

The Canadian Agriculture Weather Prognosticator

Volume XVIII Issue VIII

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October 2, 2026

World Weather To Watch

- U.S. harvest underway; yields still good
- Hard red winter wheat planting conditions to improve greatly due to rain
- Europe drought hurt production for summer crops; winter planting conditions also poor
- India monsoon uneven in September; dryness still a concern
- Australia was drier in September; yields may have been reduced
- China harvest conditions to improve
- Former Soviet Union winter grain, oilseed areas in need of moisture
- Southern Brazil facing flood threat and replanting of corn and soybeans along with wheat quality decline
- Argentina getting timely rain

Assessing The Atmosphere For Oct., Nov.

September was not a kind month to the Prairies, Saskatchewan and Manitoba in particular, with regards to crop maturation and harvesting. Bouts of heavy rain, high humidity, breezy conditions, and thunderstorms all impacted a large section of crop country. Many areas in Saskatchewan, Manitoba, and southern fringes of Alberta received over 200% of normal rainfall for the month. We all know autumnal weather can be unpredictable at times (as I am sure you are aware), but the amount of rain that occurred for some will likely stick around through the winter at the subsoil levels. A large section of the Prairies received enough rain to reverse the drought or abnormally dry conditions that had been expanding into several areas before the wet weather. So, if there is a silver lining to the heavy rain, there's always that.

While conditions improved during the last few days of the month, an extended period of drier and warmer weather will be needed this month to finish the harvest season under better conditions compared to the start of the season. A transition to a more El Nino-like state is likely for North America in October. There will be some breaks from the usual El Nino state, especially as other teleconnections start to ramp up and have a greater impact on the upper-air profile compared to the summer months. There will be a number of factors to look at heading into the rest of autumn and early winter due to this transition.

Now we all know this El Nino season, or "Super" El Nino, may be one of the most intense El Nino's on record. Just for a quick reference, the subtropical jet will often send disturbances across the southern tier of the U.S. and northern

Mexico in a usual El Nino environment while the polar jet stream tends to lift north as a high-pressure ridge builds over western Canada. This scenario tends to promote warmer biased conditions for the Prairies, Alberta and northeastern British Columbia in particular.

Looking at some of the previous strong El Nino years, most show a warmer or even much warmer than normal environment for October across the Prairies and a large section of the U.S. northern Plains, Pacific Northwest, western Midwest, and even the central Plains. Obviously, this would be a highly welcome event for the wetter areas in the Prairies, but a dry winter might not be welcome for the southwestern Prairies where dryness is already an issue.

Another teleconnection that I am watching is the Pacific-North America Oscillation. The oscillation will trend positive through at least mid-October, albeit the signal will be rather weak at times. A positive phase in the PNA pattern suggest development of higher pressure over western Canada and neighboring locations. This scenario also promotes periods of drier and warmer than normal weather for the Prairies. The Arctic Oscillation and North America Oscillations may be relatively active during the next few weeks, though signals will be rather weak for weather in the Prairies.

The signals from El Nino and other teleconnections, combined with what happened from previous strong El Nino years, leads me to believe the Prairies will have several periods of favorable harvest conditions in October. Temperatures will trend above or even well above normal at times with some of the greatest deviation

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from normal temperatures occurring in portions of Alberta, southwestern Saskatchewan, and northeastern British Columbia. The axis of the ridge will be a little too far to the west for the warmest air to consistently reach Manitoba and most other areas in Saskatchewan outside a few brief periods. However, these areas will ultimately see warmer than usual conditions as a whole for the month as well.

Now, there will still be several cold fronts that cause mild or even cooler than usual conditions for brief periods of time. The chances for an extended period of cooler than usual conditions are relatively low, though not zero. If the 45-day upper-air pattern verifies, there is a better chance for significant cooling during the last few days of October. There will not be enough cooling to significantly impact the overall temperature profile for the month.

Indicators for precipitation in the Prairies are a little more muddled in October compared to the higher confidence in the temperature pattern. Disturbances will still make their way over the ridge and either near or into the Prairies. A few disturbances may also track nearby to the south, which has been occurring on a fairly frequent basis recently. Monsoonal moisture has already decreased significantly in the past few days and there will be less moisture to draw from as these disturbances make their way into the Prairies. So, overall there will be the usual mix of erratic rain and sunshine. Central and southern Alberta into southwestern Saskatchewan will

end up a little drier than usual for October due to the location of the ridge. A few locations from northern Alberta and northern Saskatchewan into a band from northwestern through southeastern Manitoba will trend a little wetter than usual as the disturbances often track over the region. Despite the periods of rain,

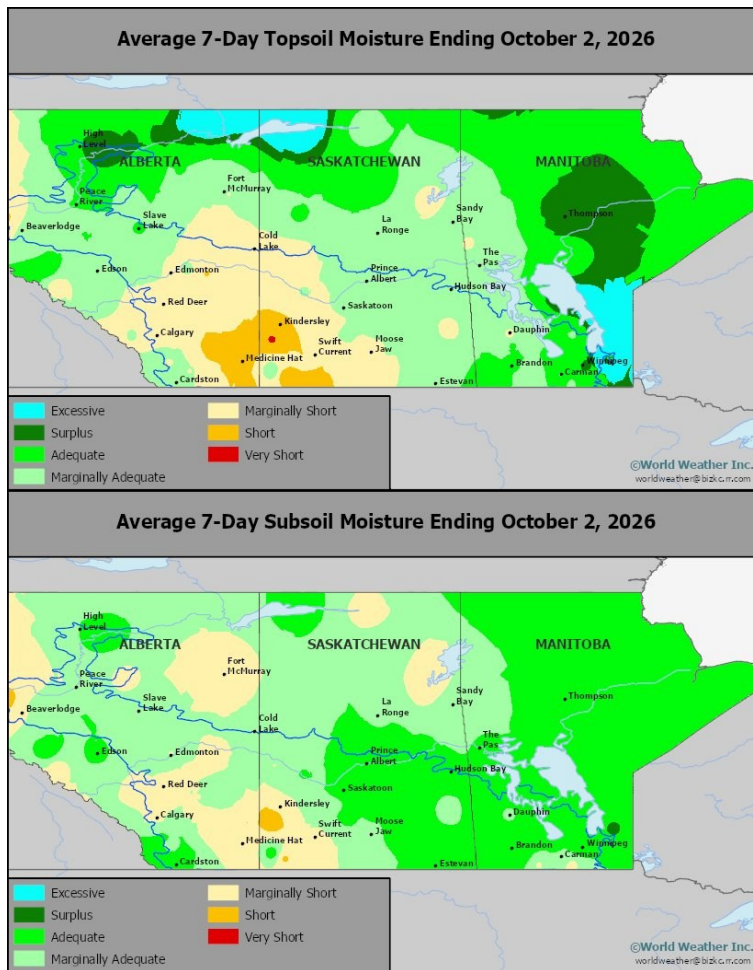
eastern Saskatchewan while temperatures were closer to normal for the western half of crop country. The upper-air pattern was relatively active with upper-level disturbances often making their way into western North America, which in turn helped keep the warmest air over the eastern half of North America. November

2023 was another stronger analog year with above to well above normal temperatures slated for a large section of the Prairies.

Other El Nino years did not necessarily suggest a warm temperature regime for November. The years 1997 and 1982 even suggested cooler or much cooler than usual conditions for at least a part of the Prairies. One challenge is that there was a positive-phase in the Pacific Decadal Oscillation for some of these years, which tends to coincide with El Nino. However, we will be seeing a negative phase in the PDO, which means a pool of cooler than usual water is sitting off the coast of the western U.S. coastline while warmer waters occur in the central Pacific Ocean. While El Nino, especially a stronger El Nino like what we are

seeing, can override the overall pattern that tends to be associated with the PDO, some influences can impact the overall upper-air pattern.

Our best analog years for November are looking to be 2023 and 2002, where El Nino was coupled with a negative-phase in the PDO, unlike a lot of the other El Nino years that saw a positive-phased PDO. Both of these years also saw a westerly phase in the Quasi-Biennial



producers should have several opportunities for aggressive harvesting, especially during the first half of the month. Precipitation in the short-term will be relatively low and should not severely delay the harvest for most.

Looking forward to November, signals become a little more uncertain for the overall upper-air pattern in North America. November 2015 was warmer or even much warmer than usual for Manitoba and

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Oscillation (QBO), which we will get to in a little bit. The overall temperature profile for the Prairies and neighboring areas in the northern Plains was warmer or even much warmer than normal outside a few locations in the northern and eastern Prairies that saw temperatures trend closer to normal. These temperature regimes support a relatively normal pattern for El Nino. There are a few long-range forecast models that do suggest a more active upper-air pattern over western North America in November, which could push some of the warmest air into the eastern

Prairies, like what we saw in 2015. This will be something we will be watching in the coming weeks and will keep World Weather Inc. from suggesting a much warmer than usual environment. Obviously, there will be breaks from the warmer weather with the passages of cold fronts. There may be a brief period of cooler weather at the start of the month most notably for portions of the western Prairies.

Precipitation in November will trend near to slightly below normal for the Prairies. Disturbances will still make their way over the ridge and near or into the Prairies at times. An upper-level system or two could also make their way across the U.S. and could send precipitation to portions of southern Manitoba and neighboring locations, notably during the first ten days of the month. However, these disturbances have a lower chance of promoting heavy precipitation compared to the summer months due to the position of the jet stream.

Believe it or not, the forecast for December looks to be a little *less* muddled for the temperature profile across the Prairies. Most of the recent El Nino years suggest warmer or even much warmer than usual conditions that are relatively typical for an El Nino environment. Precipitation will trend near normal across the Prairies with some pockets in the southwest becoming a little drier than usual depending on the exact location of the jet stream. Even the best analog years (2023 and 2002) do not really favor a drier or wetter environment across the Prairies. The chances for

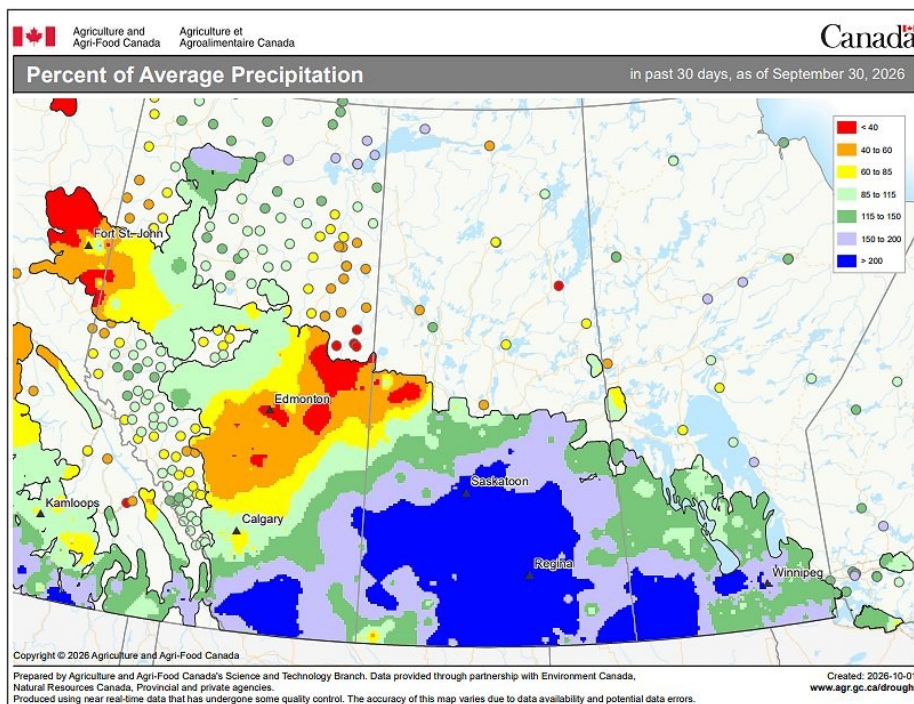
The QBO alternates between a westerly phase and easterly phase changes between every two and a half years or so. We are currently in a westerly phase of the QBO and will be in this phase for much of the winter.

So why is the QBO important? Well, it does not really aid in short-range or medium-range forecasting. The QBO is used more in the longer-term, especially during the northern hemispheric winter, to gauge the intensity of stratospheric winds. The westerly phase of the QBO (like what we will see) tends to

have stronger winds and runs concurrent to the jet stream compared to the easterly phase, which runs counter to the jet stream. Westerly QBO's tend to make sudden-stratospheric warming (SSW) events less likely, which makes a breakdown in the polar vortex less likely. This does not mean that there is 0% chance of the polar vortex impacting North America over the winter, just the chances are lower compared to neutral or easterly phases in the QBO.

The El Nino outlook and westerly phase of the QBO are some of the primary reasons for greater confidence in the December outlook compared to November.

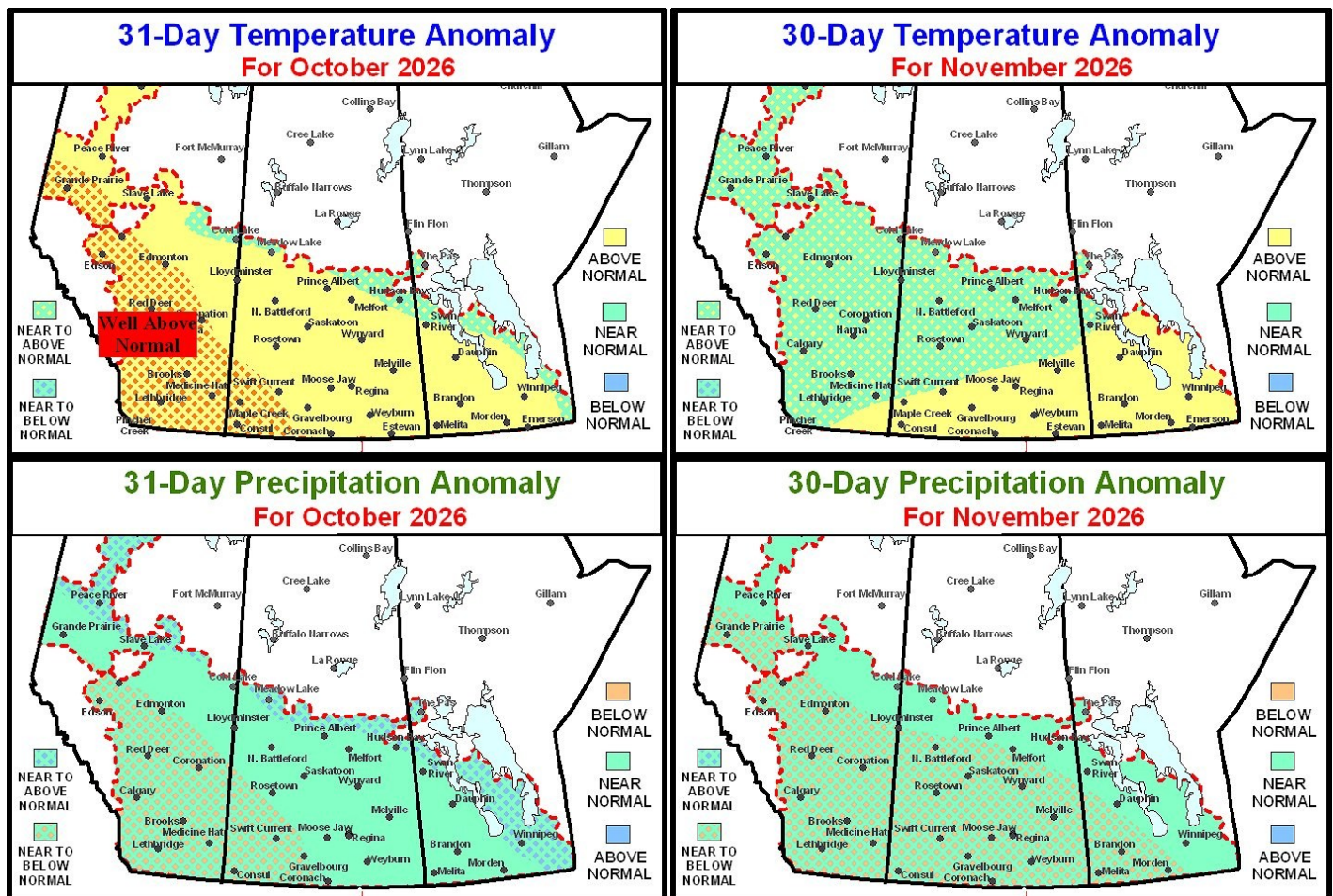
The periodic precipitation and lack of significant daytime heating in the coming weeks should keep drought from evolving for a large section of the Prairies before the ground freezes over late this autumn and winter.



winter storm systems will be high at times with the most favored path likely from northern and central Alberta into southern Saskatchewan and neighboring areas. This will be something that we will delve further into in the next prognosticator.

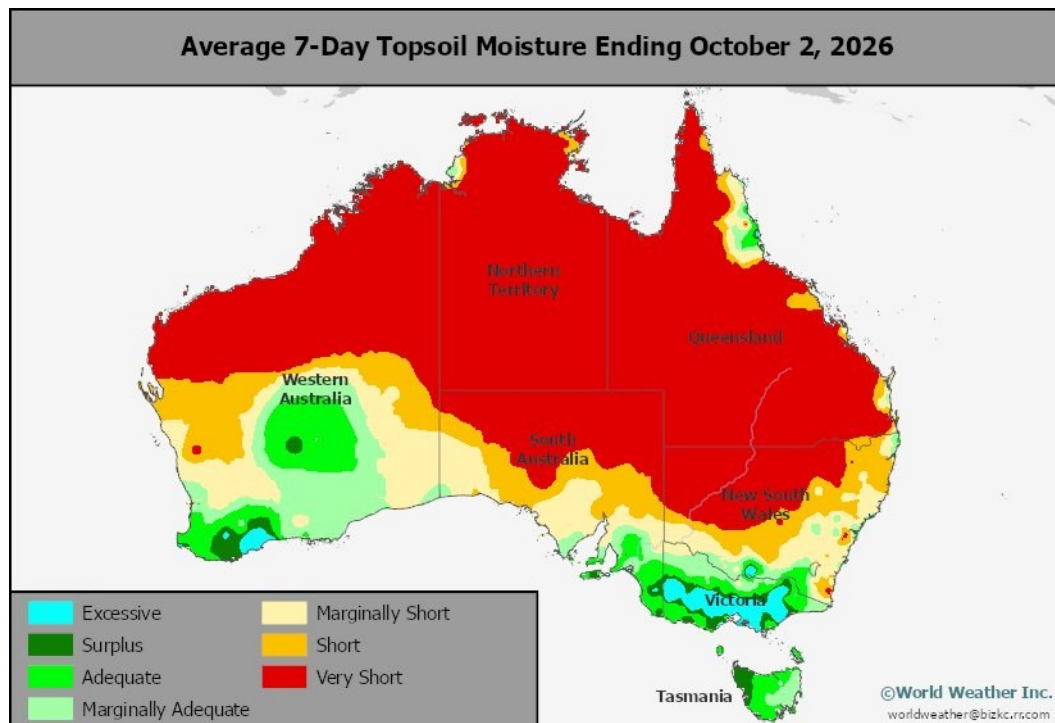
While I briefly mentioned the Quasi-Biennial Oscillation (QBO) earlier in the prognosticator, let's talk a little bit more about that. The QBO is a pattern of high level winds above the equator in the earth's stratosphere, which is one layer above the troposphere which is where we live.

October and November Weather Outlooks



Warmer-than-usual weather will promote some drying in the western and southern Prairies in coming weeks. Pockets may become or remain abnormally dry, though widespread drought is not expected to return before the winter freeze, especially in Manitoba and Saskatchewan.

Australia Crop Moisture Situation

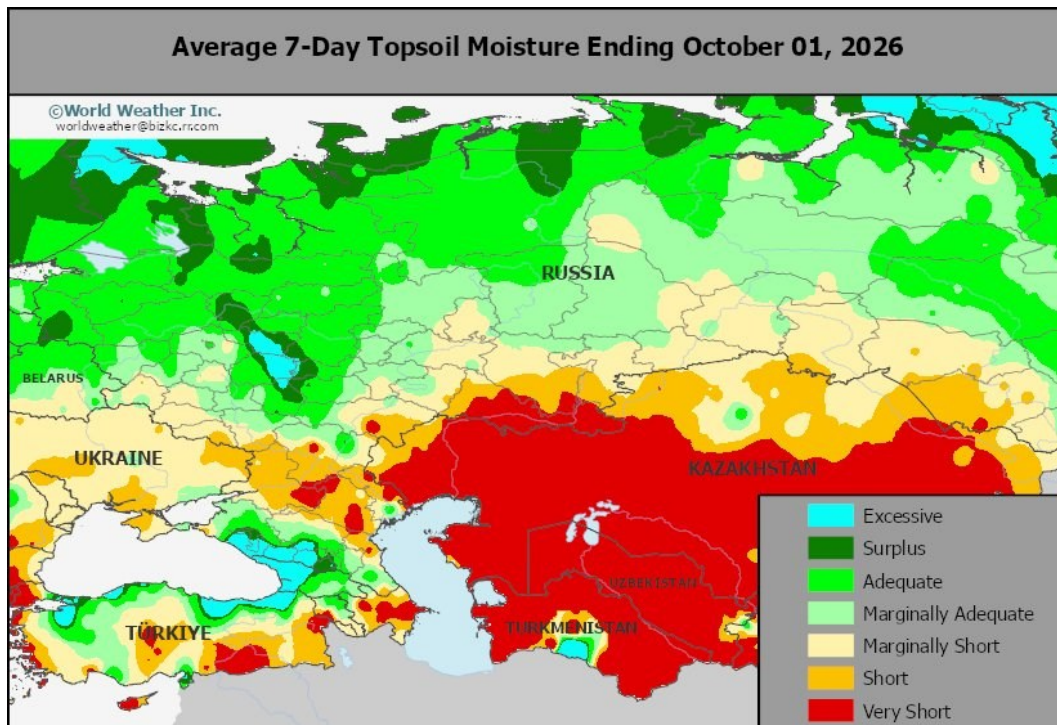


Many of **Australia's** winter wheat, barley, and canola regions started to dry down significantly in September as El Nino intensified over the Pacific Ocean. Parts of eastern and southern Australia tend to experience drier than usual conditions in an El Nino environment. While timely rain occurred earlier in the year, much of Queensland and northern New South Wales were completely dry for much of September. Other winter grain and oilseed production areas saw some rain, though portions of Victoria, South Australia, and southern New South Wales were drier than usual during the past month. Late-season development conditions for the earlier planted crops deteriorated as the ground firmed. The potential for continued dryness for the remainder of the growing season may further impact development prospects for the later-planted crops that will still be growing for the next several weeks.

Victoria, South Australia, and southern New South Wales will see a good mix of erratic rain and sunshine through mid-October. The rain should be enough to maintain generally good development conditions for the later-planted crops that will still be growing. Maturation and early-season harvesting will likely advance around the spotty rain. Queensland and northern New South Wales will remain dry or mostly dry. Harvesting will advance swiftly while late-season development conditions deteriorate further. Western Australia will also receive limited rainfall through mid-month with the ground likely becoming too dry for ideal development.

Australia's winter grain and oilseed harvest will likely get off to a good start across Australia in coming weeks despite some rain in the southeast. However, yield potentials will likely be reduced due to the ongoing dryness in Queensland and northern New South Wales. Portions of Western Australia may also become too dry for aggressive growth and production may be impacted for these areas as well.

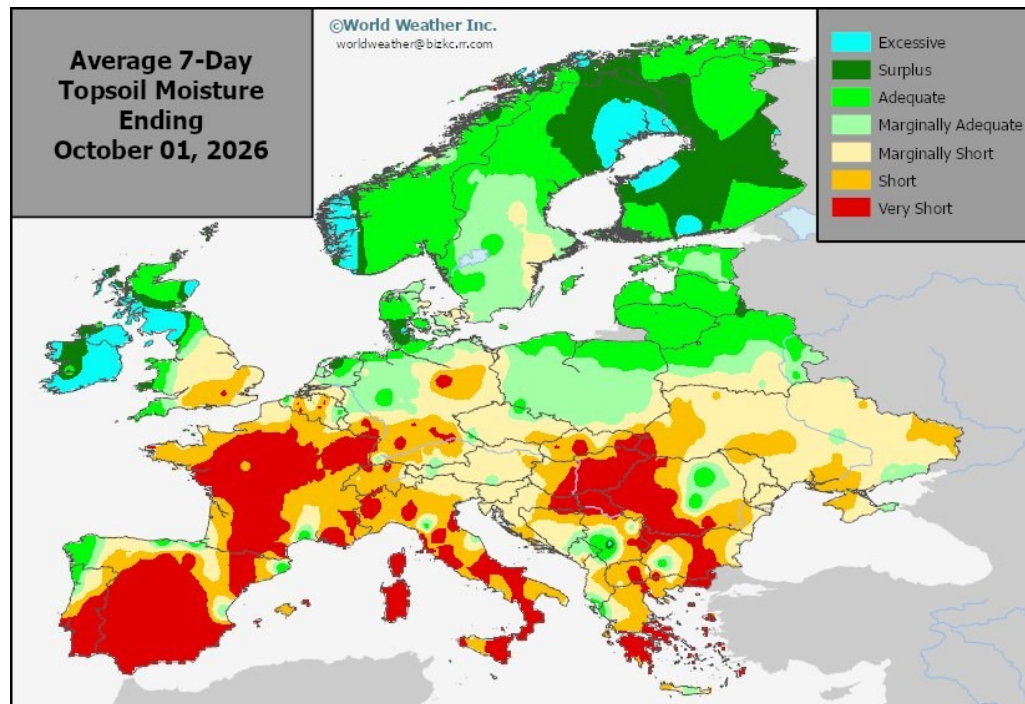
Russia Moisture Profile Still Looks Favorable



The **former Soviet Union** winter grain and oilseed areas started to dry down a little too much for ideal planting conditions in September. Planting normally continues through the end of October and there is still plenty of time for better precipitation to support better long-term production potentials. Russia's Volga River Basin and USDA defined 'Southern Region' experienced some of the driest conditions lately and would benefit most from more significant rain.

Precipitation will remain limited for much of the former Soviet Union winter grain and oilseed areas through mid-October. Planting and general fieldwork will advance swiftly. The ground will otherwise become or remain too dry for both ideal establishment and long-term development conditions. Timely precipitation will be needed late this autumn and over the winter.

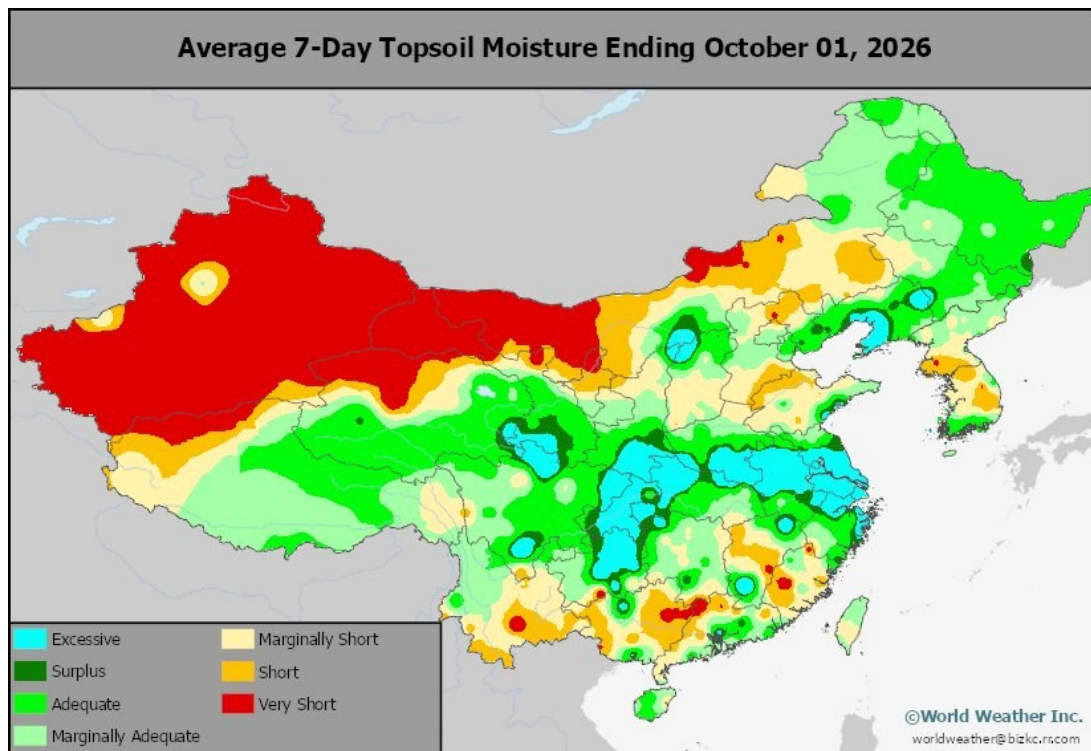
Western Europe Still Expecting Major Losses



It's no secret **Europe** struggled this year, France and southeastern Europe in particular. Corn production in France is expected to be its lowest for the past 50 years. Drought is firmly in place across Western Europe and portions of southeastern Europe and there is a significant need for moisture. Continued dryness will not only impact production potentials for the winter grains and oilseed, but could also impact next year's crops.

Western Europe will have a few opportunities for rain through mid-October, though not enough rain will fall to reverse the drought. Eastern Europe will trend drier than usual in the coming days before rain potentials gradually increase later in October. Rain will be welcome where it occurs, though much more precipitation will be needed over the winter for improved long-term production potentials for the winter grains and oilseeds.

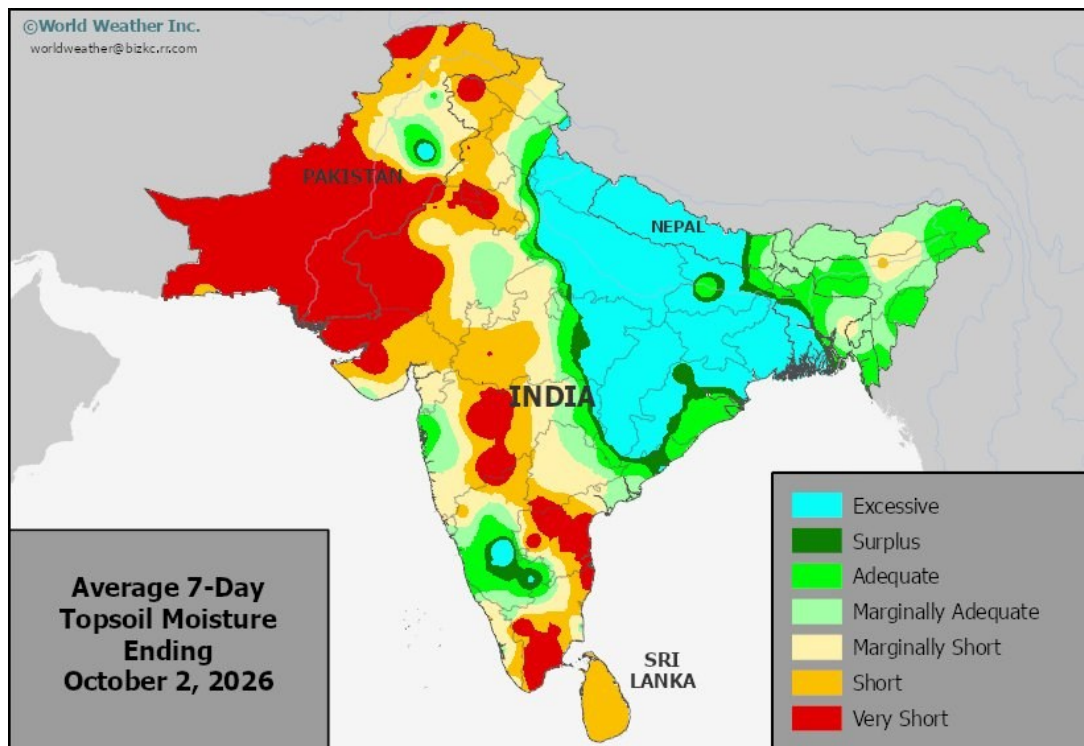
China Crops Generally Good Despite Flooding



China's production areas received near or below normal precipitation in September. Most locations had enough moisture in reserve to support good late-season development. Overall production potentials are favorable despite pockets trending a little dry at times over the growing season. There is now a growing need for drier weather to support more aggressive growth and for better planting conditions for the winter wheat and rapeseed.

Parts of southern China will see enough rain to slow harvesting and general field-work during the next few days. However, much of crop country will have enough periods of drier weather to support aggressive harvesting at times. Winter wheat and rapeseed planting should advance swiftly as well. The rapeseed areas will have ample moisture for establishment. The wheat production areas would otherwise benefit from a boost in rain later this month for ideal establishment before the crops go dormant.

Concerns For Dryness Will Return For Western India



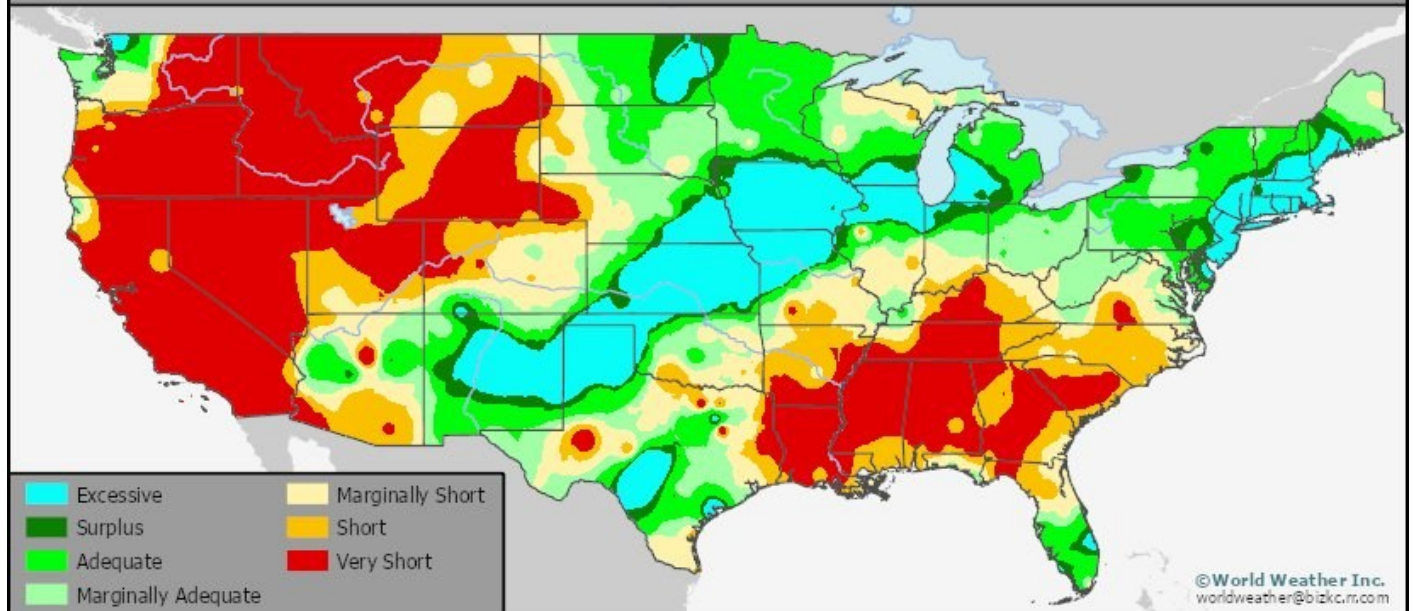
India's monsoon remained highly erratic in September. Southern and western India were again drier than usual while other areas received varying amounts of rain. Western India, Madhya Pradesh and Maharashtra in particular, is one of the larger producers of soybeans in India and production may be lower than usual this season. Western and southern India also produce significant amounts of sunseed, corn, lentils, dry beans, and other pulses and production may be hurt by the dryness as well.

Late-season monsoonal rain will prevail for southern India through mid-month. Rainfall will be too late to significantly improve the outlook for some early season summer crops, but the late season crops that are harvested late in the fourth quarter and early in 2027 can still benefit from rain in the next few weeks. Precipitation will be limited elsewhere. Late-season development conditions will deteriorate in the driest areas of western India while other locations have enough moisture in reserve to support relatively good late-season growth.

India tends to experience warmer than usual conditions over the winter season. With the monsoon withdrawing a little early and many grain and oilseed areas already dry, producers may plant lower than usual crops this winter, especially if warmer weather verifies.

Big Rains from New Mexico To Iowa Saturate The Soil

Average 7-Day Topsoil Moisture Ending October 2, 2026



The **United States** grain and oilseed production potentials remain relatively favorable. Harvesting is underway in several locations at the usual pace despite some rain in recent days. While many areas in the Midwest will be a little too wet for ideal harvesting during the next few days, conditions for the harvest will improve as drier weather evolves next week into mid-October. Production potentials will remain favorable.

Hard red winter wheat planting is also advancing across the U.S. central and southern Plains. Much of the region was struggling with drought during the summer, but rain in the past ten days was substantially great and will change the outlook for planting, emergence and establishment even though drought status may remain in Oklahoma and a few neighboring areas. El Nino tends to promote wetter than usual conditions for the southern Plains over the winter. As long as timely rain occurs late this autumn and over the winter, production potentials may gradually improve as soil moisture increases.