

Conference Program

Overview

time (CET)	31. Jan 22	01. Feb 22	02. Feb 22	03. Feb 22	time (CET)
08:00					08:00
09:00		Welcome + Information			09:00
10:00		Session #1.1 Advances in Remote Sensing of Snow	Session #3.1 Model Components and Modelling of Individual Processes	Session #5.1 System Analysis and Climate Change Impacts	10:00
11:00		Coffee Break	Coffee Break	Coffee Break	11:00
12:00		Session #1.2 Advances in Remote Sensing of Snow	Session #3.2 Model Components and Modelling of Individual Processes	Session #5.2 System Analysis and Climate Change Impacts	12:00
13:00	Convention center open	Lunch Break	Lunch Break	Best Student Poster Award	13:00
14:00		Poster Session & Coffee	Poster Session & Coffee	Closing SnowHydro 2022	14:00
15:00		Session #2.1 Observational Datasets and Data Analysis	Session #4.1 Model Development and Model Assessment	Annual SHF meeting	15:00
16:00		Coffee Break	Coffee Break		16:00
17:00	Ice Breaker Event	Session #2.2 Observational Datasets and Data Analysis	Session #4.2 Model Development and Model Assessment		17:00
18:00					18:00

Note: the front desk is open at times marked with the red bar; the annual SHF meeting is an adjoint event of the local glacier-snow-permafrost section of the French Hydrotechnics Society; all times are in CET; more information at <https://snowhydro2022.sciencesconf.org/>

Logistics

- The virtual convention center will open Monday, January-31, at 9:00 CET. Feel free to enter the space and check out the venue on your own.
- In the afternoon starting 16:30 CET, a virtual ice breaker event will take place. The event will allow you to familiarize yourself with the platform, to move around the convention center whilst other participants are there as well, to get a first glimpse of the posters, or to ask us questions at the front desk. There will be two training tours to show you around.
- For sessions, welcome and closing ceremony please come to the auditorium.
- The poster sessions will take place in the poster hall (poster IDs are listed in the detailed program below).
- Spend your breaks in one of the two rooms for individual meetings, spontaneous discussions, and chit-chat.
- The front desk is located in the main entrance hall and will be attended as indicated in the program overview above.
- Prepare your oral presentation as usual (powerpoint, pdf, or equivalent), share your screen to present. Oral presentations should not exceed **11 minutes** to allow 4 minutes for questions.
- Posters need to be submitted as image files (preferably .PNG, but .JPG works as well). Prepare your poster as usual (powerpoint, pdf, or equivalent) but then save / convert them to PNG. File size may not exceed 3 MB. Best viewing is obtained at 2000 x 1125 pixels output resolution, 16:9 ratio, landscape mode. Avoid excessive text, microprint, and too much content to be viewed on a single screen.
- Drop your posters at <https://cloud.univ-grenoble-alpes.fr/index.php/s/QBjyfcXpEsiGkae> by **January 30th** the very latest using the following file name convention: Poster_#nn_Firstname_Surname.png, where #nn represents your poster ID.
- Be reminded that you must register to participate the meeting (<https://snowhydro2022.sciencesconf.org/registration>).
- Links to access the platform will be sent to registered participants on January-30.

Scientific Program

Last update: Jan-29th, please notify us at snowhydro2022@sciencesconf.org should you find any mistakes in this program

Tuesday, Feb-1st

8:30 – 9:00: Welcome & Information

9:00 – 10:30: Session # 1.1 - Advances in Remote Sensing of Snow

- **Snow depth and streamflow estimates over the Alps from Sentinel-1 observations and data assimilation**
Lievens Hans (1), Brangers Isis (1), Marshall Hans-Peter (2), Getirana Augusto (3), Kumar Sujay (3), De Lannoy Gabrielle (1)
1 - Department of Earth and Environmental Sciences, KU Leuven (Belgium), 2 - Department of Geosciences, Boise State University (United States), 3 - NASA Goddard Space Flight Center (United States)
- **Snow water equivalent monitoring in Italian Alps by using COSMO-SkyMed X-band SAR, Snow Models and Machine Learning**
Santi Emanuele (1), Paloscia Simonetta (1), Pettinato Simone (1), Degregorio Ludovica (2), Cuozzo Giovanni (2), Notarnicola Claudia (2), Jacob Alexander (2), Gunther Daniel (3), Strasser Ulrich (3), Tapete Deodato (4), Cigna Francesca (4)
1 - IFAC - CNR (Italy), 2 - EURAC (Italy), 3 - ZAMG (Austria), 4 - ASI (Italy)
- **Determination of Snow Parameters with Dual-Frequency Multi-GNSS**
Henkel Patrick (1), Koch Franziska (2), Lamm Markus (1), Weiss Julian (1)
1 - ANavS GmbH (Germany), 2 - University of Natural Resources and Life Sciences (BOKU) (Austria)
- **Temporal SAR signature of the high-altitude Alpine snowmelt**
Marin Carlo (1), Lodigiani Martina (2), Notarnicola Claudia (1), Pasian Marco (2)
1 - EURAC Research – Institute for Earth Observation (Italy), 2 - Department of Electrical, Computer and Biomedical Engineering, University of Pavia (Italy)
- **New Opportunities and Existing Challenges in Snow Cover Mapping by Machine Learning Algorithms**
Kuter Semih (1), Bolat Kenan (2), Akyurek Zuhul (3)
1 - Çankırı Karatekin University, Faculty of Forestry, Department of Forest Engineering, (Turkey), 2 - Hidrosaf Ltd., Middle East Technical University Technopolis, (Turkey), 3 - Middle East Technical University, Civil Eng. Dept. Water Resources LAB. (Turkey)
- **A novel forest snow mapping algorithm based on time-lapse photography and machine learning**
Luo Jianfeng (1), Dong Chunyu (1), Lin Kairong (1), Menzel Lucas (2)
1 - Center for Water Resources and Environment, School of Civil Engineering, Sun Yat-sen University (China), 2 - Professorship in Hydrology and Climatology, Institute of Geography, Heidelberg University (Germany)

11:00 – 12:30: Session # 1.2 - Advances in Remote Sensing of Snow

- **Spectral mixture analysis of Landsat 8 and MODIS to improve estimates of snowline altitude, equilibrium line altitude, and melt contribution in High Mountain Asia**
Racoviteanu Adina (1) (2), Rittger Karl (1), Brodzik Mary J. (1), Bair Edward (3), Stilling Timbo (3)
1 - Institute of Arctic and Alpine Research (United States), 2 - Geography and Environmental Science [Cornwall] (United Kingdom), 3 - Earth Research Institute [Santa Barbara] (United States)
- **A multisource approach to reconstruct high-resolution daily SWE estimates during the melting on mountainous catchments**
Premier Valentina (1) (2), Marin Carlo (1), Bertoldi Giacomo (1), Notarnicola Claudia (1), Bruzzone Lorenzo (2)
1 - European Academy Bozen/Bolzano (Italy), 2 - University of Trento [Trento] (Italy)
- **Uncrewed Aerial Vehicle measurement of snow surface temperature in the French Alps**
Poizat Marine (1), Arnaud Laurent (1), Robledano Alvaro (1), Arioli Sara (1), Salze Pascal (2), Picard Ghislain (1)
1 - Institut des Géosciences de l'Environnement (France), 2 - Lautaret Garden (France)
- **A novel compact and light Cosmic-Rays Neutron detector for Snow Water Equivalent measurement over large areas**
Stevanato Luca (1), Valt Mauro (2), Lunardon Marcello (1), Polo Matteo (3), Moretto Sandra (1)
1 - Università degli Studi di Padova (Italy), 2 - Environmental Protection Agency of Veneto (Italy), 3 - Istituto Nazionale di Fisica Nucleare (Italy)
- **Introduction of a superconducting gravimeter for the integral quantification of snow-hydrological processes in high-alpine catchments**
Voigt Christian (1), Koch Franziska (2), Schulz Karsten (2), Wetzel Karl-Friedrich (3), Flechtner Frank (1) (4)
1 - German Research Centre for Geosciences - Helmholtz-Centre Potsdam (Germany), 2 - University of Natural Resources and Life Sciences (Austria), 3 - University of Augsburg (Germany), 4 - Technische Universität Berlin (Germany)

- **Assessing InSAR techniques for hydrological applications in mountain basins. The case of the Central Andes of Argentina.**

Teverovsky Korsic Sofia (1) (2), Notarnicola Claudia (3), Uriburu Quirno Marcelo (2)

1 - National Scientific and Technical Research Council (Argentina), 2 - National Space Agency of Argentina (CONAE) (Argentina), 3 - EURAC Research – Institute for Earth Observation (Italy)

13:30 – 14:30: Poster Session

All posters are listed further below

14:30 – 16:00: Session # 2.1 - Observational Datasets and Data Analysis

- **Improving homogenization of snow depth observations in Austria**

Resch Gernot (1), Koch Roland (2), Chimani Barbara (3), Begert Michael (4), Buchmann Moritz (5) (6) (7), Aschauer Johannes (5), Marty Christoph (5), Schöner Wolfgang (8)

1 - Karl-Franzens-Universität Graz (Austria), 2 - Zentralanstalt für Meteorologie und Geodynamik, Vienna (Austria), 3 - Zentralanstalt für Meteorologie und Geodynamik, Vienna (Austria), 4 - Federal Office of Meteorology and Climatology MeteoSwiss (Switzerland), 5 - Swiss Federal Institute for Forest, Snow and Landscape Research WSL (Switzerland), 6 - University of Bern (Switzerland), 7 - Oeschger Centre for Climate Change Research (Switzerland), 8 - Karl-Franzens-Universität Graz (Austria)

- **Investigating break detection methods and influence of breaks on Swiss snow series**

Buchmann Moritz (1) (2), Aschauer Johannes (2), Begert Michael (3), Brönnimann Stefan (1) (4), Marty Christoph (2)

1 - Oeschger Centre for Climate Change Research, University of Bern, Bern (Switzerland), 2 - WSL Institute for Snow and Avalanche Research SLF, Davos (Switzerland), 3 - Federal Office of Meteorology and Climatology MeteoSwiss (Switzerland), 4 - Institute of Geography, University of Bern (Switzerland)

- **Diverging fresh snow accumulation trends across seasons and elevation in central Italian Alps**

Bertoldi Giacomo (1), Bozzoli Michele (2), Crespi Alice (1), Matiu Michael (1), Giovannini Lorenzo (2), Zardi Dino (2), Majone Bruno (2)

1 - European Academy Bozen/Bolzano (Italy), 2 - Department of civil, environmental and mechanical engineering, Trento (Italy)

- **SnowClim: High-resolution snow model and data for the western United States**

Lute Abby (1), Abatzoglou John (2), Link Timothy (3)

1 - Princeton University / NOAA Geophysical Fluid Dynamics Laboratory (United States), 2 - University of California, Merced (United States), 3 - University of Idaho [Moscow, USA] (United States)

- **The S2M meteorological and snow cover reanalysis over the French mountainous areas, description and evaluation (1958 - 2020)**

Vernay Matthieu (1), Lafaysse Matthieu (1), Monteiro Diego (1), Hagenmuller Pascal (1), Nheili Rafife (1), Samacoïts Raphaëlle (2), Verfaillie Deborah (3), Morin Samuel (1)

1 - CEN (France), 2 - DCSC (France), 3 - Earth and Life Institute - Environmental Sciences (Belgium)

- **Potentials and limitations of convection permitting climate modeling to represent past and future snow conditions over mountainous regions: overview of the CNRM-AROME model over the French Alps**

Monteiro Diego (1), Caillaud Cécile (2), Samacoïts Raphaëlle (3), Lafaysse Matthieu (1), Morin Samuel (4)

1 - Univ. Grenoble Alpes, Université de Toulouse, Centre d'Etudes de la Neige (France), 2 - Centre national de recherches météorologiques (France), 3 - Direction de la Climatologie et des Services Climatiques (France), 4 - CNRM, Météo-France, CNRS, Université de Toulouse (France)

16:30 – 18:00: Session # 2.2 - Observational Datasets and Data Analysis

- **Past and projected trends in extreme snow loads in the French Alps.**

Le Roux Erwan (1), Evin Guillaume (1), Eckert Nicolas (1), Blanchet Juliette (2), Morin Samuel (3)

1 - Univ. Grenoble Alpes, INRAE, UR ETNA, Grenoble, France (France), 2 - Univ. Grenoble Alpes, Grenoble INP, CNRS, IRD, IGE, Grenoble, France (France), 3 - Univ. Grenoble Alpes, Univ. Toulouse, Météo France, CNRS, CNRM, CEN, Grenoble (France)

- **Deriving firn and snow water content from subsurface temperature measurements. Insights from Lomonosovfonna, Svalbard.**

Marchenko Sergey (1), Van Pelt Ward (1), Pohjola Veijo (1) (1), Reijmer Carleen (2)

1 - Uppsala University (Sweden), 2 - Institute for Marine and Atmospheric Research [Utrecht] (Netherlands)

- **The hydrology of snow and icy firn on the SW Greenland ice sheet**

Clerx Nicole (1), Machguth Horst (1), Wever Nander (2), Tedstone Andrew (1), Jullien Nicolas (1), Weingartner Rolf (3), Roessler Ole (4)

1 - University of Fribourg (Switzerland), 2 - University of Colorado Boulder (United States), 3 - University of Bern (Switzerland), 4 - Bundesanstalt für Gewässerkunde (Germany)

- **Characterizing dry-wet snow transitions in semiarid areas from Sentinel SAR's data: a case-study in Sierra Nevada (Spain)**

Torralbo Muñoz Pedro (1) (2), Notarnicola Claudia (3), Callegari Mattia (3), Cuozzo Giovanni (3), Pimentel Leiva Rafael (1) (2), Herrero Lantarón Javier (1) (2), Polo Gómez María José (1) (2)

1 - Fluvial Dynamics and Hydrology Research Group, Andalusian Institute for Earth System Research (IISTA), University of Córdoba, Córdoba, Spain (Spain), 2 - Department of Agronomy, Unit of Excellence María de Maeztu (DAUCO), University of Córdoba, Córdoba, Spain (Spain), 3 - EURAC Research – Institute for Earth Observation (Italy)

- **Changes of snow accumulation in response to global warming: A case study of Iran**

Sadeqi Amin (1), Azad Jelodaru Kurosh (1), Bahmani Shadi (1), Varandili Seyyed Alireza (1), Pham Quoc Bao (2)

1 - Department of Water Engineering, Faculty of Agriculture, University of Tabriz, Tabriz, East Azerbaijan (Iran), 2 - Institute of Applied Technology, Thu Dau Mot University, Binh Duong province (Vietnam)

- **Investigating the role of shrub height and topography in snow accumulation on low-Arctic tundra using UAV-borne lidar**

Domine Florent (1), Lamare Maxim (2), Jesus Revuelto (3), Picard Ghislain (4), Arnaud Laurent (2), Maude Pelletier (5)

1 - Université Laval (Canada), 2 - Université Grenoble Alpes (France), 3 - Instituto Pirenaico de Ecología (Spain), 4 - Université Grenoble Alpes (France), 5 - MVT Geosolutions (Canada)

Wednesday, Feb-2nd

9:00 – 10:30: Session # 3.1 - Model Components and Modelling of Individual Processes

- **Estimating the influence of shrub patches (“piornal”) on the snowpack dynamics in Sierra Nevada (Spain)**

Polo Maria J. (1), Pérez-Serrano Pedro (1), Pimentel Rafael (1), Herrero Javier (1)

1 - Fluvial Dynamics and Hydrology Research Group, Andalusian Institute for Earth System Research, DAUCO, University of Cordoba (Spain)

- **Energy balance partitioning in sub-alpine forests: exploring the interplay of canopy structure, topography, and meteorological conditions**

Mazzotti Giulia (1), Webster Clare (1) (2), Quéno Louis (1), Cluzet Bertrand (1), Essery Richard (3), Jonas Tobias (1)

1 - WSL Institute for Snow and Avalanche Research SLF (Switzerland), 2 - University of Oslo (Norway), 3 - University of Edinburgh (United Kingdom)

- **Exploring snowpack microstructure in a humid, discontinuous boreal forest of eastern Canada through observations and modeling**

Bouchard Benjamin (1) (2), F. Nadeau Daniel (1) (2), Domine Florent (3) (4) (5)

1 - Laval University, Civil and Water Engineering Department, Quebec City, Qc, Canada (Canada), 2 - Centre Eau - Water Research Center, Quebec City, Qc, Canada (Canada), 3 - Takuvik Joint International Laboratory, Quebec City, Qc, Canada (Canada), 4 - Laval University, Department of Chemistry, Quebec City, Qc, Canada (Canada), 5 - Centre d'Études Nordiques, Laval University, Quebec City, Qc (Canada)

- **Adaptation of a snow cover scheme for complex topography areas: regional calibration over High Mountain Asia and application in global models**

Lalande Mickaël (1), Ménégot Martin (1), Krinner Gerhard (1), Ottlé Catherine (2)

1 - Univ. Grenoble Alpes, CNRS, IRD, G-INP, IGE, 38000 Grenoble, France (France), 2 - LSCE-IPSL (CNRS-CEA-UVSQ), Université Paris-Saclay, Gif-sur-Yvette (France)

- **Wind-driven processes at the snow-atmosphere interface: Challenges and approaches in snow-hydrological modeling**

Mott Rebecca (1), Reynolds Dylan (1), Haugeneder Michael (1), Krut Bert (1), Jonas Tobias (1), Lehning Michael (1) (2)

1 - WSL Institute for Snow and Avalanche Research SLF (Switzerland), 2 - EPFL ENAC IIE CRYOS (Switzerland)

- **Emulating an atmospheric model with deep learning to downscale winds fields in complex terrain**

Le Toumelin Louis (1), Gouttevin Isabelle (1), Helbig Nora (2), Galiez Clovis (3), Karbou Fatima (1), Mathis Roux (3)

1 - Univ. Grenoble Alpes, Université de Toulouse, Météo-France, CNRS, CNRM, Centre d'Études de la Neige, Grenoble, France (France), 2 - WSL Institute for Snow and Avalanche Research SLF, Davos (Switzerland), 3 - Univ. Grenoble Alpes, CNRS, Grenoble INP, LJK, Grenoble (France)

11:00 – 12:30: Session # 3.2 - Model Components and Modelling of Individual Processes

- **First evaluation of a hectometric scale snow transport scheme coupled to Crocus snowpack model using field measurements and Sentinel 2 satellite imagery**

Haddjeri Ange (1), Baron Matthieu (2) (1), Lafaysse Mathieu (1), Nheili Rafife (3) (1), Le Toumelin Louis (1), Gascoin Simon (4), Dumont Marie (1)

1 - Univ. Grenoble Alpes, Université de Toulouse, Météo-France, CNRS, CNRM, Centre d'Études de la Neige, Grenoble, France (France), 2 - Laboratoire d'Écologie Alpine (France), 3 - Digits, Architectures et Logiciels Informatiques (France), 4 - CESBIO, Université de Toulouse, CNES/CNRS/IRD/INRA/UPS, 31400 Toulouse (France)

- **HICAR: Towards a coupled atmosphere-snow modeling system capturing ridge-scale snow deposition patterns over large (100km) domains**

Reynolds Dylan (1), Krut Bert (1), Gutman Ethan (2), Jonas Tobias (1), Lehning Michael (1) (3), Mott Rebecca (1)

1 - WSL Institute for Snow and Avalanche Research SLF (Switzerland), 2 - National Center for Atmospheric Research, UCAR, Boulder (USA), 3 - EPFL ENAC IIE CRYOS (Switzerland)

- **Challenges and opportunities in developing a real-time, open-source cryospheric-forecasting chain at national scale: S3M Italy**

Avanzi Francesco (1), Gabellani Simone (1), Delogu Fabio (1), Silvestro Francesco (1), Puca Silvia (2), Toniazzi Alexander (2), Giordano Pietro (2), Falzacappa Marco (2)

1 - CIMA Research Foundation (Italy), 2 - Italian Civil Protection Department (Italy)

- **MuSA: The Multiscale Snow data Assimilation system.**

Alonso-González Esteban (1), Aalstad Kristoffer (2), Fiddes Joel (3), Essery Richard (4), Gascoin Simon (5)

1 - cesbio (France), 2 - University of Oslo (Norway), 3 - SLF Institut pour l'étude de la neige et des avalanches (Switzerland), 4 - School of GeoSciences, University of Edinburgh (United Kingdom), 5 - CESBIO, Université de Toulouse, CNES/CNRS/IRD/INRA/UPS, 31400 Toulouse (France)

- **Improving the spatial distribution of snow cover simulations by assimilation of satellite stereoscopic imagery**

Deschamps-Berger César (1) (2), Cluzet Bertrand (3), Dumont Marie, Lafaysse Matthieu (4), Berthier Etienne (5), Fanise Pascal (1), Gascoin Simon (6)

1 - Centre d'études spatiales de la biosphère (France), 2 - Instituto Pirenaico de Ecología (Spain), 3 - WSL Institute for Snow and Avalanche Research SLF (Switzerland), 4 - Univ. Grenoble Alpes, Université de Toulouse, Centre d'Etudes de la Neige (France), 5 - Laboratoire d'études en Géophysique et océanographie spatiales (14 avenue Edouard Belin 31400 Toulouse France), 6 - Centre d'Etudes Spatiales de la Biosphère (CESBIO), Toulouse (France)

13:30 – 14:30: Poster Session

All posters are listed further below

14:30 – 16:00: Session # 4.1 - Model Development and Model Assessment

- **Ensemble streamflow forecasting in snow-dominated watersheds through hydrological modelling and in-situ observations**

Diego Hernández (1), Jara Francisco (1), Mendoza Pablo (2) (1), Orell María Ignacia (1), Mcphee James (2) (1)

1 - Advanced Mining Technology Center- University of Chile (Chile), 2 - Department of Civil Engineering. Faculty of Physical and Mathematical Sciences - University of Chile (Chile)

- **Near real-time forecasting of water yield for snow-dominated watersheds of northeastern Iran**

Zare Garizi Arash (1), Sadoddin Amir, Komaki Chooghibayram

1 - Gorgan University of Agricultural Sciences and Natural Resources (Iran)

- **Distributed Snowpack Estimates to Support Water Resource Operations in the Southwestern USA**

Svoma Bohumil (1)

1 - Salt River Project (United States)

- **Estimating degree-day factors based on energy flux components**

Ismail Muhammad Fraz (1) (2), Bogacki Wolfgang (2), Disse Markus (1), Schaefer Michael (2), Kirschbauer Lothar (2)

1 - TUM School of Engineering and Design, Technical University of Munich (Germany), 2 - Department of Civil Engineering, Koblenz University of Applied Sciences (Germany)

- **Impact of snow hydrologic model complexity on snow-melt-driven runoff generation for operational reservoir inflow predictions in a high-alpine catchment**

Pulka Thomas (1), Koch Franziska (1), Herrnegger Mathew (2), Avanzi Francesco (3), Gabellani Simone (3), Schulz Karsten (1)

1 - Institute for Hydrology and Water Management, BOKU Vienna, Austria (Austria), 2 - Institute for Hydrology and Water Management, BOKU Vienna, Austria (Austria), 3 - CIMA Research Foundation, Savona, Italy (Italy)

- **Validation of snow redistribution dynamics in hydrological modeling using optical remote sensing products**

Hofmeister Florentin (1), Arias-Rodriguez Leonardo F. (1), Premier Valentina (2), Marin Carlo (2), Notarnicola Claudia (2), Disse Markus (1), Chiogna Gabriele (1)

1 - Technical University of Munich (Germany), 2 - European Academy Bozen/Bolzano (Italy)

16:30 – 18:00: Session # 4.2 - Model Development and Model Assessment

- **Snow model structure stability along a climatic gradient in the Andes Cordillera**

Morales Yerel (1) (2), Mimeau Louise (3), Mendoza Pablo (4) (5), Mcphee James (6) (7)

1 - Departamento de Ingeniería Civil, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile, Santiago, Chile. (Chile), 2 - Universidad de Valparaíso, Valparaíso, Chile. (Chile), 3 - Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement, France. (France), 4 - Advanced Mining Technology Center- University of Chile (Chile), 5 - Department of Civil Engineering. Faculty of Physical and Mathematical Sciences - University of Chile (Chile), 6 - Advanced Mining Technology Center- Universidad de Chile (Chile), 7 - Department of Civil Engineering, Universidad de Chile (Chile)

- **Suitability of a snow accounting model for hydrological modelling across time scales**

Véron Anne-Lise (1), Tilmant François (1), Thirel Guillaume (1), Bourgin François (1), Zuber Félicien (2)

1 - Université Paris Saclay (France), 2 - SCHAPI (France)

- **Does a recent Arctic high resolution reanalyses add value to snow modeling compared to medium resolution reanalyses? A case study in northeast Greenland.**

Krampe Daniela (1), Kauker Frank (1) (2), Dumont Marie (3)

1 - Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung (Germany), 2 - Ocean Atmosphere Systems GmbH (Germany), 3 - Université de Toulouse, CNRS, Centre d'Études de la Neige (France)

- **Evaluation of a high-resolution snow cover simulation tool based on globally available data**

Sourp Laura (1), Gascoin Simon (2), Baba Wassim, Deschamps-Berger César

1 - Centre d'Etudes Spatiales de la Biosphère (CESBIO), Toulouse (France), 2 - Centre d'Etudes Spatiales de la Biosphère (CESBIO), Toulouse (France)

- **Monitoring snowpack evolution with meteorological reanalysis data in the Atlas Mountains**

Baba Wassim Mohamed (1), Boudhar Abdelghani (1) (2), Marchane Ahmed (1), Gascoin Simon (3), Chehbouni Abdelghani (1) (3)

1 - Center for Remote Sensing Application (CRSA), Mohammed VI Polytechnic University (UM6P), Ben Guerir 43150 (Morocco), 2 - Water Resources Management and Valorization and Remote Sensing Team (GEVARET), Faculty of Sciences and Technics, Sultan Moulay Slimane University, Beni Mellal 23000 (Morocco), 3 - CESBIO, Université de Toulouse, CNES/CNRS/IRD/INRA/UPS, 31400 Toulouse (France)

- **Modelling of snow water equivalent using ERA5 reanalyses over alpine basins**

Shrestha Susen (1), Zaramella Mattia (1), Callegari Mattia (2), Greifeneder Felix (2), Borga Marco (1)

1 - Department of Land, Environment, Agriculture, and Forestry, University of Padova, Italy (Italy), 2 - EURAC, Institute for Earth Observation, Bolzano, Italy (Italy)

Thursday, Feb-3rd

9:00 – 10:30: Session # 5.1 - System Analysis and Climate Change Impacts

- **Understanding spatiotemporal changes in snowmelt, bulk snowpack and snowpack stratigraphy using water isotopes in subarctic catchment**

Noor Kashif (1), Marttila Hannu (1), Kløve Bjørn (1), Ala-Aho Pertti (1)

1 - Water, Energy and Environmental Engineering Research Unit, University of Oulu, Finland (Finland)

- **The stable water isotope ($\delta^{18}\text{O}$ and $\delta^2\text{H}$) evolution of snow and glacier melt across Ladakh (UIRB) northwestern Himalaya India**

Lone Suhail (1), Jeelani Ghulam (1)

1 - Department of Earth Sciences, University of Kashmir (India)

- **Assessing the dynamics of snow and glacier fed stream flow using stable Isotope model over Central Himalayan watershed**

Pant Neeraj (1), Rai Shive Prakash (2)

1 - Neeraj PANT (India), 2 - Shive Prakash rai (India)

- **Impact of orography and climate in precipitation and glacial fed river system at upper Ganga basin around Southern and Northern slope of Chaukambha peak**

Rai Shive Prakash (1), Pant Neeraj (2)

1 - Shive Prakash rai (India), 2 - Neeraj PANT (India)

- **Snow persistence influence on the hydrological response over Mediterranean Mountainous Catchments: the headwaters of Sierra Nevada Mountains (southern Spain)**

Aparicio-Ibáñez Javier (1) (2), Moreno-Román Antonio (3), Aguilar Cristina (1) (2), Pimentel Rafael (1) (2), Polo María José (1) (2)

1 - Fluvial Dynamics and Hydrology Research Group, Andalusian Institute for Earth System Research (IISTA), University of Córdoba, Córdoba, Spain (Spain), 2 - Department of Agronomy, Unit of Excellence María de Maeztu (DAUCO), University of Córdoba, Córdoba, Spain (Spain), 3 - Instituto de Estudios de Posgrado. Universidad de Córdoba (Spain)

- **Spatiotemporal variability in snow and glacier meltwater across largely ungauged headwaters of major rivers in Southeast Asia**

Long Di (1)

1 - Tsinghua University [Beijing] (China)

11:00 – 12:30: Session # 5.2 - System Analysis and Climate Change Impacts

- **The mechanisms by which a precipitation shift from snow to rain affects streamflow in the contiguous US: large sample data analysis**

Wang Lina (1), Woods Ross

1 - University of Bristol (United Kingdom)

- **Impacts of nivo-glaciological changes on the hydrological regime of Alpine catchments**

Lemoine Anthony (1) (2), Gouttevin Isabelle (2), Condom Thomas (1), Bolibar Jordi (3) (1), Rabatel Antoine (1), Cauvy-Fraunié Sophie (4), Becquet Juliette (4)

1 - Institut des Géosciences de l'Environnement (France), 2 - Centre d'études de la neige, Centre national de recherches météorologiques (France), 3 - Institute for Marine and Atmospheric research Utrecht University Netherlands), 4 - Riverly (France)

- **Characterization of the February 2021 dust-on-snow event through a citizen science campaign**

Neige Orange Collectif (1) (2) (3) (4) (5) (6) (7) (8)

1 - CNRM, Centre d'Études de la Neige, Grenoble, France. (France), 2 - Swiss Federal Institute for Forest, Snow and Landscape Research WSL (Switzerland), 3 - Physicochimie des Processus de Combustion et de l'Atmosphère - UMR 8522 (France), 4 - Laboratoire d'Optique Atmosphérique - UMR 8518 (France), 5 - Laboratoire écologie fonctionnelle et environnement (France), 6 - Laboratoire des Sciences du Climat et de l'environnement (France), 7 - Institut des Géosciences de l'Environnement (France), 8 - Centre d'études spatiales de la biosphère (France)

- **Correction of raingages' snow undercatch using streamflow information - an Armenian case study**

Andréassian Vazken (1)

1 - Université Paris-Saclay, INRAE, UR HYCAR, 92761 Antony (France)

- **Quantifying the hydrological disturbances due to snow management (grooming and snowmaking) on the water cycle at the local scale, under current and future climate : a case study in the French Alps.**

S. Morin (1), H. François (2), M. Réveillet (1), E. Sauquet (3), L. Crochemore (3), F. Branger (3), E. Leblois (3), E. George (2), M. Dumont (1)

1. Univ. Grenoble Alpes, Université de Toulouse, Météo-France, CNRS, CNRM, Centre d'Etudes de la Neige, Grenoble, France 2. Univ. Grenoble Alpes, INRAE, LESSEM, Grenoble, France 3. INRAE, RiverLy, Lyon, France

- **ClimSnow: a climate service helping ski resorts and mountain areas with their long-term decision-making**

Carmagnola Carlo Maria (1) (2), François Hugues (3), Morin Samuel (2), Samacoïts Raphaëlle (4) (2), Simon Julien (1), Guily Louis (1), Lafaysse Matthieu (2), Vernay Matthieu (2), Soubeyrou Jean-Michel (4)

1 - Dianeige (France), 2 - Météo-France (France), 3 - INRAE (France), 4 - Météo-France (France)

12:30 – 13:00: Best Student Poster Award

13:00 – 13:30: Closing

Posters

Please note that all posters will be presented during both poster sessions on Tuesday and Wednesday, a best student poster will be awarded Thursday before closing the conference. Find posters in the poster exhibition by way of the poster IDs (#nn) given below.

- **(#01) On the interest of VENμS Images for Cryospheric and Hydro-Climatic applications in high mountains, case study in the Everest Region (Nepal).**

Bessin Zoé (1) (2), Dedieu Jean-Pierre (3) (2), Arnaud Yves (4) (2), Wagnon Patrick (4) (2), Brun Fanny (4) (2), Esteves Michel (4) (2), Perry Baker (5), Matthews Tom (6)

1 - Laboratoire Géosciences Océan (France), 2 - Institut des Géosciences de l'Environnement (France), 3 - CNRS (France), 4 - IRD (France), 5 - Appalachian State University (United States), 6 - Loughborough University (United Kingdom)

- **(#03) UAV based GPR combined with continuous TDR measurement for a spatiotemporal SWE estimation**

Valence Eole (1), Baraer Michel (2), Rosa Éric (3), Barbecot Florent (4)

1 - Ecole de Technologie Supérieure [Montréal] (Canada), 2 - Ecole de Technologie Supérieure (1100, rue Notre-Dame Ouest Montréal (Qc) H3C 1K3 Canada Canada), 3 - Université du Québec en Abitibi-Témiscamingue (UQAT) (Canada), 4 - Université du Québec à Montréal (Canada)

- **(#04) Measuring Changes in Snowpack SWE Continuously on a Landscape Scale Using Lake Water Pressure**

Pritchard Hamish (1)

1 - British Antarctic Survey (United Kingdom)

- **(#05) Continuous automated monitoring of snow cover properties using laser data**

Prokop Alexander (1)

1 - Department of Meteorology and Geophysics [Vienna] (Austria)

- **(#06) Comparative analysis of common approaches to optical remote sensing of viewable snow fraction**

Igor Appel (1)

1 - information unavailable

- **(#08) Mapping of snow cover area of Northern Himalaya region using geospatial technique**
 Suna Truptimayee (1), Mishra Anil (1), Saxena Anurag (2)
 1 - Indian Agricultural Research Institute (India), 2 - National Dairy Research Institute (India)
- **(#09) Snow cover spatio-temporal distribution: A comparative analysis over Chenab, Ravi and Beas basins using MODIS Snow cover data from 2002-2020 (18 years)**
 Cheruvupally Sai Krishna (1), Byneedi Simhadri Rao (1), Venigalla Madhavi Supriya (1), Pokkuluri Venkat Raju (1)
 1 - National Remote Sensing Center/ISRO (India)
- **(#10) Localized Snowpack Growth Densification including Creep and Ablation**
 Verdhen Anand (1)
 1 - Alumni, R/NIT Jamshedpur and IIT Delhi, India-110016. Resident of Sadarpur, Nalanda, Bihar, India- 811101 (Former Scientist of SASE (DRDO) & NIH Roorkee (MoWR), WRE at CWRS, PU) (India)
- **(#11) Assessment of cosmic ray snow sensor and fractional snow cover data assimilation for runoff estimation in a mountainous hydrological basin**
 Metref Sammy (1), Cosme Emmanuel (1), Le Lay Matthieu (2), Gailhard Joël (2)
 1 - Institut des Geosciences de l'Environnement – Université Grenoble Alpes, Centre National de la Recherche Scientifique, 2 - EDF - Division Technique Générale, Grenoble, France
- **(#12) Along-stream assessment of mountain flood dependence on global warming**
 Monforte Irene (1), Evangelista Giulia (1), Claps Pierluigi (1)
 1 - Politecnico di Torino, Department of Environment, Land and Infrastructure Engineering, Torino, 10129, Italy (Italy)
- **(#13) Simulation of snow redistribution by wind with an intermediate-complexity snow cover model: preliminary results towards a nation-wide operational implementation**
 Quéno Louis (1), Mott Rebecca (1), Jonas Tobias (1)
 1 - WSL Institute for Snow and Avalanche Research SLF (Switzerland)
- **(#14) Suitability of a snow accounting model for hydrological modelling across time scales**
 Véron Anne-Lise (1), Tilmant François (1), Thirel Guillaume (1), Bourgin François (1), Zuber Félicien (2)
 1 - Université Paris Saclay (France), 2 - SCHAPI (France)
- **(#15) Modeling of Snow depth and Snow Water Equivalent using limited data availability in Central Asia**
 Gafurov Abror (1)
 1 - German Research Centre for Geosciences - Helmholtz-Centre Potsdam (Germany)
- **(#16) Modelling snow conditions over Norway using the FSM2 model with two-layer forest canopy option**
 Tuomo Saloranta (1), Richard Essery (2), Stephanie Eisner (3), Ingjerd Haddeland (1)
 1 - Norwegian Water Resources and Energy Directorate (NVE) (Norway), 2 - The University of Edinburgh, 3 - Norwegian Institute of Bioeconomy Research (NIBIO)
- **(#17) Simulation of spring snowmelt flood in the Upper Yangtze River**
 Zhang Xianhe (1)
 1 - Shiyin Liu (China)
- **(#19) Evaluation of simulated snow in the community land model using snow and streamflow observations over Europe**
 Naz Bibi S. (1), Poppe Christian (1), Hendricks Franssen Harrie-Jan (1)
 1 - Institute of Bio- and Geosciences Agrosphere (IBG-3), Juelich Research Center (Germany)
- **(#20) How are snowmelt rates actually changing across the Northern Hemisphere?**
 Fontrodona-Bach Adrià (1), Larsen Josh (1), Woods Ross (2), Schaefli Bettina (3), Teuling Ryan (4)
 1 - University of Birmingham (United Kingdom), 2 - University of Bristol (United Kingdom), 3 - University of Bern (Switzerland), 4 - Wageningen University (Netherlands)
- **(#21) Influence of different types of underlying surface on the value of maximum snow supplies at the beginning of spring floods on the plain rivers of Ukraine under modern climatic conditions**
 Ovcharuk Valeriya (1)
 1 - Odessa State Environmental University (Lvovskaya str., 15, Odessa Ukraine)
- **(#22) Modelling of wind-induced snow transport at hectometric resolution coupled to Crocus snow scheme for long term and massif range – scale applications: methodological choices**
 Baron Matthieu (1) (2), Haddjeri Ange (3), Nheili Rafife (3), Lafaysse Matthieu (3)
 1 - Météo France (France), 2 - Laboratoire d'Ecologie Alpine (France), 3 - Météo-France (France)
- **(#23) Quantifying the light-absorbing impurities and their seasonal variability in snow in the Arctic and their impact on accelerated melting**
 Jörss Anna-Marie (1), Jurányi Zsófia (1), Zanatta Marco (2), Herber Andreas (1)

1 - Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung (Germany), 2 - Institut für Meteorologie und Klimaforschung - Atmosphärische Aerosolforschung (Germany)

• **(#24) S3M: an open-source, distributed cryospheric model with dry and wet snow and data assimilation**

Avanzi Francesco (1), Gabellani Simone (1), Delogu Fabio (1), Silvestro Francesco (1), Cremonese Edoardo (2), Morra Di Cella Umberto (2), Ratto Sara (3), Stevenin Hervé (3)

1 - CIMA Research Foundation (Italy), 2 - Environmental Protection Agency of Aosta Valley (Italy), 3 - Regione Autonoma Valle d'Aosta, Centro funzionale regionale (Italy)

• **(#25) Spatial variability of the snow isotopic composition at the catchment scale in the south Siberian plains**

Pershin Dmitry (1), Malygina Natalia (2), Eirikh Alla (2)

1 - Lomonosov Moscow State University (Russia), 2 - Institute for Water and Environmental Problems SB RAS (Russia)

• **(#26) Variability of snow cover over Southern Siberia during 1982-2019**

Zhao Wenyu (1) (2), Menzel Lucas (3)

1 - Lanzhou University (China), 2 - Department of Geography, Heidelberg University (Germany), 3 - Department of Geography, Heidelberg University (Germany)

• **(#27) Dynamic glacio-hydrological modelling for climate change studies on mountainous alpine catchments**

Le Lay Matthieu (1), Gailhard Joël (2), Brenot Agnès, Bolibar Jordi

1 - EDF - Division Technique Générale (21 rue de l'Europe - 38040 Grenoble Cedex France), 2 - EDF - Division Technique Générale (DTG) (France)

• **(#29) Avalanche effects on endemic pine forests in Pirin Mountains in Bulgaria**

Panayotov Momchil (1)

1 - University of Forestry (Bulgaria)

• **(#30) Using meteorological information for defining ecohydrological indicators in Mediterranean mountainous areas: application to the piornal of Sierra Nevada (Spain)**

Pimentel Rafael (1) (2), Pedro Pérez-Serrano (3), Pedro Torralbo (1) (2), Polo María José (1) (2)

1 - Department of Agronomy, Unit of Excellence María de Maeztu (DAUCO), University of Córdoba, Córdoba, Spain (Spain), 2 - Fluvial Dynamics and Hydrology Research Group, Andalusian Institute for Earth System Research (IISTA), University of Córdoba, Córdoba, Spain (Spain), 3 - Instituto de Estudios de Postgrado. Universidad de Córdoba, Córdoba, Spain (Spain)

• **(#31) Hydropower Potential in Future Climate over Mono basin in West Africa**

Lamboni Batablinè (1)

1 - Institute of Mathematics and Physical Sciences (BP 613, Porto-Novo, Benin)

• **(#32) Study of extrem rainfall and their relation with topography in the french alps**

Saidi Samia (1) (2), Bois Philippe (3)

1 - information unavailable, 2 - information unavailable, 3 - information unavailable

• **(#33) Evaluating the hydrological regime of the snow-fed and glaciated Hunza basin in the Hindukush Karakorum Himalaya (HKH) region**

Aftab Nazeer (1)

1 - information unavailable

• **(#34) Spatial downscaling of MODIS snow cover observations using Sentinel-2 snow products**

Revuelto Jesus (1), Alonso-González E. (1), Gascoin Simon (2), Rodríguez-López G. (1,3), López-Moreno J.I. (1)

1 - Instituto Pirenaico de Ecología, Consejo Superior de Investigaciones Científicas (IPE-CSIC), Zaragoza, Spain, 2 - Centre d'Etudes Spatiales de la Biosphère, CESBIO, Univ. Toulouse, CNES/CNRS/INRAE/IRD/UPS, Toulouse, France, 3 - Department of Geography, Universidad de Zaragoza, Zaragoza, Spain

• **(#35) Decline in snowfall in response to Temperature and Rainfall over different basins in the Himalayan region: A study using long-term observations**

Kandula V Subrahmayam (1), J. Srinivasulu (2), M.V.R. Seshasai (2), Raj Kumar (2)

1 - information unavailable, 2 - information unavailable