The start of the season was marked by dry conditions that delayed sowing activities in the western oblasts. This was followed by colder-than-usual temperatures that slowed down crop growth before winter.

Most winter cereals were hardened before temperatures fell sharply below 0°C, and the snow cover was thick enough to protect the plantlets. Conditions were generally beneficial for winter wheat, but late-sown winter barley was affected by frost-kill damage. Since the end of February, the prolonged above-average temperatures were beneficial for the growth of winter cereals, and farmers will most probably start spring sowing activities earlier than usual. Weather conditions in the coming weeks will determine the outlook for winter cereals.
1. Agro-meteorological overview

While the season started in September with dry weather, October and November were colder and wetter than usual. Temperatures were slightly below average from December to the end of February. Temperatures have been significantly above average since the third week of February, leading to the rapid melting of snow cover.

**Thermal conditions**

Colder–(and wetter–) than-usual conditions characterised Ukraine in October and November. The temperature sum (Tbase=0°C) over this period was 70-100 GDD lower than usual, indicating delayed emergence and crop development. A cold spell dominated the weather from 7 January until 15 February, with temperature anomalies between -4°C and -2°C compared to the long-term average. Minimum temperatures below -10°C prevailed in the northern two thirds of the country. On the coldest nights, minimum temperatures of -25°C were recorded. A perceptible warming started in mid-February. The last dekad of February and the first dekad of March presented an unusually high positive thermal anomaly, with daily average temperatures 4-7°C above the long-term average. On the warmest days, daily maximum temperatures exceeded 10°C throughout the country, and reached 15-22°C locally in western and southern regions.

**Precipitation**

After a very dry September, above-average rainfall was recorded in October and November in major parts of Ukraine. Cumulated precipitation in these two months exceeded 100 mm, but reached 200-250 mm in western Ukraine. Only some areas along the eastern border received near- or somewhat below-average precipitation. In these areas, only 50-70 mm precipitation was recorded. These beneficial rains were crucial for the adequate replenishment of the topsoil moisture levels and for adequate germination of winter wheat seeds. After November, precipitation followed a near-average course. The first heavy snowfall (over 15-25 cm) occurred during the second dekad of November, primarily in the western and some northern regions of Ukraine. This first snow melted away in late November. Persistent snow cover that formed in the first days of December persisted during most of the winter until the last dekad of February, despite a few short mild periods with snowmelt. The snow cover was deepest in January and February, particularly in the northern half of Ukraine (15-30 cm, locally up to 50 cm). However, its thickness and extension presented significant spatial and temporal variability. The snow cover provided adequate protection for the winter crop stands against the negative impact of severe frosts in January and February.
2. Winter crop conditions

The sowing and emergence of winter crops were hampered by dry conditions during the sowing period in western oblasts and the below-average temperatures observed in October and November. Winter cereals were hardened before the main cold spell, but a combination of suboptimal conditions negatively affected crops.

A long dry and warm period with no significant rainfall was observed in September, following a dry summer with a substantial rain deficit west of the Dnieper River. The rain deficit observed in western oblasts left the soil surface dry, which was unfavourable for the sowing of winter crops (winter rapeseed, winter wheat, and winter barley), and hampered emergence. In these regions, the soil surface remained dry until mid-October, when torrential rainfall was recorded in the oblasts of Vinnyts'ka, Odes'ka, Mykolayiv'ska and Kirovohrads'ka, with locally more than 50 mm of rain in a day. These heavy rainfall events potentially damaged seedbeds locally, but were necessary to guarantee the emergence of crops. In other regions, east of the Dnieper, sowing conditions were beneficial; the soil was neither too dry nor overly wet, and sowing activities got underway without major difficulties. However, the below-average temperatures observed in October and November delayed emergence and growth prior to temperatures dropping below 0°C.

Winter wheat started hardening in late October, after the substantial rainfall observed mid-October. Gradually decreasing temperatures, which were below average from October onwards, helped crops to gain frost resistance before winter. Winter wheat was partially hardened in early December, and snow cover provided protection against the severe frost events that occurred during the first two dekads of December, when minimum temperatures fell to between -10 and -18°C for a few days in most of the Ukraine. By early January, winter wheat had achieved almost full hardening, except in some areas of southern Ukraine. The persistent snow cover provided adequate insulation to protect the well-hardened winter wheat during the cold spell that lasted until 15 February.

Two concerns remain: (i) the persistent thick snow cover in central and north-eastern Ukraine (in several places sealed by ice crusts) may have caused respiration problems for the underlying crops, and (ii) late-sown crops (particularly winter barley, which is more sensitive to frost than winter wheat) were underdeveloped and not totally hardened before winter, and were thus exposed to frost. The planted area that suffered damage is still uncertain, and the most impacted fields will be re-sown this spring.

The mild temperatures observed since the end of February ended the winter cereals' dormancy period earlier than usual. As temperatures rose above 0°C after 19 February and have since remained above the long-term average, snow has melted quickly and soils have started to warm up. The weather forecast for the coming 10 days indicates that temperatures will be well-above average, which will be beneficial for winter cereals. The sowing of spring cereals, particularly of spring barley, will probably get underway earlier than usual.
### 3. Crop yield forecasts

#### Ukraine yield forecasts - March 2017 Bulletin

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**Note:** Yields are forecast for crops with more than 10000 ha per country; figures are rounded to 10 kg

**Sources:**
- 2011-2015 data come from State Statistics Service of Ukraine, the Ministry of Agrarian Policy and USDA
- 2017 area copied from data of year 2016 published State Statistics Service of Ukraine
- 2017 yields come from the MARS Crop Yield Forecasting System (CGMS output up to 10/03/2017)

NA = Not Available
4. Atlas
The current JRC MARS Bulletin – Crop monitoring European Neighbourhood is a JRC – EC publication from AGRI4CAST (JRC D5 Unit – Directorate of Sustainable Resources)

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Mission statement:
As the science and knowledge service of the European Commission, the Joint Research Centre’s mission is to support EU policies with independent evidence throughout the whole policy cycle.
Dry conditions diminished winter cereal yields

While worries of a potential frost kill have been assuaged, a rain deficit in central Ukraine negatively impacted winter cereals and spring barley. The yield forecasts have been revised downwards, but are still above the five-year average as conditions are beneficial in the main producing regions. The sowing activities of grain maize went well, but sunflower crops were delayed.

Crop conditions are highly contrasted between central Ukraine (which experienced a substantial rain deficit) and the rest of the country. Spring also started with a rain deficit in the south and east of the country, but this was compensated by heavy rainfalls at the end of April. Consequently, winter crops and spring barley are impacted by dry conditions in central Ukraine but benefiting from good conditions in southern and eastern Ukraine, the main producing regions. Grain maize sowing activities went well, but sunflower sowing activities have been slightly delayed in the south and the east due to the heavy rains observed at the end of April. The emergence of grain maize was delayed by the lack of rain in central Ukraine, but sparse rainfall from mid-May onwards helped plants to emerge.

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2. Crop growth conditions
3. Remote sensing maps
4. Crop yield forecasts
5. Atlas

Covers the period from 1 March 2017 until 10 June 2017
1. Meteorological overview

Meteorological conditions are characterised by a substantial rain deficit from March until 10 June in central Ukraine. Meanwhile, the other regions received average cumulated rainfall. For the whole period of analysis, temperatures remained above the average except for two cold snaps at the end of April and mid-May, when temperatures decreased sharply.

Temperatures in March were 3 to 4°C above average after a relatively cold and snowy winter, and snow melted quickly. Until mid-April, cumulated rainfall was average in western Ukraine, while central, southern and eastern Ukraine received only half of the expected precipitation sums, prolonging the rain deficit already observed in February. The weather changed in mid-April, with temperatures clearly below the average accompanied by some night frosts in westernmost regions for a few days, and substantial rainfall in southern and eastern Ukraine. These rains fully compensated for the rain deficit in southern and eastern oblasts, while it was prolonged in central oblasts (Cherkas’ka, Kyyivs’ka and Poltavs’ka). After the cold snap, temperatures rose again to well-above average during the last dekad of April and the first dekad of May, with maximum temperatures of 26°C being recorded locally. In mid-May, another cold snap interrupted the warm thermal conditions, with minimum temperatures reaching –2°C in central Ukraine. The drop in temperatures was followed by thunderstorms, which brought some rains that were beneficial for central oblasts, but not sufficiently abundant to compensate for the deficit, keeping it at 50% of the cumulated rainfall for the period of analysis. During the last dekad of May, temperatures remained slightly below average in the southern, central and eastern oblasts, while the first dekad of June was characterised by around-average temperatures.
2. Crop growth conditions

2.1 Winter crops

Winter crop conditions are highly contrasted as a result of the dry conditions observed in central Ukraine, while the main producing regions of eastern and southern Ukraine have benefitted from good conditions since spring. Winter wheat and winter barley yields are forecast to be 10% below those of last year because of the drought, but are still above the trend considering the good conditions for the main producing regions.

The warm temperatures observed in March accelerated the crop development of winter cereals compared to a normal year despite a relatively cold and snowy winter. The development stage of winter cereals kept its advance through the analysis period, and the cold snaps observed at the end of April and in mid-May had no major impact. Central and northern Ukraine are facing a substantial rain deficit that has greatly impacted crop growth. The water stress negatively impacted biomass formation, as observed with remote sensing images. The conditions deteriorated over the whole analysis period. The most impacted oblasts are Cherkas'ka, Kyivs'ka, and Poltavs'ka. By contrast, conditions have been beneficial in the main producing oblasts located in eastern and southern Ukraine (Zaporiz'ka and Odes'ka). The area of wheat impacted by water stress is estimated to be around 20% of the total wheat area. The remaining wheat area is benefiting from good conditions. Thus, the yields at the national level for winter wheat and winter barley are forecast to be higher than the five-year average and the trend, but below last year’s record levels.

The trend of winter cereal yields is led by technological improvements, mostly high-yielding varieties and the use of fertilisers. While 80 to 90% of the mineral fertilisers are usually imported from Russia, an antidumping import duty has been imposed on Russian fertilisers. This decision is not expected to have any impact on crops as farmers generally buy fertilisers for the current season in advance, and fertilisers are highly accessible on the international market.
2.2 Summer crops

In general, sowing activities progressed as usual for all crops other than sunflowers, which were delayed in southern Oblasts. The dry conditions in central Ukraine affected spring barley growth and delayed the emergence of grain maize and sunflowers. The spring barley yield is revised downwards. It is currently too early to forecast sunflower and maize yields, which will greatly depend on the rainfall during the coming weeks.

The above-average temperatures observed in March were favourable for the early sowing of spring barley. The soil moisture and above-average temperatures favoured a good start. However, similarly to winter cereals, spring barley started to be affected by the dry conditions in central Ukraine, while beneficial conditions are observed in southern and eastern Ukraine, with sufficient soil moisture.

Grain maize benefited from good conditions during the sowing period, but emergence was delayed in central Ukraine (the main producing region of grain maize) due to the rain deficit. The few rainfall events observed from mid-May onwards replenished the upper soil-moisture levels, and facilitating the emergence of maize. More rain will be needed in order to avoid any impact of water stress on plant growth and final yields.

Sunflower sowing activities in southern and eastern Oblasts were interrupted by the substantial rainfall observed at the end of April. A delayed emergence will expose sunflowers slightly more to dry conditions during summer, but the soil moisture content in those regions is currently close to the average. No delays to sowing activities were observed in central Ukraine, but the dry conditions delayed the emergence.

The negative anomalies in central Ukraine observed by remote sensing indicators reflect the impact of the dry conditions on winter cereals and spring barley, and are reinforced by the delays in the emergence of sunflowers and grain maize.
3. Remote sensing maps

**fAPAR relative differences - Ukraine**
Current year - Medium Term Average (MTA / 2007-2016)
Considered period: 21 May 2017 - 31 May 2017

[Map showing fAPAR relative differences in Ukraine]

Data source: MARS remote sensing database / fAPAR smoothed - METOP AVHRR
Mask: arable land based on Glob Cover 2009
## 4. Crop yield forecasts

### Ukraine yield forecasts - June 2017 Bulletin

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<tr>
<th>Country</th>
<th>Crop</th>
<th>Area (x 1000 ha)</th>
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<th>Production (x 1000 t)</th>
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Note: Yields are forecast for crops with more than 10000 ha per country; figures are rounded to 10 kg.

Sources: 2012-2017 data come from State Statistics Service of Ukraine, the Ministry of Agrarian Policy and USDA. 2017 yields come from the MARS Crop Yield Forecasting System (CGMS output up to 10/06/2017).
5. Atlas

RAINFALL
Cumulated values
from: 01 March 2017 to: 21 March 2017
Year of interest (YOI)

Unit: mm
- < 0 - <= 10
- > 10 - <= 30
- > 30 - <= 50
- > 50 - <= 70
- > 70 - <= 100
- > 100

15/03/2017 resolution: 25x25 km

RAINFALL
Cumulated values
from: 01 April 2017 to: 30 April 2017
Year of interest (YOI)

Unit: mm
- < 0 - <= 10
- > 10 - <= 30
- > 30 - <= 50
- > 50 - <= 70
- > 70 - <= 100
- > 100

15/04/2017 resolution: 25x25 km

RAINFALL
Cumulated values
from: 01 May 2017 to: 31 May 2017
Year of interest (YOI)

Unit: mm
- < 0 - <= 10
- > 10 - <= 30
- > 30 - <= 50
- > 50 - <= 70
- > 70 - <= 100
- > 100

15/05/2017 resolution: 25x25 km

RAINFALL
Cumulated values
from: 01 June 2017 to: 30 June 2017
Year of interest - LTA

Unit: mm
- < 0 - <= 10
- > 10 - <= 30
- > 30 - <= 50
- > 50 - <= 70
- > 70 - <= 100
- > 100

15/06/2017 resolution: 25x25 km
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MARS Bulletins are available from:

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As the science and knowledge service of the European Commission, the Joint Research Centre’s mission is to support EU policies with independent evidence throughout the whole policy cycle.
Positive yield outlook despite a difficult season

The yield outlook is positive in spite of the rain deficit observed this year. Winter wheat yield is forecast to be close to last year’s record level, and total barley yield is at a level not seen since the high-yielding 1993 season. Grain maize yield is forecast to be slightly below the general trend because of the rain deficit. Only sunflower yield has been revised substantially downwards because of the high temperatures and the rain deficit observed in August in southern Ukraine.

While an exceptional rain deficit has been ongoing since the beginning of the year in central Ukraine and since May in southern and eastern Ukraine, the outlook for winter wheat, winter barley and spring barley is positive. The negative impact of the rain deficit on grain maize yield was limited, thanks to the chernozem soils and their high water retention capacity, which buffered the weather conditions and compensated for the lack of rain. The continuous hot temperatures observed in southern and eastern Ukraine had an adverse impact on sunflower yield. The yields of all major crops continue on an upward trend, despite the stable consumption of fertilisers since 2011, according to the International Fertilizer Association.

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Covers the period from 1 June 2017 until 10 September 2017
1. Meteorological overview

The weather conditions were particularly dry for the period under analysis, and, according to our database, the rain deficit is the largest recorded since 1976 in a majority of oblasts, thus prolonging the dry conditions observed this spring in central oblasts. Temperatures were close to average in June and July, but largely higher than average in August.

- Central and eastern oblasts received 40% to 50% less rainfall than the average from 1 June to 10 September, with the highest deficit being observed in eastern oblasts for the period under analysis Kehrons'ka, Zaporiz'ka, Donets'ka and Kharkivs'ka.
- Western-most and northern-most oblasts (Chernihivs'ka and Sums'ka) have received 25% less rainfall than the average since June.
- Only Odes'ka received a cumulative amount of rainfall close to average.
- While temperatures were close to average in June and July, August was particularly warm; a series of heatwaves was observed with maximum temperatures reaching 34 to 38°C during the first and second dekad of August.
- The climatic water balance has been continuously negative for the period under analysis, and evapotranspiration was largely above average in August as a consequence of the warm temperatures.
2. Crop growth conditions

2.1 Winter crops

Weather conditions have been favourable for growing winter wheat and winter barley in the main producing regions of southern and eastern Ukraine. Only a small part of the cultivated area was exposed to the rain deficit observed during spring in central Ukraine. Therefore, yields are forecast to be only slightly below last year’s record levels.

The rain deficit observed in the central oblasts since January impacted only a small part of the winter wheat and winter barley cultivated areas. These crops are mainly cultivated in southern and eastern oblasts where cumulative rainfall stayed close to average until end of April. The few rainfall events observed from May onwards, together with the close-to-average temperatures observed in June, have been favourable for the flowering and grain-filling phases of winter crops, leading to above-average simulated plant development as given by the LAI. As a consequence of the above-average temperatures observed in March and April, most of the winter crops were advanced and reached maturity earlier than they do in an average year (e.g., Vinnyts’ka oblast). Harvest conditions have been favourable and only a few rainfall events slightly delayed harvesting operations without having any consequences on the yields.

Winter wheat and winter barley yield forecasts are only slightly below last year’s levels, as the rain deficit observed in central Ukraine has had a limited impact on winter cereal growth, thanks to the chernozem soils buffering the rain deficit.
2.2 Spring and summer crops

Weather conditions were favourable for growing spring barley so that the yield is forecast to be largely above average, whereas the main grain maize-producing regions have been exposed to an exceptional rain deficit. However, this seems to have had only a limited impact on yield expectations. Sunflower has been impacted by the exceptionally high temperatures observed in August, with a consequent yield forecast substantially lower than average.

Spring barley benefited from good weather conditions: Sowing took place relatively early this year, and the above-average temperatures in March and April accelerated the vegetative development. The rain deficit observed in eastern and southern Ukraine occurred late in the barley season, from May onwards, and therefore did not impact yield. The close-to-average temperatures observed in May and June were favourable for the grain development. In consequence, yield is forecast to be largely above average, at a level not seen since 1993.

While a continuous rain deficit has been observed since the beginning of this year in the main grain maize-producing regions, remote sensing images show a slight positive anomaly in central Ukraine, contrasting with the negative pattern observed on crop model indicators. The discrepancy between the crop model and remote sensing information can be explained by the high water retention capacity of soils probably being underestimated by the crop model. The high summer temperatures and heat waves observed did not affect substantially maize, being as a C4 crop more tolerant to heat stress than sunflower. Considering the positive anomaly observed on remote sensing images, the yield forecast was maintained at the level of the five-year average, which, however, is substantially below last year’s record yield and opposite to the general upward trend observed since 1997.

In August, sunflowers were exposed to several hot days with temperatures greater than 35°C. The negative anomaly observed on remote sensing images in southern and eastern Ukraine confirms the negative impact of the thermal conditions on sunflowers. Thus, considering also the rain deficit in central-south Ukraine, the yield forecast has been significantly revised downwards below the five-year average.
3. Remote sensing maps

**fAPAR relative differences - Ukraine**
Current year - Medium Term Average (MTA / 2007-2016)
Considered period: 01 Aug. 2017 - 31 Aug. 2017

Data source: MARS remote sensing database / fAPAR smoothed - METOP AVHRR
Mask arable land based on Glob Cover 2009
### Ukraine yield forecasts - September 2017 Bulletin

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<td>6.00</td>
<td>5.84</td>
<td>+0.9</td>
<td>365</td>
<td>26 076</td>
<td>-6.7</td>
<td>-14</td>
<td>5 347</td>
<td>5 806</td>
<td>5 806</td>
<td>+14</td>
</tr>
<tr>
<td>sunflower</td>
<td>5 136</td>
<td>5 212</td>
<td>6 087</td>
<td>5.136</td>
<td>5.94</td>
<td>6.00</td>
<td>5.84</td>
<td>+0.9</td>
<td>365</td>
<td>26 076</td>
<td>-6.7</td>
<td>-14</td>
<td>5 347</td>
<td>5 806</td>
<td>5 806</td>
<td>+14</td>
</tr>
</tbody>
</table>

**Note:** Yields are forecast for crops with more than 10,000 ha per country; figures are rounded to 10 kg.

**Sources:**
- 2011-2015 data come from the State Statistics Service of Ukraine, the Ministry of Agrarian Policy and USDA
- 2017 area copied from data of year 2016 published by State Statistics Service of Ukraine
- 2017 yields come from the MARS Crop Yield Forecasting System (CGMS output up to 10/09/2017)
5. Atlas

Precipitation
Temperature regime and climatic water balance
Weather events

**RAINFALL**
Highest values
from: 01 June 2017
to: 10 September 2017
Year of interest (Y0Y)

**NUMBER OF DAYS WITH SIGNIFICANT RAINFALL**
from: 01 June 2017
to: 10 September 2017
Deviation:
Year of interest - LTA
Plots (per day) = 5

**NUMBER OF HOT DAYS**
from: 01 June 2017
to: 10 September 2017
Year of interest (Y0Y)
Maximum temperature (°C) > 30

**MAXIMUM DAILY TEMPERATURE**
Averaged values
from: 01 August 2017
to: 10 September 2017
Year of interest (Y0Y)
The current JRC MARS Bulletin – Crop monitoring European Neighbourhood is a JRC – EC publication from MARS4CAST (JRC D5 Unit – Directorate of Sustainable Resources)

MARS Bulletins are available from: https://ec.europa.eu/jrc/en/mars/bulletins

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MARS stands for Monitoring Agricultural Resources

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Mission statement:
As the science and knowledge service of the European Commission, the Joint Research Centre’s mission is to support EU policies with independent evidence throughout the whole policy cycle.
Favourable start of the winter cereals season

After an excellent 2016/2017 season for winter crops, with yields at or near record levels, and mediocre-to-negative results for summer crops due to the exceptional rain deficit observed this summer, the upcoming 2017/2018 season has started well. Farmers have benefited from favourable weather conditions to complete sowing, and subsequent rains have benefited crop emergence and early establishment.

Weather conditions of the crop season (2016/2017) were marked by an exceptional rain deficit, which started in March in central Ukraine and in May in southern and eastern Ukraine. In the southern and eastern regions, the water deficit was reinforced by a heatwave in August, with maximum temperatures above 35°C for a few days. Nevertheless, winter cereals benefited from good conditions throughout most of the season, and only winter wheat was slightly affected by the dry conditions in central Ukraine. Barley yields are reaching a record level, while winter wheat yields are reported to be slightly below last year’s record level. Summer crops were more seriously affected by the rain deficit, particularly grain maize, for which the yields are substantially below the five-year average, whereas sunflower and soybean yields are only slightly below the last five-year average.

The dry weather observed this summer, which continued in September, was favourable for the start of the new winter cereal season, allowing farmers to quickly complete sowing. A few rainfall events at the beginning of September allowed crops to emerge in favourable conditions, and a rain surplus has been recorded since the beginning of October, partly refilling the soil water reserve.

Table of contents:
1. Meteorological overview
2. Season overview
3. Winter crops sowing conditions

Covers the period from 1 August 2017 until 15 November 2017
1. Meteorological overview

The period under review started with an exceptional rain deficit and unusually high temperatures. Since the end of September, temperatures have been close to the average and substantial rainfall has been recorded.

- Temperatures were largely warmer than average from the beginning of August to the last decad of September. This was followed by a cold snap during the end of September and the beginning of October. Since then, temperatures have been following the long-term average.
- Cumulative rainfall remained largely below the average in August, and the climatic water balance was exceptionally negative.
- A few rainfall events were observed at the end of August and at the beginning of September, but were followed by several weeks without substantial rain, except in western oblasts.
- Since the end of September, substantial rainfall has been recorded throughout the country, except in the southernmost oblasts, Mikolayivs'ka and Kehrans'ka, where rainfall remained sparse.

2. Season overview

The season 2016/2017 was marked by a noticeable rain deficit from May 2017 onwards. The impact of the dry conditions on winter cereals yield was limited, as the water supply was sufficient during vegetative growth in the main producing regions. Summer crops yields, and more specifically grain maize, have been far more affected by the drought, and the yields are substantially below the five-year average.

Weather conditions have been generally favourable for winter crops. The main soft wheat-producing regions, located in the southern and eastern oblasts, were not exposed to a rain deficit before May, thus guaranteeing water supply during vegetative growth and until flowering. In central oblasts (Kyivs'ka, Cherkas'ka and
Poltavská), the rain deficit started in March and affected only a small share of the cultivated area for winter cereals. Until harvest, weather conditions were favourable in the main producing regions, with no excessive temperatures during grain filling, and favourable days with no excessive rainfall during harvesting. Winter barley, as well as spring barley, benefited from very favourable conditions, and the yields are reaching a record level according to the preliminary statistics published by the Ministry of Agrarian Policy. The rain deficit observed in central Ukraine, which extended to southern and eastern oblasts later in the season, from May onwards, was followed by a heatwave in August, with a maximum temperature of 37°C. The water deficit affected the main producing regions for grain maize and soybean, which are located in central Ukraine. The heatwave observed in Zaporiz’ka, Khersons’ka, Mykolaivs’ka, Donets’ka, Kirovohrads’ka and Dnipropetrovs’ka reinforced the yield losses in southern and eastern oblasts, and also affected the main producing regions for sunflower. The yields of all summer crops are largely below average, particularly for grain maize, as its water requirements are higher than those of sunflower and soybean.

3. Winter crops sowing conditions

Generally dry weather in September allowed farmers to sow relatively early in most of the oblasts. Some rainfall at the beginning of September refilled the upper soil layers, allowing crops to emerge in good conditions. Conditions are particularly positive, as October was rainier than usual, which is beneficial for the start of the season.

Farmers benefited from dry conditions, following the prolonged rain deficit recorded this year, and sowed winter crops relatively early for the upcoming season. Sowing advanced at a faster pace than last year, which was relatively rainy. Conditions for emergence were favourable, as, following the drought, some rainfall was recorded at the beginning of September. This did not entirely refill the soil, but has provided a supply of water sufficient for crop emergence. Since the beginning of October, substantial rainfall has been recorded, refilling the soil before winter and also contributing to the emergence of the latest winter crops sown. In the southern and eastern oblasts, which were the driest at the end of August, sowing was completed at the end of September and, considering that October was rainy, conditions are also favourable and winter crops have emerged. The high temperatures recorded in the first half of September have been favourable for the growth of rapeseed. The short cold snap during the second half of September was followed by temperatures close to average, so thermal conditions are also positive.
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