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





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EDR -European drought reference database

The EDR website (www.geo.uio.no/edc/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.

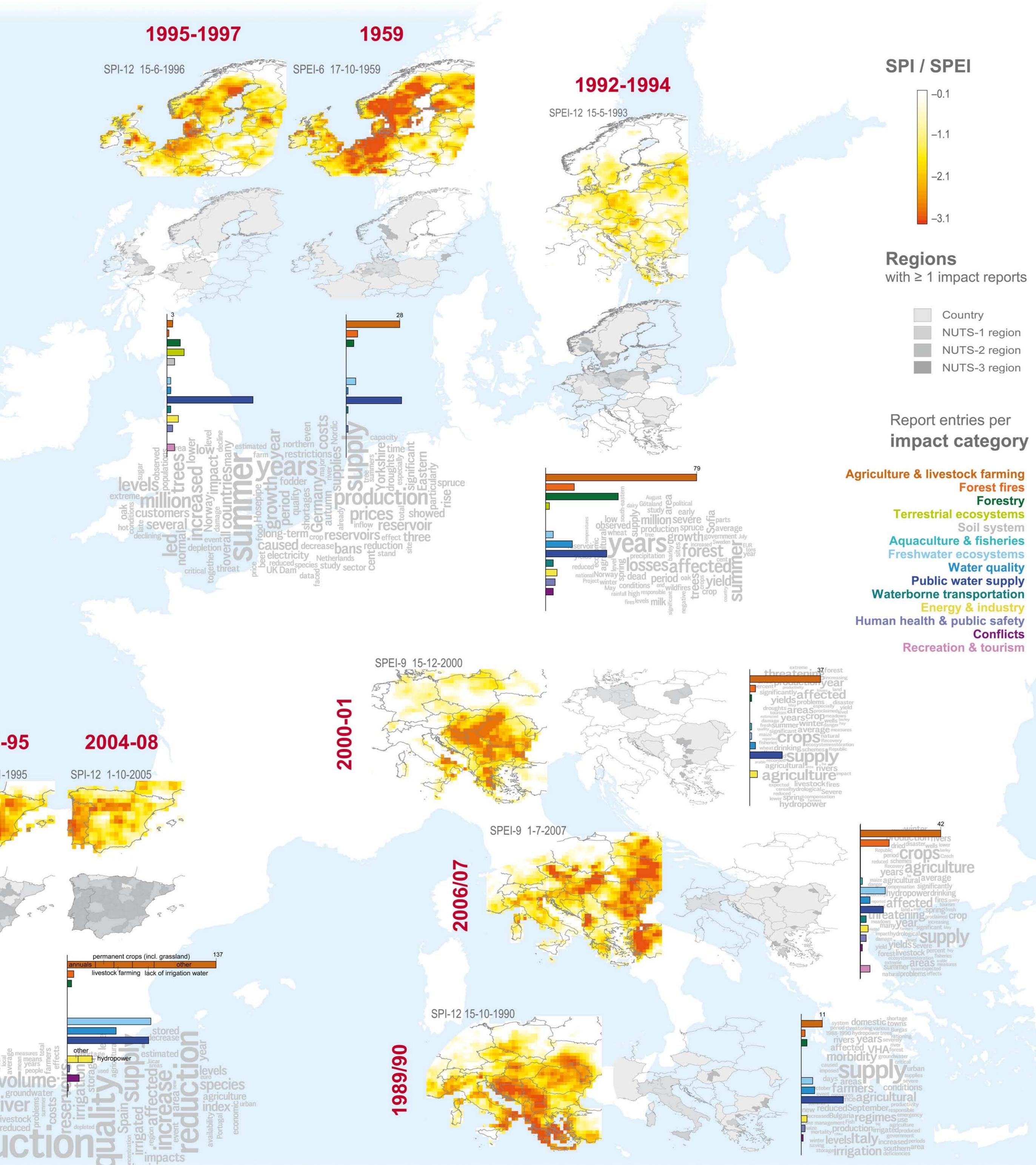
According to the available information in the underlying original report, each EDII impact report entry is

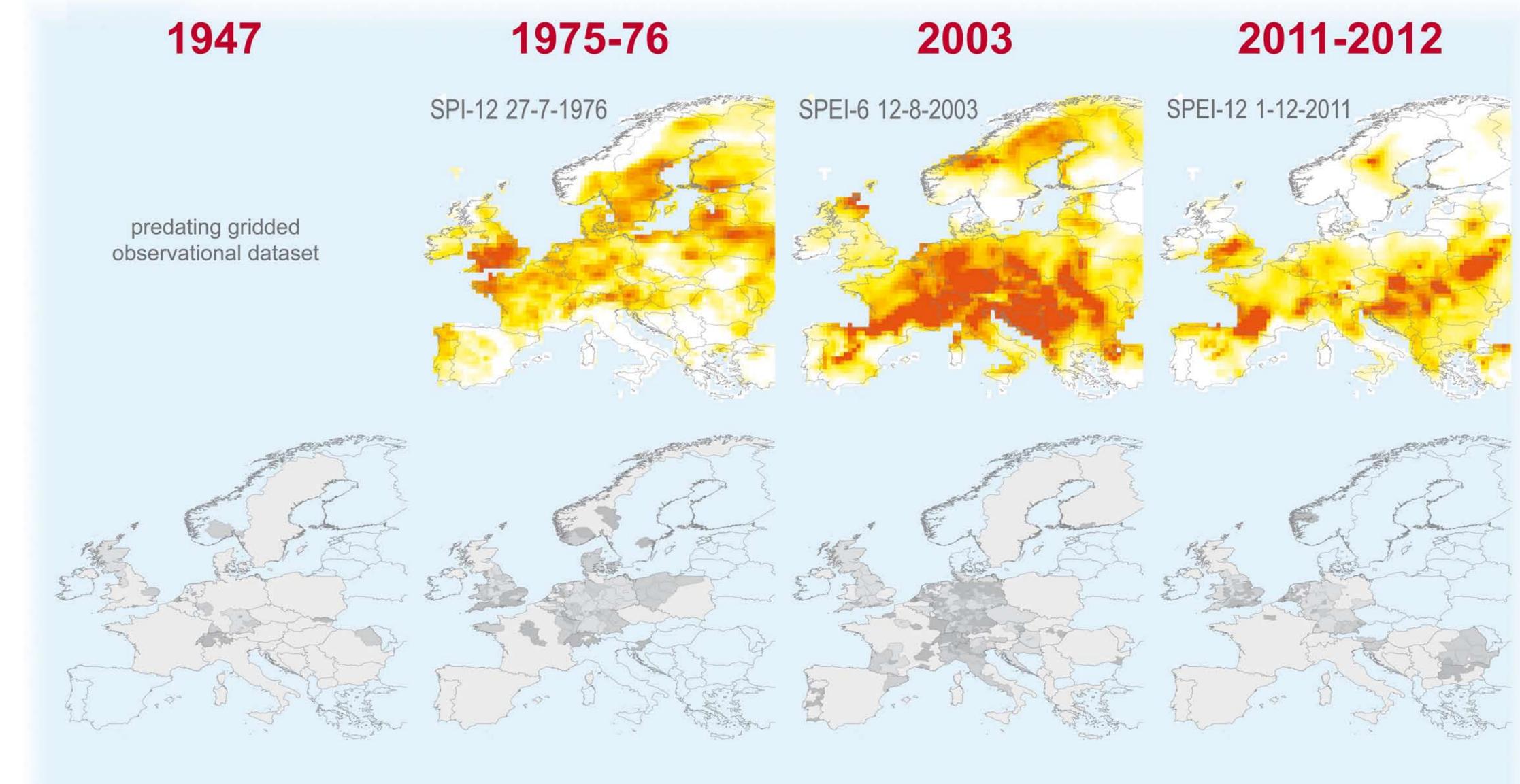
- referenced in time (year, month/season)
- referenced geographically using the NUTS system (Nomenclature of Units for Territorial Statistics),
- assigned to an impact category (and sub type),
- and described by short text.

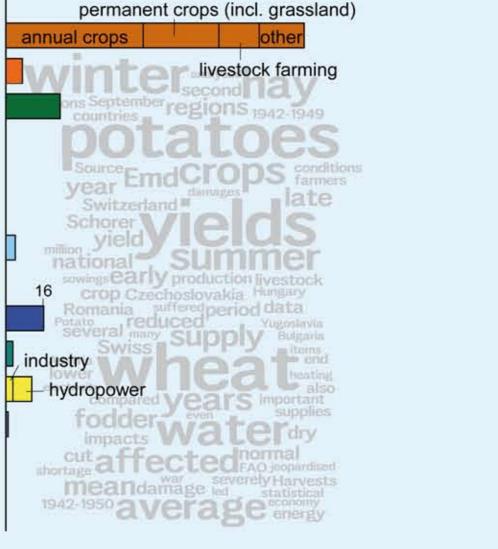
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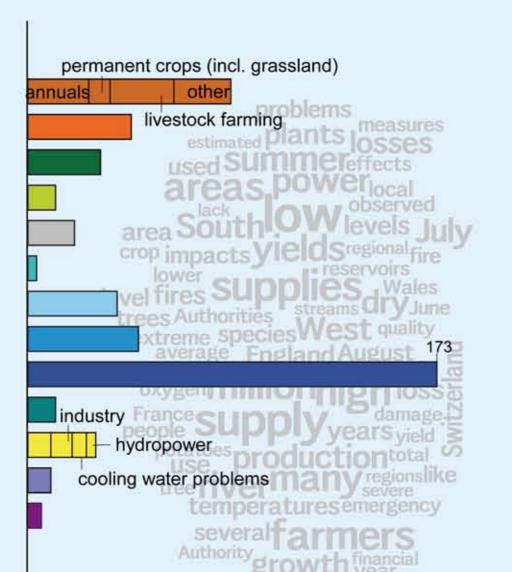
The EDII and EDR databases have been developed as part of the EU funded Drought R&SPI project (contract 282769). Initial data collection and population of the EDII was a collaborative effort. Special thanks go to all who helped entering impact report information:

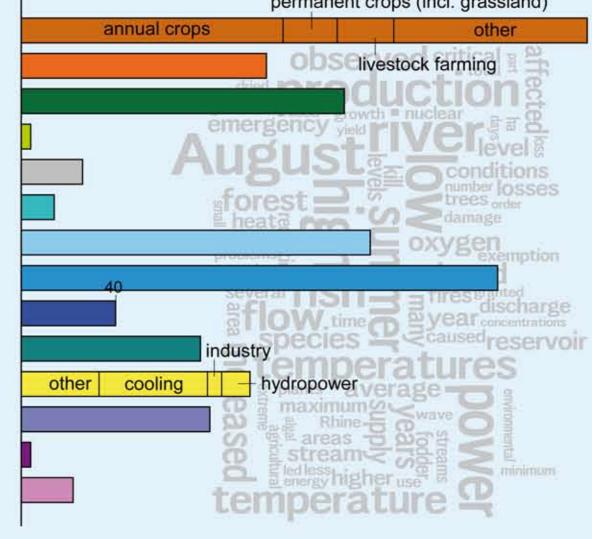
Carlo Bifulco, Barbara Frielingsdorf, Susana Dias, Daniel Eilertz, Trine Jahr Hegdahl, Eleni Kampragou, Anne van Loon, Lieke Melsen, Dario Musolino, Anne Kristina Tvedalen and Julia Urquijo.

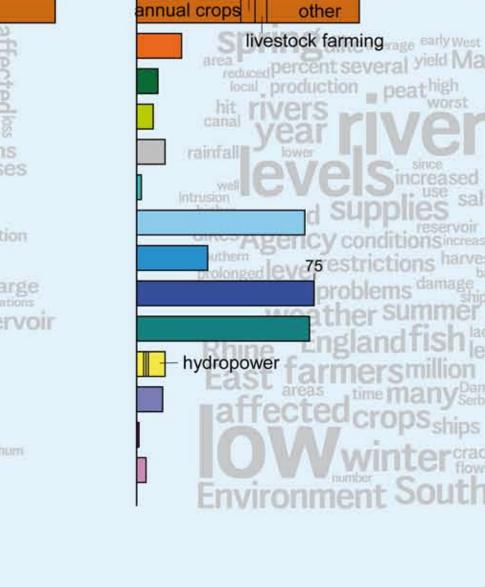












Insights

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

presentations: Blauhut et al. "Towards drought risk mapping on a pan-European scale" Friday 4 pm - NH9.13 (Room G8)

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



