

HOME	DESERTIFICATION	DROUGHT	TEAM	PUBLICATIONS	LINKS
----------------------	---------------------------------	-------------------------	----------------------	------------------------------	-----------------------

[DROUGHT](#) > [Drought News](#) > [Europe, April 2011](#)

HOME
DESERTIFICATION
DROUGHT
Europe, April 2011
TEAM
PUBLICATIONS
LINKS

Drought news in Europe: Situation in April 2011

Short Analysis of data from the European Drought Observatory (EDO)

Several western, central and northern EU countries have been experiencing a significant rain shortage since December 2010. Extended areas of France, Germany, Great Britain, Benelux, Denmark and Hungary have received less than 50% of the climatologically expected rain.

In the period January to April 2011, severe cumulated rain deficits were recorded in **France**, where the current year is the driest since 1975; **England**; **Belgium**; **The Netherlands**; **Germany** (Rheinland-Pfalz, Schleswig-Holstein, Niedersachsen, Thüringen); **Denmark**; the **Czech Republic** (Stredocesky kraj, Severovychod); **Slovakia** (Vychodne Slovensko, Stredne Slovensko); almost all of **Hungary** and locally in **Austria**; **Slovenia** and **Croatia** (Figure 1).

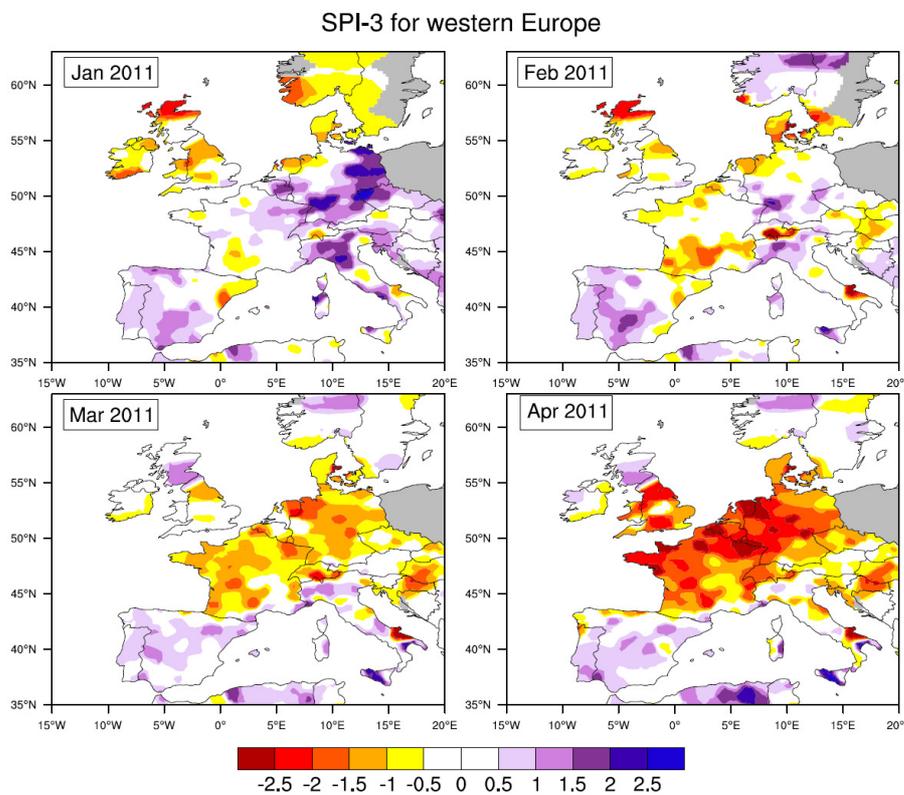


Figure 1: Evolution of the 3-month Standardized Precipitation Index (SPI-3) over western Europe from January to April 2011. Values below -1.5 indicate a severe meteorological drought. Grey shading indicates areas with insufficient reliable data to compute the SPI3. [Click image to enlarge]

France, Germany and south eastern UK appear to be the most affected areas. Similar conditions occurred in 1976 and in the 1990s (Figure 2).

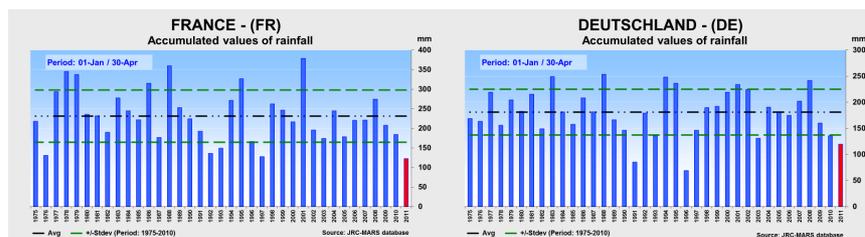
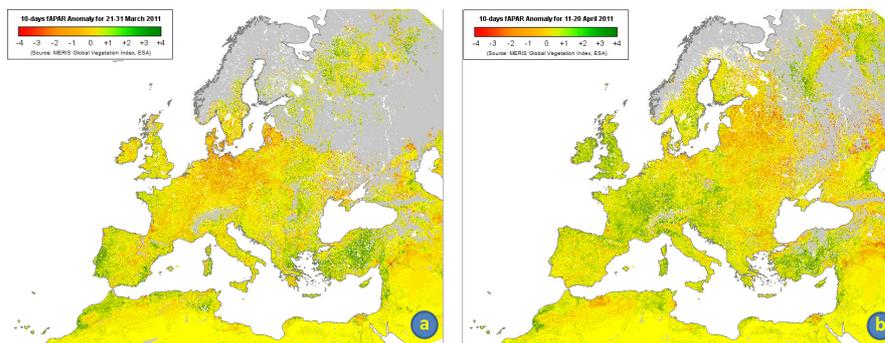


Figure 2: Accumulated rainfall for January to April for France and Germany for the years 1975 to 2011. 2011 is highlighted in red. Black dot-dashed line: Average rainfall 1975-2010, green dashed lines: One standard deviation above and below the average (1975-2010). [Click image to enlarge]

The reduced rainfall accumulations were coupled with warmer than average temperatures and consequently higher than normal levels of evapotranspiration and plant water requirements. This aggravates the water deficits compared to average seasonal conditions.

While the impact on the vegetation cover is clearly visible in remote sensing based observations of the last 10-day period of March (Figure 3.a), it is less visible during the second 10-day period of April (Figure 3.b). This is probably due to an earlier start of the growing season as a result of exceptionally high temperatures, sufficient water reserves in the soils (especially in the areas with deeper and heavier soils) and/or irrigation.



Figures 3: 10-day fAPAR anomaly from 21 March to 31 March 2011 (a) and from 11 April to 20 April 2011 (b). Green corresponds to positive anomalies (vegetation greener than normal), yellow to near-normal vegetation conditions and red to negative anomalies (vegetation less green than normal) (more info [here](#)). [Click image to enlarge]

Particular concern is rising from the weather forecast for the forthcoming days that predicts very limited or no rainfall in these areas (Figure 4).

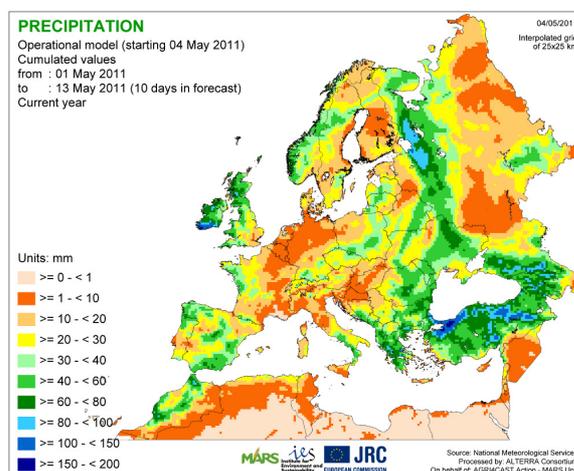


Figure 4: Accumulated rainfall for the period 1-13 May 2011 (with 10 days in forecast). Source: MARS Unit - JRC [Click image to enlarge]

Based on the weather forecast, it is likely that the adoption of the appropriate water management techniques will be necessary to confront the rainfall deficit and to minimize its impacts.

Disclaimer

The present EDO products are still under development. Therefore they might be subject to changes. The views expressed here may not in any circumstances be regarded as stating an official position of the European Commission.

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