A D A P T A T I O N

OF AN EMPRICAL

BASIN LAG FORMULA

TO THE

UPPER CAGAYAN

RIVER BASIN

IN REGION II

ADAPTATION
OF AN
EMPRICAL
BASIN LAG FORMULA
TO THE
UPPER CAGAYAN RIVER BASIN
IN REGION II

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Danilo C. Terante
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ABSTRACT

Insufficiency of rainfall and streamflow data prevent hydrologists to derive a unit hydrograph for flood estimation and prediction. This paper attempts to identify some empirical methods for deriving a synthetic unit hydrograph. These methods are fitted to the actual unit hydrograph through statistical testing. Furthermore, limitations and constraints of each method are the final aspect considered to determine its fitness and appropriateness to the basin.

The project area chosen in this study is the Upper Cagayan River Basin in Region II which has a drainage area of 6,283.20 square kilometers. Two major stations with synchronized rainfall and streamflow data have been identified to represent the entire basin, namely; Naguilian and Echague stations. Comparison of the synthetic and the actual unit hydrographs is done in terms of the following parameters: basin lag, time to peak, peak discharge and base length.

This study concludes two empirical methods, namely; BPW and River Dredging Project II, that can safely predict the four parameters and are, therefore, adaptable to the Upper Cagayan River Basin.

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