Issued: 24 March 2025
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European Commission

JRC MARS Bulletin

Crop monitoring in Europe

March 2025

Promising start to spring

More rainfall required in the east to maintain yield potential

Across most of the EU, winter crops are in fairly good condition. Compared with the same time last year, there are fewer and generally smaller areas where crops are currently affected by unfavourable weather conditions. However, there are a number of areas of concern for which the upcoming weather conditions will be decisive. Regions where crops were irreversibly impacted remain confined to parts of Romania and Bulgaria, as well as (more seriously) in eastern parts of Ukraine, Morocco and western Algeria.

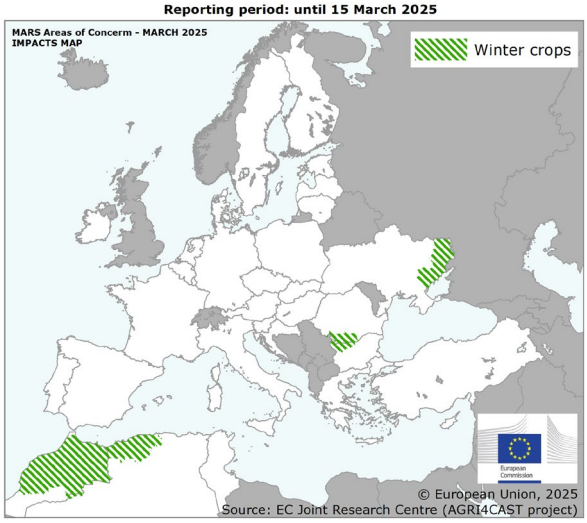
Weather conditions have generally been favourable for seedbed preparation, the sowing of spring cereals, and other field operations.

The crop yield forecasts at this early stage of the season are predominantly based on historical trends, resulting in figures at EU level that are above last year's poor results, and above the 5-year average.

It is noted that the yields reported for winter barley cannot be compared with the yields reported in previous years for this crop, due to a change in the definition to distinguish spring and winter barley in Spain (see text box page 10).

AREAS OF CONCERN - IMPACTS

Reporting period: until 15 March 2025



Contents:

Covers the period from 1 February 2024 until 15 March 2025

Crop	Yield t/ha				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
Cereals*	5.25	5.15	**5.50**	+ 5	+ 7
Total wheat	5.56	5.40	**5.80**	+ 4	+ 7
Soft wheat	5.77	5.58	**6.00**	+ 4	+ 8
Durum wheat	3.44	3.56	**3.70**	+ 8	+ 4
Winter barley	4.81	4.88	**5.15**	+ 7	+ 6
Rye	4.22	4.19	**4.27**	+ 1	+ 2
Triticale	4.38	4.30	**4.48**	+ 2	+ 4
Rape and turnip rape	3.16	2.95	**3.20**	+ 1	+ 9

Issued: 24 March 2025

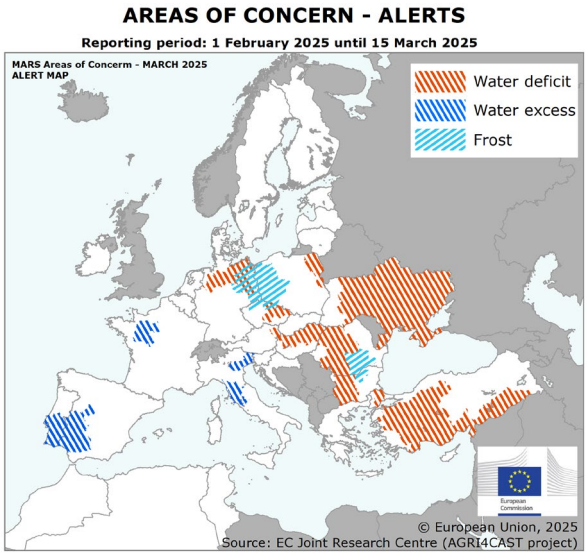
* Only the cereals specified in the tables are included

Joint Research Centre

1. Agrometeorological overview

1.1 Areas of concern

Water deficit is the predominant factor of concern in this period at the EU level, and other regions covered by the bulletin. Frost and water excess affected smaller areas. Some areas have experienced compound events, which bring increased risks for crops. So far, most of these events have not (yet) resulted in irreversible impacts on yields



In Romania and Bulgaria, dry soil conditions are prevailing in south-western Romania and north-western Bulgaria, where the impact on winter crops was mapped in the previous MARS bulletins. Significant rainfall deficit in Hungary also hampered winter crop development. In southern Romanian regions, cold temperatures have halted early crop development.

In northern Germany, this year's period from 1 February to 15 March was the driest in our records, and rapeseed and winter cereals need more water to maintain their potential. A severe frost event was observed in eastern Germany and western Poland where the scarce snow coverage may have locally exposed crops to frost damage.

Dry soils in eastern Poland and Czechia, could become problematic when winter crops restart growing and spring barley needs to be sown.

In southern and western Europe, some regions experienced an excess of precipitation. In southern Portugal and Spain, the abundant precipitation ongoing since January and the expected future precipitation are likely to hinder field operations. Similar conditions are observed in north-eastern and central-western Italian regions, with local waterlogging. Northern France experienced above-average rainfall, especially in January, impacting root systems and leaving crops in similar condition as last year. Early March's drier conditions offered relief but have not fully resolved the situation.

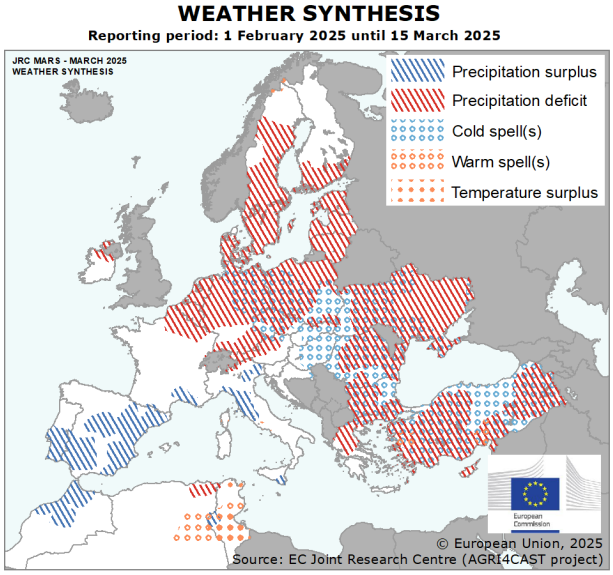
In Ukraine, the precipitation deficit affected the whole country; so far, negative impacts on crops are confined to eastern regions, where the unfavourable start to the season continues.

In Türkiye, western and southern regions experienced cold and dry weather (the driest in our records for this time of year) and, although no extended impact has been observed yet, crops urgently need more water to maintain good yield potential.

In the western Maghreb region, the winter crop season is compromised and abundant rain in March came too late for significant crop recovery.

1.2 Meteorological review (1 February –15 March 2025)

Drier-than-usual conditions with cold spells prevailed in northern, central, eastern and south-eastern Europe, while wetter-than-usual conditions characterised central and western Mediterranean regions.



The weather synthesis map summarises – for the countries covered in the bulletin – the most distinct anomalies during the reporting period compared with the 1991–2024 long-term average (LTA) for the same period. Precipitation deficit and surplus are unusual absolute and relative deviations from the LTA, taking into account the entire reporting period. Cold and warm spells are periods of at least five consecutive days with temperatures below the 10th percentile and above the 90th percentile, respectively, for the years since 1991. The weather indicator maps provide further context for each event.

A precipitation deficit characterised parts of Ireland, northern France and the Benelux countries, most of northern, central and eastern Europe (particularly Ukraine) and most of the Balkan peninsula, as well as Cyprus, most of Türkiye and north-eastern Algeria. Cumulative precipitation in most of these regions was up to 30 mm (corresponding to between 50 % and 100 % below the LTA) with only up to three days with precipitation above the 5-mm daily threshold.

A precipitation surplus was observed in most of the Iberian Peninsula, northern Morocco, southern France, northern and central Italy and in southern *Sicilia*. Cumulative precipitation in many of these regions exceeded the LTA by up to 150 % (locally even more). In these regions, the number of days with precipitation above 5-mm exceeded the LTA by up to 15 days.

Cold spells, with daily minimum temperatures reaching – 15 °C to – 20 °C, occurred in many regions in central and eastern Europe, as well as in Bulgaria and Türkiye, mostly in the second half of February. In these regions, the number of cold days (with daily minimum temperatures below 0 °C) exceeded the LTA by between 5 and 15 days, even though average daily temperatures for the reporting period remained close to the LTA.

Warm spells occurred in eastern Algeria and central Tunisia, where daily maximum temperatures exceeded 30 °C on 9–10 March and 13–15 March, which also led to a **temperature surplus** (i.e. considering the reporting period as a whole) in parts of these regions. **Warm spells** also occurred locally in western and southern regions of Türkiye.

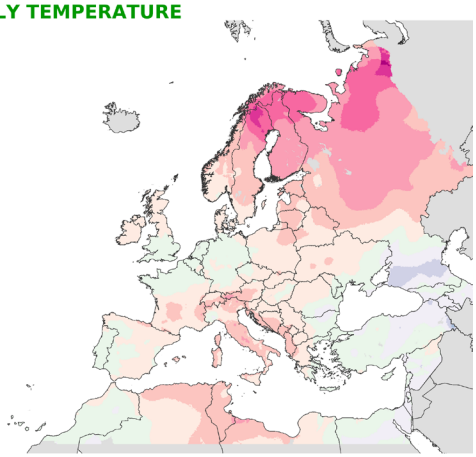
AVERAGE DAILY TEMPERATURE

Averaged values

from: **01 February 2025**
to: **15 March 2025**

Deviation:
Year of interest - LTA

Units: °C
- -3 - -2 (cooler in YOI)
- -2 - -1 (cooler in YOI)
- -1 - -0.5 (cooler in YOI)
- -0.5 - 0.5
- 0.5 - 1 (warmer in YOI)
- 1 - 2 (warmer in YOI)
- 2 - 3 (warmer in YOI)
- 3 - 4 (warmer in YOI)
- 4 - 5 (warmer in YOI)
- 5 - 6 (warmer in YOI)



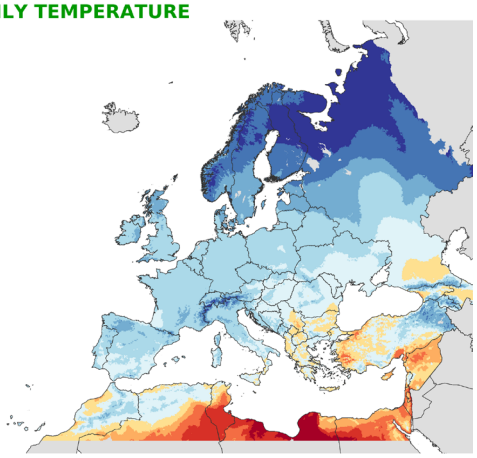
17/03/2025
Resolution: 10 x 10 km

MAXIMUM DAILY TEMPERATURE

Maximum values

from: **01 February 2025**
to: **15 March 2025**

Units: °C
- <= 5
- > 5 - <= 10
- > 10 - <= 15
- > 15 - <= 20
- > 20 - <= 25
- > 25 - <= 28
- > 28 - <= 30
- > 30 - <= 32
- > 32 - <= 35
- > 35



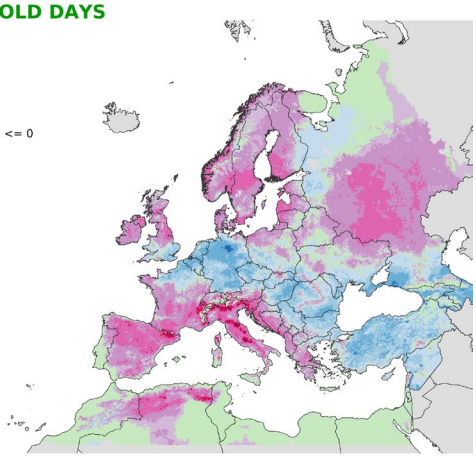
17/03/2025
Resolution: 10 x 10 km

NUMBER OF COLD DAYS

from: **01 February 2025**
to: **15 March 2025**

Deviation:
Year of interest - LTA
Minimum temperature (°C) <= 0

Units: days
- <= -15
- > -15 - <= -10
- > -10 - <= -5
- > -5 - <= -2
- > -2 - < 0
- no difference
- > 0 - <= 2
- > 2 - <= 5
- > 5 - <= 10
- > 10 - <= 15

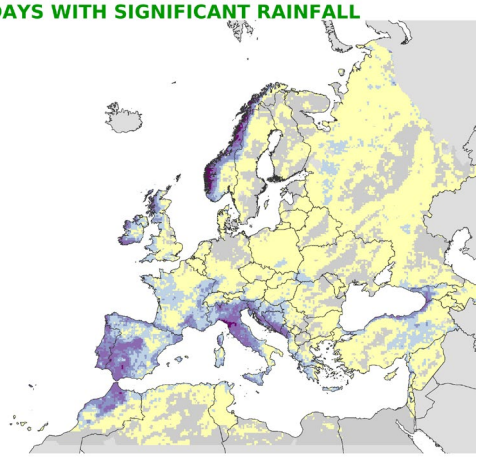


24/03/2025
Resolution: 10 x 10 km

NUMBER OF DAYS WITH SIGNIFICANT RAINFALL

from: **01 February 2025**
to: **15 March 2025**
Rain (mm) > 5

Units: days
- = 0
- 1 - 3
- 4 - 6
- 7 - 9
- 10 - 15
- > 15



17/03/2025
Resolution: 10 x 10 km

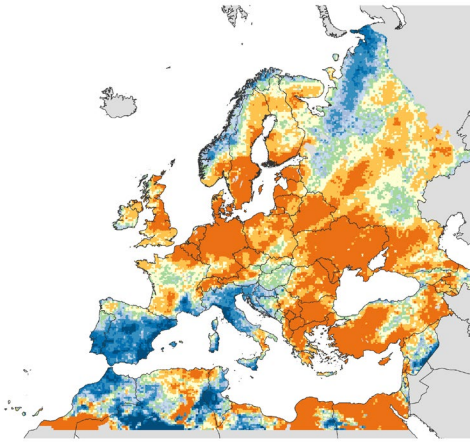
RAINFALL

Cumulative values

from: **01 February 2025**
to: **15 March 2025**

Deviation:
Year of interest - LTA

Units: %
- >= -100 - < -50
- >= -50 - < -30
- >= -30 - < -10
- >= -10 - < 10
- >= 10 - < 30
- >= 30 - < 50
- >= 50 - < 100
- >= 100 - < 150
- >= 150



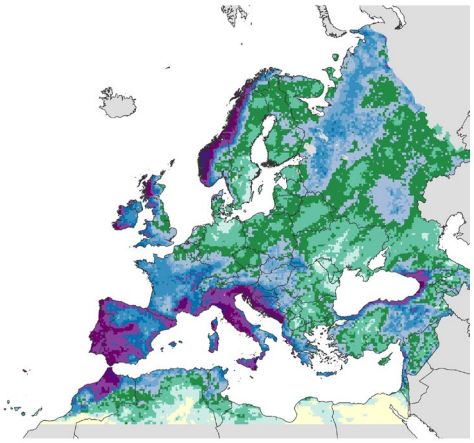
17/03/2025
Resolution: 10 x 10 km

RAINFALL

Cumulative values

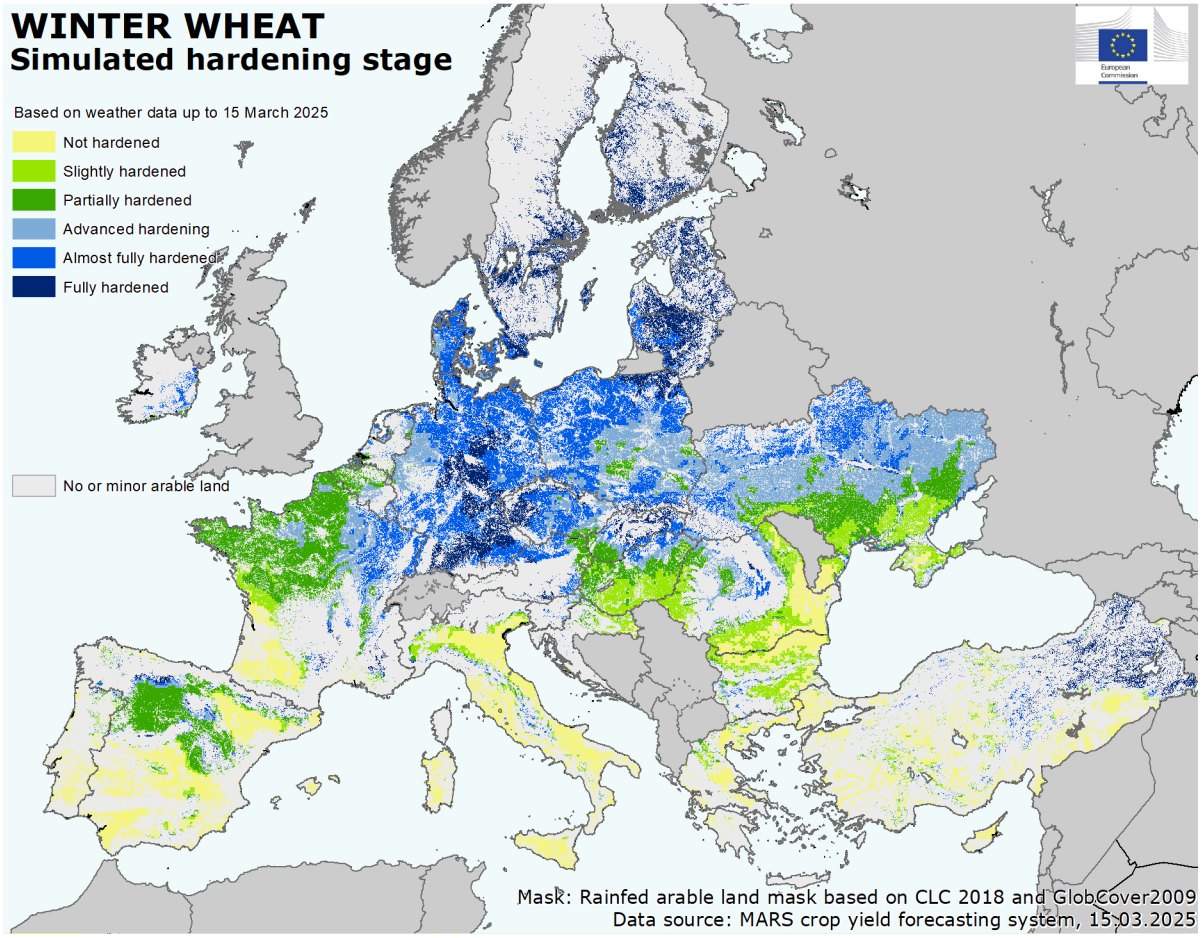
from: **01 February 2025**
to: **15 March 2025**

Units: mm
- 0 - 3
- 3 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 -70
- 70 - 90
- 90 - 150
- 150 - 250
- >= 250



17/03/2025
Resolution: 10 x 10 km

1.3 Winter hardening and frost kill – March 2025



Hardening is the biophysiological process whereby winter cereals gain low-temperature tolerance to withstand freezing conditions that occur during the winter dormancy period.

Until the end of February, winter temperatures provided good hardening conditions across Europe, except for in the Mediterranean region.

Two major cold spells occurred in February. From 15 to 20 February, temperatures dropped to – 15 °C locally in eastern Germany, Poland, Czechia, the Baltic countries, Slovakia and Hungary. Additionally, snow cover was scarce during the event, reducing the insulation of seedlings. Soft wheat was minimally affected, but winter rapeseed, which has a lower frost tolerance, might have suffered local damage. A second cold spell from 20 February to the first days of March affected the Black Sea region in Romania, Bulgaria, eastern Greece, Türkiye and parts of southern Ukraine. Minimum temperatures were as low as – 20 °C in Romania and Bulgaria. Despite the absence of snow cover, the well-established hardening should have protected most winter crops. However, the very low temperatures probably caused some damage to winter rapeseed in Romania and Bulgaria.

In early March, temperatures increased considerably in central and especially south-eastern Europe, where daily maximum temperatures of up to 20 °C triggered a fast de-hardening in Croatia, Hungary, southern Ukraine, Romania, Bulgaria and Türkiye. In these countries, crops have become more vulnerable to future frost events. In other parts of central, eastern and northern Europe, temperatures increased less, not triggering the de-hardening process, so crops maintain high levels of resilience to potential late frost in the coming weeks.

1.4 Weather forecast (20-29 March)

A low-pressure system brings cold air and rains to the Iberian Peninsula and the central Mediterranean, while warmer-than-average conditions are forecast for most other regions.

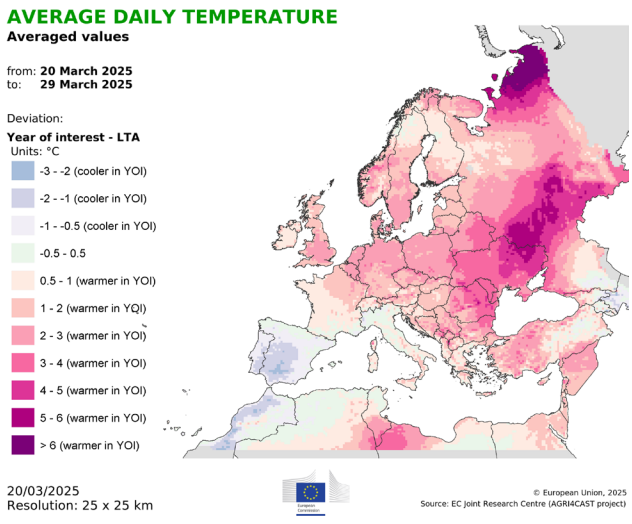
Colder-than-usual conditions, with average daily temperatures up to 3 °C below the LTA, are forecast for most of the Iberian Peninsula and Morocco, as well as locally for southernmost France, northern Italy and Algeria.

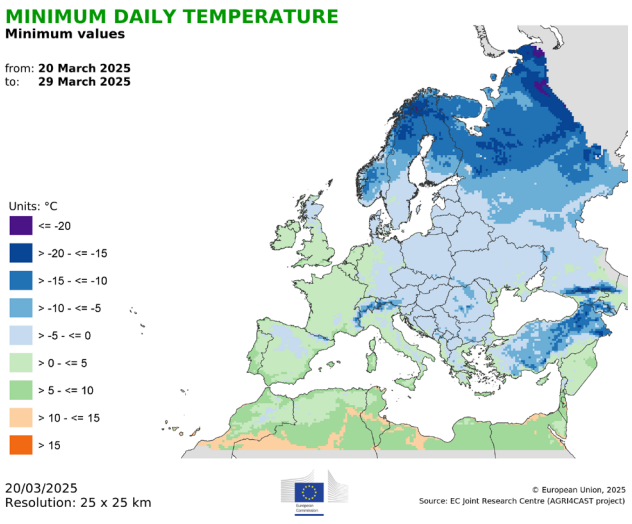
Warmer-than-usual conditions (up to 3 °C above the LTA) are forecast for most of Europe, with more substantial positive temperature anomalies (up to 6 °C above the LTA) for most of eastern Europe.

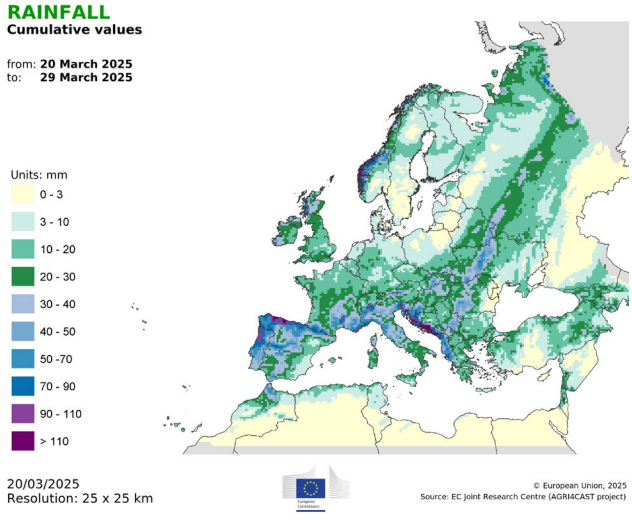
Wet conditions (precipitation above 10 mm and up to 70 mm) are forecast for most of Europe. **Very wet conditions** (above 70 mm) are forecast for coastal regions in the north-western Iberian Peninsula, southern France, northern Italy and the Western Balkans, with between four and six days with rainfall above the 5-mm threshold.

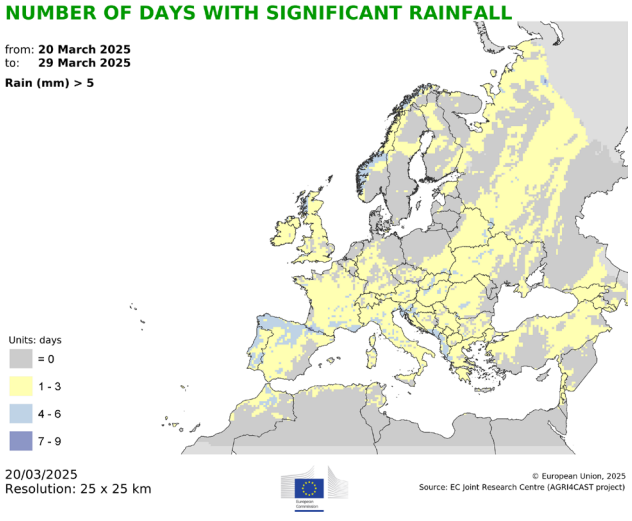
Dry conditions (total precipitation below 3 mm) are forecast for parts of Scandinavia and the Baltic Sea region, as well as Ukraine (*Odes'ka*), Romania (*Sud-Est)*, western Türkiye, Cyprus and most inland regions of North Africa.

The **long-range weather forecast** points to a moderate to high likelihood of warm conditions, exceeding the 24-year climatological median by up to 1 °C in western and south-western Europe and up to 2 °C in the rest of Europe in April–May and by up to 1 °C in most of Europe in June. Forecasts show, albeit with high uncertainty, precipitation of up to 50 mm above average for Scandinavia and parts of central Europe in April–May and precipitation of up to 50 mm below average for the Black Sea region in April–May and parts of central and eastern Europe in June.









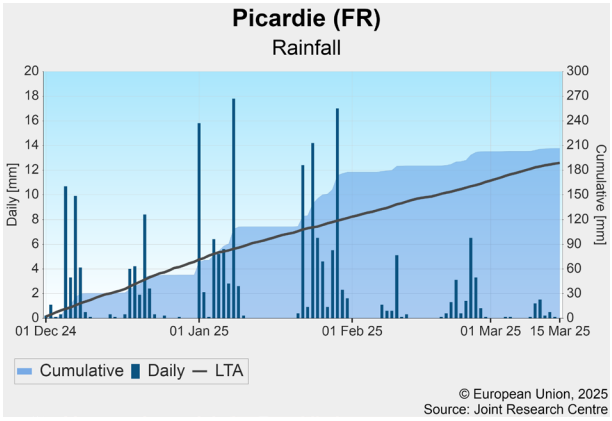
2. Country headlines

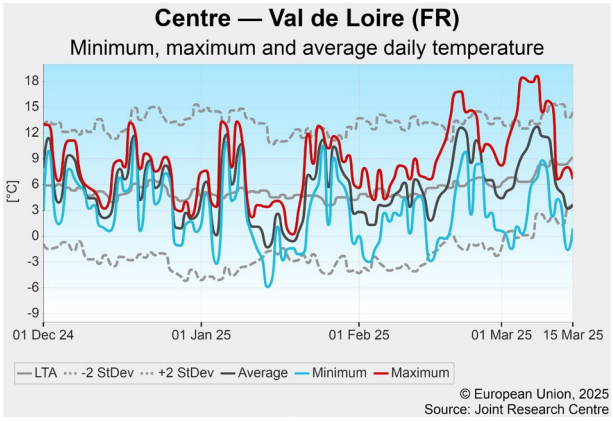
2.1 European Union

France – overly wet conditions in northern France

Northern France experienced above-average rainfall, especially in January. In *Picardie*, for instance, total rainfall for that month surpassed the LTA of 53 mm by 126 mm. The excessive moisture adversely affected root systems, and the crops are in similar condition as last year. The tillering phase has been completed with minimal delay; however, the onset of stem elongation is experiencing a lag. Drier-than-usual conditions in early March provided relief but have not yet fully improved the situation. Consequently, some of the most affected fields might be replanted with summer crops. In contrast, conditions for crop growth and development have been favourable in the central-western and southern regions. The current yield forecasts for winter crops are based on historical trends.

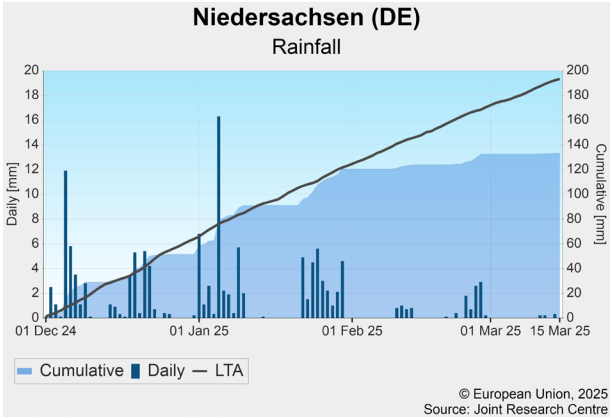
Spring barley sowing has been completed in the south and is nearing completion in the north despite the earlier excessive rainfall. Overall, the spring barley crops are reported to be in good condition.

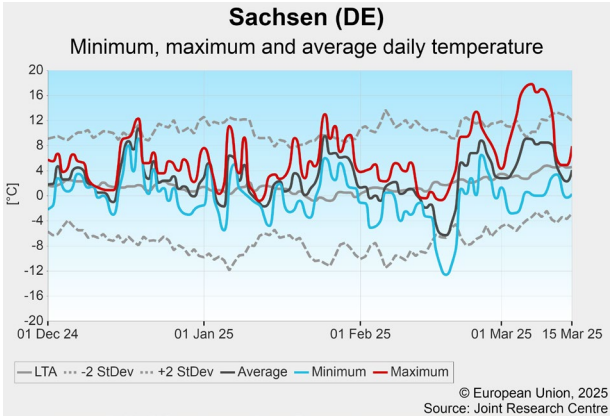




Germany – average winter conditions beneficial for winter crops

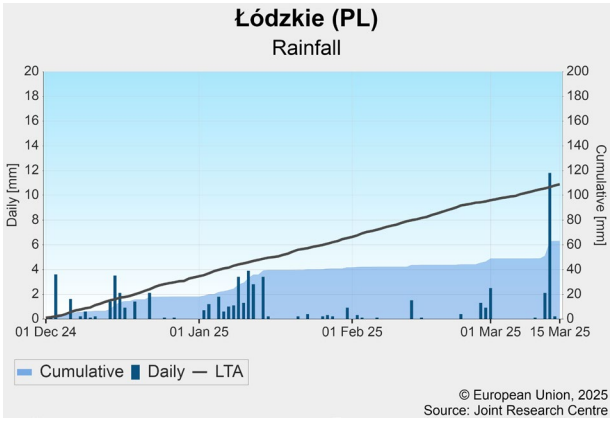
Winter crops are in good condition across Germany. Temperatures comparable to the LTA and limited frost were beneficial for winter crop hardening and limited the exhaustion of seedlings. In eastern Germany, a cold spell with minimum temperatures reaching – 16 °C might have caused minor damage to less resilient crops, such as winter rapeseed, but probably did not affect soft wheat. Soil water levels are beneficial for the regrowth of winter crops and spring barley sowing. Only in northern and eastern Germany has a rainfall deficit since January led to below average soil water levels, especially in sandy soils, and more rain will be required to restore optimal conditions. Our yield predictions are based on historical trends.

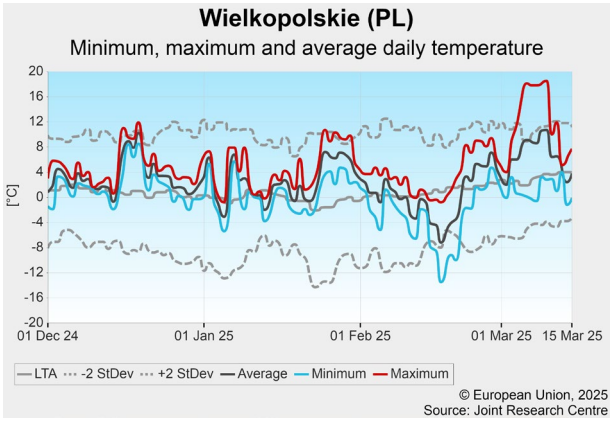




Poland – advanced hardening made winter crops resilient to frost

Following timely sowing in autumn, weather conditions across Poland were generally positive for winter crops. With average winter temperatures prevailing, the crops showed greater resilience to low temperatures compared to the previous year. The cold spell in mid-February, with temperatures dropping to – 15 °C, minimally affected winter crops, other than minor damage to rapeseed in western Poland. However, a notable lack of rainfall maintained dry soils in central and eastern Poland throughout winter. The impact on dormant seedlings was limited, but dry soils could become problematic when winter crops restart growing and spring barley needs to be sown. Some rainfall in March partially relieved the soil water deficit, but more rain is needed to restore soil moisture. Our crop yield forecasts are based on historical trends.

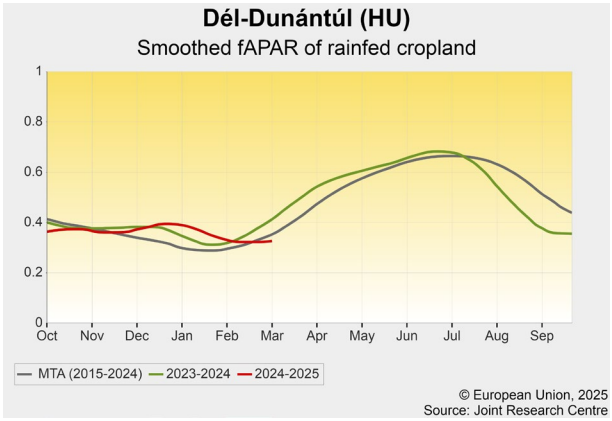


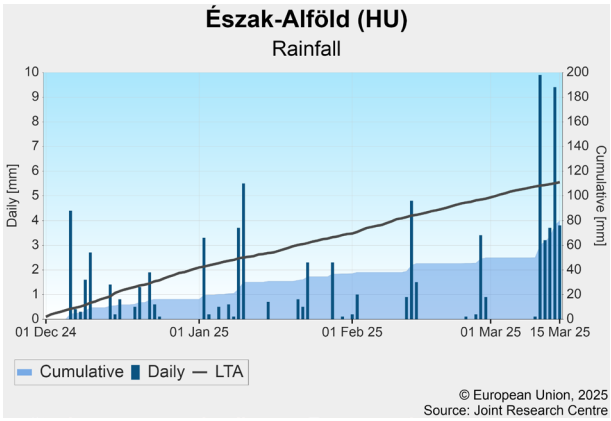


Hungary – significant rainfall deficit hampered winter crop development

Mild temperatures supported the successful wintering of winter crops during dormancy. A short cold spell in mid-February (– 8 °C < T_{min} < – 12 °C) might have caused frost injuries to winter crop leaves, but no frost kill is expected. In early March, regrowth of winter crops started thanks to persistently above-average temperatures.

Soil moisture levels are generally inadequate across the country, since winter precipitation reached only 40–60 % of the average. Winter crops are mostly underdeveloped due to a delayed autumn sowing campaign and below-optimal water supply. Dry deeper soil layers increase the risk of summer drought later in the year. Dry topsoil until 10 March produced favourable conditions for a good start to spring barley sowing. Recent ample rainfall hampered the progress of sowing, but favoured sprouting and emergence. Our crop yield forecasts follow historical trends.

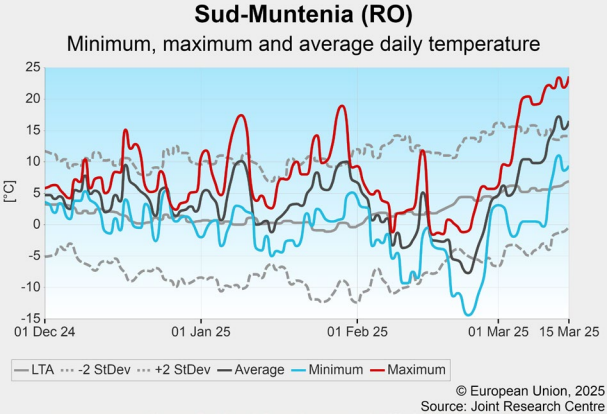


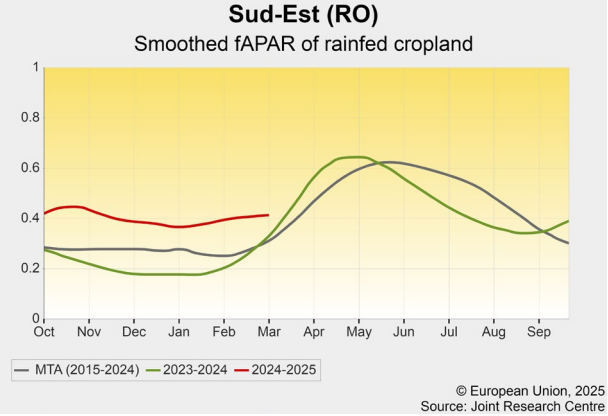


Romania – well-developed winter crops in main producing regions

Predominantly warmer-than-usual temperatures favoured successful wintering. However, after 20 February a brief freezing period occurred, with minimum temperatures of – 15 °C (locally – 20 °C) in southern and eastern regions. Thanks to an insulating snow cover, only rapeseed and autumn-sown spring barley are expected to have suffered some damage. Soil moisture levels are currently adequate for winter crops, except in *Sud-Vest Oltenia*, where it is low. Satellite-derived data indicate that winter crops are well developed in south-eastern Romania and along the Hungarian border, while crops are less vigorous in the central areas and particularly in south-central areas (see text box below).

It is noted that the water content of lower soil layers is below average due to scarce rainfall since early January, leading to limited replenishment. Above-average rainfall will be needed to avoid this becoming a constraining factor for crop growth later in spring. Sowing of spring barley started in early March, and dry topsoil conditions support good progress.



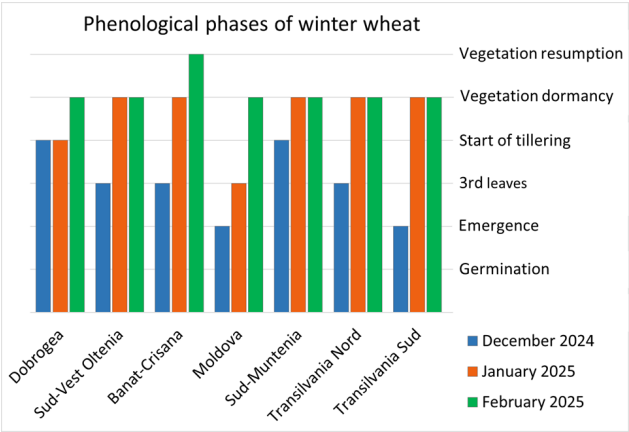


Meteo Romania *manages an agrometeorological network consisting of 68 meteorological stations with an agrometeorological monitoring programme. The following summarises the observations during the winter period.*

Depending on the sowing date and pedo-climatic conditions, phenological development of the winter wheat crops in December 2024, ranged from emergence, to the appearance of the 3rd leaf, to tillering (see graph). In January and February 2025, growth ceased in most regions, due to the cold temperatures.

Crops sown at the optimum period, generally presented good to average condition. Late-sown crops presented average to poor plant vigour, while plant density tended to be low and uneven. Such conditions were most commonly observed in the south (south-western parts of *Oltenia* and southern parts of *Muntenia*), where sowing had been delayed due to dry (locally extremely dry) soil conditions in Autumn 2024.

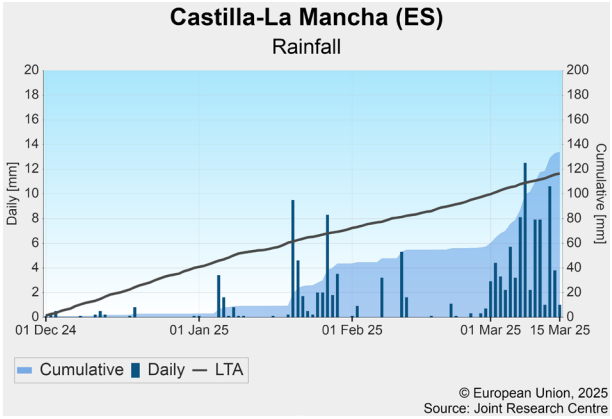
In northern, central and north-eastern Romania (*Transilvania*, *Maramureș* and northern *Moldova*) the plants have on average 1-2 basal leaves, which had yellowed or partially or totally dried out due to the lower-than-usual minimum air and soil temperatures. In the south, the presence of an insulating snow cover effectively protected the foliar apparatus of winter crops, despite the frequent occurrence of severe frost events.

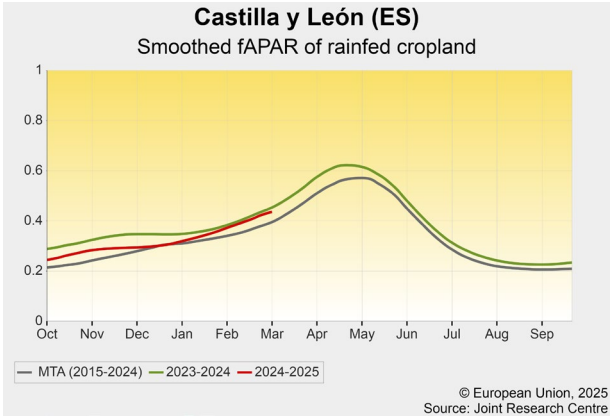


Spain and Portugal – favourable outlook for winter crops

Following a dry late autumn and early winter, the return of rainfall in January and early March restored soil moisture to adequate levels, sustaining a positive outlook for the winter crop season across the Iberian Peninsula. During the second week of March, precipitation intensified and was particularly beneficial for the eastern regions (e.g. Albacete), where crops had begun to experience water stress. Water reservoirs are now close to capacity in Portugal[1] and 7 % above the 10-year average in Spain[2]. However, additional intense rainfall events, as forecast for the coming days in the south-western regions, could negatively affect crop development and delay sowing operations for summer crops, which were just beginning in these regions.

Despite these challenges, winter crop conditions remain promising across the main production areas of the Iberian Peninsula, with our model simulations and fAPAR (fraction of absorbed photosynthetically active radiation) signal from satellite data indicating above-average biomass accumulation. Our yield forecasts for winter crops are currently 5–10 % above the 5-year average.





Change in definition of spring and winter barley in Spain

The approach used by the Spanish government to distinguish between spring and winter barley has changed. While it was formerly based on genetic traits (i.e. 2-row, spring barley; 6-row, winter barley), it is now based on the time of sowing. This new approach has been applied to the data for 2023 and 2024 only.

This change has led to a significant shift in surface area from spring barley to winter barley, rendering the historical time series inconsistent with the new classification.

To address this issue, the following adjustments have been implemented in this bulletin:

- the reference to the 5-year average for Spain has been replaced with reference to the 2-year average (2023–2024);
- the March yield forecasts for Spain have been derived from the historical trend for total barley, and then the yield forecasts for spring and winter barley have been established in accordance with the 2024 yield ratio between them.

This adjustment has little or no significant impact on the quality of the yield forecasts at EU level. At the national level, the methodological shift may introduce substantial uncertainty to the yield forecasts for spring barley. The effects on the quality of the forecast for winter barley in Spain will be minor, given that the majority (> 90 %) of total barley is now classified as winter barley.

([1]) https://sir.dgadr.gov.pt/outras/reserva-de-agua-nas-albufeiras

([2]) https://www.embalses.net/

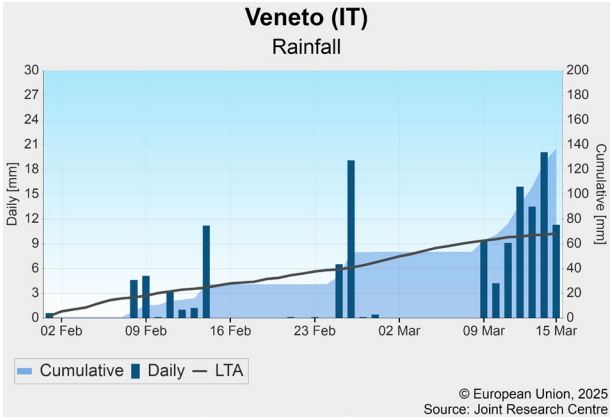
Italy – warm and rainy weather favoured winter crops in the south

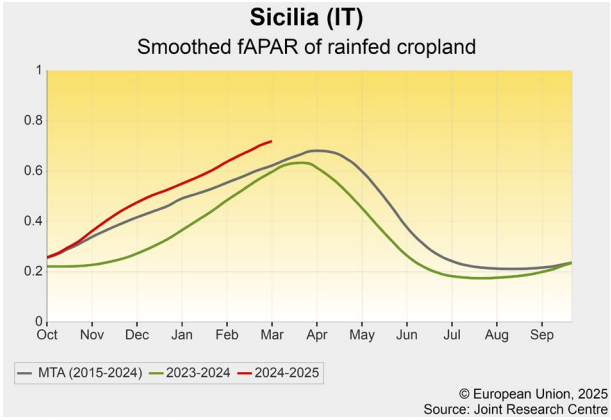
In the north, winter crops are generally in good condition, although still slightly delayed in development due to late sowing in autumn. Abundant rainfall in March in *Veneto* and *Friuli-Venezia Giulia* might have led to water logging locally and might favour pests and diseases.

In the central regions, winter crops are ahead of average development thanks to a favourably warm winter. Above-average rainfall in March affected crops only in the west (*Lazio* and *Toscana*).

In the south, the sowing of durum wheat ended in December under good conditions, with fully recovered soil moisture levels. Since then, well-distributed precipitation and a warm winter have supported above-average biomass accumulation, as shown in the fAPAR profile for *Sicilia*.

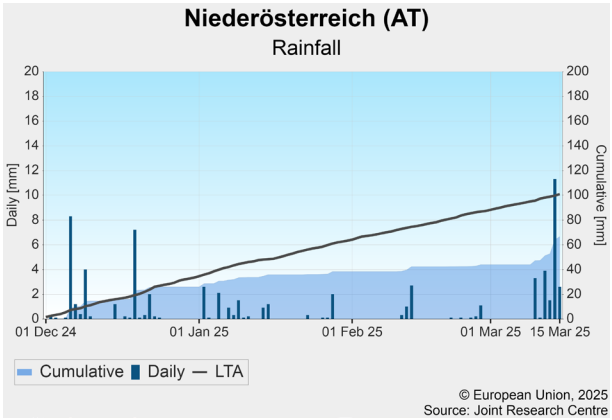
Our durum wheat forecast is above the historical trend, while the soft wheat and winter barley forecasts are based on the multiannual trends.

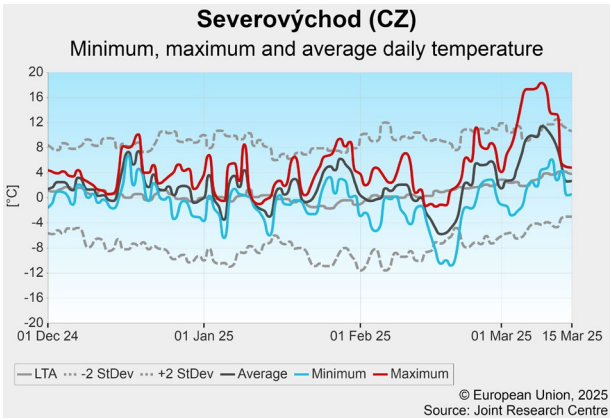




Czechia, Austria and Slovakia - cold temperatures and water deficit delayed the regrowth of winter crops

Average winter temperatures kept crops well hardened, so cold spells in mid-February minimally damaged winter crops. Satellite observations suggest that vegetation growth has not started yet. Recent rainfall alleviated the soil water deficit prevailing throughout winter, especially in Czechia and Slovakia. However, more precipitation will be needed for regrowth, otherwise flowering could be negatively affected, lowering yield outlooks. For now, our forecasts are based on the historical trend.

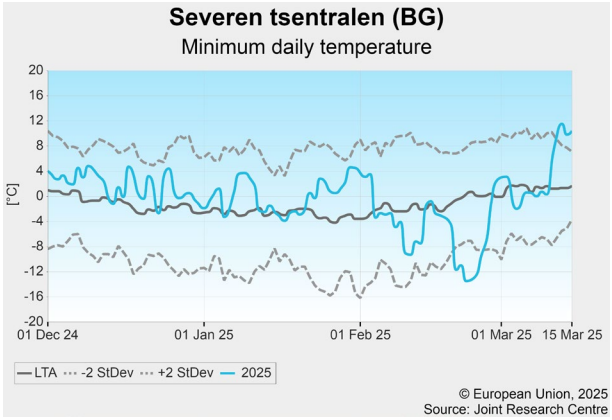


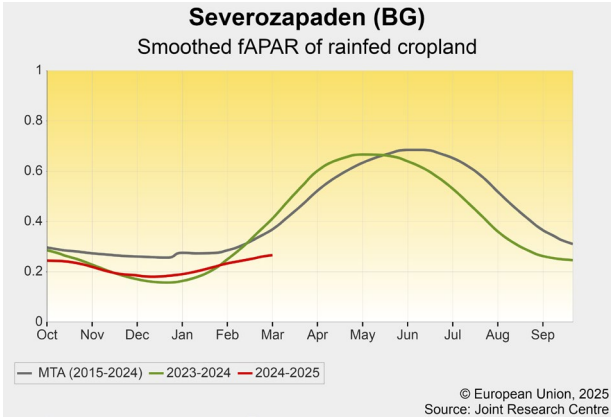


Bulgaria – below-optimal crop water supply conditions

After a difficult and belated autumn sowing campaign, the development of winter crops benefited from predominantly mild winter thermal conditions. After 20 February, an unusual cold spell (minimum temperatures reaching – 20 °C) hit the northern regions (especially *Severen Tsentralen*), but adequate snow cover protected most winter cereals from severe frost damage; however, winter rapeseed may have suffered some harm due to its reduced frost resistance. From early March, mild temperatures induced the break of winter dormancy and the regrowth of winter crops.

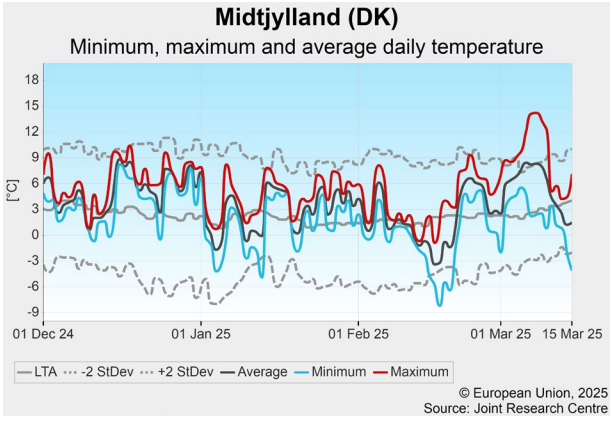
Due to a significant precipitation deficit since late December, soil moisture conditions are below optimal, constraining crop growth. Winter crop establishment is below average in most of the country, but particularly weak in north-western and south-central Bulgaria. The replenishment of deeper soil moisture reserves has been below average, and this could cause serious problems when crop growth and water demand intensify later in spring. Current yield forecasts are based on historical trends.

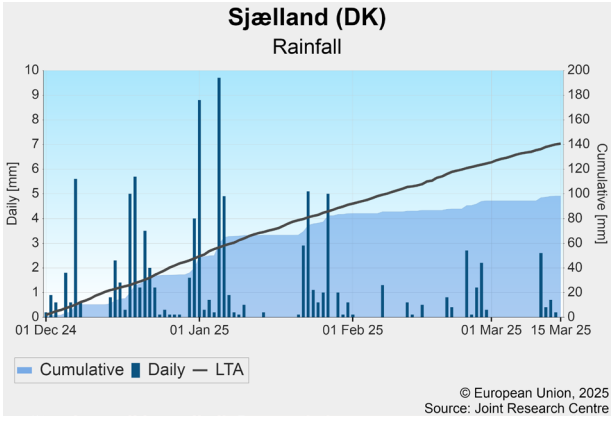




Denmark and Sweden – winter crops in good condition before exiting winter dormancy

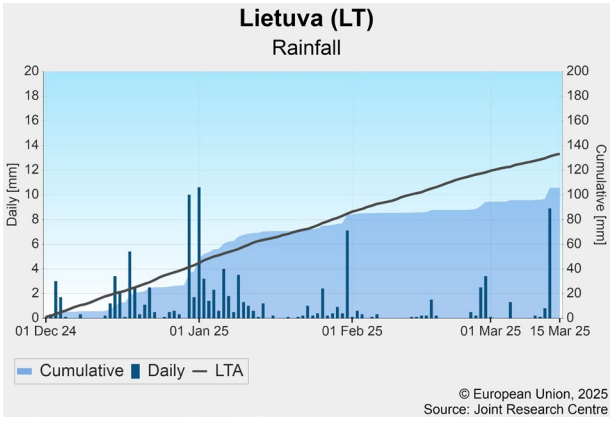
Following a timely sowing under adequate conditions, winter crops are in good condition in Denmark and Sweden. The cold spell in mid-February is not expected to have caused any significant damage, although minor impacts could be anticipated for rapeseed. Despite the dry conditions since early February, plants are about to exit dormancy in good condition, supported by warmer-than-usual temperatures. More rain is necessary to restore soil moisture to optimal levels. Our yield predictions are based on historical trends.

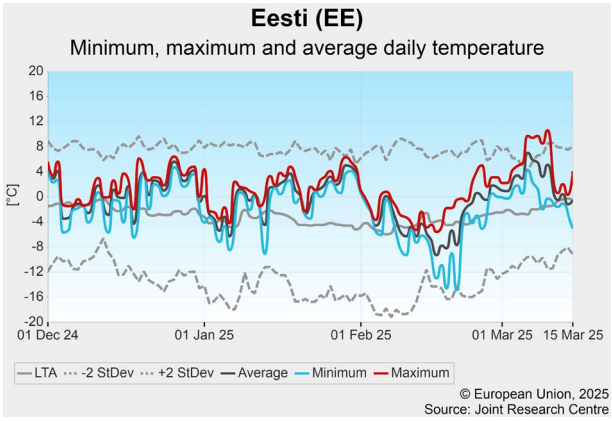




Estonia, Latvia, Lithuania, Finland - winter crops about to exit dormancy in good condition

Winter crops are overall in good condition. A cold spell in mid-February did not damage crops significantly, beyond some minor impacts on rapeseed in Latvia and Lithuania. The dry conditions since early February are not expected to have affected crops so far, but rain is needed to restore soil moisture to optimal levels, particularly in Lithuania. Warmer-than-average temperatures will support crops exiting dormancy in the coming weeks. Our yield forecasts for winter crops are based on historical trends.



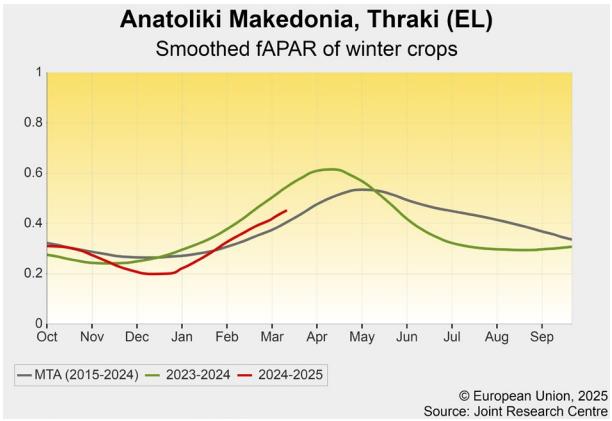


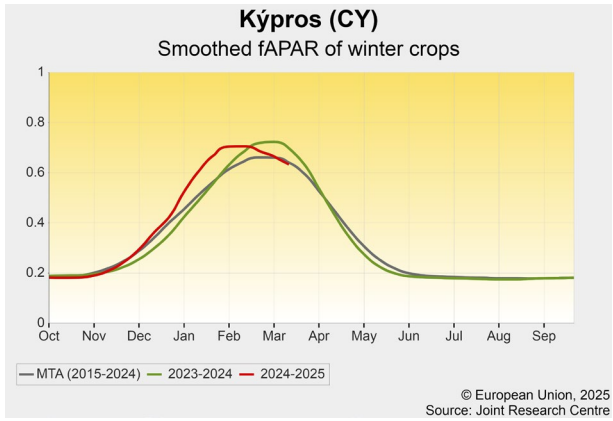
Greece and Cyprus – positive outlook for winter cereals

In Greece, well-distributed rainfall and alternating colder and warmer weather in winter supported the development of winter cereals, which at the end of the vegetative phase show biomass accumulation levels close to the medium-term average (MTA).

In Cyprus, barley is at the end of the flowering stage and moving towards the beginning of the grain-filling stage, with good yield expectations despite a recent rainfall deficit. Remote sensing data confirm that biomass accumulation is well above the MTA.

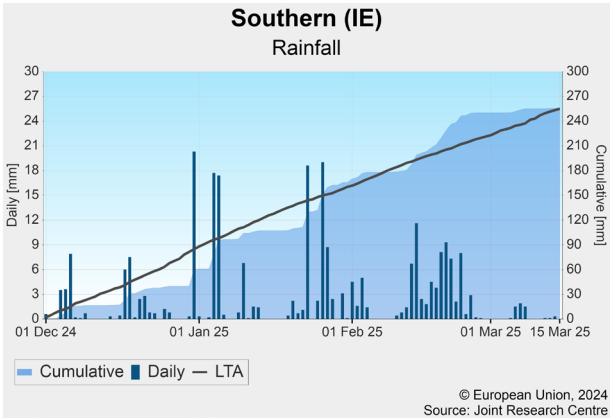
As a result, our March yield forecasts for winter crops in Greece and Cyprus are above the 5-year average.

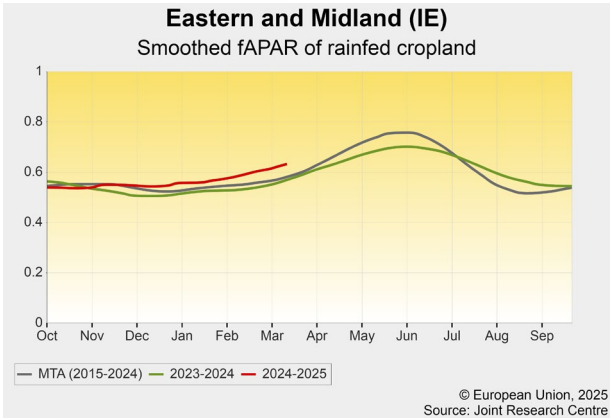




Ireland – overall fair conditions for winter crops

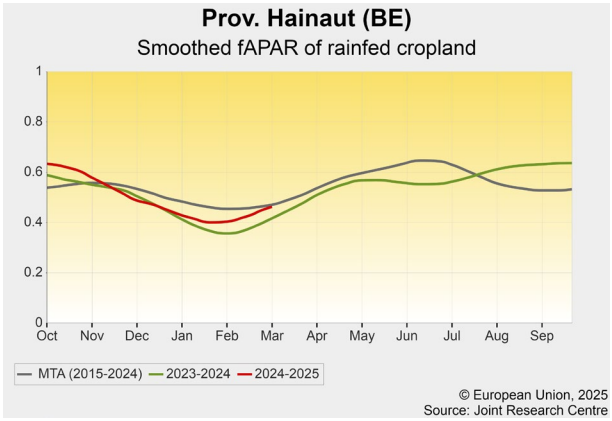
Average weather characterised the winter in Ireland, except for a cold spell in the first dekad of January with abundant snow. As it occurred during the dormancy period of winter crops, however, we do not expect an impact on winter crops. Indeed, winter barley and soft wheat are well-established and ready to receive fertiliser. Fields are also in good condition for spring crop-sowing, which should take place in the next weeks. Since the sown area for winter barley is higher than last year, a reduction in spring barley area can be expected. Our yield forecasts are based on historical trends.

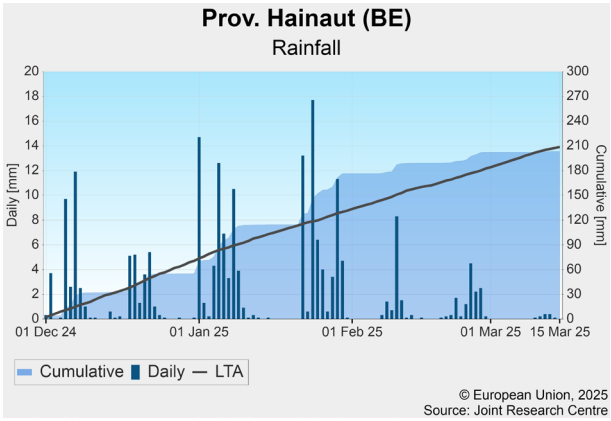




Benelux countries – winter crops' regrowth favoured by warm and drier conditions

Drier-than-usual weather since the beginning of February and a sunny and warm start to early March have provided favourable conditions for the regrowth and development of winter crops, as confirmed by the satellite-based fAPAR indicator. Recent weather has also been beneficial for field preparation and the sowing of spring cereals. Some farmers have already started sowing sugar beet and early potato varieties. While earlier wet conditions in western and southern Belgium caused waterlogging in poorly drained soils, there is currently no evidence of a significant impact on crops or field operations. The March yield forecasts for winter cereals are based on historical trends; they are well above last year's level and slightly above the 5-year average.



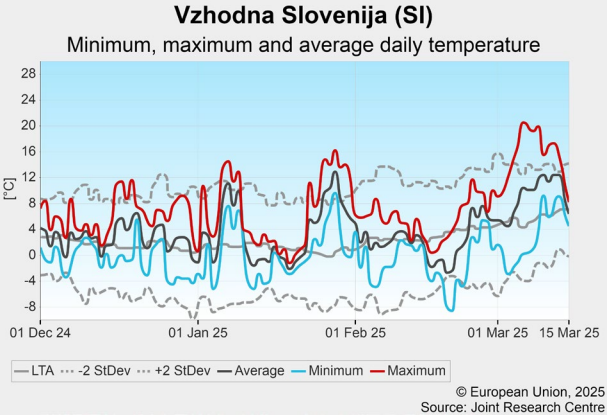


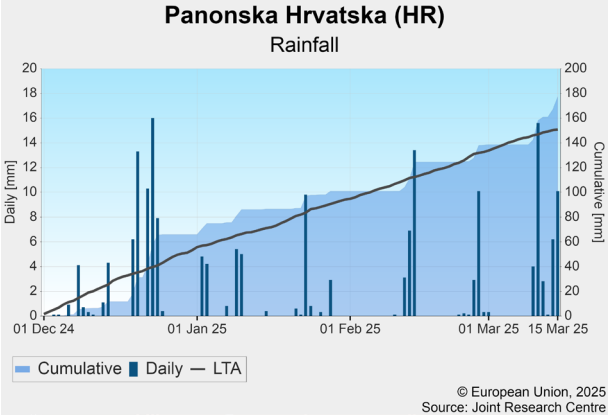
Slovenia and Croatia – overall fair conditions for winter crops

During the review period, precipitation in Croatia and Slovenia was well-distributed, resulting in cumulative levels around the LTA. This ensured adequate soil moisture in all regions, supporting the development of winter crops. Minimum temperatures did not drop below critical levels, which prevented damage to established crops and facilitated field operations.

The rise in diurnal temperatures observed in March and the relatively sunny and dry conditions forecast for the coming week are expected to boost crop growth.

These conditions will also be ideal for field operations to manage winter crops and the seedbed preparation for the sowing of grain maize and sunflowers, scheduled for April. Currently, our yield forecasts are based on historical trends and are slightly above the 5-year average.





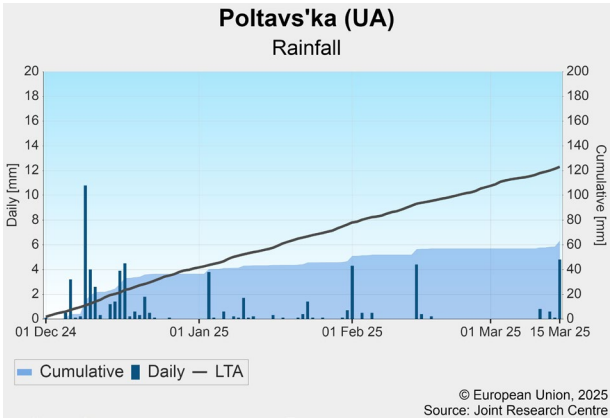
2.2 Black Sea Area

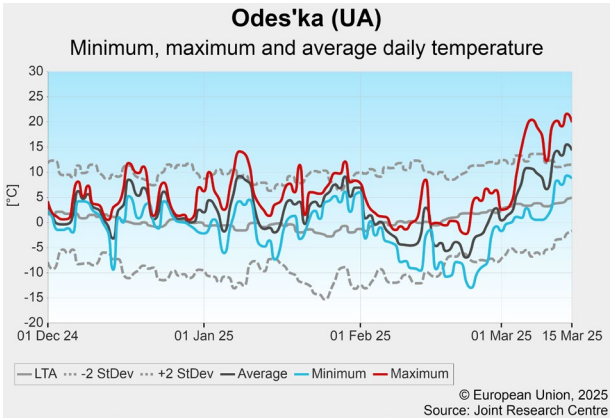
Ukraine – yet another dry start of season

In December, adequate precipitation was observed in the western regions, while the eastern regions continued to experience the dry conditions that began in autumn. From January onwards, the entire country has been affected by dry conditions, resulting in low soil moisture levels in most of the country. Winter crops have suffered particularly in the east.

In terms of temperatures, the winter was relatively mild, with temperatures rising significantly in early March. In southern regions, the onset of the green-up phase has been observed, while in northern regions, the end of plant dormancy is now under way. Minor frost damage may have occurred in the east and south.

The winter crop yield forecasts are slightly below the 5-year average. Sowing of spring barley has begun, albeit with some delay in the western and southern regions, and despite the suboptimal conditions in the south.





Türkiye – cold and dry weather hampered crop growth

In western *Anatolia* and *Aegean* regions, cold spells in February and a dry winter prevented crops from exiting dormancy earlier than usual, as could have been expected because of the generally warmer-than-average winter. The period from 1 February to 15 March was the driest in our records (e.g. in *Konya*), and water reservoirs were not adequately filled.

In addition, south-eastern *Anatolia* is experiencing a dry spell, with precipitation levels at less than half the average. Consequently, early crop development was slow, and an unusual cold spell at the end of February further delayed crop growth. Although irrigated, barley and durum wheat could not be supported sufficiently for optimal growth, as shown by satellite-based fAPAR of the *Mardin* region.

Our crop yield forecasts are still based on multiannual trends, but rainfall is urgently needed to prevent a reduction in yield expectations for all winter crops.

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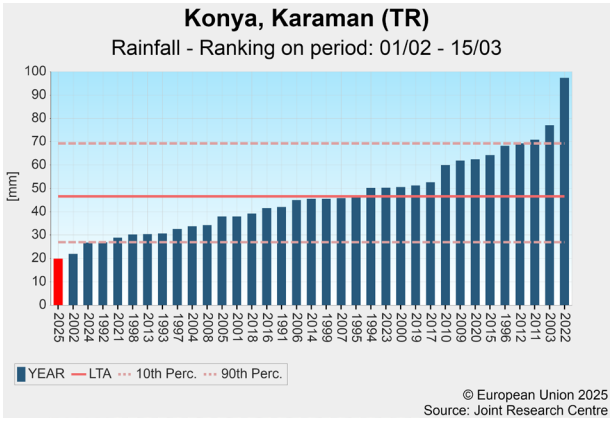
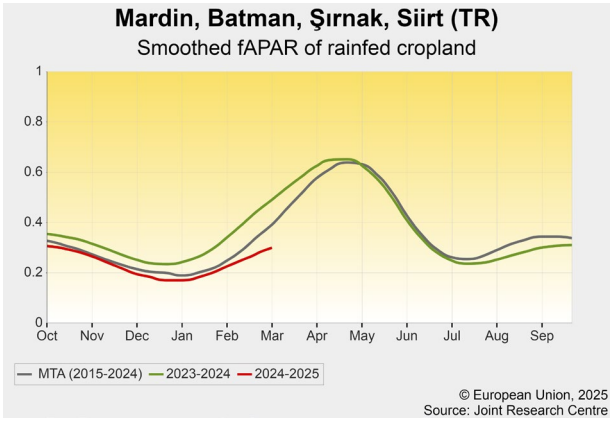




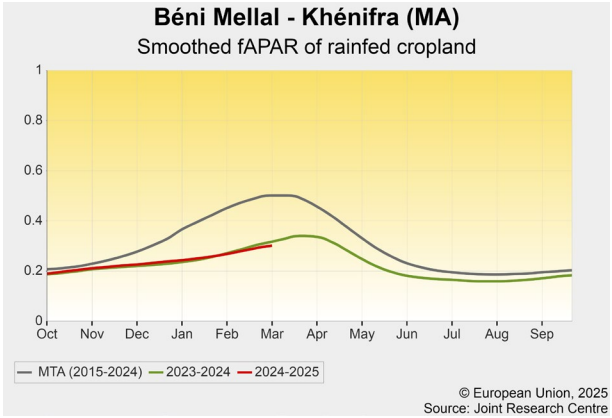
2.3 Maghreb

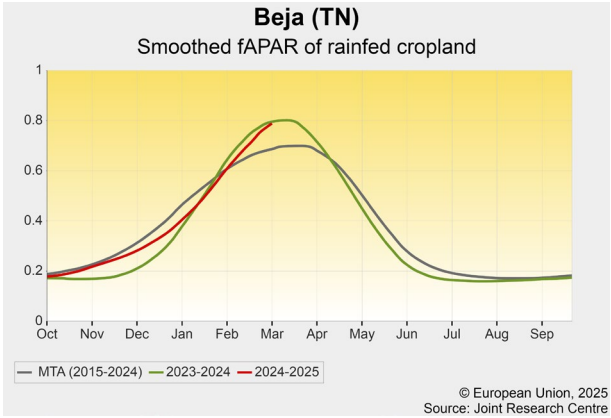
Morocco, Algeria and Tunisia - Negative outlook in Morocco, but good prospects in Tunisia

Severe dry conditions since autumn have hampered crop growth in Morocco and western Algeria, resulting in well-below-average biomass accumulation, as evidenced by remote sensing indicators. Irreversible damage to crops has been caused, and our yield forecasts are 25 % below the 5-year average for winter cereals in Morocco and 6 % below the 5-year average for soft wheat in Algeria.

Conversely, in the central (e.g. *Tiaret*, *Aïn Defla* and *Médéa*) and north-eastern regions of Algeria, significant rainfall in February has enabled winter crops to start recovering. Our forecasts are above or in line with the 5-year average for durum wheat and barley, which are mainly cultivated in these parts of the country.

In Tunisia, crops are approaching the reproductive phase with above-average or well-above-average biomass accumulation, thanks to a favourable seasonal distribution of rainfall. Our yield forecasts are well above the 5-year average.





3. Crop yield forecast

Country	Total wheat (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
EU	5.56	5.40	**5.80**	+ 4	+ 7
AT	5.80	5.71	**5.63**	– 3	– 1
BE	8.43	7.77	**8.55**	+ 1	+ 10
BG	5.23	5.67	**5.74**	+ 10	+ 1
CY	—	—	—	—	—
CZ	6.18	5.95	**6.45**	+ 4	+ 8
DE	7.45	7.08	**7.61**	+ 2	+ 8
DK	7.76	7.12	**7.81**	+ 1	+ 10
EE	4.42	4.30	**4.74**	+ 7	+ 10
EL	2.96	3.15	**3.04**	+ 3	– 4
ES	3.30	3.68	**3.52**	+ 7	– 4
FI	3.42	3.51	**3.75**	+ 9	+ 7
FR	6.87	6.10	**7.10**	+ 4	+ 16
HR	5.77	5.85	**5.93**	+ 3	+ 1
HU	5.45	5.79	**5.78**	+ 6	– 0
IE	9.67	8.66	**9.45**	– 2	+ 9
IT	3.75	3.57	**3.95**	+ 6	+ 11
LT	4.87	5.04	**5.03**	+ 3	– 0
LU	5.82	5.20	**5.91**	+ 2	+ 14
LV	4.63	4.57	**4.89**	+ 6	+ 7
MT	—	—	—	—	—
NL	8.45	7.05	**8.76**	+ 4	+ 24
PL	5.27	5.20	**5.31**	+ 1	+ 2
PT	2.11	2.35	**2.19**	+ 4	– 7
RO	4.11	4.61	**4.58**	+ 11	– 1
SE	6.39	6.16	**6.51**	+ 2	+ 6
SI	5.69	5.48	**5.57**	– 2	+ 2
SK	5.54	5.45	**5.77**	+ 4	+ 6

Country	Soft wheat (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
EU	5.77	5.58	**6.00**	+ 4	+ 8
AT	5.86	5.76	**5.69**	– 3	– 1
BE	8.43	7.77	**8.55**	+ 1	+ 10
BG	5.23	5.68	**5.75**	+ 10	+ 1
CY	—	—	—	—	—
CZ	6.18	5.95	**6.45**	+ 4	+ 8
DE	7.48	7.11	**7.64**	+ 2	+ 8
DK	7.76	7.12	**7.81**	+ 1	+ 10
EE	4.42	4.30	**4.74**	+ 7	+ 10
EL	2.96	2.98	**3.03**	+ 2	+ 2
ES	3.40	3.79	**3.61**	+ 6	– 5
FI	3.42	3.51	**3.75**	+ 9	+ 7
FR	6.94	6.12	**7.17**	+ 3	+ 17
HR	5.77	5.85	**5.93**	+ 3	+ 1
HU	5.47	5.82	**5.81**	+ 6	– 0
IE	9.67	8.66	**9.45**	– 2	+ 9
IT	5.30	4.93	**5.32**	+ 0	+ 8
LT	4.87	5.04	**5.03**	+ 3	– 0
LU	5.82	5.20	**5.91**	+ 2	+ 14
LV	4.63	4.57	**4.89**	+ 6	+ 7
MT	—	—	—	—	—
NL	8.45	7.05	**8.76**	+ 4	+ 24
PL	5.27	5.20	**5.31**	+ 1	+ 2
PT	2.11	2.35	**2.19**	+ 4	– 7
RO	4.11	4.61	**4.58**	+ 11	– 1
SE	6.39	6.16	**6.51**	+ 2	+ 6
SI	5.69	5.48	**5.57**	– 2	+ 2
SK	5.54	5.46	**5.81**	+ 5	+ 6

Country	Durum wheat (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
EU	3.44	3.56	**3.70**	+ 8	+ 4
AT	5.17	5.31	**5.13**	– 1	– 3
BE	—	—	—	—	—
BG	4.82	5.00	**5.25**	+ 9	+ 5
CY	—	—	—	—	—
CZ	—	—	—	—	—
DE	5.60	5.89	**5.55**	– 1	– 6
DK	—	—	—	—	—
EE	—	—	—	—	—
EL	2.96	3.25	**3.04**	+ 3	– 6
ES	2.57	2.92	**2.88**	+ 12	– 2
FI	—	—	—	—	—
FR	5.44	5.80	**5.61**	+ 3	– 3
HR	—	—	—	—	—
HU	4.89	5.34	**5.02**	+ 3	– 6
IE	—	—	—	—	—
IT	3.08	2.97	**3.39**	+ 10	+ 14
LT	—	—	—	—	—
LU	—	—	—	—	—
LV	—	—	—	—	—
MT	—	—	—	—	—
NL	—	—	—	—	—
PL	—	—	—	—	—
PT	—	—	—	—	—
RO	—	—	—	—	—
SE	—	—	—	—	—
SI	—	—	—	—	—
SK	5.52	5.42	**5.62**	+ 2	+ 4

Country	Winter barley (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
EU	4.81	4.88	**5.15**	+ 7	+ 6
AT	6.52	5.93	**6.51**	– 0	+ 10
BE	8.03	7.67	**8.44**	+ 5	+ 10
BG	5.08	5.44	**5.41**	+ 7	– 1
CY	2.01	1.75	**2.11**	+ 5	+ 20
CZ	5.89	5.04	**5.84**	– 1	+ 16
DE	7.13	6.72	**7.07**	– 1	+ 5
DK	6.81	6.52	**6.88**	+ 1	+ 6
EE	4.47	3.95	**4.87**	+ 9	+ 23
EL	2.81	2.63	**2.90**	+ 3	+ 10
ES*	2.37	3.26	**3.23**	+ 37	– 1
FI	—	—	—	—	—
FR	6.34	5.59	**6.59**	+ 4	+ 18
HR	4.85	4.93	**4.91**	+ 1	– 1
HU	5.59	5.65	**5.79**	+ 4	+ 3
IE	8.71	8.13	**8.88**	+ 2	+ 9
IT	4.06	3.73	**4.00**	– 2	+ 7
LT	4.29	4.42	**4.49**	+ 5	+ 2
LU	—	—	—	—	—
LV	4.21	3.57	**5.00**	+ 19	+ 40
MT	—	—	—	—	—
NL	7.97	6.78	**8.23**	+ 3	+ 21
PL	4.90	4.67	**5.01**	+ 2	+ 7
PT	2.72	3.23	**2.86**	+ 5	– 12
RO	4.22	4.90	**4.57**	+ 8	– 7
SE	5.82	5.61	**6.00**	+ 3	+ 7
SI	5.08	4.83	**4.97**	– 2	+ 3
SK	5.48	4.99	**5.37**	– 2	+ 8

Country	Rye (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
EU	4.22	4.19	**4.27**	+ 1	+ 2
AT	4.66	3.98	**4.56**	– 2	+ 15
BE	—	—	—	—	—
BG	—	—	—	—	—
CY	—	—	—	—	—
CZ	5.06	4.32	**5.03**	– 1	+ 17
DE	5.28	5.28	**5.26**	– 0	– 0
DK	6.07	5.91	**6.38**	+ 5	+ 8
EE	3.79	3.98	**3.99**	+ 5	+ 0
EL	—	—	—	—	—
ES	2.26	2.22	**2.21**	– 2	– 0
FI	3.41	2.74	**3.76**	+ 10	+ 37
FR	4.17	3.79	**4.33**	+ 4	+ 14
HR	—	—	—	—	—
HU	3.19	3.22	**3.21**	+ 1	– 0
IE	—	—	—	—	—
IT	—	—	—	—	—
LT	2.54	2.38	**2.49**	– 2	+ 5
LU	—	—	—	—	—
LV	3.71	3.37	**3.79**	+ 2	+ 13
MT	—	—	—	—	—
NL	—	—	—	—	—
PL	3.50	3.57	**3.55**	+ 1	– 1
PT	1.03	1.01	**1.04**	+ 0	+ 3
RO	2.78	2.98	**2.99**	+ 7	+ 0
SE	5.79	5.66	**6.06**	+ 5	+ 7
SI	—	—	—	—	—
SK	—	—	—	—	—

Country	Triticale (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
EU	4.38	4.30	**4.48**	+ 2	+ 4
AT	5.51	5.08	**5.63**	+ 2	+ 11
BE	—	—	—	—	—
BG	3.30	3.93	**3.44**	+ 4	– 12
CY	—	—	—	—	—
CZ	4.87	4.48	**4.81**	– 1	+ 7
DE	5.87	5.69	**6.02**	+ 3	+ 6
DK	—	—	—	—	—
EE	—	—	—	—	—
EL	2.50	2.13	**2.59**	+ 4	+ 22
ES	2.35	2.65	**2.50**	+ 6	– 6
FI	—	—	—	—	—
FR	4.85	4.31	**5.01**	+ 3	+ 16
HR	—	—	—	—	—
HU	4.03	4.12	**4.29**	+ 7	+ 4
IE	—	—	—	—	—
IT	4.48	4.41	**4.42**	– 2	+ 0
LT	3.33	3.44	**3.29**	– 1	– 4
LU	—	—	—	—	—
LV	—	—	—	—	—
MT	—	—	—	—	—
NL	—	—	—	—	—
PL	4.42	4.40	**4.51**	+ 2	+ 2
PT	1.28	1.44	**1.45**	+ 13	+ 1
RO	3.65	4.27	**4.04**	+ 11	– 5
SE	5.21	5.12	**5.33**	+ 2	+ 4
SI	—	—	—	—	—
SK	—	—	—	—	—

Country	Rape and turnip rape (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
EU	3.16	2.95	**3.20**	+ 1	+ 9
AT	3.13	2.98	**3.26**	+ 4	+ 10
BE	—	—	—	—	—
BG	2.49	2.49	**2.50**	+ 0	+ 0
CY	—	—	—	—	—
CZ	3.20	2.77	**3.07**	– 4	+ 11
DE	3.61	3.34	**3.67**	+ 2	+ 10
DK	4.03	3.87	**4.23**	+ 5	+ 9
EE	2.31	1.41	**2.34**	+ 1	+ 66
EL	—	—	—	—	—
ES	2.19	2.52	**2.41**	+ 10	– 5
FI	1.30	1.34	**1.38**	+ 6	+ 3
FR	3.22	2.92	**3.29**	+ 2	+ 13
HR	2.78	2.88	**2.81**	+ 1	– 3
HU	2.80	2.48	**2.79**	– 0	+ 12
IE	4.62	4.60	**4.72**	+ 2	+ 3
IT	2.81	2.72	**2.83**	+ 1	+ 4
LT	2.87	2.87	**3.07**	+ 7	+ 7
LU	—	—	—	—	—
LV	2.47	1.74	**2.62**	+ 6	+ 50
MT	—	—	—	—	—
NL	—	—	—	—	—
PL	3.28	3.23	**3.28**	+ 0	+ 2
PT	—	—	—	—	—
RO	2.63	2.38	**2.61**	– 1	+ 10
SE	3.11	3.07	**3.33**	+ 7	+ 9
SI	—	—	—	—	—
SK	3.12	2.76	**3.14**	+ 0	+ 14

Country	Wheat (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
DZ	1.53	1.52	**1.52**	– 1	– 0
MA	1.58	1.39	**1.14**	– 27	– 18
TN	1.95	1.81	**2.21**	+ 13	+ 22
TR	2.97	3.00	**3.08**	+ 4	+ 3
UA	4.21	N/A	**4.18**	– 1	N/A

Country	Barley (t/ha)				
	Avg 5yrs	2024	MARS 2025 forecasts	%25/5yrs	%25/24
DZ	1.13	1.17	**1.20**	+ 6	+ 2
MA	1.01	0.95	**0.75**	– 26	– 21
TN	1.09	1.23	**1.35**	+ 24	+ 10
TR	2.49	2.49	**2.61**	+ 5	+ 5
UA	3.47	N/A	**3.45**	– 0	N/A

NB: Yields are forecast for crops with more than 10 000 ha per country with sufficently long and coherent yield time series.

Sources: 2020-2025 data come from DG Agriculture and Rural Development short-term-outlook data (dated February 2025, received on 21.02.2025), Eurostat Eurobase (last update: 05.03.2025), ELSTAT, Statistics Netherlands (CBS) and EES (last update: 15.11.2017).

Non-EU 2020-2025 data come from USDA, INRA Maroc, ONICL Maroc, Ministère de l'agriculture des ressources hydrauliques et de la pêche Tunisie, MED-Amin baseline DB, DSASI-MADR Algeria, Turkish Statistical Institute (TurkStat), Eurostat Eurobase (last update: 05.03.2025), Ministry for Development of Economy, Trade and Agriculture of Ukraine, FAO and PSD-online.

2025 yields come from MARS Crop Yield Forecasting System (output up to 20.03.2025).

EU aggregate after 1.2.2020 is reported.

N/A = Data not available.

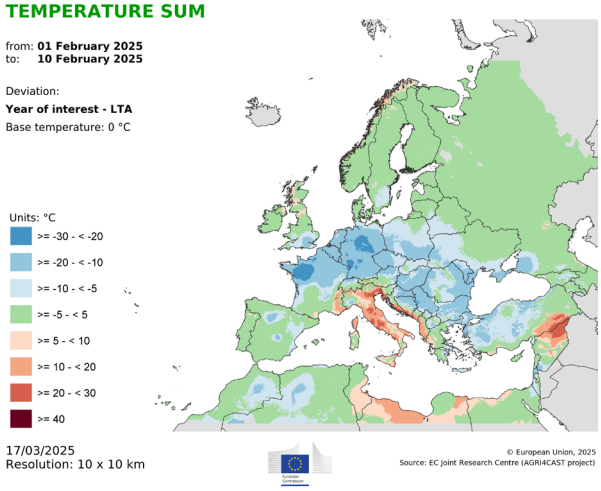
The column header '%25/5yrs' stands for the 2025 change with respect to the 5-year average(%). Similarly, '%25/24' stands for the 2025 change with respect to 2024(%).

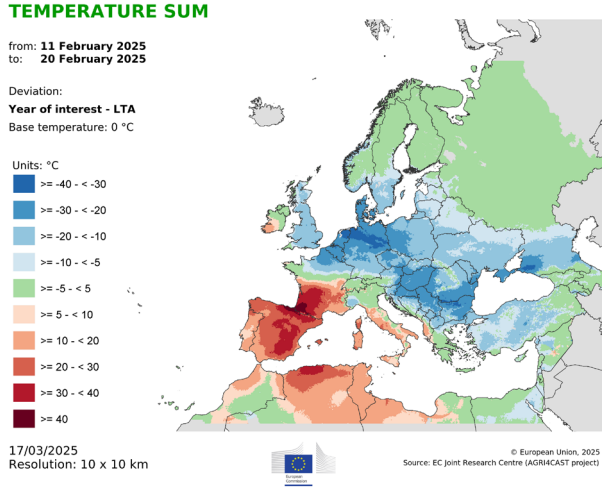
* Due to a change in the definition to distinguish spring and winter barley in Spain, the "5-year average" for this country is based only on data for 2023 and 2024. The 2025 area is based on the average of the reported area from 2023 and 2024. See text box accompanying the text on Spain and Portugal for additional information.

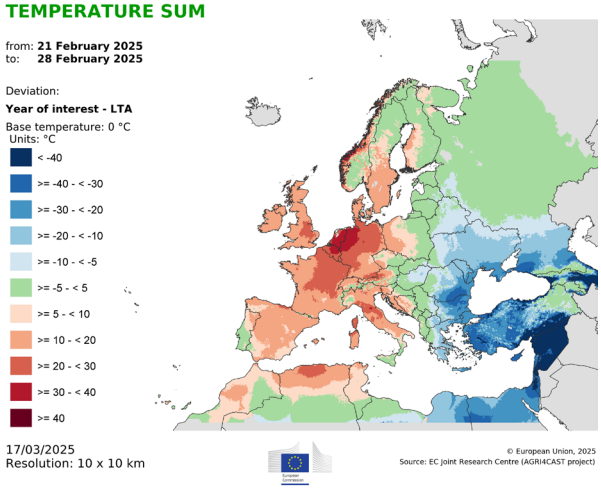
Cop name	Eurostat Crop name	Eurostat Crop Code	Official Eurostat Crop definition*
Total wheat	Wheat and spelt	C1100	Common wheat (*Triticum aestivum* L. emend. Fiori et Paol.), spelt (*Triticum spelta* L.), einkorn wheat (*Triticum monococcum* L.) and durum wheat (*Triticum durum* Desf.).
Total barley	Barley	C1300	Barley (*Hordeum vulgare* L.).
Soft wheat	Common wheat and spelt	C1110	Common wheat (*Triticum aestivum* L. emend. Fiori et Paol.), spelt (*Triticum spelta* L.) and einkorn wheat (*Triticum monococcum* L.).
Durum what	Durum wheat	C1120	*Triticum durum* Desf.
Spring barley	Spring barley	C1320	Barley (*Hordeum vulgare* L.) sown in the spring.
Winter barley	Winter barley	C1310	Barley (*Hordeum vulgare* L.) sown before or during winter.
Grain maize	Grain maize and corn-cob-mix	C1500	Maize (*Zea mays* L.) harvested for grain, as seed or as corn-cob-mix.
Green maize	Green maize	G3000	All forms of maize (*Zea mays* L.) grown mainly for silage (whole cob, parts of or whole plant) and not harvested for grain.
Rye	Rye and winter cereal mixtures (maslin)	C1200	Rye (*Secale cereale* L.) sown any time, mixtures of rye and other cereals and other cereal mixtures sown before or during the winter (maslin).
Triticale	Triticale	C1600	Triticale (x *Triticosecale* Wittmack).
Rape and turnip rape	Rape and turnip rape seeds	I1110	Rape (*Brassica napus* L.) and turnip rape (*Brassica rapa* L. var. oleifera (Lam.)) grown for the production of oil, harvested as dry grains.
Sugar beet	Sugar beet (excluding seed)	R2000	Sugar beet (*Beta vulgaris* L.) intended for the sugar industry, alcohol production or renewable energy production.
Potatoes	Potatoes (including seed potatoes)	R1000	Potatoes (*Solanum tuberosum* L.).
Sunflower	Sunflower seed	I1120	Sunflower (*Helianthus annuus* L.) harvested as dry grains.
Soybeans	Soya	I1130	Soya (*Glycine max* L. Merril) harvested as dry grains.
Field beans	Broad and field beans	P1200	All varieties of broad and field beans (Faba vulgaris (Moench) syn. Vicia faba L. (partim)) harvested dry for grain, including seed.
Field peas	Field peas	P1100	All varieties of field peas (Pisum sativum L. convar. sativum or Pisum sativum L. convar. arvense L. or convar. speciosum) harvested dry for grain, including seed.
Rice	Rice	C2000	Rice (*Oryza sativa*, L.).
* *Source:*	Eurostat - Annual crop statistics (Handbook 2020 Edition)		

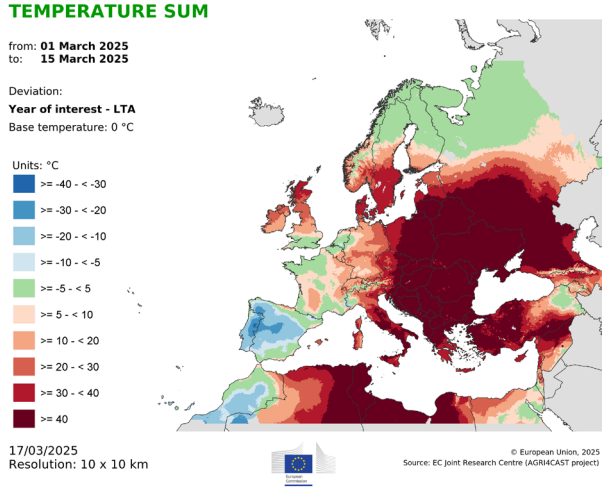
4. Atlas

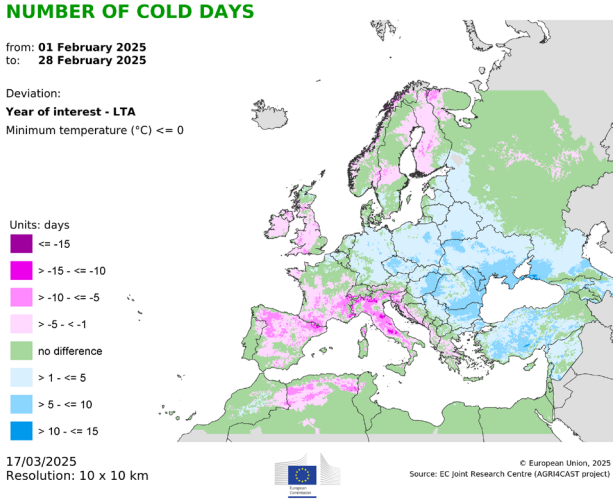
Temperature regime

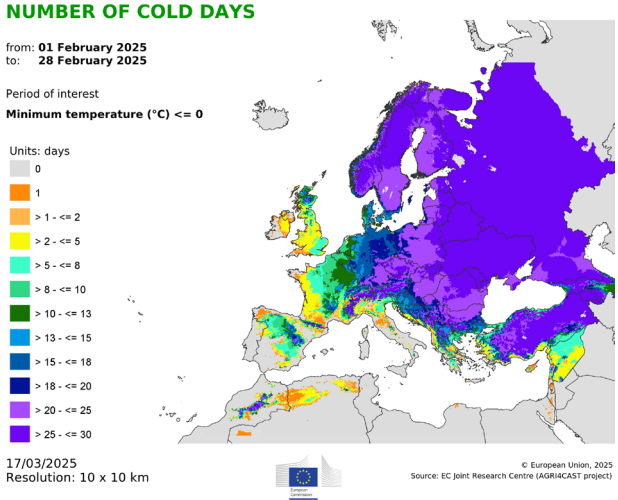


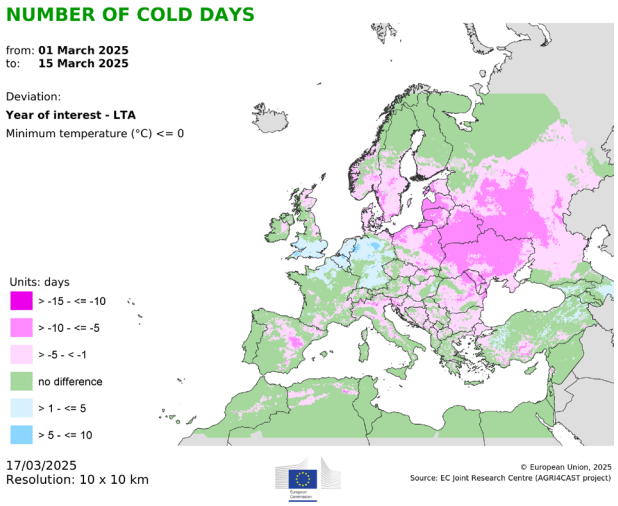


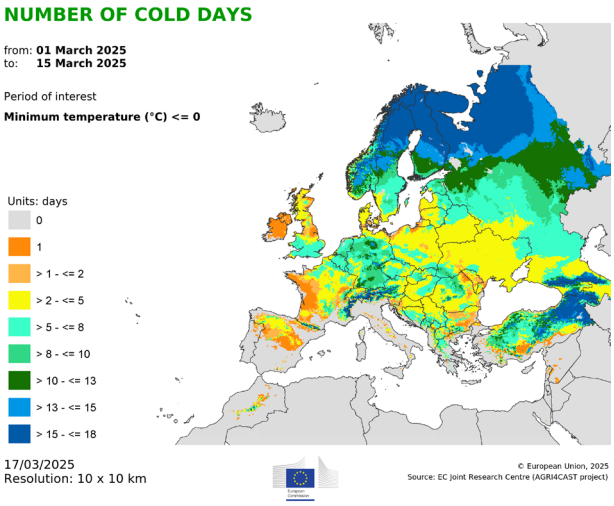




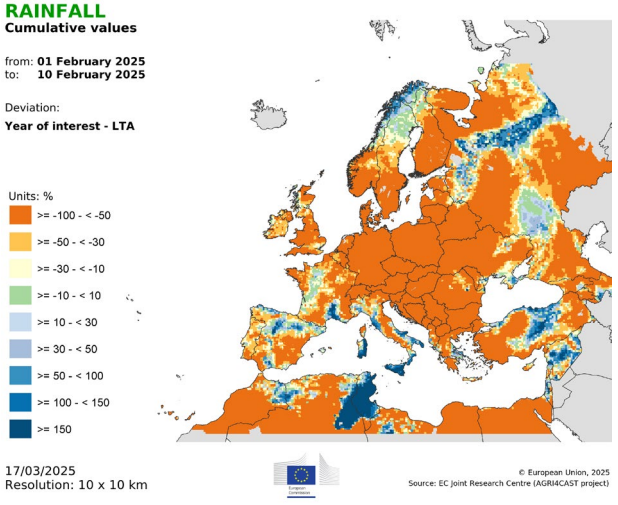


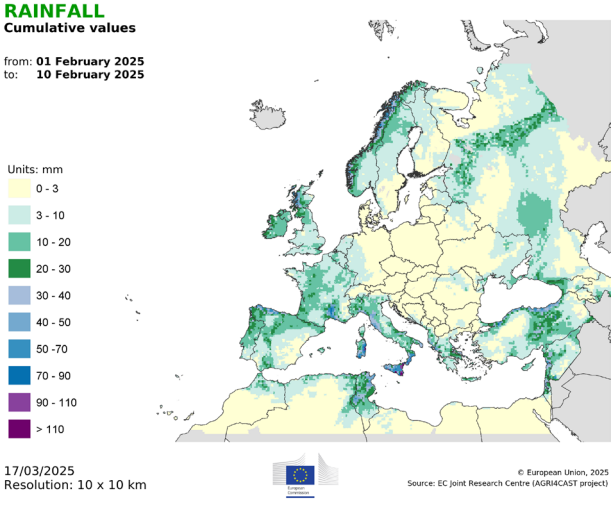


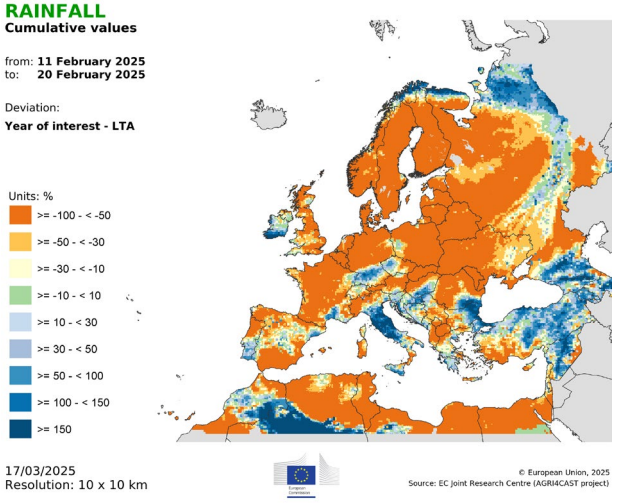


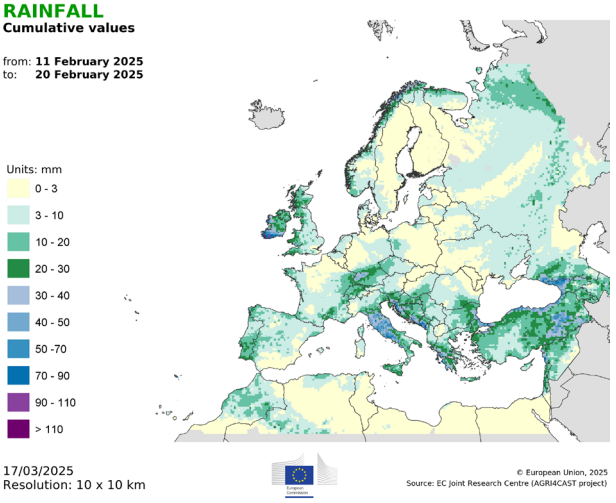


Precipitation







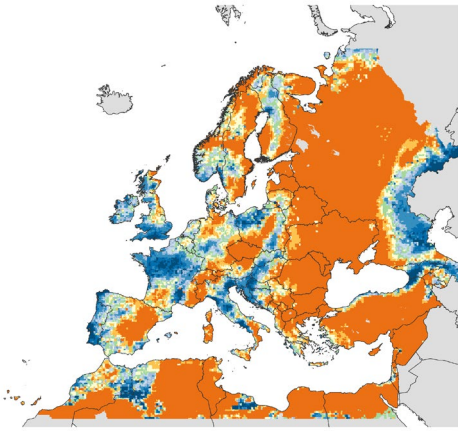


RAINFALL
Cumulative values

from: **21 February 2025**
to: **28 February 2025**

Deviation:
Year of interest - LTA

Units: %
- >= -100 - < -50
- >= -50 - < -30
- >= -30 - < -10
- >= -10 - < 10
- >= 10 - < 30
- >= 30 - < 50
- >= 50 - < 100
- >= 100 - < 150
- >= 150

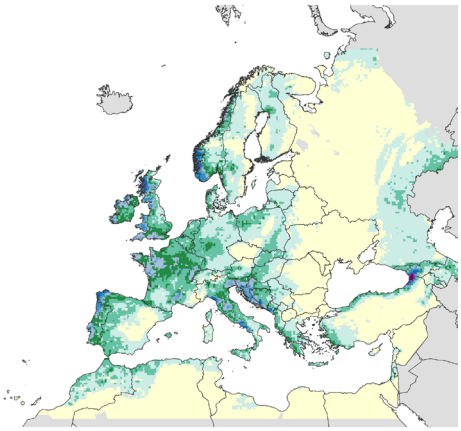


17/03/2025
Resolution: 10 x 10 km

RAINFALL
Cumulative values

from: **21 February 2025**
to: **28 February 2025**

Units: mm
- 0 - 3
- 3 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 -70
- 70 - 90
- 90 - 110
- > 110



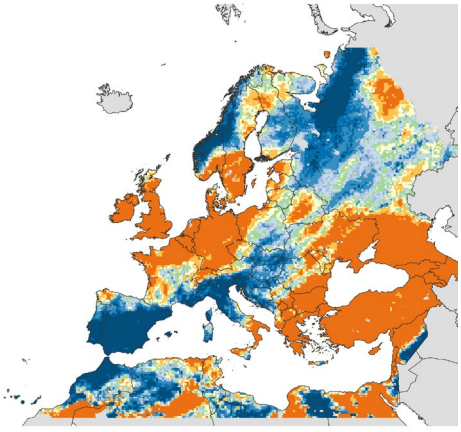
17/03/2025
Resolution: 10 x 10 km

RAINFALL
Cumulative values

from: **01 March 2025**
to: **15 March 2025**

Deviation:
Year of interest - LTA

Units: %
- >= -100 - < -50
- >= -50 - < -30
- >= -30 - < -10
- >= -10 - < 10
- >= 10 - < 30
- >= 30 - < 50
- >= 50 - < 100
- >= 100 - < 150
- >= 150

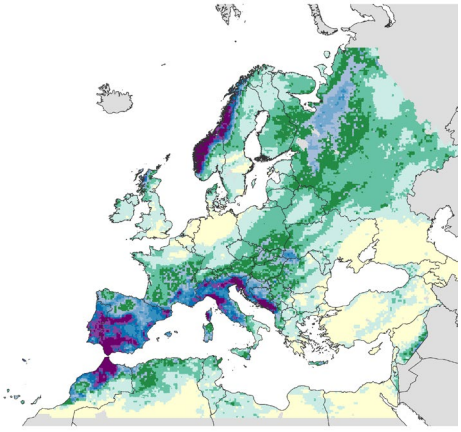


17/03/2025
Resolution: 10 x 10 km

RAINFALL
Cumulative values

from: **01 March 2025**
to: **15 March 2025**

Units: mm
- 0 - 3
- 3 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 -70
- 70 - 90
- 90 - 110
- > 110



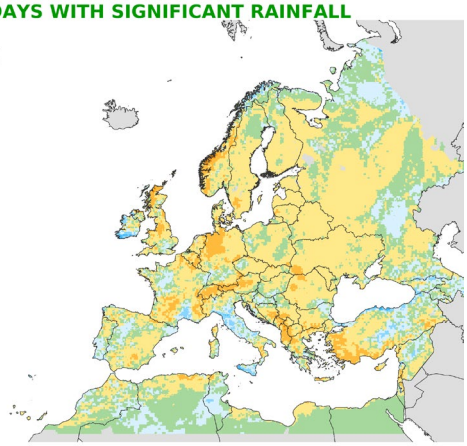
17/03/2025
Resolution: 10 x 10 km

NUMBER OF DAYS WITH SIGNIFICANT RAINFALL

from: **01 February 2025**
to: **28 February 2025**

Deviation:
Year of interest - LTA
Rain (mm) > 5

Units: days
- 6 - 10
- 3 - 5
- 1 - 2
- no difference
- -2 - -1
- -5 - -3
- -10 - -6



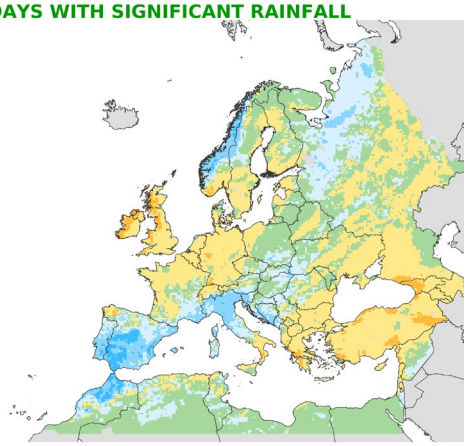
17/03/2025
Resolution: 10 x 10 km

NUMBER OF DAYS WITH SIGNIFICANT RAINFALL

from: **01 March 2025**
to: **15 March 2025**

Deviation:
Year of interest - LTA
Rain (mm) > 5

Units: days
- 6 - 10
- 3 - 5
- 1 - 2
- no difference
- -2 - -1
- -5 - -3



17/03/2025
Resolution: 10 x 10 km

JRC MARS Bulletin 2025

Date	Publication	Reference
24 Feb	Agromet analysis	Vol. 33 No 1
24 Mar	Agromet analysis, yield forecast	Vol. 33 No 2
22 Apr	Agromet analysis, remote sensing, grassland analysis, sowing conditions, yield forecast	Vol. 33 No 3
26 May	Agromet analysis, remote sensing, grassland analysis, sowing update, yield forecast	Vol. 33 No 4
23 Jun	Agromet analysis, remote sensing, grassland analysis, rice analysis, yield forecast	Vol. 33 No 5
21 Jul	Agromet analysis, remote sensing, grassland analysis, harvesting conditions, yield forecast	Vol. 33 No 6
25 Aug	Agromet analysis, remote sensing, grassland update, harvesting update, yield forecast	Vol. 33 No 7
22 Sep	Agromet analysis, remote sensing, grassland analysis, rice analysis, harvesting update, yield forecast	Vol. 33 No 8
27 Oct	Agromet analysis, grassland update, sowing conditions, harvesting update, yield forecast	Vol. 33 No 9
24 Nov	Agromet analysis, sowing update, harvesting update	Vol. 33 No 10

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Analysis and reports

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Technical note

The long-term average (LTA) used within this Bulletin as a reference is calculated on the basis of weather data from 1991-2024. The medium-term average (MTA) used within this Bulletin as a reference is calculated on the basis of weather data from 2015-2024.

Mission statement:

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