



## **Potential of Global Runoff Data for evaluation of seasonal flood patterns in Europe**

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The analysis of changes in long-term hydrological time series is becoming increasingly important as the socio-economic impact of the large scale floods in mainland Europe seems to be increasing, especially in the past decade. The main objective of the study is to evaluate seasonal flood characteristics of European catchments provided in the Global Runoff Data Centre (GRDC) dataset. The study focuses on the analysis of the data obtained from the GRDC database, which provides free, unrestricted but identified access to hydrological data. The seasonal floods are examined to interpret the dominant hydrological processes and patterns in different seasons over large geographical area. The results were linked with spatial characteristics, such as elevation and catchment sizes provided by GRDC metadata, which were discussed and verified against the obtained site specific data. The study of the seasonal discharges revealed that the variability of occurrence of summer floods is higher than winter floods in lowlands of the upper Danube catchment. In high Alpine catchments the winter floods variability of occurrence is the same or higher than for the summer floods. The summer season floods tend to appear for all catchment sizes in the same time period. With increased magnitude of floods in the summer season, the variability of occurrence of the floods is higher.