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Evaluation of water and energy budgets over Colombia, South America

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The study presents a dataset intercomparison of reanalyses, data from other authors, and one regional climate model applied over South America with special focus on the hydrological cycle and the surface energy budget. The model simulated the 41 years from 1960 to 2000 by using quasi-observed boundary conditions derived from ECMWF re-analysis (ERA). The intercomparison focuses on one large catchment covering an area of major research interest within Colombia. The variables used are monthly mean surface air temperature, precipitation and river discharge.

From the modelling perspective, the potential advantages of such comparative analyses are to provide information about model performance, enhance the understanding of hydrological behavior in a systematic dataset comparison framework, characterize consistencies and differences in datasets, and identify the requirements for catchment-scale hydrological models to reliably simulate future behavior.