Soil Evolutionary Pathways in a Mediterranean Environment. (S05-noller203421-Oral)

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Abstract:

Soil chronosequences in Cyprus and Greece, eastern Mediterranean, exhibit profile morphologies and properties that are consistent with complex evolutionary paths. Such complexity is related to tectonic and climatic changes over the past 1 Ma. Development of argillic and calcic horizons, with accompanying soil color changes, are the most evident manifestations of pedogenesis with respect to time. In areas underlain by limestone bedrock, clay accumulates by influx of eolian dust from Saharan sources, with minor to no authigenesis. In ophiolitic bedrock areas of Cyprus, clay authigenesis is coeval with dust accessions. Calcic and petrocalcic horizons reflect the semi-arid climate, the local availability of carbonate parent material and eolian dust. Soils developed on older landforms are recycled through surficial processes as pedisediment, which leads to the development of diagnostically mature soil properties in young (historic) soil profiles.

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