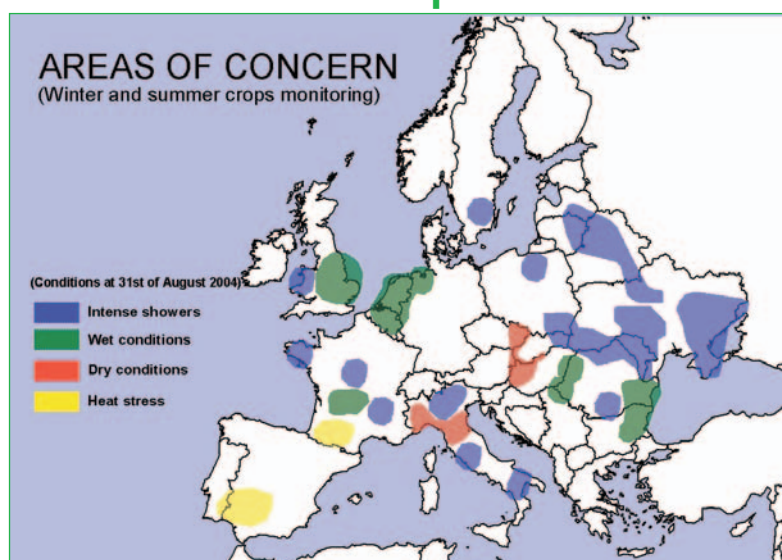


<http://agrifish.jrc.it/marsstat/bulletin/2004.htm>
Situation: **1 July to 31 August 2004**, Vol. **12** No **5**

Generally favourable conditions increased cereals expectations. In some cases, excessive rain limited a full potential in northern-most areas



MARS yield forecast at European level — 31 August 2004

CROPS	EU-15 yield (t/ha)					EU-25 yield (t/ha)		
	2003	2004	% 04/03	Avg. 5 years	% 04/Avg.	2003	2004	% 04/03
Cereals (total)	5.1	5.8	13.3	5.5	5.6	4.6	5.1	11.4
Soft wheat	6.1	7.0	13.6	6.5	6.9	5.4	5.9	9.8
Durum wheat	2.3	2.7	15.0	2.4	10.7	2.3	2.7	15.0
Barley	4.4	4.7	6.4	4.6	3.3	4.1	4.4	7.0
Grain maize	7.6	9.1	19.2	8.8	3.1	7.1	8.3	18.0
Other cereals ⁽¹⁾	3.8	4.2	10.9	4.1	1.5	3.0	3.3	9.8

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

Yield figures are rounded to 100 kg.

Sources:

2003 yields come from Eurostat Cronos

2004 yields come from MARS crop yield forecasting system

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Climatic overview

Temperature: normal accumulation of active temperatures

For all the considered period, the accumulation of active temperatures was close to normal ($\pm 10\%$). The only exceptions were eastern Belarus, northern Latvia, Sweden and Denmark, where August was hotter than usual. The two months followed two contrasting patterns clearly delimited geographically: in the northern part of Europe (the UK, Ireland, Brittany, Benelux, northern Germany, Denmark, the southern Scandinavian peninsula, northern Poland and Lithuania) July was cooler than average allowing a longer grain-filling period of winter

see page 3

MARS yield forecast at national level — 31 August 2004

CROPS	SOFT WHEAT			DURUM WHEAT			BARLEY			OILSEED RAPE		
yield (t/ha)	2003	2004	%04/03	2003	2004	%04/03	2003	2004	%04/03	2003	2004	%04/03
EU25	5,4	5,9	9,8	2,3	2,7	15,0	4,1	4,4	7,0	2,7	3,0	8,9
EU15*	6,1	7,0	13,6	2,3	2,7	15,0	4,4	4,8	7,7	3,0	3,2	8,1
AT*	4,4	5,0	12,5	3,8	3,4	-10,9	4,2	4,5	8,3	1,8	2,4	34,8
BE*	8,5	8,5	0,1	-	-	-	6,6	7,2	8,1	-	-	-
CY	-	-	-	-	-	-	2,5	2,3	-7,2	-	-	-
CZ	4,1	4,6	14,1	-	-	-	3,8	3,8	-0,3	1,5	2,4	55,8
DE*	6,5	7,5	15,3	-	-	-	5,1	6,1	19,2	2,9	3,3	15,8
DK*	7,1	7,0	-1,6	-	-	-	5,3	5,5	3,0	3,3	3,2	-4,0
EE	2,2	1,8	-16,2	-	-	-	1,9	1,9	-4,1	1,5	1,7	10,6
ES*	3,1	3,3	6,5	2,5	2,4	-3,7	2,8	3,0	4,8	-	-	-
FI*	3,6	3,1	-12,8	-	-	-	3,2	3,4	6,1	1,3	1,2	-2,2
FR*	6,4	7,4	14,7	4,0	4,6	13,2	5,6	6,4	14,8	3,1	3,3	5,0
GR*	2,6	2,7	5,3	1,8	2,3	25,0	1,8	2,2	17,2	-	-	-
HU	3,5	4,2	19,4	-	-	-	3,3	3,2	-3,9	4,2	1,9	-56,1
IE*	8,3	8,9	7,3	-	-	-	6,5	6,8	4,0	-	-	-
IT*	4,4	4,8	9,5	2,2	2,7	22,7	3,3	3,5	7,5	-	-	-
LT	3,6	3,8	6,0	-	-	-	2,9	2,6	-10,8	1,8	1,7	-5,7
LU*	6,1	6,0	-2,2	-	-	-	5,3	5,5	2,2	-	-	-
LV	2,8	3,2	15,7	-	-	-	1,9	2,0	6,8	1,5	1,7	18,6
MT	-	-	-	-	-	-	-	-	-	-	-	-
NL*	9,2	8,2	-10,8	-	-	-	6,6	5,8	-11,7	-	-	-
PL	3,4	3,6	4,6	-	-	-	2,8	3,1	12,7	1,9	2,5	36,6
PT*	1,2	1,3	9,7	0,9	1,2	33,1	1,2	1,3	8,0	-	-	-
SE*	5,6	5,6	1,2	-	-	-	4,2	4,2	-2,3	2,2	2,5	13,1
SI	3,5	4,1	19,3	-	-	-	2,9	3,5	20,4	-	-	-
SK	3,0	3,2	5,5	-	-	-	3,0	2,7	-9,6	1,0	2,1	102,0
UK*	7,7	7,8	1,8	-	-	-	5,9	5,7	-3,7	3,3	3,3	1,1

CROPS	GRAIN MAIZE			SUNFLOWER			SUGAR BEET			POTATO		
yield (t/ha)	2003	2004	%04/03	2003	2004	%04/03	2003	2004	%04/03	2003	2004	%04/03
EU25	7,1	8,3	18,0	1,6	1,7	9,3	53,8	55,6	3,4	26,4	28,9	9,2
EU15*	7,6	9,1	19,2	1,5	1,7	10,2	57,4	59,7	4,0	33,9	37,3	10,1
AT*	8,4	8,7	3,6	2,8	2,5	-9,7	57,5	62,3	8,4	26,5	30,5	14,9
BE*	10,5	11,6	10,3	-	-	-	70,7	69,2	-2,1	42,5	45,9	7,9
CY	-	-	-	-	-	-	-	-	-	-	-	-
CZ	5,6	5,8	4,8	2,4	2,4	0,0	45,2	48,1	6,4	19,0	22,0	16,1
DE*	7,4	8,7	17,5	2,0	2,5	25,9	53,2	58,3	9,5	34,5	41,6	20,6
DK*	-	-	-	-	-	-	57,6	58,9	2,2	39,2	40,8	4,1
EE	-	-	-	-	-	-	-	-	-	14,4	13,9	-3,5
ES*	9,2	9,9	8,4	1,0	1,1	15,8	64,7	66,0	2,0	26,9	27,0	0,3
FI*	-	-	-	-	-	-	31,0	32,7	5,4	21,5	23,4	8,9
FR*	7,1	8,9	25,3	2,2	2,4	9,5	72,7	74,2	2,0	40,0	41,0	2,7
GR*	8,8	8,9	0,8	1,3	1,3	3,3	56,4	62,4	10,6	22,4	23,5	5,1
HU	5,9	6,7	12,6	1,8	1,9	6,3	39,5	43,3	9,8	23,5	22,8	-2,9
IE*	-	-	-	-	-	-	47,8	50,2	5,1	34,5	35,0	1,4
IT*	7,5	9,5	26,0	1,6	1,7	6,0	33,3	39,1	17,4	21,8	23,9	9,3
LT	-	-	-	-	-	-	37,8	36,1	-4,5	15,6	15,7	0,5
LU*	-	-	-	-	-	-	-	-	-	-	-	-
LV	-	-	-	-	-	-	37,0	38,3	3,6	13,5	13,8	2,0
MT	-	-	-	-	-	-	-	-	-	-	-	-
NL*	11,7	12,0	2,9	-	-	-	60,7	56,0	-7,8	40,8	44,5	9,1
PL	5,3	6,0	13,7	-	-	-	41,0	40,8	-0,5	17,9	19,5	8,9
PT*	5,6	6,1	7,5	0,6	0,6	2,0	64,6	67,2	4,0	15,2	14,3	-5,8
SE*	-	-	-	-	-	-	49,6	50,0	0,8	28,1	2,8	-90,2
SI	5,1	6,3	23,5	-	-	-	-	-	-	-	-	-
SK	4,1	5,2	26,2	1,9	1,8	-5,9	36,6	40,8	11,3	15,3	16,2	6,0
UK*	-	-	-	-	-	-	57,3	58,0	1,2	38,4	42,8	11,2

Note:

- a) Countries with areas below 10000 ha are not counted in
b) Yield figures are rounded to 100 kg
c) The national yield forecasts are based on agro-meteorological model outputs and satellite indicators at NUTS 0 level in combination with time trend analysis.

Sources:

- 2003 yields come from EUROSTAT CRONOS
2004 yields come from MARS CROP YIELD FORECASTING SYSTEM

crops (when appropriate), whilst August was hotter than normal and thus favourable for grain maturation; on the other hand, the southern-most areas of Europe were hotter than normal in July and slightly cooler in August (except central Italy which was still hot). All the southern half of Europe experienced temperatures above 30 °C. In some areas, namely the southern Iberian peninsula, south-western France (Armagnac), Greece, western Turkey, south-eastern Italy, southern Romania and northern Bulgaria, temperatures recorded peaks of above 36 °C. In some cases, the heat stress occurred at maize flowering or during the ripening of winter crops.

Rainfall: abundant, sometimes excessive

The cumulated precipitation for July/August exceeded the long-term average (+ 30 %) in the UK, northern Portugal, most of France, northern Germany, Denmark, the Scandinavian peninsula, northern Poland, central Belarus, Ukraine, Romania, Bulgaria, the western Balkans and limited areas of

central Turkey. Mediterranean areas (especially southern Spain) received less rain than normal (– 30%) and a similar situation was noticed for the central part of Europe (eastern Czech Republic, eastern Austria and western Hungary). July (especially the latter part) was less wet than August in the western-most areas.

The climatic water balance shows positive values for the period for the UK, the Scandinavian peninsula, France (except the south), Austria, northern and central Germany, most of Ukraine, Romania, eastern Bulgaria, and in some areas of the western Balkans. A negative water balance is reported for Italy (the Po valley), Greece, most of Hungary, southern Germany, the Czech Republic, Poland (except the north), Turkey and large regions in Russia (European side).

Highlights EU-25

At EU-25 level, the cereal yield is expected now at 5.1 t/ha (about + 11 % as compared to 2003). According to the crop area increases expected, the volume of cereal production (no rice included) should reach about 269 million tonnes (+ 33 million tonnes as compared to 2003). According to favourable conditions, grain maize potential can still increase this figure in September.

The soft wheat yield is now expected at about 6.0 t/ha (about + 9.3 % as compared to 2003) resulting in an increase in production of about 15 million tonnes. Barley yield is expected to reach 4.4 t/ha (+ 4.5 %), its potential was limited in northern-most areas (northern England, Scotland, the Netherlands and the Baltic area) because of excessive rain at harvesting period.

The grain maize forecast is now increased based on the good water support received during the summer in July and August. The expected yield is now 8.3 t/ha (+ 18.0 %).

Rapeseed concluded the cycle in nearly good conditions across June and July. However, abundant rains in the first half of July might have hindered harvest operations in northern and central areas. The expectation of yield is 3.0 t/ha (+ 8.9 %).

Other summer crops benefited too from the good rains, with some consequent limiting factor due to radiation levels below average in northern-most areas. Sugar beet is now expected at 55.7 t/ha (about – 1 % as compared to 2003); whilst at EU-15 level the expectation would be of 59.7 t/ha (about + 1.3 %). Potato yield is now foreseen at 28.9 t/ha (+ 9.2 %), this potential can be kept if drier conditions follow in northern countries. Sunflower is expected at 1.7 t/ha (about + 9.3 %).

As a whole, July/August temperatures were recorded within a range of 10 % of difference from the normal values, where July was fresher in the central and northern areas and warmer in Mediterranean regions, and August was normal in the Mediterranean regions and warmer in the northern areas. Winter crops entering in grain filling (central areas) in July were favoured by this course. Rain was abundant during the two months and more concentrated in the Balkans, Baltic and central countries, hampering especially the August field work of harvest and rape-seed new sowings where appropriate.

Highlights by region of interest

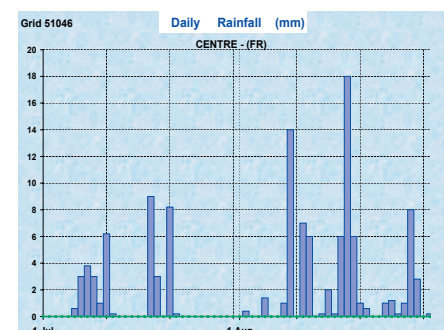
EU-25

France: persistent lower rainfall

Precipitations were abundant in the northern areas at the beginning of July and along a south-west/north-west line during the second dekad of July. The rainfalls became lower than seasonal value during the remaining part of the month, except in a limited area in the central part of France.

In August, the rainfalls were again much higher than the usual value all over France, except on the Manche coast during the first dekad of August and the southern half during the last dekad. It replenished the soil moisture and benefited the summer crops in full growth.

The number of rainy days was more important in the north and could have delayed the winter crops harvest. Heavy rains were also recorded and could have dislodged the crops and reduced the quality of the harvest. Moreover, the field preparation for new crops could have been hampered.



Temperatures were within the average level in July, except on the Manche coastline which was colder at the beginning of July. In August, the situation was warmer during the first dekad and then came back to the norm.

Publication issue

The fifth printed MARS Bulletin for the 2003/04 agricultural campaign covers the July and August agrometeorological conditions.

It makes a synthesis of the major issues pertaining to:

- last conditions at harvest for winter crops,
- growing and maturity conditions for the summer crops.

Previous related analyses available:

- Conditions at sowing — beginning of November 2003 (Vol. 11, No 6)
- November–December 2003 climatic update
- Winter crops conditions in January–February 2004 (Vol.12, No 1)
- Winter crops and spring sowings in March–April 2004 (Vol.12, No 2)
- Winter and spring crops in May 2004 (Vol.12, No 3)
- Winter and spring crops in 1 June–10 July 2004 (Vol.12, No 4)

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Analysis and reports from AGRIFISH Unit:
G. Genovesi, C. Lazar, F. Micale, A. Royer, I. Savin.
Reporting support: C. Aspinall (JRC/IPSC/AGRIFISH).
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<http://www.marsop.info>

For any questions contact the editorial staff at: Mars-stat@jrc.it

Fax (39) 03 32 78 90 29 — Tel. (39) 03 32 78 50 86

JRC - IPSC, T.P. 266 — I-21020 Ispra (VA), Italy

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 1975–2003.

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 EC position.

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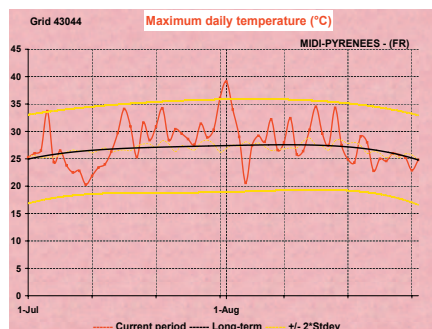
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Next issue

Vol. 12, No 6 – 2004: September–October 2004 analysis.

Extreme temperatures were recorded in the south-west in August with a maximum of around 40 °C which could have affected summer crops such as maize and sunflower.

For the winter crop, the late harvest was sub-optimal due to continuous rainfall in August.

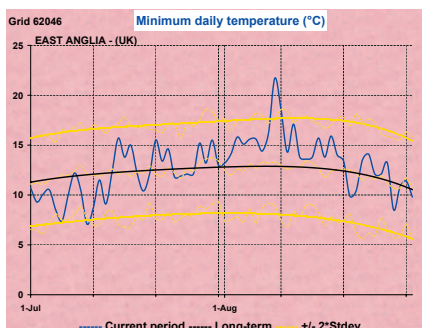


Compared to the last bad year, all the crops show better yield potential. The soft wheat yield forecast has been revised upward at 7.4 t/ha (+ 14.7 % compared with last year). For durum wheat, the forecast gives 4.6 t/ha which is better than last year (+ 13.2 %). Barley is forecast at 6.4 t/ha (+ 14.8 %). Rapeseed should reach a yield of 3.3 t/ha (+ 1.5 %). For maize, the yield is revised at 8.9 t/ha (+ 25.3 %).

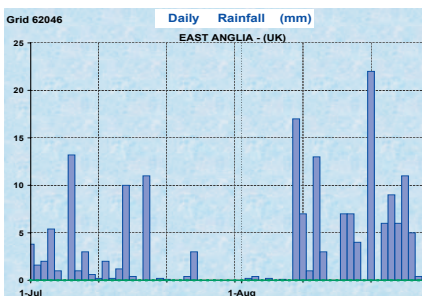
UK and Republic of Ireland: very wet weather (with extreme events) in the UK, still drier than average in Ireland

In England (especially in the northern area) the very good potential cereals yields could be affected by the heavy and persistent rain that fell in August. In the UK and Ireland, soft wheat yields are revised downward compared to the previous forecast, respectively at 7.8 t/ha, (+ 1.8 % as compared to 2003) and 8.9 t/ha (+ 7.3 %). As regards barley, according to the good harvest for winter varieties and the uncertainty for spring spread more to the north and more affected by wetness, the yields are maintained both for the UK (5.7 t/ha, – 3.7 %) and Ireland (6.8 t/ha, + 4.0 %), as well as for rapeseed (3.3 t/ha, + 8.5 %) in the UK.

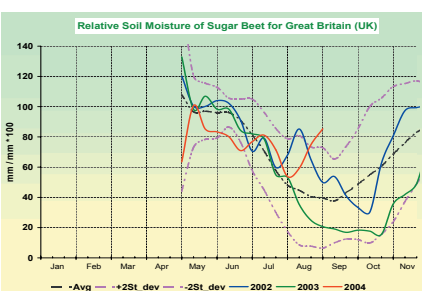
Two fresher-than-average periods, respectively at the beginning and at the end of the period, were separated by a warmer-than-average phase: from the first dekad of July progressively the temperatures climbed above average and reached the maximum during the first dekad of August, when the maximum temperatures exceeded 30 °C and the minimum were also 8–10 °C above the average. In the remaining part of August, the temperatures dropped toward more seasonal values. The advantage in the crop development cumulated in the previous period was maintained.



In the UK, a common element for both months was the abundant rain, which was probably an obstacle to rapid cereals harvesting. In the whole period, more than 20–25 rainy days were recorded and the cumulated rains were 60–80 % over the seasonal values. Moreover, in August, the rains were particularly persistent (for example, in East Anglia more than 15 rainy days were recorded) and in some cases were also very intense (in Cornwall, Wales and East Anglia daily values above 60–70 mm were also recorded) with possible local temporary flooding or over-welling. In July, the rains in the first half had a positive effect during the ripening stage of spring cereals development but are likely to have disturbed the rapeseed harvest. The absence of rains in the second part favoured the early winter cereals harvest.



In August, the persistent and abundant rains (120–150 % over the average) definitively had a negative impact, delaying the spring cereals harvesting and decaying their quality (high risk of fungus diseases). For summer crops too in August, the rains are likely to have created stress conditions due to the excess of soil water. Those rainfalls also had a negative impact on soil preparation and on early sowing of winter crops (such as rapeseed). In Ireland, the cumulated rains were closer to average and had a beneficial impact as a result of the preceding two-month anomalously dry period.



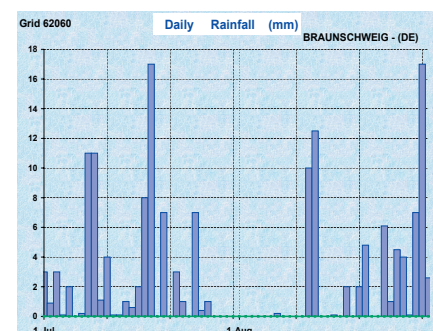
Germany: generally favourable conditions

In July, the country experienced abundant precipitation during the first part of the month; these wet conditions remained in the northern area during the second dekad and then remained in the centre. August was wetter than July and, after lower precipitations during the first dekad, the rainfalls remained higher than seasonal conditions.

Most of the country experienced only 10 days without rain, particularly at the beginning of August. Late harvest should have been made under unfavourable wet conditions.

During these two months, temperatures were within the average except at the beginning of August where they reached higher but not extreme values. Harvests made during this first decade of August could have been optimal.

Spring crops benefited from the abundant rainfall but maize flowering could have been suboptimal in northern areas where areas were recorded with more than 100 mm during this development stage.



The crop potential remains high and the yield forecasts have been revised upward. Soft wheat in Germany is foreseen with a yield of 7.5 t/ha (+ 15.3 % compared to last year). For barley, the prevision is much better than last year, with 6.1 t/ha (+ 19.2 %). Production of rapeseed will be good, with a yield forecast of 3.3 t/ha (+ 15.8 %). For maize, the forecast gives a yield of 8.7 t/ha (+ 17.5 %).

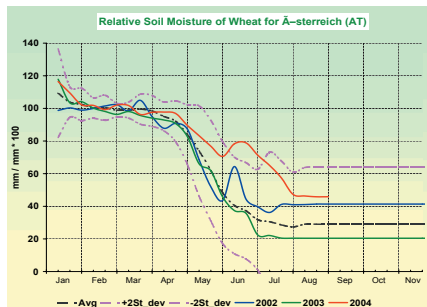
Austria: wet conditions for late harvest

In Austria too, the crop potential remains high. Soft wheat is foreseen with a yield of 5.0 t/ha (+ 12.5 % compared to last year), barley is foreseen at 4.5 t/ha (+ 8.3 %), rapeseed at 2.4 t/ha (+ 34.8 %) and maize with a yield of 8.7 t/ha (+ 3.6 %).

Rainfalls were higher than average, mainly at the beginning of July and at the end of August. The north-eastern areas, however, received less precipitation, with 15 to 28 dry days when most of the remaining part of the country experienced around seven dry days. The north-west could harvest within good

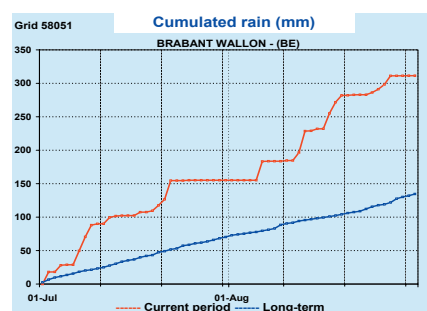
conditions, whilst in the central area the conditions were far wetter and suboptimal.

The temperatures were within the norm, except at the beginning of August where the higher temperatures boosted the end of the winter crops cycle. The spring crops could continue their cycle normally.



Belgium, the Netherlands and Luxembourg: very wet conditions, seasonal temperatures

In Belgium, the current relatively good winter cereal campaign could be disturbed by the unfavourable conditions recorded in July and August: the soft wheat yield is expected at 8.5 t/ha (+ 0.1 % compared to 2003), barley at 7.2 t/ha (+ 8.1 %), maize at 11.6 t/ha (+ 10.3 %). In the Netherlands, the recovered soil water content (nonetheless excessive) maintained the soft wheat yield at 8.5 t/ha (– 7.6 % compared to 2003) and barley at 5.8 t/ha (– 11.7 %), maize at 12.0 t/ha (+ 2.9 %). Yields estimations in Luxembourg are unchanged: soft wheat at 6.0 t/ha (– 2.2 %) and barley at 5.5 t/ha (+ 2.2 %).

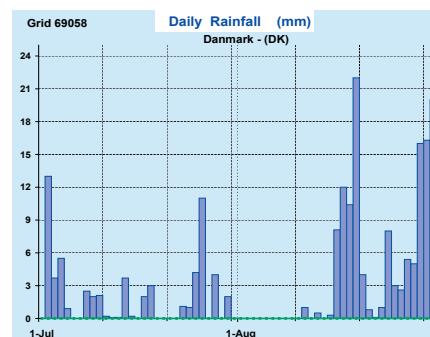


During the whole period, temperatures were close to the average for the period. Only in the first dekad of August was a relative increase recorded: in the Netherlands, in some cases, the maximum reached the 30 °C threshold. On the contrary, the rainfalls had an anomalous course and in total more than 100 % of the seasonal values were recorded in July and even more in August: in the Netherlands cumulated values close to 200 mm are reported, equivalent to more than 200 % compared to the seasonal amount. Also, some very intense showers were recorded in the north of the Netherlands.

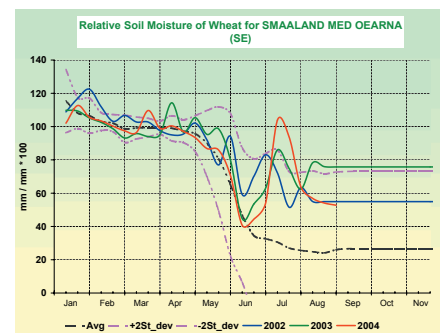
These meteorological conditions negatively affected both the winter cereals (still at the maturity stage in July and then at harvesting in August), and also the spring crops (such as potato, sugar beet and green maize) which likely suffered because of excessive soil water content. A secondary limiting factor is represented by the solar radiation that, both in July and much more in August, and in particular in Belgium and Luxembourg, was significantly below the seasonal values.

Denmark, Sweden and Finland: seasonal temperatures, wetter then average in the last part of the period

Thanks to reestablishment of favourable agrometeorological conditions, in Denmark stable yields estimations are possible: soft wheat 7.0 t/ha (– 1.6 % compared to 2003), barley 5.5 t/ha (+ 3.0 %) and rapeseed 3.2 t/ha (– 4.0 %). In Sweden, soft wheat is at 5.6 t/ha (+ 1.2 % compared to 2003). In Finland, the wetter conditions forced a downward revision of the yield forecast for soft wheat to 3.4 t/ha (– 12.8 % compared to 2003).



The relatively dry conditions experienced in May/June were completely compensated in the following two months. In that period, normal amounts of well distributed rains fell, recharging the soil reservoirs: in fact, the cumulated rainfalls were much more than expected and, in particular in Finland and Sweden, largely exceeding average values (more than 200 mm, equivalent to + 40/50 %). Some intense rains (more than 70 mm) were reported in southern Sweden (Smaaland Med Oearna). But as a consequence of rains in these countries, the related persistent cloudiness drastically reduced the incident solar radiation, which was significantly below the average values, especially in July, when the cereals were still in the grain-filling stage. Considering too the low radiation measured in the previous periods, a limiting action on biomass synthesis is likely.

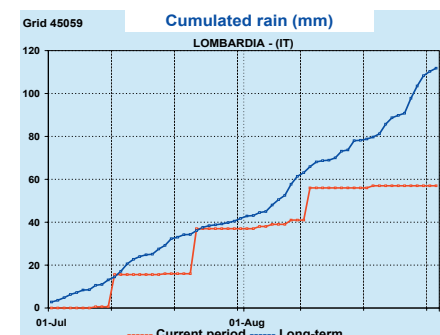


In Denmark, rains were more concentrated in the second part of August, determining possible delay in the cereal harvesting activities and downgrading their quality, as well as on soil preparation and early sowing of the new campaign winter crops..

Italy: generally seasonal conditions, still moderately wet in the south (but also with extreme events) and dry in the north

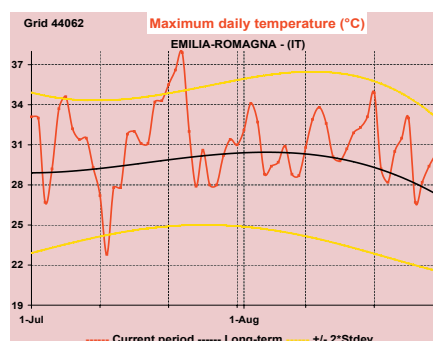
Generally good results are foreseen: durum wheat is estimated at 2.7 t/ha (+ 22.7 %), soft wheat at 4.8 t/ha (+ 9.5 %), barley at 3.5 t/ha (+ 7.5 %) and the favourable conditions for grain maize have revised the forecasted yield upward to about 9.52 t/ha (+ 26.0 % as compared to 2003).

Following a normal first part of the summer, in general July and August also had a quite normal course: with thermal conditions within the seasonal range of variability (even if locally, and especially in the central area, the active temperatures were slightly above the average), limited high peaks of maximum temperatures (only the southern Po Valley and in Sicily at the beginning of July and at the end of August extreme 6–7 °C above the seasonal values were recorded), but drier than average in central and north-western areas (on average a 50–100 mm precipitation, distributed in a few rainy days, compared to the 80–140 expected) and wetter in southern areas, especially in Apulia, where a very intense shower (more than 50 mm) was recorded at the end of July.



Winter crops and grassland: in general, the reduced number of rainy days permitted a regular end of cycle of the winter

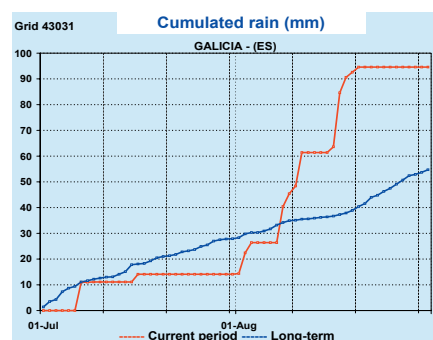
cereals as well as their harvest and also prevented fungal diseases and encouraged soil preparation for the next crops. Furthermore, the normal thermal conditions permitted a regular development of the grassland and maintained water consumption within the normal values. In the southern areas, the better rain supplies allowed a good biomass synthesis.



Spring/summer crops: in general, the weather conditions were quite favourable, especially for those in reproductive stages of development (maize, sugar beet, potato, etc.), which were prolonged compared to the previous campaign. As in May and June, the limited rains in the Po Valley and the normal crop water consumptions are likely to have forced the farmers to be present with extra irrigations.

Spain and Portugal: seasonal temperatures, wetter than average August in Portugal and western and northern Spain

In accordance with the favourable conditions, predictions of good yields are maintained in Spain: soft wheat at 3.3 t/ha (+ 6.5 %), durum wheat at 2.4 t/ha (– 3.7 %) and barley at 3.0 t/ha (+ 4.8 %). In Portugal, durum wheat is expected at a low level of 1.2 t/ha (+ 33.1 % as compared to the very low level of 2003) and soft wheat at 1.3 t/ha (+ 9.7 %).

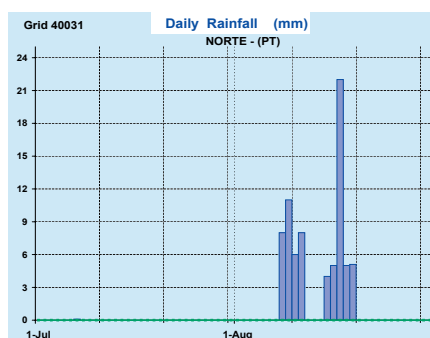


Generally speaking, the active temperatures ($T_{base} = 0^{\circ}\text{C}$) were within the normal range of variation during both months and the cumulated values in the period

are very close to the long-term average. In fact, two fresher-than-average periods (respectively at the beginning of July and at the end of August) were separated by a hotter period (at the end of July), when in Extremadura, Andalucía, Castilla la Mancha and Alentejo maximum values above 42°C were recorded but only for a few days. For the active spring/summer crops (maize, sunflower, etc.) the advance in crop development, cumulated in the previous periods, was maintained and in some case increased, but the extreme values could have affected the most sensitive crops.

The rains were very scarce or absent in July in Portugal and in the main part of southern Spain (except the eastern side). On the contrary, in August a couple of rainy events were recorded in Portugal and western and northern Spain, supplying just few millimetres on Extremadura and Alentejo, and 70–90 mm on Galicia and Norte du Portugal.

The absence of rain facilitated the harvest activity and the soil preparation for the new campaign, but increased the irrigation volumes for spring active crops (such as sunflower, maize, etc.). A different but still positive situation was present in the northern areas, where greater-than-average rain supply increased the soil water reservoir, very useful for rain-fed summer crops (such as maize).



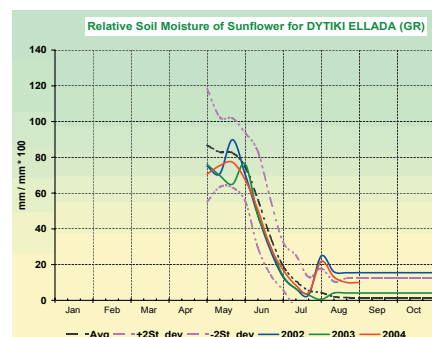
Greece: good seasonal conditions

Yield estimates above 2003 levels can be expected, due to the good agrometeorological seasonal course: soft wheat (2.7 t/ha, + 5.3 %), durum wheat at 2.3 t/ha (+ 25.0 %), barley at 2.2 t/ha (+ 17.2 %) and grain maize at 8.9 t/ha (+ 0.8 %).

Normal temperatures but relatively dry conditions characterised both months. In effect, in the whole period both maximum and minimum values remained within the normal range of variation and the cumulated active temperatures at the end did not present significant differences with the average of the period. On the contrary, rainfall was rela-

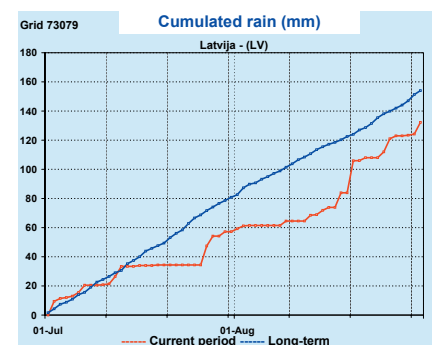
tively scarce and in general remained below 60 % of the period average (equivalent to 20–30 mm). Better conditions were recorded in the western Peloponnesus, where in July two rainy events partially recharged the soil water content.

In general, considering the favourable agrometeorological course in the previous months and the fairly good water supplies present at the end of June, no limiting factors were present during July and August, confirming the positive evaluation of the current campaign.



Estonia, Latvia and Lithuania: normal conditions

The rainfalls and temperature conditions for Estonia were close to the normal values for this period. Some precipitations occurred around the maturity of the wheat crops. For barley precipitations, some 50–70 mm were recorded in the week before the maturity. The development was also close to normal for straw cereals but the simulated yield was clearly higher than the long-term average for wheat (1.8 t/ha) and slightly below for barley (1.9 t/ha). Sugar beet yield is estimated at 13.9 t/ha.

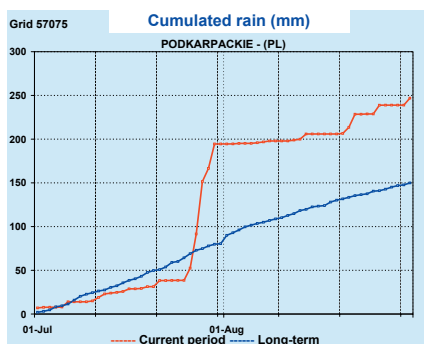


For Latvia and Lithuania, the cumulated rainfalls were below the long-term average but the thermal evolution was close to normal. Barley development delayed for most of the period, but at the end of August the crop hastened to maturity and the simulated yield is below the long-term average (2.6 t/ha for Lithuania and 2.0 for Latvia). Wheat development was normal and the level of the grain yield was above the long-term average (3.8 t/ha for Lithuania and 3.2 for Latvia). The sugar

beet yield is estimated at 38.3 t/ha for Latvia and 36.1 t/ha for Lithuania. The development of rapeseed was delayed and the simulated yield for this crop was below the long-term average (1.7 t/ha for both countries).

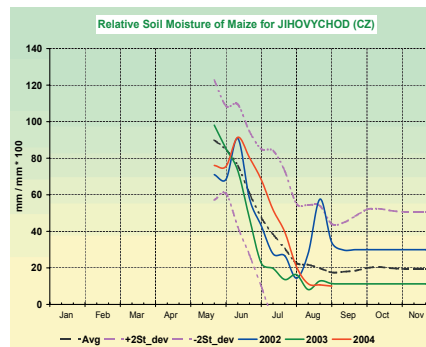
Poland: average to good crop expectations, but too wet harvest conditions may have occurred locally

The active temperature accumulation was normal except in northern Poland where July was colder than usual (– 20 %). Central Poland was drier in July, but in August most of the country received rainfall in northern and western Poland coinciding with the maturity of wheat and barley. The development and the soil moisture for these two crops was close to normal and the dry matter accumulation in grains was performed at the longer-than-average level in barley crops (3.1 t/ha) and at the higher-than-normal level in wheat (forecast: 3.6 t/ha). The simulated growth of the storage organs was also good for potato (forecast: 19.5 t/ha), sugar beet (40.8 t/ha) and oil rapeseed (2.5 t/ha).



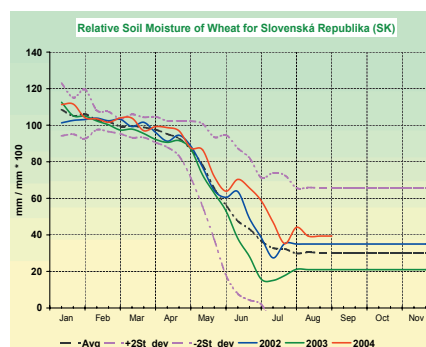
Czech Republic: normal yield levels for winter cereals and sugar beet, lower yields expected for maize and oil rapeseed

Some precipitation was reported in the maize flowering period but fortunately not for the south-eastern area where this crop is concentrated. Simulated yields for this crop are below the long-term average (5.8 t/ha). Development of winter cereals was normal and the expected yields are close or above the long-term average (forecast is 4.6 t/ha for wheat and 3.8 t/ha for barley). For oil rapeseed (forecast: 2.4 t/ha) a lower-than-normal yield was simulated both for potential and water-limited conditions. Sugar beet development and weight of storage organs (48.1 t/ha) under water-limited conditions were normal.



Slovakia: good level of soil moisture and good yields

In southern Slovakia, the maximum temperature exceeded 30 °C for more than five days during wheat ripening. Development of wheat and barley was normal and, mainly due to the good water supply, the simulated yield levels for these crops were above the long-term-average (forecasted yields are 3.2 t/ha for wheat and 2.7 t/ha for barley). For maize (5.2 t/ha) and oil rapeseed (2.1 t/ha) development is slightly delayed and the weight of storage organs is close to the normal level for this stage. The development of sunflower was also normal and the evolution of soil moisture suggests that higher-than-normal weight level of storage organs (1.8 t/ha) will be maintained until full maturity.

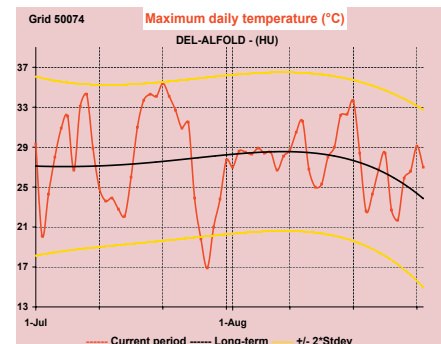


Slovenia: good level of soil moisture and normal yields

In the eastern part of Slovenia, four consecutive days with temperatures above 30 °C occurred during maize ripening, but the consequences of this event may be considered as limited. Relative soil moisture for this crop was above the long-term average. The development of maize was close to normal and the weight of storage organs was higher than normal (6.3 t/ha). Similar observations may be advanced for the development and evolution of weight of storage organs for wheat (4.1 t/ha) and barley (3.5 t/ha).

Hungary: dry and hot ripening period, but good yields are still possible for winter crops

Medium heat waves (30–35 °C) occurred during the ripening maturity of winter wheat crops all over Hungary, but the expectations for a good yield are still high (4.2 t/ha). The simulated yields for barley (3.2 t/ha) and rapeseed (1.9 t/ha) are also higher than normal. The weight of storage organs for maize (6.7 t/ha) and sunflower (1.9 t/ha) is at the long-term level.

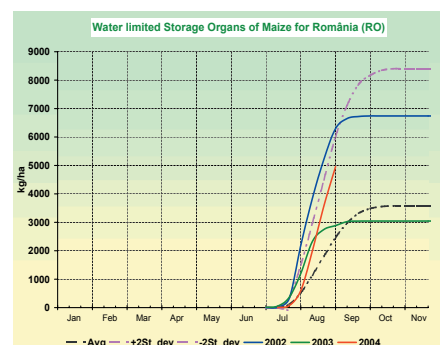


Central European countries

Romania: wetter and hotter

Soft wheat yield is expected at 2.9 t/ha (+ 99.9 %), barley at 2.2 t/ha, rapeseed 1.2 t/ha, grain maize at 3.2 t/ha (+ 5.6 %), sunflower at 1.2 t/ha and potato at 14.2 t/ha).

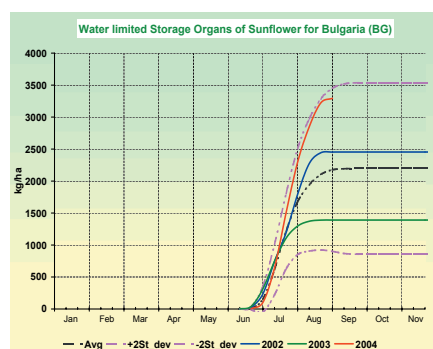
Rainfall received during July/August was 30 % higher than the long-term average and, in this context, rains around maturity of winter crops were reported for the south-western and north-eastern parts of the country. The pollination of maize was also affected by rains, especially in the south of the country where the days with maximum temperatures above 30 °C were frequent during the ripening-maturity phase. It must be pointed out that, in contrast with the procedure for elaboration of a final crop forecast, these events are not directly taken into account by the simulation model which is predicting a good yield for maize, sunflower, and barley, and slightly above normal for winter wheat.



Bulgaria: very good level of simulated yields

Soft wheat yield is forecasted at 2.8 t/ha (+ 7.4 %), barley at 3.0 t/ha, grain maize at 3.7 t/ha (41 %), sunflower at 1.1 t/ha and potato at 15.9 t/ha.

Western Bulgaria was wetter (+ 30 %) than usual, and temperatures above 30 °C during the ripening/maturity period of maize crops were reported for large areas of Bulgaria. The relative moisture for barley, maize, potatoes and sunflower crops is above the long-term average and the grain yields are also very good.



Turkey: drier weather in south but wheat yield is foreseen at normal level

The southern part of the country was the subject of drought in the considered period. Meanwhile, the relative soil moisture in northern Turkey presented a better situation. The weight of the storage organs of the winter wheat was at the level of the long-term average except in south-eastern Turkey where the conditions were more favourable.

Eastern countries

Belarus: Barley yield expected at normal level, lower wheat yield and good season for rapeseed

July was relatively drier and August wetter than normal. High levels of precipitation were recorded after maturity of wheat and barley in some limited areas of central and southern Belarus. The relative soil moisture for barley was below the long-term average, but the simulated weight of storage organs was equal to the long-term average. Development of wheat was slightly delayed, and the relative soil moisture and the simulated yield for this crop were below normal. Total biomass and weight of the storage organs for rapeseed were 24 and 22 % respectively above long-term levels..

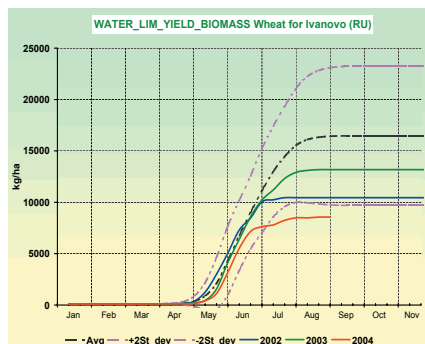
Ukraine: rains around the maturity period of winter cereals and maize flowering

Except for northern Ukraine, which was drier (– 30 % rain) the precipitation regime was more abundant than usual. Areas in north-western, central and eastern Ukraine were subject to very heavy rain after the maturity of winter wheat and barley, and intense rains also occurred in the week before maturity of these crops, especially in the central areas. The yields of winter cereals are expected to be around 5 % above the long-term average (2.3 t/ha for winter wheat). Heavy rains also affected the pollination of the maize crops from western and south-eastern Ukraine. The maize crops are delayed but until now the simulated weight of storage organs has been above the normal level for this period. Development of sunflower was slower than normal but expected yield will be clearly above the normal level. A good yield was simulated for rapeseed.

Russia: some areas with high yield expectations and low quality grain

The period under analysis is the time for grain crop harvesting in all regions of European Russia. The air temperature conditions were favourable for the last stages of grain crops development. The amount of precipitation was low in the northern Caucasus, Volga, and Urals regions and high in the western and north-western parts of Russia.

The amount of precipitation during July/August was worse than in the previous year practically everywhere, and was slightly higher compared with the previous year only in the north-western regions of the country. Scarcity of precipitation in the northern Caucasus and Volga regions was favourable for the grain crops harvesting. But lack of precipitation in the Urals region should lead to the reduction of the summer grain crops yield. High amounts of precipitation in the north-western region led to excess water in the soil. Soil moisture content at the end of August was higher compared with the previous year in these regions.

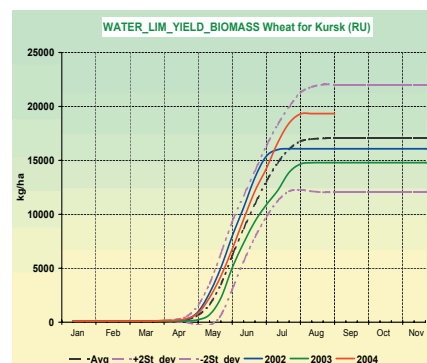


As a result, the meteorological conditions were optimal for the last stages of the grain crops development and harvesting in all main winter crop-sowing regions of Russia, excluding the Urals region, and part of the Volga region. The yield of winter crops seems to be higher than normal, and higher than the previous year. Simultaneously, due to the high amount of precipitation and relatively low amount of incoming radiation, the quality of the grain should be low.

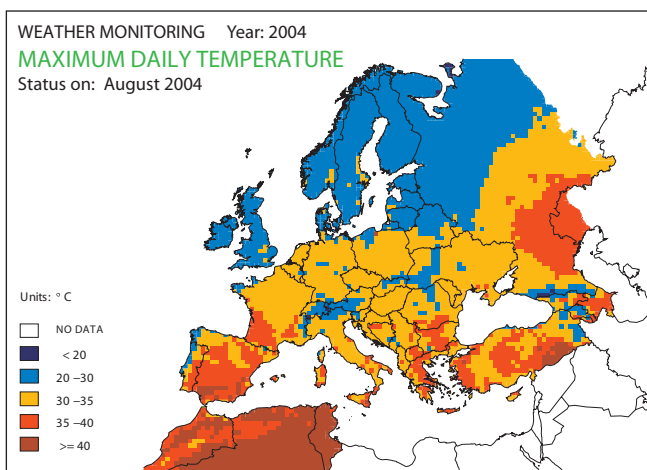
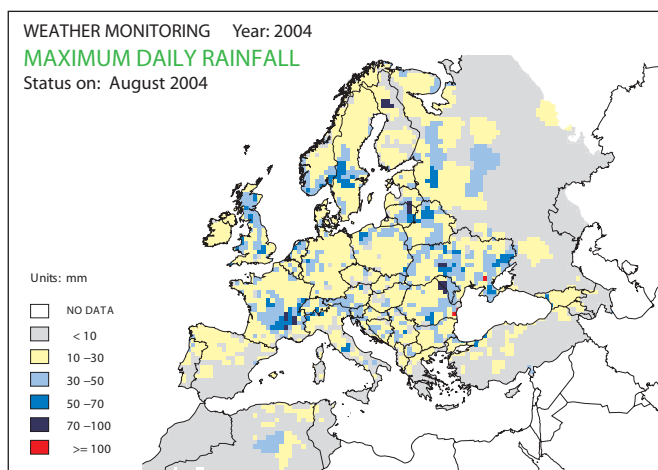
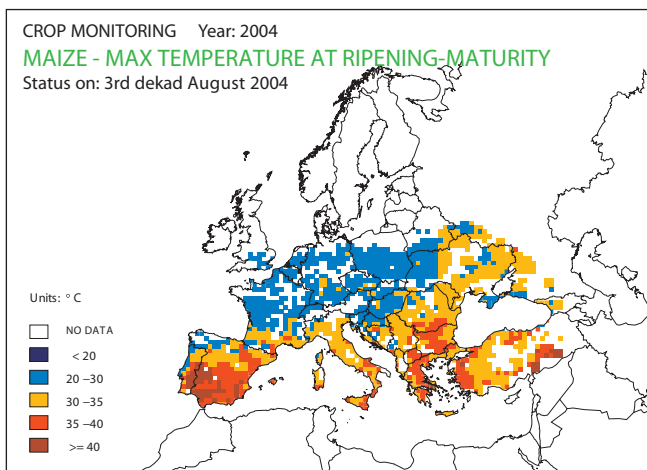
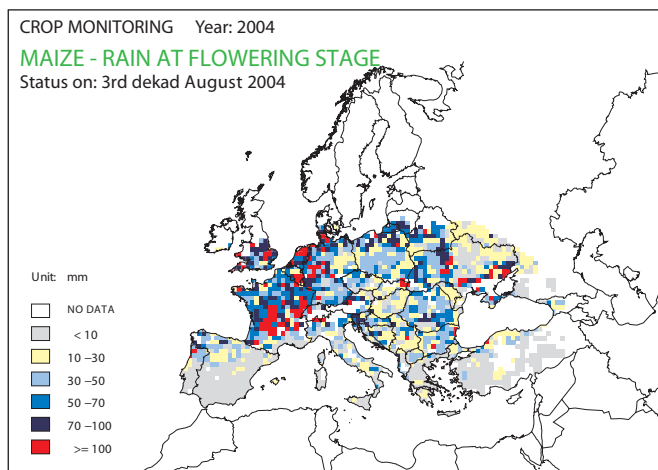
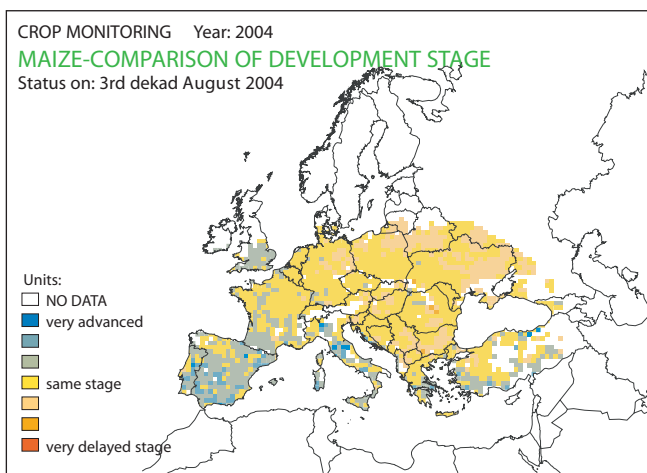
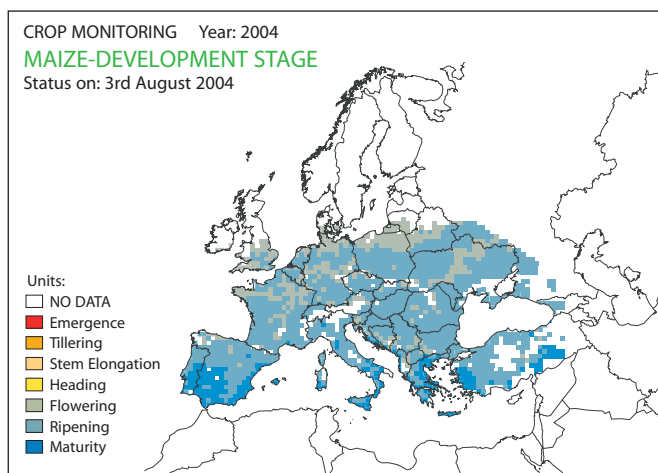
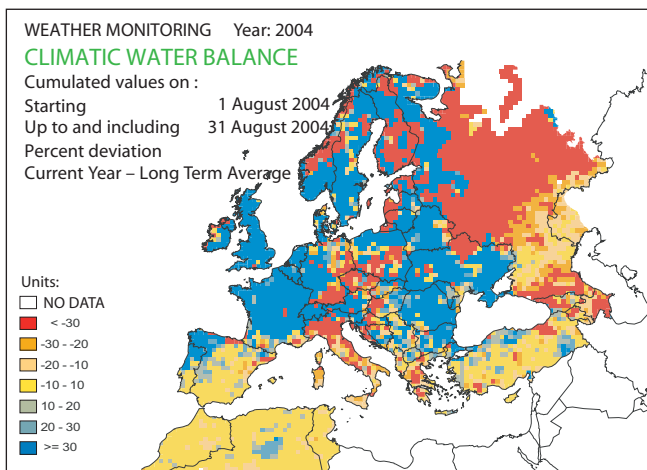
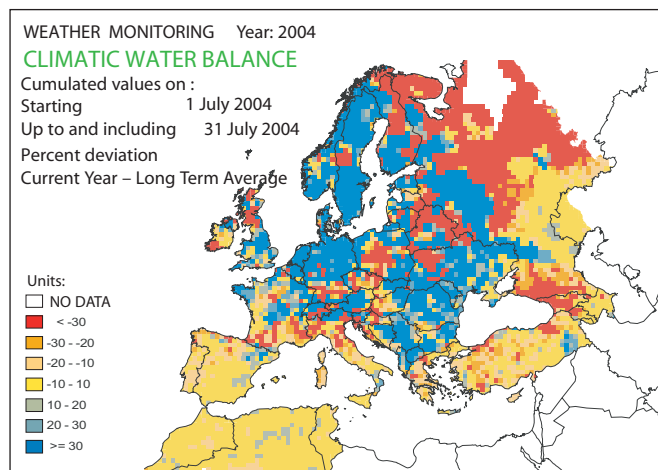
The results of wheat growth simulation show higher potential yield of the crop compared with the previous year in the northern Caucasus, central and central-Chernozemic regions, and lower potential yield in the northern regions of European Russia.

The meteorological conditions for summer crops were good practically everywhere, except the Urals region, where a low amount of precipitation should lead to a decrease of summer crop yield in this region.

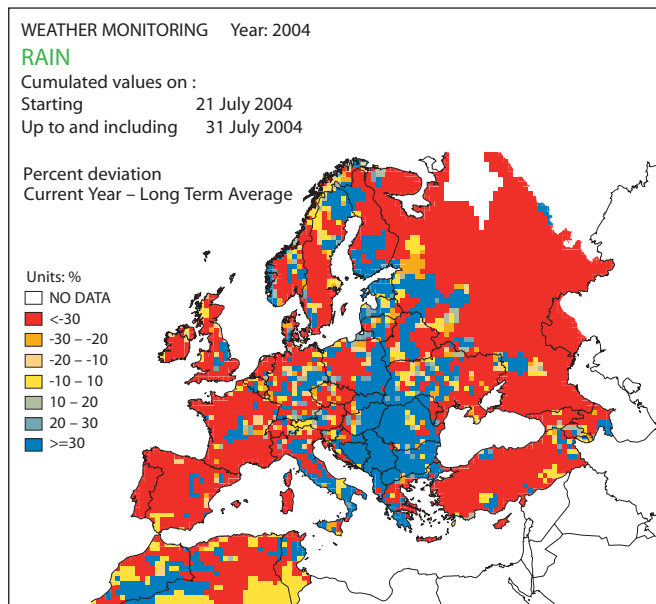
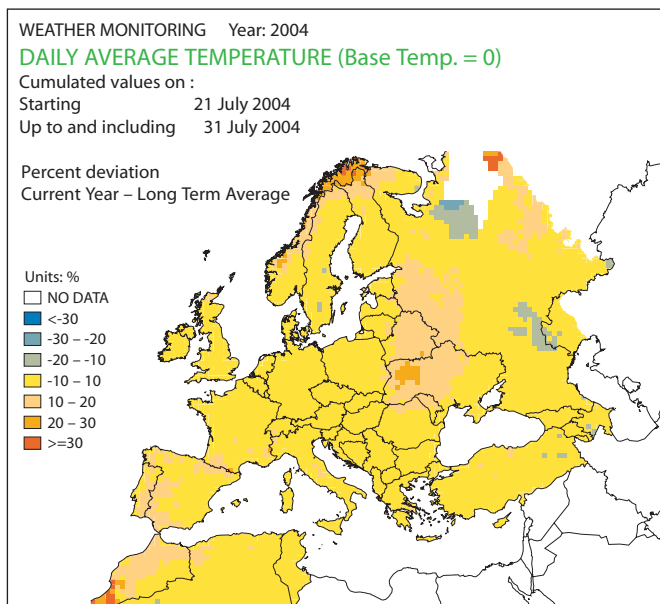
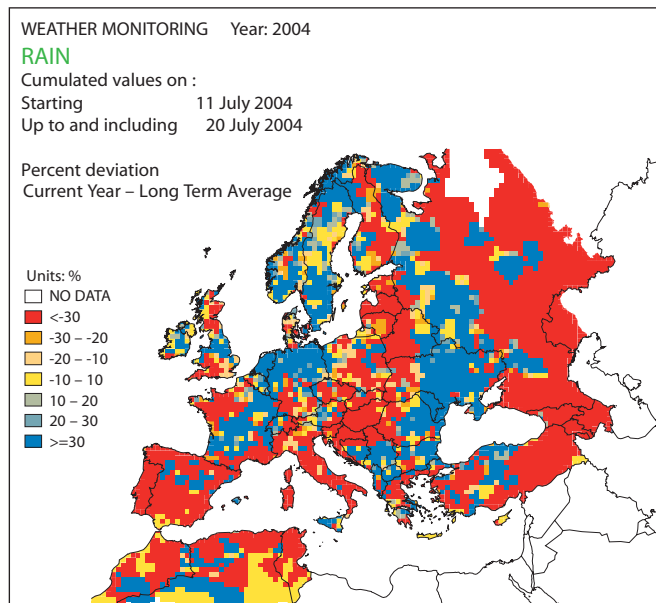
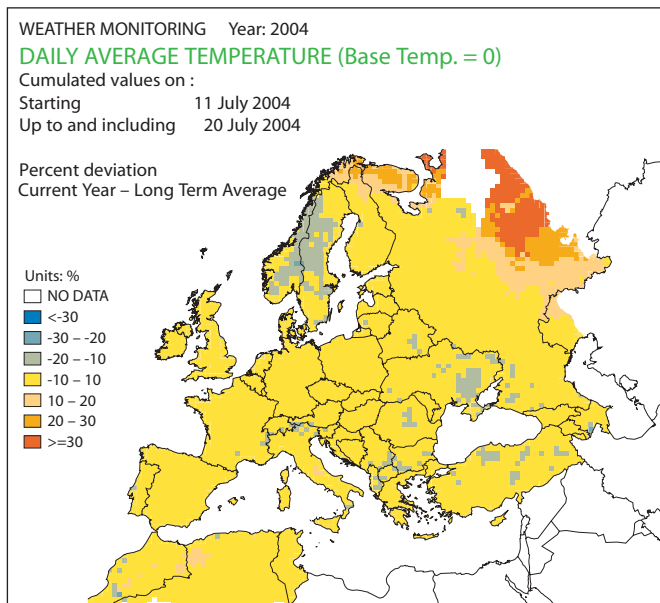
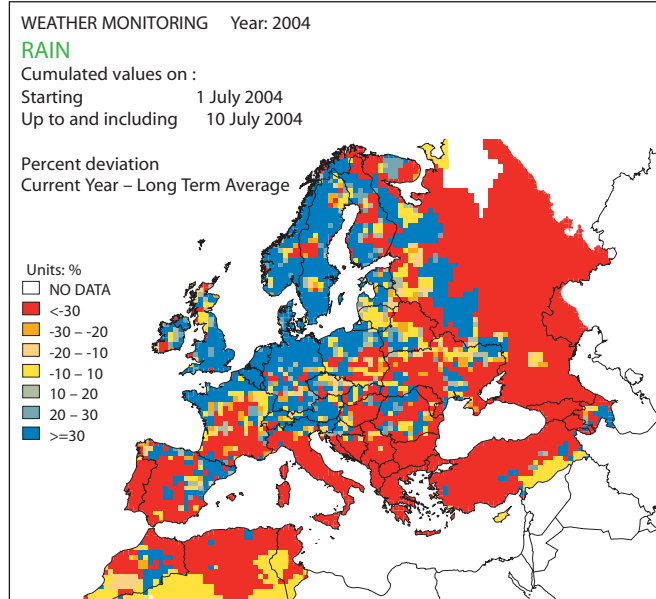
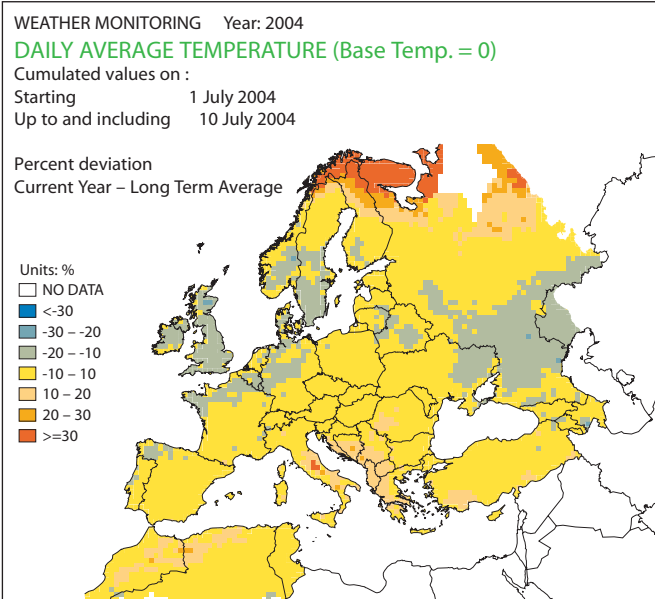
Thus, the yield of grain crops in Russia in the current vegetative season is likely to be higher than in the previous good year, but the quality of grain seems to be low.



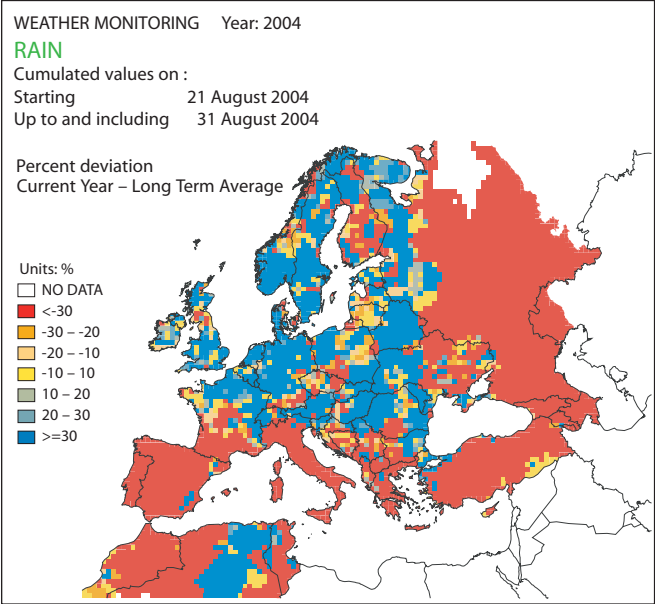
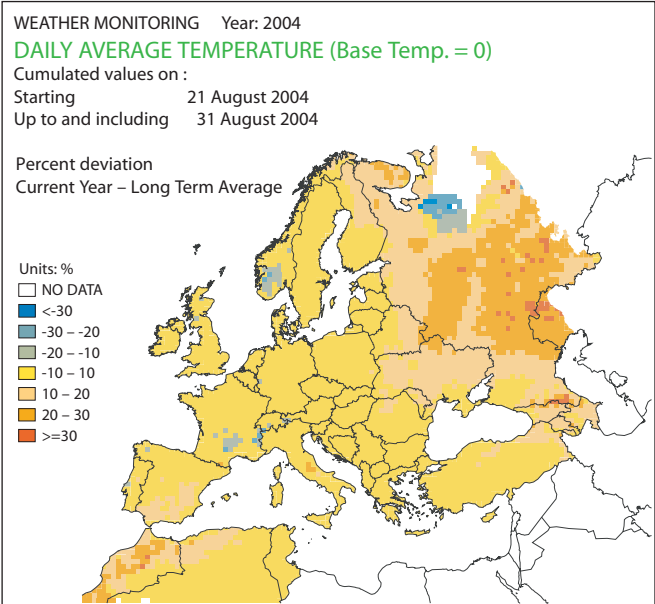
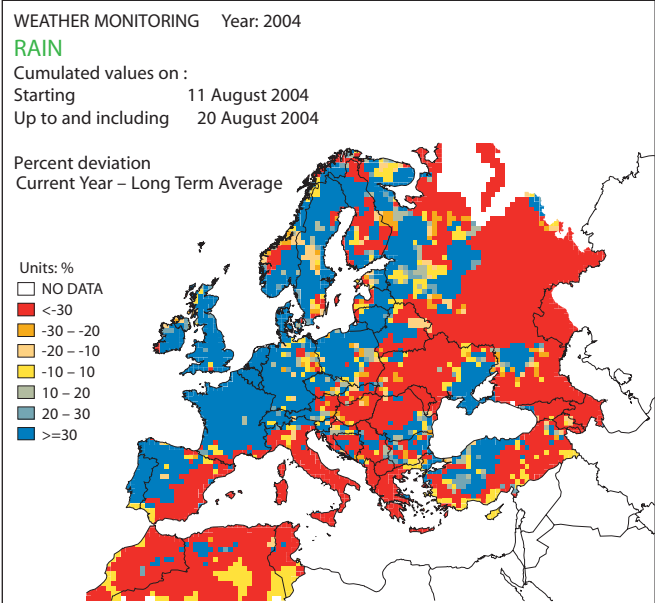
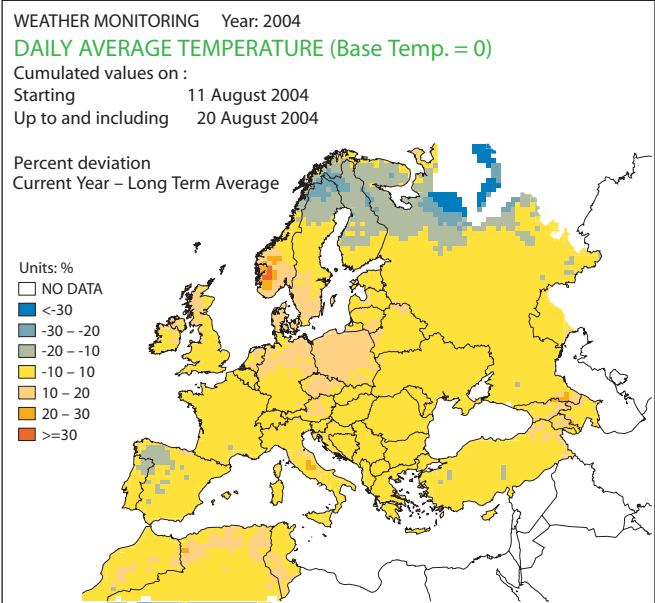
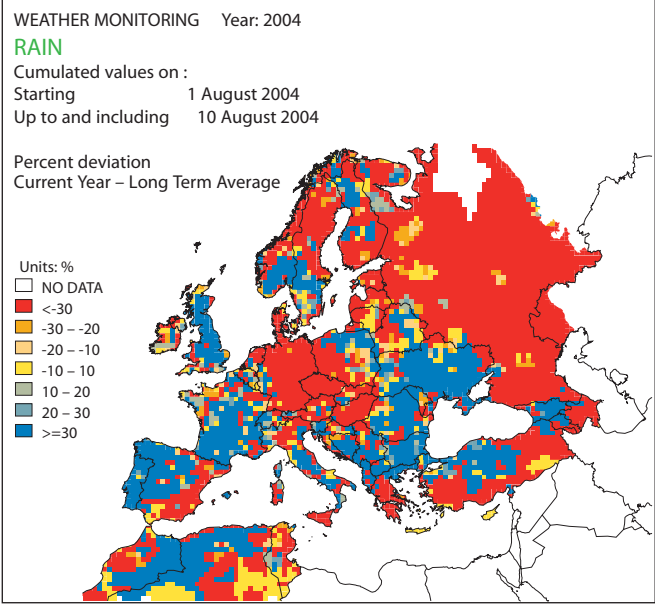
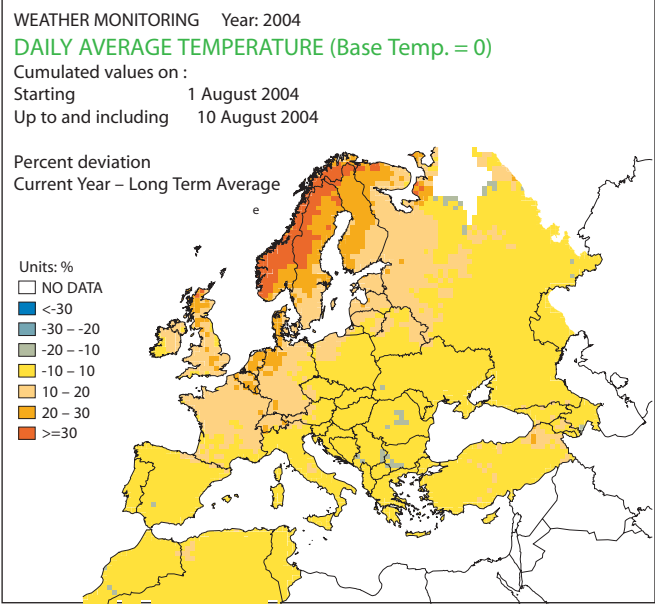
Crop maps — 31 August 2004



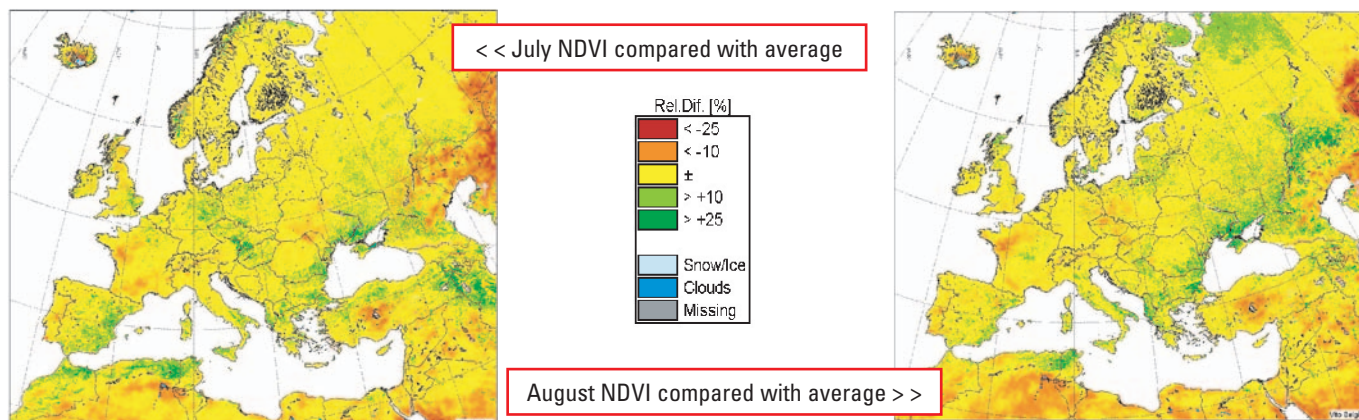
Ten-day rain and temperature maps — 1 July to 31 July 2004



Ten-day rain and temperature maps — 1 August to 31 August 2004



Spot-vegetation satellite analysis



Map highlights

Normal end of crop cycle

CNDVI profile highlights: optimal growth cycle for most of Europe

In France, the Centre region shows a much better potential than last year with an earlier start of the vegetation and a higher biomass production. From June the profile decreased quickly and reached its minimum value at the beginning of July. The senescence phase was quite short and not optimal for the best yield elaboration. In Midi Pyrénées, the profile was optimal compared to the previous years. However, the decrease phase of the cycle was quite abrupt. The end of the winter crop cycle appeared at the beginning

of July followed by a second cycle probably from the summer crops development.

In Spain, Castilla Leon, the CNDVI profile showed a good crop cycle promising a normal yield.

In Portugal, Atlentejo, the biomass production should have been higher than the previous year. However, the final senescence could have been faster than normal shortening the maturity stage reducing the yield elaboration period.

In Italy, Puglia, the winter crop appeared to have a better potential than the previous year despite a delay in the crop growth in March. The vegetation remained at its maximum development during a longer period than normal and the crop yield was elaborated

under optimal conditions.

In Germany, Stuttgart, the yield potential is excellent, slightly better than the previous seasons.

In Poland, Mazowieckie, the NDVI peak is lower than previous years and despite a slow senescence phase the yield potential for this region should be slightly suboptimal.

In Hungary, the situation looks excellent with much better biomass development than previous years promising a good yield expectation. The profile shows a regrowth at the end of July due to the summer crops development.

In Romania, the vegetation index profile was better than the average and previous years. The crop yield expectations are at a high level.

