Ny-Ålesund Atmosphere Flagship open workshop
15-19 October 2018 at AWI Potsdam, Germany

In October 2018, the Ny-Ålesund Atmospheric Flagship Open workshop was hosted by AWI Potsdam. The concept of the workshop included presentations from individual scientists, reports from working groups on activities during past two years and plans for the future. In addition, substantial part of the workshop was devoted to inform the Ny-Ålesund community about the upcoming MOSAiC experiment and in turn, provide the MOSAiC community with a comprehensive overview about the atmospheric research activities and their potential for join data analysis and science. During the workshop there was also mini-seminar related to SIOS Core-data where the idea of core-data was presented with focus on role of core-data in SIOS project and what is expected from the scientific community towards selection and establishment of core data list. The workshop provided also a possibility for Atmospheric Flagship Steering committee to meet.

Number of participants doubled compared to previous workshop in 2016. 75 scientists, PhD students and young researchers from 15 countries participated at Potsdam workshop.

PROGRAM

MONDAY, 15 October

13:30 *Introduction, Overview, Logistics*

Overview Session *(Chair R. Neuber)*

14:00 – 14:20	Marion Maturilli (AWI)	WG2: Long term trends and observations
14:20 – 14:40	Christoph Ritter (AWI)	WG3: Boundary layer meteorology
14:40 – 15:00	Jean-Charles Gallet (NPI)	WG4: Snow-Atmosphere interactions
15:00 – 15:20	Boyan Petkov (CNR)	WG6: Surface UV irradiance and columnar ozone
15:20 – 16:00		*Coffee break*
16:00 – 16:20	HC Hansson (SU)	WG1: Clouds, humidity, precipitation
16:20 – 16:40	Radovan Krejci (SU)	WG5: Atmospheric aerosols
16:45 – 18:00		Existing atmosphere infrastructure - ideas and input for better utilization and further developments, SIOS Optimalization report (S. Hudson, R. Krejci)

WG progress overview (15 + 5 min)
Overview of the Work Groups activities, results and publications since last workshop in Kjeller 2016. Identification of important themes for discussion during the workshop and for collaboration across individual WGs

TUESDAY, 16 October

Overviews and Outside of Ny Ålesund *(Chair: T. Zielinski & Ch. Ritter)*

09:00 – 09:15	Luca Ferrero (University of Milano-Bicocca)	Experimental heating rate of black and brown carbon from mid-latitudes to the Arctic ocean: results from AREX2018 oceanographic cruise
09:15 – 09:30	Paulina Pakszyz (IOPAN)	Ongoing long-term record of ship-borne AOD over Svalbard archipelago
09:30 – 09:45	Piotr Sobolowski, (IGF-PAN)	UV measurements at the Polish Polar Station, Hornsund. Results from 2017.
09:45 – 10:00	Changsup Lee (KOPRI)	Upper atmospheric observations by KOPRI in Arctic region

10:00 – 10:15	Young Jun Yoon (KOPRI)	Atmospheric monitoring programs of KOPRI in Ny-Alesund:
10:15 – 10:30		Discussion
10:30 – 11:00		*Coffee break*
11:00 - 11:15	Alena Dekhtyareva (UiT)	Effect of seasonal mesoscale and microscale meteorological conditions in Ny-Ålesund on results of monitoring of long-range transported pollution
11:15 – 11:30	Grzegorz Karasinski, (IGF-PAN)	Preliminary results of the analysis of the inflow of air masses to the area of Hornsund fjord for the years 2005-2017
11:30 – 11:45	Sandro Dahlke (AWI)	The observed recent surface air temperature development across Svalbard and concurring footprints in local sea ice cover
11:45 – 12:00	Alexander Schulz (AWI)	Kongsfjord vs. Isfjord: a two-site flux measurement comparison within the joint German-Russian QUARCCS project
12:00 – 13:00		Discussion

13:00 – 14:00 *Lunch*

Aerosol & Clouds, *(Chair Y. Tobo & P. Zieger)*

14:00 – 14:15	Konstantinos Eleftheriadis (NCSR Demokritos)	Volatility study on the state of mixing of nucleation mode atmospheric particles in the high Arctic
14:15 – 14:30	Tymon Zielinski (IOPAN)	Study Of Aerosol Properties During Long-Range Transport Of Biomass Burning Particles Over Svalbard In Summer 2017
14:30 – 14:45	Jan Henneberger (ETH Zurich)	Microphysical observations of mixed-phase clouds with holographic imagers using tethered balloons and cable cars
14:45 – 15:00	Yutaka Tobo (NIPR)	Recent progress and perspectives in ice nucleation studies at Ny-Ålesund, Svalbard
15:00 – 15:30		*Coffee break*
15:30 – 15:45	Tatiana Nomokonova	Status update of the project SYNCLOUD at AWIPEV

	(University of Cologne)	
15:45 – 16:00	Baladima Foteini (IGE)	Arctic precipitation: observed trends and changes at Ny-Alesund, Svalbard
16:00 – 16:15	Paul Zieger (SU)	Aerosol-cloud interactions at Zeppelin observatory
16:15 – 17:30	Discussion	

17:30 – 18:30 Atmospheric flagship SSC meeting

WEDNESDAY, 17 October

BC and aerosol airborne and remote sensing *(Chair: A. Viola & Y.J. Yoon)*

09:00 – 09:30	Barbara Altstädter, (TU Braunschweig) & Martin Schön (University of Tubingen)	Horizontal and vertical variability of aerosol particles observed in the atmospheric boundary layer with UAV: A late spring study in Ny-Alesund 2018
09:30 – 09:45	Birgit Wehner & Holger Siebert (TROPOS)	Aerosol, turbulence and radiation measurements on a tethered balloon
09:45 – 10:00	Marco Zanatta (AWI)	The fate of Arctic black carbon from clouds to snow
10:00 – 10:15	Cristian Velasco (University of Valladolid)	Continuous columnar aerosol observations at Ny Ålesund with Sun-Sky-Lunar photometry and possible future synergies.
10:15 – 10:30	Chiara Petroselli (University of Perugia)	Climatology of Black Carbon vertical profiles measurements in Ny-Alesund between 2011 and 2017

10:30 – 11:00 Coffee break

Snow & Ice *(Chair L. Zhou, J.C. Gallet)*

11:00 - 11:15	Hans-Werner Jacobi (IGE – CNRS/Uni. of Grenoble)	Deposition of ionic species and black carbon to the Arctic snow pack: Combining snow pit observations with modelling
11:15 – 11:30	Andrea Spolaor (CNR-IDPA)	Are the climate archive preserved in Svalbard ice threatened?

11:30 – 11:45	Jean Pierre DEDIEU (IGE-CNRS)	Snow physical parameters retrieval using SAR data and in-situ measurements in Brøgger Peninsula
11:45 – 12:00	Kjetil Torseth (NILU)	Black carbon in the arctic - in-situ observing systems
12:00 – 12:15	Kjetil Torseth (NILU)	WG7: Atmospheric composition
12:15 – 13:00	Discussion	

13:00 – 14:00 Lunch

MOSAiC *(Chair H.C-Hansson, S. Hudson)*

14:00 - 14:20	Annja Sommerfeld (AWI)	MOSAIC International Arctic Drift Expedition
14:20 – 14:40	Marion Maturilli (AWI)	MOSAIC – Activities of the Atmosphere Team
14:40 – 15:00	Julia Boike (AWI)	T-MOSAiC
15:00 – 15:30	Q&A MOSAiC – Discussion	
15:30 – 16:00		*Coffee break*
16:00 – 17:30	MOSAiC & Ny Ålesund & Atmospheric flagship	

Join dinner (detail info will follow)

THURSDAY, 18 October: DISUSSIONS & TOPIC MEETINGS

09:00 – 10:00 Vertical measurements in Ny Alesund: discussion about UAV and balloon activities in 2018 and future plans *(B. Wehner)*
10:00 – 11:00 Marine aerosols and ship based observations *(T. Zielinski)*

11:00 – 11:30 Coffee break

11:30 – 11:45	Andreas Massling (University of Aarhus)	Activities at Villum Research Station in North Greenland

11:45 – 13:00 Ny Ålesund & Gruvbadet & Villum 2019-2020 (A. Massling, K. Torseth)

13:00 – 14:00 Lunch

14:00 – 15:30 Mini-seminar on SIOS core data (remote connection with SIOS office) and discussion about Atmospheric core data and SIOS Optimalization report

15:30 – 16:00 Coffee break

16:00 – 16:45 “BC and mineral dust in air and snow surface layers” (D. Cappelletti)

16:45 – 17:30 Gruvbadet snow supersite *(J.C. Gallet)*
17:30 – 18:00 Ny Ålesund “Metrology lab” (V. Vitale)
18:00 – 18:30 30 years anniversary Zeppelin article *(K. Torseth)*

FRIDAY, 19 October

09:00 – 10:00 SESS report & SIOS optimization report *(A. Viola, H.C. Hansson)*
10:00 – 10:30 Join actions at Barentsburg & air pollution on Svalbard

10:30 – 11:00 Coffee break

11:00 – 12:00 Meteorology – aerosols – clouds 3D studies *(C. Ritter)*

POSTERS

Paul Zieger (SU)	The importance of coarse mode aerosol in the Arctic
Boris Ivanov (AARI)	AARI spring-summer field company 2017-2018 (Barentsburg, Aldegonda glacier)
Linn Karlsson (SU)	Aerosol-cloud interactions at Zeppelin observatory
Dmitry Divine (NPI)	Event-based observations of stable water isotopes in precipitation in NyÅlesund to support interpretation of Svalbard ice core data
Chiara Petroselli (University of Perugia)	Diesel power plants in Svalbard: underestimated contributors to the local air pollution (C. Petroselli, A. Dekhtyareva)
Piotr Markuszewski (IOPAN)	Observation of air-sea interaction phenomena on board r/v Oceania.
Konstantina Nakoudi (AWI)	Optical properties of Arctic aerosol during PAMARCMIP 2018 campaign
Srinath Krishnan (SU)	Evaluating the impact of atmospheric aerosols on Arctic Amplification

Participants list

First name	Last name	Institution	Country
Barbara	Altstädter	Technische Universität Braunschweig	Germany
Foteini	Baladima	IGE	France
Federico	Bianchi	University of Helsinki	Finland
Christine	Böckmann	University of Potsdam	Germany
Julia	Boike	AWI	Germany
David	Cappelletti	University of Perugia	Italy
Sandro	Dahlke	AWI	Germany
Jean-Pierre	DEDIEU	IGE CNRS (Grenoble)	France
Alena	Dekhtyareva	UiT The Arctic University of Norway	Norway
Dmitry	Divine	Norwegian Polar Institute	Norway
Kerstin	Ebell	University of Cologne, Institute for Geophysics and Meteorology	Germany
Konstantinos	Eleftheriadis	NCSR Demokritos	Greece
Graham	Emelie	Stockholm University	Sweden
Luca	Ferrero	University of Milano-Bicocca	Italy
JC	Gallet	NPI	Norway
Maria	Gkini	NCSR Demokritos	Greece
Sandra	Graßl	Alfred Wegener Institute	
HC	Hansson	Stockholm University	Sweden
Sophie	Haslett	Stockholm University	Sweden
Jan	Henneberger	ETH Zurich	Switzerland
Stephen	Hudson	Norwegian Polar Institute	Norway
Boris	Ivanov	Arctic and Antarctic Research Institute/Saint-Petersburg University	Russia
Hans-Werner	Jacobi	IGE; CNRS/Université Grenoble Alpes	France
Grzegorz	Karasiński	Institute of Geophysics Polish Academy of Sciences	Poland
Linn	Karlsson	Stockholm University, ACES	Sweden
Radovan	Krejci	Stockholm University	Sweden
Srinath	Krishnan	Stockholm University	Sweden
Birte	Kulla	Alfred Wegener Institute	

Astrid	Lampert	Institute of Flight Guidance, TU Braunschweig	Germany
Changsup	Lee	Korea Polar Research Institute (KOPRI)	Republic of Korea
Justyna	Lisok	Institute of Geophysics, University of Warsaw	Poland
Michael	Lonardi	University of Leipzig	Germany
angelo	lupi	CNR - ISAC	Italy
Dall'Osto	Manuel	Spanish National Research Council (CSIS)	Spain
Piotr	Markuszewski	Institute of Oceanology Polish Academy of Sciences	Polska
Andreas	Massling	Aarhus University	Denmark
Marion	Maturilli	Alfred Wegener Institute	Germany
Mauro	Mazzola	CNR	Italy
Rob	Modini	Paul Scherrer Institute	Switzerland
Claudia	Mohr	Stockholm University	Sweden
Kim-Janka	Müller	Alfred Wegener Institute	
Konstantina	Nakoudi	Alfred Wegener Institute	Greece
Roland	Neuber	Alfred-Wegener-Institut	Germany
Tatiana	Nomokonova	University of Cologne, Institute for Geophysics and Meteorology	Germany
Paulina	Pakszys	Intitute of Oceanology Polish Academy of Sciences	Polska
Julie	Pasquier	Institute for Atmospheric and Climate Science, ETH Zurich	Switzerland
Boyan	Petkov	ISAC-CNR	Italy
Chiara	Petroselli	University of Perugia	Italy
Rosaria Erika	Pileci	Paul Scherrer Institute	Switzerland
Andreas	Platis	Universität Tübingen	Germany
Christoph	Ritter	AWI - Potsdam	Germany
Mario	Schiavon	University of Bologna & ISAC-CNR	Italy
Martin	Schön	ZAG Uni Tübingen	Germany
Alexander	Schulz	Alfred-Wegener-Institute	Germany
Benjamin	Segger	Alfred Wegener Institute	
Karine	Sellegri	LaMP	France

Holger	Siebert	TROPOS	Germany
Mikko	Sipilä	Institute for Atmospheric and Earth System Research	Finland
Piotr	Sobolewski	Institute od Geophysics Polish Academy of Sciences	Poland
Anja	Sommerfeld	Alfred Wegener Institute	Germany
Andrea	Spolaor	CNR-IDPA	Italy
Yutaka	Tobo	National Institute of Polar Research	Japan
Kjetil	Tørseth	NILU	Norge
Cristian	Velasco	University of Valladolid	Spain
angelo pietro	viola	ISAC - CNR	ITALY
Vito	Vitale	CNR-ISAC	Italy
Birgit	Wehner	Leibniz Institute for Tropospheric Research	Germany
Folkard	Wittrock	University of Bremen	Germany
Zhiyong	Xie	Helmholtz-Zentrum Geesthacht	Germany
Young Jun	YOON	Korea Polar Research Institute	Korea
Marco	Zanatta	Alfred Wegener Institute	Germany
Libo	Zhou	Institute of Atmospheric Physics, CAS	China
Paul	Zieger	Stockholm University	Sweden
Tymon	Zielinski	IO PAN	Poland

Summary from the working groups

Working group WG1 ”Clouds, humidity and precipitation”

- Remote sensing satellite based observations show different trends in low level clouds coverage fraction in different parts of the Arctic during different seasons. The reasons for this behaviour are not clear.
- Observed warming trends from long term data at Ny Ålesund (M. Maturilly, AWI) show strongest warming trend during polar night and there is very strong indication that it is related to low level clouds and their interaction with long-wave radiation
- Need to study synergetic effect of changes in atmospheric circulation and ocean heat transfer to the Arctic. At the same time there is a need to constrain the role of reduced transport of mid-latitude aerosol to the Artic and related change in CCN population available for cloud formation
- Stockholm University presented first results of the long term observation of cloud residual microphysical properties from Zeppelin observatory. There is a clear seasonal trend following the aerosol annual cycle. During periods of low aerosol concentrations and when aerosol population is dominated by small Aitken mode aerosol, particles well below 100 nm are activated into cloud droplets and crystals
- NIPR presented combined analysis of aerosol and cloud microphysical properties showing clear difference between periods when liquid or ice clouds are dominating.
- Suite of remote sensing instruments at Ny Ålesund including cloud radars and lidar will be part of the validation activities related to EarthCARE/IAXA/ESA satellite missions
- University in Tromsø together with NPI and collaborators from Finland and Alaska intensify work on stable oxygen and hydrogen isotopes in water. Analysis so far demonstrates a lack of seasonality in isotopic characteristics of precipitation and a lack of correlation between surface atmospheric temperatures and 18O/δD in precipitation. Deuterium excess shows a reasonably good negative correlation with the SAT during precipitation indicative of the effect of local moisture contribution in Ny-Ålesund precipitation. Negative sign of the observed correlation is indicative of a stronger kinetic fractionation during evaporation from a relatively warm ocean exposed to a cold Arctic air.

Working group WG2 “Long-term observations and trends in temperature, precipitation, clouds and radiation”

The overview of WG2 activities set the recent Ny-Ålesund observations into context with Svalbard air temperature observations reaching back more than 100 years. Exceeding the early twentieth century warming, the temperature increase of the last two decades is stronger, particularly in the North Atlantic Arctic with emphasized warming in winter. On this background, several atmospheric parameters were discussed in the frame of the Atmosphere Flagship, including long term changes in atmospheric humidity, clouds and precipitation. It was pointed out that the various long term observations at Ny-Ålesund have the potential for interdisciplinary analysis. Examples were given relating precipition changes and the degradation of the permafrost ground, while another study connected the increasing surface air

temperature and the decreasing ice cover in the Svalbard fjords. As a main focus, WG2 seeks to combine the atmospheric long term observations across Svalbard (e.g. including Hornsund, Barentsburg, automated pan-Svalbard stations) with other observed indicators of climate change in the region.

Main discussion points where future work should be focused:

- need attentive quality control (calibration; metadata availability; dataset homogeneity)
- provide an excellent opportunity to combine different disciplines (Overlap with other Flagships)
- have the potential to contribute to international networks (e.g. *GAW*, *BSRN*, *NDACC*, etc) (reaching e.g. satellite community, climate modeling community)

Working group WG3 "Boundary layer meteorology"

Ongoing activities and plans for upcoming couple of years.

- Encouraging the aerosol/atmospheric community to connect for supporting each other
- Which measurements from atm. people should be published as "campaign support product"
- Aerosol study flow regime (from North-West) dependent comparability of Ny-Ålesund and Zeppelin measurements
- Suggestion for a joint paper from atmosphere people about local wind field
- Special focus of vertical wind profile for different synoptic regimes
- Yutaka Tobo (NIPR) analysis of dust events; we could use these studies and information to decide whether there was some interaction between surface and atmosphere as tracer
- General perspective -> using long term data to understand the underlying processes to develop model
- Any existing contacts to model people; any recent/future model activities planned
- Model simulations of local meteorology in high resolution with WRF (planned for future) including air mass trajectory from HYSPLIT with WRF nesting
- Handbook of typical meteorological situations and local wind fields will be excellent to identify well-known or typical regime from simple parameters (clouds, wind direction etc.)
- Let's organise a joint workshop: modellers and Ny-Ålesund experimenters; own conference or part of SSF
- Plan for an international DTS campaign 2021 (after MOSAiC): DTS horizontal; on CCT; from Gruvebadet to Zeppelin; Balloons in cooperation with University of Bayreuth; UAVs Braunschweig/Tübingen. The campaign should include also eddy covariance fluxes of energy, mass and momentum.
    - optic fiber cable from Gruvebadet to Zeppelin Observatory; **Aim:** ABL structure uphill transition)
    - horizontal DTS network from several stations (EC sites, CCT etc.); **Aim:** spatial structure of turbulence

- coordinated vertical DTS profiles on CCT and balloons; **Aim:** small-scale vertical structure and turbulent structure
- coordinated in-situ aerosol measurements on different station and levels (balloons)

Working group WG4 "Interactions of snow, atmosphere and aerosols

WG 4 highlights:

- Aerosol deposition on snow: some recent results show that deposition patterns are not the same between winter and spring time (wet/dry), especially for BC. More work and especially winter snow data are needed to improve and better understand the deposition processes to snow surfaces
- Recent measurement on shallow cores show that the signal preservation in the first ten meters on Holtdehalfonna, one of the highest glaciated areas of Svalbard, is degraded. The isotope signal is now very complex for dating the core and without mass balance data it might already be in the near future impossible to date shallow ice cores from the surface of the ice cap in Svalbard.
- Use of new remote sensing tools (SAR: Synthetic Aperture Radar) shows the potential of using such data to retrieve snow depth and maybe later some information on the presence of ice in the snow pack. More analyses and data comparisons are needed.

WG4 progress

- The group has also been discussing on now implementing a new snow monitoring site and program at Gruvebadet in Ny-Ålesund based on a Norwegian-French-German initiative. The main idea is to collect snow for the chemical and microbial content. In order to link all data together, some basic physical snow data will also be collected. More important is the possibility to collect winter snow samples and to connect directly snow load in term of chemical and aerosols to the on-going and potential future atmospheric measurements at Guvebadet as well as Zeppelin Observatory.
- A list of publications should be added to it, including: Sinha P.R. et al.: *Seasonal progression of the deposition of black carbon by snowfall at Ny-Ålesund, Spitsbergen, Journal of Geophysical Research, Vol 123, Issue 2, 997-1016,2018,* showed a one year study of the deposition of BC and their size distribution in falling snow and rain in Ny-Ålesund. Their main conclusion is that the amount of BC deposited is not a function of the precipitation amount, the size distribution of BC is very similar between snow and rain, and the highest BC mass concentration is coming in December-February, and most of it wet deposited.

Working group WG5 "Atmospheric aerosols"

- Long term observations of atmospheric aerosol microphysical, optical and chemical properties are steadily increasing in number of parameters and observations. Measurement programs at Zeppelin Observatory and Gruvbadet are complementing each other in a more comprehensive manner than ever before. This synergy will be used in join data analysis and in close collaboration with WG3 and WG4 to better understand the aerosols exchange between atmosphere and cryosphere.

- Gruvbadet laboratory hosted number of short term campaigns
    - NPFArctic, new particle formation study, FMI and Uni Helsinki (within INTERACT during 2017, March-August and since April 2018 will run all the winter season)
    - In-situ intercalibration of absorption measuring instruments, Uni Warsaw (March-May 2017, within SSF AFG)
    - Sampling of ice nucleating particles, Uni West Texas (N. Hiranuma), NIPR (Y. Tobo) and CNR-ISAC (F. Belosi) (March-April 2017, Spring-Summer 2018)
    - Aerosol sampling for Organic Aerosols (M. Rinaldi, CNR-ISAC)
    - Lidar (Spring-Summer 2018, L. Diliberto, CNR-ISAC)
- Similar observations were performed also at Zeppelin observatory. Combined ongoing data analysis will focus on characteristics, timing and vertical behaviour of new particle formation events. We will target one of the important gaps in our knowledge related to contribution of the free troposphere/boundary layer exchange and its role in new particle formation.
- Number of intensive campaigns carried out by CNR, AWI, ETH, KOPRI and NIPR using tether ballon provide detail picture of aerosol vertical distribution in boundary layer. Data analysis is ongoing and together with data from Zeppelin observatory and Gruvbadet it will provide a better understanding of aerosol distribution and behaviour in the Arctic boundary layer.
- TROPOS has deployed UAV with aerosol payload at Ny-Ålesund during late spring 2018. First results show high variability of aerosol particles in the horizontal distribution and in the horizontality at small scale. High occurrence of new particle formation on 11 measurement days (55 % of the measurement days). Appearance of aerosol particles (<20 nm) in different layers in the whole atmospheric boundary layer.
- Number of black carbon measurements at Ny-Ålesund provides unique overdetermined data set, but at the same time, it needs closer work on intercomparison of various methods and data processing.
- Four years of tether ballon measurements at Ny-Ålesund including around 500 vertical profiles show that springtime is dominated by BC transport typically at altitudes above 500 m.
- There is also increasing need to quantify influence of local air pollution sources in Ny-Ålesund as well as at whole Svalbard. This includes also possible influence from ship traffic.
- Collaboration focusing on join data analysis and planning of future measurements between Ny-Ålesund community and Villum Research Station in Greenland has very strong potential to deliver better understanding of aerosol sources related to sea ice melting zone and aerosol transport to and from the Arctic. Distance of several hundred kilometres between both stations allows for Lagrangian type of studies focused on aerosol formation and transformation. This approach will be strengthen by involvement of aerosol observations on board of Polish research vessel “Oceania”, which sails several weeks every year around Svalbard and between Svalbard and Greenland.

Working group WG6 “UV radiation and ozone”

During the last meeting in October 2016 at Kjeller, Norway it was decided to work toward establishment of a local network measuring the solar UV radiation and ozone column at Svalbard, uniting the existing instruments. Such an idea assumed to compare the instrumentation and perform a preliminary analysis of the existing till now results outlining the main features of the variability in the parameters under study. These items were the core of the "UV Intercomparison and Integration in a High Arctic Environment (UV-ICARE)" Project for which we applied in the frame of the Svalbard Strategic Grant program. The UV-ICARE project was approved (RIS 10871) and gave us the opportunity to:

1. organise an intercomparison campaign that took place during 17-23 April 2018 at Ny-Ålesund and that allowed us to assess the capacity of the instruments to measure the solar UV radiation and ozone column;
2. perform an analysis of the available data sets in order to gain information about the behaviour of the examined parameters for the past 2 decades;
3. compare the methodologies for elaborating the measurement results in order to achieve harmonised data sets;
4. start the creation of a common data base containing available till now results together with the collected new ones.

It is believed that the built data base will be useful for climatic and biological investigations performed by different teams at Svalbard. For the future we plan to continue the work on the common dataset establishment and data analyses involving the results of the other research groups operating at Svalbard.

The achieved results were presented in:

- Petkov B.H., Vitale V., Svendby S.M., Hansen G.H., Sobolewski P.S., Láska K., Elster J., Pavlova K., Viola A., Mazzola M., Lupi A., Solomatnikova A. (2018) Altitude-temporal behaviour of atmospheric ozone, temperature and wind velocity observed at Svalbard. Atmos. Res., 207, 100–110.
- G. Hansen, T. Svendby, B. Petkov, V. Vitale, P. Sobolwski, J. Elster, K. Laska (2017) Coordinating and Integrating UV Observations in Svalbard, Svalbard Science Conference 2017 - cooperation for the future, 6 – 8 November, Oslo (https://forskningsradet.pameldingssystem.no/auto/43/1415%20Georg%20Hansen%20Svalbard_konf_UV-ICARE_vs3.pdf).
- UV Intercomparison and Integration in a High Arctic Environment (UV-ICARE), RCN Project No: 270644/E10, Final Report, 2018 (https://polar.prf.jcu.cz/data/uploads/reports/uv-icare-final-report-2018.pdf).
- B. H. Petkov, V. Vitale, G. H. Hansen, T. M. Svendby, P. S. Sobolewski, K. Láska, J. Elster, A. Viola, M. Mazzola, A. Lupi, Observations of the solar UV irradiance and ozone column at Svalbard, contribution submitted for considering to be included in the first SESS report.

Atmosphere Flagship Steering Committee meeting

Membership issues

- Yutaka Tobo is replacing Shiobara as NIPR representative
- Paul Zieger replacing Hans Christen Hansson
- Stephen Hudson replacing Christina Pedersen for NPI
- JC Gallet is a new leader of WG 4

Steering committee discussed scientific contribution of Ny-Ålesund community to MOSAiC with Intensive Observational Period IOP from late 2019 to early 2021.

Contribution of Atmospheric Flagship to SIOS implementation and at this stage especially to selection of the SIOS Core parameters.