



Regolith and Saprolite as crucial elements within the Critical Zone

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Saprolite is the product of long term chemical weathering derived from underlying rock e.g. within crystalline landscapes like the Moldanubian Massif (Bavarian Forest). In these terms it is the zone of weathered rock. Regolith is known in the English literature as the interplay of processes that break down rock with processes that weather and transport. Regolith as well as saprolite are controlling the properties of the critical zone as the weathered profile. Rock strength, regolith and saprolite thickness, hydraulic transmissivity, chemical weathering fluxes, tree rooting depth and nutrient availability all depend to some degree on the thickness and character of the weathered profile. The Bavarian Forest is presenting quite a lot of examples. In bedrock landscapes, those dominated by bare rock and soils derived from underlying rock, the interplay of processes that break down rock with processes that weather and transport regolith as well as saprolite controls the properties of the critical zone. Regolith is divided using terms of German classifications. Saprolite is characterized by mineralogical and geochemical parameters according to Petrov and Valetton. The spatial variations in weathered profile characteristics are discussed.