



## Do We Need a New Definition of Soil?

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Effective communication is really desirable to better relate with politicians, an interested lay public, and others not involved in soil science. Soil survey programs are intended to help people understand how soils function in their landscapes to make ecosystems operate better without damaging the environment and to indicate different kinds of suitability for various purposes. The properties of soils as recognized, described, and mapped at detailed scales form the basis for developing diagnostics for a systematic taxonomy that enables scientists to interact with other.

In the USA mapping done at scales of 1:15,840± made it possible to define and use so-called “soil series”, initially as soil map units, but later as central concepts of a set of soils which could be segregated using phases to indicate important features, primarily for farming. Detailed soil surveys published using a standard format helps maintain uniformity across the country. Soil series are recognized as the basic units of soils within the evolving hierarchical soil taxonomy and diagnostic properties are defined, measured and used to update and modify the scientific classification.

Concepts like soil quality and soil function are considered to be “attributes” and not basic properties of soils. They are the collective interpretation of the combination of properties thought to be relevant for communicating important aspects of using, managing, restoring, and protecting the lands of any locality, region, or country. A famous example in the US was the land capability system with classes and subclasses of suitability for agricultural land uses. An updated soil survey in California contains over 500 pages providing details about classes of 30 different functional soil classifications for 155 map units.

Over the years soil extension agents were the interpreters of the science to the lay folks and could help them form mental pictures of soils and soil landscapes locally. They were the early leaders of what we think of as “field guides to natural resources” such as trees, flowers, birds, and so forth. There were not such books to identify soils but the basics have always been there waiting for proper attention, preparation, and use. At smaller scales the map units are always combinations of the basic units, and now it is possible to use some higher category classes to indicate the central concepts of larger areas.

Every year soil scientists around the world observe and describe features and properties of soils in landscapes that are getting more attention than previously. Soil genesis studies help us to better understand the complexity of landscape and soil evolution. Often they indicate that current soils are commonly being formed from parts of previous soils.

We do not need a new definition of soil. We do need to work on developing and testing complete interpretive classifications of soils to better meet the needs of societies today. This means “soil quality”, “soil functions”, and other attributes of soils require more attention, now and in the near future to permit politicians and lay publics to better understand the significance of soils to the future of civilization.

“After all is said and done, more is said than done” Aesop, Greek storyteller