

Manuscript: *The hysteretic response of a shallow pyroclastic deposit.*

Overview comments:

This research paper presents a dataset of hydrological measurements carried out from 2011 to 2012 in a shallow deposit of loose pyroclastic soils located in Campania, Southern Italy.

The work is well written and illustrated with figures and tables, and their conclusions seem to be consistent with the results and discussion. However, the restructuration of some parts of the paper is considered appropriate (see 'line-by-line commentary'). Authors included data and methods in the 'Monitoring site' section. An independent and clear section for 'Data and methods' may be very appropriate, especially in a data description paper like this.

General vote: manuscript may become acceptable after major changes, which are detailed in this review.

Line-by-line commentary:

Line 10: I suggest to change 'had been involved' by 'was involved'.

Lines 18: (e.g., Mualem, 1976...).

Lines 22: 'specimen' instead of 'sample'?

Lines 30, 143, 150, 159, 207, 254, 278, 351, Figs. 8 and 10: Please, use the same style of English spelling along the manuscript (American or British English spelling). In some cases, authors have used British English spelling.

Line 52: Remove 'fully'?

Line 55: 'was' instead of 'had been'.

Line 77: (e.g., Fiorillo et al., 2001...).

Line 92: I propose to define a 'Data and methods' section in order to describe data and methods relative to the analysis of the monitored deposit from 2011 to 2012, whose results are presented in this work.

Line 119: Consider to put this paragraph at the end of the 'Data and methods' section.

Line 131: Please, explain what is each variable in the manuscript.

Line 194: Remove 'further and further'?

Line 342: Consider to re-write the sentence 'which is dependent also on the installation procedures of the soil around the sensors' as follows 'which is dependent also on the installation procedures of the sensors into the soil'.

Line 348: 'Extraction' instead of 'extraction'.

Line 348: I suggest to change the sentence 'and this in a different way in the different seasons' by 'which varies throughout the seasons'. Consider to re-write it.

Line 349: Consider to remove 'always quite'. It sounds too subjective.

Line 361: 'LO' instead of 'LP'.

Figures and Tables:

Figure 1: Indicate the measurement unit for s (i.e., kPa).

Figure 2: Define Figs. 2a for the diagram and 2b for the upper-right inset in this figure.

Figure 3: Add coordinate grid, North arrow, and scale bar in Fig. 3a. Also indicate the source of the topographic map in Fig.3a and add an inset that shows the location of the study site in the context of Italy.

Table 1: Explain the variables in this table along the manuscript or in the table caption.

Table 3: The word 'curve' is duplicate.