European Commission

Period covered: 1 December - 20 March
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Crop Monitoring in Europe

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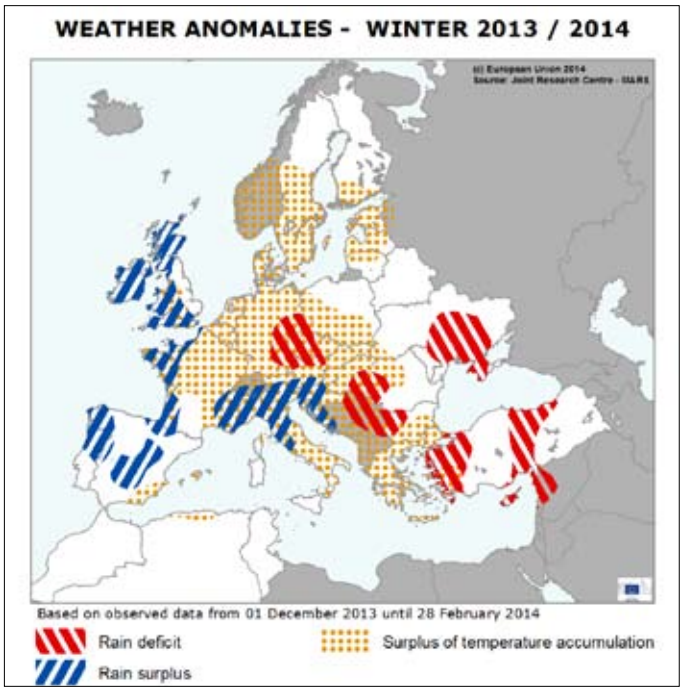
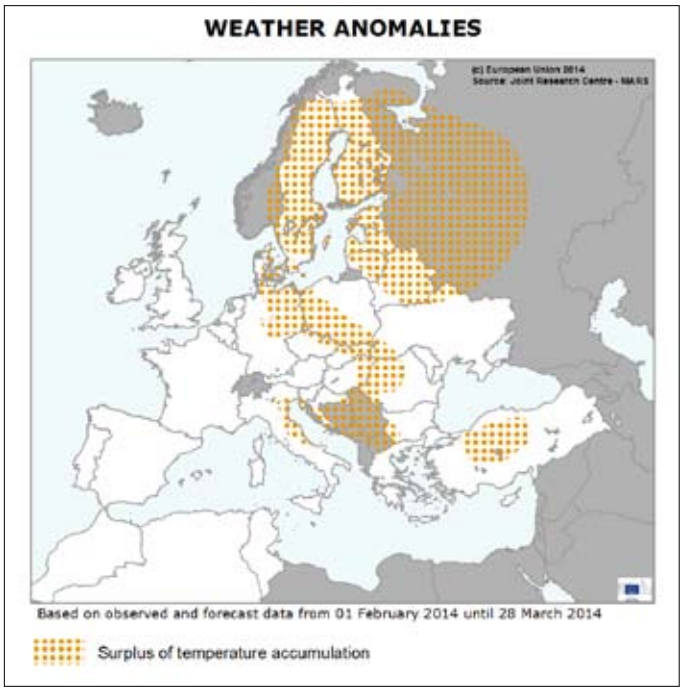
Continued mild conditions across Europe

Thanks to continued warmer-than-usual weather conditions, frost kill in Europe has been very limited this winter. Apart from being exceptionally mild, the winter was very wet in several regions of Europe such as northern Italy, major parts of the British Isles and southeastern France, but a dry period since the beginning of March improved the situation.

By contrast, the Czech Republic, southeastern Germany, Bulgaria, Ukraine and Turkey experienced one of the driest winter seasons on record. These regions will now need some rain to ensure that soil moisture levels are not depleted too quickly as the water requirements of winter crops increase, and to ensure the emergence of spring crops.

Crops are advanced in western and central Europe as the mild weather continued in March, and prospects for the new season are generally promising. At this stage of the season the forecasts are based on trend or average values.





Joint Research Centre

1. Agro-meteorological overview

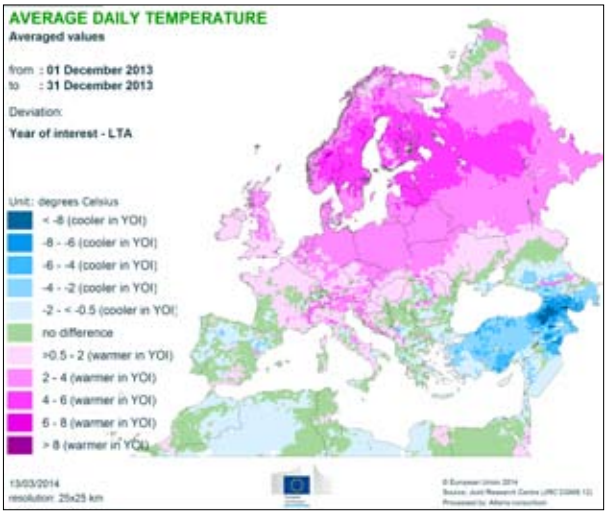
Winter 2013/2014 (December – February)

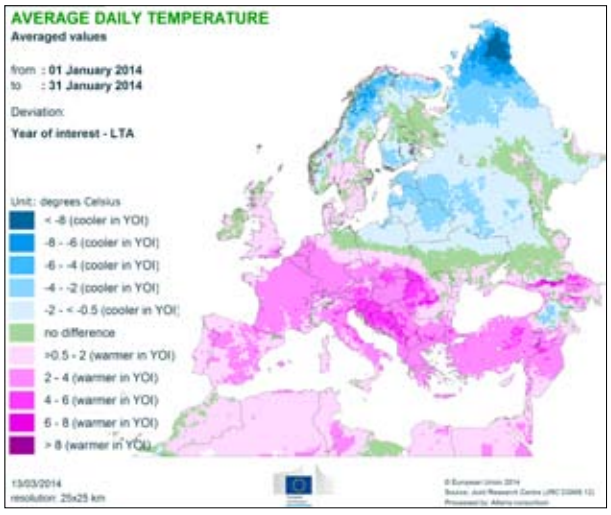
The winter was exceptional mild and very wet in several regions of Europe. In northern Italy, major parts of the British Isles and southeastern France, this period was the wettest on our records (since 1975), with persistent and heavy rains. Some agricultural areas in these regions were flooded and many others were waterlogged. Above-average rainfall was also recorded in the Iberian Peninsula, the remainder of France, the southern part of the Scandinavian Peninsula and Italy. By contrast, the Czech Republic, southeastern Germany, Bulgaria, Ukraine and Turkey experienced one of the driest winter seasons since 1975. Generally warmer-than-usual conditions were observed across Europe. The positive thermal anomaly was especially pronounced in northwestern and southeastern Europe.

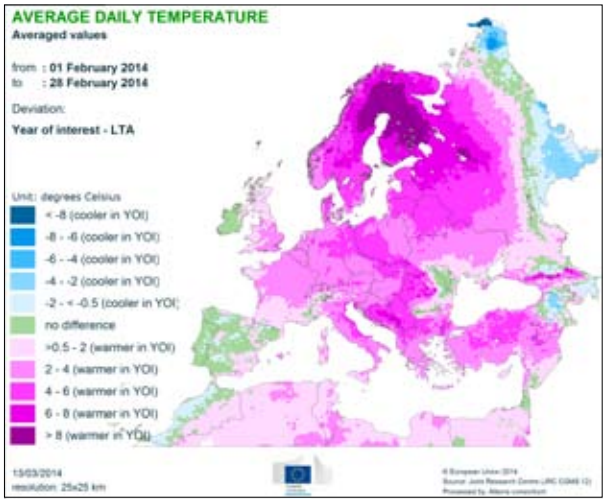
Observed temperatures

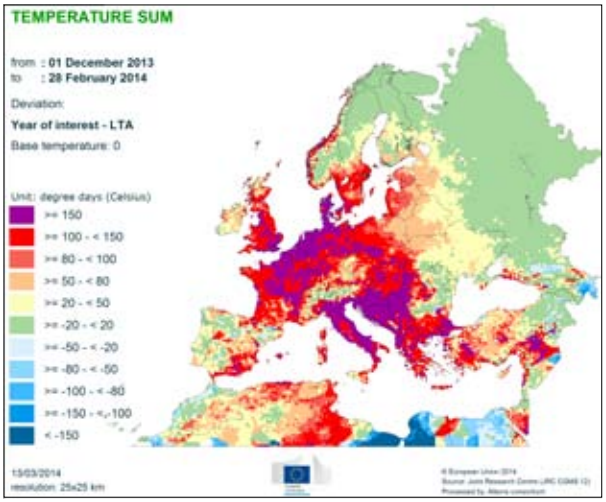
December was characterised by warmer-than-average conditions across Europe, with the exception of Turkey, where negative thermal anomalies were recorded, and western regions around the Black Sea, the Iberian Peninsula, southwestern France and the southern Mediterranean region, where thermal conditions were near average. During the first half of December, negative average temperature anomalies in the range of -2 to -4°C were observed in France, the Iberian Peninsula, Romania, Turkey and the regions around the Black Sea, while near-average temperatures prevailed in the rest of Europe. By contrast, the second half of December was characterised by warmer-than-usual temperatures over northern and central Europe, with average temperatures as much as 6 to 8°C above average in Finland, northern Russia and the Baltic countries. Positive thermal anomalies, in the range of 2 to 4°C, continued until the first half of **January** across Europe, hampering the hardening of winter cereals. After 15 January, cold air flooded the northern and northeastern part of Europe down to Ukraine, Poland and eastern Germany, and average daily temperatures dropped below the long-term average by more than 10°C. During this period, which lasted until the beginning of February, minimum temperatures below -20°C occurred in the Baltic countries, northern Ukraine, Belarus, Russia, Finland and Sweden. By contrast, milder-than-usual thermal conditions continued over the main agricultural production areas in western Europe. After this period, average daily temperatures rose across the whole of Europe, and warmer-than-usual conditions continued to characterise the winter season. In **February**, positive thermal anomalies in the range of 2 to 4°C were recorded in central and southeastern Europe, and temperatures in central Russia and the Scandinavian Peninsula were up to 6 to 8°C above average. Frost kill in Europe has been very limited, thanks to continued warmer-than-usual weather conditions in most regions during most of the winter period, whereas areas with winter cereals that did experience cold conditions were mostly fully hardened and protected by snow. However, as a consequence of a cold spell in southern Russia in late January and early February, during which no protective snow cover was present, moderate frost-kill events have been simulated in the surroundings of the Volga River Delta north of the Caspian Sea.

As a consequence of this exceptionally mild winter, the cumulated active temperatures (Tbase=0°C) since 1 December are well above average (>150 GDD) in France, Denmark, northern Germany, the Benelux countries, the Balkan Peninsula, western Romania, Hungary, Bulgaria, western Turkey and Italy, in particular in the northeastern part where this winter was the warmest since 1975.







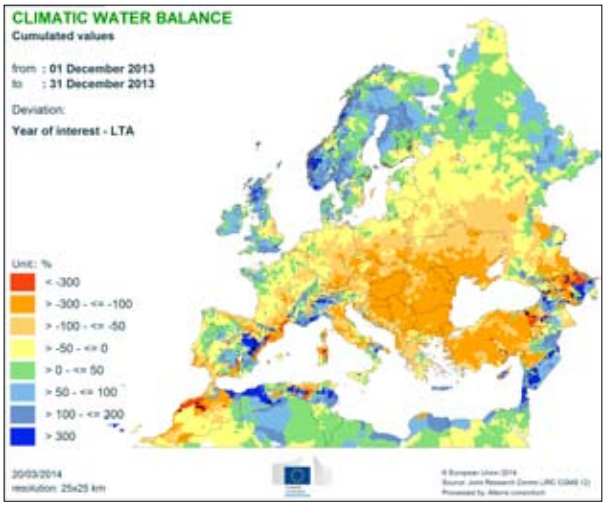


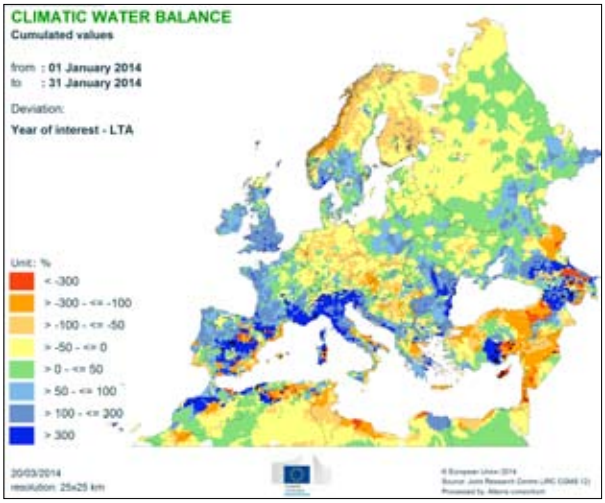
Observed rainfall

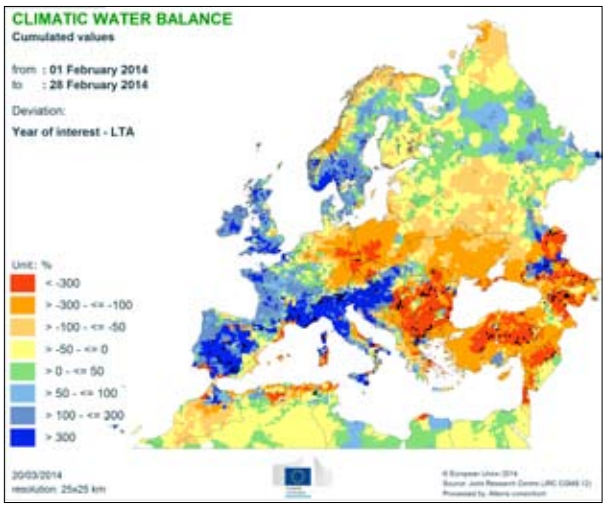
During **December**, drier-than-usual conditions were observed in large parts of eastern and southeastern Europe, and rainfall was scarce or absent (< 5 mm) in Romania, Hungary, southern Ukraine and Bulgaria. Below-average rainfall, in the range of -50 to -25 mm, was also observed in central Italy, southern Germany and the Czech Republic. By contrast, cumulated rainfall was slightly above average in northwestern Italy, the Scandinavian Peninsula, the British Isles and southeastern France. In **January**, wetter-than-usual conditions continued in southeastern France, northern Italy, the southern part of the British Isles and the southern part of the Scandinavian Peninsula, with cumulated rainfall locally above 200 mm. Above-average rainfall was also recorded in the eastern part of the Iberian Peninsula, northeastern France, along the Adriatic coast of the Balkan Peninsula and northeastern Europe. By contrast, below-average rainfall was observed in Germany, the Czech Republic, Austria, Hungary, southern Ukraine and the northern part of the Scandinavian Peninsula.

During **February**, persistent and heavy rains continued in France, Italy, the British Isles, the Iberian Peninsula, the northern part of the Balkan Peninsula and the southern part of the Scandinavian Peninsula, with cumulated rainfall which locally exceeded the long-term average by more than 100 mm. The abundant rainfall recorded in southern Spain and southern Italy, especially during the first half of February, led to a favourable increase in the soil moisture content. By contrast, drier-than-usual conditions were recorded in Poland, eastern Germany, the Czech Republic, Ukraine, Greece, and around the Black Sea regions. During December, snow covered northern Europe and large parts of eastern and central Europe. Due to the mild weather of the first dekad of January, the snow cover melted and disappeared in most of central Europe, the Baltic countries and some areas of eastern Europe. From 10 January until the first week of February, snow cover was largely restored in northern and eastern Europe. After this first week, the snow cover started to melt and disappear in several areas due to the warmer conditions recorded until 17 February.

This winter was the wettest on our records (since 1975) in northern Italy, major parts of the British Isles and southeastern France, with persistent and heavy rainfall also occurring in northwestern France, central Italy, Slovenia, Croatia and several regions of the Iberian Peninsula. These very wet conditions led to floods and widespread waterlogging, increasing the risk of pests and disease, and constraining plant development. Moreover, excessive rain leads to nutrient losses and hampers normal field activities. However, the impacts on production are expected to be limited at the national level. By contrast, the Czech Republic, southeastern Germany, Bulgaria, Ukraine and Turkey experienced one of the driest winter seasons since 1975, with cumulated rainfall more than 80% below the long-term average. Driest conditions associated with temperatures above the average over the winter, led to a significant deficit in the water balance. Therefore, more rain is needed during spring to increase the soil moisture levels.





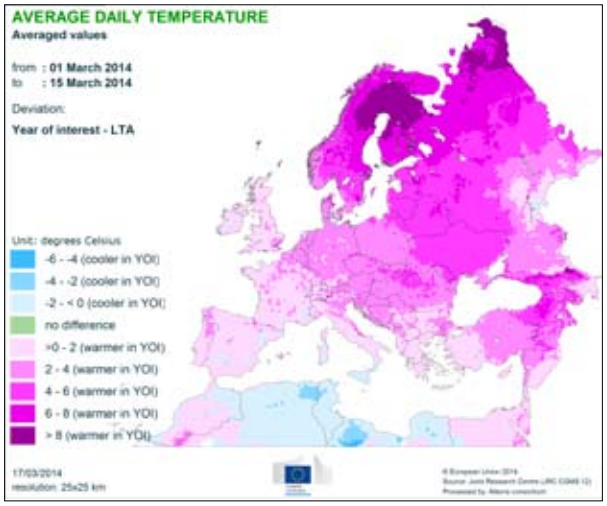


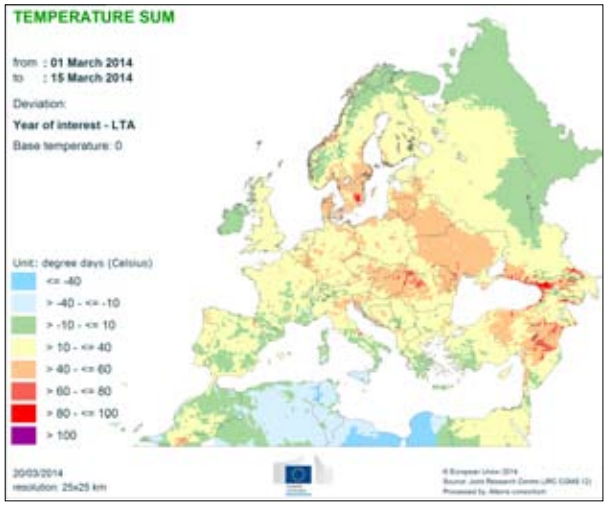
Agro-meteorological overview (1 March – 15 March)

The first 15 days of March were affected by warmer-than-usual temperatures almost everywhere in Europe, with higher values by more than 2°C (8°C for northern Sweden and Finland) over northeastern Europe. Drier-than-normal conditions affected most of the countries, while wetter anomalies characterised the region east of the Balkans and south of Romania, and some specific areas in Spain, Italy, Scandinavia and Russia.

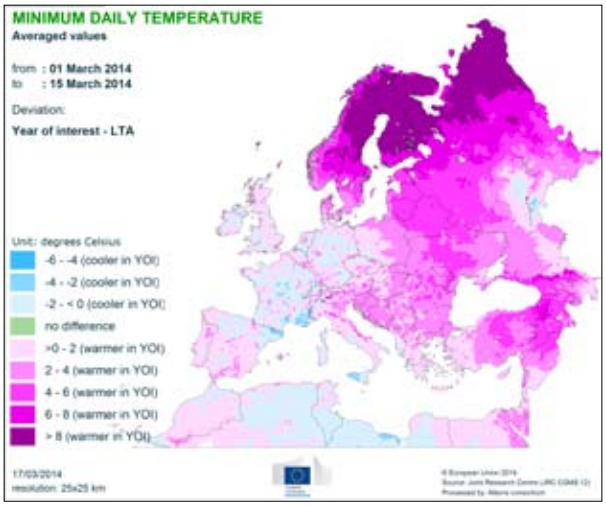
Observed temperatures

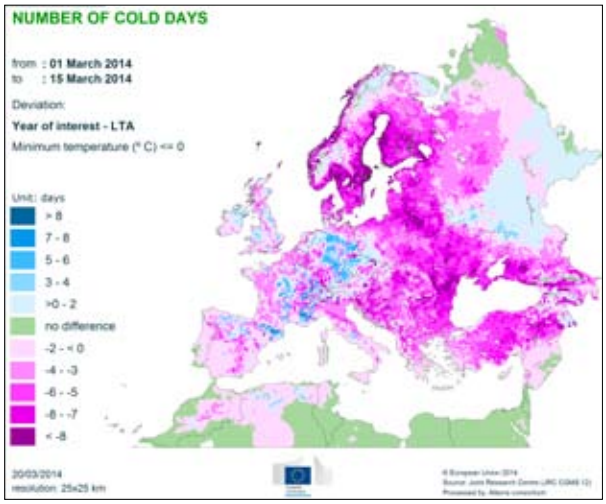
The first two weeks of March were characterised by mean daily temperatures that were warmer than usual almost everywhere in Europe. On the other hand, slightly colder conditions affected Sicily, southern Sardinia and some isolated areas, for instance in Spain. The positive thermal anomalies were particularly pronounced over the eastern countries. with values (w.r.t the long-term average) greater than 8°C in the northern part of the Scandinavian Peninsula and the Russian northeastern corner of the domain; ranging from 4°C to 8°C over northern Russia, the Scandinavian Peninsula, the Baltic countries, Belarus, Ukraine, Moldova, part of Romania and Hungary, Georgia and northeastern Turkey. The other regions experienced lower positive anomalies, but temperatures were still considerably high (from 2°C to 4°C) over central Turkey and central and eastern Europe. The cumulative active temperature sums (threshold 0°C) were higher than the long-term average in central-eastern Europe, with anomalies of more than 40 GDD over Luxembourg and southern Belgium, Denmark, southern Sweden, the Baltic countries (except Estonia and part of Latvia), Belarus, Ukraine and Moldova, Hungary, Slovakia and part of Romania, Georgia and the Russian coast of the Black Sea, central-eastern Turkey, northeastern Italy, Istria and the western part of Slovenia. A reduced number of cold days (with a daily minimum temperature below 0°C) with respect to the normal conditions especially characterised northern and eastern Europe, aside from some areas in the south and north of Russia, and some areas in France and Spain, northern Italy, the Balkans, Greece and Turkey. A higher-than-usual number





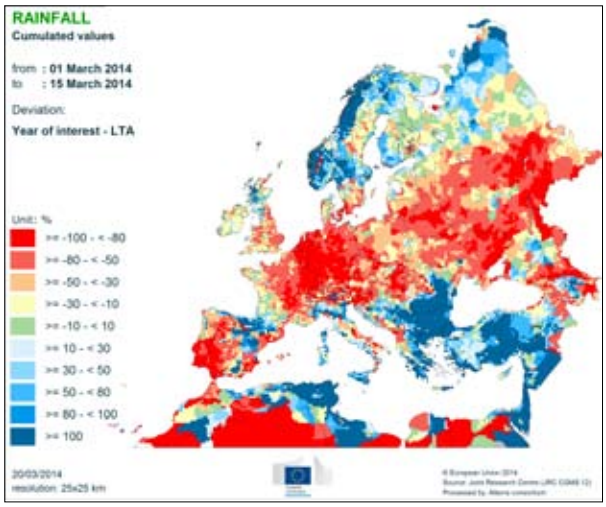
of cold days was observed over central Germany and the western Czech Republic, some areas of France and along the Pyrenees. Minimum temperatures were warmer than usual, especially in eastern Europe, with anomalies greater than 8°C over northern Sweden, Finland and northern Russia. Almost normal minimum temperature conditions were registered over England, Ireland and the Netherlands, while higher spatial variability and a lack of coherency were observed over France, Germany and the north-western part of the Iberian Peninsula.

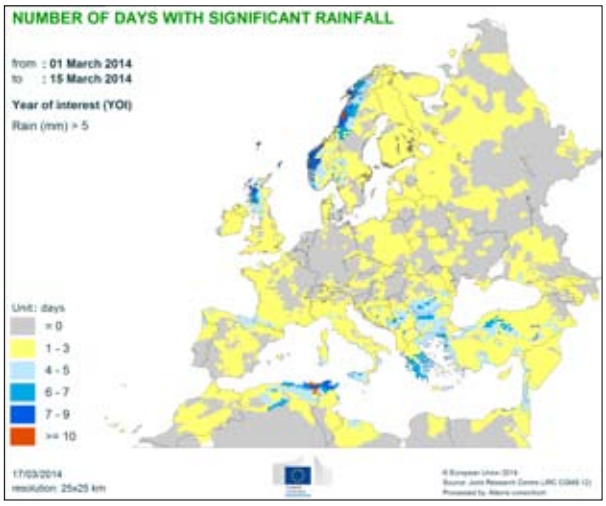




Observed rainfall

In the first two weeks of March, drier-than-normal conditions (with anomalies of cumulated precipitation greater than 50%) affected large areas of the western and southern Iberian Peninsula, the southeastern UK, some areas in eastern Italy and Albania, a vast region extending from France to Russia and delimited by Hungary in the south and Lithuania in the north. Less intense anomalies were observed over central-eastern Poland, western Ukraine and Moldova, and the western part of Slovakia. Wetter conditions (with anomalies w.r.t. the long-term average higher than 80%) were experienced by northern/central Spain, northern Italy, Sicily, some areas in the western Italian coast, Sardinia, Norway some areas in Sweden and Finland, northern Russia, the region south of central Romania and east of the Balkans, and Turkey. Almost no precipitation was observed in southwestern Spain, eastern France and Germany. Significant precipitation episodes (with a cumulated precipitation greater than 5 mm) affected northeastern Scotland, Norway, north-western Spain, Sicily, southern Romania and Bulgaria, Greece and some isolated areas in Turkey.





2. Country analysis

2.1 European Union

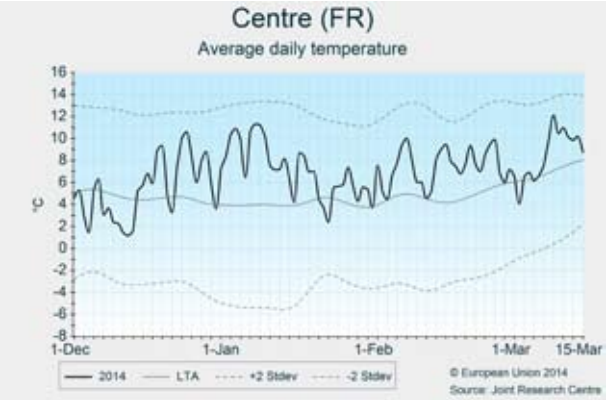
France

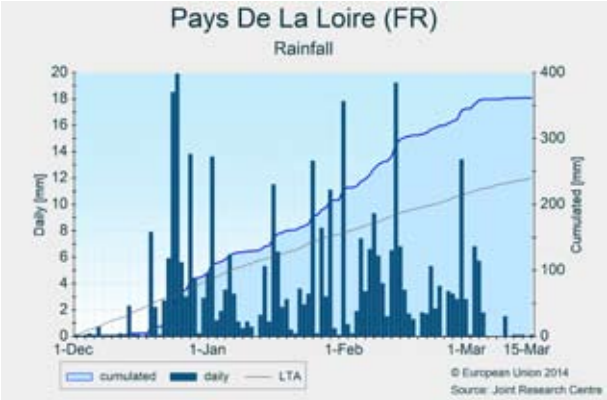
Record mild winter

This winter was particularly mild in almost all regions. It was also characterised by abundant rainfall in the west and south-east regions, whereas rainfall in other regions was closer to the average. The crop cycle is advanced for the season.

This winter was particularly mild and temperatures were close to those of record years (1990 and 2007), particularly in the north-eastern regions where temperatures remained 2 to 2.5°C above the average. In oceanic and south-eastern regions, cumulated rainfall also reached record highs (*Bretagne*, *PACA* and *Rhône-Alpes*). In the most productive regions of winter cereals, cumulated rainfall was closer to that of an average year (*Centre*, *Champagne-Ardennes*).

As a consequence of this very mild winter, winter crops are advanced compared to an average year. In regions where this winter was particularly rainy, weather conditions may generate some pest pressure. Nevertheless, as rainfall stopped after 4 March, farmers can now access the fields. In the meantime, the sowing of spring cereals has started and is expected to be well underway.





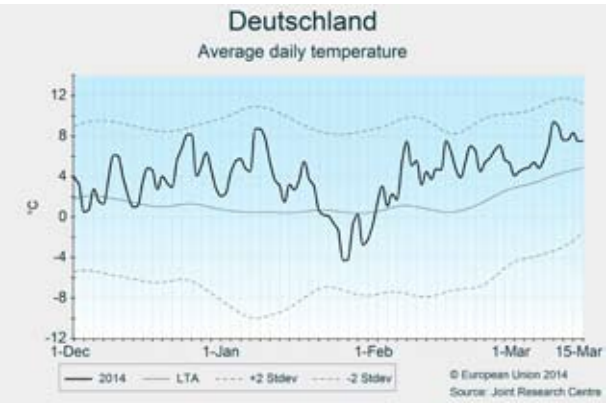
Germany

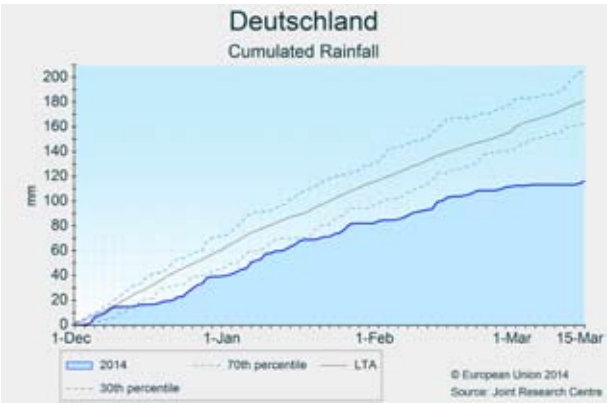
Mild winter and early development

A mild winter should ensure a good start into the season. However, precipitation was rather scarce and more rain is now needed to sustain soil moisture at adequate levels.

The winter in Germany was exceptionally mild, with temperatures constantly above the average except for a short period during the end of January and beginning of February. Despite the crops not being fully hardened this limited cold spell should not have negatively affected crop development. The past winter is thus amongst the mildest winters in Germany (but not as mild as the ones in 1990 and 2007). As result, winter crops are decidedly advanced in their development, and early spring sowings have started already.

Precipitation was scarce during winter and a deficit below the average was accumulated across Germany, especially in *Bayern*, *Thüringen* and *Sachsen*. As October and November were rather rainy, the impact on soil moisture so far is considered limited. Rainfall is needed, however, to ensure that, with increasing water requirements of winter crops, soil moisture levels are not depleted too fast; and to ensure the emergence of spring crops.



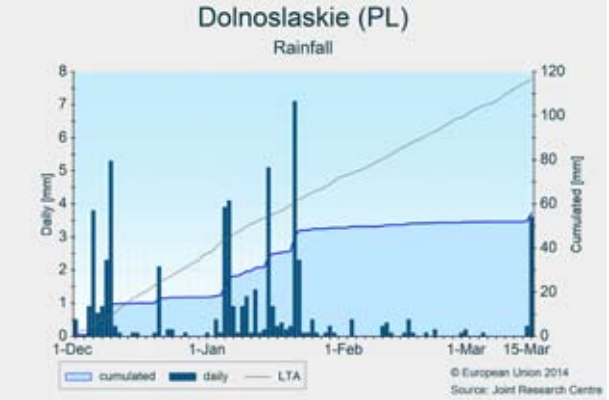


Poland

A particularly mild winter in the south and west

Thermal conditions remained milder than usual in all regions. In southern regions the mild temperatures were accompanied by sparse rainfall in February. Early crop development is expected.

This winter was one of the mildest recorded in the southern and western regions. Since 1 December the temperature sum (Tbase>0°C) is 175°C above average in Dolnoslaskie (southweast) and 80°C in Podlaskie (east). The mild winter was shortly interrupted by a cold spell during the last dekad of January, with minimum temperatures reaching -15° to -20°C. As it was short-lived, the cold spell is not expected to have impacted the development of winter cereals. Starting from the second dekad of February, temperatures stayed largely above the average. The development of winter crops and the sowing of spring crops are therefore expected to be early. In February, the mild temperatures were accompanied by scarce rainfall in the southern and western regions. Rainfall was more abundant in central-eastern regions. Water demand is low in at this stage of the season and an impact on crop growth is not expected.



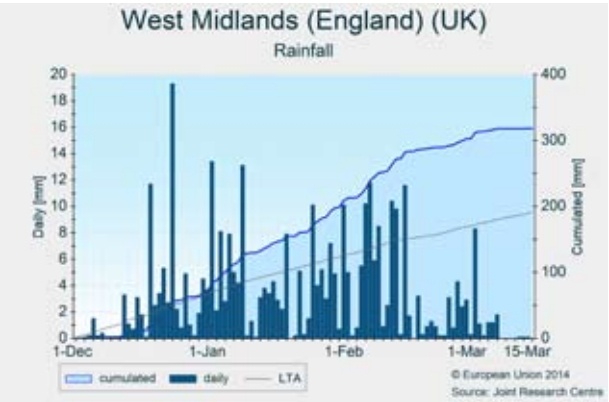
United Kingdom and Ireland

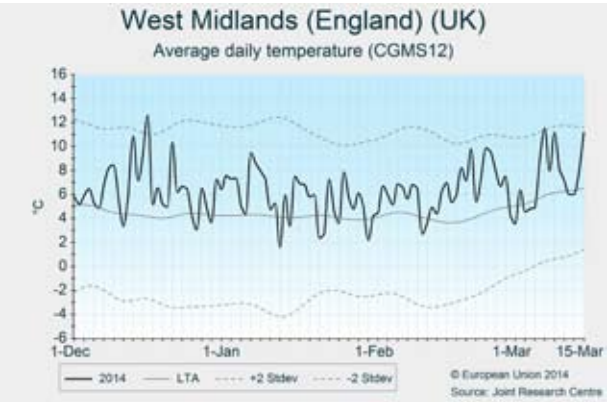
Excessively wet winter

Winter was characterised by excessive rainfall and mild temperatures. Favourable conditions emerged after the first week of March.

This winter has been excessively wet, especially in Ireland and the western and southern parts of Great Britain, where, in many parts, the long-term average was exceeded by more than 100%. Conditions were less extreme in the main crop-production areas in the eastern parts of the UK. Rains eased towards the end of February in most of the UK, but continued until the end of the first dekad of March in Ireland. Temperatures were mild throughout winter across the British Isles.

In general, winter crops appear to have withstood the wet winter fairly well. Ponding was mainly restricted to pastures and meadows and fodder maize areas. The mild and unusually wet conditions have increased the risk of pests and diseases, however, and caused loss of plant nutrients from the soil. Sowing of spring crops and other field operations such as the application of fertilizers and pesticides have kicked off, with some delay, with the onset of the drier period in March.





Spain and Portugal

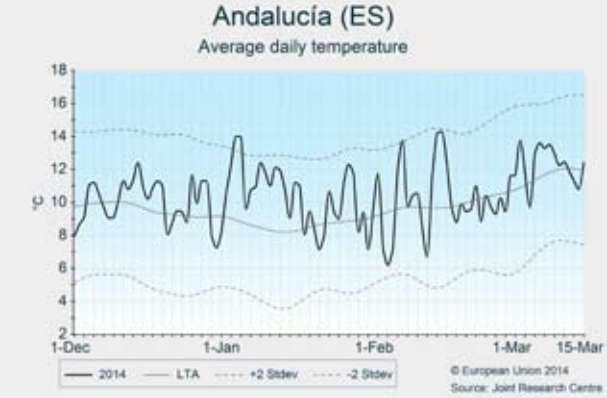
Mild and humid winter

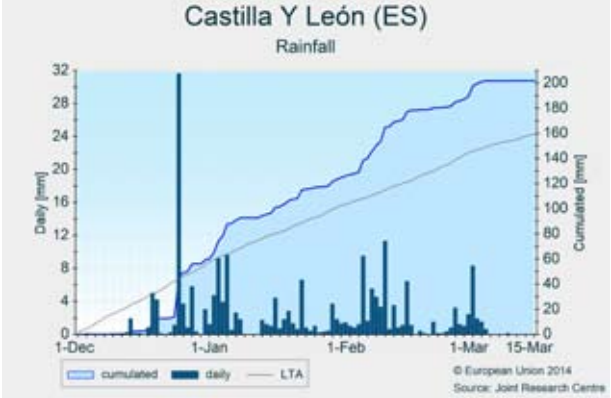
The Iberian Peninsula experienced a winter marked by abundant precipitation and warmer-than-usual temperatures. Winter crop conditions are positive.

After a dry autumn in 2013, the abundant precipitation and mild temperatures registered in most regions from the second half of December onwards have favoured the emergence of winter crops. Wheat grew rapidly during January and February in the southern Iberian Peninsula, boosted by unusually warm temperatures.

In central and northern regions, abundant rainfall during the first half of February benefited growth in the initial vegetative phases of winter cereals. Moreover, above-average temperatures up to mid-March have substantially increased leaf area expansion rates –especially in *Castilla La Mancha* and *Aragon* – depicting a rather favourable scenario for the next month.

Overall, winter crops are, on average, at the early stages of development. Weather conditions during the spring period will determine whether or not the positive crop conditions observed up to now can be translated into high yield potential.





Italy

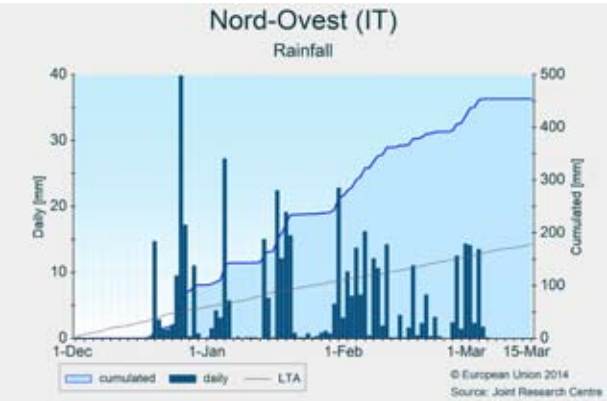
Exceptionally wet and warm winter

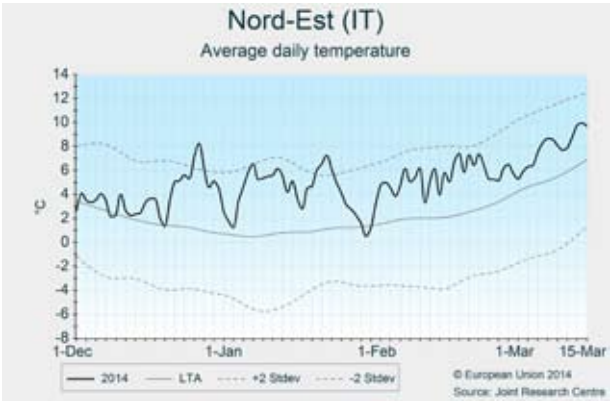
This winter was the wettest and warmest on our records in northern Italy. High rainfall was also observed in central Italy and Sicily.

The winter was characterised by exceptionally wet conditions, with cumulated rainfall locally above 400 mm in northern Italy. Some areas were flooded and many others were waterlogged. Above-average rainfall was also observed in central Italy and in much of Sicily, increasing water reservoirs.

In northern Italy, the period of review was also exceptionally warm. Average temperatures were constantly above the long-term average, except for a weak cold spell during the last days of January. In northeastern Italy, the period of review was the warmest on our records (since 1975). Mild thermal conditions were also observed in central and southern Italy.

Winter wheat and barley are starting the heading stage across Italy, presenting a phenological advance. The unusually wet and warm winter conditions increased the risk of pests and diseases, and the excess rainfall hampered normal field activities. On the other hand, the dry period from 5 to 15 March in northern and central Italy, has improved soil conditions for crop development and to allow access to fields for spring sowing.





Hungary

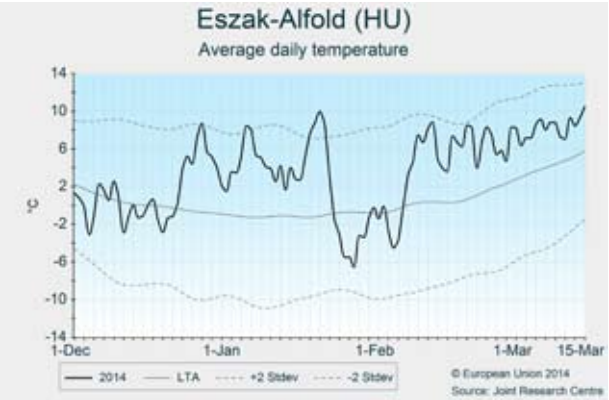
Very mild winter and precipitation deficiency in the East

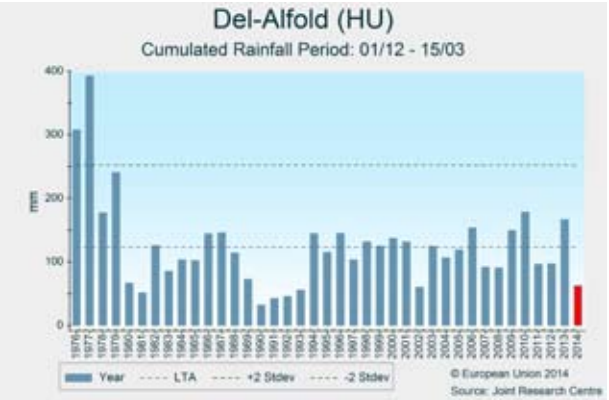
Last winter is among the five mildest in terms of both the daily maximum and minimum temperatures in our 39 years of weather records for Hungary.

No significant crop damage occurred during the winter period. The precipitation was unevenly distributed over time, being initially scarce and then substantial, resulting in a slight surplus in the southwest and considerable rain deficiency in the eastern areas.

The first two dekads of December were characterised by near normal thermal conditions and moderate variability in daily temperatures. Temperatures became significantly warmer after 21 December, and the daily temperatures greatly exceeded the long-term average until mid-March, with the exception of a cold spell in late January/early February. The active temperature sum (Tbase=0°C) for the period under review indicates a surplus of 150 to 220 GDD over Hungary. Consequently, the development of winter crops is very advanced.

Hardly any precipitation (typically < 5 mm) was recorded during December. After the moderate rainfalls of January, favourable and plentiful precipitation fell on the western and northern regions during February. At the same time, precipitation deficiency is observable in *Észak-Alföld* and *Dél-Alföld* regions. The replenishing of soil moisture of lower layers is insufficient in the eastern regions, since the summer drought of 2013 heavily depleted soil moisture contents. Below-average winter precipitation did not compromise the winter crops until now, due to the low water requirement. Biomass accumulation is promising and crop conditions for re-growth are good.



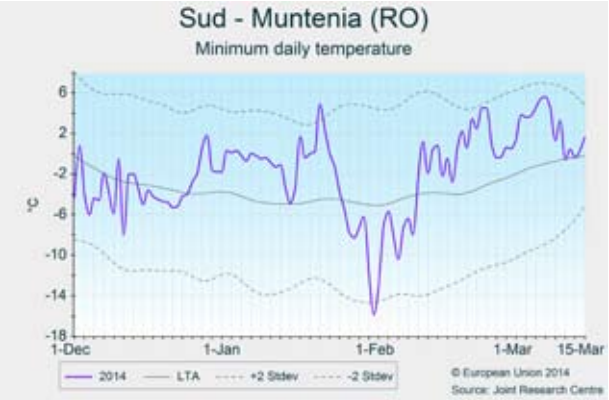


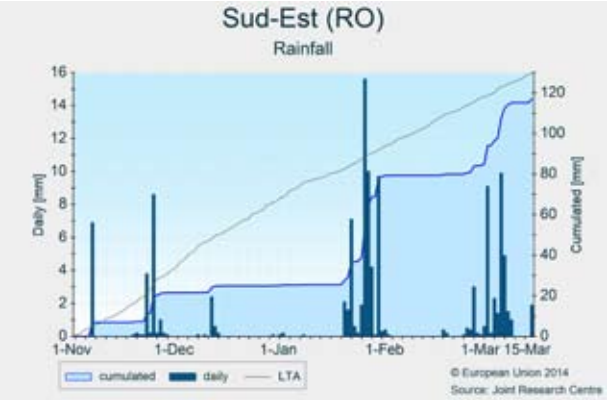
Romania

Good winter conditions

Western and central regions of Romania experienced one of the warmest winters on record and below-average levels of rain and snow. In the eastern regions, both thermal conditions and precipitation were close to average.

Temperatures fluctuated close to the average during most of December, followed by a warmer period (+3- +6 °C positive thermal anomaly) around the end of December. This was interrupted by a cold and snowy (>30 cm) spell during the last dekad of January and the first dekad of February in the eastern and central regions of Romania, with frost events typically below -15°C on the coldest days. Until mid-March the active temperature sum is 150 to 250 GDD





higher than average in western Romania, but the surplus is moderate (< 70 GDD) beyond the Carpathian Mountains. Precipitation was scarce (< 10mm) in December and the first half of January, except in the northwestern region. This deficiency was compensated by abundant snow and rainfall during the second half of winter. Winter crops suffered no significant damages during the winter period. Phenological development is well advanced in the western territories. In the main agricultural areas, soil moisture has been replenished, without being too wet, thus, together with the above-average temperatures, creating favourable conditions for a timely start to the spring crops sowing campaign.

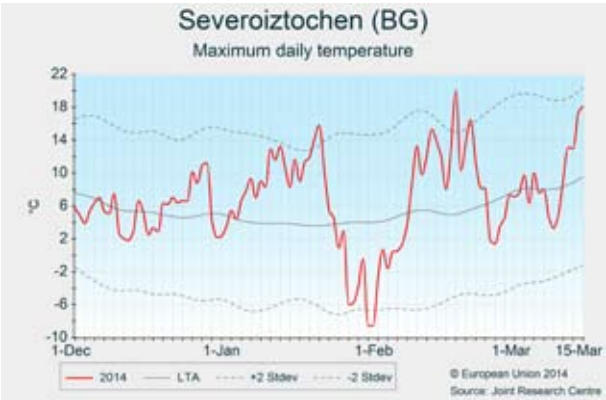
Bulgaria

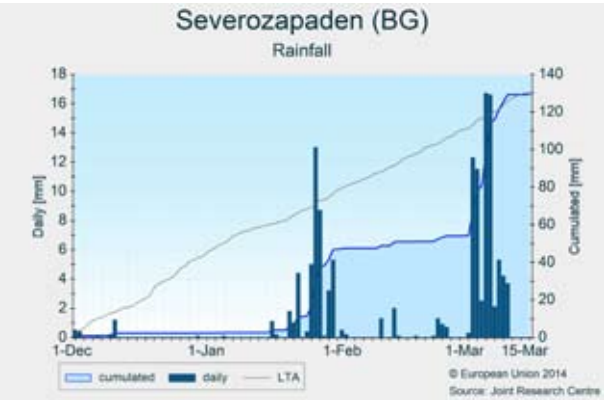
Favourable conditions for winter crops

Weather conditions in Bulgaria were characterised by predominantly positive thermal anomalies, especially in the southern half of the country, and an unusually low frequency of frosts. Precipitation was around the long-term average.

The mild autumn with plentiful precipitation provided a good start of the winter crop season, and accelerated crop establishment and growth to gain strength before winter. In December, temperatures fluctuated around the long-term average without any significant deviation. The first two dekads of January were decidedly warmer than usual. In the last days of January, temperatures suddenly dropped well below the average due to a cold air intrusion. The most severe frosts reached -15°C in the northern areas, and were moderate (around -8°C) in the southern areas. However, a thick snow cover had formed concurrently, protecting the crops until February 6, when mild weather returned and the snow melted quickly.

Precipitation was low (<10 mm) between 1 December and 10 January, followed by a period of abundant precipitation at the end of January/early February, and again during the first dekad of March, thus replenishing soil water. The general crop conditions are good. The winter crops are 1-2 weeks advanced in their development, and biomass accumulation is well above average.





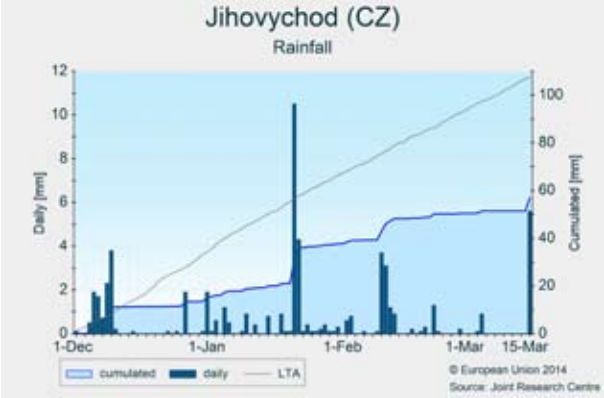
Austria, the Czech Republic and Slovakia

Above-average temperatures and scarce precipitation

This winter was one of the mildest on our records. Precipitation conditions varied strongly across the region. Scarce precipitation in northern Austria and the Czech Republic led to reduced soil water levels.

The winter was characterised by significantly warmer-than-usual weather conditions, which were interrupted by a short cold spell at the end of January. No frost kill occurred during that time according to our simulations, since winter cereals were almost fully hardened and in many areas covered by snow. Scarce precipitation was recorded in northern Austria and the Czech Republic, where the amount was less than half of the LTA. Normal precipitation conditions were experienced in Slovakia, whereas rainfall was abundant over southern Austria.

Warm winter conditions increase the risk of pests and diseases. The risk of frost damage in early spring is increased due to the advanced development stage of winter crops. The lack of precipitation during winter in the Czech Republic and northern Austria has led to reduced soil water levels. It is still too early to predict any impact of these factors on the production of winter crops.

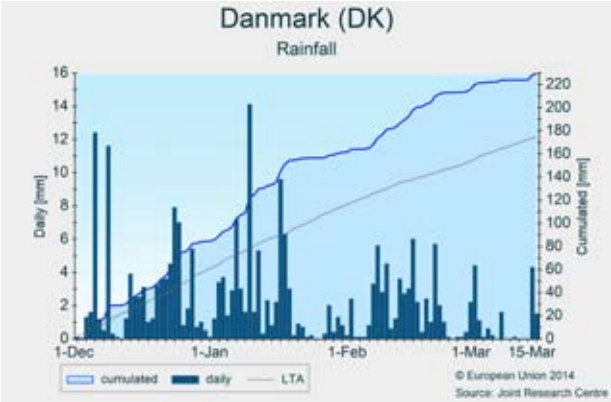


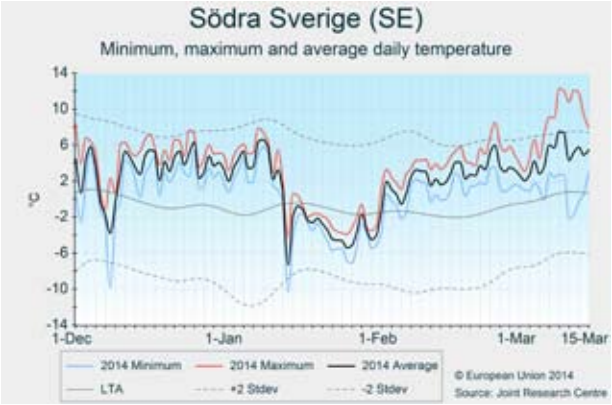
Denmark and Sweden

Plentiful precipitation and favourable thermal conditions

Generally mild thermal conditions with well distributed precipitation create a positive weather scenario for the start of the season..

Significant positive thermal anomalies predominated in Denmark and Sweden during the period of review (1 December – 15 March), which was only interrupted by a cold spell during the second half of January, with minimum temperatures below -10°C in Denmark and in southern Sweden, and below -20°C in *Norra Sverige*. The risk of frost damage in early spring is increased due to the advanced development stage of winter crops. Cumulated rainfall since the beginning of December exceeds the long-term average by more than 50 mm in Denmark and southern Sweden, and by more than 100 mm in the *Norra Mellasverige*.





Finland and the Baltic countries

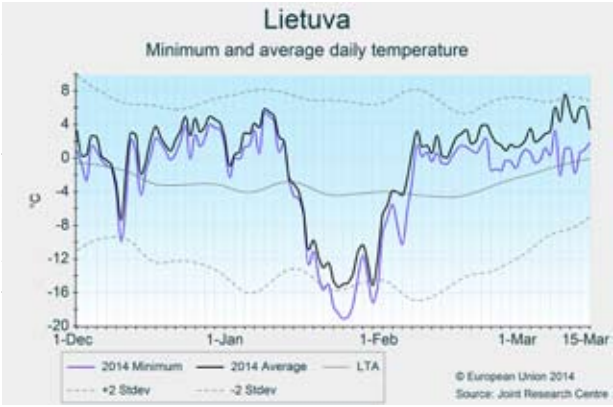
Despite an unusually warm winter, frost-kill damage expected

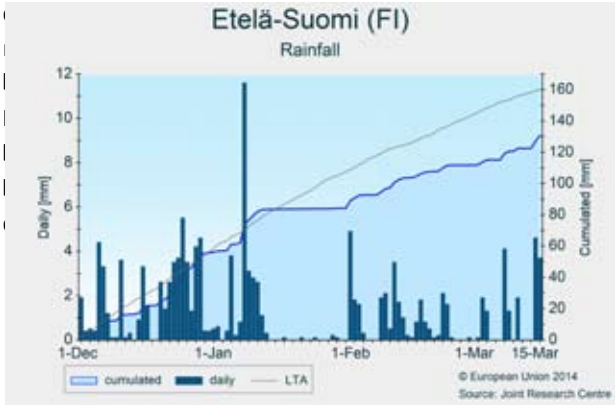
The winter was characterised as being unusually warm, interrupted by a cold spell. Rainfall was close to the average.

During most of the period analysed (1 December – 15 March), average temperatures remained above the long-term average (about 4°C). These mild conditions changed abruptly in mid-January when temperatures dropped to well below the long-term average, reaching minimum values of -21°C (Baltic Countries) and -25°C (Finland). These lower temperatures, combined with a lack of protection because of insufficient snow cover (<6 cm) and incomplete hardening, raise the expectation of frost-kill damages, as corroborated by local sources.

Precipitation across the region was close to average from the beginning of December until mid-January, which was followed by a period of below-average precipitation in the Baltic countries and southern Finland, with rainfall anomalies down to 20% below the long-term average in the east of Lithuania and in *Etelä*, Finland.

Overall, temperature accumulation has been above average, foreseeing an earlier spring sowing.





Belgium, the Netherlands and Luxembourg

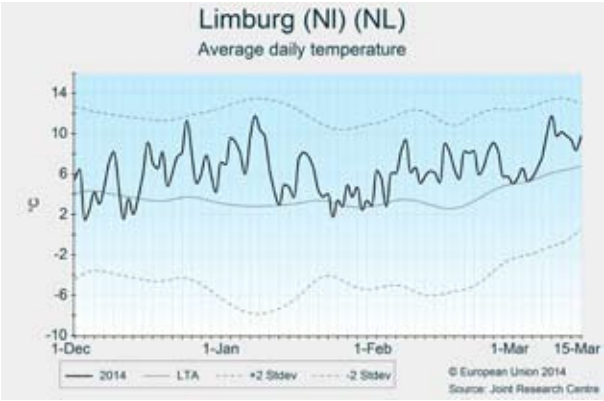
Mild winter

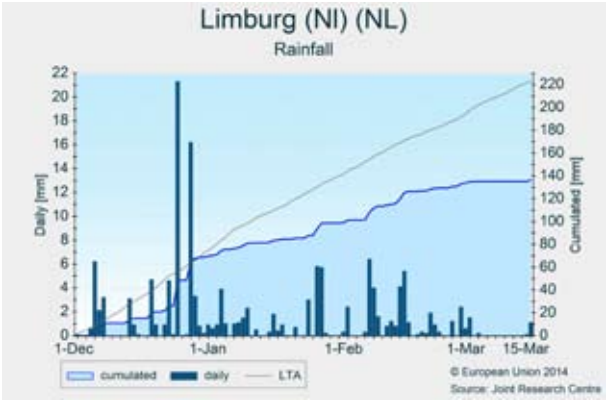
Advanced development of winter crops and generally good early sowing conditions for spring crops, after a very mild winter.

The winter in the Benelux countries was exceptionally mild, with temperatures 2 to 3°C above the long-term average for the period as a whole. No significant cold spells were recorded, apart from a short period with moderate frosts during the last dekad of January in the northeastern Netherlands.

Rainfall was predominantly below average during the period of review, especially in northeastern Belgium and the southeastern parts of the Netherlands, such as in *Limburg*. March, thus far, has been particularly dry.

In general, these conditions have been favourable for the growth of winter crops, which are well advanced in their development. The current warm and dry conditions have also enabled the start of the early sowing of spring crops, even though topsoils on some light-textured soils are rather dry, which implies that sowing must locally be deeper than usual.





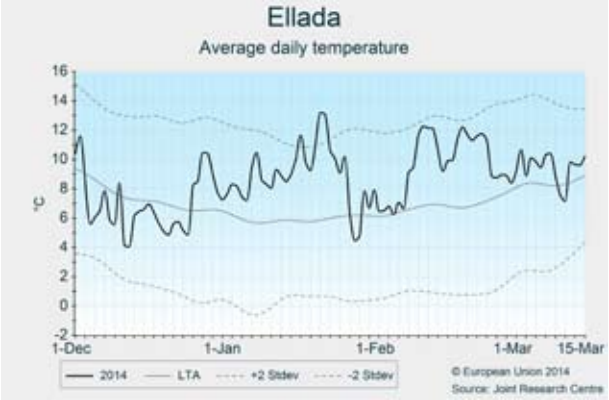
Greece and Cyprus

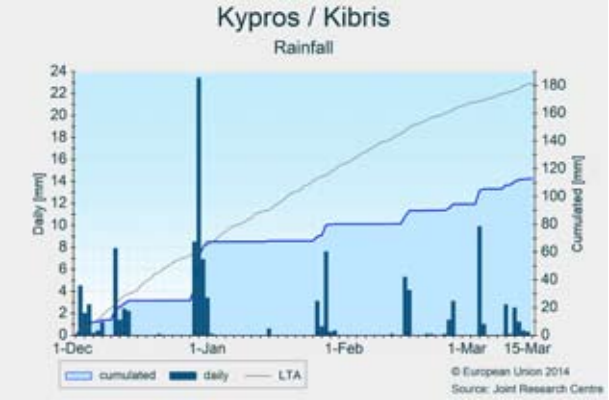
Mild winter and scarce rainfall

In both countries the winter was unusually mild. Rainfall was mainly below average, especially in Cyprus.

Temperatures in Greece were slightly below the long-term average in December, and have been above average since then; thus creating the second mildest winter since 1975, only behind that of 2010. Precipitation from December until the end of February was below the long-term average. However, continuous precipitation was recorded in the first dekad of March, especially in East Macedonia and Trace; thus benefiting winter cereals, which already present well-advanced development.

In Cyprus, temperatures mainly fluctuated 2 to 5°C above the long-term average, with the exception of a cold spell from 8 to 21 December during which temperatures fell to 5 to 8°C below the average. Precipitation remained low during the entire winter period. As a consequence of these persistent conditions, soil moisture reserves have not replenished, which implies a risk for the growth of winter barley.





Slovenia and Croatia

Above-average temperatures and abundant precipitation

This winter was one of the warmest on our records. Soil water reserves were replenished but abundant precipitation caused saturated conditions locally.

The winter in Slovenia and Croatia was characterised by above-average temperatures and abundant precipitation. December started with daily air temperatures fluctuating around the LTA, followed by a period of warm weather, in January, with average daily air temperatures up to 6 °C above the LTA. A cold spell occurred at the end of January. Snow cover during that period protected winter crops, which were only partially hardened. While precipitation was generally close to or above average in both countries, it locally exceeded the LTA by more than 100% in *Zahodna Slovenija* and *Jadranska Hrvatska*.

The active temperature sum (Tbase=0°C) since the beginning of winter in general exceeded the LTA by more than 200 GDD. Consequently, the development of winter wheat has already advanced to the heading stage. The risk of frost damage in early spring is therefore higher than usual. In addition, warm winter conditions increased the risk of pests and diseases. Soil water reserves are fully replenished, but abundant precipitation locally resulted in water-saturated soils in early February. It is too early to forecast any impact of these factors on crop production.

2.2 Black Sea Area

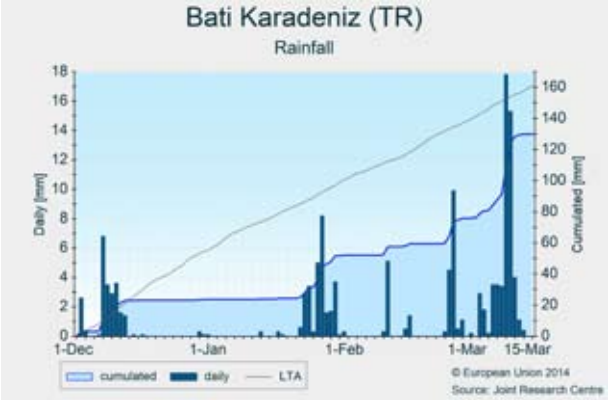
Turkey

Scarce rainfall during winter

Winter rainfall has been among the lowest on our records, especially for the northern part of the country. Mixed picture for temperatures.

Winter started in Turkey with a cold spell with, in some areas such as *Ege*, *Akdeniz*, temperatures dropping to 10 to 14°C below the long-term average between 10 and 13 December. The cold spell lasted until the end of December in the western part of the country, and until mid-January in the eastern areas. Since then, temperature has mostly fluctuated above the long-term average, but the area of *Kuzeydogu Anadolu* received another cold spell from 1 to 7 February, with temperatures dropping by almost 20°C (see graph). Nevertheless, no frost-kill damage has been simulated.

Precipitation since December has been steadily below the long-term average throughout the country. The northern parts of the country seem to have received less rainfall than the rest of the country, and, especially the areas of *Bati Karadeniz* and *Dogu Marmara*, experienced the second-driest period on our records (since 1983). However, continuous precipitation was recorded in the first dekad of March, but the levels of cumulated rainfall and relative soil moisture remain below average. Winter cereals present advanced development stages but more rainfall is needed to replenish the soils. Historical trends have been used for the yield forecast for this Bulletin.



Ukraine

A mild and dry winter

Winter was warmer than average, and cumulated rainfalls were lower than usual. An early development of crops is expected as a consequence of mild conditions since mid-February.

Temperatures stayed above average throughout winter following an already warm and dry autumn. Mean temperatures were 2 to 3°C above average in the northwestern regions and slightly above average in the southern and eastern regions. Since 1 December, cumulated rainfall is below average, particularly in the central regions (100 mm below average in *Cherkas'ka*). At the end of January, a cold spell characterised by minimum temperatures reaching -20°C was recorded in almost all regions. The impact of the brief cold spell on crops

is expected to be very limited as winter crops were almost fully hardened. From mid-February, temperatures rose to greatly above the average in all regions. Depending on the thermal conditions in the coming weeks, the sowing of spring crops will probably occur earlier than usual.

2.3 European Russia and Belarus

European Russia

Above-average thermal conditions resulted in satisfactory wintering

Russia experienced mostly above-average temperatures, though a very cold period occurred during the second half of January and the first dekad of February. Winter precipitation was below normal in the major regions of winter crop cultivation, but soil moisture levels are adequate thanks to the wet autumn.

December started with near-normal thermal conditions, but in the second half of the month and the first half of January daily temperatures significantly (+2 to +7°C) exceeded the average. The central and northern areas were exceptionally mild. This was interrupted by a cold spell from the last dekad of January until the beginning of February, after which the positive thermal anomaly became typical again. During the cold spell, temperatures were 5 to 12°C below the long-term average and minimum temperatures decreased from -15 down to -30°C, but the snow cover generally protected the almost fully hardened crops. However, winter frost-kill damages may have occurred locally, especially in the northern part of Southern Okrug, in places with underdeveloped cultures or shallow snow cover.

The precipitation sum remained below average in the Central and Southern districts by 25 to 75 mm for the whole reviewed period. Concurrently the *Near Volga Okrug* received above-average precipitation in the form of heavy snowfalls resulting in a thick (30 to 70 cm) snow cover.

Though abundant rainfall during autumn had hampered the timely sowing of winter cereals, winter crop development is now deemed to be normal or even advanced due to the mild thermal conditions. The same autumn rains ensured that soil moisture levels are adequate, even where winter precipitation was lower than usual.

Belarus

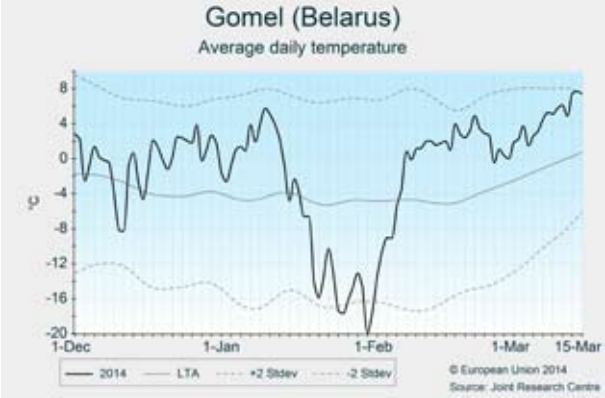
Mild winter with low precipitation

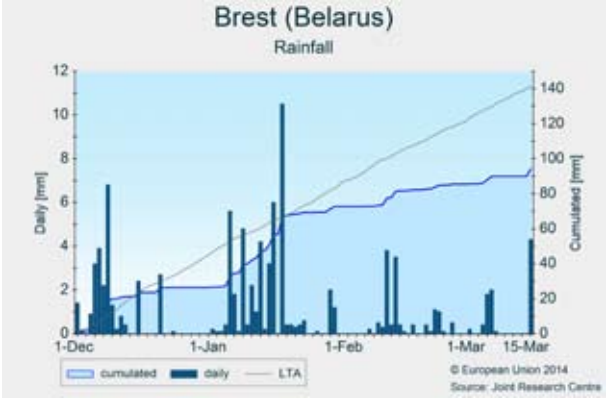
The winter was characterized by above-average temperatures, interrupted by a cold spell. Rainfall accumulation was lower than average.

From 1 December to 15 March, the thermal conditions were above the climatological norm of about 1.5°C. These mild conditions suddenly changed across the region in mid-January: temperatures dropped to well below average (about -10°C) during the entire third dekad of January, and daily minimum temperatures reached -25°C in the eastern district. Snow cover (> 10 cm) and almost full hardening helped to protect crops during the cold spell, and our simulations have detected no frost-kill damage.

Afterwards, the significant cooling was replaced by warmer-than-usual temperatures.

Precipitation was close to average until the first half of January, followed by scarce rainfall until mid-March, with the biggest anomalies of about 30% and 25% below average being recorded in *Brest* and *Gomel*.





2.4 Maghreb

Morocco, Algeria and Tunisia

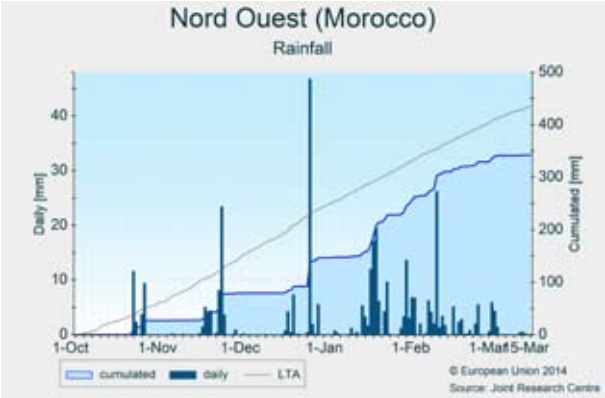
Below-average rainfall in Morocco, relatively warm winter in most of Maghreb

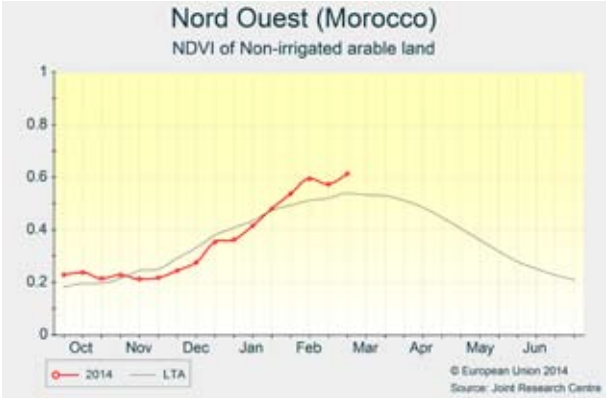
It has been a relatively warm winter in most parts of Morocco, Algeria and Tunisia. There has been below-average rainfall in Morocco, slightly above-average rainfall in Algeria, and average rainfall in Tunisia. Generally, we expect no delays in crop development in the region, but reduced levels of precipitation in Morocco have delayed canopy growth.

Whilst the general picture across most of Morocco is one of reduced rainfall over the agricultural season so far, larger reductions have occurred in southern Morocco, where fewer cereals are grown. In northern Morocco, these observed reductions in rainfall have been less dramatic, and rainfall events have tended to be fairly evenly distributed throughout the growing season. Canopy growth has been delayed, but the situation is now improved, and NDVI indicators are now above average. It is too early to say how much this delay might affect cereal yields; forecasts remain on trend.

Algeria's cereal-growing areas have experienced a relatively warm winter, have received slightly more rainfall than average, and are mostly showing above average NDVI. We expect yields to be at least average; the forecast remains on trend.

Tunisia has also experienced a slightly warmer-than-average season so far. Many cereal-growing areas have received slightly above-average rainfall, and this is reflected in canopy development. However, parts of the far northeast of the country (where more soft wheat is grown) have received lower-than-average accumulations of rainfall; this is reflected in canopy growth, where NDVI again suggests delays in canopy development, but levels have recovered and now show above-average greenness.





3. Crop yield forecasts

Country	TOTAL WHEAT (t/ha)					SOFT WHEAT (t/ha)					DURUM WHEAT (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	5.57	**5.47**	5.34	-1.8	+2.5	5.82	**5.71**	5.57	-1.8	+2.5	3.36	**3.19**	3.24	-5.1	-1.5
AT	5.37	**5.17**	5.06	-3.7	+2.3	5.39	**5.21**	5.10	-3.3	+2.2	5.09	**4.37**	4.33	-14.2	+1.0
BE	8.93	**8.79**	8.83	-1.6	-0.4	8.93	**8.79**	8.83	-1.6	-0.4	-	**-**	-	-	-
BG	4.25	**3.84**	3.71	-9.6	+3.5	4.25	**3.83**	3.71	-9.9	+3.2	4.23	**4.25**	3.79	+0.5	+12.3
CY	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
CZ	5.70	**5.36**	5.19	-5.9	+3.2	5.70	**5.36**	5.19	-5.9	+3.2	-	**-**	-	-	-
DE	7.98	**7.79**	7.48	-2.4	+4.2	7.98	**7.79**	7.48	-2.4	+4.2	-	**-**	-	-	-
DK	7.28	**7.24**	7.14	-0.6	+1.5	7.28	**7.24**	7.14	-0.6	+1.5	-	**-**	-	-	-
EE	3.29	**3.35**	3.16	+1.8	+6.2	3.29	**3.35**	3.16	+1.8	+6.2	-	**-**	-	-	-
ES	3.58	**3.10**	3.01	-13.4	+3.1	3.76	**3.25**	3.23	-13.5	+0.8	2.64	**2.30**	2.17	-12.9	+6.2
FI	3.88	**3.89**	3.83	+0.2	+1.4	3.88	**3.89**	3.83	+0.2	+1.4	-	**-**	-	-	-
FR	7.24	**7.32**	6.99	+1.2	+4.7	7.37	**7.46**	7.15	+1.2	+4.3	5.25	**5.04**	5.12	-4.0	-1.7
GR	2.64	**2.63**	2.74	-0.4	-3.9	2.71	**2.90**	2.95	+6.8	-1.9	2.62	**2.56**	2.67	-2.4	-4.1
HR	4.95	**4.95**	4.79	+0.1	+3.4	4.95	**4.95**	4.79	+0.1	+3.4	-	**-**	-	-	-
HU	4.62	**4.22**	4.03	-8.7	+4.7	4.63	**4.22**	4.03	-8.8	+4.7	4.03	**4.03**	3.75	-0.1	+7.5
IE	8.80	**9.03**	8.50	+2.6	+6.2	8.80	**9.03**	8.50	+2.6	+6.2	-	**-**	-	-	-
IT	3.92	**3.93**	3.84	+0.1	+2.2	5.23	**5.51**	5.38	+5.4	+2.5	3.32	**3.20**	3.16	-3.7	+1.1
LT	4.06	**4.08**	3.98	+0.4	+2.5	4.06	**4.08**	3.98	+0.4	+2.5	-	**-**	-	-	-
LU	6.18	**6.00**	6.03	-2.9	-0.4	6.18	**6.00**	6.03	-2.9	-0.4	-	**-**	-	-	-
LV	3.37	**3.56**	3.56	+5.4	-0.2	3.37	**3.56**	3.56	+5.4	-0.2	-	**-**	-	-	-
MT	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
NL	9.23	**8.73**	8.76	-5.3	-0.3	9.23	**8.73**	8.76	-5.3	-0.3	-	**-**	-	-	-
PL	4.43	**4.35**	4.25	-1.8	+2.3	4.43	**4.35**	4.25	-1.8	+2.3	-	**-**	-	-	-
PT	2.20	**1.61**	1.52	-26.7	+6.1	2.20	**1.61**	1.52	-26.7	+6.1	-	**-**	-	-	-
RO	3.51	**2.98**	3.00	-15.1	-0.5	3.51	**2.98**	3.00	-15.1	-0.5	-	**-**	-	-	-
SE	5.91	**5.92**	5.78	+0.1	+2.3	5.91	**5.92**	5.78	+0.1	+2.3	-	**-**	-	-	-
SI	4.38	**4.76**	4.75	+8.7	+0.4	4.38	**4.76**	4.75	+8.7	+0.4	-	**-**	-	-	-
SK	4.70	**3.99**	4.00	-15.0	-0.1	4.76	**4.00**	4.01	-16.0	-0.3	2.80	**3.83**	3.61	+36.5	+6.0
UK	7.38	**7.74**	7.47	+4.9	+3.6	7.38	**7.74**	7.47	+4.9	+3.6	-	**-**	-	-	-

Country	TOTAL BARLEY (t/ha)					SPRING BARLEY (t/ha)					WINTER BARLEY (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	4.83	**4.59**	4.49	-5.0	+2.3	4.42	**4.01**	3.94	-9.2	+1.8	5.48	**5.42**	5.30	-1.2	+2.2
AT	5.15	**5.03**	4.83	-2.3	+4.2	4.38	**4.14**	4.03	-5.6	+2.7	5.77	**5.74**	5.59	-0.6	+2.6
BE	8.58	**8.60**	8.57	+0.3	+0.4	-	**-**	-	-	-	8.58	**8.60**	8.57	+0.3	+0.4
BG	3.90	**3.76**	3.61	-3.7	+4.2	-	**-**	-	-	-	3.90	**3.76**	3.61	-3.7	+4.2
CY	1.44	**1.51**	1.85	+4.7	-18.5	-	**-**	-	-	-	1.44	**1.51**	1.85	+4.7	-18.5
CZ	4.67	**4.48**	4.37	-4.0	+2.7	4.73	**4.43**	4.31	-6.4	+2.7	4.53	**4.61**	4.52	+1.7	+2.1
DE	6.59	**6.34**	6.23	-3.7	+1.8	5.42	**5.18**	5.25	-4.4	-1.3	6.94	**6.68**	6.56	-3.7	+1.8
DK	5.77	**5.52**	5.54	-4.4	-0.4	5.68	**5.40**	5.43	-4.9	-0.4	6.26	**5.97**	6.01	-4.6	-0.7
EE	3.40	**3.18**	2.83	-6.5	+12.3	3.40	**3.18**	2.83	-6.5	+12.3	-	**-**	-	-	-
ES	3.63	**2.92**	2.81	-19.4	+4.1	3.69	**2.97**	2.87	-19.6	+3.4	3.21	**2.62**	2.45	-18.5	+6.8
FI	3.91	**3.50**	3.52	-10.4	-0.5	3.91	**3.50**	3.52	-10.4	-0.5	-	**-**	-	-	-
FR	6.33	**6.60**	6.44	+4.3	+2.6	6.08	**6.30**	6.18	+3.6	+1.9	6.44	**6.73**	6.54	+4.5	+2.8
GR	2.45	**2.61**	2.73	+6.4	-4.4	-	**-**	-	-	-	2.45	**2.61**	2.73	+6.4	-4.4
HR	3.84	**3.99**	3.93	+3.9	+1.6	-	**-**	-	-	-	3.84	**3.99**	3.93	+3.9	+1.6
HU	4.07	**3.90**	3.61	-4.1	+8.0	2.85	**3.30**	3.08	+15.6	+7.3	4.50	**4.10**	3.91	-8.8	+4.8
IE	7.30	**7.30**	6.99	-	+4.4	6.96	**6.95**	6.68	-0.2	+4.0	9.00	**8.58**	8.57	-4.6	+0.2
IT	3.62	**3.63**	3.56	+0.3	+2.0	-	**-**	-	-	-	3.62	**3.63**	3.56	+0.3	+2.0
LT	2.90	**3.22**	2.98	+11.0	+8.1	2.90	**3.22**	2.98	+11.0	+8.1	**-**	**-**	-	-	-
LU	-	**-**	-	-	-	**-**	**-**	-	-	-	-	**-**	-	-	-
LV	2.70	**2.74**	2.64	+1.5	+3.8	2.70	**2.74**	2.64	+1.5	+3.8	**-**	**-**	-	-	-
MT	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
NL	6.95	**6.39**	6.41	-8.1	-0.3	6.95	**6.39**	6.41	-8.1	-0.3	**-**	**-**	-	-	-
PL	3.57	**3.50**	3.41	-2.0	+2.6	3.39	**3.31**	3.26	-2.4	+1.5	4.09	**4.05**	4.01	-1.0	+1.0
PT	2.10	**1.60**	1.60	-23.8	-0.1	-	**-**	-	-	-	2.10	**1.60**	1.60	-23.8	-0.1
RO	3.04	**2.70**	2.71	-11.2	-0.3	2.34	**2.10**	1.96	-10.2	+7.0	3.38	**2.99**	3.11	-11.5	-3.8
SE	4.62	**4.44**	4.46	-4.0	-0.5	4.58	**4.40**	4.42	-3.8	-0.5	5.80	**5.44**	5.33	-6.1	+2.2
SI	4.00	**4.30**	4.20	+7.4	+2.4	-		-	-	-	4.00	**4.30**	4.20	+7.4	+2.4
SK	3.86	**3.53**	3.41	-8.5	+3.6	3.88	**3.54**	3.40	-8.8	+4.1	3.75	**3.52**	3.53	-6.1	-0.4
UK	5.85	**5.69**	5.72	-2.7	-0.5	5.66	**5.32**	5.39	-5.9	-1.2	6.40	**6.34**	6.34	-1.0	-0.0

Country	GRAIN MAIZE (t/ha)					RYE (t/ha)					TRITICALE (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	6.61	**7.03**	6.83	+6.3	+2.9	3.99	**3.52**	3.50	-11.7	+0.8	4.31	**4.10**	4.10	-4.9	-0.1
AT	7.63	**10.24**	9.94	+34.3	+3.0	4.18	**4.09**	4.04	-2.2	+1.1	4.98	**5.09**	4.97	+2.1	+2.3
BE	11.15	**11.90**	11.60	+6.7	+2.6	-	-	-	-	-	-	-	-	-	-
BG	5.48	**5.15**	4.99	-5.9	+3.3	-	-	-	-	-	2.96	**3.30**	2.79	+11.2	+18.2
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CZ	6.73	**7.70**	7.72	+14.5	-0.2	4.72	**4.75**	4.56	+0.5	+4.1	4.70	**4.35**	4.29	-7.4	+1.4
DE	8.21	**9.75**	9.63	+18.7	+1.3	5.97	**5.26**	5.24	-12.0	+0.4	6.57	**5.96**	5.94	-9.3	+0.4
DK	5.86	**5.63**	5.48	-3.9	+2.7	6.14	**5.41**	5.58	-11.8	-3.1	5.71	**5.32**	5.14	-7.0	+3.4
EE	-	-	-	-	-	1.90	**2.46**	2.50	+29.1	-1.8	-	-	-	-	-
ES	10.93	**11.06**	10.79	+1.2	+2.5	2.47	**1.90**	1.86	-23.0	+2.2	2.81	**2.13**	2.32	-24.0	-8.3
FI	-	-	-	-	-	2.18	**2.72**	2.77	+25.1	-1.7	-	-	-	-	-
FR	8.45	**9.32**	9.07	+10.3	+2.7	4.90	**4.98**	4.95	+1.7	+0.7	5.25	**5.44**	5.38	+3.6	+1.1
GR	10.50	**10.90**	10.81	+3.8	+0.8	2.34	**2.13**	2.13	-9.0	-0.0	-	-	-	-	-
HR	6.60	**6.59**	6.18	-0.2	+6.6	-	-	-	-	-	3.41	**3.38**	3.59	-0.9	-5.8
HU	5.34	**6.27**	5.73	+17.6	+9.5	2.74	**2.43**	2.24	-11.5	+8.5	4.00	**3.60**	3.29	-10.0	+9.3
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IT	8.05	**8.73**	8.74	+8.4	-0.2	-	-	-	-	-	-	-	-	-	-
LT	7.50	**7.14**	6.73	-4.8	+6.1	2.49	**1.90**	2.36	-23.8	-19.6	3.37	**3.06**	3.06	-9.3	-
LU	-	-	-	-	-	6.63	-	-	-	-	-	-	-	-	-
LV	-	-	-	-	-	2.89	**2.74**	2.73	-5.2	+0.3	2.50	**2.64**	2.70	+5.7	-2.2
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	10.43	**11.99**	11.86	+14.9	+1.1	-	-	-	-	-	-	-	-	-	-
PL	6.58	**6.83**	6.73	+3.8	+1.5	2.85	**2.69**	2.69	-5.7	-	3.64	**3.51**	3.48	-3.6	+0.9
PT	7.87	**7.93**	7.60	+0.8	+4.3	0.90	**0.90**	0.87	+0.1	+3.8	1.69	**1.38**	1.24	-18.3	+11.3
RO	4.08	**3.59**	3.61	-12.1	-0.6	-	-	-	-	-	3.49	**3.28**	3.16	-5.9	+3.7
SE	-	-	-	-	-	5.90	**5.72**	5.70	-3.0	+0.4	5.32	**5.17**	4.89	-3.0	+5.7
SI	5.67	**7.69**	7.53	+35.5	+2.1	-	-	-	-	-	-	-	-	-	-
SK	5.58	**6.40**	6.12	+14.7	+4.6	3.96	**3.15**	3.12	-20.5	+1.0	3.40	**3.04**	3.06	-10.5	-0.4
UK	-	-	-	-	-	-	-	-	-	-	3.75	**3.89**	3.91	+3.6	-0.5

Country	RAPE AND TURNIP RAPE (t/ha)					POTATO (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	3.09	**3.13**	3.05	+1.2	+2.6	31.07	**32.58**	30.92	+4.9	+5.4
AT	3.09	**2.97**	3.06	-3.9	-2.8	26.88	**32.07**	31.32	+19.3	+2.4
BE	4.27	**4.20**	4.16	-1.6	+1.1	46.15	**46.26**	45.16	+0.2	+2.4
BG	2.38	**2.68**	2.31	+12.7	+16.3	12.14	**15.96**	14.21	+31.4	+12.3
CY	-	-	-	-	-	-	-	-	-	-
CZ	3.45	**2.93**	3.01	-15.1	-2.7	22.75	**27.86**	26.44	+22.5	+5.4
DE	3.95	**3.85**	3.77	-2.6	+2.2	38.31	**43.93**	42.64	+14.7	+3.0
DK	3.87	**3.67**	3.68	-5.2	-0.4	40.00	**40.58**	39.62	+1.4	+2.4
EE	1.88	**1.85**	1.65	-1.9	+11.8	-	-	-	-	-
ES	2.62	**1.88**	2.05	-28.4	-8.5	30.49	**30.30**	30.67	-0.6	-1.2
FI	1.54	**1.36**	1.34	-11.5	+1.8	27.52	**27.20**	26.81	-1.1	+1.5
FR	3.04	**3.37**	3.40	+10.7	-0.9	43.69	**45.91**	43.32	+5.1	+6.0
GR	-	-	-	-	-	25.36	**25.31**	25.35	-0.2	-0.2
HR	2.75	**2.66**	2.64	-3.2	+0.9	15.50	**16.83**	16.44	+8.6	+2.4
HU	2.57	**2.60**	2.29	+1.3	+13.6	28.21	**27.28**	25.31	-3.3	+7.8
IE	-	-	-	-	-	34.00	**32.14**	31.41	-5.5	+2.3
IT	2.17	**2.29**	2.26	+5.2	+1.2	25.60	**25.13**	25.20	-1.8	-0.3
LT	2.17	**2.05**	2.07	-5.8	-1.3	18.00	**15.36**	15.37	-14.7	-0.1
LU	-	-	-	-	-	-	-	-	-	-
LV	2.21	**2.13**	2.21	-3.4	-3.4	19.00	**17.85**	17.68	-6.0	+1.0
MT	-	-	-	-	-	-	-	-	-	-
NL	-	-	-	-	-	41.45	**45.06**	44.50	+8.7	+1.3
PL	2.77	**2.85**	2.60	+2.9	+9.5	21.42	**21.67**	21.70	+1.2	-0.1
PT	-	-	-	-	-	17.08	**16.78**	16.20	-1.8	+3.5
RO	2.27	**1.85**	1.80	-18.5	+2.7	15.03	**14.59**	14.35	-2.9	+1.7
SE	2.64	**2.74**	2.74	+3.7	-0.3	33.79	**32.00**	31.94	-5.3	+0.2
SI	-	-	-	-	-	-	-	-	-	-
SK	2.76	**2.26**	2.27	-18.2	-0.3	-	-	-	-	-
UK	2.98	**3.52**	3.41	+18.3	+3.3	40.14	**41.50**	40.86	+3.4	+1.6

Country	SUGAR BEETS (t/ha)					SUNFLOWER (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	68.80	**71.18**	70.42	+3.4	+1.1	1.93	**1.91**	1.86	-0.8	+3.0
AT	63.30	**68.51**	67.98	+8.2	+0.8	2.43	**2.66**	2.59	+9.3	+2.6
BE	74.07	**78.97**	79.64	+6.6	-0.8	-	-	-	-	-
BG	-	-	-	-	-	2.40	**2.16**	2.03	-9.9	+6.7
CY	-	-	-	-	-	-	-	-	-	-
CZ	54.72	**62.72**	59.45	+14.6	+5.5	2.34	**2.45**	2.32	+4.5	+5.2
DE	66.56	**68.33**	68.44	+2.7	-0.2	2.26	**2.19**	2.18	-3.3	+0.2
DK	60.53	**60.60**	60.73	+0.1	-0.2	-	-	-	-	-
EE	-	-	-	-	-	-	-	-	-	-
ES	89.85	**93.49**	87.44	+4.0	+6.9	1.13	**1.09**	1.10	-3.6	-1.1
FI	38.67	**38.52**	39.40	-0.4	-2.2	-	-	-	-	-
FR	84.07	**89.81**	88.1	+6.8	+1.9	2.05	**2.36**	2.32	+15.0	+1.6
GR	57.89	-	-	-	-	4.37	**2.26**	2.81	-48.3	-19.7
HR	52.00	**53.56**	49.87	+3.0	+7.4	2.40	**2.64**	2.55	+10.0	+3.4
HU	47.00	**58.07**	52.08	+23.6	+11.5	2.00	**2.39**	2.16	+19.8	+10.7
IE	-	-	-	-	-	-	-	-	-	-
IT	84.18	**56.79**	60.51	-32.5	-6.1	2.09	**2.15**	2.10	+2.7	+2.4
LT	51.00	**53.28**	49.14	+4.5	+8.4	-	-	-	-	-
LU	-	-	-	-	-	-	-	-	-	-
LV	-	-	-	-	-	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-
NL	76.05	**77.65**	77.66	+2.1	-0.0	-	-	-	-	-
PL	52.94	**55.99**	54.26	+5.8	+3.2	-	-	-	-	-
PT	-	-	-	-	-	0.59	**0.58**	0.55	-2.2	+5.0
RO	32.28	**35.70**	33.72	+10.6	+5.9	1.88	**1.60**	1.68	-14.7	-4.8
SE	57.66	**56.65**	58.56	-1.8	-3.3	-	-	-	-	-
SI	-	-	-	-	-	-	-	-	-	-
SK	-	-	-	-	-	2.35	**2.30**	2.17	-2.2	+5.9
UK	68.38	**68.54**	68.54	+0.2	-0.0	-	-	-	-	-

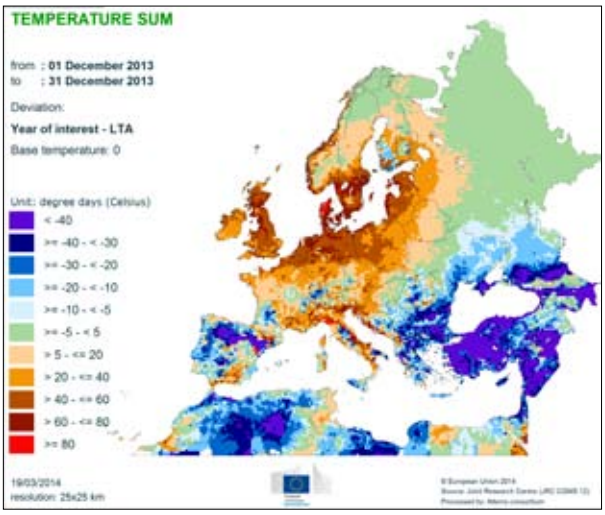
Notes: Yields are forecast for crops with more than 10000 ha per country; figures are rounded to 100 kg
Sources: 2009-2014 data come from DG AGRICULTURE short term Outlook data (dated February 2014, received on 03/03/2014), EUROSTAT Eurobase (last update: 18/02/2014) and EES (last update: 14/02/2014)
2014 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 20/03/2014)

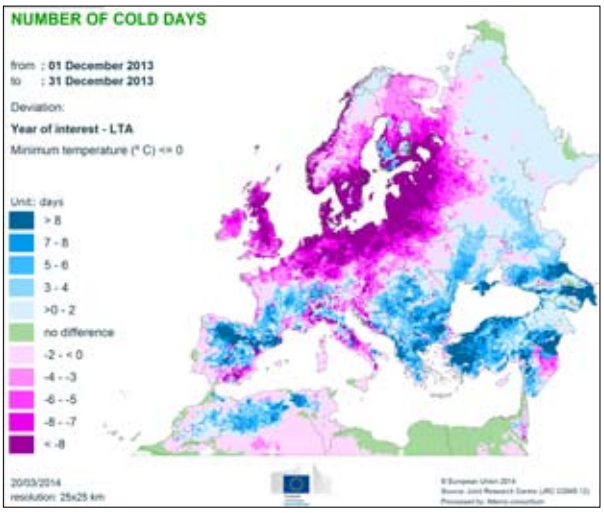
Country	WHEAT (t/ha)					BARLEY(t/ha)					GRAIN MAIZE (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
BY	3.59*	**3.47**	3.36	-3.3	+3.4	3.09	**3.33**	3.12	+7.7	+6.5	5.92*	**6.06**	5.62	2.28	+7.7
DZ	1.72*	**1.69**	1.62	-1.7	+4.6	1.65*	**1.48**	1.53	-10.5	-3.2	-	-	-	-	-
MA	2.10*	**1.55**	1.75	-26.3	-11.7	1.24*	**1.00**	1.27	-19.4	-21.2	-	-	-	-	-
TN	1.55*	**1.92**	1.92	+23.7	-0.3	0.94*	**1.35**	1.24	+43.5	+8.4	-	-	-	-	-
TR	2.53*	**2.58**	2.58	+2.1	+0.0	2.51*	**2.59**	2.51	+3.1	+3.0	7.42*	**7.40**	7.28	-0.22	+1.7
UA	3.39	**3.19**	3.08	-5.8	+3.8	2.34	**2.40**	2.25	+2.5	+6.5	6.4	**6.03**	5.56	-5.72	+8.6

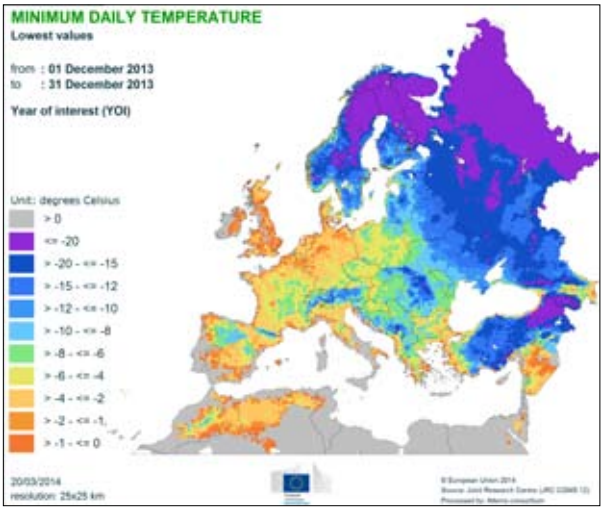
Notes: Yields are forecast for crops with more than 10000 ha per country
Sources: 2009-2013 data come from FAO, PSD-online, INRA Maroc, Min AGRI TunIsia and DSASI Algeria
*2013 yields come from MARS CROP YIELD FORECASTING SYSTEM as reported values were not available
2014 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 20/03/2014)

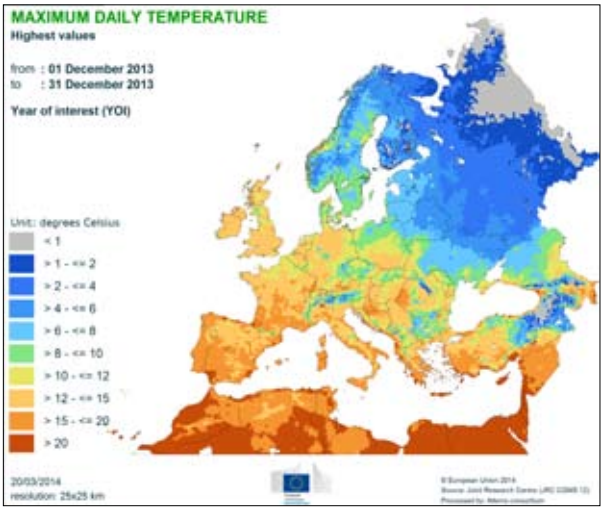
4. Atlas maps

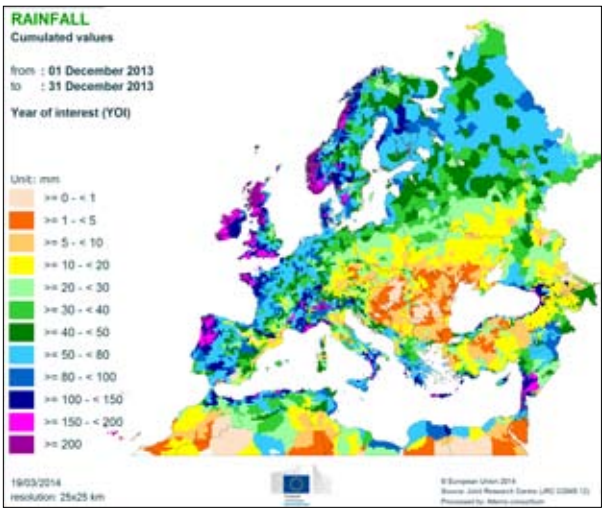
Meteorological conditions - December

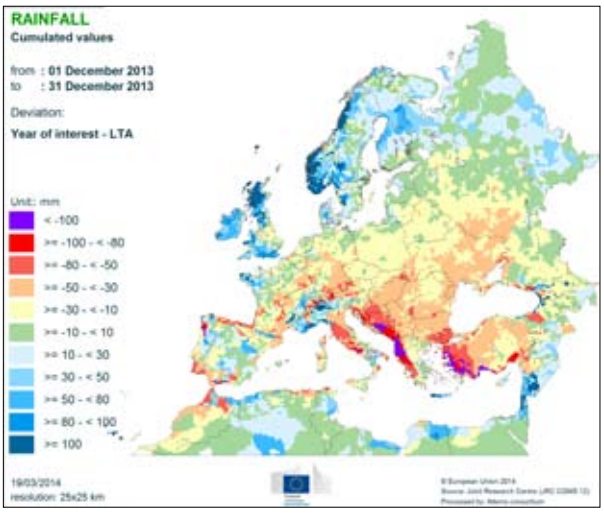




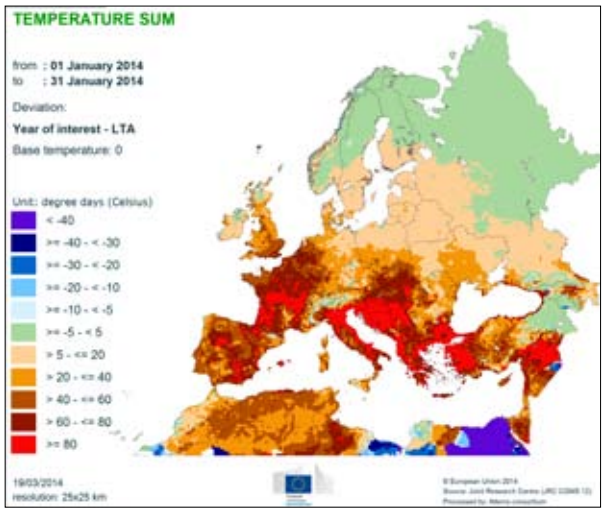


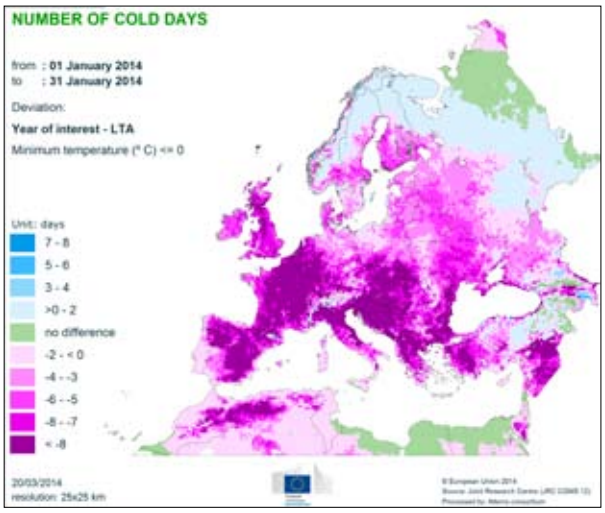


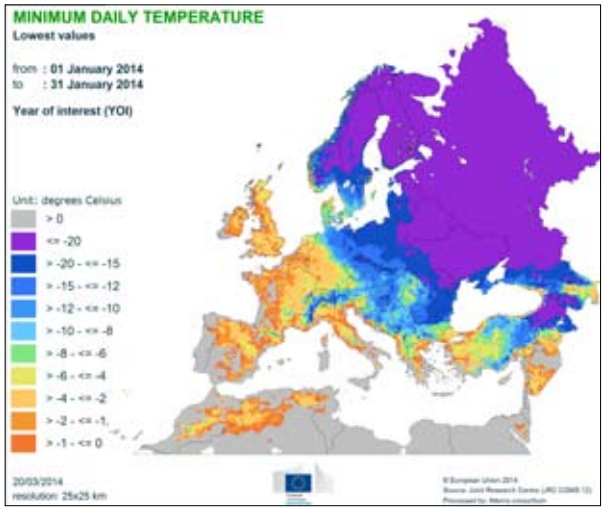


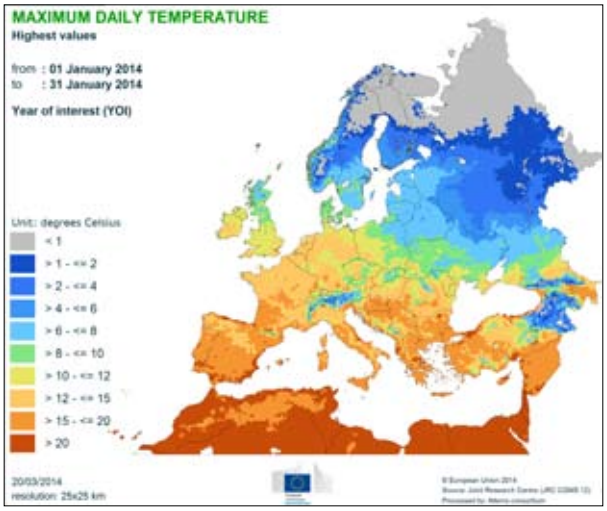


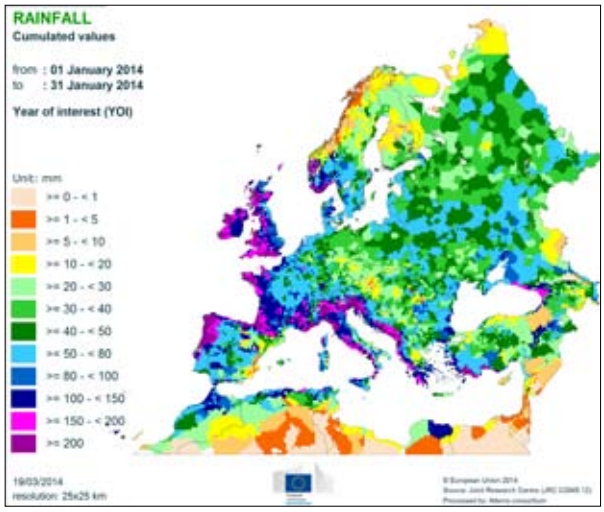
Meterological conditions - January

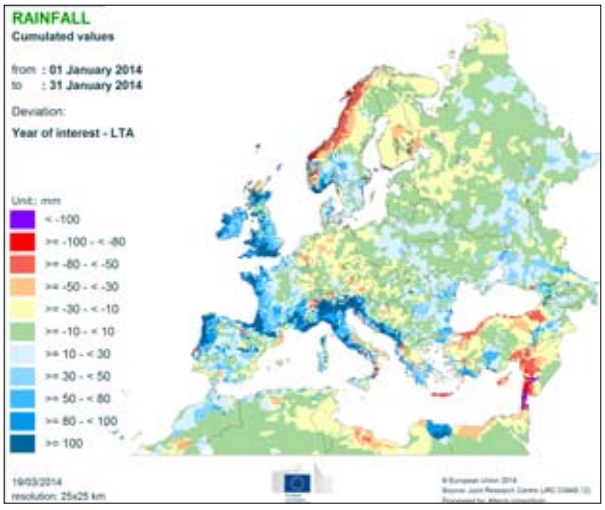




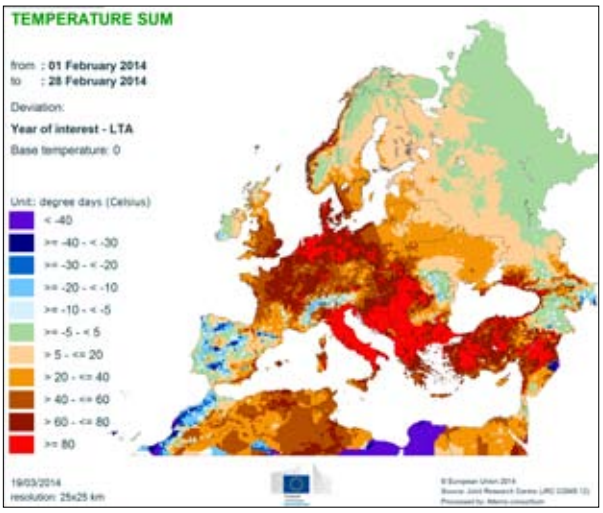


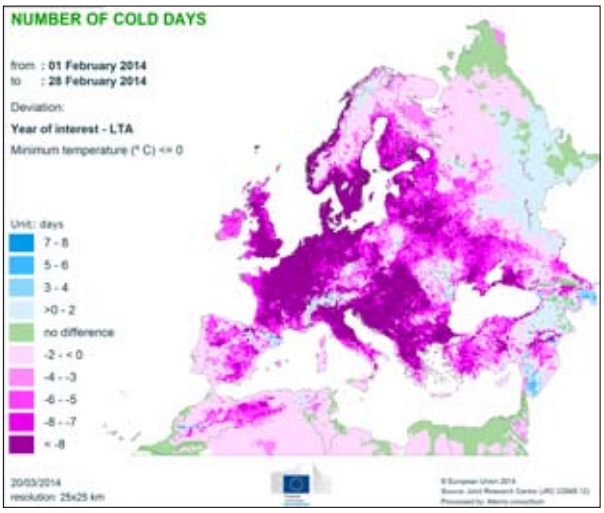


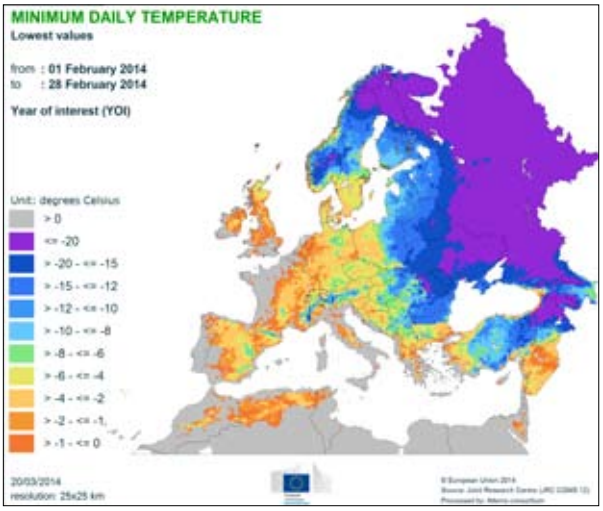


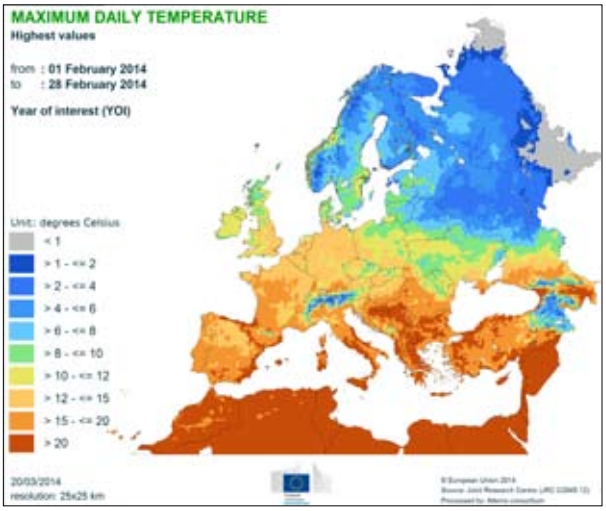


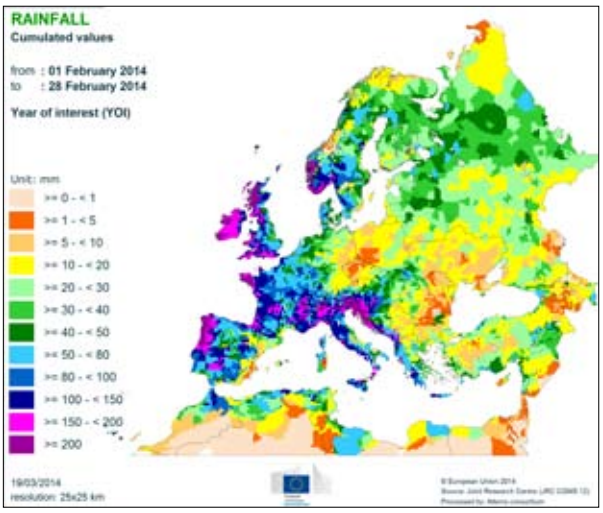
Meterological conditions - February

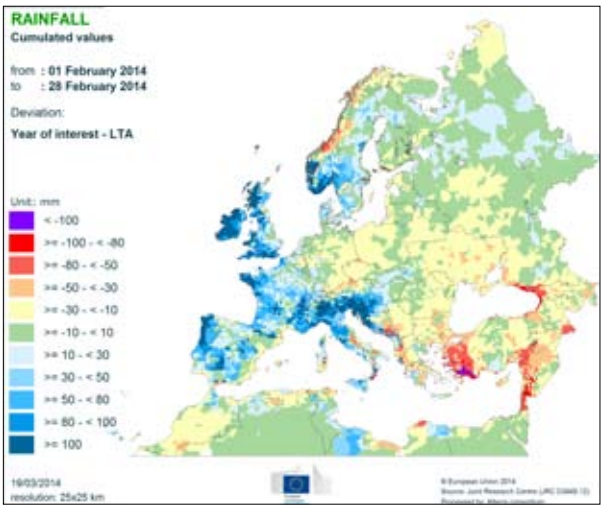




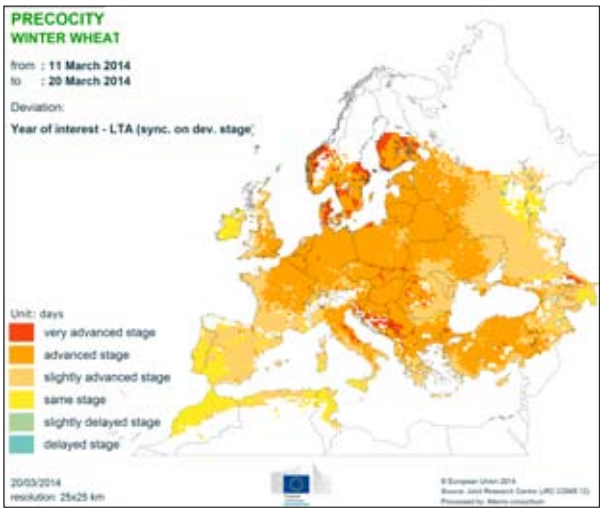


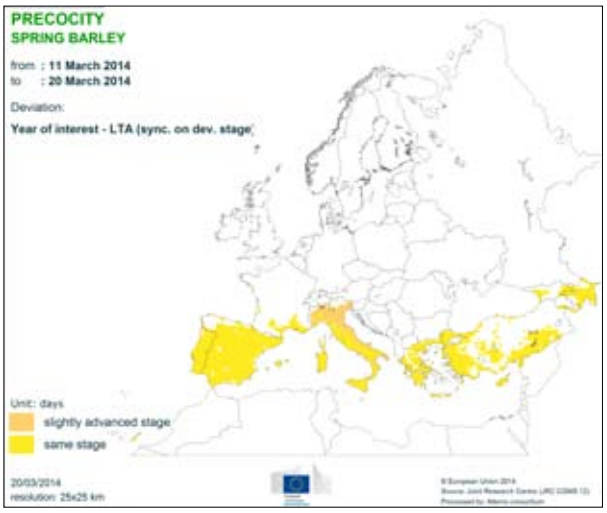


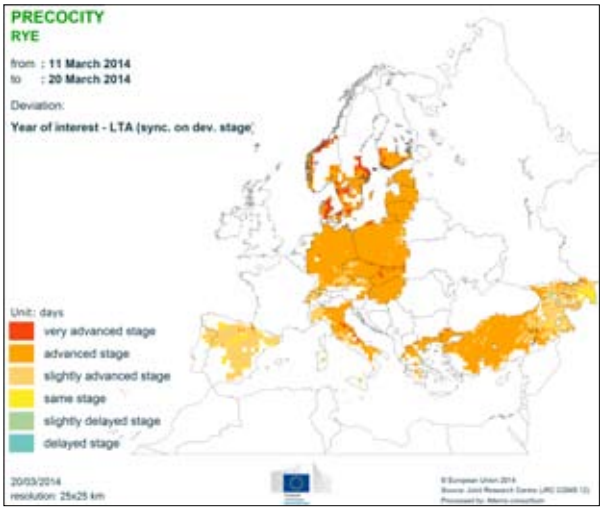


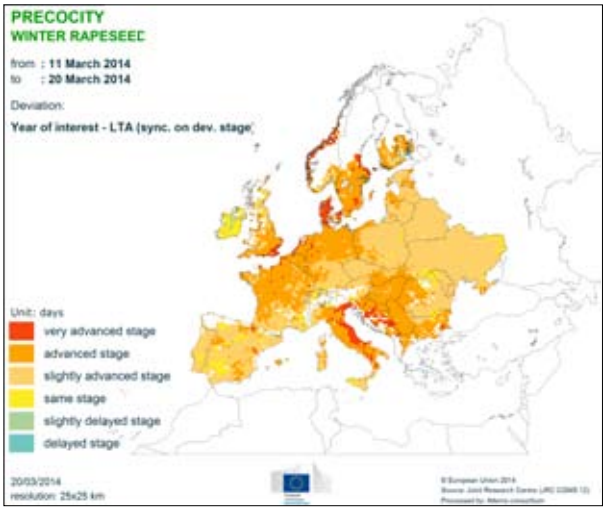


Crop precocity









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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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Technical note:
The long term average (LTA) used within this Bulletin as a reference is based on an archive of data covering 1975-2013.

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