



**Ecoss @ #AGU2019
Annual Fall Meeting**

San Francisco, CA | December 9 – 13, 2019

Sunday, Dec. 8

9 – 5pm

9th Annual Meeting of the Permafrost Carbon Network

Parc 55 Hotel, Room Embarcadero. Registration required. Meeting Organizers:
Christina Schädel and Ted Schuur. Details are posted
here: <http://www.permafrostcarbon.org/upcoming%20meetings.html>

Monday, Dec. 9

8:00-10:00

Session Chair: Michelle Mack

The Resilience and Vulnerability of Arctic and Boreal Ecosystems to Climate
Change I

Location: Moscone West – 3001, L3

Session: B11D

8:45-9:00

Invited Talk: **Katharyn Duffy**

Location: Moscone West – 3007, L3

How Close Are We to the Temperature Tipping Point of the Terrestrial
Biosphere?

Session: B11B-04

10:20-12:20

Session Chair: Michelle Mack

The Resilience and Vulnerability of Arctic and Boreal Ecosystems to Climate
Change II

Location: Moscone West – 3001, L3

Session: B12D

13:40 – 15:40

Session Chair: Michelle Mack

B13D - The Resilience and Vulnerability of Arctic and Boreal Ecosystems to
Climate Change III

Location: Moscone West – 3001, L3

Session: B13D



Monday, Dec. 9 (cont.)

13:40 – 15:40

Session Chair: Michelle Mack

The Resilience and Vulnerability of Arctic and Boreal Ecosystems to Climate Change IV

Location: Moscone West – 3001, L3

Session: B14D

13:40-18:00

Poster: Shuang Ma

Number: **B13J-2424**

Abstract Title: Constraining methane emission pathways via model structure selection and parameter estimation with flux and concentration data in a northern peatland

Location: Moscone South, Poster Hall

Tuesday, Dec. 10

8:00 – 10:00

Session Chair: Michelle Mack

The Resilience and Vulnerability of Arctic and Boreal Ecosystems to Climate Change V

Location: Moscone West – 3001, L3

Session: B21D

8:15 - 8:30

Talk: Haley Dunleavy

Location: Moscone West, 3001, L3

Title: Ericaceous root enzymes are more sensitive than ectomycorrhizal to nutrient addition in Arctic tundra

13:40 – 18:00

Session Chair: Michelle Mack

The Resilience and Vulnerability of Arctic and Boreal Ecosystems to Climate Change VI

Location: Moscone South – Poster Hall

Session: B23K

8:00-12:00

Poster: Bri Finley

Final Paper Number: **B21J-2333**

Session Number and Title: B21J: Plants-Microbes-Minerals: Interactions That Drive Soil Organic Matter Cycling II Posters

Location: Moscone South, Poster Hall



Tuesday, Dec. 10 (cont.)

13:40-18:00

Moscone South, Poster Hall

Session Chair: Christina Schädel

Location: Moscone South — Poster Hall

Title: B23M-Vulnerability of Permafrost Carbon to Climate Change III Posters

Poster: Alicia Purcell

Poster number: **B23J-2546**

Title: Field *in situ* Microbial Growth Response to Warming using H₂¹⁸O qSIP in Deglaciaded Soils of the Marr Ice Piedmont Glacier, Anvers Island, Antarctica

Poster: Julia Stuart

Poster number: **2448**

Title: Host Moss Identity is a significant predictor of associated N fixation rates in Arctic Alaska

Poster: Chris Ebert

Poster number: **B23M-2586**

Soil CO₂ Profile Measurements Reveal an Increase in the Proportion of Old Soil Carbon over a Thirteen Year Study at a Permafrost Site in Interior Alaska

Poster: Andrew Richardson, Katharyn Duffy

Poster number: **B23F-2605**

Title: PhenoSynth: A User Interface to Integrate PhenoCam and MODIS Data

Poster: Andrew Richardson, Katharyn Duffy

Poster number: **B23F-2605**

Title: PhenoSynth: A User Interface to Integrate PhenoCam and MODIS Data

Poster: Chang Gyo Jung

Poster number: **B21K-2348**

Title: Ecosystem feedbacks to climate warming: temporal dynamics of soil respiration and decomposition of soil organic carbon over a long-term field warming and its further impacts on ecosystem carbon residence time

16:00-18:00

Session Chair: Michelle Mack

The Resilience and Vulnerability of Arctic and Boreal Ecosystems to Climate Change eLightning

Moscone South – eLightning Theater II

Session: B24F



Tuesday, Dec. 10 (cont.)

eLighting Talk: Mari Könönen

B24F-15 Warming, shrubs and nutrients: Soil organic carbon recalcitrance and resilience under changing environment in Arctic tundra
Moscone South – eLightning Theater II

Wednesday, Dec. 11

10:35-10:50

Talk: Elaine Pegoraro

Location: Moscone West; 3003, L3
Abstract ID: 564890

Title: "Partitioning Ecosystem Respiration Using $\delta^{13}\text{C}$ and $\Delta^{14}\text{C}$ to Determine Sources of Permafrost C Loss After 10 Years of Experimental Warming"

10:50 – 11:05

Talk: Katharyn Duffy

Location: Moscone West 3001-L3
Title: B32E-03 - PhenoSynth: Cross-Scale Phenological Data Integration to Improve PhenoCam-MODIS Comparisons (Invited)

12:05-12:20

Talk: Christina Schädel

Location: Moscone West; 3003, L3
B32D-08: Decomposability of soil organic matter over time: The Soil Incubation Database (SIDb, version 1.0) and guidance for incubation methods

13:40-18:00

Moscone South, Poster Hall

Poster: Enqing Hou

Final Paper Number*: **B33H-2573**

Abstract Title: How increasing variability in precipitation may affect terrestrial primary production depends on mean precipitation

Poster: George Koch

Poster number: **B33F-2530**

Title: The Regulation of Woody Plant Hydraulics Inferred from Water Potential Response to Vapor Pressure

Poster: Jessica Guo

Poster number: **B33F-2541**

Title: Declines in Nighttime Water Potential Vary Seasonally in a Common Desert Shrub



Wednesday, Dec. 11 (cont.)

14:10-14:25

Talk: Xanthe Walker

Location: Moscone West; 3001, L3

Abstract Title: Bottom-up control of carbon combustion from boreal wildfires

Session Number and Title: B33B: Causes and Consequences of Changing
Disturbance Regimes in Boreal Forests Across the Globe I

15:25-15:40

Invited talk: Michelle Mack

Location: Moscone West, 3001-L3

B33B-08 - Impacts of increasing wildfire severity on the long-term carbon
dynamics of Alaskan boreal forests

Thursday, Dec. 12

13:40 – 15:40

Session Chair: Christina Schädel

Location: Moscone West; 3001, L3

Title: B43E-Vulnerability of Permafrost Carbon to Climate Change I

13:40 – 15:40

Session Chair: Christina Schädel

Location: Moscone West; 3001, L3

Title: B43E-Vulnerability of Permafrost Carbon to Climate Change I

16:00 – 18:00

Session chair: Christina Schädel

Location: Moscone West; 3001, L3

B44E-Vulnerability of Permafrost Carbon to Climate Change II

17:15 – 17:30

Talk: Yiqi Luo

Location: Moscone West, 3001-L3

B44E-06 - Significant C source driven by elevated water table but sink by
increasing thaw depth in Alaska tundra under experimental warming: A
data assimilation study

17:45-18:00

Talk: Ted Schuur

Location: Moscone West, 3001-L3

B44E-08 - The Vulnerability of Permafrost Carbon to Climate Change: Key
Findings from a Decade of Synthesis

•



Friday, Dec. 13

8:00-8:15

Talk: Lissy Enright

Location: Moscone West; 3001, L3

Abstract Title: Seasonal Variation in Coast Redwood Branch Hydraulic Conductivity: The Critical Link Between Climate and Growth

Session Number and Title: B51A: Addressing Spatial-Temporal Variation, Plasticity, and Acclimation of Key Hydraulic and Photosynthetic Plant Traits for Predicting Forest Responses to Climate Change I

8:00-12:20

Poster: Bo Stevens

Abstract Title: Environmental variables predict bacterial communities in the Serengeti

Final Poster Number: **B51G-2326**

Session: B51G. Linking Genes to Terrestrial Carbon and Nutrient Cycling: Experiments, Modeling, and Scaling II Posters

10:35-10:50

Talk: Bruce Hungate

Location: Moscone West, 3005-L3

B52B-02 - Isotope tools scaling soil microbial ecology to biogeochemistry

11:20-11:35

Invited talk: Christina Schädel

Location: Moscone West; 2006, L2

C52A-05: Permafrost Carbon Network: Research synthesis to quantify the permafrost carbon feedback

13:40 – 18:00

Moscone South, Poster Hall

Session: Exploring Microbial Ecosystems Using Cutting-Edge Advances in Isotope and Omics Analyses II

Poster: Megan Foley

Final Paper Number*: **B53G-2471**

Abstract Title: Linking Variation in Active Soil Microbial Communities with Edaphic Properties in Mediterranean Grasslands Along a Precipitation Gradient

Poster: Ben Koch

Final Paper Number: **B53G-2468**

Title: Applying Quantitative Stable Isotope Probing to Metagenomic Sequencing of Rhizosphere-Associated Microbes



Friday, Dec. 13 (cont.)

Poster: Jeff Propster

Final Paper Number: **B53G-2476**

Title: Quantifying the Effects of Warming and Ecosystem Change on Arctic Soil Microbial Communities

Poster: Bram Stone

Poster Number: **B53G-2466**

Abstract Title: Modeling Respiration of Individual Bacterial Populations *in situ* with Quantitative Stable Isotope Probing (qSIP)

Poster: Egbert Schwartz

Poster Number: B53G-2477

Title: Quantitative Stable Isotope Probing with Internal Standards

Poster: Xingjie Lu

Poster Number: B53K-2545

Title: Full implementation of matrix approach to biogeochemistry module of Community Land Model version 5 (CLM5)