European Commission

Period covered: 1 June - 15 July
Issued: 21 July 2014

Crop Monitoring in Europe

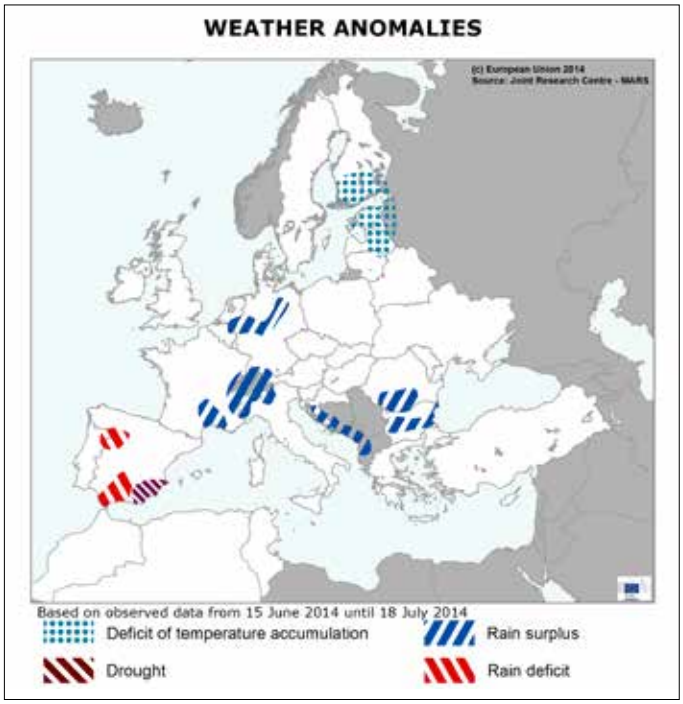
MARS BULLETIN Vol.22 No. 7 (2014)

Good EU-28 cereal yields and positive summer crops outlook

The overall EU-28 cereal yield forecast for 2014 is favourable, at the level of last year and above the average of the past five years (by 4.4%). Aside from durum wheat and spring barley, all cereals are significantly above the five-year average and close to the good yield levels of 2013.

While overall growth conditions continued to be favourable and yield outlooks are positive, there are a few regions of concern. The Baltic countries and Finland experienced a chilly period which significantly slowed down the grain-filling of winter and spring crops, negatively affecting final yields. In the Iberian Peninsula, the persistent rain deficit in the southern regions and in Castilla y Leon is starting to affect the vegetative growth of all summer crops, apart from those that are irrigated.

Frequent rain events, partially in the form of heavy thunderstorms, characterised the weather between mid-June and mid-July in France, Germany, Italy and on the eastern Adriatic coast. The plentiful rainfall of the first half of July replenished the soil moisture and provided beneficial conditions for summer crops, but also delayed and interrupted the harvesting of the first winter cereals.



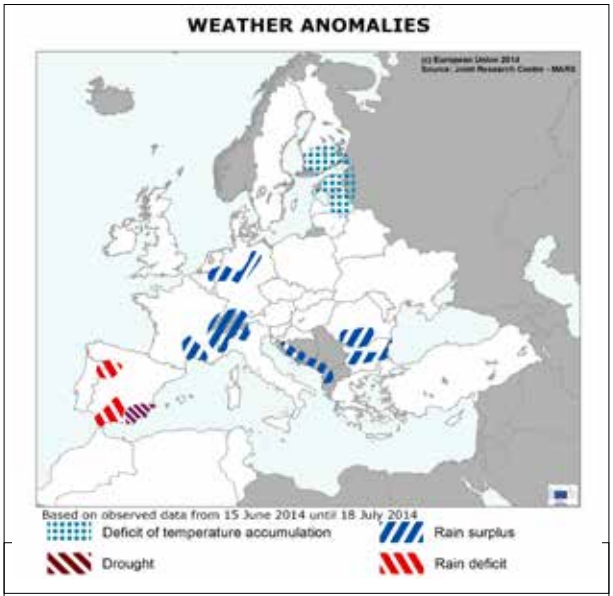
Crop	Yield t/ha				
	2013	MARS 2014 forecasts	Avg 5yrs	%14/13	%14/5yrs
TOTAL CEREALS	5.31	**5.31**	5.09	+0.0	+4.4
Total Wheat	5.59	**5.57**	5.33	-0.3	+4.5
soft wheat	5.81	**5.80**	5.57	-0.1	+4.2
durum wheat	3.35	**3.18**	3.22	-5.1	-1.3
Total Barley	4.85	**4.54**	4.49	-6.4	+1.2
spring barley	4.43	**3.90**	3.94	-12.0	-1.0
winter barley	5.50	**5.46**	5.31	-0.8	+2.9
Grain maize	6.72	**7.23**	6.78	+7.5	+6.6
Rye	3.97	**3.69**	3.46	-7.0	+6.8
Triticale	4.29	**4.28**	4.07	-0.2	+5.1
Other cereals	3.22	**3.21**	3.46	-0.5	-7.3
Rape and turnip rape	3.11	**3.32**	3.07	+6.9	+8.4
Potato	31.06	**32.62**	30.70	+5.0	+6.2
Sugar beet	68.14	**72.59**	69.53	+6.5	+4.4
Sunflower	2.02	**1.98**	1.86	-1.7	+6.6

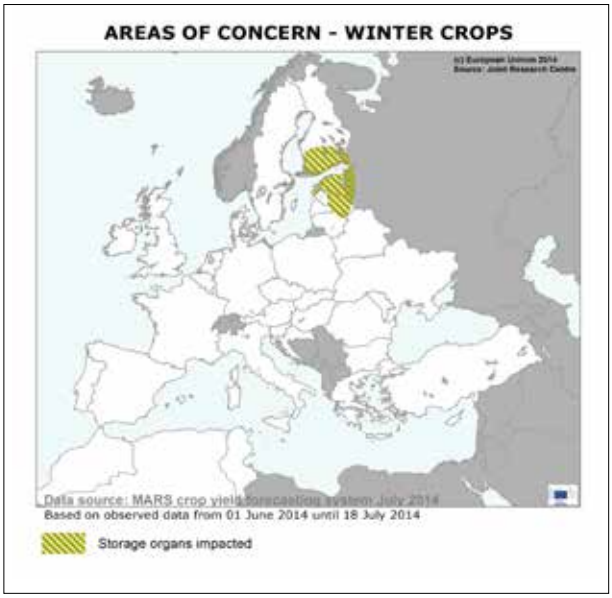
Issued: 18 July 2014

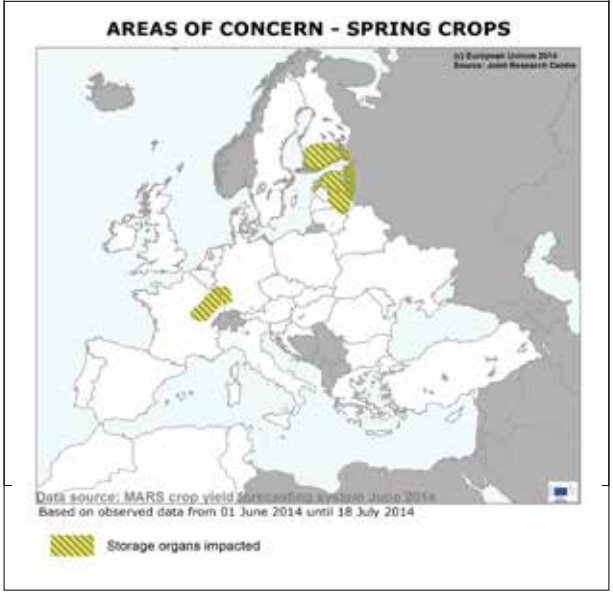
Joint Research Centre

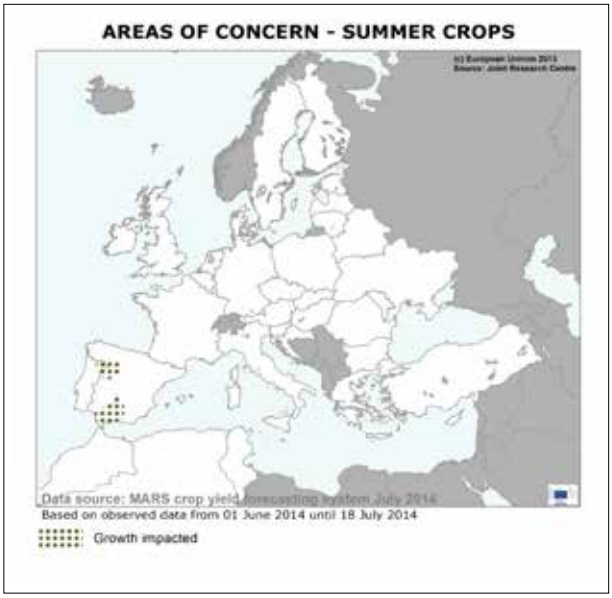
1. Agro-meteorological overview

1.1 Areas of concern









While growth conditions continued to be favourable overall, and yield outlooks are positive, there are a few regions of concern: the persistent rain deficit in the southern regions of the Iberian Peninsula and in Castilla y Leon negatively affected the vegetative growth of all summer crops, apart from those that were irrigated. Maize has just entered the delicate flowering stage. The Baltic countries and Finland faced a chilly period in the second half of June with average temperatures of less than 10°C – significantly below the average for the given period. These conditions significantly slowed down the grain-filling of winter and spring crops, negatively affecting final yields.

Frequent rain events, partially in the form of heavy thunderstorms, characterised the weather between mid-June and mid-July in France, Germany, Italy and on the eastern Adriatic coast. This delayed and interrupted the harvesting of winter cereals in many areas of central and western Europe as well as in the northern Balkan countries. The plentiful rainfall of the first half of July replenished the soil moisture and provided beneficial conditions for summer crops. However, the development of spring cereals in eastern France was already too advanced to benefit from the precipitation, and the negative impact of the previous dry weeks on the storage organ weight is now evident.

The weather anomaly map reflects the period from 15 June to 18 July of the current season, while the crop maps deal with a larger window: 01 June – 18 July. For the first half of June the reader is referred to the map of the June bulletin

1.2 Meteorological review (1 June - 15 July)

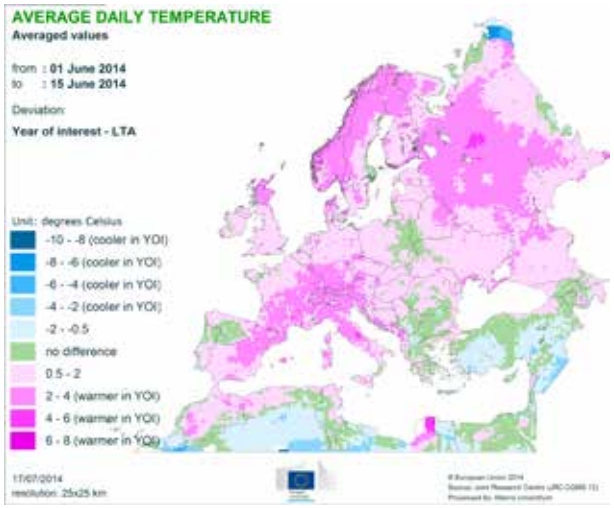
A heat wave occurred over major parts of Europe at the beginning of June, bringing dry weather, which prevailed until the middle of the month. Varying and unstable weather conditions with frequent thunderstorms and showers at the beginning of July delayed and interrupted the harvesting of winter cereals in many areas of central and western Europe as well as in the northern Balkan countries. The plentiful rainfall of the first half of July replenished the soil moisture and provided beneficial conditions for summer crops, particularly in France and many areas of central Europe and the Balkans. There is a persistent rainfall deficit over large areas of the Iberian Peninsula.

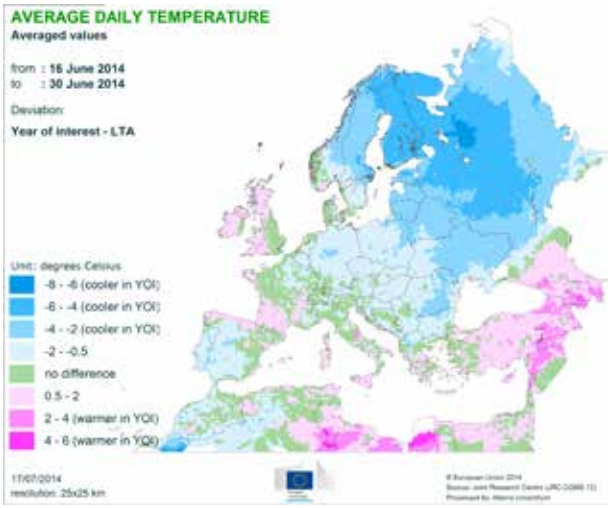
Observed temperatures

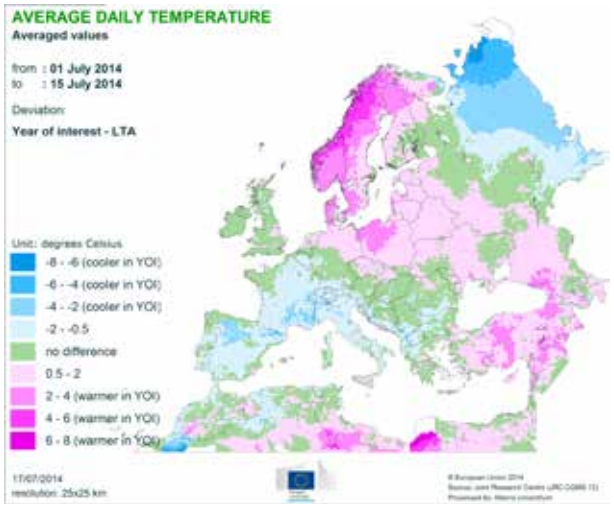
Warmer-than-usual conditions affected almost all of Europe during the first two weeks of June, with temperature anomalies of up to 4°C. Colder-than-usual conditions were observed only in Turkey. The last two weeks of June were characterised by colder-than-usual conditions, with anomalies of 4°C in central-eastern Europe (especially over Russia and Finland), and of 0.5-2°C in the western part of the Iberian Peninsula. Normal to warmer-than-usual temperatures prevailed during this period over eastern and northern Spain, France, Italy, the UK and Greece, whereas particularly warmer-than-usual conditions were recorded over Turkey and east of the Black Sea. In the first half of July (1-15), the distinctly cold anomalies retreated to the north-eastern corner of Europe, and warmer-than-usual conditions prevailed over the other areas of north-eastern Europe and Turkey. Anomalies that locally exceeded 2°C were observed in Denmark, Poland, the Scandinavian Peninsula and Turkey. During the same period, near-average temperature conditions were observed in the UK, and central and south-eastern Europe, whereas large areas of Spain, France and Italy were slightly colder than usual. During the period under review, positive anomalies (exceeding 30 growing degree days) of cumulative temperature sums (threshold at 0°C) were observed mainly over the UK, northern Germany and Denmark, Norway, large areas of Turkey and east of the Black Sea. Negative temperature sum anomalies (of 50 growing degree days) affected Russia, Finland and some areas of Romania, Bulgaria, Macedonia and Spain.

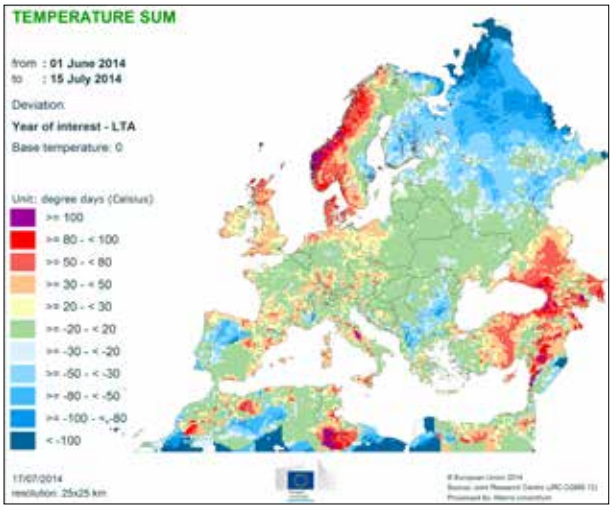
Observed precipitation

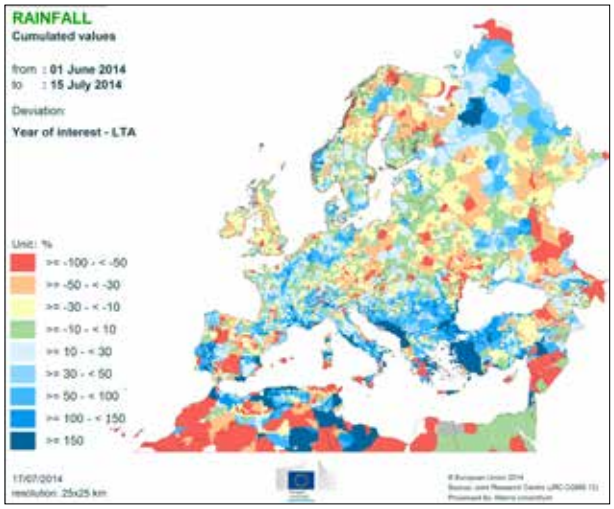
Wetter-than-usual conditions (locally above 150% with respect to the long-term average) were observed over large areas of Europe, especially in Portugal, France, northern Germany and Denmark, Italy, the Balkans and western Turkey. Normal to drier-than-usual conditions were recorded over the other European regions, with locally less than 50% rainfall with respect to the long-term average (e.g. over south-western Spain). With the exception of the Mediterranean region, most of Europe presented more than four wet days with significant rainfall (threshold at 5 mm). However, rainfall occurred mainly in the second half of the analysis period. Drought stress started to affect crops, especially in areas that had little or no rainfall in May. The beneficial rainfall in the first half of July over France and many areas of central Europe and the Balkans replenished the soil moisture and provided beneficial conditions for summer crops, which are now entering the flowering stage. The rainfall deficit persists over large areas of the Iberian Peninsula. Nevertheless, water reservoir levels for irrigating summer crops are sufficient due to winter rainfall reserves.

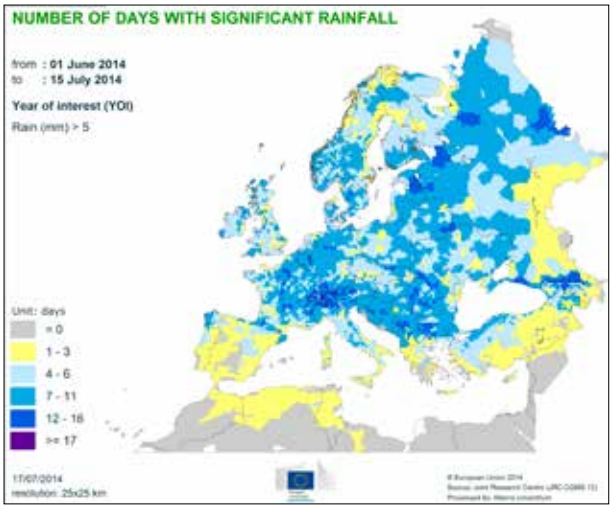

AVERAGE DAILY TEMPERATURE
Averaged values
from : 01 June 2014
to : 15 June 2014
Deviation:
Year of interest - LTA
Unit: degrees Celsius
-10 - -8 (cooler in YOI)
-8 - -6 (cooler in YOI)
-6 - -4 (cooler in YOI)
-4 - -2 (cooler in YOI)
-2 - -0.5
no difference
0.5 - 2
2 - 4 (warmer in YOI)
4 - 6 (warmer in YOI)
6 - 8 (warmer in YOI)
17/07/2014
resolution: 25x25 km


AVERAGE DAILY TEMPERATURE
Averaged values
from : 16 June 2014
to : 30 June 2014
Deviation:
Year of interest - LTA
Unit: degrees Celsius
-8 - -6 (cooler in YOI)
-6 - -4 (cooler in YOI)
-4 - -2 (cooler in YOI)
-2 - -0.5
no difference
0.5 - 2
2 - 4 (warmer in YOI)
4 - 6 (warmer in YOI)
17/07/2014
resolution: 25x25 km


AVERAGE DAILY TEMPERATURE
Averaged values
from : 01 July 2014
to : 15 July 2014
Deviation:
Year of interest - LTA
Unit: degrees Celsius
-8 - -6 (cooler in YOI)
-6 - -4 (cooler in YOI)
-4 - -2 (cooler in YOI)
-2 - -0.5
no difference
0.5 - 2
2 - 4 (warmer in YOI)
4 - 6 (warmer in YOI)
6 - 8 (warmer in YOI)
17/07/2014
resolution: 25x25 km

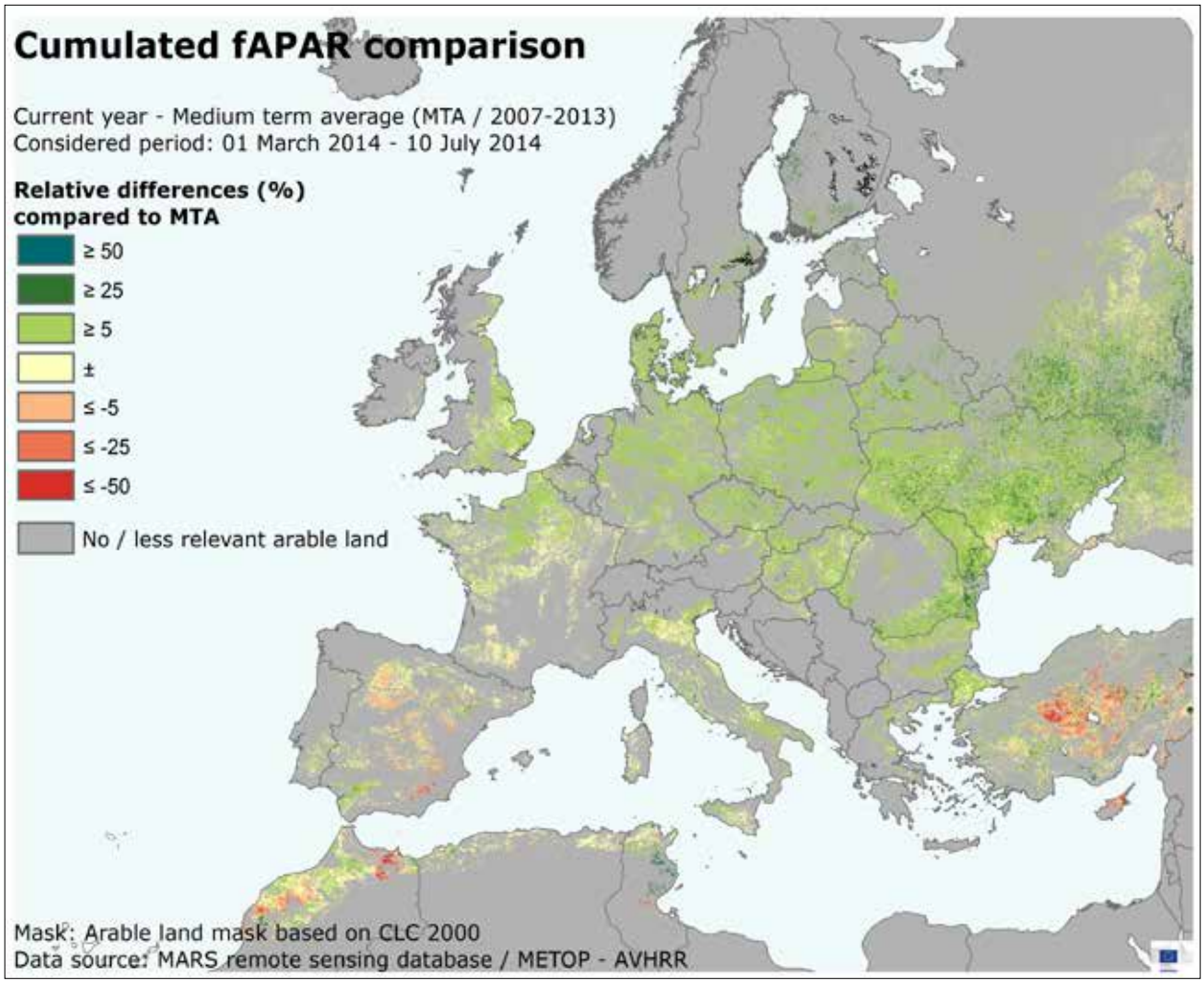

TEMPERATURE SUM
from : 01 June 2014
to : 15 July 2014
Deviation:
Year of interest - LTA
Base temperature: 0
Unit: degree days (Celsius)
>= 100
>= 80 - < 100
>= 50 - < 80
>= 30 - < 50
>= 20 - < 30
>= -20 - < 20
>= -30 - < -20
>= -50 - < -30
>= -80 - < -50
>= -100 - <-80
< -100
17/07/2014
resolution: 25x25 km


RAINFALL
Cumulated values
from : 01 June 2014
to : 15 July 2014
Deviation:
Year of interest - LTA
Unit: %
>= -100 - < -50
>= -50 - < -30
>= -30 - < -10
>= -10 - < 10
>= 10 - < 30
>= 30 - < 50
>= 50 - < 100
>= 100 - < 150
>= 150
17/07/2014
resolution: 25x25 km

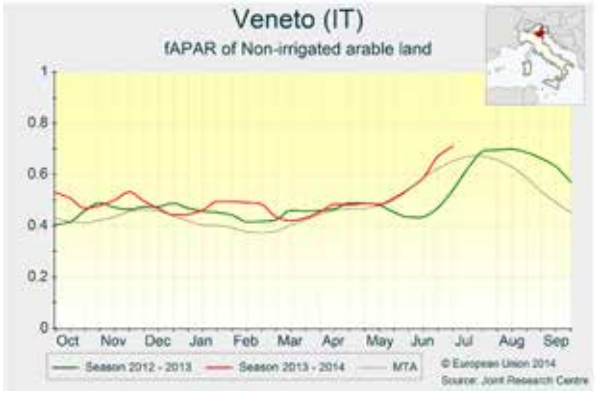

NUMBER OF DAYS WITH SIGNIFICANT RAINFALL
from : 01 June 2014
to : 15 July 2014
Year of interest (YOI)
Rain (mm) > 5
Unit: days
= 0
1 - 3
4 - 6
7 - 11
12 - 16
>= 17
17/07/2014
resolution: 25x25 km

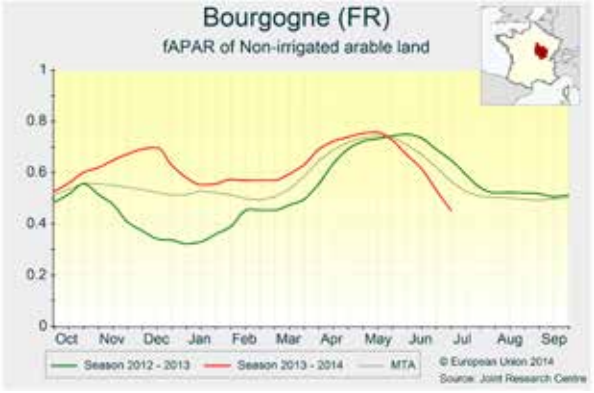
2. Remote Sensing – observed canopy conditions

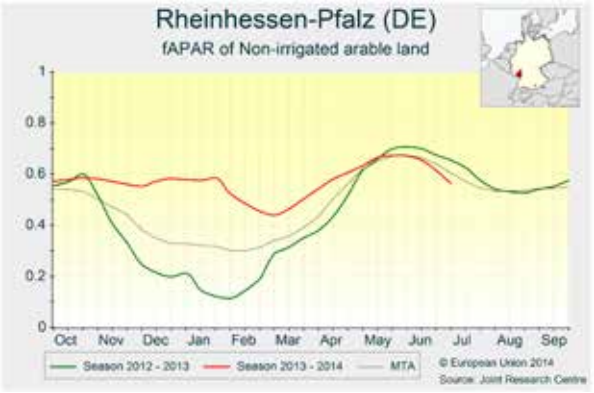
Generally very good conditions for summer crops in Europe. Dry conditions affected spring crops in eastern France.



The map displays the observed cumulated values of fAPAR (fraction of Absorbed Photosynthetically Active Radiation) from the beginning of March to 10 July, compared to the medium-term average (MTA of 2007 – 2013). In **Spain**, the harvesting of winter and spring crops is ongoing in the main crop-producing regions, following a suboptimal grain-filling period due to the precipitation deficit. The canopy of summer crops is above average in irrigated areas only. In northern **Italy**, the abundant rain of June and the favorable thermal conditions boosted the maize canopy density and led to early phenological development (e.g. *Veneto*). In **France**, with the exception of the east, the overall canopy conditions of winter crops (which are mainly in the grain-filling stage) and summer crops (which are not yet flowering) are around average. The persistent dry conditions affected the growth of spring crops growth in eastern regions, as can be seen in the *Bourgogne* fAPAR profile. A similar trend is observed in neighbouring regions of **Germany** (e.g. *Rheinhessen-Pfalz*). For the other regions of Germany, the map displays positive biomass anomalies. The main winter crop regions in the **United Kingdom** entered the grain-filling phase with favourable canopy conditions. Spring crops are still in the flowering stage. In **Poland**, the agricultural season is progressing well, and biomass anomalies are positive in all regions (e.g. *Wielkopolskie*). In central Europe (the **Czech Republic**, **Slovakia** and **Austria**), the heat wave at the beginning of June accelerated winter crops' senescence and partially affected the growth of summer crops (e.g. *Jihovychod*). Maize canopy conditions are expected to recover in the coming days thanks to the rains in late June. Conditions are worse in the eastern regions of **Hungary**, where the canopy conditions of summer crops are significantly below seasonal values (e.g. *Eszak-Magyarorszag*). In **Romania**, **Bulgaria** and **Ukraine**, the canopy density, mainly of summer crops, exhibits positive or even very favourable anomalies in the regions bordering the Black Sea (e.g. *Severoiztchen*). In **Turkey**, although the rainy conditions led to improved maize biomass conditions in June (e.g. *Konya*), overall biomass accumulation is still below average.


Veneto (IT)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Bourgogne (FR)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Rheinhessen-Pfalz (DE)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
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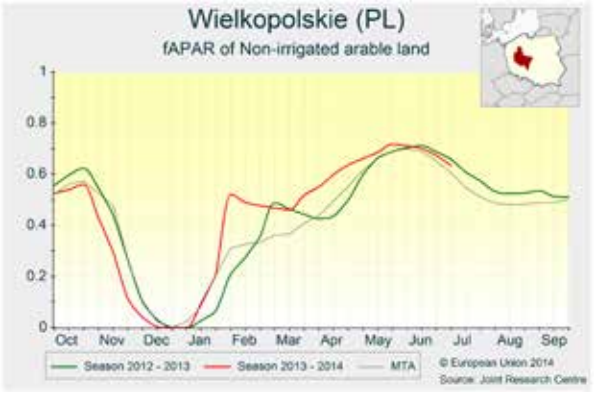
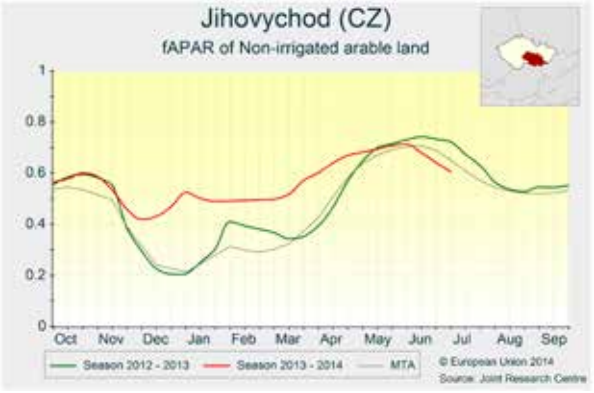
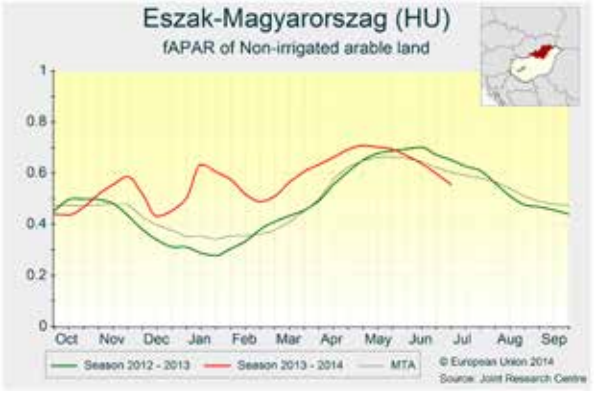
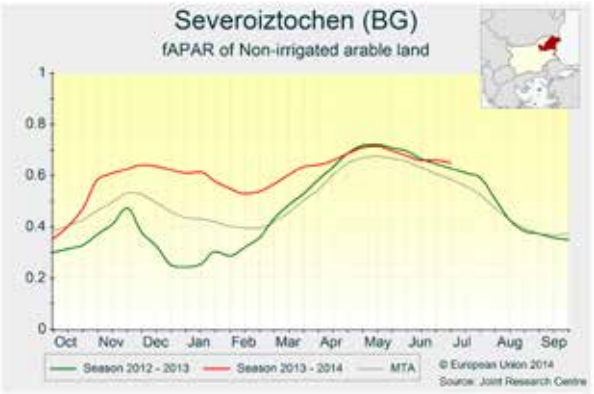
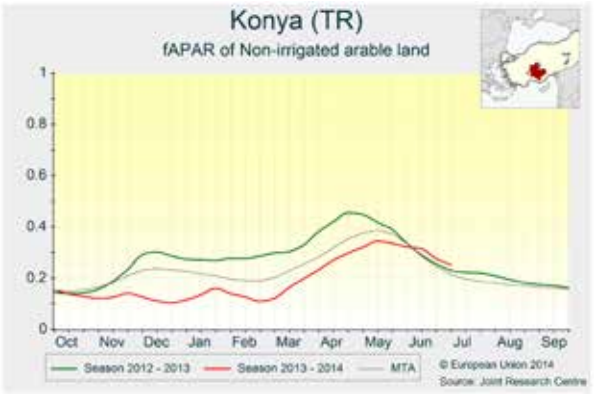
Source: Joint Research Centre


Wielkopolskie (PL)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Jihovychod (CZ)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Eszak-Magyarorszag (HU)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Severoiztochen (BG)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Konya (TR)
fAPAR of Non-irrigated arable land
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre

3. Country analysis

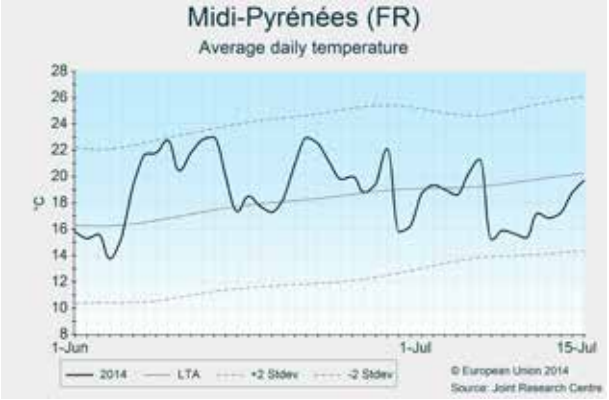
3.1 European Union

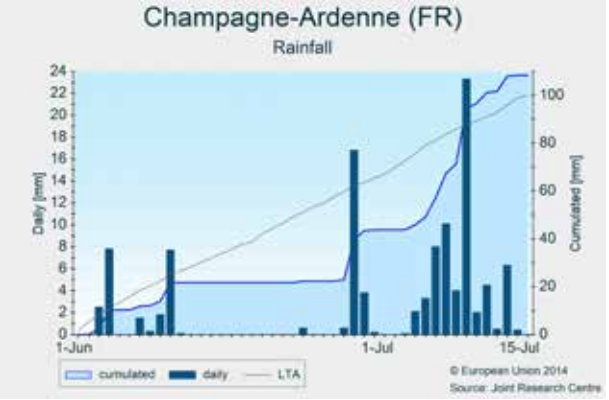
France

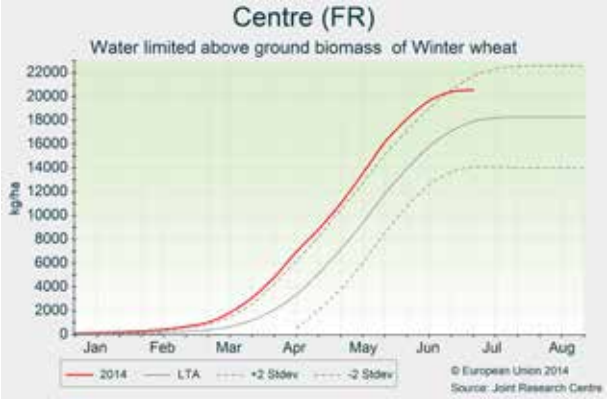
Contrasting conditions but positive outlook

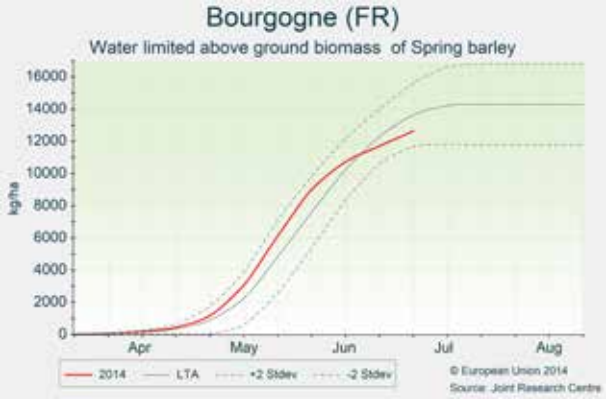
While June was warmer and drier than usual, the first half of July was mild and rainy. The substantial rainfall experienced by all regions in early July will improve the soil moisture levels, especially in eastern regions. Only spring barley and durum wheat are forecasted below average, as they have been adversely impacted by dry conditions.

While temperatures remained close to the average in northern regions, southern France was warmer than usual in June. Rainfall was close to the average, except in the northeastern and centraleastern regions. The water deficit in *Champagne-Ardennes*, *Lorraine* and *Bourgogne* was critical at the end of June. During the first half of July, temperatures were colder than average, and substantial rainfall was observed in all regions, particularly in the east: 55 mm of rain was recorded in *Pays de la Loire* and 111 mm in *Rhône-Alpes* between 26 June and 14 July. These latest rainfall events will improve conditions for summer crops. The harvesting of winter and spring cereals, which was slightly delayed by the recent rains, could be resumed in the coming days as no substantial rainfall is forecast, and no major consequences to yields are expected. Soft wheat yields are expected to be higher than the five-year average and close to last year's yield, as dry conditions in the east prevented a higher national yield. Durum wheat yields are forecast to be slightly lower than average, as they were affected by dry conditions in southeastern regions. Spring barley yields are forecast to be below average given the dry conditions in the northeastern regions, where most of the production takes place. Rapeseed is forecast to be above average as it benefited from good conditions through the whole season. Conditions for summer crops are good, and the latest rainfall led to the flowering of sunflower and grain maize.









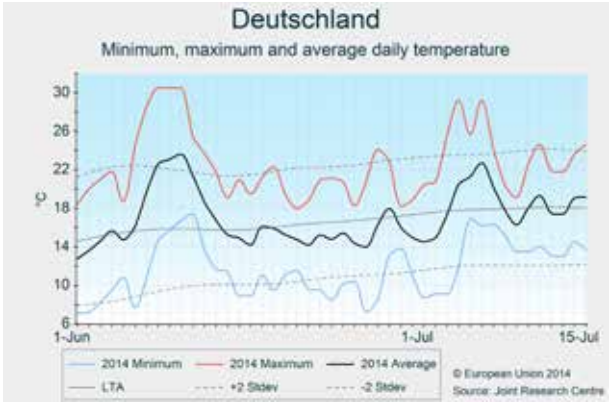
Germany

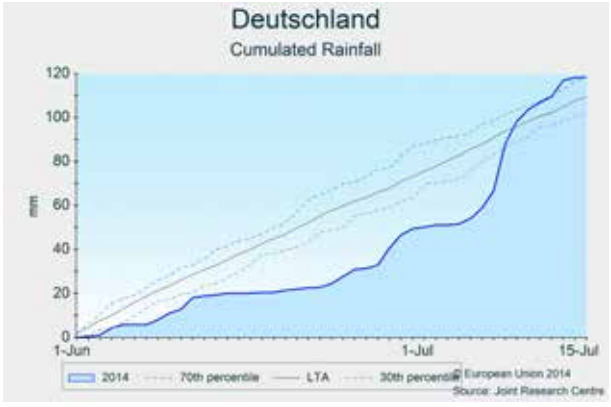
Promising yields in the north, mediocre towards the south

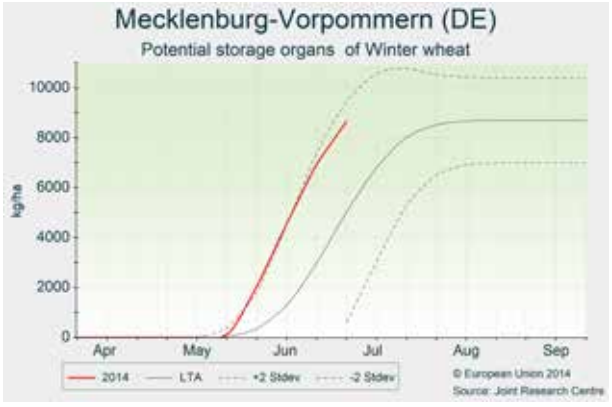
In general, June was characterised by unsettled weather, with drier conditions in the south and more adequately distributed rain in the north. Heavy rainfall at the beginning of July replenished soil moisture contents across the country and had positive effects on summer crops, but interrupted the harvesting of winter crops. On average, the yield prospects for winter cereals are good and above the five-year average.

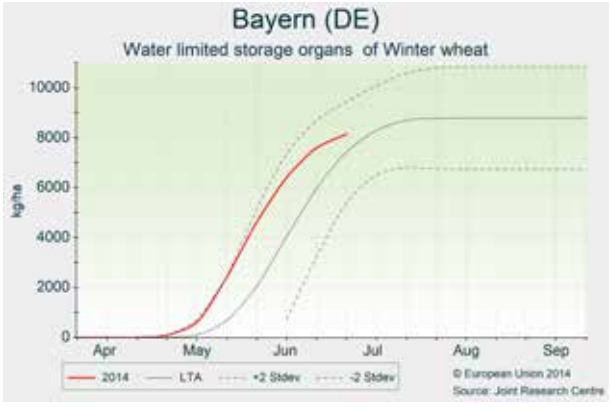
The beginning of June was marked by a pronounced heat wave, with daily maximum temperatures reaching above 35°C. Severe thunderstorms and hail marked the end of this heat wave, locally damaging crops, followed by unsettled weather for the remainder of June, with a mix of sunshine and rain, and lower-than-average temperatures in central Germany. Central and southern Germany experienced dry conditions and a clear rain deficit, especially in *Bayern* and *Rheinland-Pfalz*, which affected the yield potential. Heavy rain set in for several days at the beginning of July, replenishing soil moisture levels across the country and offsetting the overall rainfall deficit from the overly dry spring. These latest rainfall events will improve conditions for summer crops but raise some concern for the grain quality of winter cereals.

Soft wheat is between the ripening and maturity stages, and simulated yields exhibit a steep gradient from the north (where they are well above average) to the south (where they are generally average, and below average in *Rheinland-Pfalz*, *Bayern* and *Baden-Wuerttemberg*). At national level, the yield forecast remains practically unaltered from the June bulletin, and close to the five-year average. Winter barley has already matured, and the slight delay to the harvest due to recent rains is not expected to have major consequences to yields. Spring barley is at the ripening stage and shows less precocity than the winter cereals. Average yields are forecast. The recent rains were beneficial to the growth conditions of maize, which is still in the vegetative phase. The replenished soil moisture levels in the south are expected to be beneficial to the upcoming flowering phase, and a positive yield is forecast. While sugar beet shows a well-developed leaf area, pest and disease pressure is high due to the recent humid and warm conditions.







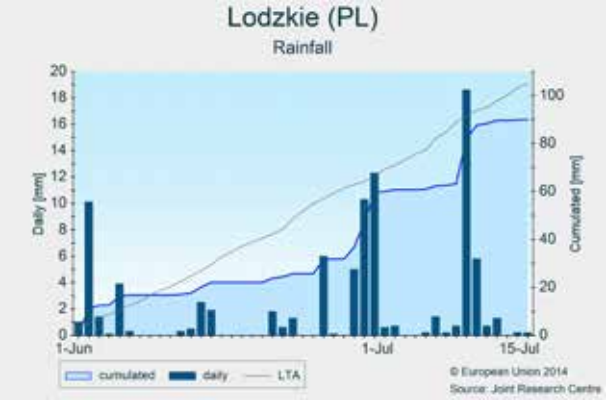


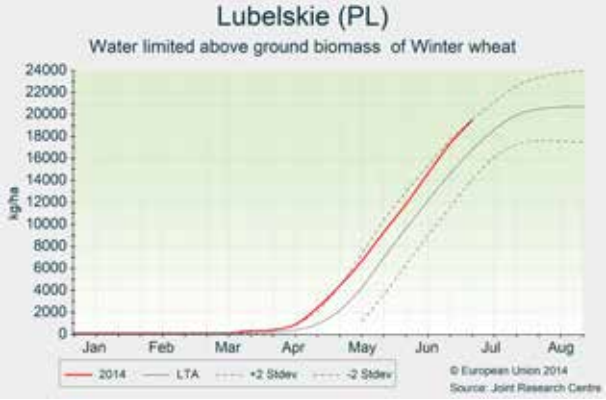
Poland

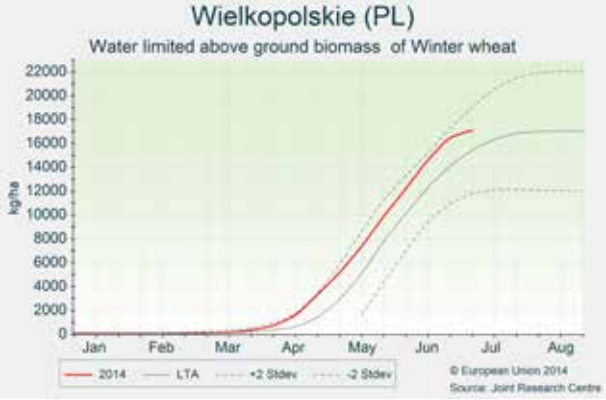
Positive outlook and above-average yields

Temperatures fluctuated with some high peaks, but did not impact crop growth. Rain was adequately distributed, and cumulated rainfall is close to the average. Growth conditions are good, and yields are forecast to be above the five-year average, and slightly above those of last year.

Rain was slightly below average but well distributed during the period of review in the western half of the country. In the eastern half, rainfall cumulated from 1 June to 15 July was close to the average. Some heavy showers with 20 mm of rain per day were observed in almost all regions at the end of June and beginning of July. Temperatures rose far above the average during the first half of June and first half of July; a maximum temperature of 32°C was recorded in the southern regions for a few days. Temperatures were slightly below average during the second half of June. Given the steady rainfall occurrence and the fact that there were only a few hot days, conditions are good for all crops. As winter and the beginning of spring were warmer than usual, the development stage of winter crops is advanced by 15 days compared to an average year. Spring and summer crop development is close to that of an average year, as temperature accumulation has been seasonal since mid-April. The above-ground biomass simulated by our model is above average for all crops. Given the good growth conditions, yields are forecast to be above the five-year average and slightly above last year's yield, which was a good season. The latest rains are favourable to summer crops, the yields of which are also forecast to be slightly above average.







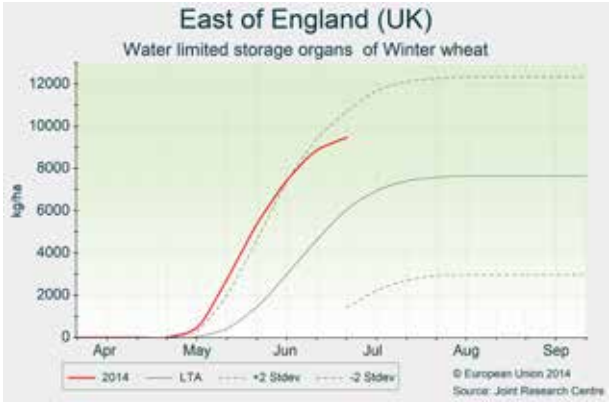
United Kingdom and Ireland
Continued favourable outlook

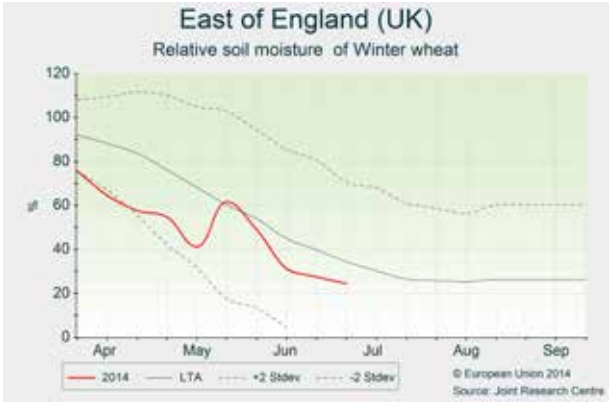
Weather conditions were generally favourable for winter and spring crops. Substantial rain during the first half of July benefited spring crops in particular, but could locally have affected the grain quality of winter cereals.

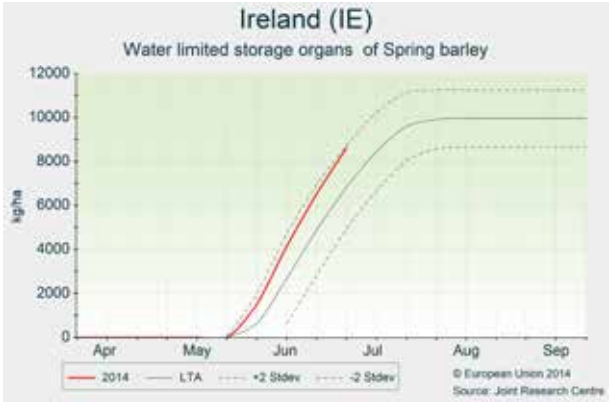
Temperatures during the review period as a whole (1 June – 15 July) were just above average, with temperature anomalies between 0.5 and 1°C in most of the British Isles, and up to 2°C in Scotland. Daily maxima generally remained below 25°C. Rainfall levels tended to be below average, especially in the coastal regions of southern and eastern Ireland, and western Britain, where some areas received up to 50 mm less rainfall than usual. However, some areas in eastern England received above-average rainfall. Rainfall was unevenly distributed over the review period. The period from 14 to 24 June was particularly dry, whereas the first two weeks of July were particularly rainy in most areas. Solar radiation levels tended to be above average, especially in south-western Britain.

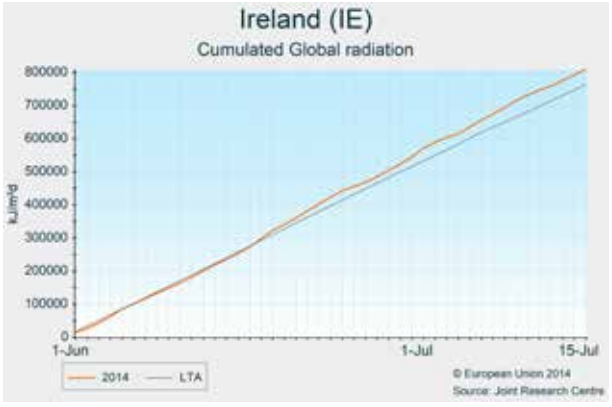
The fairly high radiation levels and moderate temperatures were generally favourable to crop growth, promoting photosynthesis while preventing a shortening of the grain-filling stage and the premature ripening of winter crops. The dry period in June had little or no negative effect on crop growth in most areas, as soil water levels were generally sufficient thanks to the rains in May and early June, but it would have had some impact in eastern England, where the dry conditions had been somewhat more intense. The rains during the first two weeks of July replenished soil water levels under summer crops and boosted yield formation where winter crops were in the grain-filling phase. In many areas however, especially in the south-eastern UK, the ripening of winter crops was already advanced, especially barley and rapeseed, and some were even ready for harvest. Thus, while the July rains were generally not excessive, prolonged wet wetter may have affected the grain quality in some fields.

Compared to the June Bulletin, yield forecasts for most crops were maintained or revised slightly upwards for both the UK and Ireland.









Spain and Portugal

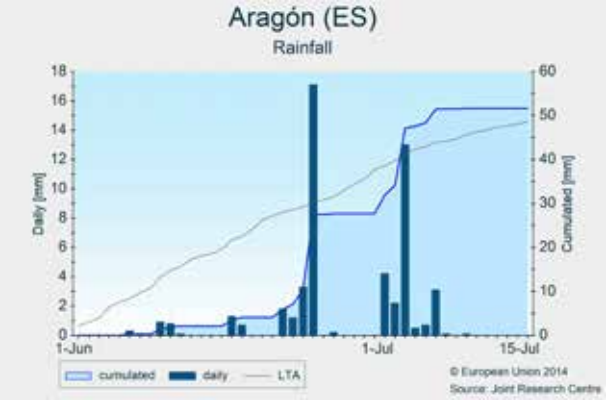
Winter crops harvest is ongoing, with below-average expectations

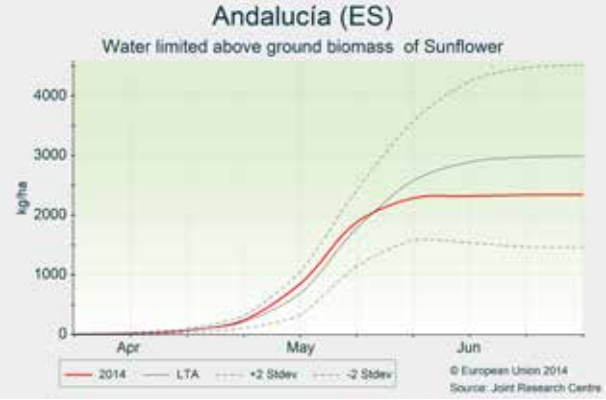
The winter crop season is currently finishing under predominantly dry conditions in Spain, interrupted by some thunderstorms. The yield outlook is below average due to the adverse weather conditions of late spring.

The hot and dry weather conditions experienced during May continued during the first half of June in most of the Iberian Peninsula. Rainfall was sparse and daily temperatures were 2-3°C above the long term average, especially in eastern regions. Temperatures decreased to levels that were close to the average during the second half of June and July; these cooler conditions were accompanied by thunderstorms in the east of *Castilla y Leon* and northern *Aragon*.

The harvesting of winter cereals has been progressing well in June across the Iberian Peninsula. The durum wheat harvest has already been completed in Spain, and yields are expected to be close to the average of previous years. The soft wheat harvest is ongoing in the northern half of Spain (with some local interruptions due to thunderstorms), and the below-average yields are expected due to the hot and dry conditions experienced until mid-June. The outlook is similar for barley, especially for the spring varieties. In Portugal, the winter cereal season has just finished, with high yield expectations for both wheat and barley, as spring weather conditions in *Alentejo* were favourable, with abundant rainfall and mild temperatures.

Summer crops are developing well. The irrigation period has started, and no major constraints are expected as water storage levels in most of the catchment areas are high. Yield expectations for summer crops are therefore close to those of 2013, except for sunflowers, which are normally not irrigated and may be negatively impacted by the dry weather conditions.





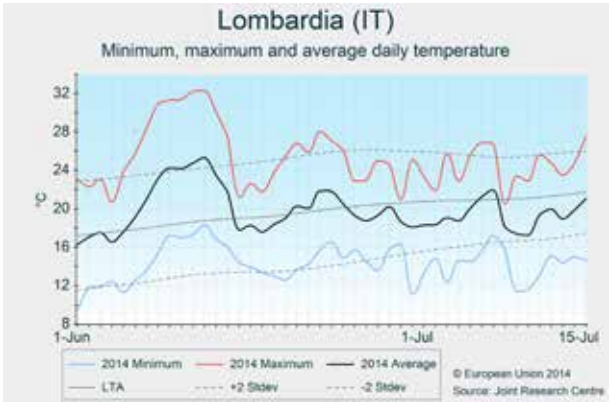
Italy

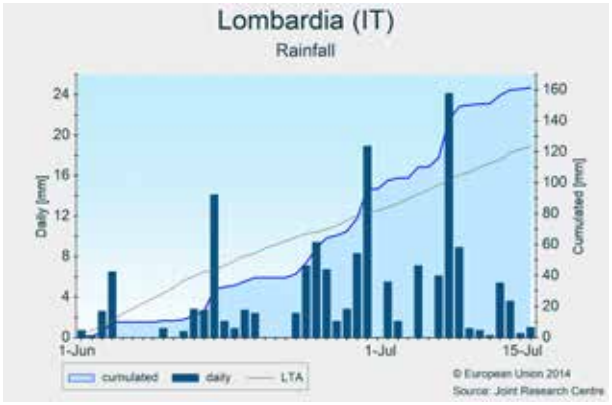
Good conditions for spring crops

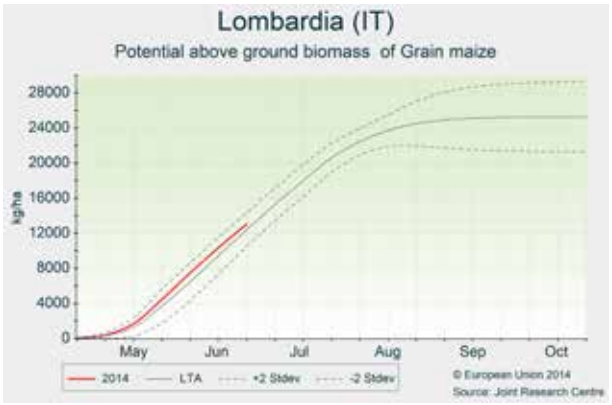
Mild weather and abundant rainfall during the first dekad of July created good growth conditions for spring crops. The yields forecasted for winter crops remain below or slightly below average.

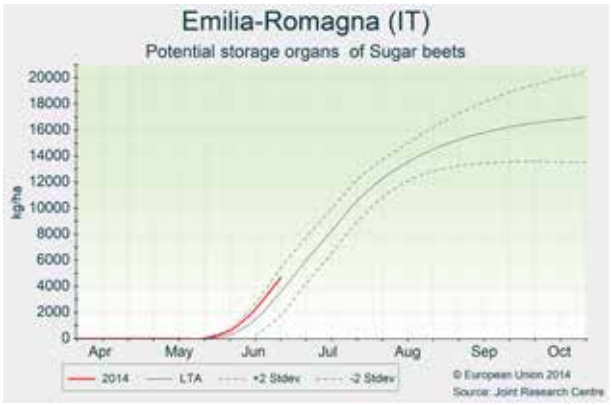
Warmer-than-usual conditions prevailed over Italy during the first half of June, with temperatures that were well above average (by +2 to +4°C) in the northern regions. During this period, daily maximum temperatures of over 35°C were recorded in the northern and the central-western parts of Italy. Normal or slightly above-average thermal conditions were recorded until the first dekad of July in central and southern Italy. By contrast, temperatures fell in northern Italy during the first dekad of July, with daily average temperatures as much as 4°C below average in *Lombardia*. Cumulated rainfall across Italy during the month June was around average for this period, with the exception of the western part of *Emilia Romagna*, the southern part of *Lombardia* and the western part of *Veneto*, where drier-than-usual conditions were recorded. By contrast, heavy rainfall was observed in northern Italy during the first dekad of July, improving the soil water content.

Average thermal conditions and sufficient soil moisture content, associated with good water reserves, created good conditions for the growth of spring crops. Grain maize is currently flowering in most regions, and simulated crop-growth indicators show that leaf area development is above the seasonal values. Sugar beets and potatoes have started yield formation, with cumulated biomass around the normal values. According to our model, the cumulated biomass of sunflowers is also close to or slightly above the average. The yield forecasts for spring crops were revised slightly upwards, but generally remain close to average values. The harvesting of durum wheat was completed at the beginning of July, while the harvesting of soft wheat was completed in the central regions and has almost finished in the northern regions. Yields are expected to be below average for durum wheat, and slightly below average for soft wheat. Furthermore, the heavy rainfall locally recorded during June and the first dekad of July, across Italy, may have affected grain quality. The previous forecasts for winter cereals have been confirmed.









Hungary

Harvest hampered by frequent rains

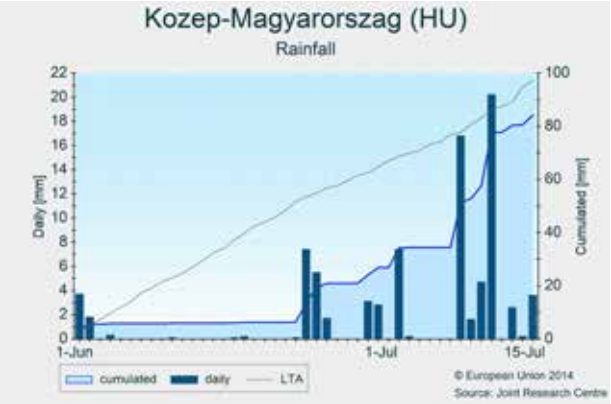
A dry June was followed by a wet July. Frequent rain events delayed the harvest and are expected to have affected the grain quality of winter wheat. Summer crops present normal canopy development and biomass accumulation. The yield outlook for these crops is positive thanks to the high rainfall in July, which provided adequate water supply for the main period of yield formation.

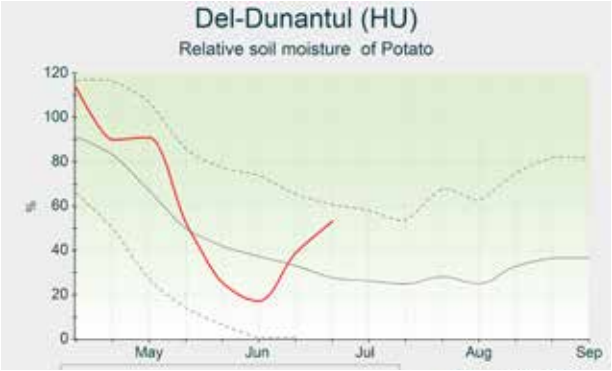
In the first half of June, daily temperatures mostly exceeded the average. A short heat wave of four to six days was established, during which maximum temperatures reached 31-36°C. After mid-June, near-average thermal conditions prevailed and, despite considerable variability, no harmful extremes occurred.

The first 20 days of June were dry with scarce rainfall. Soil moisture contents dropped sharply to below-average levels under summer crops. Some precipitation was recorded in the last dekad of June, and weather conditions became quite rainy in July. Thus, the cumulated precipitation of the review period approached the long-term average, despite its uneven temporal distribution. A moderate rainfall surplus typified southern Hungary, while some northern areas showed slight deficits in precipitation compared to the long-term average.

The hot and dry period was unfavourable for winter crops, and local damages are expected where the soil moisture supply was unsatisfactory. The harvest began two to three weeks earlier than usual, but from late June it was frequently interrupted due to rain. As our model simulations show near- or above-average biomass accumulation for winter cereals, the previous positive forecast was maintained for Hungary, but could be revised downwards if abundant rainfall continues.

The phenological development, biomass accumulation and leaf area expansion of maize, sunflower and potato crops are normal in most regions, but the water scarcity of May and June negatively affected the canopy development of maize in the *Eszak-Alfold* region. Recent rainfall favourably increased soil moisture levels under summer crops, providing good conditions for the start of flowering and yield formation; consequently the yield outlook was revised slightly upwards.





Romania

Good conditions for summer crops

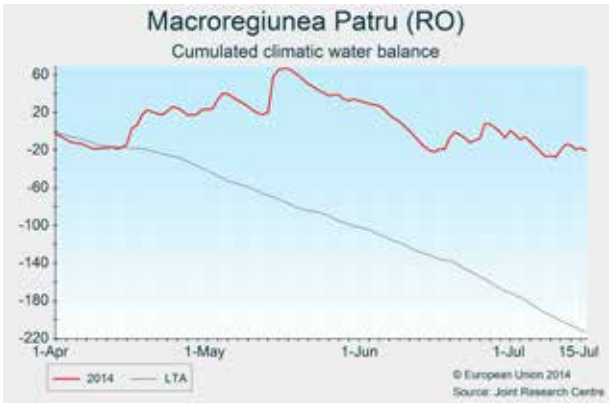
Moderately warm weather and beneficial rainfall provided favourable growth conditions for summer crops. The harvesting of winter crops progressed well as there were enough long dry periods between the periods with significant rainfall. The yield outlook for winter crops remains above average, and the conditions for summer crops are also promising.

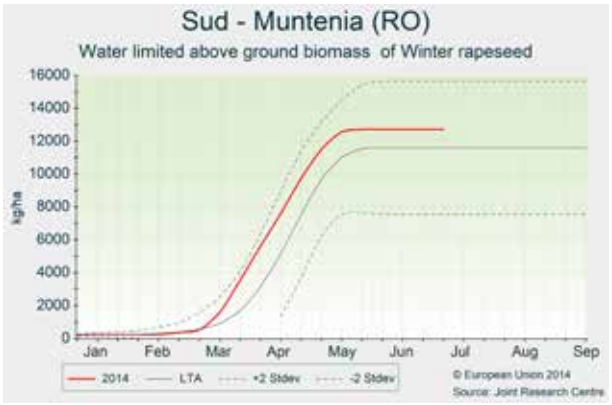
Romania was characterised by near-average thermal conditions during the period of review. Only the southern part, *Sud-Muntenia*, was 1-2°C colder than usual. Two short periods with above-average temperatures were recorded in the first half of June and in early July, but the highest values only moderately exceeded 30°C, so no significant adverse effect is expected on crop growth.

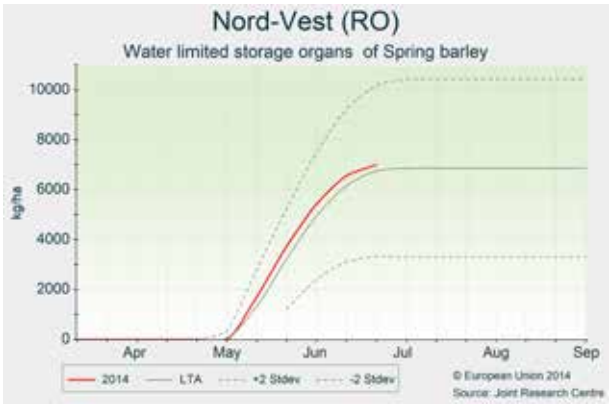
Cumulated rainfall during the review period typically exceeded 100 mm across Romania, and only remained below 60 mm in some smaller areas along the Hungarian and Moldavan border. The precipitation anomaly is mostly positive, with the highest surplus (40-100% above average) recorded in the southern part of Romania, primarily in the *Macroregiunea Patru* and *Sud-Muntenia* regions. A weak deficit in the climatic water balance is observed in the *Nord-Vest* region, but a moderate or considerable surplus was evident in all other regions.

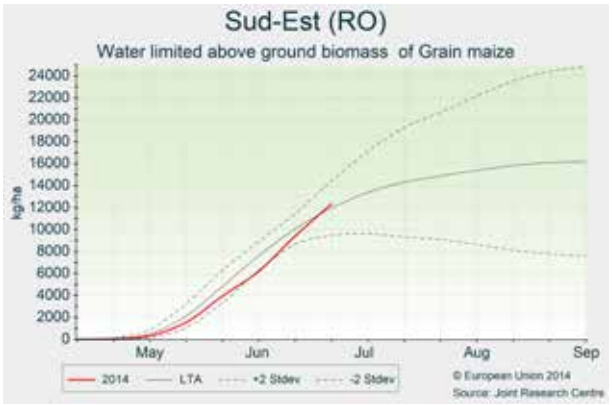
Despite the frequent and locally heavy rainfall events, which hampered and complicated the harvest, and may also have caused yield losses and lowered the grain quality, the simulated biomass of winter cereals is well above average due to the favourable weather conditions

Spring barley shows moderately advanced phenological development, but crop growth and the yield outlook are average. The canopy expansion of maize and sunflowers is near average, and the increasing biomass accumulation exceeds the average since early July thanks to the favourable water supply. The actual soil moisture reserves can meet the water requirement of summer crops during the second half of July. In the absence of weather extremes, a high yield potential is forecast.









Bulgaria

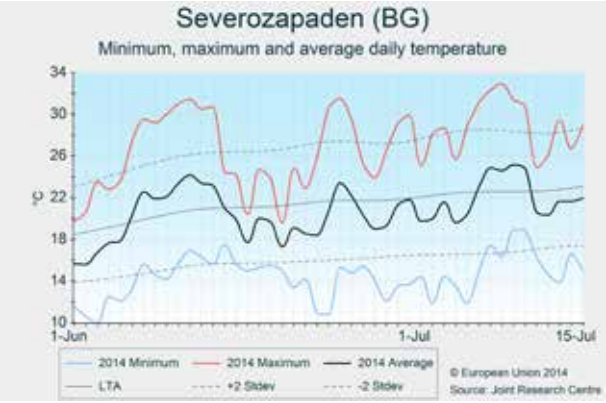
Abundant rainfall in June

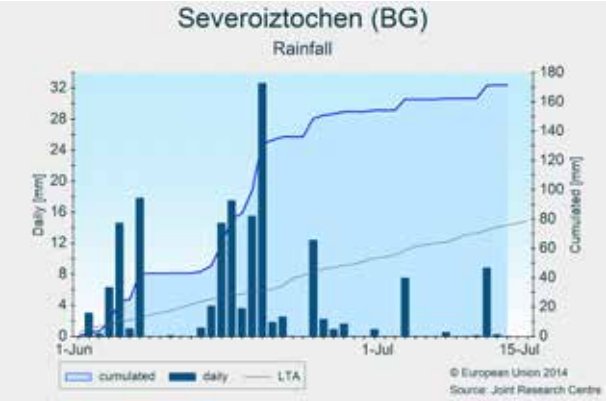
A rainy May was followed by a very wet June. In the eastern regions, precipitation was two to three times greater than usual. As the model simulation indicates continued above-average storage organ biomass for winter crops (especially in the southern regions), and adequate growth and soil moisture for summer crops, our yield forecast was slightly revised upwards.

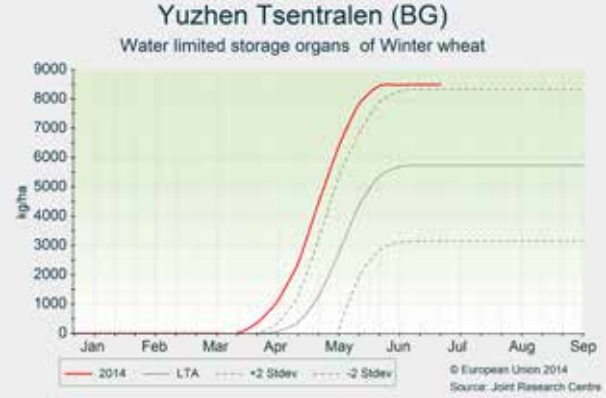
Daily temperatures presented large fluctuations during the period of review, presenting no significant overall thermal anomaly compared to the long-term average. The number of hot days (Tmax > 30°C) was 5 to 10 days less than usual in Bulgaria, except for the *Severozapaden* region where slightly more hot days were recorded than usual. In the north-western areas of Bulgaria, daily maximum temperatures slightly exceeded 30°C for 5 to 7 days in early June, but this had no significant negative effect on crop production. Overall, thermal conditions were favourable for all crops. Precipitation was abundant and even excessive in the eastern side of the country where the cumulated rainfall in June reached 90 to 210 mm. In the *Severoiztochen* and *Yugoiztochen* regions, precipitation exceeded the average by 80 to 140 mm. The second dekad of June was particularly rainy. Precipitation levels decreased in late June, but remained average in July. Solar radiation remained below average, especially in the eastern regions.

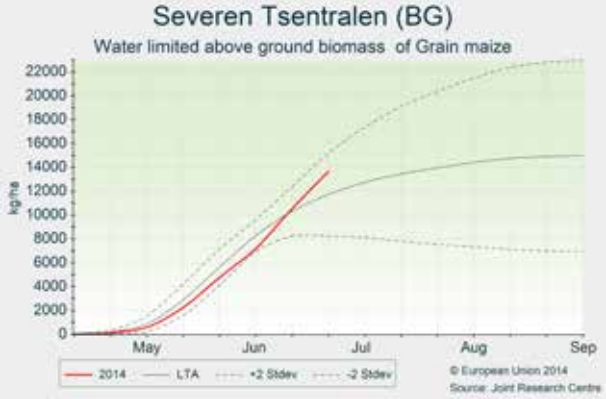
As our model simulation indicates continued above-average storage organ biomass for winter crops (especially in the southern regions), winter wheat yields are expected to be high, but the extreme wet conditions in June negatively affected the grain quality of winter wheat and hampered early

harvesting activities. Maize, on the other hand, benefited from the good water supply in terms of both leaf area development and biomass accumulation. As sunflower and potato crops are more sensitive to overly wet conditions, it is likely that their growth was locally compromised and that the risk of fungal disease has increased.









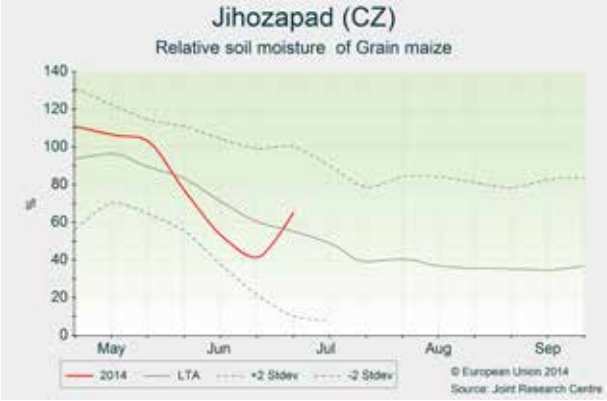
Austria, Slovakia and the Czech Republic

Beneficial rainfall at the beginning of July brings good conditions

June started with a heat wave and rainfall deficit, leading to mild drought stress, especially for summer crops. Air temperatures returned to normal by the middle of June and rainfall at the beginning of July improved the soil moisture levels. This was beneficial for summer crops which entered the flowering stage. However, unstable weather conditions with frequent thunderstorms and showers during this period delayed the harvesting of winter cereals in many areas.

The beginning of June was characterised by the occurrence of the first heat wave. Average daily air temperatures were up to 4°C above the long-term average. These hot conditions accelerated the leaf senescence of winter crops, which were mainly in the grain-filling stage. Air temperatures in general returned to normal levels by the middle of June. Rainfall was very scarce in June. The rainfall deficit was especially pronounced over western and southern parts of the Czech Republic and northern Austria, where less than 30 mm were recorded during June. This contributed to mild drought stress, which was already starting to affect summer crops. The rains in the first half of July alleviated the drought stress, but may also have caused crop damage locally due to strong winds and hail.

The harvesting of winter cereals is greatly advanced due to above-average thermal conditions. However, the harvest has been delayed in many areas due to varying and unstable weather conditions, such as frequent thunderstorms and showers. The yield forecast for winter cereals remains close to the five-year average. Rainfall at the beginning of July replenished soil moisture levels, providing favourable conditions for summer crops which entered the flowering stage. The crop yield forecast for summer crops is therefore good.

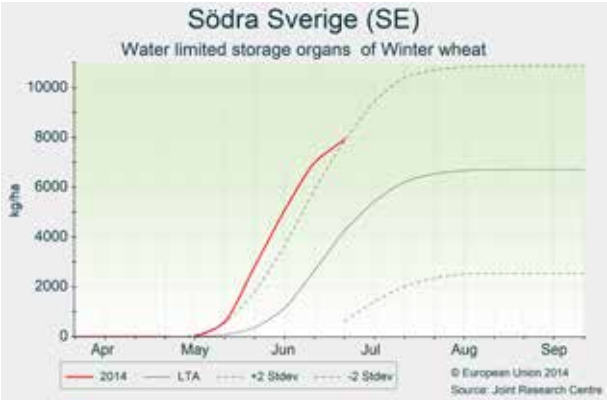


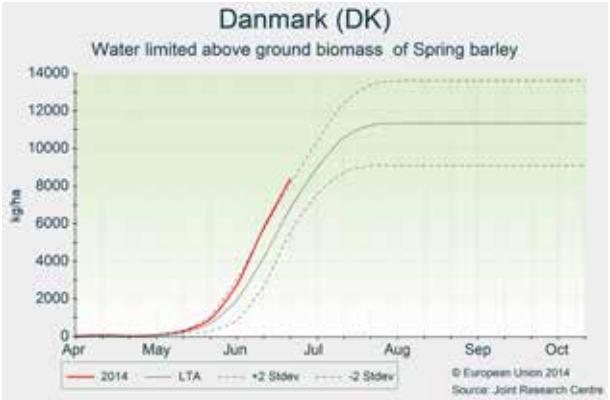
Denmark and Sweden

Good prospects for winter and spring crops

Good weather conditions continue to provide favourable conditions for crop growth in the most important agricultural areas. The yield forecasts for winter and spring crops remain above or close to the average.

In June, weather conditions continued to be warmer than usual in Denmark and Sodra Sverige, while average temperatures were slightly below the long-term average in Ostra Sverige and in the western part of Norra Sverige. During the first half of July, warmer-than-usual conditions prevailed over all regions, reaching daily mean values that were up to 4 - 6°C above the average in northern Sweden. During the period of analysis, rainfall was around or slightly above average in agricultural areas, with cumulated values of more than 100 mm in central Denmark and southern Sweden. Winter crops are in general at the end of the grain-filling stage, while ripening is starting locally in Denmark and Sodra Sverige, thus presenting a significantly advanced development. According to our models, winter crops show above-average cumulated biomass and storage organs, so the yield forecasts remain above average. Favourable growth conditions and simulated crop indicators also suggest a generally positive outlook for spring crops. The yield forecast for these spring crops is above or slightly above the average of the past five years.





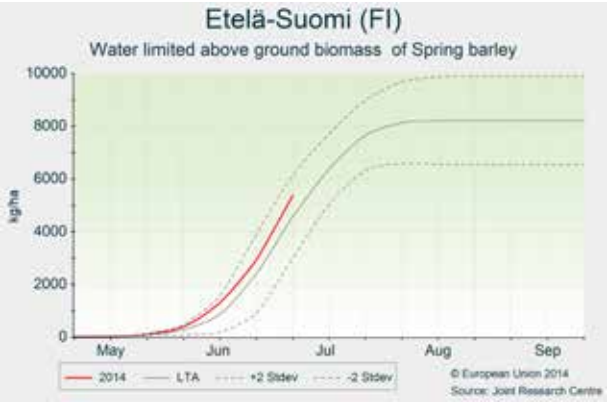
Finland, Lithuania, Latvia and Estonia

Yield perspectives remain good for most spring and winter crops

This period was characterised by large temperature fluctuations, with the second half of June being one of the coldest on record. Rainfall levels were near average throughout the region, but greater than usual in Estonia. While this led to a slowing down in crop development, overall crop development remains advanced or close to average.

The weather during the period analysed was characterised by large fluctuations: warm conditions during the first dekad of June were followed by lower-than-average temperatures until the end of June, and temperatures rose again in early July. The lengthy cold spell brought temperatures that were about 5°C below the long-term average, so overall average temperatures were slightly lower than the long-term values. Precipitation was near average throughout the region, with the exception of Estonia, where cumulated rainfall levels were almost 30 mm higher than average. Solar radiation was generally below average, particularly in southern Finland, Latvia and Lithuania.

According to our model, winter rapeseed reached maturity earlier than usual, and shows good yield potential. Yield prospects are also good for other winter crops aside from rye which, as it is more vulnerable to excessive soil moisture, presents reduced crop indicators. Spring barley is in the grain-filling stage, and simulated growth indicators are above average in all countries concerned. Yield forecasts for spring soft wheat have been clearly revised downwards in Finland and Estonia, where low cumulated solar radiation and cold weather conditions in June during the flowering stage negatively affected crop production. Good conditions prevail for potato crops, which have started their yield formation stage, and for which cumulated biomass is above the seasonal values in all countries concerned.



Belgium, the Netherlands and Luxembourg

Continued favourable outlook for Belgium and the Netherlands

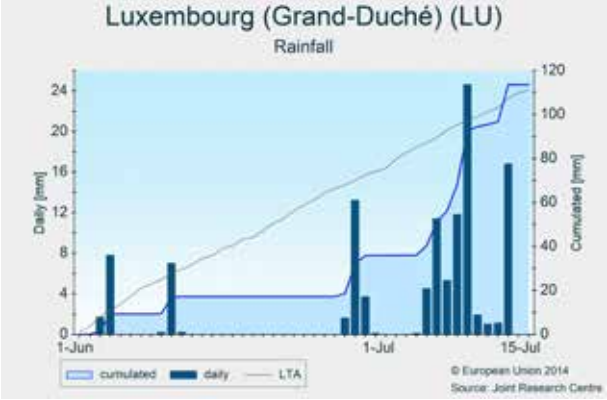
Moderate temperatures and high radiation levels led to generally favourable crop conditions. Abundant rainfall in July benefited spring and summer crops, but hampered the early harvesting of winter cereals and raised concerns regarding grain quality.

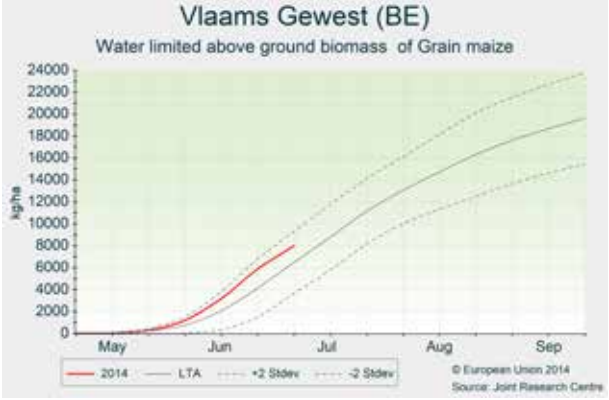
Temperatures were around average in most of the Benelux region concerning the review period as a whole (1 June – 15 July). Particularly warm conditions were experienced between 7 and 10 June, and on a few isolated days during the first dekad of July. Daily maxima generally remained below 30°C, except in Luxembourg were the maximum temperature reached 32°C on 9 June. Rainfall levels, which were concentrated in the first half of July, were above average in Luxembourg, Belgium and the southernmost parts of the Netherlands. Rainfall was below-average (but more uniformly distributed) in the remaining parts of the Netherlands, most markedly in the coastal regions. Solar radiation levels were above average, especially in the northern Netherlands and Luxembourg, and particularly until the first week of July.

These weather conditions had mixed effects on different crops in different regions. The fairly high radiation levels and moderate temperatures were generally favourable to all crops, and promoted photosynthesis while preventing a shortening of the grain-filling stage and the premature ripening of winter crops. The long dry period in June had little or no negative effect on crop growth in most areas, as soil water levels were generally sufficient thanks to the abundant rains in May and early June. The dry period did have an impact, however, in Luxembourg and its neighbouring areas in Belgium which were already water stressed (as reported in the previous Bulletin),

as well as on crops on light-textured soils. The abundant rains in July replenished the soil water levels under summer crops and boosted yield formation where winter crops were still in the grain-filling phase. In many areas, however, especially in the south, winter crops were already ripening or even ready for harvest. In those cases, prolonged heavy rains would have affected grain quality and could locally have caused harvest losses (e.g. due to lodging).

On balance, yield forecasts were revised slightly upwards for most spring and summer crops. The forecast for soft wheat remains practically unaltered for Belgium, and was revised slightly upward for the Netherlands. For Luxembourg, the forecast was revised slightly downwards.



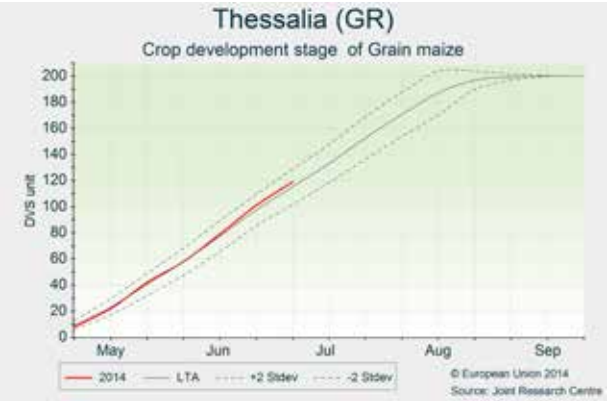


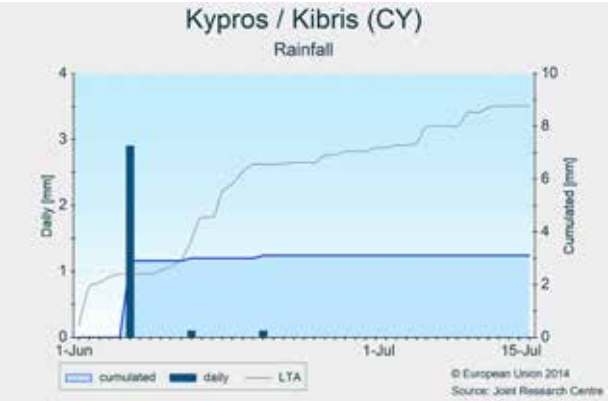
Greece and Cyprus

Good yields for winter cereals in Greece; low yields in Cyprus

The harvesting of winter cereals in Greece is almost complete, with good yields being recorded. Weather conditions are favourable for spring crops, including grain maize, which is around the flowering stage. In Cyprus, poor yields are recorded due to a prolonged drought.

Temperatures in June and July fluctuated above the long-term average in central-southern Greece, while they were around average in the northern areas. Very high temperatures were recorded in central-southern Greece (e.g. *Thessaly, Sterea Ellada, Attica*) between 25 and 27 June, and on 26 June the maximum daily temperature was near or even above 40°C. Another three-day period of high temperatures occurred from 7 to 9 July, reaching 38-39°C locally. Significant precipitation occurred in most of the country during the first half of June, significantly replenishing soil moisture levels. However, hail also occurred in several agricultural areas during this period (e.g. *Korinthos, Karditsa, Larissa*), locally causing damage to crops. The frequency of rainy days gradually decreased, and some areas received little or no rainfall since mid-June, especially in the central-southern parts of the country (*Thessaly, Sterea Ellada, Attica*). A significant exception is eastern *Macedonia* and *Thrace*, where rains continued throughout June and some days during the first half of July. The harvesting of winter cereals is almost complete, and good yields are reported. Fungal disease, which was mentioned as a cause for concern in the previous bulletin, was confined locally, with low to moderate impact. Grain maize is around the flowering stage and is progressing well, as are other spring crops; given also





the fact that most of these areas are irrigated. Exceptions occurred, as mentioned, in areas that experienced significant hail damage.

In Cyprus, drought conditions are becoming further aggravated as temperatures have been above average and almost no precipitation has been recorded since 1 June. The harvesting of winter barley has been completed but with very low yields.

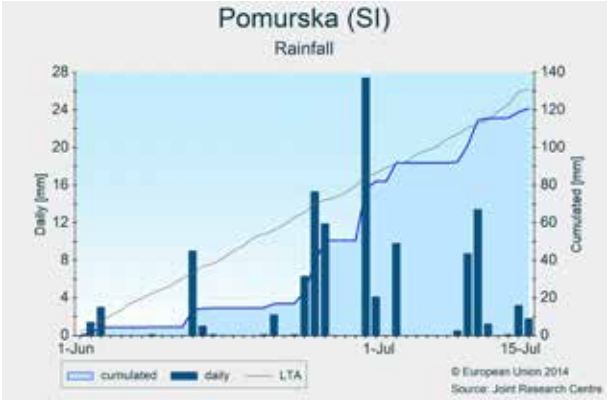
Slovenia and Croatia

Good conditions thanks to beneficial rainfall after hot and dry period

A heat wave and scarce rainfall during the first half of June was followed by a period of normal temperature and frequent rainfall, replenishing depleted soil moisture, which had started to affect summer crops in north-eastern Slovenia and northern Croatia. The harvesting of winter cereals is ongoing in Slovenia and is almost finished in Croatia. Below-average winter wheat yields are forecast for Croatia.

The first half of June was characterized by a heat wave, with maximum air temperatures above 30°C. Drier-than-usual weather conditions during the same period led to mild drought stress, especially for summer crops, over major agricultural areas of north-eastern Slovenia and northern Croatia. Frequent thunderstorms and showers in the middle of June ended the heat wave and partially replenished the soil water levels in these areas. Beneficial rainfall during the third dekad of June completely replenished the soil water deficit. The beginning of July was characterised by normal or slightly colder-than-usual conditions and frequent rainfall.

Harvesting started earlier than usual, as the development of winter cereals was strongly advanced due to the above-average thermal conditions this year. Rainy and humid weather, which occurred in some areas during the harvesting period, may have affected grain quality. The winter wheat yield forecast remains slightly below the five-year average for Slovenia, and was revised downwards for Croatia due to the excessively wet and warm weather conditions in May, which increased the incidence of disease, especially in eastern Croatia. Conditions are generally good for summer crops, especially after the beneficial rainfall of the end of June and beginning of July. Yield levels are forecast to be close to the five-year average. However, continued wet conditions could increase the incidence of disease.

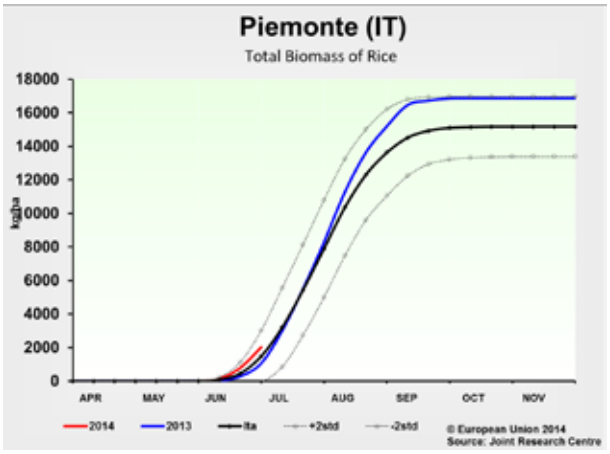


3.2 European Union - rice producers

Italy

Favourable yield outlook

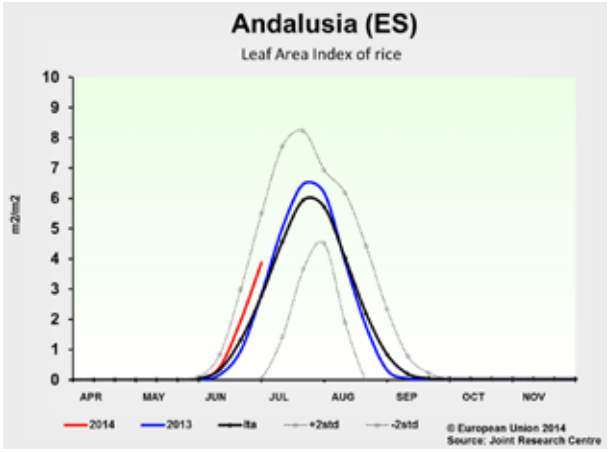
Since the start of the growing season, meteorological conditions have been favourable in the rice-producing areas in Italy, *Piemonte* and *Lombardia*. Cumulated active temperatures and global radiation are above the long-term average. Since April, well-distributed rainfall has ensured sufficient water supply. As confirmed by remote sensing analysis, the simulated leaf area index and biomass accumulation are above average, suggesting a generally favourable outlook. While heavy rainfall recorded at the end of June increased the risk of fungal infection, according to our model this has not affected cumulated biomass. Therefore, the yield forecast was set close to the five-year average.



Spain

Low infection risk and favourable yield outlook

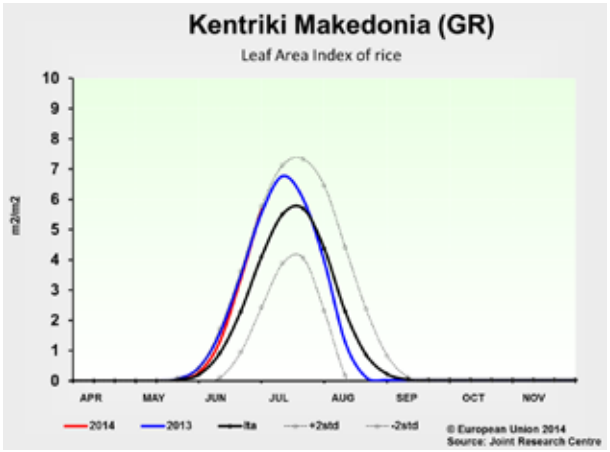
Cumulated active temperature and global radiation are exceptionally high in *Andalucia*, and above the long-term average in other rice-producing areas of Spain: *Cataluña*, *Valencia*, and *Extremadura*. Simulated NDVI values and leaf area indices indicate good canopy development, leading to expectations of high biomass accumulation. According to the model simulations, the risk of fungal infection is very low due to the sparse precipitation accumulated across the country. Therefore, the forecast is above the five-year average for the current season.



Greece

Positive yield outlook

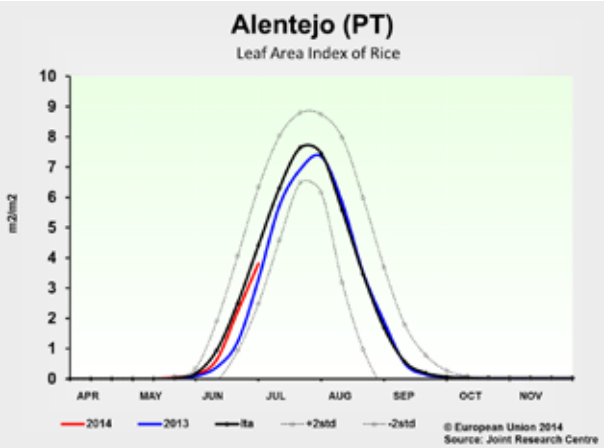
The growing season started with good meteorological conditions: near-average temperatures and good levels of precipitation created favourable conditions for rapid canopy development and biomass production. A reduced risk of infection completed the good overall condition for the growing season to date. Hence, forecasted yields are close to the previous year and above the five-year average.



Portugal

Crop-growth conditions close to the average

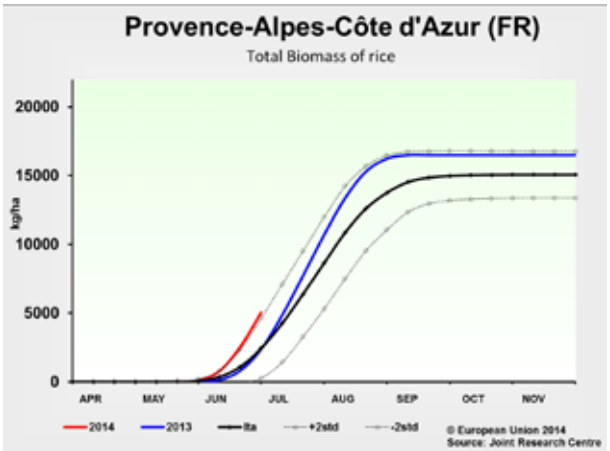
Sufficient water supply has been ensured by above-average cumulated rainfall until May and the well-distributed precipitation during the last two dekads of the period under review. Since the middle of May, thermal conditions were slightly below average, while cumulated global radiation remained above average. The simulated growth indicators are close or slightly below the average. The yield forecast is set close the average of the past five years.



France

Above-average yield forecast

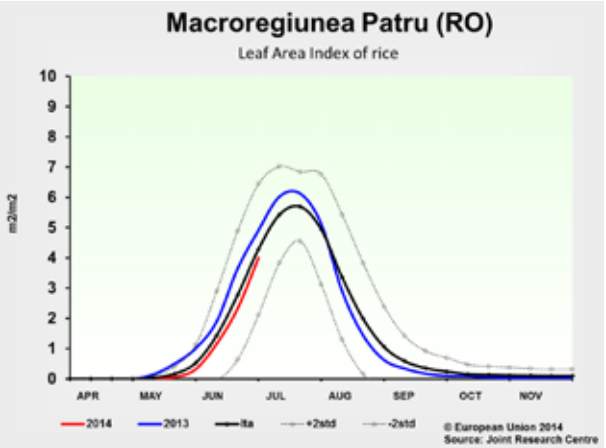
Meteorological conditions during the growing season were favourable in the main rice-producing areas in France (*Languedoc-Roussillon* and *Provence-Alpes-Côte d'Azur)*. The cumulated temperature is above average, and global radiation is the highest recorded in our database. Rainfall has been near average; consequently, the model predicts a limited risk of fungal infection. Model simulations confirm the overall good conditions, suggesting a good yield outlook. Hence, the yield forecast is set above the long-term average.



Romania

Abundant rain may increase the risk of fungal disease

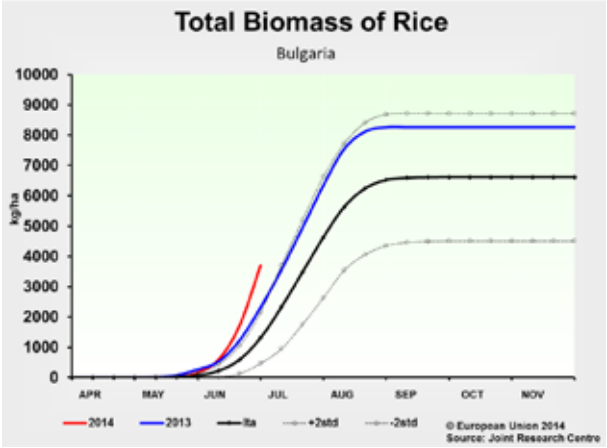
Favourable temperatures and abundant rainfall provided good conditions for crop growth and development at the start of the growing season, but cumulated radiation is low. Only a few days have been simulated to be at risk of fungal disease risk, so the total simulated biomass production and leaf area are close to the long-term average. However, likely incidences of blast may reduce the potential yield if humid conditions persist during the coming weeks. Therefore, the yield forecast is set close to the five-year average.



Bulgaria

Good scenario for rice yields

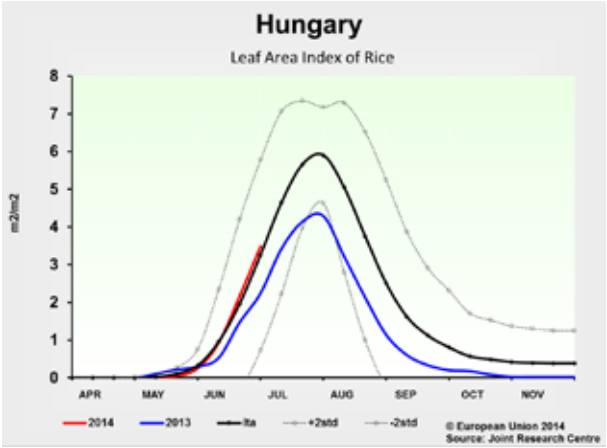
Favourable temperatures and abundant rainfall during the start of the rice season set a promising scenario for optimal crop growth and development. This is also reflected in our model simulations, which show above-average leaf area development and biomass accumulation. Fungal infection risk has been low. The forecast is slightly above the five-year average.



Hungary

Average conditions

Overall, meteorological conditions in Hungary have been favourable, with temperatures around the average and abundant rainfall since the beginning of May. Model simulations suggest average crop development and leaf area development, depicting a good start to the season. Fungal infection risk has been low. Average yields are expected.



3.3 Black Sea Area

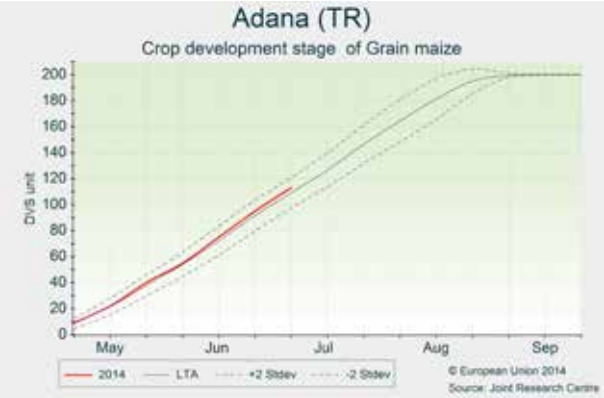
Turkey

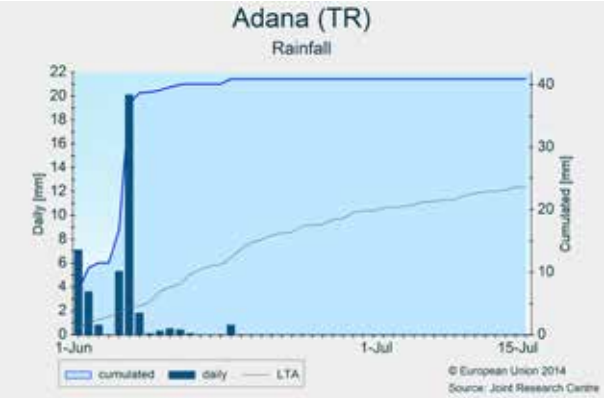
Low yields confirmed for winter cereals

The harvesting of winter cereals has almost been completed, with yields less than the five-year average due to the dry conditions that prevailed during most of the growing season. Grain maize is progressing well, benefiting from precipitation that fell during the first half of June.

During the first half of June, temperatures were close to the long-term average, and were below average in some areas (e.g. *Ege*, *Akdeniz*). Since then, temperatures mainly fluctuated above the long-term average. Temperatures exceeding 40°C were observed in *Guneydogu Anadolu* on 2 and 12 July. The first half of June was characterised by several rainy days, with particularly beneficial rainfall levels in western Turkey (e.g. *Bati Marmara*, *Dogu Marmara*, *Ege*). However, rainfall was insufficient in southern and eastern areas (e.g. *Guneydogu Anadolu* and *Ortadogu Anadolu*), where the levels of cumulated rainfall remain below average. Rainfall was scarce throughout the country during the second half of June and the first half of July, with areas such as Sanliurfa and Adana receiving no rain at all.

The harvesting of winter barley and winter wheat is close to completion, and low yields are confirmed. Despite the initial concerns about water limitation, grain maize is progressing well thanks to the beneficial rains in May and the first half of June, and is currently passing from the flowering to the grain-filling development stage. Winter cereal yields are forecast to be lower than the five-year average due to the drought conditions in previous months. Grain maize yield is forecast to be above the five-year average.





Ukraine

High yields expected for wheat and barley

Meteorological conditions are optimal, and cereal yields are expected to reach nearly the same levels as last year. Political and economic conditions continue to generate much uncertainty, as prices of fuel and inputs continue to rise.

The first half of June was slightly warmer than average, with maximum temperatures reaching 32°C in eastern regions on three days. After mid-June, temperatures remained slightly below or close to the average, but have been rising since 8

July, and maximum temperatures reached 33°C on 12 July in regions surrounding the Sea of Azov. There were contrasts in precipitation between the eastern and western regions. The western part of the Dnieper had only scarce rainfall in June, while local showers were observed between 8 July and 12 July. By contrast, substantial rainfall was observed in the eastern regions in June. Overall, conditions for winter and spring cereals are optimal considering that no extreme temperatures were recorded, and crops benefited from the substantial rainfall during the flowering and grain-filling stages in the most productive regions. Winter and spring cereals are now reaching maturity, and harvests are already starting. According to our model, grain maize is flowering and the latest rain showers observed will be beneficial. Grain maize yields are forecast to be higher than the five-year average, but this is still very dependent on the meteorological conditions during the rest of the summer. The political and economic conditions generate additional uncertainty; increasing inflation may hamper farm activities as fertilisers, pesticides and fuel prices rise.

3.4 European Russia and Belarus

European Russia

Delayed harvest, but good yield outlook

Near-average thermal conditions were experienced in European Russia during the period of review. In June, precipitation was abundant in several regions, replenishing the soil moisture but also delaying the harvest in southern districts. As our crop model simulations predominantly indicate ample biomass accumulation and adequate soil moisture for winter and spring cereals, above-average yields are forecast.

European Russia was characterised by very warm weather conditions in the first dekad of June, with a thermal anomaly of 3-8°C. Later in June, daily temperatures typically fluctuated near or below the average. From the beginning of July, temperatures rose in the southern and North Caucasian Okrugs, and above-average temperatures became dominant again.

Rainfall presented high spatial and temporal variability. Precipitation mostly remained below average in early June, but rainfall was abundant in mid-June in the southern and eastern regions, and in the last dekad of June in the central and northern areas. The precipitation tendency decreased considerably in July.

Crop development of both winter and spring cereals is advanced by one to three weeks in the main production districts, although this advance is less pronounced towards the east and north. Winter wheat reached maturity in several areas of the North Caucasian and Southern Okrugs in mid- or late June, but the harvest was hampered by wet conditions due to abundant rainfall. Weather conditions became drier and warmer in July, allowing for the acceleration of the harvest. In the Central and Near Volga Okrugs, winter cereals are in the late grain-filling or ripening stages, and harvesting has start locally.

Soil moisture under maize, spring barley and winter wheat (in areas where grain filling is still ongoing) is mostly average or above average due to the significant rains of June. Simulations of biomass accumulation and especially of the storage organ mass of winter wheat are higher than the long-

term average in the Chermozyem Belt and in the majority of the Southern and North Caucasian Okrugs. Expectations for winter wheat and spring barley yield are considerably above average. Satellite observations (METOP – fAPAR) confirm this favourable outlook.

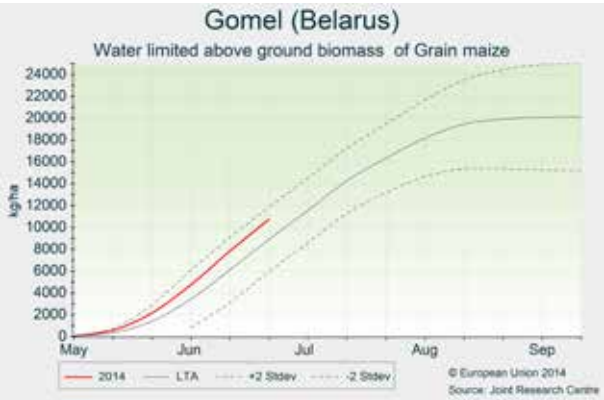
Belarus

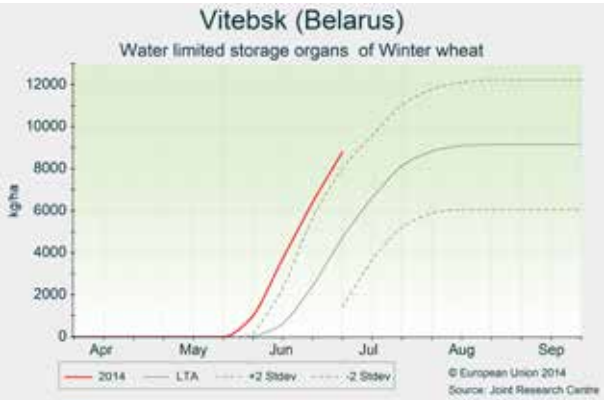
Crops benefit from good growing conditions

Temperatures and rainfall levels are near average. Yields are forecasted to be above the five-year average.

After the abundant rain that occurred in May, meteorological conditions were generally close to the average during the period analysed (1 June – 15 July). While temperatures were lower than usual in the second half of June, and higher than usual at the beginning of June and during first half of July, these fluctuations did not damage the crop yield potential. Rainfall was well distributed over time, and cumulated values were close to the average throughout the country.

According to our model simulations, winter wheat development is still about one dekad in advance, and water limited biomass and storage organs are above the long-term average. Consequently, the yield forecast for winter wheat is above the historical trend. Crop model and remote sensing indicators also outline a positive scenario for spring crops. Maize and spring barley benefit from early sowings and adequate soil water levels, so yields are foreseen to be above the five-year average.





3.5 Maghreb

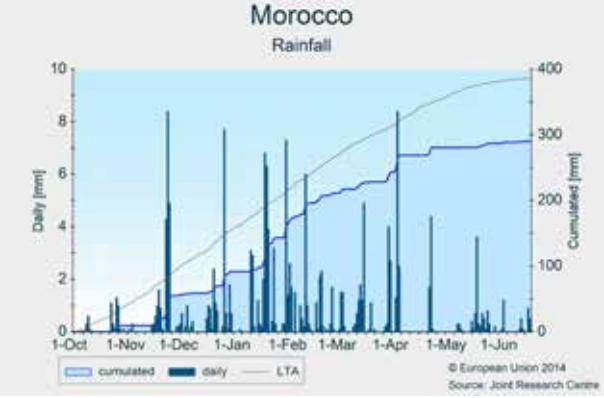
Morocco, Algeria and Tunisia

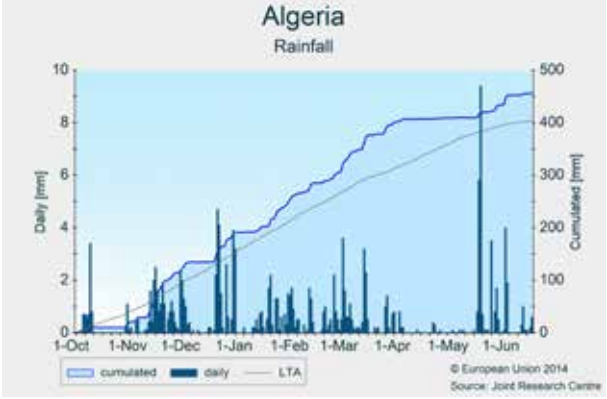
A dry season in Morocco, more positive conditions in Algeria and Tunisia

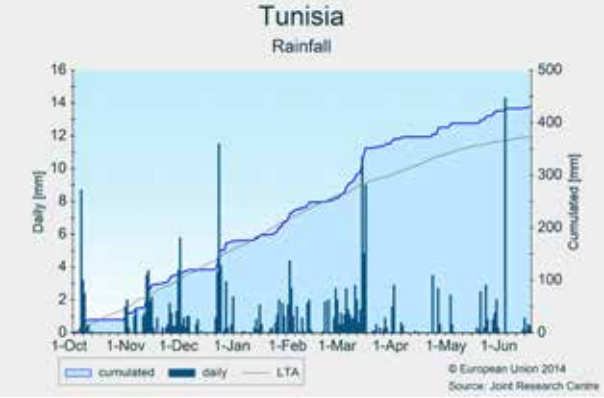
The rains that typically accompany the start of the agricultural season were delayed in Morocco. Whilst there was more rainfall from December to March, rainfall levels were substantially reduced from mid- to late March. The effect of this delayed start to the rainy season is reflected in the NDVI, which shows a much delayed 'green-up'. Biomass levels appear to recover after this (with higher values than the long-term average) but drop again, suggesting earlier and more rapid senescence than the long-term average. Grain growth was modelled to have stopped in mid-April due to the cessation of the rains. Seasonal cumulated rainfall is well below the long-term average, and yield prospects are not nearly as good as last year.

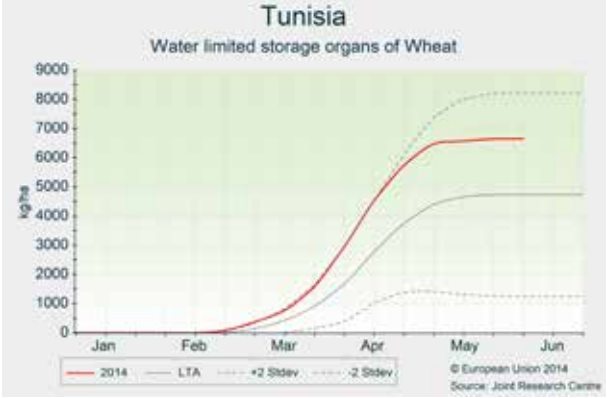
Algeria received much more rain than Morocco. Substantial rainfall occurred in early October, followed by considerably more rainfall than the long-term average from the middle of November. Rainfall levels dropped off during April, but total seasonal rainfall is well above average. Modelled grain filling started positively, but levelled off in April, probably influenced by the reduced April rainfall. Conditions over the crop campaign appear to suggest fairly good yield prospects.

Tunisia received good amounts of rain during this campaign, with consistent rainfall occurring throughout the season. The seasonal total rainfall is well above average, and the NDVI profile indicates good vegetative growth. Modelled soil moisture levels have consistently remained above the long-term average, and modelled grain growth has been exceptionally high. Generally speaking, yield prospects in Tunisia are good.









4. Crop yield forecasts

Country	TOTAL WHEAT t/ha					TOTAL BARLEY t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	5.59	**5.57**	5.33	-0.3	+4.5	4.85	**4.54**	4.49	-6.4	+1.2
AT	5.37	**5.47**	5.06	+1.7	+8.1	5.15	**5.13**	4.83	-0.3	+6.4
BE	8.93	**8.46**	8.74	-5.3	-3.2	8.58	**8.30**	8.52	-3.2	-2.5
BG	4.19	**4.19**	3.68	-0.2	+13.7	3.72	**4.09**	3.59	+9.8	+14.0
CY	-	**-**	-	-	-	1.44	**0.98**	1.69	-32.1	-42.0
CZ	5.67	**5.26**	5.23	-7.2	+0.7	4.57	**4.54**	4.35	-0.6	+4.4
DE	8.00	**7.74**	7.48	-3.2	+3.5	6.59	**6.43**	6.23	-2.4	+3.2
DK	7.28	**7.69**	7.14	+5.6	+7.7	5.77	**5.65**	5.54	-2.1	+2.0
EE	3.26	**3.08**	3.14	-5.4	-1.9	3.30	**3.16**	2.81	-4.3	+12.4
ES	3.58	**2.92**	3.05	-18.4	-4.1	3.63	**2.56**	2.81	-29.7	-9.1
FI	3.84	**3.58**	3.71	-6.8	-3.3	3.91	**3.50**	3.52	-10.5	-0.6
FR	7.25	**7.25**	7.02	-0.0	+3.3	6.30	**6.36**	6.42	+0.9	-0.9
GR	3.43	**3.45**	2.88	+0.6	+19.8	3.53	**3.59**	2.95	+1.6	+21.6
HR	4.89	**4.20**	4.81	-14.0	-12.6	3.78	**4.18**	4.09	+10.7	+2.2
HU	4.62	**4.53**	4.03	-2.0	+12.4	4.07	**4.15**	3.62	+1.9	+14.6
IE	8.97	**9.02**	8.53	+0.5	+5.7	7.49	**7.50**	7.05	+0.1	+6.5
IT	3.71	**3.62**	3.78	-2.5	-4.3	3.62	**3.55**	3.61	-2.2	-1.7
LT	4.30	**4.38**	4.03	+1.9	+8.7	3.27	**3.40**	3.04	+3.8	+11.6
LU	6.37	**5.63**	6.07	-11.6	-7.1	-	**-**	-	-	-
LV	3.89	**3.78**	3.68	-2.7	+2.8	2.73	**2.76**	2.65	+1.0	+4.1
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	8.72	**8.72**	8.74	-0.0	-0.3	6.95	**6.75**	6.41	-2.9	+5.3
PL	4.44	**4.38**	4.15	-1.3	+5.4	3.57	**3.59**	3.41	+0.8	+5.5
PT	1.71	**1.77**	1.43	+3.2	+24.0	1.69	**1.75**	1.54	+3.5	+13.7
RO	3.48	**3.50**	2.97	+0.8	+18.0	3.25	**3.16**	2.73	-2.7	+15.8
SE	5.78	**6.20**	5.77	+7.2	+7.5	4.62	**4.69**	4.46	+1.5	+5.1
SI	4.38	**4.40**	4.75	+0.3	-7.4	4.00	**4.03**	4.20	+0.8	-3.9
SK	4.58	**3.80**	4.00	-17.1	-5.1	3.93	**3.70**	3.43	-5.8	+8.1
UK	7.38	**8.13**	7.49	+10.1	+8.5	5.85	**5.81**	5.74	-0.7	+1.2

Country	SOFT WHEAT t/ha					DURUM WHEAT t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	5.81	**5.80**	5.57	-0.1	+4.2	3.35	**3.18**	3.22	-5.1	-1.3
AT	5.39	**5.50**	5.10	+2.1	+7.9	5.09	**4.75**	4.33	-6.6	+9.8
BE	8.93	**8.46**	8.74	-5.3	-3.2	-	**-**	-	-	-
BG	4.20	**4.19**	3.69	-0.2	+13.6	3.17	**3.77**	3.22	+19.0	+17.1
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	5.67	**5.26**	5.23	-7.2	+0.7	-	**-**	-	-	-
DE	8.00	**7.74**	7.48	-3.2	+3.5	-	**-**	-	-	-
DK	7.28	**7.69**	7.14	+5.6	+7.7	-	**-**	-	-	-
EE	3.26	**3.08**	3.14	-5.4	-1.9	-	**-**	-	-	-
ES	3.76	**3.03**	3.29	-19.4	-7.7	2.64	**2.35**	2.13	-11.2	+10.0
FI	3.84	**3.58**	3.71	-6.8	-3.3	-	**-**	-	-	-
FR	7.39	**7.39**	7.19	-0.0	+2.8	5.27	**5.01**	5.12	-5.0	-2.2
GR	3.44	**3.45**	3.10	+0.3	+11.4	3.42	**3.45**	2.80	+0.8	+23.2
HR	4.89	**4.20**	4.81	-14.0	-12.6	-	**-**	-	-	-
HU	4.63	**4.54**	4.03	-1.9	+12.5	4.43	**4.08**	3.84	-8.0	+6.3
IE	8.97	**9.02**	8.53	+0.5	+5.7	-	**-**	-	-	-
IT	5.22	**5.22**	5.34	-0.1	-2.2	2.97	**2.86**	3.08	-3.9	-7.2
LT	4.30	**4.38**	4.03	+1.9	+8.7	-	**-**	-	-	-
LU	6.37	**5.63**	6.07	-11.6	-7.1	-	**-**	-	-	-
LV	3.89	**3.78**	3.68	-2.7	+2.8	-	**-**	-	-	-
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	8.72	**8.72**	8.74	-0.0	-0.3	-	**-**	-	-	-
PL	4.44	**4.38**	4.15	-1.3	+5.4	-	**-**	-	-	-
PT	1.71	**1.77**	1.43	+3.2	+24.0	-	**-**	-	-	-
RO	3.48	**3.50**	2.97	+0.8	+18.0	-	**-**	-	-	-
SE	5.78	**6.20**	5.77	+7.2	+7.5	-	**-**	-	-	-
SI	4.38	**4.40**	4.75	+0.3	-7.4	-	**-**	-	-	-
SK	4.58	**3.79**	4.00	-17.3	-5.4	4.68	**4.16**	3.95	-11.0	+5.4
UK	7.38	**8.13**	7.49	+10.1	+8.5	-	**-**	-	-	-

Country	SPRING BARLEY t/ha					WINTER BARLEY t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	4.43	**3.90**	3.94	-12.0	-1.0	5.50	**5.46**	5.31	-0.8	+2.9
AT	4.38	**4.33**	4.03	-1.1	+7.5	5.77	**5.78**	5.59	+0.1	+3.3
BE	-	**-**	-	-	-	8.58	**8.30**	8.52	-3.2	-2.5
BG	-	**-**	-	-	-	3.72	**4.09**	3.59	+9.8	+14.0
CY	-	**-**	-	-	-	1.44	**0.98**	1.69	-32.1	-42.0
CZ	4.61	**4.55**	4.29	-1.3	+6.2	4.47	**4.52**	4.51	+1.2	+0.3
DE	5.41	**5.23**	5.25	-3.5	-0.4	6.93	**6.74**	6.56	-2.8	+2.7
DK	5.68	**5.54**	5.43	-2.5	+2.1	6.26	**6.10**	6.01	-2.6	+1.5
EE	3.30	**3.16**	2.81	-4.3	+12.4	-	**-**	-	-	-
ES	3.70	**2.56**	2.87	-30.7	-10.8	3.21	**2.50**	2.45	-22.2	+1.8
FI	3.91	**3.50**	3.52	-10.5	-0.6	-	**-**	-	-	-
FR	6.08	**5.96**	6.18	-2.0	-3.7	6.40	**6.53**	6.52	+1.9	+0.1
GR	-	**-**	-	-	-	3.53	**3.59**	2.95	+1.6	+21.6
HR	-	**-**	-	-	-	3.78	**4.18**	4.09	+10.7	+2.2
HU	2.98	**3.60**	3.09	+20.6	+16.3	4.48	**4.39**	3.91	-2.1	+12.0
IE	7.10	**7.16**	6.71	+0.9	+6.7	9.51	**8.64**	8.73	-9.2	-1.1
IT	-	**-**	-	-	-	3.62	**3.55**	3.61	-2.2	-1.7
LT	3.27	**3.40**	3.04	+3.8	+11.6	-	**-**	-	-	-
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	2.73	**2.76**	2.65	+1.0	+4.1	-	**-**	-	-	-
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	6.95	**6.75**	6.41	-2.9	+5.3	-	**-**	-	-	-
PL	3.39	**3.43**	3.26	+1.2	+5.2	4.06	**4.14**	3.98	+1.9	+3.9
PT	-	**-**	-	-	-	1.69	**1.75**	1.54	+3.5	+13.7
RO	2.34	**2.42**	1.96	+3.6	+23.9	3.64	**3.47**	3.13	-4.5	+10.9
SE	4.58	**4.64**	4.42	+1.4	+4.9	5.74	**5.83**	5.31	+1.7	+9.8
SI	-	**-**	-	-	-	4.00	**4.03**	4.20	+0.8	-3.9
SK	3.88	**3.67**	3.40	-5.4	+8.1	4.20	**3.81**	3.66	-9.4	+4.0
UK	5.66	**5.45**	5.39	-3.6	+1.2	6.40	**6.49**	6.38	+1.5	+1.8

Country	GRAIN MAIZE t/ha					RYE t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	6.72	**7.23**	6.78	+7.5	+6.6	3.98	**3.70**	3.46	-7.1	+6.7
AT	8.12	**10.66**	10.10	+31.3	+5.5	4.18	**4.37**	4.04	+4.4	+7.9
BE	11.15	**11.86**	11.29	+6.4	+5.0	-	**-**	-	-	-
BG	6.39	**6.76**	5.12	+5.8	+32.1	1.88	**1.99**	1.76	+6.0	+13.1
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	6.97	**7.82**	7.75	+12.2	+0.9	4.65	**5.24**	4.55	+12.7	+15.1
DE	8.83	**9.94**	9.75	+12.6	+2.0	5.98	**5.58**	5.24	-6.7	+6.5
DK	5.86	**5.98**	5.49	+2.1	+9.0	6.14	**5.69**	5.58	-7.2	+2.0
EE	-	**-**	-	-	-	1.89	**2.37**	2.52	+25.4	-6.2
ES	11.01	**10.97**	10.68	-0.4	+2.7	2.47	**2.07**	1.95	-16.4	+5.8
FI	-	**-**	-	-	-	2.20	**2.60**	2.68	+18.4	-3.1
FR	8.14	**9.34**	8.99	+14.8	+3.9	4.38	**4.88**	4.84	+11.3	+0.8
GR	11.50	**11.28**	11.01	-1.9	+2.4	1.80	**2.18**	2.03	+20.8	+7.4
HR	6.50	**6.51**	5.94	+0.2	+9.6	-	**-**	-	-	-
HU	5.36	**6.09**	5.65	+13.5	+7.8	3.05	**2.79**	2.29	-8.5	+22.0
IE	-	**-**	-	-	-	-	**-**	-	-	-
IT	8.05	**8.93**	8.85	+11.0	+0.9	-	**-**	-	-	-
LT	7.36	**7.10**	6.65	-3.6	+6.7	1.96	**2.29**	2.27	+17.3	+1.1
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	2.67	**2.75**	2.70	+3.1	+2.0
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	11.52	**12.00**	11.58	+4.1	+3.6	-	**-**	-	-	-
PL	6.58	**6.55**	6.40	-0.4	+2.3	2.86	**2.82**	2.62	-1.3	+7.7
PT	8.31	**8.40**	7.70	+1.2	+9.2	0.90	**0.95**	0.87	+5.9	+9.8
RO	4.41	**4.10**	3.56	-7.1	+15.0	-	**-**	-	-	-
SE	-	**-**	-	-	-	5.67	**6.12**	5.65	+7.9	+8.2
SI	5.66	**7.29**	7.53	+28.8	-3.1	-	**-**	-	-	-
SK	5.07	**6.75**	5.94	+33.0	+13.6	3.86	**2.87**	3.10	-25.8	-7.6
UK	-	**-**	-	-	-	-	**-**	-	-	-

Country	TRITICALE t/ha					RAPE AND TURNIP RAPE t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	4.29	**4.28**	4.07	-0.2	+5.1	3.11	**3.32**	3.07	+6.9	+8.4
AT	4.98	**5.05**	4.97	+1.4	+1.6	3.39	**2.72**	3.12	-19.8	-12.8
BE	-	**-**	-	-	-	4.26	**4.31**	4.22	+1.3	+2.1
BG	2.82	**3.31**	2.76	+17.0	+19.7	2.54	**2.61**	2.37	+2.8	+10.4
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	4.58	**4.51**	4.33	-1.4	+4.3	3.45	**2.95**	3.03	-14.4	-2.8
DE	6.57	**6.39**	5.94	-2.8	+7.5	3.95	**4.17**	3.77	+5.7	+10.7
DK	5.71	**5.45**	5.14	-4.7	+5.9	3.87	**3.88**	3.68	+0.1	+5.3
EE	-	**-**	-	-	-	2.02	**2.01**	1.71	-0.3	+17.7
ES	2.79	**2.30**	2.26	-17.7	+2.0	2.56	**1.87**	2.04	-27.0	-8.3
FI	-	**-**	-	-	-	1.52	**1.37**	1.43	-9.8	-3.9
FR	5.31	**5.42**	5.39	+2.0	+0.6	3.04	**3.45**	3.39	+13.4	+1.6
GR	-	**-**	-	-	-	-	**-**	-	-	-
HR	3.40	**3.00**	3.64	-11.6	-17.4	2.66	**2.70**	2.62	+1.4	+3.0
HU	3.87	**3.68**	3.27	-4.9	+12.5	2.60	**2.67**	2.31	+2.3	+15.2
IE	-	**-**	-	-	-	3.53	**3.55**	3.48	+0.6	+1.8
IT	-	**-**	-	-	-	2.17	**2.27**	2.26	+4.3	+0.2
LT	3.13	**3.31**	3.00	+5.4	+10.1	2.13	**2.22**	2.06	+4.4	+7.9
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	2.60	**3.06**	2.72	+17.9	+12.4	2.36	**2.11**	2.18	-10.5	-3.2
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	-	**-**	-	-	-	-	**-**	-	-	-
PL	3.63	**3.67**	3.44	+1.1	+6.9	2.80	**3.02**	2.69	+7.8	+12.0
PT	1.55	**1.45**	1.21	-6.8	+19.2	-	**-**	-	-	-
RO	3.66	**3.61**	3.18	-1.3	+13.7	2.42	**2.47**	1.86	+2.1	+32.7
SE	4.90	**5.36**	4.82	+9.2	+11.1	2.65	**2.91**	2.76	+10.0	+5.7
SI	-	**-**	-	-	-	-	**-**	-	-	-
SK	3.35	**2.92**	3.06	-12.8	-4.6	2.74	**2.24**	2.27	-18.2	-1.2
UK	3.75	**4.14**	3.90	+10.4	+6.1	2.98	**3.81**	3.43	+28.1	+11.4

Country	SUGAR BEETS t/ha					POTATO t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	68.14	**72.59**	69.53	+6.5	+4.4	31.06	**32.62**	30.70	+5.0	+6.2
AT	68.16	**72.00**	69.07	+5.6	+4.2	28.59	**33.24**	31.65	+16.3	+5.0
BE	74.07	**76.59**	76.30	+3.4	+0.4	46.15	**45.46**	44.97	-1.5	+1.1
BG	-	**-**	-	-	-	15.69	**14.97**	14.86	-4.6	+0.8
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	60.00	**64.03**	59.66	+6.7	+7.3	23.12	**29.19**	26.68	+26.3	+9.4
DE	63.88	**69.58**	68.06	+8.9	+2.2	39.83	**44.53**	42.95	+11.8	+3.7
DK	60.52	**63.07**	60.76	+4.2	+3.8	40.00	**40.88**	39.59	+2.2	+3.3
EE	-	**-**	-	-	-	-	**-**	-	-	-
ES	89.85	**88.65**	83.93	-1.3	+5.6	30.49	**29.43**	30.17	-3.5	-2.5
FI	38.78	**37.58**	36.19	-3.1	+3.9	27.56	**26.01**	26.03	-5.6	-0.1
FR	85.40	**91.58**	88.10	+7.2	+4.0	43.39	**44.34**	43.16	+2.2	+2.7
GR	-	**-**	-	-	-	25.36	**26.05**	25.69	+2.7	+1.4
HR	52.00	**58.60**	48.91	+12.7	+19.8	-	**-**	-	-	-
HU	47.00	**57.30**	**50.36**	+21.9	+13.8	21.83	**25.32**	23.66	+16.0	+7.0
IE	-	**-**	-	-	-	34.00	**31.98**	31.41	-5.9	+1.8
IT	53.25	**55.46**	56.21	+4.1	-1.3	25.60	**24.98**	24.78	-2.4	+0.8
LT	51.00	**53.15**	48.69	+4.2	+9.2	18.00	**17.54**	15.80	-2.6	+11.0
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	19.00	**18.84**	17.40	-0.9	+8.2
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	76.00	**80.44**	77.43	+5.8	+3.9	41.50	**45.93**	44.13	+10.7	+4.1
PL	52.90	**56.70**	52.08	+7.2	+8.9	21.40	**22.18**	20.55	+3.6	+7.9
PT	-	**-**	-	-	-	18.00	**17.71**	16.39	-1.6	+8.1
RO	32.28	**39.20**	33.60	+21.4	+16.7	15.03	**15.12**	14.47	+0.6	+4.4
SE	64.20	**58.96**	59.07	-8.2	-0.2	33.79	**33.71**	31.93	-0.2	+5.6
SI	-	**-**	-	-	-	-	**-**	-	-	-
SK	-	**-**	-	-	-	-	**-**	-	-	-
UK	68.40	**71.27**	68.03	+4.2	+4.8	40.10	**42.47**	41.07	+5.9	+3.4

Country	SUNFLOWER t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	2.02	**1.98**	1.86	-1.7	+6.6
AT	2.35	**2.71**	2.58	+15.4	+5.4
BE	-	**-**	-	-	-
BG	2.40	**2.43**	2.05	+1.1	+18.5
CY	-	**-**	-	-	-
CZ	2.20	**2.59**	2.38	+17.7	+8.8
DE	2.11	**2.40**	2.20	+13.9	+9.2
DK	-	**-**	-	-	-
EE	-	**-**	-	-	-
ES	1.21	**1.00**	1.11	-17.5	-10.0
FI	-	**-**	-	-	-
FR	2.05	**2.36**	2.32	+14.9	+1.7
GR	2.54	**2.26**	2.19	-11.1	+3.1
HR	3.24	**2.41**	2.65	-25.7	-9.2
HU	2.48	**2.34**	**2.25**	-5.3	+4.1
IE	-	**-**	-	-	-
IT	2.09	**2.15**	2.11	+2.9	+1.8
LT	-	**-**	-	-	-
LU	-	**-**	-	-	-
LV	-	**-**	-	-	-
MT	-	**-**	-	-	-
NL	-	**-**	-	-	-
PL	-	**-**	-	-	-
PT	0.64	**0.59**	0.56	-8.3	+4.6
RO	2.00	**1.94**	1.65	-3.1	+17.6
SE	-	**-**	-	-	-
SI	-	**-**	-	-	-
SK	2.33	**2.36**	2.17	+1.3	+8.7
UK	-	**-**	-	-	-

Country	RICE (t/ha)				
	2013	MARS 2014 forecasts	Avg 5yrs	%14/13	%14/5yrs
EU28	7.18	**6.75**	6.73	-6.0	+0.4
BG	5.50	**5.58**	5.35	+1.5	+4.4
ES	7.70	**7.69**	7.58	-0.1	+1.5
FR	4.05	**5.75**	5.36	+42.0	+7.2
GR	7.77	**7.71**	7.32	-0.8	+5.4
HU	3.67	**4.05**	3.84	+10.4	+5.6
IT	7.59	**6.56**	6.65	-13.6	-1.3
PT	5.70	**5.76**	5.82	+1.1	-1.0
RO	4.80	**5.06**	5.13	+5.5	-1.2

Notes: Yields are forecast for crops with more than 10000 ha per country

Sources: 2009-2014 data come from DG AGRICULTURE short term Outlook data (dated June 2014, received on 30/06/2014), EUROSTAT Eurobase (last update: 02/07/2014) and EES (last update: 13/05/2014)
2014 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 10/07/2014)

Country	WHEAT (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
BY	3.33*	**3.66**	3.31	10.03	+10.8
DZ	1.72*	**1.69**	1.62	-1.53	+4.4
MA	2.10*	**1.71**	1.75	-22.76	-2.3
TN	1.55*	**2.09**	1.92	34.71	+8.6
TR	2.78	**2.52**	2.63	-9.46	-4.3
UA	3.39	**3.47**	3.08	2.21	+12.7

Country	BARLEY (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
BY	3.09	**3.29**	3.12	6.54	+5.3
DZ	1.65*	**1.42**	1.53	-14.12	-7.1
MA	1.24*	**1.16**	1.27	-6.45	-8.6
TN	0.94*	**1.41**	1.24	50.32	+13.5
TR	2.89	**2.47**	2.58	-14.71	-4.6
UA	2.34	**2.43**	2.25	3.97	+8.1

Country	GRAIN MAIZE (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
BY	6.00*	**5.77**	5.64	-3.92	+2.1
DZ	-	**-**	-	-	-
MA	-	**-**	-	-	-
TN	-	**-**	-	-	-
TR	8.95	**8.10**	7.62	-9.50	+6.4
UA	6.4	**5.81**	5.56	-9.23	+4.6

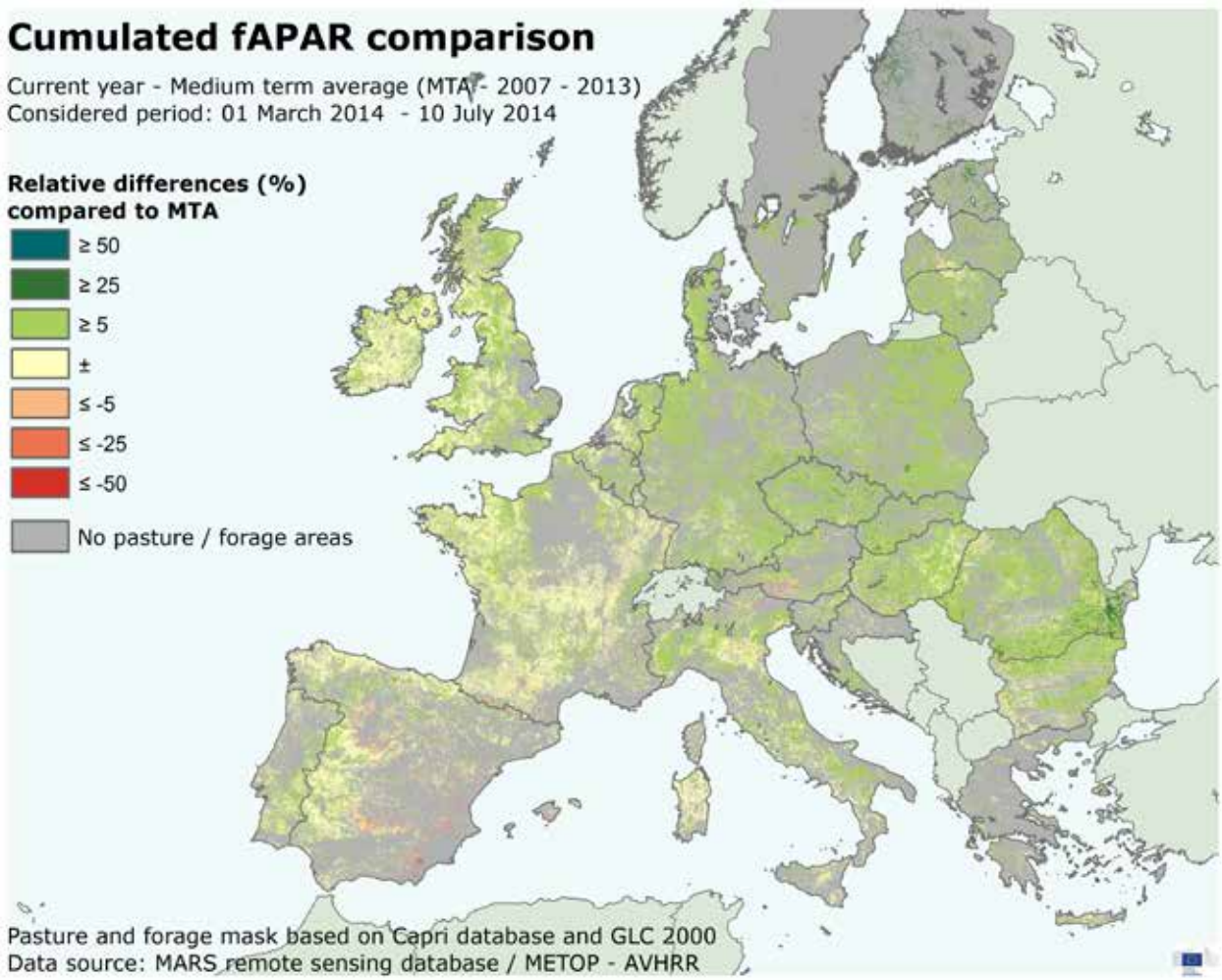
Notes: Yields are forecast for crops with more than 10000 ha per country

Sources: 2009-2013 data come from FAO, PSD-online, INRA Maroc, MinAGRI Tunisia and DSASI Algeria
*2013 yields come from MARS CROP YIELD FORECASTING SYSTEM as reported values were not available
2014 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 10/07/2014;
for DZ, MA and TN CGMS output was used up to 10/06/2014 as the season has finished)

5. Pastures in Europe - Remote sensing monitoring update

Favourable conditions in the north, growth concerns in Hungary and central Europe

Abundant precipitation and seasonal temperatures favour biomass production in northern Europe and Italy. By contrast, dry and hot weather conditions are starting to affect growth in some areas of central Europe and Hungary.



In **Spain** and **Portugal**, pastures in the Dehesa area are completing their growth cycle. Senescence has occurred substantially faster than usual as a consequence of the warm temperatures registered in May. Overall, the season has been positive, as abundant rainfall in early spring helped biomass production to reach satisfactory levels. In the Cantabrian basin, the yield outlook remains above average, although rain has been sparse and temperatures warmer than usual in April, leading to a slight decrease in biomass formation. Yield expectations are quite positive in northern **Italy**. Fodder maize is about to reach the flowering stages under very favourable weather conditions, as the current season has been one of the most humid of the past decades. In central and southern regions, mild temperatures and sufficient precipitation have led to above-average growth of grasslands.

Pasture growth in northwestern regions of **France** is above average, favoured by the mild temperatures registered in June and the high soil moisture levels after the rainy spring. The outlook is also positive in central regions (*Limousin*, *Auvergne*), where the rainfall that occurred from the second half of June will benefit grassland growth in the coming weeks. By contrast, biomass formation, which is currently below average, is limited by the high temperatures and scarcity of rain registered during spring in the south and, especially, the north-east.

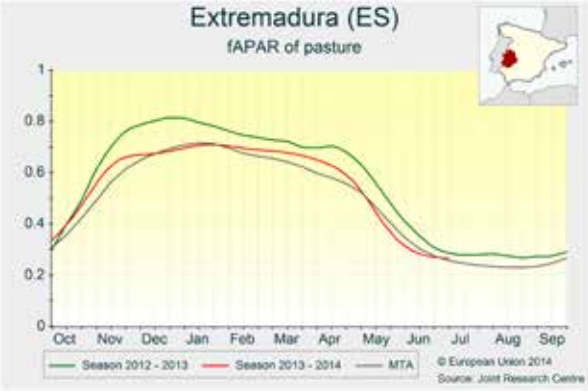
Weather conditions in the **UK** and **Ireland** were characterised by abundant rainfall and warmer-than-usual temperatures during most of the growing season. In June, temperatures remained warm, and rainfall levels were slightly lower than usual. These conditions depict a rather favourable scenario for pasture growth, as current soil moisture levels are sufficient to support biomass growth in July and August.

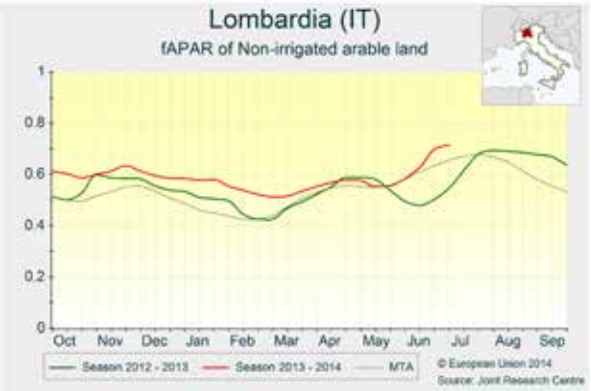
In the northern half of **Germany**, the outlook is positive for the rest of summer. The abundant precipitation registered in the first weeks of July was quite positive for pasture areas, and led to a significant increase in biomass formation

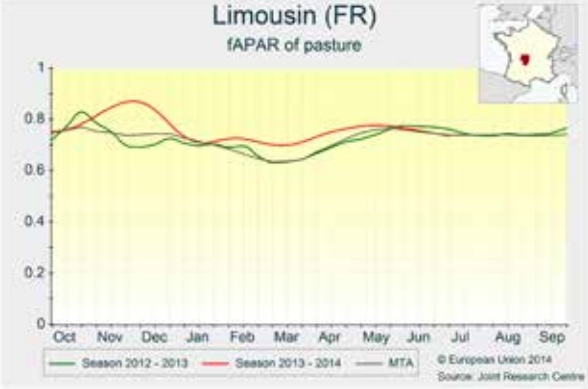
levels. In the southeast, by contrast, rainfall accumulation throughout the growing season was substantially lower than average. Although this hasn't yet constrained the growth of pastures, rainfall during the second half of July, and especially in August, will be critical to maintaining the current biomass levels. Similar conditions have been observed in the **Czech Republic** and **Slovakia**. Yield expectations are quite positive for **Austria**, where the milder-than-usual temperatures registered in the *Tirol* region in June led to a rapid increase in biomass. Conditions in the southeast are also favourable to pasture growth.

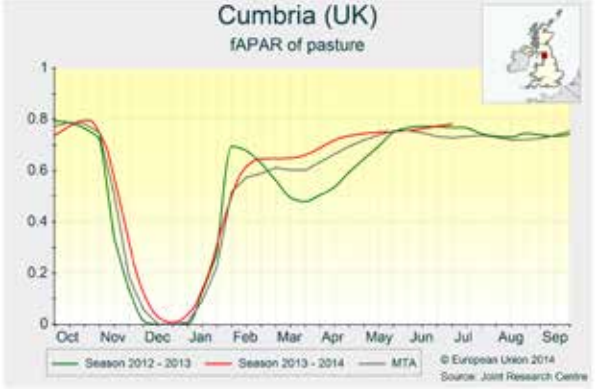
In **Hungary**, pastures have started to be affected by the hot and dry weather conditions in June. Although rainfall occurred during the first two weeks of July, the vegetative growth of pastures has decreased substantially, especially in the east. The outlook for the summer months will be below average if rainfall is scarce during the second half of July. Similar conditions have been observed in northwestern **Romania**. By contrast, pastures in central and southern regions present quite favourable growth conditions. Rainfall, especially in the south, has been constant throughout the growing season, and biomass formation is above average. No major growth limitations are expected during the summer months.

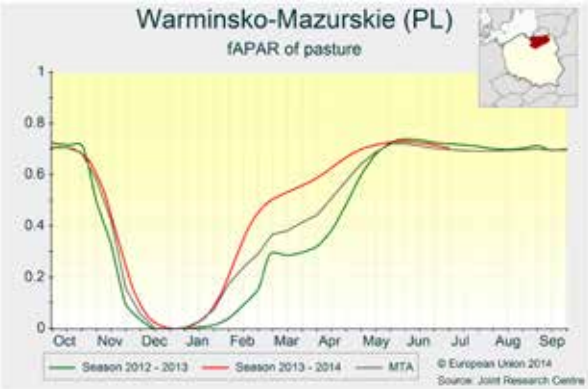
Since mid-February, the pasture growing season in the Baltic countries has been marked by substantially warmer-than-usual temperatures. In northern **Poland**, **Latvia** and **Lithuania**, the first half of the year has been among the warmest of the past 40 years. The overall pasture season is extremely positive, as temperatures led to the unusually early vegetative growth of grasslands in spring, and biomass formation levels remain above average.

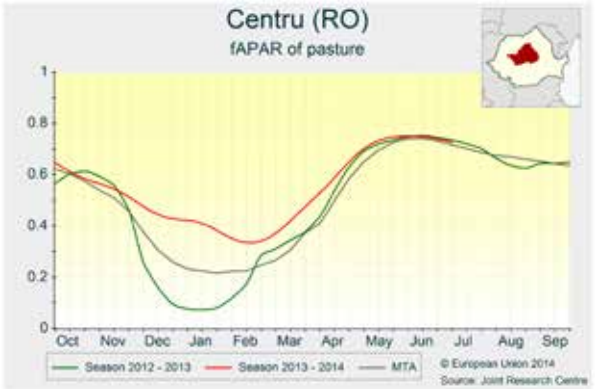






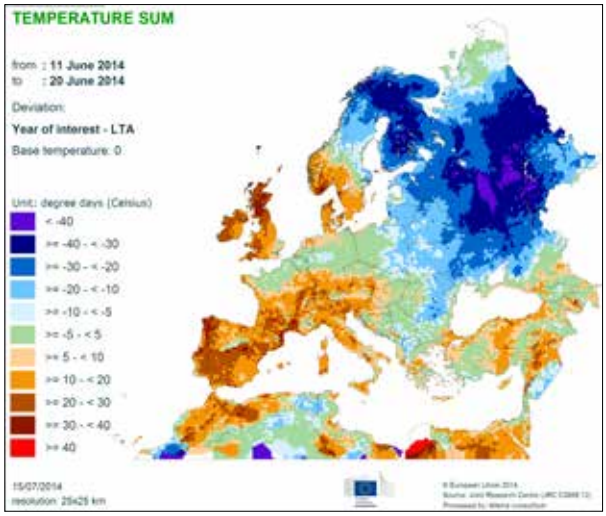


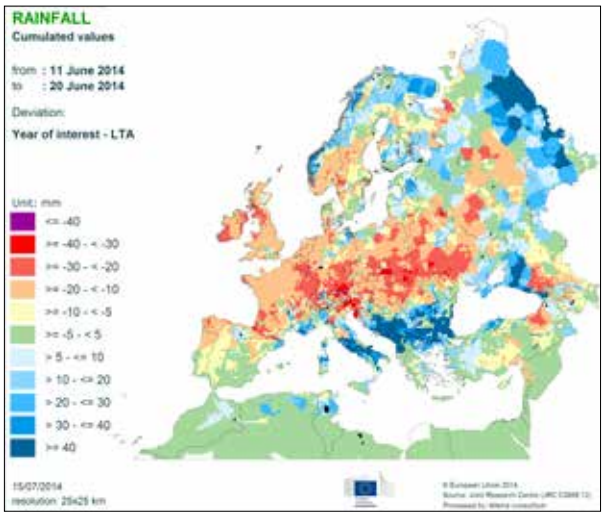


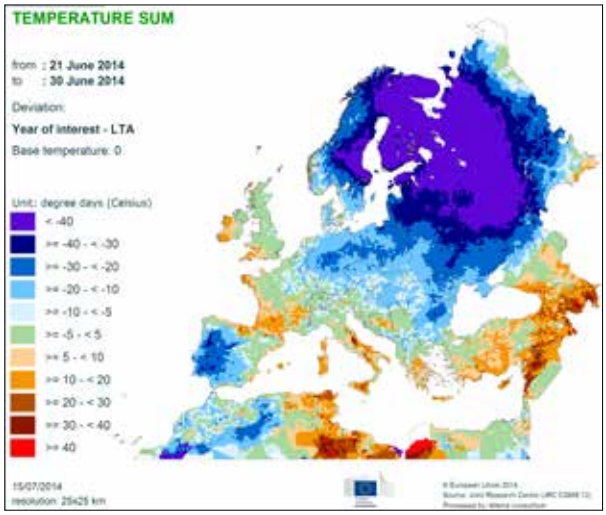


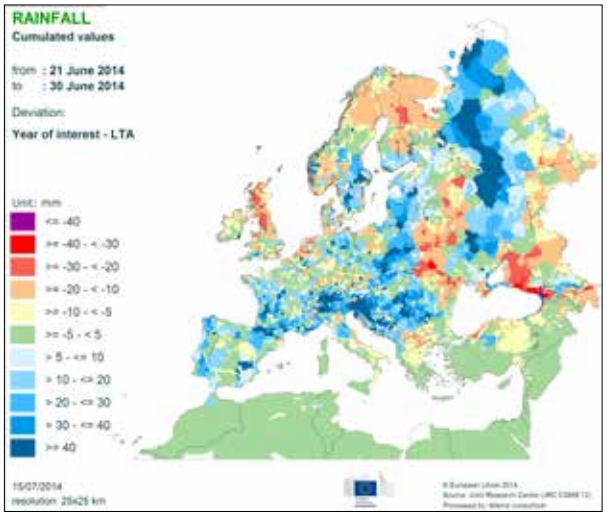
6. Atlas maps

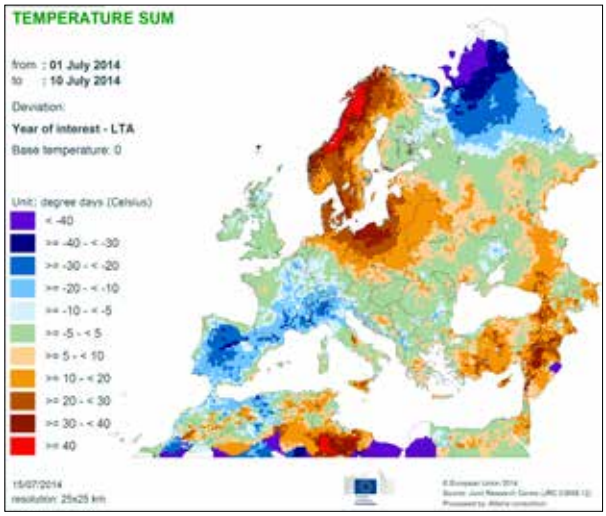
Temperatures and precipitation

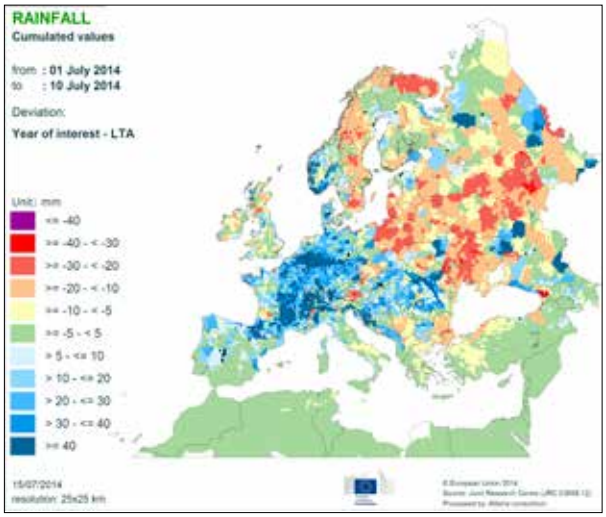


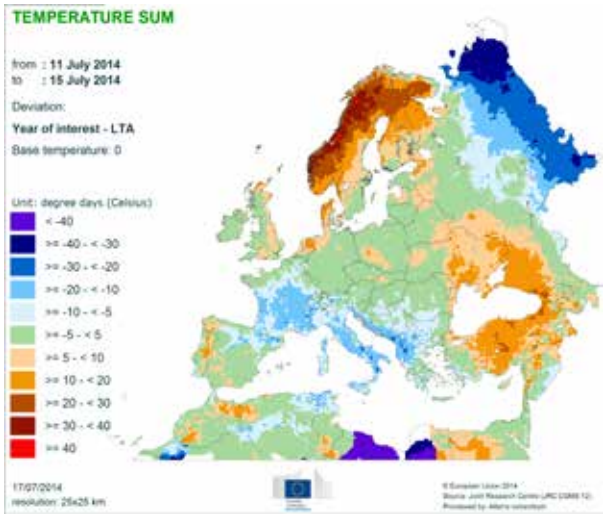


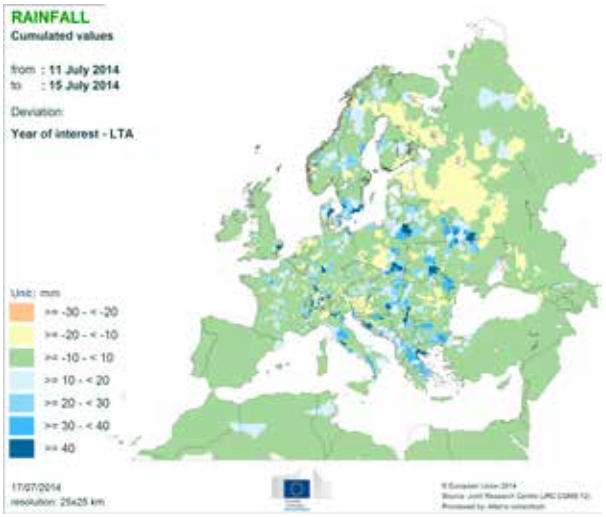




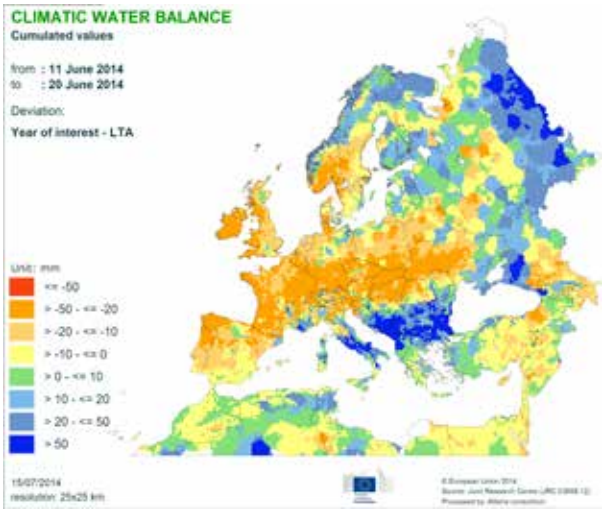


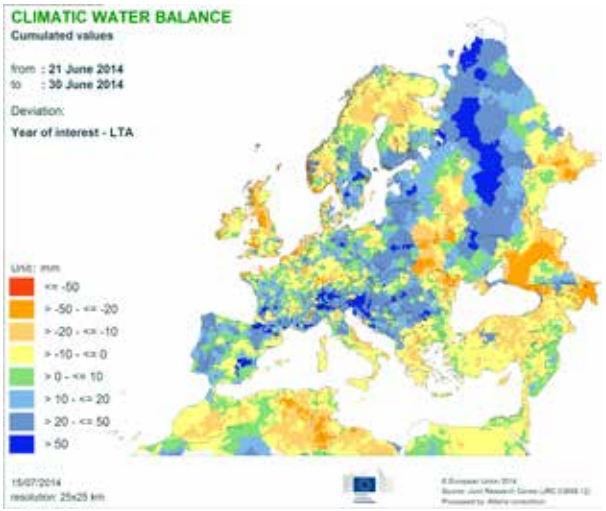


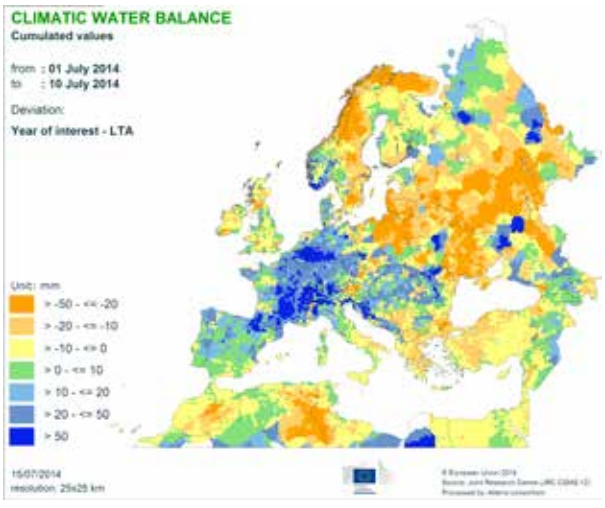


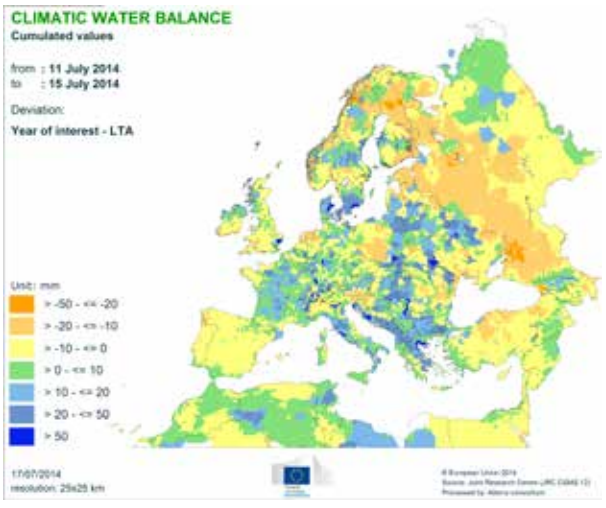


Climatic water balance

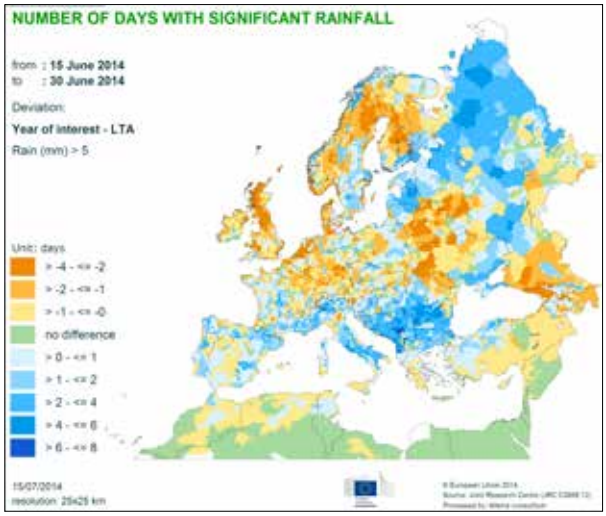


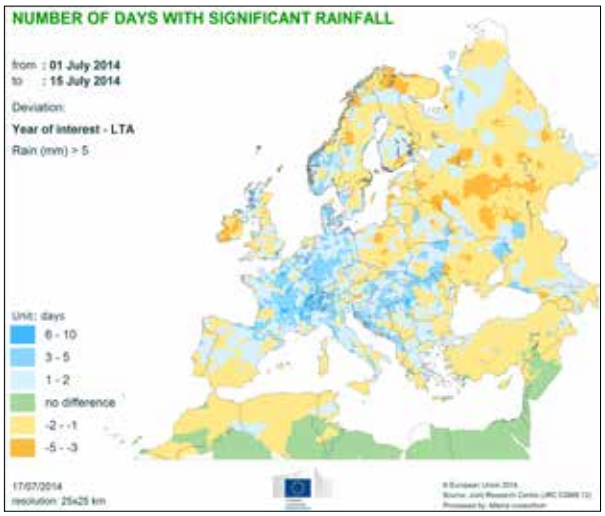


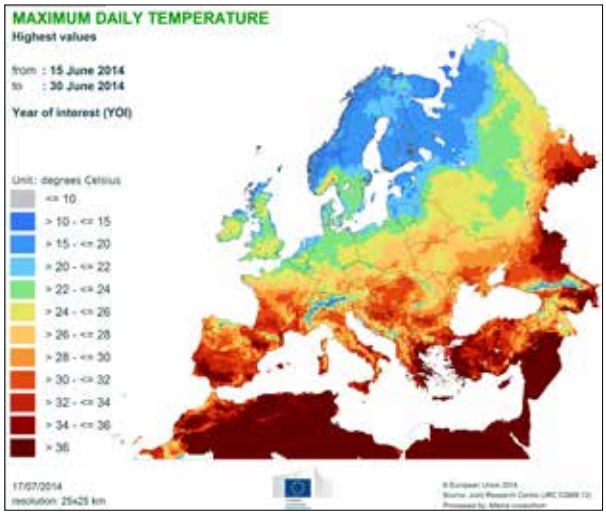


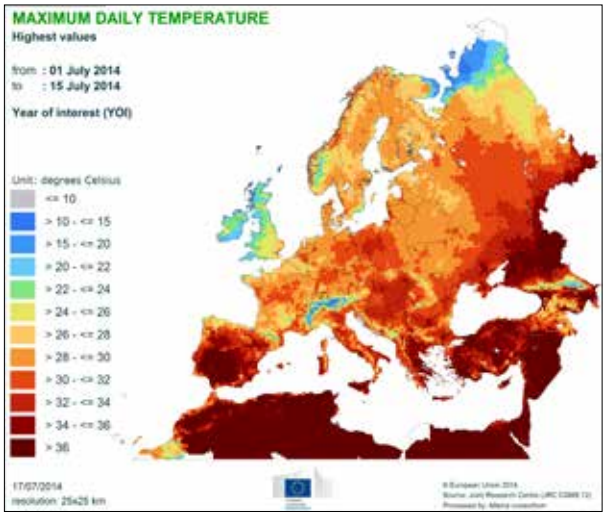


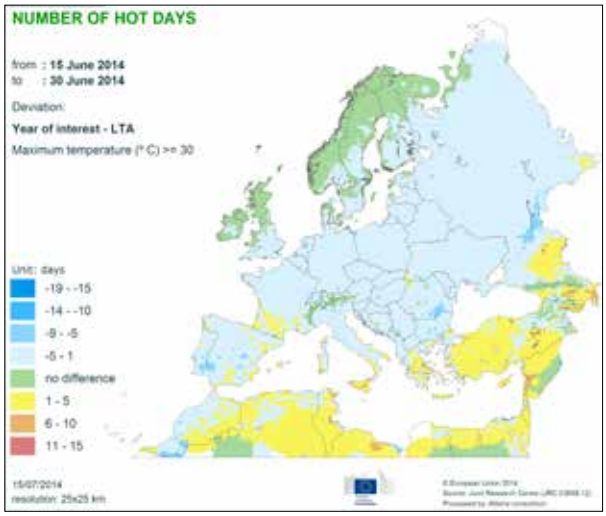
Weather events

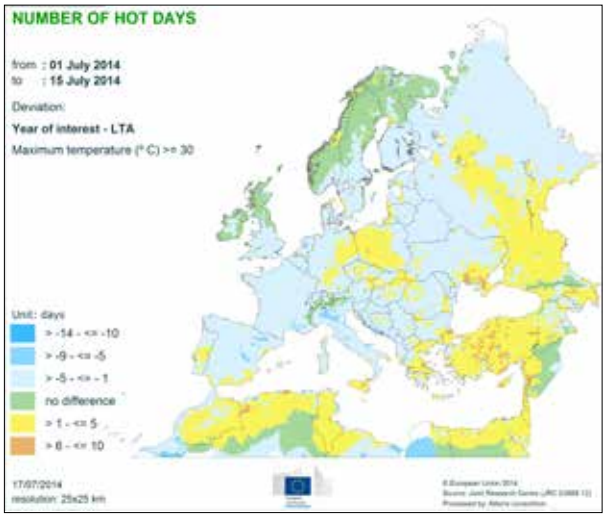




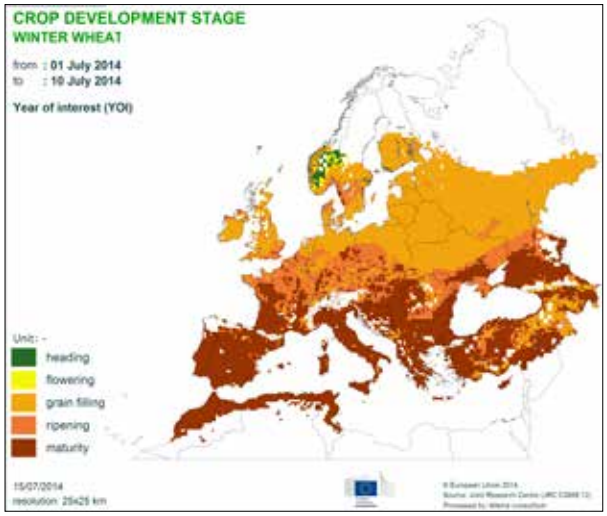


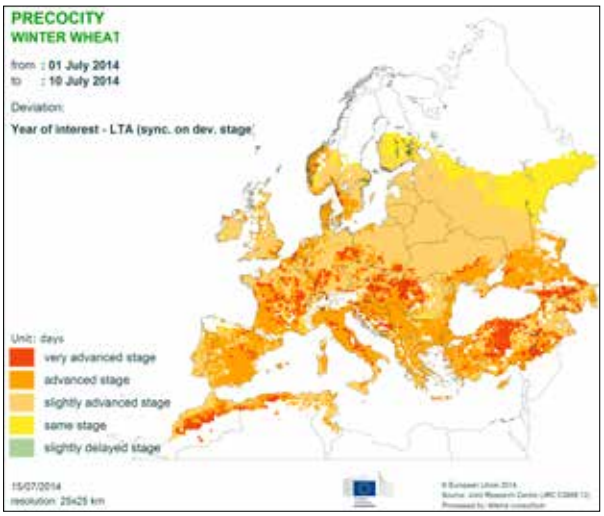


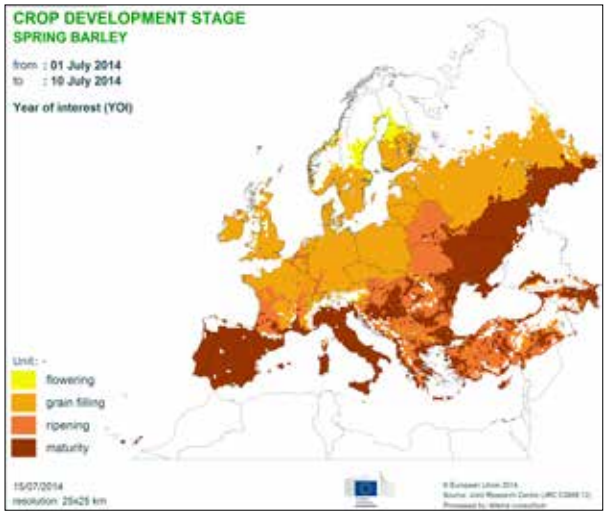


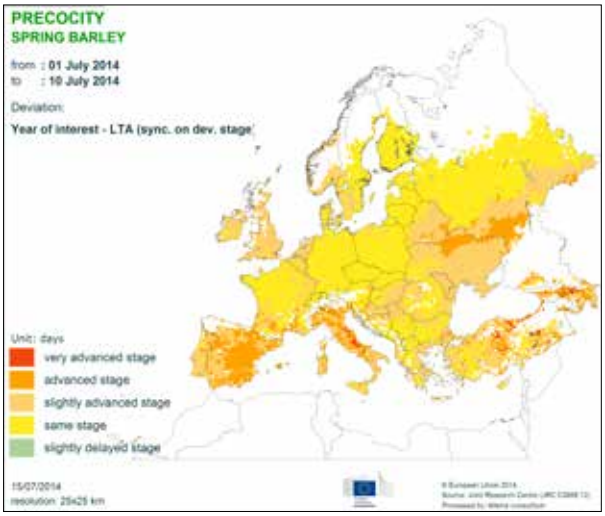


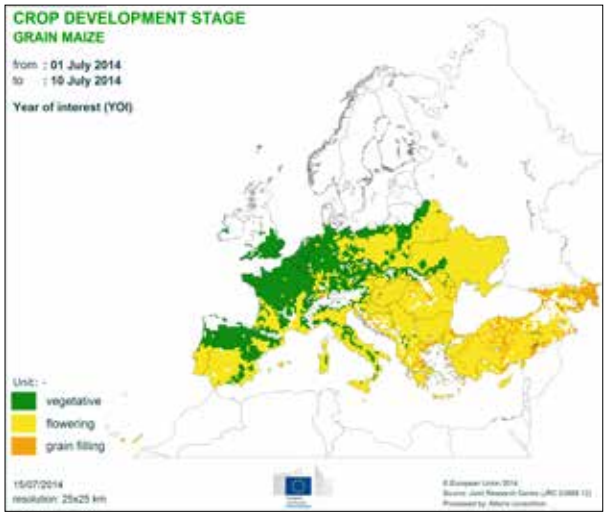
Crop development stages and precocity

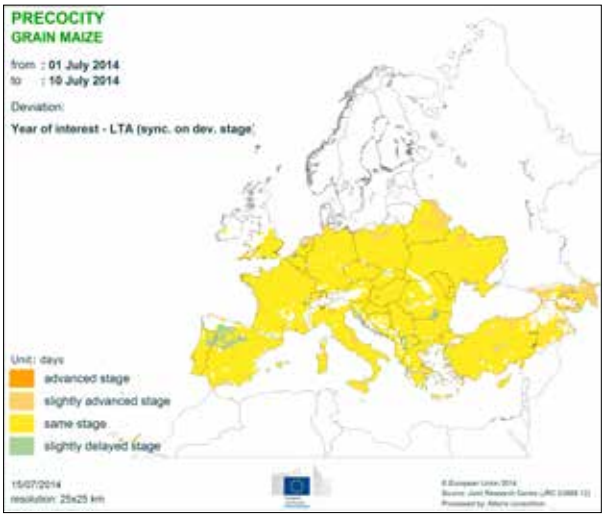




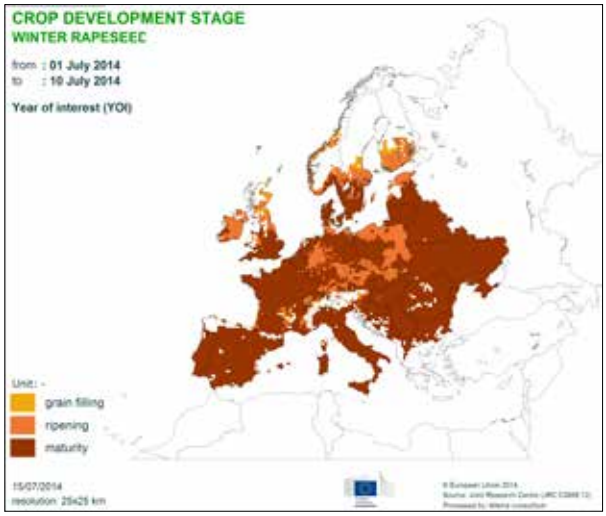


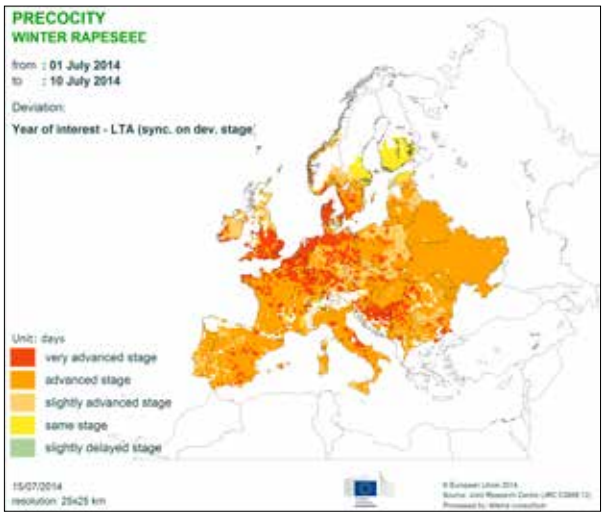


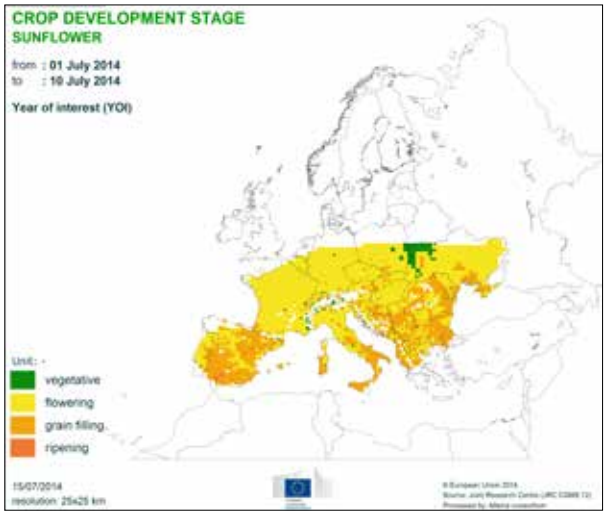


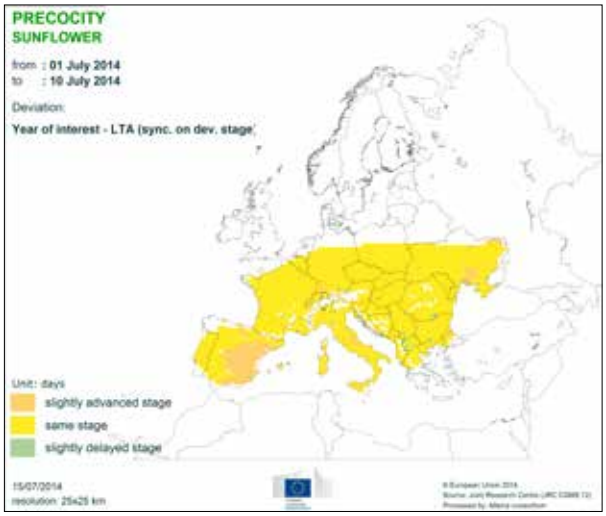


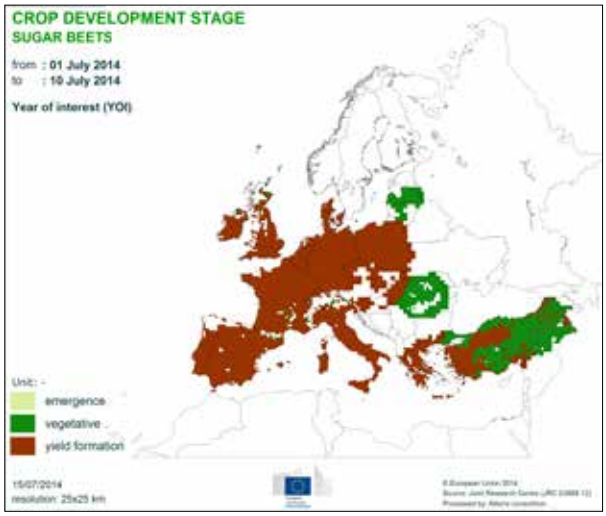
Crop development stages and precocity

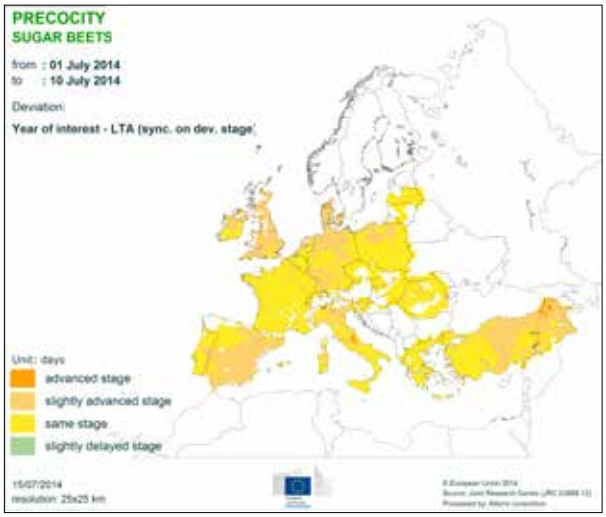




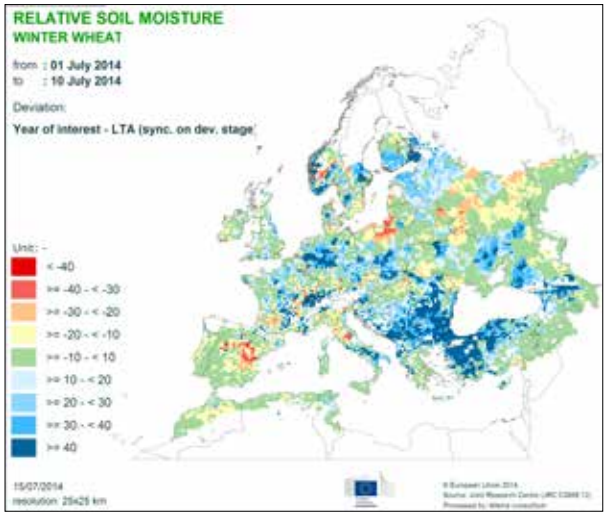


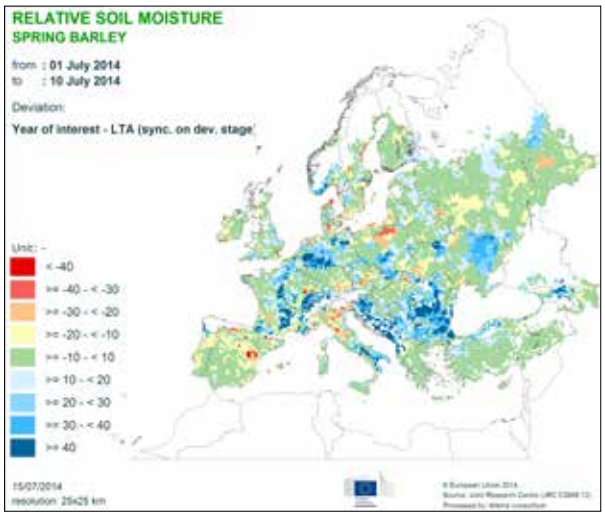


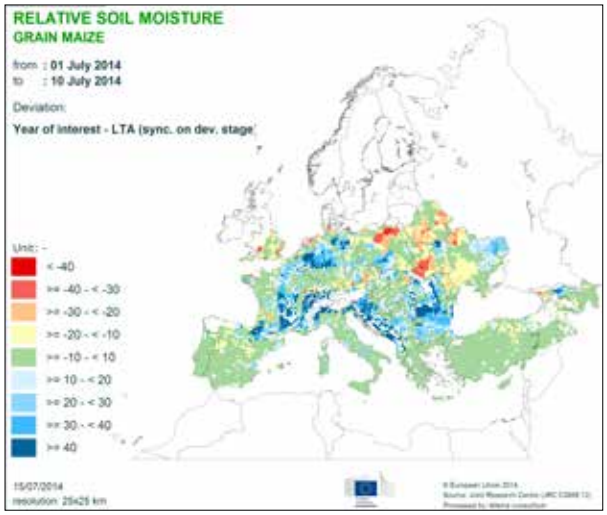


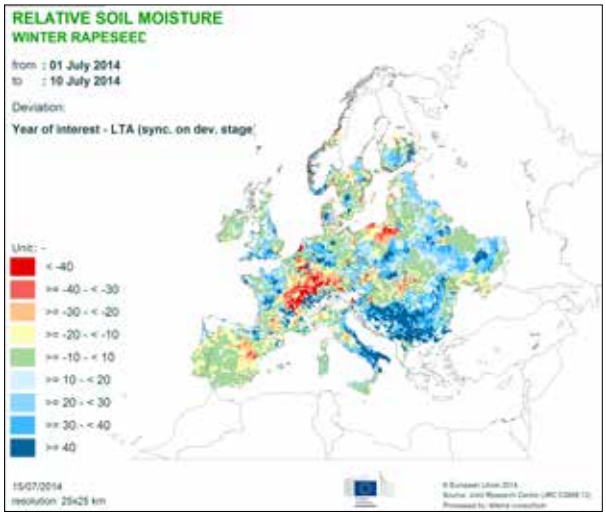


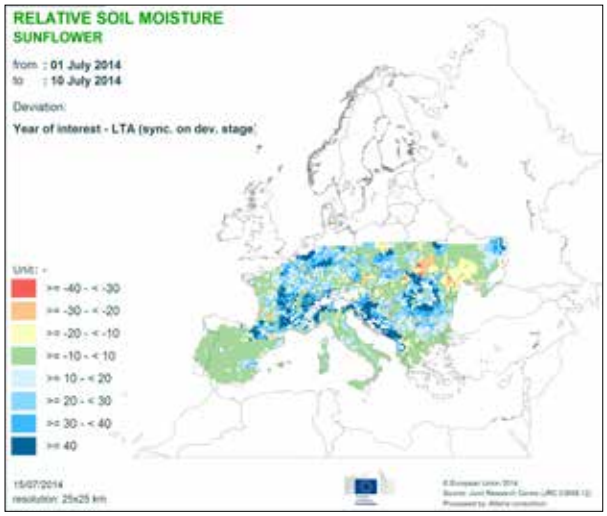
Relative soil moisture

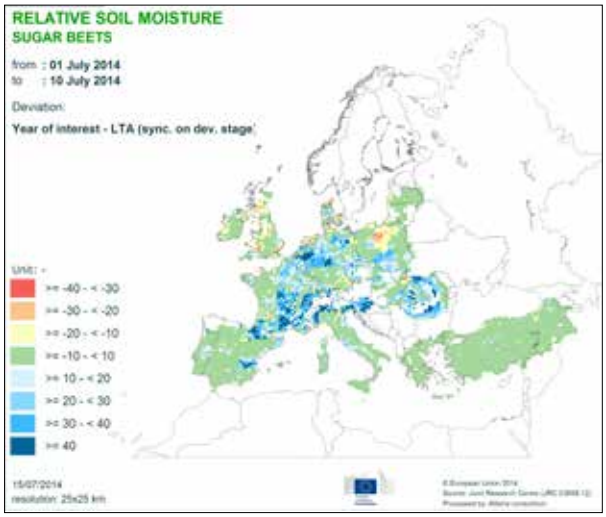




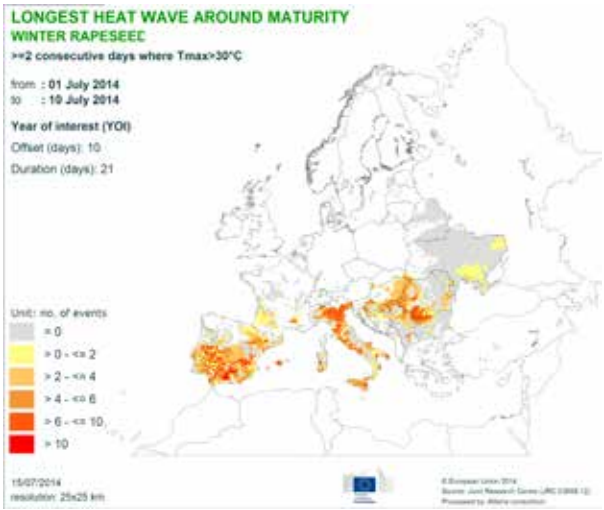


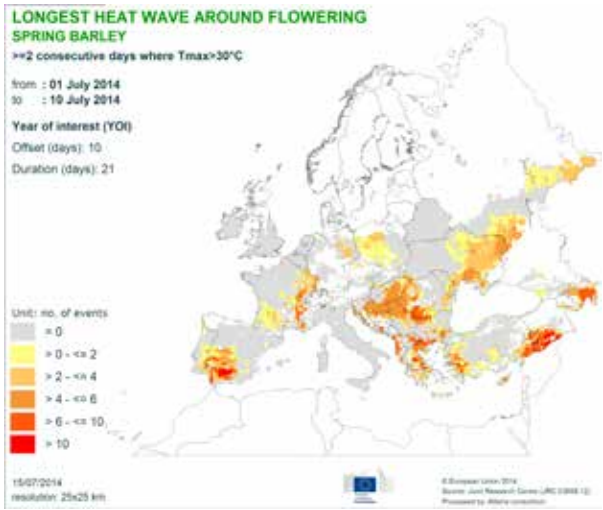


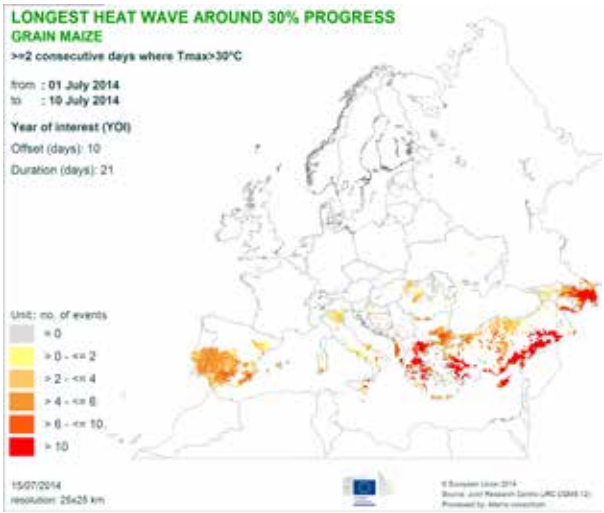


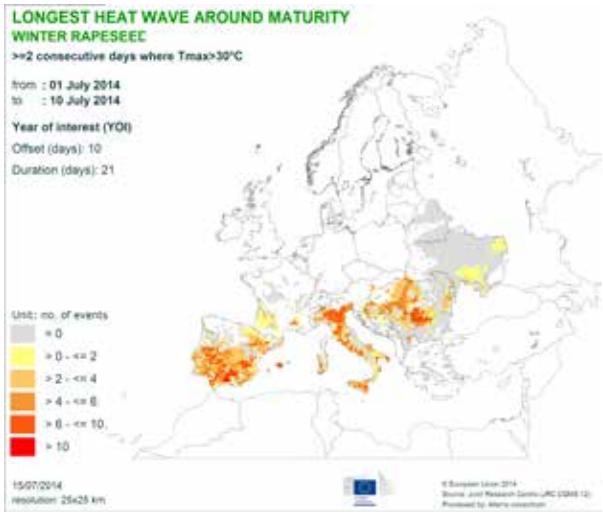


Longest heat wave around certain crop development stages

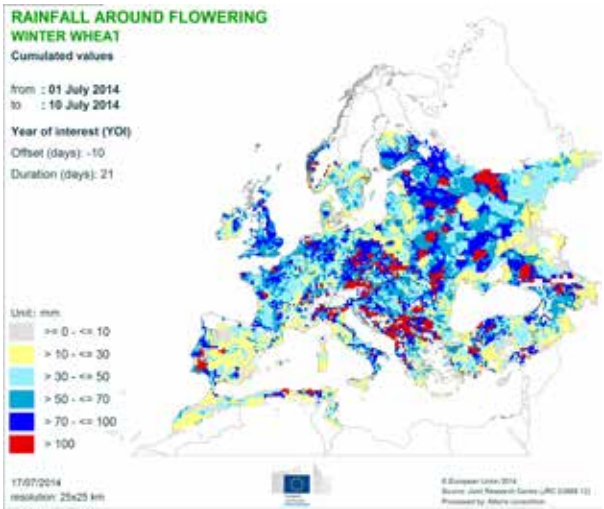


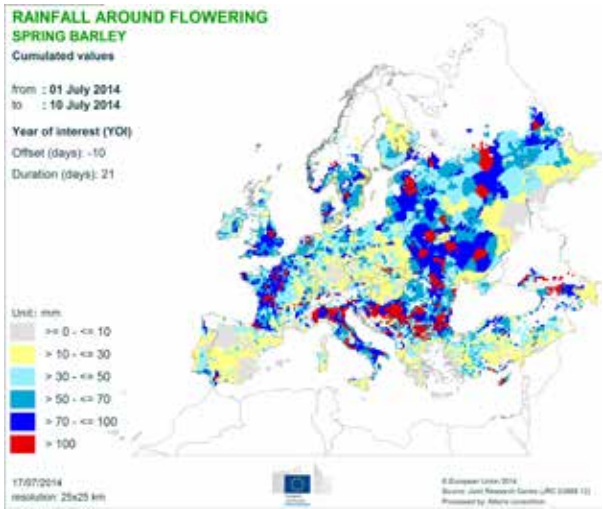






Rainfall around flowering





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2014 MARS Bulletins

Date	Publication	Reference
27 Jan	Agromet. analysis	Vol. 22 No. 1
24 Feb	Agromet analysis	Vol. 22 No. 2
24 Mar	Agromet analysis and yield forecast	Vol. 22 No. 3
14 Apr	Agromet analysis, remote sensing and yield forecast	Vol. 22 No. 4
12 May	Agromet analysis, remote sensing, yield forecast and pasture analysis	Vol. 22 No. 5
23 Jun	Agromet analysis, remote sensing, yield forecast and pasture update	Vol. 22 No. 6
21 Jul	Agromet analysis, remote sensing, yield forecast, pasture update and rice analysis	Vol. 22 No. 7
25 Aug	Agromet analysis, yield forecast and pasture update	Vol. 22 No. 8
22 Sep	Agromet analysis, remote sensing, yield forecast and pasture update	Vol. 22 No 9
27 Oct	Agromet analysis, remote sensing, yield forecast, pasture analysis and rice analysis	Vol. 22 No. 10
24 Nov	Agromet analysis and yield forecast, sowing conditions	Vol. 22 No. 11
15 Dec	Agromet analysis	Vol. 22 No. 12

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