



Linking multi-sectorial impacts to hydrometeorological extremes during the drought of 2018 in Germany

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The drought of 2018 caused a wide range of impacts on environment and economy. This contribution explores how different drought impacts were linked to the occurrence of extreme values of hydrometeorological indices. Focusing on Germany, this study is based on drought impact data collected from text reports that are archived in the European Drought Impact report Inventory (EDII) and on standardized meteorological drought indices, modelled water balance and soil moisture, and observations of streamflow and groundwater. Our hypotheses included that impacts in particular sectors depended on the season (e.g. agricultural impacts), the combination of drought with heatwaves (e.g. impacts on river ecology), or other particular drought characteristics such as the prolonged duration of low flows (e.g. impacts on riverborne transportation). We therefore expected a particular temporal sequence of impact occurrences in relation to the drought evolution. Based on the currently available data there is little support of a temporal sequencing of impacts, but there are indications for drought characteristic specific impact profiles. Compared to recent previous drought events, impacts in different sectors appear to have co-occurred to a higher degree in 2018. However, results may still change as reporting and data collection are ongoing. Effects on groundwater levels and forests, for example, may lag behind by up to a year and many reports on impact-related statistics are only published with delay. Nevertheless, the combined data analysis of impacts and indices suggests that there may be potential for impact-specific drought monitoring of the multi-sectorial impacts that contributed to the event's high visibility.