

AGU Fall 2022

Permafrost Guide



Multi-colored, low-centered ice wedge polygon ponds on the Colville River delta in northern Alaska. - Benjamin Jones

Guide Table

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Introduction

to the Guide

Introduction

The following is a guide of presentations, booth exhibits, and meetings related to permafrost and associated topics held at the 2022 AGU Fall Meeting in Chicago, IL and online. Presentations are in order of day, type (poster, online only, or oral), and time. They were compiled from the online 2022 AGU Fall Meeting Scientific Program using the search terms listed below as they appear in either the title or abstract text. After the meeting, all 417 of these presentations citations will be added to the USPA's public permafrost library, the Permafrost Monthly Alert (PMA) Program.

This Guide was prepared under the auspices of the United States Permafrost Association's Communications Committee (CCOM).

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 Carbon
- Ground CO₂
- Ground Ice
- Ground Methane
- Ground CH₄
- Ice Wedge
- N-Factor
- Peat Layer
- Perennially Frozen Ground
- Periglacial
- Permafrost
- Pingo
- Rock Glacier
- Soil Adfreeze
- Soil Carbon
- Soil CO₂
- Soil Methane
- Soil CH₄
- 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

Introduction

to the Guide

USPA 20th Anniversary Special Session

The 2022 AGU Fall Meeting also serves to commemorate the 20th Anniversary of the United States Permafrost Association (USPA) with a special session on Alaskan Permafrost that will be held as an online discussion, poster presentation group, and oral presentation group.

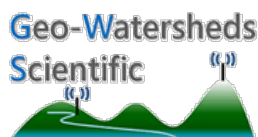
GC51C, GC55K, & GC55B – Impacts of a Changing Climate on Alaska's Permafrost Landscapes and Infrastructure

Conveners: Anna M Wagner, Jerry Brown, Emma Lathrop, & Larry Hinzman (Chair)

Session's events on Friday, December 16th:

- **Poster Presentations (GC55K)**, 14:45 – 18:15, McCormick Place - Poster Hall, Hall A (p. 77-80)
- **Online Poster Discussion (GC51C)**, 08:00 – 09:00, Online Only (p. 81)
- **Oral Presentations (GC55B)**, 14:45 – 16:15, McCormick Place - S504abc (p. 85-88)

Sponsors of the Guide



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Daily Totals

for Presentations

Daily Presentations

The table below provides the daily numbers and type of presentations in this Guide.

AGU 2022 Daily Permafrost Presentation Totals				
Date	Poster	Online	Oral	Daily Totals
Monday, 12 th	30	10	47	87
Tuesday, 13 th	42	7	20	69
Wednesday, 14 th	14	6	29	49
Thursday, 15 th	60	5	32	97
Friday, 16 th	74	8	33	115
Totals	220	36	161	417

We hope this guide helps you find permafrost presentations and engage with the presenting authors. If you have any questions, please contact Michael Lilly or Kristina Levine (see page 3 for contact information).

USPA Membership

Presenter names **highlighted in green** throughout the Guide identify the 64 USPA members participating in the 2022 AGU Fall Meeting. If you are not already a member of the USPA, please consider joining at www.uspermafrost.org/membership.



Booths With Permafrost Interests

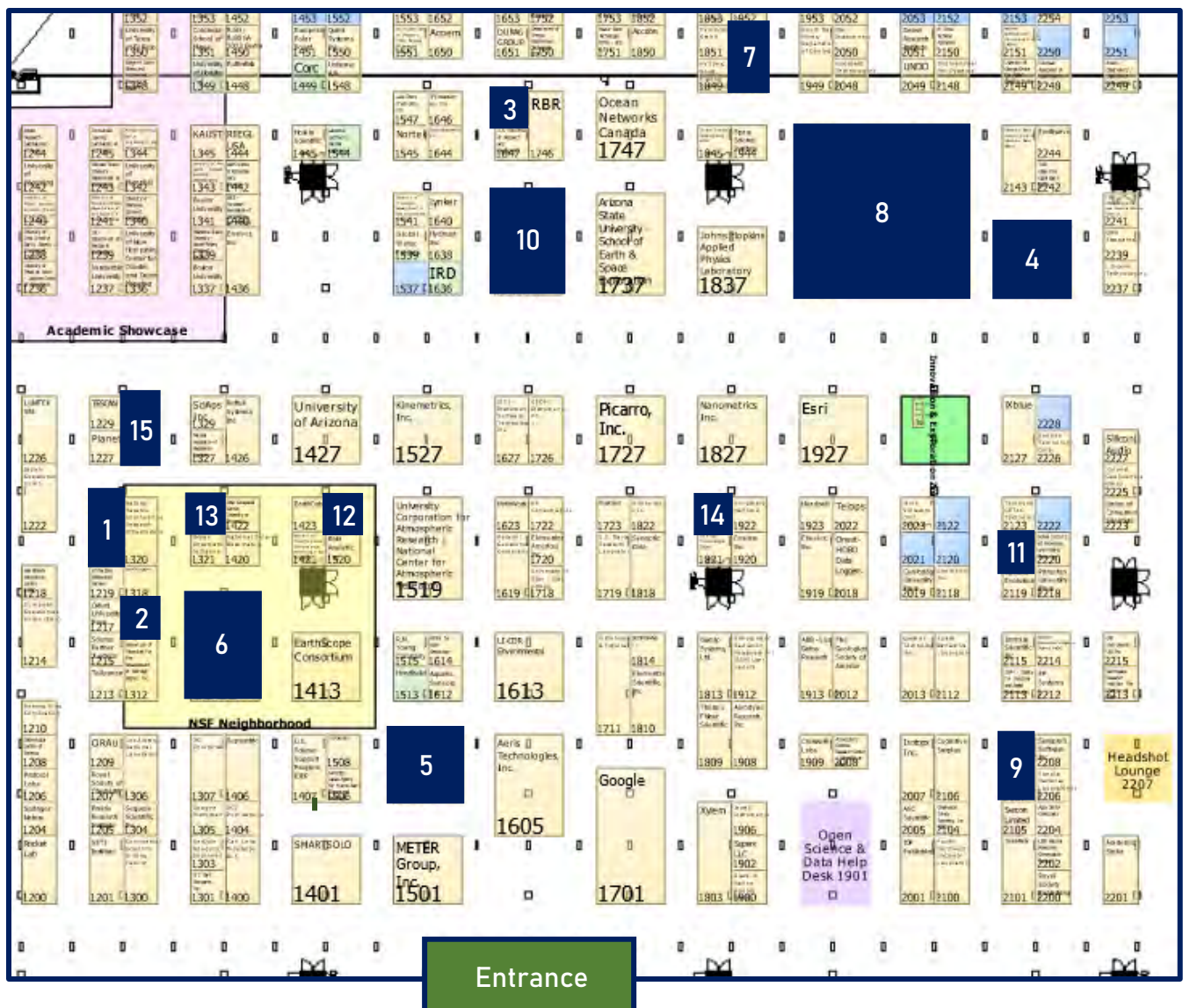
Booth Listing

The USPA has an Exhibit Booth (#1221) this year, celebrating our 20th Anniversary. Please stop by and see our selection of USPA items and sign up to be a USPA member. Please also visit the booths of our institutional and corporate members and other organizations with interests and activities related to permafrost. See the following page for a map of the booths listed below. Organization names in bolded blue are **hyperlinks** to each organization's site.

1. **U.S. Permafrost Association (USPA)** – Booth 1221
2. **Arctic Research Consortium of the U.S. (ARCUS)** – Booth 1316
3. **Ukpeagvik Iñupiat Corporation (UIC) Science** – Booth 1649
4. **University of Alaska Fairbanks Research Institutes** – Booth 2137
5. **Campbell Scientific** – Booth 1507
6. **National Science Foundation (NSF)** – Booth 1313
7. **U.S. Geological Survey (USGS)** – Booth 1948
8. **National Aeronautic & Space Administration (NASA)** – Booth 1937
9. **U.S. Department of Energy Biological & Environmental Research Program** – Booth 2107
10. **National Oceanographic & Atmospheric Administration (NOAA)** – Booth 1637
11. **National Academy of Sciences, Engineering, & Medicine** – Booth 2121
12. **Arctic Data Center** – Booth 1522
13. **Toolik Field Station** – Booth 1323
14. **Wiley** – Booth 1823
15. **Battelle** – Booth 1326

Booths With Permafrost Interests

AGU Exhibit Hall Map of Booths



AGU Exhibit Hall Interactive Online Map

Click the above dark blue hyperlink for AGU's interactive map of the exhibit hall.

Meetings

Related to Permafrost

Select Meetings & Events

Monday, December 12th

USPA Annual Board Meeting (Open to the Public)

16:00 – 18:00

Hiltons at McCormick Place – 3rd Floor (follow ARCUS signs)

Contact Anna Wagner at Anna.M.Wagner@erdc.dren.mil or John Thornley at john.thornley@wsp.com for more information.

Tuesday, December 13th

Permafrost Microbiome Network Meeting

12:30 – 14:30

Hiltons at McCormick Place - 3rd Floor (follow ARCUS signs)

Contact Jessica Ernakovich at jessica.ernakovich@unh.edu for more information.

ABOVE Phase III Meeting

15:00 – 17:00

Hiltons at McCormick Place - 3rd Floor (follow ARCUS signs)

Contact Elizabeth Hoy elizabeth.hoy@nasa.gov for more information.

C26A - John F. Nye Lecture

16:45 – 18:15

McCormick Place - E354a (Lakeside, Level 3)

Recognition of an outstanding cryosphere scientist.

Cryosphere Reception (Ticket Required)

18:30 – 20:00

Marriott Marquis - Great Lakes F (Level 2)

Reception of the AGU Cryosphere section (tickets available through the AGU registration portal).

Meetings

Related to Permafrost

USPA Annual Meeting & 20th Anniversary Celebration

20:00 – 22:00

Kroll's South Loop

Contact Anna Wagner at Anna.M.Wagner@erdc.dren.mil or John Thornley at john.thornley@wsp.com for more information.

Wednesday, December 14th

International Arctic Coastal Networks Get Together

17:00 – 18:30

Hiltons at McCormick Place - 3rd Floor (follow ARCUS signs)

Contact Benjamin Jones at bmjones3@alaska.edu for more information.

USAPECS & PSECCO In-person & Online Socials for Polar Early Career Scientists

18:15 – 19:15 In-Person, 19:00 – 20:00 Online

Hudson/Commodore room in Hiltons at McCormick Place, or online

Contact psecco@colorado.edu or click this [invite](#) for more information.

Friday, December 16th

USPA Mentoring Lunch (Open to non-USPA members)

Time and place will be decided between mentors and mentees. Sign up as a mentor or mentee on this [Google Drive link](#).

Contact Jessica Ernakovich at jessica.ernakovich@unh.edu for more information.

USPA Special 20th Anniversary Session – Impacts of a Changing Climate on Alaska's Permafrost Landscapes and Infrastructure

- **Poster Presentations (GC55K)**, 14:45 – 18:15, McCormick Place - Poster Hall, Hall A (p. 77-80)
- **Online Poster Discussion (GC51C)**, 08:00 – 09:00, Online Only (p. 81)
- **Oral Presentations (GC55B)**, 14:45 – 16:15, McCormick Place - S504abc (p. 85-88)



Monday

Poster Presentations

Monday, December 12th

Poster Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B12I-1151 Patterns of permafrost microbial functional genes and in situ greenhouse gas concentrations indicate that permafrost is an active microbial ecosystem

Presenter: **Mark P Waldrop**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12I-1152 The impact of permafrost thaw on the composition of the post-thaw microbiome

Presenter: **Jessica Gilman Ernakovich**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12I-1153 Examining the Effect of Permafrost Thaw Slump Activity on Microbial Community Composition and Function on the Peel Plateau, NT, Canada

Presenter: Marina Taskovic

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12I-1154 Investigating Microbial Communities in Svalbard Permafrost

Presenter: Fumnanya Buah

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12I-1156 Nitrous Oxide Emissions from Thawing Permafrost: A Microcosm Study

Presenter: Yan Chen Sun

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Monday

Poster Presentations

B12K-1170 Permafrost Pathways: Connecting science, people, and policy to advance understanding of the local to global impacts of permafrost thaw and to develop just and equitable responses

Presenter: **Susan Natali**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12K-1171 A time series of soil carbon pool change following permafrost thaw

Presenter: **Emma Lathrop**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12K-1173 Changes in soil carbon stocks and fractions with warming under different tundra vegetation types in northern Sweden

Presenter: Youjin Kim

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12K-1174 Development of a Framework for Coupled Thermal, Hydrologic, and Biogeochemical Modeling to Predict Permafrost Methane Emissions

Presenter: Michael Nole

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12K-1176 Implications of Fire Disturbance on Soil Carbon Cycling and Permafrost in Black Spruce Forests of Interior Alaska: A Case Study at Hess Creek

Presenter: Christina Minions

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12K-1178 Permafrost Degradation in the Koyukuk River System and the Timescale Dependence of Sulfur-Carbon-Climate Feedbacks

Presenter: Preston Cosslett Kemeny

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A



Monday

Poster Presentations

B12K-1179 Quantifying Feedback Sensitivities of Permafrost Degradation and Carbon Release with Earth Observation Data and Feedback Neural Networks

Presenter: **Bradley Gay**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B12K-1180 The Impacts of a Changing Permafrost Tundra Ecosystem on Dissolved Organic Carbon Age and Concentration in Surface and Groundwater in a Long-Term Experiment

Presenter: Allison Kelley

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C12C-0582 Crustal composition determined by seismic properties in Antarctica and its implication on the crustal thermal structure

Presenter: Siyuan Sui

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H12A-44 Incorporating beaver dams in a physically-based hydrological model

Presenter: Ignacio Aguirre

09:00 - 12:30

McCormick Place - Poster Monitor 4

H12K-0816 Soil water isotope measurements (tritium, deuterium, oxygen-18) and Hydrus-1D simulations with evaporative fractionation to examine the impacts of deeply rooted switchgrass on soil hydrology

Presenter: Ate Visser

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Monday

Poster Presentations

H12O-0865 Frozen-soil Hydrological Modeling for a Mountainous Catchment at Northeast of the Tibetan Plateau

Presenter: Hongkai Gao

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H12O-0866 How Does Climate Warming Affect the Mass Transport of a Nonreactive Solute in a Thawing Permafrost Environment?

Presenter: Selsey Stribling

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H12O-0867 Saturation Patterns of Water Track-thermoerosional Gully Complexes Situated on Hillslopes Underlain by Continuous Permafrost

Presenter: **Brandon Yokeley**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H12O-0869 The Impact of Variable Saturation on the Subsurface Thermal Regime: Implications for Ground Freezing and Talik Dynamics at a Degrading Permafrost Mound near Umiujaq (Nunavik, Canada)

Presenter: **Philippe Fortier**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

NH12E-0321 Exploring the Link Between Climate Change and Catastrophic Mass Movement Event Magnitude in High Mountain Regions

Presenter: Holly Chubb

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Monday

Poster Presentations

NH12E-0325 Coastal Change - Today and Tomorrow: The Coastal Effects Chapter for the Fifth US National Climate Assessment

Presenter: Juliette Finzi Hart

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

OS12C-0771 Investigation of Phase Distribution Changes in a Hydrate-Bearing Rock Sample during Hydrate Formation and Dissociation Process by Low-Field NMR

Presenter: Taewoong Ahn

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

PP12C-0655 Wildfire response to glacial-interglacial environmental variability inferred from molecular proxies at Lake El'gygytgyn, Far East Russia

Presenter: William Daniels

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

PP12E-0677 Oxygen isotope values of Pleistocene land snail shells from Central Alaska

Presenter: Catherine Nield

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B15I-1234 Seasonal and longitudinal variability in mercury concentrations in Arctic rivers

Presenter: Hannah Wehrmeister

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C15F-0646 Proglacial River Stage Derived from Georectified Time-lapse Camera Images, Inglefield Land, Northwest Greenland

Presenter: Seth Goldstein

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Monday

Poster Presentations

PP15E-0703 The influence of temperature on the fall of the Guge Kingdom in Western Tibet, China

Presenter: Haichao Xie

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

PP15F-0724 Organic-matter Accumulation and Degradation in Holocene Permafrost Deposits Along a Central Alaskan Hillslope

Presenter: Leah Marshall

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

S15D-0223 Investigating a possible link between cryoseismic activity and acceleration of anthropogenic climate change

Presenter: Sam Williams

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Monday

Online Presentations

Online Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

H11H-01 Assessment of physicochemical properties in lentic water bodies of the Rankin Inlet area (Nunavut, Canada) for sublacustrine open talik detection

Presenter: Benoit Faucher

08:00 - 08:10

Online Only

B11F-01 Accelerated organic carbon mobilization from thaw slumps on the Taymyr Peninsula quantified using remote sensing

Presenter: **Simon Zwieback**

08:00 - 08:15

Online Only

NS11A-01 Synthetic Study of FWI: Application to DAS-VSP Data in Alaska

Presenter: Akira Fujimoto

08:00 - 09:00

Online Only

B11F-02 Divergent Trajectory of Soil Autotrophic and Heterotrophic Respiration upon Permafrost Thaw

Presenter: Yuanhe Yang

08:15 - 08:30

Online Only

H11H-03 The Impact of Permafrost Degradation on Hydrological Process in the Source Region of the Yangtze River

Presenter: Huiru Jiang

08:20 - 08:30

Online Only



Monday

Online Presentations

H11H-04 Effects of ice wedge polygon geometry and subsurface characteristics on permafrost thaw dynamics under a warming climate

Presenter: Xiang Huang

08:30 - 08:40

Online Only

B11F-03 Vegetation Effects on Soil Organic Matter Quality in High Arctic Ecosystems

Presenter: Julianah Adediji

08:30 - 08:45

Online Only

B14D-01 Influence of climate change on microbial activity in high latitude seasonally thawed active layer soils and considerations for modeling this system in transition

Presenter: Robyn Barbato

13:45 - 13:55

Online Only

GC14E-02 High Mountain Asia hydropower systems threatened by climate-driven hazards and sediment supply

Presenter: Dongfeng Li

14:00 - 14:10

Online Only

B14D-03 Greenhouse Gas Fluxes during Long-term Warming of Intact Cores from High Arctic Svalbard

Presenter: Renxing Liang

14:05 - 14:15

Online Only

Monday

Oral Presentations

Oral Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

EP12B-05 Steep and far – on the reach of glacial lake outburst floods and debris flows in High Mountain Asia

Presenter: Jakob F Steiner

09:43 - 09:53

McCormick Place - S106a

B12C-07 Interactions Between Climate and Mineralogy Determine Soil Carbon Model Complexity and Temperature Sensitivity

Presenter: Jeffrey Beem-Miller

10:05 - 10:15

McCormick Place - S501bcd

H12D-08 Recent Changes in Streamflow Seasonality across Permafrost Basins of North America

Presenter: Katrina E Bennett

10:10 - 10:20

McCormick Place - E352

NS13A-02 Application of FWI to VSP data acquired with DAS at the methane hydrate production test site in Alaska

Presenter: Yuta Kitawaki

11:15 - 11:30

McCormick Place - S106a

A13A-03 Closing the gap on understudied aerosol-climate processes in the rapidly changing central Arctic

Presenter: Jessie Creamean

11:20 - 11:30

McCormick Place - E271ab



Monday

Oral Presentations

B13E-03 Mercury Cycling and Climate Change: an Arctic Case Study

Presenter: Helene Angot

11:20 - 11:30

McCormick Place - S403a

C13A-05 Feedback processes between boreal permafrost and the below-canopy snow cover phenology

Presenter: Simone Maria Maria Stünzi

11:40 - 11:49

McCormick Place - S504d

H13C-05 Interactions of Climatic Extremes and Land Subsidence Impacts Around the World

Presenter: Laurie Huning

11:40 - 11:50

McCormick Place - E352

GC13B-05 Comparison of MPI Earth System Model Simulations Driven by the Adaptive Emission Targeting to Keep Warming Below 1.5°C and 2°C Relative to Pre-Industrial Global Mean Temperature

Presenter: Goran Georgievski

11:46 - 11:57

McCormick Place - S502ab

C13A-06 Soil Type Impacts on Local-Scale Soil and Snow Interactions

Presenter: Mahsa Moradi

11:49 - 11:58

McCormick Place - S504d

EP13A-07 Modelling the Impact of Shorefast Ice on Sediment Transport for Cold Coasts

Presenter: Chelsea Volpano

12:00 - 12:10

McCormick Place - S106b

Monday

Oral Presentations

S13B-07 Permafrost Monitoring on Mt. Zugspitze (Germany): Can We Derive Rock Temperatures in Space and Time with Passive Seismic Monitoring?

Presenter: Fabian Lindner

12:03 - 12:13

McCormick Place - S103cd

S13B-08 Seismic constraints on permafrost degradation at the unstable Spitze Stei rock slope, Switzerland

Presenter: Małgorzata Chmiel

12:13 - 12:23

McCormick Place - S103cd

NS13A-06 DAS Data Modeling for Elastic FWI Application to DAS Data - for the Monitoring of Methane Hydrate Production in Alaska -

Presenter: Toru Taira

12:15 - 12:30

McCormick Place - S106a

EP15A-01 Fingerprinting coastal erosion processes from shoreline morphology on Earth and Titan

Presenter: Rose Palermo

14:45 - 14:55

McCormick Place - S106b

B15E-01 Net Ecosystem Exchange Across the Arctic-Boreal Zone: Long Term Trends and Site-Level Drivers of Interannual Variability

Presenter: Craig Robert See

14:45 - 15:00

McCormick Place - S501a

B15E-02 Strategic expansion of the Arctic-Boreal carbon flux network

Presenter: Kyle Andreas Arndt

15:00 - 15:15

McCormick Place - S501a

Monday

Oral Presentations

B15D-04 Upscaling Mechanisms of Soil Carbon Storage and Persistence: How Many Soil Pits Does It Take to Characterize a Landscape?

Presenter: Corey R Lawrence

15:15 - 15:25

McCormick Place - S501bcd

H15E-04 A New Dielectric Imaging Station for Characterizing the Microwave Behavior of Permafrost Active Layer Organic Soil

Presenter: Kazem Bakian Dogaheh

15:15 - 15:25

McCormick Place - E270

B15E-03 Analysis of resolution-induced differences in soil - hydrology - vegetation interactions in the Arctic using state-of-the-art land surface model

Presenter: Meike Schickhoff

15:15 - 15:30

McCormick Place - S501a

C15B-05 Permafrost Discovery Gateway – Big geospatial data creation and discovery

Presenter: Anna K Liljedahl

15:25 - 15:35

McCormick Place - S504d

B15E-04 Soil Organic Carbon and Microbial Composition Effects on Carbon Mineralization in Laboratory Warming Experiments

Presenter: Mark McDonald

15:30 - 15:45

McCormick Place - S501a

B15D-06 Soil carbon persistence governed by plant input and mineral protection at regional and global scales

Presenter: Leiyi Chen

15:35 - 15:45

McCormick Place - S501bcd



Monday

Oral Presentations

OS15A-06 Importance of Elastic-Plastic Geo-mechanical Models for Predicting the Sea Floor Subsidence while Extracting Gas from Hydrate Reservoir

Presenter: Ramesh Kannan Kandasami

15:40 - 15:50

McCormick Place - S106a

B15C-07 Machine learning enabled quantification of global soil inorganic carbon storage.

Presenter: Yuanyuan Huang

15:45 - 15:55

McCormick Place - S404ab

H15D-07 Insights into spatiotemporal evolution of permafrost under climate change – hydrologic-land surface modelling in the Canadian subarctic

Presenter: Mohamed Abdelhamed

15:45 - 15:55

McCormick Place - E265

B15E-05 Role of Dissolution-Precipitation of Mineral Organic Carbon Interactions on Carbon Loss and Gain upon Permafrost Thaw

Presenter: Sophie Opfergelt

15:45 - 16:00

McCormick Place - S501a

B15C-08 Traversing and Synthesizing Fragmented Ecological Observations across Global Networks and Databases

Presenter: Jitendra Kumar

15:55 - 16:05

McCormick Place - S404ab

B15D-08 Historical fate of global soil organic carbon in the past century

Presenter: Feng Tao

15:55 - 16:05

McCormick Place - S501bcd

Monday

Oral Presentations

B15E-06 Methane emissions show exponential inverse relationship with electrical resistivity from discontinuous permafrost wetlands in Alaska

Presenter: Nicholas Hasson

16:00 - 16:15

McCormick Place - S501a

B15D-09 Towards advancing models of soil carbon dynamics by incorporating scale dependence of microbial decomposition

Presenter: Derek Pierson

16:05 - 16:15

McCormick Place - S501bcd

H16G-01 Leveraging novel satellite technologies to better understand permafrost-surface water feedbacks

Presenter: Sarah W Cooley

16:45 - 16:55

McCormick Place - E353c

B16E-01 Microbial assemblages and functions along thermokarst lake to lagoon transitions

Presenter: Susanne Liebner

16:46 - 17:01

McCormick Place - S501a

C16A-01 Mission Ready - Global Snow Water Equivalent from Space

Presenter: Ana Paula Barros

16:47 - 16:58

McCormick Place - S504d

NH16A-01 100 Giant Alaska Landslides

Presenter: Bretwood M Higman

16:50 - 17:00

McCormick Place - E253ab

Monday

Oral Presentations

H16G-02 Probing Permafrost Hydrology and Thaw across a Ground Ice Content Gradient in Alaska

Presenter: **Joshua C Koch**

16:55 - 17:05

McCormick Place - E353c

GC16A-02 Physical Impacts of Stratospheric Aerosol Injection and Marine Cloud Brightening in the Arctic in CESM2

Presenter: Walker Lee

17:00 - 17:15

McCormick Place - S502ab

H16G-03 Coupled Process Simulations Indicate that Subsidence Will Accelerate Permafrost Thaw and Lead to Drier Tundra

Presenter: Scott L Painter

17:05 - 17:15

McCormick Place - E353c

B16E-03 Permafrost Microbial Communities Are Active Across a Holocene to Pleistocene Permafrost Chronosequence as Revealed by Stable Isotope Probing.

Presenter: **Mary-Cathrine Leewis**

17:11 - 17:21

McCormick Place - S501a

H16G-04 Landcover controls on infiltration, recharge, and freezing depths in a post-permafrost landscape

Presenter: Nathan Lee Young

17:15 - 17:25

McCormick Place - E353c

B16E-04 Redox-Driven Shifts in Methane Oxidizing Bacteria Control Methane Oxidation Rates in Thawing Permafrost Peatlands

Presenter: Clarice R Perryman

17:21 - 17:31

McCormick Place - S501a

Monday

Oral Presentations

H16G-05 Silicon Isotopes: A Tool to Capture Winter Biogeochemical Connectivity in Permafrost Soils (Stordalen, Sweden)

Presenter: Maëlle Villani

17:25 - 17:35

McCormick Place - E353c

B16E-05 Mercury Methylation and Microbial Community Structure in Degrading Permafrost Features of the Hudson Bay Lowlands, Canada

Presenter: Adam Kirkwood

17:31 - 17:41

McCormick Place - S501a

H16G-06 Spatial Variability in Soil Frost across Mixed Agricultural and Forested Land Covers in Southeast New Hampshire, USA

Presenter: Tim Hoheneder

17:35 - 17:45

McCormick Place - E353c

H16G-07 Supra-permafrost groundwater's contribution to stream flow and organic matter chemistry in the Arctic: estimation using combined mechanistic and statistical approaches

Presenter: Neelarun Mukherjee

17:45 - 17:55

McCormick Place - E353c

H16G-08 Using Land Surface Models to Interrogate the Influence of Seasonally Frozen Ground on Snowmelt Partitioning

Presenter: Mariel Jones

17:55 - 18:05

McCormick Place - E353c

C16A-08 2023 SnowEx field campaign in Alaska, U.S.

Presenter: Svetlana L. Stuefer

18:04 - 18:15

McCormick Place - S504d



Tuesday

Poster Presentations

Tuesday, December 13th

Poster Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B22E-1494 Improving Biological Fidelity of Arctic Greenhouse Gas Emissions from Permafrost

Presenter: Chuck Smallwood

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B22H-1539 Climate and soil mineral controls on global radiocarbon profiles

Presenter: Sophie F von Fromm

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B22J-1568 Measuring Substrate Specificity of Extracellular Enzymes in Arctic Soils (Svalbard)

Presenter: Murray Stokes

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B22J-1574 Thermal sites in polar and alpine regions – hot spots for biodiversity

Presenter: Tatiana A Vishnivetskaya

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

EP22E-1391 How Do Equally Spaced Valleys Initiate? A Stability Theory for Fluvial Landscapes

Presenter: Shashank Kumar Anand

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Tuesday

Poster Presentations

GC22E-0657 Stratospheric Aerosol Injection to Stabilize Northern Hemisphere Permafrost Extent

Presenter: Ariel Morrison

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H22U-1122 Freeze-Thaw Cycling Trajectories Across a Longitudinal Gradient during Climate Change.

Presenter: Emma Stearsman

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H22V-1127 Effects of Land Use Change on the Development of Hot Spots of Methane Flux in a Restored Freshwater Wetland

Presenter: Camilo Rey-Sanchez

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

IN22D-0327 A Computer Vision-based Wetland Classification and Runoff Delineation Approach for Discontinuous Permafrost Landscapes of Northern Canada

Presenter: Shaghayegh Akbarpour

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

NS22B-0285 Characterizing the Spatial Variability of Permafrost and Geological Formations Using a towed Transient ElectroMagnetic (tTEM) system.

Presenter: Sylvain Fiolleau

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

NS22B-0286 Seismic features of changing near-surface environments: examples from the FORESEE arrays

Presenter: Tieyuan Zhu

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Tuesday

Poster Presentations

NS22B-0287 Snow Redistribution after Regional Lake Drainage on Arctic Tundra

Presenter: Andy Parsekian

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

NS22B-0289 Using Very-Low-Frequency, Electrical Resistivity Tomography, and Temperature Dynamics in Warm Discontinuous Permafrost Study

Presenter: Sergei Rybakov

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

NS22B-0291 Exploration and Quality Control of Large-scale Distributed Acoustic Sensing Data to Study Permafrost Degradation in Arctic Alaska

Presenter: **Ahmad Tourei**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B25D-1585 Digging for... iron? Examining how iron-cycling microbes affect phosphorus availability in the Arctic

Presenter: Amy Doiron

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B25D-1586 Controls on Carbon Release from Arctic Thermokarst Landscapes: Changing Redox Conditions Driven by Soil Saturation and Drainage

Presenter: **Erin C Berns**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B25D-1587 Microbial Iron Cycling Detection, Ecology, and Role in the Arctic Tundra

Presenter: Alexander B Michaud

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Tuesday

Poster Presentations

B25D-1589 Changes in Nutrient Sources for Arctic Tundra Vegetation upon Permafrost Thaw

Presenter: Maëlle Villani

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B25D-1590 Iron concentrations and speciation across a soil moisture and soil pH gradient in the arctic tundra and its impact on phosphate availability

Presenter: Erin VanderJeugd

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B25D-1591 Topography Controls Carbon Storage and Availability in an Arctic Desert

Presenter: Fernando Montaña López

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B25E-1601 Seasonal Carbon Dynamics Associated with Summer and Winter Flow in a Lake-dominated Discontinuous Permafrost Environment

Presenter: Nora Alsafi

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B25I-1642 Characterization of mycorrhizosphere communities of common tundra plants

Presenter: **Sean Schaefer**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C25C-0829 Living on Frozen Ground as concept for a Shared Arctic Variable

Presenter: Heikki Lihavainen

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Tuesday

Poster Presentations

C25D-0833 Thermal Modeling of an Isolated Water Distribution System in the Arctic

Presenter: Chris Lintz

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C25D-0838 Mapping Freezing and Thawing Surface State Periods with the CYGNSS Based F/T Seasonal Threshold Algorithm

Presenter: Hugo Carreno-Luengo

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C25D-0844 Hydrological Behavior of a 'Glacier - Debris-covered Glacier - Rock Glacier Continuum' under a Warming Climate

Presenter: Kaiyuan Wang

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C25D-0850 Recent Ground Thermo-Hydrological Changes in a Tibetan Endorheic Catchment and Implications for Lake Level Changes

Presenter: Leo Martin

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0753 A spatio-temporal assessment of accelerated thaw-driven mass wasting on watershed geomorphology and biogeochemistry within the Willow River catchment, NT.

Presenter: Jaedyn Smith

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0754 Circumpolar landcover characterization

Presenter: Annett Bartsch

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Tuesday

Poster Presentations

GC25G-0756 Identifying Active Retrogressive Thaw Slumps from ArcticDEM Using Manual And Automated Feature Engineering

Presenter: **Lingcao Huang**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0757 InSAR Estimates and In-situ Observations of Supra-permafrost Water Storage in Undisturbed and Burned Areas in the Arctic Foothills

Presenter: Yue WU

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0759 Interactions Between Micro-topography and Burn Depth in Boreal to Sub-Arctic Peatlands

Presenter: Laura Chasmer

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0760 Interferometric Synthetic Aperture Radar (InSAR) Applications for Permafrost Disturbance Studies

Presenter: **Roger J Michaelides**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0761 Patterns of Vegetation Succession Following Lake Drainage in Northern Alaska

Presenter: **Caroline Ludden**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0762 Post-Fire Controls On Active Layer Depth Across The Anaktuvuk River Fire

Presenter: Mayrangeli Torres Baez

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Tuesday

Poster Presentations

GC25G-0763 Response of Thermokarst Formation and Shrub Cover Change to Fire Disturbance in The Arctic Tundra Ecosystem

Presenter: Yaping Chen

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC25G-0764 UAS-LiDAR Predicts 2D and 3D Spatiotemporal Patterns of Change in Retrogressive Thaw Slumps in Northern Alaska

Presenter: **Emma Hall**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

H25H-1187 Characterizing the efficiency of mineral amendments in immobilizing PFAS

Presenter: **Anna Lesko**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

NH25D-0465 Landslide Susceptibility Mapping Combining Geomechanical Classification and Reflectance Spectroscopy in Prince William Sound, Alaska

Presenter: Lauren N Schaefer

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

NH25D-0476 Landslides and Slope Environment of Arctic Sedimentary Rock Area, North Greenland.

Presenter: Shintaro Yamasaki

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

OS25D-0950 Close to Home: Co-producing Research Questions and Solutions to Coastal Erosion in Nunatsiavut, Northern Labrador

Presenter: Emma Jayne Harrison

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Tuesday

Poster Presentations

OS25D-0954 Predicting slope instability driven by rapid depth change along the Canadian Beaufort Margin

Presenter: Jeffrey Obelcz

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Tuesday

Online Presentations

Online Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B21A-01 Redox Conditions Vary with Depth in Arctic Tundra Surface Soils

Presenter: **Erin Rooney**

08:00 - 08:10

Online Only

IN21B-01 Adapting Permafrost Science Use Cases as a Continuous Pipeline with the Clowder Framework

Presenter: Todd Nicholson

08:10 - 08:20

Online Only

B21B-03 Mineral Association Drives Soil Carbon Stability in Restored Montane Meadows

Presenter: Seren Bagcilar

08:25 - 08:35

Online Only

MR21B-06 Transient uniaxial creep of frozen soil quantified by fractional and fractal derivative models

Presenter: Golden Zhang

08:50 - 09:00

Online Only

B24C-01 Aquatic Biomass is a Major Overlooked Source to Particulate Organic Matter Export in Large Arctic Rivers

Presenter: Robert G Spencer

13:50 - 14:00

Online Only



Tuesday

Online Presentations

GC24C-02 Impact of Persistent Deep Underground Fire on Permafrost and Global Carbon Emission

Presenter: Shaorun Lin

13:55 - 14:05

Online Only

GC24C-03 Post-fire Thaw Subsidence at Beaver Creek, Yukon, Detected by L-band InSAR and Preliminary Report of Field Observation

Presenter: Kazuki Yanagiya

14:05 - 14:15

Online Only

Tuesday

Oral Presentations

Oral Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

C22C-02 Large Extent Snowdrift-resolving Snowpack Simulations Across the Canadian Cordillera

Presenter: Chris Marsh

09:10 - 09:20

McCormick Place - S504d

H22E-03 Sources of Subarctic Plant Water Uptake from Soil to Stomata Using Stable Water Isotopes Across a Cold, Mountainous Watershed

Presenter: Erin M Nicholls

09:20 - 09:30

McCormick Place - E270

H22L-03 Road Salt: A Growing Threat to Cold Climate Urban Lakes

Presenter: Jovana Radosavljevic

09:20 - 09:30

McCormick Place - E451a

H22B-05 Improving SWAT simulation of frozen hydrology in cold-region agricultural watersheds

Presenter: Sushant Mehan

09:40 - 09:50

McCormick Place - E451b

EP22B-07 Quantifying Mass Wasting Movements with Remote Sensing in Denali National Park

Presenter: **Nicole Guinn**

10:00 - 10:10

McCormick Place - S105d

Tuesday

Oral Presentations

B22B-08 Later and less labile: shifting dissolved organic matter dynamics in a rapidly changing landscape, Wolverine Glacier watershed, south central Alaska

Presenter: Anna Bergstrom

10:10 - 10:20

McCormick Place - S501bcd

B23A-02 Iron Speciation and Mobility at the Permafrost-Active Layer Transition Zone

Presenter: **Amanda J Barker**

11:10 - 11:20

McCormick Place - S405a

B23B-03 Evaluation of soil carbon simulation in CMIP6 Earth System Models.

Presenter: Rebecca Varney

11:20 - 11:30

McCormick Place - S501bcd

B23D-03 How do different nitrogen acquisition strategies of mycorrhizal fungi affect soil carbon cycling? A model-based assessment.

Presenter: Siya Shao

11:20 - 11:30

McCormick Place - S501a

B23A-04 Influence of Groundwater Connectivity and Sulfate on Boreal Lake Methane Dynamics in the Sporadic Permafrost Zone

Presenter: McKenzie Ann Kuhn

11:30 - 11:40

McCormick Place - S405a

B23A-07 Feedbacks between permafrost thaw and oxidative weathering in the Arctic critical zone

Presenter: Marisa Nicole Repasch

12:00 - 12:10

McCormick Place - S405a

Tuesday

Oral Presentations

OS25C-06 Diverse Utility of SWOT Water Extent, Elevation, and Backscatter Measurements

Presenter: Jessica V Fayne

15:37 - 15:47

McCormick Place - S106b

H25C-07 Land Surface Hydrological Modelling of the Mackenzie River Basin: Parametrization to Simulate Streamflow and Permafrost Dynamics Concurrently

Presenter: Mohamed Elshamy

15:45 - 15:55

McCormick Place - E265

OS25C-07 Monitoring Arctic Lake Water Surface Elevation Using ICESat-2: Examining the Potential Of The Proposed SWOT Altimetry Mission

Presenter: Shamsudeen Yekeen

15:47 - 15:57

McCormick Place - S106b

P25C-07 Mapping Martian Ice Resources to Support Future Radar and Human Missions.

Presenter: Gareth A Morgan

15:47 - 15:57

McCormick Place - S404ab

B26C-01 Integrating bacterial community composition with biogeochemical cycling after boreal wildfires

Presenter: Thea Whitman

16:45 - 17:15

McCormick Place - S501a

GC26D-01 Simulating Soil Respiration Under Seasonal Snow Cover at an Arctic Tundra Site

Presenter: Victoria R. Dutch

16:47 - 16:58

McCormick Place - S501bcd



Tuesday

Oral Presentations

U26A-01 Transdisciplinary USGS Earth-System Science to Advance National Security

Presenter: Geoffrey S Plumlee

16:50 - 17:05

McCormick Place - N427A-D

GC26D-03 Digging Deeper: How Sampling to Bedrock Changes our Understanding of Soil Carbon Warming Response in the Sierra Nevada

Presenter: Kimber Candice Moreland

17:09 - 17:20

McCormick Place - S501bcd

GC26E-04 FaIR-IMOGEN-Patterns for Impacts

Presenter: Gregory Munday

17:18 - 17:29

McCormick Place - S505ab



Wednesday

Poster Presentations

Wednesday, December 14th

Poster Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B32C-1377 Emergence of New Arctic Peatlands: The Case of Cambridge Bay, Nunavut, Canada

Presenter: Daniel Maraldo

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B32C-1379 Surface Soil Stocks: Peat Development and Soil Carbon Storage on South Baffin Island, Nunavut, Canada

Presenter: Ana Gunther

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B32C-1387 Presence of Phenolic Compounds in Porewater at Stordalen Mire

Presenter: Tallulah Biletzskov

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B32C-1388 Quantifying Peat Carbon Mass Using Ground-Penetrating Radar (GPR) and Probing in Peatlands of the Kenai Peninsula, Alaska

Presenter: Cameron Kuhle

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B32D-1408 S(hr)ubarctic Phenology: A Seasonal Snapshot of Palsa Shrubs at Stordalen Mire

Presenter: Karuna Bhat

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Wednesday

Poster Presentations

GC32L-0738 The Global Decadal-scale Impacts on Cropland from Anthropogenic Climate Change

Presenter: Dewan Mohammad Enamul Haque

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

GC32L-0749 New features, broader accessibility, and improved performance of the Hector v3 simple carbon/climate model

Presenter: Kalyn Dorheim

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H32M-1071 Composition of Oil Fractions in the Upper Horizons of Arctic Tundra Soils with Different Duration of Pollution

Presenter: Zarina Bikmullina

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H32S-1154 Arctic Stream Networks are Sensitive Sentinels of Environmental Change in the Permafrost Zone.

Presenter: Abigail Rec

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

NS32B-0362 Observations from Seismic Refraction Survey of Solifluction Lobes at Garner Run and Bear Meadows, Pennsylvania

Presenter: Samuel Lee

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C35E-0933 Characterization of Non-Gaussianity in snow distributions in various landscapes and wind fields

Presenter: Noriaki Ohara

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Wednesday

Poster Presentations

ED35D-0573 Creation of a Stordalen Mire Herbarium in Abisko, Sweden

Presenter: Max Murphy

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

H35K-1265 Study of water temperature changes of watersheds with different geological conditions due to climate change

Presenter: Hiroaki Suzuki

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

P35F-1926 GPR field-tests on Svalbard - WISDOM on ExoMars

Presenter: Dirk Plettemeier

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Wednesday

Online Presentations

Online Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B31A-01 Control of Local Topography and Surface Patterning on the Formation and Stability of a Slope Permafrost Peatland at 4800-m Elevation on the Central Qinghai-Tibetan Plateau

Presenter: Yuefeng Li

08:00 - 08:10

Online Only

C34D-01 Simulating Permafrost across High Mountain Asia with Global Climate Datasets

Presenter: Ryan Haagenson

13:45 - 13:55

Online Only

B34A-02 Changing Rates of Greenhouse Gas Production from Subarctic Peatland Soils Under Nutrient Enrichment

Presenter: Eunji Byun

13:55 - 14:05

Online Only

C34D-02 Mapping ground subsidence in Tso Kar valley, Ladakh as an indicator of permafrost degradation

Presenter: Tara Tripura Mantha

13:55 - 14:05

Online Only

GC34F-01 Changes in annual precipitation and potential Evaporation and their hydrologic implication across the Tibetan Plateau during the past four decades

Presenter: Shiqin Xu

13:55 - 14:05

Online Only



Wednesday

Online Presentations

C34D-03 Application of Automated Electrical Resistivity Tomography Systems for Monitoring Detailed Changes in the Active Layer: Case Studies from the Western Peninsula, Antarctica

Presenter: Mohammad Farzamian

14:05 - 14:15

Online Only

Wednesday

Oral Presentations

Oral Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B32B-01 Have Wildfires Driven Canadian Peatlands From Sinks to Sources in the Last Three Decades? Using the Canadian Model for Peatlands to Estimate National Boreal Carbon Emission and Removals

Presenter: Kelly Ann Bona

09:00 - 09:10

McCormick Place - S501a

C32B-03 A Perennial Snowfield Melt Model as a Synthesis of Climate, Field, and Remotely Sensed Data from the Brooks Range, Alaska

Presenter: Molly E Tedesche

09:20 - 09:30

McCormick Place - S505ab

B32A-05 Prototype Method Design of the Change Detection and Land Cover Mapping for LCMAP in Alaska

Presenter: Qiang Zhou

09:51 - 10:03

McCormick Place - S405b

C33A-01 An examination of near-surface permafrost modelling techniques for boreal wetland environments, Whatì, NT, Canada

Presenter: Philip P Bonnaventure

11:00 - 11:10

McCormick Place - S504d

C33A-02 Basin-scale investigations of topographic influence on permafrost thaw in ice wedge-affected landscapes

Presenter: Charles Abolt

11:10 - 11:20

McCormick Place - S504d



Wednesday

Oral Presentations

C33A-03 Exploring a Novel Model Conceptualization for Watershed-scale Permafrost Simulation

Presenter: Bo Gao

11:20 - 11:30

McCormick Place - S504d

C33A-04 Quantifying Watershed-Scale Heterogeneity of Soil Thermal Regimes across a Discontinuous Permafrost Environment

Presenter: Chen Wang

11:30 - 11:40

McCormick Place - S504d

C33A-05 The Effects of Lateral Heat Flux on Ground Temperature: Theoretical Calculations and Implications on Permafrost Mapping

Presenter: Yu Zhang

11:40 - 11:50

McCormick Place - S504d

C33A-06 Strong, frequent, and deep surface-based temperature inversions and the impact on permafrost distribution in northwestern Canada

Presenter: Nick Noad

11:50 - 12:00

McCormick Place - S504d

C33A-07 Some Problems with Applications of Simplified Equations for Estimation of Active Layer Thickness Increase and Long-Term Permafrost Thawing in Warming Climate

Presenter: **Vladimir E Romanovsky**

12:00 - 12:10

McCormick Place - S504d



Wednesday

Oral Presentations

P33E-07 New Insights from Advanced 3-D Radar Imaging of the Martian North Polar Cap and Mid-latitude Ices and Volcanics

Presenter: Nathaniel E Putzig

12:00 - 12:10

McCormick Place - S501a

C33A-08 Modelling the Current and Future Impact of Surface Lapse Rates on Mountain Permafrost Distribution in Four Dissimilar Valleys in Yukon, Canada

Presenter: Madeleine Garibaldi

12:10 - 12:20

McCormick Place - S504d

C35A-02 Integrating ICESat-2 altimetry, optical imagery, and digital elevation models to measure erosion rates and coastal morphology along the Alaskan Beaufort Sea Coast

Presenter: **Marnie Bryant**

14:55 - 15:05

McCormick Place - S504d

B35B-04 Simulating Pan-Arctic Peatlands Response to Climate Change Until 2300 with Terrestrial Ecosystem Model

Presenter: Bailu Zhao

15:15 - 15:25

McCormick Place - S501a

C35A-04 Erosion and carbon fluxes on Arctic deltas

Presenter: **Anastasia Piliouras**

15:15 - 15:25

McCormick Place - S504d

C35A-05 POPs distribution in coastal permafrost soils at Komakuk Beach (Yukon, CA)

Presenter: Rachele Lodi

15:25 - 15:35

McCormick Place - S504d



Wednesday

Oral Presentations

B35B-07 Six Years of Experimental Manipulations at SPRUCE: Consequences for Nutrient cycling in Vegetation, Water & Peat

Presenter: Verity G Salmon

15:45 - 15:55

McCormick Place - S501a

GC35C-07 The Land of Fire, Ice, and Erosion: Tracing a millennium of carbon movement in Southern Iceland

Presenter: Lucy Weidner

15:45 - 15:55

McCormick Place - S406b

EP35B-07 Lobate features on Mars exhibit same scaling as terrestrial solifluction patterns

Presenter: JohnPaul Sleiman

15:48 - 15:58

McCormick Place - S106b

C35A-08 Groundwater Salinity Dynamics and Drivers Along an Actively Degrading Arctic Coastline

Presenter: Julia Guimond

15:55 - 16:05

McCormick Place - S504d

INV32B-18 Wet carbon monitoring with remote sensing: a review of the knowledge and needs

Presenter: Anthony Campbell

16:01 - 16:16

McCormick Place - S406a

B36B-01 Quantifying the Essential Carbon Service Provided by the Hudson Bay Lowland Peatlands

Presenter: Lorna I Harris

16:45 - 16:55

McCormick Place - S501a



Wednesday

Oral Presentations

EP36B-01 Periglacial Puzzles: What Controls Development, Movement and Size of Solifluction Lobes?

Presenter: Jana Eichel

16:46 - 17:00

McCormick Place - S103ab

EP36B-02 Geomorphologic Characteristics and Thermal State of Jingxian Rock Glacier on the Qinghai-Tibet Plateau

Presenter: Yan Hu

17:00 - 17:10

McCormick Place - S103ab

EP36B-03 Saturation Dynamics Along Thawing Continuous Permafrost Hillslopes

Presenter: Sarah G. Evans

17:10 - 17:20

McCormick Place - S103ab

EP36B-05 Icy Riverine Landscapes: Mobilization and Fate of Carbon-rich Sediment in a Periglacial Braided River Corridor

Presenter: Suzanne P Anderson

17:30 - 17:40

McCormick Place - S103ab

EP36B-06 Direct Monitoring of Eroding Permafrost Riverbanks in the Yukon River

Presenter: Kieran Bernard Jiamin Dunne

17:40 - 17:50

McCormick Place - S103ab

EP36B-07 Drivers, dynamics and impacts of changing Arctic coasts

Presenter: Anna M. Irrgang

17:50 - 18:04

McCormick Place - S103ab



Wednesday

Oral Presentations

**EP36B-08 GLACIAL ISOSTATIC ADJUSTMENT SPEEDS PAST AND FUTURE ARCTIC
SUBSEA PERMAFROST THAW**

Presenter: **Roger Creel**

18:04 - 18:14

McCormick Place - S103ab



Thursday

Poster Presentations

Thursday, December 15th

Poster Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B42F-1689 Redox Profiles Across Thawing Permafrost in Stordalen Mire

Presenter: Parker Stoddard

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B42K-1760 Quantifying methane emissions from global land and freshwater ecosystems with process-based biogeochemistry models

Presenter: Qianlai Zhuang

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42C-1030 Coastal Erosion Rates of Cliffs on Disko Island, Greenland

Presenter: Aart Kroon

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42C-1031 Dissolved Organic Matter in an Arctic Subterranean Estuary

Presenter: Emily M Bristol

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42C-1032 Calibration of the Arctic Coastal Erosion Model at Drew Point, AK, Over a Permafrost Bluff Block Collapse Event in Summer 2018

Presenter: Jennifer Mary Frederick

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Thursday

Poster Presentations

C42C-1035 Results of Geotechnical monitoring at the scientific test site "Khanovey" in the North East part of Russian Arctic

Presenter: Vladislav Isaev

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42C-1036 Role of Landfast Ice on the Coastal Geomorphology of the Hudson Bay Lowlands

Presenter: Kaushik Gupta

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42C-1037 Seasonal Dynamics of Groundwater Flow and Transport in the Nearshore Arctic

Presenter: Cansu Demir

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42C-1038 Sub-seasonal Coastal Erosion Rates Calculated from PlanetScope Imagery in Arctic Alaska

Presenter: Alice C Bradley

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42C-1039 The Thermal Response of Permafrost to Coastal Flooding

Presenter: Yu Zhang

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42D-1067 Hypergravity Experiments and Physical Modeling of Cryospheric Processes

Presenter: Bruce Kutter

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Thursday

Poster Presentations

C42E-1069 Widespread Permafrost Degradation: Updates from Global Terrestrial Network for Permafrost

Presenter: **Dmitry A Streletskiy**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42E-1070 Assessment of the influence of dangerous cryogenic processes on engineering facilities in the Arctic

Presenter: Valery I Grebenets

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42E-1072 Monitoring the Seasonal and Interannual Ground-surface Displacement in Tundra Regions along the North Slope of Alaska

Presenter: **Soumitra Sakhalkar**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42E-1074 Correcting Regional Climate Bias in Reanalysis Forcing Products for The Warming Permafrost Model Intercomparison Project

Presenter: Jon Wells

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42E-1075 Long Term Ground Temperature Monitoring of the High Dry Andes: Implications for Permafrost Modelling

Presenter: Michael C Powers

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C42E-1076 Modeling Ground Temperature with Thermal Conductivities based on Soil Classification and Moisture in High Mountain Asia

Presenter: Kyung Yoon Kim

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A



Thursday

Poster Presentations

**C42E-1077 Rock Glacier kinematics and Distribution in Shigar and Shayok Basin
Based on Radar and Optical Remote Sensing**

Presenter: Javed Hassan

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

**C42E-1078 Mapping Rock Glaciers on the Tibetan Plateau from Planet Basemaps
Using Deep Learning**

Presenter: Zhangyu Sun

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

**C42E-1079 Regionalized Permafrost Active Layer Thickness Change From Nonlinear
Baseflow Recession**

Presenter: Matthew G Cooper

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

**C42E-1080 The Sensitivity of Hydrogeologic Models to Soil Freezing Characteristic
Curve Representation**

Presenter: Elise Devoie

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

**C42F-1085 Snow Property and Soil Moisture Estimation from a Mobile L-Band
Interferometric Synthetic Aperture Radar Platform**

Presenter: Elias J Deeb

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

**EP42A-41 Explosive Energy Release of Gas Emission Craters in the Russian Arctic and
their Associated Seismic Magnitudes: Estimates and Implications**

Presenter: Chris Carr

09:00 - 12:30

McCormick Place - Poster Monitor 3

Thursday

Poster Presentations

EP42A-42 A Rock Glacier Inventory of the Central Alaska Range, Alaska

Presenter: **Kaytan Kelkar**

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-43 Permafrost Distribution Mapping Using the Revised and Updated Rock Glacier Inventory of Himachal Pradesh, India

Presenter: Maithili Joshi

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-44 Evaluation of the probable permafrost distribution of Kinnaur district, Himachal Pradesh.

Presenter: Ipshita Priyadarsini Pradhan

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-45 Periglaciation in the Appalachian Highlands, Eastern USA

Presenter: **Raven Jezell Mitchell**

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-46 High-resolution mapping of discontinuous permafrost on the Seward Peninsula, Alaska using shallow geophysics and remote sensing

Presenter: Evan Thaler

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-47 Permafrost in Northern Hemisphere are shrinking at higher rate than in Southern Hemisphere.

Presenter: Kirti Kumar Mahanta

09:00 - 12:30

McCormick Place - Poster Monitor 3



Thursday

Poster Presentations

EP42A-48 Consistent Timing of Arctic Permafrost Loss Across the CESM1 Large Ensemble

Presenter: Killian McSweeney

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-50 Feedbacks between geomorphic processes and permafrost dynamics on soil-mantled hillslopes of Interior Alaska, USA

Presenter: **Zena V Robert**

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-51 Potential Talik Development Along Continuous Permafrost Hillslopes On The North Slope Of Alaska, USA

Presenter: Rachel H. Harris

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-52 Transient Hillslope Responses to Permafrost Loss

Presenter: Joel C Rowland

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-53 Sensitivity of Erosion-rate in Permafrost Landscapes to Changing Climatic and Environmental Conditions Based on Lake Sediments from Northwestern Alaska

Presenter: Eitan Shelef

09:00 - 12:30

McCormick Place - Poster Monitor 3

EP42A-54 Permafrost River Banks Shaped by Thaw-Dependent Fluvial Erosion

Presenter: **Josie Arcuri**

09:00 - 12:30

McCormick Place - Poster Monitor 3

Thursday

Poster Presentations

G42D-0263 Removing Atmospheric Noise from Interferograms in Mountainous Regions with a Deep Convolutional Neural Network

Presenter: George Brencher

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

GC42G-0781 Drawing on multiple ways of knowing to model environmental drivers of methylmercury bioaccumulation in the Beaufort Sea food web

Presenter: Amanda Giang

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

GC42P-0906 High-Resolution Data from Integrated Micrometeorological and Geophysical Studies within an Arctic City: Preliminary Results from Utqiagvik, AK

Presenter: Matthew G Jull

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

GC42U-0986 Winter Rain, Surface Icing, and Urban Transportation Hazards: Using Weather Station Data and Traffic Networks to Map Evolving Icing Hazards and Travel Risks in Anchorage, Alaska

Presenter: Matthew Berman

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

A45J-1980 Monitoring of air-surface exchange of total gaseous mercury in the Canadian Arctic at Alert, Nunavut, Canada

Presenter: Katrina Macsween

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Thursday

Poster Presentations

A45N-2055 Project FOCI - Non-CO2 Forcers and Their Climate, Weather, Air Quality and Health Impacts

Presenter: Tomas Halenka

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B45F-1775 Field Measurements of Net Greenhouse Gas Emissions from 'Perennialized' Annual Cropping Systems in a Cold Climate.

Presenter: Shannon Brown

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B45G-1797 How Does Gross Primary Production in Peatlands Depend on Water Table Depth? Insights Based on Satellite Retrievals of Solar Induced Chlorophyll Fluorescence

Presenter: Michel Bechtold

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B45G-1802 Plant Functional Trait and Species Distribution Reflect Temperature Differences on Polygonal Periglacial Patterned Ground in the Pintler Mountains of Montana

Presenter: **Martha E Apple**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B45K-1852 Dispersing Microbial Communities Increases Variability in Methane Fluxes in Arctic Sweden

Presenter: Torin Scalora-Riley

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Thursday

Poster Presentations

B45K-1857 Linking Lateral Carbon Transport to Vertical Carbon Fluxes across the Terrestrial-Aquatic Interface in a Thawing Permafrost Peatland

Presenter: Cheristy Jones

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B45K-1860 Methane emission observed at glaciers terminus area in Alaska, 2019-2022

Presenter: Keiko Konya

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B45K-1861 Quantifying Methane Emissions from Land and Aquatic Ecosystems in Western Siberia from 2000 to 2021

Presenter: Xuan Xi

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B45K-1864 Variability in Edge and Center Methane Fluxes in Two Post-Glacial Lakes in Northern Sweden

Presenter: Claire Beezley

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C45D-1116 The early retreat of the Western Antarctic Ice Sheet documented by ultra-high-resolution Holocene paleoclimate record from the Edisto Inlet Fjord (northern Victoria Land, Antarctica).

Presenter: Francesca Battaglia

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Thursday

Poster Presentations

EP45C-1665 Parent Material can set the Threshold for Soil Water Residence Time Controls on Mineral Soil Carbon Stocks and Thus Carbon-Climate Feedbacks in Boreal Forests

Presenter: Mackenzie Elizabeth Patrick

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

EP45C-1669 Partitioning the Fate of Soil Carbon Dioxide Between Losses to Atmosphere and Subsurface Hydrologic Flow Paths

Presenter: Ashif Hasan Abir

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

H45I-1501 Evaluating Soil Freeze Thaw Approaches for Hydrologic Models Using the Next Generation Water Resources Modeling Framework

Presenter: Ahmad Jan

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

H45P-1588 Detecting Hydrological Connectivity in Polar Environments Using Silicon Isotopes

Presenter: Sophie Opfergelt

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

H45P-1594 Hydrology of a 'Glacier – Debris-covered Glacier – Rock Glacier' system in a Changing Climate

Presenter: Kaiyuan Wang

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Thursday

Poster Presentations

IN45B-0359 Globally Mapping Arctic Beaded Streams with Computer Vision and Planet Imagery

Presenter: Merritt Harlan

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

IN45B-0380 Multi-scale mapping of river and lake ice conditions using multi-source satellite observations over Alaska

Presenter: Jinyang Du

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

NS45A-0317 Too many trees? Finding the point where vegetation density obscures valid deformation measurements using polarimetric InSAR

Presenter: Elizabeth Wig

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

NS45A-0321 Characterization of reservoir ice phenology using an automatic detection algorithm based on Sentinel-2A

Presenter: Doris Domart

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

NS45B-0324 Optimized ERT Depth Electrode Placement for Permafrost Basal Thaw Imaging

Presenter: Dan R Glaser II

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Thursday

Online Presentations

Online Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B41H-01 Estimating Global Pattern of Soil Methane Uptake Using a Geostatistical Model Related to Soil Properties

Presenter: Jiawei Jiang

08:00 - 08:10

Online Only

H44D-01 Determination of Soil Hydraulic and Thermal Properties for an Antarctic Area: Column Experiments and Inverse Modeling

Presenter: Jeonga Kim

13:45 - 13:55

Online Only

IN44B-02 L-Band InSAR for Measuring Ground Displacement in Vegetated Arctic Landscapes and Sinking Cities

Presenter: Murray Down

13:55 - 14:05

Online Only

NH44A-02 Deep-learning Characterization of Geohazards in Qinghai Tibet Engineering Corridor

Presenter: Yiling Lin

13:55 - 14:05

Online Only

C44A-03 TexStructCNN - a Deep Learning based Image Segmentation Technique for Permafrost Landscape Characterization

Presenter: Anjishnu Mahanta

14:00 - 14:07

Online Only

Thursday

Oral Presentations

Oral Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B42D-01 Understanding the northern carbon budget: new insights gained from NASA's Arctic Boreal Vulnerability Experiment (ABOVE)

Presenter: **Jennifer Watts**

09:00 - 09:10

McCormick Place - S406b

B42D-02 Accounting for landscape heterogeneity in eddy covariance fluxes and effects on carbon budgets when scaling in the Yukon-Kuskokwim Delta, AK

Presenter: Sarah Ludwig

09:10 - 09:20

McCormick Place - S406b

Increasing wave energy moves Arctic continental shelves toward a new future

Presenter: John Malito

09:10 - 09:20

McCormick Place - AGU Central Career Center Pod - Hall A

B42D-04 Regional scale patterns of remotely sensed methane hotspots with respect to Arctic lake change and thermokarst geomorphology

Presenter: Clayton Elder

09:30 - 09:40

McCormick Place - S406b

B42E-04 Plant-Mediated Gas Transport as Consequential but Little-Understood Process Governing Methane Emissions in both Tropical Forests and Thawing Permafrost Arctic Wetlands

Presenter: Laetitia M Brechet

09:30 - 09:40

McCormick Place - S501bcd

Thursday

Oral Presentations

B42E-06 Beyond what the eye can see: using high-resolution UAS-derived hyperspectral imagery to classify boreal peatland vegetation

Presenter: Sophia A Burke

09:50 - 10:00

McCormick Place - S501bcd

B42D-07 Nested Arctic Flux Measurements in the Inuvialuit Settlement Region (NT, Canada)

Presenter: Oliver Sonnentag

10:00 - 10:10

McCormick Place - S406b

NS42A-08 Demonstrating Spaceborne P-band Signals of Opportunity Reflectometry

Presenter: James L Garrison

10:16 - 10:25

McCormick Place - S104b

NS43A-01 Quantification of the Bedrock-Through-Canopy Controls on Subsurface Thermal and Hydrological Regimes Across an Arctic Watershed in a Discontinuous Permafrost Environment

Presenter: **Baptiste Dafflon**

11:00 - 11:10

McCormick Place - S104b

B43C-01 Diagnosing Diverse SIF Products for Studying Global Terrestrial Ecology

Presenter: Nima Madani

11:02 - 11:12

McCormick Place - S405a

NS43A-03 Improving the delineation of mountain permafrost with Induced Polarization through electrical and electromagnetic methods

Presenter: Adrian Flores Orozco

11:20 - 11:30

McCormick Place - S104b

Thursday

Oral Presentations

B43D-04 Legacy Soil Organic Matter Age Predicts Boreal Soil Carbon Cycling After Fire

Presenter: Brian Izbicki

11:30 - 11:40

McCormick Place - S406b

NS43A-06 Snow Density Estimation and Spatial Prediction for Distributed Snow Water Equivalent from Ground-based Radar and Airborne Lidar Observations

Presenter: Tate Meehan

11:50 - 12:00

McCormick Place - S104b

B43D-07 Patterns of Vegetation Change in Yukon: Recent Findings and Future Research in Dynamic Subarctic Ecosystems

Presenter: Kirsten A Reid

12:00 - 12:10

McCormick Place - S406b

P43B-07 Transient, Brine-Mobilized Flows on Vesta and Ceres

Presenter: Jennifer E. C. Scully

12:04 - 12:14

McCormick Place - S403b

B43D-08 Linking Repeat LiDAR with Landsat Products for Large Scale Quantification of Fire-induced Permafrost Thaw Settlement in Interior Alaska

Presenter: Caiyun Zhang

12:10 - 12:20

McCormick Place - S406b

B45E-02 Shallow or deep? Belowground nitrogen acquisition strategies of dominant tundra plant species

Presenter: Colleen M. Iversen

14:55 - 15:05

McCormick Place - S406b



Thursday

Oral Presentations

H45A-02 Development of the Prairie Hydrology Design and Analysis Product (PHyDAP)

Presenter: Kevin Shook

14:55 - 15:05

McCormick Place - E353c

B45C-03 High Interannual Variability of Thaw Pond Area in the Indigirka River Lowlands, a Siberian Arctic Tundra Landscape

Presenter: Jakob Assmann

15:09 - 15:19

McCormick Place - S501a

A45E-03 Interactions between inland water bodies and the atmosphere in a cold climate

Presenter: Daniel Nadeau

15:10 - 15:20

McCormick Place - E353ab

B45E-04 Decadal-scale modeling of patch-scale shrub cover change in the Seward Peninsula, Alaska

Presenter: **Aiden I. G. Schore**

15:15 - 15:25

McCormick Place - S406b

B45A-06 Integrating omics, machine learning, and process-based land surface model to predict environmental feedbacks of microbial functions and its implication for soil carbon emission

Presenter: Yang Song

15:36 - 15:46

McCormick Place - S501bcd



Thursday

Oral Presentations

B45E-07 Aboveground Biomass Changes Indicating Shifting Boreal Ecosystem Function Across the Discontinuous to Sporadic Permafrost Region

Presenter: Linda Flade

15:45 - 15:55

McCormick Place - S406b

B45C-07 Tracking dynamic wetland vegetation communities after a flood event with airborne AVIRIS-NG, UAVSAR, UAV LiDAR, and PlanetScope data in Peace-Athabasca Delta

Presenter: Chao Wang

15:49 - 15:59

McCormick Place - S501a

B45C-08 Estimating Leaf Area Index of Peatland Conifers Using Terrestrial Lidar and a Voxel-Based Method

Presenter: Angela Seibert

15:59 - 16:09

McCormick Place - S501a

C46B-01 Spatial Heterogeneity of Arctic Tundra Snow and Water Storage using Remotely Piloted Aircraft Systems (RPAS)

Presenter: B. Walker

16:45 - 16:55

McCormick Place - S504d

A46B-02 Investigating the Sources, Persistence and Emissions of Ice-Nucleating Particles in the Arctic Tundra

Presenter: Thomas Christopher James Hill

16:55 - 17:05

McCormick Place - E270



Thursday

Oral Presentations

OS46A-02 Impacts of Changing Arctic Hydrodynamics and Wave Conditions on Maritime Transportation and Reverberations

Presenter: Celso Ferreira

17:00 - 17:10

McCormick Place - S102cd

B46A-05 Methylo-trophic Metabolism in the Mire: Unearthing Direct and Indirect Routes for Methane Production in a Model Permafrost Thaw Peatland

Presenter: Jared Ellenbogen

17:25 - 17:35

McCormick Place - S405a

C46B-06 Interpreting Snowmelt Events from Passive Microwave Observations

Presenter: Angela Rienzo

17:35 - 17:45

McCormick Place - S504d

B46B-07 Abrupt increase in subarctic wildfires following permafrost thawing

Presenter: In-Won Kim

17:45 - 17:55

McCormick Place - S406b

C46B-07 Enhance! Combining active and passive spaceborne microwave observations to produce day-scale, sub-kilometer resolved snowmelt imagery.

Presenter: George Duffy

17:45 - 17:55

McCormick Place - S504d

Friday

Poster Presentations

Friday, December 16th

Poster Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

B52F-0892 Spatial variability of soil moisture in the discontinuous permafrost zone of Interior Alaska.

Presenter: **Alexander L Kholodov**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0933 A Model Parameter Sensitivity Comparison Across Two Alaskan Sites in Continuous and Discontinuous Permafrost Tundra

Presenter: Valeria Briones

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0936 Beaver Disturbance & Arctic Methane Emissions

Presenter: Jason Clark

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0937 Benchmarking land surface models in the Arctic-Boreal region

Presenter: Jeralyn M Poe

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0938 Boreal Tree Adaptation to Seasonal Drought Conditions: A Water Use Perspective

Presenter: Jessica M Young-Robertson

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A



Friday

Poster Presentations

B52I-0940 Carbon Dioxide and Methane Fluxes in the Yukon-Kuskokwim Delta Permafrost

Presenter: David Michael Davis

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0941 Challenges in Characterizing Geospatial Relationships of Topography in the Arctic

Presenter: Latha Baskaran

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0942 Changes in Plant Functional Group Biomass and Tissue Nutrient Content Across Stages of Ice-wedge Degradation and Re-stabilization in the Arctic Tundra of Jago River Reserve and Prudhoe Bay, Alaska

Presenter: Kelcy Kent

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0944 Consequences of Shrub Expansion in the Boreal Forest: Quantifying Alder's Seasonal Ecophysiological Dynamics

Presenter: Samuel Dempster

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0951 Evaluating Post-Fire Changes in Soil Microbial Communities Involved in Nitrogen Cycling in the Arctic Tundra

Presenter: Alma Hernandez

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A



Friday

Poster Presentations

B52I-0952 Examining Responses of Thermokarst Lake Water Chemistry to Climate and Landscape-Driven Influences in Old Crow Flats, Yukon, Canada

Presenter: Michelle Pearce

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0953 Exploring Fine-scale Drivers of Methane Sources and Sinks in a Boreal Wetland

Presenter: **Mary Farina**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0955 Following the Tundra's Water: Factors that may influence water movement from plateaus to fens in Yup'ik territory of the Yukon-Kuskokwim Delta, Alaska.

Presenter: Esmeralda Torres Martinez

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0956 Forecasting Net Forest Biomass Changes for Land Management in Interior Alaska

Presenter: Jackie Dean

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0957 Heterogeneity in Carbon Dioxide Fluxes Within Flux Footprints Driven by Wildfire and Permafrost Thaw

Presenter: Jacqueline Hung

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A



Friday

Poster Presentations

B52I-0961 Implications of Thermokarst Landforms on Carbon Cycling in the Yukon Kuskokwim Delta, Alaska

Presenter: Tiffany Windholz

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0962 Intensified winter precipitation-induced enzymic latch mechanism in moist Arctic tundra may be impeded by an extreme summer drought

Presenter: Jinhyun Kim

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0963 Investigating the Effects of 20 Years of Nitrogen and Phosphorus Fertilization on Boreal Forest Plant and Soil Carbon Pools

Presenter: Ellery Vaughan

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0965 Patterns and Controls of Ecosystem Carbon Sequestration and Emissions along a Hillslope-Gradient of Boreal Forest Stands in Alaska

Presenter: Giselle Jimenez

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0967 Physical and Chemical Properties of Alaskan Boreal Forest and Tundra Soils in Relation to Carbonyl Sulfide Fluxes

Presenter: Ryan Hunt

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0968 Physics-based Algorithm for Radar Retrieval of Subsurface Geophysical Parameters in Permafrost Active Layer Soil

Presenter: Kazem Bakian Dogaheh

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Friday

Poster Presentations

B52I-0970 Quantifying Variations in Soil C:N Relationships for the Permafrost Region.

Presenter: Joshua Minai

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52I-0977 Wildfires and Lake Characteristics May Influence Zooplankton Communities in the Yukon-Kuskokwim Delta, Alaska

Presenter: Madeline Frey

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

B52J-0996 What the Blazes? Using evidence-based uncertainty estimates to find what we really know about the world's changing fire regimes.

Presenter: Douglas Ian Kelley

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52C-0362 Mapping Retrogressive Thaw Sumps (RTS) Using Transformer-Based Neural Networks

Presenter: Ridhima Singh

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52C-0363 A Deep-learning-based Framework for Locating Retrogressive Thaw Slumps over the Permafrost Regions on the Qinghai-Tibetan Plateau

Presenter: Xia Zhuoxuan

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52D-0384 Monitoring drained lake events and subsequent impacts on water biogeochemistry and ground conditions in Old Crow Flats, Yukon, Canada

Presenter: **Kevin W Turner**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A



Friday

Poster Presentations

C52D-0385 Land Cover Patterns for selected Drained Lake Basins in Yamal, Siberia.

Presenter: Clemens von Baeckmann

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52D-0386 Has a Threshold Been Crossed in the Direction and Rate of Thermokarst Lake Drainage in the Western Canadian Arctic?

Presenter: Robin Thorne

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52D-0387 Post-drainage Evolution of Drained Lake Basins in Old Crow Flats, Yukon Territory

Presenter: Danielle Chiasson

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52D-0388 Assessing Net Methylmercury Potential in Recently Drained Basins in Old Crow Flats, Yukon, Canada

Presenter: Nicole Corbiere

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52D-0389 Genomic Analysis of Microorganisms That Influence Methylmercury Accumulation in Thawing Permafrost of Old Crow Flats, Yukon, Canada

Presenter: Nathalie Tremblay

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

C52D-0390 Landscape Reorganization Caused by Cascading Arctic Lake Drainage

Presenter: **Benjamin M Jones**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

Friday

Poster Presentations

C52D-0391 Regional-scale assessment of Holocene lake drainage ages in Arctic permafrost – first results

Presenter: Juliane Wolter

09:00 - 12:30

McCormick Place - Poster Hall, Hall – A

C52D-0392 Mapping Drained Lake Basins in Permafrost Lowlands on a Circumpolar Scale

Presenter: **Helena Bergstedt**

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H52J-0579 Hydrological trends over six decades at the Marcell Experimental Forest: Harbingers of change along the southern boundary of the boreal peatland zone.

Presenter: Stephen D Sebestyen

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

H52K-0608 Effect of fines on the formation of vugs and fractures in sandy sediments using synchrotron microtomography

Presenter: Jamal Adel Hannun

09:00 - 12:30

McCormick Place - Poster Hall, Hall – A

P52D-1576 Titan's Raised Rim Depressions: Maars or Gas Explosion Craters?

Presenter: Gwendolyn Brouwer

09:00 - 12:30

McCormick Place - Poster Hall, Hall - A

PP52E-0467 Late Neogene leaf wax and polycyclic aromatic hydrocarbon records from Lake Baikal, Russia

Presenter: Joseph Novak

09:00 - 12:30

McCormick Place - Poster Hall, Hall – A

Friday

Poster Presentations

B55D-1011 Modeling and Validation of a Half-hourly Soil Carbon Flux Product at Select NEON Sites

Presenter: John M Zobitz

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

B55D-1016 Toward Automated Data-Model Calibration for the Arctic Terrestrial Ecosystem Model

Presenter: **Elchin E Jafarov**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55C-0412 Accelerating rates of glacier change and topographic controls, Glacier National Park, MT, USA: 1966-2021

Presenter: Chris McNeil

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55C-0414 Automated mapping of seasonal snowlines on glaciers in the North American Cordillera using PlanetScope imagery

Presenter: Rainey Aberle

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55C-0420 Impact of Glacier Changes and Permafrost Distribution on Debris Flows in Badswat and Shishkat catchments, Northern Pakistan

Presenter: Wajid Hassan

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55D-0428 Arctic Lake Volume Variability Quantified Using Satellite Altimetry and Optical Remote Sensing

Presenter: Eric Levenson

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Friday

Poster Presentations

C55D-0431 Geospatial Analysis of Stordalen Mire Plant Composition From 2021-2022

Presenter: AiLi Pigott

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55D-0433 How might Canadian Shield surface water drainage pattern change in a wetter climate?

Presenter: Nimisha Wagle

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55D-0434 Ice-wedge Degradation Stage Mapping Using Spectral and Geometric Properties

Presenter: **Katherine Braun**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55D-0437 Stordalen Mire Spectral Signature Library for Spectral Unmixing Using Sherwin Williams ColorSnap® Tool

Presenter: Bianca Cilento

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

C55D-0438 Unpiloted Aerial System Remote Sensing Applications to Cold Region Weather Disasters

Presenter: Megan Verfaillie

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

ED55D-0187 Engaging students in Polar Science: New undergraduate-level curriculum combines polar field data, 360-degree virtual experiences and GIS to transport students to Greenland

Presenter: Alia Lauren Khan

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Friday

Poster Presentations

ED55D-0188 Polar Explorer: An Interactive Virtual Field Trip-Based Exploration of Alaska and the Changing Arctic

Presenter: Chris Mead

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

EP55C-0802 Terrestrial Impact Craters: Hotspots for Natural Resources

Presenter: Shania James

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

EP55C-0806 A Multiscale Surface Roughness Analysis of Polygons on Mars Using HiRISE Digital Terrain Models

Presenter: Paul Knightly

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55F-0297 Determination of Ice Content using Latent Heat during Soil Freezing and Thawing

Presenter: **Tugce Baser**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55F-0298 Evaluation of Soil Freezing in CMIP6 Projections and Their Land Components

Presenter: Zhicheng Luo

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0344 60 Years of Near-Surface Permafrost Monitoring in Utqiagvik, Alaska

Presenter: **Kelsey E Nyland** - USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Friday

Poster Presentations

GC55K-0345 Assessing Landscape Vulnerability to Permafrost Thaw, Wildfires, and Hydrologic Changes on Boreal Alaska

Presenter: **Helene Genet** - **USPA 20th Anniversary Special Presentation**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0346 Assessing Micrometeorological Differences Related to the Built Environment in Utqiagvik, Alaska

Presenter: Mirella Shaban - **USPA 20th Anniversary Special Presentation**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0347 Environmental Controls on Subsurface Temperature and Permafrost Thaw Progression at a Discontinuous Permafrost Site in Interior, AK

Presenter: **Joel Eklof** - **USPA 20th Anniversary Special Presentation**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0348 Estimating Rates of Permafrost Degradation and their Impact on Ecosystems across Alaska: Arctic and Subarctic Engineering Design Tool.

Presenter: **Sergey S Marchenko** - **USPA 20th Anniversary Special Presentation**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0349 - Evaluating the Impact of Snow and Ice Roads on Tundra Landscapes in Northern Alaska

Presenter: **Bob Bolton** - **USPA 20th Anniversary Special Presentation**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0350 High-Resolution Soil Moisture for the Northern Latitude Regions to Monitor Permafrost Critical for Climate Change Studies

Presenter: Ehsan Jalilvand - **USPA 20th Anniversary Special Presentation**

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Friday

Poster Presentations

GC55K-0351 Ice-wedge Degradation and Stabilization in the Prudhoe Bay Oilfield, Alaska (2011-2022)

Presenter: **Mikhail Z Kanevskiy** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0352 Laboratory Testing of Thermosyphon Fin Designs

Presenter: **Anna M Wagner** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0353 Multiphysics Model for Local Water and Ice Contents in Thawing Permafrost: Model Description and Verification

Presenter: Yeong Min Kim – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0354 Rapid and gradual permafrost thaw: A tale of two sites

Presenter: **Burke J Minsley** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0355 Remotely sensing 71 years of Permafrost Soil Cultivation in Fairbanks, Alaska, USA

Presenter: **Benjamin M Jones** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0356 - Spatial and Temporal Influences of Infrastructure on Seasonal Snowmelt Timing, Vegetation Productivity and Early Season Surface Water Alaskan Coastal Communities

Presenter: **Helena Bergstedt** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A



Friday

Poster Presentations

GC55K-0357 Spatial Autocorrelation Analysis of a 28 Year Active Layer Thickness Record from North-Central Alaska

Presenter: **Vasily Andreevich Tolmanov** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0358 Tensile Capacity of a Single Helix Helical Pile under Changing Environmental Conditions

Presenter: **Tugce Baser** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0359 The stable water isotope, carbon and nitrogen, and trace metal composition representing the most recent 40,000 years of Interior Alaska permafrost- implications for formation and thaw processes

Presenter: **Thomas A Douglas** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

GC55K-0360 Thermokarst processes observed by remote sensing and ground surveys at intact and disturbed tundra on the North Slope, Alaska

Presenter: **Go Iwahana** – USPA 20th Anniversary Special Presentation

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

P55G-1666 Development of a Global Thermal Model of Europa

Presenter: Sam Aberbook

14:45 - 18:15

McCormick Place - Poster Hall, Hall - A

Friday

Online Presentations

Online Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

C51A-01 Snow acoustic and optical measurements and modeling

Presenter: Zoe Courville

08:00 - 08:10

Online Only

GC51C-01 Disparate permafrost landscape changes following the 2015 Sagavanirktok River Flood, Alaska

Presenter: **Simon Zwieback** – USPA 20th Anniversary Special Presentation

08:00 - 08:10

Online Only

GC51C-02 Secrets of the North Slope: Hydroclimate Influences on Pingo Development in Northern Alaska

Presenter: Logan Wieland – USPA 20th Anniversary Special Presentation

08:10 - 08:20

Online Only

GC51C-03 Understanding Permafrost Landscape Evolution: Ice-Wedge Trough Network Change Detection from Historical Aerial Imagery using Convolutional Neural Networks and Graph Analysis

Presenter: **Elias Manos** – USPA 20th Anniversary Special Presentation

08:20 - 08:30

Online Only

B51E-04 Shifting Growth Drivers of Arctic-Boreal Plant Functional Types Due to Climate Change Using the Individual-Based Gap Model, SIBBORK-TTE

Presenter: Elise Heffernan

08:30 - 08:40

Online Only



Friday

Online Presentations

EP51A-13 Climate Change-driven Erosion and Sediment Dynamics in Cryospheric Basins

Presenter: Ting Zhang

08:55 - 09:00

Online Only

C54A-01 AOGCM Extension of the PIOMAS Full Historic Data Set: 2022 and the Next Ten Years

Presenter: PattiMichelle Sheaffer

13:45 - 13:55

Online Only

B54B-01 Climate, Manganese, and Soil Carbon Stability

Presenter: Elizabeth Paulus

13:55 - 14:05

Online Only

Friday

Oral Presentations

Oral Presentations

Presentations are in order of day, type (poster, online only, or oral), and time. USPA members are identified by **green lettering**.

C52B-01 Towards a Deep-Learning based Inventory of Retrogressive Thaw Slumps across the Arctic

Presenter: Ingmar Nitze

09:00 - 09:10

McCormick Place - S504d

PP52A-01 Identifying Past Episodes of Ice-Rich Permafrost Thaw from Lake Sediments

Presenter: Melissa L Chipman

09:02 - 09:12

McCormick Place - S405a

GC52E-01 A Framework to Support a Standardized Accounting of Soil Carbon Sequestration and Greenhouse Gass Reductions

Presenter: Charles W Rice

09:02 - 09:13

McCormick Place - S503ab

C52B-02 Big Imagery in Action: The First Pan-Arctic Ice-wedge Polygon Map

Presenter: Chandi Witharana

09:10 - 09:20

McCormick Place - S504d

H52C-02 Warmer and muddier rivers in High Mountain Asia

Presenter: Dongfeng Li

09:11 - 09:21

McCormick Place - E265



Friday

Oral Presentations

C52B-03 Remote Sensing of ice wedge systems through varying spatial scales with a focus on NDVI

Presenter: **Melissa Ward Jones**

09:20 - 09:30

McCormick Place - S504d

PP52A-03 Morphometry of Glacigenic and Periglacial Lakes across Canada

Presenter: Tahi Wiggins

09:22 - 09:32

McCormick Place - S405a

C52B-04 Recent progress within the framework of ESA CCI+ Permafrost

Presenter: Annett Bartsch

09:30 - 09:40

McCormick Place - S504d

SY52A-04 The Art-Water-Climate Connection: Changing Attitudes through Art

Presenter: Louise Arnal

09:30 - 09:40

McCormick Place - N426c

C52B-05 Expanding beaver engineering exacerbates changes in the Arctic

Presenter: Ken D Tape

09:40 - 09:50

McCormick Place - S504d

C52B-06 Mapping Surface Organic Soil Properties in Arctic Tundra using C-band SAR data

Presenter: Yonghong Yi

09:50 - 10:00

McCormick Place - S504d

Friday

Oral Presentations

C52B-07 Monitoring changes in seasonal lake inundation regimes in the Mackenzie River Delta using Sentinel-1 SAR time series

Presenter: Ben DeVries

10:00 - 10:10

McCormick Place - S504d

ED53A-06 Fresh Eyes on Ice

Presenter: Terri Mynatt

11:53 - 12:03

McCormick Place - N426ab

GC53A-07 Hydrometeorology and terrestrial hydrology in Alaska and Yukon River Basin: a high-resolution coupled land-atmosphere modeling (1990-2020) informed by knowledge co-production

Presenter: Yifan Cheng

12:08 - 12:19

McCormick Place - S504abc

ED55A-01 - There's more beneath the surface; discussions on disabled inclusivity in polar research

Presenter: Access Polar

14:45 - 14:55

McCormick Place - N426c

GC55B-01 Next Generation Permafrost Map for Alaska

Presenter: **Torre Jorgenson** - USPA 20th Anniversary Special Presentation

14:46 - 14:56

McCormick Place - S504abc

GC55B-02 Warming and Thawing Permafrost in Alaska

Presenter: **Vladimir E Romanovsky** - USPA 20th Anniversary Special Presentation

14:56 - 15:06

McCormick Place - S504abc

Friday

Oral Presentations

GC55B-03 TRANS-ALASKA PIPELINE SYSTEM - ADAPTING TO PERMAFROST WARMING

Presenter: **Wendy Mathieson** – USPA 20th Anniversary Special Presentation

15:06 - 15:16

McCormick Place - S504abc

GC55D-03 Initial Soil Organic Carbon Stocks Govern Changes in Soil Carbon: Reality or Artifact?

Presenter: Eric Slessarev

15:09 - 15:20

McCormick Place - S503ab

ED55A-04 - Broadening and evaluating “broader impacts” in cryospheric and polar sciences proposals and research

Presenter: Lauren Miller Simkins

15:15 - 15:25

McCormick Place - N426c

H55D-04 Assessing the Impact of Soil Carbon Amendments on Water Quality and the Potential to Address Legacy Contaminants during Flood-Managed Aquifer Recharge

Presenter: Jennifer Lee Pensky

15:15 - 15:25

McCormick Place - E353c

GC55B-04 Results of Long-term Active Layer Monitoring in Permafrost-Affected Areas of Alaska.

Presenter: Nikolay I Shiklomanov – USPA 20th Anniversary Special Presentation

15:16 - 15:26

McCormick Place - S504abc

Friday

Oral Presentations

ED55A-05 - Progress and challenges by early career polar scientists (USAPECS) in addressing inclusivity, diversity, equity, and accessibility

Presenter: Lavanya Ashokkumar

15:25 - 15:35

McCormick Place - N426c

GC55B-05 Permafrost and Climate Change: Carbon Cycle Feedbacks From the Warming Arctic

Presenter: **Edward Schuur** – USPA 20th Anniversary Special Presentation

15:26 - 15:36

McCormick Place - S504abc

GC55B-06 - Coastal Change Research Along Alaska's Arctic Coast

Presenter: **Ann Gibbs** – USPA 20th Anniversary Special Presentation

15:36 - 15:46

McCormick Place - S504abc

C55A-06 Developing an Enhanced Global Record of Soil Specific Freeze/Thaw States

Presenter: Jeremy M Johnston

15:40 - 15:48

McCormick Place - S505ab

ED55A-07 - Polar Impact: A Field Work Survival Guide for All

Presenter: Emma Renee Robertson

15:45 - 15:55

McCormick Place - N426c

SH55B-07 The University of Alaska Space Weather Underground Program: Student-built magnetometer array using unique construction and deployment techniques.

Presenter: Austin Cohen

15:45 - 15:55

McCormick Place - S403a

Friday

Oral Presentations

GC55B-07 A Field-Based Rainfall Simulator Tests the Influence of Vegetation on Soil Biogeochemistry and Hydrothermal Properties in Discontinuous Permafrost

Presenter: **Shannon Dillard** – USPA 20th Anniversary Special Presentation

15:46 - 15:56

McCormick Place - S504abc

B55A-08 Combining nutrient competition, dynamic vegetation, and parameter calibration to improve projected boreal forest responses to changing climate

Presenter: Jennifer A. Holm

15:48 - 15:57

McCormick Place - S501bcd

GC55B-08 Extending the Life of Foundations on Permafrost Relying on Thermosyphons in Alaska

Presenter: **Edward Yarmak** – USPA 20th Anniversary Special Presentation

15:56 - 16:06

McCormick Place - S504abc

GC55B-09 An Analysis of Alaskan Permafrost Literature and it's Relation to Climate Change and Infrastructure

Presenter: **Kristina Levine** – USPA 20th Anniversary Special Presentation

16:06 - 16:14

McCormick Place - S504abc

B56A-03 Sensitivity of Soil Organic Carbon and Chemical Weathering Dynamics to Variations in Landcover, Lithology, and Aspect in High Elevation Montane Systems

Presenter: Lena Bixby

17:05 - 17:15

McCormick Place - S405a