Soil Suitability for Ground Penetrating Radar

This map shows the suitability of soils to be imaged using ground penetrating radar. The map was made by evaluating properties derived from soil mapping by the National Cooperative Soil Survey. This suitability rating is a “soil survey interpretation.” Interpretations predict soil behavior for specified soil uses and under specified soil management practices.

The role of interpretations in Soil Survey has evolved with time. In 1922, “The value of the soil survey depends on the extent to which it can be used by the people” stated Charles F. Shaw of California to the American Soil Survey Association. In contrast, 2 years later Soil Survey Chief Curtis Marbut wrote “The soil survey report is a scientific publication and should not attempt to give practical advice.”

Modern soil surveys are both scientific publications and sources of practical advice in the form of soil interpretations. Currently, the USDA-NRCS Soil and Plant Science Division provides over 500 soil-based interpretations. The interpretations are presented as (1) limitations, such as a severe limitation of a soil for crop production because of a high water table, or as (2) suitability or favorability ratings, such as a fair favorability of a desert soil for the growth of certain microorganisms. The scale for interpretations ranges from field-level to national. Interpretations at the local field-level can be obtained by entering “Web Soil Survey” in a search engine. The concepts and rationale underlying soil interpretation are on-line in the “Soil Survey Manual.”