

An Integrated Earth Observing System for Svalbard

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SIOS Steering Board

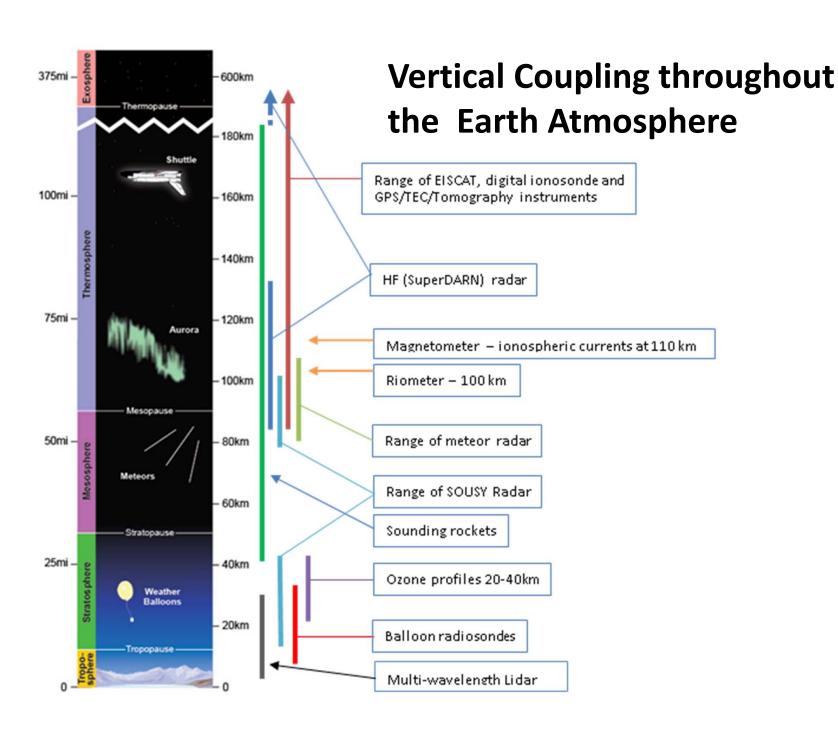


SIOS is a unique opportunity to establish a regional integrated and sustained Earth Observing System, building upon an already existing world class range of infrastructures, in order to better understand global environmental change in an Earth System Science context and Svalbard's regional significance to ESS.

SIOS aims to bring coordination to science across Svalbard and bring added value to all partners beyond what can be accrued through their own individual research capabilities. Its services will benefit the pan-Arctic research community, and establish SIOS as the leading large-scale polar research infrastructure.

Builds on Extensive Existing Infrastructure





Automated Meteorological Station Geodetic Network Site

Ny Alesund

Upper/Lower Atmosphere coupling Advanced Meteorological station Land/ice/atmosphere exchange Fjord/Shelf seasonality (inc. seaice) Long range transport Permafrost seasonality Seismicity/Geodetic Network site Biodiversity monitoring

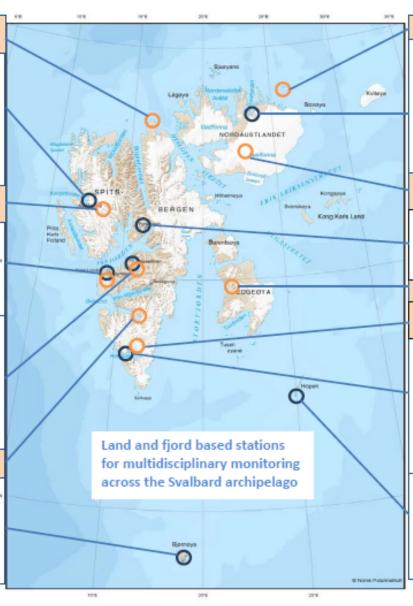
Kongsbreen/Kongsvegen Automated Met/Glacio Stations

Barentsburg/Kapp Linne
Advanced Meteorological Station
Land/ice/atmosphere exchange
Fjord seasonality (inc. seaice)
Pollution monitoring
Seismicity/Geodetic Network site

Longyearbyen/Adventalen
Upper/Lower Atmosphere coupling
Advanced Meteorological station
Land/ice/atmosphere exchange
Fjord/Shelf seasonality
Long range transport
Permafrost seasonality
Seismicity/Geodetic Network site
Biodiversity monitoring

Geodetic Network site (Sveagrua)

Bjornoya (Bear Island)
Upper/Lower Atmosphere coupling
Advanced Meteorological station
Long range transport
Seismicity/Geodetic Network site
Biodiversity monitoring
Ocean monitoring



Automated Meteorological Station

Ripfjorden

Upper/Lower atmosphere coupling Advanced Meteorological station Land/ice/atmosphere exchange Fjord/Shelf seasonality Long range transport Permafrost seasonality Seismicity/Geodetic Network site Biodiversity monitoring

Automated Meteorological/ Glaciological Station

Pyramiden

Automated Meteorological Station Seismicity and geodetic network Pollution/Biodiversity Monitoring

Automated Meteorological Station

Automated Meteorological/ Glaciological Station

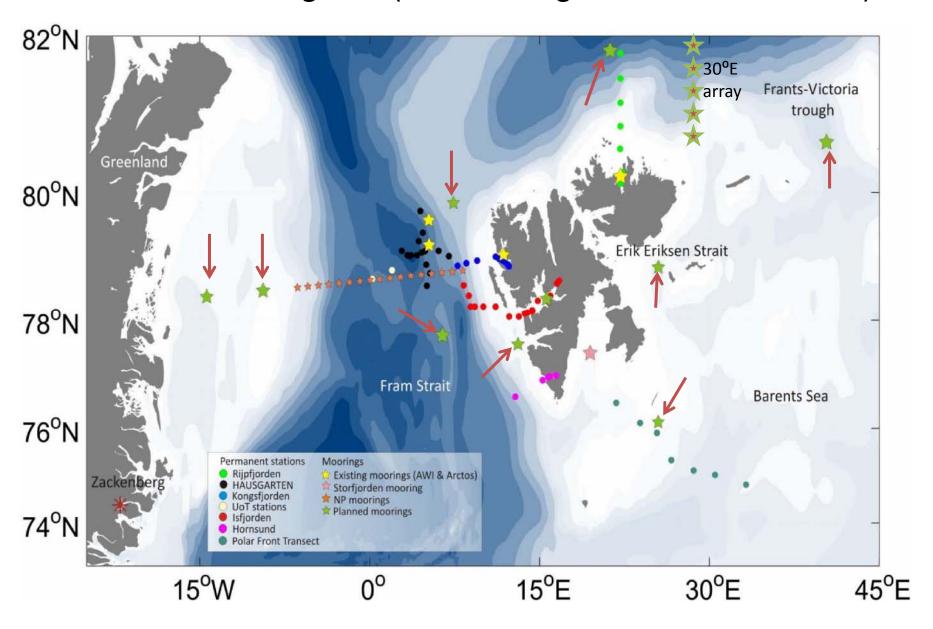
Hornsund

Upper/Lower Atmosphere coupling Advanced Meteorological Station and ice/atmosphere exchange site Fjord/Shelf seasonality Long range transport Permafrost seasonality Seismicity/Geodetic Network site Biodiversity monitoring

Hoper

Upper/Lower Atmosphere coupling Advanced Meteorological Station Long range transport Seismicity/Geodetic Network site Biodiversity monitoring Ocean monitoring

Oceanic Monitoring Sites (not including sea-ice based stations)



STATUS of SIOS Preparatory Phase

- The Governance WP has developed a SIOS management structure
- Implementation Plans developing for:
 Research Infrastructure, Access, Logistic Services, Data,
 Education, and the core component Knowledge Centre
- The lead nation, Norway, has announced the scope of its substantial financial contribution. Other nations preparing theirs.
- Establishment of a Knowledge Centre in late 2014 will facilitate development through to a fully operational system in 2021.



STATUS of SIOS Preparatory Phase

- Formal links forged with:
 INTERACT trans-national access to Arctic stations
- Links also being developed with pan-Arctic observing:
 SAON SIOS as a SAON platform
- Links to be further developed with:

 EuroFleets access to research vessels
 Eur-ARGO ARGO float coordination
 FIXO3 access to undersea observatories
 and others......