

# MARS

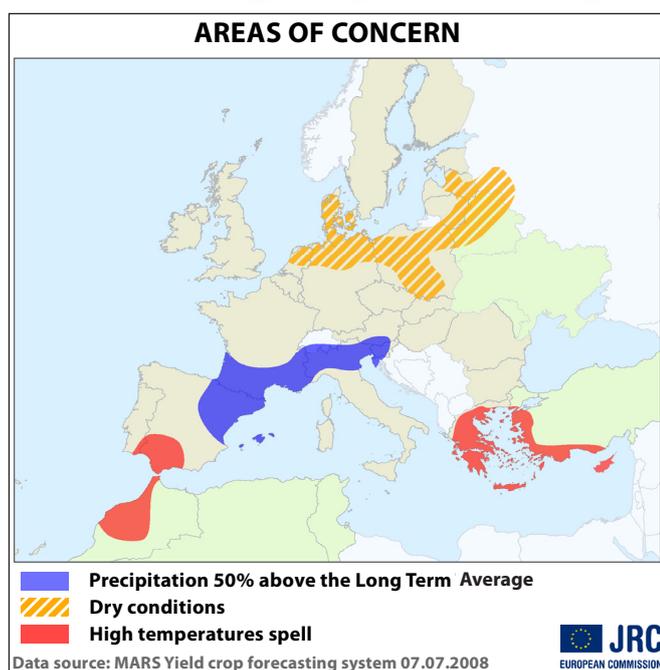
AGROMETEOROLOGICAL

## Crop Monitoring in Europe

1st June to 30th June 2008

Vol. 16, No 4

**Generally favourable conditions support good yield expectations. In the Baltic region, potato and spring crops affected by dry conditions.**



Cumulated active temperatures were generally seasonal, but it was very hot in the last part of the month, especially in the central/southern EU, Italy and Spain. It was wetter than seasonal in southern areas and drier in northern areas. There was a severe drought in Denmark, northern Germany and Poland.

The EU27 forecasts promises an overall good harvest. Compared to last bulletin only durum wheat is revised upward. On the contrary, Spring barley and potato are forecasted with a lower potential, due to the dry conditions in the Netherlands, Germany and Poland.

8th July 2008 CROPS	EU27 yield forecast (t/ha) from AGRI4CAST				
	2007	2008	Average 5 years	% 2008/2007	% 2008/Average
<b>TOTAL CEREALS</b>	4.5	5.0	4.7	+9.8	+5.5
Soft wheat	5.1	5.6	5.4	+10.3	+4.3
Durum wheat	2.8	3.1	2.7	+7.4	+11.2
<b>Total wheat</b>	4.8	5.3	5.0	+9.9	+5.6
Spring barley	3.8	3.8	3.7	-1.9	+1.6
Winter barley	4.8	5.2	5.0	+9.1	+5.7
<b>Total barley</b>	4.2	4.3	4.2	+3.0	+3.7
<b>Grain maize</b>	5.8	6.7	6.3	+16.7	+6.4
<b>Other cereals (1)</b>	3.2	3.4	3.2	+7.8	+5.2
<b>Rape seed</b>	2.8	2.9	3.0	+2.6	-4.0
<b>Sunflower</b>	1.5	1.6	1.6	+10.3	-0.8
<b>Potato</b>	28.4	27.5	26.8	-3.3	+2.5
<b>Sugar beet</b>	63.0	61.7	59.1	-2.1	+4.4

Yield figures are rounded to 100 kg  
 (1) Sorghum, rye, maslin, oats, triticale, mixed grain other than maslin, millet, buckwheat  
 Sources: 2007 yields come from EUROSTAT CHRONOS  
 2008 yields come from MARS CROP YIELD FORECASTING SYSTEM

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# 1. Crop yield forecasts

## AGRI4CAST crop yield forecasts at national level for EU-27: 8 July 2008

Country	TOTAL WHEAT (t/ha)					SOFT WHEAT (t/ha)					DURUM WHEAT (t/ha)				
	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs
EU27	4.8	5.3	5.0	+9.9	+5.6	5.1	5.6	5.4	+10.3	+4.3	2.8	3.1	2.7	+7.4	+11.2
AT	4.8	5.1	5.0	+6.4	+1.6	4.9	5.1	5.1	+5.9	+1.7	3.5	4.2	4.2	+22.1	-0.4
BE	7.8	8.6	8.4	+9.9	+2.7	7.8	8.6	8.4	+9.9	+2.7	-	-	-	-	-
BG	2.2	3.4	3.0	+55.7	+15.6	2.2	3.4	3.0	+55.8	+15.8	-	-	-	-	-
CZ	4.9	4.9	4.9	+1.3	+1.3	4.9	4.9	4.9	+1.3	+1.3	-	-	-	-	-
DE	7.0	7.2	7.3	+3.7	-0.5	7.0	7.2	7.3	+3.7	-0.5	-	-	-	-	-
DK	6.6	6.9	7.0	+5.1	-1.5	6.6	6.9	7.0	+5.1	-1.5	-	-	-	-	-
EE	3.3	3.2	2.7	-1.9	+19.8	3.3	3.2	2.7	-1.9	+19.8	-	-	-	-	-
ES	3.5	3.2	2.8	-8.0	+13.9	3.8	3.5	3.2	-8.7	+11.2	2.5	2.5	2.2	-0.7	+11.7
FI	3.9	3.9	3.6	-0.1	+8.6	3.9	3.9	3.6	-0.1	+8.6	-	-	-	-	-
FR	6.2	7.2	6.8	+15.4	+6.3	6.4	7.4	7.0	+15.3	+6.4	4.3	4.7	4.6	+10.8	+3.4
GR	2.2	2.2	2.1	-2.0	+1.7	2.5	2.7	2.7	+6.5	-1.6	2.1	2.0	2.0	-5.5	-1.8
HU	3.6	4.4	4.0	+21.3	+9.5	3.6	4.4	4.0	+21.3	+9.5	-	-	-	-	-
IE	8.1	9.3	8.8	+14.1	+5.0	8.1	9.3	8.8	+14.1	+5.0	-	-	-	-	-
IT	3.4	3.8	3.4	+10.6	+9.8	4.9	5.2	5.1	+6.0	+2.0	2.7	3.1	2.8	+15.0	+12.2
LT	3.9	3.6	3.5	-9.2	+1.0	3.9	3.6	3.5	-9.2	+1.0	-	-	-	-	-
LU	5.6	6.3	6.1	+11.8	+2.4	5.6	6.3	6.1	+11.8	+2.4	-	-	-	-	-
LV	3.6	3.5	3.1	-3.7	+10.0	3.6	3.5	3.1	-3.7	+10.0	-	-	-	-	-
NL	7.2	8.3	8.4	+14.4	-1.7	7.2	8.3	8.4	+14.4	-1.7	-	-	-	-	-
PL	3.9	3.9	3.8	-0.9	+3.2	3.9	3.9	3.8	-0.9	+3.2	-	-	-	-	-
PT	2.2	2.1	1.6	-5.6	+27.6	2.2	2.1	1.6	-5.6	+27.6	-	-	-	-	-
RO	1.6	2.8	2.4	+75.7	+14.4	1.6	2.8	2.4	+75.6	+14.3	-	-	-	-	-
SE	6.3	6.3	5.9	+0.8	+6.6	6.3	6.3	5.9	+0.8	+6.6	-	-	-	-	-
SI	4.2	4.4	4.2	+5.8	+4.7	4.2	4.4	4.2	+5.8	+4.7	-	-	-	-	-
SK	3.8	3.9	4.0	+2.5	-0.5	3.8	3.9	4.0	+2.5	-0.5	-	-	-	-	-
UK	7.4	8.0	7.8	+8.5	+2.4	7.4	8.0	7.8	+8.5	+2.4	-	-	-	-	-

Note: Countries with areas below 10000 ha are not counted in

Country	TOTAL BARLEY (t/ha)					GRAIN MAIZE (t/ha)					RAPE SEED (t/ha)				
	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs
EU27	4.2	4.3	4.2	+3.0	+3.7	5.8	6.7	6.3	+16.7	+6.4	2.8	2.9	3.0	+2.6	-4.0
AT	4.2	4.7	4.5	+12.7	+4.7	9.9	9.7	9.4	-2.1	+3.2	3.0	3.0	2.9	-0.8	+3.1
BE	8.0	8.2	7.8	+3.0	+5.2	12.0	12.0	11.3	+0.3	+6.3	3.7	3.9	3.9	+3.6	+0.5
BG	2.3	3.3	2.6	+46.1	+24.7	1.5	4.3	3.9	+193.1	+8.9	1.7	2.0	1.7	+17.1	+20.2
CZ	3.8	4.0	4.1	+6.2	-0.4	6.8	6.9	6.5	+1.2	+6.2	3.1	3.2	2.8	+3.3	+12.1
DE	5.4	5.8	5.8	+6.8	+0.1	9.5	9.0	8.6	-4.7	+4.3	3.4	3.3	3.6	-2.8	-6.6
DK	4.9	4.8	5.1	-2.0	-5.9	-	-	-	-	-	3.3	2.9	3.4	-13.3	-15.2
EE	2.6	2.3	2.3	-12.4	+0.2	-	-	-	-	-	1.8	1.7	1.6	-7.4	+7.6
ES	3.6	3.2	2.7	-10.0	+18.3	9.9	9.9	9.8	+0.2	+1.8	2.1	1.6	1.5	-22.5	+4.3
FI	3.7	2.9	3.4	-21.6	-14.2	-	-	-	-	-	1.3	1.4	1.2	+9.9	+13.1
FR	5.6	6.5	6.1	+17.8	+7.1	9.4	8.9	8.5	-5.7	+4.9	2.9	3.3	3.2	+13.5	+1.3
GR	2.3	2.1	2.3	-7.0	-7.5	8.9	8.8	8.9	-1.7	-2.2	-	-	-	-	-
HU	3.2	3.8	3.5	+17.7	+9.4	3.6	6.9	5.8	+91.4	+19.1	2.3	2.2	2.3	-3.6	-3.2
IE	6.7	7.0	6.7	+3.2	+3.6	-	-	-	-	-	-	-	-	-	-
IT	3.5	4.0	3.7	+13.4	+9.6	9.3	9.4	8.9	+1.0	+5.9	-	-	-	-	-
LT	2.7	2.4	2.6	-9.6	-8.9	-	-	-	-	-	1.8	1.9	1.7	+6.9	+11.7
LV	2.4	2.3	2.2	-4.4	+5.4	-	-	-	-	-	2.1	1.7	1.8	-19.2	-3.8
NL	5.6	5.8	6.0	+4.0	-3.8	11.9	11.7	11.4	-2.1	+2.8	-	-	-	-	-
PL	3.2	3.0	3.1	-6.7	-1.4	6.6	5.5	5.5	-15.9	+0.9	2.7	2.7	2.6	+1.1	+5.1
PT	1.9	2.0	1.6	-4.7	+24.8	5.5	6.0	5.3	+9.1	+13.8	-	-	-	-	-
RO	1.5	2.4	2.2	+64.6	+8.7	1.6	3.5	3.3	+126.0	+4.9	1.0	1.4	1.4	+36.9	+4.4
SE	4.5	4.4	4.2	-1.7	+5.2	-	-	-	-	-	2.5	2.8	2.5	+8.2	+11.3
SI	3.7	3.9	3.6	+6.7	+8.4	7.5	8.0	7.1	+5.7	+11.9	-	-	-	-	-
SK	3.1	3.6	3.5	+15.7	+5.0	4.0	5.5	5.3	+38.0	+3.7	2.1	2.3	2.0	+12.5	+14.3
UK	5.8	6.0	5.9	+2.3	+1.3	-	-	-	-	-	3.1	3.2	3.2	+1.6	-0.5

Note: Countries with areas below 10000 ha are not counted in

## AGRI4CAST yield forecasts at national level for EU-27: 8 July 2008

Country	SUNFLOWER (t/ha)					SUGAR BEET (t/ha)					POTATO (t/ha)				
	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs
EU27	1.5	1.6	1.6	+10.3	-0.8	63.0	61.7	59.1	-2.1	+4.4	28.4	27.5	26.8	-3.3	+2.5
AT	2.3	2.5	2.6	+12.6	-1.2	62.8	68.5	63.9	+9.1	+7.3	29.5	30.7	30.4	+3.9	+0.9
BE	-	-	-	-	-	69.3	69.7	69.8	+0.5	-0.2	47.0	47.0	43.9	+0.0	+7.1
BG	0.9	1.4	1.4	+44.4	-3.3	-	-	-	-	-	13.3	16.0	15.7	+19.8	+1.6
CZ	2.1	2.3	2.2	+8.0	+2.9	53.3	52.6	50.7	-1.3	+3.7	25.7	26.0	24.0	+1.0	+8.5
DE	2.7	2.0	2.3	-23.4	-9.7	62.4	58.9	59.1	-5.7	-0.2	42.4	39.2	39.9	-7.5	-1.9
DK	-	-	-	-	-	57.2	56.3	57.5	-1.6	-2.1	39.4	39.6	38.6	+0.3	+2.5
EE	-	-	-	-	-	-	-	-	-	-	14.3	13.6	13.5	-5.2	+0.7
ES	1.2	1.1	1.0	-4.2	+14.6	72.3	72.4	69.3	+0.2	+4.5	28.2	29.9	27.3	+6.1	+9.7
FI	-	-	-	-	-	42.1	38.5	37.1	-8.5	+3.8	25.7	22.1	22.9	-14.0	-3.5
FR	2.7	2.4	2.4	-9.9	+2.3	82.2	81.7	79.3	-0.6	+2.9	42.5	42.5	42.1	+0.1	+1.0
GR	-	-	-	-	-	62.9	64.5	62.0	+2.5	+4.0	23.4	22.3	23.8	-4.5	-6.2
HU	2.0	2.2	2.2	+6.4	+0.2	41.2	49.5	47.7	+20.1	+3.8	20.5	24.9	23.1	+21.6	+8.0
IE	-	-	-	-	-	-	-	-	-	-	37.0	38.0	36.2	+2.6	+4.8
IT	2.2	2.1	2.1	-7.1	-0.9	54.1	56.1	48.2	+3.8	+16.3	25.7	26.1	24.5	+1.8	+6.9
LT	-	-	-	-	-	47.3	43.6	40.2	-7.8	+8.4	10.9	11.7	11.9	+6.6	-1.7
LV	-	-	-	-	-	37.0	38.9	37.3	+5.1	+4.3	15.0	14.3	13.6	-4.9	+4.6
NL	-	-	-	-	-	67.2	65.9	64.6	-1.8	+2.1	43.8	42.7	42.8	-2.6	-0.2
PL	-	-	-	-	-	51.3	45.9	44.1	-10.5	+4.1	20.7	17.3	18.2	-16.3	-4.8
PT	1.8	0.7	0.7	-60.5	-1.5	74.9	70.9	71.9	-5.3	-1.4	15.5	15.7	15.1	+1.4	+4.0
RO	0.7	1.2	1.3	+72.2	-10.5	25.4	31.2	26.5	+23.1	+17.9	13.5	15.4	14.2	+14.0	+8.4
SE	-	-	-	-	-	48.9	50.1	48.9	+2.4	+2.4	27.7	30.5	29.1	+10.0	+4.7
SK	2.0	2.0	2.1	-1.2	-2.7	44.9	49.7	45.8	+10.8	+8.5	15.8	15.6	15.3	-1.3	+2.0
UK	-	-	-	-	-	58.3	57.0	57.3	-2.2	-0.4	40.4	42.2	41.3	+4.4	+2.2

Note: Countries with areas below 10000 ha are not counted in

## AGRI4CAST yield forecasts at national level for Black Sea, Maghreb: 8 July 2008

Country	WHEAT (t/ha)					BARLEY (t/ha)					GRAIN MAIZE (t/ha)				
	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs
DZ	1.2	1.3	1.3	+6.8	-1.1	1.4	1.5	1.5	+5.9	+2.4	-	-	-	-	-
MA	0.8	0.9	1.3	+14.5	-30.0	0.6	0.6	0.8	+0.2	-23.9	0.5	0.8	0.7	+52.6	+3.0
MD	0.4	2.2	1.9	+447.2	+14.5	0.7	1.4	1.4	+101.7	-1.9	2.1	2.7	2.8	+28.3	-2.8
TN	1.8	1.7	1.8	-5.5	-3.3	1.0	0.9	0.9	-5.8	+0.6	-	-	-	-	-
TR	2.1	2.2	2.2	+4.0	-0.5	2.4	2.4	2.5	+0.5	-2.8	5.9	5.9	6.1	-0.4	-3.7
UA	2.0	3.0	2.4	+47.6	+21.7	1.5	1.8	2.0	+18.8	-9.2	3.3	4.0	3.7	+22.4	+8.0

Country	RAPE SEED (t/ha)					SUNFLOWER (t/ha)				
	2007	2008	Avg 5yrs	%08/07	%08/5yrs	2007	2008	Avg 5yrs	%08/07	%08/5yrs
UA	1.0	1.1	1.2	+7.7	-6.0	1.0	1.0	1.0	-3.3	-3.6

Source: "2007" from EUROSTAT, last update 2008-06-19; "Avg5yrs" from FAO statistics 2001-2006

### Abstract

The 4th 2008 printed MARS Bulletin (Vol. 16, No 4) covers meteorological analysis and crop yield forecasts for the period 1 to 30 June 2008.

Previous related analysis available:

—Climatic updates, 01/06/2008 to 22/06/2008, (CU2008/4)

—Complete Bulletin, 01/05/2008 to 31/05/2008 (Vol. 16, No 3)

### Next printed issue

Vol. 16, No 5: 1 July - 10 September 2008 analysis and forecasts.

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**MARS Bulletin** reports, press releases and climatic updates are available at:  
<http://mars.jrc.it/marsstat/bulletins/2008.htm>

**MARS Agrometeorological web** database is accessible at: <http://www.marsop.info>

MARS stands for Monitoring Agriculture with Remote Sensing.

### Technical note:

The long-term average used within this bulletin as a reference is based on an archive of data covering 1975–2007.

The CNDVI is an unmixed normalised vegetation index on the base of Corine land cover 2000 for arable land or grassland.

### Disclaimer:

The geographic borders are purely a graphical representation and are only intended to be indicative. These boundaries do not necessarily reflect the official EC position.

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## 2.1. Temperature and evapotranspiration

**It was initially warmer than seasonal in the north, followed by more normal conditions. From mid-June, a drastic change occurred with an increase of temperatures largely above the long-term average, especially in southern latitudes.**

The month of June presented seasonal values of cumulated active temperatures with  $T_{base} = 0\text{ }^{\circ}\text{C}$ , but a large surplus with  $T_{base} = 10\text{ }^{\circ}\text{C}$  in many areas of eastern France. This was due to the unusual synoptic circulation occurring in the first half of the month and the southern hot air flux occurring in the second half of the month.

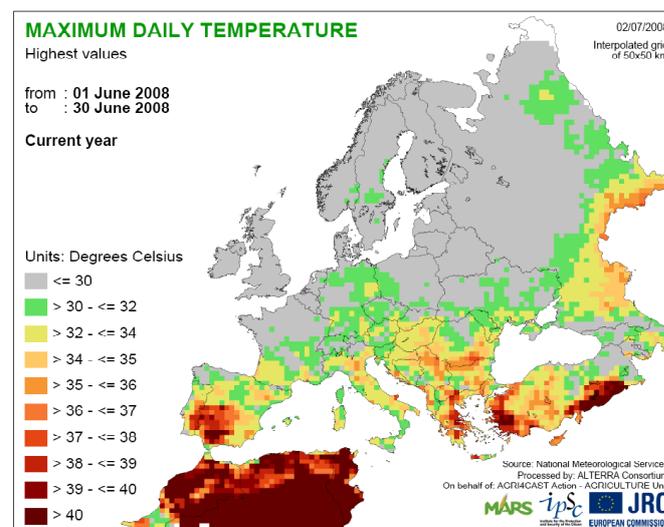
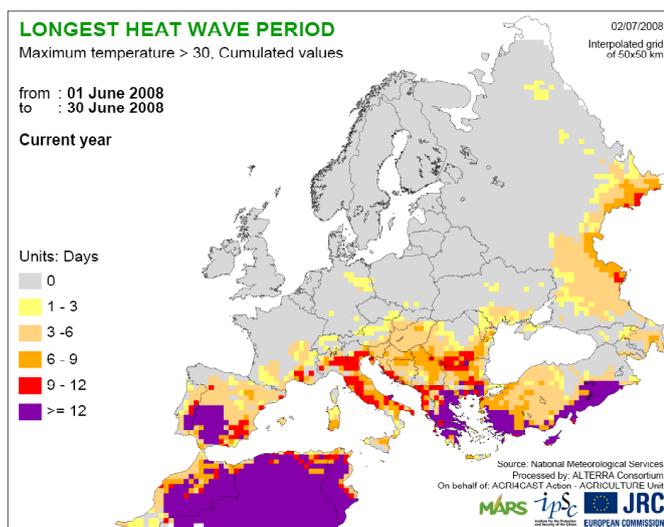
In the first dekad of the month, the Azorean anticyclone remained offshore in the Atlantic but shifted further north (near to Ireland) determining a warm flux from the central Atlantic toward the northern latitudes (in Scandinavia, Denmark and northern Germany, the maximum daily temperatures were 6–8 °C above the seasonal values), whilst a northerly flux covered the western EU (from Portugal to France and north-west Italy the maximum values were 5–6 °C below the long-term average). In the far eastern and northern areas (Russia and Finland) the synoptic circulation determined lower-than-seasonal temperatures. At the beginning of the second dekad, the northern cold flux covered most EU territory, reducing temperatures. On 17 June, in northern Italy, the temperatures were 8–10 °C

below normal.

From 19 to 20 June, the Azorean anticyclone moved progressively deeper into the continent and thermal conditions changed drastically: after only three days, both maximum and minimum temperatures climbed largely above the seasonal values in the Iberian peninsula, France, Italy, Austria, southern Germany, the Balkans, the eastern EU countries and the Maghreb. In the last dekad, the rise in temperatures continued reaching the extreme mark, and remaining there, for several consecutive days: 41.2 °C in Andalusia on 27 June, 39.2 °C in Alentejo on 28 June, 38.2 °C in Kentriki Makedonia, 37.8 °C in Apulia on 25 June, 37.2 °C in southern Bulgaria and Romania, etc.

Regarding the reproductive stages of development of the winter crops (grain filling, milky maturity) and spring cereals (spring barley: flowering), the high temperatures in those areas created heat stress conditions with rapid senescence and plant parching.

Evapotranspiration, strongly influenced by the thermal course, showed significant differences with the long-term average: higher cumulated values were recorded in northern Germany, Denmark, Poland and the Baltics, as well as in Turkey. There were seasonal values in all other countries.



## 2.2. Rainfall and climatic water balance

**Continuation of the unusual spatial distribution of rain: abundant in areas bordering the Mediterranean basin and in extreme northern latitudes; very scarce in the northern EU, the Baltics and eastern countries.**

The delayed arrival of the Azorean anticyclone over the European continent determined an unusual trajectory for the Atlantic rainy front: it was pushed more towards southern latitudes as compared to normal. This determined an anomalous distribution of rain with relatively dry conditions in the north and quite wet in the areas bordering the Mediterranean. This particular configuration persisted up to mid-June, when a more typical summer synoptic circulation was finally established, with progressive expansion of the Azorean anticyclone over the continent. During the month

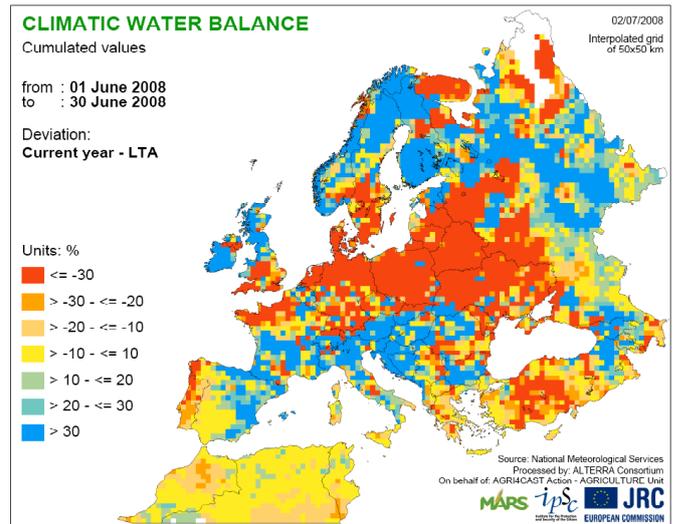
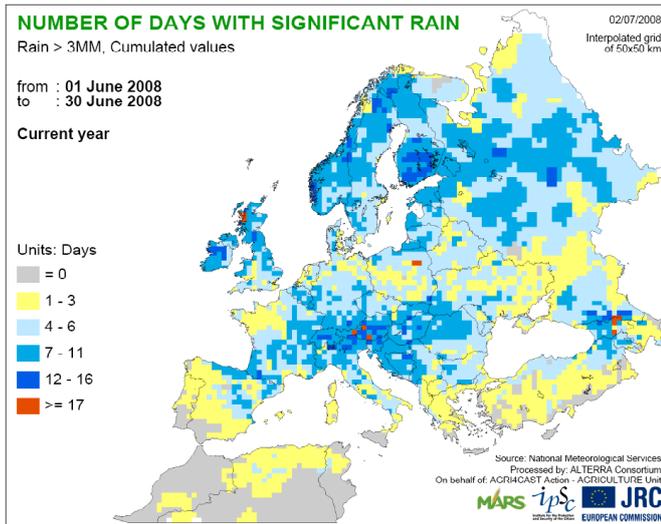
therefore, the rain distribution presented two very different regimes during the first and second halves. The last dekad was the driest of the month.

During the first half of June, the rain was more abundant with very large surpluses (> 30 % as compared to the long-term average) recorded in south-eastern Spain (Cataluna, Comunidad Valenciana), southern France (Languedoc-Roussillon, Aquitaine), Italy (except Sicily), Slovenia (Bratislavsky, Zapadne, Stredne), Austria (Burgenland, Oberoesterreich, Nideroesterreich), Hungary (Kozep-Magyarország, Del-Alfold), Bulgaria (Severozapaden, Yuzgopaden, Yuzhen), Romania (Vest, Nord-Vest), Serbia, Ireland, the UK (north-west) and Finland (Ita-Suomi). The largest surplus occurred in Austria, northern Italy, Spain

and Finland: + 100 / + 150 %. Intense showers (> 50 mm/day) occurred in southern Spain (Castilla-La Mancha) and north-east Italy (Friuli, Veneto). This excessive water might have caused problems for winter cereals (lodging, reduced machine mobility, fungus and rotteness) in the southern regions, at that time almost ready to be harvested. On the other hand, they were beneficial for the rainfed spring crops (maize) and for refilling the irrigation reservoirs.

Contrasting conditions appeared in southern Spain, Portugal, Greece, the English Channel areas, Denmark, north Germany, Poland, the Baltics (except Estonia), Turkey, Cyprus, Belarus and Ukraine. The largest deficit (– 80 / –

50 %) was recorded in Greece (Kentriki Ellada, Voreia Ellada), Poland (Malopolskie), Germany (Bremen, Berlin), Italy (Sicily), Portugal (Algarve, Alentejo, Centro), the Netherlands (West-Nederland) and Spain (Andalucia). The reduced rain may have had negative impacts in those districts associated with light soils and already affected by the water shortage in the previous month (such as Denmark, Finland, northern Germany and Poland). In these areas, further elements of concern were the advanced stages of development of the crops and the higher-than-usual crop water consumption recorded, because of the higher temperatures recorded.



### 3. Campaign analysis at country level

#### EU - 27

#### France: optimal in the north, still wet in the south

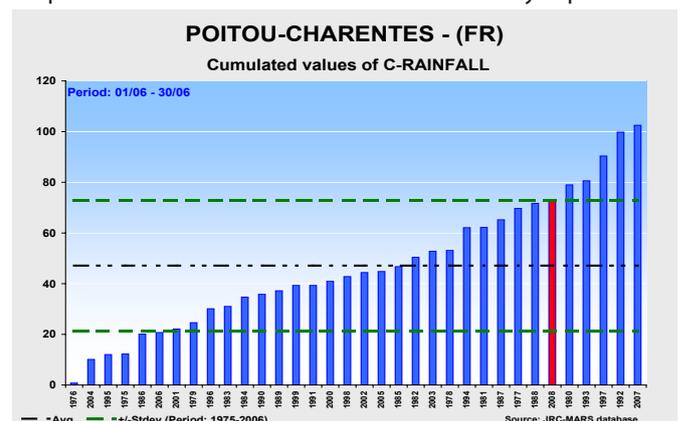
Relieved from the May overwet conditions, most crops could keep their relatively good but not exceptional yield potential. The early harvest might have been hindered by rainfall in the southern areas and the foreseen southern rainfall in July could again hamper field work.

Soft wheat still has a good potential at 7.4 t/ha (+ 6.4 % higher than the five-year average and + 15.3 % on 2007). The yield for durum wheat is slightly lower than the last bulletin forecast at 4.7 t/ha (+ 10.8 % compared with 2007, + 3.4 % compared with the average). The winter barley yield is progressing at 6.7 t/ha (+ 18.1 % on 2007 and + 7.1 % on the average). Spring barley is also predicted to have a better yield at 6.1 t/ha (+ 16.7 % on last year and + 5.6 % on the average). Rapeseed yield is maintained at 3.3 t/ha (+ 13.5 compared with 2007 and + 1.3 % on the average). Summer crops have good potential and can still improve: maize at 8.9 t/ha (+ 4.9 % on the average), potato at 42.5 t/ha (+ 1.0 %), sugar beet at 81.7 t/ha (+ 2.9 %) and at sunflower 2.41t/ha (+ 2.3 %).

The first two dekads recorded temperatures within the average with some local drops in the Auvergne and north-

east regions. The end of the month experienced a warm spell centred on the Rhône-Alpes and Auvergne which boosted crop development. Several days with a maximum temperature over 30 °C were mainly recorded in the south with some extreme temperatures for more than 10 days in the south of the Rhône valley that might have affected crops locally.

After a wet May, the northern half of France was relieved in June by lower-than-average precipitations (– 30 %). The crops would still have benefited from the fully replenished

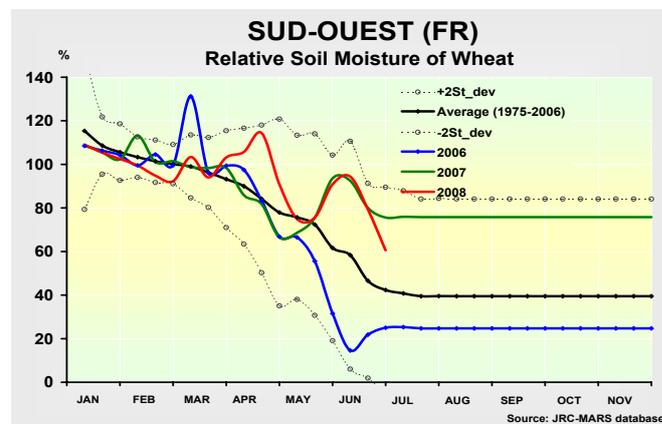
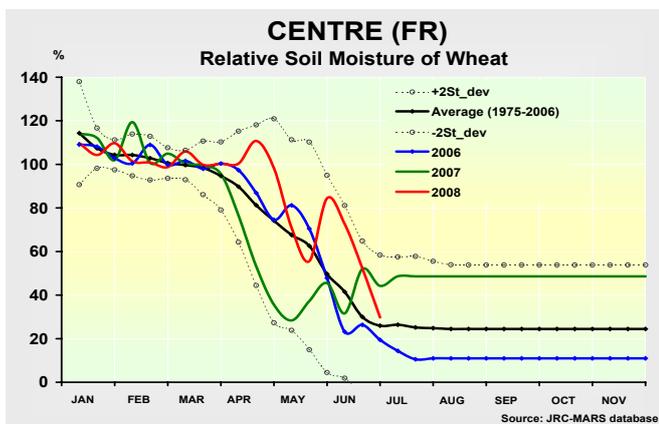
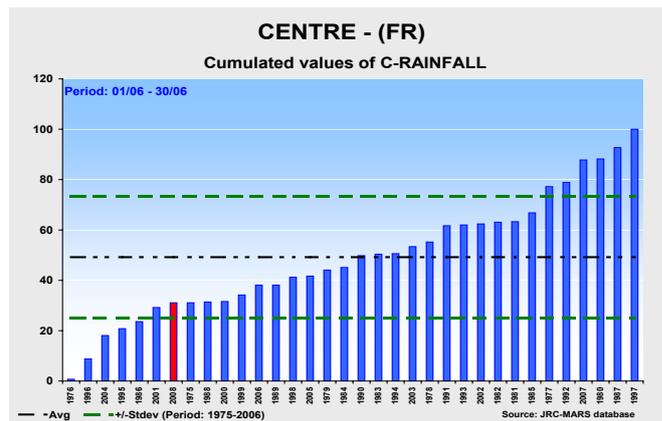


soil moisture and would have grown under good conditions. However, the southern area continued to receive higher precipitations than the seasonal value, only finally interrupted during the last dekad of the month. Poitou-Charentes experienced one of the wettest months of June for the last 30 years. Radiation was below the seasonal value at the beginning of the month and increased progressively to reach higher-than-average levels during the last dekad.

Crops were boosted by the conjunction of high temperature, high radiation and good soil moisture at the end of June. Rapeseed reached the end of its cycle with an early maturity stage all over the country.

To a lesser extent, winter cereals, particularly in the southern half of France, could not take advantage of these good conditions to improve their yield potential. However,

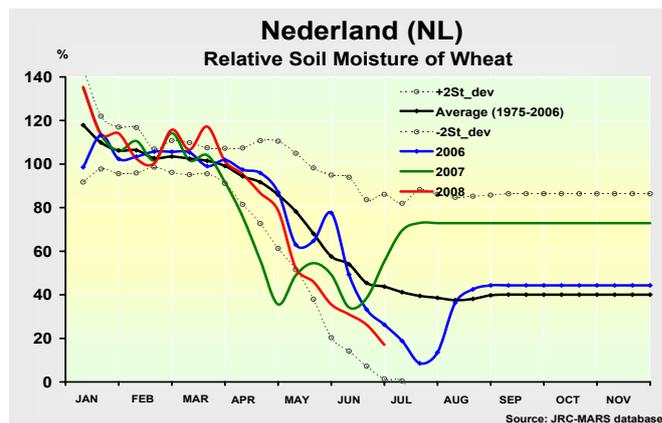
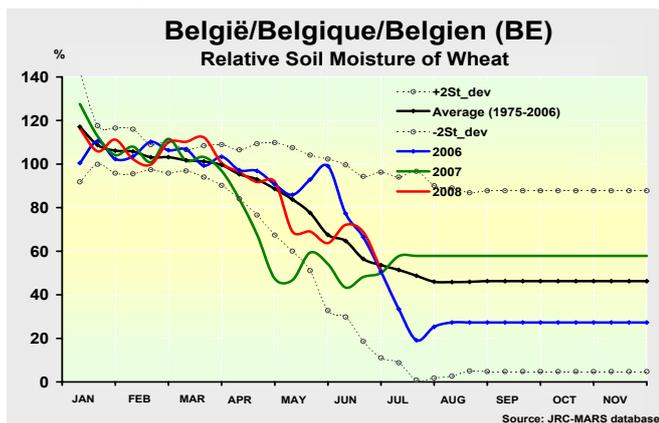
spring and summer crops fully benefited from good conditions and still have some margin for yield improvement.



## Benelux: wet in Belgium, rain still needed in the Netherlands

The picture is again contrasting, with normal conditions for Belgium and Luxembourg and a dry situation in the Netherlands. Soft wheat forecasts decreased for Belgium, at 8.6 t/ha (+ 2.7 % compared with the average), and the Netherlands, at 8.2 t/ha (- 1.7 % on the average) and for Luxembourg, at 6.3 t/ha (+ 2.4 % on the average). In Belgium, winter barley remained at 8.2 t/ha (+ 3.0 % on 2007, + 5.2 % on the average). Most summer crop potential increased in Belgium and decreased in the Netherlands: maize (12.0 t/ha in Belgium, 11.7 t/ha in the Netherlands), potato (47 t/ha in Belgium, 42.7 t/ha in the Netherlands) and sugar beet (69.7 t/ha for Belgium, 66 t/ha for the Netherlands), close to higher than average.

Belgium received abundant precipitations in June, from 75 to 100 mm, whereas in the Netherlands the total rainfall was below 75 mm, much lower than the seasonal level. Most of the precipitations occurred during the first two dekads. The soil moisture in Belgium was fully replenished. In contrast, in the Netherlands, the soil moisture was partially replenished, below the normal level. Further precipitations are forecasted for the next two weeks and should benefit crops in the Netherlands at a demanding stage such as winter cereals at grain filling; however, it could lead to water excess for crops in Belgium.



## Germany: partial drought relief except in the north

The winter and spring crops were partially relieved from dry conditions but still at a suboptimal level. The yield potential did not worsen but remained at a lower level than average for most of the crop. The wheat forecast is similar to the last bulletin at 7.2 t/ha (– 0.5 % compared to the average and + 3.7 % higher than 2007). Winter barley is still at 6.3 t/ha (+ 1.1 % compared with the average, + 8.2 % compared with 2007). Spring barley is lowered at 4.5 t/ha, below the average (– 6.5 %), and higher than last year (+ 4.3 %). The rapeseed forecast is slightly lowered at 3.4 t/ha (– 2.8 % on last year, 6.6 % on the average). For summer crops, only maize did not lower, at 9.0 t/ha (+ 4.3 % on the average). Potato and sugar beet are more sensitive to the drought due to their superficial root system. Also their yield potential has diminished: potato (39.2 t/ha, – 1.9 % on the average) and sugar beet (58.9 t/ha, – 0.2 % on the average).

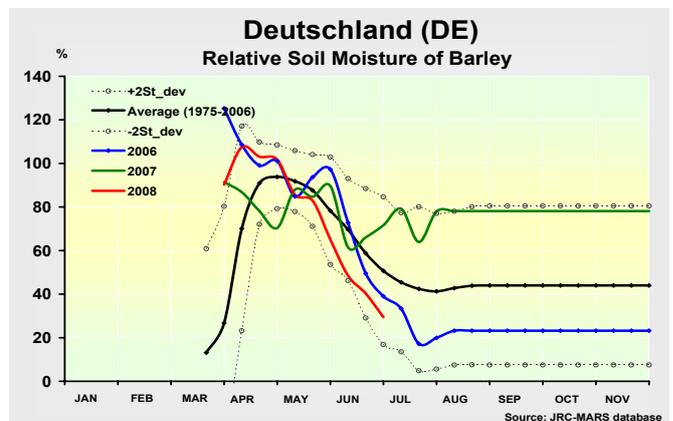
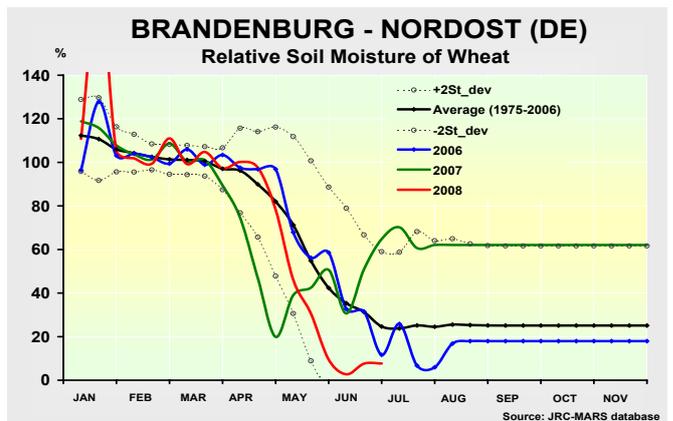
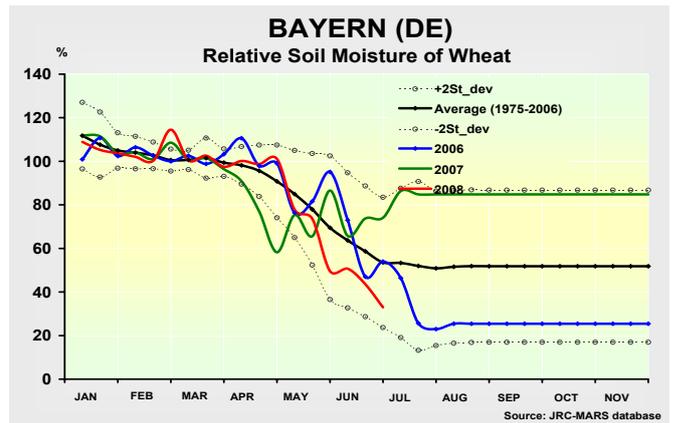
The country received progressive rainfall from the southern area at the beginning of June into the northern area at the end of the month. With 50 to 100 mm in the south and centre, the precipitations were close to normal, but in the northern area, with less than 50 mm, they were still lower than average (– 30 %).

Despite a slight relief, crops in the northern and eastern areas were still the most affected by this dry spell (from Niedersachsen, Schleswig-Holstein, Mecklenburg-Vorpommern to Brandenburg).

Further significant rainfall is forecasted for the coming two weeks and should be a determining factor in maintaining the crop potential for the winter/spring crops (rapeseed, wheat, barley), being at a final water-demanding stage (maturity and grain filling).

Summer crops with superficial roots such as potato will have suffered the most from these dry conditions. Maize needs to replenish soil moisture to maintain normal development.

Temperatures were higher than average during the first and last dekad of June and will have boosted crop development, increasing the water demand under suboptimal soil moisture. The few days with over 30 °C were recorded mainly in the eastern area and should not have significantly affected the crops.



## UK, Ireland: favourable agrometeorological conditions

**In the UK, the yield forecasts are revised slightly upward: at 8.00 t/ha for soft wheat (+ 2.4 % compared to the five-year average), 6.42 t/ha for winter barley (– 0.2 %), 3.19 t/ha for rapeseed (– 0.5 %), 5.58 t/ha for spring barley (+ 2.1 %), 42.17 t/ha for potato (+ 2.2 %) and 57.04 t/ha for sugar beet (– 0.4 %).**

**In Ireland, the yield forecasts are generally revised slightly upward: at 9.26 t/ha for soft wheat (+ 5.0 % compared to the five-year average and + 14.1 % compared to 2007's), 8.10 t/ha for winter barley (+ 3.0 % compared to the average), 6.80 t/ha for spring barley (+ 3.4 %) and 37.95 t/ha for potatoes (+ 4.8 %).**

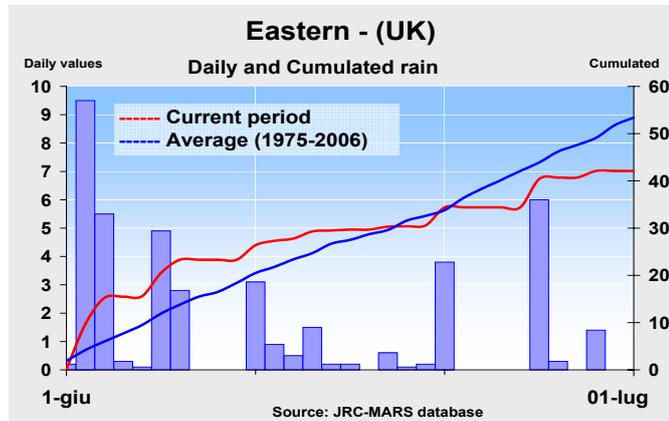
Following a relatively unseasonably mild May, June started with more normal conditions and in general this tendency remained during the month. However, two peaks with high temperatures occurred, respectively at the end of the first dekad (in the south the maximum daily values reached 24–25 °C) and at the very end of the month, following a progressive increase during the last dekad. Nevertheless, in both the UK and Ireland, at the end of the month, no significant departures from the long-term average of the cumulated active temperature were recorded.

This thermal course was favourable both for winter and spring crops. The advantage in crop development cumulated in the

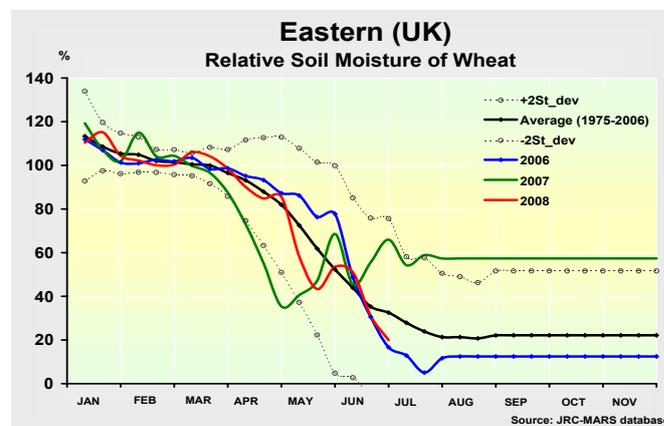
previous months was maintained. Similar crop development courses were recorded in 2000 and 1993.

In the UK, following a drier than normal May, the rain had a course closer to the season in June. Quantitatively, the rain was slightly reduced (– 15 / – 20 %, on average 40–45 mm as compared to the seasonal 50 mm), but with a normal temporal distribution.

Decidedly wetter conditions were recorded in Ireland. The



rain was persistent and abundant: more than 12 rainy days and + 50 % of cumulated rain as compared to the long-term average (90–95 mm as compared to the 55–60 mm long-term average). The rain was more persistent and abundant in the second half of the month. The plentiful rain allowed for filling the water deficit which had occurred since May and at the end of month the climatic water balance returned to higher-than-seasonal values.



## Italy: abundant rainfalls persisted up to mid-June, moderately good yield expectations for cereals

The yield forecasts for soft wheat is 5.20 t/ha (+ 2.0 % compared with the five-year average; + 6.0 % on 2007); 3.13 t/ha for durum wheat (+ 12.2 % compared with the five-year average; + 15.0 % on 2007); 4.01 t/ha for barley (+ 9.6 % compared with the five-year average, + 13.4 % on 2007). For grain maize, the expected yield is 9.40 t/ha (+ 5.9 % compared with the five-year average and + 1.0 % more than 2007). The yield forecast for sunflower is 2.05 t/ha (– 7.1 % on 2007 and – 0.9 % on the five-year average). Sugar beet is expected to reach 56.09 t/ha (+ 3.8 % on last year and + 16.3 % on the five-year average). The forecast for the potato crop is 26.14 t/ha (+ 1.8 % on last year and + 6.9 % on the five-year average).

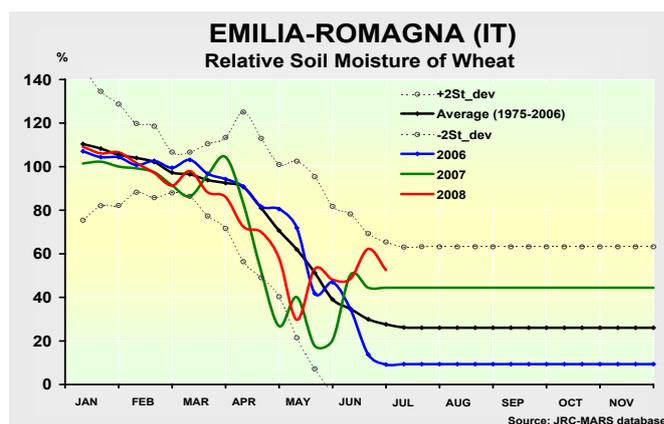
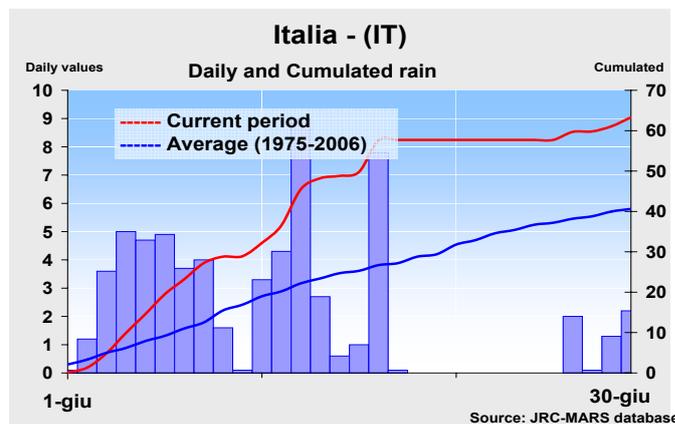
June presented two very different regimes during the first and second halves of the month. Maximum and minimum temperatures all over the country were slightly below average during the first half of June and then turned to above average for the rest of the month. The same scenario applies to rain distribution: the precipitations were abundant and above average all over the country except in the main islands (Sardinia and Sicily). Intense events (> 50 mm/day) occurred, mainly in the eastern side of the Po valley (Friuli, Veneto), in Tuscany and Campania.

The abundant water supplies and intense showers may have caused problems locally for winter cereals (lodging, fungus and rotteness) in the northern regions, and may have slightly delayed the start of harvesting of durum wheat in Apulia (reduced machine mobility): this could be considered the event affecting a quite favourable durum wheat campaign.

At the same time, the abundant rainfall was quite beneficial for all the spring crops (except for the earlier maize varieties

flowering at the end of June) even if the solar radiation was relatively scarce, due to the cloud cover.

It is too early to say how far this may have affected the potential of spring crops, considering that during the last 15 days of June the weather was sunny and warmer. Good potential yield is simulated for potato and sugar beet.



## Spain: favourable perspectives for most crops

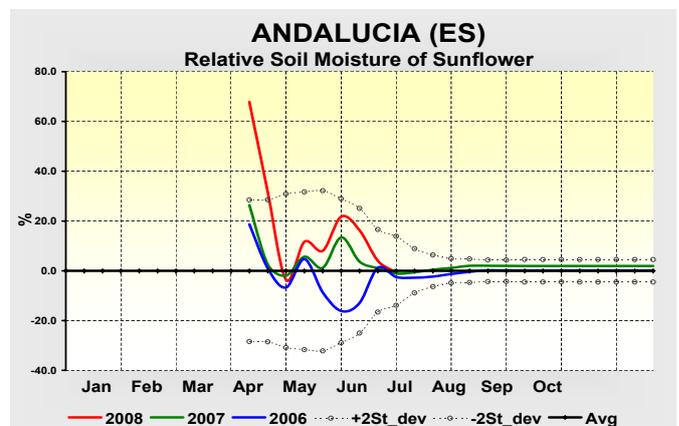
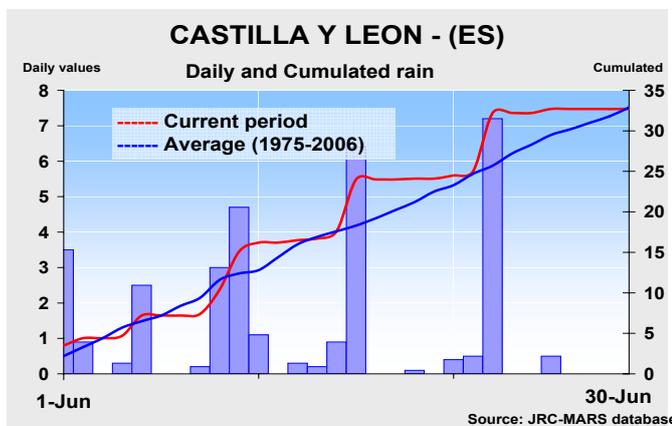
The average yield for durum wheat is estimated at 2.47 t/ha (+11.7 % on the five-year average), and for soft wheat at 3.51 t/ha (+11.2 % on the five-year average but 8.7 % lower than last year). The estimate for winter barley is 2.94 t/ha (-6.8 % on 2007 and +11.8 % on the five-year average). Oil seed rape has been estimated at 1.61 t/ha (-22.5 % on 2007 but +4.3 % on the five-year average). Expectations for spring barley are for 3.31 t/ha and those for grain maize are for 9.94 t/ha. The estimates for sunflower remain on average levels (1.12 t/ha), as do sugar beet (72.40 t/ha) and potato (29.92 t/ha).

Good rainfall conditions continued during June in most of the country. Exceptions were Galicia (in the north-west), where rainfall was below average; the north-west of Castilla-Leon, which reported low relative soil moisture; and the south (Andalusia) which did not benefit from any rain

during the second half of June, which favoured harvesting.

Temperatures were on average levels in most regions, except for Andalusia where they reached 38 °C at the end of June. This should not have a big impact on the yields of winter crops yields given that they had already reached maturity. The high temperatures are of limited importance for sunflower as they happened after flowering in the region, but they might have some impact on the pollinating of grain maize.

There are good expectations for spring crops, with the plants well developed thanks to the water availability in the soil. Nevertheless, as they are still in an early stage, the risk of lack of water during July could compromise the good results at harvest time. Sugar beet and potato have finished the vegetative stage and are already under yield formation.

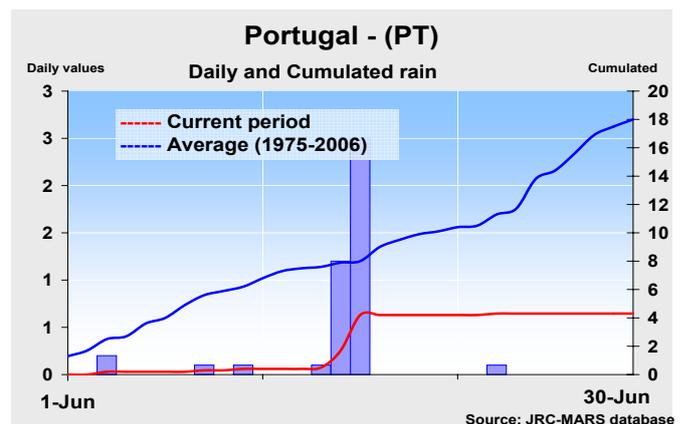
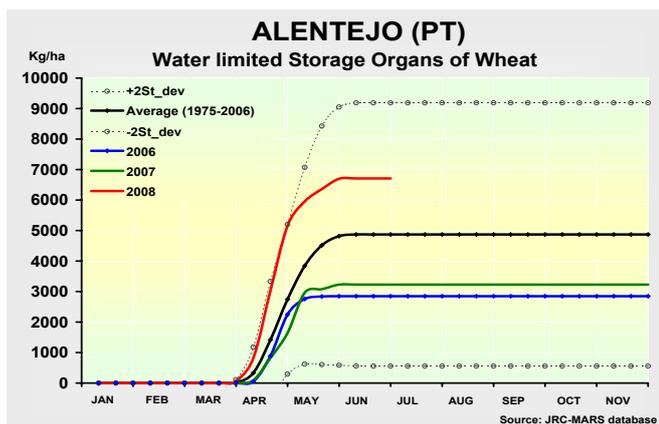


## Portugal: no rainfall during June, some spring crops in the north slightly delayed in physiological development

The yield estimate for soft wheat is 2.07 t/ha (+27.6 % on the five-year average and -5.6 % with respect to 2007). Winter barley is estimated around 1.95 t/ha (+24.8 % on the five-year average and +4.7 % on 2007). Spring crops are in the flowering stage with the potential yield still subject to major fluctuations. The estimated yield for grain maize is 6.0 t/ha (+9.1 % on 2007 and -13.8 % on the five-year average), 0.73 t/ha for sunflower, 15.67 t/ha for potato (+1.4% with respect to 2007 and +4.0 % on the five-year average) and 70.87 t/ha for sugar beet.

Most of the country, especially the southern part, experienced

lack of rainfall during June. Luckily the precipitations at the end of May influenced the relative soil moisture values positively. Both maximum and minimum temperatures were around average during the whole of June; it was only during the last 10 days of the month that maximum temperatures recorded higher peaks. During the month, harvesting began on wheat and winter barley, mainly without problems as the climatic conditions stayed dry. For these two winter crops, quite good yields are expected. Spring crops such as grain maize, potatoes and sunflower still show a relative delay in the vegetative development but with good yield potential.



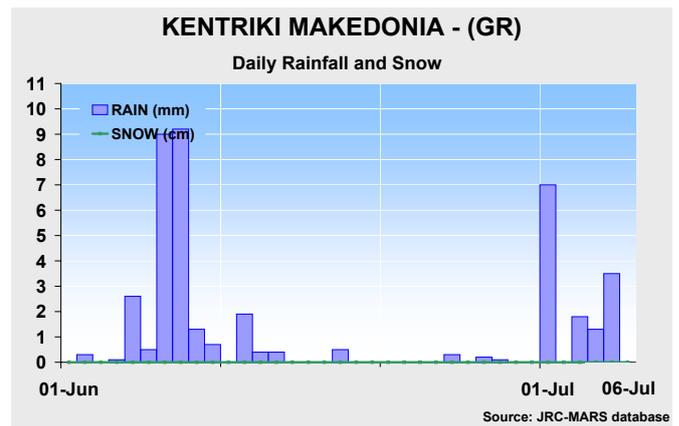
## Greece: dry and hot weather caused a decrease in the winter cereals yield

Dry and hot weather in the southern and central regions affected the final outcome of winter cereals and reduced yield expectations. The forecast for durum wheat is updated to 1.98 t/ha with a marked reduction on 2007 (- 5.5 %). The estimate for soft wheat is 2.66 t/ha, an increase on 2007 (+ 6.5 %) but with a reduction of 1.6 % on the five-year average. The forecast for winter barley is now 2.14 t/ha (- 7 % on the five-year average). The forecast for grain maize has been updated to 8.75 t/ha, decreasing on both 2007 (- 1.7 %) and the five-year average (- 2.2 %). The estimate for potato is 22.3 t/ha and 64.5 t/ha for sugar beet.

A dry spell began during the first dekad of June and continued until the end of the month. Drought was associated to particularly high temperatures especially during the second dekad and maximum temperatures peaked up to 35–38 °C. These conditions occurred particularly in the central and northern portions of the country and only marginally recorded in the eastern agricultural areas (Anatoliki Makedonia Thraki). The deficit in the climatic water balance during the second dekad ranged between - 30 % and - 40 % on the long-term average, with reductions of over 70

mm in some areas of western Greece.

Winter cereals were generally at the maturity stages and the dry and hot weather will probably affect the final outcome reducing the expected yield. In central Greece (Thessalia), spring crops, mainly irrigated, were also affected though with less intensity even in consideration of the early stages of development, and therefore their yield has been revised downwards too.



## Denmark, Sweden and Finland: again dry in Denmark and Sweden, wetter than seasonal in Finland

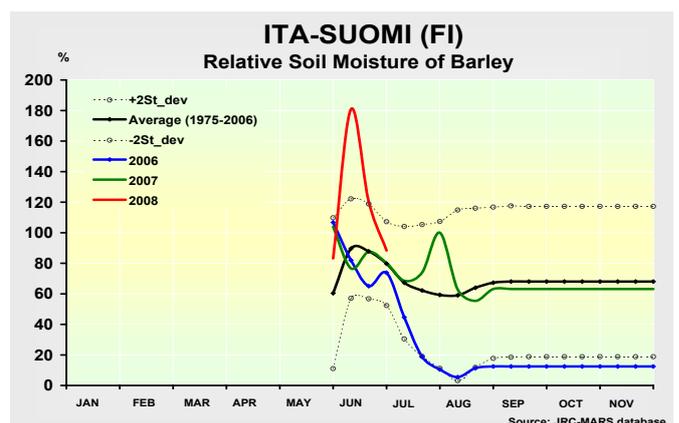
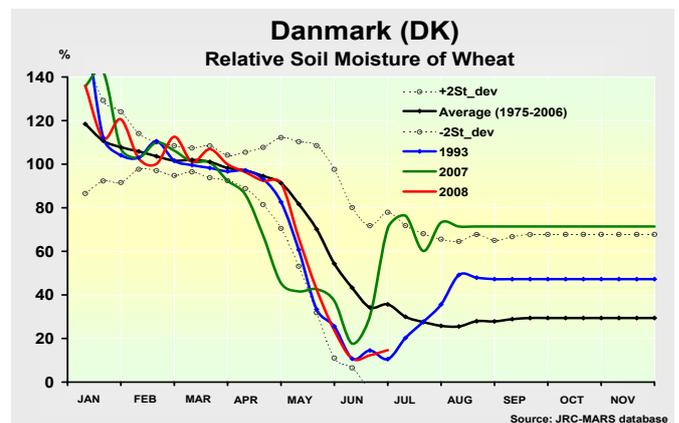
**Denmark:** yield forecasts are revised at 6.89 t/ha for soft wheat (+ 5.1 % compared to the previous year), 2.89 t/ha for rapeseed (- 13.3 %), 4.59 t/ha for spring barley (- 5.7 %), 5.55 t/ha for winter barley (+ 9.8 %), 39.55 t/ha for potato (+ 0.3 %) and 56.28 t/ha for sugar beet (- 1.6 %).

**Sweden:** yield forecasts are 6.31 t/ha for soft wheat (+ 0.8 % compared to the previous year), 2.75 t/ha for rapeseed (+ 8.2 %), 4.38 t/ha for spring barley (- 1.8 %), 5.40 t/ha for winter barley (+ 1.3 %), 30.46 t/ha for potato (+ 10.0 %) and 50.08 t/ha for sugar beet (+ 2.4 %).

**Finland:** yield forecasts are 3.93 t/ha for soft wheat (- 0.1 % compared to the previous year), 1.40 t/ha for rapeseed (+ 9.9 %), 2.92 t/ha for spring barley (- 21.6 %), 22.11 t/ha for potato (- 14.0 %) and 38.48 t/ha for sugar beet (- 8.5 %).

In Denmark and Sweden, following a rather dry May, June began with a water shortage. Rain events occurred from the second dekad but of modest quantity: on average, 50 mm were recorded as compared to 100 mm expected (- 50 %). Therefore, the water deficit continued to be even larger than that recorded in May. Consequently, the soil moisture was further depleted up to mid-June, when the light rains alleviated at least the top soils' water content. The impact of the related possible water stress on yield will probably be greater on spring crops. Temperatures were generally higher than the seasonal average in the first dekad and closer to the season in the second half. At the end of June, the surplus of cumulated active temperatures was around 10 %. Two significant but temporary drops in temperatures

occurred on 15 and 25 June, with minimum temperatures below the normal range of variation: on 25 June, 5.9 °C in Sydsverige and 6.3 °C in Denmark. Crop development was



maintained in advanced stages, since accumulated in the previous months (1–2 weeks as compared to the long-term average). At the same time, the higher level of solar radiation was positive.

Significantly different conditions were recorded in Finland: temperatures close to the average at the beginning of the month were followed by cooler conditions. A big drop occurred on 13 June with a minimum of 1.9 °C and a maximum of 8.9 °C. Therefore, at the end of month, the monthly cumulated active temperatures presented negative values as compared to the long-term average (– 35/40 GDD,

equivalent to – 10%). In general, crop development was slowed down, but remained close to the average. The rain was persistent (more than 12 rainy days) and abundant (around 100 mm as compared to 60–70 mm for the long-term average). An intense rainy event occurred on 10 June with around 30 mm in that day.

Thanks to the abundant water supplies, the climatic water balance completely recovered the deficit which had occurred in May and values even higher than average were recorded during the second half of the month.

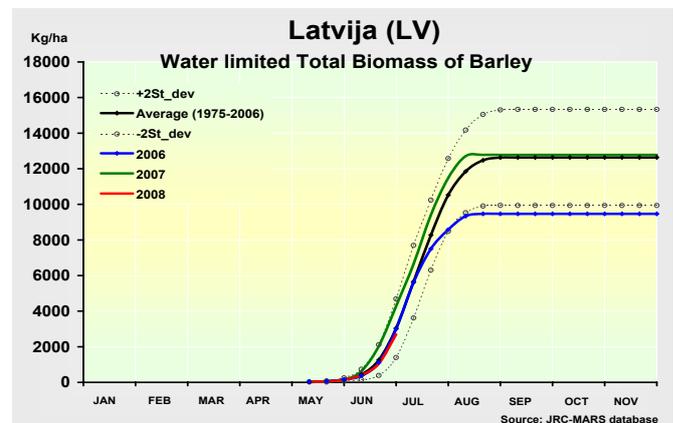
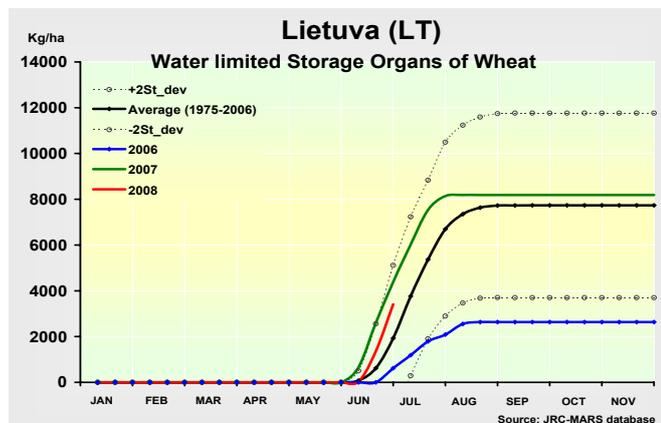
## Estonia, Latvia, Lithuania: normal conditions for spring crops

**For Estonia, the forecasted yields are at 3.2 t/ha for soft wheat (– 1.9 % compared with the previous year) and 2.3 t/ha (– 12.4 %) for barley (total). The figures for Latvia are 3.5 t/ha (– 3.7 % on 2007) for soft wheat and 2.3 t/ha (– 4.4 %) for barley (total) and for Lithuania are 3.6 t/ha (– 9.2 %) for soft wheat and 2.4 t/ha (– 9.6 %) for barley (total).**

The thermal conditions for June were close to normal. The cumulated rain was above the long-term average in eastern Estonia (>+ 30 % on the long-term average), lower than normal in Latvia and northern Lithuania and close to normal for the other areas. The climatic water balance was above normal for eastern Estonia (>+ 20 % on the long-term

average) and below normal for the other areas. The solar global radiation in the seashore areas was higher than usual (+ 15 %) and close to normal for the other areas.

Development of winter crops was anticipated with about 7–10 days. The relative soil moisture of winter wheat declined in the first 10 days of June and started to improve after the middle of the month (especially in Estonia). Simulations for both total and grain biomass of winter wheat were above the long-term average. The development of spring barley was close to average. At the end of June, in Lithuania and northern Latvia, the water-limited biomass of spring barley was below the long-term average.



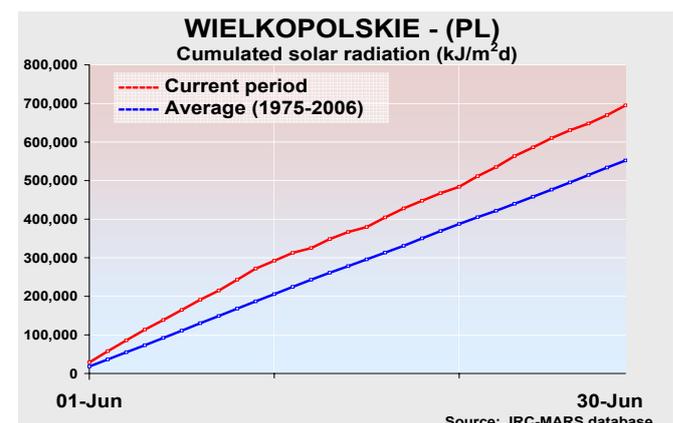
## Poland: severe drought is affecting most of the country

Although lower than those recorded last year, forecasts for winter crops are higher than the five-year average: 3.88 t/ha for soft wheat (+ 3.2), 3.64 t/ha for winter barely (+ 2.7), 2.70 t/ha for rapeseed (+ 5.1 %). On the other hand, yields for spring and summer crops will be significantly lower than last year because of the drought: 2.92 t/ha for spring barley (– 7.3 %), 5.54 t/ha for grain maize (– 15.9 %), 17.32 t/ha for potato (– 16.3 %) and 45.89 t/ha for sugar beet (– 10.5 %).

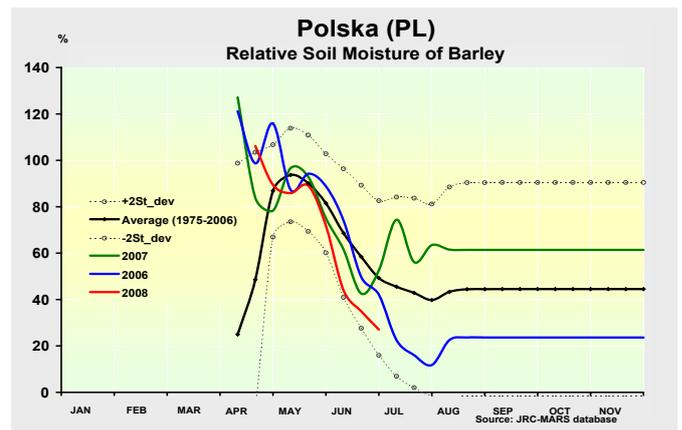
The humid conditions recorded in the last months in the eastern regions have been replaced by a severe dry period, affecting the whole country in the last three dekads. Drought had a high impact in Wielkopolskie and Kujawsko-Pomorskie, where cumulated precipitations were 30–40 % lower than the long-term average. Drought effects due to the lack of rainfall were enhanced by the high evapotranspiration demand because of the high radiation

and temperature values.

Winter wheat is completing the grain filling phase with a one-dekad advance in south-western regions, whereas



this phase has just started in the north-eastern part of the country. As a consequence of an extremely low simulated relative soil moisture (reaching values close to average – 2 standard deviations) spring barley stopped leaf area expansion with a one-dekad advance, thus lowering yield expectations. Potato is one of the crops suffering more because of the insufficient water availability. The models are simulating satisfying conditions for rapeseed, although soil moisture in northern and eastern regions is about 30 % below the long-term average.



## Czech Republic and Slovakia: favourable conditions are depicting a good season for both the countries

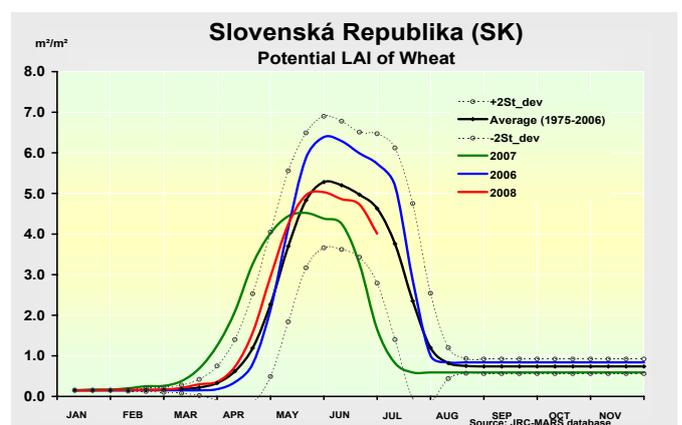
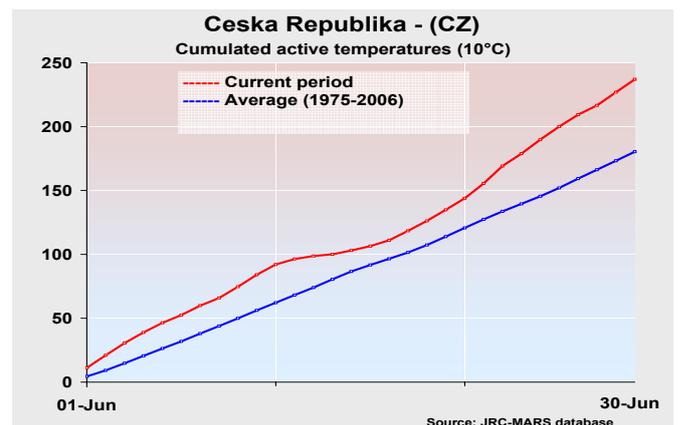
**Yield expectations for the Czech Republic are higher than the five-year average for all crops other than spring barley (3.84 t/ha, – 3.8 %). The forecast is 4.92 t/ha for soft wheat (+ 1.3 %), 4.56 t/ha for winter barley (+ 7.4 %), 3.16 t/ha for rapeseed (+ 12.1 %), 6.88 t/ha for grain maize (+ 6.2 %), 25.99 t/ha for potato (+ 8.5 %), 52.58 t/ha for sugar beet (+ 3.7 %) and 2.30 t/ha for sunflower (+ 2.9 %).**

**The situation is similar for Slovakia: forecasted yields are 3.87 t/ha for winter barley (+ 15.4 %), 2.33 t/ha for rapeseed (+ 14.3 %), 3.60 t/ha for spring barley (+ 3.9 %), 5.46 t/ha for grain maize (+ 3.7 %), 15.62 t/ha for potato (+ 2.0 %) and 49.68 t/ha for sugar beet (+ 8.5 %). The only two crops which are forecasted to yield slightly less than average in Slovakia are soft wheat (3.93 t/ha, – 0.5 %) and sunflower (2.01 t/ha, – 2.7 %).**

High temperatures were recorded during the examined period, pushing the accumulation of thermal time to high values, both for summer and winter crops. The only exceptions were recorded between 12 and 17 June, when minimum temperatures reached 5 °C in the Czech Republic. Cumulated rainfall was very close to the average in the Czech Republic and slightly higher in Slovakia, as a result of frequent, low intensity events. The heat wave which occurred after 23 June should not have created problems for winter crops.

Winter wheat is in the second part of the grain filling phase in advance (currently 10 days), which increased in the last two dekads. Optimal conditions of soil water content are simulated by the models. Rapeseed reached the physiological maturity stage with a two-dekad advance as compared to the average under optimal conditions for soil water availability. In the Czech Republic, the favourable conditions experienced by the crop during

the season allowed a satisfactory canopy development, notwithstanding the simulated advanced development. A suboptimal canopy development is simulated in Slovakia. Spring barley entered the grain filling phase according to the average under optimal water conditions, such as those experienced by grain maize, which is in the second part of the vegetative phase.



## Austria: a good potential is simulated for most of the crops

**Except for durum wheat (4.21 t/ha, – 0.4 % compared to the five-year average) and sunflower (2.53 t/ha, – 1.2 %), Austria is experiencing a favourable season. Forecasted yields are 5.14 t/ha for soft wheat (+ 1.7 %), 5.61 t/ha for winter barley (+ 5.3 %), 2.96 t/ha for rapeseed (+ 3.1 %), 4.19 t/ha for spring barley (+ 3.2 %), 9.72 t/ha for grain**

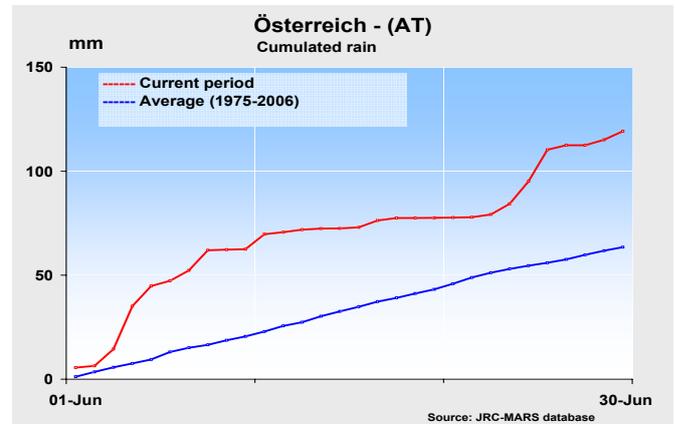
**maize (+ 3.2 %), 30.65 t/ha for potato (+ 0.9 %) and 68.54 t/ha for sugar beet (+ 7.3 %).**

The cumulated precipitations during the examined period were 88 % higher than the long-term average because of very frequent and abundant events. This led to low radiation values on most days. Temperatures were decidedly higher

than average, especially in the second part of June. In terms of cumulated active temperatures, the differences with respect to the average were higher for the summer crops (almost 30 % higher), characterised by higher thermal requirements. A heat wave affected the country between 23 and 26 June.

Winter wheat was in the second part of the grain filling phase with a one-dekad advance compared to the average. Part of this advance was due to the high temperatures recorded in the last dekad: this led to a shortening of the grain filling period, lowering yield expectations. Soil moisture was consistently higher than average, although without creating problems. The simulated leaf area index was below the average mainly because of the shortening of the crop cycle. But it was still above 3 m<sup>2</sup>/m<sup>2</sup>, not significantly penalising the plants' solar radiation interception capacity. Rapeseed was reaching the maturity stage with almost half a month in advance under optimal conditions in terms of soil water content. For this crop, light interception could have been

suboptimal in the last part of the season because of the insufficient canopy development. Spring barley and grain maize were, respectively, in the first part of the grain filling period and in the second part of the vegetative phase, in both cases under optimal water supply.



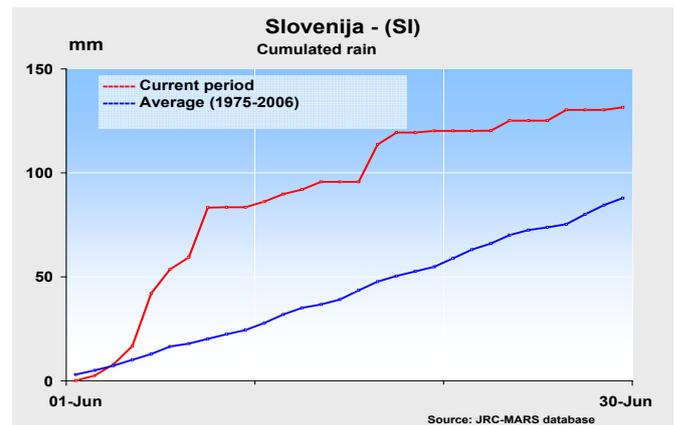
## Slovenia: persistent warm conditions

**Forecasts are around 5 % higher than the last year: 4.40 t/ha soft wheat (+ 5.8 %), 3.90 t/ha for barley (+ 6.7 %) and 7.97 t/ha for maize (+ 5.7 %).**

The first two dekads of June were characterised by wet and relatively warm conditions which pushed cumulated rainfall values decidedly above the average. As a consequence of the related cloudy weather, cumulated values of solar radiation and potential evapotranspiration remained below average during the whole period. The last dekad of June presented above-average temperatures, especially because of high daily minima.

Winter wheat and rapeseed were maintaining the one-dekad advance in development and the suboptimal canopy expansion because of the shortening of the vegetative phase. However, simulated potential above-ground biomass and yield values were good. Spring barley entered into

the grain-filling phase according to the average. Optimal conditions are simulated for grain maize.



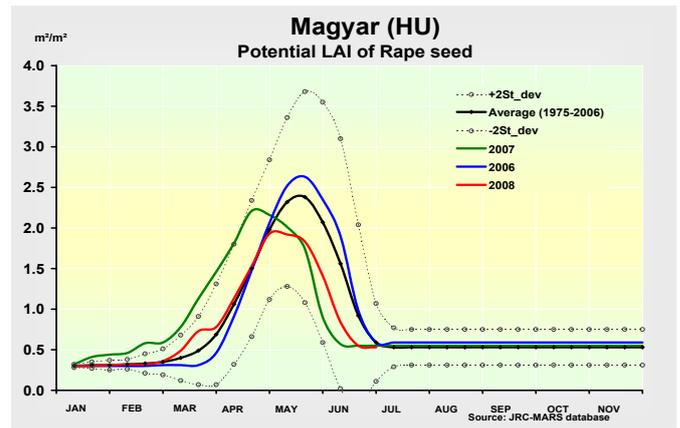
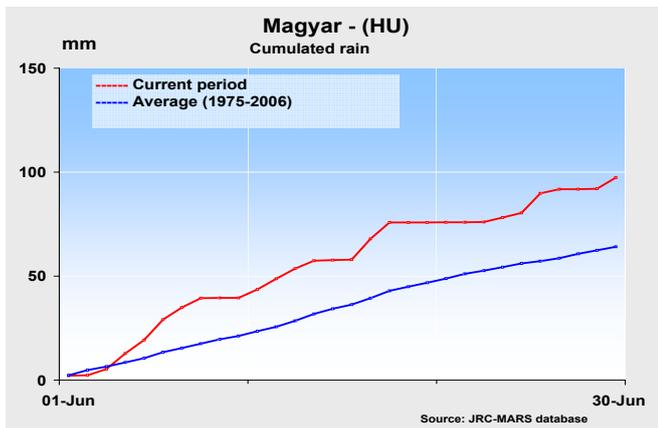
## Hungary: despite the advance in development, crops are showing a good potential

**With the exception of rapeseed, yields are forecasted to be higher than the five-year average: 4.37 t/ha for soft wheat (+ 9.5 %), 4.00 t/ha for winter barley (+ 8.2 %), 2.18 t/ha for rapeseed (- 3.6 %), 3.44 t/ha for spring barley (+ 9.3 %), 6.89 t/ha for grain maize (+ 19.1 %), 24.89 t/ha for potato (+ 8.0 %), 49.48 t/ha for sugar beet (+ 3.8 %) and 2.17 t/ha for sunflower (+ 0.2 %).**

Hungary is experiencing a humid and warm summer. In the last two months, cumulated rainfalls have been about 40 % higher than the long-term average and temperatures have always been above average, especially in the last dekad. This has maintained the advance in development simulated for most crops. The situation is slightly different in northern regions (i.e. Eszak-Magyarország), where less intense precipitations were lowering the relative soil moisture values below the long-term average.

Winter crops were still maintaining the advance in

development simulated since the beginning of the season. In some cases, this has limited leaf area expansion. Despite the shortening of the vegetative phase, winter wheat and rapeseed did not show evident constraints in yield formation. Spring barley was in the middle of the grain filling phase according to the average. Despite the models simulating a slight advance in the descending phases of leaf area index, a good yield potential was simulated too for this crop. Grain maize was in the second part of vegetative phase under optimal conditions. Simulated soil moisture presented an increase in the three dekads for most regions.



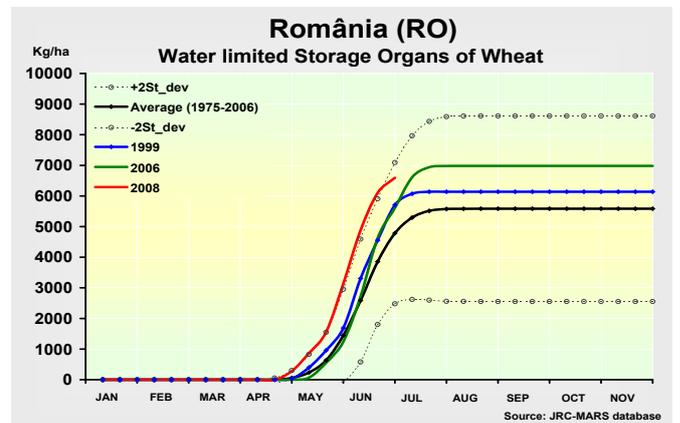
## Romania: above-average wheat yield

The forecasted yields are: **2.8 t/ha (+ 75.7 % compared with the yield of 2007) for total wheat, 2.4 t/ha (+ 64.6 %) for barley (total) and 1.4 t/ha (+ 36.9 %) for turnips (rape).**

The sum of active temperatures for Romania (Tbase = 0 °C) in June was close to normal except in the north-western areas where it was warmer than usual. The drier than usual conditions predominated in southern Romania; meanwhile many northern areas were wetter than the long-term average. The climatic water balance was below normal, except for the Transylvanian plateau and some areas along the north-western border.

The relative soil moisture for winter crops remained close to the long-term average (slightly above for rapeseed and slightly below for winter wheat). The simulations for yields of winter crops were higher than normal but the dry weather during the grain filling phase waived out the chances for an exceptionally good year. Development of sunflower and

maize was close to average. The above-ground biomass of sunflower was close to average in the south and south-east and above average in the north-western areas. The relative soil moisture for summer crops was slightly below average.

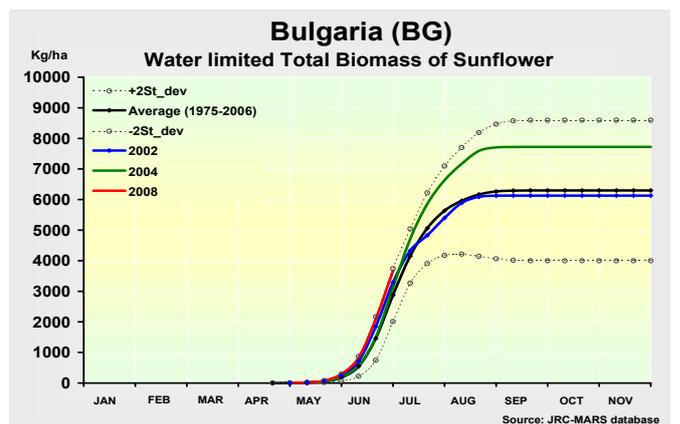
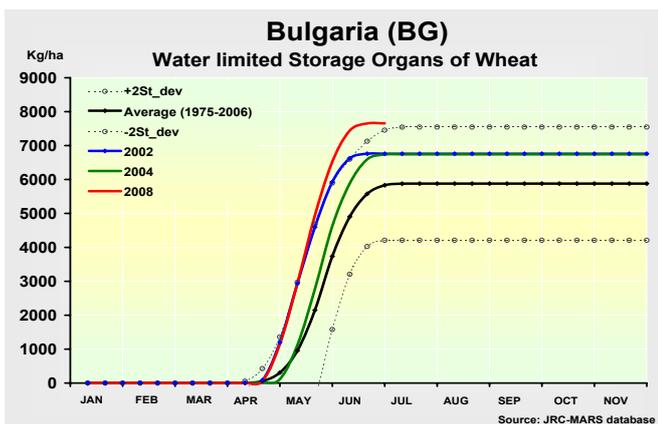


## Bulgaria: high yields for winter crops

The forecasted yields are: **3.4 t/ha (+ 55.8 % as compared with 2007) for soft wheat, 3.3 t/ha (+ 46.1 %) for barley (total) and 2.0 t/ha (+ 17.1 %) for rapeseed.**

The thermal resources for the period under consideration were close to normal. The north-western and south eastern quarters of Bulgaria were wetter than usual, meanwhile it was drier than usual along the north-eastern border and the level of precipitation was close to normal in south-western areas. The climatic water balance in June was better than normal in southern Bulgaria (>+ 20 % of the LTA) meanwhile

it was below the long-term average in northern areas. The winter crops reached maturity and according to stimulation their grain filling ended with record high values. For winter wheat, it was not possible to find a similar course out of the past 15 years and more moderate estimation was preferred. Development of spring barley, maize and sunflower were slightly anticipated. The relative soil moisture for the summer crops decreased below the long-term average but the above-ground biomass is still very high.



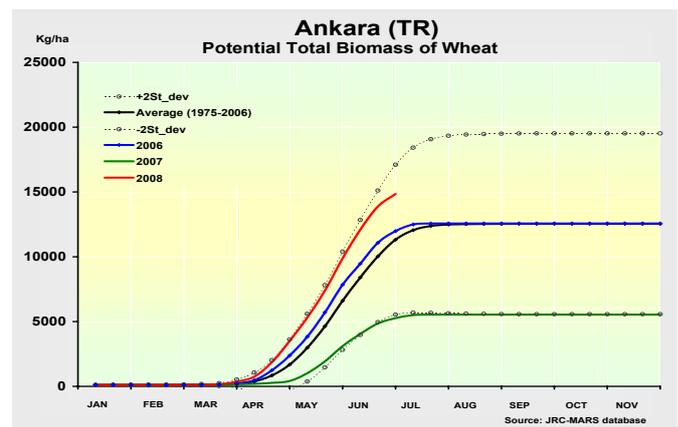
## BLACK SEA AREA

### Turkey: a moderate rise in Turkey's cereal harvest is predicted regardless of the dry conditions in late June

The yields of wheat and barley took advantage of precipitation which occurred in May and early June but might not be significantly affected by the widespread dry conditions during the second half of the month. The yield forecasted for wheat is 2.18 t/ha (slightly reduced on the five-year average, but +4 % as compared to 2007). Barley is forecasted at 2.41 t/ha (–2.8 % on the five-year average and +0.5 % on 2007). Maize at this stage is forecasted for 5.9 t/ha (on the same levels of 2007 and –3.7 % on the five-year average).

Rainfall, which in May had allowed a recovery on the cumulated soil moisture deficit, continued in the first half of June over most of the main cereal production areas of central Anatolia. The frequency and intensity of precipitation was relatively higher in Ankara, Konya and Kirikkale, while the rest of the country experienced a progressive decrease of precipitation from the Black Sea to the Mediterranean coastal areas. In central Turkey, there was a decrease in average rainfall during the second half of June while temperatures remained within the norm for the month. In the agricultural districts overlooking the Aegean Sea (Manisa, Izmir) the

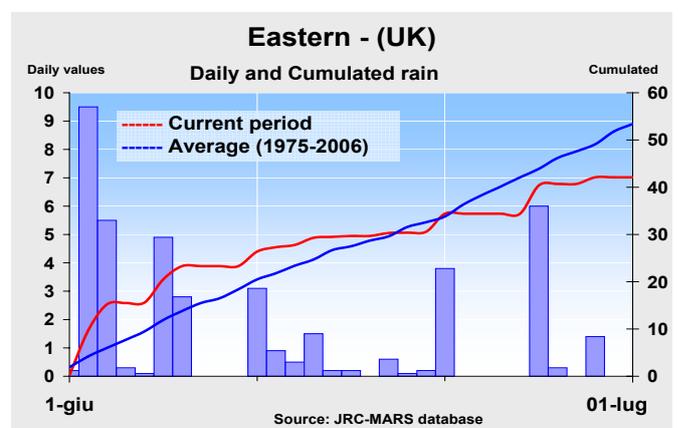
deficit of cumulated precipitation in June was over 30 % on the long-term average, equivalent to 10–15 mm, and, considering the advanced development of winter cereals (ripening, maturing), that was not significantly impacting on cereal yield. Maize and other summer crops in the irrigated districts of Bata Marmara are experiencing a dry spell which started in the third dekad of June and is enduring. The influence of this trend is still not yet quantifiable.



### Ukraine: dry June

The forecasted yields are: 3.0 t/ha for wheat, 1.8 t/ha for barley and 1.1 t/ha for oil seed rape.

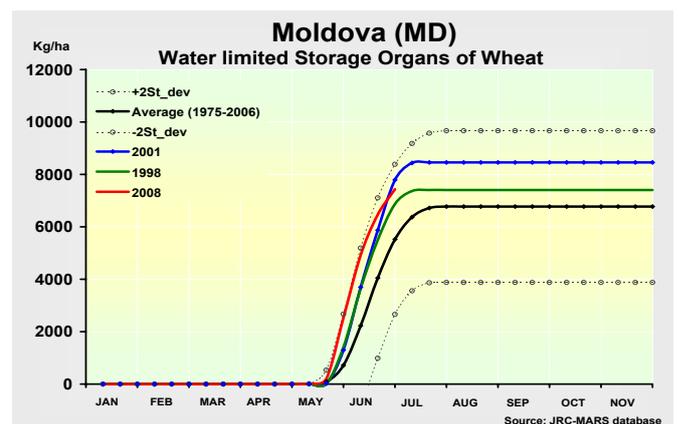
The thermal conditions for June were close to normal but the weather was drier than usual (<–30 % of the long-term average). Some areas of eastern Ukraine received less than 20 mm cumulated rain. Climatic water balance for all agricultural areas was also lower than normal (<–20 %). Development of winter crops was anticipated by one week. The simulated weight of wheat grains was above the long-term average (especially in the northern areas) but limited by the advanced development and the decreasing soil moisture. The relative soil moisture was decreasing quickly but the water-limited above-ground biomass remained close to normal.



### Moldavia: above average yield for winter wheat

The forecasted yield for wheat is 2.2 t/ha.

The sum of active temperature for June ( $T_{base} = 0\text{ }^{\circ}\text{C}$ ) was close to average, but the weather was drier than normal, especially in northern areas. Global radiation was higher than usual in southern areas. The climatic water balance for the southern half of Moldova was lower than usual (<–20 %). The simulated water limited storage organs for winter wheat is above the long-term average. The weight of the above-ground biomass of summer crops simulated for rainfed conditions is still above the long-term average and the soil moisture improved after mid-June.



## EASTERN COUNTRIES

### Belarus: drier than usual

**The forecasted yield for wheat is 2.9 t/ha.**

Thermal conditions for the considered period were close to normal. The cumulated precipitation was below the long-term average (<- 30 %) and so was the climatic water balance (<- 20 %). The relative soil moisture for all the crops

decreased considerably but the winter crops were helped by the high soil water content from the previous month and their total biomass is above normal. The water-limited biomass for summer crops is close to the long-term level.

### Russia: favourable conditions for winter and summer crops

**The period under analysis is the period of winter crop harvesting. Summer crops are near the flowering development stage.**

June 2008 was slightly colder than normal almost everywhere. However, in general, air temperature was favourable for winter crop harvesting and summer crop development. The amount of precipitation was higher than normal in the central region, near the Volga region and in the northern Caucasus. The weather was drier than normal near the western border of Russia and in the Rostov region.

Agrometeorological conditions in previous months have led to favourable soil moisture content everywhere, except in north-western regions where soil moisture content was lower than normal. Soil moisture content slightly decreased during June 2008 in the central Chernozemic region.

The CGMS winter wheat growth simulation results demonstrate that the situation at the end of June 2008 was better than normal for the main part of European Russia. The simulated crop biomass is close to normal only in the north-western regions.

Based on an analysis of all crop growth indicators, it seems possible to conclude that agrometeorological conditions in the 2008 season were in general favourable for winter crops. The agrometeorological situation for spring crops was unfavourable in north-western regions due to the low amount of precipitation in May and June. The yield of winter cereals is expected to be slightly higher than in the previous good year. The yield of spring and summer crop in the European part of Russia is likely to be close to normal.

## MAGHREB

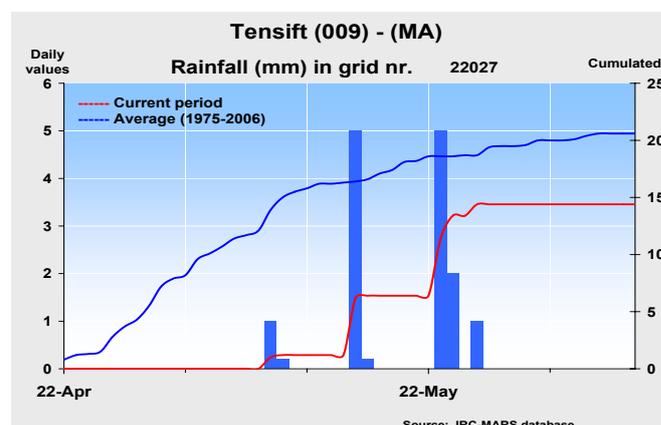
### Maghreb: a negative year again for Morocco while Algeria and Tunisia produced average yields

**Yield expectations are negative in Morocco due to dry conditions in June. The seasonal outlook remains favourable for Algeria and Tunisia. The yield forecast for wheat in Morocco is 0.92 t/ha (- 30 % on the five-year average but + 14.5 % higher than in 2007). Barley is estimated at 0.6 t/ha (on the same levels as in 2007 but still - 23.9 % on the five-year average). In Algeria, the wheat yield is forecasted at 1.26 t/ha (+ 6.8 % on 2007 and - 1.1 % on the five-year average) while the estimated yield of barley is 1.5 t/ha (+ 2.4 % on the five-year average). In Tunisia, the wheat forecast is 1.70 t/ha (with a reduction of almost 6 % on 2007 and of 3.3 % on the five-year average). Barley is estimated at 0.94 t/ha (- 5.8 on 2007).**

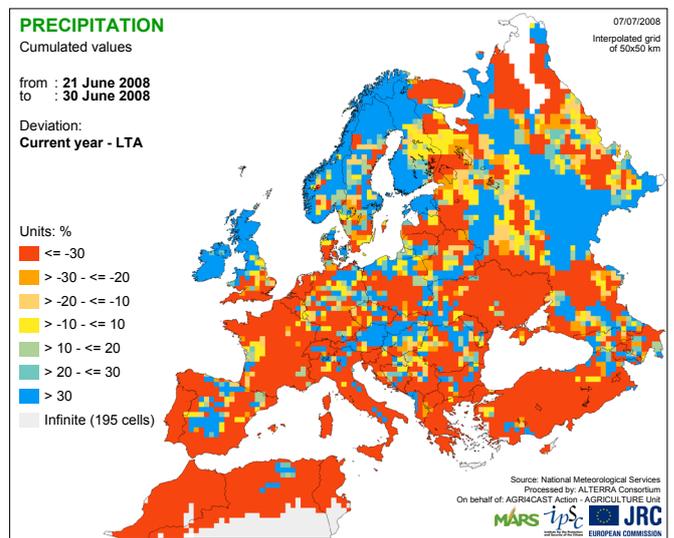
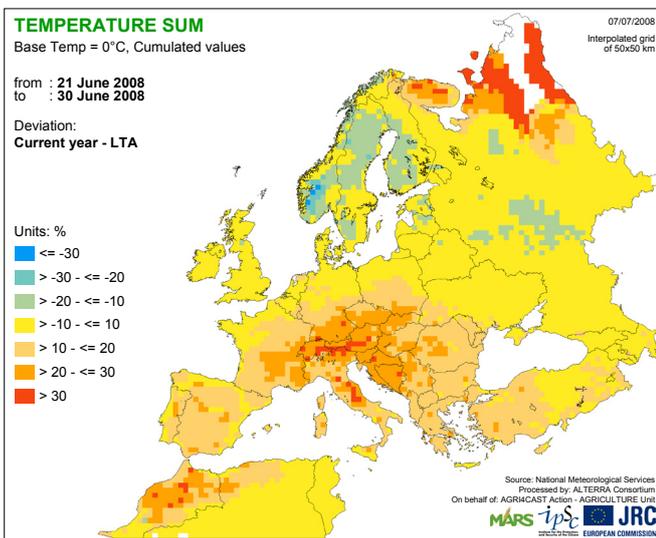
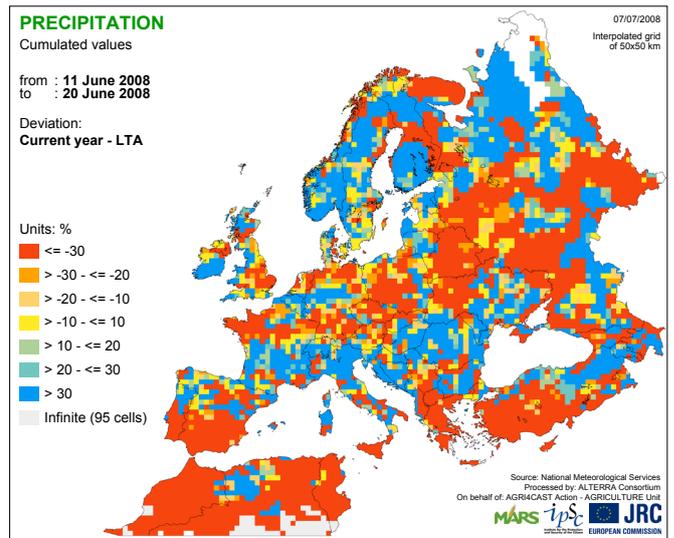
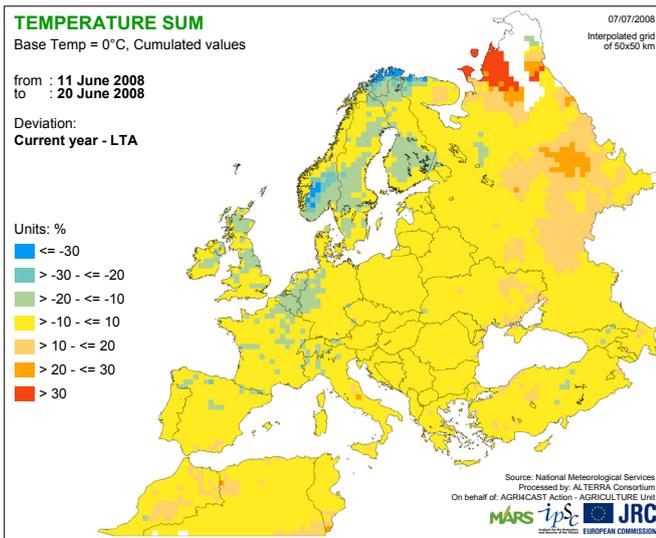
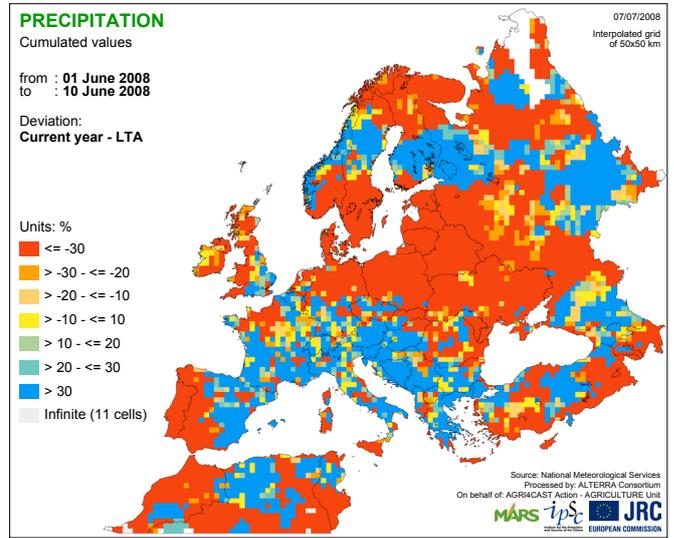
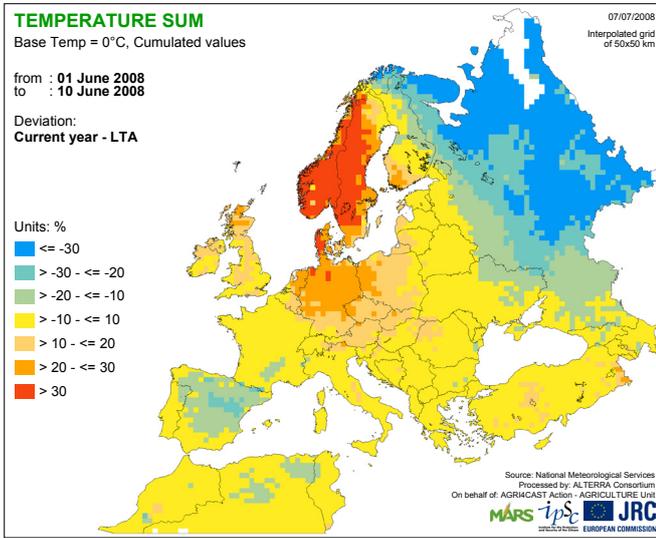
In the main cereal-producing regions of central-west Morocco, the spring drought was partly supplemented by some sparse rains in May but dry conditions incepted again in June. At the end of the current campaign, the cumulated precipitations exceeded by over 10 % that of 2007 but largely in deficit of requirements. Currently, the harvest is almost completed. In central Morocco, the heat wave, recorded at the beginning of July, occurred too late to affect cereals. Despite those events, in the current campaign, only

a limited improvement of yield is forecasted with respect to the extremely low yields reported in 2007.

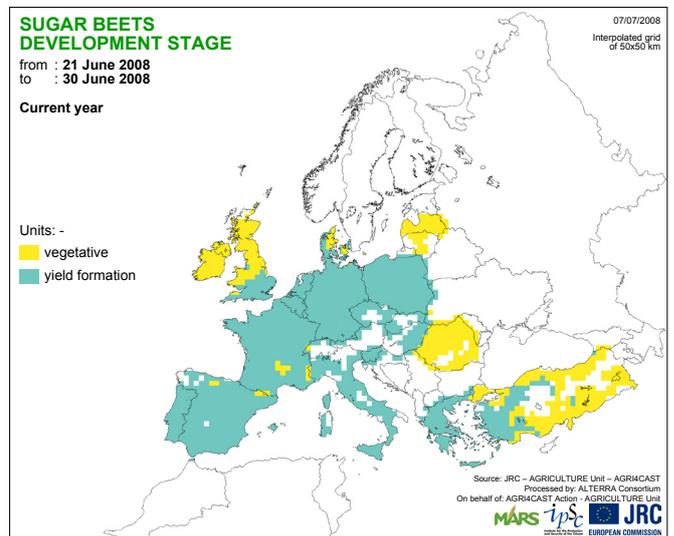
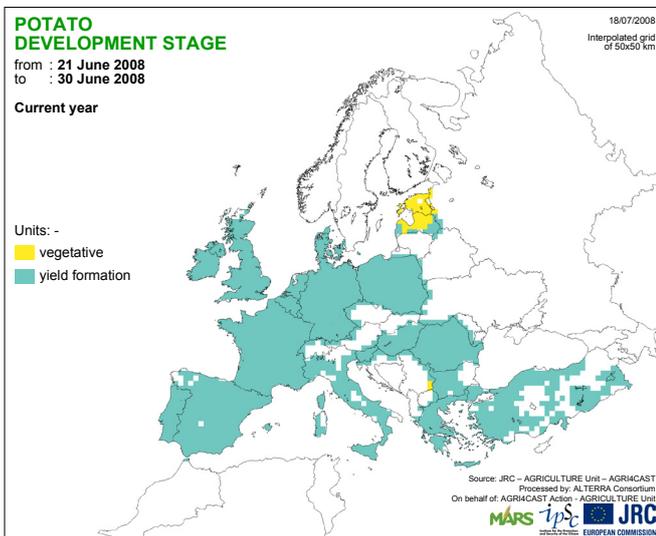
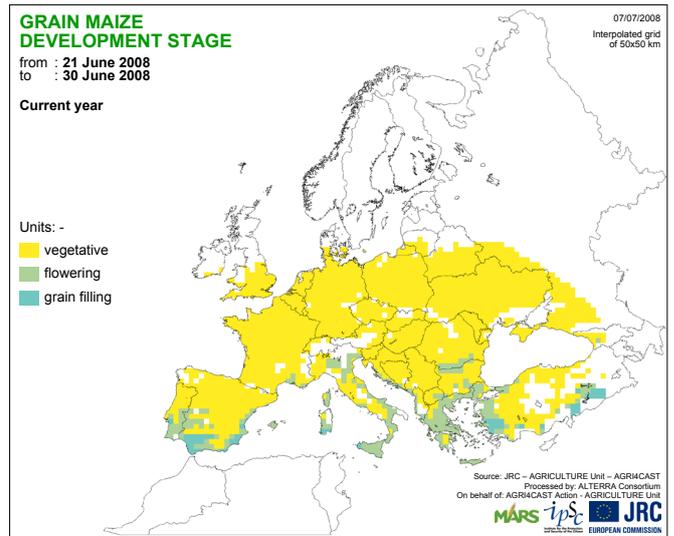
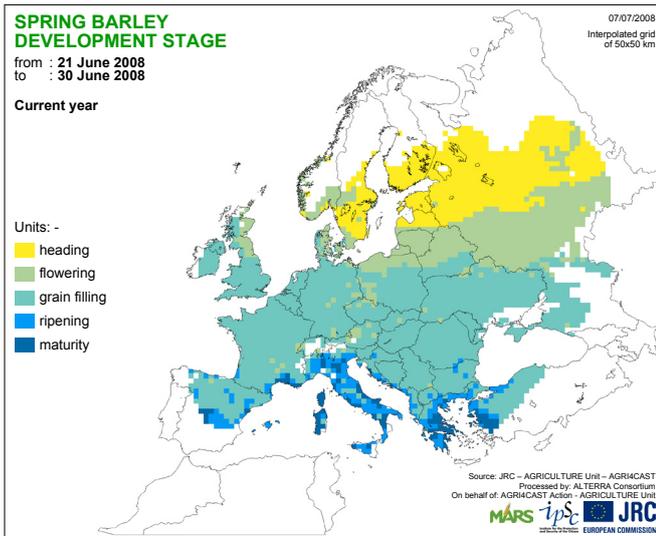
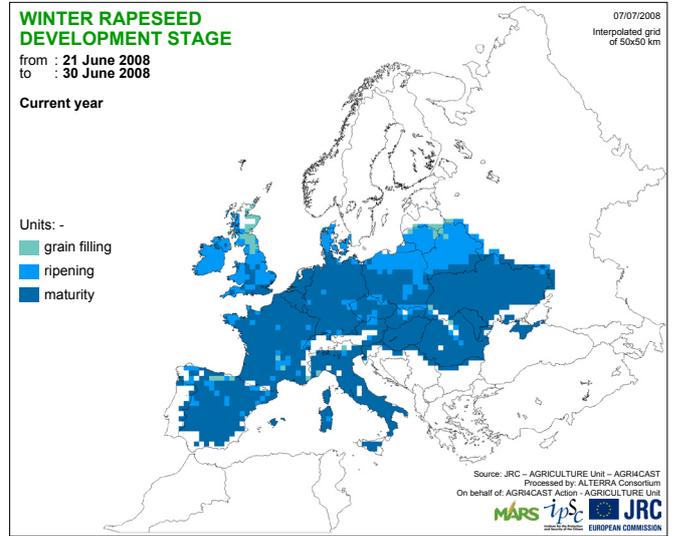
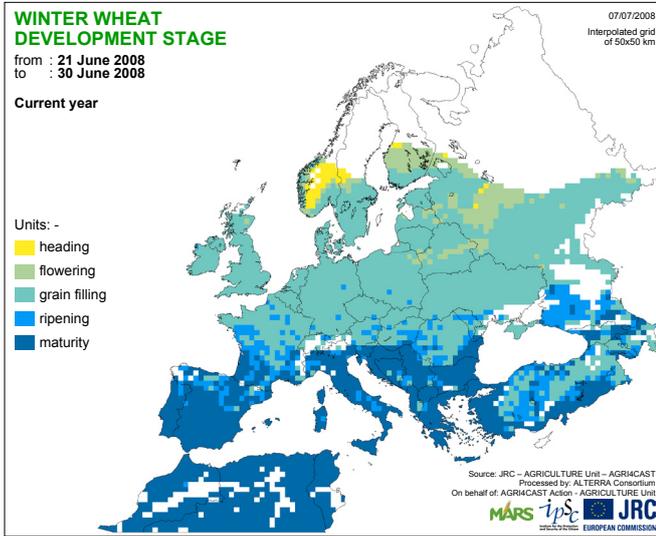
In Algeria, there were rainy events throughout May and again in June, combined with mild temperatures. At the end of the harvest, in mid-June, the season was expected to provide an average production. Similar conditions were reported in Tunisia where the harvest was also expected to be within the norm.



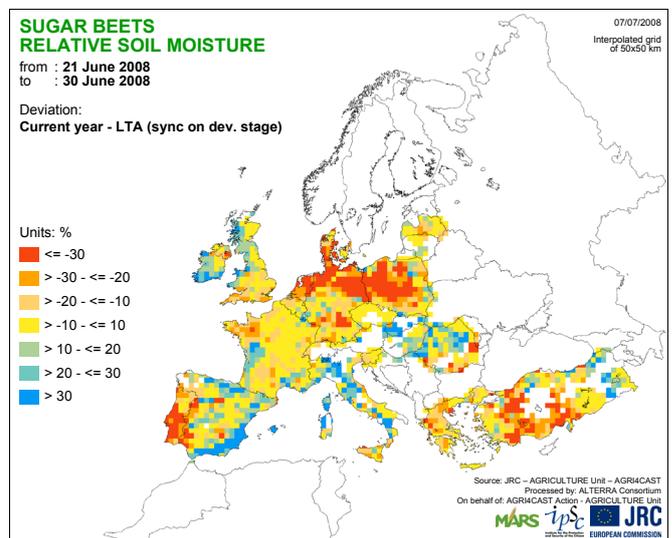
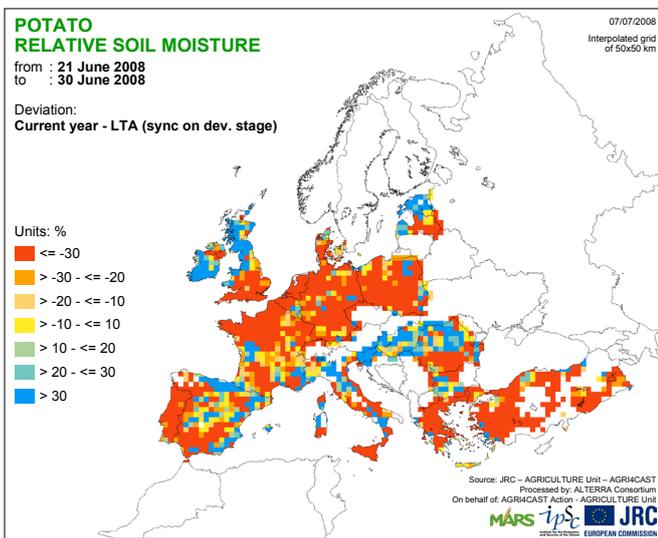
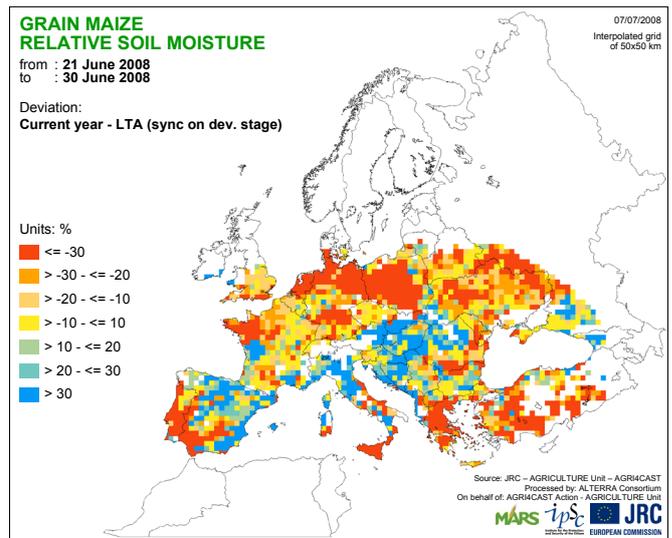
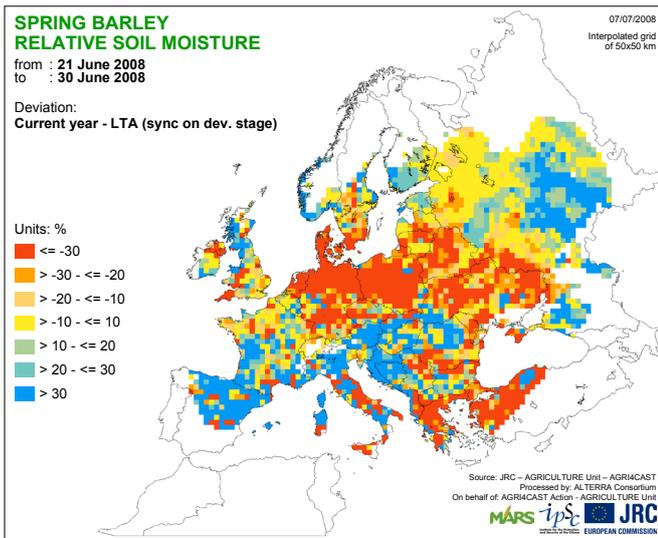
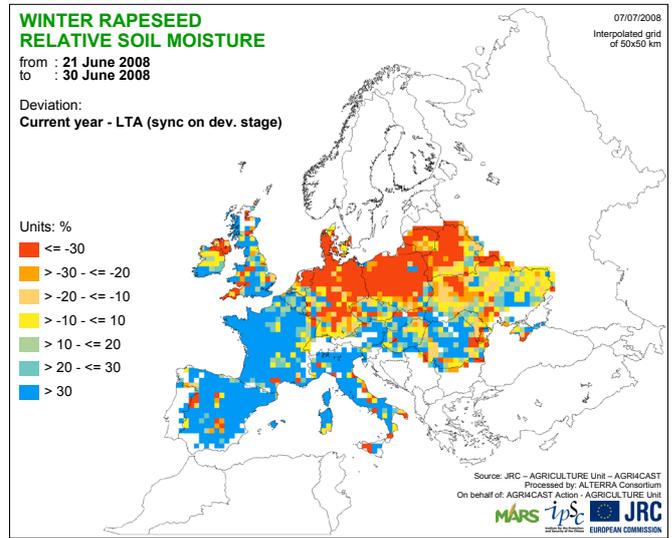
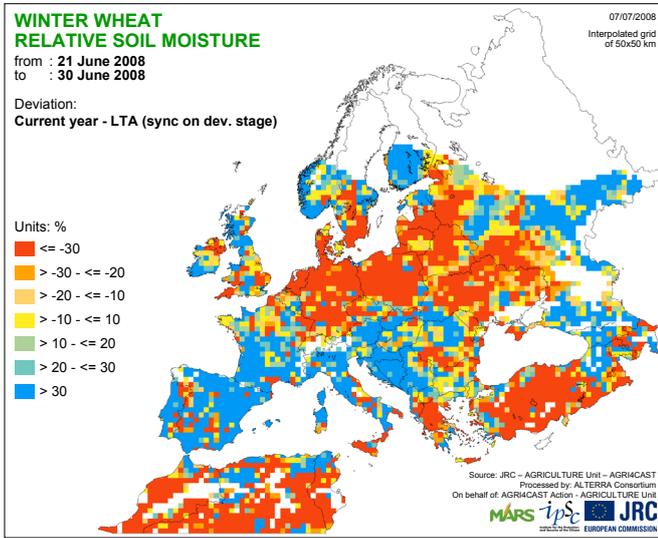
# 4.1. Temperature and Precipitation - 2008 compared with Long Term Average -



## 4.2. Crop development stage



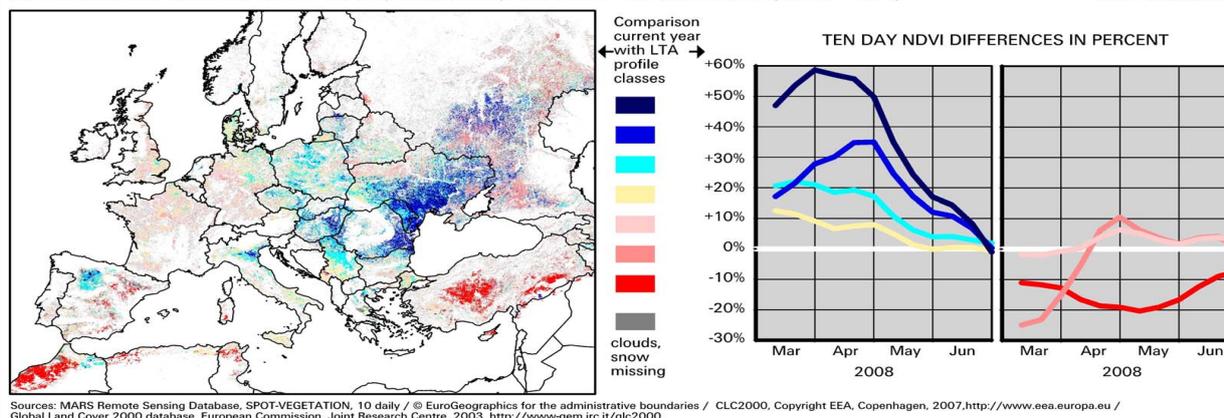
### 4.3. Relative soil moisture



## 5. Satellite analysis: SPOT Vegetation

### Normal conditions throughout Europe

TEN DAY NDVI CLUSTER ANALYSIS DATA FOR ARABLE LAND - DIFFERENCE BETWEEN CURRENT YEAR (2007/2008) AND LONG TERM AVERAGE (1998 - 2007)



The above map shows the results of the cluster analysis of NDVI values throughout the season from March until the end of June. The behaviour of the NDVI of the ongoing year is compared with the values in the calculated long-term average year (1998–2007). The light to dark-blue colours show areas where the start of season was anticipated and thus have higher current NDVI than the average (e.g. Romania, Hungary, Ukraine). When approaching the maximum and the senescence period, the values drop to the average. In contrast, yellow and light red colours exhibit NDVI around the average (e.g. France, western Germany). Red areas indicate slightly less favourable conditions such as an anticipated start with NDVI below the average (e.g. Turkey and western Morocco).

In large parts of northern and central Europe, the **NDVI profiles** have entered into the senescence period. The NDVI values for the United Kingdom continue to exhibit values around the average. In East Anglia and Lincolnshire, they still remain clearly above the average (see **East Anglia** profile) allowing potential yield. Normal situations can be stated in France and Germany too. The NDVI profile for the Centre (France) had a normal start, followed by a slightly higher than usual maximum and a normal start of the senescence period. The good start of season in eastern Germany and western Poland was slightly diminished by a dry period. Thus, as shown in the profile of **Brandenburg-Nordost**, the NDVI approached average values. However, the NDVI profiles of Hungary, as for Del-Alfold, remain clearly above the average and the previous years. Hence, the yield expectations remain good. The favourable conditions and high NDVI maximum of Romania is accompanied by a strong drop in the first part of the senescence period. In the regions of Sud and Sud-Est particularly, this might lead to lower-than-expected yields earlier in the season (see profile for **Sud**).

Greece is already close to the end of the growing season. The profile for Thessalia is characterised by an anticipated start and a high maximum followed by a strong drop below the average. The latter was caused by a dry period in June with high temperatures affecting yield expectations. Italy is facing normal conditions. The profile of Emilia-Romagna

shows an anticipated start and NDVI approaching average values after the maximum. According to the NDVI profiles, the senescence period was initialised with average values for Spain and Portugal. The profile of Castilla y Leon displays an anticipated start and maximum, but average values afterwards.

