



Integrating spatial legacy data of complementary soil surveys

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GIS adaptation and digital reambulation of regional and large-scale soil information originating from various agrogeological surveys has become a key issue in Hungary due the recent challenges like requirements raised by Hungary's EU-accession, introduction of national agri-environmental program, elaboration of up-to-date land evaluation systems, operational practice of precision agriculture etc.

The formerly collected data on soils are available in different scales (national, regional, micro-regional, farm and field level) and they are generally related to maps. The mapping objectives and methodology of the subsequent surveys also differed; consequently various soil features were laid emphasis on. The legacy data provided by these surveys in one hand still represent a valuable treasure of soil information at the present time, and on the other hand is generally the sole information actually available. However the diversity of various surveys carried out on a common region can be capitalized by exploiting the complementary features of the spatial soil information systems compiled applying the various archives together with appropriate auxiliary environmental covariates.

For a pilot area of about 750 km² in the Northern part of Hungary the legacy data of three different soil mappings (two of theme carried out at a scale of 1:25,000; the 3rd at a scale of 1:10,000) were integrated and harmonized to produce a self-consistent spatial soil information system. Information originating from the different surveys on one hand was used for filling the spatial and/or thematic gaps of the others. On the other hand the spatially and thematically corresponding data were cross-correlated, thus providing an estimate of the confidency. Naturally specific spatial environmental information on terrain and topography was also used to support these activities. The final product has been a value added system providing spatial soil information with more or less homogeneous applicability and confidency for the whole area and each parameter.