

SOIL AND PLANT SCIENCE DIVISION

Technical Soil Services

North Central Soil Survey Region



Hays MLRA Soil Survey Office

Evaluating a Potential Climate Station Build Site

Purpose

Soil scientists from the Hays MLRA Office evaluated a possible climate station site for the Kansas State University (KSU) Mesonet network. The goal was to confirm that the soil's depth to bedrock met the minimum requirements for the foundation of the tower.

Background Information

The KSU Mesonet is a network of weather stations throughout the state of Kansas that monitors local weather conditions. The stations are easily accessed by private and public entities. Each station is outfitted with research-grade instruments that allow them to collect data for solar radiation, air temperature, relative humidity, windspeed and wind direction, barometric pressure, precipitation, and soil temperature and moisture. These data are shown in present-time and are compiled to record long-term climate data. Weather stations are frequently visited by Mesonet technicians to ensure data accuracy and availability.

Soil Scientists from the Hays MLRA Office assisted the KSU Mesonet manager and assistant meteorologist with the evaluation of a potential weather station site in Russell County by assessing the suitability of the soil for the construction of a tower. This tower is one of six that KSU hopes to build to increase automated weather data collection.



Figure 1.—Soil scientists show that the soil reaches 6½ feet before hitting soft bedrock.



Figure 2.—The surrounding Uplands of the future weather station. The site is in an area of Russell County with soil depths of 1½ to 6 feet.



Key Outcomes

The construction of these stations increases the ability for Kansas citizens and professionals to make science-based land use decisions through greater accessibility of current, local weather data.

Future Goals

Assisting university partners in public data collection not only benefits NRCS directly through increased data access but also leads to collaboration on future projects.