Trip Report for 16W in Namibia, Funded by the Paulson Foundation
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I spent December 201 5- March 2016 in Namibia as an extension of Environmental Studies Foreign Study Program, working with two of Dartmouth's partners in Namibia: Gobabeb Training and Research Center and the Giraffe Conservation Foundation. This term was an incredible experience and allowed me to delve deeper into issues of interest after the end of the FSP. It wouldn't have been possible without funding from the ENVS department, and, for that, I am extremely grateful!

Gobabeb: For the first three months I was at Gobabeb, a remote research station in the Namib Desert. My work was primarily focused on establishing protocols for two projects: 3D aerial vegetation mapping and livestock monitoring. Both projects were part of the FSP group's work at Gobabeb in the fall, and my work was a continuation of that.

The vegetation mapping was the beginning of a longer-term project to monitor the health of !nara, a spiky melon endemic to Namibia. Due to their unusual growth (a single plant can grow in a bush up to 10 feet high and 50 feet across), they are difficult to monitor. I continued the development of a protocol to model !nara in 3D using imagery from a small Unmanned Aerial Vehicle (UAV or drone) and flew missions to establish the baseline model for each plant (with other researchers in the picture to the right). Change in the models will be used as a sign of changes in health.

The livestock monitoring is part of a larger grant to Gobabeb to monitor the effects of climate change on local agriculture. Dartmouth students surveyed the diet of local livestock and put on radio collars that gather GPS data of the animals' movements. After the end of Dartmouth's program, I continued to monitor the animals via the radio collars and troubleshoot the technology.

Giraffe Conservation Foundation: The last month was spent working with GCF at their office in Windhoek and doing fieldwork in northwest Namibia. In the office, I helped develop their educational program for primary school students and wrote and edited field reports. The purpose of the fieldwork was to expand the photo ID records of individual giraffe in the area, record social interactions and gather DNA. Working with GCF founder Julian Fennessy, I visually matched giraffe to previously known individuals and photographed new individuals. I also DNA darted individuals, which involves a small dart that removes a small skin sample and then falls to the ground, where it can be collected and preserved for sampling (see photo of me with dart gun and dart at left). Genetic analysis of similar samples showed that the previous assumption that all giraffe were one species is actually incorrect; there are four distinct species.