European Commission

Joint Research Centre

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JRC MARS Bulletin

Crop monitoring in Europe – November 2026

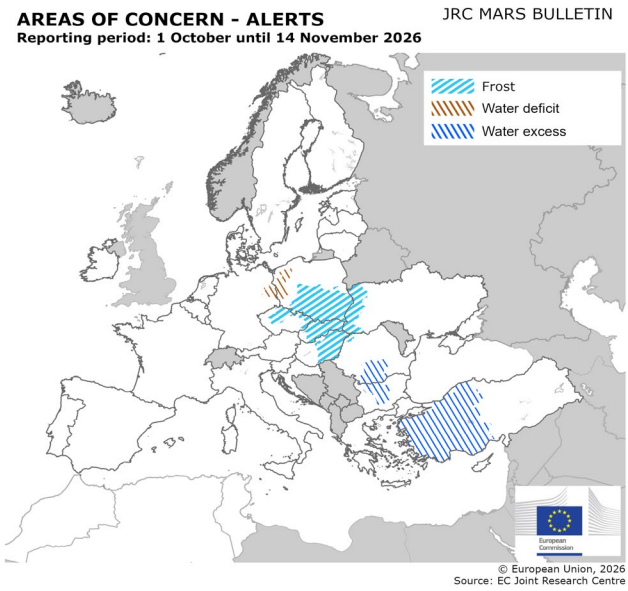
Generally favourable start to the new winter crop season

Early-November cold advances winter crop hardening

The 2026/2027 winter crop season has started generally satisfactorily across Europe. Winter crop sowing is largely complete, with remaining operations concentrated in southern and south-eastern regions. Rainfall in October and November improved soil moisture and supported crop establishment in many previously drought-affected regions, while drier conditions in the Baltic states eased waterlogging. Colder weather since early November has advanced winter crop hardening across much of northern, western and central Europe, improving frost tolerance.

Localised concerns persist where dry soils hamper establishment, excessive rainfall interrupts sowing, or early-November frosts may have affected insufficiently hardened crops.

Forecast rainfall across much of Europe could further replenish soil moisture but may interrupt remaining field operations. Frosts forecast in northern, central and eastern Europe warrant continued attention to late-established crops.



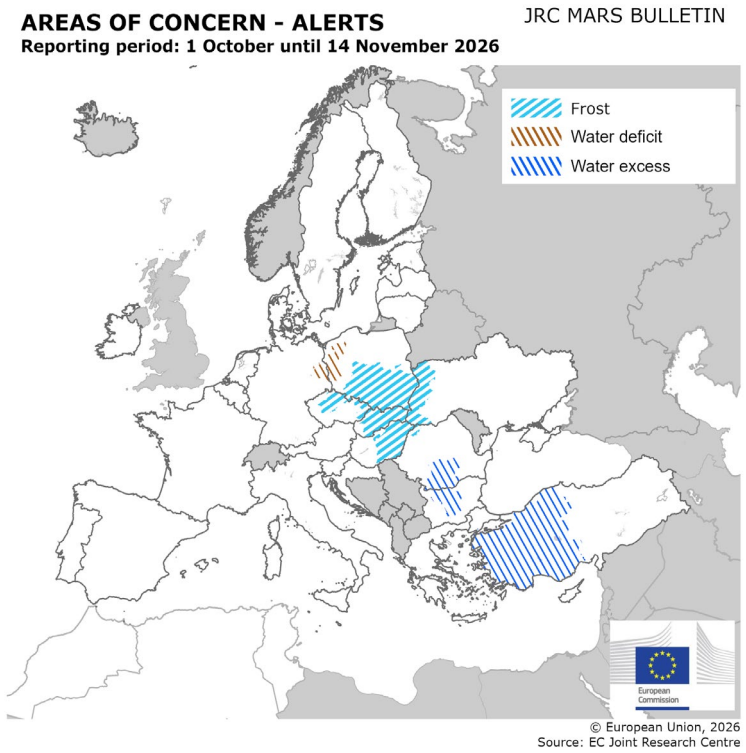
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Covers the period from 1 October to 14 November

1. Areas of concern

The start of the winter season is progressing satisfactorily across Europe. Only in central and eastern Europe early frost caused localised concerns for crop establishment while in western Türkiye overly wet conditions are delaying the early sowings.



Frost in central and southern Poland, parts of Czechia and Slovakia, eastern Hungary, north-western Romania and western Ukraine:
Temperatures dropped locally to –8 °C during 7–10 November, posing a risk to recently emerged rapeseed and late-sown winter cereals that may not yet be sufficiently hardened. However, preceding dry conditions may have mitigated the effects of the frost. Any damage is expected to be localised and has not yet been confirmed.

Water deficit in the border region between Germany and Poland:
Soil moisture deficits have improved since October but still persist locally. Although no significant crop impacts have been reported, conditions warrant monitoring, particularly for the establishment of rapeseed before winter dormancy.

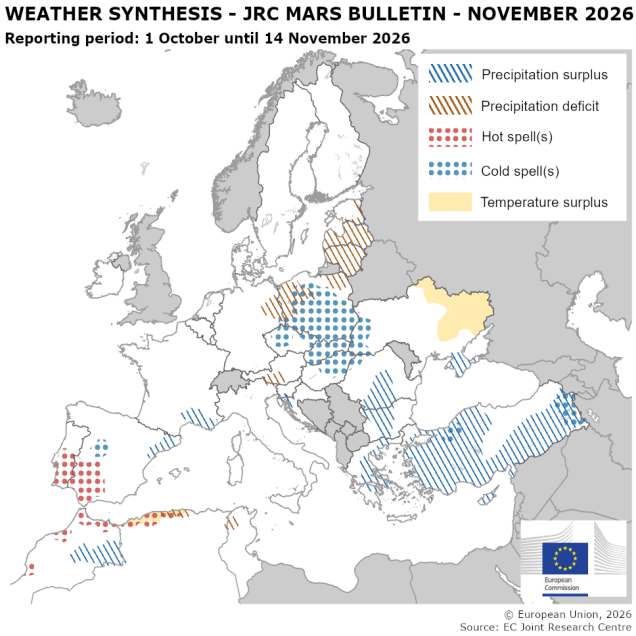
Water excess in parts of south-eastern Europe:

- **Southern Romania and northern Bulgaria:** Heavy rainfall has locally interrupted winter cereal sowing. However, conditions remain generally satisfactory, with sufficient time to complete sowing before the end of November.
- **Western half of Türkiye:** Persistently wet conditions have hampered winter cereal sowing in some regions. Nevertheless, the long sowing window allows sufficient time for completing field operations.

2. Agrometeorological overview

2.1 Meteorological review (1 October to 14 November)

High pressure over eastern Europe kept October mostly warm, with dry spells mainly in the broader Baltic region and the south-west. In early November, a trough brought colder air into the north-western, central and southern regions. While large parts of the continent then stayed drier than usual, a Mediterranean low-pressure system brought wet spells, mostly in the south-east but also in parts of the south-west.



The weather synthesis map summarises the most distinct anomalies during the reporting period compared with the 1991–2025 long-term average (LTA). Precipitation deficit and surplus are absolute and relative deviations from the LTA. Temperature surplus and deficit indicate a substantial deviation in accumulated temperature from the LTA. Cold spells indicate where temperatures were below –2 °C and the 10th percentile over five consecutive days, while hot spells indicate where temperatures reached 30 °C and the 90th percentile over five consecutive days.

Large **precipitation surpluses** affected mostly the broader Black Sea region and parts of the south-west. In Türkiye, cumulative precipitation reached 90–250 mm, or 50–150 % above the LTA, with 2–10 (locally up to 15) more wet days than usual. Smaller surpluses of 30–100 % above the LTA characterised parts of Greece, western Bulgaria, central Romania, southern Ukraine (*Krym*) and north-eastern Morocco. Southern France, north-eastern Spain and the northern Adriatic region were more moderately affected, at 10–50 % above the LTA.
Precipitation deficits affected the Baltic countries, northern Poland and eastern Germany, with precipitation totals of 30–70 mm, or 30–70 % below the LTA, and 2-5 fewer wet days than usual; a smaller deficit characterised southern Austria. Albeit localised, the precipitation deficit was most severe in northern Tunisia and coastal Algeria, where totals were 50–70 % (locally more) below the LTA.
Average daily temperatures for the period stayed within 1 °C of the LTA across most of Europe.

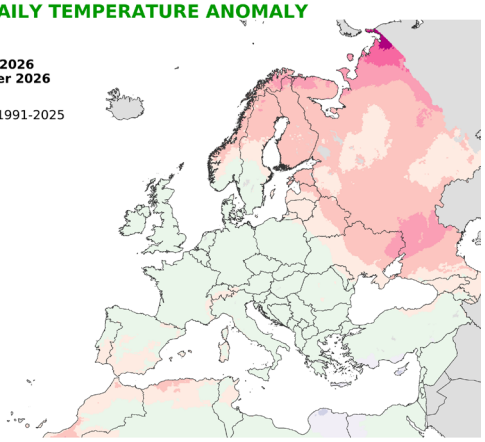
Brief **cold spells** affected most of Poland, western Czechia, Slovakia, eastern Hungary, north-westernmost Romania and western Ukraine, with sub-zero minimum daily temperatures, locally down to –10 °C, and 2-5 more cold days than usual. A similar pattern characterised north-western Spain. In eastern Türkiye, daily temperature minima dropped below –10 °C, albeit with fewer than usual cold days.
Contrasting **hot spells** affected southern and central Portugal, south-western Spain and coastal western North Africa. However, due to episodic rather than persistent warmth, the average daily temperature anomaly was modest (1–3 °C above the LTA in Portugal and Spain, as well as in western North Africa). In Portugal, the hot spells coincided with 2–10 fewer wet days than usual.
A **temperature accumulation surplus** affected north-eastern Ukraine, with average daily temperatures 2–4 °C above the LTA and 6–10 fewer cold days than usual. A persistent surplus, with daily average temperatures up to 3 °C above the LTA, was also observed along the Algerian coast.

AVERAGE DAILY TEMPERATURE ANOMALY

Average value

from: **01 October 2026**
to: **14 November 2026**

Reference period: 1991-2025



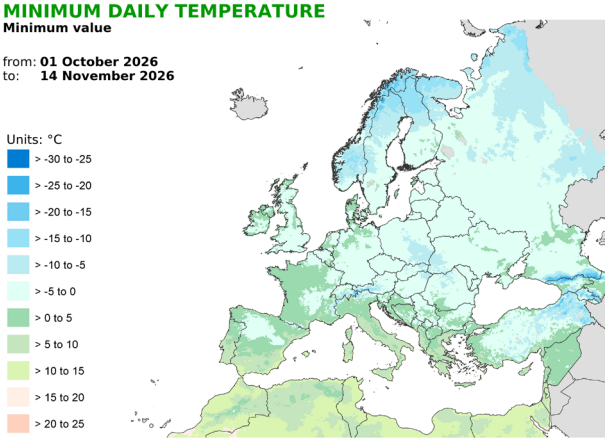
Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

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Source: EC Joint Research Centre

MINIMUM DAILY TEMPERATURE

Minimum value

from: **01 October 2026**
to: **14 November 2026**



Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

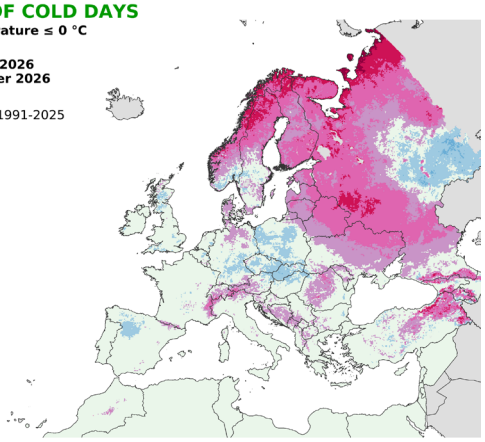
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Source: EC Joint Research Centre

ANOMALY OF COLD DAYS

Minimum temperature ≤ 0 °C

from: **01 October 2026**
to: **14 November 2026**

Reference period: 1991-2025



Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

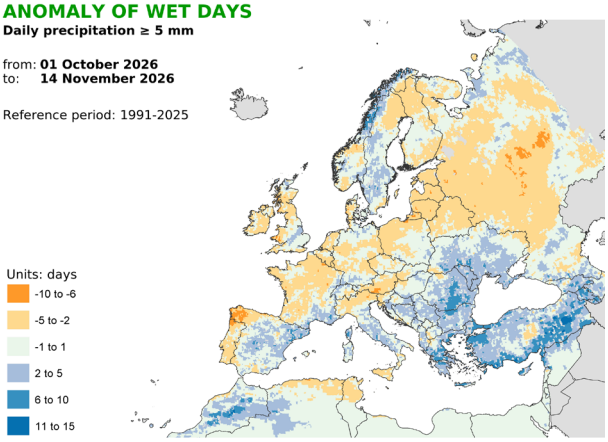
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Source: EC Joint Research Centre

ANOMALY OF WET DAYS

Daily precipitation ≥ 5 mm

from: **01 October 2026**
to: **14 November 2026**

Reference period: 1991-2025



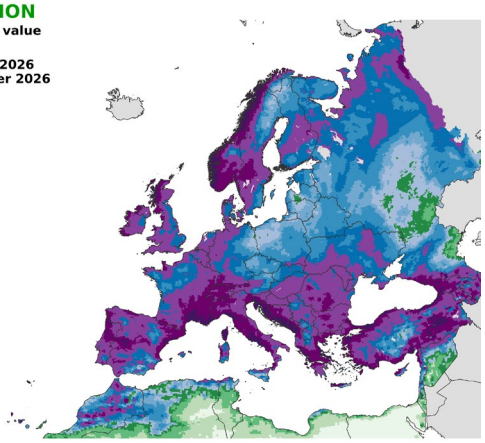
Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

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Source: EC Joint Research Centre

PRECIPITATION

Cumulative daily value

from: **01 October 2026**
to: **14 November 2026**



Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

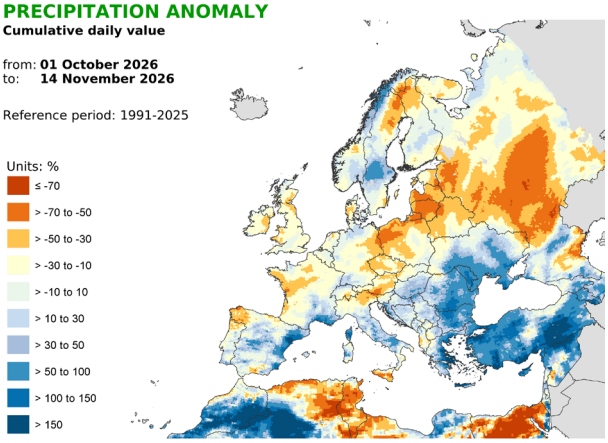
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PRECIPITATION ANOMALY

Cumulative daily value

from: **01 October 2026**
to: **14 November 2026**

Reference period: 1991-2025



Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

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Source: EC Joint Research Centre

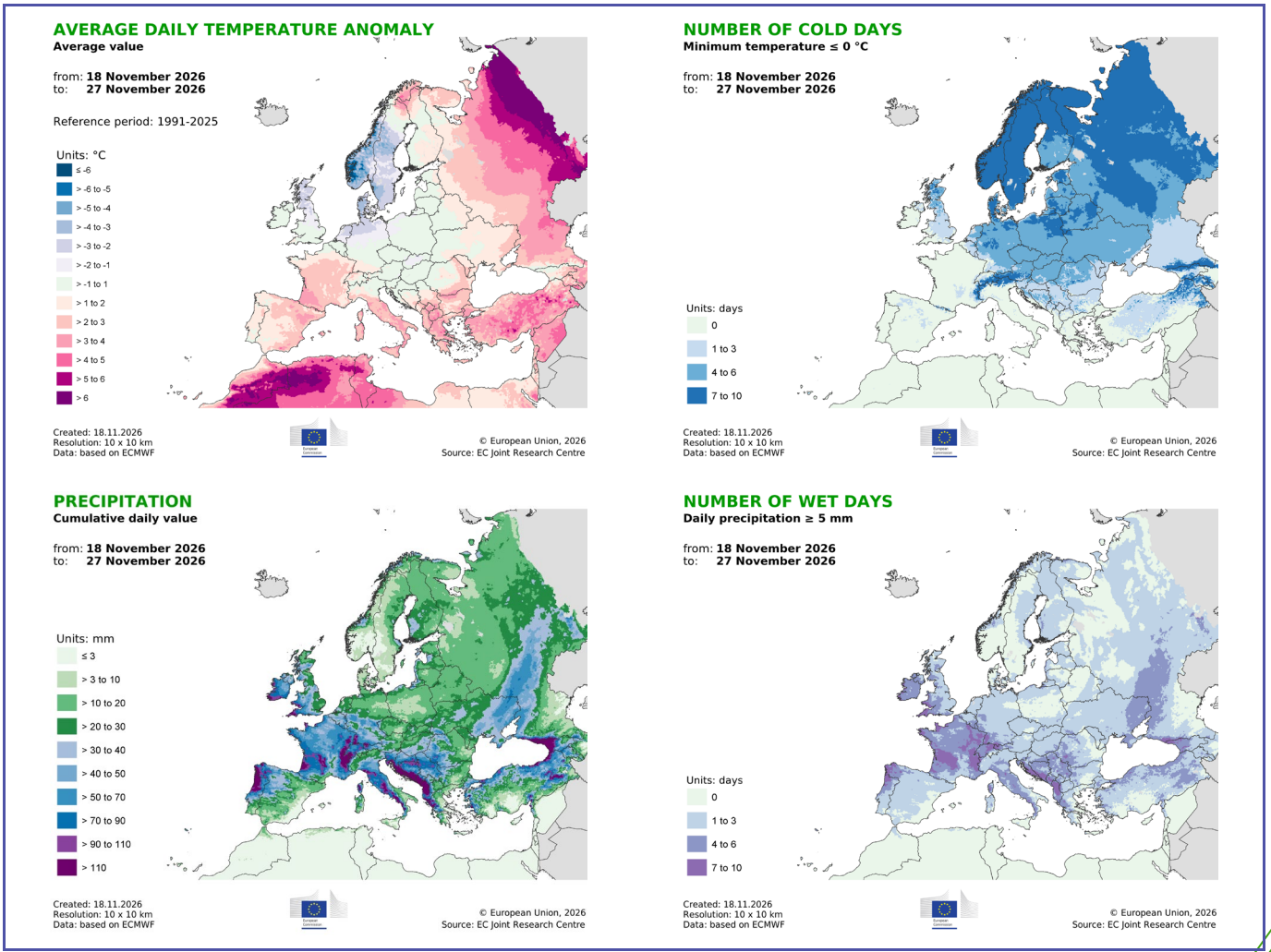
2.2 Meteorological forecast (18-27 November)

A low-pressure pattern is bringing unsettled, rainy weather to western and central Europe, with colder conditions around the North Sea. Above-average temperatures are forecast across much of southern Europe, and especially in parts of north-eastern Europe and North Africa.

Warmer-than-usual conditions are forecast for southern and north-eastern Europe, as well as the broader Black Sea region, with average daily temperatures exceeding the LTA by up to 3 °C, locally more. More substantial positive temperature anomalies (up to 6 °C above the LTA) are forecast for western North Africa and the northern parts of European Russia. **Colder-than-usual** conditions, with average daily temperatures 1-3 °C below the LTA, are forecast for most of Great Britain, the Netherlands, northern Germany, north-western Poland, Slovakia and parts of Scandinavia. A more distinct negative temperature anomaly (up to 5 °C below the LTA) is forecast for Denmark, parts of southern and central Sweden, and most of Norway. In most of these regions, between 7-10 days with sub-zero minimum daily temperatures are expected.

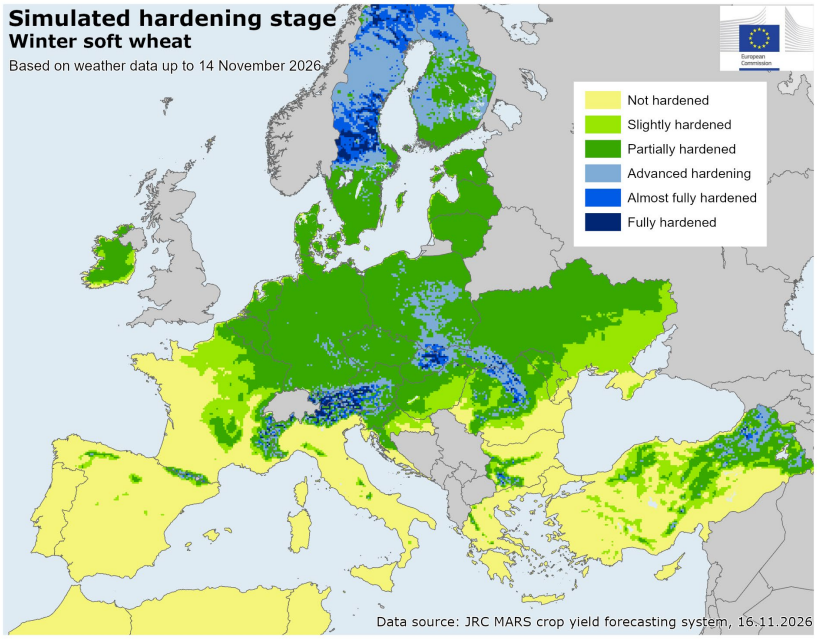
Wet conditions (precipitation of 30–90 mm) are forecast across parts of western, southern Europe, the Balkans and the broader Black Sea region, with up to six wet days. **Very wet conditions** (precipitation of > 90 mm) are forecast in western Iberia, parts of France, the Alps region, parts of Italy and the western Balkans along the Adriatic coast, with 7-10 wet days. **Dry conditions** (precipitation of ≤ 3 mm) are forecast for south-eastern Spain, *Sicilia*, parts of south-western Türkiye, Cyprus and across North Africa.

The **long-range forecast** (December to February) points to a high likelihood of warmer-than-usual conditions across most of Europe, with temperatures exceeding the 24-year climatological median by up to 2 °C. A wetter-than-average period is modestly favoured across most of Europe, particularly in western Iberia.



3. Winter hardening and frost kill

Winter crop hardening has progressed considerably across northern, western and eastern Europe, mainly driven by the unusually cold beginning of November. Crops in southern Europe remain largely unhardened.



The map displays the simulated hardening stage of winter wheat, based on weather data up to 14 November 2026. Hardening is the biophysiological process whereby winter cereals gain low-temperature tolerance to withstand freezing conditions during winter dormancy.

In **Finland** and **Sweden**, wheat reached partial to advanced hardening, with fully hardened conditions observed locally, comparable with the average hardening pace but substantially ahead of last year. Across much of western, central and eastern Europe, including **Ireland**, the **Benelux** countries, north-eastern **France, Denmark**, **Germany**, most of **Poland**, **Czechia**, **Slovakia**, **Hungary**, **Austria**, **Slovenia**, the **Baltic countries** and northern and central **Ukraine**, winter crops are predominantly partially hardened, while more advanced stages are being reached locally in mountainous areas and parts of central and southern Poland. Compared with the seasonal average, hardening is more advanced in northern France, the Benelux countries, most of Germany and central and southern Poland.

Elsewhere in central Europe and in the Baltic countries and Ukraine, conditions are broadly comparable with the average, with local variation. In southern Europe, including southern **France**, **Portugal**, **Spain**, **Italy**, **Croatia**, southern **Romania**, most of **Bulgaria** and **Greece**, crops remain unhardened or only slightly hardened, broadly in line with seasonal expectations. Overall, the November cold spell has favoured the development of frost tolerance, but substantial variation from the seasonal average persists, particularly in northern and eastern Europe. Current model simulations do not indicate any frost damages, but particularly delicate crops like rapeseed and late-sown or weak stands may have suffered minor local damage in the coldest regions of **Poland**, **Czechia**, western **Ukraine, Slovakia and Hungary**.

4. Sowing conditions

Winter cereals – Sowing largely complete, but cold weather slows early development

Winter cereal sowing is largely complete across Europe, although campaigns remain ongoing in parts of southern and south-eastern Europe. Autumn rainfall alleviated earlier soil moisture deficits but also interrupted fieldwork locally. Below-average temperatures during the first half of November slowed early crop development, leaving some late-sown cereals vulnerable to early frosts.

In **France**, dry weather allowed sowing to accelerate. Soft wheat sowing is nearing completion, winter barley is essentially finished and durum wheat is well ahead of its usual pace. Recent cool temperatures have slowed emergence and early development. In **Germany**, autumn rainfall improved soil moisture, and cereals are entering dormancy in good condition. Winter barley sowing is complete and soft wheat sowing nearly complete in **Poland**. However, temperatures locally dropped to –8 °C during a cold spell around 7–10 November, potentially affecting recently emerged crops that were not yet sufficiently hardened. In the **Benelux countries**, sowing is essentially complete, with young crops generally well established.

In **Austria**, sowing is complete and crops have generally entered dormancy in good condition, although October rainfall did not fully replenish soil moisture. In **Czechia** and **Slovakia**, sowing has finished, but the prolonged drought resulted in patchy emergence and increased vulnerability to winter damage. Further rainfall would support root development. In **Slovenia** and **Croatia**, the delayed sowing campaigns were completed after favourable October weather. In **Hungary**, October rainfall enabled rapid progress after a late start. Winter barley sowing is complete and soft wheat is close to completion, but heavy November rainfall curtailed fieldwork and some stands may remain underdeveloped.

In **Romania** and **Bulgaria**, rainfall improved soil moisture, but heavy precipitation subsequently interrupted sowing. Campaigns in both countries are still ongoing, with the sowing window open until the end of November, and crop conditions are generally expected to be satisfactory.

In **Ireland**, winter crops remain in good condition under mild temperatures despite above-average rainfall in late October. Relatively mild weather has also supported cereals in **Denmark** and **Sweden**, although excess rainfall in parts of Sweden may cause localised waterlogging and impair crop establishment. In **Lithuania** and **Latvia**, earlier overly wet conditions substantially delayed sowing. Although waterlogging has eased, late-established cereal stands may be more vulnerable to adverse winter conditions.

In **Spain** and **Portugal**, November rainfall improved soil moisture, facilitating sowing and emergence, although heavy rainfall is now locally restricting field access. Sowing remains delayed in some regions, particularly in northern and central Spain, but there is still time to complete most sowing campaigns within a suitable window, especially in the south. Durum wheat sowing is beginning in southern Spain.

In **Italy**, soft wheat sowing is approaching completion, while winter barley is less advanced, particularly in the south. Durum wheat sowing is still at an early stage following the arrival of November rainfall. In **Greece**, winter cereal sowing has just started within the usual seasonal window, although frequent and abundant rainfall has locally hampered field operations.

In **Ukraine**, soft wheat sowing is nearing completion, but the share of late-sown crops has increased. Winter barley is lagging unusually far behind, raising concerns over a possible reduction in the planted area. In **Türkiye**, winter wheat sowing remains at an early stage, with wet soils and locally low temperatures slowing operations; durum wheat sowing has not yet started, but the optimal window remains open.

Rapeseed – Sowing largely complete, but uneven crop establishment persists in several regions

In **Poland**, favourable conditions supported crop emergence and early development, but freezing temperatures around 7–10 November may have caused local frost damage, particularly in the south. In **Germany**, October rainfall improved soil moisture after a dry start of the season, although deficits persist locally. Warm temperatures favoured above-average growth, and the November temperature drop has triggered the onset of winter dormancy. In **France**, sowing is complete, but uneven emergence and early development persist in drought-affected areas, while pressure from flea beetle larvae is increasing.

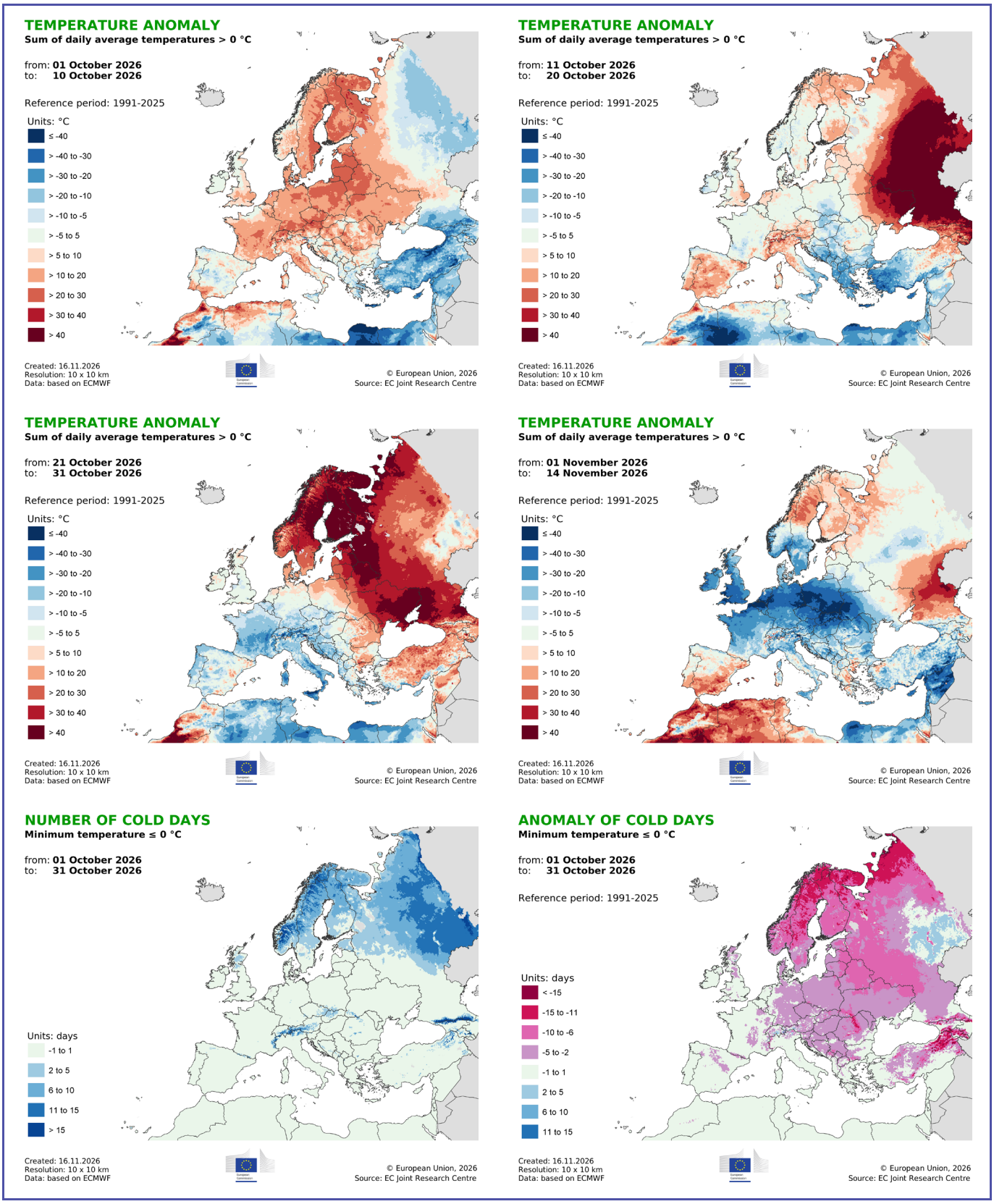
In central Europe, the effects of dry conditions during sowing remain evident. In **Czechia**, crops emerged late from dry seedbeds and may be vulnerable to winter damage, particularly following local frosts in early November. In **Slovakia**, delayed emergence and limited early growth have increased crop vulnerability to winter damage; further rainfall is needed to support root development. In **Austria**, October rainfall partly alleviated soil moisture deficits, and a cold spell in November initiated dormancy without reported damage. In **Hungary**, sowing is complete, but the final area is expected to be 10–15 % below farmers' initial targets. Rainfall after 10 October improved establishment, but stands remain patchy, especially in the east.

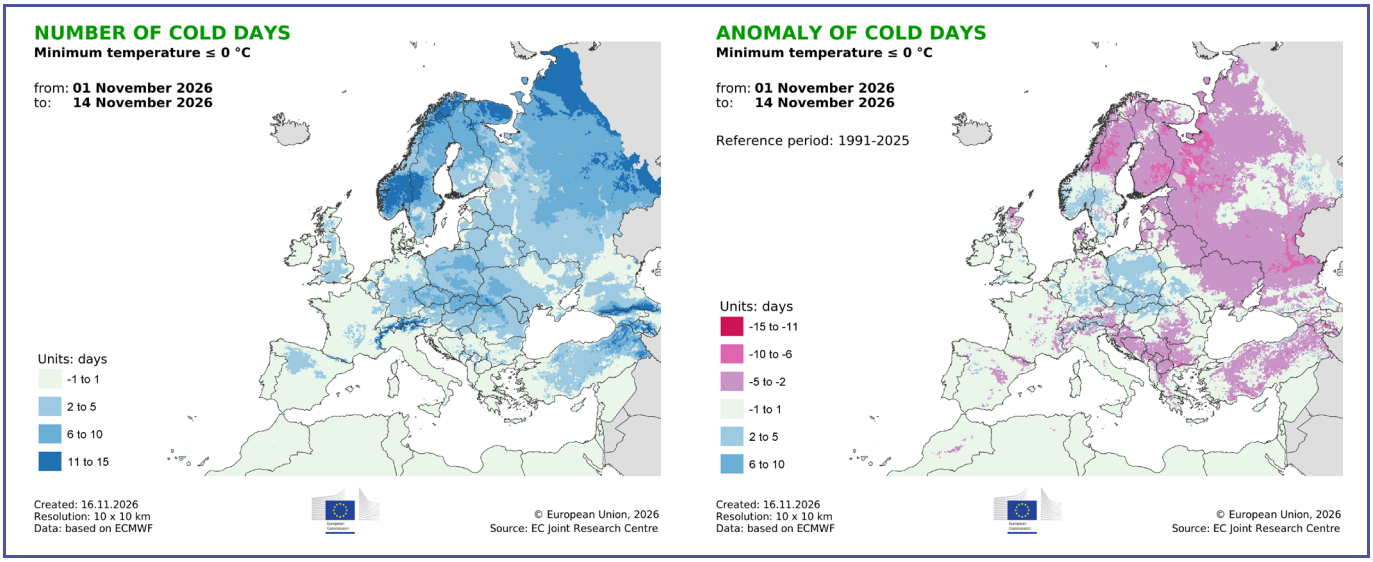
In **Romania**, sowing is nearly complete. Rainfall since mid October has improved emergence and crop conditions in western regions, while abundant rain in the east hampered the final sowing operations. Some reduction in the planted area remains likely. In **Bulgaria**, rapeseed sowing is nearing completion. Rainfall in late October improved soil moisture and crop establishment, although abundant rain in early November temporarily interrupted the remaining sowing operations. In **Croatia**, sowing finished in September, but establishment remains uneven despite more favourable conditions in October. In **Spain**, sowing is largely complete, although persistent dryness prevented some rainfed fields from being sown within the optimal window. November rainfall arrived too late to allow sowing in these fields but should favour the emergence and early development of crops already sown. In **Italy**, sowing ended by early October, but dry soils hampered emergence locally.

In **Denmark** and **Sweden**, crops are generally in good condition, supported by relatively mild temperatures. In **Lithuania** and **Latvia**, drier weather alleviated earlier waterlogging, and rapeseed stands are now generally in good condition.

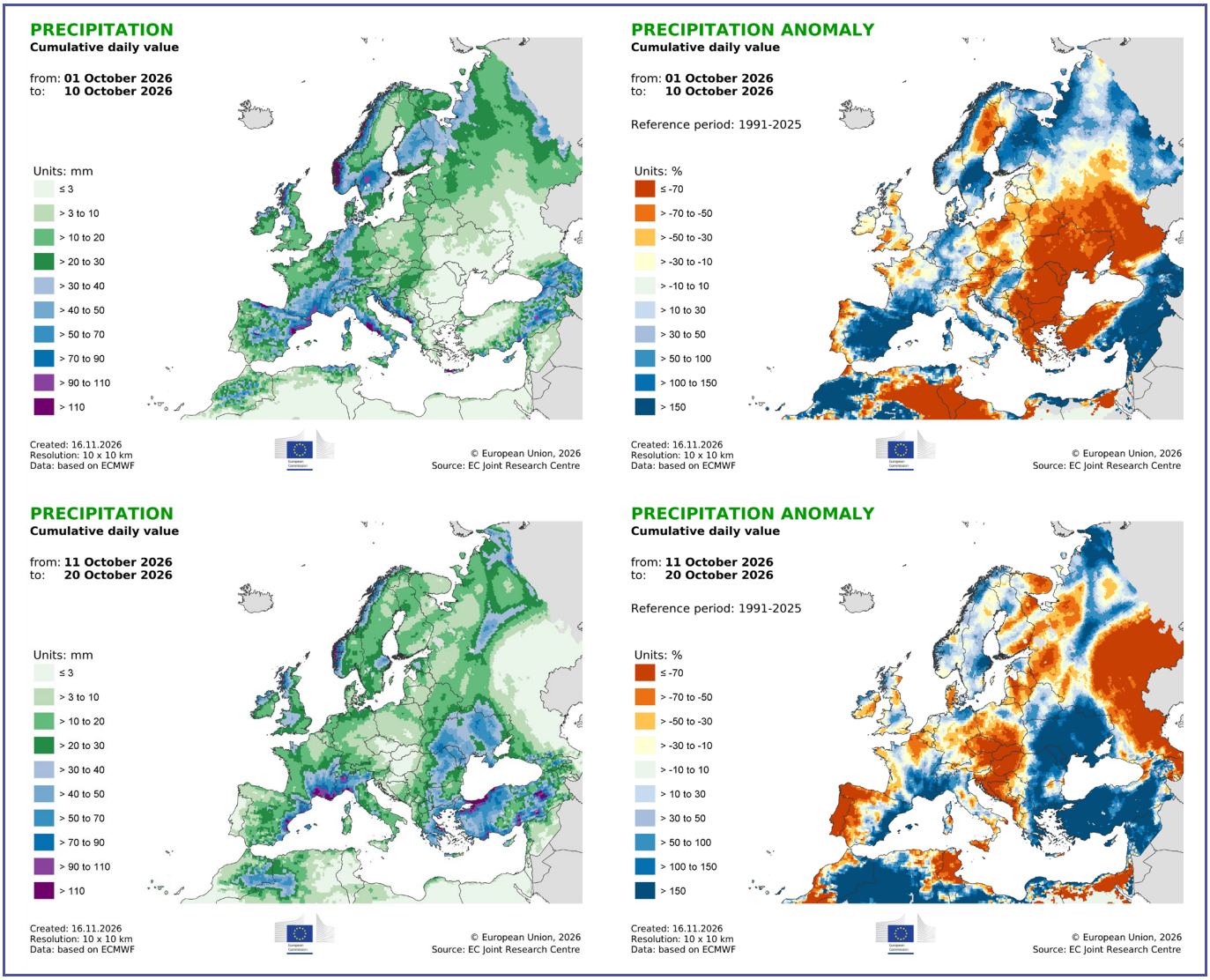
5. Atlas

Temperature



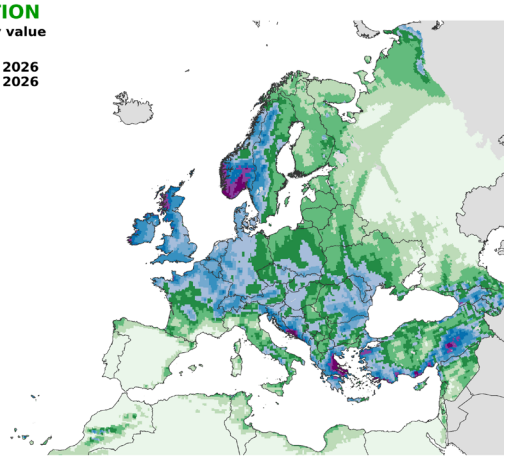


Precipitation



PRECIPITATION
Cumulative daily value

from: **21 October 2026**
to: **31 October 2026**



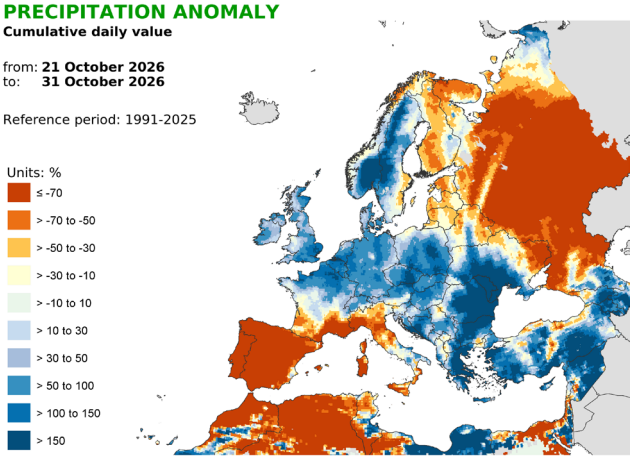
Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

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Source: EC Joint Research Centre

PRECIPITATION ANOMALY
Cumulative daily value

from: **21 October 2026**
to: **31 October 2026**

Reference period: 1991-2025

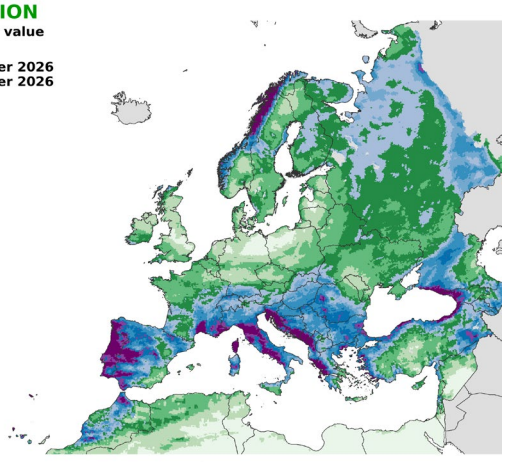


Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

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Source: EC Joint Research Centre

PRECIPITATION
Cumulative daily value

from: **01 November 2026**
to: **14 November 2026**



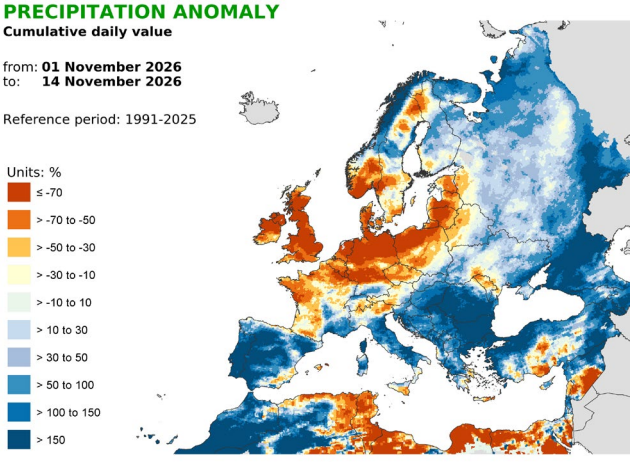
Created: 16.11.2026
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PRECIPITATION ANOMALY
Cumulative daily value

from: **01 November 2026**
to: **14 November 2026**

Reference period: 1991-2025

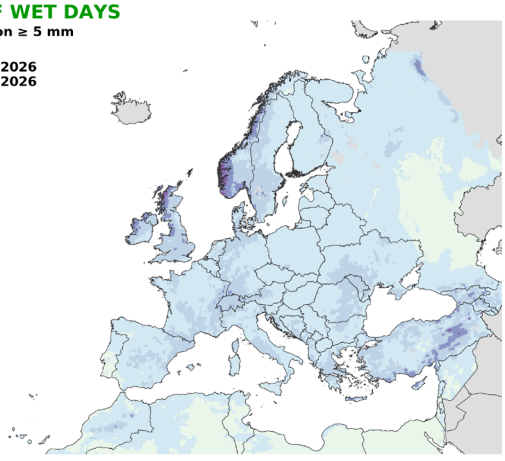


Created: 16.11.2026
Resolution: 10 x 10 km
Data: based on ECMWF

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NUMBER OF WET DAYS
Daily precipitation ≥ 5 mm

from: **01 October 2026**
to: **31 October 2026**



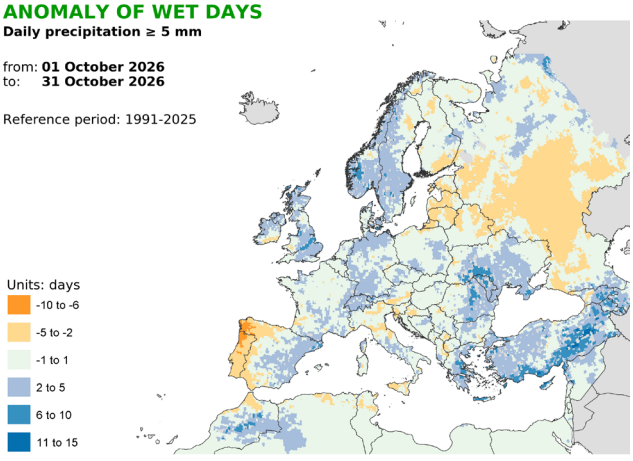
Created: 16.11.2026
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ANOMALY OF WET DAYS
Daily precipitation ≥ 5 mm

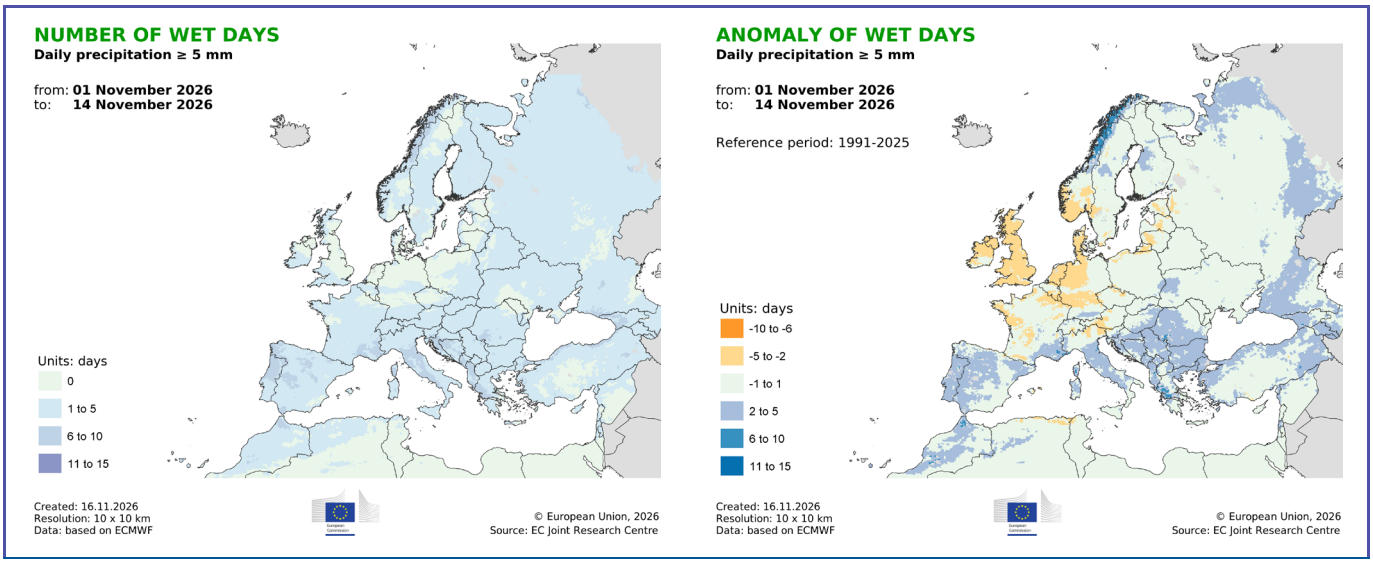
from: **01 October 2026**
to: **31 October 2026**

Reference period: 1991-2025

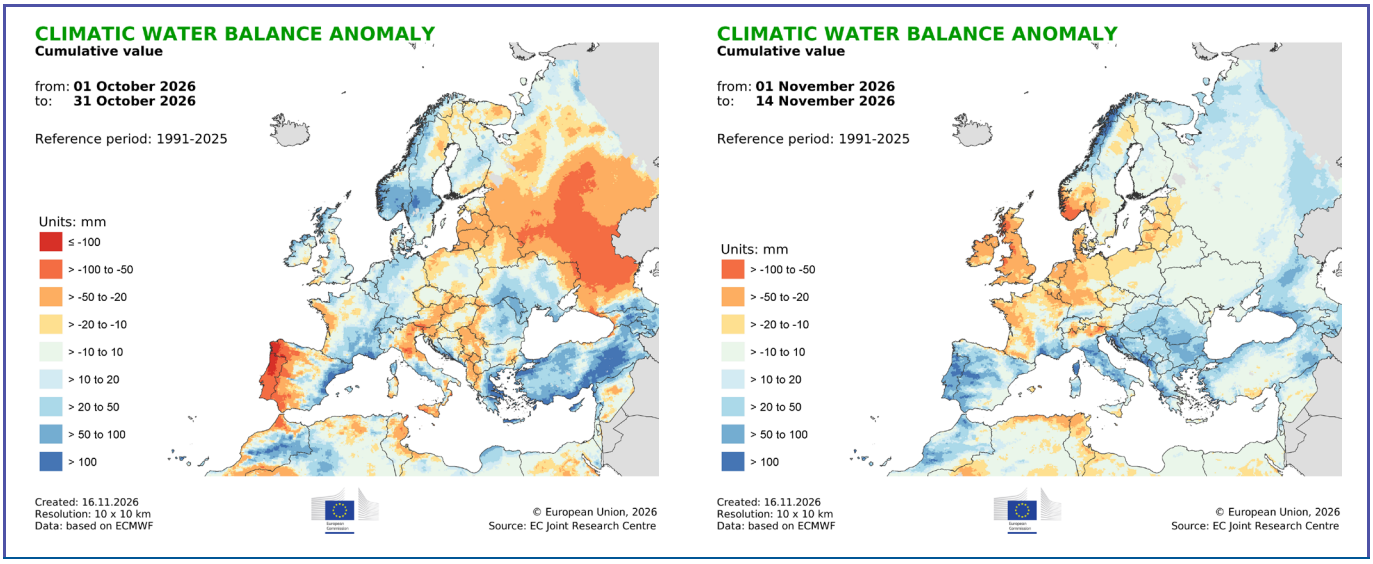


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Climatic water balance



JRC MARS Bulletin 2026

Date	Publication	Reference
2 MAR	Agro-meteo incl. frost-kill analysis, extended Maghreb section	Vol. 34 No 1
23 MAR	Agro-meteo incl. frost-kill & country analysis, yield forecasts	Vol. 34 No 2
27 APR	Agro-meteo & country analysis, yield forecasts, sowing conditions, remote sensing & grassland update, extended Türkiye section	Vol. 34 No 3
18 MAY	Agro-meteo & country analysis, yield forecasts, sowing conditions, remote sensing & grassland update, extended Maghreb section	Vol. 34 No 4
22 JUN	Agro-meteo & country analysis, yield forecasts, remote sensing & grassland update, rice analysis	Vol. 34 No 5
27 JUL	Agro-meteo & country analysis, yield forecasts, remote sensing & grassland update, extended Türkiye section	Vol. 34 No 6
24 AUG	Agro-meteo & country analysis, yield forecasts, remote sensing & grassland update	Vol. 34 No 7
28 SEP	Agro-meteo & country analysis, yield forecasts, remote sensing & grassland update, rice analysis	Vol. 34 No 8
26 OCT	Agro-meteo & country analysis, yield forecasts, sowing conditions	Vol. 34 No 9
23 NOV	Agro-meteo incl. frost-kill analysis, sowing conditions	Vol. 34 No 10

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Analysis and reports

Ben Aoun, W., Biavetti, I., Bussay, A., Cerrani, I., De Palma, P., Fumagalli, D., Luque-Reyes, J., Morel, J., Niemeyer, S., Nisini, L., Panarello, L., Rossi, M., Seguini, L., Tarnavsky, E., Thiemig, V., Todoroff, P., Zucchini, A.

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Thiemig, V., Ben Aoun, W., Niemeyer, S.

Further information

AGRI4CAST Toolbox (https://agri4cast.jrc.ec.europa.eu/)
AGRI4CAST Resources Portal (https://agri4cast.jrc.ec.europa.eu/dataportal)

Data production

AGRI4CAST

Technical note

The long-term average (LTA) used within this Bulletin as a reference is calculated based on weather data from 1991-2025. The medium-term average (MTA) used within this Bulletin as a reference is calculated based on weather data from 2016-2025.

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CONTACT INFORMATION

European Commission, Joint Research Centre (JRC)
Contact: The JRC MARS Bulletin – Crop monitoring in Europe
E-mail: JRCMARSBULLETIN@ec.europa.eu

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