PROJECT TITLE: ASSESSING IMPACTS OF ARIDIFICATION, DROUGHT, AND LAND-USE ON DRYLANDS OF THE COLORADO PLATEAU

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Discipline: Ecology;

PROJECT DESCRIPTION

BACKGROUND

The incumbent will have the opportunity to work on a number of ecological research projects, working closely with USGS scientists, local resource management staff (primarily BLM), and experienced technicians. This approach will expose the student to a variety of research approaches, methods employed, and types of ecological investigations pursued by USGS research scientists. In addition, the intern will be exposed to the type of management-relevant research critical to the USGS mission. Primarily, the intern will have an opportunity to work on include evaluating the effects of rainfall reduction on dryland communities (funded by USGS), impacts of oil and gas development on plants and soils (funded by BLM & USGS), and evaluating the environmental consequences of cattle grazing on soils.

The broad objectives of these research projects is to address the science needs of DOI land and resource managers on the Colorado Plateau. Specific objectives will be to assist with the collections of high quality data on plants and soils, organization of those data, and some simple data summaries and analysis.

INTERN TASKS

Proposed intern tasks include assisting with field ecological and soil measurements in an assortment of existing studies. Data collection techniques the students will gain experience with include measuring vascular plant cover and composition, collecting soil samples for nutrient and physical characterization, collecting plant physiological data, and downloading data loggers. Students will also assist with data entry and management.

BENEFITS TO INTERN

Interns working with us here at the USGS in Moab have had great experience, learning valuable skills, gaining real-world experience carrying out scientific investigations, and getting an opportunity to live and work in a beautiful desert environment. Tangible benefits include skills and experience to add to their CVs, exposure to new fields of scientific enquiry, and a better understanding of what kinds of post-graduate careers are possible, both in the USGS and our partner federal agencies.

MENTORING PLAN

Interns will work closely with SBSC post-doctoral scientists, research ecologists, and skilled biological technicians in all aspects of their internship. We will provide an orientation session that includes background on the larger scientific questions being addressed by the research projects as well as opportunities to attend presentations given
by visiting scientists and resource managers. We will also work closely with interns to assure they obtain desired work experience to the degree achievable within the confines of the research projects and their abilities.

**ADDITIONAL DETAILS**

**STUDENT SKILLS AND INTERESTS**

Successful candidates need an interest in field ecology, including measurements of plant and soils, and in doing applied ecological research in support of land management agencies. Candidate also needs to be willing to work in remote locations, with extended campaigns that entail camping and harsh conditions, and repetitive measurements that require crouching and bending over. Preferred skills include: Knowledge of processes, methods & procedures of biological science; knowledge of routine field data collection procedures; skill in operation, maintenance, and servicing of biological recording and measuring instruments; knowledge of procedures utilized in a biological lab.

**LOCATION:** Moab, UT

**ACTIVITY LEVEL:**

Level 8-3: The work requires considerable and strenuous physical exertion such as frequent climbing of tall ladders, lifting heavy objects over 50 pounds, crouching or crawling in restricted areas, and defending oneself or others against physical attack.

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**PROJECTED START DATE**  4/1/2022

**EXPECTED DURATION**  4 to 6 months