

PERBANDINGAN TINGKAT KETELITIAN PEMAKAIAN PERSAMAAN HUJAN JAM-JAMAN DAN AGIHAN JAM-JAMAN TERUKUR TERHADAP HIDROGRAF DEBIT BANJIR RANCANGAN

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ABSTRACT

The magnitude of a design discharge/design flood is the significant ones for the using of hydrological information. For that reason, it should be accurately estimated under the best-known methods to avoid neither overestimated nor underestimated results.

Using simple models of the measured unit hydrograph based on the hydrological data of the Bedog, Winongo, Code and Gajahwong catchments, some rainfall distributions were applied to derive a magnitude of particular return period design discharge. The given discharge magnitude was subsequently compared to the frequency analysis obtained from measured discharge data to identify the accuracy level of each rainfall distribution. Based on the Code river flow simulation, the 50-year return period flood hydrograph of each rainfall distributions of the Code catchment were tested to the given river condition to identify the flood problems and flood control management.

Of the four observed catchment, the observed pattern-1 rainfall distribution had the highest level of accuracy. The discharge magnitude of the rainfall distribution application under the Alternating Block Method (ABM) had been highly overestimated, absolutely influencing the flood altitude. The result of flow simulation, the existing condition of the given rivers were fairly save for the observed pattern and Tadashi Tanimoto rainfall distribution 50-year return period discharge. Regarding the rainfall distribution of the Alternating Block (ABM) method, there were some overtopping points indicating that flood control effort would be necessary.

Keywords : *design discharge, rainfall distribution, and unit hydrograph.*