

2022 COOPERATIVE SUMMER FELLOWSHIP PROGRAM – PROJECT PROPOSAL

APPLICANT TYPE: ANY;

PROJECT TITLE: ASSESSING THE CLIMATE CHANGE MITIGATION POTENTIAL OF WETLAND RESTORATION IN THE CONSERVATION RESERVE PROGRAM: MEASUREMENTS, MODELING, AND SCALING CHANGES IN SOIL CARBON AND GREENHOUSE GAS FLUXES

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Discipline: [Field Mapping](#); [Ecology](#); [Climate Science](#);

PROJECT DESCRIPTION

BACKGROUND

Informed by data needs of DayCent, the project will collect data on organic C stocks in wetland soil and vegetation biomass, SOC accumulation rates, soil texture and site descriptors (vegetation community, conductivity, water depth, surrounding land use, soil N). For a representative subsample of sites (intensive sampling sites), we will sample GHG flux rates, vegetation characteristics, and belowground biomass to better characterize C cycling processes and calibrate remote sensing models.

INTERN TASKS

The intern will work as part of a group of technicians at wetland sites throughout the Prairie Pothole Region of the United States (North Dakota, Minnesota, South Dakota). The main tasks of the positions will include collecting soil cores and vegetation samples from wetlands, and delineating wetland boundaries with GPS. Work will include walking in waders and carrying sampling equipment up to 40 pounds for distances up to 1 mile. Sample collection will be highly physical and can involve mechanical and manual soil augers, slide hammer cores, sledgehammers, and possible use of winches.

BENEFITS TO INTERN

The intern will develop field sampling and data collection skills relevant to future jobs in ecological research and management. They will work alongside a group of young and early career scientists (college students through recent graduates), allowing them to develop teamwork skills, as well as dialogue about their educational interests and professional goals. When the field work schedule allows, the intern will be invited to sit in on lab team and center meetings to give perspectives of other elements of working as a scientist.

MENTORING PLAN

There will be a conversation at the start of the season to identify student goals for the summer, and a formal check-in meeting at least once a month, in general our team values communicating openly as needed as well. Training will be provided for field tasks and data entry protocols, and team leads will be available to answer questions as needed. The intern will be given workplace time to watch the professional development webinars provided by the program, and there are examples of scientific presentations and publications we can share with the intern.

ADDITIONAL DETAILS

STUDENT SKILLS AND INTERESTS

Candidates who are interested in a wetland and farmland field research, or a general interest in how land management affects carbon storage, will fit this project well. The intern should be willing to work should during hot summer conditions and may conduct physical labor up to 8 hours a day. Candidates will need to work well in small groups and independently. Any coursework or experiences related to wetland plants and soil will be helpful. Knowledge of wetland ecology and experience driving 4WD vehicles are a plus. Experience driving 4WD vehicles with long trailers is a plus.

LOCATION: Jamestown, ND

ACTIVITY LEVEL:

Level 8-2: The work requires some physical exertion such as long periods of standing, walking over rough, uneven, or rocky surfaces; recurring bending, crouching, stooping, stretching, reaching, or similar activities; or recurring lifting of moderately heavy items. The work may require specific, but common, physical characteristics and abilities such as above-average agility and dexterity.

FIELD WORK	75-100%	VIRTUAL?	No
LAB WORK	0-25%		
OFFICE WORK	0-25%		
OTHER	0-25%		

PROJECTED START DATE 5/23/2022

EXPECTED DURATION as long as intern program allows, up to 13 weeks