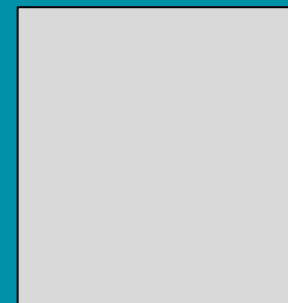




Norwegian  
Meteorological  
Institute

# ETSI Members Reports - Norway

Nick Hughes, Leader of the Norwegian Ice Service

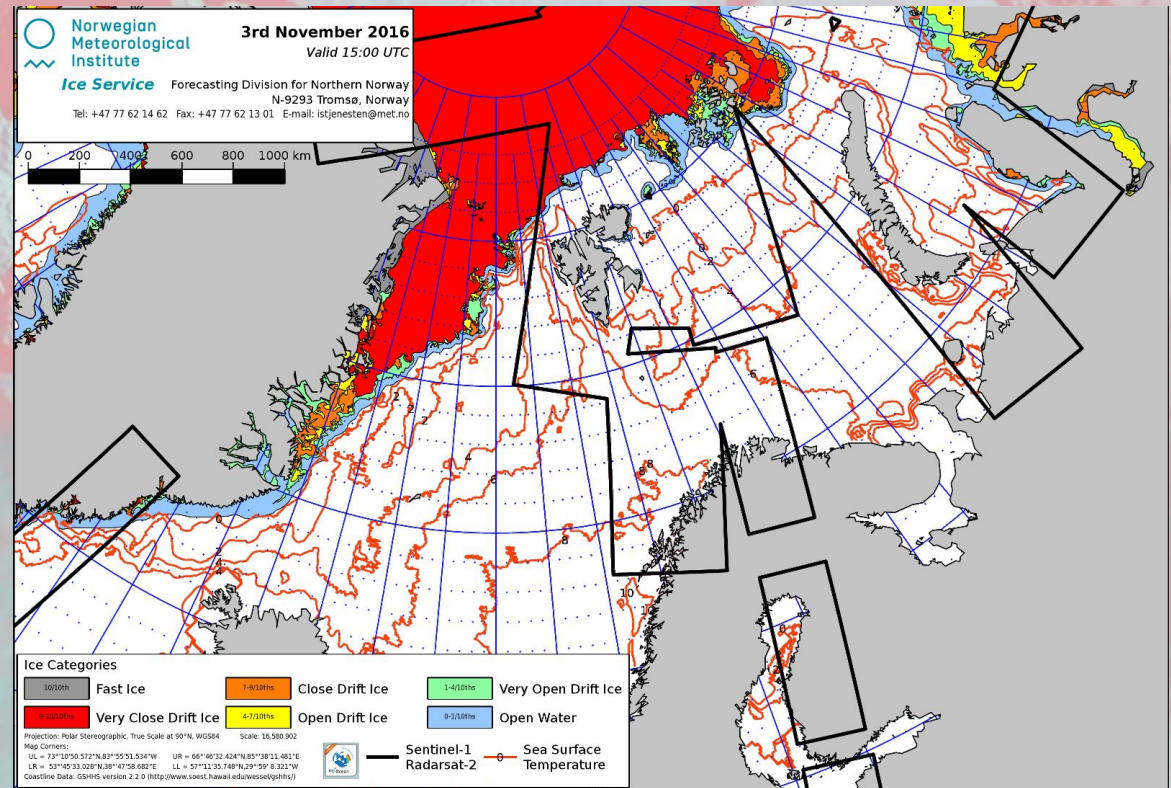
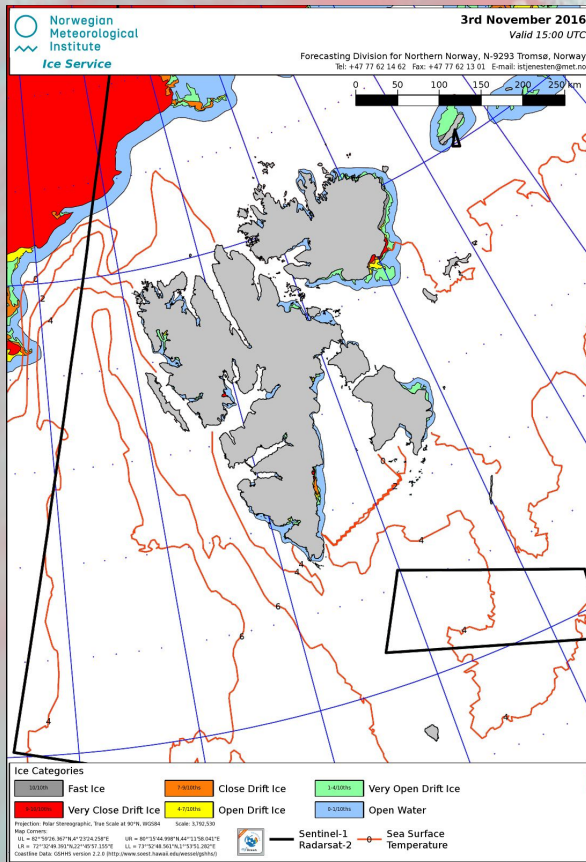


28 February 2017



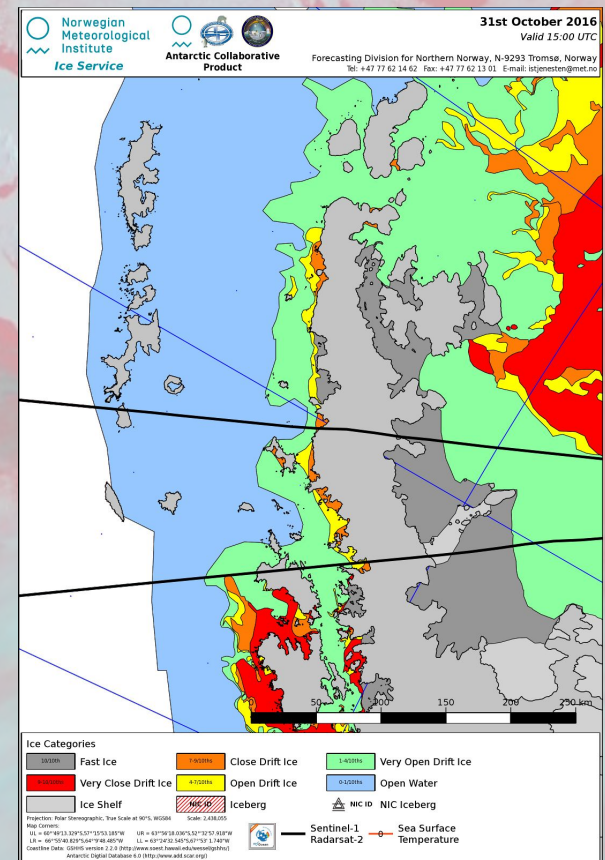
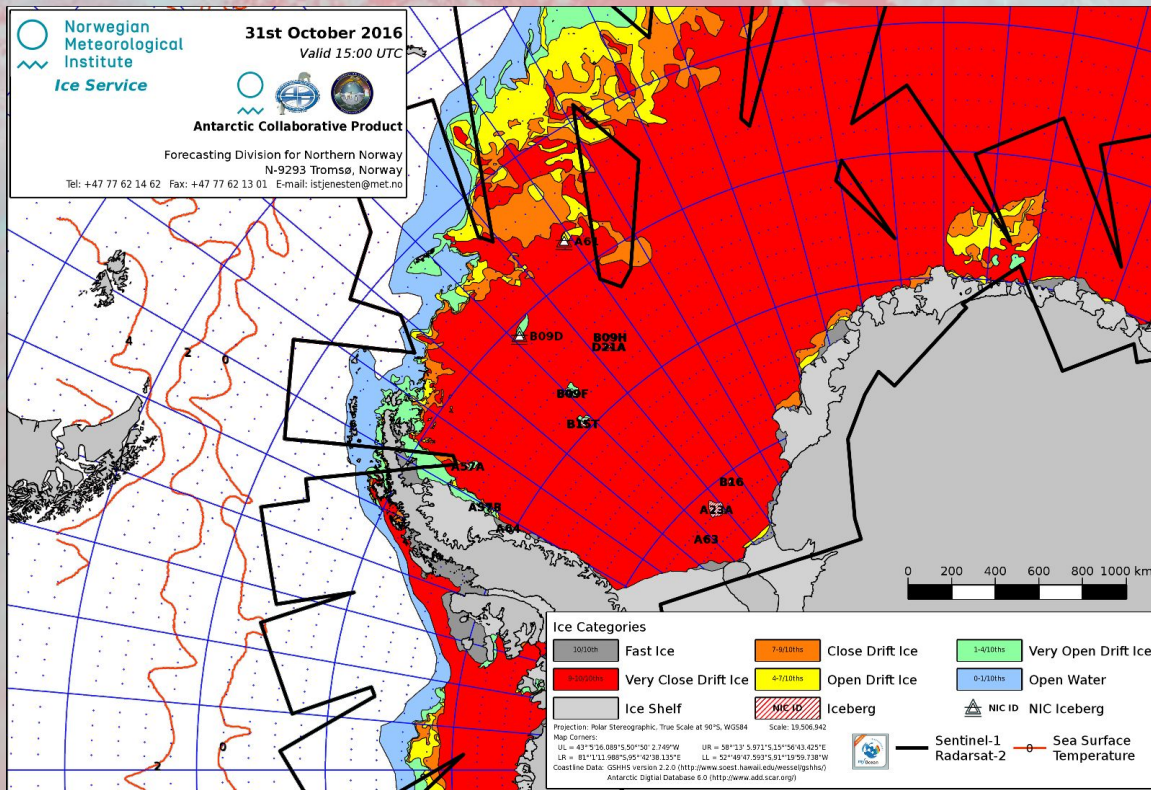
# Operations - Arctic ice charts

## Weekdays





# Operations - Antarctic ice charts



- Mondays, October to April



# European Ice Services

- Rebooted in 2016
- Mini analysts workwhop in conjunction with BSIM in September 2016
- A number of collaborative activities are planned, as resources and availability of personnel permit.

# Personnel

MetKlim VNN Istjenesten



Nick Hughes  
*Head of Ice Service*

Ice analysis training



Penelope Wagner  
*Researcher, SPICES project*



Trond Robertsen  
*Senior Analyst*



Signe Alvarstein  
*Senior Analyst*



Håvard Larsen  
*Analyst, Antarctica*



Odd-Ivar Olsen  
*Analyst*



# Software Development - Bifrost



- National ice services have developed ice charting tools independently
- Bifrost is our free, open source attend to provide a common standard that could become a community project
- Important for capacity building in the Southern Hemisphere
  - Argentina, Chile, South Africa, Australia and New Zealand for Antarctic



# Research Projects

- **EU** (Active)

- FP7 SIDARUS 2011-13
- FP7 ACCESS 2011-15
- FP7 ICEMAR 2011-13
- **FP7 ICE-ARC 2014-17**
- **H2020 SPICES 2015-18**



SPICES

- **Norwegian**

- **CIRFA 2015-23**



CENTRE FOR  
INTEGRATED REMOTE SENSING  
AND FORECASTING FOR ARCTIC OPERATIONS

- **Romsenter**

- PRODEX ThinIce 2011-14
- Early Warning 2014
- **Sentinel4ThinIce 2015**

- **Polar Institute ICE**

- **N-ICE 2014-present**
- **ICE-Whales 2015-17**
- **Mapping Sea Ice Characteristics Relevant for Arctic Coastal Ecosystems 2015-present**

