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Probable Maximum Precipitation Estimation Using the Revised Km-Value Method in Hong Kong

Ping Lan (1), Bingzhang Lin (2), Yehui Zhang (2), and Hong Chen (3)

(1) College of Atmospheric Science, Nanjing University of Information Science & Technology, Nanjing, China, (2) College of Hydrometeorology, Applied Hydrometeorological Research Institute, Nanjing University of Information Science & Technology, Nanjing, China, (3) Tianjin Meteorological Observatory, Tianjin, China

A brief overview of statistical method to estimate the Probable Maximum Precipitation (PMP) is presented. This study addresses some issues associated with Hershfield's Km-value method to estimate PMP in China, which can be solved by the revised Hershfield's Km-value method. This new derivation makes it clear that the frequency factor Km is depended on only two variables, the standardized variable, [U+03D5]m, the maximum deviation from the mean, scaled by its standard deviation, and the sample size, n. It is found that there is a consistent relationship between Km and [U+03D5]m. Therefore, Km can be used to make a preliminary estimate of PMP under some conditions when sufficient rainfall data are available. The advantages and disadvantages of this revised Km-value method are also discussed here with a case study for the estimation of 24-h PMP in Hong Kong. The 24-h PMP estimate in Hong Kong based on the local rainfall data is approximately to be 1753mm.