



## **Spatial and temporal variability of soil moisture in complex orographic terrain using a soil moisture monitoring network**

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Temporal and spatial variability of soil moisture are important parameters within the soil-atmosphere system influencing the hydrology on small to medium scales as well as the availability of moisture within the atmosphere. However the measurement of soil moisture is a challenge because soil moisture can vary significantly over spatial scales of even a few centimetres basically depending on soil- and plant-specific properties.

Within a large experimental and modelling investigation of the influence of soil moisture variability on convection initiation in orographic terrain in south-west Germany, a monitoring network consisting of more than 50 stations and 160 single sensors measured vertical profiles of soil moisture. Based on regional differences between 4 distinct regions within the investigation area soil moisture was analysed regarding their variability. Results show that soil moisture is not only affected by precipitation but also by soil texture properties. The importance of further parameters e.g. altitude and the location within orographic terrain are part of this contribution too.