

Aiden Nixon, North Carolina State University, Raleigh, NC, for his project: *The Inclusion of Analogue Crystals in PEG Flows: Implications for Lava Flow Modeling*.

Aiden Nixon is a master's student at North Carolina State University studying earth science and experimental volcanology under the mentorship of Dr. Arianna Soldati. His research focuses on recreating basaltic lava flow morphologies through the injection of heated polyethylene glycol wax (PEG) into tanks of chilled water. PEG is a polymer that has a freezing point near room temperature (18–20 °C), a temperature-dependent viscosity, and promptly forms a surface crust upon cooling. Aiden recreates various flow



morphologies by varying wax temperatures, water temperatures, injection rates, and by the inclusion of particles within the wax, in a laboratory setting. He studies these various flows to assess the impact of eruption parameters on the morphological evolution of lava flows, allowing for improving constraints on lava flow modeling.

With the support of the Lipman Student Research Grant, Aiden is able to both conduct these experiments and also create 3D models of the flows representative of the major morphologies of basaltic flows. These are intended for use in geoscience education and for providing tactile learning tools for volcanology.

Aiden received a Bachelor of Science in Geology in 2024 from the University of North Carolina Wilmington. Aiden hopes to learn more about volcanology and igneous processes throughout his education and research, and he is very thankful for the support from the Howard and Jean Lipman Foundation for his master's research!