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A Study of the Possibility of Using Geomorphology in Soil studies in Natural Resources

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Abstract

In Iran, different methods are used for soil studies most of which are suggested by agricultural soil scientists, and therefore are not fully suitable for natural resources studies. One method that is currently and already used in natural resources projects is geomorphology. For an evaluation of this method, Hassanjoon sub-catchment of Taleghan drainage basing, located in $50° 37'$ to $50° 50'$ longitude and $36° 7'$ to $36° 20'$ latitude, and with high geological variation was selected. The maps of geolomorphological units were initially prepared through photology and field checks using Geographic information System, scaling 1:20000. Then were made 60 profiles from which soil samples were taken. Samples were analyzed physically as well as chemically for a determination of pH, EC, %OM, %CaCo3, %silt, %sand, and %clay. Analysis of paired T-test showed that geomorphology unit is homogeneous. Since in geomorphological units all pedogeny factors are considered, hence this leads to more profiles dug, and causes much more costs. But, since more costs bring more precision in soil studies, which is very important in watershed and range management decision makings, so it seems that digging more profiles is Feasible as well as acceptable. Soil is an important factor in range and watershed management projects. Success or failure in these projects is directly or indirectly affected by results obtained from soil studies. Sometimes, it is possible to mix different geomorphologic units, which can help to decrease the number of profiles needed.

Key words: Geomorphology, Soil science, Natural resources, GIS

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