

Runoff Processes in Southeast Asia: Role of Soil, Regolith, and Rock Type

Abstract

Runoff processes govern the river hydrograph form, location of return-flow and biogeochemical water quality of tropical forest watersheds. This study reviews the literature on runoff processes from tropical rainforests and applies it to the situation in tropical Southeast Asia. The impact of clay mineralogy on permeability and thence water pathways within the soil, and the role of deep pathways with unconsolidated geological materials (regolith) or permeable rock (solid geology) are emphasised, and a new perceptual model, DELTAmodel, presented. Lastly, the implications of these findings for runoff processes within the Mekong Basin are discussed.