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Apr 26th, 3:45 PM - 5:00 PM

The potential of carbon capture through mineral weathering

Noah Planavsky
Yale University

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The Doctoral Program in Environmental Science & Management
and MSU Sustainability Seminar Series Present:

The potential of carbon capture through mineral weathering

WHEN: April 26, 3:45 pm WHERE: Online via Zoom

Noah Planavsky
Yale University



Noah Planavsky is an Associate Professor in the Department of Earth and Planetary Sciences. He joined the faculty in 2012 after doing graduate work at University of California, Riverside. He is an isotope geochemist that works on environmental change in Earth's past, present, and future. His work combines field studies, analytical chemistry, and geochemical modeling. He has worked extensively on atmospheric evolution—with a particular focus on changes in oxygen and carbon dioxide concentrations. Current projects focus on changes in ocean oxygen levels and on the potential for carbon capture through enhanced mineral weathering in marine and terrestrial environments.

Carbon capture will be a necessary climate mitigation tool, if global warming is to stay below 2°C. Basalt addition to agricultural lands and marine settings could be a low-risk, logistically practical capture strategy. The idea behind this carbon dioxide removal strategy is simple—carbon capture and climate mitigation through mineral weathering involves enhancing the rate of a process that the Earth does naturally. I will review the potential for agricultural and marine carbon capture through the addition of milled basalt and how we can use geochemical, geophysical, and oceanographic models to develop a quantitative road map for significantly increasing the efficiency of these processes.