



Improving UK Chalk hydrometeorology across spatial scales using a small hydrometeorological network

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Chalk in the UK acts as a primary aquifer providing up to 80% of the public water supply locally. Chalk outcrops are located over most of southern and eastern England. Despite its importance, the characterization of Chalk in hydrometeorological models is still very limited. There is a need for a comprehensive and coherent integration of observations and modeling efforts across spatial scales for better understanding Chalk hydrometeorology. Here we introduce the “A MUlti-scale Soil moisture-Evapotranspiration Dynamics” (AMUSED) project. AMUSED goal is to better identify the key dominant processes controlling changes in soil moisture and surface fluxes (e.g., evapotranspiration) across spatial scales by combining ground-based observations with hydrometeorological models and satellite remote sensing products. The AMUSED observational platform consists of three sites located in Upper Chalk region of the Lambourn Catchment located in southern England covering approximately 2 square-km characterized by distinct combinations of soil and vegetation types. The network includes standard meteorological measurements, an eddy covariance system for turbulent fluxes and cosmic-ray neutron sensors for integrated soil moisture estimates at intermediate scales. Here we present our initial results from our three sites.