

## **Long-term fluctuations and trends in river water level and precipitation in French Guiana.**

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### **Abstract Text**

Climate change is expected to cause significant changes in the global hydrologic cycle, yet changes in regional hydrology and precipitation remain uncertain. As a first step in understanding the impact of climate change in watersheds of the French Guiana, historical river water levels and precipitation data are analysed. In this study, the Mann Kendall test modified by Hamed (2008) is applied to river water level and precipitation data capturing the intensity, seasonality and extremes since 1950. This analysis showed lot of trend regional discrepancies for French Guiana as a whole. To investigate periodicities in river water levels and precipitation data, we applied the continuous wavelet transform (CWT) to these data sets. CWT of deseasonalized and maximum water level time series show interannual and decadal periodicities that we link to the occurrence of El Niño and and 20-year variability.