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Hawaiian Volcano Observatory- Gas Geochemistry Project

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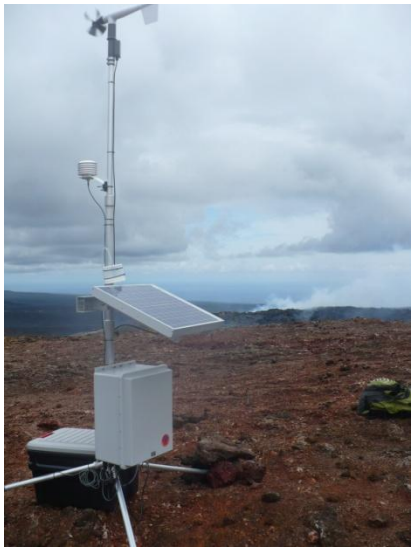
As a recent graduate of the Colorado State University Environmental Health (EH) program, I have lately had time to reflect upon my choice of undergraduate majors. The entirety of my undergraduate career, I struggled with the decision of whether to remain an EH major or whether to switch to a geology major. Looking back, it is so incredibly clear that EH was the perfect major for me, regardless of my desire to work with geologic hazards. I completed my capstone internship with the Southern California Earthquake Center, working with earthquake preparedness at California State University Fullerton. I decided to take the fall semester off before starting a Peace Corps Master's International program in Geology in January at Michigan Technological University. I am currently volunteering with the United States Geological Survey (USGS) for four months at the Hawaiian Volcano Observatory (HVO) in Volcano, Hawaii.

At HVO, I work with the gas geochemistry group. My primary role on the team is to measure SO2 emission rates on the Kilauea volcano. There are two main areas that I use a spectrometer to measure the amount of SO2 being emitted in volcanic plumes: at the summit and a vent of the volcano called Pu'u 'O'o. One of my many duties is to traverse through these plumes (thank you EH for teaching me the intricacies of a respirator!) and to collect measurements. Afterwards I head back to the lab and reduce and upload the data onto the HVO network for other scientists at the observatory to use. Additionally, I assist the team in the field by collecting SO2 data from sites around the southern portion of the Big Island and I help to maintain the geochemistry monitoring equipment. So much of my environmental health knowledge has been applicable to my work with volcanoes. Let me just say that I am exceptionally glad that I had taken Industrial Hygiene prior to spending time working in a volcanic environment!



While working in Hawaii is amazing in itself, I have been incredibly fortunate to meet some talented and inspiring people and I have had some once-in-a-lifetime experiences during my first month at the observatory. Among my recent experiences (this week, in fact!) I was able to attend a meeting with the director of the USGS, Marcia McNutt and I accompanied my supervisor to the top of Pu'u 'O'o vent while a fissure eruption was occurring to fix a high resolution SO2 station. I could tell I was going to love my job after my very first day, which consisted of heading to Hilo to have a respiratory exam for my respirator use and taking a multi-hour aviation training course so I could fly to sites in the helicopter. Both the respirator and the aviation training have been quite useful!

Thus far, my time here has been both challenging and extremely rewarding. My experience using monitors to measure indoor air pollution and with the Nicaragua Cook Stove Project has proved invaluable in learning how to maintain sometimes temperamental monitoring equipment and in knowing how to obtain good, scientifically sound data. I use information and techniques that I learned from the EH program on a regular basis, particularly industrial hygiene, and I hope to be able to contribute to the industrial hygiene program at HVO. Environmental health truly gave me a fantastic background for working with geohazards. It is such a versatile major and I have learned about many different applications of an environmental health degree.