

F22.025: Sedimentary Records of Environmental Change

Faculty mentor: Darrell Kaufman

Overview

The Sedimentary Records of Environmental Change Laboratory is actively involved with a variety of projects aimed at reconstructing environmental and climate changes that have occurred over the past several thousand years. We invite students to select among several analytical methods used in the lab to investigate past environmental changes. These methods quantify various physical, biological and geochemical properties of lake sediment and permafrost soils collected in cores from Alaska and elsewhere. The resulting datasets are used to understand the causes and effects of past climate variability, information needed to place current global warming into a longer-term context.

What the student will DO and LEARN

The intern will learn and perform laboratory procedures involving one or more of the following methods as applied to sediment or soils: particle-size distribution; biogenic silica abundance; carbon and nitrogen abundance; particle shape; visible reflectance spectroscopy; amino acid composition; radiocarbon dating. The student will integrate their dataset with others from the same sediment core as generated by graduate students. They will use a spreadsheet to analyze and visualize the data.

Additional benefits

Students will have the opportunity to engage with the broader research program of the Past and Present Climate Change Group in the School of Earth and Sustainability. This includes weekly lab group meetings with graduate students, postdoc's and research faculty. Following successful completion of the I2S internship, opportunities may be available to extend the project.

Additional qualifications

Some coursework in natural sciences, especially earth science.

Time commitment

6 hrs/week for 15 weeks