Spatial and temporal variability of drought impact profiles across Europe

Kerstin Stahl, Irene Kohn, Veit Blauhut, and Sophie Bachmair
University of Freiburg, Hydrology, Freiburg, Germany (kerstin.stahl@hydrology.uni-freiburg.de)

In the past decades, Europe experienced several severe drought events with diverse environmental and socio-economic impacts. Based on categorized data from the European Drought Impact report Inventory (EDII), we investigated profiles of drought impacts in space, i.e. for different European countries and geoclimatic regions, and in time, i.e. for major events. These prior analyses highlighted a long-term importance of impacts on agriculture, water supply, and energy production in Europe, and an emerging importance of ecological impacts. The reported impact occurrences and categories suggested a slightly higher relative importance of agricultural impacts in the South and East, of public water supply impacts in the South and West, and a country-specific importance of energy and industry impacts. Besides these weak geographical gradients, clear links to common measures of water scarcity were not directly quantifiable. We therefore looked more specifically into the sub-type profiles of the reported impacts and found noticeable differences that hint at a greater severity of impacts, such as higher costs or actual supply restrictions (rather than demand reduction measures) in more water scarce countries. However, such impact profiles also appear to have changed over time. These dynamics suggest that also the respective indicators used by monitoring and early-warning systems need to be adapted regionally and possibly over time.