# *Interactive comment on* "Surface and subsurface characterisation of salt pans expressing polygonal patterns" *by* Jana Lasser et al.

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General Comments:

The data description paper titled "Surface and subsurface characterisation of salt pans expressing polygonal patterns" provides a comprehensive and detailed summary of a comprehensive suite of measurements collected from the Owens (dry) Lake and Badwater Basin salt pans. The instrumentation, methods, and materials used during the generation of this unique data set are described in exquisite detail. The usefulness of the data set derives from the breadth of surface and subsurface measurements which include both vertical and horizontal cross sections of relevant parameters. Obvious care was taken to identify and avoid potential contamination pathways. In addition,

quality control procedures were implemented, when feasible, to further screen the data to remove potentially contaminated data. The paper was well-written and presented in a logical manner.

Specific Comments:

Data Set: Temperature and humidity time-series from Owens Lake, central California, measured during one week in November 2016. 1) The data at the beginning and end of several of the files are not realistic and should be truncated prior to publication. These data points clearly represent a transient signal prior to equilibration of the sensor. 2) T36-3_P1(center) and T36-3-P1(ridge) were collected using two different sensors with different capabilities (T and RH vs T only) and time resolutions (2 minutes vs 1 minute). These differences make direct comparison of the data sets difficult. Were the two sensors ever tested side by side?

Data Set: TLS surface scans from Owens Lake and Badwater Basin, central California, measured in 2016 and 2018 1) More information on how to extract and display the data from the TLS scan would be useful.

Data Set: Subsurface salt concentration profiles and pore water density measurements from Owens Lake, central California, measured in 2018 1) Owens_lake_T32-1-L1_P3_salt-conc has some negative values for the direct salt content measurements. In addition, the $R^2$ value for the comparison of the direct and indirect measurements of salt content is quite low (i.e., < 0.06). 2) OwensLake-T27-S_salt-conc also has some negative values for the direct salt content measurements. However, the $R^2$ value for the comparison of the direct and indirect measurements of the salt content would be quite good without including these values. 3) OwensLake_porewater includes some standard deviation estimates for data with only 1 or 2 values. Is the stdev measure meaningful in this context? 4) OwensLake_porewater includes some "validation" samples for T16. What exactly are these samples?

Data Set: Chemical characterization of salt samples from Owens Lake and Badwater

Basin, central California, collected in 2016 and 2018 1) There is a discrepancy on the units described in Table 7 for the pore water ion characterization and those contained in the data file OwensLake_porewater-chem. Table 7 indicates that all elements are reported in ug/L while some of the data in the file are reported as mg/L 2) What are the estimated uncertainties of the ICP-OES measurements? 3) Two extraneous rows of empty data are contained at the bottom of OwensLake_crustsaltspecs 4) The abstract for this data set indicates "Pore water was collected from the subsurface at two sites at Badwater Basin (also central California) and 15 sites at Owens Lake. Elemental composition of the pore water was analyzed using ICPOES." However, the data file OwensLake_porewater-chem only contains data for 12 sites. What happened to the data from the other 5 sites?

Technical Comments: 1) Page 19 Line 310 – "were" should be "where" 2) Page 19 Line 312 – "two samples rows" should be "two sample rows"