

Interactive comment on “Surface and subsurface characterisation of salt pans expressing polygonal patterns” by Jana Lasser et al.

Jana Lasser et al.

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Dear Prof. Perry,

we would like to thank you for your very thorough comments that greatly helped to improve both the publication as well as the published data sets. It is indeed very helpful to have a second set of eyes comb through the data and help spot all the little mistakes one makes when putting together such a data set.

Following your comments, we have introduced the following additions and changes to the manuscript:

- We have added a sentence describing the repeatability and calibration error of the ICP-OES measurements: "Repeatability of the ICP-OES measurements is about 1%,"

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with a calibration error of $< 5\%$. Therefore we assume a measurement precision of 5%. Since we did not measure any reference materials, we cannot make statements about the trueness of the measurements."

- We have added a sentence giving more details about the sensors used for the temperature and humidity measurements: "For temperature and relative humidity measurements, we used `HiTemp140` and `RHTemp1000IS` data loggers, which measured temperatures and relative humidity every $\Delta t = 60$ seconds or $\Delta t = 120$ seconds with a precision of ± 0.01 °C and $\pm 0.1\%$, respectively. The factory calibration was used for all sensors. Unfortunately, we did not test sensors side-by-side but values from different sensors seemed consistent."

- We have added a sentence explaining the purpose of the "validation" samples for the pore water density measurements: "Individual measurements of densities are reported, along with averages and standard deviations for all measurements on individual samples. In addition to several replication measurements of the same sample, the data set also contains 5 "validation" samples for site T16 P1. These samples were taken in close spatial proximity to their respective counterparts (indicated by their shared sample ID) and represent replications on the sample level."

- We added a sentence pointing out that we truncated the temperature and humidity data in the beginning and end to get rid of transients: "We truncated the recorded data at the beginning and end to remove data points corresponding to a transient phase directly after putting the sensors in place and after removing them, respectively."

- We added an explanation on how the raw and gridded TLS data files can be loaded: "Raw and gridded data is stored as space-separated `.txt` and `.xyz` files and can be read for example using the `numpy.loadtxt()` in Python."

- We added a paragraph, explaining the exclusion of some data points from the salt concentration profile data sets. We also really liked your idea of calculating R^2 values for the direct vs. indirect measurements of salt content and incorporated this as a mea-

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sure of the agreement between the two approaches: "During the laboratory analysis of the salt contained in the samples, a small number of samples was contaminated or lost due to mistakes in the dilution process or broken crystallisation dishes. Consequently, these data points are missing either from the direct or indirect measurement column in the data set. Agreement between the direct and indirect measurement for all three sites is very high, with $R^2 = 0.98$ ($p < 0.001$) for site T27-S P1, $R^2 = 0.96$ ($p < 0.001$) for site T32-1-L1 P2 and $R^2 = 0.93$ ($p < 0.001$) for site T32-1-L1 P3."

Additionally, we have requested an update to the data files stored at PANGAEA. All requested changes are listed in the attached document.

Please also note the supplement to this comment:

<https://essd.copernicus.org/preprints/essd-2020-86/essd-2020-86-AC2-supplement.pdf>

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-86>, 2020.