ISSN 1725-5813

EUROPEAN COMMISSION
Joint Research Centre

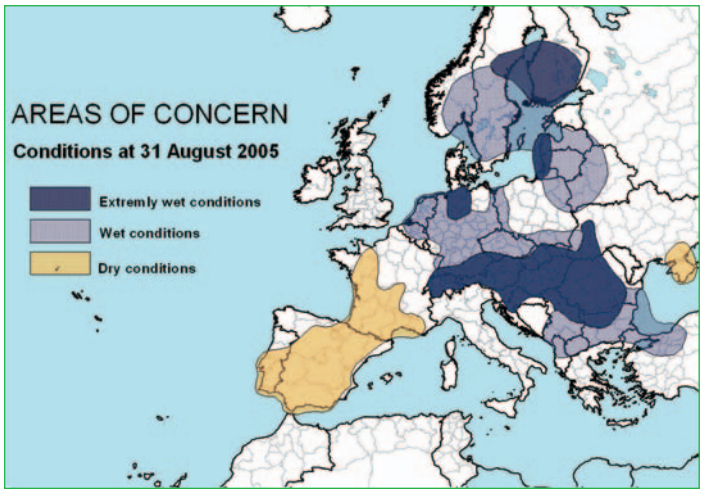
ipsc
Institute for the Protection and Security of the Citizen

MARS AGROMETEOROLOGICAL Monitoring Agriculture with Remote Sensing Bulletin

http://agrifish.jrc.it/marsstat/bulletin/2005.htm

Situation: 16 July to 31 August 2005, Vol. 13 No 5

Wet conditions spoiled harvests in central EU countries and the Balkans. Conditions in western areas are still dry and hot. The EU cereal yield figure is now foreseen at about 5.0 t/ha (close to – 10 % as compared to 2004)



MARS yield forecast at European level: 31 August 2005

Crops	EU-25 yield (t/ha)				
	2004	2005	Avg. 5 years	% 05/04	% 05/Avg.
Total cereals	5.5	**5.0**	*5.0*	– 9.5	*0.8*
Soft wheat	6.5	**6.0**	*5.8*	– 8.3	*2.2*
Durum wheat	3.0	**2.3**	*2.5*	– 24.5	*– 9.4*
Total wheat	5.9	**5.4**	*5.3*	– 8.7	*2.1*
Total barley	4.8	**4.2**	*4.3*	– 12.4	*– 3.3*
Grain maize	8.4	**7.9**	*7.9*	– 6.5	*0.6*
Other cereals (1)	3.7	**3.3**	*3.3*	– 10.2	*0.1*
Rapeseed	3.4	**3.3**	*2.9*	– 1.4	*15.0*
Potato	30.2	**29.4**	*27.2*	– 2.4	*8.2*
Sugar beet	56.1	**57.5**	*55.2*	2.4	*4.0*
Sunflower	1.9	**1.8**	*1.7*	– 2.6	*6.1*

(1) Sorghum, rye, maslin, oats, triticale, mixed grain other than maslin, millet, buckwheat.
Yield figures are rounded to 100 kg.

Sources:
2004 yields come from Eurostat Cronos.
2005 yields come from MARS crop yield forecasting system.

Contents

Climatic overview

Temperature: normal accumulation of active temperature

As a whole, during the period under consideration, the accumulation of active temperatures (Tbase 0° C) was close to normal (± 10 %). This was due to a relatively warmer-than-average July and a cooler August. In fact, in July, particularly in the Mediterranean basin, maximum temperatures of above 30 °C were much more frequent than usual. On the other hand, in August, in most EU countries the maximum temperatures were below the 30 °C threshold, with the only exception being the

MARS STAT yield forecasts at national level: 31 August 2005

CROPS	TOTAL WHEAT					SOFT WHEAT					DURUM WHEAT				
yield (t/ha)	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs
EU– 25	5.9	**5.4**	5.3	*– 8.7*	*2.1*	6.5	**6.0**	5.8	*– 8.3*	*2.2*	3.0	**2.3**	2.5	*– 24.5*	*– 9.4*
AT	5.9	**5.4**	5.0	*– 9.3*	*7.6*	6.0	**5.4**	5.1	*– 9.2*	*7.4*	5.0	**4.4**	3.9	*– 12.8*	*12.8*
BE	9.0	**8.7**	8.3	*– 3.1*	*4.3*	9.0	**8.7**	8.3	*– 3.1*	*4.3*	–	**–**	–	–	–
CY	–	**–**	–	–	–	–	**–**	–	–	–	–	**–**	–	–	–
CZ	5.8	**5.2**	4.7	*– 11.2*	*10.3*	5.8	**5.2**	4.7	*– 11.2*	*10.3*	–	**–**	–	–	–
DE	8.2	**7.6**	7.4	*– 7.5*	*2.8*	8.2	**7.6**	7.4	*– 7.5*	*2.8*	6.1	**5.5**	5.3	*– 10.5*	*3.9*
DK	7.1	**7.3**	7.2	*2.1*	*0.7*	7.1	**7.3**	7.2	*2.1*	*0.7*	–	**–**	–	–	–
EE	2.4	**1.6**	2.3	*– 36.5*	*– 29.7*	2.5	**1.6**	2.3	*– 36.5*	*– 29.7*	–	**–**	–	–	–
ES	3.3	**1.4**	2.9	*– 58.2*	*– 51.4*	3.5	**1.8**	3.2	*– 48.6*	*– 42.4*	3.0	**0.8**	2.4	*– 74.7*	*– 68.3*
FI	3.5	**3.3**	3.5	*– 5.0*	*– 4.5*	3.5	**3.3**	3.5	*– 5.0*	*– 4.5*	–	**–**	–	–	–
FR	7.6	**7.2**	7.0	*– 5.3*	*2.6*	7.8	**7.4**	7.2	*– 5.2*	*2.9*	5.1	**4.8**	4.7	*– 6.2*	*2.9*
GR	2.1	**2.0**	2.1	*– 5.4*	*– 2.6*	3.1	**2.7**	2.7	*– 12.3*	*0.5*	2.0	**1.9**	1.9	*– 3.5*	*– 0.3*
HU	5.1	**4.4**	3.8	*– 14.8*	*13.5*	5.1	**4.4**	3.8	*– 14.9*	*13.4*	4.5	**4.1**	3.4	*– 7.9*	*20.3*
IE	9.9	**9.4**	9.0	*– 4.6*	*4.2*	9.9	**9.4**	9.0	*– 4.6*	*4.2*	–	**–**	–	–	–
IT	3.7	**3.3**	3.1	*– 9.1*	*7.3*	5.3	**4.9**	4.7	*– 7.4*	*3.9*	3.1	**2.7**	2.5	*– 14.6*	*6.3*
LT	4.0	**3.3**	3.5	*– 17.2*	*– 5.5*	4.0	**3.3**	3.5	*– 17.2*	*– 5.5*	–	**–**	–	–	–
LU	6.8	**6.2**	6.0	*– 8.6*	*4.0*	6.8	**6.2**	6.0	*– 8.6*	*4.0*	–	**–**	–	–	–
LV	2.9	**3.1**	2.9	*4.4*	*5.7*	2.9	**3.1**	2.9	*4.4*	*5.7*	–	**–**	–	–	–
MT	–	**–**	–	–	–	–	**–**	4.0	–	–	–	**–**	–	–	–
NL	8.9	**8.4**	8.4	*– 5.6*	*0.7*	8.9	**8.4**	8.4	*– 5.6*	*0.7*	–	**–**	–	–	–
PL	4.3	**3.9**	3.7	*– 9.1*	*6.4*	4.3	**3.9**	3.7	*– 9.1*	*6.4*	–	**–**	–	–	–
PT	1.3	**0.8**	1.3	*– 36.1*	*– 34.4*	1.7	**0.9**	1.6	*– 50.1*	*– 47.2*	1.2	**0.5**	1.2	*– 56.5*	*– 54.5*
SE	6.0	**6.2**	5.9	*4.2*	*5.2*	6.0	**6.2**	5.9	*4.2*	*5.2*	–	**–**	–	–	–
SI	4.5	**4.4**	4.4	*– 3.5*	*0.6*	4.5	**4.4**	4.4	*– 3.5*	*0.6*	–	**–**	–	–	–
SK	4.8	**4.1**	3.8	*– 15.3*	*8.0*	4.8	**4.1**	3.8	*– 15.3*	*8.0*	–	**–**	–	–	–
UK	7.8	**7.9**	7.7	*0.2*	*1.9*	7.9	**7.9**	7.8	*0.2*	*1.9*	–	**–**	–	–	–

MARS STAT yield forecasts at national level: 31 August 2005

CROPS	TOTAL BARLEY					GRAIN MAIZE					RAPESEED				
yield (t/ha)	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs
EU– 25	4.8	**4.2**	4.3	*– 12.4*	*– 3.3*	8.4	**7.9**	7.9	*– 6.5*	*0.6*	3.4	**3.3**	2.9	*– 1.4*	*15.0*
AT	5.3	**4.9**	4.4	*– 7.7*	*9.4*	9.3	**9.2**	9.2	*– 0.9*	*0.0*	3.4	**2.9**	2.5	*– 16.9*	*13.5*
BE	7.9	**7.6**	7.2	*– 3.1*	*5.7*	12.2	**11.5**	11.3	*– 6.2*	*1.6*	–	**–**	–	–	–
CY	2.2	**2.1**	2.1	*– 5.6*	*0.0*	–	**–**	–	–	–	–	**–**	–	–	–
CZ	5.0	**4.3**	3.9	*– 13.0*	*10.6*	6.1	**7.7**	6.7	*25.5*	*15.1*	3.6	**3.0**	2.6	*– 16.1*	*17.5*
DE	6.6	**6.1**	5.9	*– 7.8*	*2.9*	9.1	**9.3**	8.8	*1.7*	*5.4*	4.1	**3.9**	3.4	*– 5.1*	*15.2*
DK	5.2	**5.4**	5.3	*4.8*	*2.9*	–	**–**	–	–	–	3.8	**3.6**	3.1	*– 6.2*	*17.1*
EE	2.3	**2.0**	2.1	*– 14.1*	*– 3.6*	–	**–**	–	–	–	1.4	**1.6**	1.5	*19.3*	*6.2*
ES	3.4	**1.9**	2.9	*– 42.8*	*– 33.1*	9.9	**9.1**	9.5	*– 8.9*	*– 4.8*	–	**–**	–	–	–
FI	3.2	**3.2**	3.3	*– 2.3*	*– 4.5*	–	**–**	–	–	–	1.1	**1.3**	1.3	*20.2*	*0.3*
FR	6.8	**6.5**	6.2	*– 3.9*	*4.6*	9.0	**8.0**	8.6	*– 11.0*	*– 6.5*	3.6	**3.5**	3.1	*– 0.8*	*13.9*
GR	2.7	**2.2**	2.2	*– 15.3*	*2.0*	8.8	**8.9**	8.9	*1.0*	*– 0.1*	–	**–**	–	–	–
HU	4.3	**3.7**	3.2	*– 12.8*	*17.6*	7.0	**6.5**	5.3	*– 7.5*	*22.4*	2.8	**2.9**	1.9	*4.2*	*55.1*
IE	7.1	**7.1**	6.7	*– 0.9*	*5.8*	–	**–**	–	–	–	–	**–**	–	–	–
IT	3.8	**3.7**	3.5	*– 3.6*	*4.1*	9.5	**8.8**	9.1	*– 7.2*	*– 3.2*	–	**–**	–	–	–
LT	2.9	**3.1**	2.6	*4.1*	*17.7*	–	**–**	–	–	–	2.0	**2.1**	1.7	*1.0*	*23.5*
LU	5.0	**5.1**	4.8	*2.4*	*6.3*	–	**–**	–	–	–	–	**–**	–	–	–
LV	–	**–**	–	–	–	–	**–**	–	–	–	1.9	**1.8**	1.6	*– 5.9*	*10.6*
MT	–	**–**	–	–	–	–	**–**	–	–	–	–	**–**	–	–	–
NL	6.1	**6.0**	6.0	*– 1.6*	*0.0*	11.8	**14.2**	12.0	*20.2*	*18.0*	–	**–**	–	–	–
PL	3.5	**3.1**	3.0	*– 13.4*	*0.6*	5.7	**6.0**	5.9	*4.4*	*1.6*	2.8	**2.6**	2.3	*– 6.7*	*13.5*
PT	1.5	**0.7**	1.4	*– 54.9*	*– 52.7*	5.9	**6.0**	5.8	*1.2*	*4.0*	–	**–**	–	–	–
SE	4.3	**4.3**	4.2	*– 0.4*	*2.0*	–	**–**	–	–	–	2.7	**2.9**	2.4	*5.4*	*17.3*
SI	3.9	**3.9**	3.5	*0.8*	*12.7*	7.8	**7.6**	6.5	*– 2.4*	*17.5*	–	**–**	–	–	–
SK	4.1	**3.7**	3.2	*– 11.5*	*15.6*	5.8	**5.4**	4.5	*– 7.4*	*20.3*	2.9	**2.6**	1.9	*– 10.4*	*33.6*
UK	5.8	**5.8**	5.7	*0.1*	*2.5*	–	**–**	–	–	–	2.8	**3.4**	3.0	*20.5*	*13.5*

NB:
(a) Countries with areas below 10 000 ha are not counted in.
(b) Yield figures are rounded to 100 kg.
(c) The national yield forecasts are based on agrometeorological model outputs and satellite indicators at NUTS 0 level in combination with time trend analysis.

Sources:
2004 yields come from Eurostat Cronos.
2005 yields come from MARS crop yield forecasting system.

MARS STAT yield forecasts at national level: 31 August 2005

CROPS	SUNFLOWER					SUGAR BEET					POTATO				
yield (t/ha)	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5yrs
EU– 25	1.9	**1.8**	1.7	*– 2.6*	*6.1*	56.1	**57.5**	55.2	*2.4*	*4.0*	30.2	**29.4**	27.2	*– 2.4*	*8.2*
AT	2.7	**2.7**	2.6	*2.0*	*4.4*	64.9	**68.6**	62.8	*5.8*	*9.3*	31.6	**30.6**	29.6	*– 3.1*	*3.6*
BE	–	–	–	–	–	70.8	**69.7**	67.2	*– 1.6*	*3.8*	48.4	**46.7**	44.7	*– 3.6*	*4.3*
CY	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CZ	2.2	**2.1**	2.2	*– 1.8*	*– 2.8*	50.3	**49.4**	47.3	*– 1.9*	*4.5*	24.0	**25.2**	21.7	*5.1*	*15.9*
DE	2.2	**2.4**	2.2	*6.5*	*8.2*	53.5	**57.5**	56.4	*7.5*	*2.0*	44.2	**43.6**	40.4	*– 1.3*	*7.9*
DK	–	–	–	–	–	58.0	**61.4**	57.3	*5.8*	*7.1*	39.8	**41.0**	40.1	*3.1*	*2.2*
EE	–	–	–	–	–	–	–	–	–	–	10.4	**14.3**	13.7	*37.8*	*3.9*
ES	1.1	**1.0**	1.0	*– 6.8*	*– 5.2*	62.6	**64.4**	65.0	*3.0*	*– 0.8*	28.3	**27.2**	26.9	*– 3.9*	*1.2*
FI	–	–	–	–	–	35.1	**34.6**	33.8	*– 1.4*	*2.4*	22.7	**23.8**	23.9	*4.9*	*– 0.2*
FR	2.4	**2.2**	2.4	*– 6.2*	*– 5.2*	80.2	**77.4**	73.7	*– 3.5*	*5.0*	45.4	**42.2**	41.0	*– 7.0*	*2.9*
GR	–	–	–	–	–	63.5	**61.5**	63.1	*– 3.1*	*– 2.6*	24.0	**24.4**	24.2	*1.7*	*0.9*
HU	2.5	**2.2**	2.0	*– 11.8*	*10.5*	5.3	**45.1**	32.0	*758.1*	*40.7*	25.3	**23.5**	21.9	*– 7.3*	*7.1*
IE	–	–	–	–	–	59.9	**55.2**	50.9	*– 7.7*	*8.5*	40.3	**39.7**	35.1	*– 1.4*	*13.1*
IT	2.2	**2.0**	2.0	*– 11.0*	*– 1.9*	45.6	**44.8**	44.3	*– 1.7*	*1.1*	25.2	**25.9**	24.1	*2.9*	*7.2*
LT	–	–	–	–	–	38.8	**40.3**	35.6	*3.7*	*13.1*	12.9	**14.6**	14.1	*13.1*	*3.6*
LU	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LV	–	–	–	–	–	36.6	**37.5**	35.9	*2.5*	*4.5*	12.9	**13.6**	13.3	*5.6*	*2.1*
MT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
NL	–	–	–	–	–	64.4	**60.3**	59.5	*– 6.4*	*1.3*	45.7	**45.9**	43.8	*0.4*	*4.7*
PL	–	–	–	–	–	42.8	**42.0**	40.7	*– 1.8*	*3.3*	19.3	**18.5**	18.4	*– 3.8*	*0.6*
PT	0.5	**0.4**	0.5	*– 19.1*	*– 25.4*	–	–	–	–	–	14.2	**14.4**	14.2	*1.9*	*1.4*
SE	–	–	–	–	–	48.0	**49.7**	48.3	*3.5*	*2.9*	30.9	**26.9**	29.3	*– 12.9*	*– 8.0*
SI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SK	2.2	**1.9**	1.9	*– 11.2*	*2.0*	45.4	**44.7**	39.7	*– 1.4*	*12.8*	15.7	**16.1**	15.7	*2.8*	*2.5*
UK	–	–	–	–	–	55.0	**58.6**	54.0	*6.6*	*8.6*	41.5	**43.6**	41.3	*5.1*	*Au*

NB:
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(b) Yield figures are rounded to 100 kg.
(c) The national yield forecasts are based on agrometeorological model outputs and satellite indicators at NUTS 0 level in combination with time trend analysis.

Sources:
2004 yields come from Eurostat Cronos.
2005 yields come from MARS crop yield forecasting system.

MARS STAT yield forecasts for Black Sea and Maghreb areas: 31 August 2005

CROPS	TOTAL WHEAT					TOTAL BARLEY					GRAIN MAIZE				
yield (t/ha)	2004	2005	%05/04	%05/04	%05/5yrs	2004	2005	%05/04	%05/04	%05/5yrs	2004	2005	%05/04	%05/04	%05/5yrs
Bulgaria	3.6	**3.1**	3.0	*– 12.7*	*3.3*	3.7	**2.1**	2.9	*– 41.8*	*– 27.7*	4.7	**4.5**	3.2	*– 4.8*	*38.7*
Romania	3.4	**2.4**	2.4	*– 29.0*	*0.0*	3.3	**2.0**	2.4	*– 40.2*	*– 17.8*	4.5	**4.5**	3.0	*0.2*	*48.6*
Turkey	2.2	**2.2**	2.1	*– 2.1*	*2.3*	2.6	**2.5**	2.3	*– 3.5*	*7.6*	4.3	**4.4**	4.3	*1.8*	*0.8*
Ukraine	3.7	**2.8**	2.7	*– 24.1*	*6.1*	2.5	**2.3**	2.2	*– 7.2*	*5.0*	3.8	**3.7**	3.4	*– 3.7*	*8.2*
Algeria	1.4	**1.3**	1.2	*– 13.1*	*4.7*	1.6	**1.2**	1.2	*– 20.3*	*2.4*	–	–	–	–	–
Morocco	1.0	**0.5**	1.2	*– 54.8*	*– 59.0*	1.2	**0.6**	0.8	*– 53.3*	*– 29.1*	–	–	–	–	–
Tunisia	1.4	**1.7**	1.7	*18.7*	*4.1*	0.7	**0.9**	0.9	*28.7*	*5.9*	–	–	–	–	–

NB:
(a) Countries with areas below 10 000 ha are not counted in.
(b) Yield figures are rounded to 100 kg.
(c) The national yield forecasts are based on agrometeorological model outputs and satellite indicators at NUTS 0 level in combination with time trend analysis.

Sources:
2004 yields come from Eurostat Cronos or FAO database.
2005 yields come from MARS crop yield forecasting system.

Mediterranean areas. In these areas, and especially in southern Spain and Portugal, in the first part of August, temperatures even above 41–42 °C were recorded.

In July, the relatively warmer temperatures were favourable for grain maturation for winter crops (in the higher latitude) and (except in the central and eastern areas of the EU) allowed for harvesting in favourable conditions (grain humidity). They also made for appropriate conditions for summer crop development. Only in the southern regions of the Mediterranean countries (such as Andalusia, Castile-La Mancha, Kentriki Macedonia and Turkey) was there heat stress during maize flowering/ripening.

At the beginning of August, the synoptic air circulation changed and a southward flux coming from the Arctic prevailed. Over the whole continent, except the extreme western and eastern areas (Portugal, west Spain, Turkey and east Ukraine) a rapid temperature reduction was recorded. In Germany, for example, in a few days the minimum temperatures dropped by 10 °C, reaching in some cases 8–9 °C, while the maximum passed from 30–31 °C to 16–17 °C.

Rainfall: persistent drought in the west EU region, flooding in the east

During the whole period, rain presented an anomalous and constant spatial configuration: scarce or absent rain in the western EU, abundant with reiterated local floods in the eastern EU. In effect in Spain and France, and in Romania, Bulgaria, Slovenia and Austria there occurred respectively two opposite conditions: severe rain deficit (> 50 %) and exceptional surplus (> 150–200 % and in some cases also over 300 %, equivalent to 500–600 mm) with large flooded areas and significant crop losses (Romania, Bulgaria).

In western and northern France, the persistent insufficient rain supply probably made conditions bad for the typically rain-fed summer crops (maize, sunflower, potato, etc.).

Very wet conditions (similar to 2002) were also recorded in Germany, Belgium,

the Netherlands, the Czech Republic and Slovakia where the rain was abundant and persistent and one of the highest frequencies of rainy days (daily rain > 5 mm) in the last 30 years was recorded. These conditions probably impeded harvesting and field activities.

Extremely intense rain (> 80 mm/day) occurred in July in Romania and Bulgaria with serious negative impacts (floods) especially in eastern districts. Again in August, in Switzerland, Austria, Slovenia, Hungary, Romania, Bulgaria (with further damages) and north Ukraine, intense rains were recorded.

Publication issue

The fifth printed *MARS Bulletin* for the 2004/05 agricultural campaign covers the period 16 July to 30 August agrometeorological conditions.

It makes a synthesis of the major issues pertaining to:

— temperature stresses
— water and drought stresses.

Previous related analyses available:

— Conditions at sowing — November 2004 (Vol. 12, No 6)
— Climatic updates — December 2004 to July 2005 (Nos 1–9)
— Winter crops conditions in January and February 2005 (Vol. 13, No 1)
— Winter and spring crops conditions in March and April 2005 (Vol. 13, No 2)
— Winter and spring crops conditions in April and May 2005 (Vol. 13, No 3)
— MARS press release on drought
— Winter and spring crops conditions in June and July (Vol. 13, No 4)

Contributions

The *MARS Bulletin* is an EC publication (JRC/IPSC Agriculture and Fisheries Unit — MARS-STAT Action)
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Data production: I. Cerrani (JRC/IPSC/Agrifish).
Alterra (NI)/Vito (BE)/Meteoconsult (NI) Consortium, Meteofrance (FR).
Printing and diffusion: Publications Office, Luxembourg.

***MARS Bulletin* reports, press release and climatic updates are available at:**
http://agrifish.jrc.it/marsstat/bulletin/2005.htm
ftp://agrifish.jrc.it/bulletin/Europe

MARS Agrometeorological web database is accessible at:
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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 1975–2004.
The CNDVI is an unmixed normalised vegetation index on the base of Corine land cover mainly for arable land or grassland.

Printed in Luxembourg

PRINTED ON WHITE CHLORINE-FREE PAPER

Next printed issue

Vol. 13, No 6, 2005: September–November analysis and final forecasts; available early November.

Highlights EU-25

From 15 July until the end of August, dry and hot conditions persisted in western areas while wet and cooler conditions were recorded in the central and eastern areas. The dry conditions in western areas continued to affect the summer crops including the irrigated varieties. The wet conditions in central and eastern areas occurred during winter/spring cereals harvest periods delaying and hindering operations. Humidity in these countries, however, was favourable for summer crop growing.

The impact on the European total cereal potential production is a further reduction of the average yield from 5.1 t/ha to 5.0 t/ha (now – 9.5 % compared to 2004 and + 0.8 compared to the average). According to the expected area reductions (expected between 1 % and 3 %) the final cereal harvest could range between 256 and 259 Mt, meaning a reduction of between 31 and 35 Mt compared to 2004 and of 1 to 5 Mt compared to the average.

These figures do not take into account the effect of the irrigation restrictions imposed locally in drought-hit areas which could further decrease the maize figures particularly and consequently the total cereal by a significant amount.

Highlights by region of interest

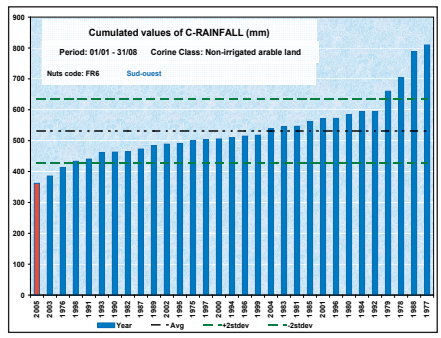
EU-25 countries

France: persistent drought in western and southern areas, more normal in central France and wet in the extreme north

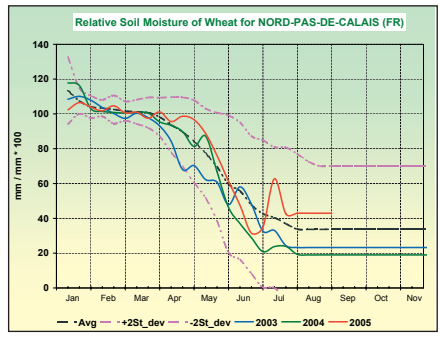
Compared to the last bulletin, the soft wheat forecast is decreased at 7.4 t/ha (– 5.2 % compared to 2004 and – 1.7 % compared to the last five-year average), and durum wheat is foreseen at 4.8 t/ha (– 6.2 % compared to 2004). Barley is stable at 6.5 t/ha (– 3.9 % compared to 2004), rape seed yield is stable at 3.5 t/ha (– 0.8 % compared to 2004). Due to the lack of rain, grain maize yield is revised significantly downward at 8.0 t/ha (– 11 % compared to 2004 and negative too if compared to the last five-year average: – 6.5 %).

In July and August, the temperatures were characterised by large oscillations around the average but, in general, within the normal range of variation. Consequently, as a whole, at the end of August, the cumulated active temperatures presented values close to the long-term average (LTA). In reality, both at the beginning of July and August, two intense temperature reductions occurred, immediately compensated by many temperature increases above the average. Anyway, the extreme high temperatures (> 30 °C) were present according to the expected frequency.

The real anomaly of the period was again the unseasonable and persistent scarcity of rainfall in all the western, south-western and southern regions, where in the two months only a few days of significant rain (> 5 mm) were recorded. These areas received on average 70–80 mm of rain (– 20–25 % compared to the long-term average) classifying the current year as the driest (cumulated rain from the beginning of the year) out of the last 30 years, with a rain deficit estimable at 150–180 mm (– 30–35 % of the long-term average). The reduced rain severely hit the typical summer rain-fed crops (maize, sugar beet, sunflower, etc.) compromising in some cases the whole yield and accelerating the cereals' senescence.



The opposite situation happened in the extreme northern regions (Champagne-Ardenne, Picardy, Nord/Pas-de-Calais) which received in this period an overall rainfall of 100–130 mm, equivalent to + 25–30 % compared to the LTA. Rain was particularly frequent in July (12–15 rainy days) but also in August (8–10 rainy days), impeding field activities (harvesting, field preparation, etc.).



Winter and spring cereals: In southern and western areas, the season finished early and the scarcity of rain at least permitted harvesting without weather problems. The opposite conditions occurred in the northern part of France. In the central part of the country, late varieties could benefit from the rain recorded at the beginning of July and they then received good conditions during harvesting.

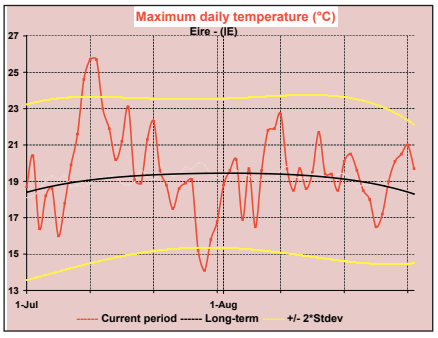
Rape seed: The crop cycle finished in July slightly earlier compared to the previous year. The harvesting occurred without particular difficulties, except in the northern areas.

Sunflower and maize: Maize, and even more so sunflower, is being affected by dry conditions in the western and south-western region. In the irrigated districts too, water restrictions probably affected crop potential. In central and western areas, critical but less serious conditions were present. In the northern districts, excess of water was possible.

UK and Republic of Ireland: good yields despite the slightly wet and cool weather in the UK, slightly warmer and rather dryer than average in Ireland

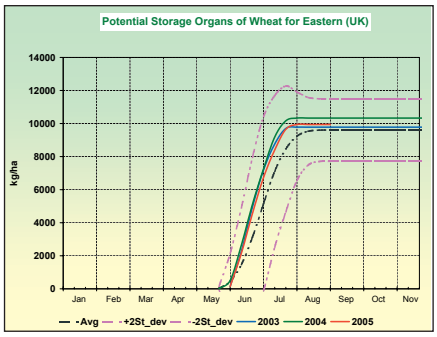
In England, very good potential remained. Only winter wheat (especially in the East Midlands area) was affected by the frequent rain in August. In Ireland, soft wheat yield is maintained at the previous forecast of 9.4 t/ha (– 4.6 % as compared to 2004), whilst in the UK it is revised slightly downward at 7.9 t/ha (+ 0.2 %). As regards barley, according to the good yield for spring varieties and the uncertainty for winter more affected by anticipated development, the yields are maintained for the UK (5.8 t/ha, + 0.1 %) and Ireland (7.0 t/ha, – 0.9 %). Rape seed is foreseen at 3.4 t/ha (+ 20.5 %) in the UK.

As a whole, in the period under consideration, the cumulated active temperatures (Tbase = 0°C) presented seasonal values and no significant limiting thermal stresses were recorded. Only in the middle of July were a few unseasonably high temperatures present: between 12 and 14 July, maximum temperatures exceeded 28 °C. But, in the following days, the maximum abruptly dropped even significantly below the seasonal average (20–22 °C) reaching 15 °C on 27 July.



The above mentioned thermal conditions did not influence the winter crops which maintained the advantage cumulated in the previous months. The grain-filling stage continued in July and maturity/harvest was reached slightly earlier than average. In August, summer crops in the UK were partially slowed by the relatively cool conditions recorded, whereas in Ireland the warmer conditions which occurred during the second dekad slightly accelerated the summer crop development.

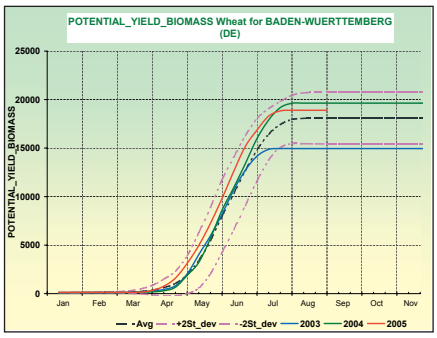
In the UK, both months were characterised by frequent and relatively abundant rain, which obliged the farmers to make use of the short dry periods which occurred (in mid-July and the first dekad of August) realising a rapid cereals harvest and foreseeing grain desiccation treatment. In effect, in the whole period, more than 20 rainy days occurred and the cumulated rains were 18–20 % over the seasonal values (110–120 mm). The frequency of the rain was also associated with a higher risk of fungus diseases (quality erosion).



In Ireland, in July, the rains were scarce and insufficient during the ripening/maturity stages of winter cereals (winter barley) and probably negatively impacted on very good potential yields reached until that moment. The rain arrived too late in the last dekad of July. For summer crops too, the reduced rains probably created water stress conditions. In August, the rain was mainly present during the second half of the month, leaving a good opportunity for soil preparation and very early sowing of winter crops (such as rape seed).

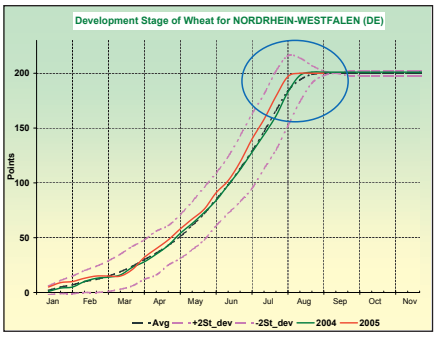
Germany: shortened cycles and worrying soil water contents

Yields are expected to be higher than average for wheat (7.56 t/ha; + 2.8 %) and barley (6.05 t/ha; + 2.9 %) although not completely satisfactory with respect to those recorded in 2004. Record 2004 yields are expected to be almost equalled for rapeseed (3.9 t/ha; + 15.2 % on the last five-year average) and outperformed for grain maize (9.25 t/ha; + 5.4 %).



The summer has been characterised by wet conditions all over the country. The precipitation distribution shows a particularly rainy July in the northern areas and daily, medium-intensity rainfall in the southern ones after the middle of August. Both situations could have hindered harvesting. Although most of the crops cultivated in Germany are not so sensitive to temperatures in this period (immediately before harvest), abrupt temperature falls were recorded around 8 July in the eastern regions.

Wheat: The advanced development with respect to the last five-year average and to 2004 has shortened the crop cycle and therefore the time dedicated to grain filling. In fact, current forecasts are lower than those of the last year, especially in the south-western regions and in the north-eastern ones. However, although the problems related to past water excesses are threatening harvests, yields are expected to be higher than the average.



Barley: The situation is similar to the one discussed for wheat but repercussions of advanced developments are clearly lower.

Rapeseed: Good yields (the enthusiastic forecasts of the last bulletins have been put into perspective) are expected compared to the last five-year average: almost reaching those from the record year 2004.

Maize: The crop has entered the ripening stage. Simulated yields are higher both than the average and than those recorded for 2004.

Austria: harvest threatened by excessive soil moisture

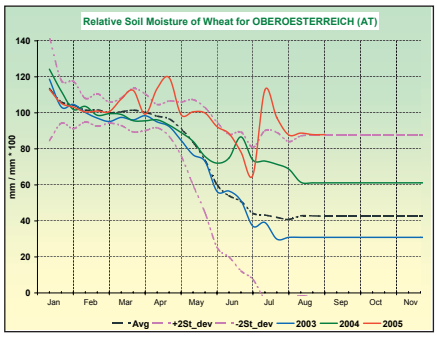
Forecasted yields are almost exactly between those recorded in 2004 and average ones for wheat (5.43 t/ha; – 9.2 % compared to 2004), barley (4.86 t/ha; – 7.7 %) and rapeseed (2.85 t/ha; – 16.9 %). Maize yields (9.17 t/ha) are almost equal to average and slightly lower than 2004 ones (– 0.9 %).

Problems for the harvest are expected because of the unusually rainy conditions in the second part of August, which occurred after a relatively dry summer.

Wheat: The shortening effect of temperatures on the crop cycle already discussed for Germany also occurred in Austria. Yields are expected to be lower than in 2004 and, in the extreme north-east, also lower than average.

Barley: Although the soil moisture situation is less worrying than for wheat, soil water contents are undoubtedly high. This is the main reason why simulated yields are lower than 2004.

Rapeseed: Yields are expected to be lower with respect to 2004 but higher than average in Upper Austria, and close to last year in the east.



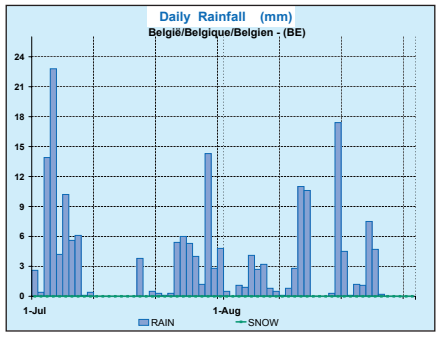
Maize: Simulated soil moisture values have been consistently higher than the norm while the crop has been entering the ripening phase. Simulated yields are similar to average ones although slightly lower than those recorded in 2004.

Belgium, the Netherlands and Luxembourg: cooler and wetter than seasonal

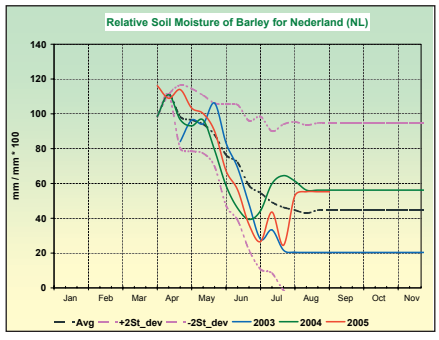
In Belgium, the current disappointing cereals campaign could be partially recovered by the suboptimal conditions recorded in July and August: the soft wheat yield is maintained at 8.7 t/ha (– 3.1 % compared to 2004), barley at 7.6 t/ha (– 3.1 %), maize at 11.5 t/ha (– 6.2 %).

In the Netherlands, due to the recovered soil water content (nonetheless excessive) the soft wheat yield is revised downward at 8.4 t/ha (– 5.6 % compared to 2004) and barley at 6.0 t/ha (– 1.6 %), while maize is revised upward at 14.2 t/ha (+ 20.2 %). Yields estimation in Luxembourg remained stable.

In July, the maximum temperatures were close to the average for the period, while the minimum were slightly higher than average, determining slightly higher GDD accumulation (Tbase=10 °C). In August, however, a significant reduction was recorded. On average, the daily mean temperatures were 2–4 °C below the seasonal value, but within the normal range of variation. The maximum remained around 20–22 °C and only occasionally climbed up to 24–26 °C. The winter crops were not influenced by these thermal conditions (still at the ripening/maturity stage in July and then at harvesting in August), whilst the summer crops reacted both to the favourable situations in July and then to the cooler temperatures.



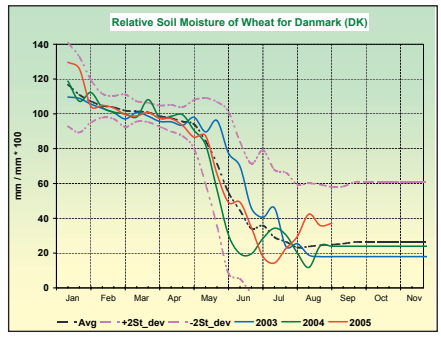
In the first part of July and then during most of August, cloudiness was higher than average and the cumulated solar radiation was significantly below the seasonal values, representing a possible real limiting factor for the active crops (for example, potato, sugar beet and green maize).



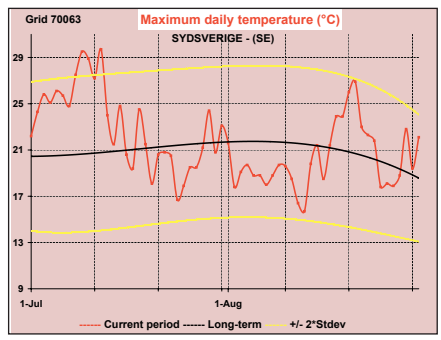
After a very dry June, July and August were characterised by frequent and abundant rain that permitted the partial recharging of the soil reservoirs during the very sensitive reproductive stages of development of the winter crops and spring cereals (grain filling/maturity). The cumulated values of the period (on average 200 mm) were 40–50 % above the seasonal mean values. In the Netherlands, the rain was present practically during the whole period except during the second dekad of July. The high frequency of the rainfall in August represented a serious obstacle for effective harvesting and field activities.

Denmark, Sweden and Finland: dry July, warmer and wetter than average August

Thanks to the re-establishment of favourable agrometeorological conditions, in Denmark stable (or slightly downward revised) yields estimations are possible: soft wheat 7.29 t/ha (+ 2.1 % compared to 2004), barley 5.4 t/ha (+ 4.8 %) and rape seed 3.6 t/ha (– 6.2 %). In Sweden, soft wheat is at 6.24 t/ha (+ 4.2 % compared to 2004). In Finland, the wetter conditions force a downward revision of the yield forecast for soft wheat 3.3 t/ha (– 5.0 % compared to 2004) and barley 3.2 t/ha (– 2.3 %).

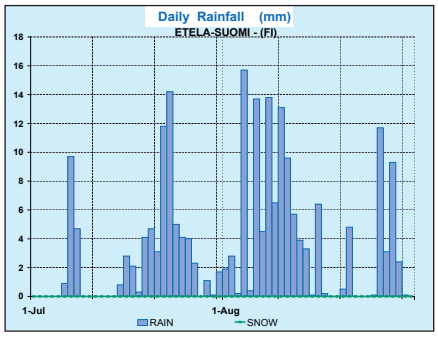


Following a relatively wet and cold June, July was characterised by high unseasonable temperatures (in the first dekad, locally the maximum climbed up to 29–30 °C and beyond, compared to 21–22 °C of the seasonal values) and abundant and very frequent rain. In Finland, the current period was the second wettest year, after 1978, out of the last 30 years: the cumulated rain was around 230–240 mm compared to 140–150 mm of the LTA (+ 70 %). Rainy days (daily rain >= 1 mm) were around 30–33 compared to 20–23 rainy days of the LTA. In Denmark, the cumulated rain was, on average, around 130–140 mm (+ 15 % compared to the LTA).



The temperatures at the beginning of August drastically dropped below the LTA and in Sweden even below the normal range of variation: between 7 and 10 August minimums around 4 °C were recorded. In the second half of August, the temperatures climbed again above the seasonal values and locally returned to around 27–28 °C.

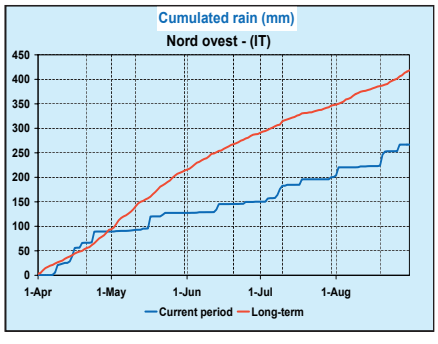
In correlation with the rain, in July the related reduced cloudiness increased the incident solar radiation (positive effect because of the grain-filling stage of cereals), and on the contrary in August, when it was significantly below the average values.



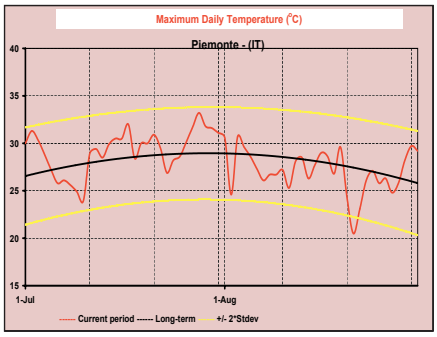
In Denmark and Sweden, the rain which occurred in the second part of August possibly delayed cereal harvesting activities and soil preparation for early sowing of the new campaign winter crops, and in Finland, the rain is likely to have downgraded the quality of maturing cereals (fungus diseases).

Italy: yield expectations for summer crops such as maize and sugar beet are reduced. Estimates improved, however, and this in spite of persisting drought conditions in the north-west of the country

The rain deficit continued in the north-west while the other regions of the country experienced a rather average season. For the yield of grain maize, the forecast is for a reduction on the five-year average (8.82 t/ha as opposed to 9.11 t/ha) while the other main crops (sugar beet, sunflower, etc.) are expected to remain on average levels.



Meteorological conditions in the north-west of the country remained negative for most summer crops. Water availability was also affected by the limited resources from the reservoirs and competing uses. For the north-east areas of the Padana Valley, where summer crops such as grain maize are also cultivated under rain-fed conditions, the climate was more favourable. The overall expected yield for grain maize is increased on the estimates made in July and it is now 8.82 t/ha (8.42 t/ha in July), with a reduction of – 3.2 % on the five-year average and a more significant one (– 7.2 %) on the 2004 yield. Expectations for sugar beet, which is mostly cultivated in the north east, are more favourable (61.5 t/ha) with a slight reduction on the five-year average (– 2.6 %).

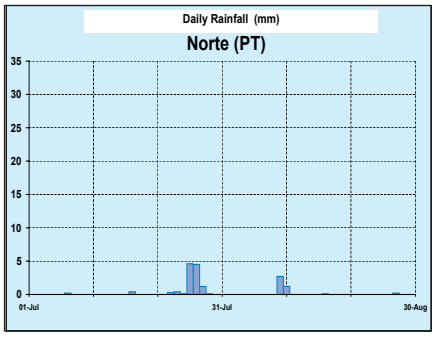


There was some rain in July and August but this was not enough to ease the overall deficit in the drought-affected areas. The cumulated rainfall in the north-west remained significantly below the LTA and is the fifth worst in the last 30 years. The relative soil moisture is converging towards the levels experienced in 2003. In central and southern Italy, cumulated rainfall remained on average levels in July and August and, although there is an overall water deficit, this does not reach the levels experienced in 2003.

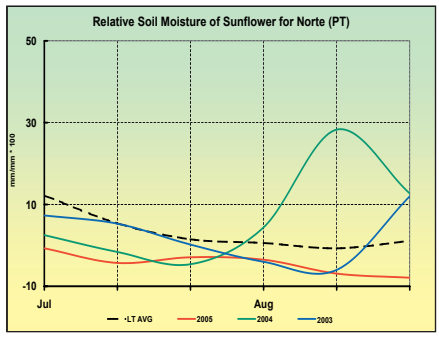
Maximum temperatures, which had kept above the seasonal averages for most of July, experienced a marked reduction during August due to diffuse cloud cover over most of the country.

Portugal: scarce precipitation in late July did not ease the drought that has been affecting the country since the beginning of the year. Negative effects are expected too for rain-fed summer crops

Due to the ensuing drought, total wheat reported a considerable reduction compared to 2004 (0.83 t/ha in 2005; 1.26 t/ha in 2004). A significant decrease is also expected for the yield of the main rain-fed summer crops (sunflower, legumes and potatoes).



The drought that has been affecting Portugal since the beginning of the year is ranked as the worst in the last 30 years and continues to produce its damaging effects in the northern and central regions. There was some rain between the end of July and the beginning of August but this was largely insufficient to compensate the deficit as testified by the estimated relative soil moisture budget.



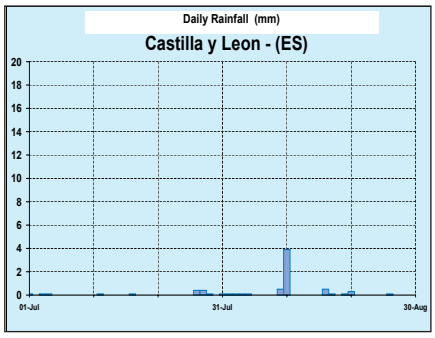
The yield of late-harvested winter cereals such as soft wheat was estimated at 0.83 t/ha in July. This figure is a significant reduction (– 50 %) on the 2004 yield. The effects of the drought are also noticeable on rain-fed spring crops (legumes, potatoes and sunflower). The estimated yield for sunflower is 0.4 t/ha, with a reduction of over 25 % on the five-year average (0.53 t/ha). After a warm beginning to the summer, maximum temperatures remained above the average seasonal levels through most of August with further damaging effects on agriculture.

Spain: drought continues to affect the centre and north-west of the country with significant effects on spring cereals and on rain-fed summer crops

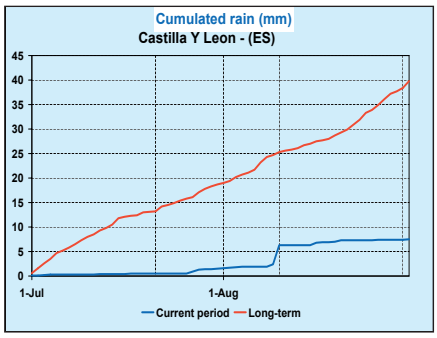
Spain is the third producer of barley in Europe and the yield for this crop in 2005 is estimated at 1.9 t/ha, with a decrease of over 33.0 % on the five-year average. Reductions are also expected for rain-fed crops such as sunflower, with an estimated yield of 0.98 t/ha (– 6.8 % in 2004).

The drought which began earlier in the year continued to concern the country into the summer. The worst-hit areas are the central regions (Castile-Leon, Castile-La Mancha and Extremadura), where the current season reports the lowest rainfall in the last 30 years. The north-west regions (Galicia and Asturias) are more or less on the same level of precipitation as the worst-hit areas, though the drought is less severe. This situation is likely to have a strong impact too on cereals such as barley, where both the winter and the spring crops were hit in the final stages of development, especially grain filling. There was some limited rain at the end of July and during August, but this was insufficient to recover the deficit. The expected yield for barley is 1.9 t/ha, with an

overall reduction of 33.1 % on average. For sunflower, the expected yield is 0.98 t/ha with a reduction of 6.8 % on 2004 and 5.2 % on the five-year average.



The rainfall deficit and its impact on the water reservoirs are expected to also affect irrigated crops such as grain maize and sugar beet. The expected yield for grain maize is 9.05 t/ha (with a 4.8 % reduction on the five-year average). Sugar beet, cultivated in the north-east, appears to be less affected with an estimated yield of 64.4 t/ha, fairly stable if compared to the five-year average of 64.9 t/ha.

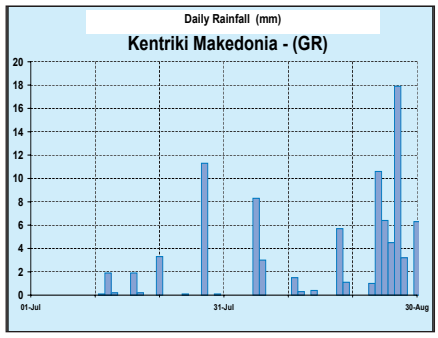


Maximum temperatures, which during July had fluctuated on the high side with respect to the LTA, maintained this trend after a short period of reduction between July and August, coinciding with the rain.

Greece: intense rain experienced at the beginning of summer continued in the north-east, reducing irrigation requirements for summer crops such as sugar beet. Late rain encourages positive expectations in the irrigated districts in the centre of Greece

The yields estimate for sugar beet in 2005 is 61.49 t/ha, lower than the LTA by 2.6 %. Irrigated crops such as grains maize, prevalent in the central areas of the country, will recover from a dry beginning of the season with yields on the same level as 2004 (8.88 t/ha vs. 8.89 t/ha).

Different climatic trends continued to distinguish the agricultural areas in the north-east from the north and the centre of the country. Exceptional rainfall continued through July and August in Macedonia. These precipitations were particularly relevant at the end of August and these conditions, testified by a saturated soil moisture budget, reduced the irrigation requirements.



Current expectations for sugar beet are for 61.49 t/ha, with a reduction on 2004 of – 3.1 % and on the five-year average of – 2.6 %. This decrease may be due to factors associated with the intense showers, such as reduced radiation in conditions of considerable cloud cover. A collateral effect could also have been a certain resurgence of the vegetative activity and a related reduction in the root volume.

The irrigated districts in the centre of the country (Thessaly), which had experienced a rain deficit in the earlier stages of the season, saw the situation improve with rain at the end of August. These conditions are reflected in improved yield expectations with respect to the July estimates. The estimated yield for grain maize is now 8.88 t/ha as compared to 8.66 t/ha in July. This is, however, slightly lower than in 2004 (8.89 t/ha).

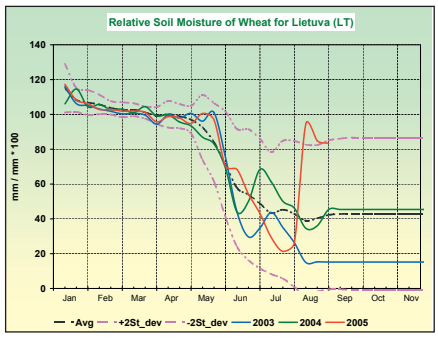
Maximum temperatures, which reported exceptional peaks through July, converged to average levels during August.

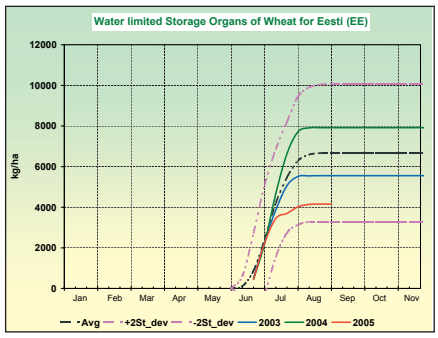
Estonia, Latvia and Lithuania: cereals grain filling reduced in Estonia; acceptable conditions for harvesting

Forecasted yields for Estonia are: wheat (total) 2.1 t/ha (– 16 % from yield of previous year), barley (total) 2 t/ha (– 14 %), rape seed 1.6t/ha (+ 19 %) and potato 14.3 t/ha (+ 38 %).

Forecasted yields for Latvia are: wheat (total) 3.1 t/ha (+ 4 % from yield of previous year), barley (total) 2 t/ha (– 12.5 %), rape seed 1.8 t/ha (– 6 %) and potato 13.6 t/ha (+ 6 %).

Forecasted yields for Lithuania are: wheat (total) 3.3 t/ha (– 17 % from yield of previous year), barley (total) 3.1 t/ha (+ 4 %), rape seed 2.1 t/ha (+ 1 %), potato 14.6 t/ha (+ 13 %).



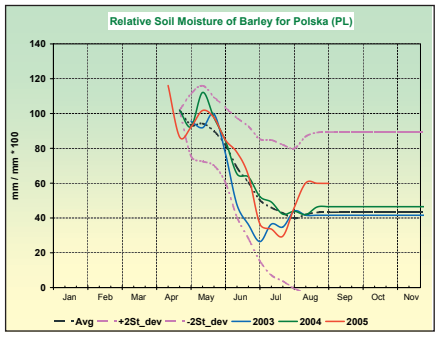


The thermal conditions were normal in the entire region, whilst rain was lower than usual for Estonia and above the LTA for Latvia and Lithuania. Increased amounts of precipitation were reported between 5 and 14 August for the whole area. Crop development was close to normal. In Estonia, the potential condition for straw cereals was close to normal but, due to the continuation of the previous dry period in the second dekad of July, the relative soil moisture dropped dramatically reducing the grain filling of wheat crops. Barley crops were less affected but the reduction of simulated water-limited yield is visible. In Latvia and Lithuania, the grain filling of all cereals crops occurred under more favourable conditions. During the dekad of maturity for spring barley, about one third of the agricultural areas of the Baltic areas received around 20 mm of precipitation which increased the moisture content of grains. The dekad after was dry so the harvesting was not significantly hampered. In eastern Latvia, the dekad before maturity of wheat was very wet (>100 mm) and that may be associated with lodging and decreasing of quality.

Poland: abundant rain came too late for obtaining an average yield for winter cereals but summer crops benefited from it

Forecasted yields for Poland are: wheat (total) 3.9 t/ha (– 9 % from yield of previ-

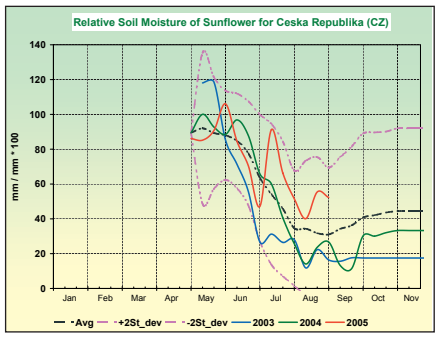
ous year), barley (total) 3.1 t/ha (– 13 %), grain maize 6 t/ha (+ 4 %), rape seed 2.6 t/ha (– 7 %), potato 18.5 t/ha (– 4 %).



The thermal conditions were within seasonal values. Rain started to rise above the LTA from the end of the second dekad of July and at end of August it was showing cumulated values above + 25 % than the LTA. The level of rainfall was higher in the border areas, although in central Poland it was close to the LTA. The maximum temperature reached 32 °C but only for one day. The leaf area index of the winter crops decreased more quickly than usual. The lower grain filling rate due to drier conditions in the first part of July could not be compensated by the following wetter period as it arrived too late. The final simulated yield of winter wheat was reduced at a level similar with that obtained in the year 2003. The simulated leaf area index and water limited storage organs for maize, sugar beet and potato were above the LTA level, especially as an effect from rain during this period. The simulated water limited the leaf area index and the weight of storage organs for sunflower were close to the normal level.

Czech Republic: very good yields expected for summer crops

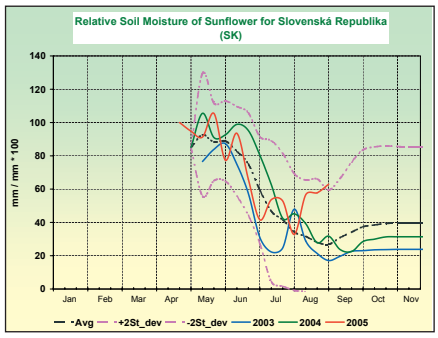
Forecasted yields for Czech Republic are: wheat (total) 5.2 t/ha (– 11 % from yield of previous year), barley (total) 4.3 t/ha (– 13 %), grain maize 7.7 t/ha (+ 26 %), sunflower 2.1 t/ha (– 2 %), rape seed 3 t/ha (– 16 %), potato 25.2 t/ha (+ 5 %)



Accumulation of the active temperatures (Tbase = 0 °C) was close to the LTA. The cumulated precipitation was close to the LTA until mid-August and, after that, raised above levels 25 % above average. During the last two weeks of August, the global radiation received was below average (– 5 %). During mid-July, the relative soil moisture increased until the upper 2-standard-deviations level. Although the potential weight of storage organs of winter cereals was below the normal level, the simulated yield for water-limited conditions was above the LTA. The harvesting dekad of winter wheat had only two days with rain below 1 mm but the maximum daily rainfall did not exceeded 5 mm, so we may assume that the impact on harvesting was low. The leaf area index and relative soil moisture for summer crops are clearly above the long-term level and the simulated yields are also good. Excessive soil humidity may enhance the disease risk and this could limit the yield increase.

Slovakia: good yields for all crops

Forecasted yields for Slovakia are: wheat (total) 4.1 t/ha (– 15 % from yield of previous year), barley (total) 3.7 t/ha (– 12 %), grain maize 5.4 t/ha (– 7 %), sunflower 1.9 t/ha (– 11 %), rape seed 2.6 t/ha (– 10 %), potato 16.1 t/ha (+ 3 %).

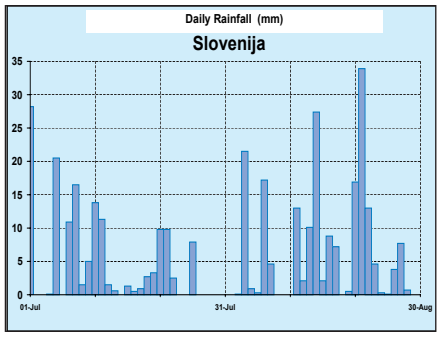


The thermal conditions were generally within the normal range. Rainfall received in the first part of this period (beginning of August) was under the LTA, but the rest of the period was wet (>+ 25 %) with the exception of northern Slovakia for the last dekad of August. After the first half of the period under consideration, the cumulated global solar radiation decreased below the LTA. The leaf area index of all simulated crops was above the LTA (excepting barley for which it was close to normal) and also the simulated water limited weight of storage organs was above the LTA. About one third of the agricultural areas experienced moderate precipitation during the dekad of maturity of winter wheat, rainy weather (> 70 mm) also occurred during the dekad after maturity of wheat but the area of concern was not so large. The dekad of maturity for barley was quite wet especially in eastern Slovakia. The relative soil moisture for summer crops was high and, at the end of August, it reached the upper limit of 2-standard-deviations.

Slovenia: abundant rains continued into the summer with some limiting effects on winter cereals but encouraging expectations for spring and summer crops

Favourable precipitation and mild temperatures encourage positive expectations for most spring and summer crops. The estimated yield for spring barley increases of over 12 % and an increase in yield is expected too for grain maize (+ 20 %). Soft wheat may have suffered from excessive rains during harvest and the 2005 estimate is 4.37 t/ha (– 3.5 % on 2004).

Precipitation, which had been abundant in spring, continued with this trend through July and August. Soft wheat, harvested in July throughout Slovenia, suffered from the precipitation during this delicate phase and the expected yield is 4.37 t/ha, with a reduction of 3.5 % on 2004. This is, in any case, stable on the LTA. A spring cereal such as barley instead took advantage from these conditions and the estimated yield is 3.93 t/ha with a 12.7 % increase on the LTA (3.49 t/ha). For grain maize, cultivated under rain-fed conditions, the expected yield stands at 7.79 t/ha, exceeding the five-year average by over 20 %, standing however on the same level of the 2004 harvest. Temperatures fluctuated around average during July but significantly decreased during August.



Hungary: good yields for winter crops but excessive soil moisture for spring crops

Forecasted yields for Hungary are: wheat (total) 4.4 t/ha (– 15 % from yield of previous year), barley (total) 3.7 t/ha (– 13 %), grain maize 6.5 t/ha (– 8 %), sunflower 2.2 t/ha

(– 12 %), rape seed 2.9t/ha (+ 4 %), potato 23.5 t/ha (– 7 %).

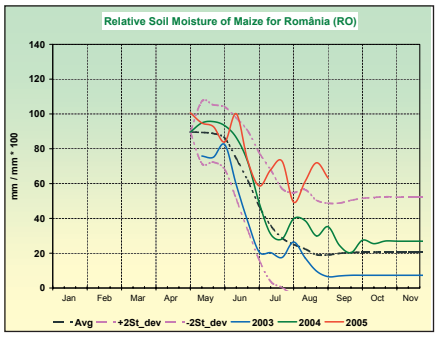
The thermal conditions were close to normal. Rainfalls received up until 3 August were below the LTA, but the rest of the period under consideration was wetter (>+ 25 %) than normal. From 15 August onwards, the cumulated global solar radiation decreased below the LTA.

The leaf area index of all simulated crops was above the LTA as well as the simulated water limited weight of storage organs and, in the case of maize and sunflower, the level of 2004 was exceeded. During the dekad of maturity of winter cereals, important precipitation was recorded (> 100 mm) in northern Hungary. The relative soil moisture for summer crops was very high and, at the end of August, it exceeded the upper limit of 2-standard-deviations.

Black Sea area

Romania: excessive soil moisture may also affect the summer crops but a drier period is forecasted

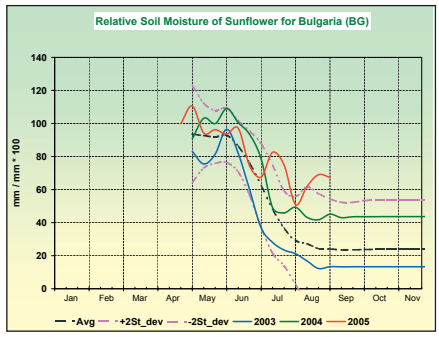
Yield forecasts are at 2.4 t/ha (– 30 % compared with the previous year record) for winter wheat, 1.9 t/ha (– 40 %) for barley, 4.5 t/ha (same as previous year) for maize and 1.3 t/ha (– 20 %) for sunflower.



The accumulation of active temperatures was slightly above the LTA, but the cumulated rainfall again became excessive from 5 August (>+ 25 % LTA). Intense rain (> 70 mm/days) occurred in south and northern Romania. Water-logging problems occurred in some areas. In spite of heavy rains, the cumulated global radiation was above the long-term level (+ 5 %). For all simulated crops, the development stage was normal. The simulations of weight of storage organs of winter crops could not reflect the negative influence of excessive and usual wet weather from this vegetation season. In north-eastern Romania (Moldavia), the week after maturity was more favourable than in the rest of country which experienced another rainy dekad (more than 100 mm in some southern areas). Relative soil moisture is excessive for summer crops too, but the good global solar radiation budget and the drier period forecasted keep open the possibility for good yields for maize and sunflower in the areas not affected directly by floods.

Bulgaria: unusually wet period continued

Yield forecasts are 3.1 t/ha (– 13 % compared with the previous year record) for wheat, 2.1 t/ha (– 42 %) for barley and 4.5 t/ha (– 5 % for grain maize)

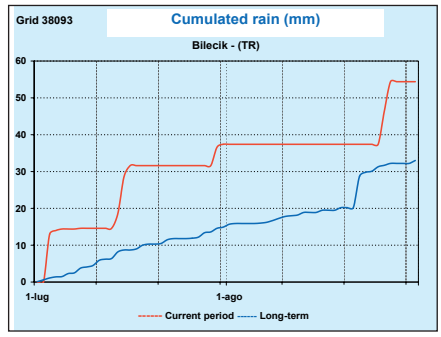


The accumulaion of active temperatures was in the normal range but the level of cumulated rainfall was very high (> 25 % LTA). The cumulated global radiation was above the long-term level (+ 10 %). The simulated wheat yield is below the LTA. The dekad after maturity was very rainy (>100 mm) in northern Bulgaria and harvesting activities were hampered in this area. The development stage of summer crops was close to normal and the simulated weights of storage organs of these crops are above the LTA level. The relative soil moisture is showing values higher than 2-standard-deviations above the LTA.

Turkey: abundant rain during the summer in the north-west which, in some instances, may influence the outcome of summer crops. A short dry spell during July favoured the harvest of winter cereals in the central highlands

Abundant rain in June over the central highlands was followed by a dry July during harvest. These conditions favoured a positive outcome for wheat of 2.23 t/ha, (+ 4.2 % on the five-year average). Wet conditions in the north-west of the country may result in limiting the yield of summer crops such as grain maize.

Rain, which had started falling in June following a dry spring, continued into the summer and there were significant peaks at the start of August. These rainfalls were particularly relevant in the north-west and had a decreasing trend moving towards the south-east of the country. In the Euphrates basin, to the east, cumulated rainfall actually remained slightly below the seasonal averages.



The agricultural areas in the central highlands are characterised by mild temperatures and are used for winter cereals which are harvested in late June and July. Yield expectations in these areas were not positive at the end of June due to some excessive rain which had followed a rather dry spring. Overall, conditions improved during July and dry weather was reported during the harvest period with favourable effects on the final yield. The estimated outcome for wheat is 2.23 t/ha with an increase on the five-year average (2.14 t/ha). Summer crops, both rain-fed and irrigated, are to be found in the north and north-western regions of the country and the yield expectations for these are for the achievement of average levels in yield due to the favourable weather. Some problems may, however, come from reduced radiation due to the elevated cloud cover. Grain maize is expected to yield 4.36 t/ha, with a 0.8 % increase on the five-year average (4.33 t/ha) and 1.8 % on 2004 (4.29 t/ha). Cotton crops in the centre and east are also expected to be positive.

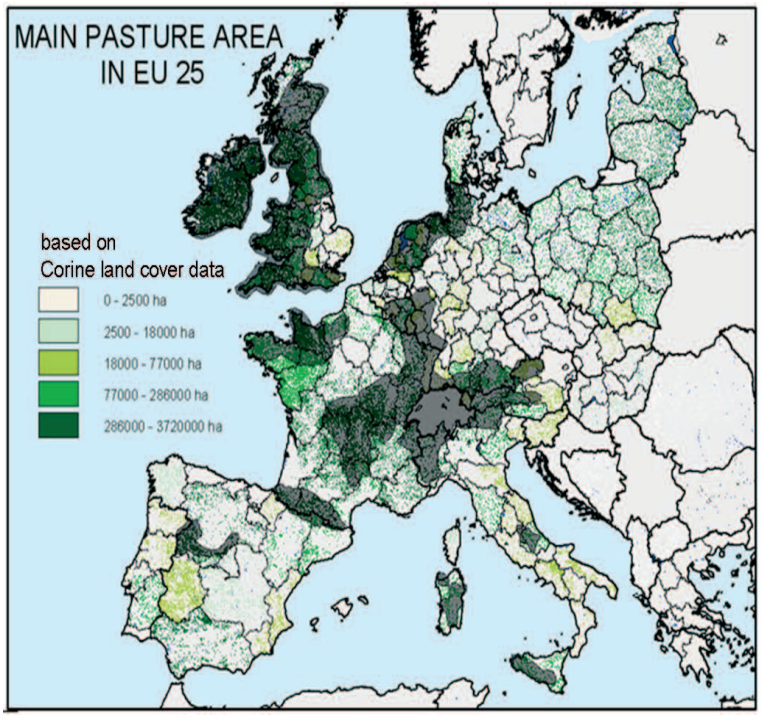
Maximum temperatures fluctuated strongly through the month of July over most of the country, but then stabilised on average levels during August.

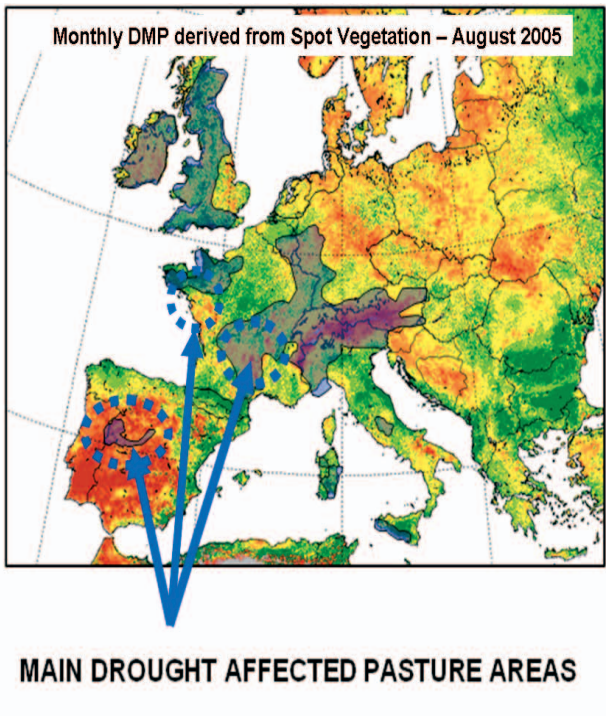
Ukraine: good yields for winter wheat

The forecasts for Ukraine are: 2.8 t/ha (+ 6 % from the yield of previous year), 2.3 t/ha (+ 5 %) for barley and 3.7 t/ha (+ 8.2) for maize.

Cumulated active temperatures were close to normal level. The south-western and central parts of the country were wetter than usual (>+ 25%) and the rest of the country was drier than normal, especially in the south-east.

Development of winter wheat was normal, while barley crops were in a slight anticipa-





tion. Simulations for both crops for water limited yields are above the LTA with the exception of Crimea where several unusual dry periods reduced the yield level. Around the maturity of winter wheat, some rainfalls occurred in the centre of the country but they did not exceed 30 mm/dekad and harvesting activities were not hampered. Grain filling of maize crops under non-irrigated conditions is close to normal and for sunflower there is the prospective for a good yield.

Eastern countries

Belarus: wet in west, dry in east

The forecasted yield for wheat is 2.3 t/ha (– 16 % from previous year).

For this country too, the thermal conditions were close to normal. The western half of Belarus received abundant rains (>+ 25 % LTA), while the eastern areas were drier or close to normal. The soil moisture for cereal winter crops was excessive (in the second dekad of August the upper 2-standard-deviation level was reached). The weight of storage organs of summer crops grown under water-limited conditions climbed above the LTA and soil water resources available for these crops are at a long-term average level.

Russia: favourable conditions for spring crop harvesting and summer crop development

The period under analysis is the time for spring crop harvesting, and summer crop development in all regions of European Russia.

The air temperature during August 2005 was close to normal, but 1–2 degrees higher than the previous year, especially in the first half of August. It was not extreme for summer crop development and spring crop harvesting.

The amount of rain was lower than the previous year in the northern half of European Russia, and close and slightly higher comparing with the previous year in other regions. As a result, soil moisture content at the beginning of September 2005 was close to normal, excluding northern regions of European Russia where it was lower than normal and lower than in the previous year.

Analysis of remote sensing data and results of crop growth simulation demonstrates that the situation is close to the previous year with good yield.

The meteorological conditions were optimal for spring crop harvesting. The yield of spring grain crops seems to be close to normal.

The meteorological conditions for summer crops in August 2005 were good in almost all regions, except the northern region of Russia, where a low amount of precipitation will affect crop development. This will lead to a decrease of summer crop yield in this region, especially potato yield. It will be decreased too in some regions of western Russia, but that is due to a surplus of precipitation in previous months. The yield of other summer crops is likely to be good and close to the previous year.

PASTURE MONITORING

EU-25

A positive season is continuing in most of the pasture and grassland areas of north and central Europe. Drought is affecting the south-west which is experiencing a significant reduction of production (– 25 % on the long-term average). The situation seems, however, to be improving due to diffuse rainfall in August.

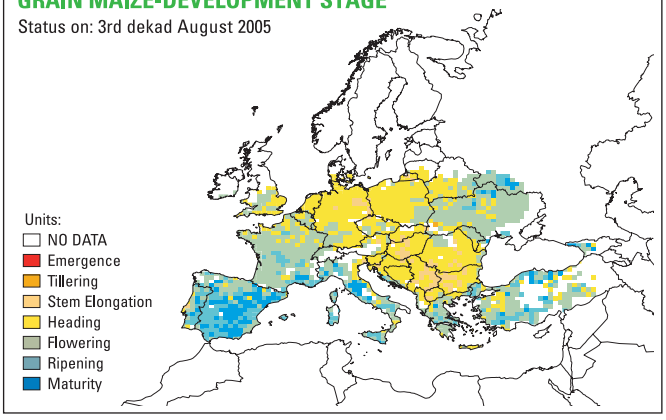
While most of Europe is still experiencing a positive development of the pasture and forage season, the drought that has been affecting the south-west is causing some alarm for the overall production. In some of these areas the level of dry matter productivity (DMP, measured in kg-DM/ha/day) is 25 % below the long-term average and, locally, even 50 % lower than in 2004. The regions of most concern are located in western and central France (Auvergne and, partially, Rhone-Alpes) and in Spain, in western Extremadura.

Productivity of pastures over the whole Alpine range also appears to be suffering; in these areas, however, the low levels of productivity may be more related to excessive rain, low temperatures and low radiation due to enduring cloud cover. In the areas stricken by the drought, it is still not possible to formulate an accurate estimation of affected surfaces and of the decrease in production. There has been some rainfall during August and these events could reduce the effects of the drought and produce a recovery.

Crop maps — 31 August 2005

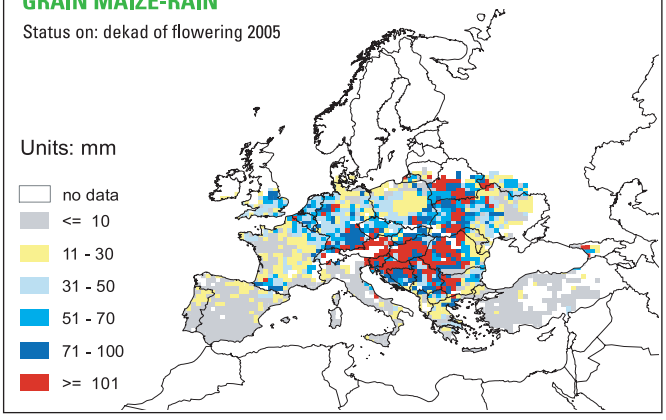
GRAIN MAIZE-DEVELOPMENT STAGE

Status on: 3rd dekad August 2005



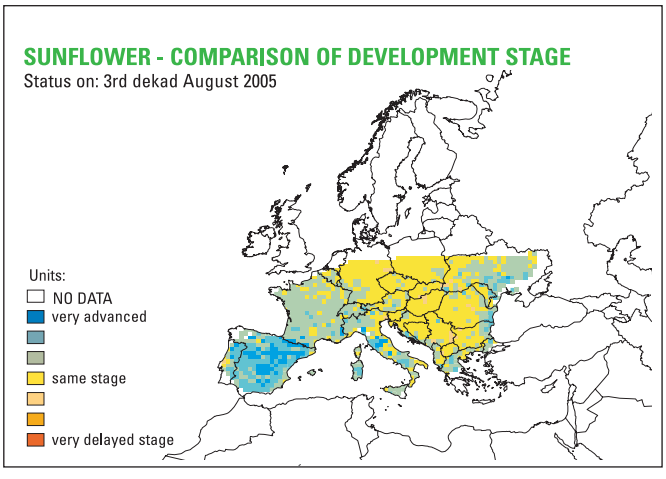
GRAIN MAIZE-RAIN

Status on: dekad of flowering 2005



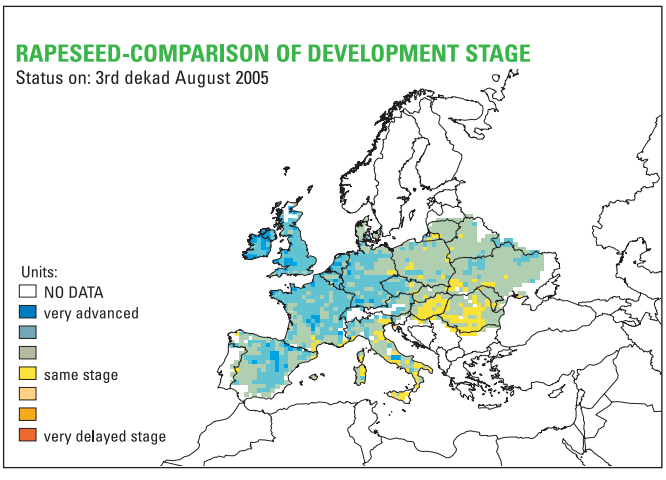
SUNFLOWER - COMPARISON OF DEVELOPMENT STAGE

Status on: 3rd dekad August 2005



RAPESEED-COMPARISON OF DEVELOPMENT STAGE

Status on: 3rd dekad August 2005



SUNFLOWER-RAIN

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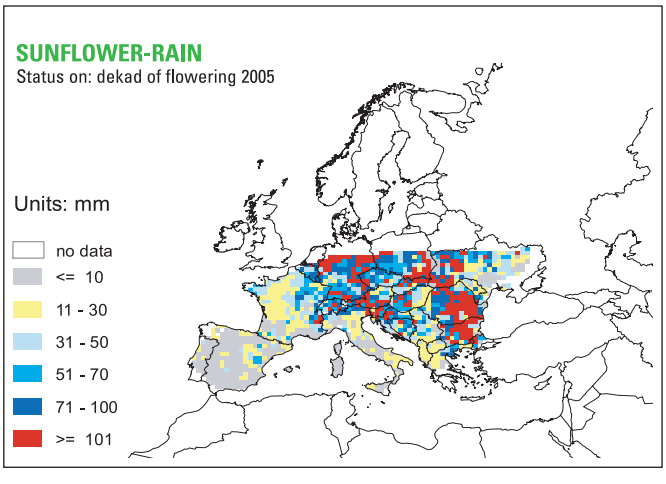

RAPESEED-RAIN

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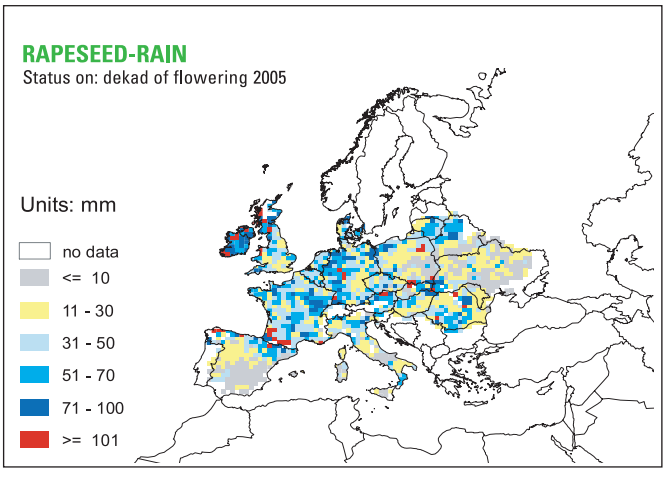
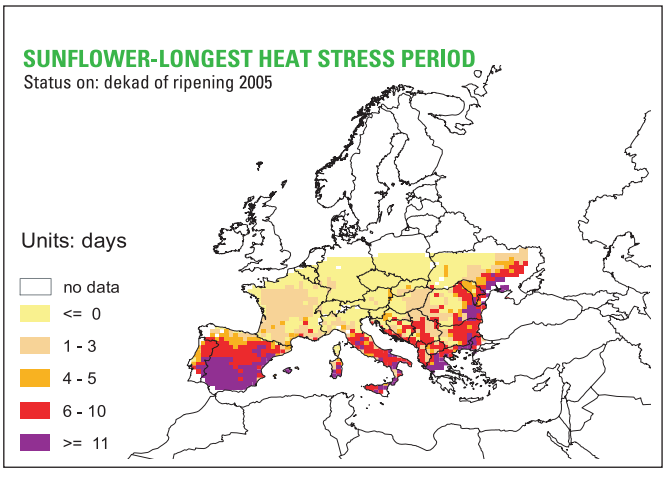


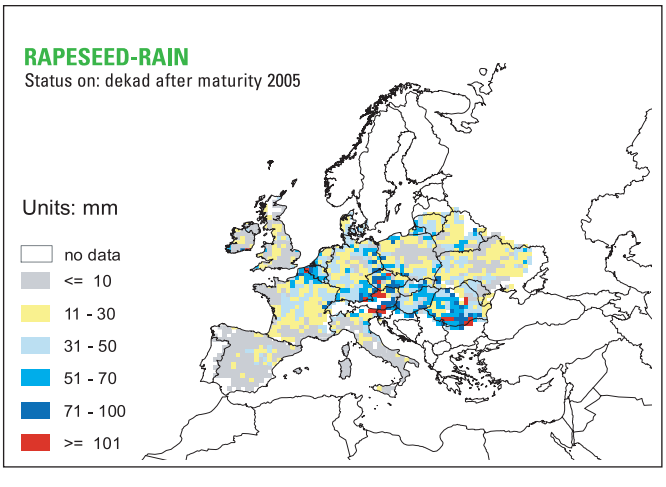
SUNFLOWER-LONGEST HEAT STRESS PERIOD

Status on: dekad of ripening 2005



RAPESEED-RAIN

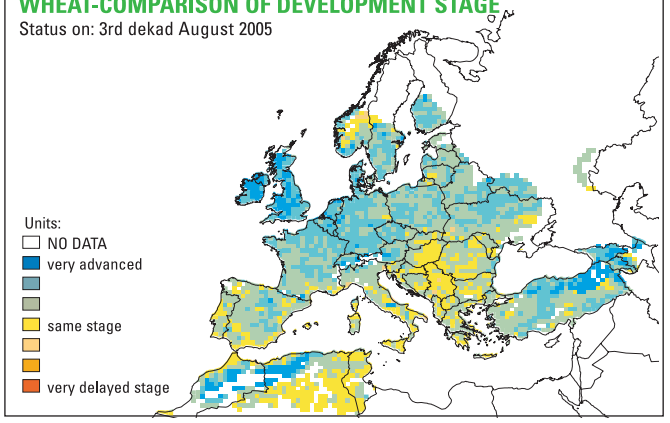
Status on: dekad after maturity 2005



Crop maps — 31 August 2005

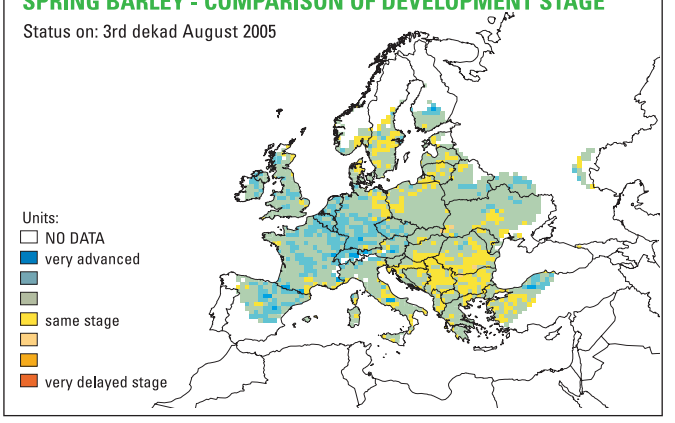
WHEAT-COMPARISON OF DEVELOPMENT STAGE

Status on: 3rd dekad August 2005



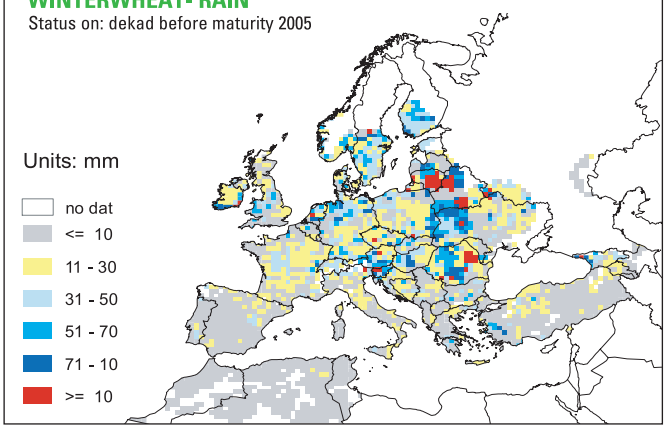
SPRING BARLEY - COMPARISON OF DEVELOPMENT STAGE

Status on: 3rd dekad August 2005



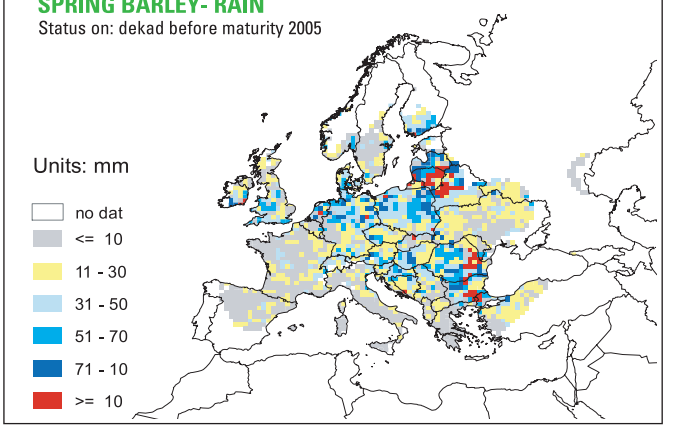
WINTERWHEAT- RAIN

Status on: dekad before maturity 2005



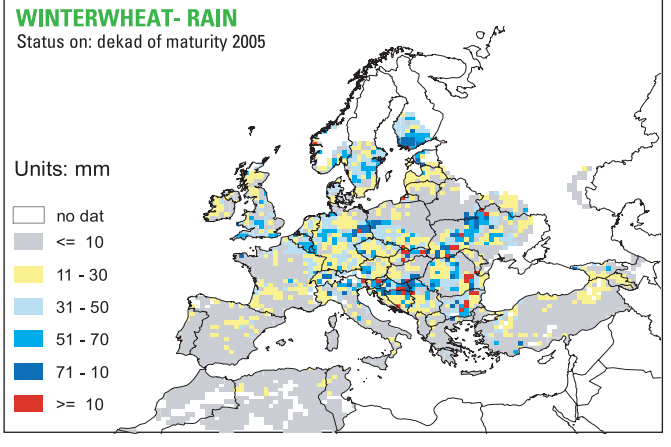
SPRING BARLEY- RAIN

Status on: dekad before maturity 2005



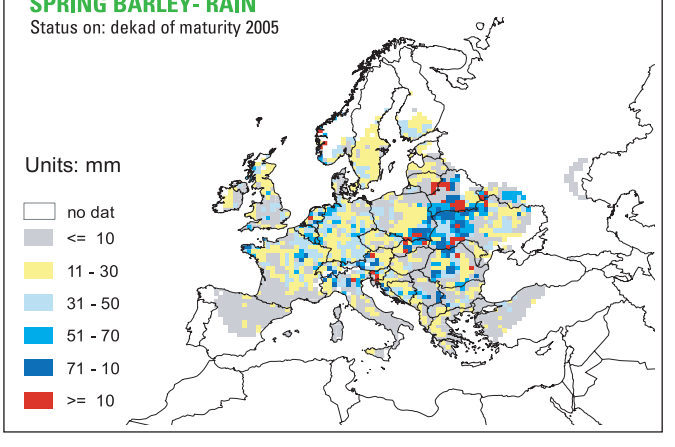
WINTERWHEAT- RAIN

Status on: dekad of maturity 2005



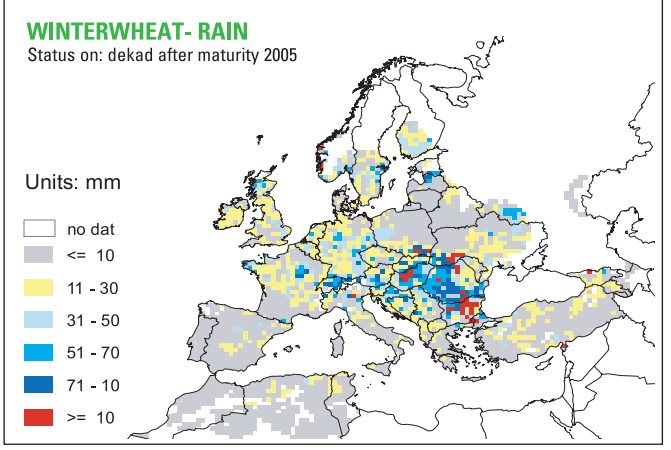
SPRING BARLEY- RAIN

Status on: dekad of maturity 2005



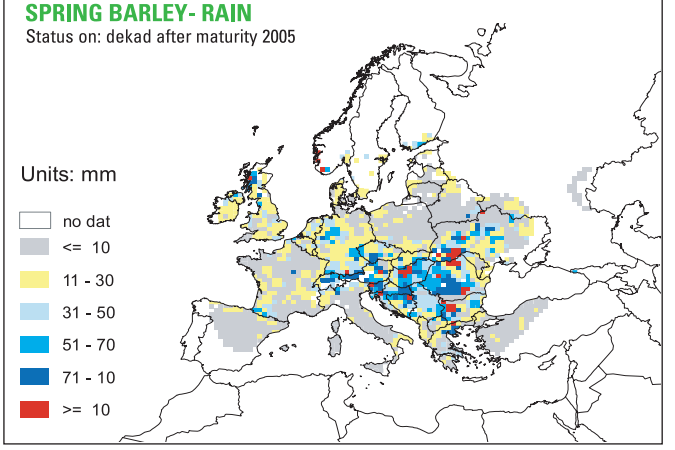
WINTERWHEAT- RAIN

Status on: dekad after maturity 2005

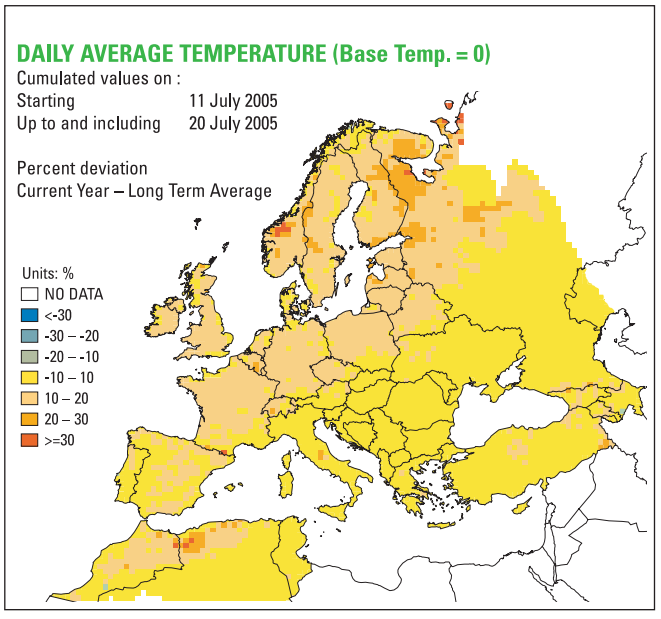


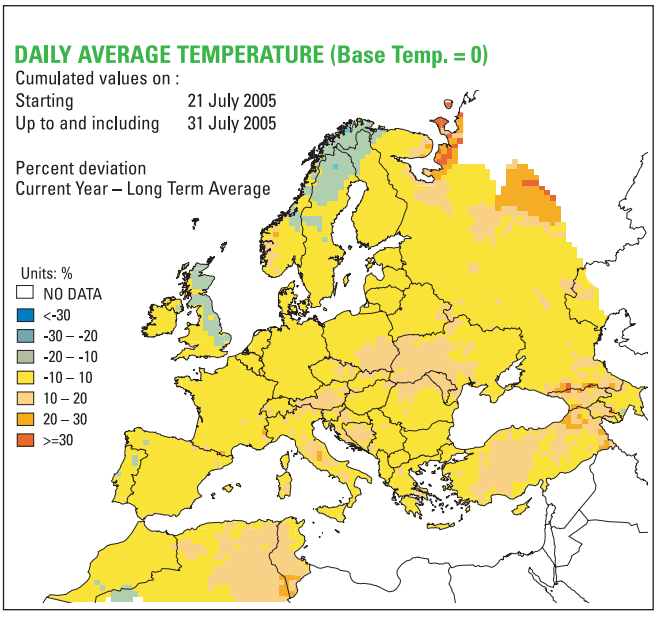
SPRING BARLEY- RAIN

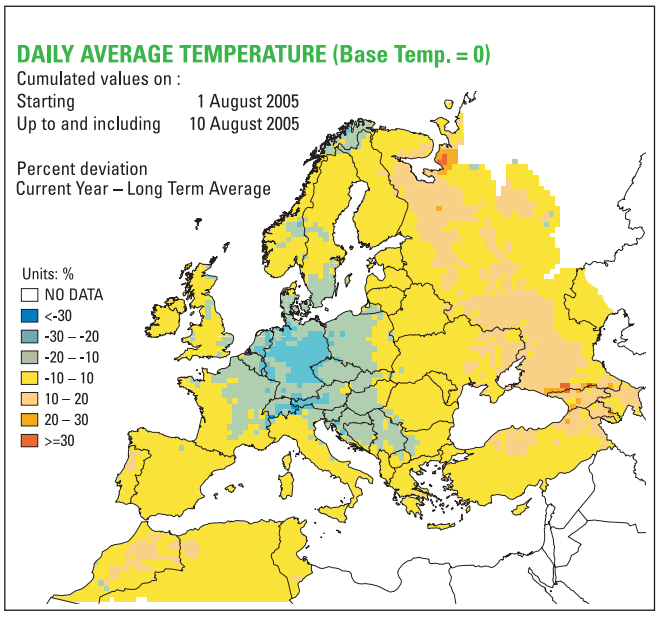
Status on: dekad after maturity 2005

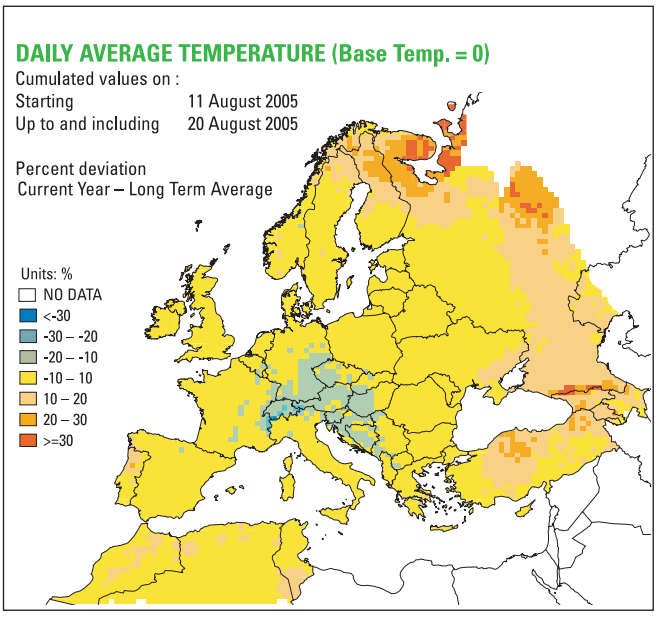


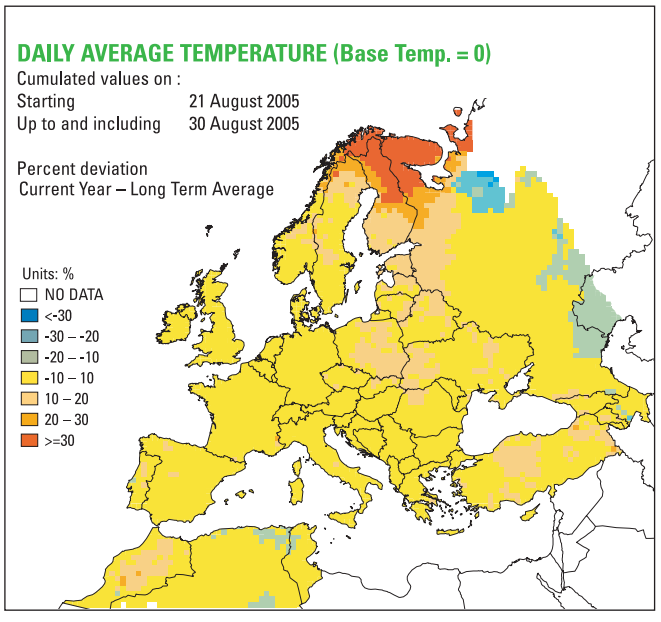
Ten-day temperature adn rain maps — 11 July to 31 August 2005

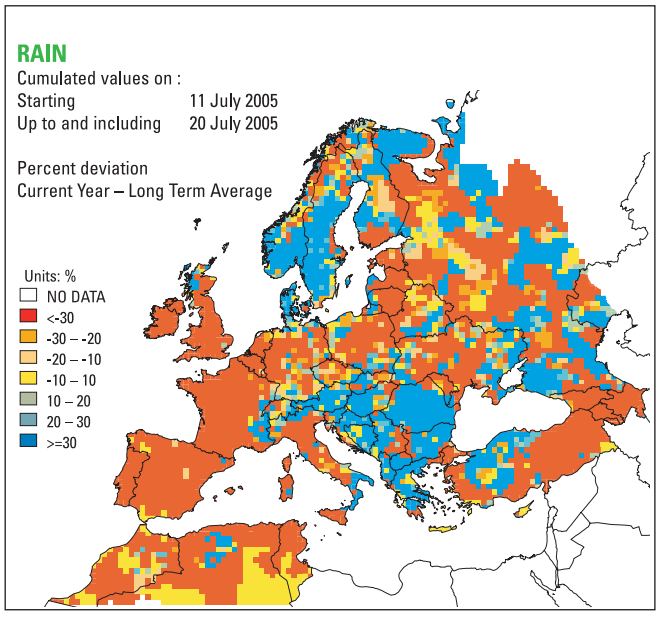




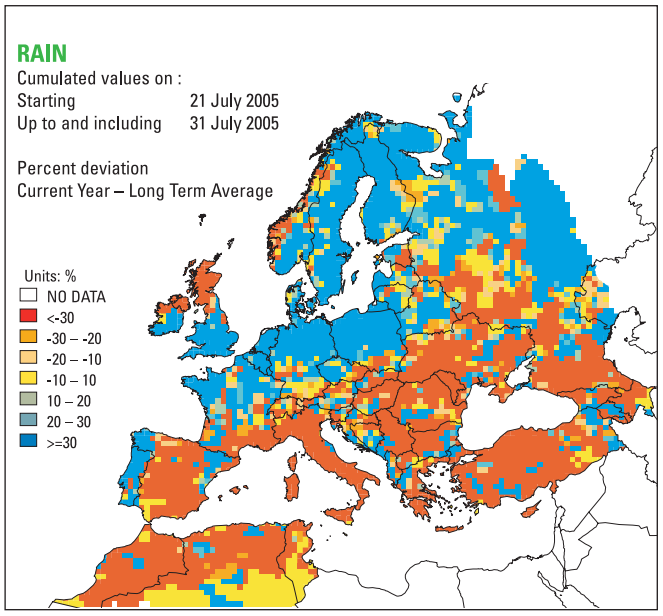


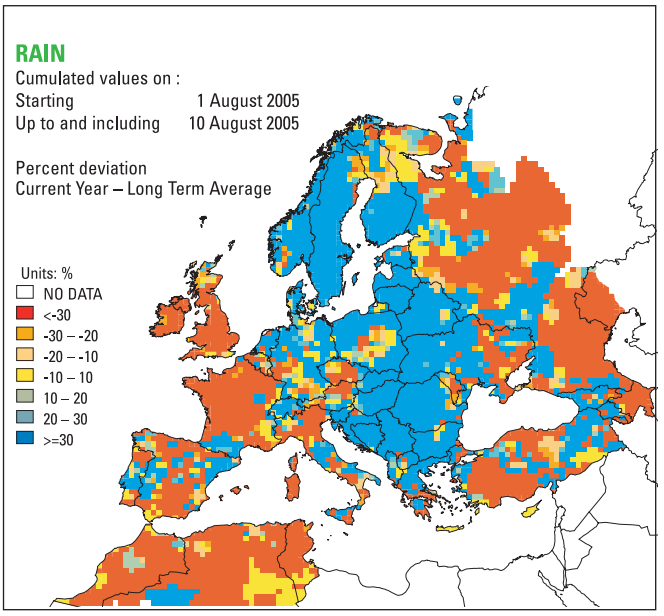


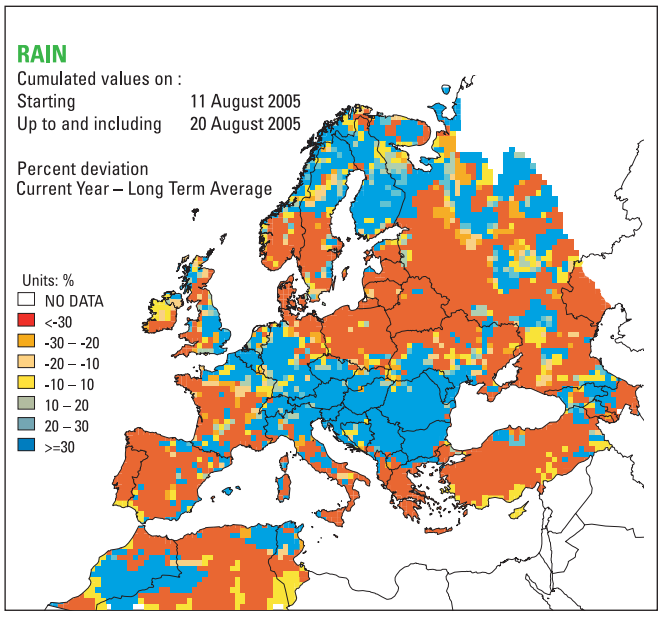


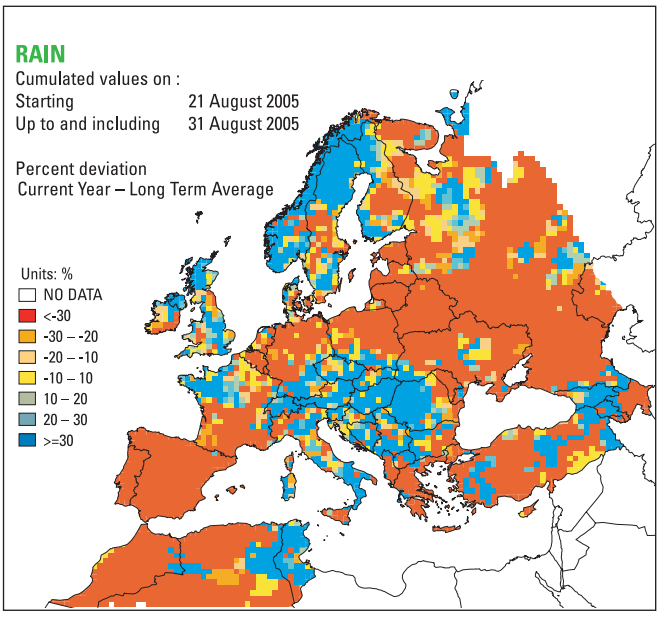


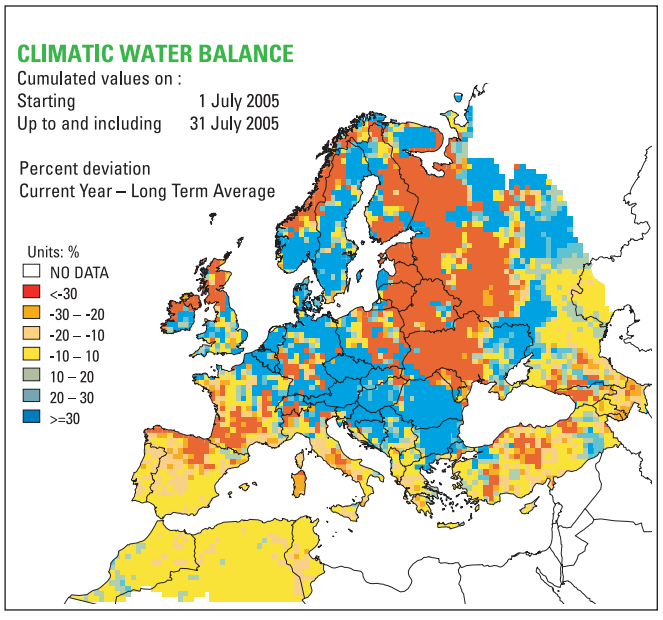
Ten-day temperature and rain maps — 11 July to 31 August 2005

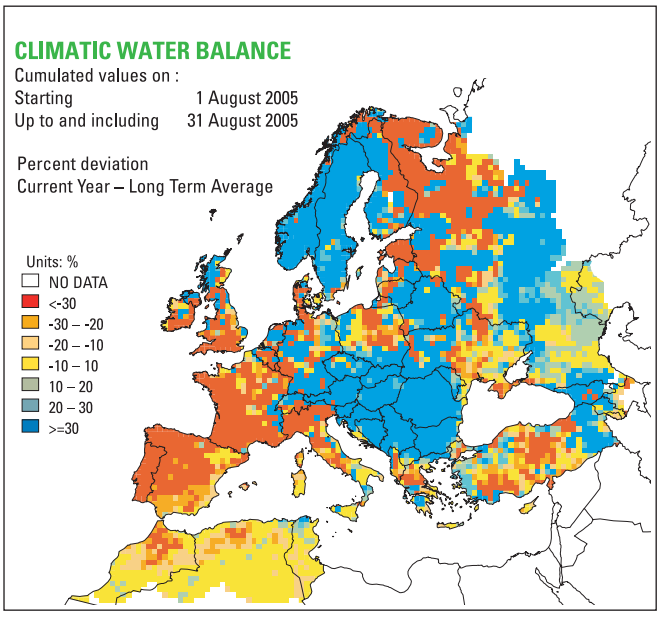








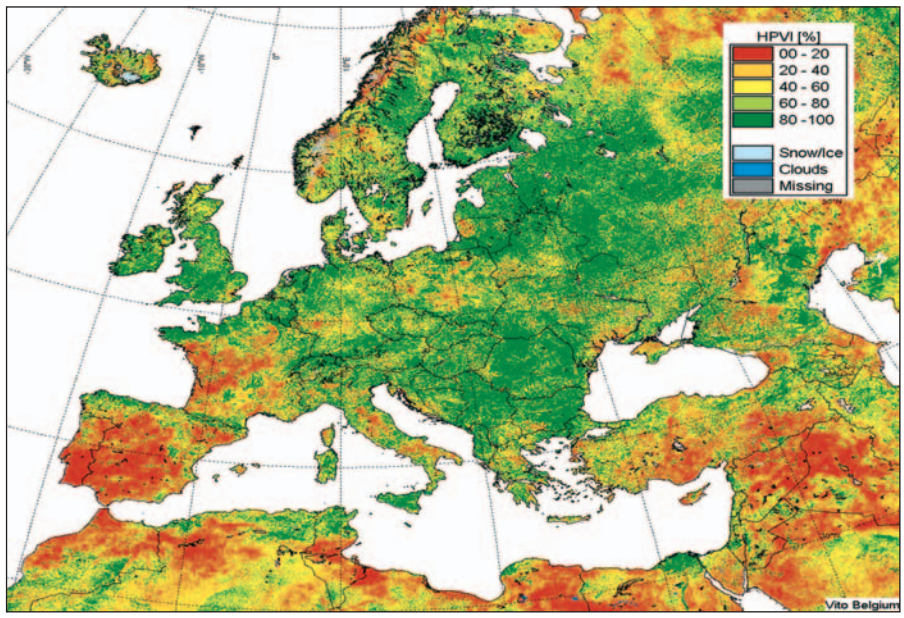




Spot-vegetation satellite analysis

Map highlights: drought effects beside Spain and Portugal now also visible for France

The monthly map for August visualises the historical probability that such an NDVI value actually occurs. As a consequence, areas affected by the drought such as Spain and Portugal appear in red. Western and south-western France, which is affected by dry conditions too, and where the less optimal conditions have not influenced the derived NDVI values at an earlier stage, is now also showing low values indicating hampered vegetation and decreased yield expectations.



VPI, vegetation productivity index, August 2005

CNDVI profile highlights: Drought profiles for Spain and Portugal, weak senescence phase for France, normal growth cycle for large parts of remaining Europe

In **France**, the NDVI profile of the **Poitou-Charrentes** finished the vegetation cycle at a low level. Whereas the biomass development for the first half of the cycle was above the average, a weak senescence phase concluded the vegetation cycle clearly below the average and not optimal for the best yield elaboration.

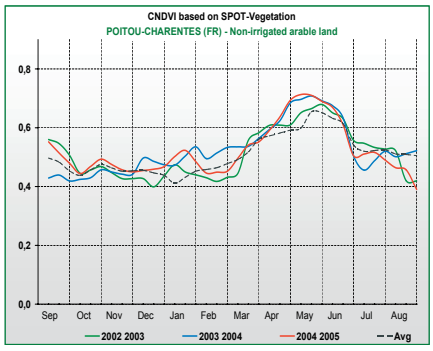
In **Castile-La Mancha (Spain)** the vegetation development is below the average since the start of the season and never reaching the yield potential of the average vegetation cycle. Yield expectations derived from the crop growth cycle are low.

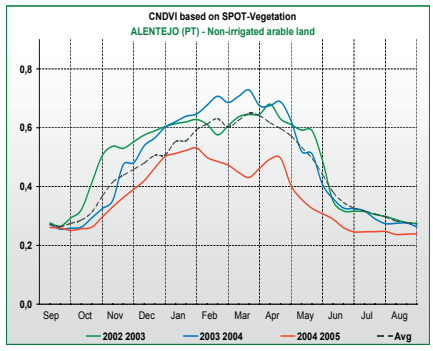
Another profile extremely affected by the drought can be extracted for **Alentejo (Portugal)**. No sizeable biomass accumulation can be observed and consequently the crop cycle finished at a very low level tantamount to low yield expectations.

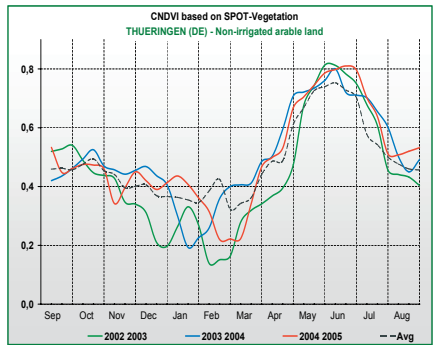
In **Puglia (Italy)**, the crops have less potential than last year. Vegetation development was hampered in February and March, a slightly prematurely senescence phase was characterised by a sharp and fast decline and the vegetation cycle ended with values below the average.

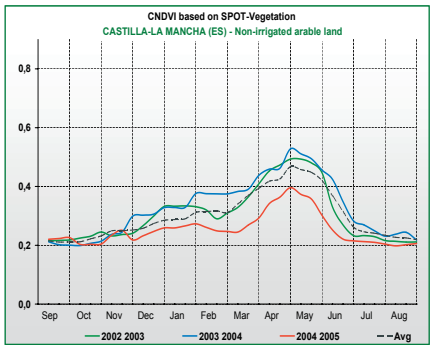
For **Germany**, the profile of **Thüringen** represents a typical German vegetation cycle for this year with good expectations and optimal vegetation development in the first half of the cycle as well as a timely start of the maturity stage, but a shortening in the senescence phase can be observed diminishing yield expectations.

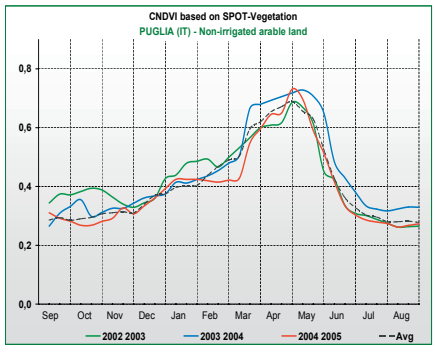
In **Mazowieckie, Poland**, the profile can be considered as good from April onwards with high NDVI values at the peak clearly above the previous years. The senescence phase records a drop below the average less optimal for the maturity stage and diminishing yield expectations.

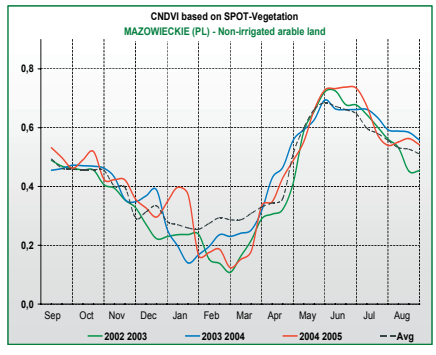












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