



Flood Characteristics and their Changes in Europe

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Floods around the world are perceived to become more frequent and severe. However, due to spatially fragmented research into regional and national scale studies and due to different analysis methods and time series available it was difficult to draw general conclusions about flood changes in Europe in the past. Therefore, the suspected changes in flood characteristics such as timing, magnitude, and frequency remained elusive.

To overcome this fragmentation, a comprehensive European flood database was developed through strong international collaborations over the last couple of years. In its current state the pan-European database consists of over 4000 time series of annual discharge or water level maxima. This new database now offers the possibility for unified flood research across Europe.

For example, the analysis of the timing of floods can be used as an indicator for identifying the dominant large scale climate influences related to flood generating processes.

The new insights gained from the spatiotemporal characteristics and patterns of flood timing across Europe allow for a better understanding of observed flood regime changes and their drivers.

With this new background information, the upcoming investigation on changes in flood magnitude in Europe will gain interpretability beyond particular regional boundaries, and will contribute to the development of a more general theory on flood changes.