High resolution climatology
- towards climate change services

Can monthly to seasonal precipitation forecasts be useful for hydro-power production planning in french Guyana ?

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The Petit Saut Dam and reservoir are an important component of french Guyana's power network, as it represents more than one half of the installed production capacity. Therefore, accurate and reliable precipitation forecasts over the reservoir's basin are crucial for production planning. In particular, some key elements are important to forecast, e.g. the beginning of the major rainy season, and the total amount of water arriving in the reservoir during this season. Even if there are forecasting errors, qualitative information could be useful, e.g. to decision makers who should decide to hire mobile power generators or not, if the water level in the reservoir is too low.

We use different forecasting systems (DEMETER, ENSEMBLES, and operational models) to determine if it is possible to get useful elements for the reservoir management. Precipitation and other large scale variables are investigated to assess their predictability over the area. The most relevant ones are then used to forecast hydro power production, and compare this to what can be obtained with climatological forecasts.