ISSN 1725-5813

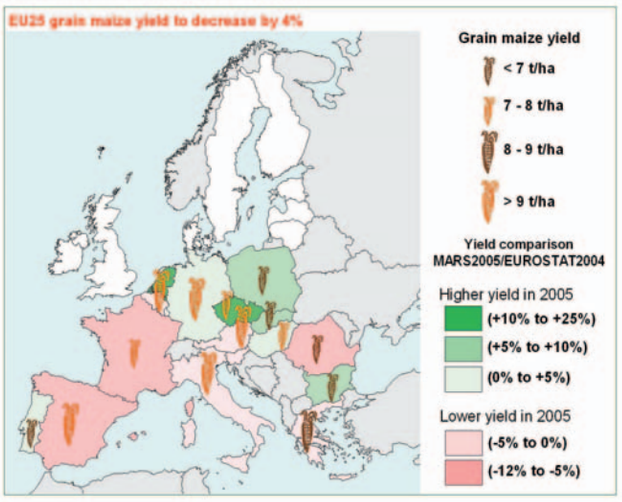
EUROPEAN COMMISSION
Joint Research Centre

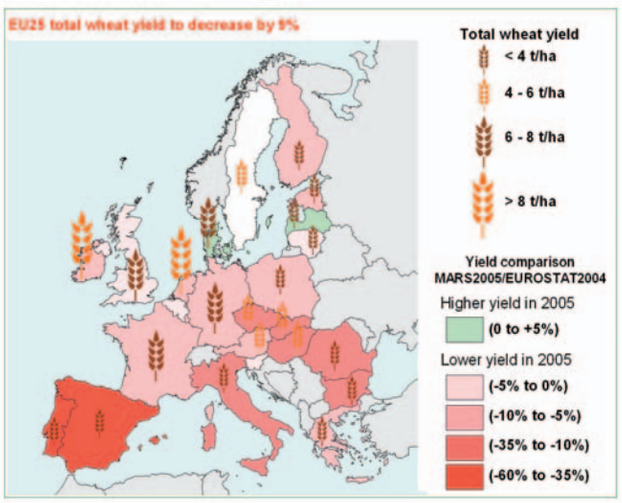
Institute for the Protection and Security of the Citizen

MARS AGROMETEOROLOGICAL Monitoring Agriculture with Remote Sensing Bulletin

http://agrifish.jrc.it/marsstat/bulletins/2005.htm Situation: 1 September to 10 November 2005, Vol. 13, No 6

'Strong cereal yield reduction compared to 2004'





MARS STAT yield forecasts at European level: 30 October 2005

Crops	EU-25 yield (t/ha)				
	2004	2005	Avg. 5 years	% 05/04	% 05/Avg.
Total cereals	5.5	**5.0**	***5.0***	-9.3	*1.1*
Soft wheat	6.5	**6.0**	***5.8***	-8.0	*2.5*
Durum wheat	3.0	**2.3**	***2.5***	-24.5	*-9.1*
Total wheat	5.9	**5.4**	***5.3***	-8.8	*2.1*
Total barley	4.8	**4.2**	***4.3***	-12.5	*-3.3*
Grain maize	8.4	**8.1**	***7.9***	-4.3	*3.0*
Other cereals (1)	3.7	**3.3**	***3.3***	-10.0	*0.3*
Rapeseed	3.4	**3.3**	***2.9***	-4.4	*12.3*
Sunflower	1.9	**1.8**	***1.8***	-4.0	*4.5*
Potato	30.3	**30.6**	***27.7***	1.0	*10.7*
Sugar beet	59.4	**58.1**	***55.8***	-2.1	*4.0*

(1) Sorghum, rye, maslin, oats, triticale, mixed grain other than maslin, millet, buckwheat.

Sources: see page 2.

Contents

Highlights for 2004/05

The EU final cereal yield figure for the 2004/05 campaign is foreseen at 5.0 t/ha (about – 9.3 % compared to 2004 and close to the average). Some wetness in the early autumn raised crop expectations for summer crops. The first sowings of new winter cereals were made under favourable conditions.

While dry and hot conditions spoiled crop yields in most western areas, excessive wetness reduced the full potential in central and eastern areas. The dry conditions continued to affect summer crops until late summer when a partial recovery occurred.

The impact on the European total cereal potential production is a reduction of the average yield from 5.5 t/ha in 2004 to 5.0 t/ha (now – 9.3 %). This figure is, however, close to the average. According to the expected area reductions, the final cereal harvest is expected to range between 256 Mt and 259 Mt, which is a reduction of at least 31 Mt compared to 2004, and of at least 1 Mt compared to the average.

A. Synthesis of the 2004/05 campaign

EU-25 crop yield forecasts: 30 October 2005

Crops	Total wheat					Soft wheat					Durum wheat				
yield (t/ha)	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs
EU-25	5.9	5.4	5.3	-8.8	2.1	6.5	6.0	5.8	-8.0	2.5	3.0	2.3	2.5	-24.6	-9.2
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	**5.0**	4.7	-14.0	6.8	5.8	**5.0**	4.7	-14.0	6.8	-	**-**	-	-	-
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	2.5	**2.3**	2.3	-9.3	0.4	2.5	**2.3**	2.3	-9.3	0.4	-	**-**	-	-	-
ES	3.3	**1.4**	2.9	-58.0	-51.2	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	2.5	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	-9.9	6.4	5.3	**4.9**	4.7	-7.4	3.9	3.1	**2.7**	2.5	-14.6	6.3
LT	4.0	**3.9**	3.5	-2.7	11.1	4.0	**3.9**	3.5	-2.7	11.1	-	**-**	-	-	-
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	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
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	1.6	**0.8**	1.3	-46.7	-36.8	1.7	**0.9**	1.6	-49.1	-47.0	1.5	**0.5**	1.2	-65.7	-56.9
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	-13.7	10.0	4.8	**4.1**	3.8	-13.7	10.0	-	**-**	-	-	-
UK	7.9	**7.9**	7.8	0.2	1.9	7.9	**7.9**	7.8	0.2	1.9	-	**-**	-	-	-

Crops	Total barley					Grain maize					Rapeseed				
yield (t/ha)	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs
EU-25	4.8	**4.2**	4.3	-12.5	-3.3	8.4	**8.1**	7.9	-4.3	3.0	3.4	**3.3**	2.9	-4.4	12.3
AT	5.3	4.7	4.4	-10.0	6.7	9.3	9.2	9.2	-0.9	0.0	3.4	2.9	2.5	-16.9	13.5
BE	7.9	**7.4**	7.2	-6.5	2.1	12.2	**11.9**	11.3	-2.3	5.9	-	**-**	-	-	-
CY	2.2	**2.1**	2.1	-5.6	0.0	-	**-**	-	-	-	-	**-**	-	-	-
CZ	5.0	**4.3**	3.9	-13.7	9.7	6.1	**7.7**	6.7	25.5	15.1	3.6	**2.9**	2.6	-19.2	13.2
DE	6.6	**6.1**	5.9	-7.8	2.9	9.1	**9.3**	8.8	1.7	5.4	4.1	**3.8**	3.4	-6.6	13.4
DK	5.2	**5.4**	5.3	5.0	3.1	-	**-**	-	-	-	3.8	**3.6**	3.1	-6.2	17.1
EE	2.3	**2.0**	2.1	-15.5	-5.2	-	**-**	-	-	-	1.4	**1.6**	1.5	19.3	6.2
ES	3.4	**1.9**	2.9	-42.9	-33.2	9.9	**9.1**	9.5	-8.9	-4.8	-	**-**	-	-	-
FI	3.2	**3.2**	3.3	-0.3	-2.6	-	**-**	-	-	-	1.1	**1.3**	1.3	20.2	-0.2
FR	6.8	**6.5**	6.2	-3.9	4.6	9.0	**7.9**	8.6	-11.7	-7.3	3.6	**3.5**	3.1	-0.6	14.1
GR	2.7	**2.1**	2.2	-19.7	-3.3	8.8	**8.4**	8.9	-4.6	-5.7	-	**-**	-	-	-
HU	4.3	**3.8**	3.2	-11.1	19.9	7.0	**7.1**	5.3	1.2	33.9	2.8	**2.4**	1.9	-13.8	28.3
IE	7.1	**6.6**	6.7	-7.3	-1.0	-	**-**	-	-	-	-	**-**	-	-	-
IT	3.8	**3.7**	3.5	-3.2	4.5	9.5	**9.0**	9.1	-4.9	-0.8	-	**-**	-	-	-
LT	2.9	**3.1**	2.6	4.5	18.1	-	**-**	-	-	-	2.0	**2.1**	1.7	1.0	23.5
LU	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
LV	2.2	**1.9**	1.9	-14.7	-2.3	-	**-**	-	-	-	1.9	**1.8**	1.6	-5.9	10.6
MT	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
NL	6.1	**6.4**	6.0	5.3	7.0	11.8	**14.0**	12.0	18.2	16.0	-	**-**	-	-	-
PL	3.5	**3.1**	3.0	-12.0	2.2	5.7	**6.2**	5.9	9.1	6.1	3.0	**2.6**	2.3	-14.7	11.0
PT	2.0	**0.7**	1.5	-66.5	-55.9	5.9	**6.0**	5.8	2.0	4.1	-	**-**	-	-	-
SE	4.3	**4.3**	4.2	-0.1	2.4	-	**-**	-	-	-	2.7	**2.5**	2.4	-7.1	3.3
SI	3.9	**3.7**	3.5	-5.2	5.9	7.8	**7.8**	6.5	0.0	20.3	-	**-**	-	-	-
SK	4.1	**3.7**	3.2	-9.9	17.1	5.9	**6.4**	4.5	8.7	41.9	2.8	**2.4**	1.9	-15.3	25.5
UK	5.8	**5.8**	5.7	-1.0	1.4	-	**-**	-	-	-	2.8	**3.3**	3.0	16.6	9.9

Note:
(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.

Crops	Sunflower					Sugar beet					Potato				
yield (t/ha)	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs
EU-25	1.9	**1.8**	1.8	*-4.0*	*4.5*	59.4	**58.1**	55.8	*-2.1*	*4.0*	30.3	**30.6**	27.7	*1.0*	*10.7*
AT	2.7	**2.7**	2.6	*2.0*	*4.4*	64.9	**64.4**	62.8	*-0.7*	*2.6*	31.6	30.8	29.6	*-2.7*	4.0
BE	-	**-**	-	-	-	70.8	**69.5**	67.2	*-1.9*	*3.4*	48.4	**46.7**	44.7	*-3.6*	*4.3*
CY	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
CZ	2.2	**2.5**	2.2	*15.8*	*14.6*	50.3	**49.4**	47.3	*-1.9*	*4.5*	24.0	**25.3**	21.7	*5.7*	*16.5*
DE	2.2	**2.4**	2.2	*7.4*	*9.2*	61.7	**61.8**	58.0	*0.2*	*6.5*	44.2	**42.2**	40.4	*-4.5*	*4.4*
DK	-	**-**	-	-	-	58.0	**61.2**	57.3	*5.4*	*6.7*	39.8	**45.8**	40.1	*15.1*	*14.0*
EE	-	**-**	-	-	-	-	**-**	-	-	-	10.4	**14.3**	13.7	*37.8*	*3.9*
ES	1.1	**0.9**	1.0	*-10.7*	*-9.2*	68.4	**66.2**	66.2	*-3.3*	*0.1*	28.3	**27.4**	32.8	*-3.2*	*-16.4*
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	**77.1**	73.7	*-3.9*	*4.6*	45.4	**42.2**	41.0	*-7.0*	*2.9*
GR	-	**-**	-	-	-	63.5	**61.9**	63.1	*-2.4*	*-1.8*	24.0	**24.4**	24.2	*1.7*	*0.9*
HU	2.5	**2.0**	2.0	*-17.6*	*3.2*	52.5	**45.1**	41.5	*-14.2*	*8.7*	25.3	**23.5**	21.9	*-7.3*	*7.1*
IE	-	**-**	-	-	-	59.9	**55.9**	50.9	*-6.6*	*9.8*	40.3	**37.6**	35.1	*-6.8*	*6.9*
IT	2.2	**2.1**	2.0	*-4.2*	*5.6*	45.6	**43.6**	44.3	*-4.4*	*-1.6*	25.2	**24.4**	24.1	*-3.0*	*1.1*
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	**61.8**	59.5	*-4.1*	*3.9*	45.7	**46.2**	43.8	*1.2*	*5.6*
PL	-	**-**	-	-	-	42.8	**42.4**	40.7	*-1.0*	*4.3*	19.6	**19.1**	18.5	*-2.9*	*3.0*
PT	-	**-**	-	-	-	-	**-**	-	-	-	16.0	**14.4**	14.6	*-10.0*	*-1.3*
SE	-	**-**	-	-	-	48.0	**49.5**	48.3	*3.1*	*2.5*	30.9	**27.9**	29.3	*-9.9*	*-4.8*
SI	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
SK	2.2	**2.0**	1.9	*-10.0*	*2.7*	45.4	**44.7**	39.7	*-1.4*	*12.8*	15.7	**16.1**	15.7	*2.8*	*2.5*
UK	-	**-**	-	-	-	55.0	**57.6**	54.0	*4.7*	*6.7*	41.5	**44.1**	41.3	*6.2*	*6.8*

Note:
(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.

Black Sea and Maghreb areas crop yield forecasts: 30 October 2005

Crops	Total wheat					Total barley					Grain maize				
yield (t/ha)	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs	2004	2005	Avg. 5 yrs	%05/04	%05/5 yrs
Bulgaria	3.8	**3.1**	3.1	*-19.4*	*0.9*	3.6	**2.1**	2.9	*-40.8*	*-27.4*	5.5	**6.1**	3.4	*9.8*	*79.4*
Romania	3.4	**2.4**	2.4	*-29.0*	*0.0*	3.3	**2.0**	2.4	*-40.2*	*-17.8*	4.5	**4.0**	3.0	*-10.1*	*33.4*
Turkey	2.3	**2.2**	2.1	*-3.2*	*2.0*	2.5	**2.5**	2.3	*-0.8*	*8.3*	5.5	**4.6**	4.6	*-16.7*	*0.3*
Ukraine	3.7	**2.8**	2.7	*-24.1*	*6.1*	2.5	**2.3**	2.2	*-7.2*	*5.0*	3.8	**3.6**	3.4	*-5.5*	*6.2*
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	**0.8**	0.9	*16.7*	*-4.0*	-	**-**	-	-	-

Note:
(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.

Publication issue

The sixth printed ***MARS Bulletin*** reviews:
— the 2004/05 agricultural campaign;
— the start of the new 2005/06 campaign from 1 September to 10 November 2005.

It makes a synthesis of the major issues pertaining to:
— agrometeorological conditions of the 2004/05 campaign;
— conditions at sowing for the new winter crops.

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)
— Winter and spring crops conditions in August (Vol. 13, No 5)

Contributions

The *MARS Bulletin* is a European Commission publication (JRC/IPSC Agriculture and Fisheries Unit — MARS-STAT Action)
(Head of Unit: J. Delincé).
Editor: G. Genovese.
Analysis and reports from the Agrifish Unit:
B. Baruth, M. Bettio, R. Confalonieri, G. Genovese, C. Lazar, F. Micale, G. Narciso, A. Royer, I. Savin.
Reporting support: C. Aspinall (JRC/IPSC/Agrifish).
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 and climatic updates are available at:**
http://agrifish.jrc.it/marsstat/bulletins/2005.htm
ftp://agrifish.jrc.it/bulletin/Europe

The MARS agrometeorological web database is accessible at:
http://www.marsop.info

For any questions contact the editorial staff at: Mars-stat@jrc.it
Fax (39-0332) 78 90 29 — Tel. (39-0332) 78 50 86
JRC - IPSC, T.P. 266, I-21020 Ispra (VA)
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.

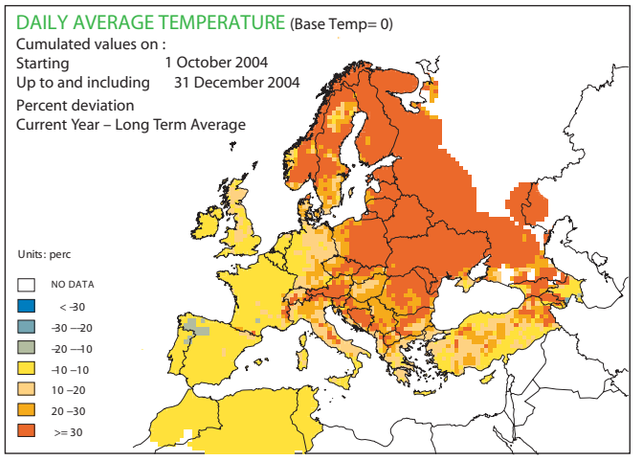
Disclaimer: The geographic borders are purely a graphical representation and are only intended to be indicative. These boundaries do not necessarily reflect the official European Commission position.

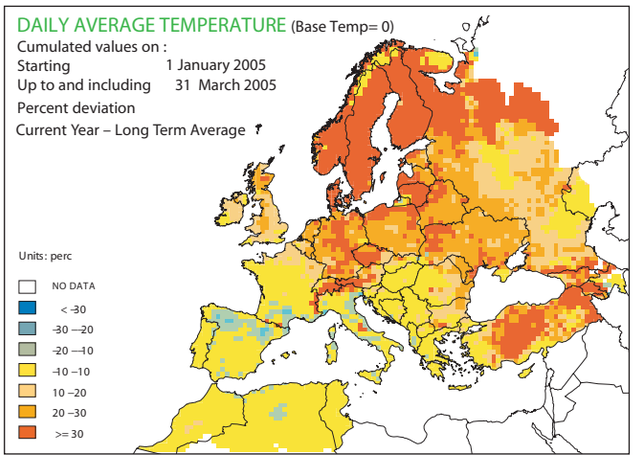
Legal notice: Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the information.

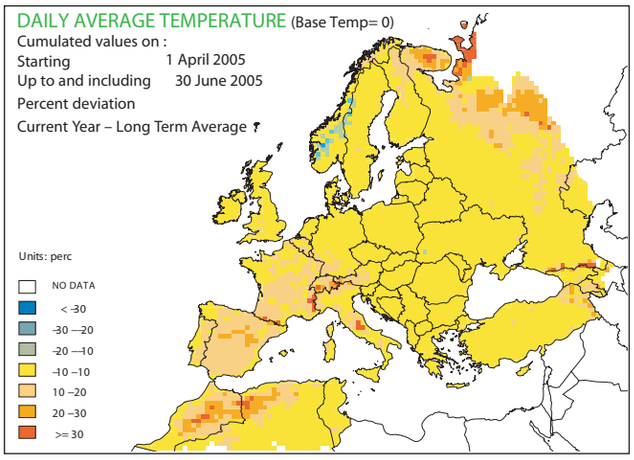
A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server (http://europa.eu.int).
Luxembourg: Office for Official Publications of the European Communities, 2005

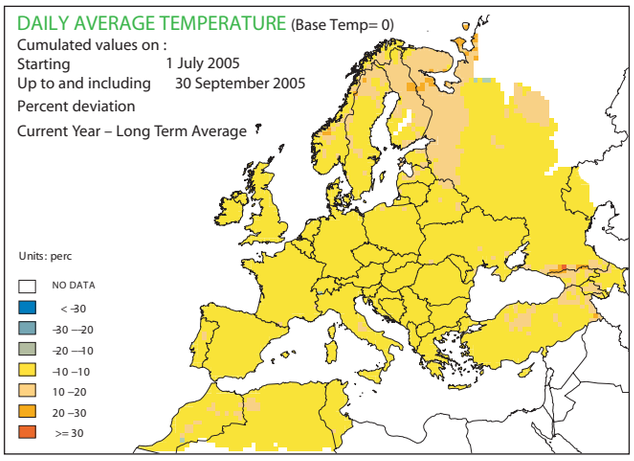
Printed in Luxembourg: Publications Office, Luxembourg
PRINTED ON WHITE CHLORINE-FREE PAPER

Next issue: Mid-January 2006 (web release only).









The most affected cereal Europe-wide is durum wheat, with an expected yield of 2.3 t/ha — a reduction of 24.5 % as compared to 2004, and of 9.1 % as compared to the average. Spain, Portugal and part of France saw strong yield reductions (in Spain – 58 % for wheat and – 43 % for barley; in France – 12 % for grain maize). At EU level, the effect of yield reductions integrated with area decreases is resulting in 4 Mt to 5 Mt of production less. The last maize forecasts are revised upward due to beneficial rains which occurred in late summer and the favourable temperatures received up until October. The expected EU maize yield is now 8.1 t/ha (– 4.3 % as compared to 2004 and + 3 % compared to the average).

Climatic overview for 2004/05

Autumn 2004 (October–December): warmer than average temperatures characterised the season (except for Benelux, France, the UK, Ireland and the Iberian peninsula); generally normal rainfall; relatively dry in the Iberian peninsula, Benelux, western France, Black Sea area; more than average water supply in Italy, the Balkans, Poland, Sweden and Tunisia

Fairly warm conditions continued until the end of October all over the continent. In November and December, in the eastern EU, Italy, the Black Sea area, Belarus, the Baltic and Turkey, higher than seasonal temperatures still persisted (especially on minimum daily values). On the other hand, in western Europe (particularly Galicia and Portugal) and in Morocco, fresher than average temperatures were recorded. Despite the generally mild temperatures, in the second half of December an intense cold wave occurred, with crop frost risks affecting mainly Ukraine, Belarus, Hungary, the Czech Republic, Slovakia and western Germany. However, in general, those thermal conditions were favourable for a rapid starting stage of winter crops.

As a whole, during the season, higher than average cumulated rain values were recorded in Italy (especially in the south, where one of the second wettest autumns of the last 30 years was recorded), south-eastern France, the eastern side of the EU (the Balkans, Poland, the Czech Republic), Sweden, Scotland, Wales and Tunisia. In these areas, the rain was abundant during the three months but particularly in October (except for eastern France). On the other hand, significantly dry conditions occurred in the Iberian peninsula (except the north), north-eastern and western France, Benelux, western Germany, Greece, the Black Sea areas and Morocco. On average, these areas received only 40–50 % of the expected rain.

Winter 2005 (January–March): generally still higher than seasonal temperatures and wetter in eastern EU; colder than average in western EU, with risk of frost damage in Spain and western France; still dry in Spain, Portugal, France, northern Italy, England and the Maghreb (except Tunisia)

Regarding thermal characteristics, a virtual line connecting Ireland to Turkey divided the continent into two parts. East of the line, the active temperatures were, in general, above the seasonal average, particularly in the British Isles, Germany, Denmark, Sweden, the Black Sea area and Turkey (in these areas, the cumulated active temperatures were even 100 GDD above the seasonal values). West of the line, on the other hand, lower than average temperatures occurred. In Spain and Portugal particularly, the coldest winter of the last 30 years was recorded, with minimum temperatures even 10–14 °C below the seasonal values and, in January, in many cases reaching 12–13 °C combined too with light snowfalls. Crop damage was broadly possible. In eastern Europe and the EU, in February and March, two extremely cold events were recorded, with minimum temperatures significantly below (12–14 °C) the expected values and with possible crop damage.

The cumulated rains of the season, and their comparison with the long-term average, show a geographical pattern similar to temperatures: significantly higher values over the central and eastern countries and the EU (in Romania and Bulgaria persistent and abundant rains caused local and temporary flooding), southern Italy, the Black Sea, Russia, Turkey and Tunisia; persistent dry or scarce rains over the western EU, France, the UK, northern Italy, the Maghreb (except Tunisia). Again, Spain and Portugal experienced exceptional conditions with the driest winter of the last 30 years (the rain deficit, on average, was around 350–400 mm). The soil moisture content was drastically depleted.

Spring 2005 (April–June): general seasonal thermal conditions (except France, Spain and Portugal); very scarce rain supply in Spain, western France, Portugal, Greece, Morocco and Ukraine; on the other hand, very abundant rain in the Balkans (especially Romania and Bulgaria), the Czech Republic, Austria and Russia

Spring was characterised by a similar geographical pattern to winter, but with an opposite distribution: warmer than seasonal in the western part of Europe and the Mediterranean Basin, normal or slightly colder in the eastern part (mainly Romania and Bulgaria). April was particularly mild all over the continent, whilst May and June presented higher temperatures in western Europe and Morocco. In fact, in Spain, Portugal and France, from mid-April onwards, both minimum and maximum daily temperatures were constantly above the seasonal average — peaks of daily temperatures higher than LTA by 6–8 °C were recorded, marking a record year, with the highest mean temperatures for the last 30 years. Hence, the crop cycle was significantly accelerated. Associated with those thermal conditions too, the measured solar radiation showed higher than average values, favouring the northern areas (Benelux and northern Germany).

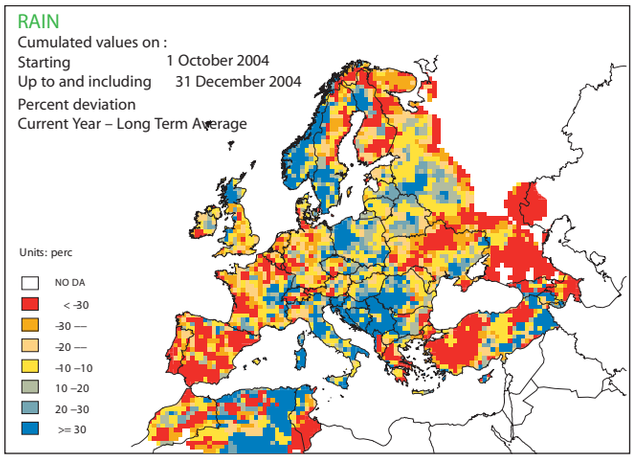
A stable Azorean anticyclone centred on Gibraltar pushed the Atlantic rainy fronts towards the eastern part of the European continent. Therefore, the Balkans (especially Romania), Austria, the eastern EU, Russia and Scandinavia received very large amounts of rainfall compared to the average (in many cases above 150 %, equivalent to 350–400 mm). The rains were particularly persistent and abundant in Romania, where consecutive floods were reported. On the other hand, in the Iberian peninsula, western and southern France, north-western Italy, central Greece, Ukraine, the Baltics and the southern UK, only 40–50 % of the expected rain was recorded (deficit estimable around 70–80 mm).

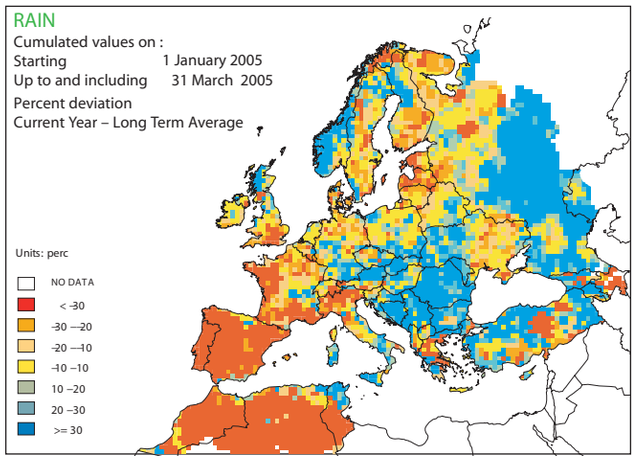
Summer 2005 (July–September): general seasonal thermal condition; warmer than average September in north-east; persistent dry conditions in western EU; also dry in north-west as well as in eastern EU and in eastern Europe; extremely wet in the Balkans (again especially Romania and Bulgaria); abundant rain too in the Czech Republic, Austria, south-eastern Germany and Scandinavia

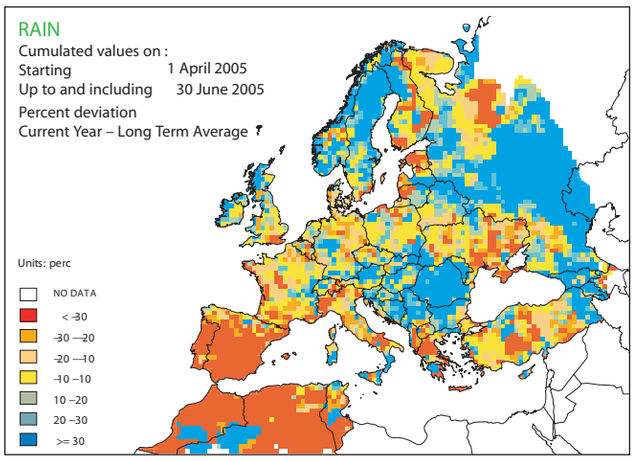
During the season, the accumulations of active temperatures were within the normal ranges of variation (except in Finland and Estonia) but anyway with higher than average values in the eastern EU and Europe, Turkey, Greece and central Spain. In these areas, 100–150 °GDD above the LTA were accumulated and the active crops were lightly boosted.

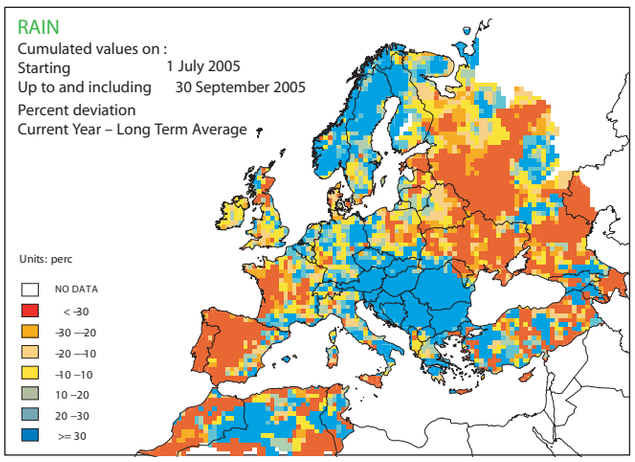
Actually, in July, the thermal conditions were close to the norm, whilst from the beginning of August, both minimum and maximum daily values were significantly above the seasonal average. In the Mediterranean countries (namely the southern and western Iberian peninsula, southern France, south-eastern Turkey and northern Italy), during the critical stage of grain filling of the main winter cereals (wheat, barley) and maize flowering, for some consecutive days the maximum temperatures were above 30–33 °C, with a maximum even above 40 °C (Andalusia). Nevertheless, the hot peaks and high temperatures were within the normal ranges of variation for the summer season and only rarely were above them, determining likely negligible crop damage.

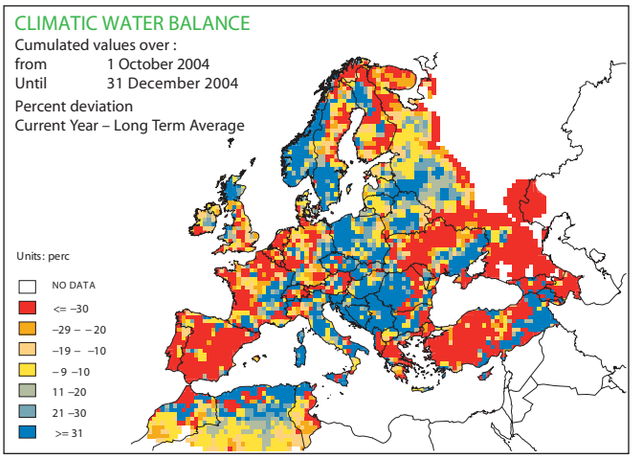
As in the previous year, the most relevant seasonal phenomenon was the abnormal rain distribution. In effect, during the season, the rains were polarised on the Balkans (particularly in Bulgaria and Romania) whilst being completely absent on the Iberian peninsula. The first

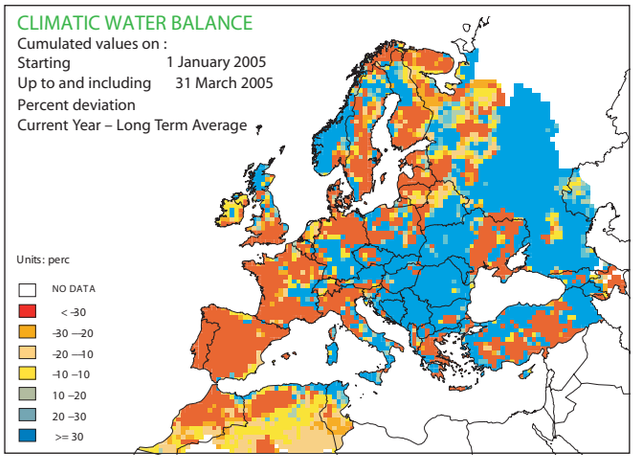


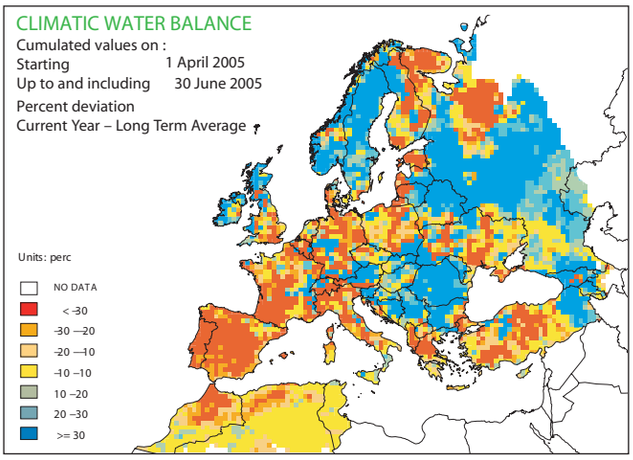


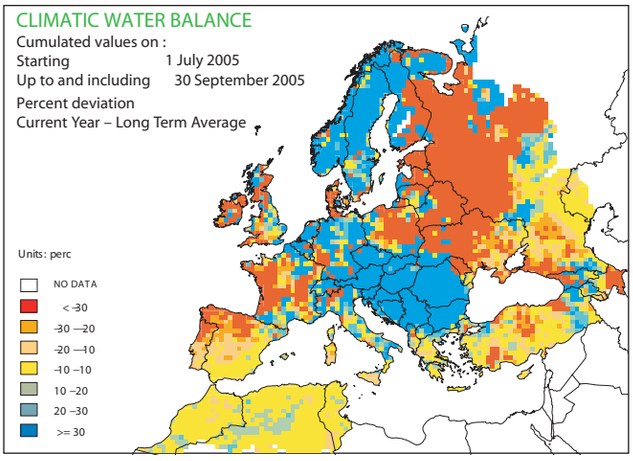












area, on average, received more than 200 % of seasonal cumulated rain (equivalent to 350–400 mm) but reaching also 650 mm (+ 450 %), with even more than 100 mm in one day. In July and September, soil water excess and heavy floods were reported in Romania and Bulgaria with, in some cases, severe crop damage. Spain (except the eastern side), Portugal (except the extreme north) and, to a lesser extent, western France experienced an opposite situation — in the whole period just a few rains (less than 10 mm, – 80/– 90 % LTA) were recorded, increasing the large water deficit accumulated from the beginning of the year and compromising an optimal summer crop growth.

At the end of July and August, abundant and persistent rain over the central part of the EU determined short windows favourable for winter cereal harvesting, and good water support for maize and sugar beet. In all other EU areas for winter cereals production, no limiting conditions were present during harvesting. In Ukraine and Belarus, the abundant rains recorded in August only partially delayed the harvesting.

In September, an extreme but localised intense rainy event (above 170 mm/day) was recorded in southern France.

Agrometeorological analysis on the EU-25 area for the 2004/05 campaign

Cereals

The final average crop yield, 5.0 t/ha; – 9.3 % compared to 2004 and + 1.1 % compared to average, is the result of a strong drought effect in the Iberian peninsula (wheat: Spain – 58 %, Portugal – 47 % compared to 2004; barley – 43 % in Spain and – 66 % in Portugal) and, to some extent, France (wheat – 5.3 %, maize – 12 %). The durum wheat areas appeared the most affected by yield reductions in relative terms compared to 2004: Spain – 74 % (effect of drought), Portugal – 66 % (effect of drought), Italy – 14.6 % (in addition to a decrease in areas of at least 13 % gives 1.4 Mt less in production).

Good levels of production are expected in the new EU Member States, which, compared to 2004 (a record year), appear as a strong reduction.

Total cereal production for the EU-25 (rice excluded) is now expected to range between 256 Mt and 259 Mt (– 31/– 34 Mt as compared to 2004).

These figures, which are based on simulation models and remote sensing observations, could represent an overestimation of the potential production which can be obtained in the light of possible irrigation limitations in the countries most affected by summer drought (Spain, Portugal and south-western France).

Soft wheat

The average yield for the EU-25 is expected at 6.0 t/ha (– 8 % compared with 2004 and + 2.5 % compared with the average yield of the last five years)

Compared with the average of the last five years, very good yields are expected for Hungary (4.4 t/ha, 13.4 %), Lithuania (3.9 t/ha, + 11.1 %), Slovakia (4.1 t/ha, + 10 %), Austria (5.4 t/ha, + 7.4 %), the Czech Republic (5.0 t/ha, + 6.8 %), Poland (3.9 t/ha, + 6.4 %) and Sweden (6.1 t/ha, + 5.2 %). These figures were generally influenced by the model response to the increased soil water availability and the positive trends, especially for the new Member States.

Due to the persistent severe drought which affected the Iberian peninsula (especially the south), there are impressive reductions of the soft wheat yields in Portugal (0.9 t/ha, – 47.0 %) and Spain (1.8 t/ha, – 42.4 %). A decrease of – 4.5 % is expected too for Finland (3.3 t/ha). The wheat yields of other countries exceeded the average of the last five years, with percentages of up to + 4.3 % (Belgium, 8.7 t/ha).

For the majority of the EU-25, meteorological conditions were favourable for the sowing of winter wheat, but, in some cases (western France, northern Portugal and Slovenia, central Italy, north-eastern Germany), this activity finished a little later due to rainy weather.

Frost was not so widespread but some did occur in western areas (France and Spain) where, in recent years, it had become less frequent. During the vegetation season of wheat crops, the relative soil moisture in western Europe dropped below the long-term average and, as well as the heavily affected Iberian peninsula, areas for serious concern emerged in other regions. The situation was partially alleviated by some beneficial rains before and during grain filling, such as in France (7.4 t/ha, + 2.9 %) and Italy (4.9 t/ha, + 3.9 %). The crop cycle was shortened due to higher temperatures in Austria, Benelux and Germany (7.6 t/ha, + 5.5 %), but the effects on grain filling, although visible, were limited.

Barley

The total barley average yield for the EU-25 is expected at 4.2 t/ha (– 3.3 % compared with 2004 and + 2.5 % compared with the average yield of the last five years)

Compared with the average of the last five years, very good relative yields are expected for Hungary (3.8 t/ha, + 19.9 %), Lithuania (3.1 t/ha, + 18.1 %), Slovakia (3.7 t/ha, + 17.1 %), Czech Republic (4.3 t/ha, + 9.7 %), the Netherlands (6.4 t/ha, + 7.0 %), Austria (4.7 t/ha, + 6.7 %) and Slovenia (3.7 t/ha, + 5.9 %). The barley yields from France (6.5 t/ha), Italy (3.7 t/ha), Denmark (5.4 t/ha), Sweden (4.3 t/ha), Poland (3.1 t /ha), Belgium (7.4 t/ha) and UK (5.8 t/ha) exceed also the average of the last five years.

Due to the persistent severe drought which affected the Iberian peninsula (especially in the south), there are impressive reductions of the barley yields in Portugal (0.7 t/ha, – 55.9 %) and Spain (1.9 t/ha, – 33.2 %). Decreases between – 5.2 % and – 1.0 % were recorded for Estonia (2.0 t/ha), Finland (3.2 t/ha), Latvia (1.9 t/ha) and Ireland (6.6 t/ha). The expected yield for Cyprus (2.1 t/ha) is at the average level.

Apart from the areas with possible delayed sowings already mentioned for winter wheat, the rain hindered the sowing of winter barley in Ireland, the UK and Belgium, but the general conditions were favourable in the rest of the EU-25. The thermal conditions after sowing were more favourable than usual for a quicker development, but in some areas the risk for insect damage (especially by aphids) was also increased. Droughty conditions (less intense than in the Iberian peninsula) occurred in south-western France, Italy (except centre and north), central Poland and northern Greece.

Grain maize

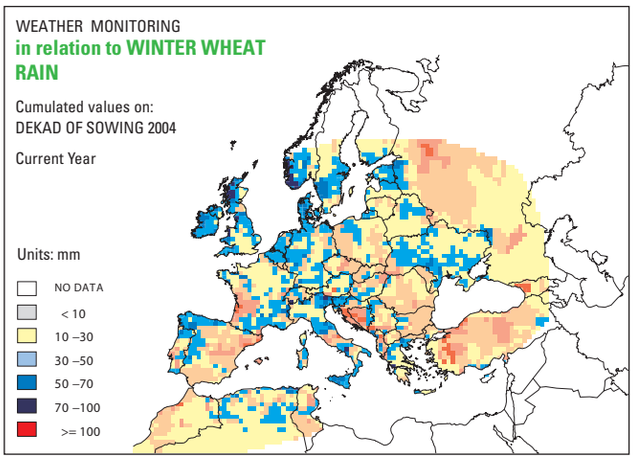
Maize yield at EU-25 level is expected to be about 8.1 t/ha, which represents a decrease of – 4.3 % compared to 2004

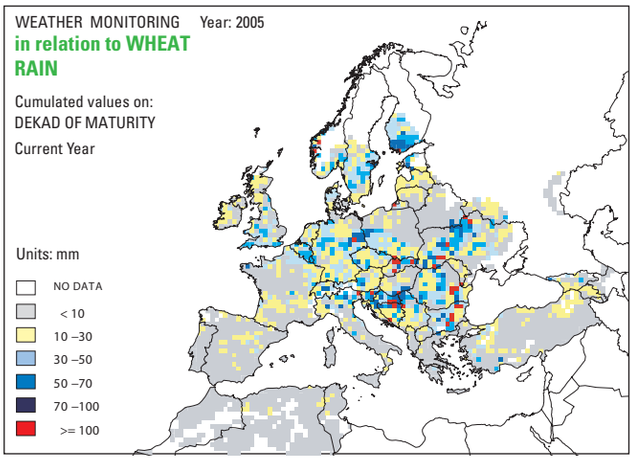
Among the big producers, France and Spain — and, to a lesser extent, Italy — experienced dry conditions all over the crop cycle, especially during the flowering and maturity stages that particularly affected the rain-fed varieties. Moreover, important producing areas in Spain and France experienced a heat spell during the ripening/maturity period that boosted the senescence and reduced the storage organ potential. These countries experienced one of the worse campaigns for the last five years.

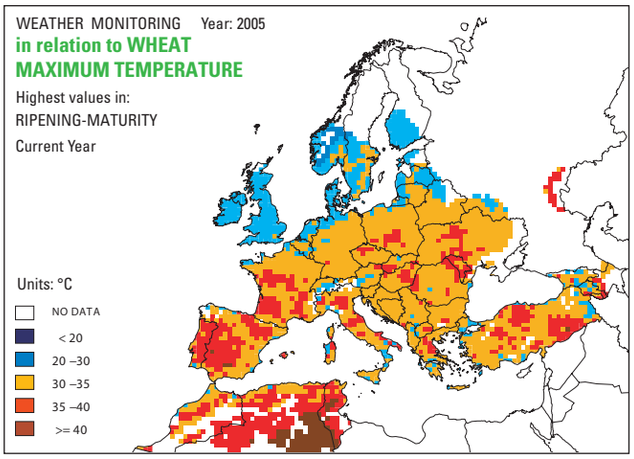
On the other hand, other big producers such as Hungary and Germany received favourable soil moisture conditions all over the cycle. In some regions, the precipitations were even abundant during the flowering stage and then at harvest time: it could have affected plant development and reduced the yield potential.

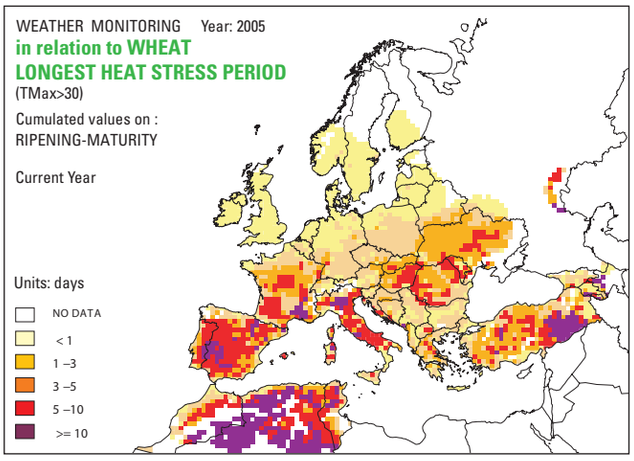
Compared to last year, four categories of countries can be distinguished:

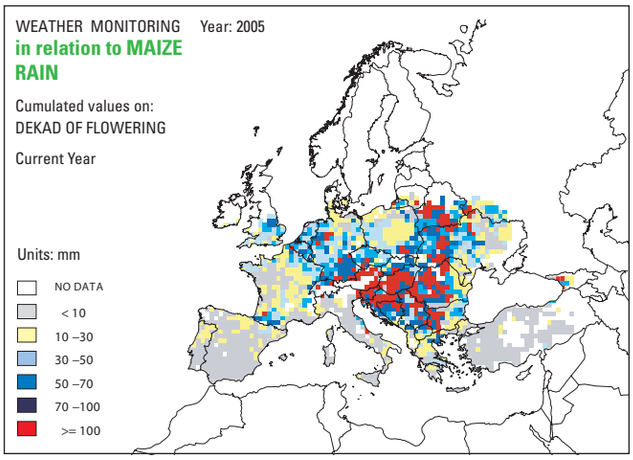
- Greece (8.4 t/ha), Italy (9.5 t/ha), Spain (9.9 t/ha), Romania (4.5 t/ha) and France (8.6 t/ha) produced much lower yields than last year from – 4.6 % to – 11.7 %;

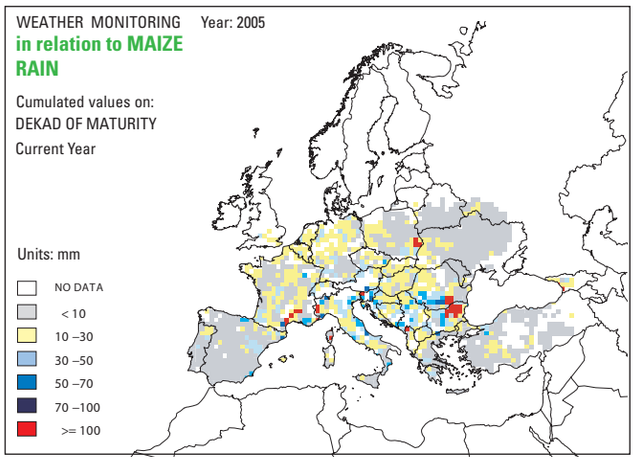


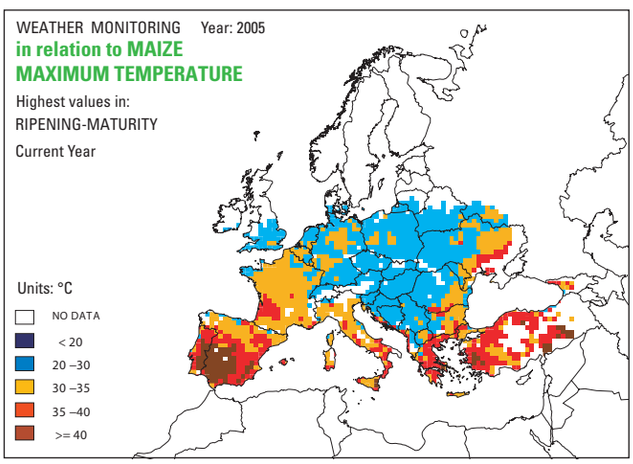


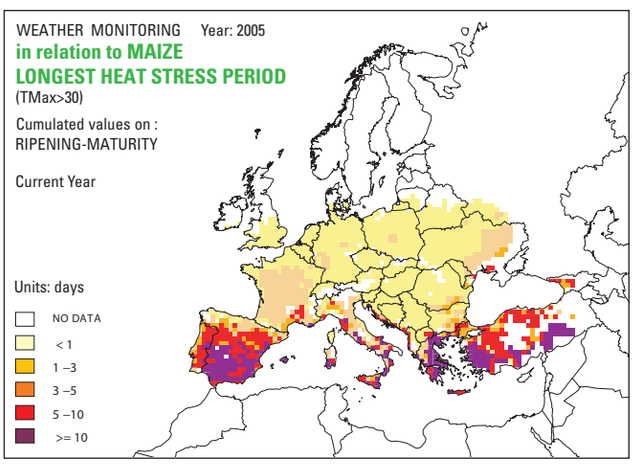












- Austria (9.3 t/ha) and Belgium (12.2 t) were less affected by the weather conditions and reached yield reductions of – 0.9 % and – 2.3 %;
- Hungary (7.0 t/ha) and Germany (9.1 t/ha) reached better yields, from + 1.2 % to 2.0 %;
- Slovakia (5.9 t/ha), Poland (5.7 t/ha), Bulgaria (6.1 t/ha), the Netherlands (11.8 t/ha) and the Czech Republic (7.7 t/ha) had much better results than 2004 from + 8.7 % to + 25.5 %.

Oilseeds

Rapeseed

The final yield expectation for EU rapeseed is 3.25 t/ha, which represents a decrease of 4.4 % compared to the very good year 2004

The crop did not face extreme heat and frost conditions during the whole cycle. Sowing and harvesting were carried out under normal conditions. As for rainfall, there were drier conditions in France, as compared with Germany, Great Britain and Poland which received more regular precipitations. On the whole, rape did not suffer from soil moisture deficit or excess during the development key stages, and the 2005 yield was, in the end, better than the last five-year average.

Compared to last year:

- Hungary (2.8 t/ha), Poland (2.6 t/ha), Slovakia, Austria and the Czech Republic (3.6 t/ha) reached lower yields than 2004, from – 14.7 % to – 19.2 %;
- France (3.5 t/ha), Latvia, Denmark and Germany (3.8 t/ha) yields were lower, from – 0.6 % to – 6.6 %;
- Only Lithuania (2.0 t/ha), the UK (3.3 t/ha) and Estonia (2.0 t/ha) had higher yields than 2004, from + 1.0 % to 19.3 %.

Sunflower

Sunflower yield is estimated to decrease by 4 %, reaching a level of about 1.85 t/ha

The decrease is mostly explained by the unfavourable dry conditions that persisted in France (2.2 t/ha, – 6.2 %), Spain (2.0 t/ha, – 10.7 %) and, to a lesser extent, in Italy (2.1 t/ha, – 4.2 %), in conjunction with some extreme temperatures over 30 °C which shortened the final yield elaboration phase and boosted plant senescence. France and Spain had one of the worst campaigns of the last five years.

On the other hand, Hungary (another big producer) and Slovakia faced over-wet conditions, particularly at the flowering and maturity stage, which hindered harvest and impeded a correct final maturity period. They respectively reached a yield of 2.5 t/ha (– 17.6 %) and 2.2 t/ha (– 10 %).

Only Austria (2.7t/ha), Germany (2.4 t/ha) and the Czech Republic (2.5 t/ha) achieved better yields than last year, from + 2 % to 14.6 %.

Root and tuber crops

Sugar beet

At EU-25 level, yields are expected to be higher than the five-year average (58.10 t/ha, + 4.0 %) and slightly lower than those recorded for the last year (– 2.1 %)

Conditions experienced by the two main producers (Germany and France) have been favourable compared to the average, thus leading to a 6.5 % (61.79 t/ha) and 4.6 % (77.06 t/ha) yield increase respectively. France's yields are anyway forecasted to be lower than 2004 (– 3.9 %). The simulations for the other countries show a situation slightly worse than the one verified in 2004 (Italy: 43.61 t/ha, – 4.4 %; Poland: 42.41 t/ha, – 1.0 %), except for the UK, where good yields are forecasted: 57.60 t/ha, + 4.7 % compared to 2004. Among the other producers, only Hungary and Ireland are expected to obtain yields significantly lower than for 2004 (– 14.2 % and – 6.6 % respectively),

although the following impact on EU productions can be considered negligible because of the small areas dedicated to this crop.

Potato

Good yields are expected at EU-25 level, compared both to the five-year average (+ 10.7 %) and to last season (+ 1.0 %)

But the situation is very variable among countries. The yields from Germany and Poland (the main EU producers) are forecasted to be lower than 2004 (respectively 42.2 t/ha, – 4.5 % and 19.1 t/ha, – 2.9 %) although higher than the average. France has a similar situation (42.2 t/ha, – 7 %), whilst good yields are expected for the Netherlands and the UK (respectively 46.2 t/ha and 44.1 t/ha), which corresponds to a 1.2 % and 6.2 % increase compared to last season.

Rice

The final expectation at EU-25 level is 6.6 t/ha: + 1.1 % with respect to the five-year average and – 2.9 % compared to 2004

Forecasted yields point to 2005 being an average year for the main European rice producers (Italy: 6.32 t/ha, + 2.7 % with respect to the five-year average; Spain: 7.32 t/ha, + 0.1 %; Greece: 7.88 t/ha, + 1.6 %; France: 5.56 t/ha, – 1.4 %) except for Portugal (5.31 t/ha, – 9.8 %), where spring and summer droughts have seriously affected rice growth. Only in Greece were the 2004 record values reached. The arctic irruption which occurred between 5 and 11 July could have caused spikelet sterility in France for the late sowings.

Compared to 2004, surfaces have been consistently reduced, except for France. This is the reason for the forecasted low production in Spain and Greece (respectively – 5.7 % and – 15 % compared to 2004). Otherwise, the low production forecasted in Italy and Portugal (respectively – 7.6 % and – 26.2 %) is due to the combined effect of lower yields and reduced areas. At EU-25 level, production is expected to be 8.4 % lower than 2004 and very close (– 0.4 %) to the five-year average.

Agrometeorological analysis on the Black Sea area for 2004/05

Romania and Bulgaria: unusually wet

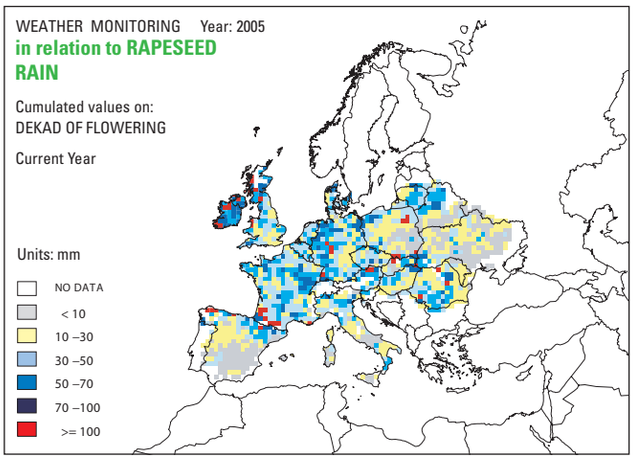
Wheat yields are expected at 2.4 t/ha for Romania, almost equal to the average yield of the previous five years and 3.1 t/ha for Bulgaria (+ 0.9 % compared to the average). As compared to 2004, these figures show a decrease respectively of 29 % and 19 %.

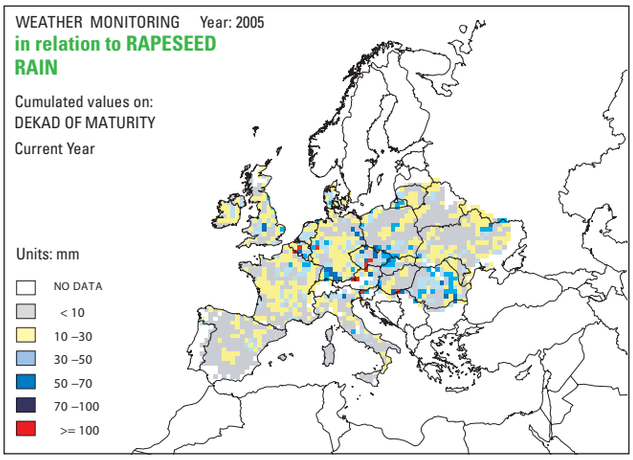
Barley yields are expected at 2.0 t/ha for Romania (17.8 % from the average yield of the previous five years) and 2.1 t/ha for Bulgaria (27.4 % ref. average five years). For maize, the figures are 4.0 t/ha for Romania (+ 33.4 % ref. average five years) and 6.1 t/ha for Bulgaria (+ 79.4 % ref. average five years).

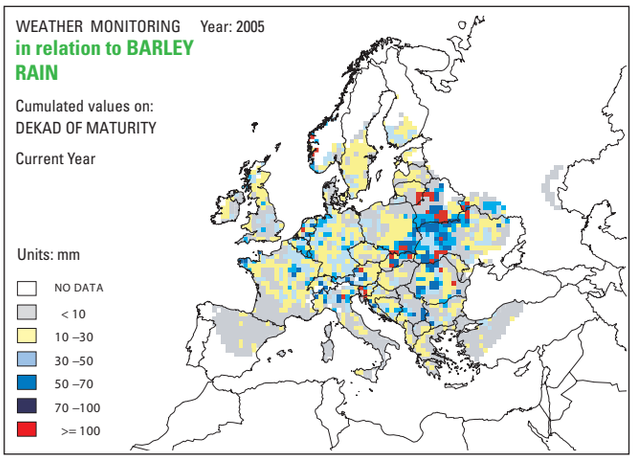
Sowing of winter crops was performed under good conditions in Romania and Bulgaria. The effects of frost were generally limited due to optimal snow layers. Both Romania and Bulgaria experienced extremely wet springs with lots of local flooding and water lodging situations. Thermal conditions were close to normal and the development of winter crops was close to normal. Harvesting of winter wheat was hindered in many areas by rain. In those areas not affected directly by flooding, the growth of summer crops was good (especially maize crops).

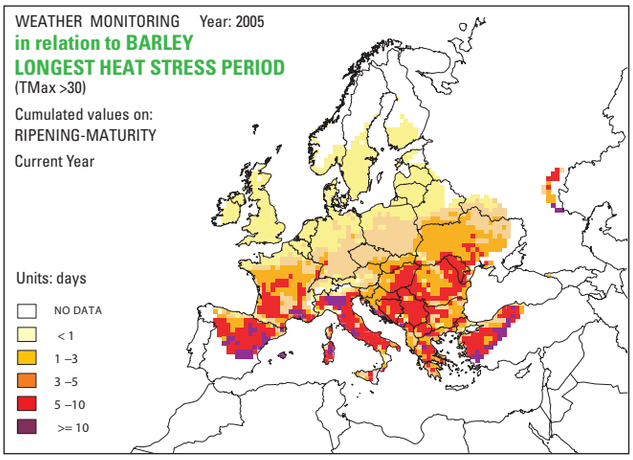
Turkey: positive season for winter and summer crops

Turkey experienced abundant precipitations during the 2005 winter season, especially in the coastal areas of the Black Sea and the western and central regions. However, the situation was less favourable in the winter cereal production areas of the eastern highlands, which were characterised by dry conditions during the winter. During spring, the rains extended eastward allowing a scattered recovery of the moisture deficits. Temperatures were generally higher than normal and this trend continued throughout the growth season.









This overall evolution favoured a positive harvest for winter cereals, with an estimated yield for wheat of 2.23 t/ha and a 4 % increase over the five-year average (2.14 t/ha).

The favourable weather that continued into the summer had a positive influence too on the production of summer crops in the north and north-western regions of the country.

Some problems arose from reduced radiation due to the elevated cloud cover, but grain maize is still 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 central and eastern areas are also expected to have a positive production outcome.

Ukraine: normal conditions

Expected yields are: 2.8 t/ha (+ 6.1 % from the average yield of the last five years) for winter wheat (i.e. 25 % less than 2004), 2.3 t/ha (+ 5.0 % from the average and – 7.2 % from 2004) for barley, and 3.6 t/ha (+ 6.2 % from the average and – 5.5 % from 2004) for maize.

In Ukraine, the weather during the germination of winter wheat was relatively dry, but conditions for winter barley were better. Although the snowfall from the first two months of 2005 was slightly below the long-term average, it was enough to provide an efficient thermal shield for the winter crops. Due to this protective snow cover, the leaf area index was only lightly affected by severe frosts (<– 20 °C) over large areas of Ukraine. The regions where the foliar damage reached a moderate level did not exceed 20 % of the national area cultivated with winter wheat. Spring was relatively dry, but some rainy days prevented a general drought. The development of the winter crops was close to normal. Expected yields for all the crops are at normal level or slightly above, but below the 2004 (record) values.

Agrometeorological analysis on the Maghreb for 2004/05

The 2005 season started with cold and dry conditions in the west (Morocco and western Algeria). Heavy rainfalls occurred along the north-western coasts of Morocco in March, but these could not compensate the water supply deficit accumulated during the winter (– 30 %). The situation was more positive in the east (Tunisia and eastern Algeria) where rainfall and overall climatic conditions were favourable throughout the development season of winter cereals.

This overall trend was maintained as the season progressed, with a diffused and persistent drought in Morocco and sufficient rains in Tunisia both in the interior regions of the north and on the Mediterranean coast. Algeria experienced an intermediate situation which can, however, be considered favourable to winter crops in the production areas on the coast.

Going into summer, the drought worsened in the west and started to make its effects felt eastward. Temperatures recorded an exceptional increase in late June, but winter crops had already been harvested so this did not much affect the outcome.

In Morocco, the production season came to completion in late June with a very negative outcome. Yield for wheat was estimated at 0.47 t/ha, with an almost 60 % reduction on the five-year average and even 54 % on 2004.

In Tunisia, the yield for wheat was estimated at 1.72 t/ha, with a significant increase with respect to 2004 (+ 18.9 %) though marginal (< 0.2 %) on the five-year average. Barley achieved 0.93 t/ha (+ 29 % on 2004). Summer crops such as cotton and some sugar beet are mostly under irrigation and their production levels were affected by the high temperatures.

The limited agricultural areas of Algeria are spread along the Mediterranean coast, with climatic conditions which are transitional from the west (towards Morocco) to the east (Tunisia). There were some consequences of the late drought on the outcome of winter cereal, though not as dramatic as in Morocco. The yield of wheat was estimated at 1.26 t/ha, with a reduction of 4.7 % on the five-year average and – 13.1 % on 2004. Barley achieved 1.23 t/ha (+ 2.7 % on the five-year average and – 20.5 % on 2004).

Agrometeorological analysis on eastern countries for 2004/05

Belarus: cold winter, warm spring, normal summer

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

Very low minimum temperatures (below – 22 °C) occurred in the first dekad of February. The leaf area index was then moderately affected by frost, sometimes severe, in large areas of central and southern Belarus. Accumulation of active temperatures during spring was higher than usual (>+ 25 %) and the precipitation regime was normal. Simulated development of winter wheat was almost equal to the long-term average. Flowering of wheat and barley occurred under dry conditions.

Russia: good yield of summer crops and dry conditions for winter crop sowing

The period under analysis is the time for summer crop harvesting and winter crop sowing in all regions of European Russia.

Meteorological conditions during the current vegetative season were favourable for summer crop development and harvesting practically all over European Russia. Only in the northern regions will insufficient amounts of rain lead to a decrease of potato yield. In other regions, the yield of all summer crops is likely to be close to or higher than in the previous year. Especially favourable conditions were observed for sunflower, rice and sugar beet in the southern regions of Russia.

B. New 2005/06 campaign: 1 September to 10 November

Agrometeorological overview

Temperature: in the higher latitude rather warmer than seasonal conditions throughout the whole period

Only in the Mediterranean areas (Iberian peninsula, Italy, the Maghreb and the Balkans) were the thermal conditions close to average (except in Turkey and Bulgaria, where the temperatures were slightly below average). All the other countries experienced warmer than seasonal conditions, particularly Scandinavia and northern Russia. But in the areas close to the English Channel, and western Germany too, a surplus of cumulated active temperatures (around 100–180° GDD) was recorded.

The second part of October and the beginning of November were noticeably warmer. For instance, in northern France at the end of October, the maximum temperatures were still around 23–24 °C, with four consecutive days with the highest daily values in 30 years. In Finland too, November started with eight consecutive days as the hottest in 30 years, with a maximum of 5–7 °C above the average and a minimum of even 9–10 °C above the seasonal values.

These temperatures were thus favourable for the germination of new winter cereals, but, at the same time, increased the risk of frost damage due to the lack of a hardening process.

Rain: generally drier conditions in eastern Europe and the central EU; good supply in the Mediterranean

On a continental scale, above latitude 45° (except the UK, Ireland and Norway), this period may be considered rather drier than seasonal.

The deficit is valued at around 30–40 % of the seasonal cumulated values. However, the majority of EU countries (except Poland, the Czech Republic, Slovakia and Hungary) received sufficient rain supply to allow an effective germination of new winter crops.

On the other hand, southern areas (such as Spain, Italy, southern France, Bulgaria, Romania, Turkey, Cyprus and Algeria) received significantly more water than expected (above + 30 %).

Unfavourable and worrying conditions occurred in eastern EU border areas, Belarus and central Ukraine, where only a few millimetres of rain were recorded in the whole period: 20–30 mm, compared to 100–110 mm expected.

Some sporadic excess of water occurred in southern Italy (Puglia: 400 mm, + 200 %), the Po valley (Veneto: 370 mm, + 130 %) and between Romania and Bulgaria (360 mm, + 360 %).

Winter crop sowing overview — autumn 2005

EU-25

Winter wheat

Favourable conditions for sowings in most of the EU

Early sowings were carried out under good conditions in the whole of Europe, except in northern and central Italy (above all in the Po valley), where machine accessibility or trafficability has been possibly threatened by the wet soil.

During the canonical period of sowing, good conditions were experienced everywhere. Only Portugal, north-eastern Spain (Galicia, Castile y Leon, Asturias and Catalonia) and the southern coasts of France registered a series of consecutive rainy days (more than 100 mm reached in some cases), which probably delayed sowing. Wet conditions were also recorded in south-western Norway (Agder Og Rogaland and Vestlandet) and in the Scottish Highlands (UK).

In some regions (south-eastern Sweden, Denmark, Austria and part of the Balkans), dry conditions characterised all the sowing periods, from the period when early sowings are usually carried out, to that suitable for later sowings.

Favourable thermal conditions allowed good germination and emergence phases.

Winter barley

Good conditions in central Europe; possible delays in sowings in some regions (northern countries, southern France and Austria), compensated by mild temperatures for optimal emergence

Favourable climatic conditions occurred for winter barley sowings in the main part of Europe. Dry sowing conditions were reported in Spain, Portugal and Poland. Late sowings were avoided in some cases in northern Italy and south-eastern France because of the high soil moisture.

Early sowings in southern Italy and in the Balkans were hindered by excesses of water. The opposite situation (dry conditions) was reported in northern Italy, Denmark, Belgium, northern Germany and the Netherlands for the period usually dedicated to early sowings. But, in all cases, in October, the delays where compensated by higher than average temperatures, which led to good germination and emergence phases.

Insufficient soil moisture values could have caused some problems for the germination and emergence phases in the southern countries of the Balkans, in Greece, and in southern Italy.

Rapeseed

The dry conditions which characterised the canonical sowing period in the northern regions of Germany and Poland possibly affected early sowings in some cases. In these countries, only in the second dekad of September did some rainy days lead to optimal soil moisture value suitable for optimal sowing/emergence. Similarly, late sowings were penalised in Denmark and southern Sweden because of the dry conditions.

Black Sea area

Optimal/favourable sowing spells, with some excess of dryness in Ukraine causing non-optimal emergence

The dekad before sowing of winter wheat in Ukraine was generally dry (only one to three days with significant rain in eastern and northern areas). The number of days with significant rain during the winter wheat sowing dekad was practically nil. The dry period continued about two dekads after sowing, when the mid-October rain ended the drought period which had started in mid-August. Field preparation and sowing occurred under optimal dry conditions, but the soil water available to crops was lower than usual, causing a non-uniform emergence especially in southern Ukraine (where the water balance for October was within – 30 % below the long-term average). A similar 'dry scenario' occurred for winter barley sowing. The sowing of rapeseed in Ukraine was performed under dry conditions, except in central areas where, before and during the sowing dekad, some rainfall occurred which may have postponed the field activities a little, but which also increased soil moisture.

As for the other Black Sea areas, the dekad before the sowing of winter wheat was drier than usual (– 30 %) in northern Romania and western Turkey and wetter in southern Romania, Bulgaria and most of Turkey. A similar situation occurred during the pre-sowing dekad of winter barley, except for the fact that the whole of Romania (including the northern part) was wetter than usual.

The sowing periods of winter wheat and barley were generally dry and favourable for this activity, except in the border area between Romania and Bulgaria close to the Black Sea (up to 50 mm cumulated rain) and north-western Turkey (50 to 70 mm). During the dekad after canonical sowing of winter cereals, some rainy events occurred in Turkey (with beneficial effects) and eastern Romania. For Romania and Bulgaria, soil moisture was higher than usual due to excessive rain received from the beginning of the year. During the dekad before the sowing of rapeseed, some rain occurred in northern Romania (about 40 mm) and the weather was rainy during the sowing dekad in southern Romania, and central areas of the country received more than 50 mm of rain in the dekad after sowing.

Eastern countries

Russia: dry conditions for winter crops sowing

In Russia, the air temperature during the last months was 2–3 degrees higher than in the previous year in all regions. However, the amount of rain was lower than normal, especially in the central and northern regions of Russia. As a result, soil moisture content during the time of winter crop sowing was lower than normal and lower than in the previous year. October rains in southern regions have created good conditions for winter crop emergence. A low amount of precipitation in other regions could lead to a delay in the sowing campaign. In some regions of central Russia, dry conditions should lead to a replacement of winter crops with spring crops.

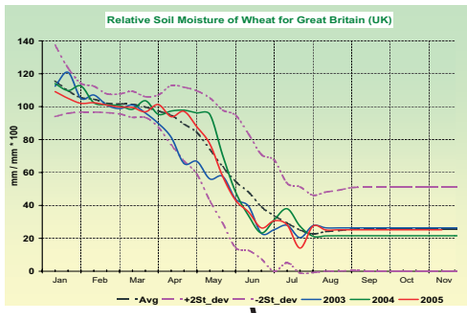
Maghreb

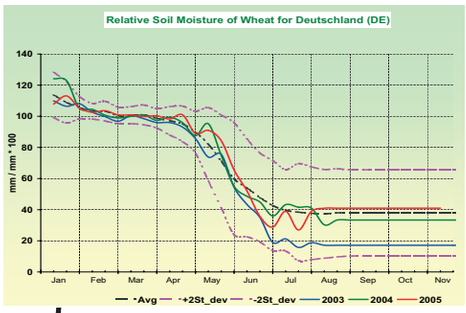
Higher than average rainfall in the Maghreb region, especially over Algeria, is conducive to favourable sowing and germination conditions. Overall temperature is at average levels.

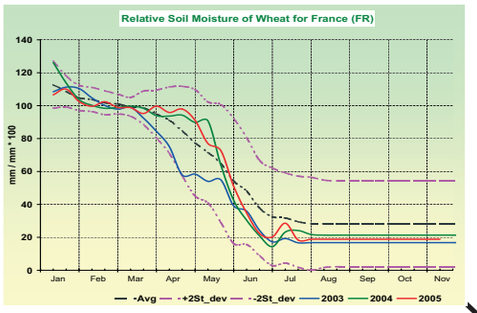
The situation appears to be worse in Morocco, where the present precipitation levels continue a situation of drought and can compromise crops since germination.

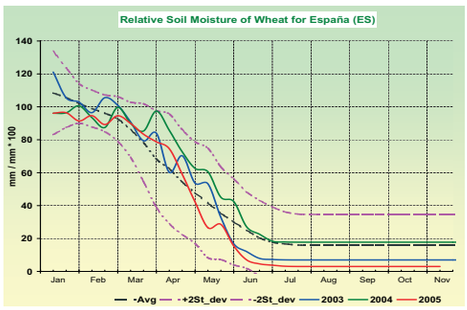
Agrometeorological CGMS simu

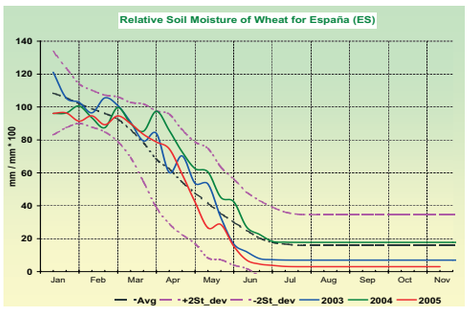
WHEAT
RELATIVE SOIL MOISTURE

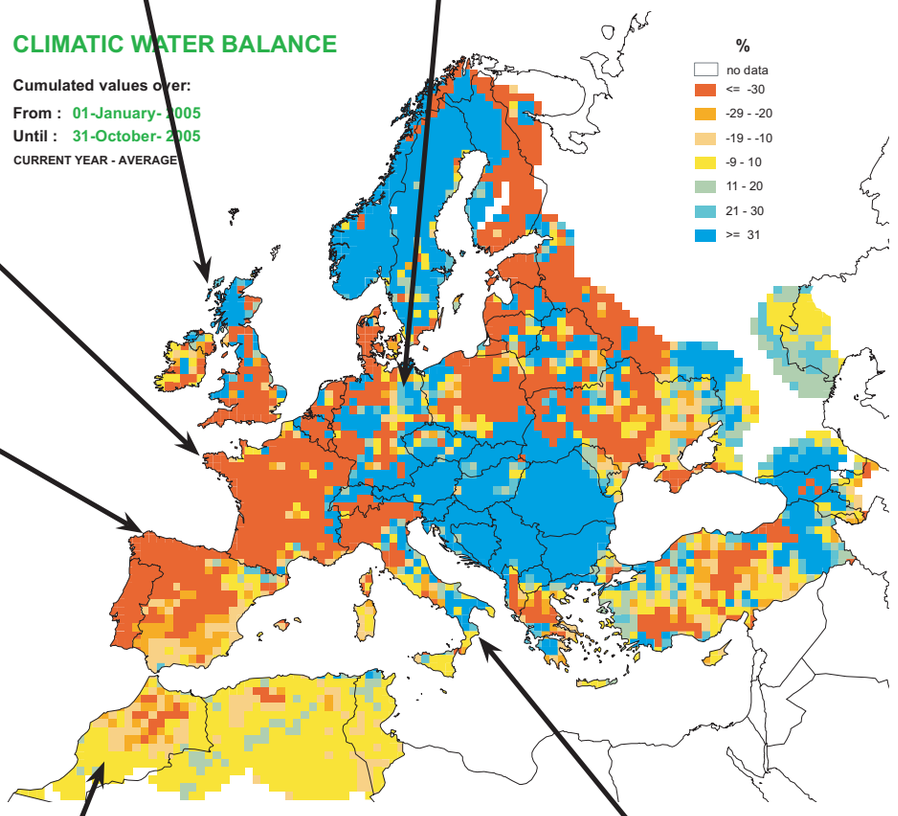


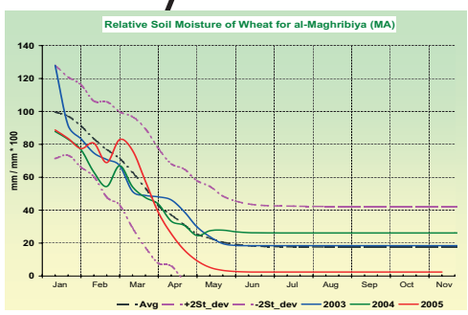


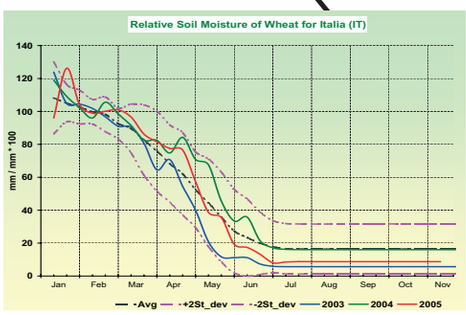






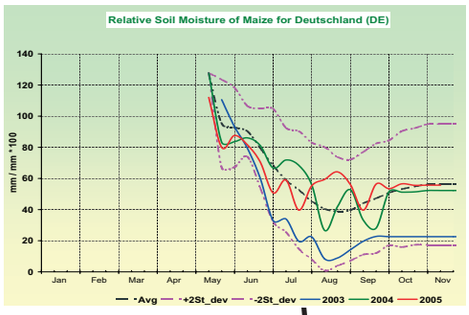


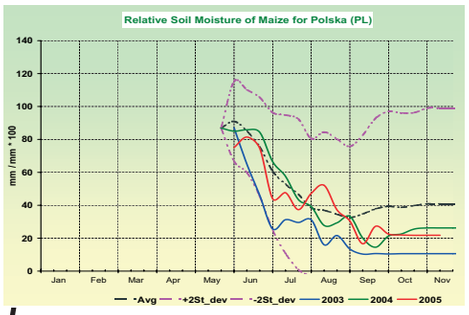


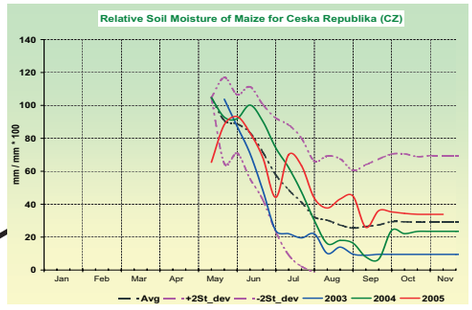


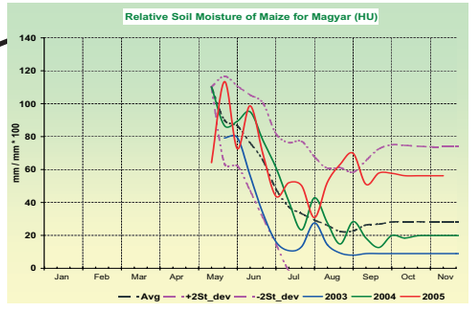
ıulations — Campaign 2004/05

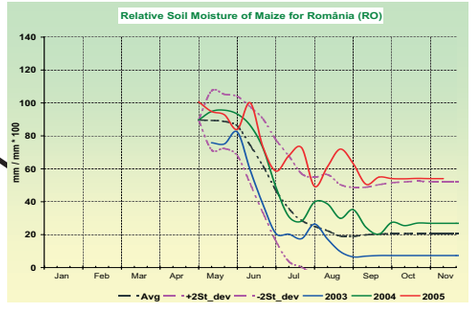
MAIZE
RELATIVE SOIL MOISTURE

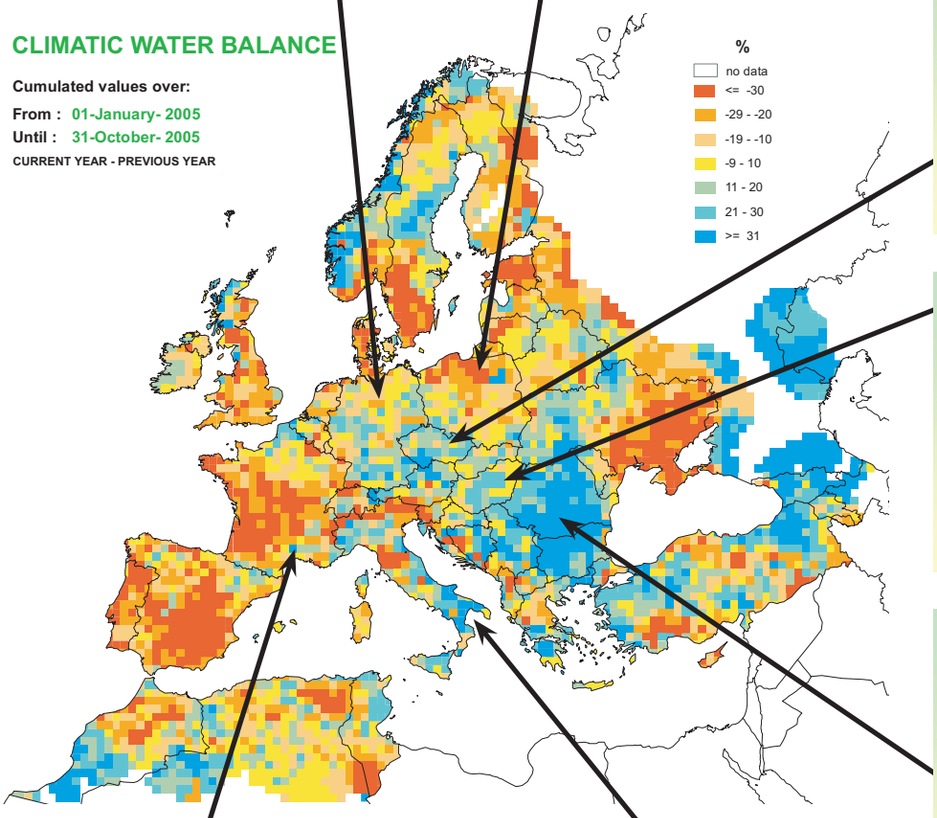


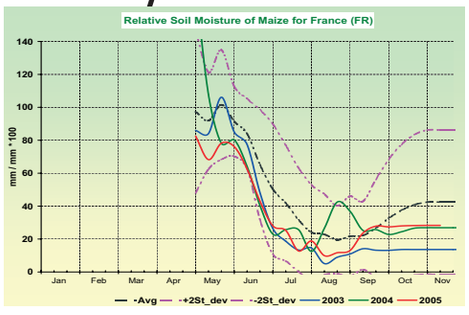


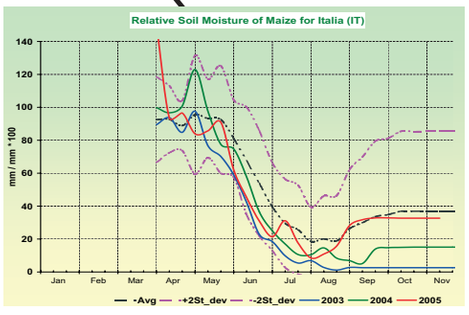




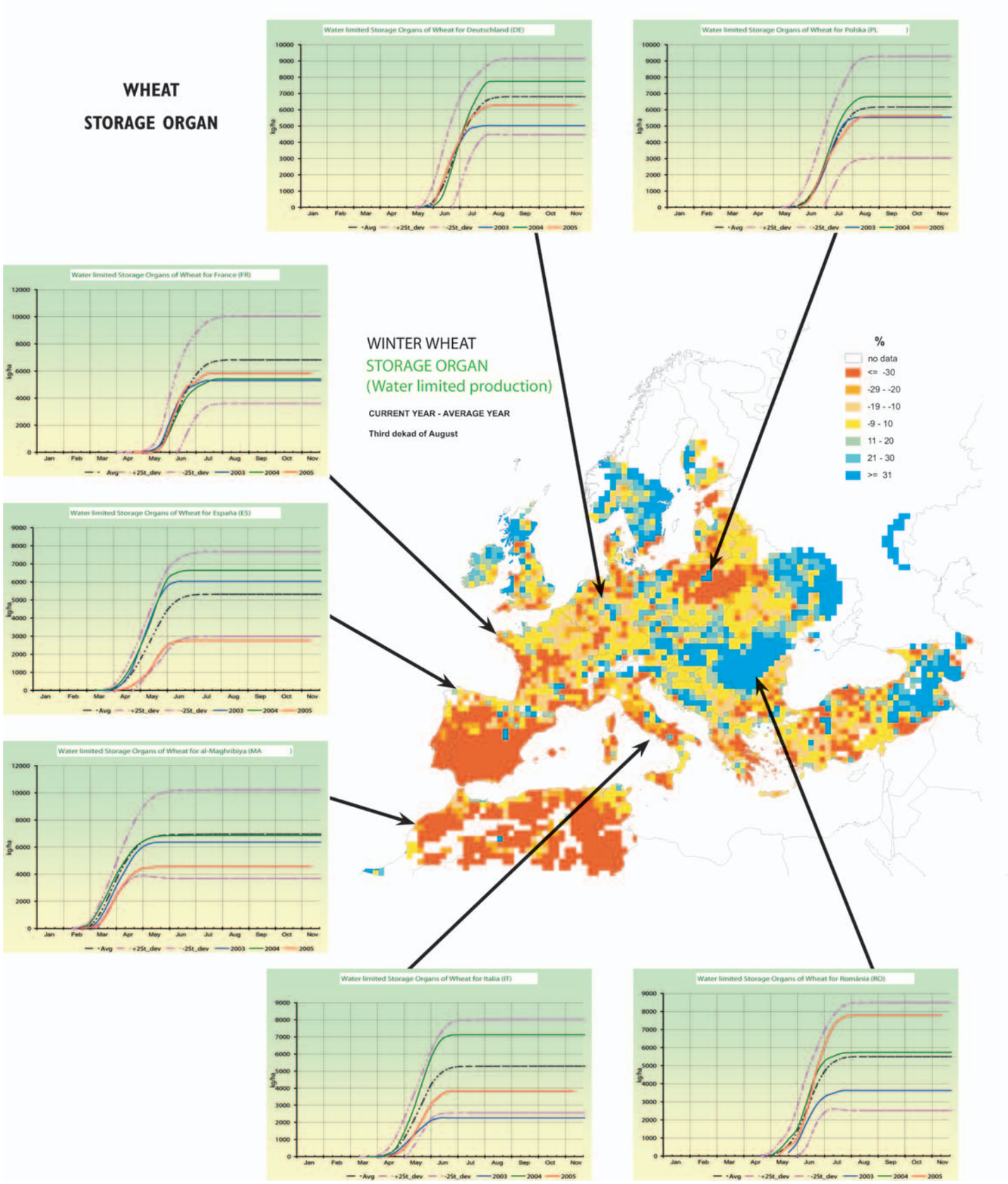




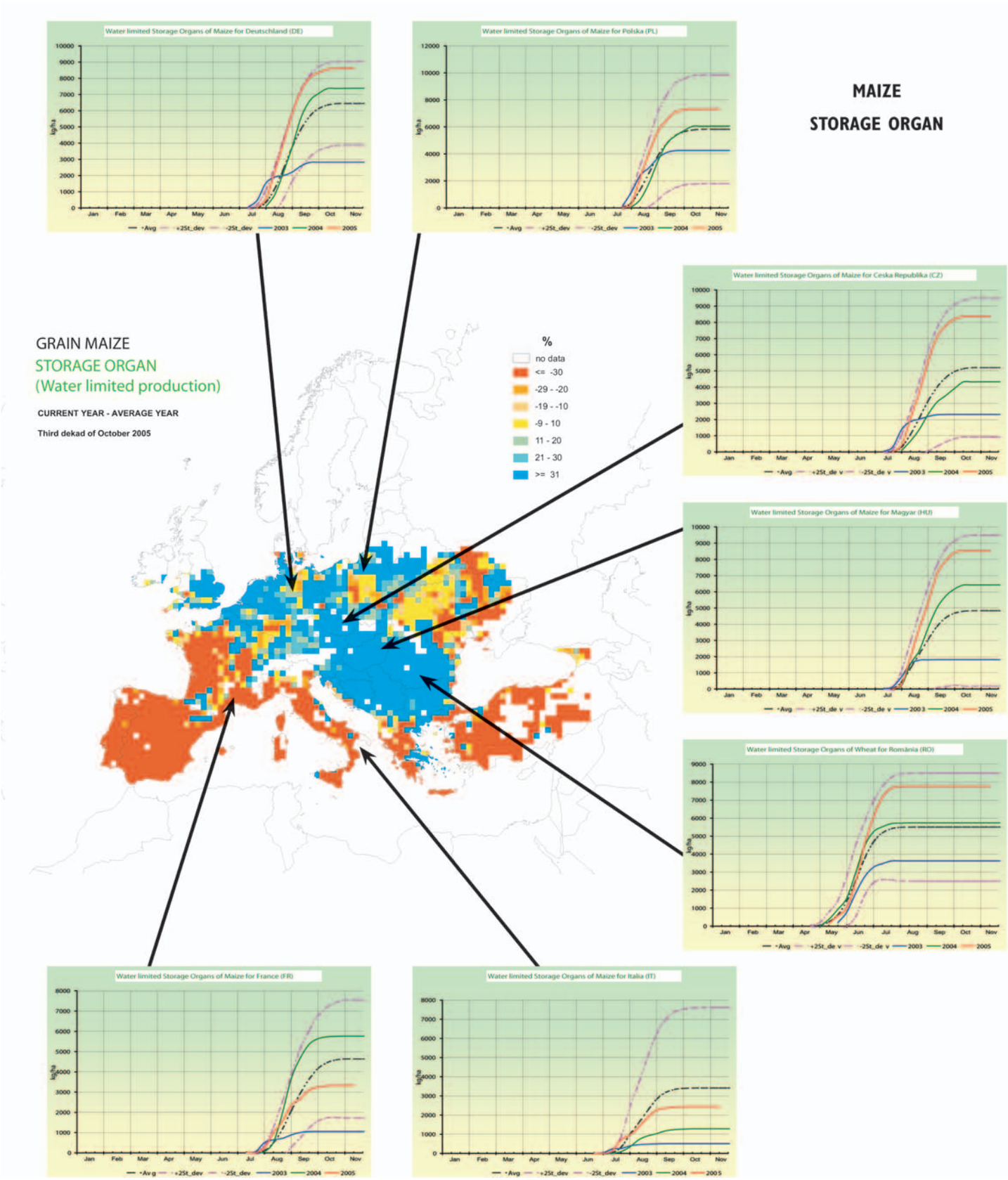




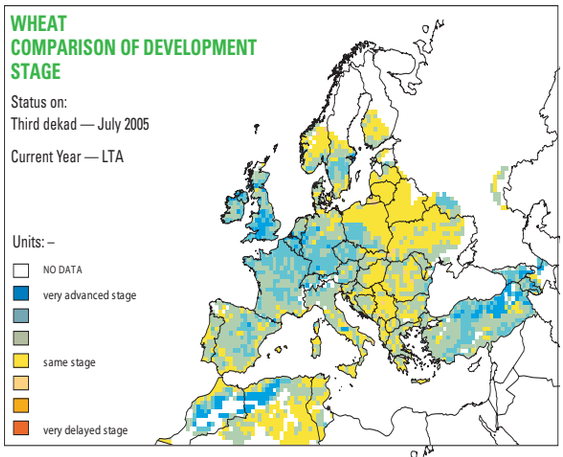
Agrometeorological CGMS sim

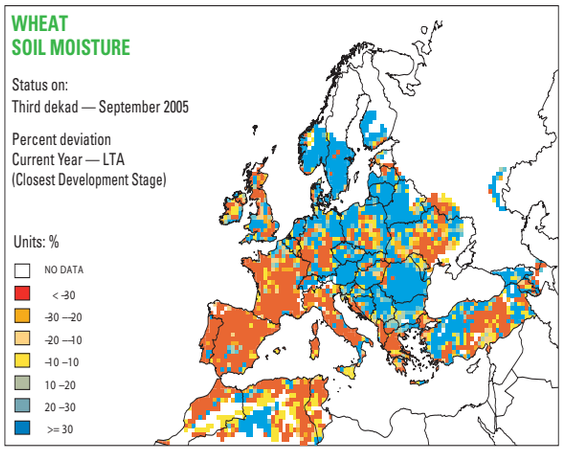


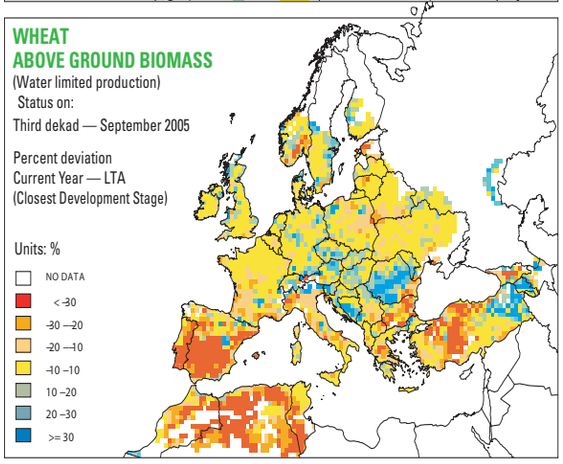
ı ulations — Campaign 2004/05

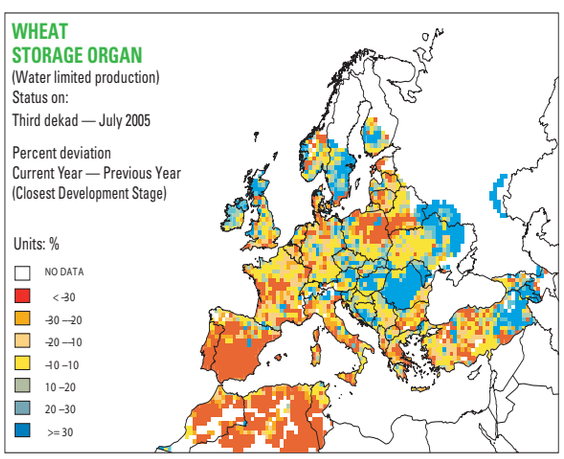


Wheat

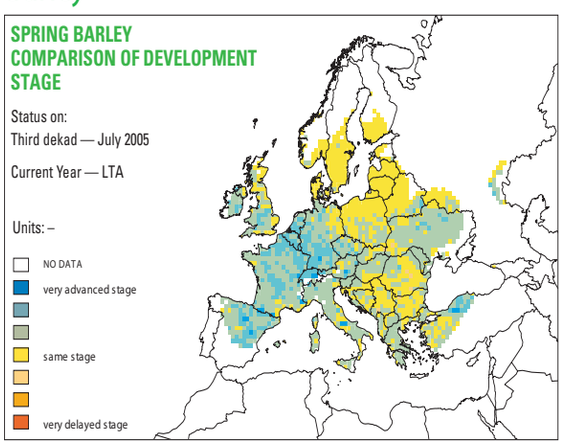


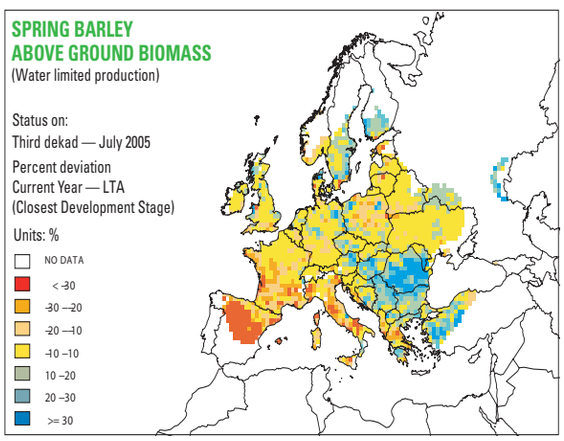




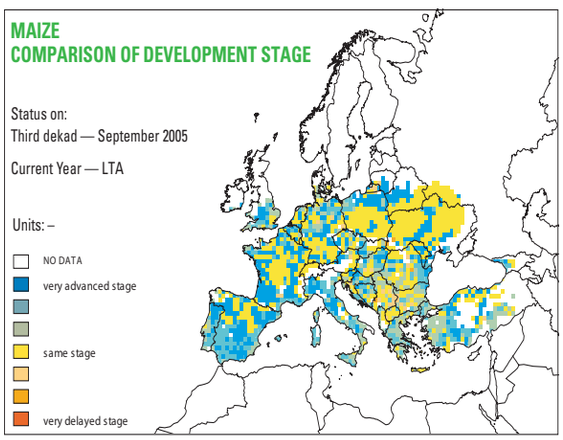


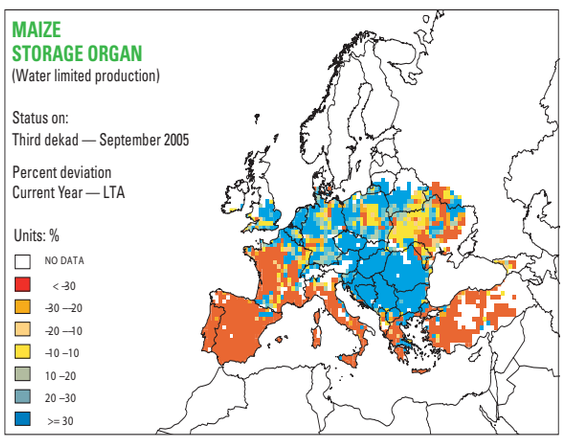
Barley



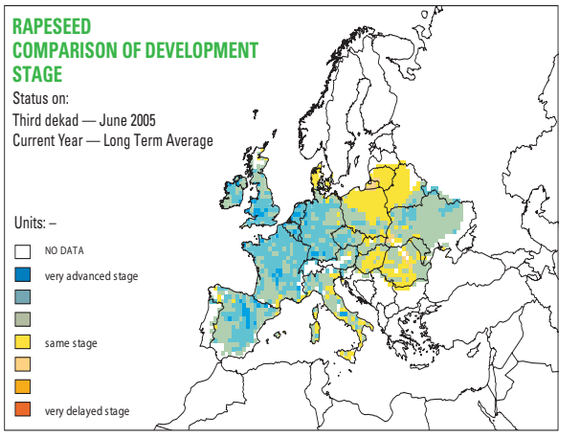


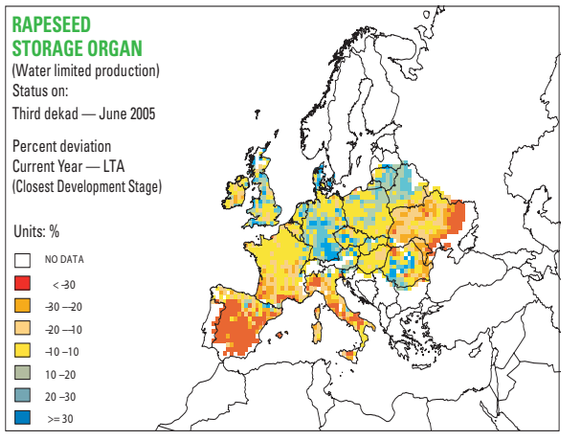
Maize



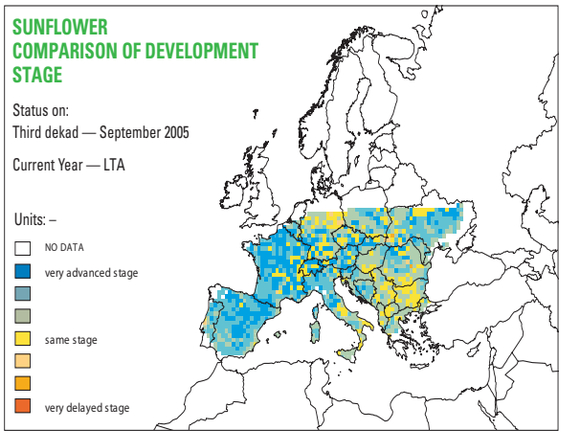


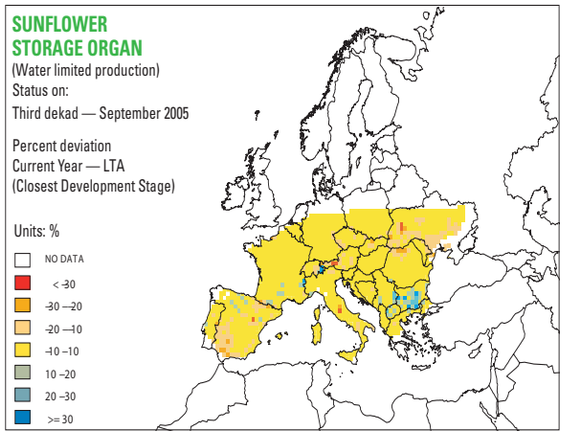
Rapeseed



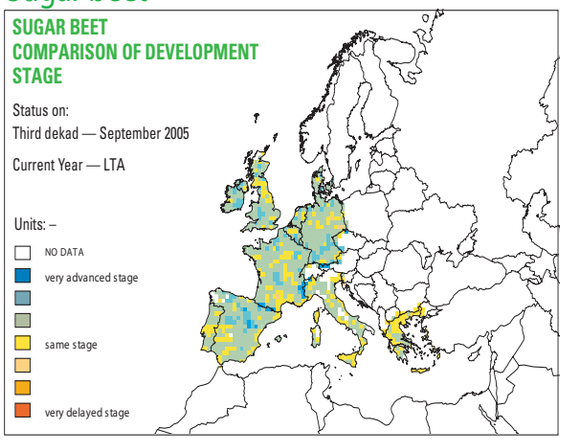


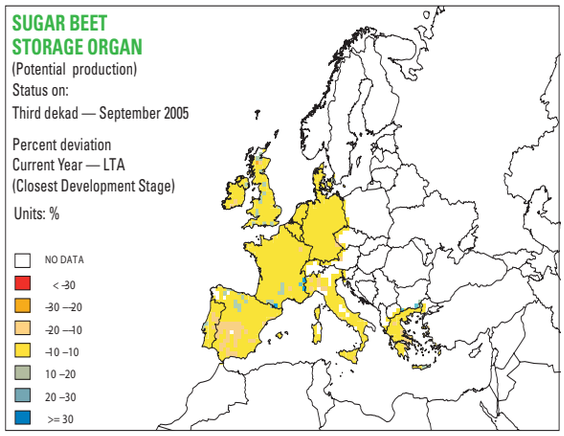
Sunflower



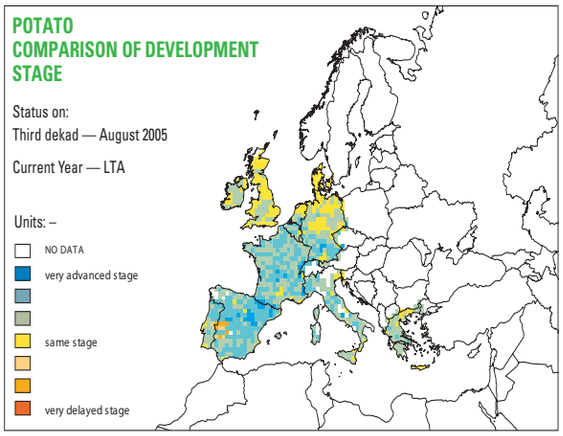


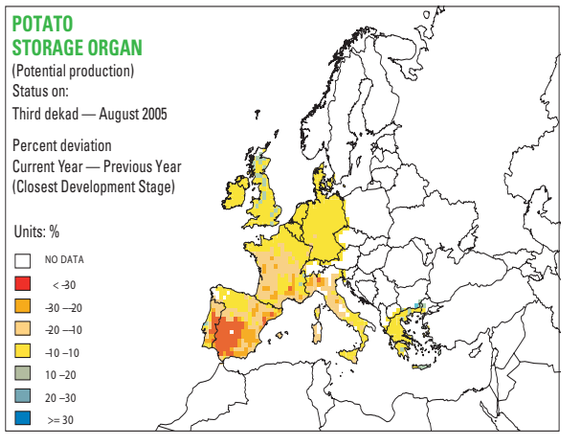
Sugar beet



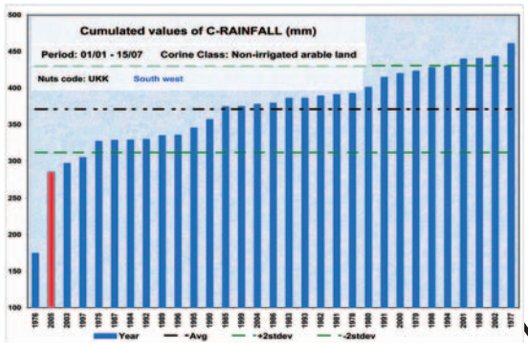


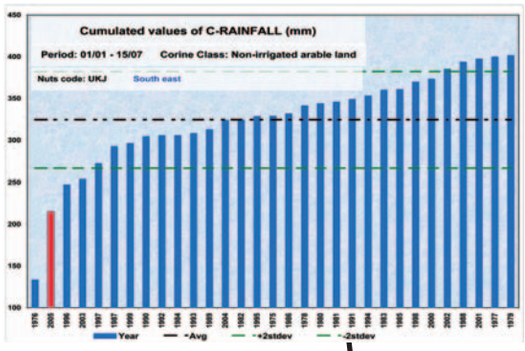
Potato

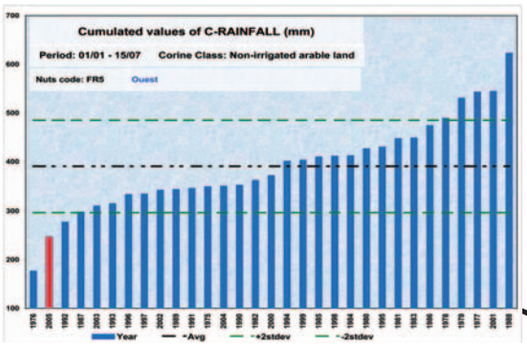


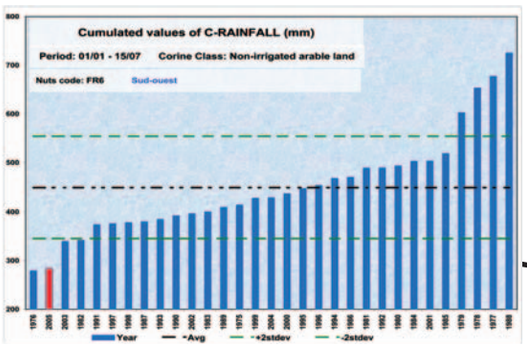


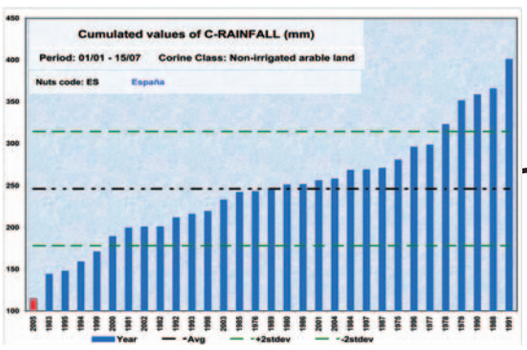
Extreme cumulated rain

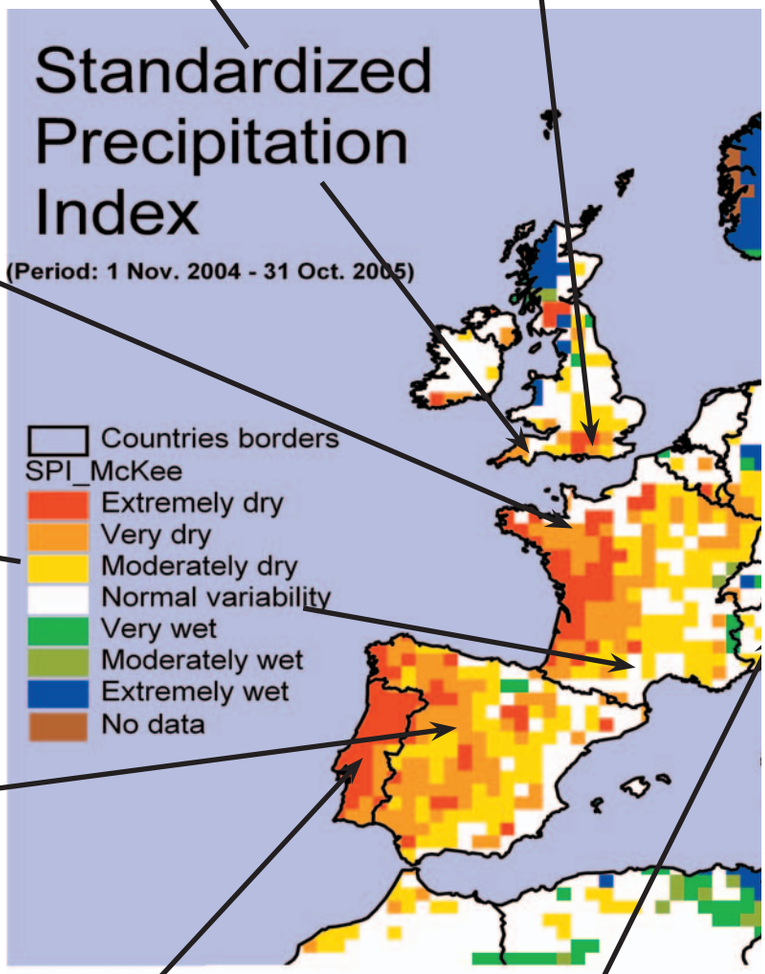


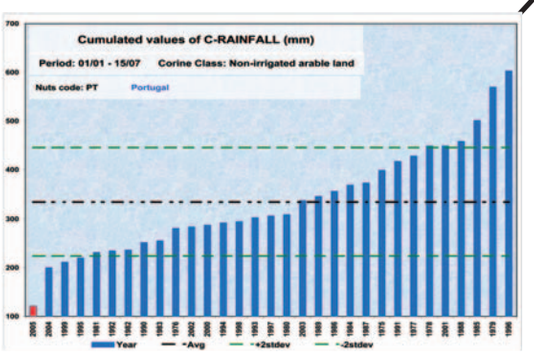


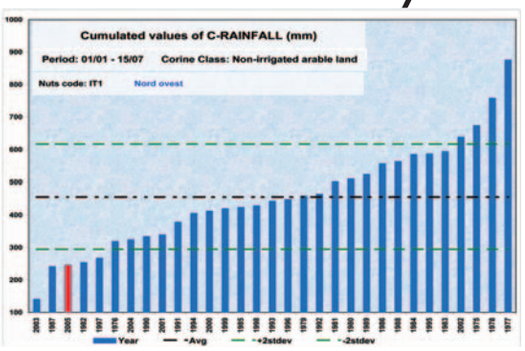




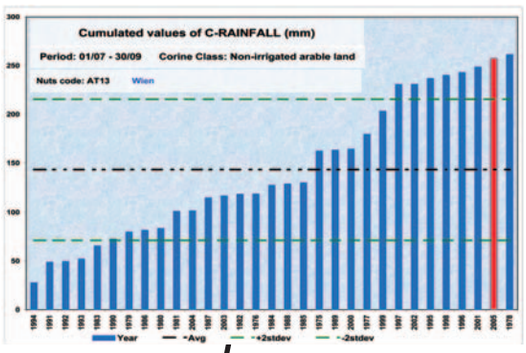


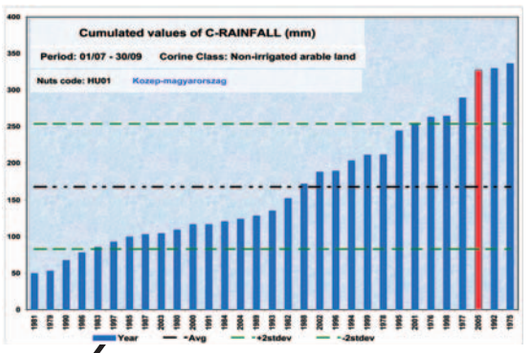


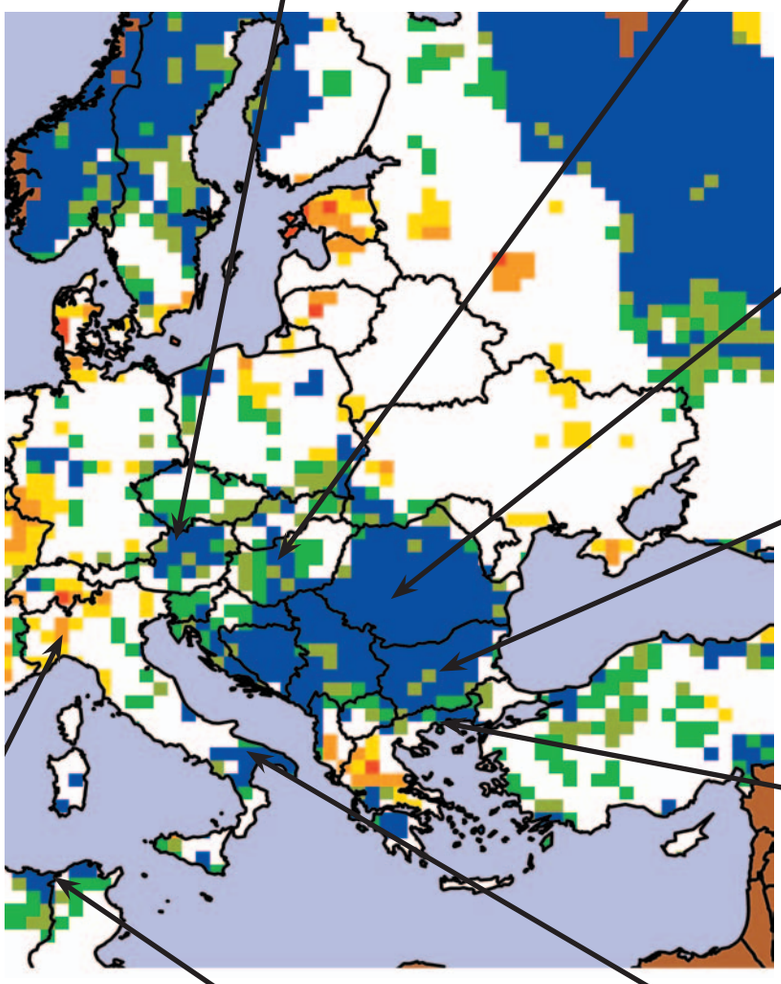


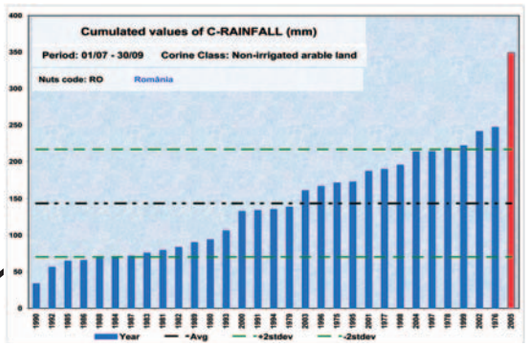


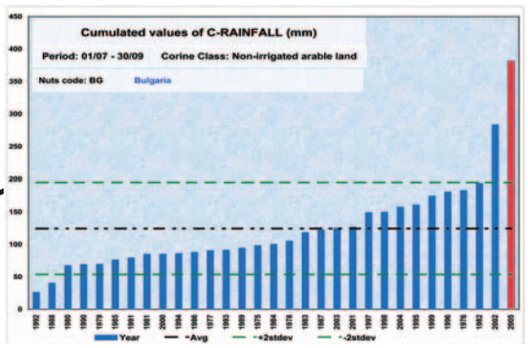
events — Campaign 2004/05

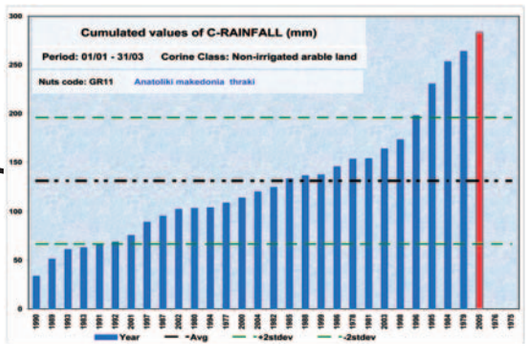


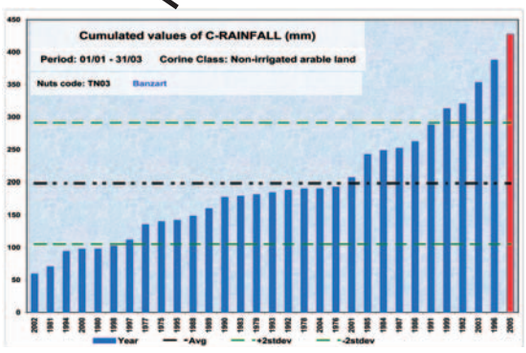


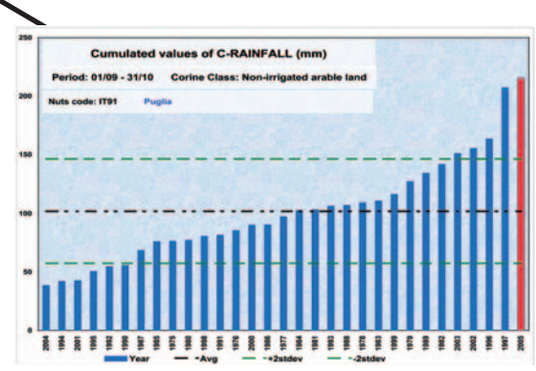






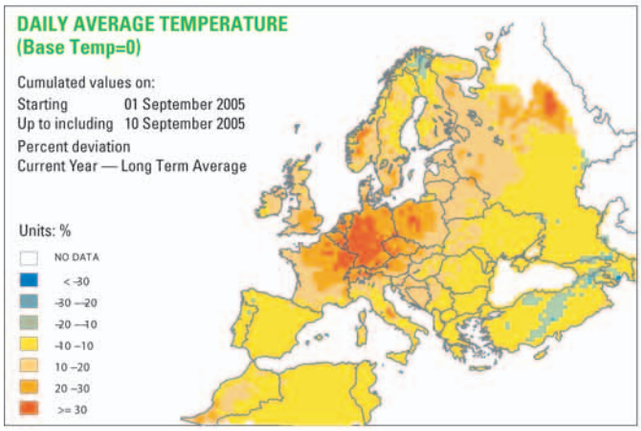


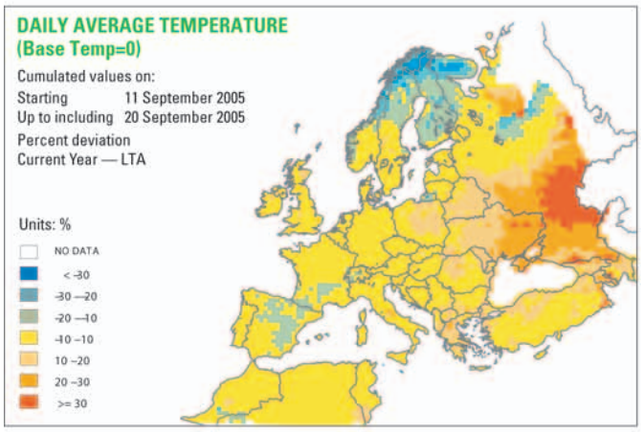


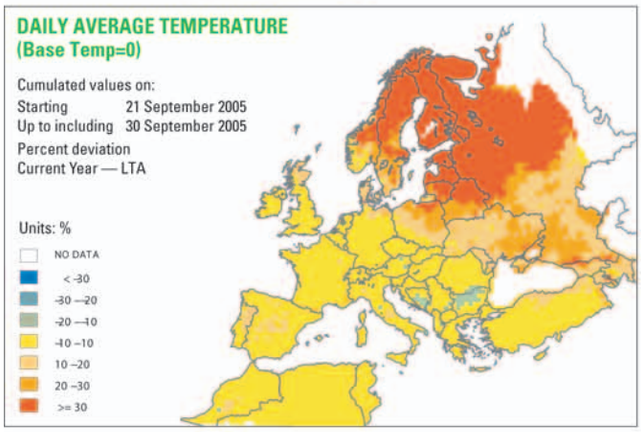


Ten-day period temperature maps — New campaign

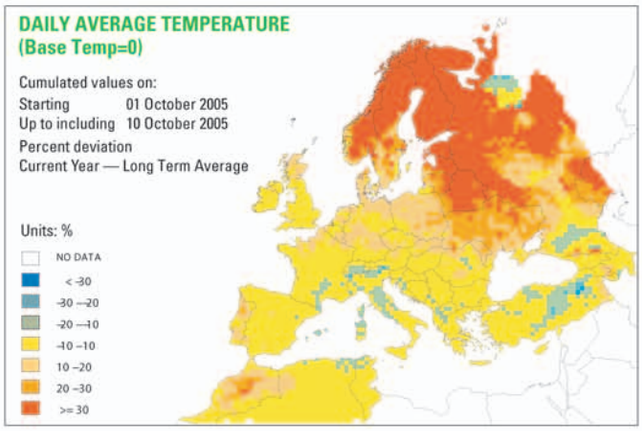
September 2005

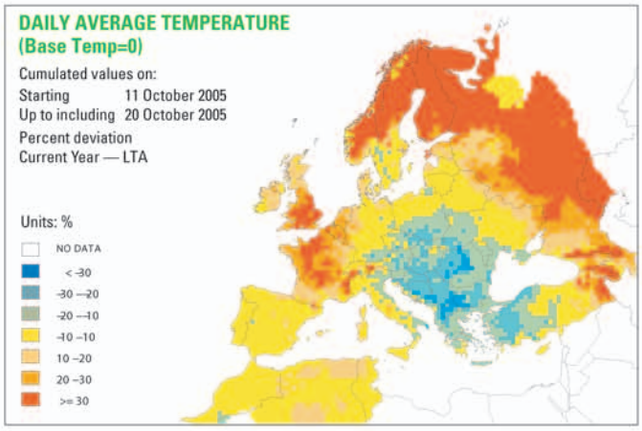


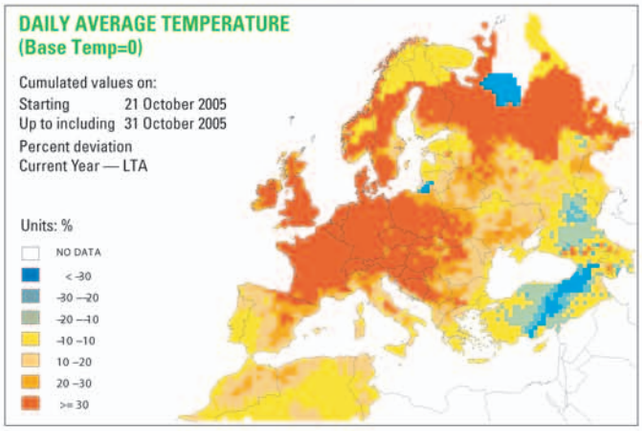




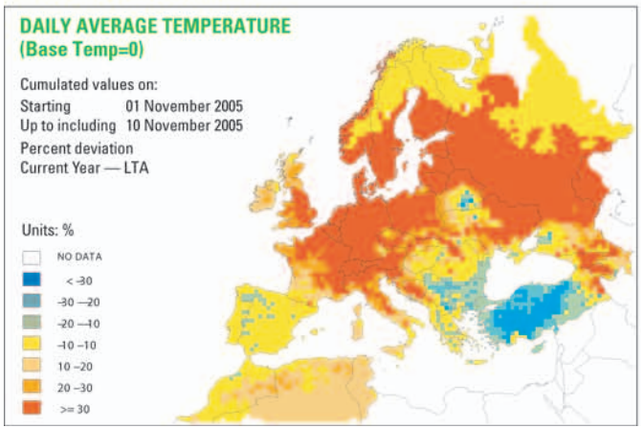
October 2005





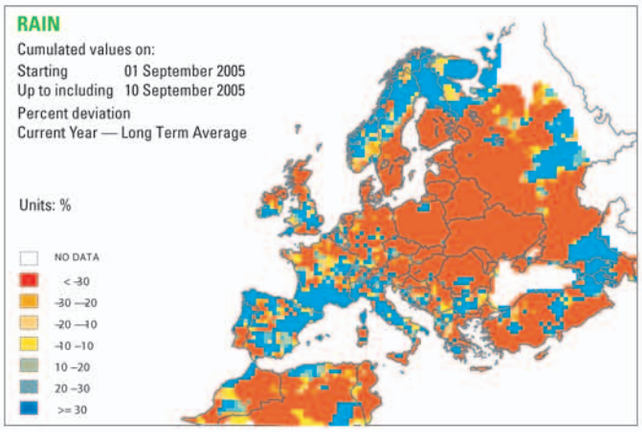


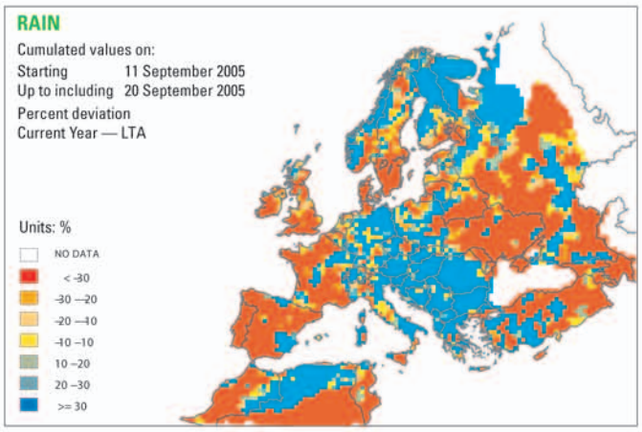
November 2005

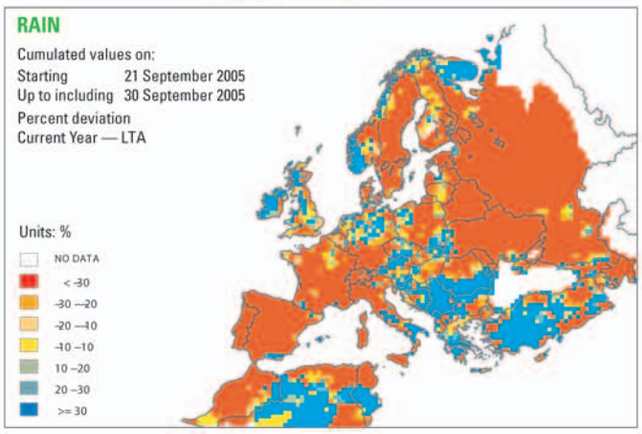


Ten-day period rain maps — New campaign

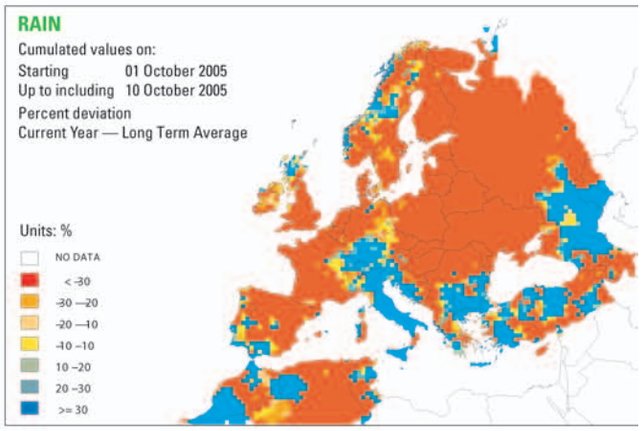
September 2005

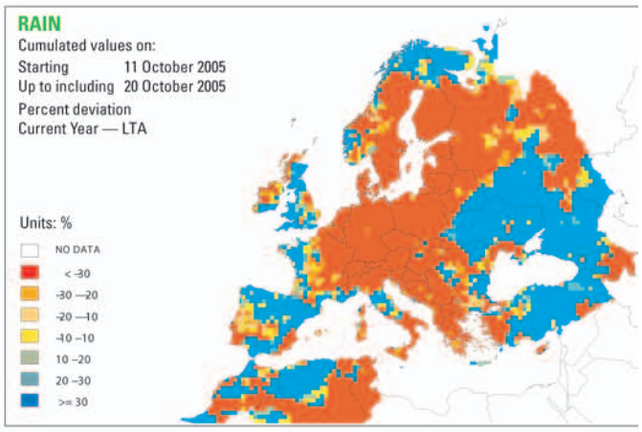


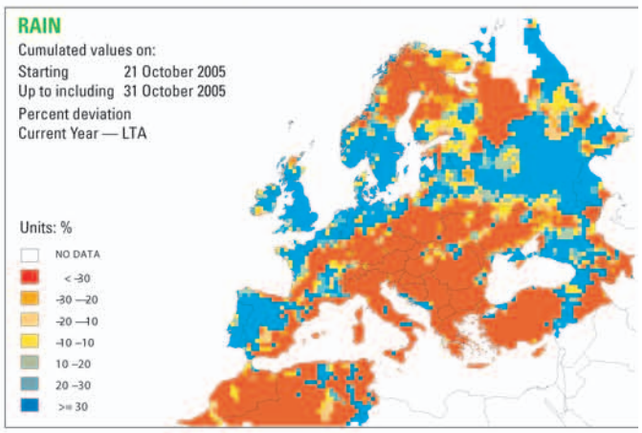




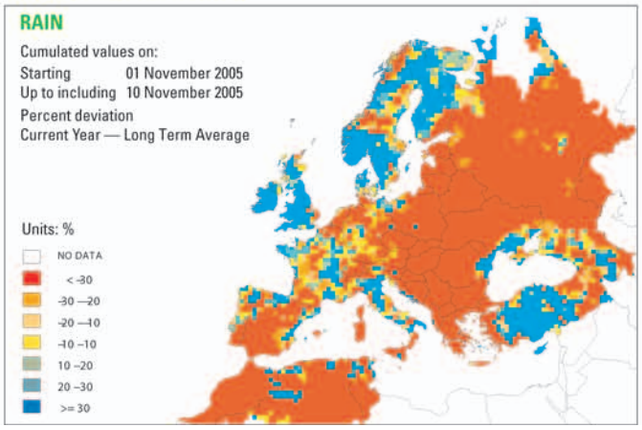
October 2005



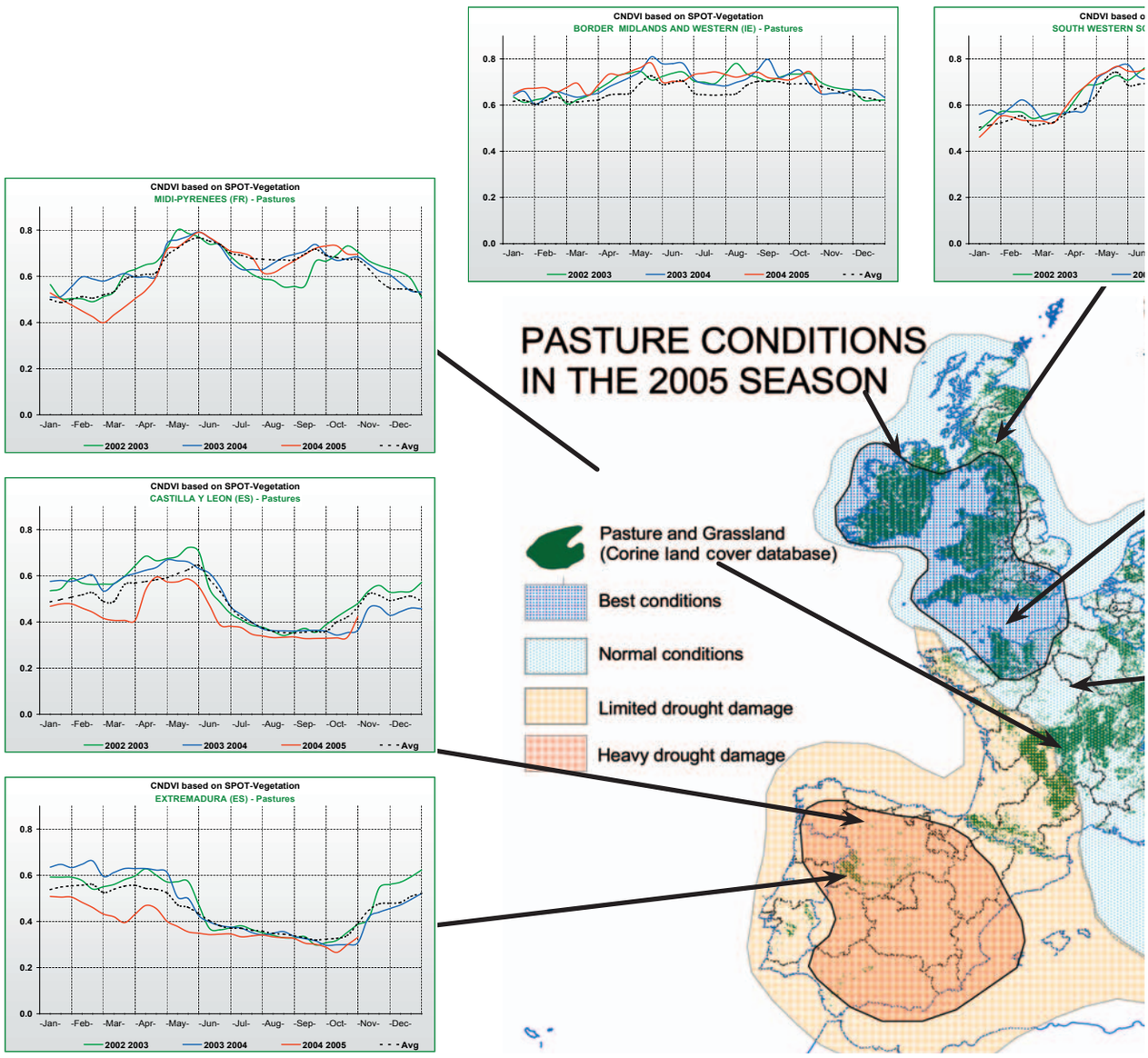




November 2005



Spot-vegetation satellite inform a



Pasture and grassland provide the major animal-food contribution to the production of milk and meat. This land-use class is concentrated in the northern regions of the EU (France, Germany, Benelux, the British Isles and the Baltic countries). Significant forage production areas are also present in the Iberian and Italian peninsulas.

In 2005, the British Isles experienced a particularly good season, though still comparable with 2004. Pasture conditions in most areas of the central and central-eastern EU were also in line with the previous year production levels and generally positive. In some of these areas, conditions appeared better than average in mid-summer, but re-converged to more normal levels at the end of the season.

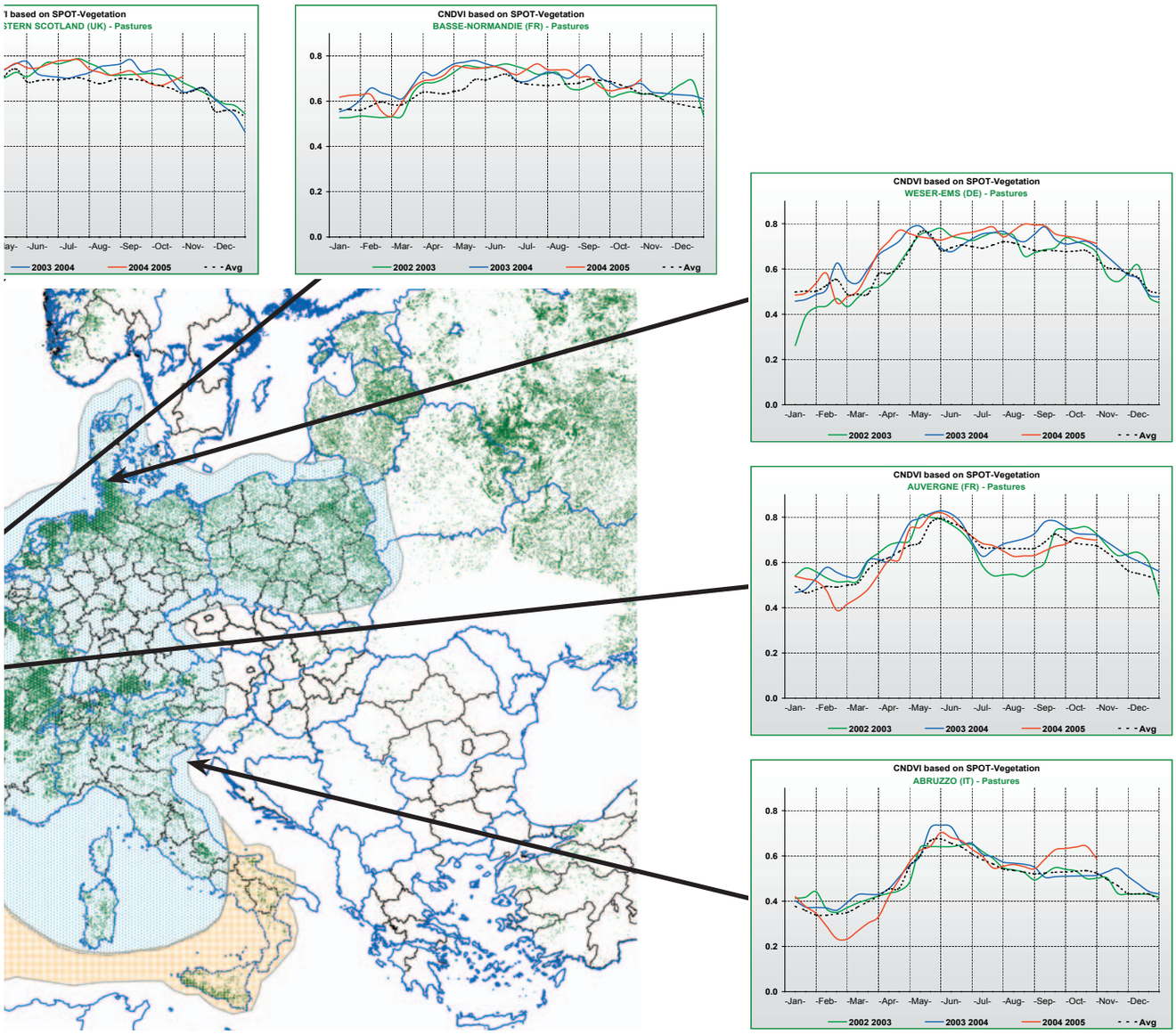
Conditions were not as favourable in south-eastern France and in the Iberian peninsula in an area that, overall, represents around 14 % of the total pasture area (6 500 000 ha) in the EU. The worst conditions were observed over part of this area, in Spain and Portugal, which were hit by an exceptional drought from the early spring. In the agro-forestry areas of these countries (3 % of the total of the EU, that is, 1 200 000 ha), the overall biomass appears to be at its worst level for the last 20 years (– 25 % on the long-term average). In France, southern-central Italy and Greece, the impact of drought is also present, though not as serious.

The evolution in the condition of pastures and grassland areas is currently monitored using profiles of CNDVI (Corine land cover based 'normalised difference vegetation index'). The profiles are represented in the form of diagrams for the period January–October 2005 and are shown together with the profiles of the previous two seasons (2003 and 2004) and an average profile computed over the period ranging from 1998 to 2004.

The analysis of these profiles showed some progress with respect to the situation observed during early summer. Late and abundant rains in most of the central EU allowed a certain recovery in areas which had previously been labelled as hit by a moderate drought.

Overall, four distinct areas of grassland conditions can be identified. The first of these areas is located in the British Isles and Normandy (F) (~ 27 % of the whole pasture and grassland area in the EU), where the overall trend appeared to be relatively positive and above average. In a second area, located over most of central and western EU (~ 59 % of EU pasture), the situation, though characterised by different trends, appeared to be on average levels throughout the season. There were some alterations at the beginning of spring, caused by a persisting cloud cover and even snow in certain areas, but this did not affect the following evolution in the condition of the vegetation cover. The southern and western Mediterranean areas in France (~ 10 % of EU pasture) constitute a third area which showed some depressed profiles, probably caused by the effects of a moderate drought. A fourth area can be identified in the central regions of the Iberian peninsula (~ 3 % of EU pasture). This area showed signifi-

ı ation on pasture — 2004/05



cantly depressed CNDVI profiles, linked to what may objectively be considered an extremely dry season.

Zone 1 — British Isles and Normandy. The profiles of the vegetation index over these regions remained above normal for most of the season. The trend achieved an absolute maximum at the onset of spring and it maintained high and stable levels until July/August. Later on, the situation converged to more average levels and kept this trend until October. The best conditions for pastures appear to be in Ireland but similar trends can be observed in most of southern Scotland, the western UK and Wales. In the Lower Normandy (F) area, there was a depression of the CNDVI in March which was probably due to persisting cloud cover and snow. The profile, however, recovered in June and thereafter stabilised on above-average levels until September.

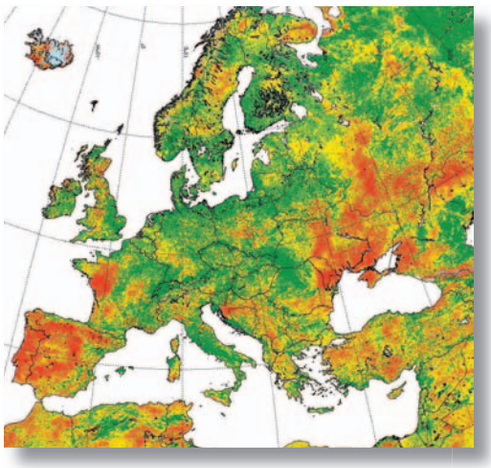
Zone 2 — Central EU. In the pasture and grassland areas of continental Europe (Denmark, Germany, the Netherlands, central France, the northern Italian peninsula), conditions were overall stable on average levels. There were some specific differences for the various climatic areas, and significant cloud cover depressed the profiles in a large part of this area, but, later on, this trend consistently converged on average levels until October.

In the northern countries, the index reached a peak between May and June and then, favoured by the summer rains, stabilised on high but still average levels. In the Mediterranean regions, the profiles took a downturn during the warmest months of summer, but started to grow again at the end of August and kept this upward trend until October. An intermediate trend was recorded in central France, but all these behaviours were within the norm without any specific deviations from the average profiles of vegetation development in the various areas.

Zone 3 —South-western France and the Iberian peninsula. Here, the trend of the CNDVI curves showed a depressed profile, especially in the first part of the season, from February to April. The profile gradually recovered to more average levels from May to the end of July, but negatively diverged from the norm again in August. This evolution coincided with a rainfall shortage in the area but, judging from the levels of the CNDVI compared to the average, the situation cannot be described as particularly serious, though some decrease in the level of biomass production can reasonably be expected.

Zone 4 — Central Iberian peninsula. In this area, the trend of the CNDVI profiles showed a marked reduction from January up to August. This is particularly evident in the pasture and agro-forestry areas of Extremadura and Castile y Leon, and is most probably linked to a persisting and exceptional drought which hit the region during the period. A significant decrease in the production capacity of pastures and grassland can be expected.

Spot-vegetation satellite information on arable land

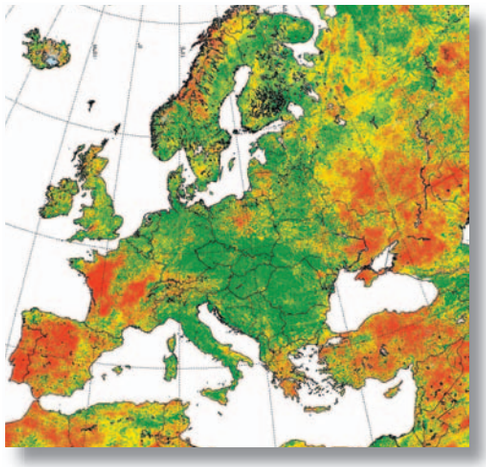


SEPTEMBER 2005

Comparison of the vegetation index with the historical level of the same period (percentile)

00 - 20	LOWER POTENTIAL
20 - 40	
40 - 60	NORMAL
60 - 80	
80 -100	HIGHER POTENTIAL

OCTOBER 2005



Map highlights

The two maps indicate the vegetation condition expressed by the comparison of NDVI values with the historical values for that period. The situation did not ease for Spain and Portugal, where the new growing season has already started. As for the Maghreb countries, vegetation conditions for Morocco and parts of Tunisia appear much worse than normal, whereas the vegetation development for Algeria is within the normal and better range. A good start to the season can be observed for Italy, reaching the maximum historical NDVI values for September and October. This indicates an optimum biomass growth.

CNDVI profile highlights

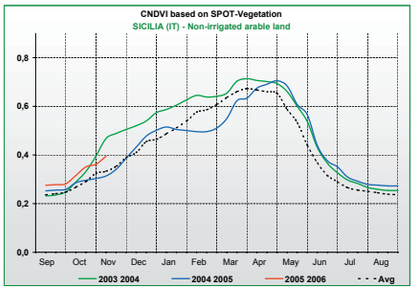
The CNDVI profiles focus on the countries around the Mediterranean Sea, as the new crop season is well advanced here. For central and northern Europe, the crop cover is still too low for vegetation condition interpretation based on low resolution sensors such as 'SPOT vegetation'.

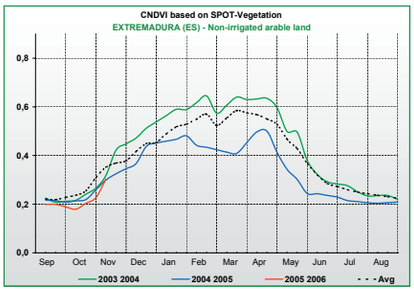
The start of the growing season was optimal for large parts of **Italy**, as interpreted from the CNDVI profiles. **Sardinia** and **Sicily** show a well above average biomass gain early in the season. For **Calabria**, the NDVI curve even shows an optimal biomass development.

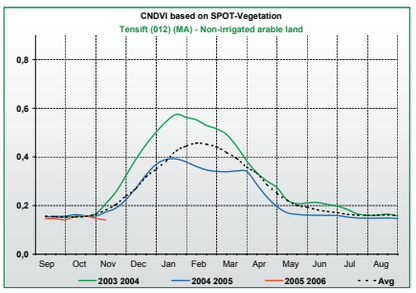
Looking at the profile of **Alentejo (Portugal)**, the vegetation response is below average, with a delayed vegetation period. This is probably because of the drought last campaign, but within the last dekad the vegetation boost has begun.

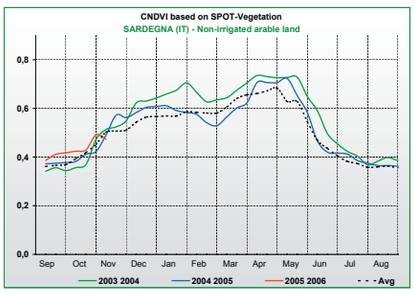
For **Spain**, a similar situation can be reported: a delayed start in **Extremedura** and an NDVI profile below the average. For the central region, **Castile y Leon**, the season is about to start and it is too early for an interpretation concerning vegetation conditions.

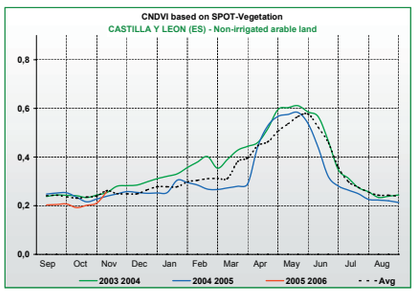
The profiles for the **Maghreb** countries show very low biomass accumulation so far.

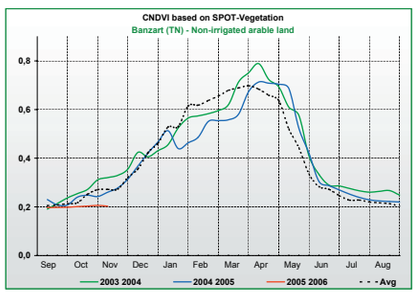


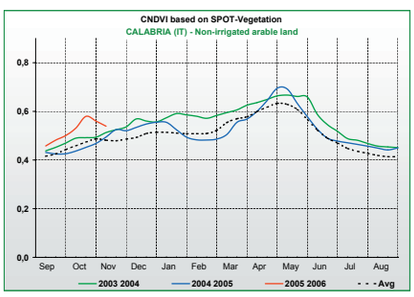


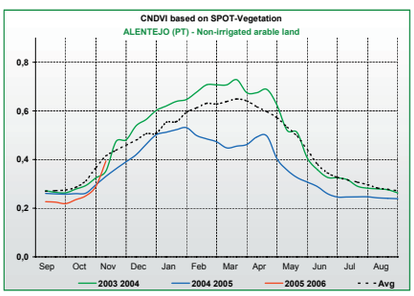


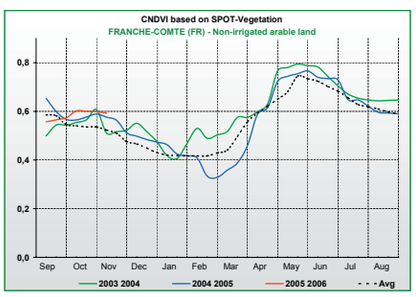












Publications Office
Publications.eu.int

LB-AA-05-006-EN-C