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

INTRODUCTION ................................................................................................................................................. 2

DAILY PRESENTATIONS TABLE ........................................................................................................................... 4

BOOTH EXHIBITS .............................................................................................................................................. 4

MEETINGS RELATED TO PERMAFROST ............................................................................................................. 7

PRESENTATIONS.................................................................................................................................................. 6

MONDAY, DECEMBER 12TH .............................................................................................................................. 9

POSTER PRESENTATIONS............................................................................................................................... 9
ONLINE PRESENTATIONS............................................................................................................................... 15
ORAL PRESENTATIONS................................................................................................................................. 17

TUESDAY, DECEMBER 13TH ............................................................................................................................ 25

POSTER PRESENTATIONS............................................................................................................................... 25
ONLINE PRESENTATIONS............................................................................................................................... 33
ORAL PRESENTATIONS................................................................................................................................. 35

WEDNESDAY, DECEMBER 14TH ...................................................................................................................... 39

POSTER PRESENTATIONS............................................................................................................................... 39
ONLINE PRESENTATIONS............................................................................................................................... 42
ORAL PRESENTATIONS................................................................................................................................. 44

THURSDAY, DECEMBER 15TH ........................................................................................................................... 50

POSTER PRESENTATIONS............................................................................................................................... 50
ONLINE PRESENTATIONS............................................................................................................................... 61
ORAL PRESENTATIONS................................................................................................................................. 62

FRIDAY, DECEMBER 16TH ................................................................................................................................. 68

POSTER PRESENTATIONS............................................................................................................................... 68
ONLINE PRESENTATIONS............................................................................................................................... 81
ORAL PRESENTATIONS................................................................................................................................. 83
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
- Solifluxion
- 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

![Sponsor Logos]

Suggested Citation


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Michael Lilly, USPA CCOM Chair: mlilly@gwscientific.com
Jerry Brown, Guide Co-author: jerrybrown@igc.org
Daily Totals
for Presentations

Daily Presentations

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Poster</th>
<th>Online</th>
<th>Oral</th>
<th>Daily Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, 12th</td>
<td>30</td>
<td>10</td>
<td>47</td>
<td>87</td>
</tr>
<tr>
<td>Tuesday, 13th</td>
<td>42</td>
<td>7</td>
<td>20</td>
<td>69</td>
</tr>
<tr>
<td>Wednesday, 14th</td>
<td>14</td>
<td>6</td>
<td>29</td>
<td>49</td>
</tr>
<tr>
<td>Thursday, 15th</td>
<td>60</td>
<td>5</td>
<td>32</td>
<td>97</td>
</tr>
<tr>
<td>Friday, 16th</td>
<td>74</td>
<td>8</td>
<td>33</td>
<td>115</td>
</tr>
<tr>
<td>Totals</td>
<td>220</td>
<td>36</td>
<td>161</td>
<td>417</td>
</tr>
</tbody>
</table>

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. Ukpeaġvik 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, 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 Abuah
09:00 - 12:30
McCormick Place - Poster Hall, Hall - A

**B12I-1156 Nitrous Oxide Emissions from Thawing Permafrost: A Microcosm Study**
Presenter: Yanchen 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
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 Pensinula 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
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 Steir 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
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, 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

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
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 VanderJeugdt
14:45 - 18:15
McCormick Place - Poster Hall, Hall - A

B25D-1591 Topography Controls Carbon Storage and Availability in an Arctic Desert
Presenter: Fernando Montaño 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
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
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
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
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 Preliminarily Report of Field Observation
Presenter: Kazuki Yanagiya
14:05 - 14:15
Online Only
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

Presenter: Nicole Guinn
10:00 - 10:10
McCormick Place - S105d
**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, 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 Bikhmullina
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
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
Online Presentations

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**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
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
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
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
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
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

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

Presenter: Ipshita Priyadarshini 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

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 Utqiaġvik, 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
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
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
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 Methylotrophic 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
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
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
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
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

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: Vasiliiy 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
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
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
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
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
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
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
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