

**HYDROLOGICAL ASSESSMENT OF
BADULLA OYA RIVER CATCHMENT AREA
AROUND
THE UVA WELLISSA UNIVERSITY**

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by

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Abstract

Hydrological assessment is the most important factor to understand about water budget estimation in various places at various periods. A water balance can be assessed for any subsystem of the hydrological cycle. Major objective of this research is to identify the water balance of Badulla Oya catchment around the university area. Hydrological assessment directly conducts with water budget variation of an area. Several factors are being considering in hydrological assessment. For the small natural catchment the assessment methods are being arranged to favorable and acceptable condition to reduce the errors. The water budget estimation is difficult by assessing the hydrological assessment. However, we can assume and neglect some data for small catchment. Complete balance between Precipitation, evapotranspiration, runoff and change in storage are obtained for last five years to find the water budget and its variation. Precipitation is taken from meteorological data. The average of last five year is nearly 1900mm. Evapotranspiration is measured by using Hammon equation. It is in 1250mm per year. Runoff is measured according to the surface area which helps to runoff directly regarding to the infiltration. It varies 200mm to 330mm per year. According to the infiltration capacity and rate the soil surface runoff does not occur and only roof and road runoff occurs when rainfall occurs at Uvawellassa university area. The single ring method is used for infiltration. The average infiltration rate varies 60mm/hr to 80mm/hr. Change in storage depends on rainfall, evapotranspiration and runoff. It has negative value in between June to September.

Key word: water budget; evapotranspiration; runoff; hammon