

MARS

Crop Monitoring in Europe

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Bulletin

Period of analysis: 21st July - 10th September 2011

TOTAL CEREAL PRODUCTION LOWER THAN FIVE-YEAR AVERAGE FOR EU-27 BUT GOOD PROSPECTS FOR SUMMER CROPS

AREAS OF CONCERN



Based on observed and forecast data from 21 July until 28 September 2011

Wet conditions

Data source: MARS crop yield forecasting system 19.09.2011



Highlight

The last dekad of July and the first dekad of August continued to be cooler than average in western and central Europe. Most of the European countries (France, Benelux, Denmark, Germany, Sweden, Finland, the Baltic States, Ukraine and Romania) showed average temperature accumulation in August. As very high temperatures persisted in the Mediterranean region and around the Adriatic Sea from mid-August onwards, the sum of active temperatures was above the long-term average (LTA) in Italy and Slovenia, on the Dalmatian coast and in Austria, the Czech Republic, Slovakia and eastern Spain (by > 10 %). Summer continued into September, pushing accumulated temperatures well above the average in Italy and the Balkans, with maximum temperatures above 30 degrees.

Towards the end of July and until the beginning of August rain fell predominantly in central Europe. In the major agricultural areas these weather conditions increased soil moisture and created a large surplus in the climatic water balance. Rain continued to be plentiful in areas around the North Sea and the Baltic Sea, moving accumulated values into surplus for the month of August. Access to fields for harvesting was hampered and held up by spells of abundant precipitation. Scarce precipitation was recorded around the Mediterranean Sea, in the Black Sea region and the area between the Black Sea and the Adriatic, where the weather favoured harvesting activities.

Total wheat production is estimated at **135.36 Mt**, less than in 2010 (-2.9 %) but still 0.5 % higher than the five-year average. The fall in production since the last forecast in August is -0.8 %, reflecting mainly the reduced acreage since the last report (-0.8 %).

Total barley production is also down since the last forecast by -3.4 % and is now estimated at **51.88 Mt** (-2.8 % vs 2010 and -11.6 % vs the five-year average). This is the result of the acreage reduction (mainly for winter barley: -7.9 % vs 2010, spring barley being stable at +0.3 %).

The **grain maize** yield forecast at EU-27 level has been revised downwards since the end of August by -0.4 %. Production is estimated at **61.20 Mt**, which is still +5.3 % higher than in 2010.

For **summer crops**, production is estimated to be higher than in 2010 for sugar beet, potato and sunflower. The yield forecasts for those three crops are higher than in 2010 and even much higher than the five-year average.

Crops	Yield t/ha				
	2010	2011	Avg 5yrs	%11/10	%11/5yrs
TOTAL CEREALS	4.94	4.97	4.91	+0.5	+1.3
Total Wheat	5.29	5.32	5.26	+0.5	+1.0
<i>soft wheat</i>	5.55	5.54	5.54	+0.0	+0.1
<i>durum wheat</i>	3.15	3.17	3.11	+0.5	+1.9
Total Barley	4.34	4.35	4.32	+0.3	+0.8
<i>spring barley</i>	3.70	3.86	3.75	+4.5	+3.0
<i>winter barley</i>	5.22	5.09	5.17	-2.5	-1.6
Grain maize	7.03	7.01	6.71	-0.3	+4.5
Other cereals	2.92	2.93	3.30	+0.3	+1.4
Rape seed	2.97	2.89	3.01	-2.8	-4.3
Potato	28.43	30.56	28.45	+7.5	+7.4
Sugar beets	67.55	70.13	65.75	+3.8	+6.6
Sunflower	1.86	1.87	1.72	+0.6	+8.4

Note: Yields are forecast for crops with more than 10000 ha per country; figures are rounded to 100 kg

Sources: 2006-2010 data come from EUROSTAT Eurobase (last update: 19/08/2011) and EES (last update: 16/08/2011)
2011 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 10/09/2011)

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I. Agrometeorological overview

Temperature accumulation average for France, Germany, the Nordic countries and around the Black Sea; warmer than usual in Spain, Italy, Austria, the Czech Republic and on the Adriatic coast. A rainy summer for Denmark, Sweden and the Baltic States as well as for Germany, Poland, northern France and Benelux.

Temperatures and evapotranspiration

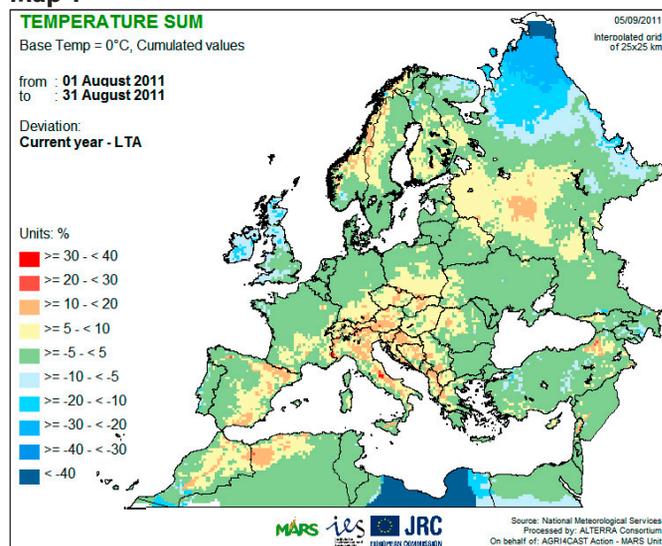
The last dekad of July and the beginning of August continued to be cooler than average. The accumulation of active temperatures (base temperature = 0 °C) between 21 July and 10 August was below the seasonal average in western and central Europe: from *Castilla y León* in Spain, France in the west and Italy in the south across the Benelux countries, Germany, Austria, Slovenia and the Czech Republic to western Poland, Slovakia, Hungary, western and central Romania and along the Adriatic coastline.

August continued to be a rather cool and unsettled month for the United Kingdom and Ireland, with average temperatures 1-2 °C below the long-term average, resulting in accumulated temperatures for the whole of August clearly below average in Ireland and around average in the main producing regions in the United Kingdom. Also, most European countries (France, Benelux, Denmark, Germany, Sweden, Finland, the Baltic States, Ukraine and Romania) showed average temperature accumulation in August. As very high temperatures persisted in the Mediterranean region and around the Adriatic Sea from mid-August onwards the sum of active temperatures was above the long-term average in Italy and Slovenia, on the Dalmatian coast and in Austria, the Czech Republic,

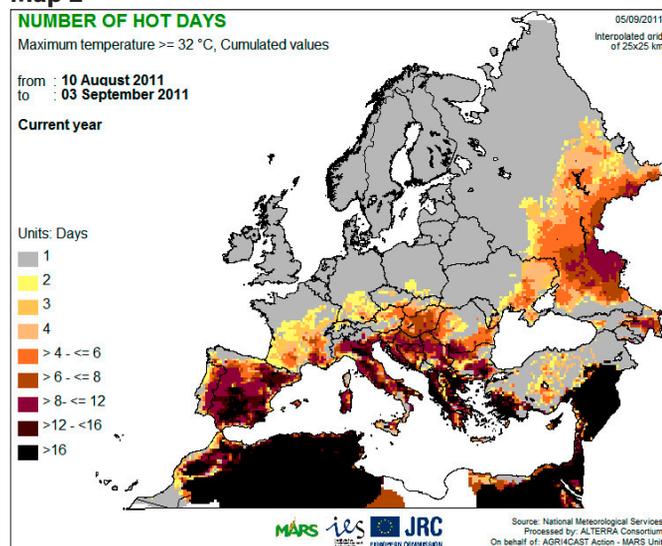
Slovakia and eastern Spain (by >10 %). Extremely hot temperatures were recorded in central *Andalucía* (Spain), where for a few days temperatures exceeded 35 °C. A couple of days with temperatures above 32 °C were recorded in Hungary, and coinciding with very scarce rainfall could have slightly impacted grain maize yield in limited areas. A very long hot spell (>12 days) was recorded in northern Italy (between *Piemonte* and *Emilia-Romagna*) and north-eastern Spain (*Cataluña*). In these areas the number of hot days exceeded the long-term average value by at least 6 days.

Summer continued in September, pushing accumulated temperatures well above the average in Italy and the Balkans, with maximum temperatures above 30 degrees. This was caused by greater expansion of the subtropical anticyclone belt in the central-western Mediterranean. The anticyclones were further strengthened by the passage of hurricane disruptions that pushed warm air to southern Europe and reinforced the anticyclones over the Mediterranean. Higher than usual accumulated temperatures were also recorded in France, Germany and eastern Europe along with higher than average maximum temperatures. Looking at global radiation from the last dekad of July onwards, the sum of received radiation is clearly above the average for Romania and Bulgaria but below average for northern Germany, Denmark, the Czech Republic, Benelux and most of France.

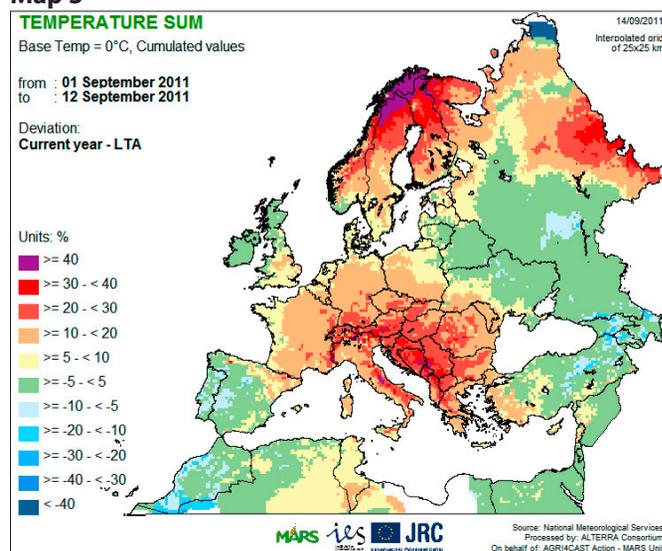
Map 1



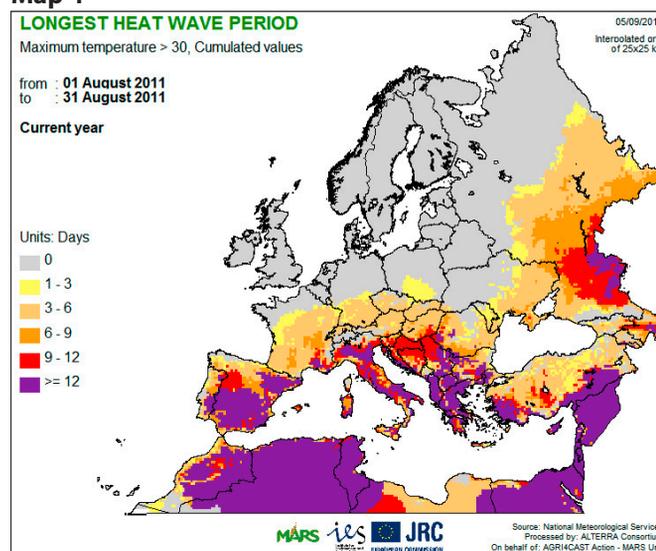
Map 2



Map 3



Map 4



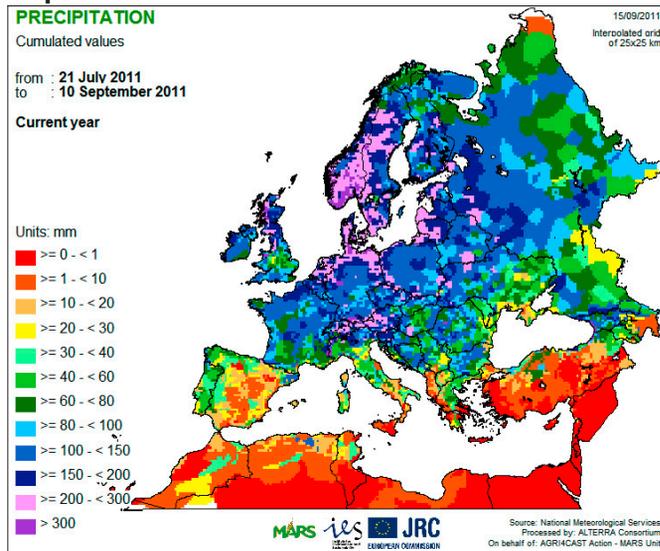
Rainfall

Towards the end of July and until the beginning of August rain fell predominantly in central Europe. The area on the border between Germany (*Mecklenburg* and *Brandenburg*) and Poland received abundant precipitation, in excess of 100 mm; in *Mecklenburg* up to 200 mm was recorded locally. Over-wet conditions, with precipitation exceeding 100 mm, were observed in *Mazowieckie* in Poland, along the border between Poland and Ukraine, in central-southern Lithuania, and Slovenia, but also recorded locally in Belgium, southern Sweden, central Finland, Estonia, Austria, southern Hungary and western Romania. In most of these areas precipitation was more than 2-3 times the LTA value. In the major agricultural areas these weather conditions sharply increased soil moisture and created a large surplus in the climatic water balance of more than 100 mm as compared to the LTA for the period in question. Precipitation amounting to less than 50 % of LTA on average was recorded in central and southern UK, Ireland and the centre of Germany. Rainfall was very scarce or even absent in the Iberian Peninsula and in the eastern and southern Mediterranean region; only *Cataluña* in Spain, southern France, central Italy and the Dalmatian coast received up to 50 mm of rain.

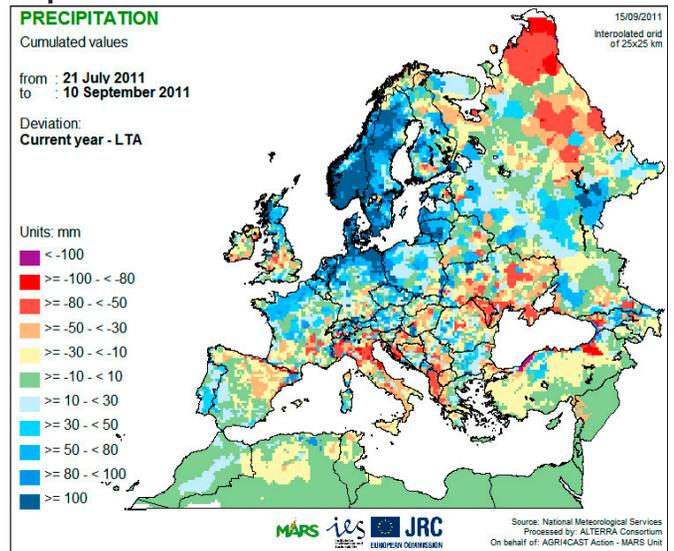
From 10 August onwards rain was concentrated in the areas around the North Sea and the Baltic Sea, moving accumulated values into surplus for the month of August (+120 mm locally in Denmark compared to the LTA), exceeding also the number of rainy days compared to August 2007. Access to fields for harvesting was hampered and held up by spells of abundant precipitation. In addition, mainly in Poland and north-eastern Germany, the soils were over-wet after persistent rainfalls in July (>150 % LTA). Since 10 August the highest number of days with rainfall above 5 mm/day was recorded in western Lithuania and Latvia (>10 days); there were more than 7 days of intense precipitation in Denmark, the Netherlands, northern Germany and north-western Poland and locally in Belgium, the United Kingdom and southern Sweden.

Very scarce precipitation was recorded around the Mediterranean Sea, in the Black Sea region and the area between the Black Sea and the Adriatic, where the weather favoured harvesting activities. September continued to be dry in these regions but France, Germany (except northern Germany), the southern United Kingdom, Austria, and Poland also remained rather dry at the beginning of September, favouring harvesting activities and field preparations. Rain was abundant in the Netherlands, Denmark and Sweden.

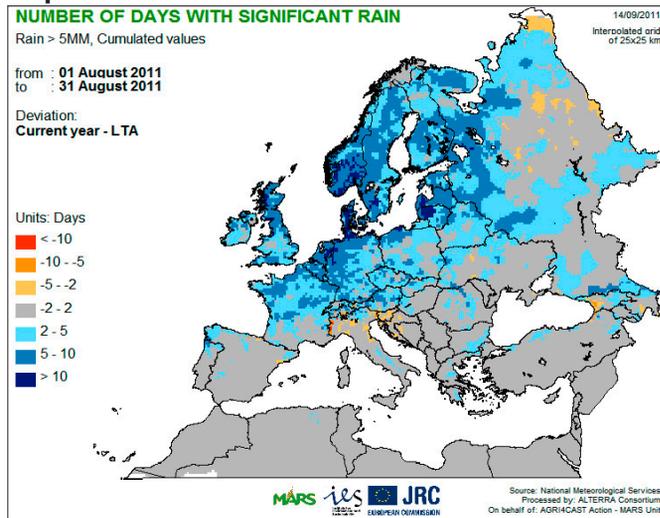
Map 5



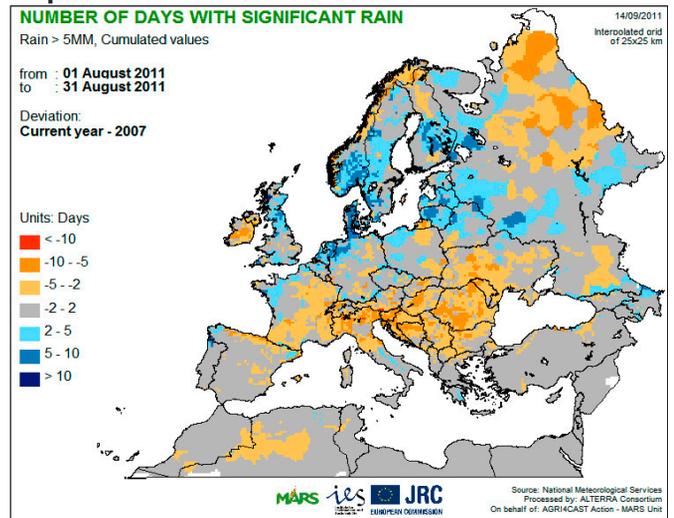
Map 6



Map 7



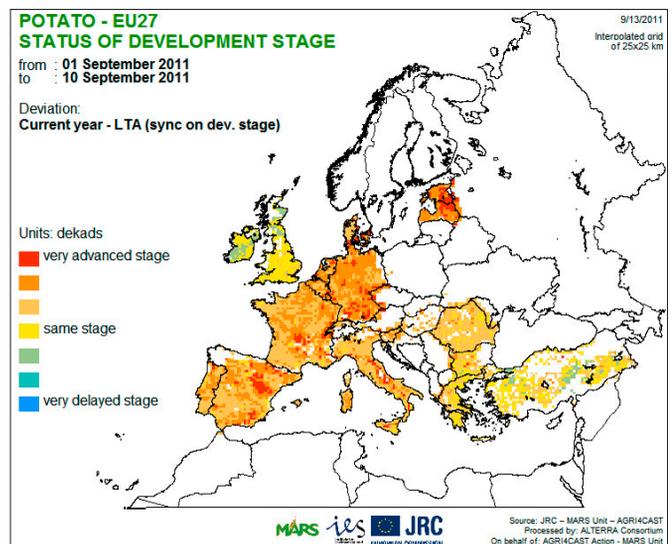
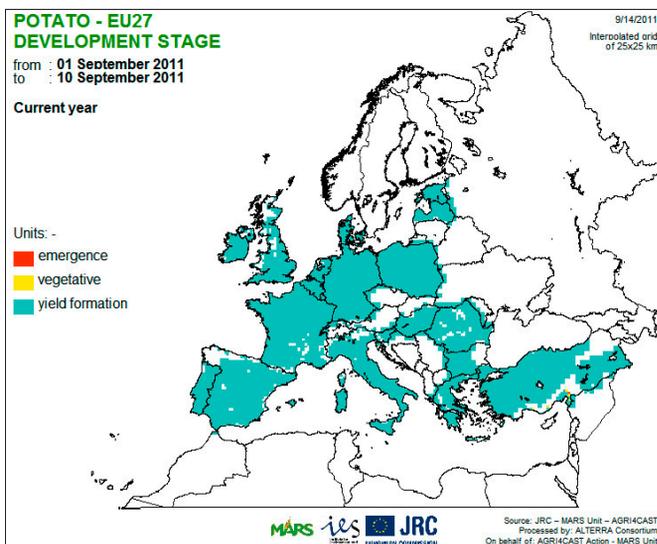
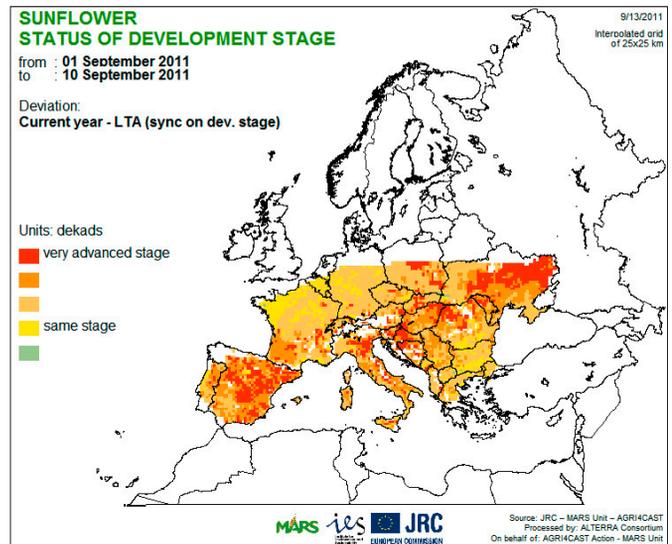
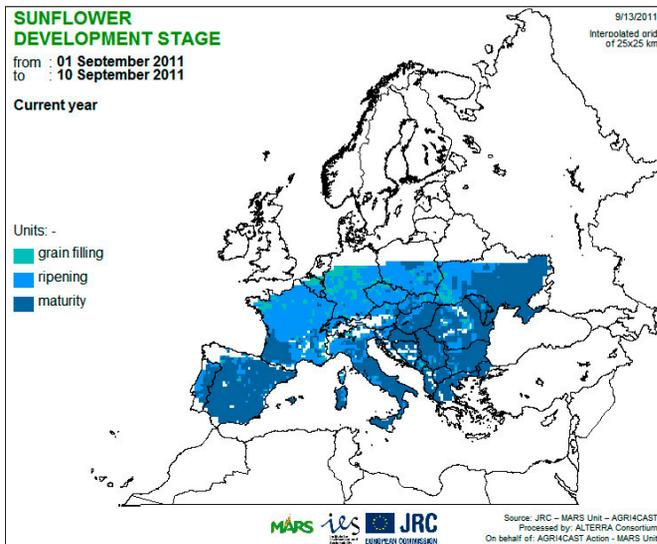
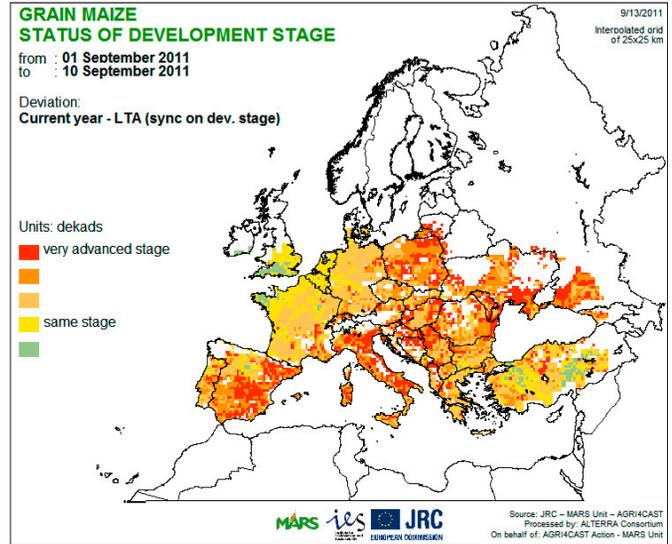
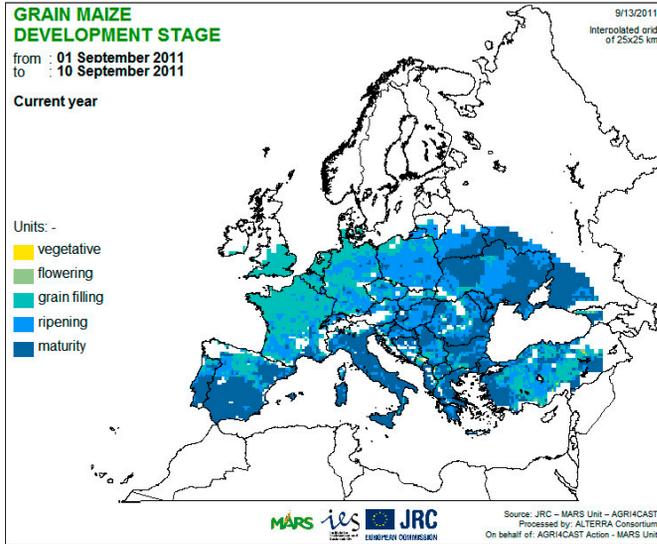
Map 8



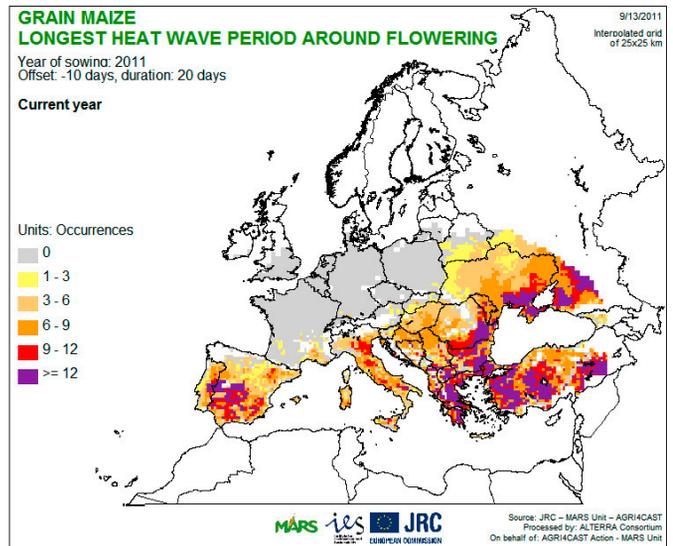
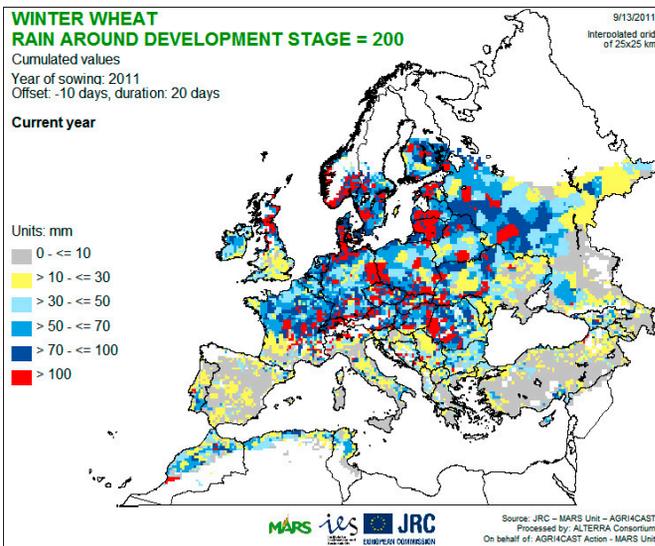
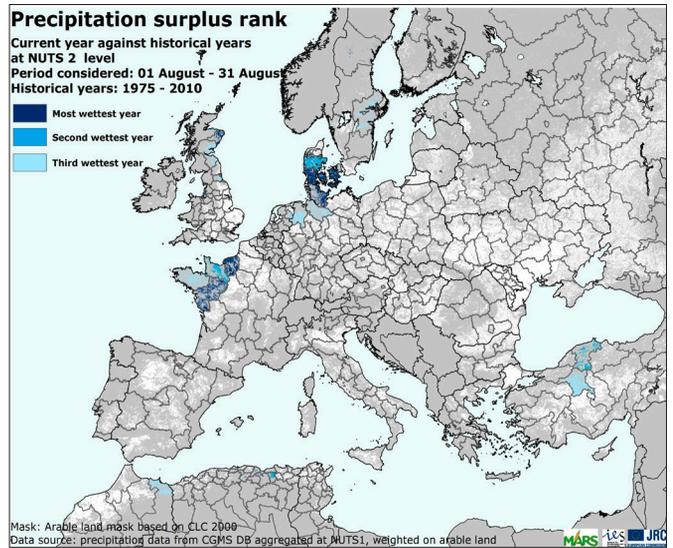
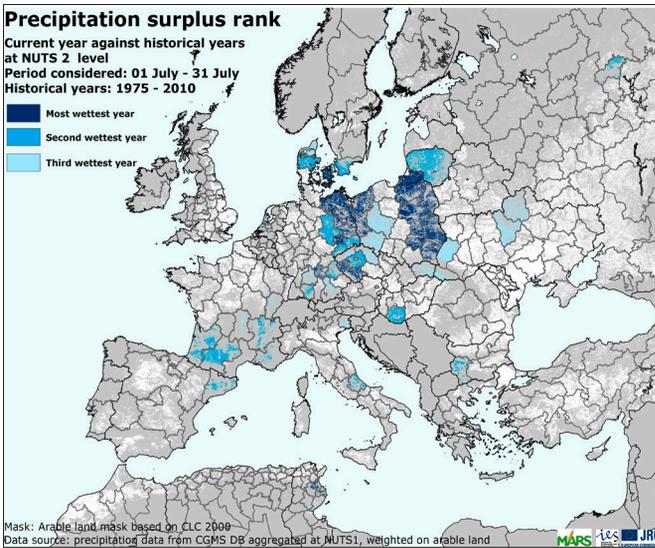
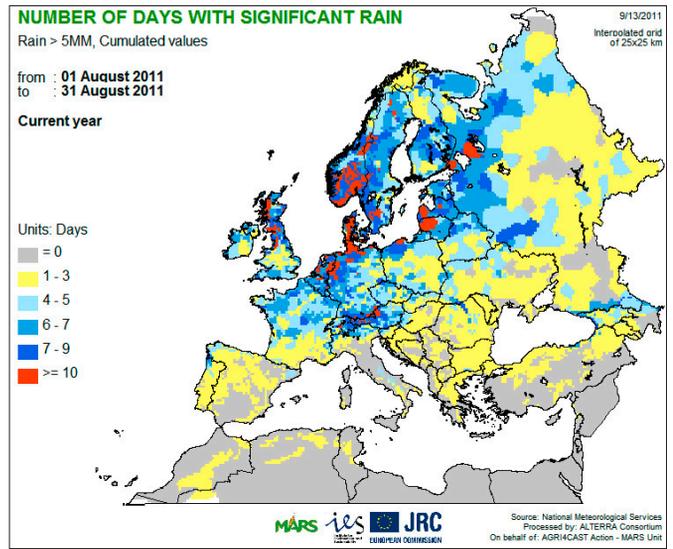
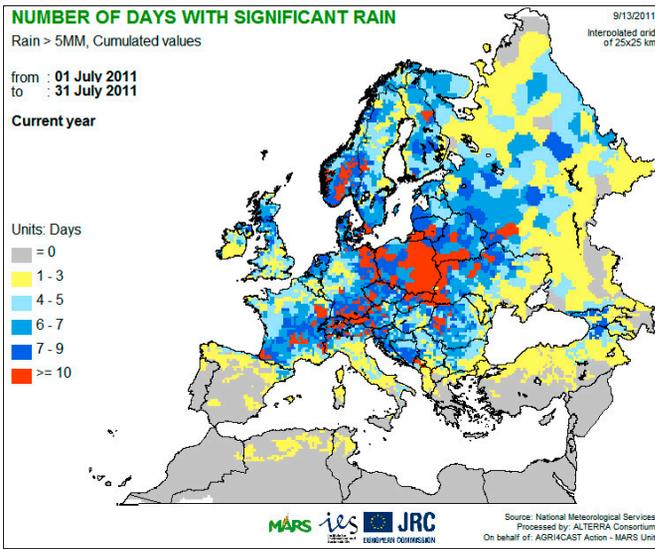
II. Crop Monitoring

1. Crop atlas maps

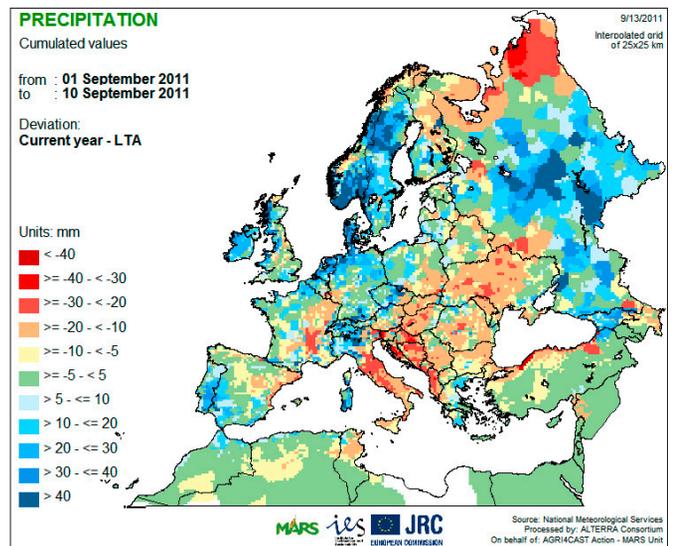
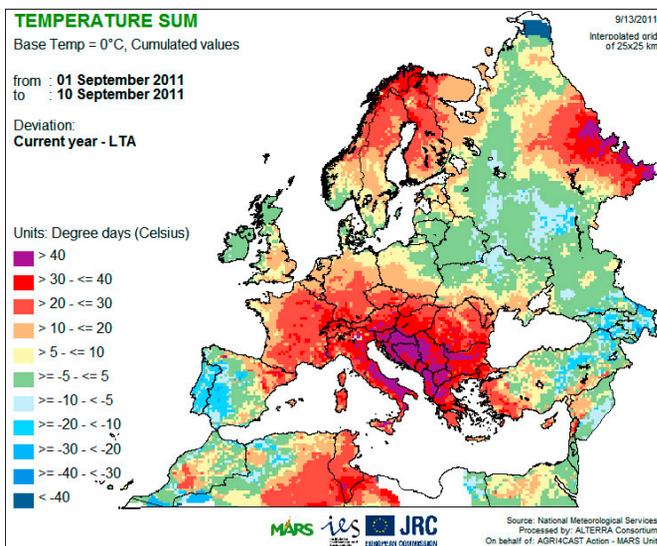
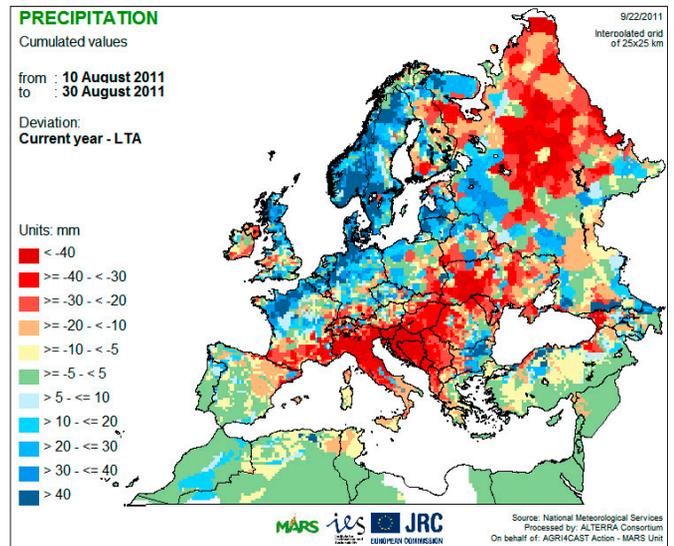
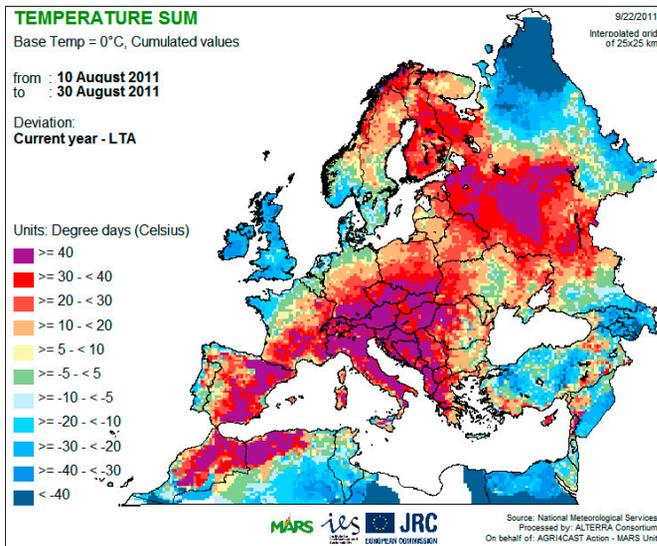
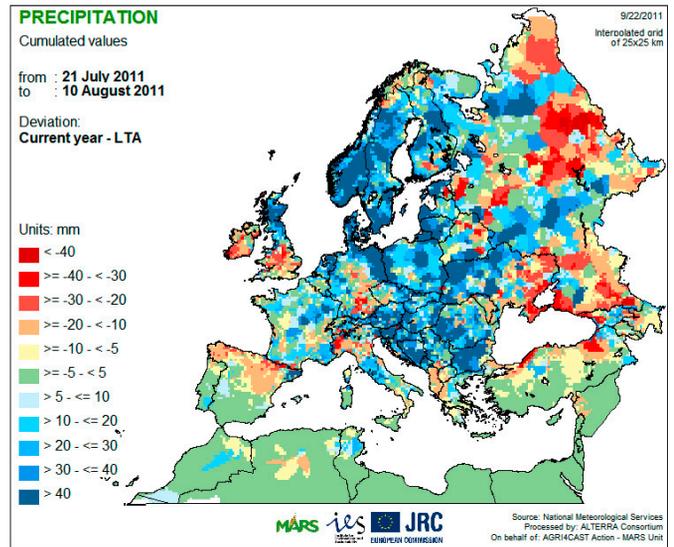
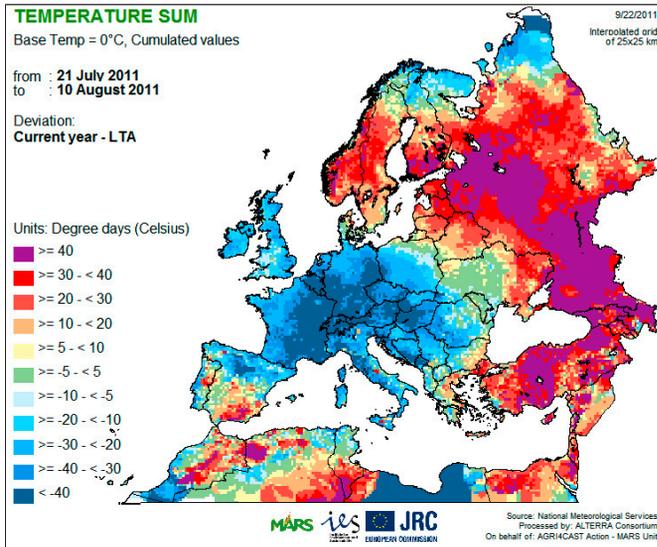
Development stage and status of development stage



Extreme events

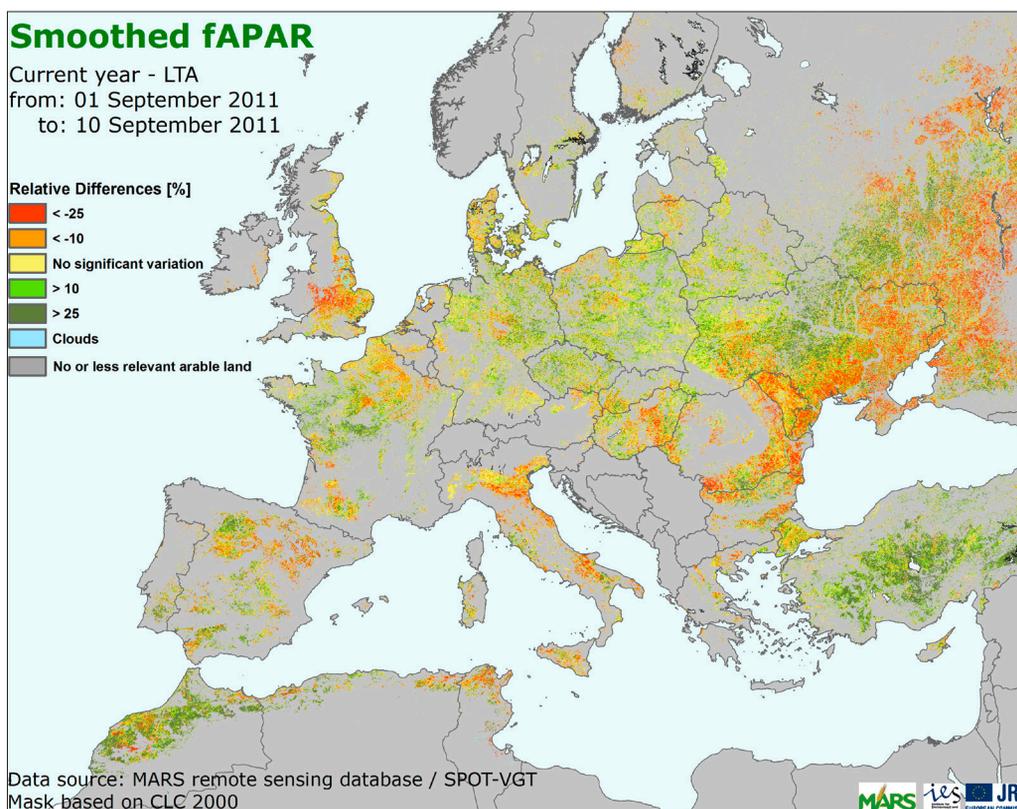


Temperature sum and precipitation



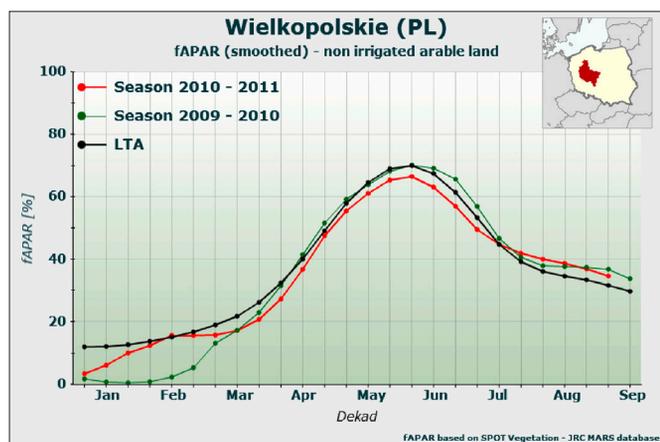
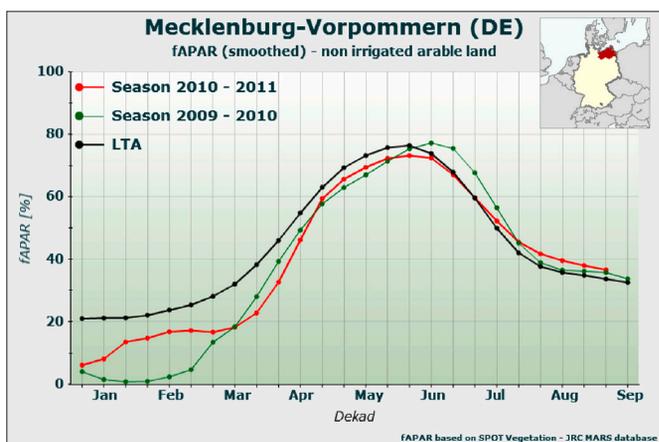
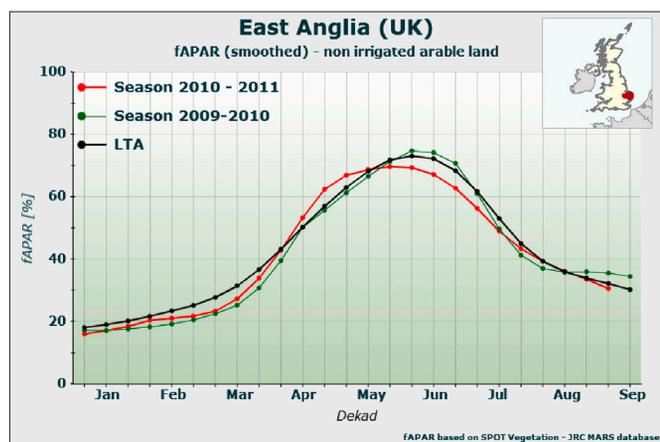
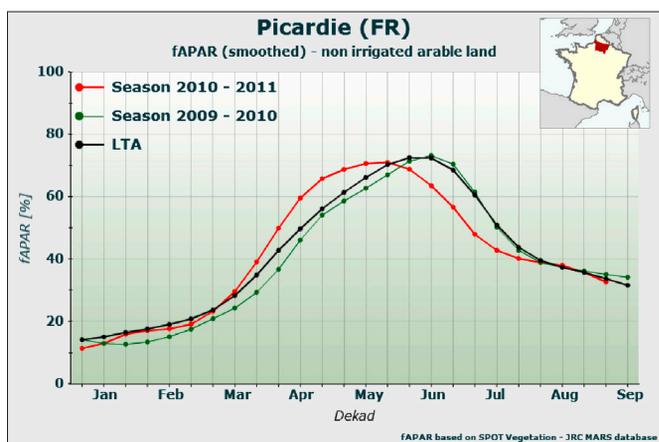
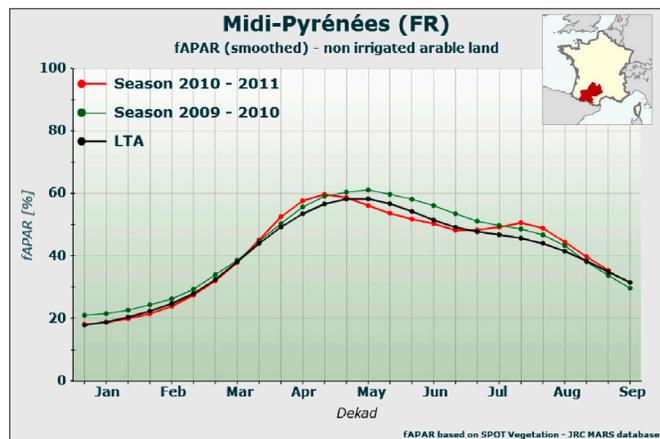
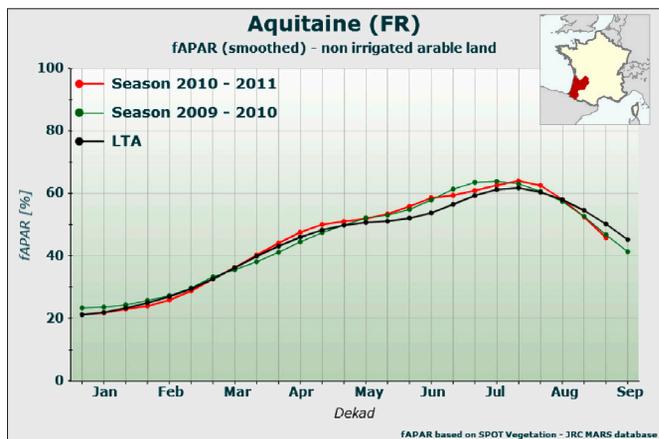
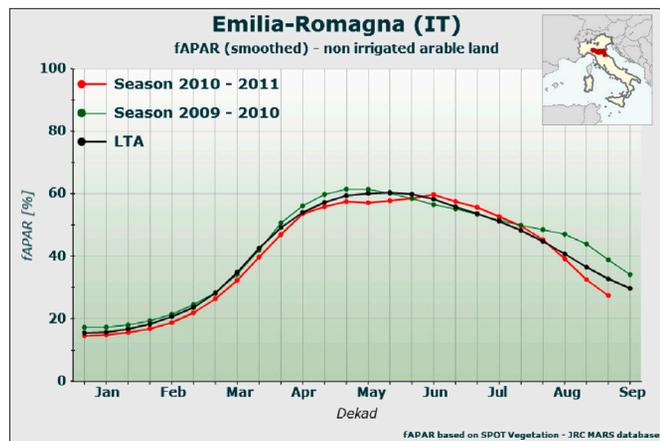
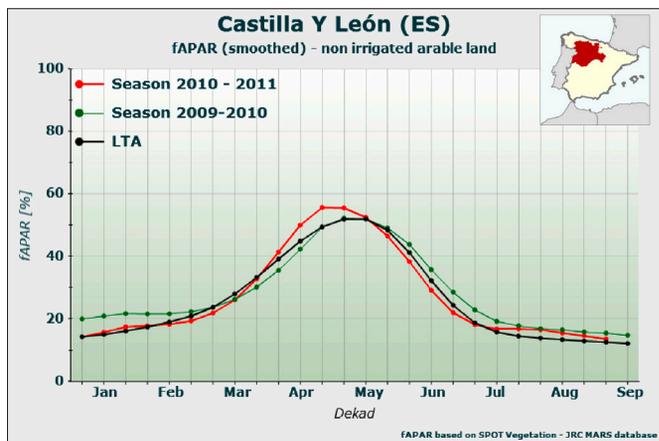
2. Remote sensing — Observed canopy conditions

Dry conditions in south-eastern Europe - Summer crops are at the end of their phenological cycle. In western countries vegetation benefited from the rain in July. Germany and central Europe showed improved canopy conditions. Eastern Mediterranean countries and western Black Sea agricultural regions are facing dry conditions: yield expectations could be reduced.



The map displays the fAPAR values for the beginning of September for the current season against the long-term average (LTA) values for the same period. The difference is expressed in relative terms. The less important agricultural areas are masked out. In general terms green regions denote better than average canopy conditions at the end of the season. Red colours mark regions where the phenological cycle is brought forward or shortened. In **Spain** the summer crops were already harvested during August. The fAPAR profile of *Castilla y León* marks the end of the season through the flattening of the fAPAR curve for the current season. In the Po valley, in **Italy**, the summer season got off to a good start with fairly good biomass development. The prolonged dry period and the high temperatures at the end of August probably shortened the maize phenological cycle slightly, affecting the final yield. The fAPAR profile for *Emilia-Romagna* displays the conditions described. In **France** the main areas planted with summer crops enjoyed a favourable end of the season. In *Aquitaine* the biomass accumulation shows a higher than average peak, as it does also in *Midi-Pyrenees*. In the latter region the increased biomass accumulation may have been triggered by the optimum growing conditions for sunflowers. In the western regions the earlier and shortened cycles of winter and spring crops are partially balanced by better than average canopy conditions during the summer, allowing fairly good expectations for summer crops. The profile of *Poitou-Charentes* is given as an example. Northern France (e.g. *Picardie* region) and the **United Kingdom** main agricultural areas came to the

end of the crop cycle. The season was brought forward and in some places slightly shortened. In spite of that the overall biomass accumulation is higher than average (e.g. *East Anglia* fAPAR profile). In northern **Germany** (*Mecklenburg-Vorpommern* region) and **Poland** (*Wielkopolskie* region) the good temperatures and abundant rainfall of the last month accounted for good biomass development at the end of the season, making up for the sub-optimal spring biomass accumulation. In southern Germany the biomass condition ranges around the average. In **Hungary** the summer season was optimum, with very high biomass accumulation almost everywhere. The lack of water over the last few days could slightly shorten the crop cycle, as can be seen from the fAPAR profile for *Észak-Alföld*. On the western Black Sea coast the summer crops are suffering low soil moisture conditions that could lead to a short phenological cycle and cause a reduction of the expected yield. In **Romania** (*Sud-Est* region) the conditions are worse than in **Bulgaria**, where it seems that crops are less affected (*Severozapaden* region). In **Ukraine** a good season is observed with an early end of the phenological cycle for southern regions (e.g. *Odes'ka* region), probably due to the dry period of the last month. In **Russia** canopy conditions improve with a gradient from south-east to north-west. South-eastern regions face early senescence (e.g. *Rostovskaya* oblast) while in the northern ones the canopy conditions are better than average. In **Turkey** the excellent season is coming to an end with the harvest of the summer crops (e.g. *Konya* agricultural areas).



III. Crop yield forecast at EU-27 level*

AGRI4CAST crop yield forecasts at national level for EU-27 (20 September 2011)

Country	TOTAL WHEAT (t/ha)					SOFT WHEAT (t/ha)					DURUM WHEAT (t/ha)				
	2010	2011	Avg 5yrs	%11/10	%11/5yrs	2010	2011	Avg 5yrs	%11/10	%11/5yrs	2010	2011	Avg 5yrs	%11/10	%11/5yrs
EU27	5.29	5.32	5.26	+0.5	+1.0	5.55	5.54	5.54	+0.0	+0.1	3.15	3.17	3.11	+0.5	+1.9
AT	5.01	5.24	5.06	+4.6	+3.5	5.04	5.28	5.10	+4.7	+3.4	4.50	4.50	4.37	+0.0	+3.1
BE	9.35	8.27	8.68	-11.5	-4.6	9.35	8.27	8.68	-11.5	-4.6	-	-	-	-	-
BG	3.74	3.87	3.34	+3.5	+15.8	3.74	3.87	3.34	+3.5	+15.8	-	-	-	-	-
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CZ	4.99	5.41	5.09	+8.3	+6.3	4.99	5.41	5.09	+8.3	+6.3	-	-	-	-	-
DE	7.23	7.25	7.46	+0.3	-2.8	7.24	7.26	7.47	+0.3	-2.8	5.35	5.41	5.48	+1.1	-1.3
DK	6.63	6.88	7.22	+3.8	-4.7	6.63	6.88	7.22	+3.8	-4.7	-	-	-	-	-
EE	2.71	2.83	2.96	+4.4	-4.4	2.71	2.83	2.96	+4.4	-4.4	-	-	-	-	-
ES	3.01	3.39	3.08	+12.7	+10.1	3.37	3.56	3.31	+5.5	+7.4	1.95	2.78	2.47	+42.8	+12.6
FI	3.43	3.70	3.71	+8.0	-0.2	3.43	3.70	3.71	+8.0	-0.2	-	-	-	-	-
FR	6.87	6.43	6.89	-6.4	-6.6	7.04	6.57	7.07	-6.6	-7.1	5.06	4.70	4.81	-7.2	-2.3
GR	2.59	2.25	2.54	-13.0	-11.2	2.91	2.66	2.79	-8.7	-4.7	2.49	2.12	2.45	-14.7	-13.3
HU	3.72	4.25	4.05	+14.2	+5.1	3.73	4.26	4.05	+14.1	+5.1	3.32	3.95	3.82	+19.1	+3.5
IE	8.60	9.20	8.68	+7.0	+6.0	8.60	9.20	8.68	+7.0	+6.0	-	-	-	-	-
IT	3.70	3.73	3.65	+0.8	+2.3	5.16	5.22	5.19	+1.1	+0.6	3.04	3.12	2.97	+2.5	+4.9
LT	3.31	3.61	3.61	+9.1	+0.0	3.31	3.61	3.61	+9.1	+0.0	-	-	-	-	-
LU	5.96	5.82	6.15	-2.4	-5.5	5.96	5.82	6.15	-2.4	-5.5	-	-	-	-	-
LV	3.28	3.49	3.43	+6.3	+1.7	3.28	3.49	3.43	+6.3	+1.7	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	8.91	8.86	8.52	-0.5	+4.0	8.91	8.86	8.52	-0.5	+4.0	-	-	-	-	-
PL	3.94	4.01	3.87	+1.8	+3.5	3.94	4.01	3.87	+1.8	+3.5	-	-	-	-	-
PT	1.45	1.74	1.93	+19.9	-10.1	1.45	1.74	1.93	+19.9	-10.1	-	-	-	-	-
RO	2.80	3.46	2.58	+23.5	+33.9	2.80	3.46	2.58	+23.5	+33.9	-	-	-	-	-
SE	5.40	5.81	5.86	+7.6	-0.9	5.40	5.81	5.86	+7.6	-0.9	-	-	-	-	-
SI	4.80	4.67	4.33	-2.7	+7.9	4.80	4.67	4.33	-2.8	+7.9	-	-	-	-	-
SK	3.47	4.30	4.01	+24.0	+7.2	3.46	4.29	4.00	+24.0	+7.2	3.58	4.52	4.33	+26.2	+4.5
UK	8.05	7.78	7.89	-3.5	-1.5	8.05	7.78	7.89	-3.5	-1.5	-	-	-	-	-

Country	TOTAL BARLEY (t/ha)					GRAIN MAIZE (t/ha)					RAPE SEED (t/ha)				
	2010	2011	Avg 5yrs	%11/10	%11/5yrs	2010	2011	Avg 5yrs	%11/10	%11/5yrs	2010	2011	Avg 5yrs	%11/10	%11/5yrs
EU27	4.34	4.35	4.32	+0.3	+0.8	7.03	7.01	6.71	-0.3	+4.5	2.97	2.89	3.02	-2.8	-4.2
AT	4.50	4.71	4.58	+4.7	+3.0	9.28	10.85	10.02	+17.0	+8.3	3.17	2.95	3.10	-6.9	-4.7
BE	8.62	7.59	8.24	-11.9	-7.9	12.12	11.93	11.67	-1.6	+2.2	4.03	3.42	3.89	-15.1	-12.1
BG	3.41	3.50	3.21	+2.7	+9.1	6.24	5.21	4.11	-16.5	+26.6	2.57	2.44	2.18	-5.0	+12.0
CY	1.77	1.52	1.26	-14.4	+20.2	-	-	-	-	-	-	-	-	-	-
CZ	4.08	4.33	4.12	+6.3	+5.2	6.71	7.96	7.21	+18.6	+10.4	2.83	2.92	3.00	+3.4	-2.6
DE	6.30	5.94	6.05	-5.6	-1.8	8.79	9.80	9.17	+11.5	+6.9	3.90	3.45	3.82	-11.4	-9.7
DK	5.11	5.07	5.07	-0.8	-0.1	-	-	-	-	-	3.48	3.60	3.57	+3.4	+0.8
EE	2.41	2.57	2.49	+6.7	+3.4	-	-	-	-	-	1.32	1.40	1.51	+5.8	-7.7
ES	2.84	3.22	2.94	+13.5	+9.4	9.92	10.06	9.94	+1.5	+1.2	1.81	1.86	1.70	+2.9	+9.4
FI	3.07	3.46	3.45	+12.7	+0.3	-	-	-	-	-	1.13	1.47	1.37	+30.1	+7.0
FR	6.38	5.75	6.36	-9.9	-9.5	8.74	9.10	9.01	+4.2	+1.1	3.29	3.15	3.25	-4.3	-3.0
GR	2.84	2.38	2.42	-16.3	-1.7	10.18	10.13	9.92	-0.5	+2.1	2.60	-	2.60	-	-
HU	3.37	3.76	3.60	+11.5	+4.4	6.63	6.62	6.21	-0.1	+6.7	2.16	2.19	2.32	+1.5	-5.6
IE	7.00	7.28	6.75	+4.0	+7.8	-	-	-	-	-	-	-	-	-	-
IT	3.62	3.70	3.64	+2.3	+1.7	9.11	9.41	9.11	+3.3	+3.2	2.46	2.03	2.10	-17.5	-3.3
LT	2.70	2.77	2.64	+2.7	+5.2	4.79	5.28	4.10	+10.3	+29.0	1.65	1.76	1.75	+6.4	+0.1
LU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	2.80	2.63	2.38	-6.1	+10.4	-	-	-	-	-	2.13	2.06	2.06	-3.1	+0.3
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	5.56	6.12	6.00	+10.1	+1.9	9.74	11.19	11.05	+14.9	+1.3	-	-	-	-	-
PL	3.15	3.21	3.08	+1.9	+4.2	5.75	6.49	5.70	+12.8	+13.7	2.70	2.47	2.77	-8.4	-10.6
PT	1.51	1.97	2.00	+30.7	-1.2	6.88	6.88	6.15	+0.0	+11.8	-	-	-	-	-
RO	2.54	2.78	2.33	+9.4	+19.2	4.06	3.55	3.20	-12.6	+10.9	1.79	1.90	1.51	+6.0	+25.4
SE	3.97	4.31	4.19	+8.5	+3.0	0.00	-	3.22	-	-	2.55	2.91	2.69	+14.1	+8.2
SI	4.30	4.09	3.82	-5.0	+7.0	8.54	7.90	7.63	-7.5	+3.5	-	-	-	-	-
SK	2.72	3.35	3.39	+22.9	-1.2	5.49	7.10	6.04	+29.4	+17.5	1.97	2.31	2.21	+17.3	+4.5
UK	6.00	5.67	5.87	-5.5	-3.4	-	-	-	-	-	3.50	3.55	3.25	+1.5	+9.5

* Note: Yields are forecast for crops with more than 10000 ha per country; figures are rounded to 100 kg
Sources: 2006-2010 data come from EUROSTAT Eurobase (last update: 19/08/2011) and EES (last update: 16/08/2011)
2011 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 10/09/2011)

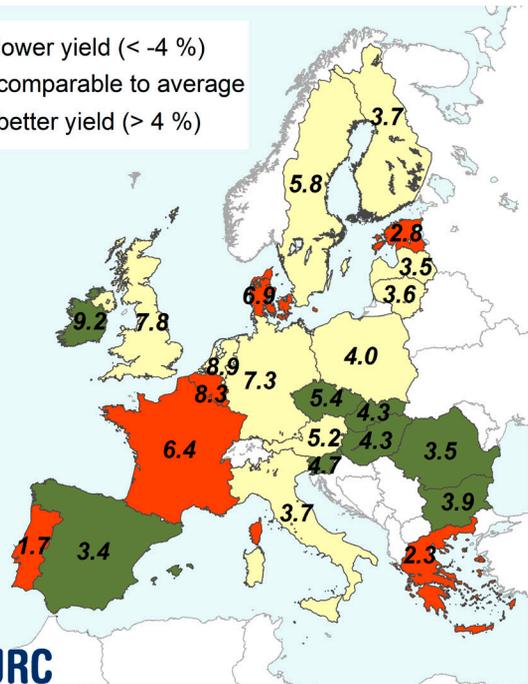
Country	SUNFLOWER (t/ha)					SUGAR BEET (t/ha)					POTATO (t/ha)				
	2010	2011	Avg 5yrs	%11/10	%11/5yrs	2010	2011	Avg 5yrs	%11/10	%11/5yrs	2010	2011	Avg 5yrs	%11/10	%11/5yrs
EU27	1.86	1.87	1.72	+0.6	+8.4	67.55	70.13	65.75	+3.8	+6.6	28.43	30.56	28.45	+7.5	+7.4
AT	2.62	2.72	2.60	+3.7	+4.3	69.84	71.04	67.62	+1.7	+5.1	30.57	33.03	31.12	+8.0	+6.1
BE	-	-	-	-	-	82.70	79.73	75.28	-3.6	+5.9	44.73	47.56	44.22	+6.3	+7.6
BG	2.10	1.78	1.59	-15.0	+12.1	-	-	-	-	-	15.60	16.10	15.44	+3.2	+4.3
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CZ	2.11	2.36	2.25	+11.6	+4.6	54.36	60.25	54.85	+10.8	+9.8	24.56	27.16	25.07	+10.6	+8.3
DE	2.11	2.45	2.21	+16.1	+10.7	65.01	67.68	63.01	+4.1	+7.4	39.98	43.38	41.39	+8.5	+4.8
DK	-	-	-	-	-	60.10	58.78	56.64	-2.2	+3.8	35.27	39.70	38.68	+12.6	+2.6
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES	1.27	1.17	1.15	-8.0	+1.4	76.74	79.80	76.30	+4.0	+4.6	29.54	30.06	29.07	+1.8	+3.4
FI	-	-	-	-	-	37.13	39.49	38.24	+6.4	+3.3	26.15	27.78	25.30	+6.2	+9.8
FR	2.35	2.60	2.40	+10.6	+8.2	82.16	89.26	85.16	+8.6	+4.8	41.40	42.16	42.87	+1.8	-1.7
GR	2.53	1.24	1.44	-51.2	-14.2	-	-	-	-	-	25.25	24.93	24.94	-1.3	-0.1
HU	1.97	2.38	2.25	+21.0	+5.7	58.34	57.70	53.01	-1.1	+8.8	21.73	25.68	24.24	+18.2	+6.0
IE	-	-	-	-	-	-	-	-	-	-	34.40	32.66	32.20	-5.0	+1.4
IT	2.12	2.18	2.20	+2.7	-0.9	56.65	56.45	55.02	-0.3	+2.6	24.97	25.04	24.91	+0.3	+0.5
LT	-	-	-	-	-	47.22	48.03	43.49	+1.7	+10.4	12.99	12.86	12.17	-1.0	+5.6
LU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	-	-	-	-	-	-	-	-	-	-	16.03	16.23	15.84	+1.2	+2.4
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	-	-	-	-	-	74.37	73.19	71.73	-1.6	+2.0	43.59	45.22	43.94	+3.7	+2.9
PL	-	-	-	-	-	49.13	52.66	48.98	+7.2	+7.5	17.86	19.30	18.53	+8.1	+4.2
PT	0.54	0.71	0.61	+32.2	+16.3	-	-	-	-	-	14.90	15.38	15.01	+3.2	+2.4
RO	1.56	1.57	1.32	+0.8	+18.8	38.36	38.12	33.24	-0.6	+14.7	13.45	15.87	14.34	+18.0	+10.7
SE	-	-	-	-	-	52.08	55.74	53.67	+7.0	+3.9	30.08	28.92	29.81	-3.8	-3.0
SI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SK	1.81	2.29	2.15	+26.3	+6.5	54.52	60.99	53.26	+11.9	+14.5	11.45	17.09	15.43	+49.3	+10.7
UK	-	-	-	-	-	72.86	69.66	64.33	-4.4	+8.3	42.90	43.55	42.14	+1.5	+3.4

Total wheat - yield forecast 2011

Actual yield versus average yield 2006- 2010

Yield figures 2011 are expressed in t/ha and rounded to 100 kg

- lower yield (< -4 %)
- comparable to average
- better yield (> 4 %)

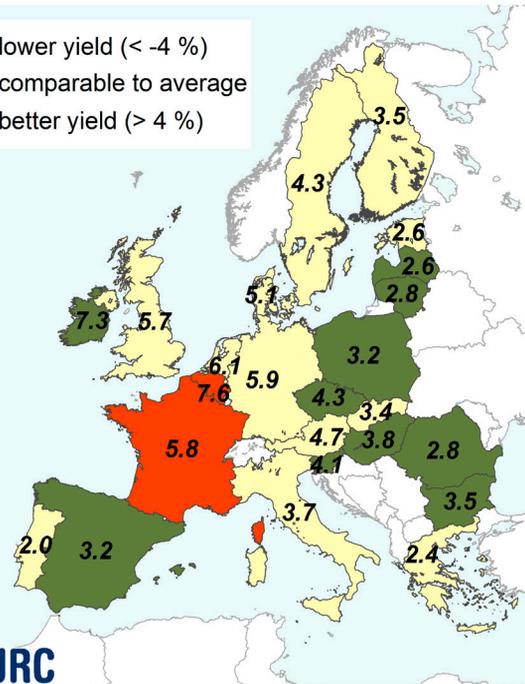


Total barley - yield forecast 2011

Actual yield versus average yield 2006- 2010

Yield figures 2011 are expressed in t/ha and rounded to 100 kg

- lower yield (< -4 %)
- comparable to average
- better yield (> 4 %)

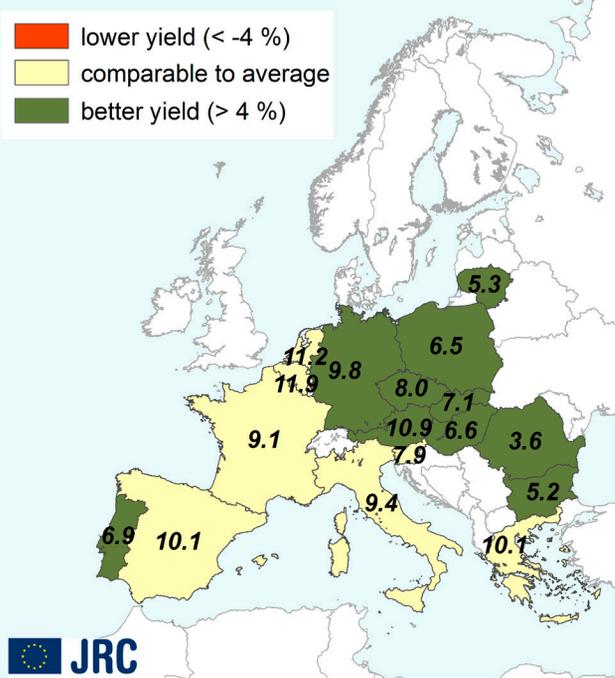


Grain maize - yield forecast 2011

Actual yield versus average yield 2006- 2010

Yield figures 2011 are expressed in t/ha and rounded to 100 kg

- lower yield (< -4 %)
- comparable to average
- better yield (> 4 %)

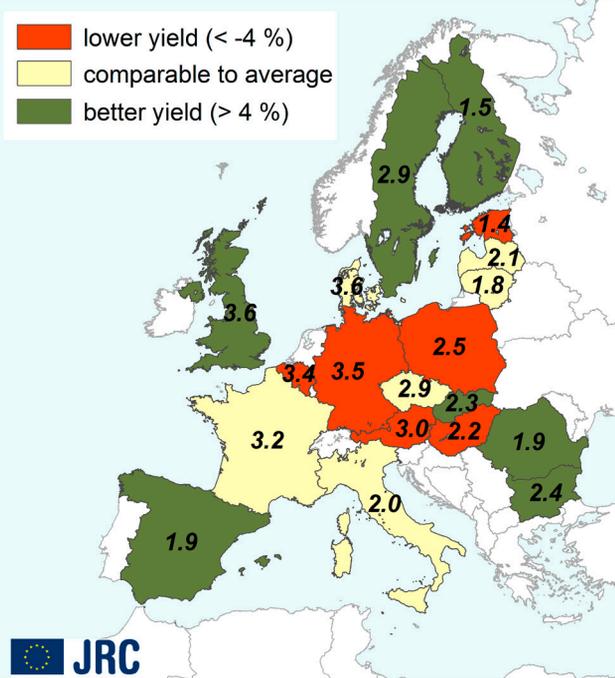


Rapeseed - yield forecast 2011

Actual yield versus average yield 2006- 2010

Yield figures 2011 are expressed in t/ha and rounded to 100 kg

- lower yield (< -4 %)
- comparable to average
- better yield (> 4 %)

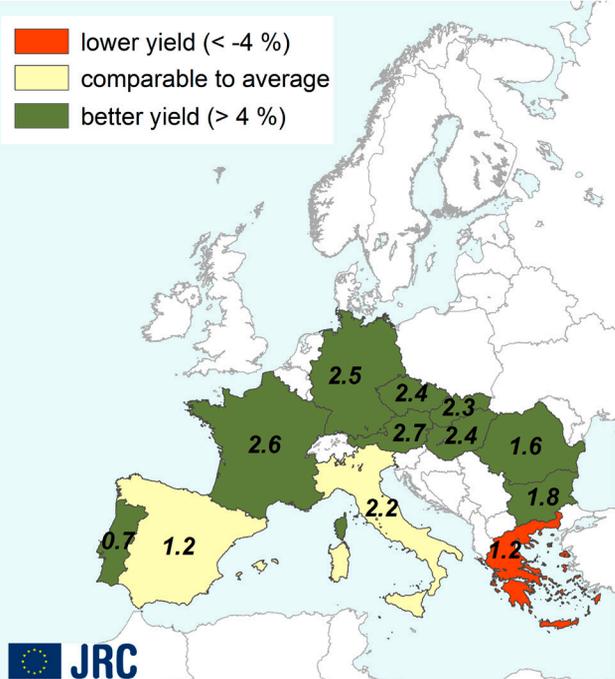


Sunflower - yield forecast 2011

Actual yield versus average yield 2006- 2010

Yield figures 2011 are expressed in t/ha and rounded to 100 kg

- lower yield (< -4 %)
- comparable to average
- better yield (> 4 %)

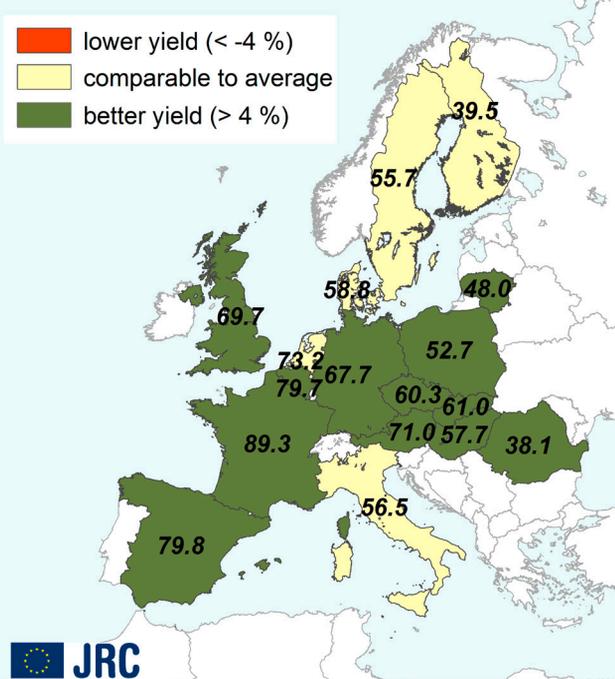


Sugar beets - yield forecast 2011

Actual yield versus average yield 2006- 2010

Yield figures 2011 are expressed in t/ha and rounded to 100 kg

- lower yield (< -4 %)
- comparable to average
- better yield (> 4 %)



IV. Crop yield forecast at country level (EU-27)

FRANCE — Good yield expectations for grain maize and sunflower; tuber crop yields revised downwards.

FRANCE					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	7.04	6.57	7.07	-6.6	-7.1
durum wheat	5.06	4.70	4.81	-7.2	-2.3
winter barley	6.50	5.85	6.48	-10.0	-9.7
spring barley	6.06	5.53	6.06	-8.7	-8.8
grain maize	8.74	9.10	9.01	+4.2	+1.1
turnips (rape)	3.29	3.15	3.25	-4.3	-3.0
sunflower	2.35	2.60	2.40	+10.6	+8.2
sugar beets	82.16	89.26	85.16	+8.6	+4.8
potato	41.40	42.16	42.87	+1.8	-1.7

Rainfall during the summer resulted in a large surplus in the country's northern coastal strip. Nevertheless, favourable windows for harvesting the last areas with cereals were observed during the last dekad of July. Temperatures are generally within the seasonal range of values, but the cumulated active temperature is below the average, except in the southern half of the country.

Yield forecasts for winter crops and for spring barley are confirmed (all below both the last five years' average and the 2010 level). Development of grain maize is positive, with yield potential close to average. Sunflower benefited from favourable weather conditions in August, and the yield forecast is highly promising. In contrast, the yield forecast for tuber crops was revised downwards to take into account the risk of excess water in some areas in the north-east.

AGROMETEOROLOGICAL ANALYSIS

France received large amounts of rain, especially in the northern regions from *Bretagne/Pays de la Loire* to *Nord-Pas-de-Calais*. The surplus at grid level (25 km x 25 km) can be +120 % in comparison with the long-term average (LTA). At regional level, the cumulated rainfall value is higher than the upper limit of the seasonal range of variation, with a surplus ranging from +8 % in *Champagne-Ardenne* to +70 % in *Pays de la Loire*. Elsewhere, cumulated rainfall remains within the normal range of variation. In the *Est* (+15 % in *Alsace* and *Lorraine*) and in the *Ouest* (+15 % in *Poitou-Charentes*, 32 % in *Bretagne*) the cumulated rainfall value is above the LTA. In contrast it is lower than the LTA in *Méditerranée* (but +6 % in *Languedoc-Roussillon*), *Centre-Est* (-12 % in *Rhône-Alpes*) and *Sud-Ouest* (around -18 % in *Aquitaine* and *Midi-Pyrénées*).

In the meantime, temperatures in comparison with the LTA were rather low from 21 July to 10 August (i.e. only +8 °C during the night in *Bretagne*), even in the southern region of *Provence-Alpes-Côte d'Azur*. From the second dekad of August onwards temperatures increased and values above the upper limit of the seasonal range of variation were registered during the last dekad of August, as also in *Île-de-France* (+31 °C), *Poitou-Charentes* (+20 °C during the night), the

Rhone Valley (temp > +30 °C from 20 to 25 August), and *Aquitaine* (+37.8 °C).

CROP DEVELOPMENT

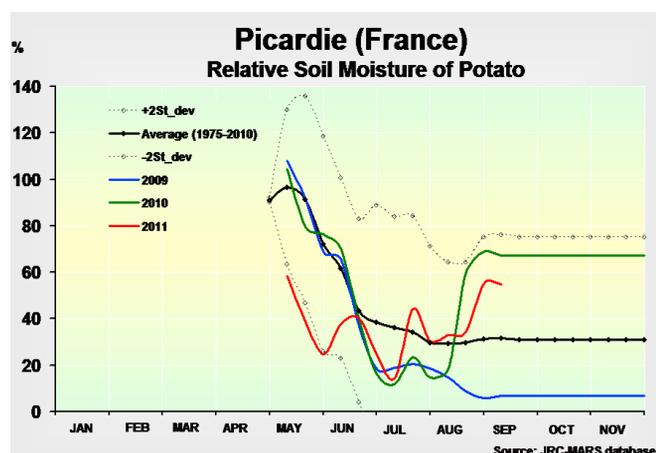
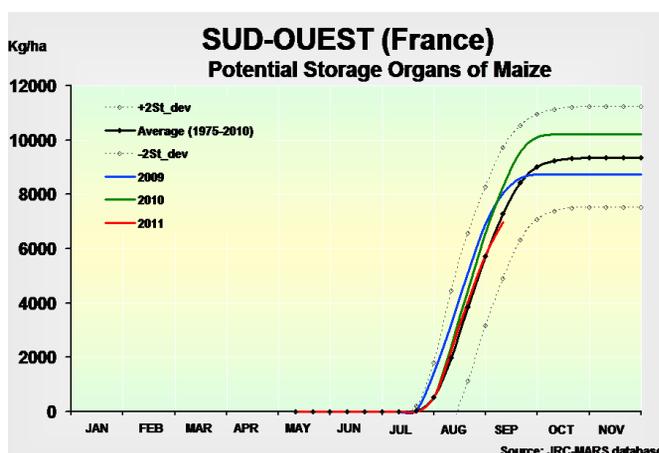
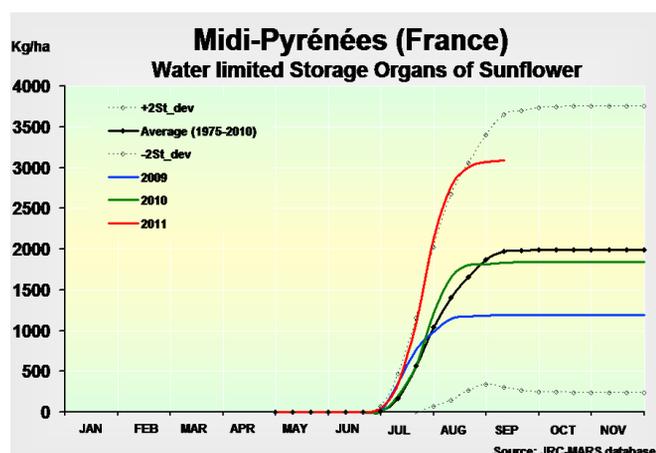
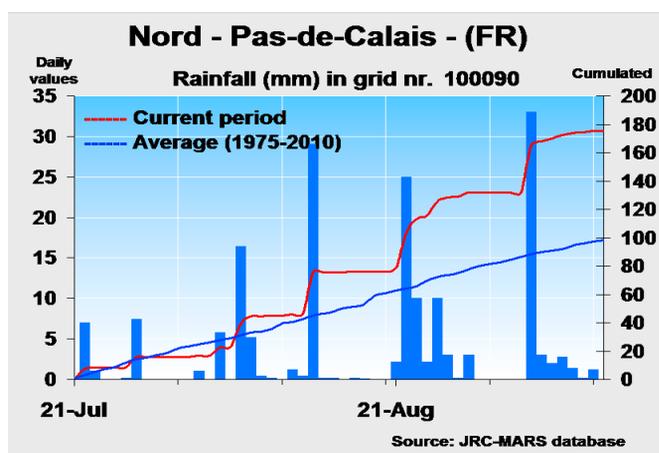
As a consequence for the crops, harvesting of cereals in the north-east was completed only at the end of July/early August. Solar radiation being much lower than the LTA, the cumulated active temperature is generally lower than the average — except in the southern half of the country, where it is on the average. The relative soil moisture for all crops fluctuates closely around the average, except in the north-eastern areas, where it is much higher than the LTA.

Since rain didn't really hamper the harvesting of cereals, previous forecasts remain unchanged since our last forecast for **soft** and **durum wheat**, **winter** and **spring barley** and **rapeseed**.

Grain maize is at the grain-filling stage of development in the major regions of production (western half of the country, *Rhone valley* and *Alsace*). A slight delay (less than 7 days) is observed in *Bretagne*. In contrast, an advance of about +10 days is observed in *Sud-Ouest* (and to a lesser extent also in *Alsace*) and ripening has already started. Finally and very locally, maturity is also reached in the *Rhone Valley*. The simulation of crop indicators shows quite favourable output in terms of canopy development and soil moisture supply is good. The potential of storage organs is also simulated at a promising level except in *Ouest*. At national level, the yield forecast has therefore been revised upwards a little since the last forecast.

Sunflower is at maturity in *Midi-Pyrénées*, but it is still at the ripening stage of development in *Poitou-Charentes*. An acceleration of crop development can be observed — mainly in *Midi-Pyrénées* — thanks to the increase in temperature from mid-August onwards. The simulated Leaf Area Index (LAI) profile is above the long-term average throughout the month of August and the relative soil moisture fluctuates around the average. Nevertheless, a precocity of +20/+30 days can be observed at grid level. The yield forecast is revised upwards as a consequence of the very promising yield potential simulated in *Ouest* and even more so in *Sud-Ouest*.

The excess rain in some areas in the north-east (main regions of production) could have a negative impact on yields of tuber crops. During the first dekad of September the curve of the simulated storage organs for **sugar beet** shows a clear downturn despite a good LAI profile and an average level of relative soil moisture. The yield forecasts have been revised downwards since the last forecast made at the end of August. The yield forecast for **potato** was also revised downwards to mainly take into account the LAI profile (lower than the LTA since mid-May) and the risk that the currently high relative soil moisture level represents for the quality of tubers.



GERMANY — Difficult winter crop harvest and yields below average.

GERMANY					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	7.24	7.26	7.47	+0.3	-2.8
durum wheat	5.35	5.41	5.48	+1.1	-1.3
winter barley	6.66	6.33	6.48	-4.9	-2.3
spring barley	4.95	4.73	4.76	-4.5	-0.7
grain maize	8.79	9.80	9.17	+11.5	+6.9
turnips (rape)	3.90	3.45	3.82	-11.4	-9.7
sunflower	2.11	2.45	2.21	+16.1	+10.7
sugar beets	65.01	67.68	63.01	+4.1	+7.4
potato	39.98	43.38	41.39	+8.5	+4.8

A too cold and rainy July followed by an unsettled August, making harvest difficult. Good prospects for maize.

AGROMETEOROLOGICAL ANALYSIS

The temperature sum accumulated in the last dekad of July was clearly below the LTA, as was the whole month of July, with on average low maximum temperatures slowing down crop development. The last days of July brought plentiful rain for *Mecklenburg-Vorpommern* (up to 170 mm in 10 days) and regions along the Polish border, where the LTA was exceeded by more than 100 mm. July was by far the wettest month in our time series since 1975 for *Mecklenburg-Vorpommern* and *Brandenburg*. The early winter crop harvest was severely hampered and grain quality affected.

August was warmer only in the south of the country as compared to the LTA. Around 6 hot days (above 30 degrees) were recorded (in 2003 *Bayern* recorded around 14 hot days). The remaining part of the country experienced average temperature accumulation and there were no heat waves. Global radiation was below average in the north (10-20 % less). In general the weather was unsettled, with good weather periods alternating with (partially very intensive) rainy showers. With the exception of *Baden-Württemberg*, *Bayern*, *Thüringen* and *Sachsen* an overall rainfall surplus was recorded. Harvesting was hampered and difficult especially in *Niedersachsen*, *Schleswig-Holstein* and *Mecklenburg-Vorpommern*. During the first part of September accumulated temperatures were above average, with a gradient from south to north, and precipitation continued to be frequent in the north.

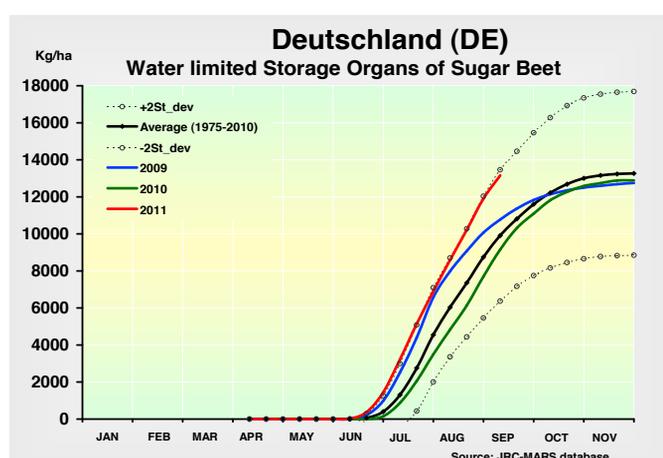
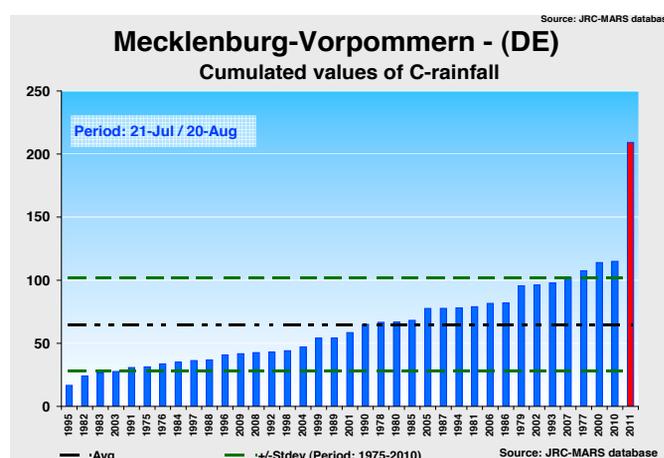
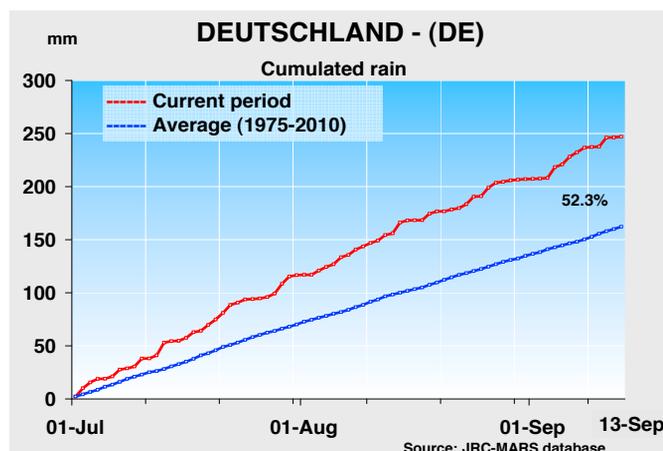
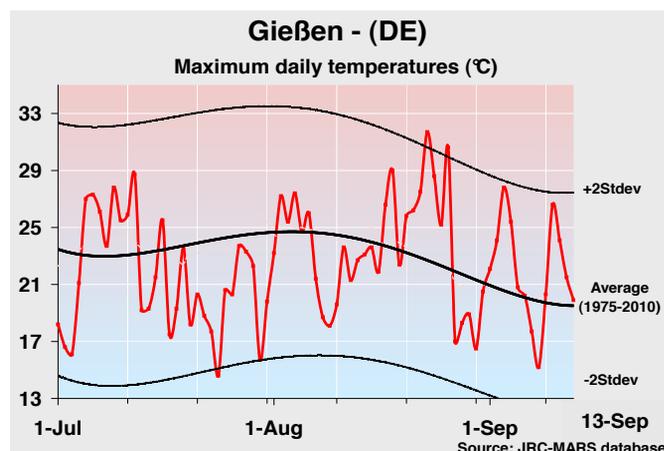
CROP DEVELOPMENT

Despite the rainy period the winter crop harvest seems now definitively ended. **Wheat, barley and rapeseed** all yield below the five-year average.

With respect to **grain maize** the summer rains and mild/damp conditions are considered to be beneficial for the yield. The model simulates good storage organ weight. **Potato** suffered from the excessively wet conditions (e.g. *Mecklenburg-Vorpommern*), making it vulnerable to diseases, and the dry spring impacted negatively on tuber

size (huge variety). Harvesting was partially problematic as fields couldn't be accessed. **Sugar beet** is expected to have

above-average yields; summer rains were beneficial and the model simulates very high storage organ weights.



UNITED KINGDOM — Satisfactory yield for soft wheat and a good season for rapeseed.

	UNITED KINGDOM				
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	8.05	7.78	7.89	-3.5	-1.5
winter barley	6.72	6.24	6.54	-7.1	-4.5
spring barley	5.56	5.33	5.43	-4.1	-1.9
sugar beets	72.86	69.66	64.33	-4.4	+8.3
turnips (rape)	3.50	3.55	3.25	+1.5	+9.5
potato	42.90	43.55	42.14	+1.5	+3.4

Unsettled weather in August but harvest well advanced. Yields for soft wheat are close to the five-year average.

AGROMETEOROLOGICAL ANALYSIS

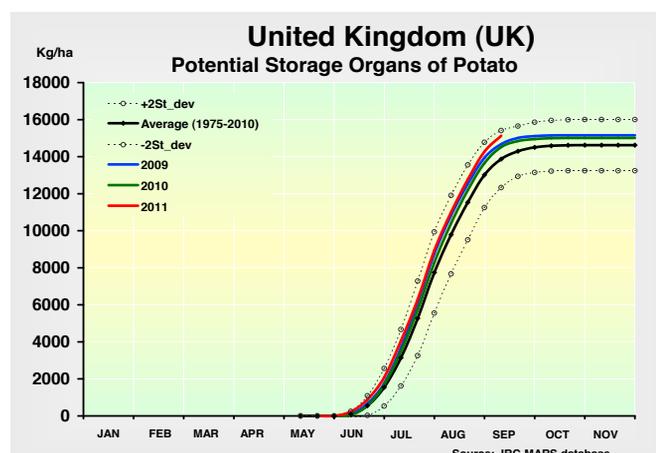
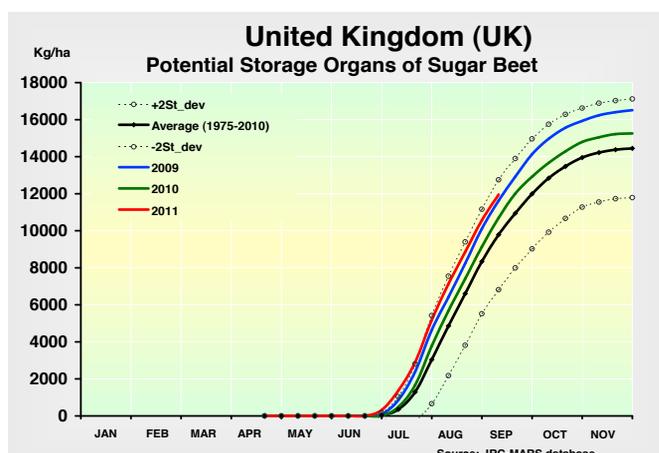
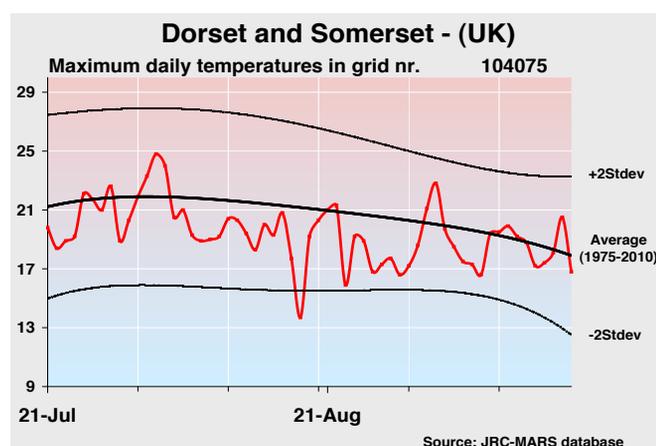
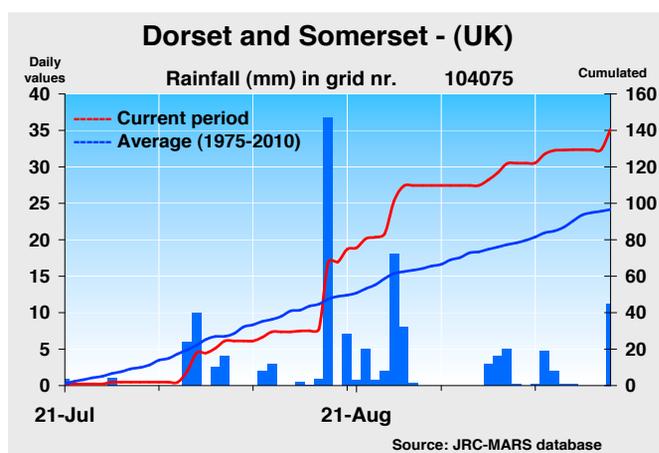
July was on average too cool and accumulated temperature sums are below the average across the whole country. Rainfall did vary, with a clear surplus in *Scotland*, and harvest activities at the end of July were interrupted by rain.

In August temperature accumulation was close to average in *Midlands* and *East of England*, while the remaining part of the country experienced temperature accumulation below the average, especially in *Scotland*. In general it was a rather cool month with only moderate maximum temperatures

and weather was unsettled. Rain was again abundant in *Scotland* but also *Hampshire* recorded a surplus of 50 mm. Rain distribution allowed the harvest to progress, with a relatively dry period in mid-August and again at the end of August/beginning of September. Temperatures in September have so far been seasonal with average maximum temperatures between 18 and 21 degrees in *England*.

CROP DEVELOPMENT

On average soft wheat completed its cycle two dekads in advance, and the yield is slightly below average. The model simulates below-average organ storage weight in the east, where the dry spell hit hardest, but this is offset by above-average values in the south. Winter barley is clearly below the average, being earlier in its cycle and harder hit by the dry conditions. Rapeseed yields are above average. Conditions for sugar beet have been favourable and storage organ accumulation looks good, resulting in an above-average yield.



ITALY — Slight reduction in the final yield expectation for maize.

	ITALY				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	5.16	5.22	5.19	+1.1	+0.6
durum wheat	3.04	3.12	2.97	+2.5	+4.9
winter barley	3.62	3.70	3.64	+2.3	+1.7
grain maize	9.11	9.41	9.11	+3.3	+3.2
turnips (rape)	2.46	2.03	2.10	-17.5	-3.3
sunflower	2.12	2.18	2.20	+2.7	-0.9
sugar beets	56.65	56.45	55.02	-0.3	+2.6
potato	24.97	25.04	24.91	+0.3	+0.5

Spring crops may have suffered from the drought during the grain-filling stage, exacerbated by the heat wave at the end of August.

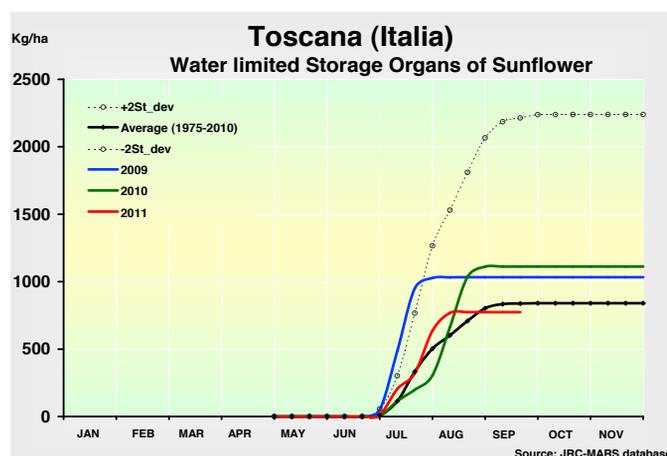
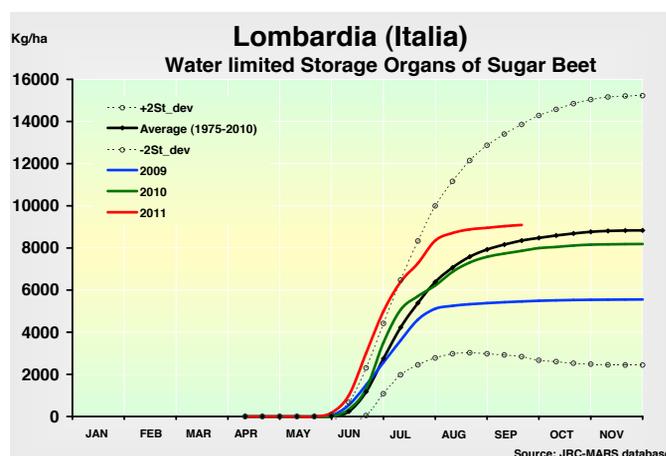
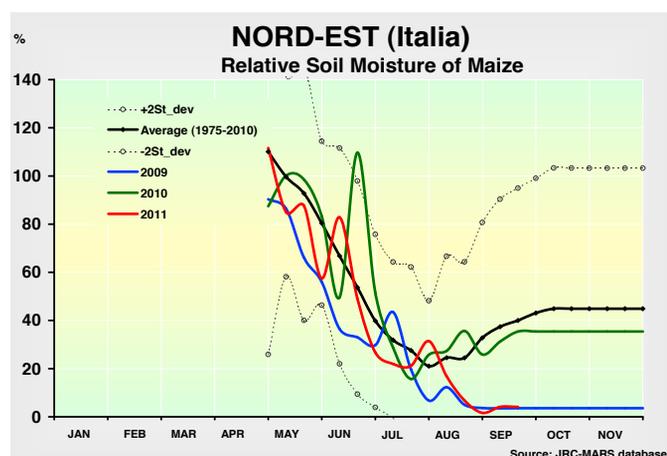
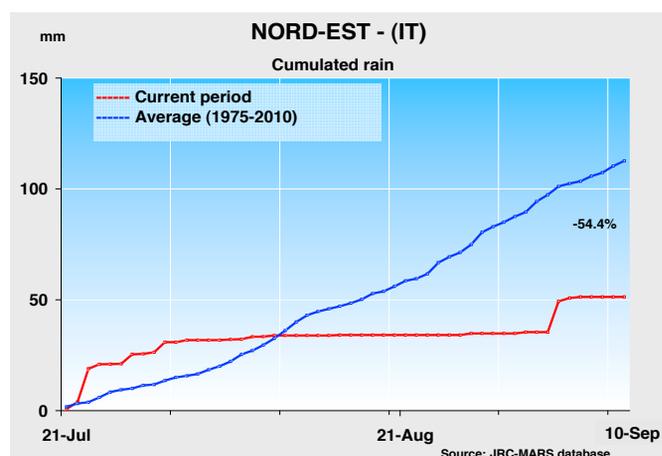
AGROMETEOROLOGICAL ANALYSIS

With the exception of isolated rainfall the period of analysis was marked, especially in northern regions, by extremely dry conditions. In fact, despite the abundant rainfall during the first part of the summer, the absence of precipitation in August led to a large deficit in the cumulated values. This caused a definite drop in soil water availability, which has probably been offset in most regions thanks to irrigation. Temperatures were generally below average during the last dekad of July and the first half of August, whereas afterwards exceptionally hot conditions prevailed (daily

maximum temperatures stayed at more than twice the standard deviation throughout the third dekad of August). The heat wave, aggravated by the dry conditions, has negatively impacted the last part of the growing season. Despite the dry conditions solar radiation did not reach significantly high values, thereby keeping evapo-transpirative demand lower than expected.

CROP DEVELOPMENT

The harvest of winter cereals has been completed in all regions of the Peninsula, confirming average conditions in terms of yield and quality, with a strong spatial variability determined mainly by the irrigation capacity and the timing of sowings. August, even if preceded by a rather wet period, featured dry conditions that reduced the soil moisture to very low values. This, in conjunction with the heat wave at the end of August, adversely affected the final stages of development, leading to sub-optimal grain filling for **maize**. In fact, even if maize escaped the drought thanks to irrigation the high temperatures did not allow optimum filling of the caryopsis. Tuber crops experienced different situations across the different regions. **Sugar beet** seems strongly affected by water stress in *Marche* and *Emilia* whereas in *Lombardia* and *Veneto* fairly positive yields can be expected. **Potato** digging is reaching the last stages, giving rise, despite the dry conditions, to average yield and good quality expectations. Yield expectations are also average for **sunflower**.



SPAIN — Favourable conditions for harvesting of spring crops. Yields slightly above the average.

	SPAIN				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.37	3.56	3.31	+5.5	+7.4
durum wheat	1.95	2.78	2.47	+42.8	+12.6
winter barley	2.29	2.88	2.61	+25.6	+10.4
spring barley	2.94	3.28	3.02	+11.7	+8.6
grain maize	9.92	10.06	9.94	+1.5	+1.2
turnips (rape)	1.81	1.86	1.70	+2.9	+9.4
sunflower	1.27	1.17	1.15	-8.0	+1.4
sugar beets	76.74	79.80	76.30	+4.0	+4.6
potato	29.54	30.06	29.07	+1.8	+3.4

Favourable conditions during the harvest of sunflower and maize in southern regions, while in northern regions the harvest will take place during the first two weeks of October. Expected yields for both crops are slightly above the average of the last few years.

AGROMETEOROLOGICAL ANALYSIS

Meteorological conditions during July and August painted an uneven picture. Weather in eastern regions can be described by an increase in average temperatures and a decrease in rainfall against the long-term average. During winter and spring the water supply from rainfall was close to the seasonal values and water storage at the beginning of the summer was similar to the historical series. Although the

lack of precipitation during August substantially reduced the level of stored water, only minor restrictions on irrigation have been applied in *Aragón*. The conditions are favourable for harvesting.

In contrast, in western regions (*Andalucía*, *Extremadura* and *Western Castilla y León*) the temperatures were slightly below the long-term average with precipitation substantially higher than seasonal values, as has been observed throughout the season.

CROP DEVELOPMENT

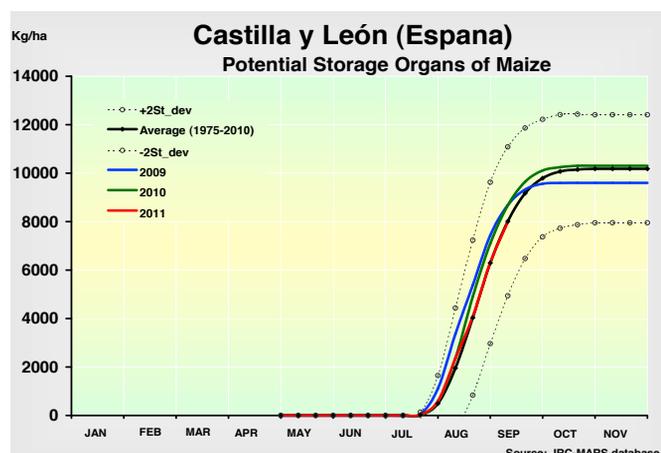
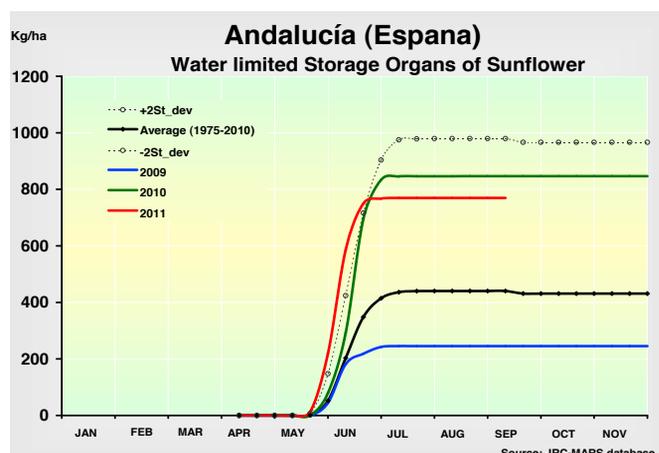
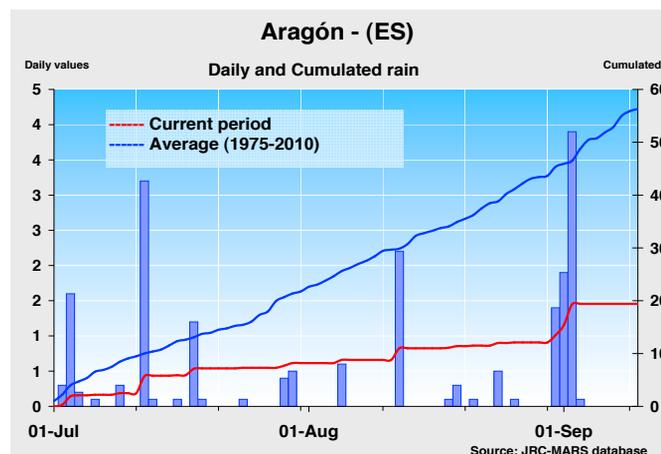
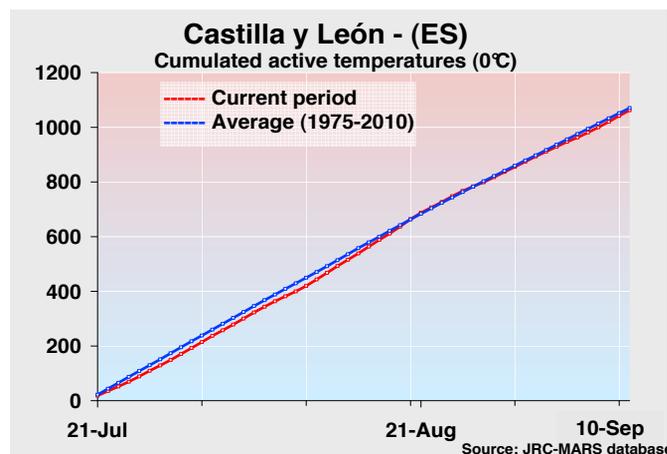
Maize and **sunflower** have been harvested in southern regions (*Andalucía* and *Extremadura*), without any meteorological constraints. In northern regions harvest is taking place, favoured by the dry meteorological conditions. In the case of maize, harvest could last up to the second week of October in some areas of *Castilla y León* and *Aragón*.

Yield expectations are higher than the average for the last five years for sunflower (+1.4 %), with a forecast of 1.17 t/ha as a consequence of the favourable meteorological conditions observed during spring, especially in *Andalucía*, a region with a sharp increase in acreage for this crop. However, yield is substantially lower (-8 %) than last year, one of the most productive seasons in the historical records. Maize yields are expected to be average (10.06 t/ha) thanks to the

absence of major irrigation limitations during the season despite the dry summer.

Sugar beet has already been harvested without major constraints and the yield is fixed at 79.8 t/ha, slightly higher

(+4.5 %) than the average in recent years. For potatoes the expectations are also slightly above the 2006-2010 period (+3.4 %), confirming the favourable meteorological conditions experienced throughout the season. The harvest of late-season **potatoes** will start in the forthcoming weeks.



POLAND — Difficult and wet harvesting; cereals yield slightly higher than last year.

	POLAND				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.94	4.01	3.87	+1.8	+3.5
winter barley	3.92	3.97	3.84	+1.2	+3.2
spring barley	2.98	3.04	2.94	+2.0	+3.4
grain maize	5.75	6.49	5.70	+12.8	+13.7
turnips (rape)	2.70	2.47	2.77	-8.4	-10.6
sugar beets	49.13	52.66	48.98	+7.2	+7.5
potato	17.86	19.30	18.53	+8.1	+4.2

Very difficult harvesting after intense rainfall in July. Grain maize, root and tuber crops present good yield potential.

AGROMETEOROLOGICAL ANALYSIS

Active temperature accumulation in the last dekad of June and first dekad of August was below the long-term average. Maximum daily temperatures and solar radiation were also below the usual seasonal values; storage organ accumulation of spring crops slowed down. Mid-August temperatures

started to increase and remained above the long-term average until the end of the month, with the result that August was warmer than usual. The highest temperatures, both minimum and maximum, were recorded in the last dekad of August, with a peak above 30 °C on 27 August.

In the period between 21 July and 10 September Poland received precipitation exceeding the long-term average (by +34 %); western areas (*Zachodniopomorskie*, *Lubuskie* and *Dolnośląskie*) experienced the highest departures from LTA (by at least +65 %). The country suffered excessive precipitation throughout July and in the second dekad of August. Between 1 July and 20 August extremely large amounts of rainfall were recorded (from +60 % to +150 % LTA). In the time series since 1995 this spell was recorded as the wettest one in: *Lubelskie* (313 mm), *Mazowieckie* (266 mm), *Podkarpackie*, *Świętokrzyskie*, *Podlaskie*, *Zachodniopomorskie*, and *Warmińsko-Mazurskie*. Rainfall exceeding the normal range of variation (+2 standard deviation) was also recorded in *Łódzkie*, *Małopolskie*, *Wielkopolskie*, *Dolnośląskie*, *Kujawsko-Pomorskie* and *Pomorskie*. As a consequence of the intense and frequent rainfall, grain quality deteriorated.

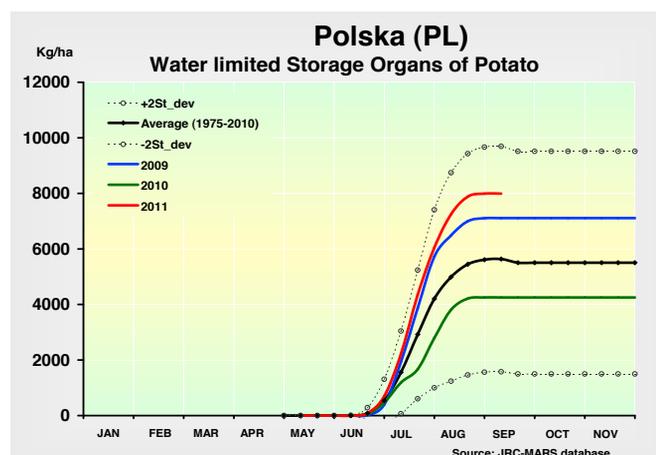
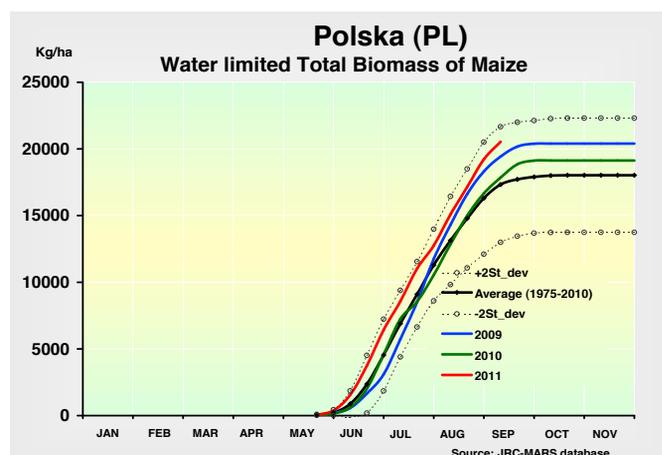
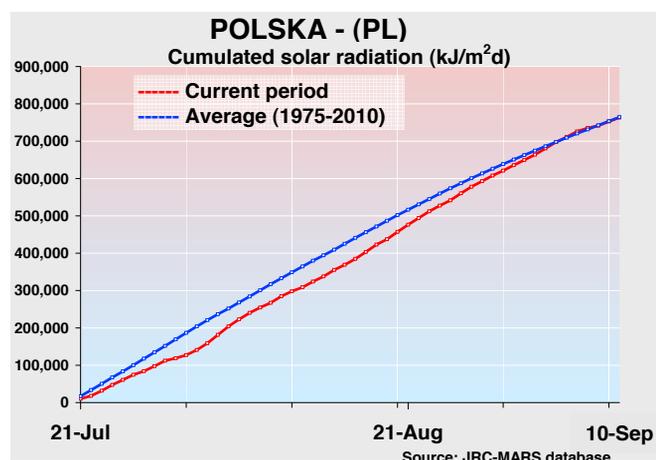
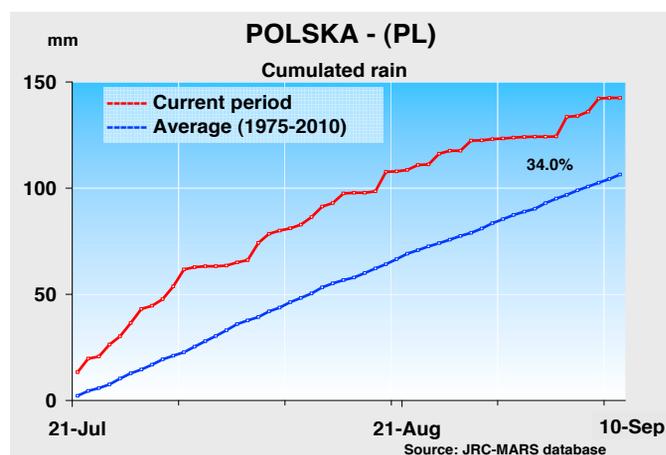
Poland received at country level in July +150 % more rainfall than usual; in August precipitation values were close to the long-term average and in the first half of September below the LTA by -30 %. Since the last dekad of August rain has been scarce, and most farmers have managed to finish harvesting cereals and sowing rapeseed for the new campaign.

CROP DEVELOPMENT

Abundant rainfall around ripening of cereals occurred mainly in eastern Poland, and then intense rainfall around cereals maturity was recorded in central Poland and western areas

bordering with Germany. Harvesting activities took place in very wet conditions. In *Mazowieckie* and *Lubelskie* at the end of July relative soil moisture under **soft wheat** exceeded the normal range of variation. Very high soil moisture (above the last two years' and LTA values) was also simulated in *Małopolskie*, *Podkarpackie*, *Świętokrzyskie*, *Podlaskie* and *Warmińsko-Mazurskie*.

The weather conditions were favourable for biomass and storage organ accumulation of **grain maize, sugar beet and potato**. Soil moisture is now below the value recorded last year and close to LTA, leading to better potato quality than last year.



BELGIUM — Average yields expected for summer crops despite a rainy and rather cold summer.

	BELGIUM				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	9.35	8.27	8.68	-11.5	-4.6
winter barley	8.62	7.59	8.24	-11.9	-7.9
grain maize	12.12	11.93	11.67	-1.6	+2.2
turnips (rape)	4.03	3.42	3.89	-15.1	-12.1
sugar beets	82.70	79.73	75.28	-3.6	+5.9
potato	44.73	47.56	44.22	+6.3	+7.6

Abundant rainfall occurred during the summer. The cumulated active temperature is below the average throughout the period of analysis. The harvest was almost completed by the end of July. Yields for grain

maize, sugar beet and potato are forecast at levels higher than the last five years' average.

AGROMETEOROLOGICAL ANALYSIS

The country faced abundant rainfall during the period of analysis with cumulated rain values much higher than the long-term average. In the province of *Hainaut*, the cumulated rainfall was even higher than the upper limit of the normal range of variation. For temperatures, a large variation within the seasonal range was observed. Nevertheless, temperature above the upper limit was registered on 3 September (29 °C). In the meantime, the cumulated active temperature throughout this period was below the average.

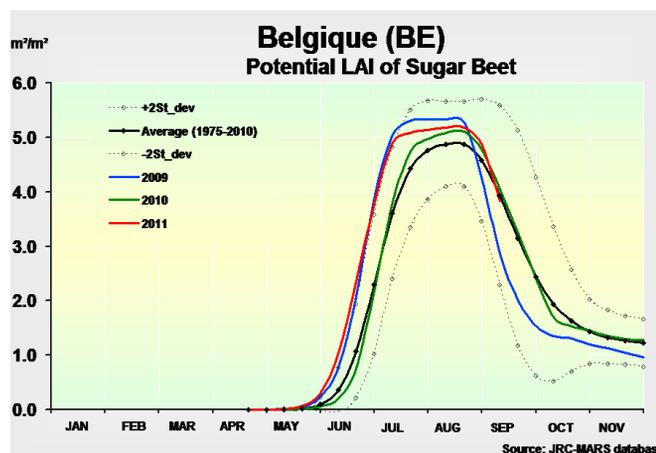
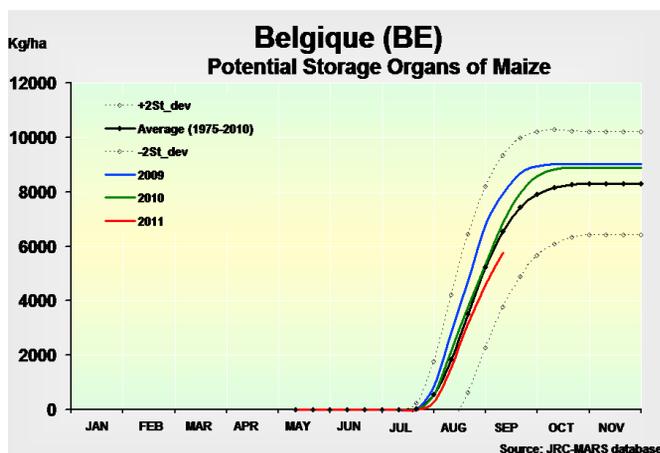
CROP DEVELOPMENT

The harvest campaign for **winter crops** was completed by the end of July. Although cereals ripened very early, the harvest period was extended due to the rain. Nevertheless, harvesting generally proceeded smoothly, with local problems due to the rain in the province of *Hainaut*. Yields previously forecast are confirmed.

Weather conditions in August during the grain filling of **grain maize** were favourable in terms of water supply but not for temperature, which was rather low in comparison to the LTA. Ripening started in many places of *Flanders* in the

first decade of September when the temperature increased, which is favourable. The model's output indicates a decrease in potential storage organs. The yield forecast was therefore revised to slightly below the previous forecast.

For tuber crops, the water supply at this stage is considered favourable, the level of relative soil moisture being above the average but still within the seasonal range of variation. The canopy development is simulated by the leaf area index (LAI). The LAI profile is better for **sugar beet** than for **potato**. Nevertheless, the yield forecast is revised upwards for both crops with yields set above the last five years' average.



THE NETHERLANDS — Extremely wet period. Yield expectations close to average.

THE NETHERLANDS					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	8.91	8.86	8.52	-0.5	+4.0
spring barley	5.56	6.12	6.00	+10.1	+1.9
grain maize	9.74	11.19	11.05	+14.9	+1.3
sugar beets	74.37	73.19	71.73	-1.6	+2.0
potato	43.59	45.22	43.94	+3.7	+2.9

A wet summer and seasonal temperatures did not significantly hamper the harvest of cereals, which was completed by the end of August. Yield forecasts for cereals are confirmed at close to average. Yield expectations for summer crops were revised downwards mainly to take into account the high level of relative soil moisture and the deficit in cumulated active temperature throughout the period of analysis.

AGROMETEOROLOGICAL ANALYSIS

The country faced nearly daily rain, leading to one of the wettest periods in comparison to the 36-year series, especially in the region *Noord-Nederland*. There was a surplus of cumulated rainfall in all regions, ranging from +52 % (in *Zuid*) to +85 % in *West*. Throughout the country, solar radiation was low and the cumulated active temperature is below the long-term average (LTA). Nevertheless, temperatures remain generally within the seasonal range of values, except at the end of July, when temperatures were below

the lower limit of the seasonal range of variation, and the first decade of September, with temperature values above the upper limit.

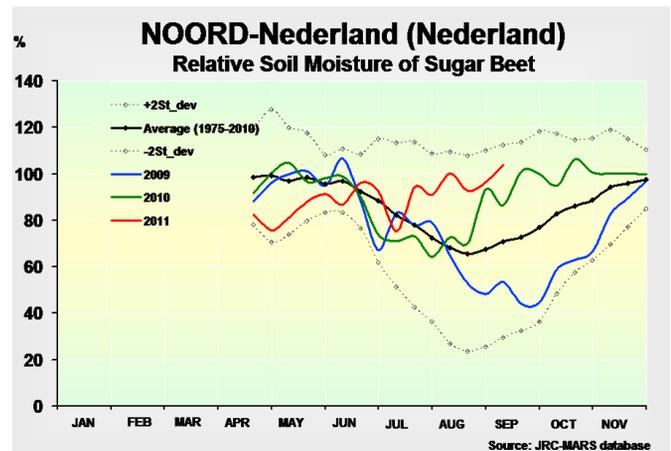
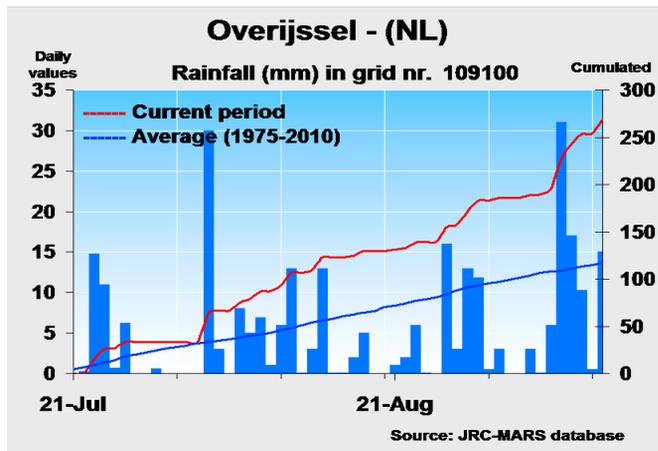
CROP DEVELOPMENT

All cereals reached maturity in mid-August. Favourable windfalls for harvesting cereals (essentially **barley** since **soft wheat** was already harvested at the end of June/mid-July) occurred in early and mid-August, the last fields having been harvested in early September. Despite the rain, field observations do not show any negative impact on grain quality. Yield forecasts for soft wheat and spring barley are confirmed, making the figures close to the last five years' average (note a slight adjustment for spring barley: 8.86 instead of 8.90).

The **grain maize** development stage was at flowering at the end of July and at grain filling in the second decade of August throughout the country. At the end of the first decade of September grain maize was still at grain filling, indicating a development stage similar to the LTA. Despite favourable canopy development, the yield forecast has been revised downwards since the last bulletin to take into account the deficit in the cumulated active temperature and the level of the relative soil moisture (close to the upper limit of the normal range of variation). For **sugar beet**, the same conclusion can be reached: the LAI is favourable but the downturn of the potential yield curve

prompts a downward revision of the yield forecast. The yield forecast for **potato** was also revised downwards since

for that crop even the LAI profile was lower than the LTA from mid-May to the end of August.



IRELAND — Prospects for a bumper cereal year maintained.

IRELAND					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	8.60	9.20	8.68	+7.0	+6.0
winter barley	8.50	8.55	8.22	+0.6	+4.0
spring barley	6.70	6.96	6.56	+3.9	+6.1
potato	34.40	32.66	32.20	-5.0	+1.4

The mild weather conditions during the summer should not have affected the yield in an exceptional year for cereals. The development of potatoes is slowing down but this could indicate further accumulation in storage organs.

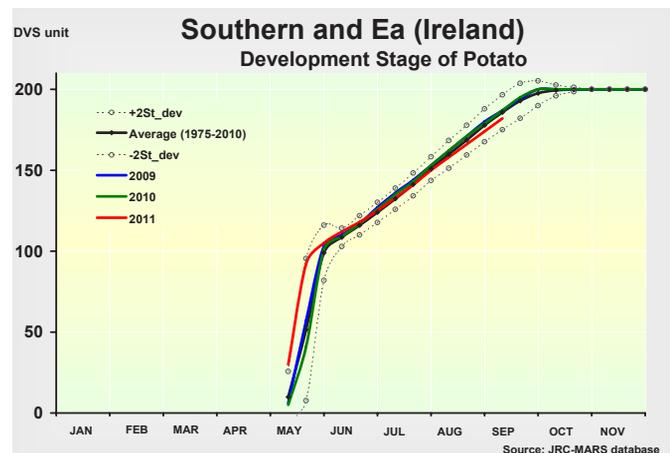
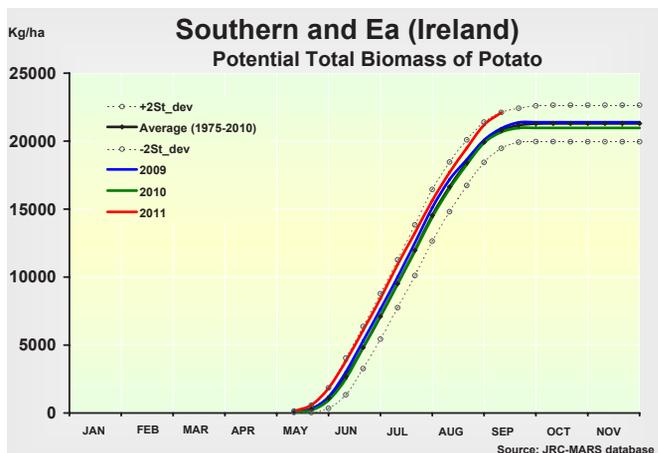
radiation. After a relatively dry summer (for Ireland), heavier rainfall started in the first dekad of September.

CROP DEVELOPMENT

The mild weather conditions during the summer are expected to have been favourable to optimum grain-filling for cereals and providing good conditions for harvesting. This all points towards an exceptionally good year for cereal yields. **Potato** growth has continued at a steady pace, above the average, but development has slowed down, bringing it below average since mid-July. This could indicate a lengthening of the growing cycle, allowing more accumulation of biomass in storage organs than expected if conditions remain favourable.

AGROMETEOROLOGICAL ANALYSIS

The period of analysis (21 August to 10 September) is characterised by slightly lower average temperatures and global



DENMARK — Extreme rainfall during summer brings dire prospects for yields.

DENMARK					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	6.63	6.88	7.22	+3.8	-4.7
winter barley	5.43	5.55	5.69	+2.3	-2.5
spring barley	5.00	4.91	4.88	-1.8	+0.6
turnips (rape)	3.48	3.60	3.57	+3.4	+0.8
sugar beets	60.10	58.78	56.64	-2.2	+3.8
potato	35.27	39.70	38.68	+12.6	+2.6

The highest recorded cumulated summer precipitation since 1975 is expected to adversely affect yields for all crops with, perhaps, the exception of rapeseed.

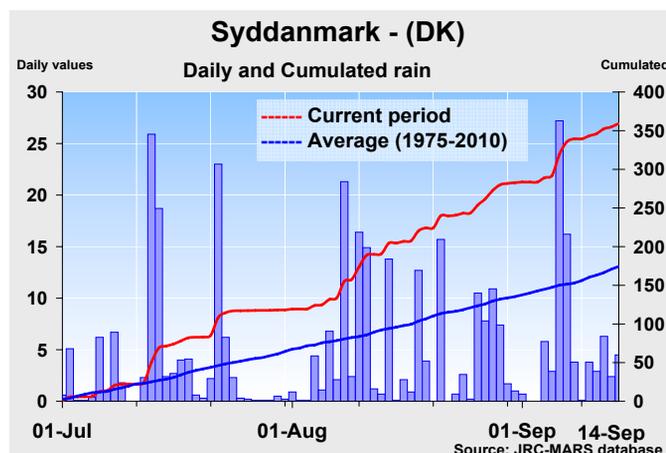
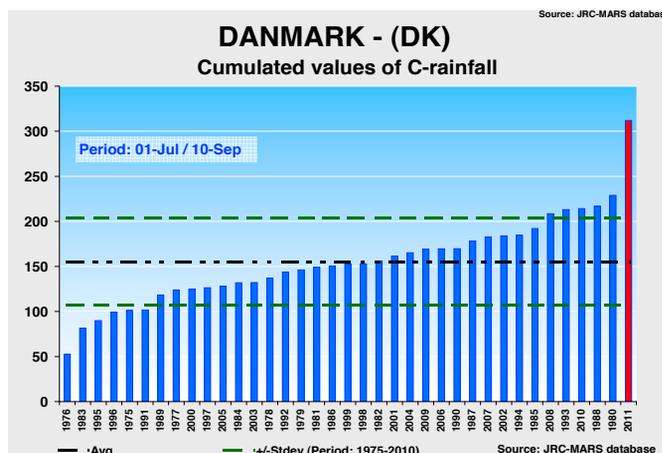
AGROMETEOROLOGICAL ANALYSIS

Extreme precipitation occurred over Denmark since 1 July, resulting in the highest recorded cumulated precipitation since 1975. Heavy rainfall was spread over the whole summer, leaving very few dry days. Global solar radiation for the

period of analysis (21 August to 10 September) was below average while temperatures remained close to average.

CROP DEVELOPMENT

Although wheat and barley reached maturity ahead of time due to the warm spring, yields are expected to be seriously affected by heavy rainfall throughout the summer: the scarcity of dry days must have delayed harvest in many places, exposing grain to reductions in quality and quantity. While crop growth simulations indicate a good year for potatoes and sugar beet in terms of biomass, leaf area index and weight of storage organs, these simulations do not take into account the negative effects of excess rain and humidity. Potatoes are expected to suffer particularly from these damp conditions, while sugar beet might have a reduced sugar content. Only rapeseed might have escaped the consequences of the exceptionally wet summer since it had matured beforehand and could have been harvested ahead of time.



SWEDEN — Heavy rains throughout the summer.

SWEDEN					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	5.40	5.81	5.86	+7.6	-0.9
winter barley	4.64	5.31	5.18	+14.5	+2.5
spring barley	3.93	4.26	4.15	+8.4	+2.7
turnips (rape)	2.55	2.91	2.69	+14.1	+8.2
sugar beets	52.08	55.74	53.67	+7.0	+3.9
potato	30.08	28.92	29.81	-3.8	-3.0

Very wet conditions in summer pushed down expectations of both quality and quantity of harvests.

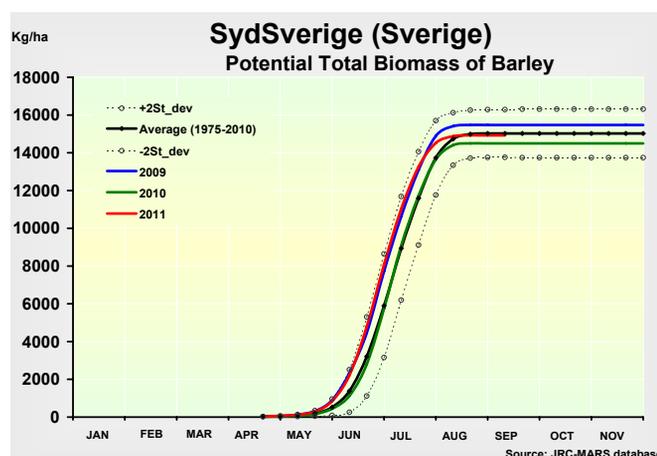
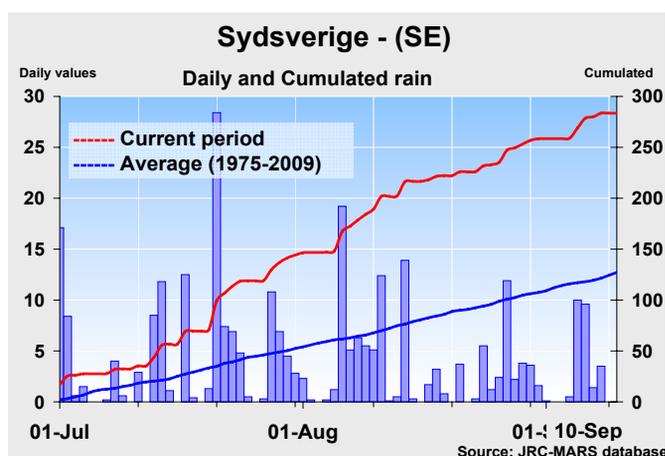
AGROMETEOROLOGICAL ANALYSIS

While temperatures and solar radiation stayed close to average during the period of interest, many of the agricultural

areas received much higher precipitation than usual. The western coast in *Västsverige* was particularly hard hit but *Sydsverige* and, to a lesser extent, *Östra Mellansverige* were not spared. These exceptionally rainy conditions lasted throughout the summer, resulting in cumulated rainfall well above average.

CROP DEVELOPMENT

The heavy and frequent rains have certainly hampered the reaping of cereals, potentially reducing both quantity and quality. Negative effects are also expected on the development of summer crops, particularly potatoes, which are very sensitive to humidity.



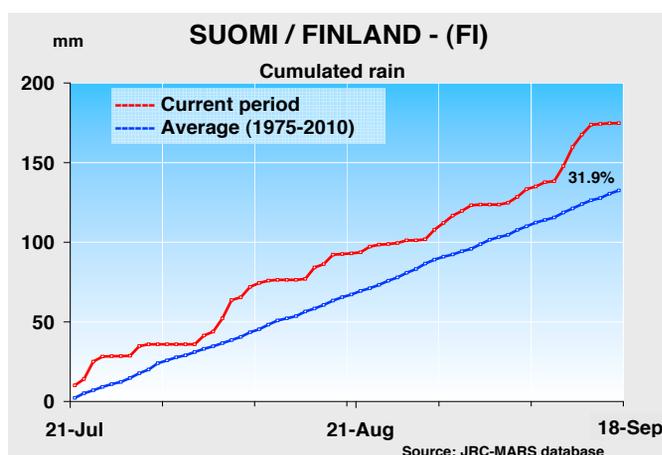
FINLAND — Good year for crops in Finland.

FINLAND					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.43	3.70	3.71	+8.0	-0.2
spring barley	3.07	3.46	3.45	+12.7	+0.3
turnips (rape)	1.13	1.47	1.37	+30.1	+7.0
sugar beets	37.13	39.49	38.24	+6.4	+3.3
potato	26.15	27.78	25.30	+6.2	+9.8

Sufficient rainfall but no excessive surplus, guaranteeing good conditions for remaining summer crops.

AGROMETEOROLOGICAL ANALYSIS

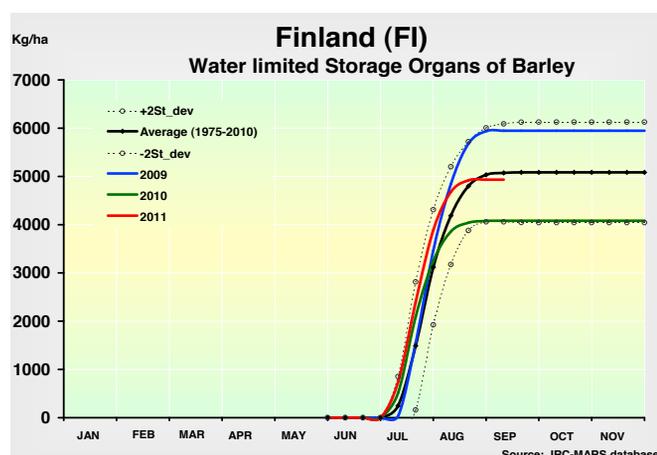
Finland experienced rather warm conditions with accumulated temperatures at country level clearly above



the long-term average. The same conclusion can be reached for solar radiation, although it was only slightly above the LTA. Maximum temperatures peaked high in the last dekad of July and again in August. Mid-August was rather fresh. Rainfall shows a surplus of around 30 % at country level. The rain was distributed evenly and very few dry windows remained; especially the harvest of rapeseed might have been partially hampered.

CROP DEVELOPMENT

Sugar beet and **potato** are the remaining active crops. Sugar beet is forecast above average, as are potatoes since conditions have been favourable with the evenly distributed rain but no excess of water.



LITHUANIA — Again very wet harvesting with frequent rainfall.

LITHUANIA					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.31	3.61	3.61	+9.1	+0.0
spring barley	2.70	2.77	2.64	+2.7	+5.2
grain maize	4.79	5.28	4.10	+10.3	+29.0
turnips (rape)	1.65	1.76	1.75	+6.4	+0.1
sugar beets	47.22	48.03	43.49	+1.7	+10.4
potato	12.99	12.86	12.17	-1.0	+5.6

Continuous rainfall since the beginning of July impeded harvesting activities and reduced grain quality.

AGROMETEOROLOGICAL ANALYSIS

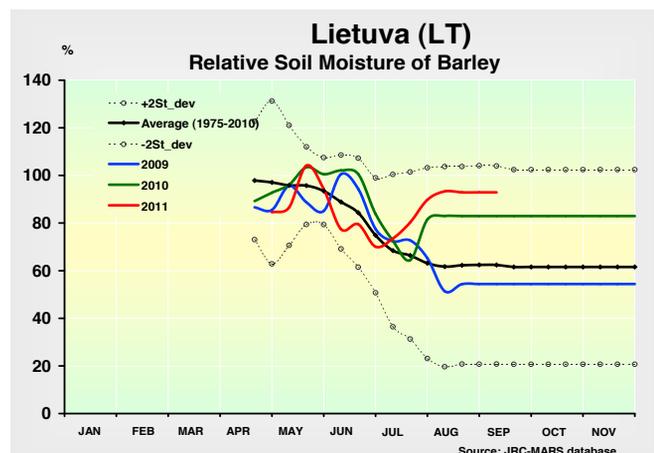
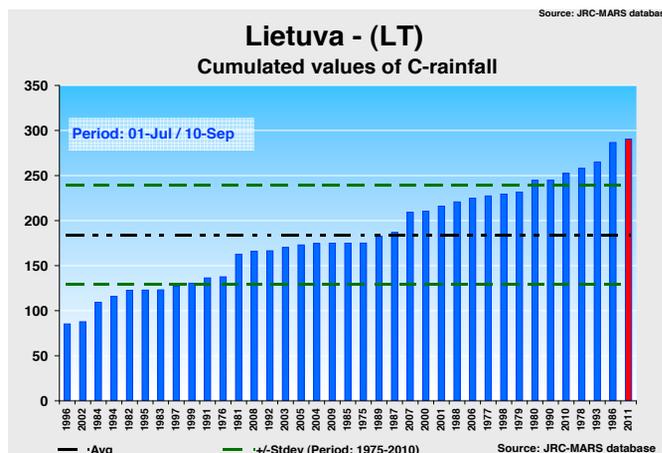
In the period of analysis the active temperature sum and solar radiation accumulation were close to the long-term average. The last dekad of July was warm, but without abnormal heat events; the last dekad of August was also warmer than usual. The period between 1 and 20 August was slightly cooler than usual with continuous rainfall.

From the beginning of July Lithuania experienced precipitation amounts above the long-term average and the period is recorded as the wettest in the long-term data series. From the

last dekad of July onwards abundant and frequent rainfall persisted. The period between 21 July and 10 September is considered as very wet, in total with amounts exceeding 200 mm (+64 % LTA), and similar to the same spell last year. This time mainly in the south-centre and the west very frequent precipitation was recorded, making it difficult to enter fields for harvesting activities. The highest amounts of rainfall all over the country were recorded in the second dekad of August (>120 % LTA). Within the period of analysis in every ten-day spell at least 4 days with rainfall >5 mm were recorded; in the second dekad of August some areas even experienced more than 6 days with heavy precipitation. The last dekad of August and the beginning of September were more favourable for farmers to continue and finish harvesting activities.

CROP DEVELOPMENT

Over the entire season the model simulated biomass and storage organ yields above last year's level for **cereals** and **sugar beet**; the accumulation of storage organs in **potatoes** decreased at the end of July but still presents a good outlook. Relative soil moisture in August under **soft wheat** and **spring barley** was very high, for spring barley even higher than last year. Very wet weather could have caused pre-harvest sprouting and a reduction in grain quality.



LATVIA — Wetter than usual but yield expectation above the five-year average.

LATVIA					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.28	3.49	3.43	+6.3	+1.7
spring barley	2.80	2.63	2.38	-6.1	+10.4
turnips (rape)	2.13	2.06	2.06	-3.1	+0.3
potato	16.03	16.23	15.84	+1.2	+2.4

Favourable weather until early summer was followed by a wet period mainly in the west and south.

AGROMETEOROLOGICAL ANALYSIS

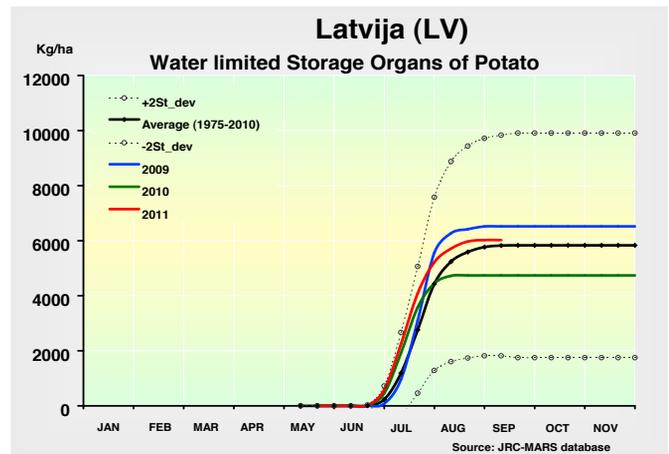
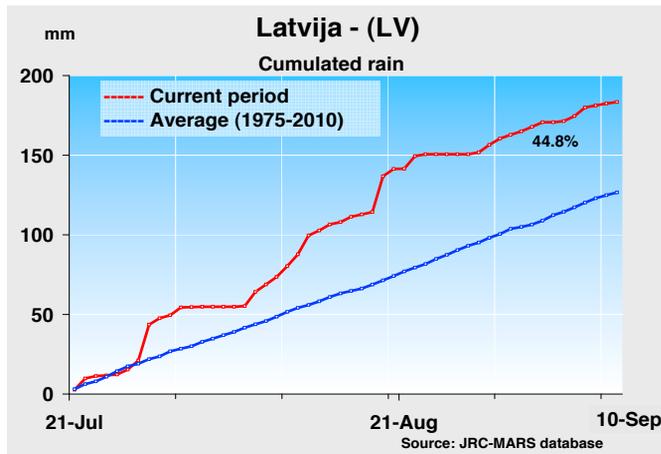
Over the period of analysis active temperature accumulation was above the long-term average and solar

radiation was seasonal. During the early summer there was a slight rainfall deficit and then above-seasonal rainfall was recorded. The first two dekads of July were seasonal and were followed by a very wet third dekad of July and second dekad of August. Compared to the long-term average Latvia received a surplus of rain in July (+46 %) and in August (+44 %). In the middle of August most of Latvia experienced at least 4 days with rainfall above 5 mm. In some areas in the west and south (*Zemgale*) even more than 6 days with heavy precipitation were recorded. These areas also received abundant rainfall in the period around maturity (>70 mm), which could have caused trouble for harvesting activities. Rain was scarce from the last dekad of August onwards, making it possible to access fields for cereals harvesting.

CROP DEVELOPMENT

Relative soil moisture simulated with the crop growth model since the end of July remained above the

long-term average but was lower than recorded last year during the final development stages of crops. Storage organs of crops still present in the field show a good outlook for final yield.



ESTONIA — Rainfall surplus; yield expectation confirmed at higher than last year.

ESTONIA					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	2.71	2.83	2.96	+4.4	-4.4
spring barley	2.41	2.57	2.49	+6.7	+3.4
tumips (rape)	1.32	1.40	1.51	+5.8	-7.7

Spring barley yields better than last year and above the five-year average.

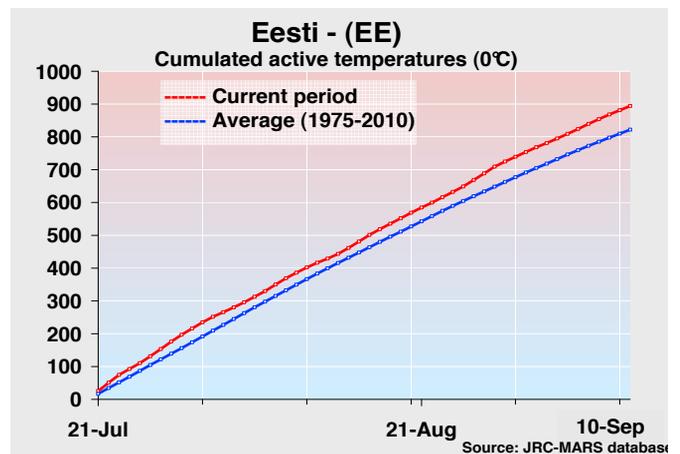
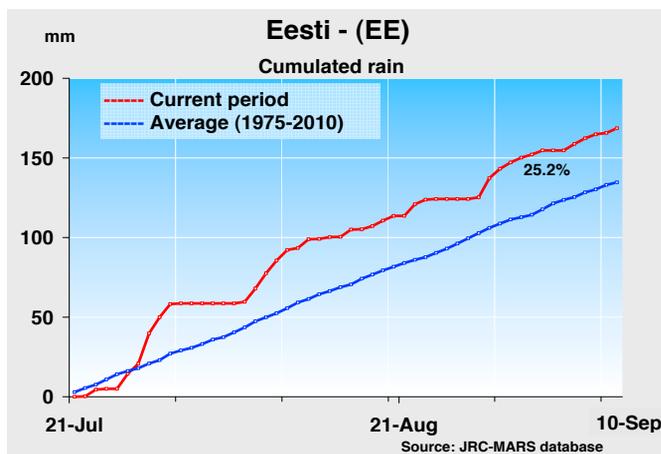
the beginning of August, when both minimum and maximum temperatures dropped below the long-term variation range (-2SD). Rainfall in July was beneficial for recovering soil water supplies in the country and grain filling of cereals, in total exceeding the long-term average amounts by +42 %. In some areas with light soils rain likely came too late. At the end of July a few days with intense rainfall occurred, creating a surplus of water amounts (+20 %) as compared to the long-term average. Some areas in the south-west could have suffered water excess during harvesting activities.

AGROMETEOROLOGICAL ANALYSIS

In the period of analysis temperature sum accumulation was above the long-term average and slightly below that recorded last year. Solar irradiation was similar to the LTA and the value recorded last year. Mild and higher than usual temperatures persisted, with the exception of two days at

CROP DEVELOPMENT

The harvest is finished and crops concluded their cycle slightly ahead of time. The model shows good accumulation of storage organ content for spring barley and yield is forecast at above average.



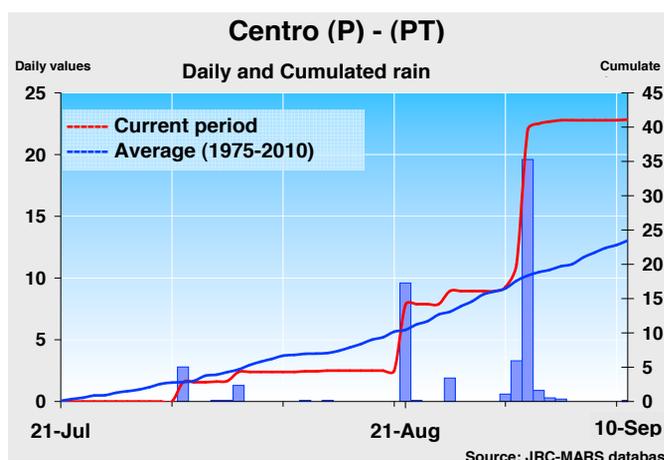
PORTUGAL — Favourable conditions for the maize and sunflower harvests; yields above average.

PORTUGAL					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	1.45	1.74	1.93	+19.9	-10.1
winter barley	1.51	1.97	2.00	+30.7	-1.2
grain maize	6.88	6.88	6.15	+0.0	+11.8
sunflower	0.54	0.71	0.61	+32.2	+16.3
potato	14.90	15.38	15.01	+3.2	+2.4

Expected yields above the average for spring crops due to the good meteorological conditions experienced during spring. The absence of heavy rains during August and September points to a favourable environment for the maize and sunflower harvests.

AGROMETEOROLOGICAL ANALYSIS

During the months of July and August temperatures were close to the seasonal values. A general absence of rainfall during August was observed in the *Centro* and *Alentejo* regions with substantial rainfall (about 30 mm) in the first week of September. However, constraints for the harvesting

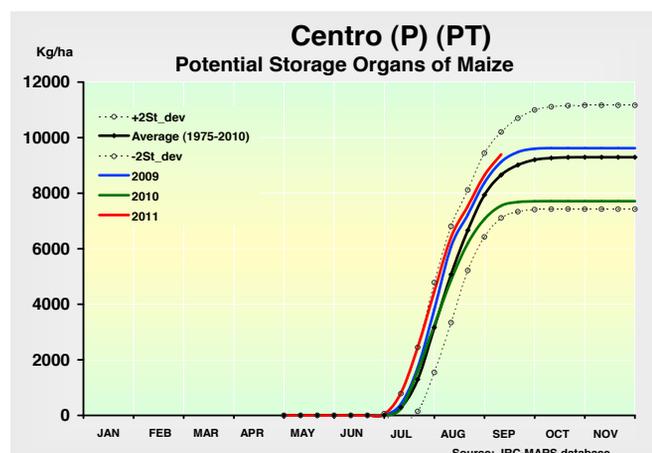


of sunflower and maize (in the forthcoming weeks) are not expected.

CROP DEVELOPMENT

The expected yields for **maize** and sunflower are substantially higher than the average of the last few years (+11.8 % and +16.3 %). In the case of **sunflower**, the damp conditions observed during the spring have favoured substantially crop growth and biomass accumulation in storage organs. In the case of maize, no limitations on irrigation were experienced, making it possible to reach similar production levels to 2010 (about 6.9 t/ha). This includes the proportion of non-irrigated maize (approximately 10 % of total maize surface), whose yield levels are expected to be higher than the average year due to the favourable meteorological conditions.

In the case of **potatoes**, forecast yields are slightly above that for the last five years, reaching 15.4 t/ha. As in the case of maize the water supply during winter and spring made adequate irrigation of the crop possible. The harvest is expected in the forthcoming weeks in the absence of heavy rains.



GREECE — Spring crop yield expectations are confirmed to be slightly below average.

GREECE					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	2.91	2.66	2.79	-8.7	-4.7
durum wheat	2.49	2.12	2.45	-14.7	-13.3
winter barley	2.84	2.38	2.42	-16.3	-1.7
grain maize	10.18	10.13	9.92	-0.5	+2.1
sunflower	2.53	1.24	1.44	-51.2	-14.2
sugar beets	57.69	65.89	66.01	+14.2	-0.2
potato	25.25	24.93	24.94	-1.3	-0.1

The harvesting of spring crops has been almost completed under favourable conditions; however, the poor conditions during the whole season do not point to optimum yield potential.

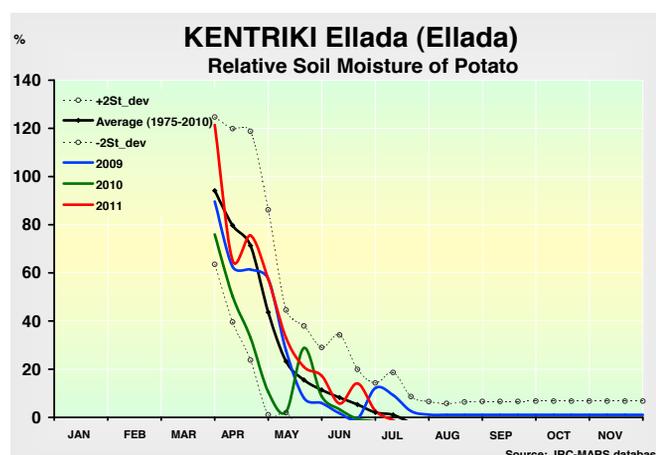
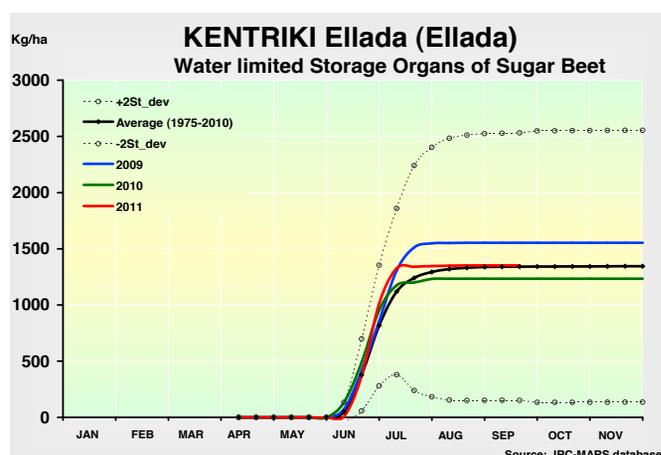
AGROMETEOROLOGICAL ANALYSIS

During the period of analysis daily temperatures (especially minimum temperatures) were often above average, climbing to above twice the standard deviation starting from the third dekad of August. This led, in the northern part of Greece (*Ipiros* and *Ditiki Makedonia*) to an advance in development of spring crops of one dekad, whereas in the other regions it allowed the previous time lag to be made up. *Voria Ellada* experienced some isolated but sufficient rainfall in the first half of August which kept the climatic water balance only slightly below the average. Dry conditions occurred in *Attiki* and in *Kentriki Makedonia*. Solar radiation and consequently evapo-transpirative demand showed at the end of the period of analysis a strong surplus.

CROP DEVELOPMENT

Grain maize reached maturity in almost all regions and in large areas the harvest is already completed. However, due to the poor conditions for winter crops, which might have caused a severe delay in spring crop sowings, it is possible that a reduction in the cultivated areas occurred. This might have been aggravated by the dry conditions that prevailed starting from the beginning of July and led to sub-optimal water availability. Moreover, in large areas the crop experienced a long heat wave around ripening that might have further affected

the yield potential. Nevertheless, those regions that could benefit from accurately planned irrigation show a satisfactory yield potential which can be expected to be slightly above the five-year average. Simulated storage organ accumulation of **potatoes** is poor for *Voria Ellada* but favourable for *Kentriki Makedonia*. However, in these last regions the more humid conditions may have increased the risk of infections, possibly reducing the final quality. A poor season is expected for **sunflower**. **Rapeseed** being an emerging crop in Greece, now estimated at 15 000 ha, it has not been forecast as an official yield and area time series are available.



HUNGARY — Dry conditions, lowering yield expectations.

HUNGARY					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.73	4.26	4.05	+14.1	+5.1
durum wheat	3.32	3.95	3.82	+19.1	+3.5
winter barley	3.57	4.02	3.88	+12.6	+3.5
spring barley	3.02	3.33	3.17	+10.3	+5.2
grain maize	6.63	6.62	6.21	-0.1	+6.7
turnips (rape)	2.16	2.19	2.32	+1.5	-5.6
sunflower	1.97	2.38	2.25	+21.0	+5.7
sugar beets	58.34	57.70	53.01	-1.1	+8.8
potato	21.73	25.68	24.24	+18.2	+6.0

The moderate wet weather in July was favourable to the harvesting of winter cereals and the growth of spring crops. The dry period from the second dekad of August caused water supply problems for spring crops. The hot August and September brought crop development forward, shortening the crop cycle significantly.

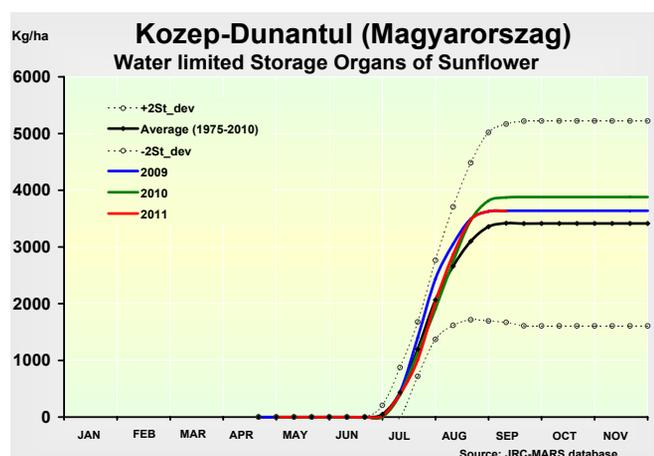
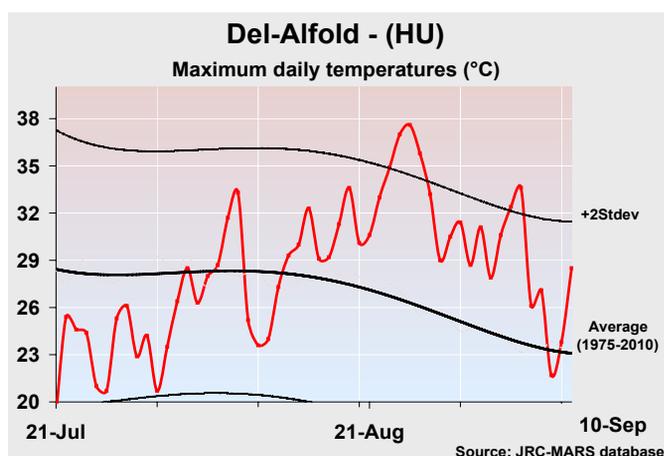
AGROMETEOROLOGICAL ANALYSIS

The last dekad of July was rainy with heavy storms, and thermal conditions remained moderately warm with below-average daytime temperature values. Later the precipitation trend decreased significantly. In the second and

third dekads of August practically no rain fell over Hungary, with the exception of some limited areas along the western and northern borders. From 14 August onwards the mean temperature exceeded the long-term average. The last 10 days of August were especially hot; daily maximum temperatures were repeatedly higher than 30 °C and between 24 and 26 August reached +35 — +38 °C, breaking several climatological records. Even in September there were some unusually warm days.

CROP DEVELOPMENT

There has not been enough precipitation to replenish water reservoirs and to meet the high evapo-transpiration demand. The water balance shows the biggest deficit in southern, central and eastern regions. In August weather conditions became very hot and dry, and this is reflected in advanced crop development. The ripening of **maize** was speeded up, but with relatively little negative impact on yield. The harvest of maize and **sunflower** will start about two weeks earlier this year. For both crops the yield is forecast to be just above average since the developed deep rooting system of maize and the drought tolerance of sunflower were able to compensate partly for the drawbacks of dry weather. The high daily temperatures were unfavourable for the yield formation of **potatoes** and **sugar beet**.



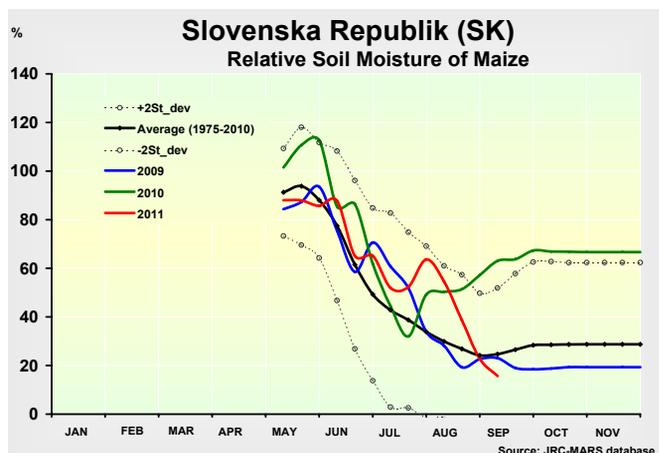
SLOVAKIA — Very good yield potential for all spring crops.

SLOVAK REPUBLIC					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.46	4.29	4.00	+24.0	+7.2
durum wheat	3.58	4.52	4.33	+26.2	+4.5
winter barley	3.17	3.72	3.57	+17.5	+4.5
spring barley	2.67	3.30	3.37	+23.6	-2.1
grain maize	5.49	7.10	6.04	+29.4	+17.5
turnips (rape)	1.97	2.31	2.21	+17.3	+4.5
sunflower	1.81	2.29	2.15	+26.3	+6.5
sugar beets	54.52	60.99	53.26	+11.9	+14.5
potato	11.45	17.09	15.43	+49.3	+10.7

The water supply conditions for spring crops were near-optimum. The warm weather in August and September accelerated the ripening of maize and sunflower, which now indicate 10-20 days' advance, but ample yields are expected. Root crops are in good shape too.

AGROMETEOROLOGICAL ANALYSIS

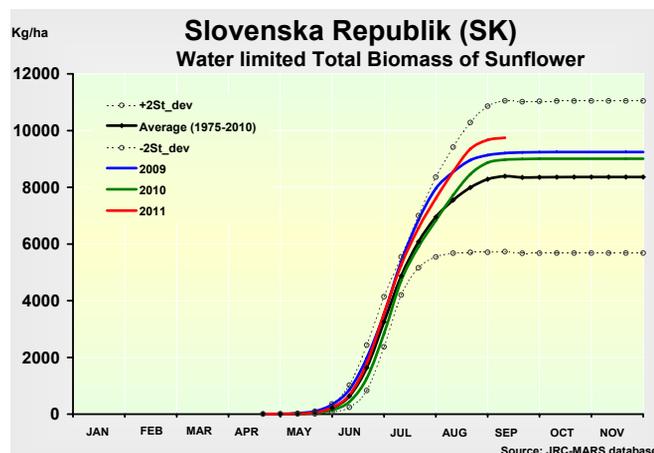
The second half of July was characterised by almost daily precipitation, hampering the reaping of winter cereals in



some places. The frequent rainfall resulted in above-average cumulated rainfall values, but the cloudiness greatly reduced the irradiance levels. This period was moderately warm and daily maximum temperatures remained 3-6 °C below the long-term average. The type of weather changed in August since precipitation became scarce, but the soil moisture content fulfilled the plants' demand until the end of the month. Daytime temperatures increased, fluctuating around the mean values or above. Cumulative solar radiation compensated the deficiency in July.

CROP DEVELOPMENT

For all spring crops, biomass accumulation seems to be far better than usual due to the favourable and steady water supply during the current growing cycle. **Grain maize** completed the grain filling phase by the end of August with 10-20 days' advance compared to the long-term average, this having partially occurred during the grain filling period, moderately reducing the still very high yield expectation. **Sunflower** has a similar advance in development. On the whole good growth, biomass accumulation and canopy development is simulated for **sugar beet** and **potatoes**, so a very good yield might be expected.



AUSTRIA — Optimum yield potential for spring crops.

AUSTRIA					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	5.04	5.28	5.10	+4.7	+3.4
durum wheat	4.50	4.50	4.37	+0.0	+3.1
winter barley	5.39	5.49	5.47	+1.8	+0.3
spring barley	3.59	3.90	3.92	+8.7	-0.5
grain maize	9.28	10.85	10.02	+17.0	+8.3
turnips (rape)	3.17	2.95	3.10	-6.9	-4.7
sunflower	2.62	2.72	2.60	+3.7	+4.3
sugar beets	69.84	71.04	67.62	+1.7	+5.1
potato	30.57	33.03	31.12	+8.0	+6.1

The summer was characterised by favourable conditions for the growth of spring crops, with a slight concern about the heat wave at the end of August.

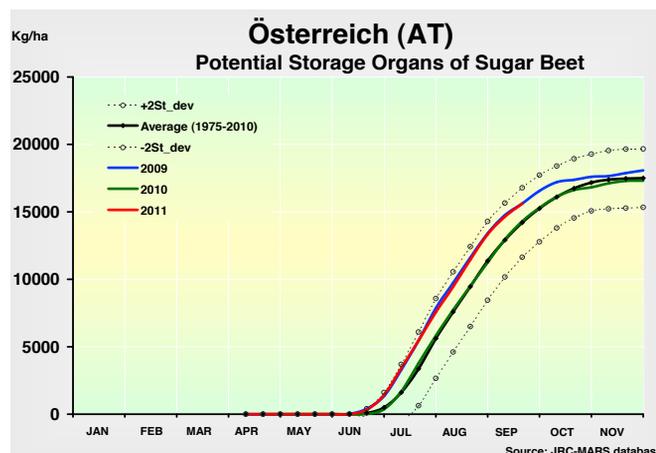
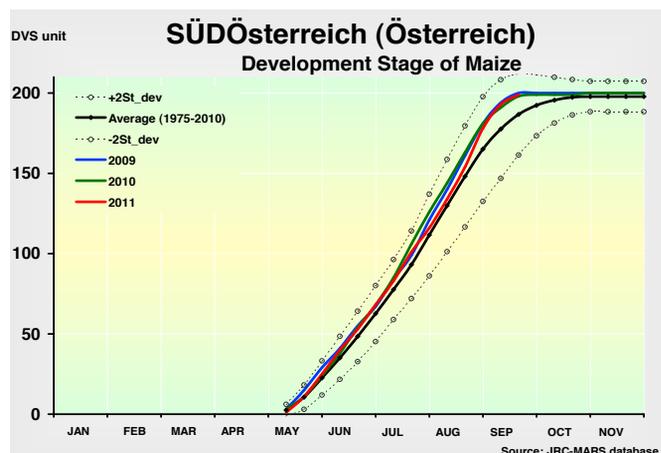
AGROMETEOROLOGICAL ANALYSIS

Starting from the third dekad of July a longer wet period ensured an optimum water supply for spring crop development and growth. Between the end of July and mid-August the eastern part of the country experienced light but constant precipitation, leading to a slight surplus in cumulated values, whereas in the south rainfall was more isolated but intense. Consequently, cumulated solar

radiation stayed below the average during most of the period considered. Temperatures too were often below the average, reaching during the last part of July -2 standard deviation. During the last dekad of August temperatures arose dramatically, giving way to a prolonged heat wave that is still persisting.

CROP DEVELOPMENT

Despite the rainy period the harvest of winter crops seems to have definitively ended. The expected failures due to the drought at the beginning of the season have not been confirmed, pointing to a satisfactory situation for winter cereals. The simulated biomass accumulation of grain maize at the end of August seems extremely favourable thanks to the optimum conditions that have been prevailing for several weeks. Nevertheless, some concern arises as a consequence of the high temperatures that occurred at the end of the month, which could shorten the development stage, adversely affecting grain filling. Sugar beet, after facing some early difficulties in emerging due to the crusty soils, experienced optimum conditions for growth. In some areas the harvest has already started and simulated storage organ biomass underpins a positive yield expectation. The other spring crops — potato and sunflower — seem to be developing well, showing strong similarities with 2009.



SLOVENIA — Maize might suffer from the advance in development.

SLOVENIA					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
winter barley	4.30	4.09	3.82	-5.0	+7.0
grain maize	8.54	7.90	7.63	-7.5	+3.5
soft wheat	4.80	4.67	4.33	-2.8	+7.9

The sudden increase in temperature hastened crop development and adversely affected grain filling.

AGROMETEOROLOGICAL ANALYSIS

The third dekad of July was characterised by abundant precipitation which might have caused difficulties in

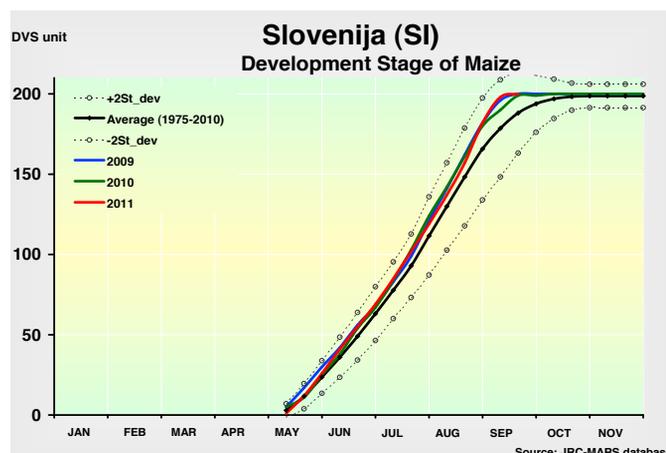
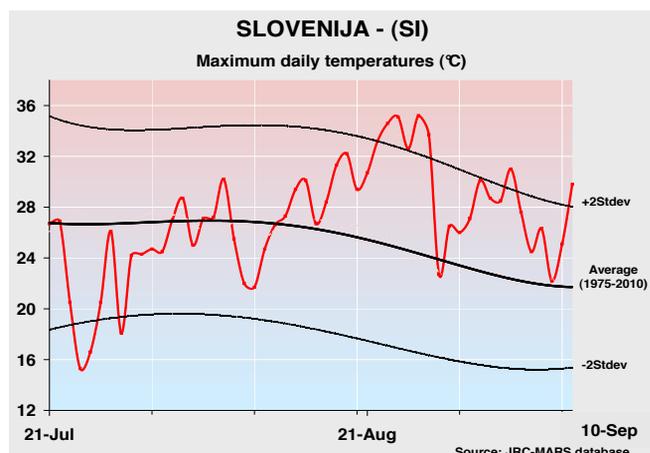
harvesting the late cereal varieties. Starting from the beginning of August the events became more isolated. Similarly temperatures were below average at the end of July, and at the beginning of August gave way to a sudden increase which brought the daily maxima above twice the standard deviation at the end of the month.

CROP DEVELOPMENT

The sudden increase in temperatures at the end of August pushed **grain maize** development forward, leading to an advance of more than one dekad. This caused abrupt senescence of the green canopy which might have further stressed the grain filling phase, already

impacted by the high temperatures. Fortunately the rainy period in July allowed the water reservoir to be replenished so that the crop could cope with the high

evapo-transpirative demand. The final yield potential, even if revised downwards slightly, remains above the five-year average.



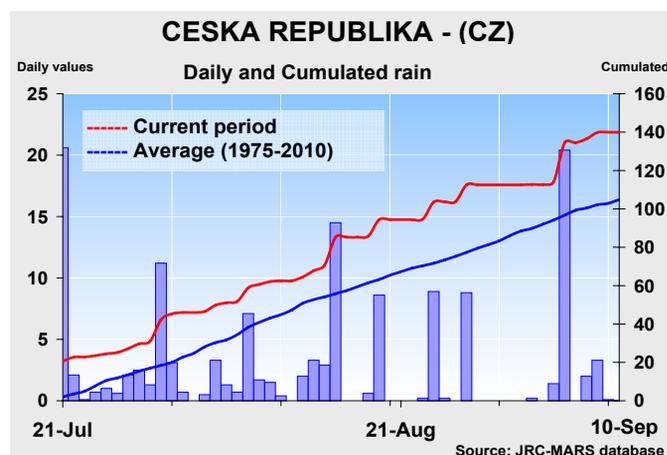
CZECH REPUBLIC — Better than last year, higher than average.

	CZECH REPUBLIC				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	4.99	5.41	5.09	+8.3	+6.3
winter barley	4.50	4.73	4.53	+5.1	+4.5
spring barley	3.91	4.19	3.98	+7.1	+5.3
grain maize	6.71	7.96	7.21	+18.6	+10.4
turnips (rape)	2.83	2.92	3.00	+3.4	-2.6
sunflower	2.11	2.36	2.25	+11.6	+4.6
sugar beets	54.36	60.25	54.85	+10.8	+9.8
potato	24.56	27.16	25.07	+10.6	+8.3

The balanced rainfall and favourable thermal conditions allowed spring crops to thrive this summer. The favourable yield potential will result in a rich harvest, compensating for the lower results of the previous unfavourable year.

AGROMETEOROLOGICAL ANALYSIS

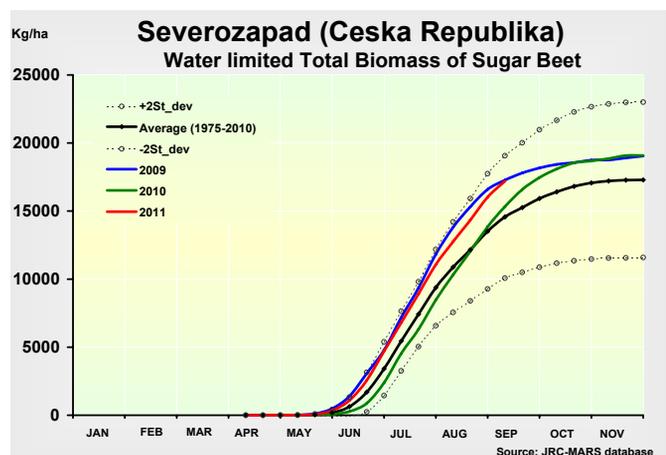
The period under review showed well distributed precipitation. The course of cumulated rain was seasonal



but with indications of surplus. The cumulated rainfall exceeded (by +50 to +120 mm) the average, primarily in the *Severovýchod, Střední Morava* and *Moravskoslezsko* regions, causing local constraints and some delay in harvesting. The cumulated solar radiation was penalised by frequent cloud. The thermal conditions generally were in line with seasonal expectations. In the last decade of August 3-6 days with maximum temperatures more than twice the standard deviation were recorded, exceeding 30 °C.

CROP DEVELOPMENT

The steady and favourable soil moisture conditions supported the growth of all spring crops. The high biomass assimilation suggests the existence of near-optimum conditions. Phenological development is 1-2 weeks early for **maize**, **sunflower** and **potato** and, to a lesser extent, for **sugar beet**, due to above-average temperatures. The yield expectations are high and assuming further favourable weather conditions yields might be revised upwards before the end of the growing season.



BULGARIA — Dry weather in August slightly reduced yield expectations for spring crops.

BULGARIA					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	3.74	3.87	3.34	+3.5	+15.8
winter barley	3.41	3.50	3.21	+2.7	+9.1
grain maize	6.24	5.21	4.11	-16.5	+26.6
turnips (rape)	2.57	2.44	2.18	-5.0	+12.0
sunflower	2.10	1.78	1.59	-15.0	+12.1
potato	15.60	16.10	15.44	+3.2	+4.3

Plentiful rains provided good soil moisture supply for spring crops until mid-August, but later the precipitation stopped. The dry and warm weather hit maize, which was in the second phase of grain filling, but probably caused only a small reduction of yield formation.

AGROMETEOROLOGICAL ANALYSIS

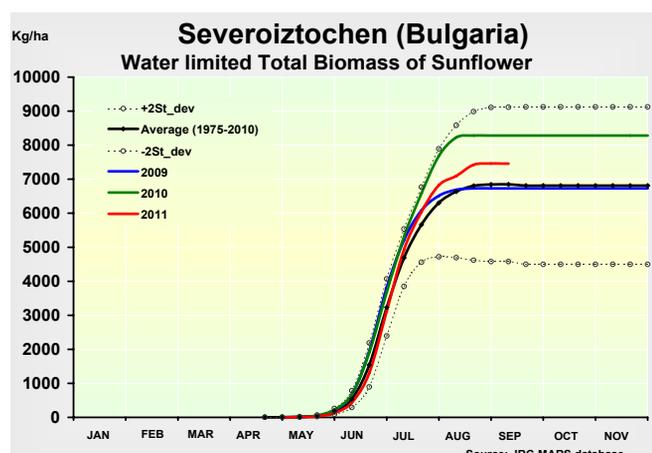
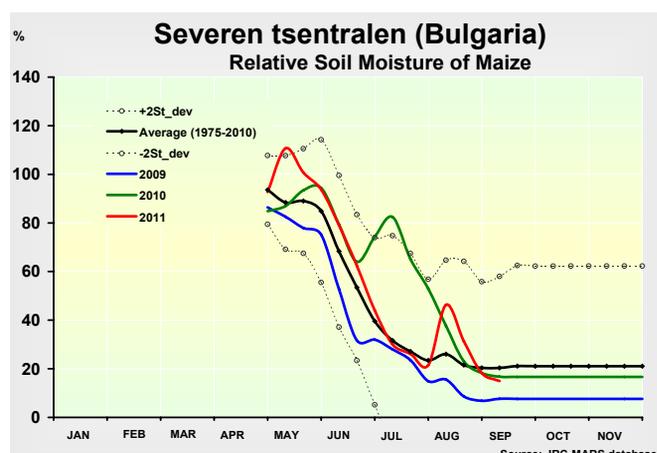
From 21 July until 11 August a few, but abundant, rainfall events maintained the soil moisture supply for spring crops without hampering the harvest of winter cereals. The precipitation exceeded the average by +30 to +60 mm region-wise with the sole exception of *Yugoiztochen*, where the surplus reached only +20 mm. Thermal conditions were

seasonal for this period.

From the second dekad of August the weather turned very dry and hardly any precipitation was received in most areas planted with spring crops in *North and East Bulgaria*. The soil moisture levels began dropping towards the end of August, without any improvement in rainfall until now. The irradiation levels topped significantly the average values. Maximum and minimum temperatures remained in the range of summer values until mid-September. The course of cumulated active temperature turned positive, indicating a surplus of +30 to +70 GDD.

CROP DEVELOPMENT

Maize and **sunflower** completed flowering and initiated the grain-filling phase under favourable, above-normal water supply conditions. The August rain deficit resulted in a reduction of the water-limited biomass accumulation of grain maize, which was still in the yield formation stage. The more drought-tolerant sunflower crop was probably affected to a lesser extent by the dryness. The warm weather brought phenological development forward by 1-3 weeks everywhere in Bulgaria. The expected yields of spring crops were reduced slightly with respect to the previous estimates.



ROMANIA — High yield expectations for maize and sunflower despite a dry August and September.

ROMANIA					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
soft wheat	2.80	3.46	2.58	+23.5	+33.9
winter barley	2.89	3.13	2.66	+8.4	+17.9
spring barley	1.76	2.15	1.83	+22.4	+17.8
grain maize	4.06	3.55	3.20	-12.6	+10.9
turnips (rape)	1.79	1.90	1.51	+6.0	+25.4
sunflower	1.56	1.57	1.32	+0.8	+18.8
sugar beets	38.36	38.12	33.24	-0.6	+14.7
potato	13.45	15.87	14.34	+18.0	+10.7

The spring crops enjoyed good water supply conditions during the very susceptible yield formation periods in most of Romania. From mid-August the abundant

rainfall missed Romania, reducing the forecast somewhat, but a rich yield is still expected.

AGROMETEOROLOGICAL ANALYSIS

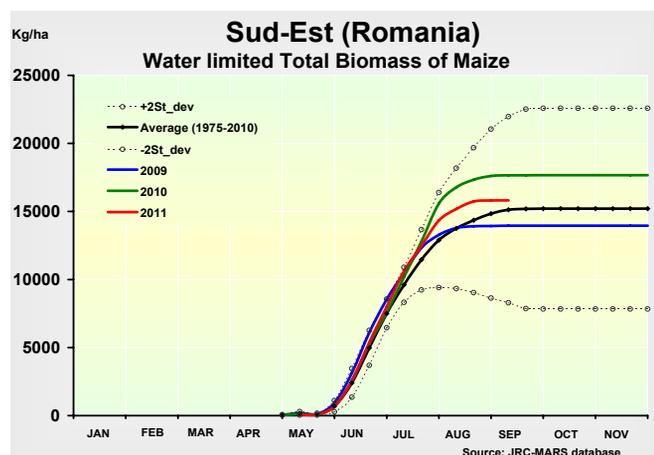
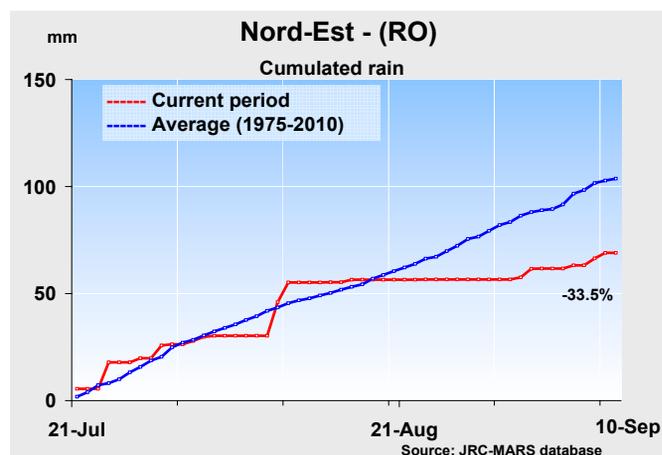
Thanks to the plentiful precipitation which fell in July and the first dekad of August, soil moisture content was well above the average until mid-August. The favourable water supply supported the yield formation of all spring crops. The weather turned very dry from 11 August, after which only the northern areas of Romania experienced rainfall. The most important areas for the cultivation of spring crops in South and South-East Romania practically remained dry. The daytime temperature varied around 30 °C, resulting in 16-26 hot days ($T_{max} > 30$ °C) for a month's time. The warm

weather speeded up crop development, shortening the crop growth cycle. Irradiation levels were +15- +20 % higher than usual for the whole period.

CROP DEVELOPMENT

Grain maize had substantially completed the susceptible grain-filling development stage by late July, benefiting from the good water supply. The biomass accumulation of maize and **sunflower** exceeded the average. Significant depletion of the soil moisture budget was only felt after the middle of

August. The dry and warm period of August and September reduced only slightly the good yield expectations for maize and sunflower crops since these crops had mostly entered the ripening phase when water became less abundant. Dry conditions significantly hampered the tuber growth of **potatoes** in the *Nord-Vest* and *Nord-Est* regions, but in the moister *Centru* and *Sud-Muntenia* regions high yields are forecast. Sugar beet is still in the yield establishment phases, though probably being damaged it could possibly take advantage of the late September rains in the final stages of development.



V. Crop monitoring in the EU27 neighbourhood

THE BLACK SEA COUNTRIES

TURKEY — Dry, hot conditions.

TURKEY					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
barley	2.39	2.54	2.31	+6.1	+9.8
grain maize	-	7.48	7.08	-	+5.7
wheat	-	2.38	2.32	-	+2.4

Dry, hot conditions typical for this period enabled harvesting operations to go ahead. A high maize yield is expected in spite of the dry conditions.

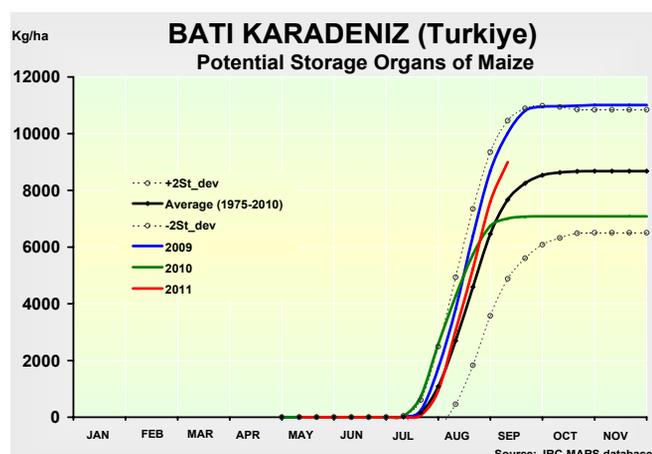
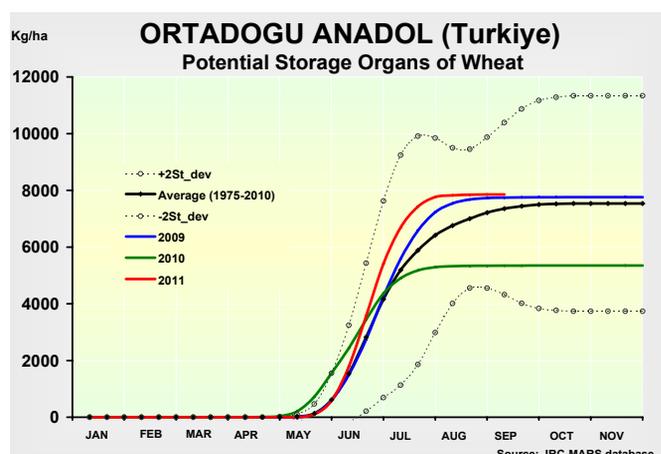
AGROMETEOROLOGICAL ANALYSIS

The end of July was warmer than usual in the whole country, but mainly in the central part in *Bati Anadolu* and *Orta Anadolu*. August brought average conditions with a short cool snap in the second half of the month. September started

with slightly higher temperatures than average. Temperature sums for the whole period were very close to the long-term average, with a slight surplus in eastern *Kuzeydogu Anadolu*, *Ortadogu Anadolu* and *Guney Anadolu*. The period under review saw precipitation 30 % lower than normal in most of the country. Hardly any rain was observed, apart from what fell at the end of July and in the second dekad of August in the northern part of the country on the Black Sea coast.

CROP DEVELOPMENT

Weather conditions were typical for this period of the growing season and no negative impact on summer crop development is expected. **Maize** continued to develop promisingly and above-average yields are expected. Dry conditions allowed the harvest of winter crops to be speedily completed.



UKRAINE — Favourable conditions for harvesting activities and the sowing campaign.

UKRAINE					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
barley	-	2.34	2.26	-	+3.3
grain maize	-	4.85	4.33	-	+12.0
wheat	-	3.22	2.91	-	+10.6

Average temperatures and limited rainfall allowed efficient harvesting operations. Dry conditions did not affect spring crop development.

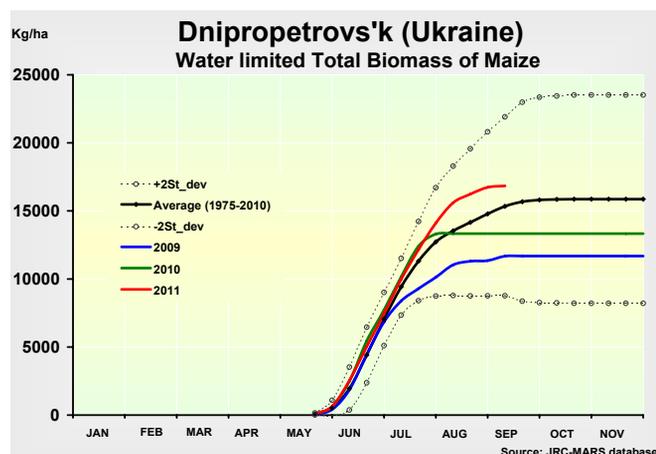
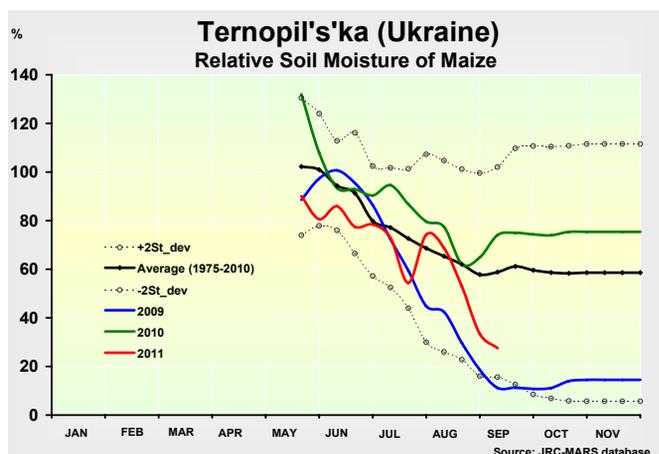
AGROMETEOROLOGICAL ANALYSIS

Thermal conditions in the period under review were close to average, slightly warmer except for the central part of the country, which experienced some cold spells. The end of July was warmer in the eastern oblasts. August brought average temperatures with cold spells in the central part of the country. North-western oblasts experienced

significant rains in late July/early August, but no more rain was observed in the following dekads. Similar conditions prevailed in the southern part of the country, but rainy conditions returned in the middle of August, making the period without rain shorter. The eastern oblasts experienced more rainy days, although the amount of precipitation was very limited and the cumulated rainfall was clearly lower than the long-term average.

CROP DEVELOPMENT

Favourable dry conditions facilitated harvesting of the winter crops. The conditions for maturing **maize** were only moderate. However, the very good development achieved during the favourable conditions in the preceding period still points to a very good yield this season. Rainfall at the beginning of September cut into the winter crop sowing campaign, but at the same time may have had a positive effect on the seeds already sown.



EASTERN COUNTRIES

BELARUS — Good yield expectations for maize are sustained.

BELARUS					
	Yield t/ha				
	2010	MARS 2011 forecasts	Avg 5yrs	%11/10	%11/5yrs
barley	-	3.29	3.16	-	+3.9
grain maize	-	5.37	4.52	-	+18.8
wheat	-	3.53	3.39	-	+4.1

Slightly higher air temperatures and sufficient precipitation created favourable conditions for maize development. Periods with no or very little rainfall allowed harvesting operations to be completed.

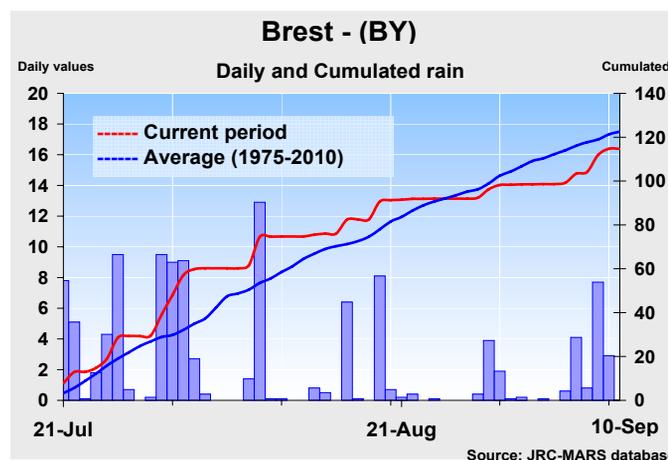
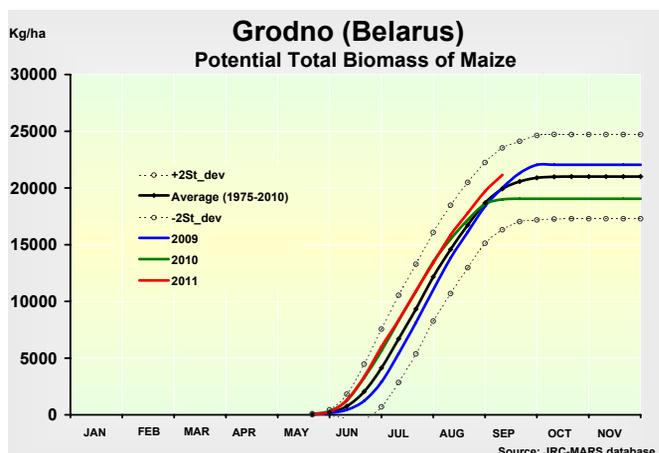
AGROMETEOROLOGICAL ANALYSIS

Air temperature varied noticeably, although it did not reach untypical values. In general, the period under review was

a little warmer than usual. Only the first dekad of August and the first dekad of September brought some cool spells. The temperature sums exceeded the LTA by between about 30°GDD in Brest in the south and 70°GDD in Vitebsk to the north. Belarus received close to average precipitation. Most rain was light, but it occurred frequently.

CROP DEVELOPMENT

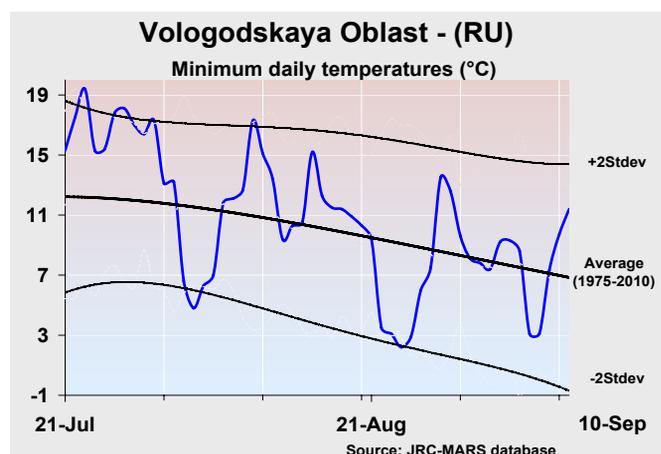
Despite frequent rains, which could have hindered harvesting activities, almost all winter crops were harvested. The yield of winter crops is expected to be average. Concurrently **maize** continued its promising development. Clearly more advanced than on average, it reached maturity in the southern part of the country. High maize yields are forecast.



RUSSIA — Damp conditions but no significant delay in harvesting activities.

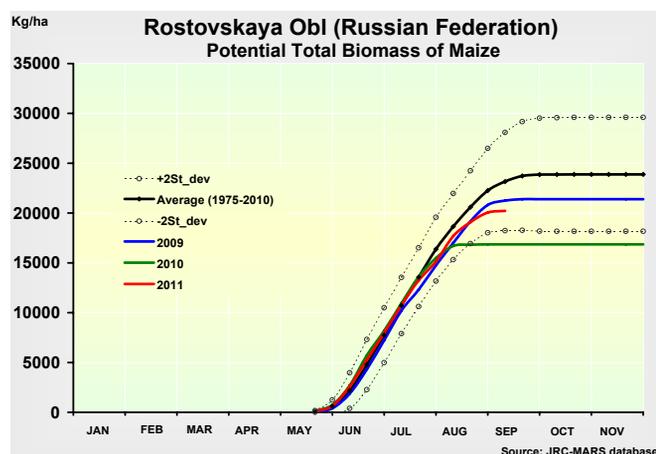
AGROMETEOROLOGICAL ANALYSIS

It rained over almost the whole of European Russia during the period under review. Apart from the northern part of the *Central* and *Volga Districts*, all the agricultural regions received average or above-average precipitation. Active temperatures were observed to be slightly higher than the long-term average. However, clear fluctuations have been observed, with extreme temperatures reaching values more than twice the standard deviation.



CROP DEVELOPMENT

The rainy conditions slowed down harvesting activities, although thanks to sufficient dry slots the harvest of winter crops is almost finished. **Maize** reached maturity with a slight delay in the western part of the Southern District. The winter crop sowing campaign has already started in favourable soil moisture conditions.



2011 MARS Bulletin (update)

Publication date in 2011	Publication	Reference
8 Feb	Agrometeorological analysis and weather forecast	Vol. 19 No. 1
8 Mar	Agromet. analysis, remote sensing and yield forecast	Vol. 19 No. 2
22 Mar	Agrometeorological analysis and weather forecast	Vol. 19 No. 3
12 Apr	Crop yield forecast	Vol. 19 No. 4
12 Apr	Agrometeorological analysis and weather forecast	Vol. 19 No. 5
17 May	Agromet. analysis, remote sensing and yield forecast	Vol. 19 No. 6
14 Jun	Agrometeorological analysis and weather forecast	Vol. 19 No. 7
28 Jun	Agromet. analysis, remote sensing and yield forecast	Vol. 19 No. 8
28 Jun	Pasture monitoring in Europe	Vol. 19 No. 9
12 Jul	Agrometeorological analysis and weather forecast	Vol. 19 No. 10
26 Jul	Agromet. analysis, remote sensing and yield forecast	Vol. 19 No. 11
26 Jul	Rice monitoring in Europe	Vol. 19 No. 12
9 Aug	Agrometeorological analysis and weather forecast	Vol. 19 No. 13
23 Aug	Crop yield forecast	Vol. 19 No. 14
6 Sep	Agrometeorological analysis and weather forecast	Vol. 19 No. 15
✓ 20 Sep	Agromet. analysis, remote sensing and yield forecast	Vol. 19 No. 16
4 Oct	Agrometeorological analysis and weather forecast	Vol. 19 No. 17
4 Oct	Rice monitoring in Europe	Vol. 19 No. 18
18 Oct	Pasture monitoring in Europe	Vol. 19 No. 19
25 Oct	Crop yield forecast	Vol. 19 No. 20
8 Nov	Agrometeorological analysis and weather forecast	Vol. 19 No. 21
29 Nov	Agromet. analysis, remote sensing and yield forecast	Vol. 19 No. 22
13 Dec	Agrometeorological analysis and weather forecast	Vol. 19 No. 23

Special issues are planned for crop monitoring in countries outside EU27

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Analysis and reports

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