AGU Fall 2021

Permafrost-Related Presentations Guide

United States Permafrost Association (USPA) | Communications Committee

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Texas A&M University¹, Universidad de Costa Rica², GW Scientific³, retired⁴

Cryoplanation terraces, Chena Dome, AK - Photo from USPA Educational Permafrost Gallery – Gerald “JJ” Frost
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Published November 24th, 2021
Introduction

The following is a collection of essentially all AGU Fall 2021 Conference Presentations related to permafrost. Presentations are in chronological order and were searched for on the AGU Fall 2021 Meeting website using the search terms listed below as they appear in either the title or abstract text. The “First Author” is sometimes represented by the “Presenting Author” if the first author is not the actual presenter. This document is searchable for other key terms of interest (i.e., groundwater) using “Ctrl+F”. In addition, there are a total of 67 USPA members (names highlighted in orange) in this collection!

To access the presentations, the viewer will need to be registered for the virtual conference or attend the in-person conference. Please refer to the AGU Fall 2021 website for further assistance.

This compilation was prepared under the auspices of the United States Permafrost Association’s (USPA) Communications Committee (Michael Lilly, Chair) and its several members.

Search Terms

- Active Layer
- Aufeis
- Coastal Erosion
- Cold Regions
- Cryoplanation
- Cryosol
- Freezing Degree Days (FDD)
- Freezing Index
- Frost Action
- Frost Heave
- Frozen Debris Lobe
- Frozen Ground
- Frozen Soil
- Ground Ice
- Ice Wedge
- N-Factor
- Perennially Frozen Ground
- Periglacial
- Permafrost
- Pingo
- Soil Adfreeze
- Soil Creep
- Soil Frost
- Soil Prethawing
- Solifluction
- Thaw Consolidation
- Thaw Slump
- Thaw Strain
- Thawing Degree Days (TDD)
- Thawing Index
- Thermal Degradation
- Thermal Model
- Thermokarst
- Thermosyphon
- Tundra Soils
- Yedoma

Sponsors

Suggested Citation

Daily Totals

The table below outlines the daily numbers and type of presentations in this document that will take place during the conference.

AGU 2021 Daily Count of Permafrost-Related Presentations

<table>
<thead>
<tr>
<th>Date</th>
<th>Online Only</th>
<th>eLightning</th>
<th>Oral</th>
<th>Poster</th>
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If you have any questions, please send us an email at info@uspermafrost.org. We hope this guide helps you engage with the presenting authors find quality permafrost presentations. Over 67 authors are members of the US Permafrost Association (highlighted in orange). If you are not already a member, please consider joining. You can find more information at www.uspermafrost.org.
Monday, December 13th

eLightning/Hybrid Presentations

U15A-08 Quantifying the impact of wintertime changes on the arctic carbon cycle
First author: Alexandra Pongracz
19:21 - 19:24, Monday, December 13th
Convention Center - eLightning Theater II

Oral Presentations

NS11A-01 Recent widespread permafrost thaw in Interior Alaska quantified from geophysical measurements, boreholes, ground-based surveys, and remote sensing
First author: Thomas A Douglas
11:00 - 11:05, Monday, December 13th
Convention Center - Room 346-347

B11B-01 Changing conditions for mineral-organic carbon interactions across the permafrost landscape: hot moments more than hot spots?
First author: Sophie Opfergelt
11:02 - 11:08, Monday, December 13th
Convention Center - Room 238-239

NS11A-02 Year-round geoelectrical monitoring of recently deglaciated soils in the High Arctic
First author: Oliver Kuras
11:05 - 11:10, Monday, December 13th
Convention Center - Room 346-347

B11B-02 An Annually Resolved Record of Permafrost-thaw Induced Carbon Cycling Changes for the Past 60 Years from White Fish Lake, Seward Peninsula, Alaska
First author: Karen Jiaxi Wang
11:08 - 11:14, Monday, December 13th
Convention Center - Room 238-239
GC11B-02 Human and Physical Systems Interactions in the Arctic: Early Results from the Interdisciplinary Research for Arctic Coastal Environments
First author: Stephanie Waldhoff
11:10 - 11:15, Monday, December 13th
Convention Center - Room 206-207

B11B-03 Microbial comparative transcriptomics in abruptly thawing Greenlandic permafrost
First author: Maria Scheel
11:14 - 11:20, Monday, December 13th
Convention Center - Room 238-239

NS11A-04 Using Geophysics to Understand Seasonal Controls on Metal Transport in Arctic Watersheds
First author: Amanda J Barker
11:15 - 11:20, Monday, December 13th
Convention Center - Room 346-347

NS11A-05 Temperature Dependence of Borehole NMR-Sensed Soil Moisture in Permafrost Regimes
First author: Taylor D Sullivan
11:20 - 11:25, Monday, December 13th
Convention Center - Room 346-347

B11B-05 Seasonal Solute Cycles and Yields from Streams Across Alaska's Cryosphere
First author: Jordan Jenckes
11:26 - 11:32, Monday, December 13th
Convention Center - Room 238-239

A11E-08 Influences of Snowmelt Timing and Polar Jet Dynamics on Fire Activity in Eastern Siberia
First author: Rebecca Scholten
11:35 - 11:40, Monday, December 13th
Convention Center - Room 283-285

B11D-07 Assembly of Microbial Communities in Thawing Permafrost
First author: Hannah Holland Moritz
11:35 - 11:40, Monday, December 13th
Convention Center - Room 255-257
B12D-01 Whole-Ecosystem Warming of a Boreal Peatland Decreases Microbial Diversity and Stimulates Methane Production from Plant Metabolites
First author: Caitlin Petro
12:50 - 12:55, Monday, December 13th
Convention Center - Room 255-257

NS12A-02 Watching the Arctic Thaw: Seismic Monitoring of Permafrost Degradation Using Distributed Acoustic Sensing During a Controlled Heating Experiment
First author: Feng Cheng
12:50 - 12:55, Monday, December 13th
Convention Center - Room 346-347

B12D-02 Permafrost microbial communities are structured by latitudinal and soil chemical gradients
First author: Mark P Waldrop
12:55 - 13:00, Monday, December 13th
Convention Center - Room 255-257

B12D-03 Stable Isotope Labelling to Trace Litter Degradation Pathways: A View Into the Carbon Cycling Processes Occurring in a Peat Bog
First author: Christian Ayala
13:00 - 13:05, Monday, December 13th
Convention Center - Room 255-257

B12D-08 Integration of genome-informed microbial traits in ecosystem models reveals divergent methane productions in thawing permafrost
First author: Zhen Li
13:25 - 13:30, Monday, December 13th
Convention Center - Room 255-257

NS13A-03 A Novel Technique for Wavespeed Determination in Ground-Penetrating Radar Applied to the Problem of Constraining Ice Content and Subsurface Geometry in Rock Glaciers
First author: Tyler Meng
15:55 - 16:00, Monday, December 13th
Convention Center - Room 346-347
B13D-05 Footprints in the tundra: Considerations for linking remote sensing observations with flux tower data in the Arctic-Boreal Zone
First author: Erica Orcutt
16:10 - 16:15, Monday, December 13th
Convention Center - Room 231-232

NS13A-06 A Multi-Frequency Ground Penetrating Radar Investigation of Buried Ice Beneath Pyroclastic Deposits at Askja Volcano, Northern Iceland
First author: Emileigh Shoemaker
16:10 - 16:15, Monday, December 13th
Convention Center - Room 346-347

H13G-08 Anabranching prevalence and intensity along the world’s 20 largest rivers
First author: Bo Wang
16:30 - 16:35, Monday, December 13th
Convention Center - New Orleans Theater A

C13A-08 Impact of measured and simulated tundra snowpack properties on heat transfer
First author: Victoria R. Dutch
16:46 - 16:54, Monday, December 13th
Convention Center - Room 215-216

H14E-06 The Influence of Shrub Expansion, Frozen Ground, and Seasonality on Diurnal Patterns of Stream Discharge and Chemistry in a Subarctic Headwater Catchment, Yukon, Canada
First author: Arsh Grewal
18:00 - 18:05, Monday, December 13th
Convention Center - Room 271-273

U13B-12 IPCC AR6 WGI Chapter 12: Climate change information for regional impact and for risk assessment
First author: Alexander C Ruane
19:00 - 19:15, Monday, December 13th
Convention Center - Great Hall, Prow Main Stage
Poster Presentations

B15A-1406 Herbivory effects on land cover in the Arctic: Pleistocene shifting-baseline syndrome or too high expectations of top-down mechanisms?
First author: Marc Macias-Fauria and Marcus P Spiegel
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15A-1407 A Physically Based Analytical Model of Permafrost Active Layer Thawing Depth
First author: Modi Zhu
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15A-1409 The Arctic Carbon Monitoring and Forecasting System: a novel forecasting framework to build new understanding and reduce model uncertainty of the permafrost carbon-climate feedback.
First author: Helene Genet
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15A-1410 Permafrost Degradation Partially Explains Variability of Vegetation Spring Phenology over Northern Permafrost Regions
First author: Jian Wang and Desheng Liu
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15A-1411 Permafrost fate in Northwestern Siberia under projected climate change during 21st century
First author: Wenbo Zhou
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15A-1412 Quantifying soil thermal regimes and their controls across a discontinuous permafrost environment using a dense network of distributed temperature profiling systems
First author: Chen Wang
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F
**B15A-1413 Reducing uncertainty of Arctic ecosystem models through identification of key parameters**
First author: Hannah Mevenkamp  
19:00 - 21:00, Monday, December 13th  
Convention Center - Poster Hall, D-F

**B15B-1423 Changing Soil Communities in the Arctic: Impact of Disturbance Induced Permafrost Thaw on Microbial Communities**
First author: Margaret Lockwood  
19:00 - 21:00, Monday, December 13th  
Convention Center - Poster Hall, D-F

**B15B-1424 Gas compositions and origins of greenhouse gas in permafrost ice wedges at Batagaika megaslump, Yana Uplands, Northeast Siberia.**  
First author: Hansu Park  
19:00 - 21:00, Monday, December 13th  
Convention Center - Poster Hall, D-F

**B15C-1432 Hot spots of methane and carbon dioxide fluxes from eddy covariance measurements in the Yukon-Kuskokwim Delta, Alaska**  
First author: Sarah Ludwig  
19:00 - 21:00, Monday, December 13th  
Convention Center - Poster Hall, D-F

**B15C-1433 Recent acceleration of shrub expansion in Siberian tundra detected at high resolution using convolutional neural networks**  
First author: Gerald V Frost Jr  
19:00 - 21:00, Monday, December 13th  
Convention Center - Poster Hall, D-F

**B15C-1437 Vegetation shifts trigger strong local BVOC impacts on atmospheric aerosols in high latitudes**  
First author: Jing Tang  
19:00 - 21:00, Monday, December 13th  
Convention Center - Poster Hall, D-F

**B15C-1439 Sensitivity of erosion-rate in permafrost landscapes to environmental conditions based on a sedimentary record from Burial Lake, AK**  
First author: Eitan Shelef  
19:00 - 21:00, Monday, December 13th
B15C-1440 Understanding the drivers, dynamics, and regional patterns of terrestrial ecosystem CO2 fluxes across the Arctic-Boreal Zone
First author: Anna-Maria Virkkala
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15C-1441 Analyzing Terrestrial Carbon Flux Site Distribution Across the Arctic
First author: Tiffany Windholz
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15C-1444 Degradation, stabilization, and initial aggradation of permafrost following an arctic tundra fire
First author: Benjamin M Jones
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15C-1445 Detecting hotspots of ecosystem change with remote sensing across the Arctic
First author: Stefano Potter
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15C-1447 Increases in Betula nana Abundance, Triggered by Nutrient Addition, May Alter Plant Communities through both Abiotic and Biotic Pathways
First author: Megan Wilcots
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15C-1449 Preliminary assessment of the micro-topographic impacts of ice-wedge systems using remote sensing and field observations
First author: Melissa Ward Jones
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

B15C-1450 Quantifying hydrologic and cryologic conditions of dominant landscapes on the Coastal Plain of the Arctic National Wildlife Refuge
First author: Neal J. Pastick
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

**B15C-1452 Response of Arctic ecosystems to climate trends in the last two decades**
First author: Nima Madani
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

**B15C-1453 Site-level Evaluation of Boreal Forests' Carbon Dioxide and Energy Fluxes along a Permafrost Gradient in CLASSIC**
First author: Bo Qu
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

**B15E-1477 Improving characterization of early spring carbon dynamics in high-latitude ecosystems**
First author: Yunpeng Luo
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

**B15E-1484 Snowpack-mediated soil freezing and ecosystem productivity**
First author: Alexander Gottlieb
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

**B15K-1559 A Roadmap to Illuminating Genes-to-Ecosystems-to-Genes Feedbacks in Thawing Permafrost**
First author: Ahmed Zayed
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

**B15K-1560 Exploring Ecometabolomics and Metabolomic Diversity in Response to Permafrost Thaw in Northern Sweden**
First author: Viviana Freire Zapata
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

**B15K-1561 Metagenome-assembled genomes from active layer in Ny Ålesund, Svalbard (79°N) show population dynamics related to seasonal thawing and soil depth**
First author: Katie Sipes
B15K-1562 Ten Novel Pseudomonas spp. from Svalbard Active Layer are using amino acids for energy.
First author: Raegan Paul
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

C15B-0804 Understanding Alaska & Arctic winter snow projections based on stabilized warming scenarios
First author: Siiri Bigalke
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

C15F-0853 Brooks Range Perennial Snowfields: Extent Detection via Satellite and from the Field in Alaska
First author: Molly E Tedesche
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

C15F-0861 GPS Interferometric Reflectometry Measurements of Snow Depth Corrected with Freezing ground uplifts Over a Permafrost Area in Northern Alaska
First author: Yufeng Hu and Wang Jiatong
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

C15F-0864 NASA SnowEx deployment of CarSAR: a mobile L-Band interferometric synthetic aperture radar platform
First author: Elias J Deeb
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

GC15C-0707 Using a Simple Climate Model to Track Global Carbon Flows Under Negative-Emissions Scenarios
First author: Skylar Gering
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F
H15R-1253 Effects of freeze-thaw cycles on methanogenic toluene biodegradation in cold regions soils
First author: Mehdi Ramezanzadeh
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

H15W-1316 Potential Satellite Monitoring of Surface Organic Soil Properties in Arctic Tundra from SMAP
First author: Yonghong Yi
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

NH15F-0509 Projected Rain-on-Snow Events in a sub-Arctic River Basin under Climate Change
First author: Reza Rezvani
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

NS15A-0360 Using a Layer-based Model Parameterization to Globally Invert 2D Electrical Resistivity Data from Submarine Permafrost Environments
First author: Mauricio de Jesús Arboleda Zapata Sr
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

NS15A-0362 Permafrost Degradation Delineation using a Multi-Faceted Geophysical Surveying Approach
First author: Anna M Wagner
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

NS15A-0363 Autonomous in situ Subsidence Mapping for Intercomparison of InSAR Based Inference of Permafrost Stability
First author: Lincoln H H Pitcher
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

NS15A-0364 Investigating Rock Glaciers in the Eastern Sierra Nevada with Ground-Penetrating Radar: Internal Structure, Composition, and Hydrologic Role in a Changing Climate
First author: Maria Springs
NS15A-0365 Shallow Seismic Exploration in Proglacial and Supraglacial Debris-Covered Environments, Malaspina and Sourdough Glaciers, Alaska
First author: Tyler Kuehn
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

NS15A-0367 Characterization and Confirmation of Ground Ice in the Malaspina Forelands, Alaska through Transient Electromagnetic Methods, Satellite Imagery, and Historical Records
First author: Natalie Wagner
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

P15F-2153 In preparation for Emirates Mars Infrared Spectrometer (EMIRS) data: Using Thermal Emission Spectrometer (TES) Aerobraking observations to analyze diurnal temperatures and characterize thermophysical properties
First author: Maryam Mohammed Yousuf
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

PP15B-0905 Holocene pore-ice water isotope variations from permafrost peat soils in southern Alaska
First author: Lesleigh Anderson
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F

S15F-0314 Real-time Data Product Streams for Permafrost Monitoring with Distributed Acoustic Sensing
First author: Samantha Paulus
19:00 - 21:00, Monday, December 13th
Convention Center - Poster Hall, D-F
Online Only Presentations

A25U-09 Modern Aridity in the Russian Altai Derived from the Tree-Ring Stable Isotopes in the Context of the Past 1500 Years
First author: Olga V. Churakova (Sidorova)
19:00 - 20:15, Tuesday, December 14th
Online Only

B25N-02 Drivers of Arctic vegetation shifts across levels of biological organization
First author: Gabriela Schaepman-Strub
19:00 - 20:15, Tuesday, December 14th
Online Only

B25N-03 Implications of Alder Shrub Expansion on Soil Properties in Arctic Alpine Tundra
First author: Allison M Welch
19:00 - 20:15, Tuesday, December 14th
Online Only

B25N-04 Plant water use and evaporative partitioning across seasons and species in a subarctic, alpine catchment: Implications for treeline advance and shrub proliferation
First author: Erin M M Nicholls and Sean Carey
19:00 - 20:15, Tuesday, December 14th
Online Only

B25N-05 Vegetation greening and winter ground temperature decoupling across the Canadian Arctic
First author: Sarah G. Evans
19:00 - 20:15, Tuesday, December 14th
Online Only

B25N-07 Mechanisms of post-fire larch forest recovery in far northeastern Siberia
First author: Heather Dawn Alexander
19:00 - 20:15, Tuesday, December 14th
Online Only
B25N-11 Implications of beaver proliferation on arctic tundra ecosystems: a comparison of sediment microbiomes from beaver ponds and tundra lakes
First author: Kelly Shannon
19:00 - 20:15, Tuesday, December 14th
Online Only

First author: Kelcy Kent
19:00 - 20:15, Tuesday, December 14th
Online Only

B25O-09 Seasonality buffers carbon budget variability across heterogeneous landscapes in Alaskan Arctic tundra
First author: Joshua Hashemi
19:00 - 20:15, Tuesday, December 14th
Online Only

eLightning/Hybrid Presentations

SY21B-06 Water Security and the Hydric Potential of Andean Cryosphere.
First author: Sebastian Ruiz Pereira
11:15 - 11:18, Tuesday, December 14th
Convention Center - eLightning Theater VII

Oral Presentations

C22C-01 Soil Freezing Characteristic Curves: a Review of Seven Decades of Measurements
First author: Elise Devoie
12:45 - 12:50, Tuesday, December 14th
Convention Center - Room 215-216
B22D-01 Disturbance suppresses the aboveground carbon sink in North American boreal forests
First author: Jonathan Wang
12:50 - 12:55, Tuesday, December 14th
Convention Center - Room 252-254

H22C-02 Global Patterns in Shallow Groundwater Warming due to Climate Change
First author: Susanne Benz
12:50 - 12:55, Tuesday, December 14th
Convention Center - New Orleans Theater A

C22C-02 Numerical Simulation of Groundwater Flow in Partially Frozen Soils to Investigate Aufeis Formation
First author: Alexi Lainis
12:50 - 12:55, Tuesday, December 14th
Convention Center - Room 215-216

A22E-02 Exchange of Biogenic Volatile Organic Compounds in Soil – Source or Sink?
First author: Riikka Rinnan
12:55 - 13:00, Tuesday, December 14th
Convention Center - Room 280-282

B22D-02 Developing a ground observation network to monitor carbon fluxes across the Arctic-boreal zone
First author: Brendan M Rogers
12:55 - 13:00, Tuesday, December 14th
Convention Center - Room 252-254

C22C-03 Long-Term Trends from the Circumpolar Active Layer Monitoring (CALM) Program
First author: Kelsey E Nyland
12:55 - 13:00, Tuesday, December 14th
Convention Center - Room 215-216

B22D-03 Above Ground biomass stocks, pool ages and fluxes in the largest arctic delta, the Lena Delta in Siberia
First author: Birgit Heim
13:00 - 13:05, Tuesday, December 14th
Convention Center - Room 252-254
C22C-04 Analysis of permafrost – vegetation interactions based on long-term ground surface observations
First author: Nikolay I Shiklomanov
13:00 - 13:05, Tuesday, December 14th
Convention Center - Room 215-216

OS22A-04 Application of machine learning to characterize gas hydrate reservoirs in permafrost settings
First author: Leebyn Chong
13:02 - 13:07, Tuesday, December 14th
Convention Center - Room 225-227

C22C-05 RECONSTRUCTION OF ROCK GLACIERS DYNAMICS IN ALPINE ENVIRONMENT, FROM MODERN TO HOLOCENE TIMESCALES
First author: Benjamin Lehmann
13:05 - 13:10, Tuesday, December 14th
Convention Center - Room 215-216

C22C-06 Alpine Permafrost Modeling: The Influence of Complex Topography and Lateral Fluxes
First author: Jonas Beddrich
13:10 - 13:15, Tuesday, December 14th
Convention Center - Room 215-216

EP22A-06 Influence of waves and temperature on permafrost bluff retreat at Barter Island, NE Alaska
First author: Ann Gibbs
13:10 - 13:15, Tuesday, December 14th
Convention Center - Room 228-230

B22D-06 Exploring environmental conditions driving high spatial variability in CO2 and CH4 fluxes in a boreal wetland
First author: Mary Farina
13:15 - 13:20, Tuesday, December 14th
Convention Center - Room 252-254

C22C-08 Mapping Retrogressive Thaw Slumps Using ArcticDEM and Machine Learning
First author: Chunli Dai
13:20 - 13:25, Tuesday, December 14th
Convention Center - Room 215-216
B23C-01 A Synthesis of Wildfire Impacts on Permafrost Thaw Depth Across Arctic and Boreal Ecosystems
First author: Michael M Loranty
15:50 - 15:55, Tuesday, December 14th
Convention Center - Room 252-254

GC23C-01 A Perspective on Continental Heat Storage Estimates and Methods
First author: Francisco Jose Cuesta-Valero
15:50 - 15:55, Tuesday, December 14th
Convention Center - Room 208-210

B23C-02 Arctic Tundra Fires Promote Greater Methane Hotspot Occurrence in the Yukon-Kuskokwim Delta, Alaska, USA
First author: Elizabeth Yoseph
15:55 - 16:00, Tuesday, December 14th
Convention Center - Room 252-254

EP23C-04 Defining the Equatorial Extent of Subsurface Ice on Mars through GlobalGeomorphic Mapping
First author: Gareth A Morgan
16:00 - 16:05, Tuesday, December 14th
Convention Center - Room 220-222

B23C-04 Fire Regimes across Eastern Siberian Taiga and Tundra from 2001-2020
First author: Anna Talucci
16:05 - 16:10, Tuesday, December 14th
Convention Center - Room 252-254

B24D-01 A shifting foundation – changes in Canada’s northern forests in response to permafrost thaw
First author: Jennifer Lynn Baltzer
17:35 - 17:40, Tuesday, December 14th
Convention Center - Room 252-254

U24A-01 Automated Recognition of Human-Built Infrastructure in the Arctic Permafrost Landscapes using Commercial Satellite Imagery
First author: Elias Manos
17:35 - 17:50, Tuesday, December 14th
Convention Center - D-2
B24D-03 Integrating Field Observations and Multi-scale Remote Sensing to Understand Tall Shrub Distribution and Environmental Limits in Arctic Tundra
First author: Daryl Yang
17:45 - 17:50, Tuesday, December 14th
Convention Center - Room 252-254

B24D-04 Plasticity of Important Physiological Traits in Common Boreal Plants Along a Permafrost Thaw Gradient in Interior Alaska.
First author: William Cox
17:50 - 17:55, Tuesday, December 14th
Convention Center - Room 252-254

B24E-04 Wildfire accelerates carbon losses of high-latitude ecosystems
First author: Zelalem A Mekonnen
17:50 - 17:55, Tuesday, December 14th
Convention Center - Room 260-262

B24E-05 Future Increases in Lightning-ignited Boreal Fires Driven by Joint Increases in Dry Fuels and Lightning
First author: Thomas Duchnik Hessilt
17:55 - 18:00, Tuesday, December 14th
Convention Center - Room 260-262

EP24B-06 Testing the Hypothesis that Short-Lived, Debris-Flow-Like Processes Occurred on Vesta and Ceres, Using Laboratory Experiments and Geomorphological Analyses
First author: Jennifer E. C. Scully
17:55 - 18:00, Tuesday, December 14th
Convention Center - Room 220-222

First author: John W Pomeroy
18:00 - 18:45, Tuesday, December 14th
Convention Center - New Orleans Theater A

EP24B-08 Small Crater Relaxation and Ice Abundance at Northern Mid-Latitudes on Mars
First author: Alister Cunje
18:05 - 18:10, Tuesday, December 14th
Convention Center - Room 220-222
B24B-08 Increased soil N2O emissions from the Arctic-Boreal region: A non-negligible non-carbon climate feedback
First author: Naiqing Pan
18:10 - 18:15, Tuesday, December 14th
Convention Center - Room 231-232

B24D-08 Time-series maps of shrub cover, stratified by genus and height class, from 1984-2020 reveal patterns of shrubification at multiple ecological resolutions in Arctic and Oroarctic Alaska and Northwest Canada
First author: Matthew J Macander
18:10 - 18:15, Tuesday, December 14th
Convention Center - Room 252-254

EP24A-08 A new mechanism for nearshore geomorphic change and sediment transport by shore ice
First author: Lucas Zoet
18:10 - 18:15, Tuesday, December 14th
Convention Center - Room 228-230

PP24A-07 Paleolacustrine Archives of Thermoerosion from Arctic Alaska
First author: Melissa L Chipman
18:15 - 18:20, Tuesday, December 14th
Convention Center - Room 225-227

Poster Presentations

B25D-1485 Nutrient Uptake Dynamics in Antarctic Polar Desert Streams
First author: Christa Torrens
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

B25E-1499 Biophysical Fractional Cover (FCover) composition retrieval in Svalbard Islands with the new generation of satellite sensors
First author: Emiliana Valentini
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F
B25M-1644 Assimilation of the Global Fire Emissions Database (GFED) burned area dataset into Community Land Model version 5: Its impacts on the carbon and water fluxes in high latitudes
First author: Hocheol Seo and Yeonjoo Kim
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

B25M-1649 Fire Severity and Carbon Combustion in Larch Forest Ecosystems of Northeast Siberia
First author: Clément Delcourt
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

C25B-0835 Alaska Coastal Center: Matchmakers for Coastal Research and Communities
First author: Matthew S Balazs
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

C25F-0876 Numerical modelling of pan-arctic erosion using globally-available forcing data
First author: Rebecca Rolph
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

C25F-0878 Surface Temperatures of Coastal Rock Walls in the High Arctic (Kongsfjorden, Svalbard)
First author: Juditha Schmidt
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

C25F-0881 Spatial Variability of Permafrost Soil Organic Carbon in the Coastal Bluffs of Elson Lagoon, Alaska
First author: Sasha Peterson
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F
C25F-0883 Permafrost thaw and coastal erosion between 1950 and 2100 at three coastal communities in Arctic Alaska, past observations and future projections
First author: Louise Melanie Farquharson
19:00 - 21:00, Tuesday, December 14th
Convention Center – Poster Hall, D-F

C25F-0884 News from the Pan-Arctic Initiative on the Spatial and Temporal Dynamics of Arctic Coasts
First author: Anna M. Irgang
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

EP25D-1343 Evolution of Arctic continental shelves: modelling morphodynamic feedbacks to climate-driven increases in sea states
First author: John Malito
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

First author: Robert L Huguenin
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

GC25H-0739 Legacies of fire in fluvial yields of carbon and nitrogen from boreal catchments
First author: Tamara Harms
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

H25H-1128 Terrestrial Water Storage Regime and Its Response to Climate Change in the Endorheic Tibetan Plateau
First author: Liuming Wang
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

H25S-1237 Exploring the Impacts of Warming Induced Cryosphere Changes on Watershed Dynamics in the Heihe River Basin
First author: Amanda Triplett and Laura E Condon
19:00 - 21:00, Tuesday, December 14th
H25W-1283 Hydrochemistry and Controlling Factors in the Upper Indus River Basin (UIRB), Western Himalaya
First author: Mohd Aadil Bhat
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

First author: Kara Naegeli
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

First author: Julie Lattaud
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

PP25D-0959 Widespread trends in brGDGT distributions span over a dozen sample types
First author: Jonathan Raberg
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

PP25E-0980 Understanding formation of ice wedges and origin of trapped greenhouse gas at Zyryanka, Northeastern Siberia
First author: Nayeon Ko
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F

PP25F-0991 Rapid Decline in Global Marine Oxygen During Carbon Excursion of the Paleocene-Eocene Thermal Maximum (PETM)
First author: Jane Wadhams
19:00 - 21:00, Tuesday, December 14th
Convention Center - Poster Hall, D-F
Wednesday, December 15th

Online Only Presentations

EP35A-07 Organic carbon burial by river meandering offsets bank-erosion carbon fluxes in discontinuous permafrost
First author: Madison Douglas
19:30 - 19:38, Wednesday, December 15th
Online Only

eLightning/Hybrid Presentations

B34D-01 Influence of Increased Carbon and Nitrogen Availability on Nitrogen Processing in Headwater Arctic Streams
First author: Allison Herreid
17:35 - 17:38, Wednesday, December 15th
Convention Center - eLightning Theater IV

B34D-02 Increasing Freshwater and Dissolved Organic Carbon Flows to Northwest Alaska’s Elson Lagoon
First author: Michael A Rawlins
17:38 - 17:41, Wednesday, December 15th
Convention Center - eLightning Theater IV

B34D-04 Application of Machine Learning Approaches to Identify Factors Important for Tree Growth in Boreal Zones
First author: Mark Carroll
17:44 - 17:47, Wednesday, December 15th
Convention Center - eLightning Theater IV

B34D-06 Combining new advances in modeling dynamic vegetation and nutrient competition to improve boreal forest predictions to changing climate
First author: Jennifer A. Holm
17:50 - 17:53, Wednesday, December 15th
Convention Center - eLightning Theater IV
B34D-09 Enhanced Plant P and Unchanged Soil P Stocks After a Quarter-Century of Experimental Warming in Arctic Tundra
First author: Jennie McLaren
17:59 - 18:02, Wednesday, December 15th
Convention Center - eLightning Theater IV

B34D-10 Lines of Evidence for Complex Responses of Freeze-Thaw Characteristics to Compound Changes in Temperature and Snowpack
First author: Ali Nazemi and Shadi Hatami
18:02 - 18:05, Wednesday, December 15th
Convention Center - eLightning Theater IV

Oral Presentations

EP31B-01 Arctic Deltas are Ice-dominated: development of a quantitative descriptor of ice as a process control
First author: Irina Overeem
11:02 - 11:07, Wednesday, December 15th
Convention Center - Room 228-230

B31E-01 The Vulnerability of Permafrost Carbon to Climate Change: Key Findings from a Decade of Synthesis
First author: Edward Schuur
11:05 - 11:10, Wednesday, December 15th
Convention Center - Room 252-254

B31E-02 Increasing winter snow accelerates loss of organic carbon from permafrost soils
First author: Shawn Pedron
11:10 - 11:15, Wednesday, December 15th
Convention Center - Room 252-254

EP31B-02 The relationship between lake spatial distribution and permafrost processes on arctic deltas
First author: Lawrence M Vulis
11:11 - 11:16, Wednesday, December 15th
Convention Center - Room 228-230
B31E-03 Investigating Regional Patterns of Soil Respiration in Alaska and Canada
First author: Jennifer Watts
11:15 - 11:20, Wednesday, December 15th
Convention Center - Room 252-254

B31D-04 Molecular-scale Characterization of the Nanogeochemical Environment in Soils and Surface Waters to Measure the Impacts of Climate Change on Trace Elements in Boreal Ecosystems
First author: Chad Cuss
11:20 - 11:26, Wednesday, December 15th
Convention Center - Room 255-257

B31A-05 Assessing Canadian boreal forest-tundra growth drivers via community analysis
First author: Elise Heffeman
11:25 - 11:30, Wednesday, December 15th
Convention Center - Room 238-239

B31E-06 Annual Dynamics of Retrogressive Thaw Slumps across NE Siberia with LandTrendr
First author: Alexandra Runge
11:30 - 11:35, Wednesday, December 15th
Convention Center - Room 252-254

B31E-07 The uncertainty in InSAR-based active layer soil water storage estimates over the Arctic Foothills
First author: Yue WU
11:35 - 11:40, Wednesday, December 15th
Convention Center - Room 252-254

B31E-08 Understanding Active Layer Thickness Variability Under Changing Climatic Conditions Across the North American Taiga-Tundra Ecotone
First author: Bradley Gay
11:40 - 11:45, Wednesday, December 15th
Convention Center - Room 252-254

B32E-02 An analysis of methane emissions from four peatland sites in the Hudson Bay Lowlands
First author: Elyn Humphreys
12:55 - 13:00, Wednesday, December 15th
**S32B-02 Tracking soil thaw and permafrost degradation across multiple timescales using ambient seismic noise**
First author: Stephanie R. James
12:55 - 13:00, Wednesday, December 15th
Convention Center - Room 338-339

**GC32C-03 High-Resolution Modelling of Climatic Hazards Relevant for the Northern Transportation Sector**
First author: Bernardo Stephan Teufel
13:00 - 13:05, Wednesday, December 15th
Convention Center - Room 220-222

**B32E-04 Present and future global lake methane emissions are lower than expected**
First author: Mingyang Guo
13:05 - 13:10, Wednesday, December 15th
Convention Center - Room 228-230

**B32B-05 Forest classification using airborne SAR and Lidar data in interior Alaska**
First author: Yuhuan Zhao
13:10 - 13:15, Wednesday, December 15th
Convention Center - Room 238-239

**OS33A-01 Advancing coastal hazard modeling with satellite data integration and assimilation**
First author: Li H Erikson
15:45 - 15:57, Wednesday, December 15th
Convention Center - Room 223

**EP33A-03 Fusing geospatial datasets to identify patterns and controls on Arctic coastal erosion**
First author: Anastasia Pilouras
15:55 - 16:00, Wednesday, December 15th
Convention Center - Room 217-219

**H33B-07 Improving Predictive Understanding of the Impacts of Frozen Soil on Streamflow through Modeling and Data Analysis**
First author: Jetal Agnihotri
16:15 - 16:20, Wednesday, December 15th
H34B-01 A novel application and multi-objective optimization of CTSM: Arctic hydrology in Alaska and Yukon River Basin
First author: Yifan Cheng
17:30 - 17:35, Wednesday, December 15th
Convention Center - Room 271-273

H34G-04 Freeze-Thaw Retrieval with the Cyclone Global Navigation Satellite System (CYGNSS)
First author: Hugo Carreno-Luengo and Christopher S Ruf
17:45 - 17:50, Wednesday, December 15th
Convention Center - New Orleans Theater A

G34A-06 High-salinity liquid water as a source of uncertainty in bedfast lake ice mapping on the Arctic Coastal Plain in northern Alaska
First author: Helena Bergstedt
17:55 - 18:00, Wednesday, December 15th
Convention Center - Room 348-349

B34A-08 Opposing trajectories of land-ocean primary productivity across the Arctic coastal margins
First author: Cynthia Garcia-Eidell
17:57 - 18:00, Wednesday, December 15th
Convention Center - Room 231-232

C34B-06 Observed and Modeled Streamflow Response to Hydroclimatic Changes in Alaska
First author: Dylan Blaskey
17:57 - 18:02, Wednesday, December 15th
Convention Center - Room 215-216

EP34A-07 Broad-scale controls on large river anabranching from remote sensing
First author: Bo Wang
18:00 - 18:05, Wednesday, December 15th
Convention Center - Room 217-219

EP34A-09 Satellite analysis reveals global spatial and temporal variation in river suspended sediment transport
First author: Evan Dethier
18:10 - 18:15, Wednesday, December 15th
ED34A-12 UnstableGround: An Interactive Website to Visualize and Communicate How the Arctic is Changing.
First author: Erin MacDonald
18:35 - 18:40, Wednesday, December 15th
Convention Center - Room 217-219

Poster Presentations

B35G-1499 Integrating Microbial, Isotopic and Landscape-Scale Observations to Quantify Methane Emissions and Isotopic Fluxes from Global High-Latitude Ecosystems
First author: McKenzie Ann Ann Kuhn
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35D-0911 Detection And Attribution of Active Layer Changes in The Northern Hemisphere
First author: Hong Guo and Song Feng
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35D-0913 Surface Energy Balance of Arctic Rivers from High Resolution Climate Scenarios
First author: Bradley Lockhart and Amanda H Lynch
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0926 Simulating Arctic hydrology with WaSiM
First author: Ronald P Daanen
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0927 Temperature contrast during water infiltration into frozen soil - Challenges for numerical models
First author: Thomas Heinze
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F
C35F-0928 Coupled heat-solute transport processes in permafrost-affected groundwater systems
First author: Aaron Mohammed
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0929 Detecting changes in permafrost active layer thickness from baseflow recession
First author: Matthew G Cooper
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0930 Potential Influences of Rising Non-linearity in Catchment Storage-Discharge Relationships as theExtent of Frozen Ground Decreases
First author: Alexa Hinzman
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0931 High-Resolution Thaw Dynamics of Two Latitudinally Distant Alaska Thermokarst Sites: A Field Study
First author: Joel Eklof
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0932 Exploring coupled surface hydrology and freeze-thaw dynamics around Toolik Lake, Alaska, using ICESat-2 and InSAR data
First author: Marnie Bryant
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0933 A user-friendly, multi-parameter protocol for monitoring permafrost thaw
First author: Simon Zwieback
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0934 Assessing the Impacts of Rapid Climate Change on Arctic Soil Conditions by Combining Satellite and In Situ Measurements
First author: Jenna Cai
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F
C35F-0935 Long- and Short-term temporal analysis of satellite-derived Permafrost terrains of Himachal Pradesh, India
First author: Ipshita Priyadarsini Pradhan and Dericks P Shukla
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0936 A Comparison of First-Order Permafrost Estimates in High Mountain Asia Using Remotely Sensed Land Surface Temperature, Air Temperature, and Snow Reanalysis Products
First author: Kyung Kim
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0937 Inventorying rock glaciers in the arid West Kunlun of China using SAR interferometry and deep learning
First author: Yan Hu
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0938 Rock Glacier Inventory, Permafrost Probability Distribution Modeling and Associated Hazards in the Hunza River Basin, Western Karakoram, Pakistan
First author: Javed Hassan
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0939 Assessing Permafrost Behavior in High Mountain Asia with Physics-Based Models
First author: Ryan Haagenson
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0940 Permafrost hazard mapping in the discontinuous permafrost zone of Alaska
First author: Dmitry Nicolsky
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F
C35F-0941 Snow-cover Effects on the Active Layer Above Permafrost: Results of Long-term Ground Surface Temperature Observations in Northern Alaska
First author: Raven Jezell Mitchell
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0942 Multiscale modeling of thermo-hydrologic processes in frozen soils
First author: Jinhua Hu
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35F-0943 Analysis of the Impact of Physics Representation on Permafrost Modeling
First author: Bo Gao
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

C35G-0963 Extrapolating snowpack properties from small temperature sensors in two watersheds on the Seward Peninsula, Alaska, USA
First author: Emma Lathrop
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

GC35E-0735 A Geoengineered Arctic: Optimizing High-Latitude Stratospheric Aerosol Geoengineering via Seasonal Injection and Analyzing the Effects on Sea Ice, Permafrost, and Ice Sheet Melt
First author: Walker Lee
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

GC35E-0748 Saving Glacial Ice Through Localized Surface Albedo Modification
First author: Leslie A Field
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F
H35C-1053 Development and Assessment of a Quick Subsurface Thermal Characterization Method to Map Soil Thermal and Physical Properties
First author: Jack Lamb
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

H35M-1179 Multinomial simulation of land cover evolution in discontinuous permafrost zones of Northwest Territories.
First author: Shaghayegh Akbarpour
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

H35W-1295 Improving land surface seasonal dynamics in permafrost areas by using soil moisture assimilation
First author: Akhilesh Sivaraman Nair
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

NH35A-0465 Space Based Assessment and Review of Chamoli, Uttarakhand (North India) Rockslide Event of February 07, 2021
First author: Chandra Mohan Bhatt
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F

NH35E-0502 A Dendro-Geomorphological Analysis of the Slate Creek Landslide, Alaska
First author: Mackenzie Young
19:00 - 21:00, Wednesday, December 15th
Convention Center - Poster Hall, D-F
Thursday, December 16th

eLightning/Hybrid Presentations

SY45A-03 The cryosphere and climate change communication: Messengers, messages, and outcomes of framing climate change as thawing ice
First author: Kristin Timm
19:06 - 19:09, Thursday, December 16th
Convention Center - eLightning Theater VI

Oral Presentations

H41B-05 What is a watershed? Shifting perspectives from long term research in the McMurdo Dry Valleys, Antarctica
First author: Anna Bergstrom
11:20 - 11:25, Thursday, December 16th
Convention Center - Room 271-273

H42B-02 Reducing uncertainty in simulations of thaw in ice-rich permafrost
First author: Charles Abolt
12:55 - 13:00, Thursday, December 16th
Convention Center - New Orleans Theater B

ED42A-05 Sands of Time: The Poetry of Coastal Erosion
First author: Hywel Griffiths
13:10 - 13:15, Thursday, December 16th
Convention Center - Room 291-292

B43D-01 The assessment and role of the permafrost carbon feedback in IPCC reports through the AR6
First author: Charles D Koven
15:50 - 15:55, Thursday, December 16th
Convention Center - Room 255-257

B43C-01 Progress and puzzles in the history of atmospheric methane
First author: Edward J Brook
15:50 - 17:10, Thursday, December 16th
Convention Center - La Nouvelle Orleans C
B43D-02 Did permafrost carbon contribute to global warming at the end of the last ice age?
First author: Benjamin Gaglioti
15:55 - 16:00, Thursday, December 16th
Convention Center - Room 255-257

B43D-03 Multistability of permafrost carbon storages due to positive water-energy-carbon feedbacks simulated by Earth System model
First author: Victor Brovkin
16:00 - 16:05, Thursday, December 16th
Convention Center - Room 255-257

B43D-04 Quantifying Arctic methane emissions from Alaska’s North Slope and Northeast Siberia from 2010-2020 using high-frequency atmospheric measurements
First author: Rebecca Ward
16:05 - 16:10, Thursday, December 16th
Convention Center - Room 255-257

B43D-05 Assessing Arctic Atmospheric Methane Monitoring by Comparing Satellite Missions to In Situ Observations.
First author: Martijn Pallandt
16:10 - 16:15, Thursday, December 16th
Convention Center - Room 255-257

B43D-06 Incorporating Permafrost into Climate Mitigation and Adaptation Policy and Action
First author: Susan Natali
16:25 - 16:30, Thursday, December 16th
Convention Center - Room 255-257

B43D-07 Soil Properties, Soil Organic Matter Composition and Vulnerability of Arctic Hillslope Catenas
First author: Roser Matamala
16:30 - 16:35, Thursday, December 16th
Convention Center - Room 255-257

PP43B-08 Early Holocene permafrost retreat in West Siberia amplified by reorganization of westerly circulation
First author: Jonathan Baker
16:30 - 16:35, Thursday, December 16th
B43D-08 A synthesis of in-situ emissions and dissolved sub-surface δ13C-CH4, δ13C-CO2, and δD-CH4 from northern wetlands, lakes, and seasonally-inundated ecosystems
First author: Kathryn A Bennett
16:35 - 16:40, Thursday, December 16th
Convention Center - Room 255-257

NS43A-06 Near-surface cryosphere geophysics as a nexus for interdisciplinary research between the arctic hydrosphere, biosphere, and permafrost systems
First author: Andy Parsekian
16:35 - 16:45, Thursday, December 16th
Convention Center - Room 338-339

C43A-07 New Hydrometeorological Instrument Cluster at Inglefield Land, NW Greenland
First author: Sarah Esenther
16:39 - 16:48, Thursday, December 16th
Convention Center - Room 215-216

B43D-09 Altered Microbial Structure and Function after Thermokarst Formation
First author: Futing Liu
16:40 - 16:45, Thursday, December 16th
Convention Center - Room 255-257

B43D-10 Enhanced methane production following simulated nitrogen resource pulse during thaw in lowland permafrost systems
First author: Catherine M Dieleman
16:45 - 16:50, Thursday, December 16th
Convention Center - Room 255-257

C44A-01 Monitoring the human footprint across the Arctic coastal region in the context of climate change impact assessment
First author: Annett Bartsch
17:32 - 17:37, Thursday, December 16th
Convention Center - Room 225-227
C44A-02 Towards Understanding the Relationship Between Coastal and Riverine Processes and Civil Infrastructure in the Arctic
First author: Albin Rosado
17:37 - 17:42, Thursday, December 16th
Convention Center - Room 225-227

C44A-03 Feedbacks between sea-level rise, groundwater flow, and permafrost extent in the coastal zone
First author: Julia Guimond
17:42 - 17:47, Thursday, December 16th
Convention Center - Room 225-227

C44A-04 Groundwater Flow and Transport in a Coastal Aquifer in the Arctic
First author: Cansu Demir
17:47 - 17:52, Thursday, December 16th
Convention Center - Room 225-227

C44A-06 Coastal wave exposure in northern Alaska
First author: Lucia Hosekova
17:57 - 18:02, Thursday, December 16th
Convention Center - Room 225-227

IN44A-06 Semantic segmentation of Isolated wetland in discontinuous permafrost regions of the Northwest Territories using deep convolutional neural networks
First author: Shaghayegh Akbarpour
17:58 - 18:03, Thursday, December 16th
Convention Center - Room 288-290

C44A-07 Evaluation of Offshore Wave Climates along the Alaskan North Slope using K-means Clustering
First author: Diana L Bull
18:02 - 18:07, Thursday, December 16th
Convention Center - Room 225-227

B44A-07 Delineating Particulate Organic Matter Sources in the Major Arctic Rivers: The Importance of Contemporary Autochthony
First author: Megan Irene Behnke
18:05 - 18:10, Thursday, December 16th
Convention Center - Room 228-230
**C44A-08 Biodegradability of Organic Matter Eroding Along the Alaska Beaufort Sea Coast**
First author: Emily M Bristol
18:07 - 18:12, Thursday, December 16th
Convention Center - Room 225-227

**B44A-08 Multi-Decadal Declines in Particulate Mercury and Sediment Export from Russian Rivers in the Pan-Arctic Basin**
First author: Scott Zolkos
18:10 - 18:15, Thursday, December 16th
Convention Center - Room 228-230

**Poster Presentations**

**A45F-1903 Simulation of Cold Processes in the CMIP6 Land-Historical Simulations**
First author: Lawrence Mudryk
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

**A45H-1935 Evaluating GEOS-S2S-2 seasonal and subseasonal forecasts of soil moisture in the High Mountain Asia region**
First author: Elias Charbel Massoud
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

**B45C-1645 What explains the year-to-year variation in the start and end of the photosynthetic growing season of boreal black spruce forests?**
First author: Mariam El-Amine
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

**B45G-1703 Integrating Redox and Soil Geochemical Interactions with Carbon Cycling in a Land Surface Model**
First author: Benjamin N Sulman
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F
B45G-1705 Accelerated spin-up of Community Land Model version 5 (CLM5) with coupled terrestrial carbon and nitrogen cycles
First author: Cuijuan Liao
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1745 Arctic River Integrated Observations through Synoptic Sampling (RIOS): Aquatic Networks Reveal Ecosystem Export of Carbon and Nutrients in Permafrost Watersheds
First author: Arial Shogren
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1747 Thawing-induced changes in stream-catchment interactions and stream water quality in permafrost catchments in boreal and arctic Alaska
First author: Joshua C Koch
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1748 Testing the linear relationship between recession dynamics and active layer thickening over 336 catchments located in permafrost regions
First author: Flore Sergeant
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1749 Effects of watershed position, landscape connectivity, and ice wedge degradation on dissolved organic matter dynamics at Prudhoe Bay, AK
First author: Claire Griffin
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1750 Antecedent precipitation influence on storage and transport of nitrate and DOM in boreal catchments
First author: Jake Cavaiani
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F
B45J-1751 Greenhouse Gas Emissions From Permafrost Peat Altered by Gradual Drying but Depends on Landscape Position and Peat Biogeochemistry
First author: Aelis Spiller
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1752 Soil moisture inputs from enhanced snowfall impact nitrogen availability and the greenhouse gas balance of High Arctic mesic tundra
First author: Jacqueline Hung
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1753 A new local testate amoebae transfer function from northwest Siberian permafrost peatlands
First author: Agnieszka Halaś
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1754 Regional ground water and surface water interactions due to changing active layer dynamics in the Yukon River Basin.
First author: Ryan Toohey
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1755 Linking water and oxygen availability to biogeochemical redox cycling and carbon release in Arctic soils
First author: Erin C C Berns
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45J-1756 Carbon cycling in sub-Antarctic and Antarctic lakes
First author: Liza McDonough
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45K-1757 Drying reduces carbon sink strength and carbon stock in northern circumarctic peatlands
First author: Min Jung Kwon
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F
B45K-1758 Enhancing STEM education and soil monitoring with a durable DIY low-cost soil temperature data logger
First author: Salvatore Rex Rex Curasi
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45K-1759 Extracellular Enzyme Activities and Mineralogy of Thawing Permafrost Soils Near Bayelva, Svalbard.
First author: Murray Stokes
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45K-1760 Holocene Carbon Dynamics from a Permafrost Peatland in the Sporadic Permafrost Zone, Kenai Peninsula, Alaska
First author: Miriam Jones
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45K-1761 In fire and ice: how do non-linear processes affect the permafrost carbon feedback?
First author: Rachael Treharne
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45K-1762 Phenological characteristics in year-round stem respiration of a boreal black spruce (Picea mariana) stand on permafrost, interior Alaska
First author: Yongwon Kim
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45K-1763 Quantifying the Known Unknown: Including Marine Sources of Greenhouse Gases in Climate Modeling
First author: Jennifer Mary Frederick
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45K-1764 Temperature Sensitivity of Permafrost Carbon Release Mediated by Mineral and Microbial Properties
First author: Yuanhe Yang
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F
B45L-1778 Pan-Arctic Riverine Dissolved Organic Matter: Synchronous Molecular Stability, Shifting Sources and Subsidies
First author: Robert G Spencer
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

B45N-1798 Permafrost mercury sources and implications for methylation among Alaskan ecoregions
First author: Scott Zolkos
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

C45D-1041 Detecting Buried Ice Masses; Transantarctic Mountains, Antarctica
First author: Jaakko Putkonen
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

H45D-1210 Impacts of Warming on Frozen Soil Permeability over the Ohio River Basin through Recession Flow Analysis
First author: Aaron Goldtooth
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

H45R-1386 A Spatiotemporal Surface Water Classification in the Mackenzie Delta and Tuktoyaktuk Peninsula
First author: Mayah Obadia
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

H45T-1421 High Altitude Soil Testing (HAST): Increasing Accessibility of Data from the Alpine Tundra and Other Remote Locations
First author: Martha E Apple
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

IN45C-0480 Enabling Integration of climate system data with Ontology
First author: Armita Davarpanah
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F
**OS45B-1155** Evaluation of numerical model uncertainty through the Coastal Model Test Bed.
First author: Tyler Hesser
19:00 - 21:00, Thursday, December 16th
Convention Center - Poster Hall, D-F

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**Friday, December 17th**

**Online Only Presentations**

**C52A-01** The future of community- and policy- relevant thermokarst research: Lessons learned and a call to action
First author: Merritt R Turetsky
12:46 - 12:56, Friday, December 17th
Online Only

**C52A-02** Impacts of permafrost thaw on the biogeochemistry of boreal peatland complexes; accounting for all ecosystem transitions
First author: David Olefeldt
12:56 - 13:06, Friday, December 17th
Online Only

**C52A-03** Recent warming reverses forty-year decline in Catastrophic lake drainage and hastens Gradual lake drainage across northern Alaska
First author: Mark J Lara
13:06 - 13:11, Friday, December 17th
Online Only

**C52A-04** Carbon Release Accelerated by Abrupt Thaw at Eight Mile Lake, AK
First author: Heidi Rodenhizer
13:11 - 13:16, Friday, December 17th
Online Only
C52A-05 New process-based model for Methane Emissions from Ponds (MeEP) reveals length of ice-free season has strong impact on increased emissions under warming
First author: Zoé Rehder
13:16 - 13:21, Friday, December 17th
Online Only

C52A-06 High-resolution frost heave map at the fire scars in Batagay, NE Siberia, derived by L-band InSAR and validation with field observation
First author: Kazuki Yanagiya
13:21 - 13:26, Friday, December 17th
Online Only

C52A-07 Evaluating the Effects of Tundra Fires on Soil Microtopography and Hydrologic Surface Networks in Polygonal Permafrost Landscapes
First author: Tabea Rettelbach
13:26 - 13:31, Friday, December 17th
Online Only

C52A-08 High performance image analysis workflow designs for operational-scale Arctic permafrost mapping applications
First author: Chandi Witharana
13:31 - 13:36, Friday, December 17th
Online Only

C55E-01 The Permafrost Discovery Gateway
First author: Anna K Liljedahl
19:00 - 20:15, Friday, December 17th
Online Only

C55E-02 Arctic Beaver Observation Network (A-BON): Tracking a new disturbance regime
First author: Ken D Tape
19:00 - 20:15, Friday, December 17th
Online Only

C55E-03 Fine-scale ground truth of ground displacement in the Anaktuvuk River Fire (ARF) for satellite and airborne L-band SAR
First author: Go Iwahana
19:00 - 20:15, Friday, December 17th
Online Only
C55E-04 InSAR-based analysis of Seasonal permafrost deformation in the Yukon Wildlife Refuge
First author: Soumitra Sakhalkar
19:00 - 20:15, Friday, December 17th
Online Only

C55E-05 Understanding the effect of image augmentation methods on automated recognition of permafrost features from high-resolution satellite imagery
First author: Amit Hasan
19:00 - 20:15, Friday, December 17th
Online Only

C55E-06 Interannual and seasonal surface displacement near the settlement in Churapcha, eastern Siberia, revealed by ALOS-2
First author: Takahiro Abe and Yoshihiro Iijima
19:00 - 20:15, Friday, December 17th
Online Only

C55E-07 Optimal Talik Geometry under Thermokarst Lake in Quasi Equilibrium State in Arctic Coastal Plain
First author: Noriaki Ohara
19:00 - 20:15, Friday, December 17th
Online Only

C55E-08 The Warming Arctic: the Roles of Thermokarst Lakes in Permafrost Terrestrial Ecosystems
First author: Deniz Vural
19:00 - 20:15, Friday, December 17th
Online Only

C55E-09 Modeling Arctic Lakes with the LAKE2.0 Model
First author: Jason Clark
19:00 - 20:15, Friday, December 17th
Online Only

C55E-10 The role of advective heat transfer in affecting permafrost thaw and methane emissions at a hillslope thermokarst bog
First author: Jing Tao
19:00 - 20:15, Friday, December 17th
Online Only
PP55E-02 Synchronicity of deep-sea methane flux and intermediate water temperature variability in Alaskan Beaufort Margin during the late Holocene
First author: Masao Uchida
19:00 - 20:15, Friday, December 17th
Online Only

eLightning/Hybrid Presentations

B54E-07 Investigating the Impacts of Climate Warming on Mineral and Organic Permafrost Soil Carbon
First author: Jillian Sanders
17:48 - 17:51, Friday, December 17th
Convention Center - eLightning Theater IV

B54E-08 Small waterbodies reduce the carbon sink strength of a polygonal tundra landscape in Eastern Siberia
First author: Lutz Beckebanze
17:51 - 17:54, Friday, December 17th
Convention Center - eLightning Theater IV

U55A-09 Recharge or Runoff? Climate Warming Implications for Frozen Ground Control of Hydrologic Partitioning
First author: Katrina Rabeler
19:24 - 19:27, Friday, December 17th
Convention Center - eLightning Theater V

Oral Presentations

B51C-01 Net methane and carbon dioxide exchange from European Arctic wetlands in Summer 2019: Airborne quantification and bottom-up intercomparison
First author: Patrick Barker
11:00 - 11:05, Friday, December 17th
Convention Center - Room 252-254
EP51B-01 Detecting the Imprint of Climate Change in High Mountain Hazards: Challenges and Opportunities
First author: Mylene Jacquemart
11:00 - 11:05, Friday, December 17th
Convention Center - Room 228-230

EP51B-02 Climate change and landscape instability in High Mountain Asia
First author: Dongfeng Li
11:05 - 11:10, Friday, December 17th
Convention Center - Room 228-230

H51G-02 Hydrogen Isotopes in Boreal Conifers as Indicator of Extreme Hydrological Changes
First author: Olga V. Churakova (Sidorova)
11:10 - 11:15, Friday, December 17th
Convention Center - Room 267-268

B51C-04 The role of northern peatlands in the global carbon cycle
First author: Chunjing Qiu
11:15 - 11:20, Friday, December 17th
Convention Center - Room 252-254

B51D-04 Shortened fire intervals stimulate carbon losses from heterotrophic respiration and reduce understorey plant productivity in boreal forests
First author: Jason A Shabaga
11:15 - 11:20, Friday, December 17th
Convention Center - Room 238-239

First author: Donovan Dennis and Dirk Scherler
11:15 - 11:20, Friday, December 17th
Convention Center - Room 228-230

B51B-05 Evaluating a deep-learning approach for mapping retrogressive thaw slumps across the Arctic
First author: Ingmar Nitze
11:25 - 11:30, Friday, December 17th
Convention Center - Room 231-232
EP51B-06 Permafrost Riverbank Erosion in Frozen Flume Experiments
First author: Madison Douglas
11:25 - 11:30, Friday, December 17th
Convention Center - Room 228-230

EP51B-07 Climate-driven changes to channel erosion rates in the Mackenzie River Basin since 1985
First author: Jordan Fields
11:30 - 11:35, Friday, December 17th
Convention Center - Room 228-230

H52A-01 Modeled snow intercomparison over Fairbanks, Alaska domain: spatial and interannual variability from Land Information System simulations
First author: Melissa Wrzesien
12:45 - 12:50, Friday, December 17th
Convention Center - Room 243-245

GC52C-03 Linking Climate Change and Human Systems: A Case Study of Arctic Pipelines
First author: Nina Blahut
13:00 - 13:05, Friday, December 17th
Convention Center - Room 208-210

ED52A-04 Building local capacity for community-based micrometeorological monitoring
First author: Oliver Sonnentag
13:05 - 13:10, Friday, December 17th
Convention Center - Room 291-292

GC52C-04 Connecting permafrost degradation and informal road network development in Subarctic taiga
First author: Dmitry Kobylkin
13:05 - 13:10, Friday, December 17th
Convention Center - Room 208-210

A52B-08 Tracking ice nucleating particles from permafrost to the atmosphere through thermokarst lake and oceanic transport
First author: Kevin Robert Barry
13:20 - 13:25, Friday, December 17th
Convention Center - Room 278-279
GC52C-07 Effect of the Deepening of Driven Active Layer on the Hydrology and Hydrochemistry within the Yukon River Basin
First author: Edda A Mutter
13:20 - 13:25, Friday, December 17th
Convention Center - Room 208-210

ED52A-08 The Permafrost Monthly Alert (PMA) Program: Improving International Access to Permafrost Literature in Engineering and Science
First author: Michael R Lilly
13:25 - 13:30, Friday, December 17th
Convention Center - Room 291-292

P53B-01 Thermal Environments and Volatile-trapping Potential of Lunar Pits and Caves
First author: Andrew Wilcoski
15:46 - 15:51, Friday, December 17th
Convention Center - Room 395-396

B53A-03 Remarkable Interannual Variability in the Carbon Sink Strength of an Alaskan Boreal Peatland Complex Based Upon a Decade of Eddy Covariance Measurements
First author: Eugenie Susanne Euskirchen
15:55 - 16:00, Friday, December 17th
Convention Center - Room 231-232

H53B-03 Remotely Investigating the Spatial and Temporal Distribution of Soil Moisture in the McMurdo Dry Valleys of Antarctica: Hydrological and Ecological Implications
First author: Mark R Salvatore
15:55 - 16:00, Friday, December 17th
Convention Center - New Orleans Theater B

B53D-03 Methane Emissions from Northern Wetlands During the Holocene: A Synthesis Approach to Account for Wetland Expansion and Fen-Bog-Permafrost Transitions
First author: Claire C Treat
16:03 - 16:11, Friday, December 17th
Convention Center - Room 252-254
S53A-05 Seismic Monitoring of Rock Glaciers: new Insights on Observations and Modelling Permafrost
First author: Antoine Guillemot
16:05 - 16:10, Friday, December 17th
Convention Center - Room 346-347

C53B-04 The seasonal contrast of aerosols that can seed ice formation in central Arctic clouds
First author: Jessie Creamean
16:07 - 16:14, Friday, December 17th
Convention Center - Room 217-219

S53A-07 Investigation of Slope Failure using Seismic Ambient Noise Correlation
First author: Tjaart de Wit
16:15 - 16:20, Friday, December 17th
Convention Center - Room 346-347

EP54A-01 Shifting Biogeochemistry in Arctic Rivers: Patterns Emerging from 17+ Years of Sampling by the Arctic Great Rivers Observatory
First author: James W McClelland
17:30 - 17:35, Friday, December 17th
Convention Center - Room 225-227

GC54A-01 Bioclimatic modeling seed mass of major conifers of Siberian taiga in a warming climate
First author: Elena I. Parfenova
17:35 - 17:42, Friday, December 17th
Convention Center - Room 206-207

S54A-04 Revealing the signature of ground frost in continuous seismic data with machine learning
First author: Rene Steinmann
17:45 - 17:50, Friday, December 17th
Convention Center - Room 346-347

A54C-06 Status of testing, and calibration of the miniaturized Laser Heterodyne Radiometer (mini-LHR), and a timeline for deploying a global ground network of CH4 and CO2 sensors
First author: Emily Lynn Wilson
17:55 - 18:00, Friday, December 17th
EP54B-04 How Frost Weathering Drives Erosion in High Alpine Environments
First author: Daniel Draebing
17:56 - 18:03, Friday, December 17th
Convention Center - Room 220-222

H54G-08 River and Basin Profiler: a module for extracting watershed boundaries, river centerlines, and catchment statistics
First author: Tal Zussman
18:05 - 18:10, Friday, December 17th
Convention Center - Room 271-273

Poster Presentations

A55C-1386 Optimization of Maximum Photosynthetic Carboxylation Rate (Vc,max) in CLASSIC for North America’s Boreal Forests using Eddy Covariance Data
First author: Bo Qu
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

A55M-1567 The New NOAA Barrow Atmospheric Baseline Observatory – Facility Upgrades and New Collaboration Opportunities Near Utqiaġvik, Alaska
First author: Brian A Vasel
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

A55N-1593 Influence of Natural Variability on Simulated Changes in Arctic Permafrost
First author: Killian McSweeney
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

A55S-1671 A Machine Learning Approach to Fire Source Attribution for the Improvement of Arctic Fire Emission Models
First author: Justin J Fain
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F
B55C-1219 Assessing the Timing of Shifts in 20th Century Carbon Stocks in Eastern Canadian Peatlands
First author: Nicole K Sanderson
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

B55C-1228 Recent Warming-induced Shift to Sphagnum-dominated Vegetation in Permafrost Peatlands of Nunavik (Quebec)
First author: Camille Girard
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

B55D-1231 Latitudinal Permafrost Peatland Distribution and Land Cover Changes in the Hudson Plains, Canada
First author: Mikhail Mack
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

B55D-1232 Temperature sensitivity and moisture optimum for CO2 production in northern peatland soils measured by laboratory incubation experiments
First author: Eunji Byun
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

C55B-0579 An Open Source GNSS Interferometric Reflectometry Software Package in Python to Support Cryosphere Research
First author: Kelly Enloe
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

C55D-0625 Measurements and controls on mid-winter alpine ground thermal regime in the Purcell Mountains, British Columbia
First author: Kevin Ostapowich
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

C55D-0626 Modelling Water Release from Degrading Permafrost in Arid Mountain Environments
First author: Cassandra Koenig
19:00 - 21:00, Friday, December 17th
ED55C-0305 Interdisciplinary Access to Geographic Information Science: Peer Teaching in Higher Education
First author: Amber R Ignatius
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

EP55A-1057 Active Layer Thickness as a Function of Soil Water Content in Alaska and Canada
First author: Leah Clayton
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

EP55A-1110 Potential volcanic origin of channel systems in Arcadia Planitia, Mars
First author: Holden Gehringer
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

EP55C-1123 Reproducing dynamic sediment-discharge relationships driven by time-varying sediment availability in cold basins: the sediment-availability-transport model
First author: Ting Zhang
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

EP55C-1124 Signatures of Permafrost Processes in Fluvial Network Morphology and Change on the Seward Peninsula, Western Alaska, USA
First author: Joanmarie Del Vecchio
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

EP55C-1130 Using Temperature Sensors to Track the Thaw and Erosion Fronts in an Experimental Permafrost Riverbank
First author: Maria Schmeer
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

EP55D-1134 Does Climate Zone Affect Delta Morphology?
First author: Benjamin Peters
19:00 - 21:00, Friday, December 17th
EP55G-1187 Geology and Topography Control Frost Weathering in High Alpine Rockwalls
First author: Till Mayer and Daniel Draebing
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55A-0408 High-Resolution Regional Climate Simulations of Alaskan Hydroclimatic Change
First author: Andrew James Newman
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

First author: Sergey S Marchenko
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55E-0477 Estimating Costs of Mid-21st Century Climate Change Impacts on Societies and Infrastructure in the Circumpolar Arctic
First author: Dmitry A Streletskiy
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55E-0478 Methods of maintenance of stability of engineering infrastructure in Eurasian cryolithozone
First author: Valery I Grebenets
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55E-0479 Risks of stability of transport systems in the Western sector of the cryolithozone of Russia with the development of dangerous cryogenic processes
First author: Fedor Iurov
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F
AGU Fall 2021 Meeting

GC55E-0480 Snowbank impacts on frozen foundations in cities of continuous permafrost zone
First author: Vasiliy Andreevich Tolmanov
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55J-0526 Understanding permafrost and agriculture interactions for ensuring sustainable, adaptable and resilient permafrost-agroecosystems
First author: Melissa Ward Jones
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55J-0529 Connecting Climate Change and Seismic Resilience of Alaskan Infrastructure Systems
First author: Matthew Turner
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55J-0530 Potential for development of the process of thermokarst in the zone of discontinuous permafrost in Alaska.
First author: Alexander L Kholodov
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55J-0531 Approach to Estimate Current and Future Destabilization Risk to Energy Facilities on Permafrost
First author: Jefferson Antwi-Agyei
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55J-0532 Understanding the Changing Natural-Built Landscape in an Arctic Community: An Integrated Sensor Study in Utqiagvik, Alaska
First author: MacKenzie Nelson
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

GC55J-0536 Geopolitical and Strategic Impacts of the Polar Thaw on North Atlantic Security
First author: Barry Zellen
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F
GC55J-0537 The New England Arctic Network
First author: Katharine Duderstadt
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

H55F-0807 Impacts of Climate Warming on Frozen Ground Regimes and Groundwater Recharge
First author: Katrina Rabeler and Steven P Loheide III
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

H55K-0857 Estimating Hydraulic and Thermal Properties of an Antarctic Active Layer through Column Experiments
First author: Jeonga Kim
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

H55W-0995 Developing A Systems Perspective on Wildfire Impacts to Water Resources and Infrastructure
First author: Jodi L. Ryder
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

P55E-1979 Investigation of geomorphological signatures of permafrost in the polar lunar areas with VIPER
First author: Nick Gorkavyi
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F

P55E-1980 Utilizing a new laboratory BRDF dataset for Apollo regolith samples with known surface properties: Interpreting Diviner’s visible off-nadir data and setting accurate scattering functions within thermal models.
First author: Rowan Curtis
19:00 - 21:00, Friday, December 17th
Convention Center - Poster Hall, D-F