EVALUATION OF SYNTHETIC RAINFALL APPLICATION WITH RESPECT TO THE FLOW VOLUME AT UPSTREAM BRANTAS WATERSHED

Abstract

Indonesian Technical Implementation Unit (UPT) of Synthetic Rainfall has modified climate by generating synthetic rainfall from 9th May until 4th June 2013. This unit has cooperated with the Department of Technological Study and Application (BPPT) of Indonesia and Perum Jasa Tirta I and TNI AU Lanud Abdulrachman Saleh. This study intended to increase reservoirs water level in upstream Brantas watershed, one of them is Sutami reservoir. Successive grade evaluation of synthetic rainfall used the method of Double Ratio and Flow Discharge. The target area is upstream Brantas watershed that is represented by 12 rainfall stations and the control area is in the distance of ±30 km from the boundary of upstream Brantas watershed and is represented by 5 rainfall stations. Results show rainfall increasing by 152.05% according to the Double Ratio method and the increase of flow discharge from Sutami reservoir by 74.19% according to the Flow Discharge method.

Key words: control area, double ratio, flow discharge, synthetic rainfall, target area