



A data assimilation system to improve streamflow predictions

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SAFRAN-ISBA-MODCOU (SIM) is an hydro-meteorological model used at Météo-France to predict soil water content and river streamflows. In order to produce better Ensemble Streamflow Predictions, an assimilation system is developed at Météo-France. Its aim is to provide initial data for prognostic variables closer to observations. The data assimilation system is developed with a modular software (PALM, from the Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique). Assimilated variables will be the river streamflows measured on a pool of 186 non-influenced gauge stations, and piezometric data, which are assumed to be parameters which would improve our system by adjusting soil moisture. The Best Linear Unbiased Estimation will be used at first, and the influence of the duration of the assimilation period will be tested as well as the sensitivity of streamflows to soil moisture variations.