

# Drought forecasting within ANYWHERE project: 1) Examples of drought forecasts from current September onward

Samuel J. Sutanto, Adriaan J. Teuling (Ryan), Remko Uijlenhoet, & Henny A.J. van Lanen  
 Hydrology and Quantitative Water Management, Environmental Sciences Group, Wageningen University and Research

## Background

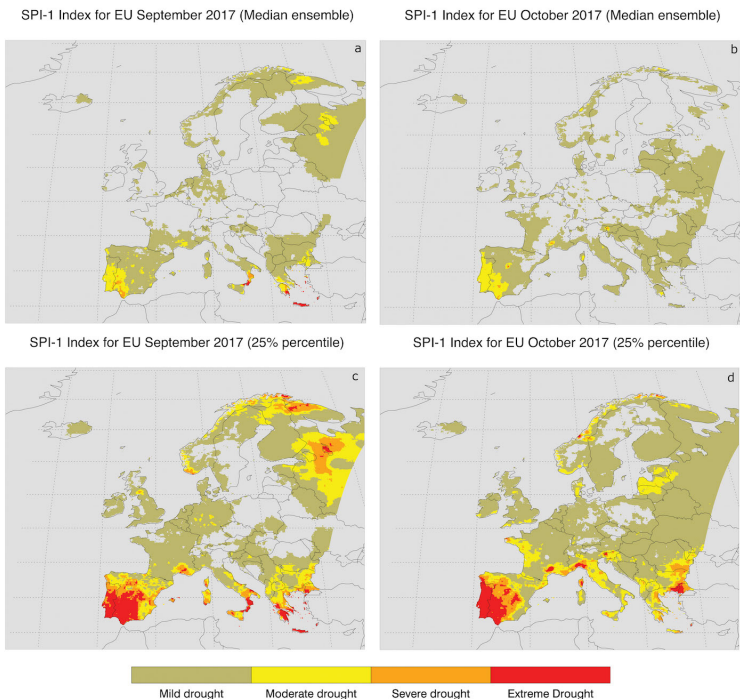
- Drought forecasting for both EU scale and pilot site is being carried out within ANYWHERE project.
- Meteorological and hydrological drought are calculated using standardized indices and threshold method.
- This poster is showing some examples of meteorological and hydrological drought forecasting results.

## Data

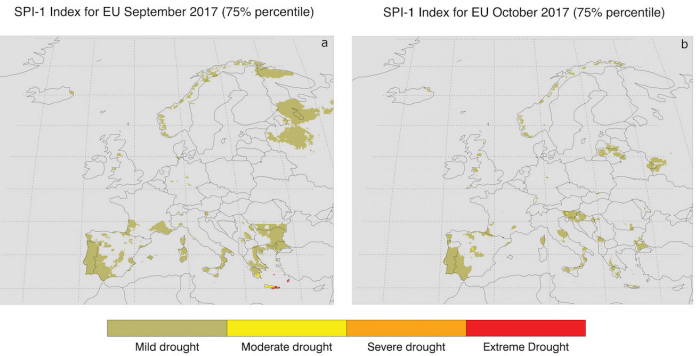
- A LISFLOOD rainfall-runoff model with spatial resolution of 5 km is used to produce the input data for drought analyses.
- This model is driven by The ECMWF-Integrated Forecasting System (ECMWF-IFS), downscaling to 5 Km resolution.
- Forecast horizon: daily up to 7 months and updated daily (pilot site) and monthly (EU scale).
- Drought is calculated for the median, 10th, 25th, 75th, & 90th percentiles obtained from 51 ensemble members.

## Meteorological drought forecasts for EU

- Examples are given for the drought forecasts based on SPI-1 approach for September 2017 & October 2017, for median, 25 percentile, and 75 percentile (PRD148).



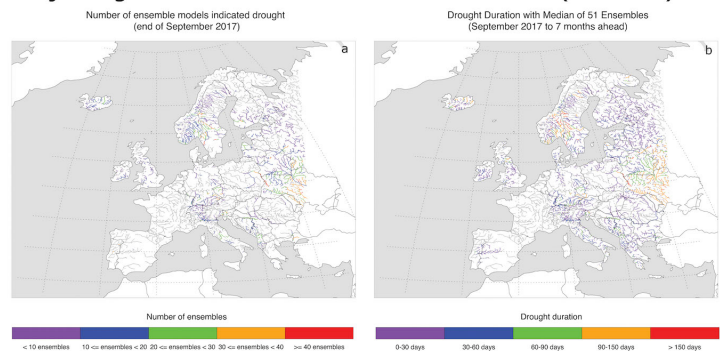
**Figure 1.** Forecasted SPI-1 index for EU on September 2017 (a, c) and October 2017 (b, d), for median (a, b) and 25th percentile (c, d).



**Figure 2.** Forecasted SPI-1 index for EU on September 2017 (a) and October 2017 (b), for 75th percentile.

## Hydrological drought forecasts for EU

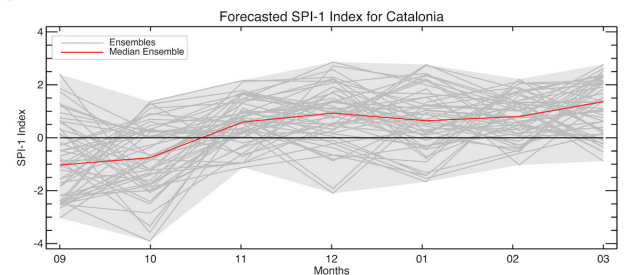
- Examples are given for the drought forecasts on EU's major big Rivers based on threshold method (PRD156).



**Figure 3.** Drought analysis at EU's major Rivers. a) the number of ensemble members indicated drought on 30<sup>th</sup> September 2017. b) drought duration based on median.

## Drought forecasts for pilot site

Example for the drought forecasts at pilot site is seen at Fig 4.



**Figure 4.** Forecasted Drought for Catalonia.

## Remarks

For other products that we provide, please see other poster (part 2).

