

## **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 (SGS-LTER) 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 data package and SGS-LTER collection, 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 is copied from the SGS-LTER field protocols to provide specific details on how these data were collected.*

## **SGS LTER Long Term NPP-N Laboratory Protocol**

*The Long Term NPP-N study is a long term data set of nitrogen concentrations which are determined from the samples harvested yearly for the Long Term ANPP study.*

After biomass data is obtained from the yearly Long Term ANPP samples, the samples are prepared for nitrogen and carbon analysis. For each plot the samples are divided into four categories in the following manner:

1. Bogr and Buda combined
2. Spco
3. Oppo
4. All other species combined

Each of the four categories of samples for each plot is then ground thru a 1mm sieve in a Wiley Mill, and stored in tightly capped 20 ml glass vials. If an individual category sample for any plot is deemed too small to grind, then that sample is placed intact in the glass vial. If an individual category sample for any plot yields a large amount of ground material, then a representative subsample is stored. After analysis, the vials of ground samples are permanently archived at the Shortgrass Steppe LTER Field Headquarters.

After grinding is complete the samples are analyzed for nitrogen and carbon concentration on a Leco CHN 1000 combustion analyzer at the Natural Resource Ecology Lab on the CSU campus. The nitrogen and carbon data are used to assess how tissue quality varies from year to year under different abiotic conditions, and how this relates to fluctuations in consumer populations.