

Information on Data Collection and Organization from the SGS-LTER

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 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, and items such as images, proposals, and reports contribute to a comprehensive SGS-LTER collection.

The data tables and associated EML documents represent components of the LTER data package, which may be discovered and accessed through secondary repositories serving specific ecosystem science domains (e.g. PASTA (LTER Network Repository), DataONE, or The Knowledge Network for BioComplexity).

The following information summarizes the data contained in the Open Top Chamber Data Package.

The Open Top Chamber Experiment Carbon Dioxide (CO₂) Elevation Experiment was conducted in collaboration with partners at the USDA, Agricultural Research Service. Six open-top chambers were installed on the shortgrass steppe in section 7 of the Central Plains Experimental Range, in north-eastern Colorado, USA, from late March until mid-April, and from 1997 to 2001 to evaluate how this grassland will be affected by rising atmospheric CO₂. Three chambers were maintained at current CO₂ concentration (ambient treatment), three at twice ambient CO₂, or approximately 720 $\mu\text{mol mol}^{-1}$ (elevated treatment), and three non-chambered plots served as controls. Each growing season, variables related to soil water, plant physiology, biomass production and community dynamics were measured. Several data tables are available from this manipulative experiment, including measurements of plant/atmosphere gas exchange, plant nutrients, leaf water and light response, soil water and composition, plant species responses and biomass, community composition, and root production.