



## **Learned lessons from uncertainty assessment of monthly runoff using different methods to establish reservoir inflows**

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The time series of monthly runoff are critical information for the management of hydro-power reservoirs. This experience presents the learned lessons from the uncertainty assessment of reservoirs inflows for different hydro-power dams in Colombia. Rainfall-runoff models, water balance and hydrometry methods, with different data requirements, were used to establish the monthly runoff inflow to different hydro-power reservoirs. Second order uncertainty assessment was applied for uncertainty propagation from input data to model results, taking auto-correlation of runoff and meteorological data, in time and space, into account. Rainfall-runoff models of different complexity and water balance methods were applied using rainfall inputs averaged from interpolated fields, Thiessen polygons and from meteorological stations measurements. For temperature inputs, averaged DEM derived temperature fields and temperature station averages were used as well. The lowest uncertainty and best method's traceability were used as criteria to select the method to calculate monthly reservoir inflows. Findings show that hydrometric method is always preferable among others and that uncertainty for the rest of the methods heavily depends on the completeness of the uncertainty assessment.