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The Canadian Agriculture Weather Prognosticator

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World Weather

- Short term dryness relief is occurring in the Black Sea region, though concern for crops in the long term remains
- Western Europe may have a drier and warmer biased spring at times
- North Africa has begun to dry down once again and more rain is needed to induce the best yields
- China has been drying out recently and that trend will continue for a little while longer before some timely rain resumes
- India's winter crops did not have ideal weather this year, but no disaster occurred either. Hot and dry weather will promote drying and crop maturation now.
- Australia's planting begins in one month and early indicators are suggesting a good start to planting
- U.S. Great Plains drying is a worry

Weather Changes Have Not Been Great

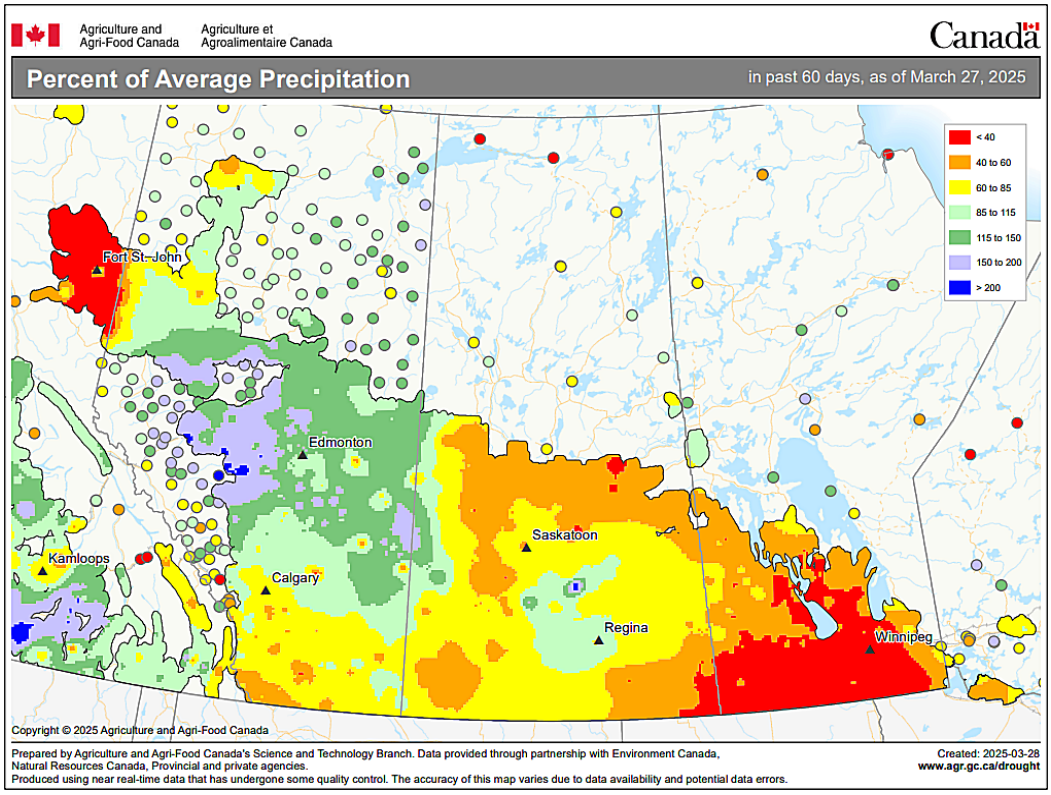
Serious changes in weather have only occurred in short term spurts in recent months. The first half of last year's growing season was the most generalized period of precipitation that brought greater soil moisture to many crop areas in the Prairies. Since then, of course, the second half of the 2024 growing season was quite dry and the harvest season was even more so with hot temperatures at times as well.

Another short term bout of significant precipitation then appeared in November and that month alone generated enough moisture for much of the Prairies to carry us into early spring; however the trend in recent weeks (prior to the most recent past few days) had been favoring drying across the region.

The exception to all of that was in western parts of the Peace River Region where dryness has not yet been relieved.

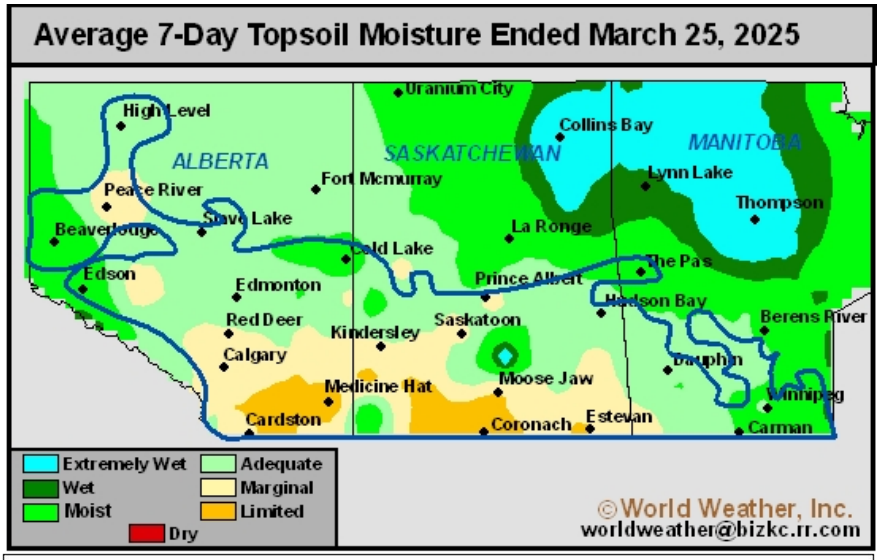
The snow and rain event that impacted portions of the Prairies in recent days offering some additional relief to dryness in some areas, but not all. The latest soil assessment for the Prairies still has many areas in the south carrying long term moisture deficits with top and subsoil moisture still too light to support crop development this spring without timely rainfall.

Western parts of the Peace River Region are also dealing with some

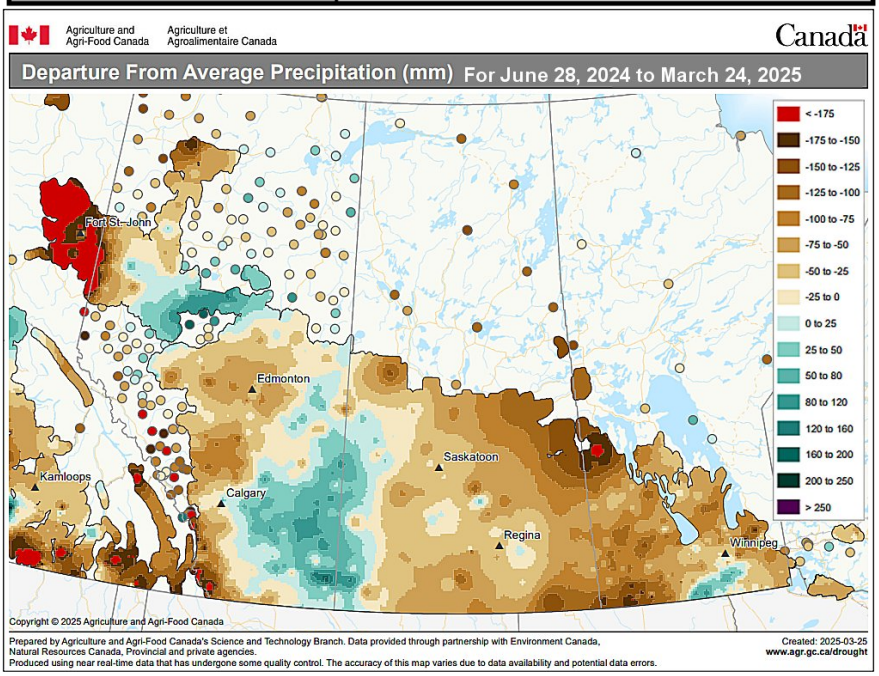


Weather Changes Have Not Been Great (from page 1)

significant dryness as are a few production areas west of the Highway two corridor from Calgary to Edmonton. There are a few areas in the eastern Prairies still dealing with some dryness too, but northeastern and some east-central Saskatchewan locations and parts of neighboring Manitoba have a significant amount of snow on the ground threatening to delay spring planting as it melts. The same may occur in far northern and some eastern Peace River region production areas and in a few other areas in east-central Alberta where the snow remains quite deep.



The Canadian Drought Monitor for late February showed most of the Prairies to be free and clear of drought, but there are still many areas carrying low subsoil moisture that need to be closely monitored. Weather in the next few weeks is unlikely to change much suggesting that the moisture profile across the Prairies today may be similar to that expected at the end of April.



Some long range forecasting products have suggested that some flavor of dry weather will remain in the Palliser's Triangle area during the coming spring and early summer. That may be true to some degree, but the odds do favor some timely rain to fall during the late spring and early summer. July may dry down the southern Prairies once again, but some beneficial rain is likely from late April into May and possibly June. The precipitation is unlikely to be evenly distributed leaving some areas drier than others, but the environment should provide some favorable timing for rainfall that will support crops, despite some lingering moisture deficits.

Late summer should advance the ridge of high pressure in North America far enough to the east to induce greater rain for the western Prairies. The situation must be closely monitored, though. Drought and dryness already prevalent in the U.S. Plains and southwestern states may help reinforce a stronger ridge of high pressure to evolve over the High Plains region and Rocky Mountains during early to mid-spring. That will not bode well for rain in the southwestern Prairies; however, the ridge of high pressure should drift far enough to the east during the late spring and summer to allow storm systems to move inland from the Pacific Ocean through the U.S. Pacific Northwest and into the central Prairies. These storm systems will bring some timely rain to a few of the remaining driest areas; including the western Peace River Region and crop areas west of the Highway 2 corridor. .

Even though, changes in weather have not been substantial or very sustainable, change is expected to continue evolving due in part because of the aging 22-year solar cycle that should have reached its peak of support recently. There is also hope for change coming from the eastward drift in the summertime high pressure ridge away from Alberta and British Columbia and more centered on Saskatchewan and Manitoba. There should be enough weather variety this year to generate a favorable production year.

Late April, May Should Begin To Bring Better Rainfall

Despite the fact, that winter precipitation was not all that great at times, today's soil moisture is not poor enough to create a problem with planting as long as a few bouts of precipitation come along.

The first half of April will be a little dry biased for many areas, although following this past week's precipitation event that should not pose much of a problem except for a few areas in the British Columbia part of the Peace River Region and in areas from southern Alberta into southern Saskatchewan where the moisture profile in some areas is still quite low. Snow still remains in many northern areas where a surplus of moisture is anticipated when it finally melts.

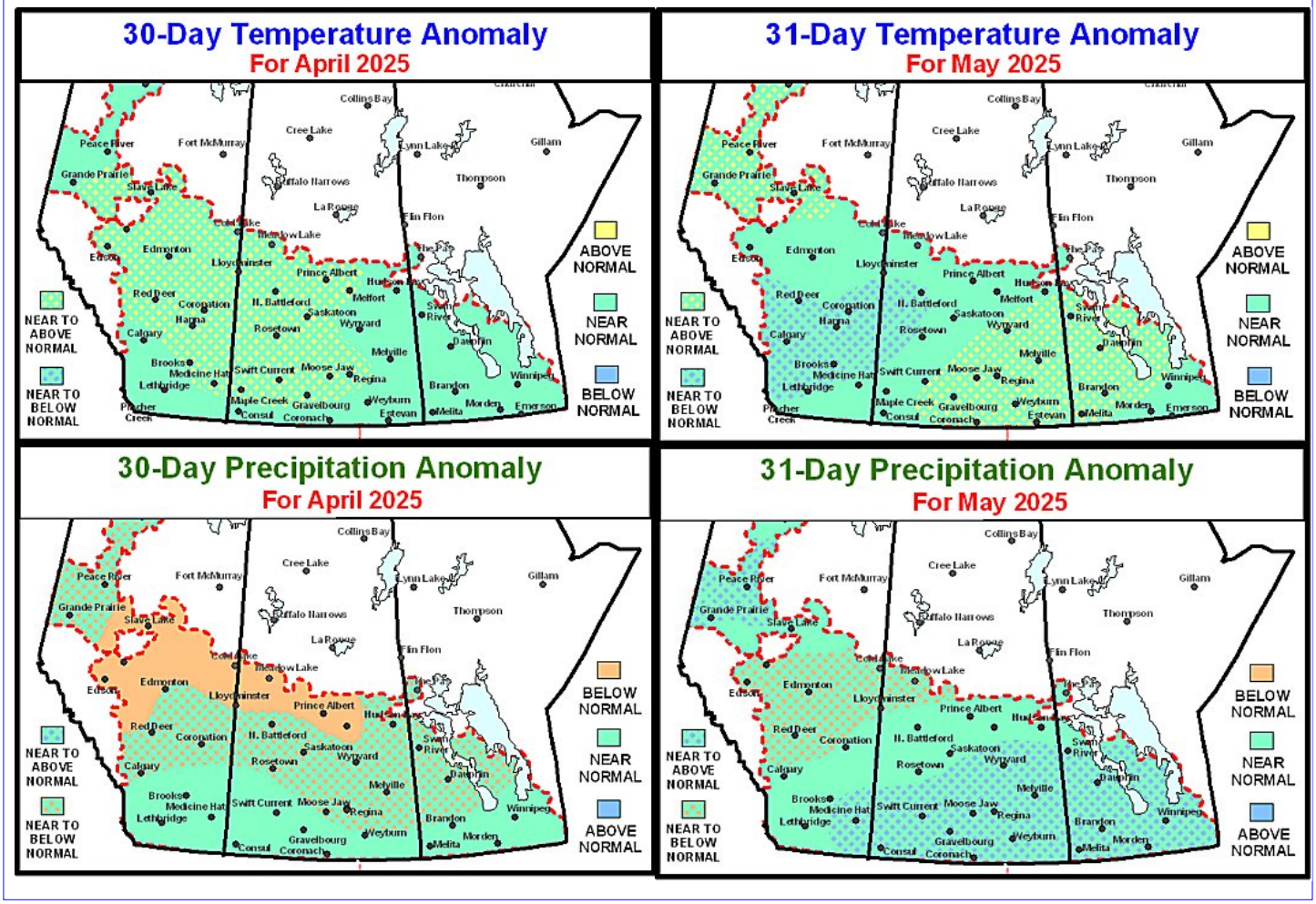
Late April precipitation is expected to be a little better in southern parts of the Prairies where just enough late month precipitation should fall to help provide planting moisture. Long term dryness will still be present and much more rain will still be needed, although enough moisture should occur to get started with planting.

Temperatures in April are likely to be a little warmer than usual which will keep evaporation rates a little high making that need for greater rainfall all the greater in Palliser's Triangle where dryness is most likely.

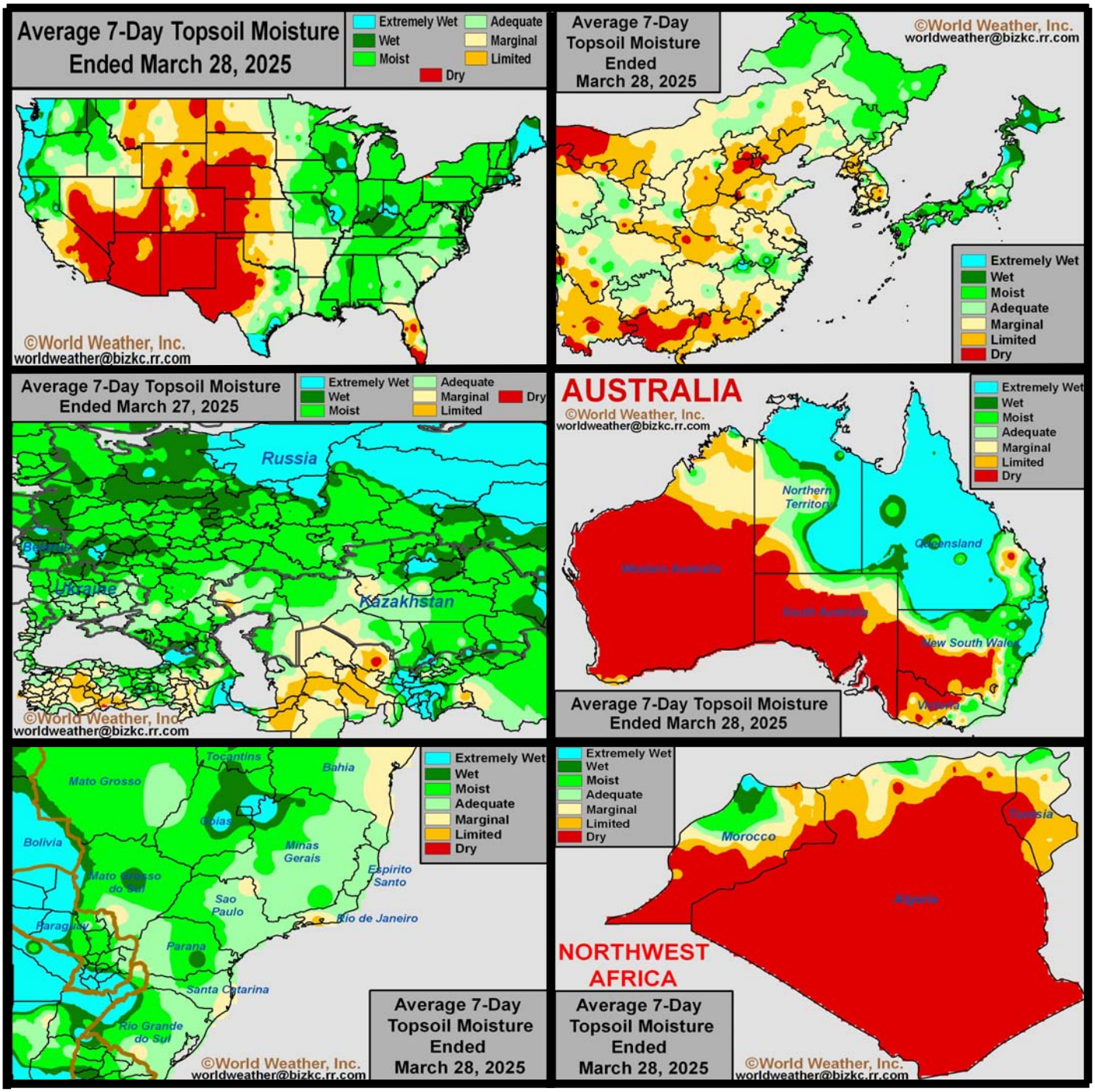
For a little while in May and possibly a part of June there will a boost in rainfall for eastern and southern parts of the Prairies. It is a little unclear how significant that may or may not be, though this will be a very important part of the growing season for the drier areas in the southern Prairies. July and a part of August could be drier biased once again in a part of the south—most likely in the southeast, making rain in late April, May and early June of critical importance to the success of crops in those areas.

Rain in the Peace River Region in May is probably a little to aggressive and it would not be surprising for rain to continue lighter biased until late May and June when rain finally improves for that region.

Much of the weather in the Prairies during April and May will be determined by the jet stream and whether or not it will come far enough north to bring moisture into the Prairies from the U. S. Midwest. It will be tough for the moisture to arrive in April and a little better in May. Temperatures should be warm biased in both months except possibly in a parts of southern and eastern Alberta into NW Saskatchewan where some cooler biased conditions are possible.



Selected Weather Images From Around The World



China has been drying down most significantly in the past couple of weeks. Winter wheat is largely produced in the Yellow River Basin and North China Plain and much of it is irrigated making the drying trend there of less importance; However, rapeseed produced between the Yellow and Yangtze Rivers will need rain soon to support crops. In the meantime, U.S. soil moisture is still quite low across the Great Plains and a part of the western Corn Belt with drought prevailing in a part of the region. Significant rain must fall soon to prevent a more serious drought from threatening wheat and some summer crop production. Dryness is also prevailing in North Africa where crop production is expected to be mediocre at best without greater rain soon. Brazil and Argentina soil moisture is quite favorable today, though Brazil's Safrinha crop areas need saturated ground when the monsoon ends in mid-April to ensure the best production potential. Flooding rain fell in eastern Australia this past week while dryness remained in the west.

July Will Trend Drier In Southern Prairies; June Wet In West

Confidence is rising that southern parts of the Prairies (near and south of the Highway One corridor) will be trending drier during July and temperatures will be warm biased at that time. It is still unclear whether that dryness will be concentrated more on the southeast or the southwest, although, for now, both are included.

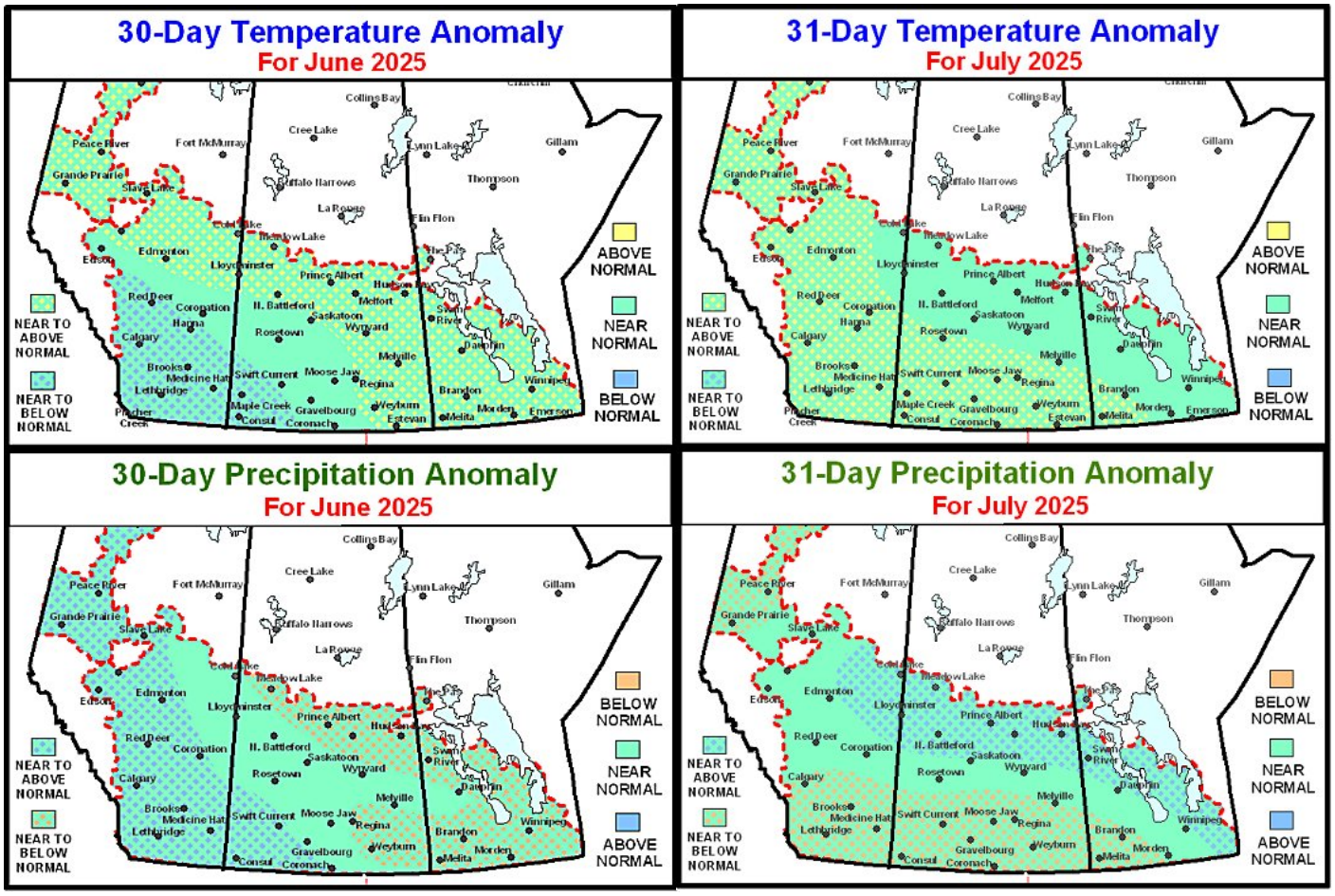
June and July both should provide increasing rainfall to the Peace River region in both Alberta and British Columbia. Some of the wetter bias in June should also include a larger part of western and southern Alberta and there may be a short term bout of abundant rain in southwestern Saskatchewan. This should be the end of the weather transitional period from the old winter pattern to that for the spring and summer. Dryness that prevails in April and is beginning to be eased in May should be more significantly eased in June before a drier bias returns in July. Sufficient rain should have occurred in the transitional period to carry crop development relatively well.

There is also some potential for northeastern Saskatchewan and northern Manitoba to trend drier during the June and July. This area will be closely monitored along with the southeastern Prairies where some influence from a U.S. high pressure ridge is possible during the middle of summer.

Temperatures in June should be a little warmer than usual in the northern and eastern Prairies in June and over a larger part of the Prairies in July. The forecast of milder than usual weather in northern parts of the Prairies in July could be removed in future forecasts once it is better understood how strong the North American ridge of high pressure will become.

The end of summer is still up for some debate. Today's first guess to August and September should include near to above normal precipitation from the Peace River region and neighboring areas through the Swan Hills and Slave lake region to areas north of Highway 16 in Alberta. Normal to slightly above normal precipitation will also impact southern parts of Alberta and western into some north-central Saskatchewan locations. The southeastern Prairies are likely to see near to below normal August precipitation and near to above normal moisture in September.

Early indications also suggest a low potential for early season frost and freezes in the autumn, although the precipitation expected could lead to a slower harvest pace relative to normal. No washout is currently expected, but ideal harvest weather like that of 2024 is not likely.



U.S. Drought Expansion Raises Worry For Plains

Late winter and early spring are of critical importance to the U.S. Great Plains. That is normally the best time of year for significant rain to fall. Moisture deficits that were prevalent last autumn were greatly reduced by a bout of wet weather in November. That improved the moisture profile greatly enough to induce much improved winter wheat emergence and establishment.

Since that time rainfall has been limited and there have been some wild gyrations in temperatures along with big windstorms inducing blowing dust and raising concern over crop conditions in the Plains. The return of drought conditions has raised much worry over the late spring and summer months in regard to crop production.

Significant precipitation must fall in the next few weeks to reverse the drying trend that has already put drought back into the Plains after relief in November. Persistent dry and warm-biased weather has created drought conditions across the southern U.S. Plains since at least the latter half of February. A significant rain event occurred in South Texas and the Texas Coastal Bend late this past week ; otherwise, hot and dry weather prevailed from western Kansas into central and western Texas and the southwestern desert areas of the United States. Drought is either present or developing in most of the region, although the rain in South Texas has brought relief. Crop and livestock stress is occurring from western Kansas and eastern Colorado southward.

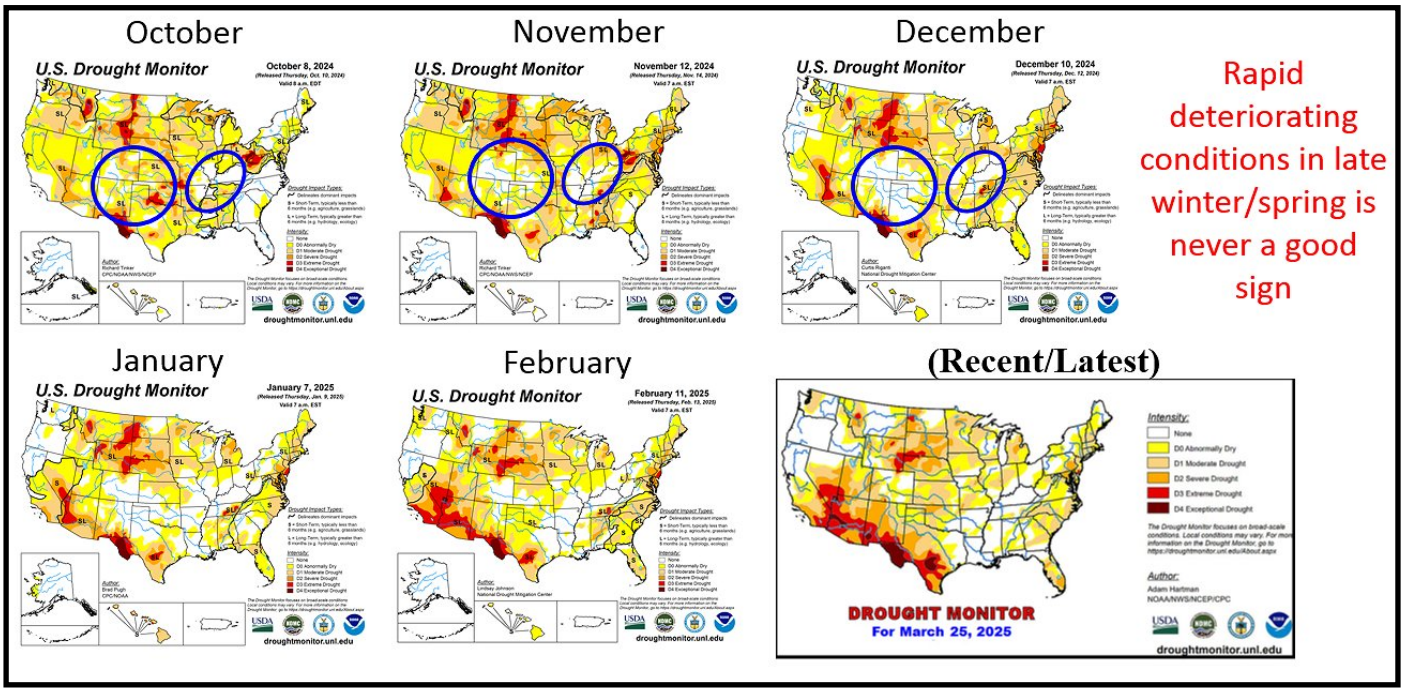
In the next 7 to 10 days, minimal to no precipitation is expected to prevail across the region. Periodic warm to hot temperatures will also continue into next week, as well, particularly in Texas and Oklahoma, which will amplify drought conditions and increase crop and livestock stress.

Conditions in the U.S. Southern Plains have been largely dry and abnormally warm for much of the first few months of 2025. Since the beginning of March alone, less than 25% of normal rainfall has occurred across most of this region. A brief period of thunderstorms earlier this month contributed to some very brief and limited improvement to conditions in portions of the Texas Panhandle into central Oklahoma; however, soil moisture across the crop region remained marginally adequate to very short and have remained in such a state since the latter half of January.

The U.S. Drought Monitor Thursday indicated much of the Southern Plains is experiencing moderate to severe drought conditions with the southernmost portions of Texas into Mexico seeing extreme to exceptional drought. Significant or consistent precipitation will be needed in the coming days to weeks to alleviate these conditions and reduce crop and livestock stress across the region.

Without the relief, there will be some potential for a strong ridge of high pressure to build in over the dry region during May and intensify during June. That could lead to a hot and dry summer not only in the U.S. Plains, but in portions of the western Corn and Soybean Belt and possibly into areas farther north across the Canada border to southeastern Saskatchewan and Manitoba.

For now this is only a concern, but if heat and dryness remain in the Plains through April and into early May the concern could turn into a reality.



Is The North America Drought Of The 2020s Over?

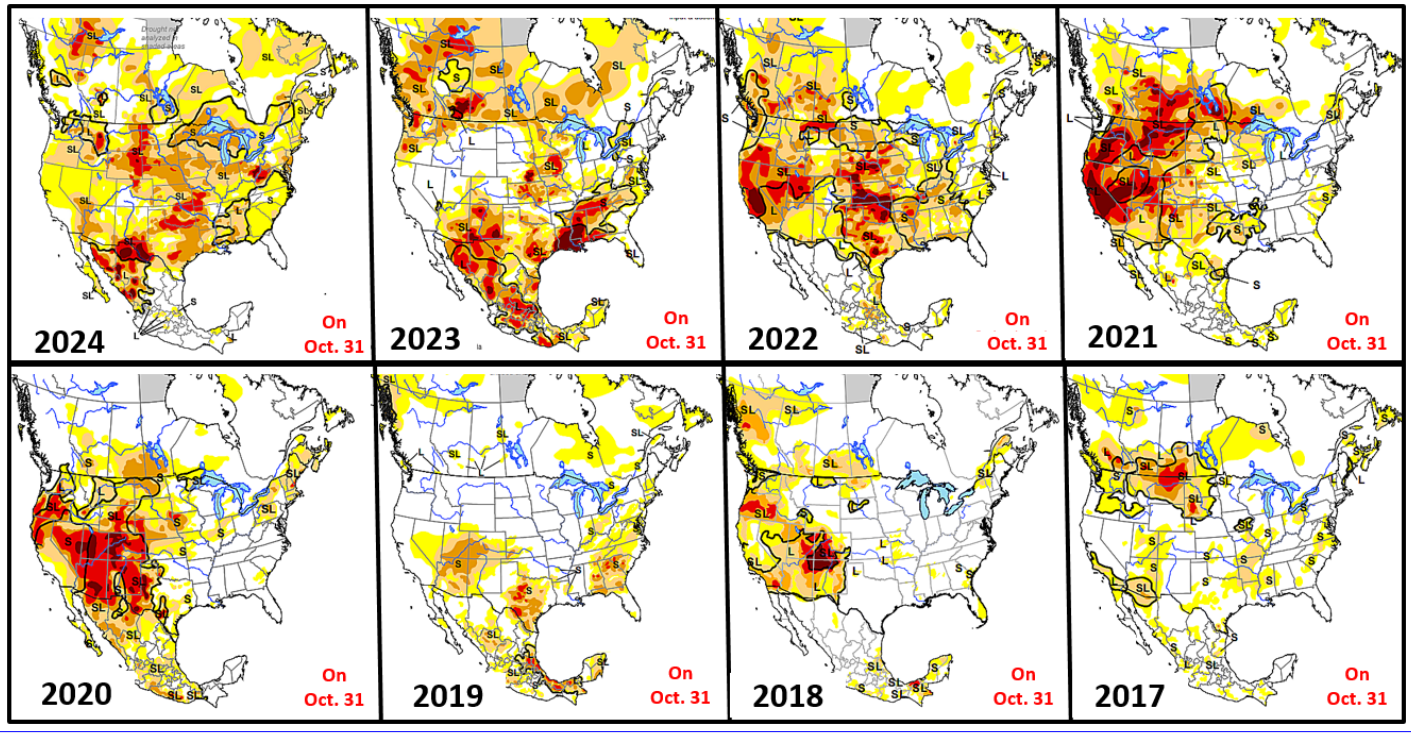
Notable drought and dryness have dominated North America since 2020. It was set off by the 22-year solar cycle and a multi-year La Nina that zapped moisture from the middle latitudes creating hardship for farmers and partially contributing to higher inflation. The history books have not been written for our era yet, but there is a very good chance that the drought years in this decade could easily slip into folklore just as the 1930s, 1950s, 1970s, 1999-2002 and during various times in the 1800s. We are living through historical times.

It is not just drought that will fit into the history books, but some of the other many hardships that have occurred during this time period. The COVID pandemic, wars and rumor of wars, social unrest and political trials will also top the list describing the 2020s. It seems as though we are living life through a history book of rough times. Thinking that way and watching what 2025 has brought so far raises more questions as to whether this era is over or whether we have more to deal with. The weather certainly has not turned the corner – at least not yet.

Relief from the North American drought has occurred in portions of western Canada, but Mexico is still dealing with a very serious drought that has little chance of easing prior to the start of the annual monsoon season in May and June. The North American monsoon has been on hold or at least poorly performing for the past two years. A similar situation plagued South America in 2023 and 2024, but this year seems to be a little different. A more robust monsoon developed in Brazil during their summer season this year offering hope for a better rainy season in Mexico and the southwestern United States this year.

Some scientists attributed the failing monsoons in recent years to the Hunga Tonga Volcano that erupted in 2022. This too was an unprecedented event of this decade, although poorly documented and less understood than most volcanoes because of its underwater occurrence. The volcano was the single greatest eruption in modern times, but some meteorologist continue to contend that it had a very disruptive influence on the earth's weather bringing much hotter temperatures and possibly impacting the monsoon flows in both North and South America. The jury is still out on that one; however, it is possible that the lingering effects of the Hunga Tonga eruption may be working their way out of our atmosphere slowly.

Stratospheric warming events seem to be occurring a little more often and the one that has just occurred brought a quick end to the winter polar vortex that usually



Is The North American Drought Of The 2020s Over? (from [page 7)

hangs out in the arctic until April. The early demise of the polar vortex is not unprecedented and it must be studied more to determine its impact on spring and summer weather around the world. With less cold trapped in the higher latitudes over the next several weeks there will be a potential for more frequent bouts of severe weather because of clashing air masses of great difference. Cold air has already moved southward through North America a few times this winter and early spring to induce some wild weather; including snow on the Gulf of Mexico Coast and temperatures into the single digits Fahrenheit in Louisiana.

The clashing cold and warm air masses moving through North America is really nothing new, though some of the intensity of weather extremes has been greater than some folks can remember. Is this extreme weather cyclical or not? Certainly, weather records show much volatility throughout history, but there have been periods of tranquil weather as well. Concern has been rising this winter and now early spring that the volatility in weather is going to continue with a few wild storm systems coming up this spring and amazing temperature swings. Some of that has already been seen and that raises the question as to whether the 2020s drought is really over. There are some folks looking for a return of the Gliessberg drought cycle that supposedly will bring extremes like those seen in 1935 and 1847 back in 2025. There is not much data to deal with in confirming the Gleissberg drought cycle, although watching the weather this winter and spring has certainly raised some concern.

Temperature extremes this winter have been amazing with subzero degree Fahrenheit (below –18C) temperatures occurring in the central parts of the nation and just a few days later highs in the 60s and 70s (teens and 20s C) have occurred. There has been a general lack of moisture in the U.S. Great Plains, northern Mexico and parts of Canada's Prairies this winter. That was partially driven by the La Nina-like conditions that occurred in recent months, the negative phase of Pacific Decadal Oscillation (PDO) and the lunar cycle. La Nina is dissipating while negative PDO remains and the lunar cycle is not providing much incentive for change through the heart of spring. That suggests weather extremes resulting from low relative humidity and dryness in the heart of North America are likely to prevail at least through the first half of spring. Look for intense low pressure centers creating more intense windstorms, blizzards, flooding rain events and severe thunderstorm outbreaks along with wild temperature swings. All of this is similar to the weather in 1935 and it smells of continuing dryness and drought. It is just possible that we have not seen the end of this decade of extremes.

Remember the drought years in both the 1930s and 1950s lasted 5-6 years and this is just the beginning of 2025, the fifth year of unusual weather and hostile times.

Western Canada seems to have broken away from the driest conditions—at least based on the latest drought monitor. However, soil moisture is still critically low in the British Columbia part of the Peace River Region in Canada and there are a number of areas in the southern Prairies that are still experiencing some notable moisture shortages.

The spring season is not going to favor big changes in the southwestern Prairies—at least not initially. Early to mid-April may maintain some dryness, but late April, May and especially June should bring a boost in rainfall to the southern Prairies. The increase is unlikely to be a persistent feature and as June rolls along the wetter bias will shift into the western parts of the Prairies while eastern areas see less rain and more drying return.

Much of the drier and warmer scenario advertised in the eastern Prairies will come from dryness in the U.S. Plains due to the potential for ridge building over North America during late spring and summer. This ridge "may" bring some of the heat and dryness out of the U.S. Plains and into the southeastern Prairies. If that occurs, it will not take long to get the answer to the question, "Is the North American Drought of the 2020s Over?" The answer will be a resounding no, although drought will have shifted to the southeast possibly sparing western Canada and parts of the western United States from another drought year.

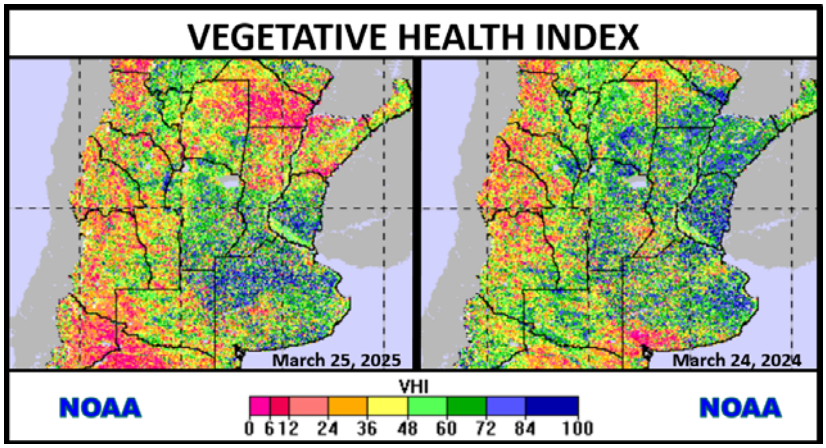
Mexico will also have a good chance to see drought relief in 2025, but not until the monsoon season kicks in. World Weather, Inc. believes a more active monsoon this year will provide greater moisture to the western United States and there is "some" potential for that moisture help make rain fall in western Canada. The monsoon flow may not bring dryness easing rain to the central United States.

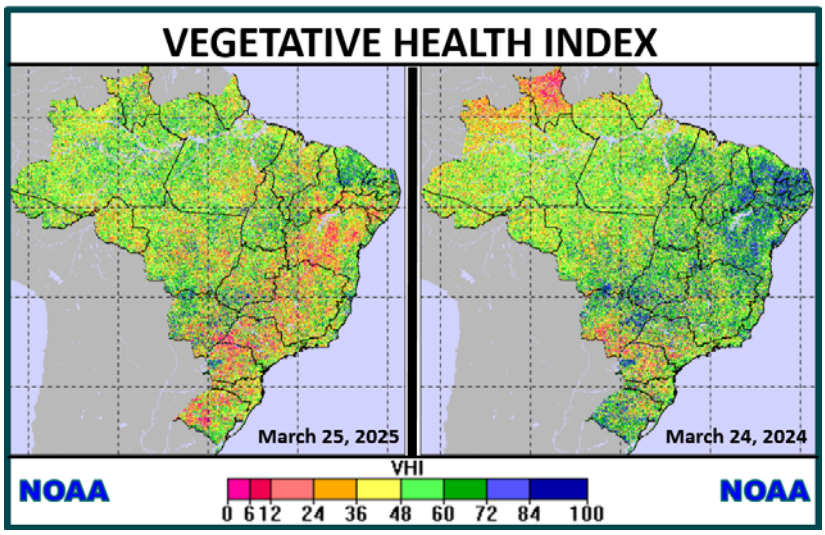
Since the solar maximum in sunspot activity is present today the odds of a North American drought prevailing beyond this year is low, although there may be some lingering pockets of drought that could remain into next year. The odds of seeing more continental wide drought in 2026 is low.

Vegetative Health Improves in Argentina, Declines in Brazil

Weather changes have occurred in South America in recent weeks. For the most part those changes have been welcome and good. The change seems to have associated itself with the demise of La Nina.

La Nina did not last long, but long enough to have impacted early season rainfall in Argentina, Uruguay, southern Paraguay and parts of far southern Brazil. Argentina was most impacted with lower early season corn and sunseed production. Early corn in Argentina only represents 20-25% of the total corn and it was not all lost, though yields were low.





The demise of La Nina brought widespread rain to Argentina and that occurred too late for early season crops, but greatly improved the late season crops. Soybeans, the late corn crop (75-80% of the entire crop), peanuts and sorghum have all benefited from recent rain and yield potentials have improved after falling for a while in December and January when it was so dry.

The latest Vegetative Health Index for Argentina suggested the heart of coarse grain and oilseed production areas in central and southern parts of the nation have as good or better conditions today than a year ago. Dryness and drought in northern Argentina has only recently been relieved and the Vegetative Health Index has turned more negative because of prolonged dryness and hot weather that occurred in February and early March. Northern Argentina produces a minor amount of corn, sorghum and soybeans while producing much of the nation's cotton.

In the meantime, portions of Brazil's eastern and southern crop region has dried out in recent weeks inducing a little more crop moisture stress than seen last year. That may explain why some market entities have recently reduced production potentials for late season crops in Brazil. The situation is no crisis and the impact on market prices should be low with one possible exception.

Safrinha corn is planted after early season soybeans in Brazil. This second crop of corn represents the bulk of production each year. Planting the crop late is not usually a good thing and 20-25% of the crop was planted 3 weeks late.

Monsoonal rain in Brazil usually ends in mid-April and this year is not expected to be much different. It is always imperative for the ground to be completely saturated at the end of the rainy season so that Safrinha crops can reproduce and fill on subsoil moisture that usually lingers at favorable levels until reproduction is complete.

Planting Safrinha corn three weeks late means the crop will need favorable soil moisture for at least three weeks longer than usual to support the best potential yields. If the rainy season ends normally, it may be very difficult for subsoil moisture to remain favorable unless temperatures are notably milder than usual which would reduce drying rates.

There is concern that soil moisture will be depleted before reproduction is complete resulting in lower yields for that late season crop.

Early Australia 2025 Planting Outlook Good

A significant rain event occurred in Queensland and northern New South Wales during the past week. Sufficient amounts of rain occurred to induce some flooding, but most of the excessive rain was in central, southwestern and south-central Queensland where 4.00 to more than 10.00 inches resulted. Some crop damage was feared, although the greatest rainfall was in minor western cotton and sorghum production areas.

The heavy rain was good for long term soil moisture in interior parts of Queensland after a prolonged period of dry weather during the summer. Grazing grass development is expected to improve greatly this autumn because of the rain.

Some additional rain will fall briefly during mid-week this week maintaining the wetter biased environment—not only in Queensland, but in northeastern New South Wales as well.

Planting of winter crops normally begins in late April and continues into June. The moisture boost in Queensland and northern New South Wales may help support a normal start to the planting season, though additional follow up moisture will be necessary especially if it is seasonably warm to hot and dry during the next few weeks.

Most of the long term weather features that support Australia weather during the autumn planting season are neutral biased this year which opens the door for a potentially normal planting season with alternating periods of rain and sunshine. If this trend prevails and verifies there is a very good chance that seasonal rain will impact all of the nation during the next few weeks and months leading to better conditions for autumn planting.

Neutral Indian Ocean Dipole conditions are expected which should be favorable for timely rainfall and seasonable temperatures during much of the planting season. This trend will also be reinforced by neutral ENSO conditions and by neutral ocean conditions to the south of the Australian coast.

Australia farmers managed to produce a good-sized crop in 2024, despite some dryness during the planting and establishment season. Some timely rain fell in most of the production region eventually to support good yields.

This year's crops are likely to be planted in a more favorable environment. Dryness could evolve during the spring and or early summer as El Nino-like conditions begin to evolve. For the planting season, though, the outlook is favorable and routine occurring precipitation should occur in May and June to support fieldwork and establishment.

The rain noted this week was probably one of the greatest events seen for a very long time in central Queensland, but the moisture will evaporate by late April warranting some follow up rain.