



Changes in Hydrological time series - A challenge for water management in the

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Runoff could be a quick response of river basins to climate change. Drought events in some selected sub-catchments of the Volta basin in West Africa were analyzed to detect if any, the effects of climate variations on runoff regimes especially during low flows in the last decades. Statistically, significant changes have been realized in the last century (Oguntunde et al, 2006). As the hydrological conditions in the Volta have not been favourable in the last decade, it has become necessary that attention is given to water management strategies as problems may arise if this situation continues or shifts into more water stress conditions predicted by the climate model ensemble used by IPCC (2007) for the region. If there is a general concession that hydrological conditions across the world is changing, then concepts on water management need to fit the changing situations. The growing number of reservoirs in the basin would need improved and flexible methods of reservoir operations. One concept based on the application of fuzzy sets for estimation of adjusted real-time reservoir operation is presented.