**Comment on essd-2021-325**

Anonymous Referee #1

Referee comment on "COSMOS-Europe: a European network of cosmic-ray neutron soil moisture sensors" by Heye Reemt Bogena et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2021-325-RC1, 2021

---

**COSMOS-Europe: A European Network of Cosmic-Ray Neutron Soil**

**Moisture Sensors**

**Bogena et al 2021**

---

**General comments**

The data paper is a great example of what can be achieved when disparate datasets are brought together and processed in a consistent manner. I like the use of normalised quantiles to facilitate widespread comparisons. The dataset will be a great resource for a variety of studies. I have no problems with recommending this paper for publication and only have a few minor comments which are outlined below.

I think the potential for a global version of the analysis and processing undertaken in the paper is exciting prospect.
Specific comments

L43-44 – Unusual wording. Do you mean “For example, in the last decade Europe has suffered from drought events unlike any seen since the beginning of weather recording.”

L44 - cosmic-ray (not Cosmic-ray)

L83 – “cosmogenic” in different font

L86 - delete “prone”

L118-119 – suggest “The Weisssee data only shows limited and short snow-free periods where soil moisture data is available...”

L248 – is something missing here are "More specifically, “?"
L274 – it might be worth mentioning that the 24 hr moving window is good for drought studies but may obscure the signal from wetting events which typically occur much faster.

Table 1 – is it possible to get the column headings on each page

Table 2 – as for Table 1

Fig 2, 3 and 4 – my versions look quite blocky – perhaps it is lower resolution that final will be

ALL Appendix figures – text in figures (labels/legends/etc) not crisp