

ABSTRACT

Generally, synthetic partial hydrograph had to be developed just like kind of Snyder that found accord empirical scientific in United States. Determination of their parameters have been presented by various criteria, but so far the results are still relatively deviate for watershed-watersheds in Indonesia. The study was conducted to Bionga Kayubulan sub watershed that have properties and characteristics that need to be conducted regarding irregularities by comparing models with HSS Snyder unit hydrograph observations on sub watershed.

Hydrograph water level readings AWLR downgraded to a flood hydrograph, using the are discharge. to separate the base flow with run off straight line method is used to produce direct run off hydrograph. From the data obtained ARR hourly rainfall records were the analyzed, using the effective rainfall index Φ . Direct run off hydrograph and rainfall effectively reduced to the observation unit hydrograph using collins. Based on topographic maps obtained watershed physical factors were then used to analyze HSS Snyder. Further comparison of the HSS Snyder constant adjustments made using software Microsoft Excel-Solver.

Observation unit hydrograph Bionga Kayubulan sub watershed has a peak time (T_p) of 4.5 hours with a peak discharge (Q_p) of 2.81 m³/sec while Snyder HSS obtained from the analysis of T_p and Q_p of 5.15 hours of 0.33 m³ / dt. The test results showed that the predicted ratio Snyder HSS HSS calibration better than Snyder before calibration. CE preadjusted value is 0.11 and as adjusted to 0.93. value of EV adjusted is 65.20% before and after adjustment to 2.70%. EQP value addition, AETR values and values after adjusting widened AETp 0 hours.

Key Word: HSS Snyder, Calibration, Peak Discharge