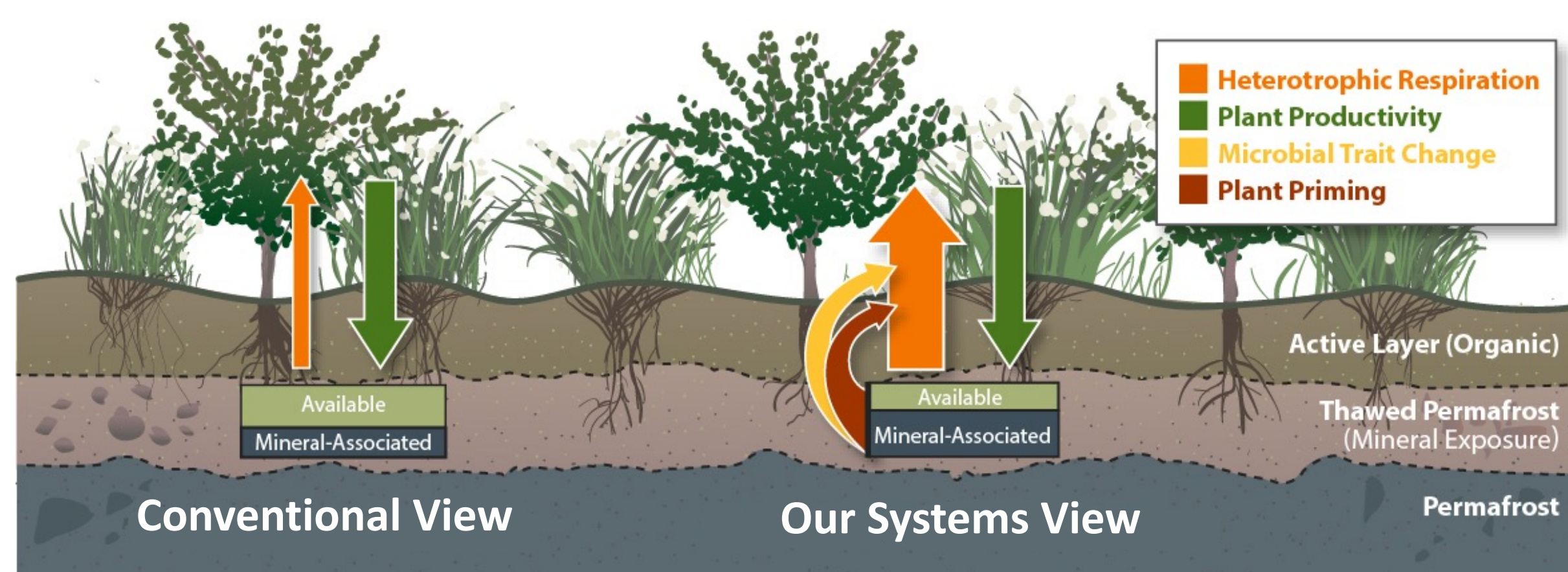


The impact of plant priming on C fluxes from permafrost soils after thaw: investigations of plant-microbe-mineral responses

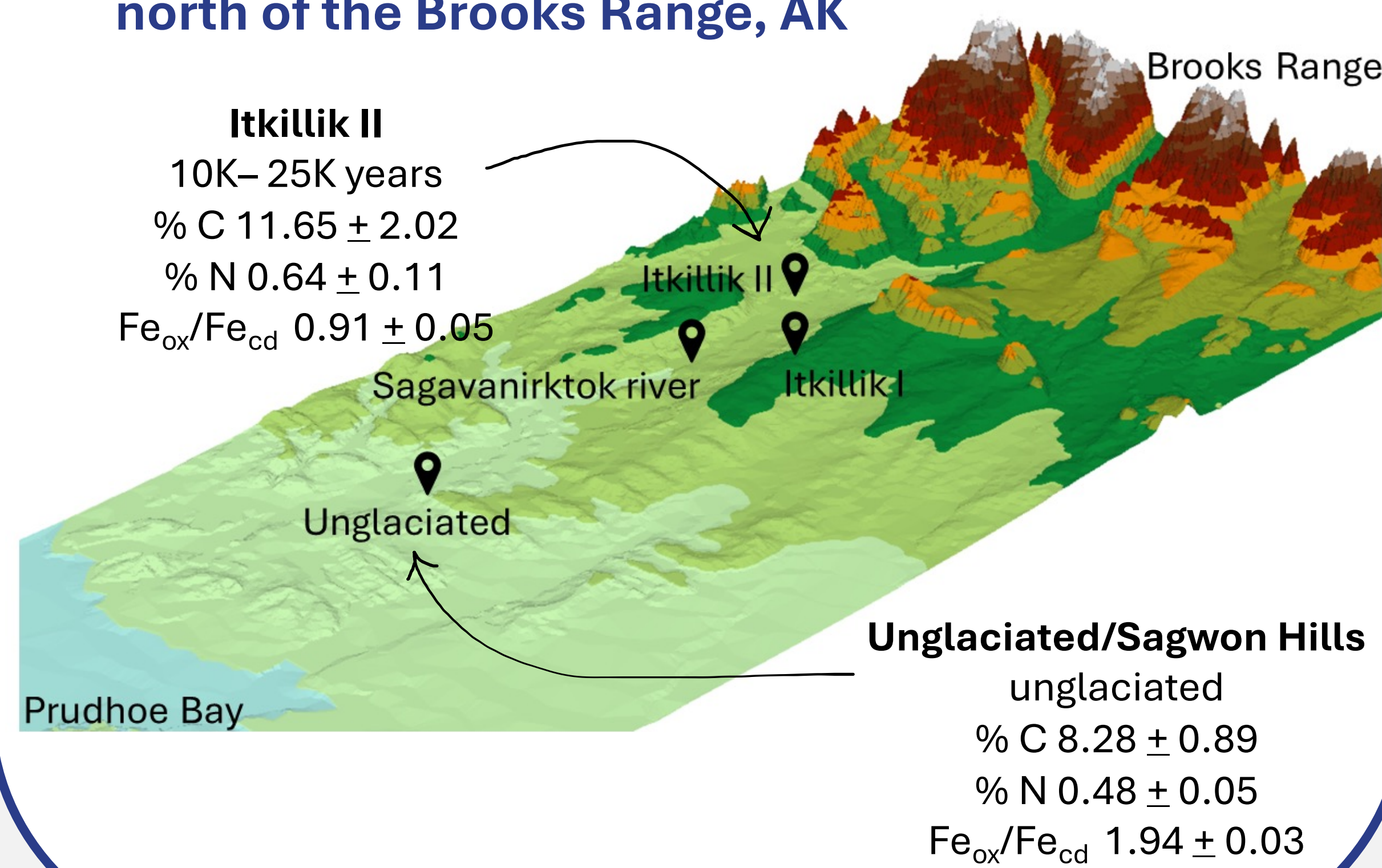
Jessica Ernakovich^{1,2,3}, Sean Schaefer^{1,2,3}, Fernando Montaña-López⁴, D.V. Bakke^{1,3}, Hannah Holland-Moritz^{1,3}, Nathan Alexander^{1,3}, Sarah Goldschmidt⁴, Lukas Bernhardt^{1,3}, Else Schlerman^{1,2,3}, Elinor Cotter³, Matthew Rozinski³, Skylar Wilkins⁴, William Wieder⁵, A. Stuart Grandy^{1,2,3}, & Caitlin Hicks Pries⁴

How do feedbacks between plants, microbes, and minerals affect the Arctic C balance in response to global change (e.g., eCO₂, shift from sedge- to shrub-dominated tundra)?

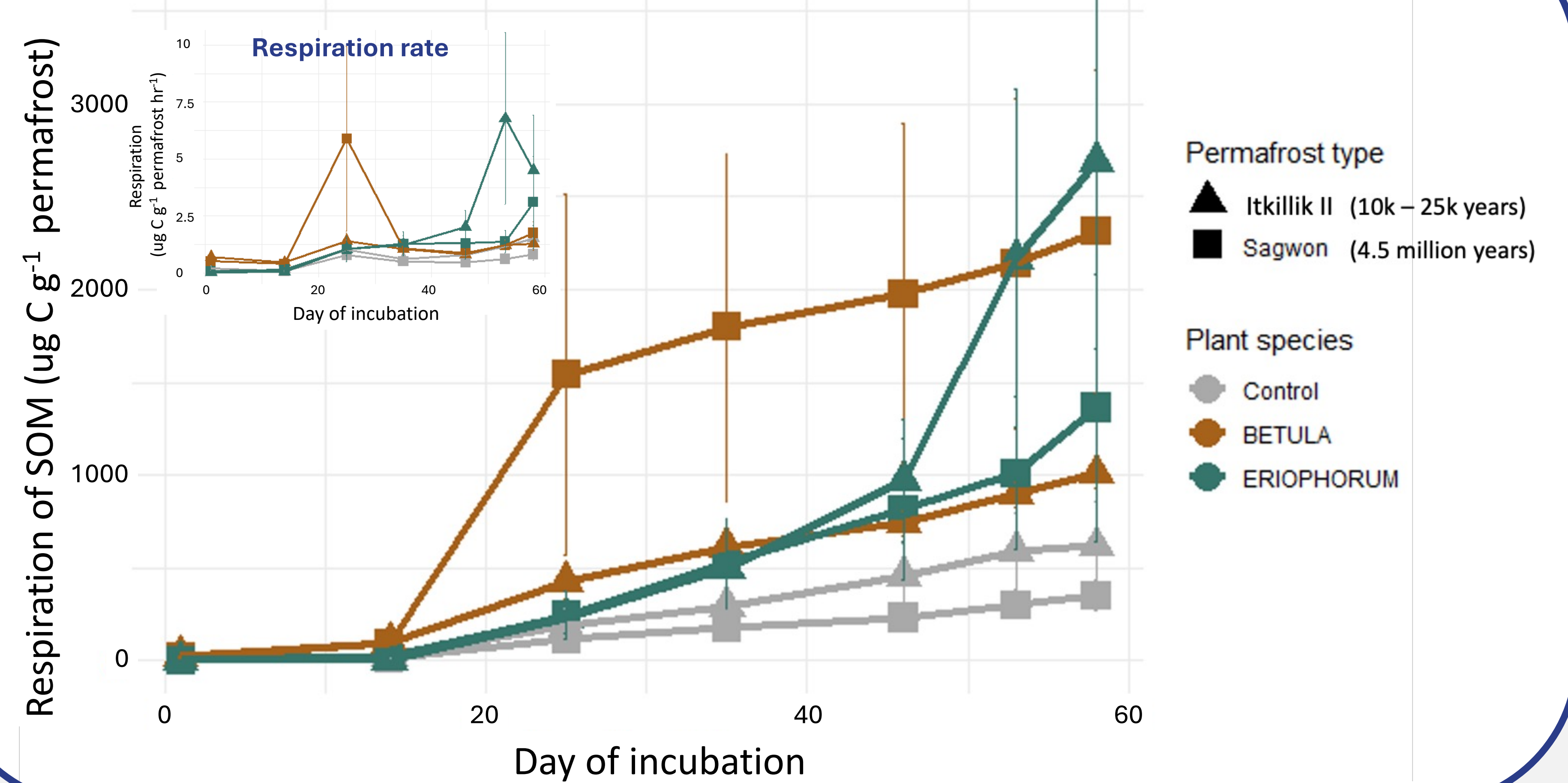


Plant-microbe interactions impact permafrost-C losses but are mineralogy and time-dependent.

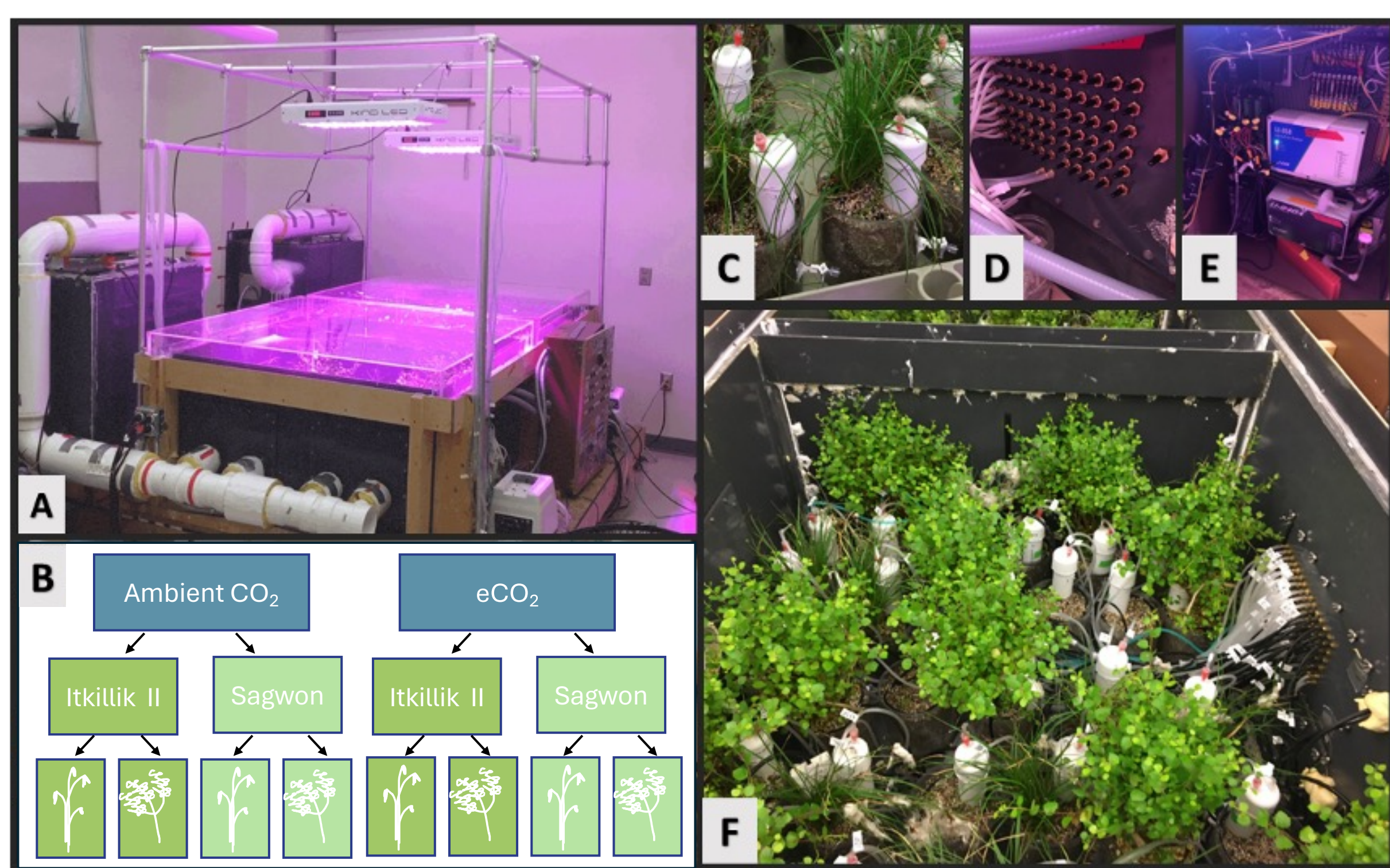
Deglaciation gradient north of the Brooks Range, AK



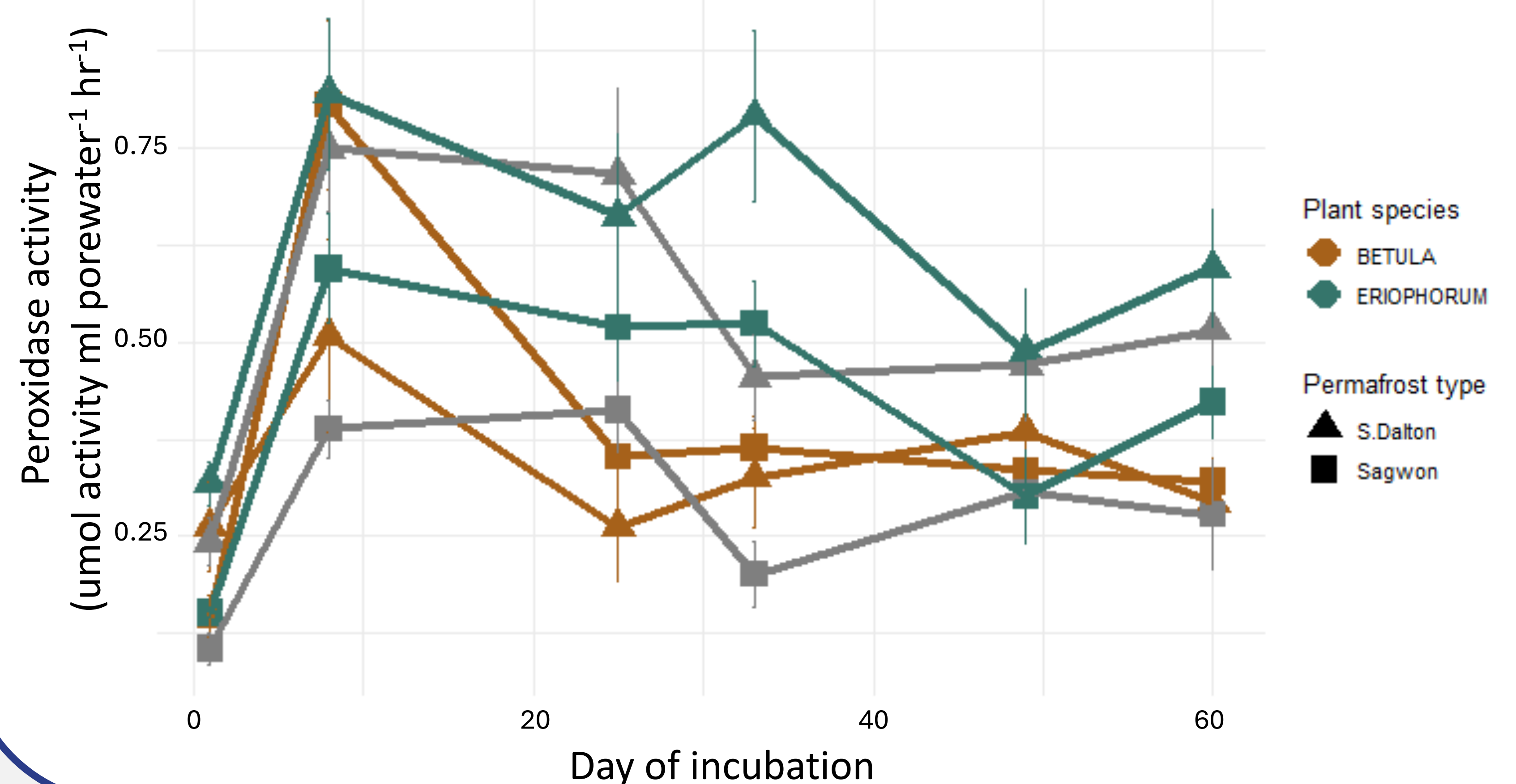
Cumulative respiration of SOM



Priming experiment growth chamber with ¹³C label



Oxidative extracellular enzyme activity



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Toolik Field Station and the surrounding areas are located on the ancestral hunting grounds of the Nunamiut, and occasional hunting grounds and routes of the Gwich'in, Koyukuk, and Iñupiaq peoples. UNH is on the N'dakinna (homeland) of the Pennacook, Abenaki, and Wabanaki Peoples. The work is funded by NSF 2031253.

