

## drought2015: an R-package to facilitate pan-European drought mapping

Tobias Gauster and Gregor Laaha

University of Natural Resources and Life Sciences, Vienna, Austria (t.gauster@boku.ac.at)

Hydrological processes do not stop at country borders, whereas hydrological data sets (released by national hydrological surveys) cover single countries only. Compiling up-to-date hydrological data on a trans-national scale usually involves difficulties, for example highly-varying file formats and licence restrictions.

We developed an R package called **drought2015** to describe the complete spatial extent of the streamflow drought that hit parts of Europe in 2015. The key concept is to distribute the package to every participating country and ask only for the data needed to carry out the final analysis. By enabling the participants to easily and autonomously perform the computation, instead of requesting complete streamflow records, all partners showed a willingness to cooperate.

**drought2015** enhances the well-established package **lfstat** with country-specific import routines for national file formats, specialised functions to easily compare low flow extremes and convenient plotting methods.

Enforcing a uniform data structure and a consistent methodology in the distributed computation has enabled the data collection and facilitated the interpretation of the results. It became apparent that countries are much more willing to share derived data rather than the original raw data sets.