B02-O02

TOWARDS A COORDINATED RESEARCH AND MONITORING PROGRAM FOR NY-ÅLESUND

Christina A. Pedersen *(Norwegian Polar Institute, Norway)*
Gabrielsen Wing Geir *(Norwegian Polar Institute, Norway)*

christina.pedersen@npolar.no

Ny-Ålesund is a research village, located at 78.9° N and 11.6° E on the Svalbard archipelago, Norway. Systematic environmental monitoring started as early as 1968 when Norwegian Polar Institute established its research station in what used to be a settlement focused around coal-mining activity. With its unique location and easy accessibility from the mainland, Ny-Ålesund now serves as an outstanding observatory, laboratory, field base and training site for a broad range of Arctic research. Today, eleven nations have their research stations in Ny-Ålesund, each having their own national and bilateral research programs, spanning from research and monitoring of contemporary environmental changes related to climate change issues, long range transport of pollutants, UV-radiation and related biological effects, physiology, eco-toxicology, and Arctic marine and terrestrial ecosystems. The Ny-Ålesund Science Managers Committee (NySMAC) Science Plan aim is to coordinating this multidisciplinary research environment, and to develop Ny-Ålesund into a premier international Arctic research and monitoring facility.

The Ny-Ålesund Science Plan consists of four Flagship Programmes, initiated 3-6 years ago.
-The Flagship Program "The Kongsfjorden System". The Kongsfjorden System is an established reference site for Arctic marine studies and represents a natural laboratory in close proximity to Kings Bay Marine Laboratory. Kongsfjorden is directly influenced by variable climate signals in the Arctic and represents one of the most comprehensive environmental monitoring locations in the Arctic. The site is also an ideal location for studies of environmental contaminants in the marine system.
- **The Flagship Program "The terrestrial ecosystem".** The great heterogeneity of the area, the coastal terrestrial environment by which enables studies of interactions between the marine and environmental environments and the long record of research combine to make Ny-Ålesund a key location for terrestrial research in the High-Arctic.
- The Flagship Program "The atmospheric research" involves several long term measurements of key climate parameters from the surface up to the ozone layer, using the individual stations at sea-level, the CCT tower, the Zeppelin Observatory at 475m, as well as various remote sensing instrument. Such comprehensive atmospheric data sets are available from very few other sites in the Arctic.
- **The Flagship Program "Ny-Ålesund Glaciology".** Ny-Ålesund is an ideal site for glaciological research; despite its remote location, it provides an excellent logistical base for fieldwork program. Apart from large ice caps, most types of glaciers found in Svalbard and even the High Arctic are located around Ny-Ålesund. Also, some of the longest Arctic mass balance time series have been recorded for two Ny-Ålesund glaciers.

The individual Flagship Programs have identified important knowledge gaps, key areas for cross-disciplinary research activity and needs for new research infrastructure. Based on these programs, a new initiative have been taken to bring representatives of the four Flagship Programs together to start the work of implementing *one* coordinated, multi-disciplinary Research and Monitoring Programme for Ny-Ålesund, addressing all stages of planning, collecting, storing and dissemination of the long-term monitoring data. The given presentation will provide an overview of the new initiative, as well as presenting the Flagship Programs and their structure.