Northern Great Plains Research Laboratory (NGPRL): Northern Plains Domain

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Site Location: See Map

History: NGPRL is centrally located in the Northern Great Plains and represents a transitional area between intensely cropped and intensely grazed zones. The site is comprised of multiple land-uses and is on the fringe of the state capital metropolitan area. The lab is a National Soil Repository, with nearly 90 years of soil and plant data on native rangelands. Research in agro-micrometeorology, biogeochemistry, rangeland restoration, and ecology is coupled with remote sensing to bridge knowledge gaps for scaling up science. The NGPRL continues to advance knowledge of interactions between environment and management in Northern Great Plains ecosystems.

Key Characteristics: Existing vegetation (mixed-grass prairie, shrublands, annual crops, biofuel crops, perennial grass monocultures), soil/landform, ecosystem performance, land use history, and climatic features characteristic of the Domain; existing resources can help address climate, land use, and invasive species research themes; representative of the Northern Grassland Range Physiographic Province; elevation of ~500 m to 700 m; current collaborations and tasks affiliate NGPRL scientists with multiple units of the USDA Agricultural Research Service Network, United Tribes Technical College, ND State University, US Forest Service, Ducks Unlimited Great Plains Region, University of North Dakota, Society for Range management, USDA NRCS, ND Natural Resources Trust, Bismarck State College, Manitoba-ND Zero Tillage Farmers Assn., ND Soil & Water Conservation Society, ND Agricultural Association, etc.

Existing Infrastructure: Member of numerous existing networks including Ameriflux, ND Agricultural Weather Network, USDA's CO2 Flux Network, and Soil Conservation Districts Cooperative; existing instrumented towers (Eddy flux, Bowen ratios); network of weather stations; long-term data on plant and animal interactions and ecosystem processes (e.g., ANPP); remotely sensed data since 1966; historical data synthesized and accessible. Native American annual summer internship program provides education and outreach to tribal college students.

Facilities: This laboratory consists of 2400 acres owned and/or leased and more than 35 buildings on a 15 acre scientific campus. On-site structures provide modern analytical laboratories, ample field laboratories, equipment fabrication, maintenance and repair, storage, and logistical support; Twelve FTE on site support; modern utilities; year around road access; secured area with no unescorted public access. Space is available for visiting scientists; currently housing four international research scientists.