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Hydrology and Earth System Sciences
Discussions

Interactive comment on "A new stream and nested catchment framework for Australia" *by* J. L. Stein et al.

Anonymous Referee #2

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Summary

This manuscript presents a new national hierarchical stream dataset for Australia. Using a 9 s DEM a nested river network structure is defined using the Pfafstetter scheme based on a high-resolution drainage basin analysis. Besides river network information a number of enviromental descriptors are added to the dataset (e.g. climate, geomorphology, landuse). Compared to previous national river network datasets, the new dataset contains much more detail and remapped a number of tributaries to different river basins. The newly developed dataset is open source and can be downloaded by the community.

Overall quality

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

The newly presented dataset is of interest for hydrologist working in Australia as well as for hydrologist working on the development of similar datasets in other parts of the world. I do not have the feeling this paper presents any new scientific/hydrological theory, but builds upon previous work on the analysis of DEMs for hydrological purposes. However, the description of the dataset in itself is of interest to the community and definitely fits in the scope of Hydrology and Earth System Science (HESS). The only real limit of this paper is the comparison with other available datasets, which I feel should be added before the manuscript can be published in HESS, see below.

Major comment

On page 15436 the authors describe the currently available datasets at the national (AHGF) and global scale (HYDRO1K and HydroSHEDS). In order to show the added benefit of the newly developed dataset, I feel it would be nice if the authors would show a comparison with these dataset for a case study (i.e. river basin). Such a case study would really show the added value of this dataset and motivates possible users to start applying it.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 15433, 2013.