



European
Commission

JRC MARS Bulletin

Crop monitoring in Europe

November 2022

Exceptionally warm autumn

Dry weather in the south raises concerns for winter crops

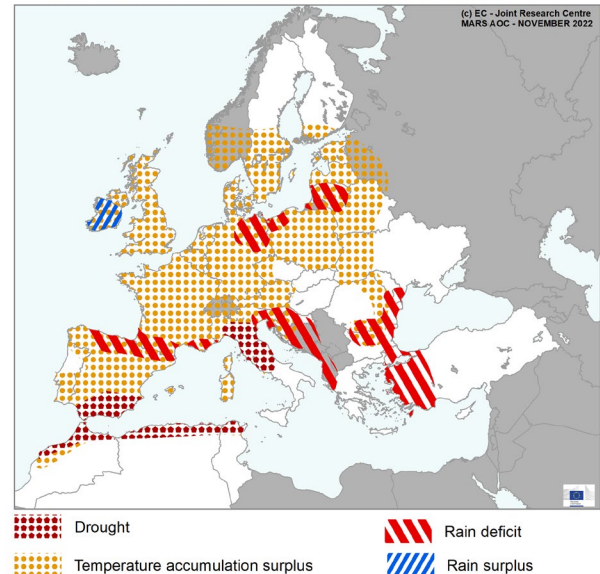
In most parts of Europe, the review period was the warmest in our records (since 1991). In most regions, the exceptional warm temperatures, combined with adequate topsoil moisture conditions, favoured emergence and early establishment of winter crops, and allowed late-sown crops to catch up in development. Negative effects of the temperature surplus - such as lack of build-up of frost tolerance, increased pest and disease pressure, and shorter vernalisation - are not yet alarming.

However, in large parts of southern Europe, the warm anomalies are accompanied by a persistent deficit in precipitation. In southern Spain and in central and northern Italy, this is prolonging the summer drought and winter cereal sowings are delayed or occurring under unusual irrigation practices. In eastern Romania and Bulgaria, sowing was also delayed and low precipitation since September has led to poor emergence and underdeveloped stands. Drought conditions in the Maghreb region raise serious concerns for the coming sowing campaign. Other distinct rainfall deficits, so far without substantial impacts on winter cereals, are observed in southern France, north-eastern Germany, eastern Poland, Lithuania, Slovenia, Croatia, and western Türkiye.

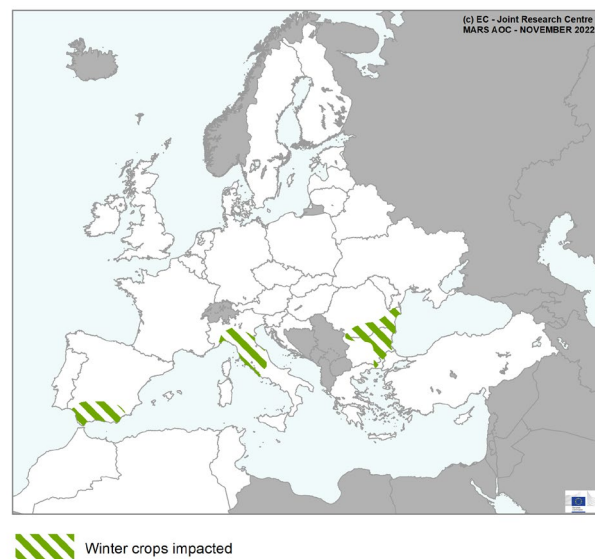
Distinctly above-average rainfall in Ireland did not seriously hamper the sowing campaign.

AREAS OF CONCERN - EXTREME WEATHER EVENTS

Based on weather data from 1 October 2022 until 18 November 2022



AREAS OF CONCERN - WINTER CROPS



Contents:

1. Agrometeorological overview
2. Sowing conditions
3. Atlas

Covers the period from 1 October until 14 November

1. Agrometeorological overview

1.1. Meteorological review (1 October – 10 November 2022)

Warmer-than-usual and drier-than-usual conditions occurred in most of Europe. Wetter-than-usual conditions prevailed in parts of the Iberian Peninsula, the British Isles, western Scandinavian Peninsula and most of Eastern Europe, However, the climatic water balance remained negative in most parts of Europe.

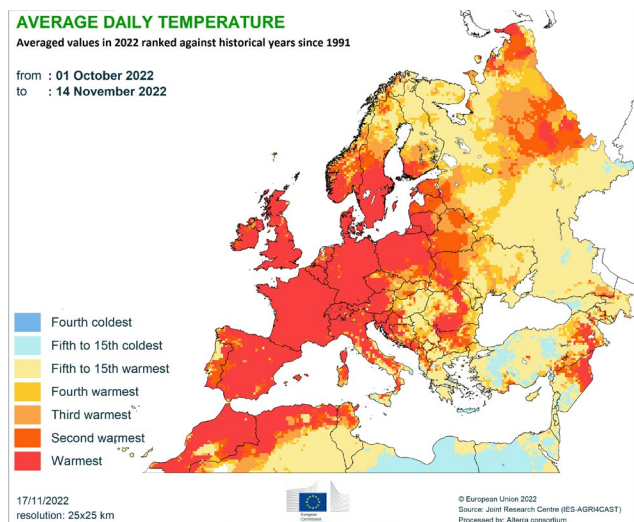
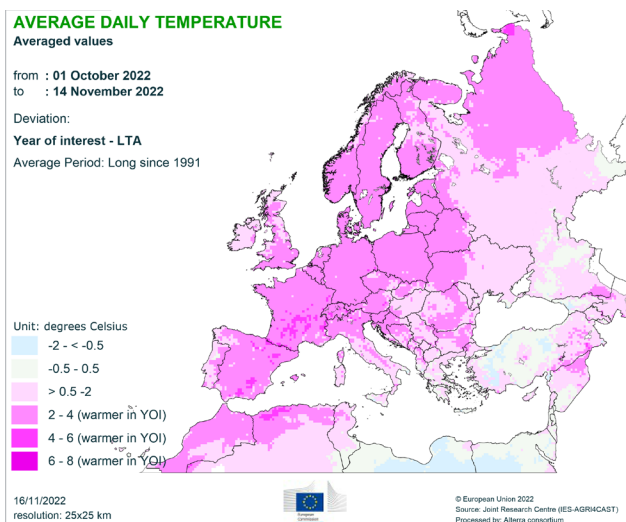
Warmer-than-usual conditions with daily mean temperatures between 2 °C and 4 °C above the 1991–2021 long-term average (LTA) were observed in most of Europe with more distinct positive temperature anomalies (between 4 °C and 6 °C above the LTA) in parts of Spain, southern France, and parts of the Alps region, as well as in northernmost European Russia. In most regions with positive mean daily temperature anomalies above 2°C, the review period was the warmest in our records (since 1991).

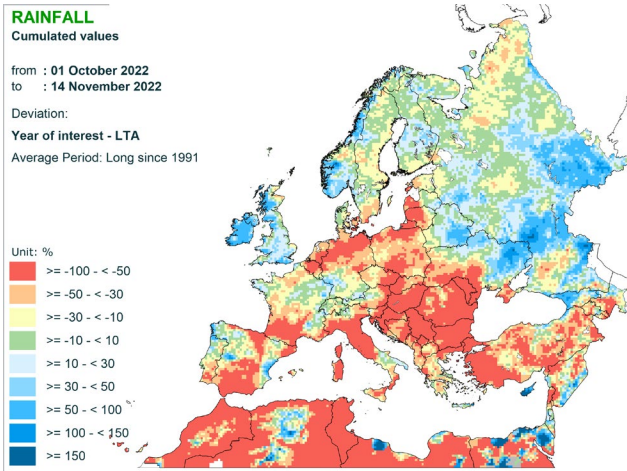
Slightly colder-than-usual conditions with temperature anomalies down to -2 °C below the LTA were observed only in parts of western and central Türkiye. In most of Scandinavia, European Russia, Türkiye, parts of eastern Ukraine, and parts of the Alps and the Carpathians, more than 6 days with temperatures below 0°C were observed. However, even in these regions, average daily temperatures exceeded the LTA by up to 4°C.

Drier-than-usual conditions with precipitation anomalies of -50% or more (with respect to the LTA) were

observed in parts of the Iberian Peninsula, southern France, central and northern Italy, and in most of central Europe, the Balkan region and western Türkiye. In most of these regions, only up to 2 days with rainfall exceeding the 5 mm threshold were observed. This is reflected in the climatic water balance, which in these regions, as well as in the Benelux countries, northern Germany, and the coastal Baltic countries, was between 50-100 mm or more below the LTA and remained negative during the review period. In many of the regions with negative precipitation anomalies below -50% with respect to the LTA, the review period was the driest in our records.

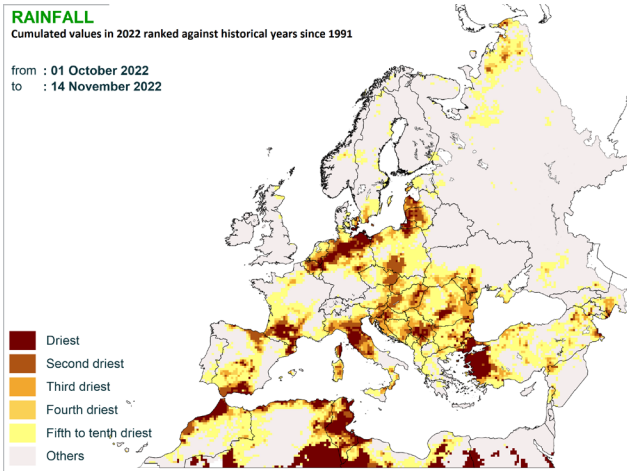
Wetter-than-usual conditions (50% or more with respect to the LTA) were observed in Ireland, most of the United Kingdom, parts of the Iberian Peninsula, Scandinavia, along the eastern Black Sea coast, and in central and southern European Russia. In these regions, 9 or more days with rainfall above 5 mm were observed. This is reflected in the climatic water balance, which in these regions exceeded the LTA by 50% and more.





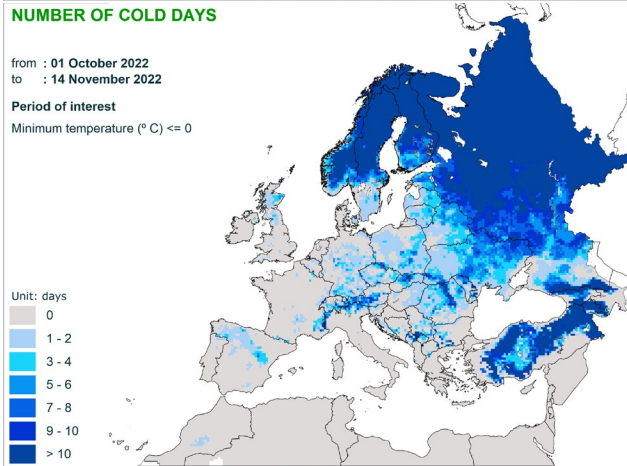
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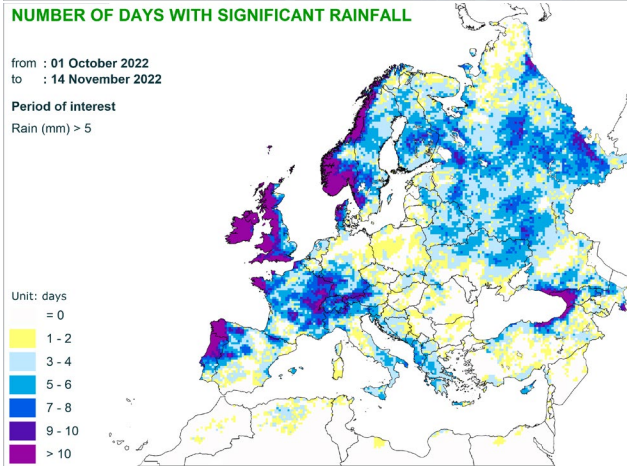
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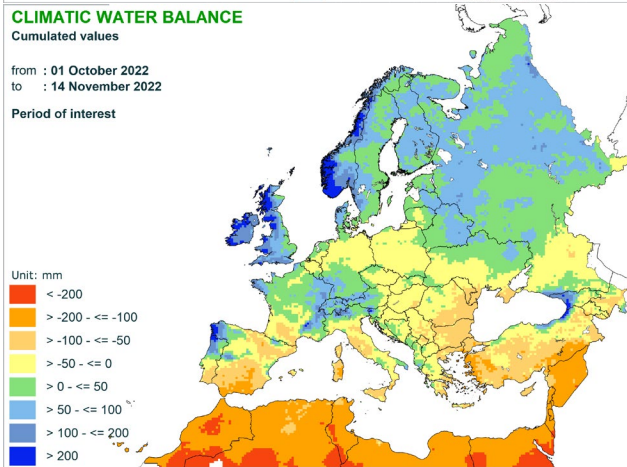
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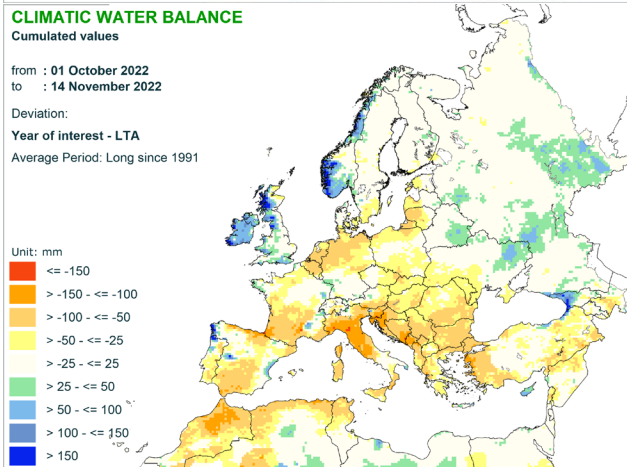
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1.2. Weather forecast (16 - 25 November)

Consistent with the long-range forecast issued in October, warmer-than-usual air temperatures are forecast in most of Europe, particularly prominently in the Black Sea region. Weather conditions will be mainly characterised by intense precipitation events in many coastal parts of western and southern Europe in the transition period from autumn to winter.

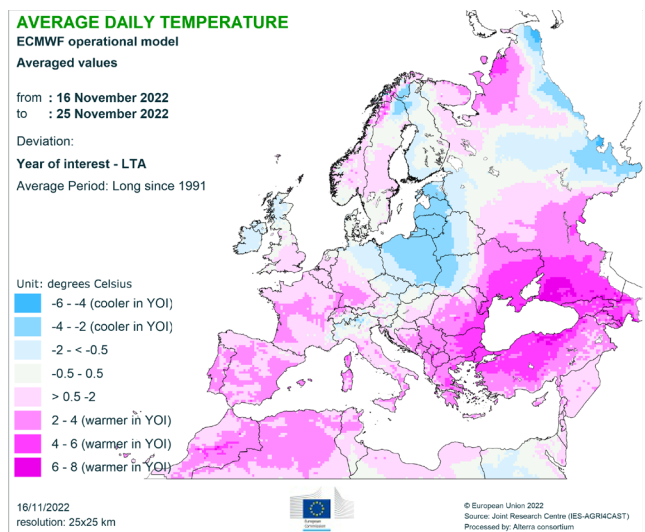
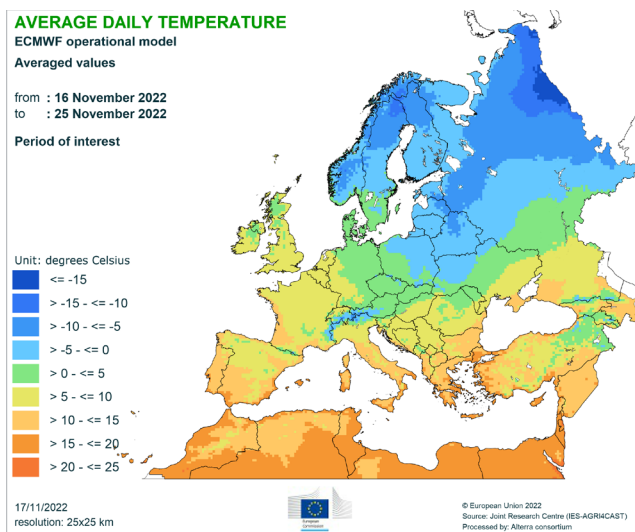
Warmer-than-usual conditions, with average daily temperatures up to 4°C above the 1991-2021 long-term average (LTA), are forecast in parts of the Iberian Peninsula, central France, south-western Germany, most of the Balkan region, and northernmost European Russia. More significant positive anomalies, with average daily temperatures up to 4-6°C above the LTA, are forecast in the area around the Black Sea. East of the Azov Sea, in southern European Russia, temperatures are expected to reach up to 8°C above the LTA. Maximum daily temperatures between 15°C and 20°C are forecast in most of southern Europe, the Balkan region and the coastal area around the Black Sea. Temperatures of up to 25°C are forecast in southern Portugal and Mediterranean coastal Spain, southern Italy, parts of Greece, eastern Bulgaria, south-eastern Romania and parts of western Türkiye.

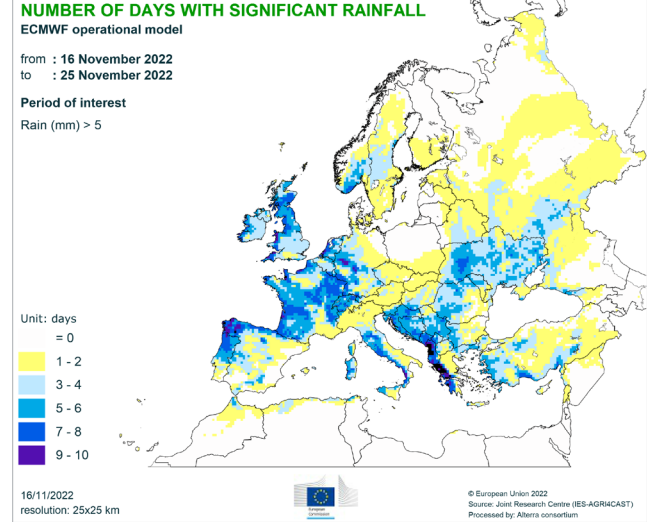
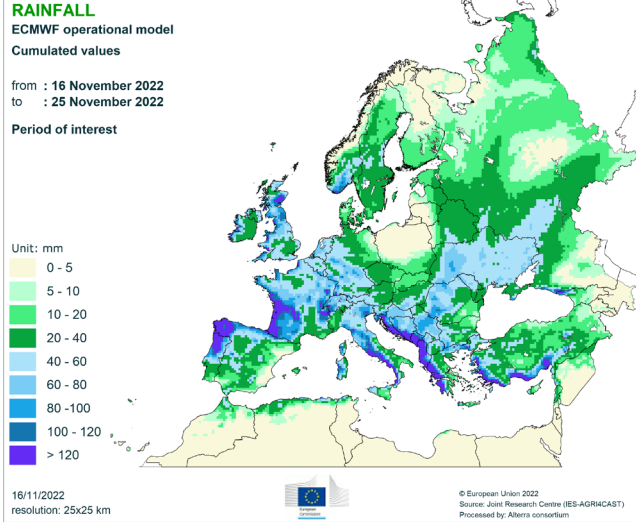
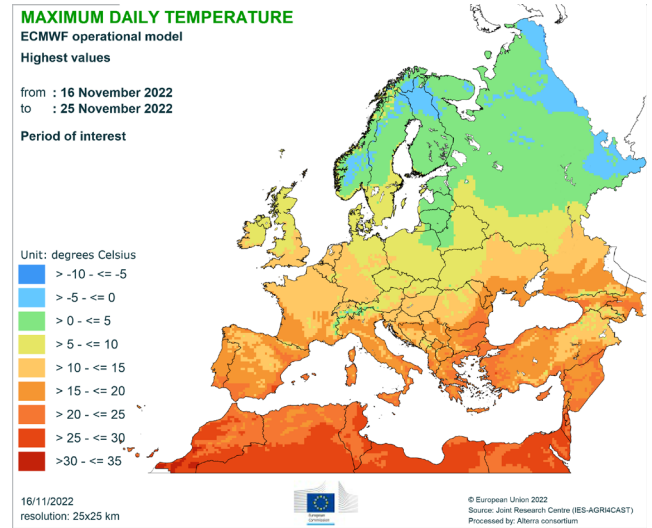
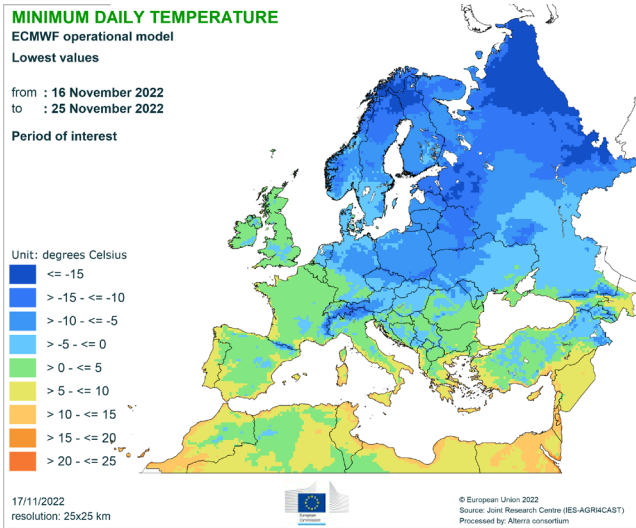
Slightly colder- to colder-than-usual conditions, with temperature anomalies down to 4°C below the LTA, are forecast for Ireland and Scotland, most of the North European Plain, Finland and northernmost Sweden and

Norway, as well as the Ural Mountains region of European Russia. For most of the North European Plain and East European Plain regions, as well as Scandinavia, minimum daily temperatures below -5°C are expected.

Dry conditions (below 5 mm rainfall) are expected in most of Poland and the Baltic countries, coastal Norway and northern Finland, as well as parts of European Russia. For most other areas of Europe, up to 3-5 days with rainfall above 5 mm are forecast during the review period.

Wet conditions (60 mm or more rainfall) are forecast for western Ireland and parts of the United Kingdom, southernmost Norway, north-western Iberian Peninsula, most of France, Italy and the Alps region, parts of the Netherlands and south-western Germany, most of the western Balkan region, western Romania, parts of western Ukraine, and south-western Türkiye. In these regions, more than 5 days with rainfall above 5 mm are forecast. The **seasonal outlook** (up to the end of February) is for likely warmer-than-usual conditions in Central and Eastern Europe and highly-likely warmer-than-usual conditions in Scandinavia and northern European Russia.





2. Conditions for sowing, emergence, crop establishment

Winter cereals

Adequate crop establishment in most of Europe; concerns remain in the south

Sowings were completed in Denmark, Sweden, the Baltic countries and Finland in September with good emergence. Weather conditions allowed sowings to be completed around the end of October in Ireland and the United Kingdom. It was concluded in mid-November in France, Germany and the Benelux countries, where mild temperatures and adequate soil moisture allowed to sow the planned area and to sustain an optimal emergence. The unusually mild temperatures were favourable for crop establishment and early crop biomass development, but have not started the hardening process yet, augmenting the risk of crop damage in case of sudden frost events. Additionally, temperatures favoured the development of pests, which are currently being closely monitored.

Concerning central and eastern Europe, soil conditions were generally adequate in October for sowing to be concluded and for crops to emerge in Czechia, Austria, Slovakia, Hungary, Poland and Ukraine. Sowings also progressed well in Slovenia, Croatia, Romania and Bulgaria, but in many parts of these countries topsoils and subsoils remain dry, negatively affecting crop

establishment. The situation is most serious in south-eastern Bulgaria, where little rain has occurred since August, and substantial areas might have to be resown with other crops in spring.

In Greece, the dry start to the season slightly delayed the first winter sowings until the second dekad of November, whereas in Italy the campaign started in the north and central regions as usual but soils are dry and many farmers prefer to wait for more substantial rain before sowing. In Spain and Portugal, rainfall at the end of October created adequate soil moisture conditions to start the sowing campaign in November and conditions have also been adequate for germination, except in the southernmost parts of Spain, where persistent dry conditions caused delays.

Concerning durum wheat, sowing has started in southern Europe, but in Italy more rain is needed to start with the sowing campaign.

The extent of changes to the total area sown to winter cereals, compared with last year, remains unclear. Changes at EU level are expected to be minor.

Winter rapeseed

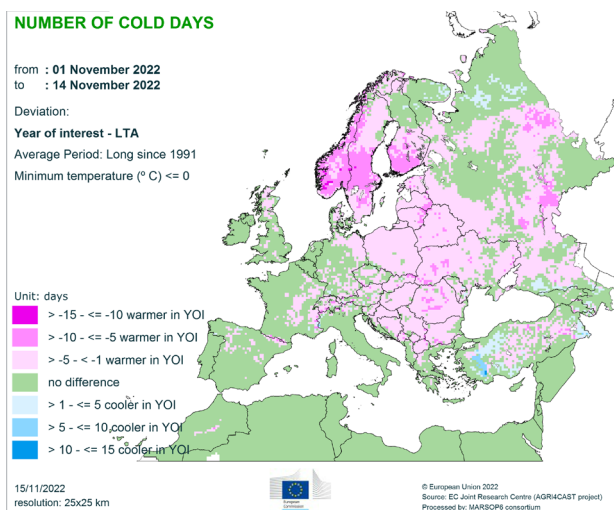
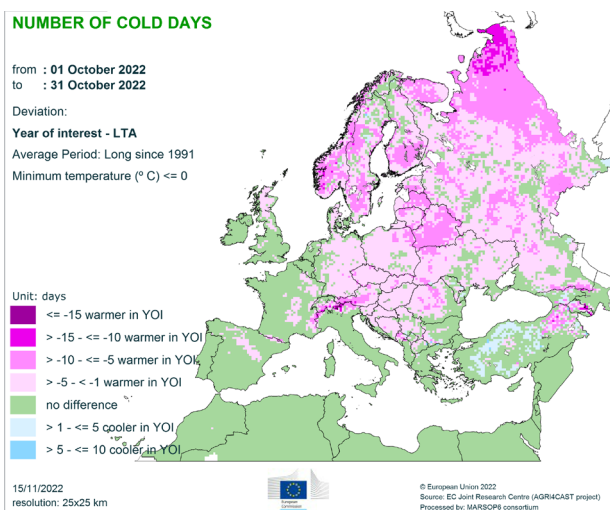
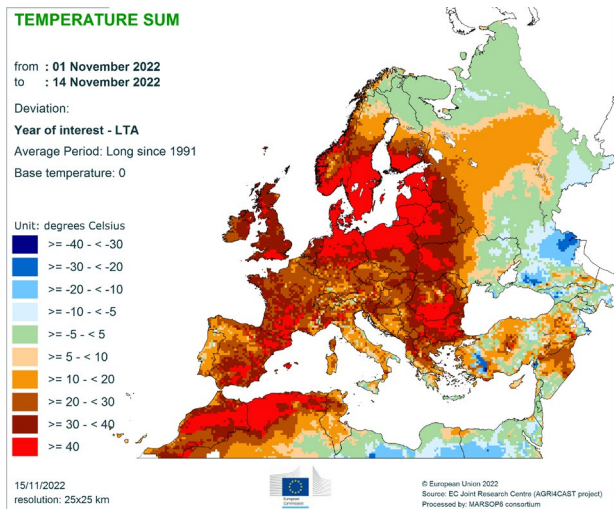
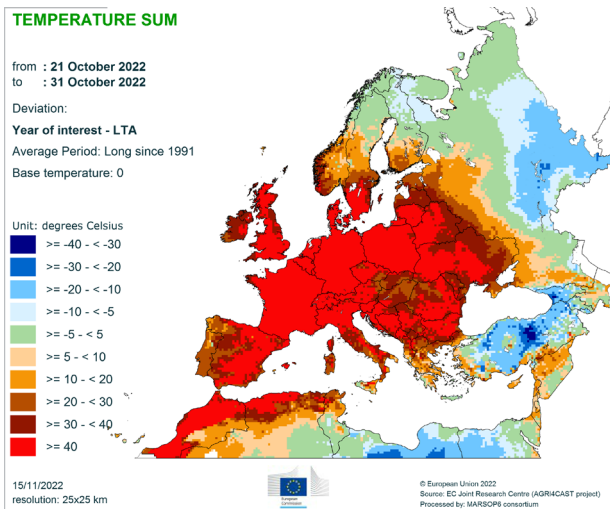
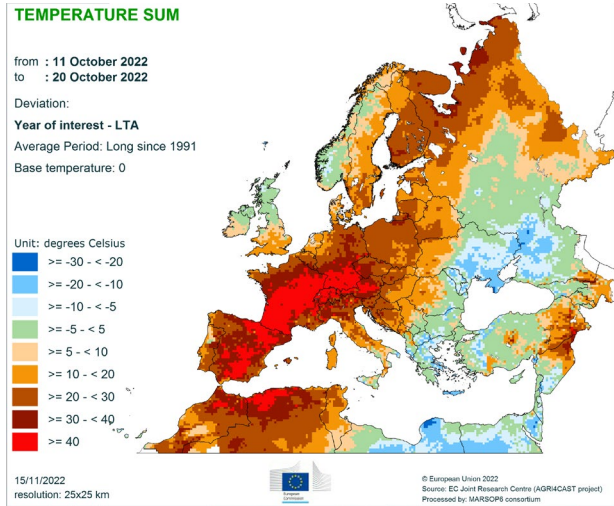
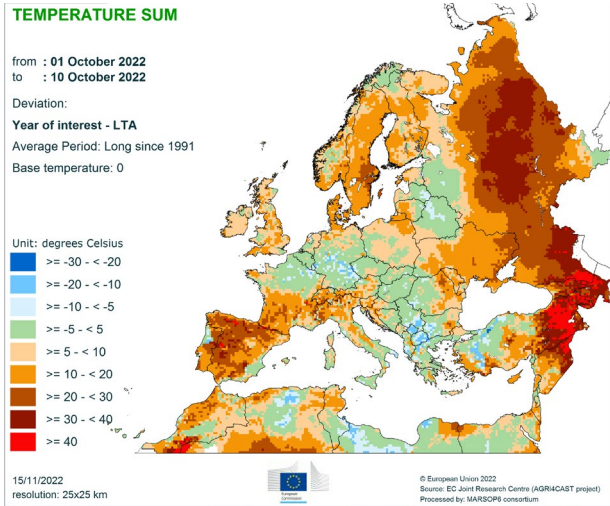
Warm October favoured rapeseed development in the main producing countries

In France, the favourable conditions of the start to the season continued to prevail in most of the country, apart from south-western regions, where the persistent lack of water is likely to have hampered rapeseed development. In Germany, Poland and Belgium, the warmer-than-usual October and beginning of November, in conjunction with generally favourable soil moisture conditions, accelerated early crop development, thus allowing crops to catch up from the initial delays as reported in the October edition of the Bulletin. As a result, most stands are currently adequately developed to withstand the winter. Considerable pest pressure was reported during the review period due to relatively warm temperatures in many production regions (e.g. in Poland and Belgium). Previously reported favourable conditions have continued in Ireland, Denmark and the Baltic countries. Also, in

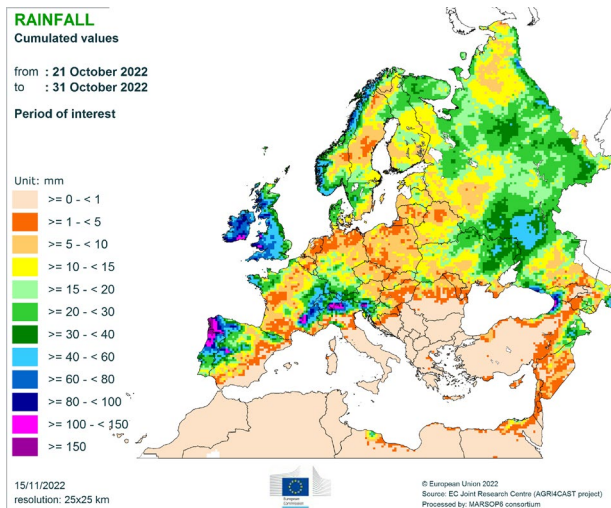
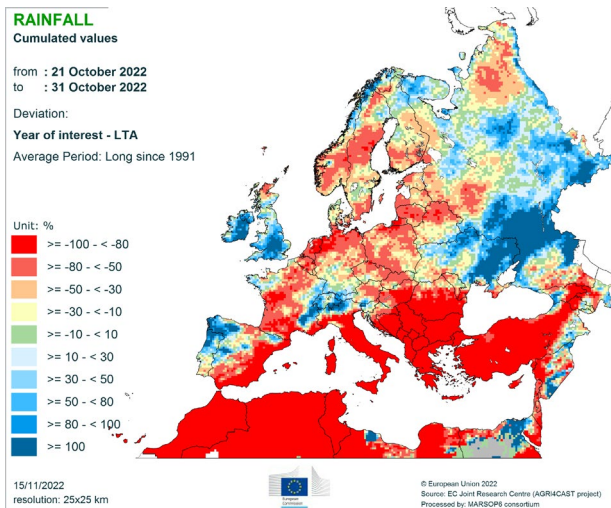
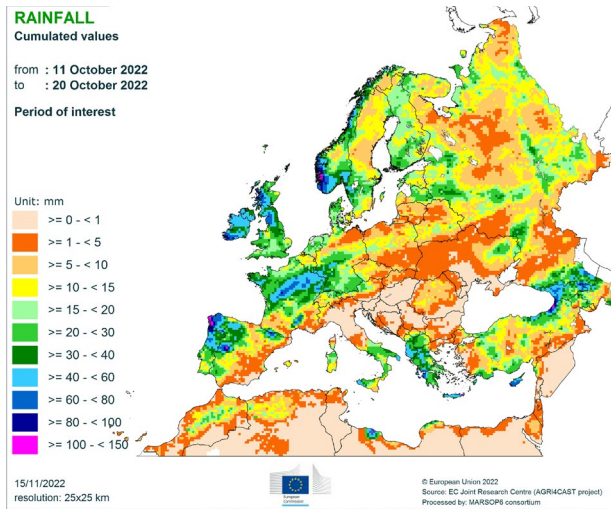
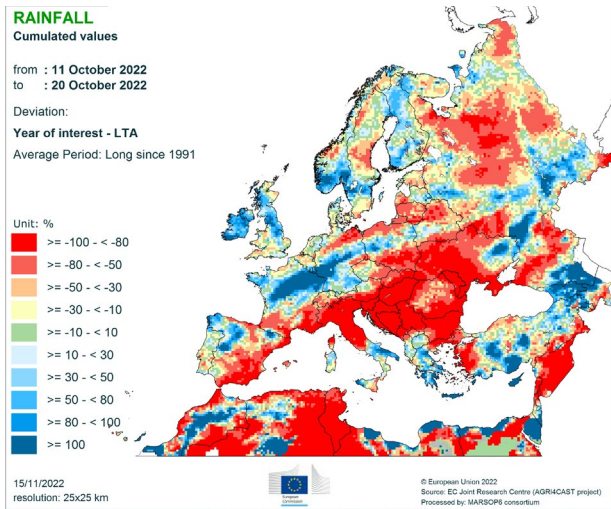
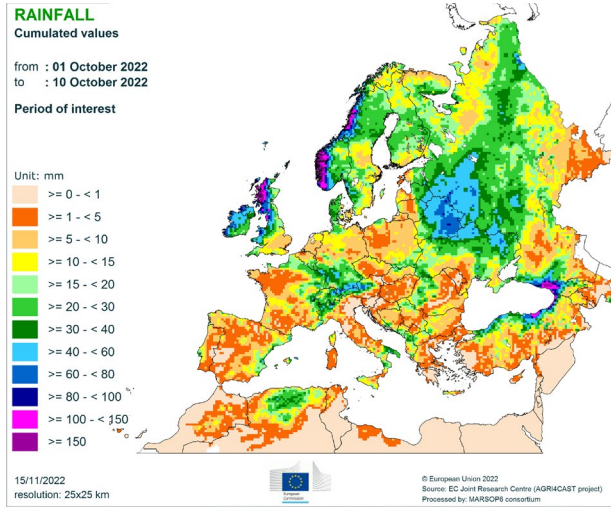
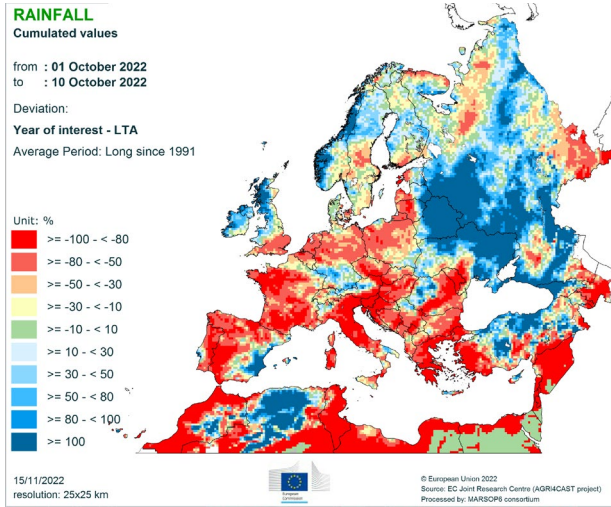
Sweden, the picture is positive despite local dry conditions in southern regions. In Spain, Italy and Croatia, emergence is complete, with rapeseed affected regionally by overly dry conditions. In Hungary, Austria, Czechia and Slovakia growth was supported by adequate weather conditions. In Bulgaria, sowing was significantly delayed beyond the optimal window, and soil moisture deficit remains a limiting factor for adequate emergence and establishment of the plants before winter. In Ukraine, conditions were generally favourable, as crops have benefited from improved soil moisture conditions in the past month. Southern regions, however, have faced a rain deficit, which is likely to have hampered the development of the plants. A similar situation was reported for Romania, where the dry conditions of topsoils negatively affected crop development.

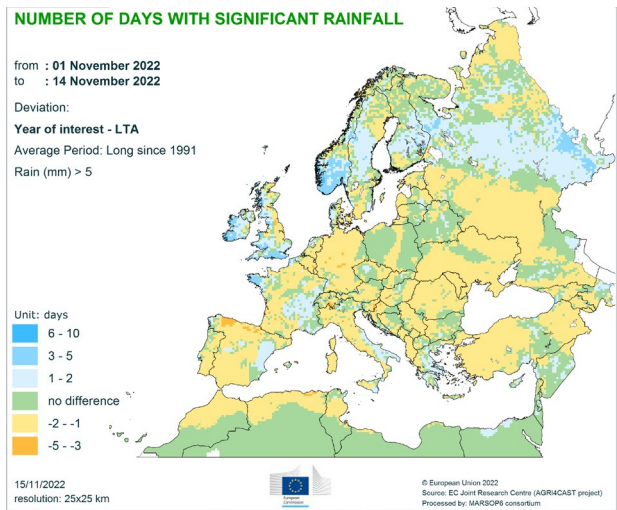
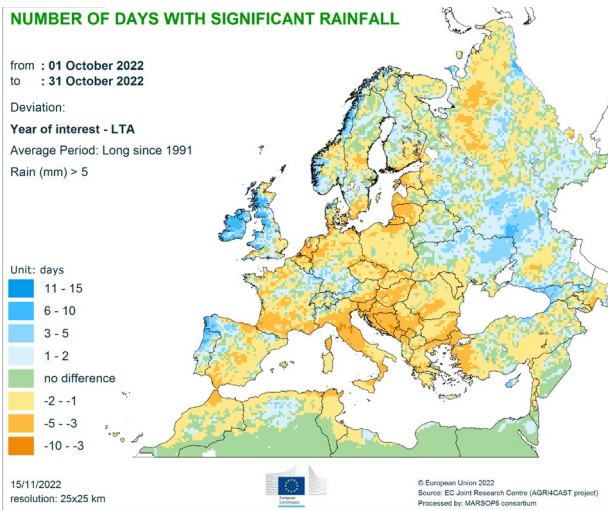
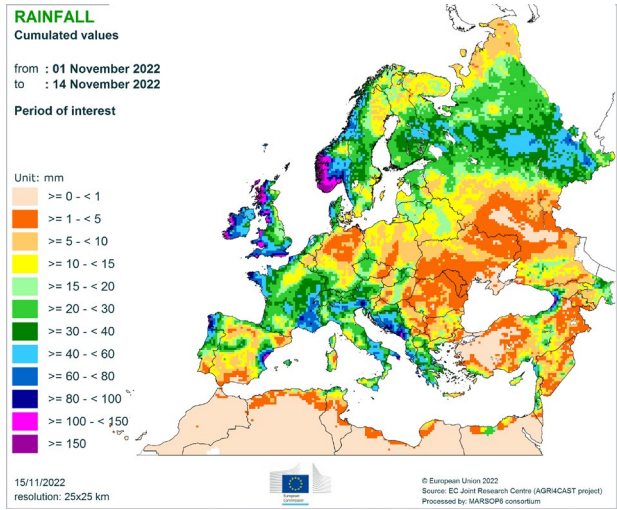
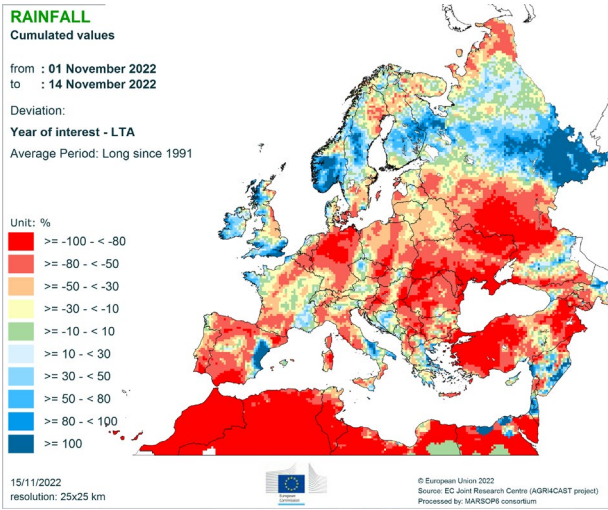
3. Atlas

Temperature regime

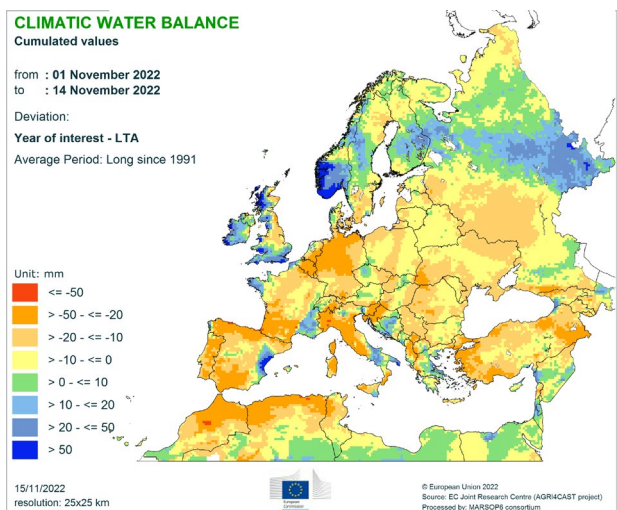
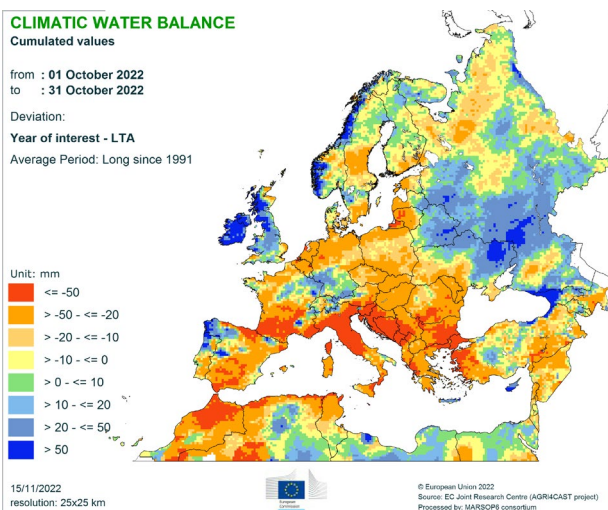


Precipitation





Climatic water balance



JRC MARS Bulletins 2022

Date	Publication	Reference
24 Jan	Agromet analysis	Vol. 30 No 1
21 Feb	Agromet analysis	Vol. 30 No 2
21 Mar	Agromet analysis, pasture analysis, yield forecast	Vol. 30 No 3
26 Apr	Agromet analysis, remote sensing, pasture analysis, sowing conditions, yield forecast	Vol. 30 No 4
23 May	Agromet analysis, remote sensing, pasture analysis, sowing update, yield forecast	Vol. 30 No 5
20 Jun	Agromet analysis, remote sensing, pasture analysis, rice analysis, yield forecast	Vol. 30 No 6
25 Jul	Agromet analysis, remote sensing, pasture analysis, harvesting conditions, yield forecast	Vol. 30 No 7
22 Aug	Agromet analysis, remote sensing, pasture update, harvesting update, yield forecast	Vol. 30 No 8
19 Sep	Agromet analysis, remote sensing, pasture analysis, rice analysis, harvesting update, yield forecast	Vol. 30 No 9
24 Oct	Agromet analysis, pasture update, sowing conditions, harvesting update, yield forecast	Vol. 30 No 10
21 Nov	Agromet analysis, sowing update, harvesting update	Vol. 30 No 11
19 Dec	Agromet analysis	Vol. 30 No 12

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Analysis and reports

S. Bassu, M. Claverie, J. Morel, M. Rossi, L. Seguini, E. Tarnavsky, Z. Zajac, B. Baruth, W. Ben Aoun, I. Biavetti, M. Bratu, I. Cerrani, Y. Chemin, P. De Palma, D. Fumagalli, G. Manfron, L. Nisini, L. Panarello, G. Ronchetti, M. van den Berg, A. Zucchini

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The long-term average (LTA) used within this Bulletin as a reference is calculated on the basis of weather data from 1991-2021.

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