

## **Report of the activity during the SCC16 Conference and Field Workshop**

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The SCC16 Conference and Field Workshop have given a clear understanding of the problems of soil classification at the present stage.

According to the majority of soil scientists - participants of the conference and field workshop - the main tasks, on a large scale, consist in improvement (correction, modification) of World Reference Base for Soil Resources (WRB) and Soil Taxonomy for practical purposes. As a result, most of the time has been devoted to soil identification and descriptions based on readily observable physical and morphogenetic characteristics. In this regard, there have been many discussions and suggestions regarding position of unaccounted soils in the classification systems, the need for integrating certain soil features, horizon designation standards, appropriate specification of the qualifiers, harmonization of soil key-properties, soil nomenclature, and conversion of national soil classifications and maps into WRB.

At the same time, in particular, in private communications, some scientists have paid attention to the necessity of including of landscape features into soil classification.

From my point of view, little attention has been paid to the problem of soil mapping inseparably connected with soil classification. Moreover, if we want to understand the laws of nature and develop a universal scientific soil classification we must:

- 1) have a theory of soil classification,
- 2) not confuse scientific and applied soil classifications; applied classifications must be based on a scientific one,
- 3) not confuse diagnostic properties and characteristics of division, as well as soil diagnostics and classification,
- 4) develop a hierarchical scientific soil classification,
- 5) specify the rules of the selection of characteristics of division,

Then I think everyone will agree that a universal soil classification should be natural, in other words, it should be one in which soils are “in an order according to their essential character” (Robinson, 1950, p.153, quote from Muir, 1962). However, we still do not know what the essential character of soils is. In 1962, Muir stated, “ultimately, of course, the essential character of soils may come to light. Then it will be possible to construct a system of classification comparable with the Periodic Classification of the Elements in terms of objectivity and utility”. In our research, we try to define the essential character of soils for the purpose of development of a universal soil classification using the systems approach. An oral and poster presentations – “Systems approach for universal soil classification” and “A hierarchical soil-landscape classification and associated maps”, which I have presented at the conference, are devoted to this theme (see the attached files).

Reference:

Muir, J.W., 1962. The general principles of classification with reference to soils. *J. Soil Sci.* 13, 22-30.