This study focuses on the classification of watersheds into homogeneous regions sharing the same climatic and physiographic characteristics. While well-structured and well written, this paper does not add very much to the existing knowledge. Moreover, the proposed approach has some fundamental issues that need to be vigorously addressed: 1) Ambiguity: It has been mentioned that the CCA was used for estimating hydrologic variables since only a few observing stations are available. These variables will be considered later in the classification approach to provide a watershed classification system that will be used, among other purposes, to estimate the hydrological response of a given watershed. What is confusing and contradicting here is to first estimating hydrological variables, and then using classification outputs to understand the hydrological behavior! A regionalization approach is more suited for this purpose. 2) I feel inconsistency in using CCA (the most appropriate classification method as recognized in regionalization studies) to estimate hydrological variables, and using another
classification method, hierarchical cluster analysis, for classification. 3) Equation in Line 319 is not very convincing since no precipitation or water-related variable is introduced. Also, only 11 observations have been considered for calibration. Assessment of the uncertainty is not consistent too.