



## **Atmospheric drivers of Germany-wide flood events**

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Large flood events affecting several macro-scale river basins in Germany simultaneously are of high relevance for flood risk management in general and flood insurances in particular. A distribution-free ordinal classification of floods based on moments since 1920 revealed that Germany-wide floods occurred only during winter with a remarkable clustering of such events in the 1940s. In the winter season, rainfall accompanying the melting of accumulated snow caused by warm fronts is a key process of spatially extended flood generation. Understanding the atmospheric processes which trigger large-scale winter floods, like extended snow covers, helps us to understand the risk of Germany-wide winter flood events. We investigate the meteorological circumstances of Germany-wide winter floods. For this, we use station data of Germany's National Meteorological Service (DWD). We could detect the majority of the Germany-wide flood events by defining joint thresholds for meteorological variables, e.g. the Germany-wide averaged six-day rainfall sum and 15-day sum of snow-melt.