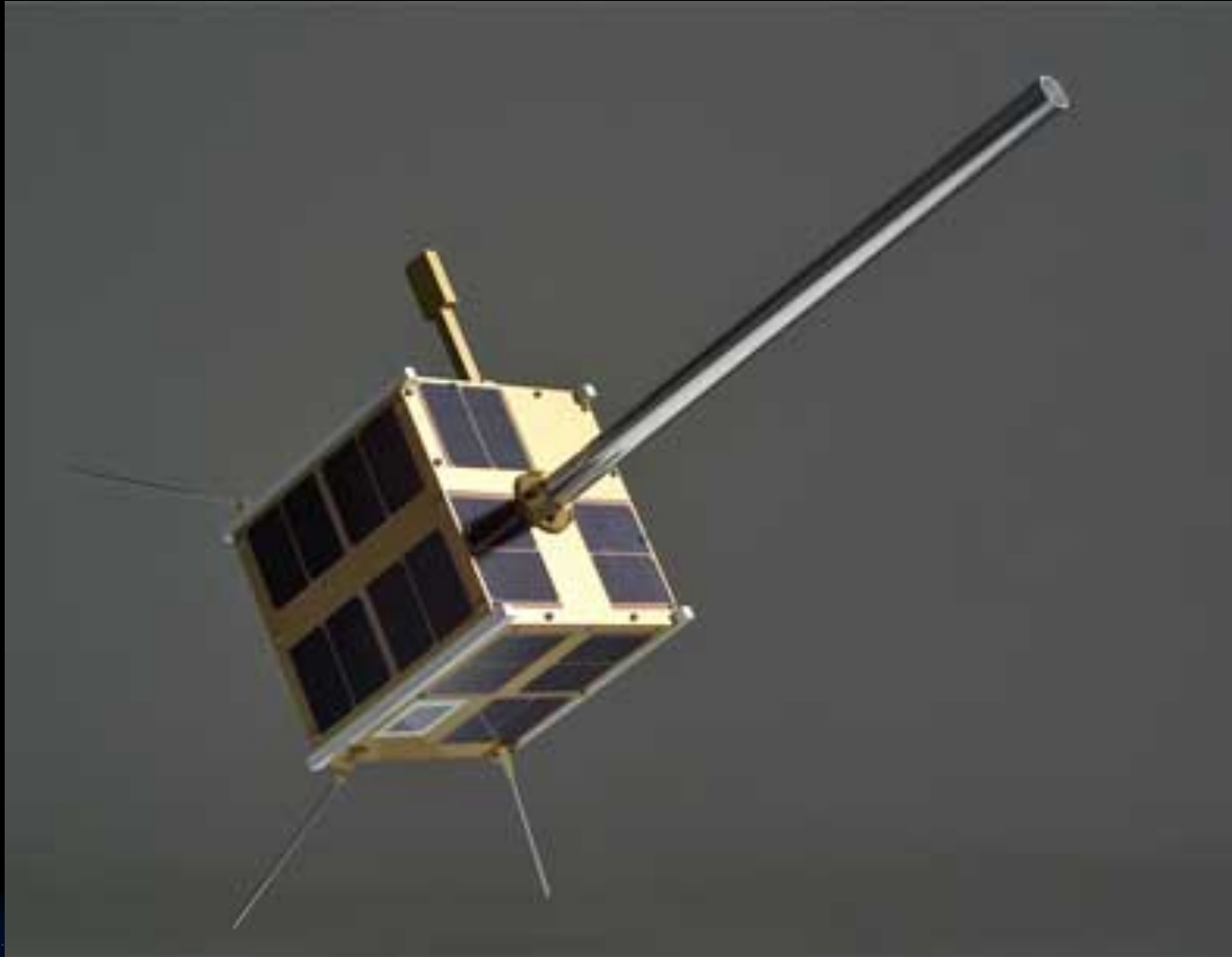


Norwegian Space Activities

Agency report

CEOS WGCV-38, NOAA CWCP

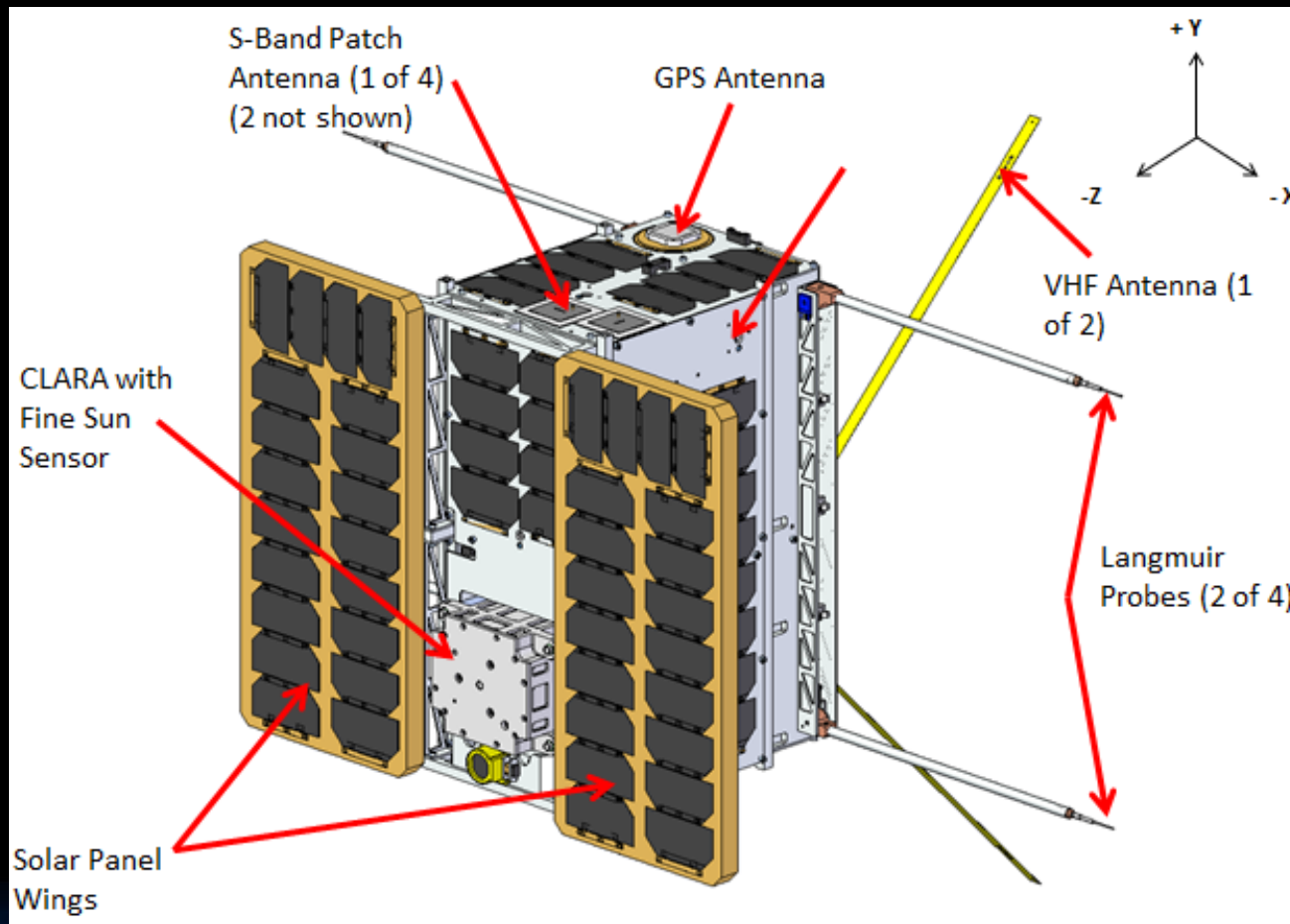
AISSat-1



NSC small sat activity

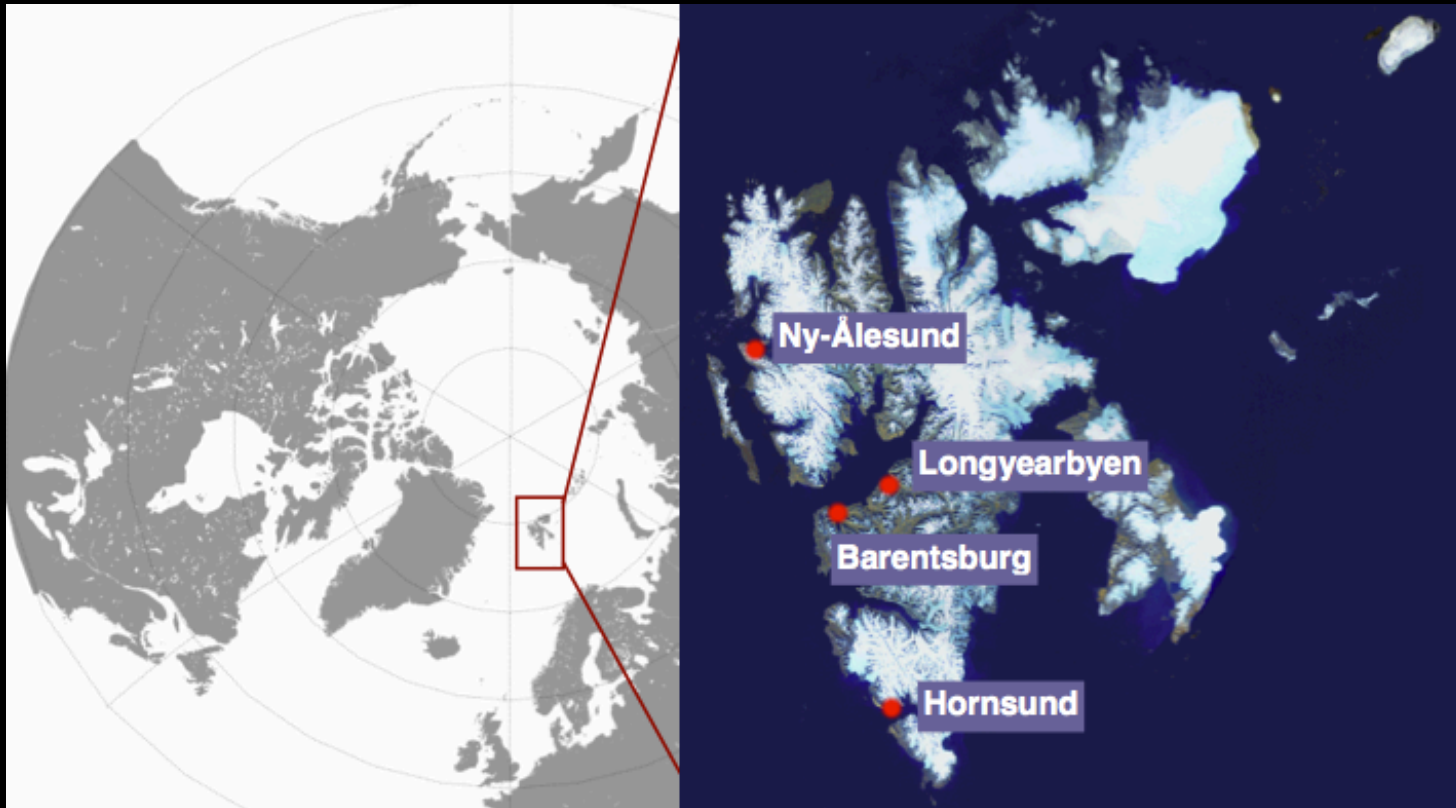
- AISSat-1 in full operation for 4 years, carrying an AIS receiver
- AISSat-2 launched from Baikonur July 8th 2014, in operation, the satellite is a copy of AISSat-1
- AISSat-3 built and currently undergoing tests at manufacturer, planned launch Q3/2015, carrying an enhanced AIS receiver, four RF channels
- NORSAT-1 under construction, planned launch Q1/2016, carrying three payloads:
 - CLARA, Compact Lightweight Absolute RAdiometer
 - Langmiur Probe, electron plasma
 - Extended AIS receiver with two VHF antennas each with four RF channels

NORSAT-1



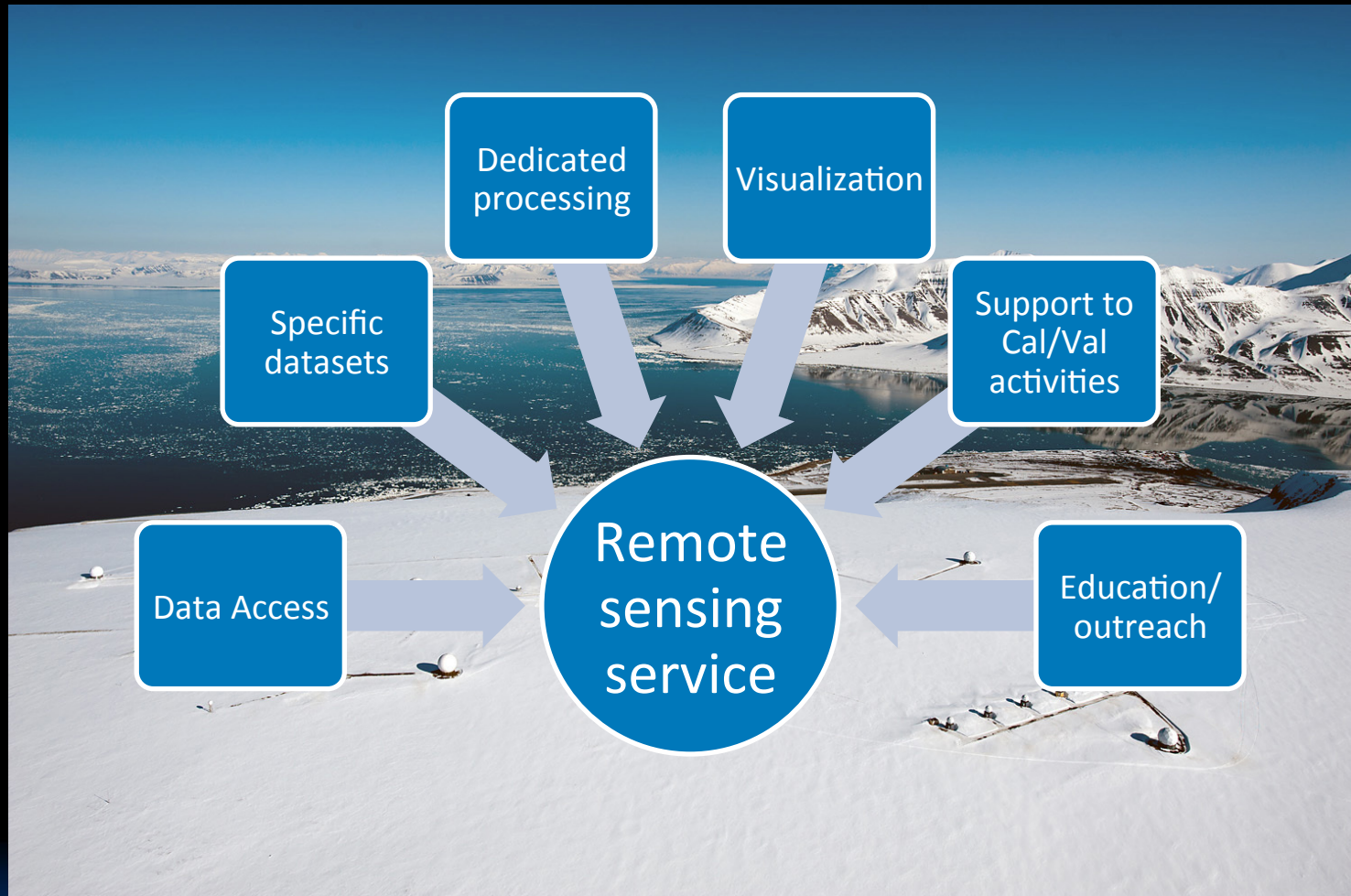
SIOS - Svalbard Integrated Arctic Earth Observing System

Integrating space into Svalbard research



Calibration and validation of satellite instruments and -products are identified as an important area the remote sensing service shall address

The Remote Sensing Services



Implementation of service



- > 3 years (2015 – 2017)
- > Main actors and potential data providers
- > Detailed needs and cost estimation

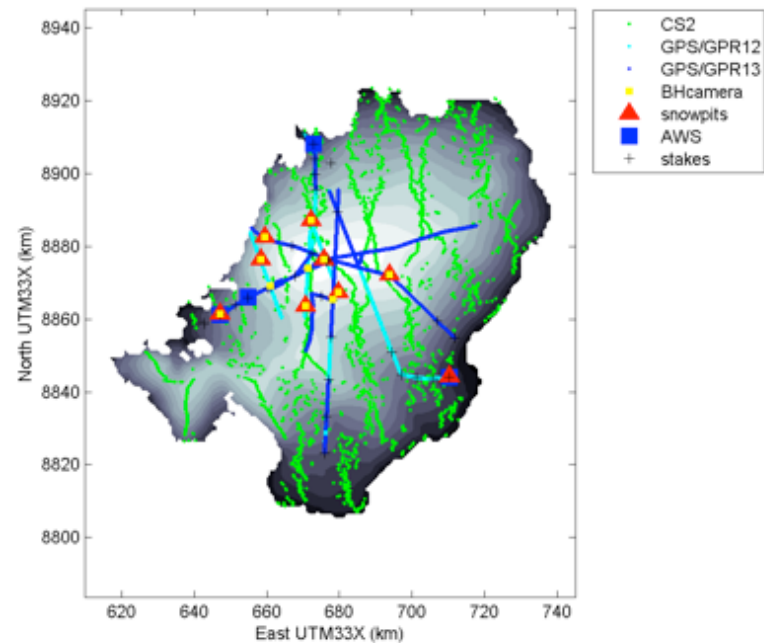


Status end September 2014

- SIOS Preparatory Phase ends 30 September 2014;
- Interim phase until SIOS Knowledge Centre is established;
- Some countries have already signed Letters of Commitment;
- SIOS expected to receive funding from a large infrastructure call in Norway, where some groups are planning cal/val related infrastructure

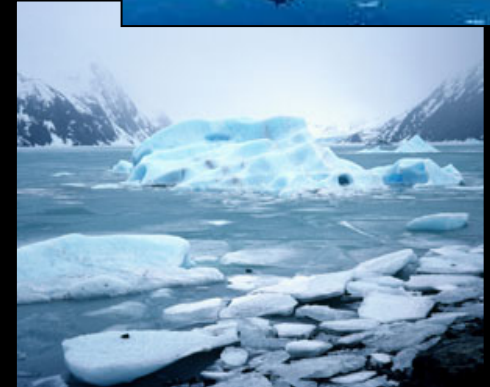
CryoVex 2014

- UiO and NPI
- Campaign on Austfonna
- Providing Cal/Val data for Cryosat-2 and ASIRAS
- Maintaining existing network of mass balance stakes and meteorological sensors for future Cal/Val activities



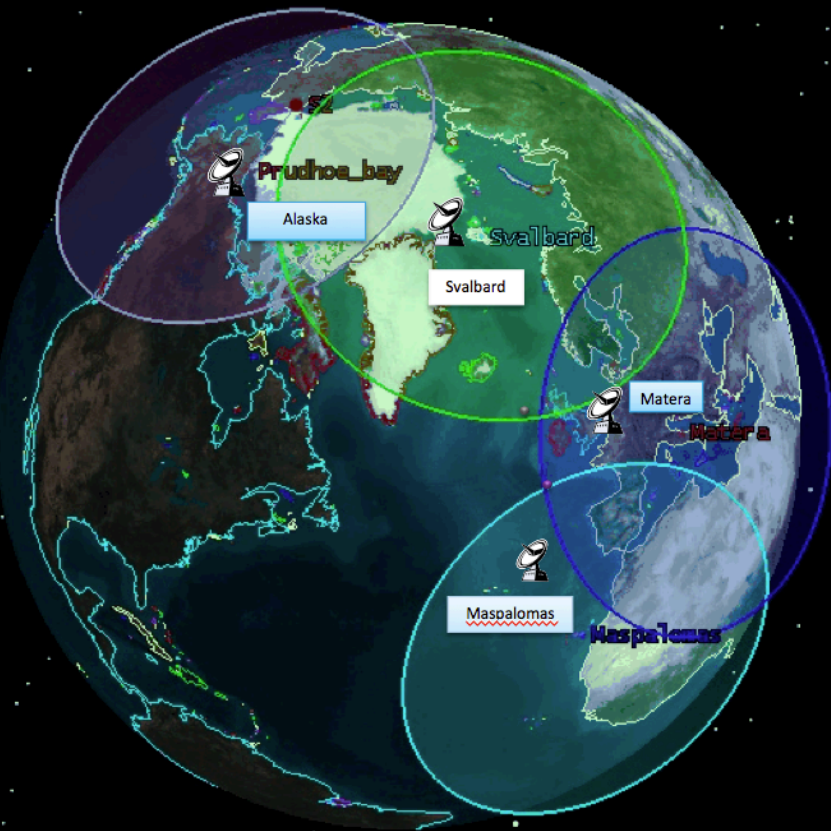
The CryoClim project

- **Goal:** Develop an operational and permanent service for cryospheric climate monitoring
- **Contribution to:** GEOSS and GCW following GCOS monitoring principles
- **Monitoring of:**
 - Sea ice (global)
 - Seasonal snow (global)
 - Glaciers (Norway)
- **Time series:** Longest possible time series based on earth observation data
- **Access:** Free of charge web portal and web service for searching, browsing and downloading
- **Development:** By NR, MET Norway, NVE and NPI funded by Norwegian Space Centre (NSC) and run by ESA's PRODEX programme
- **Operation:** Run by mandated, operational organisations (MET Norway, NVE, NPI) as a network of automated nodes



Norway and Copernicus

- KSAT will operate the northern core ground segment for A-versions of Sentinel 1, 2 and 3
- Norway makes significant investment in a national ground segment
 - which will be a key supporter of remote sensing services in SIOS



- Ensuring faster data downlink and national tailored processing of Sentinel data
- In 2014: Demonstrate pilot services on
 - oil spill detection
 - ship detection
 - deliver basic data for landslide mapping
- Norway has already signed agreement on a National Mirror Site for Sentinel data with ESA