

Madeline Bartels, University of Calgary, Alberta, Canada, for her project: *Investigating Mechanisms and Rates of Carbon Mineralization in Peridotite for Durable Carbon Storage*.

Madeline Bartels is a first year Ph.D. student studying geochemical solutions to the climate crisis. Her interest in climate change solutions was sparked at Yale University, where she researched enhanced rock weathering at the Yale Geochemistry Center and worked on carbon dioxide removal projects with the Carbon Containment Lab. Madeline also spent instrumental time at Pacific Northwest National Laboratory researching carbon storage and critical mineral recovery strategies in deep mafic rock.



After graduating with a B.S. in Earth & Planetary Sciences and a certificate in Energy Studies, Madeline transitioned to the University of Calgary to begin her graduate studies.

Her current work aims to support the development of climate change solutions hub initiatives in Canada and beyond by constraining the rates and mechanisms of in situ carbon mineralization in ultramafic rock. Madeline is also designing experiments to test methods of anthropogenic permeability enhancement in tight formations. She hopes to discern the viability of coupling waste acid storage with CO₂ injection to open fluid pathways in ultramafic rock. Madeline is interested in developing integrated geochemical solutions to the climate crisis using multi-instrumental characterization, laboratory experiments, and subsurface reactive transport modeling.

Outside of pursuing academic interests including carbon capture, renewable energy, and geoengineering, Madeline is an avid reader and hiker. She is grateful for the generosity of the Lipman Foundation and the Geological Society of America which enables her work.