

POLA AGIHAN HUJAN DAN PENGARUHNYA TERHADAP BANJIR RANCANGAN

Ellida Novita Lydia
10/309651/PTK/7199

Telah dipertahankan di depan Dewan Penguji
Pada tanggal 16 April 2012

Pembimbing Utama
Ir. Joko Sujono, M. Eng., Ph. D.

Pembimbing Pendamping
Dr. Ir. Istiarto, M. Eng.

Anggota Dewan Penguji Lain
Dr. Ir. Rachmad Jayadi, M. Eng.

ABSTRACT

Various models of the rainfall distribution to distribute a quantity of the design rainfall during this a lot offered but the rainfall pattern analysis is done separately between rainfall patterns and rainfall duration. Usually the rainfall duration is determined without regard to the rainfall depth . While the rainfall duration and the rainfall depth have a relationship. It is necessary to study the influence in determining the rainfall pattern compared with no separation between rainfall duration and rainfall patterns for design floods at each river basin.

By using statistical analysis from rainfall events data, the frequency of dominant rainfall events (rainfall depth and rainfall duration) that were analyzed can be determined without separation. Analyses were performed with the help of views WRPLOT software. The rainfall duration and the rainfall patterns that represent das obtained based on the frequency of dominant rainfall events. The design flood discharge is analyzed based on the rainfall pattern with the model of rainfall flow transformation using unit hydrograph method.

Of the five river basin studied, the rainfall duration of each river basin is 5 hours for Bogowonto river basin, 4 hours for Progo river basin, 3 hours for Bedog river basin, Code river basin and Gajahwong river basin. The resulting rainfall pattern is the rainfall pattern based on the average dominant rainfall duration and the rainfall pattern based on the overall rainfall duration. Generally, the application of both the rainfall pattern of the design flood hidrograf gave no significant difference so that the determination of rainfall pattern for river basin can use the rainfall pattern based on the average dominant rainfall duration because it's easier and faster.

Key words: rainfall duration, rainfall pattern, the design flood discharge