

Ny-Ålesund Newsletter

36th Edition – November 2015

Progress and development in the Flagship Programmes in Ny-Ålesund

By Christina A. Pedersen, Norwegian Polar Institute

The 12th Ny-Ålesund seminar with focus on Ny-Ålesund research was arranged in Tromsø, Norway, back-to-back with the NySMAC meeting. 81 participants from 12 countries attended the three day seminar in September.

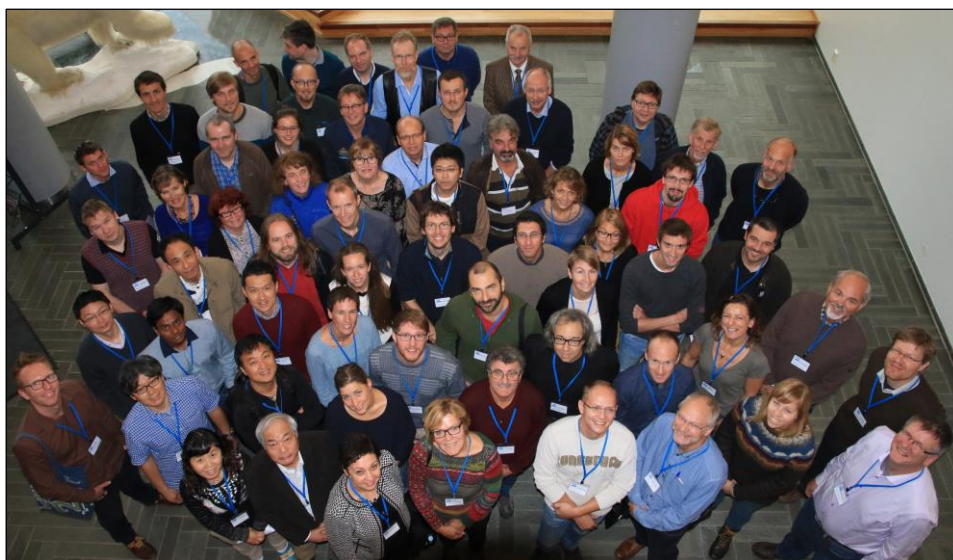
The Ny-Ålesund seminar is a biannual meeting place for scientists who have Ny-Ålesund and Svalbard as base for their research and monitoring activities. The seminar is focused on exchange of scientific results and ideas to inspire each other with the goal to increase further coordination and collaboration among researchers in Ny-Ålesund.

This seminar's overall focus was on research and monitoring within the four Ny-Ålesund Flagships. The sessions were devoted on each of the four flagships: Kongsfjorden System Flagship, Terrestrial Ecology Flagship, Glaciology Flagship and Atmosphere Flagship, with a special Atmosphere Symposium.

Another session was dedicated to connecting the activities in the rest of Svalbard and beyond, to the research and monitoring in Ny-Ålesund, and included keynote presentations on activities in Hornsund, Barentsburg and Longyearbyen.

A move forward for the Ny-Ålesund Flagships

The last day of the seminar was dedicated to individual working groups for each flagship. The most important discussing issue was to agree on the prioritized task for the flagships for the years to come, but also issues like how to interact with NySMAC, and how the flagships can take advantage of the new NySMAC webpage, was on the agenda. In addition the flagships agreed on a leadership structure with a dedicated chair and co-chair. The outcome from the working groups will be available as part of the Ny-Ålesund Seminar Report, which also includes the Book of Abstract. The report will be available in December 2015.



*The participants of the Ny-Ålesund seminar gathered in the Fram Centre.
Photo: Ann Kristin Balto, NPI*

Towards a high-resolution vegetation map of Ny-Ålesund and Brøgger peninsula.

By Bernt Johansen, Norut Tromsø

Today Arctic ecosystems face a variety of threats from many different human activities. This is also the case for the Ny-Ålesund areas. While earlier threats were associated to coal mining, the today's tourism and research activity with subsequent infrastructure constructions, place a comparable pressure on the local fragile ecosystems. In addition global climate change is likely to shift existing biogeographical boundaries such as northern distribution of arctic tundra, retreat of local glaciers and thaw of permafrost.

The need to map and monitor the extent and nature of Arctic vegetation in relation to climate change, land planning issues, and conservation management purposes has been acknowledged for several decades. Until now most botanical mapping efforts on Svalbard have been put on conventional mapping of bioclimatic zones and sections based on species distribution, coarse-scale mapping of seasonal changes from MODIS data (500 m) and medium scale mapping based on Landsat images (30m).

At present the time is there to bring the medium scale mapping of Arctic vegetation into a new and improved mapping level. Today a series of high-resolution satellite data are available with a ground resolution in the range of 0.5-5 m. In this project the first step is taken to derive a high resolution map of vegetation and landscape on Svalbard. The study area in the project is located to Ny-Ålesund and surrounding areas of Brøgger Peninsula.

The project is based on data from the high-resolution satellite WorldView-2, acquired at 19th of August 2013. The satellite provides 46 cm panchromatic resolution data and multispectral resolution of 1.85 m. The multispectral bands collect ground data in the visible and in the near-infrared parts of the spectrum. The selected image is taken through an image processing line involving five operational stages: (1) automatic image classification, (2) spectral similarity analysis, (3) ancillary data analysis, (4) contextual correction, and (5) standardization of the final map products.

The vegetation map developed is differentiated in 17 vegetation units. In the initial classification of the WorldView-2 image a dendrogram is worked out, displaying the spectral relationship between the initially separated 24 classes. Information in the dendrogram, combined with the JM-distance analysis is used to reduce the number of classes from 24 to the final number of 17 classes.

At present, most efforts to the map construction has been put on the image processing parts of the process. There is still a need for more field work to verify the vegetation units separated. The map product is in digital format, which gives the opportunity to produce maps in different scales and integrate the dataset with other image products. The project has in the initial stage been funded by Kings Bay as the operator of the entire settlement of Ny-Ålesund on Svalbard.

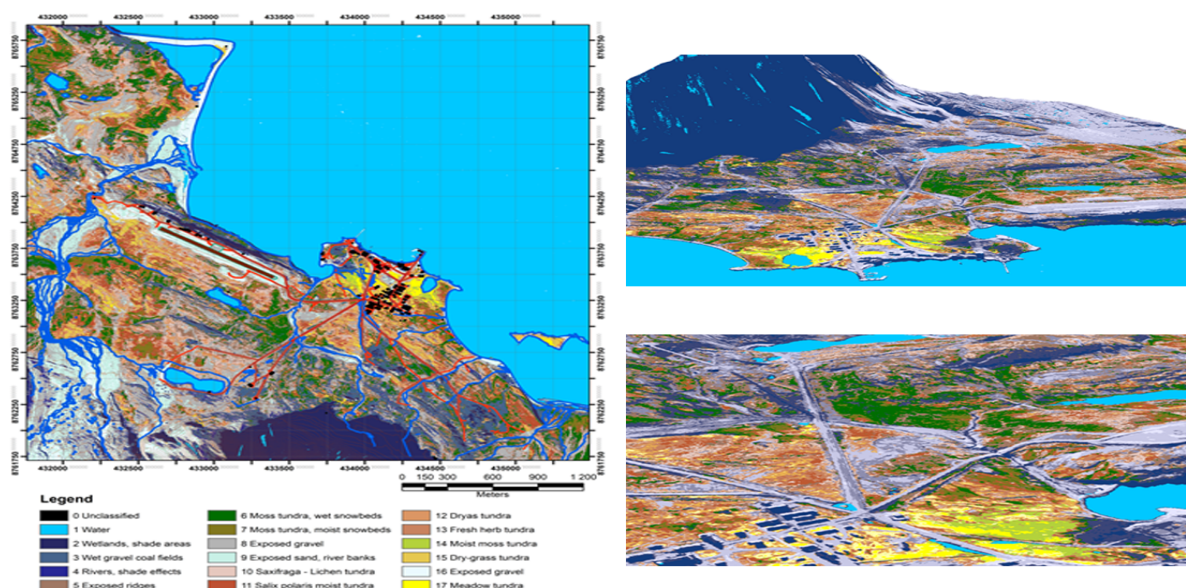


Fig. 1. The produced vegetation map – Ny-Ålesund town areas (left). Subsections from the map projected in a digital elevation model (right).

UN Secretary-General Ban Ki-moon visits Ny-Ålesund

This summer in July the United Nations Secretary-General Ban Ki-moon visited Svalbard and Ny-Ålesund to learn about the climate change in a location where the changes are most evident. The visit was part of the preparations for the UN Climate Change Conference in Paris in December, similar as he did prior to the Climate Change Conference in Copenhagen in 2009.



Photo: Shadé Barka Martins

Arriving in Svalbard, the UN Secretary-General with his host, Norwegian Foreign Minister Børge Brende, met with two of the young explorers from *Oppdrag Nansen* to learn from them about their experiences from the Arctic, including a ski-trip to the North Pole. The UN Secretary-General and his group continued to Ny-Ålesund with the research vessel *RV Lance*. In Ny-Ålesund they visited the Marine Lab to learn more about the microorganisms and their ecosystem under changing climate by University of Bergen, they released a weather balloon to get information on changes in atmospheric conditions from Alfred Wegener Institute, and they attended the presentation “From Svalbard to Paris - lessons from the Arctic on the global climate change agenda” at Norwegian Polar Institute.

A week in the Permafrost

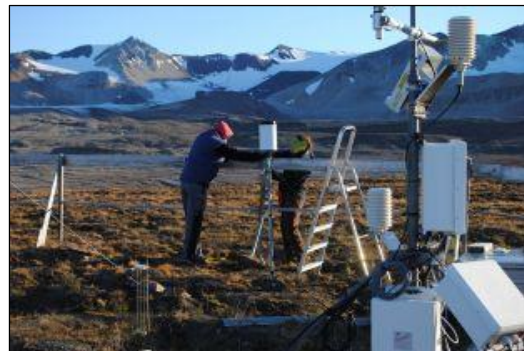
By Sarah Chadburn, University of Exeter.

Sarah Chadburn is Post-Doc at the University of Exeter. She is a computer modeller and works on modelling permafrost. She had the opportunity to join the group of Julia Boike for maintenance work at the Bayelva field station in Ny-Ålesund, to get an idea of the experimental set-up, which might help her with the modelling. She has documented her experiences in the blog of [Page21 – Changing Permafrost in the Arctic and it's global effects in the 21st century](#) and wrote a little piece for us.

I was very lucky to join Julia Boike's expedition to the AWIPEV station this year. We spent a week there, working mainly at the nearby Bayelva field site, where the group from AWI Potsdam has been taking measurements of the permafrost for 17 years.

There were four persons in our little group. Julia, who leads the group and has been up here many times before, Stephan, Niko and me. Niko is an engineer in Julia's group and he has spent a lot of time in the Arctic, but never in Svalbard until now. Stephan is also an engineer, but he has not much experience in the Arctic. I am a computer modeller from the University of Exeter in the UK, and I have no experience outside of my office – until now!

The Bayelva site is situated in the catchment of the Bayelva river which is a meltwater river from the glacier above. The site itself sits on a small hill with some interesting permafrost features of patterned ground.



Stephan and Julia calibrating the precipitation gauge

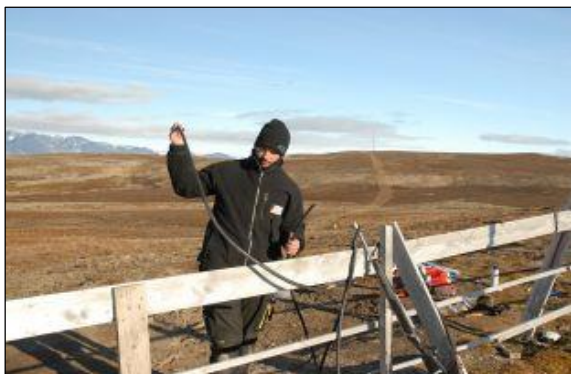
Our main task has been maintaining and fixing up all the equipment at the field site. We have been changing snow sensors, cleaning the precipitation gauge, tightening wires, fixing the fence, tidying up rubbish and erecting snow poles. Niko and Stephan have been working on a 9m borehole, called Mr. Moustache. Despite a few problems, all the sensors were working by the time we left, so the story of our work at Bayelva is one of success.



Sarah replacing a snow sensor

Another job that needed to be done was taking soil samples. We wanted to go out on a boat and take samples from a nice area down the end of peninsula, but sadly the waves were not on our side, so in the end we didn't manage the boat trip, but we took some similar soil samples right next to the village.

This was both my first field expedition and my first time in Svalbard. It has been a fantastic experience. Arriving in Svalbard was amazing in itself; I couldn't believe I was really here.



Niko and some cable tubes

All photos: Sarah Chadburn

We loved the flight in the little plane to Ny-Ålesund, getting such great views of the glaciers and mountains from the air. Certainly there were no hardships of being 'in the field', since the station at Ny-Ålesund is so cozy and well-equipped.



Stephan clearing up rubbish

As well as work, we went on two hikes while we were here, and they were both brilliant. On our first night in Ny-Ålesund we hiked along the beach with René and one of the huskies. Our second hike took us up to the foot of the glacier above the Bayelva field site, which was awesome to see, and then we climbed part of the way up one of the mountains to get a great view over the surroundings.

I am impressed by the people who live there; especially during the dark winter months. However, they say that the winter is beautiful, and they seem happy. In a way, I am not surprised. Living in such a beautiful place, with nice people around, close to nature and far from the crowds of cities and the pressures of 'normal' life. I hope to come back.

Progress in the Norwegian Mapping Authority's new Geodetic Earth Observatory

By Anne Jørgensen, NMA

Milestone reached in Svalbard

The Norwegian Mapping Authority's new geodetic Earth observatory in Ny-Ålesund is taking shape, with the first stage completed just over a year after construction began.

This means that the new instrument building is now ready to receive the antennas, which will be used to measure the planet's motions and changes.

Jan Tore Sanner, Norway's minister of Local Government and Modernisation, drove the first foundation pile into the ground for the observatory at 79°N in October 2014. Veidekke Arctic has been working since then to construct the station area at the Brandallaguna site outside Ny Ålesund.

Antennas next spring

This job is now completed, and NMA is on schedule to receive the antennas for installation next spring. The observatory is scheduled for completion in 2018.

"Now that Veidekke has completed the first phase, we can really see the new era taking shape at Brandallaguna" says Per Erik Opseth, head of NMA's Geodetic Institute.

"This is great news for geodesy and for the international network we belong to".

The NMA observatory is the northernmost facility of its kind, and represents one component in a worldwide network for observation and research.

UN resolution

This commitment in Ny-Ålesund is also a topic at the UN, and a General Assembly resolution adopted on 26 February 2015 will help to strengthen collaboration on global Earth observation.

Link to animation movie about NMA's Geodetic Earth Observatory in Ny-Ålesund:

<http://video.kartverket.no/norways-contribution-to-the-global>



NMA's new Geodetic Earth Observatory in Ny-Ålesund, Svalbard. Photo: Frode Koppang, NMA.



Model seen from above.



News from Svalbard Science Forum

By Torbjørn Pedersen, SSF

Arctic Field Grant 2016 Applications

77 applications were received for this year's AFG. The applicants have applied for a total of 5,147 mill. NOK. The available funding is as in previous years 2,0 mill NOK. There is in short a tough job awaiting the evaluation panel. We expect that results will be out around the 20th of January 2016.

AFG survey

The SSF secretariat was asked by the forum to evaluate the results and outcome of the AFG. We conducted a survey amongst the recipients and administrators of the past 6 AFG allocations. The results of this can be found here:

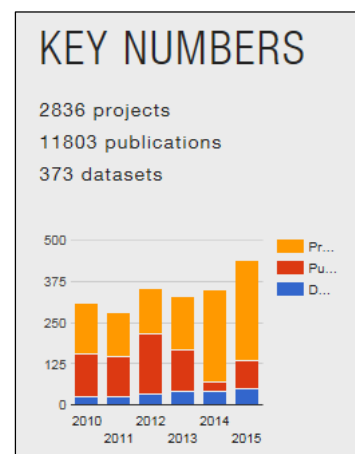
<http://tinyurl.com/oqhnyl9>.

Svalbard Strategic Grant Applications

15 applications were received at this year's November deadline. The amount applied for was 4,7 mill. NOK. The available funding is 3,0 mill. NOK. We expect that the results will be out around the 20th of January 2016.

The RiS database

It works. During 2015 so far, a record number (305) of new projects have been registered with participation from 27 different countries. A record high number of datasets have also been registered and associated with projects.



New instrumentation at Zeppelin - Stockholm University

By Paul Zieger and Radovan Krejci, SU

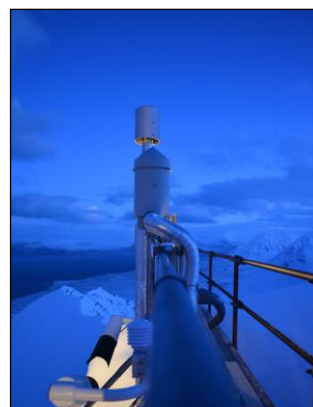
"The SU cloud inlet (called the 'CVI inlet' or 'Clounterflow Virtual Impactor inlet' or just simple our the 'cloud hoover') is successfully in operation since about two weeks. The inlet separates cloud droplets from non-activated aerosols of the surrounding air and can be used to study in high detail the microphysical and chemical properties of the cloud condensation nuclei (the aerosol particles which were activated to cloud droplets at the time of sampling).

Behind the CVI inlet we have currently an instrument to measure the size distribution of the cloud residuals and their light absorption properties plus an instrument to measure the water vapor mixing ratio.



From the instrument room at Zeppelin Observatory
Both photos: Paul Zieger, Stockholm University

In addition we have also attached an instrument to the inlet that measures the activation of the cloud condensation nuclei at defined supersaturation. The CVI inlet is a unique instrument which will run for a longer time period to study the seasonality of clouds. This work will be performed in a cooperation between different institutes (NPI, AWI, KOPRI, NIPR, CNR and NILU) using a synthesis of state of the art in-situ and remote sensing instruments. Our ultimate goal is to study the entire life cycle of Arctic clouds, from their formation, to aging and their removal."



The inlet at the platform at Zeppelin Observatory

News from Kings Bay AS

By Marzena Kaczmarek, Kings Bay AS

Sewage filtration plant installed by Kings Bay in Ny-Ålesund

The newly installed sewage filtration system was officially opened 2 Sept 2015 in Ny-Ålesund. Thorunn K. Bakke, representing Kings Bay's owner, the Ministry of Trade, Industry and Fisheries, had the privilege to be the first person to turn the main valve to "ON". The plant was built and assembled during summer by Kings Bay, and the system provider "Klaro". It is designed to cleanse minimum 90 % and up to 97-98 % of all waste water and sewage filtered.

Ny-Ålesund is the first Norwegian settlement in Svalbard with a filtration system for sewage. The first sewage filtration system in Svalbard was, however, installed at the Polish research station in Hornsund many years ago.



Kings Bay AS establishes a Light Sensitivity Observatory in Ny-Ålesund.



A new Kings Bay common research facility, the Light Sensitive Observatory, has recently been established in Ny-Ålesund. The observatory, called jovially "Iysbua" by Norwegians, has been designed to accommodate 4 domes on the roof, two of them with slightly larger working space in the cabin than the two others. After delivery of the domes early October, they were mounted on the roof and the cabin was placed at designated site about 2,5km away from town where the light contamination is minimal.

All but one dome is already booked by Italy, Korea and China.

The scientists from the Korean Polar Research Institute (KOPRI) have recently installed the Fabry-Perot Interferometer in their dome, and they have already initiated the measurements. Italian scientists are planning to move their all-sky camera from the roof of the Rabot station to the new observatory in November 2015.

The new Kings Bay Marine Laboratory access scheme in 2016



There will be a new access scheme for the users of the KB Marine Laboratory in Ny-Ålesund in 2016. The consortium agreement expires in the end of 2015 and the next year is a pilot study to evaluate the new price model. Kings Bay wishes to establish a scheme that would be sustainable in the long run and that would be beneficial for both the laboratory users and the owner.

The evaluation will take place in the end of the next year. Any constructive feedback from the marine lab user groups is very welcome and some future changes might occur as a result.

More information (including the prices) will be available on the Kings Bay website soon (www.kingsbay.no).

COAT «Climate-Ecological Observatory for Arctic Tundra»

Åshild Ø. Pedersen, Virve Ravolainen & Eva Fuglei
Terrestrial ecologists at the Norwegian Polar Institute

The Arctic tundra is more challenged by climate change than any other ecosystem on Earth. In Europe, the Svalbard archipelago has experienced the largest temperature increases during the last three decades. The rapid shifts to new climate regimes may give rise to new ecosystems with unknown properties — calling for ecosystem-based monitoring of climate impacts.

Urgent international calls for establishment of scientifically robust observation systems that enable real time detection, documentation, understanding, and knowledge about climate impacts on arctic tundra ecosystems led to establishment of the «Climate-Ecological Observatory for Arctic Tundra» (COAT). The COAT-initiative was developed by a task force of 23 scientists from four FRAM Centre institutions including the authors of this note.

COAT is a system for long-term adaptive ecosystem monitoring taking a food-web approach (Figure 1), and aims to become the world's most comprehensive and management relevant long-term research enterprise for terrestrial arctic ecosystems. COAT builds and expands on ongoing research and long-term monitoring that targets climate sensitive species and functional groups that are and/or can be locally managed, as well as support key functions in the tundra food web.

Two Norwegian climate impact sensitive regions are in focus – the low-Arctic Varanger Peninsula and high-Arctic Svalbard (Brøgger Peninsula and Nordenskiöld Land). The Brøgger Peninsula, with Ny-Ålesund as research base, provide excellent platforms for studying species and ecosystem interactions and their responses to climate change in the high-Arctic. Here the tundra ecosystem is simple, isolated by natural barriers and responses of species and functions to climate are often direct. The latter is clearly evidenced by the long-term monitoring of Svalbard reindeer that demonstrate a strong negative impact on population growth rates from «rain-on-snow» in winter. Ground ice blocks forage resources and increase mortality levels.

Establishment of causal relations, and the ability to discriminate natural variation from impacts of human stressors on the ecosystem are important. COAT has developed study designs that allow monitoring to answer both scientific and management questions. In Svalbard COAT consists of four monitoring modules for arctic fox, geese, Svalbard rock ptarmigan and Svalbard reindeer. The links between these species their impact and reliance on vegetation, as well as direct and indirect climate and

management impact pathways are described in an integrated manner by means of simple conceptual models. Food-web linkages described are for instance predator-prey and plant-herbivore interactions, competition for food and habitats, and match or mismatch in timing of reproduction with the food resources. The module for arctic fox (Figure 2), a species monitored annually since 1993 on Brøgger Peninsula and the Kongsfjorden system, illustrates the approach. The conceptual model will in turn be translated into dynamical structural equation models that will be fitted to the monitoring data. The COAT science plan (Figure 3) describes in detail the overall approach, the expectations for climate-ecosystem interactions for the different ecosystem compartments, as well as the methods and the organization.

The COAT science plan includes:

- A comprehensive review of the functioning of terrestrial food webs in the Arctic with specific reference to science-based knowledge about climate impacts.
- Description of «climate impact prediction models» that define climate sensitive and management relevant monitoring targets, state variables, sampling designs, and mathematical/statistical modelling approaches.
- Protocols for updating prediction models, monitoring design, and methods in response to new knowledge, technologies, and societal priorities according to the paradigm of adaptive monitoring.

In 2015, COAT was given funding to the infrastructure needed for the implementation. As part of this effort, reference sites on Brøgger Peninsula will be designated for monitoring of selected components of the ecosystem and the climate, and instrumented accordingly. While some of the time-series from Svalbard have been running for decades, we are in the early days of the full implementation of COAT.

Planning and implementing the full scale instrumentation as well as complementing detailed protocols for the monitoring of the climate and the relevant ecological state variables, will be the focus of the COAT Svalbard team during the infrastructure implementation phase which ends in 2020. At this stage COAT is ready for its long-term endeavour to unravel the impacts of climate change on terrestrial arctic ecosystems.

Read the Science Plan at www.coat.no/

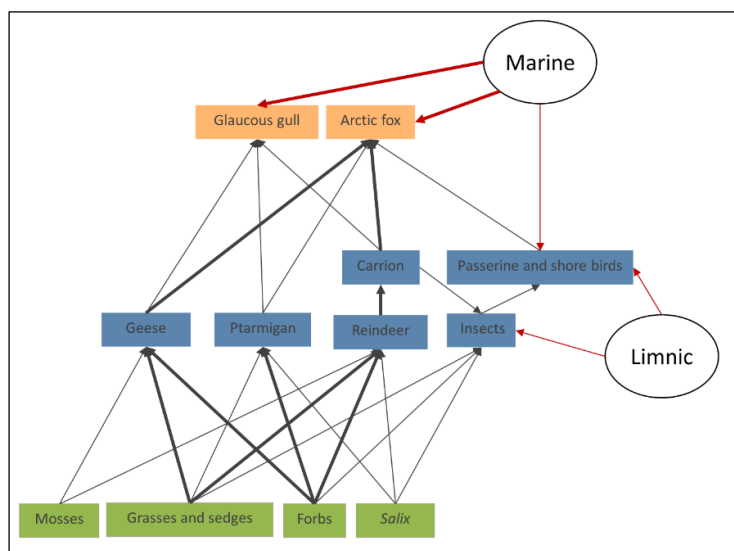


Figure 1. The plant based food-web for high-Arctic Svalbard tundra (www.coat.no).

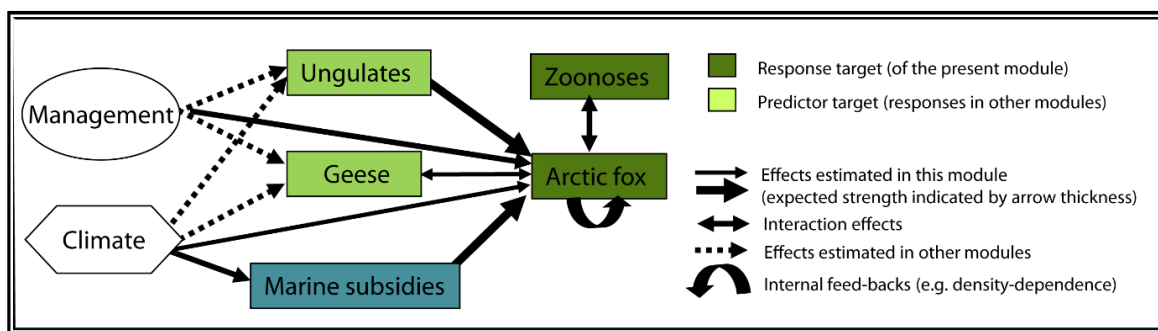


Figure 2. The climate impact path model predictions for arctic fox. The model predicts climate impact paths working through decreased sea ice extent reducing migration and exploitation of resources in winter and indirectly through changes in key-prey species abundances (e.g. geese and reindeer carrion). Read the Arctic fox module on www.coat.no.

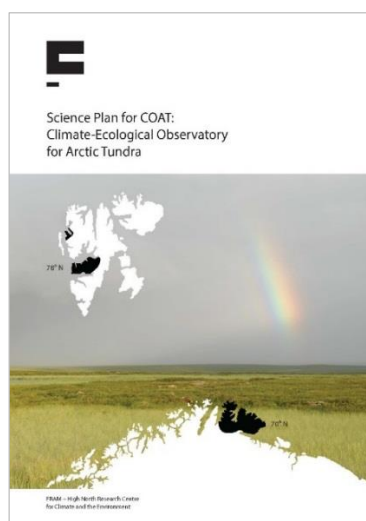


Figure 3. The COAT Science Plan (Ims et al. 2013) is a peer-reviewed science plan that outlines a substantial expansion of ongoing and new long-term adaptive ecosystem monitoring based on food-web theory.

Towards a calibration laboratory in Ny Ålesund.

Andrea Merlone¹, Chiara Musacchio¹, Angelo Viola², Vito Vitale², Marion Maturilli³

¹ Istituto Nazionale di Ricerca Metrologica Thermodynamics Division (INRiM) Torino Italy

² Istituto di Scienze dell'Atmosfera e del Clima Consiglio Nazionale delle Ricerche Bologna Italy].

³ Helmholtz Center for Polar and Marine Research Alfred Wegener Institute (AWI) Potsdam Germany

In recent years, a growing interaction between the metrology community and the meteorology and climatology communities, including researchers working on atmospheric, oceanic and terrestrial observations, has been established through effective collaborations. The needs of data quality and comparability, uncertainty evaluation, measurements accuracy and dedicated calibrations of instruments are clearly identified. In this contest, addressing such emerging metrology needs, was funded and is now operative the EURAMET project “MeteoMet – Metrology for Meteorology” that groups a wide consortium of 20 European National Institutes of Metrology, Universities, Research Centres, Hydro-Meteo Agencies and Manufacturers¹

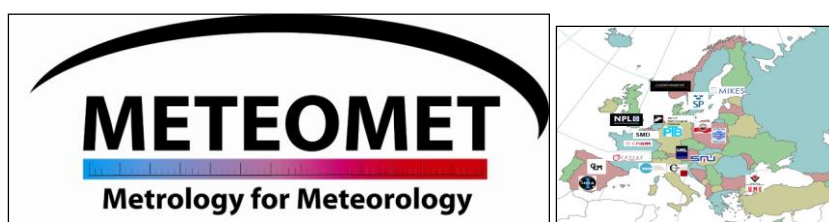


Fig. 1 MeteoMet project Logo and Metrology funded partners.

In 2014, as a task included among the MeteoMet objectives, the “Arctic Metrology” campaign was concluded. A special calibration chamber, equipped with pressure and temperature sensors, traceable to primary SI² standards, was manufactured and shipped to Ny Ålesund. Three metrologists then reached Ny Ålesund and assembled the system, that was used to calibrate the sensors of AWI and CNR Stations. This work showed the advantages of having calibration system available on site, and the unique value arising from establishing a well documented traceability chain from the measurement, to the primary SI standards.

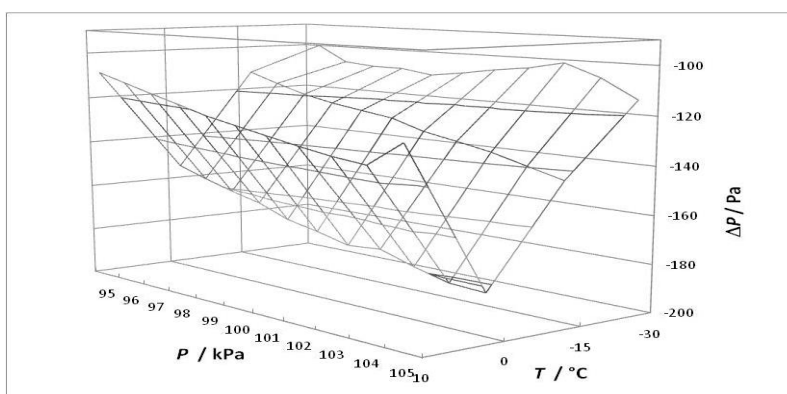


Fig. 2: Calibration measurements for pressure sensor as a function of both the pressure and the temperature in a temperature range typical for Ny Ålesund area. Work performed in Ny Ålesund.

Following this positive experience a workshop was organised to discuss ideas and proposals for implementing metrology in the Arctic. The first “Arctic Metrology workshop” was held in Torino on 23 April 2015, The main outcomes of the workshop have been:

- A. the definition of the specific need motivating the presence of a calibration laboratory in Ny Ålesund;
- B. the proposal of further activities addressing metrology in support of arctic research, such as evaluation of field measurements uncertainty, including the effect of influence quantities;
- C. the identification of the expertise available from the participating Institutes

¹ [Merlone A. et al., A new challenge for meteorological measurements: The meteoMet project-Metrology for meteorology, AIP Conference Proceedings, Volume 1552 8, 2013, Pages 1030-1035].

² International System of Units



Fig. 3 End of the Arctic Metrology campaign of 2014. AWI staff on the right, Metrologists on the left.

Those conclusions were then presented at the Arctic Circle Assembly, in Reykjavik, 16-19 October 2016, where a breakout session on “Metrology for Environment in the Arctic” was organised by EURAMET in cooperation with the Italian Embassy in Oslo and with the endorsement and support of BIPM.

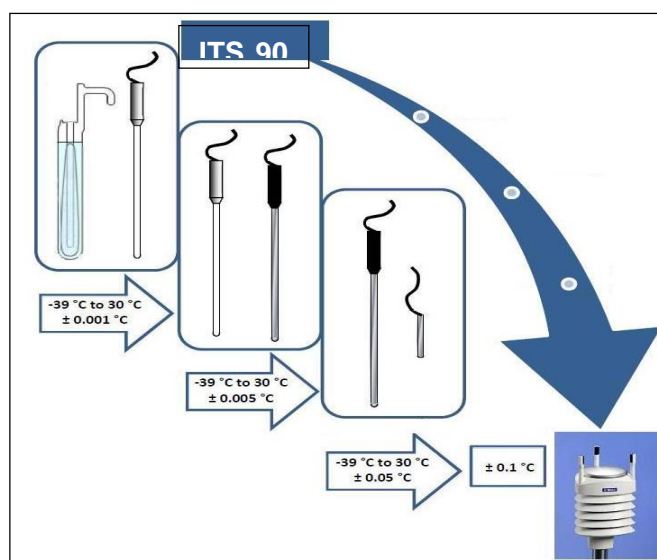


Fig. 5 An example of calibration traceability for temperature instruments: from the SI standards, the ITS-90 fixed points, to an automatic weather station. How the uncertainty degrades well before evaluating measurement uncertainty.

The availability of a metrology laboratory on site, can surely facilitate research communities dealing with calibration and instrument performance tests, avoiding at the same time transfer of instrumentation to calibration services in the mainland. Having a metrology laboratory on site, moreover, will surely extend awareness on metrological needs and benefit in this field. Such project proposal from the metrology community can be an added value also to the Svalbard Integrated Earth Observing System (SIOS). SIOS is an international infrastructure project involving partners from Europe and Asia with the essential objective of establishing better coordinated services for the international research

community with respect to access, data and knowledge management, logistics and training. SIOS shall coordinate and develop existing and new research infrastructure in Svalbard and the proposal of a permanent metrology laboratory in Ny-Ålesund can perfectly fit the SIOS mission.

The proposed onsite metrological laboratory, equipped with specific devices can establish long term direct traceability of the measurements in polar area, with a direct link to primary standards of European National Metrology Institutes. This will benefit the quality of data available in the immediate short period as well as for the future generation of climatologists.

Glacier investigation using UAV - the Chinese Arctic and Antarctic Administration (CAA)

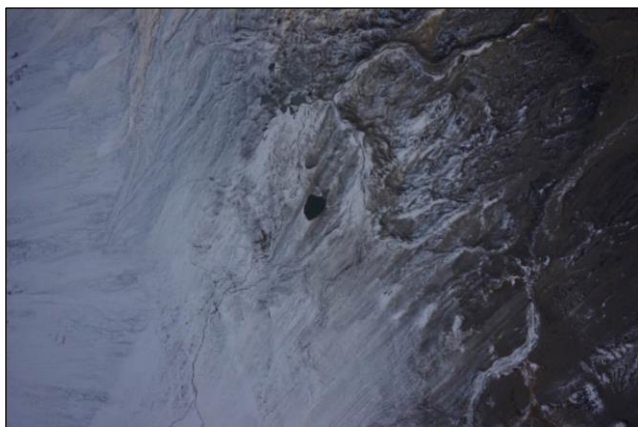
By Yang Yang, CAA

Mountain glaciers are one of key scientific indicators for global and regional climate variation. However, understanding glacier changes is very important due to its impact on human life and nature through its crucial influence on the water cycle in cold mountains. However, field investigations are very difficult for people. Unmanned Aerial Vehicles (UAV) could help researchers obtain data over whole glaciers.

In September 2015 UAV flying was finished, we have flid 6 times, and 4 of them are really successful. It took us about 14 days to fly our UAV, and took us more time to form our products. In the end, we got 444 aerial photographs over the Austre Lovenbreen Glacier, which have been used to produce Digital elevation image and Digital surface model.



Tiancheng Zhao and Sihao Luo are operating the UAV



Photos of Austre Lovenbreen Glacier taken by UAV



Topics from the 42nd and 43rd NySMAC meetings

held in Toyama, Japan 23-24 April and Tromsø, Norway, 21-22 September 2015:

42nd meeting, Toyama:

- Ny-Ålesund science plan and Ny-Ålesund monitoring programme
- Information from Kings Bay AS and the Marine lab.
- A deep borehole at the CCT.
- RIS database
- SSF work report
- Status from member institutions
- Fabry-Perot Interferometer and All Sky Imager Observations for the Upper Atmosphere in the optic observatory in Ny-Ålesund.
- Status reports from member institutions
- Portable field huts at Kvadehuken.
- Towards a permanent calibration laboratory in Ny-Ålesund.
- NySMAC fee.
- Election of chair and vice chair.
- 43rd NySMAC meeting in Tromsø, Norway

43rd meeting, Tromsø

- NySMAC Project Information and Discussion Forum and Ny-Ålesund Science Plan
- NySMAC fee
- Information from Kings Bay
- Info about required permissions from the Governor of Svalbard to perform research activities in Svalbard
- Marine lab and optic observatory plan
- Participation and contributions to ASSW 2017
- SIOS update
- Status and plans for TGOs instrumentation in Ny-Ålesund 2015-2016.
- How to further develop the Ny-Ålesund flagships
- 44th NySMAC meeting in Stockholm, Sweden.



*The NySMAC participants gathered in front of the Fram Centre in Tromsø
Photo: Ann Kristin Balto, NPI*

New NySMAC webpage

NySMAC has updated their webpage <http://nysmac.npolar.no/>

The webpage includes information about what NySMAC is, the NySMAC charter and Science plan as well as contact information to members and observers. Minutes and presentations from previous meetings, back to the first meeting in 1994, is also available with log-in details as distributed to all NySMAC representatives.

The new NySMAC webpage is updated to also include information about the four flagships in Ny-Ålesund. These webpages will be filled with content based on input from the flagships themselves.

Announcements

1. An international workshop on atmospheric studies in the arctic will take place in Sopot, Poland, 28-29 Jan. 2016. The workshop intends to prepare and to coordinate field activities of atmospheric research on Svalbard in spring 2016. http://www.iopan.gda.pl/Sopot_workshop_2016_Announc.pdf
2. The 44th NySMAC meeting will be arranged in Stockholm, Sweden, during the last week of April 2016.

Input to Ny-Ålesund Newsletter

If you would like to contribute to future editions of this newsletter, please e-mail nysmac@npolar.no.
Editor: Ingrid H. Storhaug, NySMAC Secretariat. Next edition: March 2016.

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