

Natural Resources Conservation Service

Soil and Plant Sciences Division

East Central Glaciated Soil Survey Region 11



Soil Climate Analysis Network Installation

Purpose and Background Information

Management and prediction of climatic issues affecting our natural resources are essential to support natural resource assessment and conservation activities. Additional installations of equipment provide a more complete understanding of soil climate dynamics throughout the region. Assistance from Region 11 soil scientists make the installation more efficient.

Region 11 staff at the Clinton and Union soil survey offices, as well as State and area staff from Missouri, assisted in the installation of equipment at the following three locations:

- Lincoln University Research Farm, Jefferson City, Missouri
- Missouri Botanical Garden, Shaw Nature Reserve, Villa Ridge, Missouri
- Ralls County School District, Mark Twain High School, Central, Missouri

The site selection and installation required coordination of soil scientists, landowners, and archeologists to determine if a site is an acceptable location for the instrumentation. A typical site monitors soil moisture content and temperature at several depths, air temperature, relative humidity, solar radiation, wind speed and direction, liquid precipitation, and barometric pressure.

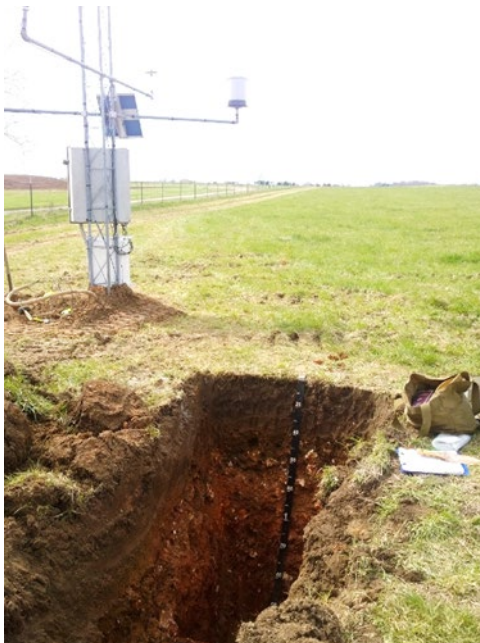


Figure 1. Soil climate equipment installation at the Shaw Nature Reserve near Villa Ridge, Missouri.



Figure 2. Soil sensors are placed at various depths to monitor soils moisture content and soil temperature.



Key Outcomes

Successful site preparations and installation ensure the site sensor data collected at these sites can be used to:

- Monitor drought conditions
- Monitor and predict crop, range, and woodland production
- Document climate trends
- Predict the sustainability of cropping systems
- Predict regional shifts in irrigation water requirements
- Predict changes in runoff that affect flooding and flood control systems

Data are available at the National Water and Climate Center website at <http://www.wcc.nrcs.usda.gov/scan>.

Future Goals

Providing technical soil services information and assisting in the installation of equipment at soil climate analysis network sites means OneUSDA can build better climate-derived products that farmers, ranchers, and foresters need to make sound management decisions, resulting in improved conservation of our natural resources.

