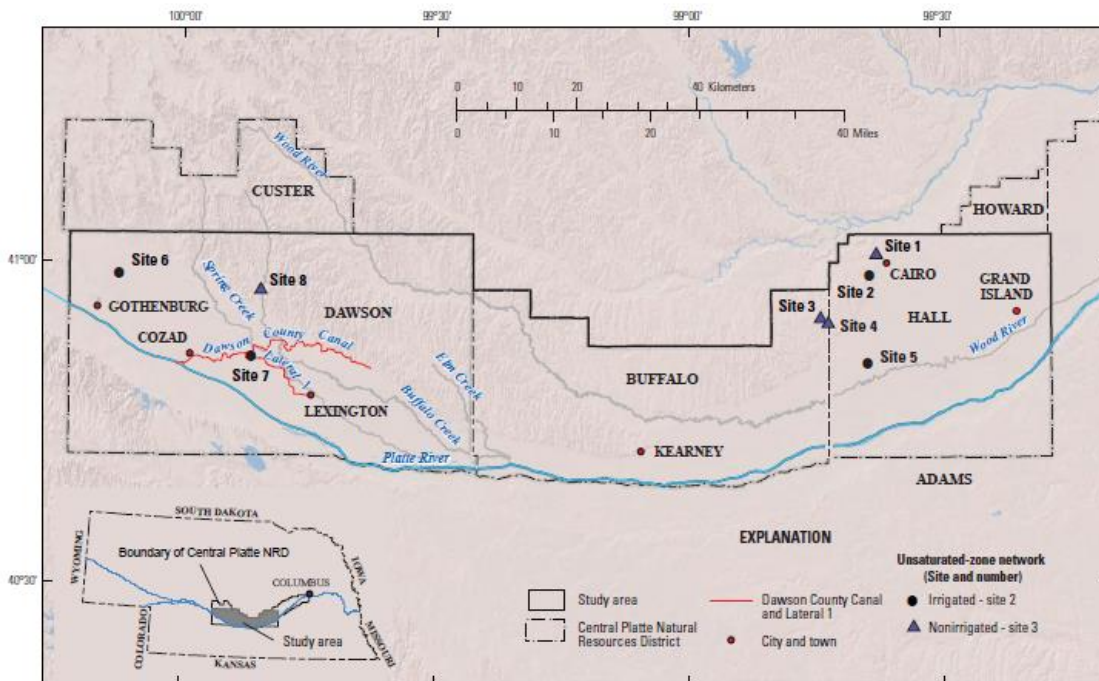


**Estimating Recharge Towards Sustainable Groundwater and Agriculture,
Central Platte NRD**

**WSF # 4118
Final Report
29 March 2021**

Project Description: Eight field sites, located throughout the CPNRD, were continuously monitored for weather and hydrologic data to estimate recharge. The site equipment included weather station instruments, telecommunications equipment (cell phone modem), Campbell Scientific data logger, water level recorder, and heat dissipation probes. Each of the eight sites was located on different types of land-use to estimate potential recharge differences based upon land-use. The figure below shows the location of each of the 8 field investigation sites.



Project Outcomes: The data collected from the project was summarized in two separate publications (Lauffenburger et al. 2018; Wolf 2020)¹. These publications summarize the collected data and the subsequent incorporation of that data into 1-D HYDRUS models to better understand the movement of water through the vadose zone into the water table. The Water Sustainability Fund contributed \$151,680 to the project, while the CPNRD contributed \$101,120, for a total project cost of \$252,800.

1: Lauffenburger, Z., Gurdak, J., Hobza, C. Woodward, D., and Wolf, C. 2018. Irrigated agriculture and future climate change effects on groundwater recharge, northern High Plains aquifer, USA. *Agricultural Water Management* **204**: 69-80. Wolf, C. 2020. Evaluating factors that control recharge in a thick vadose zone under climate variability and change. Masters Thesis, San Francisco State University.