

README information for SGS-LTER Historical LTER Soil water - neutron probe field data (1981-1997) from across the Central Plains Experimental Range, Nunn, Colorado, USA, ARS Study Number 10

This data package was produced by researchers working on the Shortgrass Steppe Long Term Ecological Research Project. This project was supported by National Science Foundation from 1982-2014. This data package includes one or more tab-delimited data tables, tab-delimited files (named `_var`) that denote header definitions and data types for each column, and detailed metadata within an Ecological Metadata Language document (i.e. XML). Example image files of plots, digital datasheets, or schematics of the experimental design may also be included when applicable.

Background information on the SGS-LTER project is contained in related series of objects within the Digital Collections of Colorado and the Colorado State University archives. Together data packages and other background information, including items such as images, proposals, and reports contribute to a comprehensive SGS-LTER collection.

The data tables and associated EML documents represent components of a PASTA (Provenance Aware Synthesis and Tracking Architecture) congruent LTER data package, which may be discovered and accessed through secondary repositories serving specific ecosystem science domains (e.g. LTER Network Information System, DataONE, or The Knowledge Network for BioComplexity).

Soil water was monitored from the early 1980s to mid 1990s at various sites with different soil textures and landscape positions using a *neutron probe* (Troxler model 1257). Measurements were taken at 30, 45, 60, 75 and 90 cm depths through permanent access tubes. Volumetric water content at each depth was multiplied by 15 to obtain the water content of a 15 cm segment of the profile; monitoring approximately a 22.5 - 97.5 cm profile. However, the increments actually sampled by a neutron probe are theoretical, because the distance the neutrons travel depends on the moisture levels. Measurements were taken approximately once every 2 weeks during the growing season and more infrequently during the non-growing season. Data were usually collected from all tubes on the same day.