

Interactive comment on “Vegetation, ground cover, soil, rainfall simulation, and overland flow experiments before and after tree removal in woodland-encroached sagebrush steppe: the hydrology component of the Sagebrush Steppe Treatment Evaluation Project (SageSTEP)” by C. Jason Williams et al.

Anonymous Referee #3

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General comments:

Authors present extensive and detailed dataset with vegetation, ground cover, soils, hydrology, and erosion data from over 1000 plots in diverse vegetation, ground cover, and surface soil conditions from three study sites in USA for five study years. Presented data is of high scientific importance and probable usage in the future. Study

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sites, experimental design and field methods are well described. There are no explicit estimates of the data errors and its discussion. Consider adding some uncertainty estimates in the Section 2 or Section 3.

Paper does not provide information about which exactly kind of data is in the dataset. Reader is not able to decide whether he/she interested to download data or not based just on the paper. I suggest including a new section or subsection or extend Section 5 and include brief technical overview of the data covering description of variables from the dataset (maybe in a table that is shorter version of the table “SageSTEP_Database_Data_Dictionary” from the dataset), technical details (could be from lines 450-461) and structure of the data files.

Section 4 is important for understanding of scientific significance of the presented dataset but lacks any scientific conclusions. It explains the previous usage of data. It would be good for readers to know not only descriptions of data usage but also the scientific results. I suggest expanding the section, brief presenting significant findings of the mentioned studies and referring to the Figures 3-5.

Specific comments:

Table 1: Intercanopy bare ground includes shrubs and grasses?

Table 2: There are 4 parts of the Table. What do they refer to? Consider adding informative titles to different parts of the table and relocate extensive description of different types of sites to the paper text.

Line 206: Are site characterization plots representative for all plots at each of three study sites?

Lines 450-459: Consider to relocate this detailed description of the dataset from the Conclusions to Section 5 or new Section / subsection with the technical overview of the data.

Data table “Small time series”: Please explain what empty cells mean, for example

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lines No 6099, 7431, 7504, 8349 of the columns "Runoff_L_min", "SedConc_g_L", "Runoff_mm_hr" and "SedDisch_g_s".

Technical corrections:

Link to the data DOI in the abstract and Section 5 leads to DOI Not Found webpage.

Line 387-389: It would be useful to show TRAW and width variables on the photo or on the scheme.

Figure 3: Do (a) and (c) refer to Marking Corral site and (b) and (d) – to Onaqui site? It should be explicitly noted in the Figure caption. Untreated tree coppice microsite indicated as bold green line in the legend but dash line on the graph. It would be better to use bold lines for all three control microsities.

Table 5-6: expand abbreviations Fol. Cvr., JUOC and WDPT.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2019-182>, 2019.