



DMI

Center for Ocean and Ice



High Latitude Cal/Val activities at DMI

Jacob L. Høyer, Gorm Dybkjær, Rasmus Tonboe, Eva Howe,

Center for Ocean and Ice

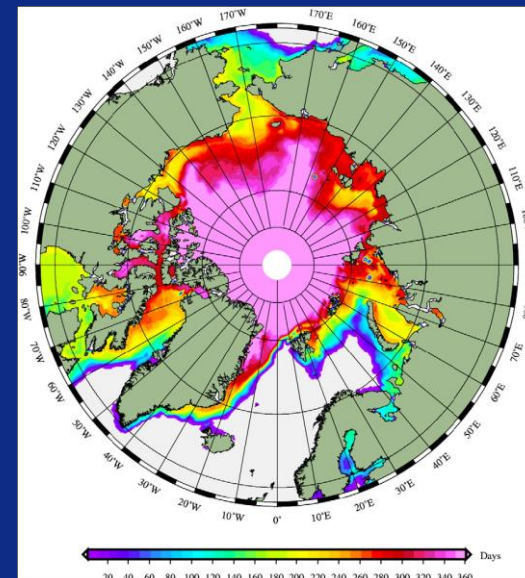
Danish Meteorological Institute

jlh@dmu.dk



High latitude validation activities

- ISAR has been delivered to DMI, June 2012
- Objective: To obtain high latitude radiometer observations for cal/val.
- Both SST and IST and MIZ.
- Sentinel 3 cal/Val team
 - Error characterization and monitoring of the SLSTR L2P SST + IST in the Arctic Ocean, MIZ+ Sea ice.



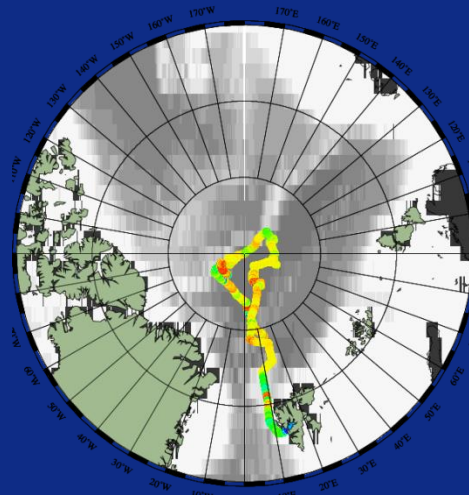


DMI

Center for Ocean and Ice

High latitude ISAR deployments

- 7 weeks, Ice breaker Cruise, North of Greenland, 2012.
- Measuring Radiometric SST and IST, MW L-Band radiometer
- CTD, ice thickness, in situ ice concentration
- Data set will be matched up with satellite SST and IST + NWP



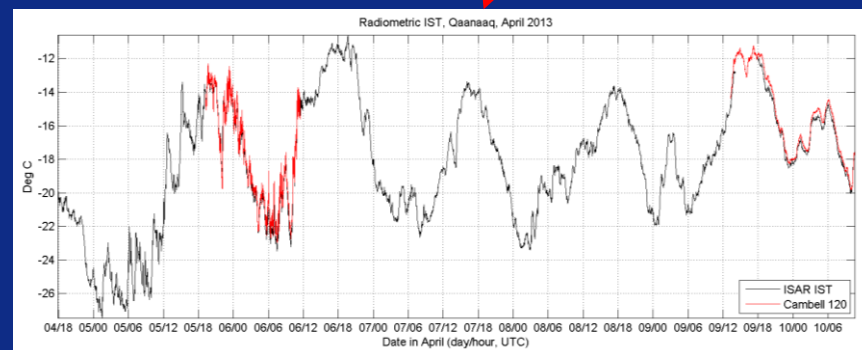
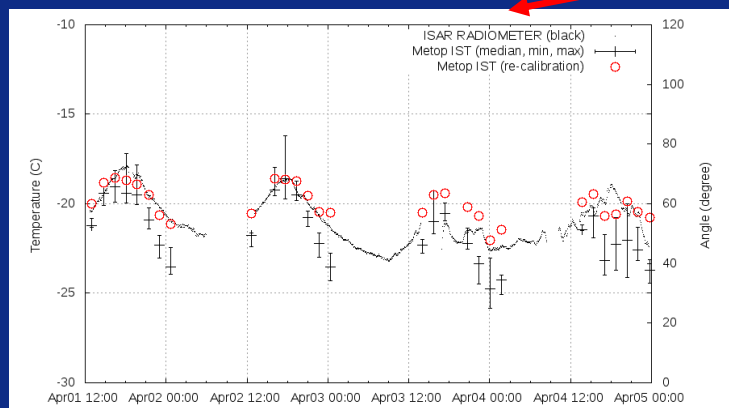
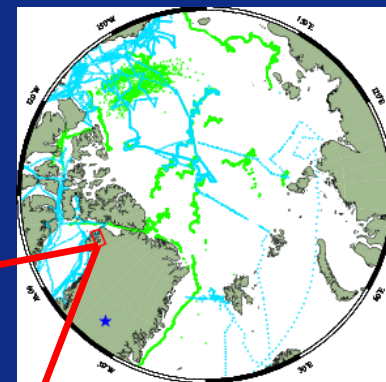


DMI

Center for Ocean and Ice

IST cal/val

- Yearly field campaigns to Greenland (Qaanaaq), 2011, 2012 & 2013
- New FP7 project ICE funded: 4 years
- Very cold sky temperature (173 K in Qaanaaq) results in underestimation of up to 1.3 K if no skycorrection is performed
- $T_{\text{skin}} = (T_{\text{Bice}} - (1-\epsilon) \cdot T_{\text{Bsky}}) / \epsilon$





DMI

Center for Ocean and Ice

Ship mounted ISAR at high latitudes

- Mounting at Royal Arctic Ship.
- Providing high latitude SST validation results
- Coinciding weather balloon observations + AWS

