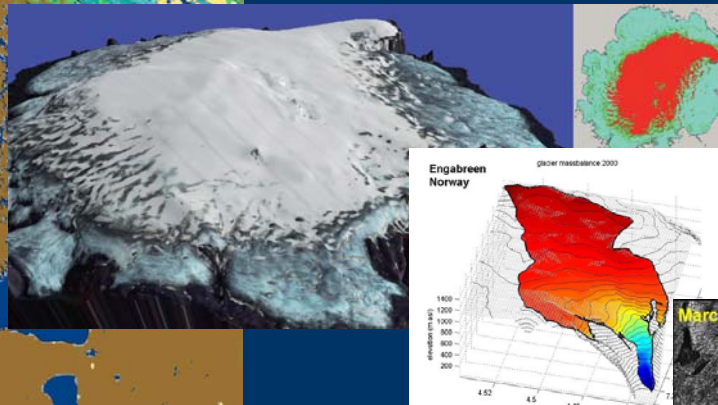
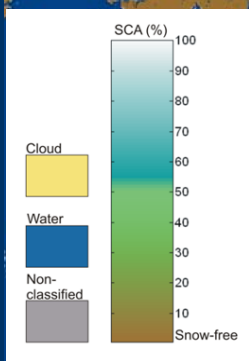
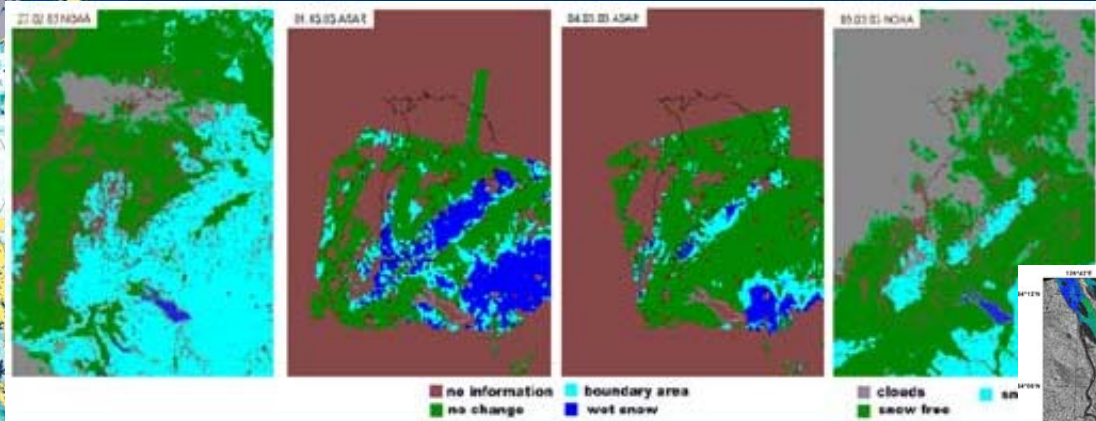
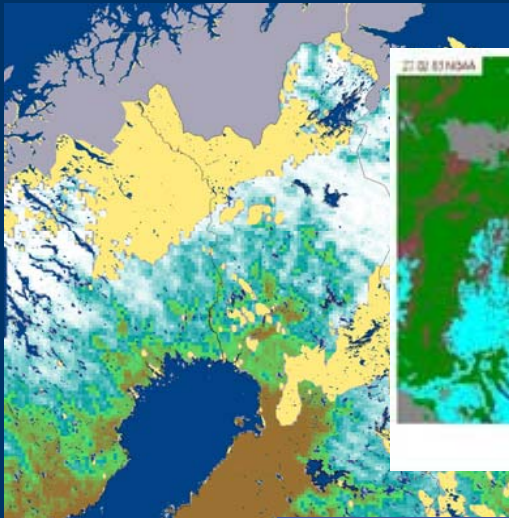
## ❖ EO-derived information

- Snow covered area
- River ice development and ice types
- Glacier characteristics and runoff modelling





# Flood Forecasting and Water Management



# Polar View Service Coverage



**> 4000 local/regional per year**  
**> 2000 global products per year**