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Feasibility study of extracting runoff data from satellite altimetry over continental surface waters

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To close the continental water balance, runoff data is required. However, the number of catchments with available runoff data is low. The main objective of this study is to investigate the feasibility of extracting runoff data using satellite altimetry over all possible continental surface waters. Hence, all possible footprints in all catchments have been considered as virtual gauges. The quality of time series at virtual gauges has been improved using a retracking procedure. The improved time series have been combined with a single in-situ gauge and available runoff in different catchments to derive a reliable stage-discharge relationship (rating curve). Runoff can be obtained using satellite altimetry and computed rating curve. Computed runoff will be employed to reach a better runoff data set to close the continental water balance.