Earth Syst. Sci. Data Discuss., referee comment RC2
https://doi.org/10.5194/essd-2022-90-RC2, 2022

Comment on essd-2022-90

Anonymous Referee #2

Referee comment on "Twelve years of profile soil moisture and temperature measurements in Twente, the Netherlands" by Rogier van der Velde et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2022-90-RC2, 2022

Summary:

This paper presents a dataset of ongoing in situ soil moisture measurements in a region in the eastern part of the Netherlands. The dataset covers the time period since 2009, 20 locations, and measurements at five different depths (in general). The paper presents also results from field campaigns that resulted in calibration functions for the soil moisture sensors.

General evaluation:

The paper is in general sound and I have only minor comments. However, a major concern is whether publication is warranted in a high impact journal like ESSD, for only 20 point soil moisture time series for a period of 13 years. Question is whether the dataset is unique enough for this journal. I have suggested "minor revision", but alternatively a recommendation could also be "rejection". I leave this decision to the editor.

Specific Comments:

L28. Instead of Mecklenburg et al., 2016 an earlier citation should be included.

L114. What does “forest” mean here? Fruit trees? Please specify.

L116. Probably harvested in September and October.

L185. What has happened in case of sensor failure? What if sensors had to be replaced? Was the same sensor type used? Was there a check for inhomogeneity in the measurement time series?

L296-L303. Can you explain why these RMSE´s are so large? What is the RMSE for the average soil moisture content of a complete field or area?

L335. iv) instead of v)

L343: Change to: “a readme document”

L366. Do you compare here individual measurement points with measurements?

L375. “lower groundwater levels” instead of “low groundwater levels”?

L391. How doe you explain this? Could it be related to preferential flow in the unsaturated zone?

L394. Or opposite? In situ groundwater levels (whose availability is more abundant than soil moisture measurements) provide information on soil moisture content.

L423. Typo: “third-party”.

Figure 8. Please explain the numbers in the figure (why twice “1”, “2”, “3” etc.)