Thematic Network on High Latitude Dust,

hosted by Agricultural University of Iceland, Iceland

Lead: Pavla Dagsson-Waldhauserova

Activities 2023

Events:

- Seminar session on dust, Finnish National Pyry -seminar on Snow at the Finnish Meteorological Institute https://www.uarctic.org/news/2023/9/national-snow-seminar-helsinki-finland/
- High Laitude Dust session at ICAR conference, 10-14 July, 2023
- Kick-off meeting of the UArctic TN on High Latitude Dust https://www.uarctic.org/news/2023/9/kick-off-meeting-of-the-uarctic-tn-on-high-latitude-dust/
- The HILDAE (HIgh Latitude Dust in a changing Arctic Environment) meeting in Créteil, France on 27-29 November 2023

Education:

- Dust hot spots of the Arctic: High Latitude Dust field campaigns 2023 https://www.uarctic.org/news/2023/9/dust-hot-spots-of-the-arctic-high-latitude-dust-field-campaigns-2023/
- Diploma work defense https://thesis.unipd.it/handle/20.500.12608/50621
- Master thesis defense: Aerosol Source apportionment

Research:

- Funded projects on High Latitude Dust. UArctic Thematic Network on High Latitude Dust (HLD) was very successful in receiving funding for projects related to HLD. Nine projects were funded in Iceland, France, United Kingdom, Denmark, Canada, and the USA.

Publications:

- Mona et al., 2023. Observing mineral dust in Northeastern Africa, the Middle East and Europe: Current capabilities and challenges ahead fir the development of dust services. Bulletin of the American Meteorological Society 104(8) https://www.uarctic.org/news/2023/9/uarctic-thematic-network-on-high-latitute-dust-hld-publications-2023/

- Baldo et al., 2023. Complex refractive index and single scattering albedo of Icelandic dust in the shortwave spectrum. Atmospheric Chemistry and Physics 23(14), 7975-8000. https://www.uarctic.org/news/2023/9/uarctic-thematic-network-on-high-latitute-dust-hld-publications-2023/
- Huck, R.,et al., 2023. The (mis)identification of high-latitude dust events using remote sensing methods in the Yukon, Canada: a sub-daily variability analysis, Atmospheric Chemistry and Physics 23, 6299–6318. https://www.uarctic.org/news/2023/9/uarctic-thematic-network-on-high-latitute-dust-hld-publications-2023/
- Koffman et al., 2023. Abrupt Changes in Atmospheric Circulation During the Medieval Climate Anomaly and Little Ice Age Recorded by Sr-Nd Isotopes in the Siple Dome Ice Core, Antarctica. Paleoceanography and Paleoclimatology 38, e2022PA004543. https://www.uarctic.org/news/2023/9/uarctic-thematic-network-on-high-latitute-dust-hld-publications-2023/
- Sayedain et al., 2023. Detection and analysis of Lhù'ààn Mân' (Kluane Lake) dust plumes using passive and active ground-based remote sensing supported by physical surface measurements. Atmospheric Measurement Techniques 16, 4115–4135. https://www.uarctic.org/news/2023/9/uarctic-thematic-network-on-high-latitute-dust-hld-publications-2023/
- Publication in Scientific Reports: “African dust transport and deposition modelling verified through a citizen science campaign in Finland” https://www.nature.com/articles/s41598-023-46321-7#Sec20

Outreach:

- The 1st International Day to Combating Sand and Dust Storms; Special Webinar for the International Day of Combating Sand and Dust Storms https://www.un.org/en/observances/day-of-combating-sand-and-dust-storms#:~:text=Recognizing%20that%20sand%20and%20dust,RES%2F77%2F294)
- Talk by Outi Meinander; FMI's 11th Pyry Snow seminar program 1.11.2023 https://www.uarctic.org/news/2023/11/outi-meinander-vice-lead-of-the-thematic-network-on-high-latitude-dust-gave-a-presentation-on-citizen-science-at-the-11th-national-pyry-snow-seminar/
- Talk at the Second Environmental History Day of Finland / Toinen Suomen ympäristöhistorian päivä 22.11.2023 https://www.uarctic.org/news/2023/11/presentation-on-saharan-dust-in-the-finnish-atmosphere-and-on-the-ground-by-outi-meinander/
- Conference proceeding and poster presentation, Svalbard science conference 2023
- Questionnaire: Help us to shape Air Quality and GHG monitoring products in Iceland and in the Arctic
- UArctic Video interview: https://vimeo.com/902934223

Conducted and planned activities 2024

Here we provide a report summarizing the activities of the UArctic Dust during January-March 2024 in the first part, and 17 activities planned in April-December 2024 in the second part. This summary is not complete as more activities will be added later this year, but we still do not have the concrete dates.

UArctic Dust activities until 31 March 2024

January 2024
CAMS 2nd Atmosphere User Forum, online, 25.1.2024,
https://atmosphere.copernicus.eu/2nd-atmosphere-user-forum
Description: Invited talk on in-situ measurements of High Latitude Dust (HLD) in Iceland.

February 2024
The 8th HLD Workshop with CAMS User session, Reykjavik, Iceland, 13- 14.2.2024
https://icedustblog.wordpress.com/2023/12/27/high-latitude-dust-workshop-2024/
Description: UArctic Dust co-organized the annual meeting of the IceDust Association, HLD Workshop with 67 attendees in total, CAMS User session for stakeholders in Iceland, and UArctic TN HLD general meeting.

March 2024
WMO International Conference on Sand and Dust Storms, Riyadh, Saudi Arabia, 4-6th March 2024 https://dust.ncm.gov.sa/2024/03/02/the-first-international-conference-on-sand-and-dust-storms/
Description: UArctic TN on High Latitude Dust presented a talk at the World Meteorological Organizationś International Conference on Sand and Dust Storms

Bachelor thesis defended at the Lund University, Sweden, on 15th March, 2024: "The influence of Saharan and near-regional dust on coarse mode particle mass concentrations in southern Scandinavia by Hiroki Nagatomi.

UArctic Dust activities planned for April to December 2024

April 2024
Sornfelli Symposium, Faroe Isle, 3-4.4.2024
https://www.canva.com/design/DAFuzNJs4RU/7QrAbh9i4WzW3LJFz3EbVQ/view?utm_conte%20nt=DAFuzNJs4RU&utm_campaign=designshare&utm_medium=link&utm_source=editor
Description: The Faroe Islands are keen on exploring possibilities for future collaborations in atmospheric research in the Faroe Islands. This Symposium focuses on international atmospheric measurements station and join the international networks on monitoring air quality. HLD from Iceland often impairs the local air quality. The University of Faroe Islands will join the UArctic TN on HLD.

EGU2024, Vienna, Austria, 14.-19.4.2024
Aeolian dust: initiator, player, and recorder of environmental change– session organization https://meetingorganizer.copernicus.org/EGU24/session/48878
Description: UArctic Dust co-organizes the session with about 60 abstracts at the European Geoscience Union General Assembly with more than 16000 attendees every year.

NordSnowNet field campaign in Pallas, Lapland, Finland, 9-12.4.2024
https://nordsnownet.fmi.fi/
Description: Nordic Snow Network and UArctic Dust organize together a snow/dust field measurements campaign in Lapland.

3rd Atmosphere and Climate Competence Center (ACCC) Impact Week, Helsinki, Finland, 8-12.4.2024
https://www.acccflagship.fi/index.php/3rd-accc-impact-week-2024/

Proposal submission to FORMAS Swedish research council, 10.4.2024
Description: A proposal entitled Sources and impact of dust aerosol particles in southern Scandinavia lead by the Lund University will be submitted
Winter Polar School, Svalbard, 22.-28.4.2024
https://www.fzp.czu.cz/en/r-9410-international-relations/r-20135-summer-winter-school/r-20137-winter-school/r-20138-polar-winter-school

Description: Nordic Snow Network, UArctic Dust and Czech University of Life Sciences organize together the Winter Polar School for Nordic and Czech students in Longyearbyen, Svalbard. This course will focus on practical experiments for students on snow characteristics, avalanche hazards, glacier sampling, and dust measurements, engaging the top snow/ice/dust researchers with students in the field.

May 2024

COST Action Harmonia MC meeting in Reykjavik, Iceland, 21-22.5.2024
https://harmonia-cost.eu/
Description: Management Committee of the International network for harmonisation of atmospheric aerosol retrievals from ground based photometers will meet in Reykjavik. Several UArctic Dust members are involved in this COST Action.

Arctic Congress, Bodo, Norway, 29.5.-3.6.2024
https://www.arcticcongress.com/
Description: UArctic Dust will be introduced and several talks given by the members.

June 2024

CAMS General Assembly, Brussels, Belgium, 11-12.6.2024
https://atmosphere.copernicus.eu/8th-cams-general-assembly-copernicus

Description: Invited talk on in-situ measurements of High Latitude Dust (HLD) in Iceland and meeting of the CAMS National Collaboration Programme members on behalf of Iceland.

July 2024

The 2nd International Day to Combat Sand and Dust Storms, online, 12.7.2024
https://www.unccd.int/land-and-life/sand-and-dust-storms/coalition
Description: UArctic Dust is active in the activities of the United Nations Coalition to Combat Sand and Dust Storms. For a second time, we will co-organize the webinar for the occasion of this important event.

August 2024

Field campaign Dyngjusandur, NE Iceland, 15-31.8.2024
EAC 2024, Tampere, Finland, 26.8.-30.8.2024
https://www.eac2024.fi/
Description: Several talks of the UArctic Dust members will be given at the European Aerosol Conference. IceDust Association is a member association of the European Aerosol Assembly.

September 2024

NORDDUST meeting – Working Group on Climate and Air, Czech Republic
https://www.norden.org/en/funding-opportunities/nordic-working-group-climate-and-air-nkl-invitation-apply-project-funding-2
Description: NORDDUST is a successful one-year project of the UArctic Dust core group members funded by the Nordic Council of Ministers in February 2024. The project will provide an assessment on climate and socio-economic impacts of HLD in the European Nordic Region.

October 2024

Arctic Circle Assembly 2024, Reykjavik, Iceland, 17.-19.10.2024
https://www.arcticcircle.org/assemblies/2024-arctic-circle-assembly
Description: UArctic Dust, Embassy of Czech Republic in Norway and Iceland, Agricultural University of Iceland, and University of Leeds, UK, are keen on proposing a session on 'Preserving the Arctic for global stability' to the Arctic Circle 2024.

UK-Iceland cooperation – field measurements 22.-26.10.2024
https://www.arctic.ac.uk/wp-content/uploads/2023/10/THIRD-DRAFT-Call-document-UK-Iceland-Arctic-Science-Partnership-17-October-2023_FINAL_for-website.pdf
Description: UArctic Dust is a part of unique drone measurements of dust storms in Iceland. The project is funded by the UK Embassy in Iceland. Information on vertical resolution of dust storms is crucial for better dust forecasting by models and validation of the satellite products on dust and aerosol.

EU COST Action proposal on High Latitude Dust, submission 23.10.2024
Description: UArctic TN on HLD core members will submit an EU Cooperation in Science and Technology (COST) proposal on HLD.

November 2024

Pyry seminar, Rovaniemi, Lapland, Finland, 1.11.2024
https://www.ilmatieteenlaitos.fi/tiedote/60o1F3XVzURvcPfLyBwV7
Description: UArctic Dust members organize a 'Snow' seminar in Lapland.

December 2024
TBA