Impacts of European drought events: insights from an international report inventory

Irene Kohn (1), James H. Stagge (2), Veit Blauhut (1), Sophie Bachmair (1), Kerstin Stahl (1), and Lena M. Tallaksen (2)

EDR – European drought reference database

The EDR website (www.geo.unige.ch/droughtdb) is designed to consolidate detailed information about Historical large-scale drought events in Europe using climatological and hydrological drought indicators, and particularly the Standardized precipitation (evaporation) indices (SPI and SPEI) shown here.

EDII – European drought impact report inventory

Drought can cause diverse negative environmental, economic and social effects. To foster cross-disciplinary drought research, the EDII aims to compile knowledge on such impacts of historical and recent drought events from various text information sources. At present, more than 2600 impact report entries for 33 countries are included in the inventory.

According to the available information in the underlying original report, each EDII impact report entry is:
- referenced in time (year, month/season)
- referenced geographically using the NUTS system (Nomenclature of Units for Territorial Statistics),
- assigned to an impact category (and sub type), and
- described by short EDR

Contributors/credits

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Insights

Drought analysis often concentrates on certain aspects, i.e. large-scale studies focus mostly on climate variables whereas impact studies usually focus on local case studies. The new EDII database enables an assessment of impacts of past drought events across Europe’s geoclimatic regions and at different geographical scales. In terms of a wide range of impacts reported for many regions, particularly the extensive droughts of 1947, 1976, 2003, and most recently 2011–12 are outstanding. The primary impacts reflect the timing and area of the climatic water deficits, e.g. with impacts reported on agriculture, energy and health in 2003, which peaked in a hot summer period, versus reports on water supply impacts during longer duration droughts. Visualisation of the current EDII dataset suggests further differences and commonalities in impacts between regions and events, which may be relevant for drought management and call for more in-depth analyses.

Conclusions

A more holistic view relating hydrometeorological analysis of drought hazards to their various impacts is highly needed. The EDII reveals a large diversity of impacts. Despite some biases in its current coverage, this resource provides insights into differences in impacts across Europe and promising options to validate the use of climatic indices.

Future directions

The EDR & EDII database will be made publically available for use and online impact reporting soon. Hopefully, it will grow with further participation and contributions, which are welcomed at any time.

1 Chair of Hydrometeorology, Albert-Ludwigs-University of Freiburg
2 Department of Geoscience, University of Oslo