

Basin-scale water-balance dataset (BSWB): an update

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This contribution presents an update of a basin-scale diagnostic dataset of monthly variations in terrestrial water storage for large river basins worldwide (BSWB v2016; Hirschi et al., in review). Terrestrial water storage comprises all forms of water storage on land surfaces, and its seasonal and inter-annual variations are mostly determined by soil moisture, groundwater, snow cover, and surface water. The presented dataset is derived using a combined atmospheric and terrestrial water-balance approach with conventional streamflow measurements and re-analysis data of atmospheric moisture flux convergence and water vapor content. It extends a previous existing version of the dataset (Mueller et al., 2011) temporally and spatially. Comparison of BSWB v2016 to independent estimates of terrestrial water storage from the Gravity Recovery and Climate Experiment (GRACE) show good agreement.

Hirschi, M., and Seneviratne, S. I.: Basin-scale water-balance dataset (BSWB): an update. *Earth Syst. Sci. Data Discuss.*, doi:10.5194/essd-2016-33, in review, 2016.

Mueller, B., Hirschi, M., and Seneviratne, S. I.: New diagnostic estimates of variations in terrestrial water storage based on ERA-Interim data. *Hydrol. Process.*, 25, 996-1008, doi:10.1002/hyp.7652, 2011.