

Part 308 – Soil Quality

Subpart A - General Information

308.0 Collection of Dynamic Soil Property Data

A. Dynamic Soil Properties (DSPs) are properties that change with land use and management on the human time scale. Evolving uses of soil survey information include soil health assessments and improved conservation planning, agricultural and environmental research, forecasting, and soil-change documentation. These uses require an enhancement of current soil survey protocols to include dynamic soil properties and further information on land use and management.

B. Considerations for planning DSP data collection efforts include DSP data collection type, project kind, and tier intensity.

DSP data collection efforts include two data collection types: dispersed and study (formerly “project based”). Dispersed refers to the integration of DSP data collection efforts into routine soil survey project operations. In contrast, the study DSP data collection type is designed to intensively evaluate specific land management conditions and address a locally relevant conservation question.

For the dispersed DSP data collection type, the project kind is range of values (collects baseline data). For the study DSP data collection type, there are three project kinds: baseline (collects baseline data), soil change study (substitutes space for time in comparing different conditions for one or more soils), and repeated measures (repeats the measurements at the same location over time).

DSP tier intensities are extensive, intermediate, and intensive. The tiers are defined below. The current measures at each tier are included in the current DSP Guide.

C. All inventories that collect soil survey information should also collect supporting DSP data.

308.1 DSP Data Collection Tiers

Each MLRA Soil Survey Office is expected to conduct appropriate DSP data collection.

A. Extensive Tier

Offices that are currently directly responsible for conducting initial soil survey are only required to complete DSP data collection at the extensive tier. The extensive tier data is required of all MLRA offices as part of the observation and collection of a pedon description. Extensive tier data is collected and recorded in accordance with current DSP Guide. This tier is always a dispersed data collection type as described in chapter 9 of the 2017 Soil Survey Manual.

B. Intermediate and Intensive Tiers

All offices not currently directly responsible for completing initial soil survey (i.e., update offices) are required to complete at least one intermediate or intensive tier DSP data collection effort per year. Workplans are developed, and DSP data are collected and recorded in accordance with the current DSP Guide. If there is a measure that is not applicable, a waiver must be requested from the National Resource Soil Scientist for DSP. Waivers certify that a specific method is not applicable to the situation.

(i) Intermediate Tier

All extensive and intermediate tier measures are collected as part of an intermediate tier DSP data collection effort. The intermediate tier measures are determined in the field or Soil Survey Office (SSO) laboratory.

(ii) Intensive Tier

All extensive, intermediate, and intensive tier measures are collected as part of an intensive tier DSP data collection effort. The intensive tier measures are determined by the Kellogg Soil Survey Laboratory (KSSL) at the National Soil Survey Center (NSSC) in Lincoln, Nebraska. Optional intensive tier measures, if approved and funded, can be determined by private or university laboratories.