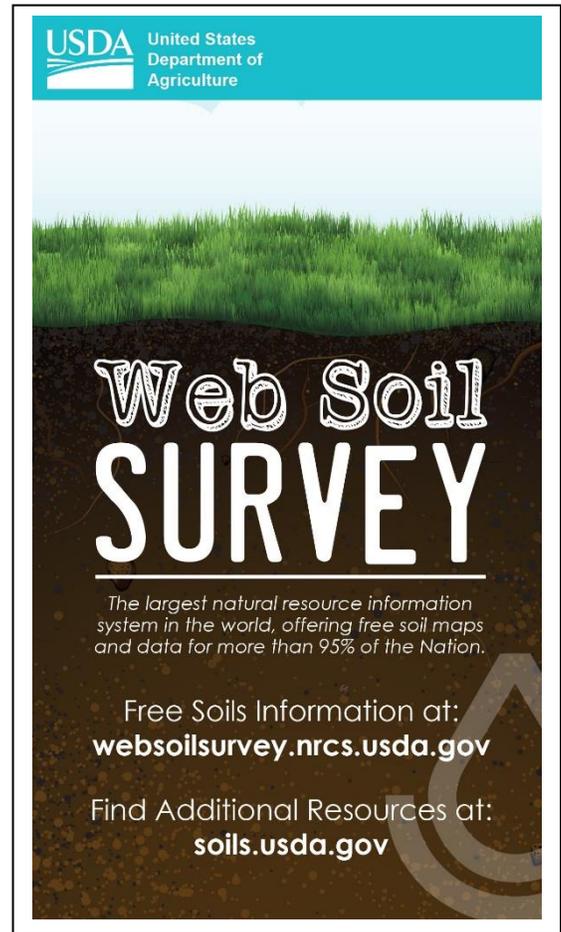


## Annual Data Refresh of Soil Survey Database

The entire official soil survey database was refreshed September 25, 2018. The updated official data is now available for use in implementing national programs affecting landowners and managers. Many national interpretations are also being updated, and their interpretation criteria will be posted as these updates are completed. Eight new national interpretations and four new regional interpretations have been added.

### New National Interpretations

- *Suitability for Aerobic Soil Organisms.*— This interpretation assesses the soil's suitability as habitat for aerobic soil organisms. Soil is the habitat for a wide variety of organisms, ranging from microscopic viruses, bacteria, archaea, fungi, and protozoa to micro- and meso-fauna (such as nematodes, mites, and springtails) to macrofauna (such as earthworms, centipedes, and beetles). A healthy soil is a living system that supports an abundant and diverse biological community. This system aids crop production by providing key services and functions, such as nutrient cycling and protection against disease and environmental stress.
- *Agricultural Organic Soil Subsidence.*—This interpretation indicates the rate at which organic soils are likely to subside. Organic soils used in agricultural production are subject to a loss of organic material. This loss is due to oxidation caused by above normal microbial activity resulting from excessive water drainage, soil disturbance, or extended drought. Soil shrinkage and compaction due to dewatering is considered to be secondary. Any drawdown resulting in water levels below soil surface can result in increased subsidence rates.
- *Concentration of Salts – Soil Surface.*—This interpretation indicates soils that are likely to have concentrations of salts at the soil surface. Excess salts can concentrate when precipitation is sufficient to move salts within the soil but insufficient to move the salts out of the soil. Salts move downward with percolating precipitation, from the generally convex



recharge areas of the landscape to the generally concave discharge areas. Excessive salt concentration in the soil surface layer is detrimental to the germination and growth of crops.

- *Organic Matter Depletion.*—This interpretation indicates the propensity of the individual soil properties to influence organic matter degradation. Soil organic matter is the foundation for healthy and productive soils. For organic matter to accumulate in soil, the processes that synthesize organic matter generally need to be greater than the processes that destroy organic matter.
- *Soil Surface Sealing.*—This interpretation indicates the degree of susceptibility to surface sealing. Surface sealing is the orientation and packing of dispersed soil particles that result from the physical breakup of soil aggregates, mostly due to raindrop impact. It can lead to the formation of surface crusts. Surface seals decrease infiltration rates, reduce the amount of available water to plants, diminish natural recharge of aquifers, increase runoff, and decrease crop yields.
- *Catastrophic Event, Large Animal Mortality, Burial.*—This interpretation indicates where to bury deceased livestock resulting from of a large-scale natural disaster, such as a hurricane. The disposal consists of placing the carcasses in successive layers in an excavated and sloped pit. The carcasses are spread, compacted, and covered daily with a thin layer of soil that was excavated from the pit. When the pit is full, a final cover of soil material at least 2 feet thick is placed over the burial pit.
- *Catastrophic Event, Large Animal Mortality, Incinerate.*—This interpretation indicates where to incinerate deceased livestock resulting from a large-scale natural disaster, such as a hurricane. The disposal consists of placing the carcasses in a shallow excavated pit about 91 cm (36 inches) deep or less. The carcasses are spread, compacted, and burned using established industry incineration techniques. Once carcasses are sufficiently incinerated, a final cover of soil material at least 2 feet thick is placed over the burial pit.
- *Road Construction/Maintenance (Natural Surface).*—This interpretation assesses the suitability of soils for Forest Service single-lane system roads that are built to specification with a natural surface. Standard specifications include a grade between 2 and 8 percent, with segments up to 12 percent. Roads are designed to cross the slope and constructed with a cut-and-fill design to maintain grade.

### **New Regional Interpretations**

- *Displacement Hazard.*—This interpretation predicts the hazard of soil displacement from operations of ground-based equipment for forest harvesting and site preparation. Displacement is the horizontal movement of soil caused by scraping or machine gouging. It

can remove the organic forest litter and upper portions of the mineral surface layer, thereby reducing plant nutrient availability and water-holding capacity. The result is a loss of site productivity for forest vegetation.

- *Puddling Hazard.*—This interpretation predicts the risk of soil puddling due to operation of ground-based equipment for forest harvesting and site preparation. Puddling is the loss of soil structure resulting from the squeezing and churning of soil by tires or tracks of heavy equipment. Soil particles become dispersed in water, and after they have dried and settled, the smaller particles form a crust on the surface. Soil puddling reduces porosity and increases bulk density.
- *Compactability Risk.*—This interpretation predicts the soil's susceptibility to compaction from the operation of ground-based equipment for forest planting, harvesting, and site preparation. Typically, the soil must be moist to be compacted. Compaction reduces mostly the amount of large pores in the soil by damaging the soil structure. This adversely affects the soil since large pores are the most effective at transmitting water and air. Compaction also increases the soil strength, which can limit root penetration and growth.
- *Windthrow Hazard.*—This interpretation predicts the hazard of trees overturning from wind. Windthrow is one type of wind damage and is defined as the uprooting of a tree by pivoting on the outer edge of a mass of soil, rock, and roots. Rooting depth contributes significantly to the risk of windthrow. Wetness also contributes. The weight of the soil over the roots can act as a stabilizing anchor.

To find out when surveys in a particular State are updated, visit the [Web Soil Survey \(WSS\)](#), click on the “Download Soils Data” tab, then choose the specific State. WSS will display a list of all soil survey areas. To learn more about soil-related issues, you may subscribe to various topics of interest using a free subscription service through [GovDelivery](#). Email inquiries to [SoilsHotline@lin.usda.gov](mailto:SoilsHotline@lin.usda.gov) for assistance with GovDelivery and WSS.



Click on the “Contact Us” link in WSS to receive assistance through the Soils Hotline, a State Soil Scientist, or a local [NRCS Service Center](#). Questions about soils data in a specific State should be directed to the State Soil Scientist. Contact information for [all State Soil Scientists](#) is available. For more information on the Web Soil Survey, see “I Want Help With...” on [Web Soil Survey Home Page](#) or visit the [NRCS Soils webpage](#).