Hillslope Hydrology of a Mountain Pasture with an impermeable subsurface horizon. (S06-aust144025-Oral)

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Abstract:

This study evaluated the influence of a confining soil horizon on the subsurface lateral flow from a mountain pasture to a riparian area along the Cartoogechaye Creek in southwestern North Carolina. Analyses of soil bulk density, saturated and unsaturated hydraulic conductivity, and in situ volumetric soil moisture were used to characterize the soil properties of the Ap and Bt horizons. Measurements were collected at top slope, mid slope, footslope, and within the floodplain. The impermeable Bt horizon restricts downward water movement and causes subsurface lateral flow to rapidly move to the footslope and riparian zone during saturated conditions.

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