Data of the soil moisture measuring campaign 2016/2017 within the Ilmenau catchment, Lower Saxony, Germany

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The data have been taken at ten locations by the first author during her PhD studies. The results of the work are published as follows:

Uniyal, B., Dietrich, J., Vasilakos, C., Tzoraki, O. (2017): Evaluation of SWAT simulated soil moisture at catchment scale by field measurements and Landsat derived indices. Agricultural Water Management 193, 55-70, DOI: 10.1016/j.agwat.2017.08.002

The article will be provided on request by personal communication. Please cite the mentioned research article and the data set, if you use the data.

We provide two data sets containing the original data as used for the paper:

1) Grain size distribution analyses for the sampling locations performed according to DIN EN 933-1 for the upper layer of the soil

For each location XY, there are three files provided:

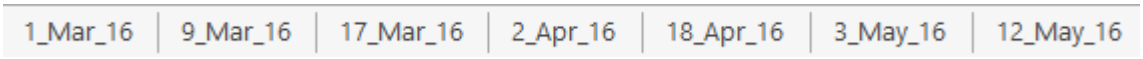
XY.kvs is the model file for the GGU-SIEVE software, which was used for the evaluation

XY_Linie.pdf file shows the grain size cumulative curve

XY_Werte.pdf provides the analysis data.

2) Soil moisture measurements using TDR in the field and gravimetric measurement in lab

The file **Soil_Moisture_Data_Uniyal_etal_2017.xlsx** contains one sheet for each sampling day, named after the date. A “location” is a field with a distinct agricultural crop (or fallow). At each location, several places were chosen for measurement (rows in the table with the same location ID), whereas in some campaigns the TDR was applied several times at the same spot (TDR1, TDR2, TDR3 columns). For the larger scale evaluation, the arithmetic mean of all measurements on one location was used.



1_Mar_16: corresponds to soil moisture data for 1 march 2016.

On 21 days, soil moisture was measured at up to 10 locations with TDR. On 8 days, gravimetric determination was done in the lab (oven) from a 5 cm cylinder probe.

TDR device: IMCO Trime Pico 64. TDR1, TDR2, TDR3 give the average soil moisture on v/v % basis for the upper 16 cm soil depth around the rod of the TDR device.