



Evaluation of Spatio-temporal Drought using Water Resource Quantile Map

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Among those various natural disasters, the drought which is contrasted to the flood is not defined in only one case and it is true that the standard to estimate and conclude the drought is in vague with the long-term water insufficiency following the local and time-periodic rainfall disparity. Drought indices is mainly used as an index for evaluating drought. However, it is not an absolute indicator that can evaluate drought. Depending on the characteristics of each index in a variety of conditions such as local and environment, after grasping a better applicability in the use surfaces to suit the purpose of the user, using the appropriate index to be drought evaluation shall. After considering the various characteristics such as regional and environment with each index, the drought index have to use appropriately. Accordingly, there has been a lot of research for drought monitoring. However, objective method that can be evaluated experts as well as the general people on the actual drought situation, is deficient. In this study, it suggested RSQM (Real-time Storage Quantile Map) and RRQM (Real-time Riverflow Quantile Map) in the way to calculating the quantile of the current value corresponding to the usual value of the annual value river water level and storage rate of multi-purpose dam. It was calculated the probability distribution by selecting a typical water level stations and multipurpose dam of each basin. And the RSQM and RRQM were comparison and analysis to SPI and PDSI Index. These schemes can be objectively judged insufficient degree and drought conditions in water in real time. The RSQM and RSQM are meaning the supply potential of water resources and stress value of river environment. RRQM is mainly due to represent the adjusted value of downstream of multi-purpose dam. Accordingly it does not show the tendency of the representation of the drought to match exactly. However, RRQM is more directly represented about visually showing drought conditions. Also, RSQM can be more accurate judgment about drought related with the supply of water. Although RSQM and RRQM may be used to drought as it is, it can be utilized as a basis for the evaluation of the existing drought.