

Title: Volatile contents of intraplate magmas of the Revillagigedo Archipelago

Description: This project will involve measuring the dissolved H<sub>2</sub>O and CO<sub>2</sub> contents of ocean island lavas from young volcanoes of Socorro and San Benedicto islands, with the goal of evaluating how these magmas are created. Socorro and San Benedicto are historically active volcanic islands in a non-plate boundary setting, and eruptive styles at these volcanoes suggest that they are enriched in magmatic gases. This project will measure the dissolved magmatic gases in melt inclusions from these volcanoes in order to evaluate the pre-degassing H<sub>2</sub>O and CO<sub>2</sub> contents, which will be used to constrain the pressures and temperatures of magma storage and melting beneath the volcanoes.

Project must be done in residence

Student preparation: undergraduate course work in mineralogy/petrology is required

Professor Katie Kelley

Grad Student mentor: Rebecca Lippitt

Contact by prospective students: yes