

Motivation and Aims

The drought of 2018 caused a wide range of impacts on environment and economy. These impacts contributed to the event's high visibility. Focusing on Southwest Germany, this study investigates

- the temporal co-evolution of the physical drought severity in different variables and the range of direct and indirect drought impacts in different sectors, and
- how the drought characteristics and impacts of 2018 compare to those of previous events.

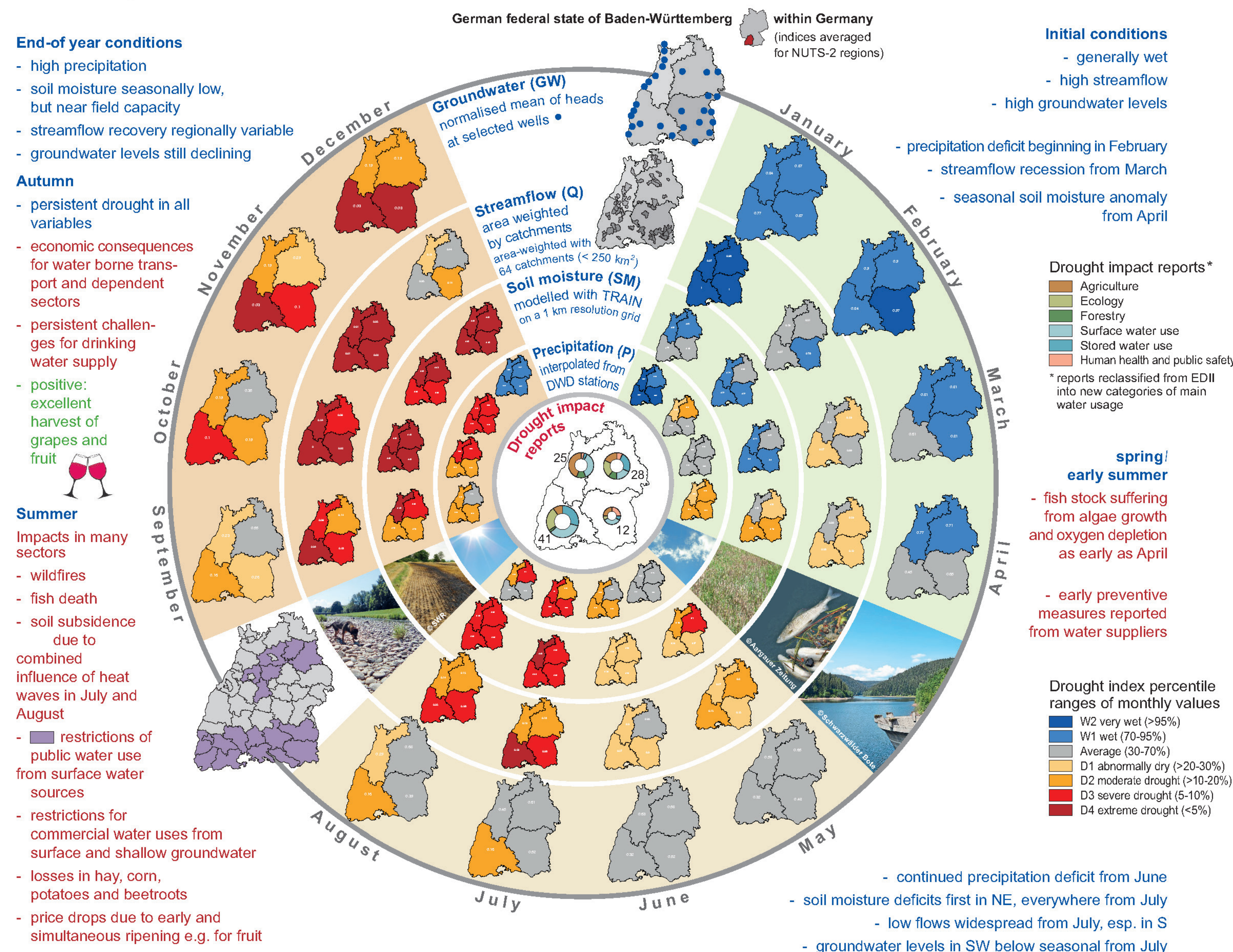
Data Analysis

- Monthly anomalies of four variables based on the period 1989-2018: precipitation, soil moisture modelled with TRAIN, streamflow from meso-scale catchments with near-natural flow and groundwater heads from observation wells (source: official monitoring networks in Germany)
- Drought impact reports collected from media and other text sources and initially coded for the European Drought Impact report Inventory (EDII) system.

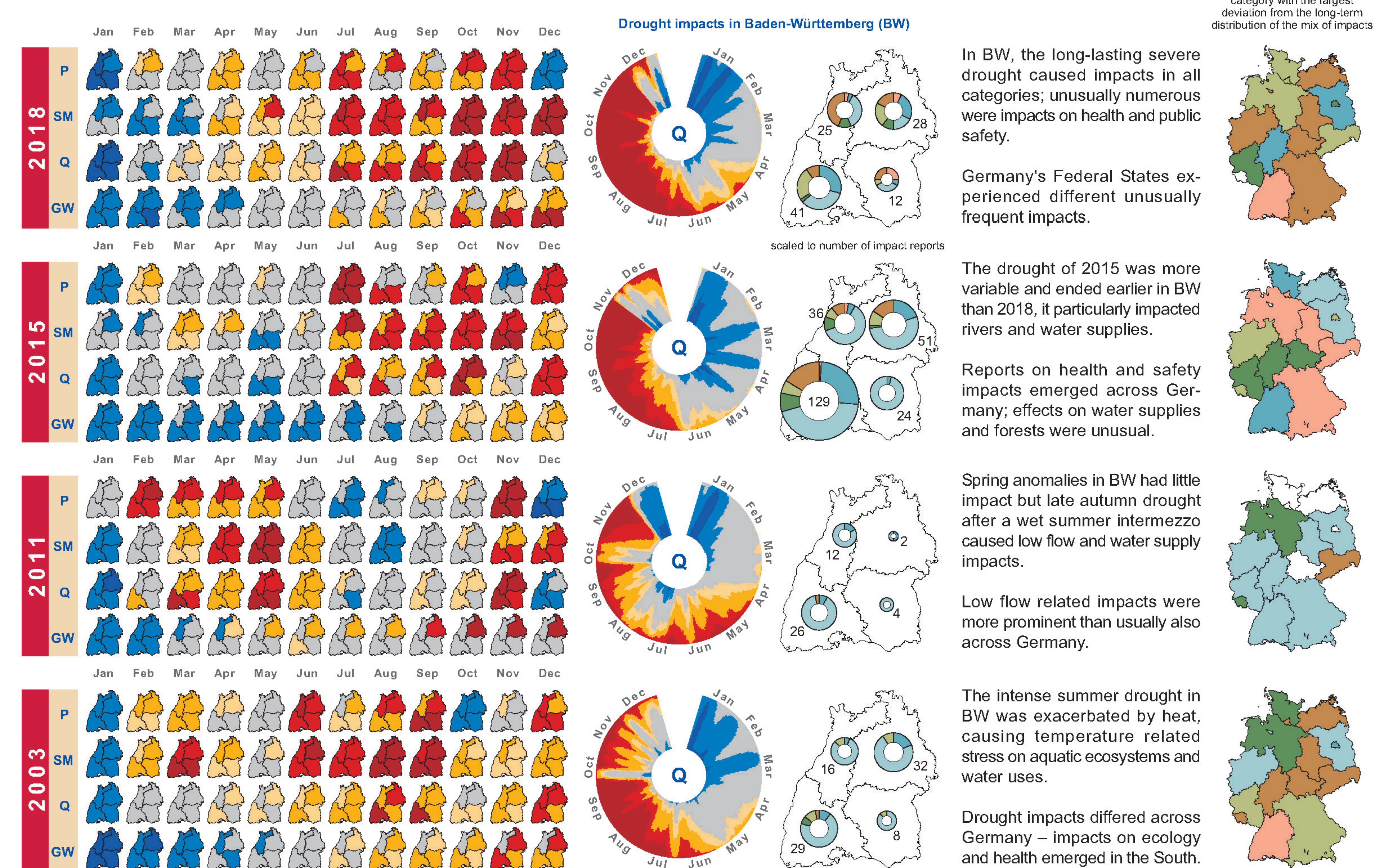
Index and Data Limitations

- Monthly anomalies may indicate stronger anomalies than necessary to cause impacts (e.g. Q during wet seasons or SM after the vegetation season) and may cover shorter term variations.
- Impact report numbers may be biased to search strategies and reporting cultures; currently available data provide too little temporal accuracy to establish a monthly sequencing of impacts; lagged effect reports may still become available.

The Drought Calendar 2018



The Drought of 2018 Compared to Previous Events



Conclusion

Compared to previous drought events, in 2018 a larger range of impacts was reported, possibly related to the extraordinary severity and long duration of the drought into the autumn. For the region studied, these physical characteristics exceeded the severities of 2003 and 2015.

Increased awareness following the event of 2015 likely affected impact reporting and media attention. A quantitative and regular monitoring of drought impacts is imperative for an objective characterization of the multi-sectorial drought risk.