Water balance of the utengule swamp of the great ruaha river basin

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Swamps are shallow vegetated bodies o f water. This shallow water depth and the presence of vegetation increases frictional resistance to the flow of water. This makes the water settle in the swamp for long periods of time, resulting in large evaporation of the water occurring. The lose of water in the Utengule swamp is of great importance since we have the Mtera and Kidatu reservoirs, used for power generation, downstream of the swamp.In this research, the water budget method of evaporation computation was used. The trend in the monthly variations in swamp areas was got using satellite imagery. The maximum and minimum swamp areas were obtained after comparison between swamp vegetation image areas and geographical maps. The precipitation and discharge data used was for a period of 31 years (1957-1987)Morton's complementary relationship model was used to compute the potential evaporation of the swamp, and these values compared with those calculated using water balancing. Climatological data used was for a period of 20 years (1972-1991). Penman's pontential evaporation values were also used for comparison purposes