Central Plains Experimental Range (Wildland Core Site)

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Location within Domain: Latitude: 40° 49.8' 48 N , Longitude: 104° 43' 26.4 W

History: In the mid 1930's, many farms and ranches of the western Great Plains were abandoned due to drought, overgrazing and soil blown from plowed fields. The U.S. Forest Service requested that the Central Plains Experimental Range (CPER) be established to research improved management practices on fragile grasslands. The first research project was initiated in 1939 by the U.S. Forest Service. The Agricultural Act of 1953 reorganized the USDA and transferred administration of the CPER from the Forest Service to the Agricultural Research Service (ARS). Grazing studies begun in the 1930's are still being conducted to evaluate the long-term impacts of livestock on rangeland resources. The CPER is a part of Short Grass Steppe (SGS) site in the world wide Long-Term Ecological Research (LTER) Program. Researchers from Colorado State University and the Natural Resources Ecology Laboratory (NREL) have conducted extensive research at the site.

Key Characteristics: Vegetation – The main native plant communities are shortgrass steppe, floodplain shrubland, and salt meadow. The ecosystem is dominated by short grasses (64%), succulents (21%) and dwarf shrubs (8%). Climate - Typical of mid-continental semiarid temperate zones, but is somewhat drier because of a strong rain shadow effect of the Rocky Mountains to the west. Soils and landforms –Soils are principally derived from alluvium and wind-reworked sediments eroded from local sedimentary rock formations and the Rocky Mountains. Topography is characteristic of the Colorado Piedmont Section of the Great Plains Physiographic Province. Elevation ranges 1600-1675 m. Administration- USDA/ARS.

Existing Infrastructure: Member of numerous existing networks including the LTER, U.S. Climate Reference Network, USDA's UV-B Monitoring Stations, USDA's CO_2 Flux Network, Organization of Biological Field Stations (OBFS), and Association of Ecosystem Research Centers (AERC); International Biological Program (IBP); existing instrumented towers (Eddy flux, Bowen ratios, dust collectors) and flumes; network of > 8 weather stations; long-term data on plant and animal populations, and ecosystem processes (e.g., ANPP); remotely-sensed data since 1936; historical data synthesized and accessible; established K-12 science education partnership servicing students and teachers across the region annually.

Facilities: The main headquarters building (214 m_2) has offices, laboratories, a dining/meeting room, and a kitchen. Adjacent to the headquarters is a storage/sample processing building (134 m_2) with facilities for washing and drying samples. The dormitory has six rooms; five capable of double occupancy and one with four beds. In addition there are large-animal handling and holding pens and a residence for the site manager. The Field Station was built to support research as part of the US/IBP Grassland Biome project in the early 1970s.

Elevation: 1600-1675