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Hydrology and Earth System Sciences
Discussions

Interactive comment on "The CAMELS-CL dataset: catchment attributes and meteorology for large sample studies – Chile dataset" *by* Camila Alvarez-Garreton et al.

Anonymous Referee #1

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This paper presents the first large-sample catchment dataset for Chile with many data sources compiled to provide an easy to use, uniform dataset. The data sources and derived statistics are clearly described in sections 3 and 4 and the authors generally discuss uncertainty and caveats to each piece of the dataset. A valuable addition is the compilation of diversion data for the catchments. Overall, the paper is easy to read and the figures are high quality. However, it reads more like a data paper with relevant descriptions of the components of a dataset. Section 5 does provide some nice analysis, but more is needed before publication. Additionally, another careful pass through the paper for typos and minor grammar issues is needed.

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Discussion paper

Specific comments:

1) This paper lacks substantial analysis. The new dataset is very valuable, but as the manuscript stands now, it is very close to a data paper. Additional analysis is needed.

One opportunity is uncertainty. The authors note many times that the input climate data, streamflow, and basin boundary data are uncertain. The authors could (should?) provide uncertainty bounds on the derived indices (e.g. runoff ratio) using the various climate indices and possibly any other known sources of uncertainty. An interesting aspect that could be explored is quality control of the various climate data using metrics like runoff ratio to identify suspect datasets (e.g. long-term runoff ratio > 1 in areas of little glacial melt or groundwater).

This can then be parlayed into analysis on how uncertainty may impact the significance of any spatial trends in the catchment hydrologic signatures or climate indices. This does not need to be exhaustive, but a nice example of how to use the uncertainty data provided would be useful to the community.

2) The results of section 5 seem very logical, yet I don't see any citations in the paper discussing basin response with human intervention. There must be some previous work that can be cited?

3) Additionally, this paper appears to only focuses on diversions, not urban fraction. Catchment response changes with urban fraction as well, which is obviously another component of human intervention in watersheds. If this is negligible in these catchments, the authors should note it.

4) The concluding remarks section is very repetitive. Key contributions from this paper are restated several times in different ways across the section and should be condensed.

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