Conference Agenda

Session Overview

Date: Monday, 09/Feb/2026

8:00am - 5:00pm **Reg 1: Registration**

8:30am - 9:15am **PL 1: Opening Speeches**
Chair: **Ali Nadir Arslan**, Finnish Meteorological Institute, Finland
Chair: **Kari Luojus**, Finnish Meteorological Institute, Finland
Welcome by Jouni Pulliainen, Director of Space and Observation Centre at the Finnish Meteorological Institute
Welcome by Ionut Sandric, EARSeL Secretary General
Invited opening speech: Stefan Wunderle: "30 years of EARSeL snow and ice workshops – game changer or only an additional forum for the community?"

9:15am - 10:00am **Keynote 1: Jouni Pulliainen: ”Remote sensing of snow and cryosphere processes: FMI perspective from the experimental research to global applications”**
Chair: **Ali Nadir Arslan**, Finnish Meteorological Institute, Finland
Chair: **Kari Luojus**, Finnish Meteorological Institute, Finland

10:00am - 10:30am **CB 1: Coffee Break**

10:30am - 12:30pm **S 1: Advances in Remote Sensing of Snow and Ice and AI I**
Chair: **Zuhal Akyurek**, METU, Turkiye
Chair: **Claudio Persello**, University of Twente, Netherlands, The

A Comparison Between X- and C-Band Radar Backscatter for the Remote Sensing of Snow Depth in the European Alps

Florine Killemaes, Jonas-Frederik Jans, Hans Lievens
Ghent University, Belgium

Recent Developments of the H SAF Snow Extent Products in FMI

Niilo Siljamo, Mikael Hasu, Burak Simsek
Finnish Meteorological Institute, Finland

Machine Learning For Snow Depth Estimation Over The European Alps Using Sentinel-1 Observations, Meteorological Forcing Data And Physically-based Model Simulations

Lucas Boeykens[1,2], Devon Dunmire[2], Jonas-Frederik Jans[1], Willem Waegeman[3], Gabriëlle De Lannoy[2], Ezra Beernaert[1], Niko E. C. Verhoest[1], Hans Lievens[1]
1: Ghent University, Department of Environment, Belgium; 2: Catholic University of Leuven, Department of Earth and Environmental Sciences, Belgium; 3: Ghent University, Department of Data Analysis and Mathematical Modelling, Belgium

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Advancing Snow Water Equivalent Retrievals and Terrestrial Snow Mass Records in the ESA CCI+ Snow Project

Pinja Venäläinen[1], Kari Luojus[1], Jouni Pulliainen[1], Matias Takala[1], Mikko Moisander[1], Colleen Mortimer[2], Lawrence Mudryk[2]
1: Finnish Meteorological Institute, Finland; 2: Environment and Climate Change, Canada

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Harmonised Snow Variable Retrieval by Reconstruction of the Snow Surface Spectrum Using Radiative Transfer Modelling

Rune Solberg, Øystein Rudjord
Norwegian Computing Center, Norway

Remote Sensing for Glacial Lakes Detection: a Multi-Sensor Approach for Mapping and Monitoring Lakes in Western Alps

Martina Lodigiani[1], Fatima Karbou[2], Jean-Baptiste Doridant[4], Bruno Demolis[3], Maddalena Nicora[1], James Guillaume[5], Pour Adrien[9], Vivian Bonnetain[3], Saskia Gindraux[6], Luca Mondardini[1,7], Paolo Perret[1,8], Fabrizio Troilo[1]
1: Fondazione Montagna Sicura – Montagne Sûre, Loc. Villard de La Palud 1, 11013, Courmayeur, Italy; 2: CNRS, CNRM, Centre d’Études de la Neige, Université Grenoble Alpes, Université de Toulouse, Météo-France, Grenoble, France; 3: ONF, service de Restauration des Terrains de Montagne, Grenoble, France; 4: ONF, Pôle Recherche Développement Innovation, Villers-lès-Nancy, France; 5: CNRS, Inria, Grenoble INP (Institute of Engineering Université Grenoble Alpes), LJK, Université Grenoble Alpes, Grenoble, France; 6: Centre de recherche sur l'environnement alpin, rue de l'Industrie 45, CH-1950 Sion; 7: Dept. of Computer Science "Giovanni degli Antoni", University of Milano, Via Celoria 18, 20133 Milano, Italy; 8: Dept. of Electrical, Computer Science and Biomedical Engineering, University of Pavia, Via Ferrata 1, 27100 Pavia, Italy.; 9: Météo-France, DirOp, CMS, Lannion, France

Triple-collocation Validation of Snow Depth Retrievals in Svalbard Using ICESat-2

Eirik Malnes[1], Robert Ricker[1], Hannah Vickers[1], Rolf-Ole Rydeng Jensen[1], Jean Charles Gallet[2], Eero Rinne[3], Darius Ignatiuk[4], Bartłomiej Luks[5]
1: NORCE, Norway; 2: Norwegian Polar Institute, Norway; 3: UNIS, Norway; 4: University of Silesia, Poland; 5: Institute of Geophysics, Polish academy of sciences, Poland

Leveraging Deep Learning and Webcam Networks for Near Real-Time Validation of Satellite Snow Cover

Cemal Melih Tanis, Ali Nadir Arslan, Kari Luojus
Finnish Meteorological Institute, Finland

12:30pm - 2:00pm **LB 1: Lunch Break**

2:00pm - 3:30pm **S 2: Glacier Dynamics and Permafrost**

Chair: **Gabriele Schwaizer**, ENVEO IT GmbH, Austria
Chair: **Andreas Colliander**, Finnish Meteorological Institute, Finland

Simulating Microwave Emission from Antarctica Based on Ice Sheet Physical Models

Andreas Colliander[1,3], Nicole-Jeanne Schlegel[2], Alamgir Hossan[3], Catherine Walker[4], Joel Harper[5], Juha Lemmetyinen[1], Aku Riihelä[1]
1: Finnish Meteorological Institute, Finland; 2: NOAA/OAR Geophysical Fluid Dynamics Laboratory; 3: Jet Propulsion Laboratory, California Institute of Technology; 4: Woods Hole Oceanographic Institution; 5: Geosciences, University of Montana

Integrating UAV photogrammetry and Ground Penetrating Radar to monitor the Forni Glacier tongue (Stelvio National Park, Italy)

Giorgio De Donno[1], Martina Di Rita[2], Kevin Hanson[3], Valeria Belloni[1], Michele Cercato[1]
1: Sapienza University of Rome, Italy; 2: Politecnico di Torino, Italy; 3: Leica Geosystems AG, Switzerland

Modelling Glacier Ice Avalanches for Infrastructure Risk Assessment in the Alps: Insights from the PNRR - Ecosistema dell'Innovazione "Nord Ovest Digitale e Sostenibile" Project

William Boffelli[1], Maddalena Nicora[1], Fabrizio Troilo[1], Pietro Di Sopra[1], Martina Lodigiani[1], Luca Mondardini[1,2], Paolo Perret[1,3]
1: Fondazione Montagna sicura – Montagne sûre, Loc. Villard de La Palud 1, 11013, Courmayeur, Italy; 2: Dept. of Computer Science “Giovanni degli Antoni”, University of Milano, Via Celoria 18, 20133 Milano, Italy; 3: Dept. of Electrical, Computer Science and Biomedical Engineering, University of Pavia, Via Ferrata 1, 27100, Pavia, Italy

Seasonal Deformation Rates Obtained From Sentinel-1 InSAR Analyses Across Arctic Lowland Permafrost Regions Reflect Soil Moisture Gradients

Barbara Widhalm[1], Annett Bartsch[1], Tazio Strozzi[2], Nina Jones[2], Artem Khomutov[3], Elena Babkina[3], Marina Leibman[3], Rustam Khairullin[1], Mathias Göckede[4], Helena Bergstedt[1], Clemens von Baeckmann[1], Xaver Muri[1], Sree Ram Radha[1]
1: b.geos, Austria; 2: Gamma Remote Sensing, Switzerland; 3: Earth Cryosphere Institute, Tyumen Scientific Centre SB RAS, Russia; 4: Max Planck Institute for Biogeochemistry, Germany

3:30pm - 4:00pm **CB 2: Coffee Break**

4:30pm - 6:00pm **S 3: Poster presentation**

Holistic Overview of the Supraglacial Lake-ice-snow Timing and Climate Causality: Preliminary Results

Roberto Salzano[1], Nicoletta Ademollo[2], Giovanni Bormidoni[3], Nicola Colombo[4], Francesco De Biasio[2], Biagio Di Mauro[2], Giulio Esposito[1], Marco Gaetani[3], Nicolas Guyennon[5], Antonietta Ianniello[1], Riccardo Maetzke[1], Emanuele Romano[5], Franco Salerno[2], Marco Salvadore[3], Rosamaria Salvatori[2], Serena Sapio[3], Andrea Taramelli[3], Giacomo Traversa[2], Stefano Urbini[6], Emiliana Valentini[2], Marco Vecchiato[7], Stefano Vignudelli[8], Stefano Zecchetto[2], Matteo Zucchetta[2]
1: CNR, Institute of Atmospheric Pollution Research, Italy; 2: CNR, Insitute of Polar Sciences, Italy; 3: IUSS, Italy; 4: University of Turin, Italy; 5: CNR, Institute of Water Reasearch, Italy; 6: INGV, Italy; 7: University of Venice, Italy; 8: CNR, Institute of Biophysics, Italy

IT-SNOW: A Snow Reanalysis for Italy Blending Modeling, In-Situ Data, and Satellite Observations

Francesco Avanzi[1], Simone Gabellani[1], Silvia Puca[2], Alexander Toniazzo[2]
1: CIMA Foundation, Italy; 2: Italian Civil Protection Department, Rome, Italy

University Of Arctic Thematic Network On Nordic Snow Network

Leena Leppänen[1,2], Ali Nadir Arslan[1,3]
1: Arctic Space Centre, Finnish Meteorological Institute, Finland; 2: Arctic Centre, University of Lapland, Finland; 3: School of Technology and Innovations, University of Vaasa, Finland

Preparing for Future Sentinels with Focus on Snow

Juha Lemmetyinen[1], Jorge jorge Ruiz[1], Anna Kontu[1], Thomas Nagler[2], Helmut Rott[2], Markus Hetzenecker[2], Paola Rizzoli[3], Alexandre Becker Campos[3], Carolina Gonzalez[3], José-Luis Bueso-Bello[3], Richard Kelly[4], Wei Wang[4], Benoit Montpetit[5], Chris Derksen[5], Vincent Vionnet[5], Marcus Engdahl[6]

1: Finnish Meteorological Institute, Finland; 2: ENVEO IT GmbH, Austria; 3: DLR – the German Aerospace Centre, Weßling, Germany; 4: University of Waterloo, Canada; 5: Environment Canada, Canada; 6: ESA Centre for Earth Observation, Italy

Fill the Gap: Applying U-Net for Reconstructing AVHRR-Based Snow Cover Fraction (ESA CCI+ Snow) during Cloud Cover and Polar Night

Fabio Jakob[1], Christoph Neuhaus[1,2], Stefan Wunderle[1,2]

1: University of Bern, Institute of Geography, Switzerland; 2: University of Bern, Oeschger Center for Climate Change Research (OCCR), Switzerland

ESA Altimetry Operational Products For The Cryosphere: Status And Perspectives

Michele Scagliola[1], Jerome Bouffard[1], Filomena Catapano[1], Alessandro Di Bella[1], Marco Restano[2]

1: European Space Agency, Italy; 2: Starion for European Space Agency, Italy

Development of the Level-2 Snow Product Suite for the Copernicus Imaging Microwave Radiometer

Lina Zschenderlein[1], Kari Luojus[1], Richard Kelly[2]

1: Finnish Meteorological Institute, Finland; 2: University of Waterloo, Canada

The Role Of Polarimetry In D-InSAR Retrievals Of SWE Change Over Glaciers

Anna Behrmann[1], Georg Fischer[1], Irena Hajnsek[1,2]

1: DLR, Germany; 2: ETH Zürich

Long-term Analysis Of Surface Temperature Trends And Dynamics Deglaciation Of The Eidembreen Glacier (Svalbard) Based On Landsat Data For 1984–2025.

Oleksiy Davydov[1,2], Yuliia Shevchuk[1]

1: Nature Research Centre, Lithuania; 2: Kherson State University, Ukraine

Threshold-Based Classification of Ice and Open Water in Rivers and Lakes of Northern Finland using Sentinel-1 SAR Dual Polarization

Golda Prakasam, Cemal Tanis, Kari Luojus

Finnish Meteorological Institute, Finland

SnowSat: Leveraging Earth Observation and Artificial Intelligence for Smarter Snow Mapping and Hydropower Planning

Jie Zhang[1], Pietro Elia Campana[2], Björn Norell[3], Shivang Pandey[1], Sebastian Zainali[2], Veijo Pohjola[1], Rickard Pettersson[1]

1: Uppsala University, Sweden; 2: Mälardalen University, Sweden; 3: Vattenregleringsföretagen, Sweden

Independent EO Snow Signals to Improve Model Skill in Kemijoki Freshet Guidance

Jaakko Ilkka Ikonen, Cemal Melih Tanis, Matias Takala, Kari Luojus

Finnish Meteorological Institute, Finland

River Ice Dynamics Across Major Arctic Rivers Over The Past Two Decades (2000–2024)

Jiahui Qiu[1], Kari Luojus[2], Harri Kaartinen[3], Yubao Qiu[4], Epari Ritesh Patro[1], Björn Klöve[1], Ali Torabi Haghighi[1]

1: Water, Energy and Environmental Engineering Research Unit, University of Oulu, Oulu 90014, Finland; 2: Space and Earth Observation Centre, Finnish Meteorological Institute, Helsinki 00101, Finland; 3: Department of Remote Sensing and Photogrammetry, Finnish Geospatial Research Institute, National Land Survey of Finland, Espoo 02150, Finland; 4: Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100094, China

Development of Cloud Detection Method for MTG-FCI data for the SEDOS Snow Cover Product

Sari Metsämäki[1], Kirsikka Heinilä[1], Emilia Söderström[1], Gabriele Schwaizer[2], Ursula Fasching[2], Thomas Nagler[2], Andrea Meraner[3]

1: Finnish Environment Institute, Finland; 2: ENVEO IT GmbH; 3: EUMETSAT

The Relation Between Meteorological Extreme Events and Processes Occurring on the Cryosphere in Ny-Ålesund, Svalbard

Roberto Salzano[1], Riccardo Maetzke[1], Rosamaria Salvatori[2], Federico Scoto[2], Andrea Spolaor[2], Elena Barbaro[2]

1: CNR, Institute of Atmospheric Pollution Research, Italy; 2: CNR, Institute of Polar Sciences, Italy

Topographic Determinants Of Changes In Glacier Mass Balance In Hornsund Region Between 1936 And 2023

Michał Pawłowski

Jagiellonian University, Poland

An H SAF Cloud-Filled Snow Mask via Multi-Product Fusion

Burak Simsek, **Niilo Siljamo**
Finnish Meteorological Institute, Finland

6:30pm - 9:00pm **IB: Ice Breaking Cocktail**

Date: Tuesday, 10/Feb/2026

8:00am - 5:00pm **Reg 2: Registration**

9:00am - 10:00am **Keynote 2: Claudio Persello: "Advancing Cryospheric Sciences with Deep Learning and Earth Observation: Snow Cover and Glacier Applications"**
Chair: **Ali Nadir Arslan**, Finnish Meteorological Institute, Finland
Chair: **Kari Luojus**, Finnish Meteorological Institute, Finland

10:00am - 10:30am **CB 3: Coffee Break**

10:30am - 12:30pm **S 4: Operational Products & Projects on Snow and Ice**
Chair: **Matias Takala**, Finnish Meteorological Institute, Finland
Chair: **Hans Lievens**, Ghent University, Belgium

The CIMR Copernicus Mission and Its Snow & Ice Products
Filomena Catapano, Craig Donlon, MIchele Scagliola, Francesca Ticconi
ESA, Italy

EUMETSAT H SAF Snow Product Portfolio
Matias Takala[1], Ali Arslan[1], Zuhal Aküyrek[2], Niilo Siljamo[1], Burak Simsek[1], Kari Luojus[1]
1: Finnish Meteorological Institute, Finland; 2: Middle East Technical University, Türkiye

ESA-FMI Arctic-Boreal EO Supersite: Focus on Snow, Boreal Forest Ecosystem and Greenhouse Gas Monitoring
Anna Kontu, Hannakaisa Lindqvist, Henna-Reetta Hannula, Juha Lemmetyinen, Tomi Karppinen, Rigel Kivi, Marika Honkanen, Anu Kauppi, Kari Luojus, Tapani Mikkola, Timo Ryyppö, Jyri Heilimo, Johanna Tamminen, Jouni Pulliainen
Finnish Meteorological Institute, Finland

Svalbard as a Supersite for Cryosphere Observing Satellite Reference Measurement Collection
Ashley Morris[1], Heikki Lihavainen[1], Eero Rinne[2], Bartlomiej Luks[3], Tom Rune Lauknes[4], Eirik Malnes[4], Geir Moholdt[5], Michal Laska[6], Eleanor Jones[1], Øystein Godøy[1,7], Daan Kivits[1], Zoe Brasseur[1], Christiane Hubner[1]
1: Svalbard Integrated Arctic Earth Observing System, Norway; 2: The University Centre in Svalbard, Norway; 3: Institute of Geophysics, Polish Academy of Sciences, Poland; 4: NORCE Research AS, Norway; 5: Norwegian Polar Institute, Norway; 6: University of Silesia, Institute of Earth Sciences, Poland; 7: Norwegian Meteorological Institute, Norway

Long-term Snow Observations From Satellite for Operational C3s Cryosphere and Hydrology Services
Miriam Kosmale, Kari Luojus, Pinja Venäläinen, Mikko Moisander, Matias Takala, Jaakko Ikonen
Finnish Meteorological Institute, Finland

The CIMR-AIR Instrument – An Airborne Radiometer System to Support the Copernicus Imaging Microwave Radiometer Mission
Juha Kainulainen[1], Tapio Saarinen[1], Josu Uusitalo[1], Tommi Häkkilä[1], Taylan Yesilyurt[1], Severi Kasurinen[1], Janne Lahtinen[1], Juha Lemmetyinen[2], Kimmo Rautiainen[2], Marko Mäkynen[2], Patrik Ahola[2], Rene Forsberg[3], Martin Suess[4], Craig Donlon[4]
1: Harp Technologies Oy, Finland; 2: Finnish Meteorological Institute, Finland; 3: Technical University of Denmark, National Space Institute, Denmark; 4: European Space Agency, the Netherlands

Snow Depth And SWE Observations In Mountainous Regions Based On Sentinel-1
Hans Lievens[1,2], Kari Luojus[1,3], Ezra Beernaert[2], Sina Starmans[4]
1: Snowcap, Ghent, Belgium; 2: Ghent University, Ghent, Belgium; 3: Finnish Meteorological Institute, Helsinki, Finland; 4: EOMAP, Seefeld, Germany

CLMS Cryosphere Products
Mikko Moisander[1], Kari Luojus[1], Pinja Venäläinen[1], Matias Takala[1], Kirsikka Heinilä[2], Sari Metsämäki[2], Sakari Väkevä[2], Jesse Anttila[2], Emilia Söderström[2], Gabriele Schwaizer[3], Thomas Nagler[3], Ursula Fasching[3], Andrea Scolamiero Scolamiero[3]
1: Finnish Meteorological Institute, Finland; 2: Finnish Environmental Institute, Finland; 3: ENVEO-Environmental Earth Observation IT GmbH, Austria

12:30pm - 2:00pm **LB 2: Lunch Break**

2:00pm - 3:30pm

S 5: Snow Dynamics and Monitoring

Chair: **Sari Metsämäki**, Finnish Environment Institute, Finland
Chair: **Eirik Malnes**, NORCE, Norway

Using Spaceborne Snow Observations to Improve High-Resolution Snow Melt Simulations in the Swiss Alps in Near Real Time

Moritz Oberrauch[1,2], Jan Magnusson[1], Bertrand Cluzet[1], Tobias Jonas[1]
1: WSL Institute for Snow and Avalanche Research SLF, Switzerland; 2: ETH Zürich, Dept. of Civil, Environmental and Geomatic Engineering, Switzerland

Benchmarking Snowmelt–Runoff Models in Boreal Catchments: From Process-Based to Physics-Informed Machine Learning

Milad Shamsi Anboohi[1,2], Ioanna Merkouriadi[2], Juha Lemmetyinen[2], Jaakko Ikonen[2], Pertti Ala-Aho[1]
1: Water, Energy and Environmental Engineering Research Unit, University of Oulu, Oulu, Finland; 2: Earth Observation Research, Finnish Meteorological Institute (FMI), Helsinki, Finland

Snow Cover Extent Climate Data Record From AVHRR, MODIS And SLSTR Data, 1982 - Present

Gabriele Schwaizer, Thomas Nagler, Maria Heinrich, Markus Hetzenecker, Ursula Fasching, Petra Malcher, Johanna Nemec, Beat Haslinger, Nico Mölg
ENVEO-Environmental Earth Observation Information Technology GmbH, Austria

Fractional Snow Cover Retrieval across Eurasia using VIIRS Images and Machine Learning

Konstantin A. Maslov[1], Claudio Persello[1], Semih Kuter[2], Çağrı Karaman[3], Zuhal Akyurek[4]
1: University of Twente, Faculty of Geo-information Science and Earth Observation (ITC), The Netherlands; 2: Cankiri Karatekin University, Department of Forest Engineering, Türkiye; 3: HidroSAF Ltd. Middle East Technical University Technopolis, Türkiye; 4: Middle East Technical University, Department of Civil Engineering, Türkiye

Detecting Rain-on-snow Events Using Passive Microwave Satellite Data

Kerttu Kouki, Andreas Colliander, Aku Riihelä
Finnish Meteorological Institute, Finland

Cloud-Gap Filtering for Reliable MSG-SEVIRI-Based Snow Cover Records

Semih Kuter[1], Çağrı Hasan Karaman[2], Mustafa Berkay Akpınar[3], Zuhal Akyürek[4]
1: Cankiri Karatekin University, Faculty of Forestry, Dept. of Forest Engineering, Turkey; 2: HidroSAF Ltd., Middle East Technical University (METU) Technopolis, Turkey; 3: HidroSAF Ltd., Middle East Technical University (METU) Technopolis, Turkey; 4: METU, Faculty of Engineering, Dept. of Civil Engineering, Turkey

3:30pm - 4:00pm

CB 4: Coffee Break

4:30pm - 6:00pm

S 6: Snow and Glacial Hydrology

Chair: **Aynur Sensoy**, Eskisehir Technical University, Turkiye
Chair: **Roberto Salzano**, CNR, Italy

Insights into Supraglacial lakes seasonality on the Nansen Ice shelf, Antarctica

Emiliana Valentini[1,2], Marco Salvadore[2], Nicoletta Ademollo[1], Serena Sapio[1,2], Rosamaria Salvatori[1], Andrea Taramelli[2], Samuele Pierattini[3], Riccardo Scipinotti[4], Roberto Salzano[5]
1: National Research Council of Italy, Institute of Polar Sciences; 2: University Institute for Advanced Study of Pavia, Italy; 3: Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Technical Antarctic Unit, Service IAP, Italy; 4: Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Computer Systems and ICT Development, Italy; 5: National Research Council of Italy, Institute of Atmospheric Pollution

Satellite-based Lake Ice Monitoring at Global and Regional Scales

Kirsikka Heinilä[1], Sari Metsämäki[1], Sakari Väkevä[1], Emilia Söderström[1], Hanna Alasalmi[1], Timo Pyhälahti[1], Jesse Anttila[1], Kari Luojus[2], Gabriele Schwaizer[3]
1: Finnish Environment Institute, Finland; 2: Finnish Meteorological Institute, Finland; 3: ENVEO-Environmental Earth Observation IT GmbH, Austria

Recent in situ and satellite-based precipitation estimates over Dronning Maud Land, Antarctica

Aku Riihelä
Finnish Meteorological Institute, Finland

Utilizing Ground and Reanalysis data in Hydrological Modeling: A Case Study from a Mediterranean Basin in Türkiye

Mevlüthan Sakallı, İhsancan Duran, Gökçen Uysal, Ali Arda Şorman, Aynur Şensoy
Eskisehir Technical University, Türkiye

Performance of S3M Model Using Multi-Source Data for Seasonal Snow Dynamics in Mountainous Eastern Türkiye

Mevluthan Sakallı[1], Aynur Sensoy[1], Arda Sorman[1], Francesco Avanzi[2], Simone Gabellani[2]
1: Eskisehir Technical University, Turkiye; 2: CIMA Research Foundation

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Modelling Seasonal and Decadal Variability of Snow Conditions across Finland using SnowModel

Ashutosh Laxman Taral[1,2], Ioanna Merkouriadi[2], Anna Kontu[2], Kati Anttila[3], Pertti Ala-Aho[1]
1: Water, Energy and Environmental Engineering Research Unit, University of Oulu, Finland; 2: Earth Observation Research, Finnish Meteorological Institute, Finland; 3: Finnish Environment Institute, Finland

7:30pm - 10:00pm **WSD: Workshop Dinner**

Date: Wednesday, 11/Feb/2026

8:30am - 9:00am **Reg 3: Registration**

9:00am - 10:00am **Keynote 3: Chris Derksen: "Terrestrial Snow Mass Mission – status and lessons learned from the ongoing development of a snow-focused satellite mission"**

Chair: **Ali Nadir Arslan**, Finnish Meteorological Institute, Finland
Chair: **Kari Luojus**, Finnish Meteorological Institute, Finland
Chris Derksen: "Terrestrial Snow Mass Mission – status and lessons learned from the ongoing development of a snow-focused satellite mission"

10:00am - 10:30am **CB 5: Coffee Break**

10:30am - 12:30pm **S 7: Climate Change Impacts on Snow and Ice**

Chair: **Aku Riihelä**, Finnish Meteorological Institute, Finland
Chair: **Petri Räisänen**, Finnish Meteorological Institute, Finland

Microwave Radiometric Retrieval of Liquid Water Content in Greenland Firn: Algorithm Development, Challenges, and Progress

Alamgir Hossan[1], Andreas Colliander[2], Shannon T. Brown[1], Nicole Schlegel[3], Joel Harper[4], Baptiste Vandecrux[5], Richard Cullather[6,7]

1: Jet Propulsion Laboratory, California Institute of Technology, United States of America; 2: Finnish Meteorological Institute, Helsinki, Finland; 3: NOAA/OAR Geophysical Fluid Dynamics Laboratory, Princeton, NJ, USA; 4: Department of Geosciences, University of Montana, Missoula, MT, USA; 5: Department of Glaciology and Climate, Geological Survey of Denmark and Greenland (GEUS), Copenhagen, Denmark; 6: NASA GSFC/GMAO Greenbelt, Maryland, United States; 7: Univ. of Maryland at College Park, ESSIC, College Park, Maryland, United States

Future Changes In Northern European Snow Conditions According To CMIP6 Global Climate Models

Petri Räisänen, Anna Luomaranta, Kirsti Jylhä

Finnish Meteorological Institute, Finland

Snow Melting Spatial And Temporal Variability Across The Boreal-Arctic Biome Interface In Finland

Marco Salvadore[2], Ali Nadir Arslan[1,5], Emiliana Valentini[2,3], Cemal Melih Tanis[1,5], Roberto Salzano[4], Andrea Taramelli[2]

1: Arctic Space Centre, Finnish Meteorological Institute, Finland; 2: University Institute for Advanced Study of Pavia, Italy; 3: National Research Council of Italy, Institute of Polar Sciences, Italy; 4: National Research Council of Italy, Institute of Atmospheric Pollution Research, Italy; 5: School of Technology and Innovations, University of Vaasa, Finland

Generation And Accuracy Assessment of a 45-year (1979-2023) Global Daily Snow Cover Fraction Product (ESA CCI+ snow) From Multiple AVHRR Sensors

Xiongxin Xiao[1], Stefan Wunderle[1], Andreas Wiesmann[2], Kathrin Naegeli[3], Valentina Premier[4], Shaopeng Li[1], Christoph Neuhaus[1]

1: University of Bern, Switzerland; 2: Gamma Remote Sensing, Switzerland; 3: University of Zurich, Switzerland; 4: Institute for Earth Observation, EURAC, Italy

A Comprehensive snow Monitoring System to Detect the Impact of Rain-on-snow (ROS) on Svalbard

Federico Scoto[1], Roberto Salzano[2], Andrea Spoalor[1]

1: Institute of Polar Sciences, Italy; 2: Institute of Environmental Pollution, Italy

12:30pm - 2:00pm **LB 3: Lunch Break**

2:00pm - 3:30pm **S 8: Advances in Remote Sensing of Snow and Ice and AI II**

Chair: **Rune Solberg**, Norwegian Computing Center, Norway
Chair: **Semih Kuter**, Cankiri Karatekin University, Turkiye

Artificial Intelligence for Snow Cover in Mountain Regions: Algorithms for Deriving FSC and SWE with high temporal and spatial resolution

Andreas Dietz[1], Celia Baumhoer[1], Marlena Reil[2], Julia Kaltenborn[2], Chris Derksen[3], Tobias Jonas[4], Thomas Nagler[5], Gabriele Schwaizer[5], John Pomeroy[6], David Rolnick[2], John Truckenbrodt[1], Julian Zeidler[1], Benoit Montpetit[3], Chris Marsh[3], Andreas Scolamiero[5], Zhibang LV[6]

1: German Aerospace Center (DLR), German Remote Sensing Data Center (DFD), Germany; 2: McGill University, Canada; 3: Environment and Climate Change, Canada; 4: SLF, Switzerland; 5: Enveo, Austria; 6: Saskatchewan University

Direct retrieval of Snow Water Equivalent (SWE) using the Sentinel-1 interferometric phase response of an Active Reflector

Paolo Perret[1,3], Guido Luzi[2], Pedro Espín-López[2], Martina Lodigiani[3], Lorenzo Silvestri[1], Tommaso Congiu[3], Fabrizio Troilo[3], Francesco Zucca[4], Marco Pasian[1]

1: University of Pavia, Dept. of Electrical, Computer Science and Biomedical Engineering, Italy; 2: Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Castelldefels, Spain; 3: Fondazione Montagna Sicura, Italy; 4: University of Pavia, Dept. of Earth and Environment Sciences, Italy

Monitoring Seasonal Snow Exploiting MTG-FCI's Imaging Capabilities: Progress On The SEDOS Snow Cover Product

Andrea Meraner[1], Thomas Nagler[2], Gabriele Schwaizer[2], Ursula Fasching[2], Sari Metsämäki[3], Johan Strandgren[1], Alessandro Burini[1], Sauli Joro[1], Bojan Bojkov[1]
1: EUMETSAT, Germany; 2: ENVEO IT GmbH; 3: SYKE

High-Resolution Snow Water Equivalent Mapping Using UAV, GPR, and Machine Learning with Sentinel and DEM Data

Semih Yıldız, Zuhal Akyürek
Middle East Technical University, Turkiye

A Novel Spatiotemporal Analysis of Snow Cover Pattern Over Finland Based on ERA5-Land Reanalysis

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3:30pm - 4:00pm **CB 6: Coffee Break**

4:30pm - 5:00pm **PL 4: Closing ceremony**
Chair: **Ali Nadir Arslan**, Finnish Meteorological Institute, Finland
Ionut Sandric, EARSeL Secretary General