

Title: Variability of soil moisture with time of the day in the University of Embu

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Abstract

Soil moisture is a key variable in controlling the exchange of water and heat energy between the land surface and atmosphere through evaporation and transpiration. It is a critical hydrological component in various water transport systems such as evaporation, infiltration and lateral flow at hill slope scale. This research will be conducted at different sites within the university of Embu . It will involve measuring soil moisture at different time of the day and comparing the different rates at which different soil losses moisture. Soils samples will be taken in the forest patch near dam 5, within the agricultural land and some from the sports field. Soils will be sampled from the field using a soil auger and placed in an organic paper bag which will be tightened to avoid the loss of moisture as is transported to lab for measurement in the lab the weight of the crucibles will be recorded and approximately 40g of the soil will be placed into the crucible. The soil in the crucible will be oven dried at 105 c for 12 hours. The soil will be allowed to cool for 15 minutes and then weighed again. The difference between the moisture of fresh soils and that of the oven dried will be recorded and analysed gravimetrically. The data will be analysed using excel