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UH Hilo Geology Department: Unparalleled Opportunities

By Dr. Jene Michaud, Professor and Chair, Geology Department

Volcanic eruptions are a fact of life on the Big Island. It is no surprise that UH Hilo is home to a top notch Geology Department, supporting the community during eruptions, attracting students from around the world, and launching students into a variety of careers.

Geologists study the earth, interpreting events in the natural world to better understand the forces



Students employed by the Cooperative Agreement work side-by-side with Hawaiian Volcano Observatory scientists. During the recent eruptions of Kilauea and Mauna Loa, fresh lava samples were collected in the field and (after cooling) were brought into the Geology Department Laboratory. Student Baylee McDade prepared samples for chemical analysis; these data provide clues to the source and migration of the magma.

that shape it and the hazards that result from it. Active volcanoes a short drive from the Hilo campus are a big draw for students and faculty interested in geology.

In addition to regular coursework, geology students at UH Hilo are trained in field and laboratory techniques. Students also can work closely with their professors on projects that focus on local processes. For example, during the recent eruptions of Kilauea and Mauna Loa, students and professors analyzed fresh lava samples to better understand how the eruption was progressing. Other student-faculty projects include monitoring the ongoing deformation of Kilauea Volcano and mapping the island's cinder cones.

In 1998, the late Senator Daniel Inouye set up a cooperative agreement linking UH Hilo, the Center for the



Over the years, many students have helped Professors James Anderson and Steve Lundblad measure ground deformation at the Kilauea summit and at Puna Geothermal Venture. Precise measurements are made to see if the ground has stretched, contracted, lifted, or subsided. This data provides a wealth of information on magma movement in relation to various eruptions.

Study of Active Volcanoes, and the Hawaiian Volcano Observatory (HVO). This arrangement provides support for geology students and alumni to work on outreach projects or on scientific teams.

Students enrolling in the UH Hilo geology program are motivated by curiosity and a desire to understand how the earth works. They work hard and are rewarded with good critical thinking skills. We are proud of our alumni, who work at a variety of jobs, including monitoring and studying volcanoes, environmental consulting, computerized mapping, and science education. Quite a few of our graduates go on to graduate school and others find jobs locally or on the US mainland. Notably, the Deputy Scientist-in-Charge at the Hawaiian Volcano Observatory is a UH Hilo geology alumnus who continued his studies in graduate school and is now back in Hawai'i.



Dr. Jene Michaud, Professor and Chair, Geology Department

Geology major and aspiring science journalist Lichen Forster contributed to this article. Lichen grew up on the Big Island and eventually discovered how much she enjoyed talking and writing about the science of volcanoes.

MOP Celebrates 50 Years!

By Lisa Parr, Marine Option Program



(L-R): Trisha Alvarez (UH Hilo), Ray Boland (NOAA Fisheries), Jacob Wessling (UH Hilo), Justine Murray (UHM), Cameron Dunckack (UHM), Stephanie Mladinich (UH Hilo)

The University of Hawai'i at Hilo Marine Option Program (MOP) has just celebrated its 50th year of providing a wide variety of applied learning and experiential marine education opportunities for college students across the 10-campus University of Hawai'i System. Students can get involved in field trips and field courses, learn to raise coral, attend "MOPportunity" events with guest speakers and networking opportunities, and gain practical experience in diving, research, aquaculture, water safety, boating, animal response, and other skills that make them in demand for marine research and conservation jobs. Marine-oriented agencies and organizations across the state and around the Pacific are populated with MOP graduates. Students of any major may earn the MOP academic Subject Certificate in addition to their primary degree by taking several marine-oriented courses and completing an independent marine skills project, which can range from research to internships to community service projects. At UH Hilo, MOP projects currently underway include citizen science projects involving recycling fishing line and monitoring reef fish populations, marine mammal projects involving theodolite use and acoustic data, education projects teaching school kids about marine plastic debris and coral health, and research projects ranging from aging salmon to determining the effect of heat stress on corals in our coral nursery.

Every May, MOP runs QUEST, a coral reef surveying field course that trains students to monitor reefs using SCUBA. QUEST graduates are in demand as research divers by employers like the Department of Aquatic Resources (DAR), NOAA, The Nature Conservancy, aquaculture facilities, and other marine agencies and organizations, to survey fish, invertebrates, benthic habitats, and coral health. In summer 2023, two UH QUEST students were selected for internships with the Papahānaumokuākea Marine National Monument (PMNM) and the UH Hilo MEGALab.

Jacob Andrew Wessling of UH Hilo and Kylie Bebe of UH Manoa were outstanding QUEST students last year and were chosen as interns from a competitive field of applicants. They were trained in SCUBA diving research skills associated with carrying out the annual Reef Assessment and Monitoring Program (RAMP) surveys that occur throughout the Hawaiian Archipelago, including the Northwest Hawaiian Islands. They spent many hours doing fish surveys in Kona, learned to model coral reefs using 3-D Photogrammetry, and digitized research data from PMNM.



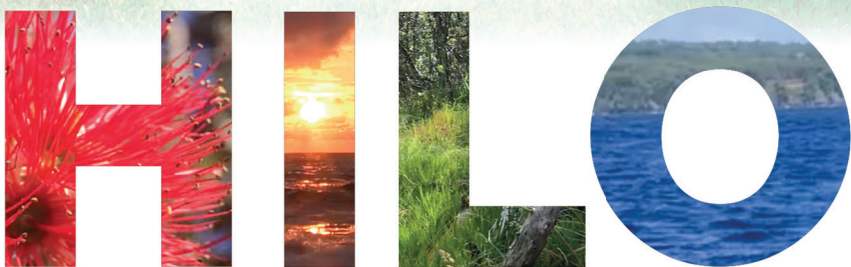
Kylie Bebe - Marine Option Program student at QUEST

The UH Manoa MOP website (<https://manoa.hawaii.edu/mop/>) gives an overview of MOP and has links to the websites for all MOP campuses. On the UH Hilo MOP website (<https://uhhmop.hawaii.edu/>), the MOP Projects link (<http://www.uhhmop.hawaii.edu/projects/>) has thumbnails on many projects, past and present. And see this video (https://youtube.com/watch?v=x_Syrwx3TyQ&si=EnSlkaIECMiOmarE) to get a feel for what UH Hilo MOP and the UH Hilo Marine Science Department are all about.

Your journey is our focus.



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