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The Canadian Agriculture Weather Prognosticator

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World Weather At A Glance

- India's monsoon performed poorly in August leaving northern and far southern areas drier than usual
- It looks like this may be the first drought year in India since 2015
- Australia's northern wheat and barley areas are still too dry and reproduction has begun
- Argentina's western drought is prevailing
- Flooding rain occurred recently in far southern Brazil
- Epic flood occurs in a part of Greece
- Tropical cyclones bring floods to Taiwan and southern China
- U.S. late summer crops lose yield in last minute heat and dryness
- Rain needed in U.S. hard red winter wheat areas
- Ukraine, southern Russia finish the summer dry like the U.S.
- Indonesia drying out

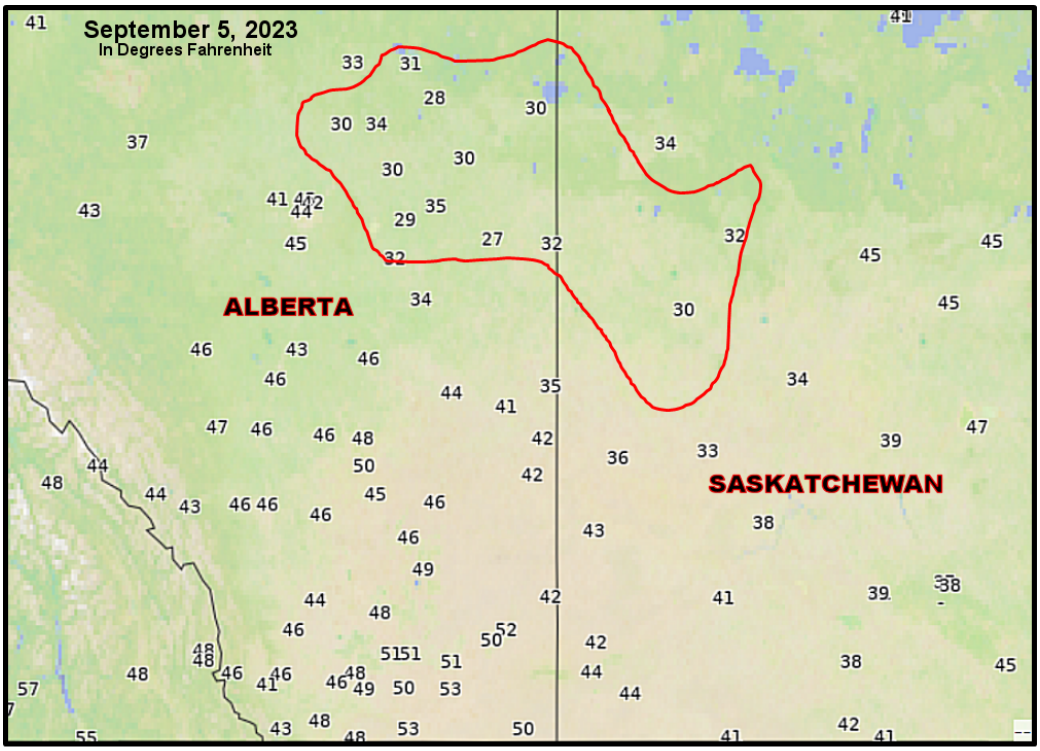
A Sign Of The Times; Frost Arrives

It was not much of a sign, but the frost and freeze event that occurred Tuesday morning in northeastern Alberta and northwestern Saskatchewan did suggest that perhaps autumn is right around the corner. The cold weather was a seasonable event and obviously a bit pocketed.

Other bouts of frost and a few light freezes have already occurred earlier this season in other parts of Alberta and earlier this summer in southeastern Saskatchewan. There have also be a few bouts of frost around in parts of Manitoba and northeastern Saskatchewan, but there have been no widespread freeze events and none are expected for a while.

Warmer than usual weather is expected to continue in the Prairies for the next week to nearly ten days. Some cooling is expected in the middle and especially the latter part of this month. The first hard freeze may be a little late in coming, but it cannot occur any sooner than mid-month and more likely it will be late this month.

In the meantime, the warm and relatively restricted rainfall pattern will be great for accelerating crop maturation and getting early season harvesting off to a faster pace.

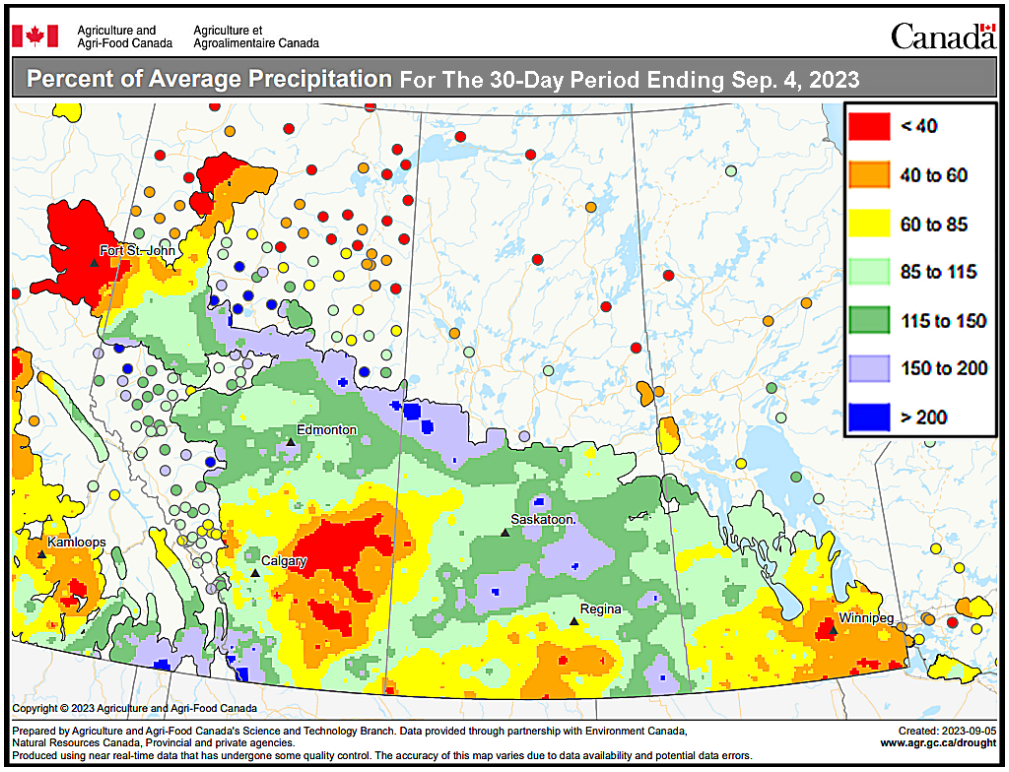


Tuesday morning frost and freezes in northwestern Saskatchewan and northeastern Alberta crop areas. The event was seasonable.

2023 Crop Year Full Of Shadows From The Past

August weather in the Prairies was mixed, but the mixture only proved to reinforce the old drier than usual pattern leaving eastern and southern Alberta in a notable dry pattern and restricting rainfall in both southern Saskatchewan and most of central and southern Manitoba. Each of these areas suffered from warmer biased temperatures and below to well below precipitation.

Much of the Peace River Region was also drier biased, but just as dry as the above areas were in August there were some areas of persistent wetness and those included much of the region from Slave Lake to Grande Cache and eastward from there to areas west of the Highway Two corridor. The wet bias continued from Athabasca to the Edmonton and Leduc areas east northeast to the Lloydminster and Cold lake areas. These wetter biased areas would dry out just enough to start some fieldwork and then suddenly turn wetter again. That pattern has been prevalent not only in August, but during much of the growing season. And producers in the region are now worried that it may not dry out enough soon enough to induce good harvest conditions and to prevent a notable crop quality decline.



Other wet-biased areas included northern Saskatchewan and in areas from near and east of Lake Diefenbaker northeast to Prince Albert, Melfort and Hudson Bay. Another wet biased area occurred from the Estevan area northward through Fort Qu'Appelle, Indian Head and Melville to Yorkton, Kamsack and Wynyard areas.

The wetter bias raised concern about harvest delays especially when temperatures turned a little milder than usual for a while in August. Since then weather conditions have improved with less rain and warmer temperatures promoting faster drying.

The year 2023 and the two previous years have strung out a drought that now ranges with those from the early 2000s, the 1980s and the 1930s. World Weather, Inc. has been most interested in the years 1976, 2001 and 1987 because they were all years that were on one side or another of drought—not only in the Prairies, but in the U.S. as well. Everyone remembers the droughts of 2000-2002 and 1987-88 as well as those in the 1930s. The multi-year drought years were all influenced by either the 22-year solar cycle or multi-year La Nina events that were ending and/or a part of an 18-year cycle year that was also included with dryness. These shadows of the past should have been better indicators of the persistent drought, but World Weather, Inc. believed the unusually strong and negatively-phased Pacific Decadal Oscillation Index would be sufficient to break the drought. However, the failed southwest U.S. monsoon only made matters worse.

Cutting out the southwestern U.S. moisture feed not only restricted rain flowing into Canada, but it also had a big impact on late U.S. Midwest and Great Plains weather. Most of the crop areas in the central United States finished the month of August quite dry and very warm similar to the patterns of the 1980s and the 1930s. There was no way Canada's Prairies were going to get rain while the U.S. was locked into a dry and warm pattern since the only way moisture flows well into the Prairies during the summer is from the south.

These drought years of the past also had trouble breaking from drought and it looks as though the month of September will continue drier than usual in much of North America perpetuating the dry patterns in the United States and Canada. Temperatures will also be warmer than usual resulting in strong evaporation during rain free periods.

A Dry Finish For North America

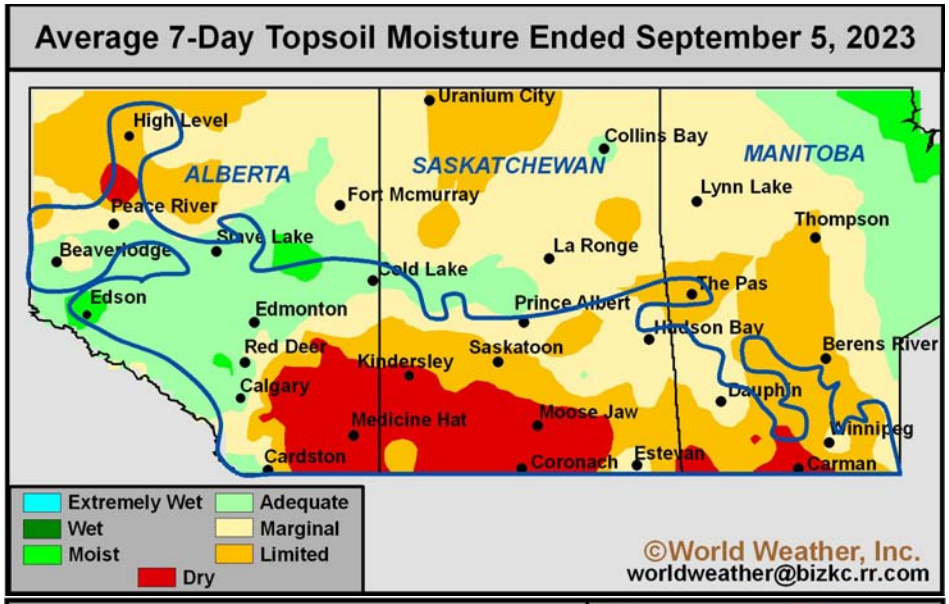
At the beginning of September soil moisture was rated quite poorly in the central and western United States and areas northward into the Canada Prairies. Most of the Plains, western Midwest, U.S. Delta and far western States had little to no soil moisture at the beginning of September. The lack of moisture in the U.S. will prevent any big increases in rainfall from occurring in the Prairies during the Balance of September.

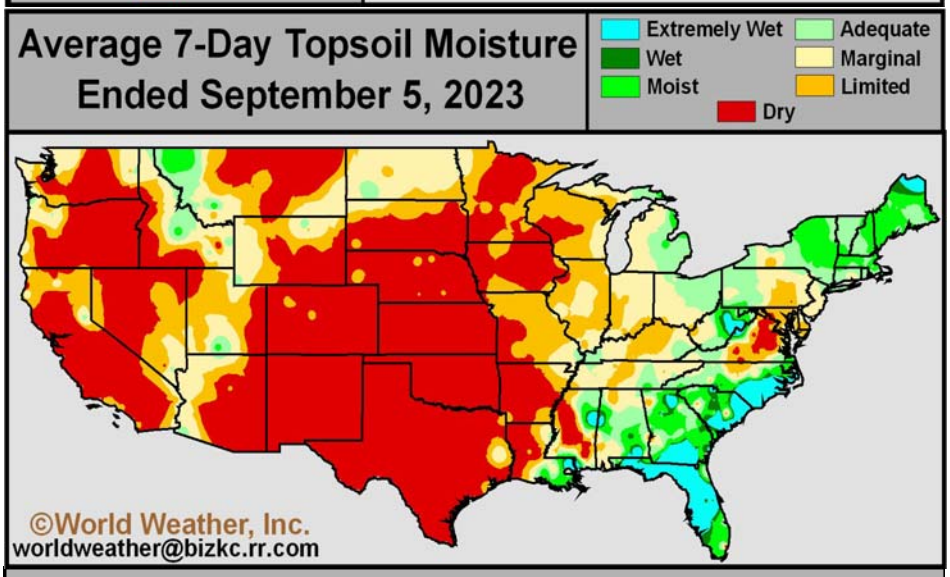
The outlook does seem to be one of status quo and that should translate into rapid crop maturation and harvest conditions from eastern Alberta, Saskatchewan and southern Manitoba to Texas and a part of the U.S. Midwest and lower Mississippi River Basin.

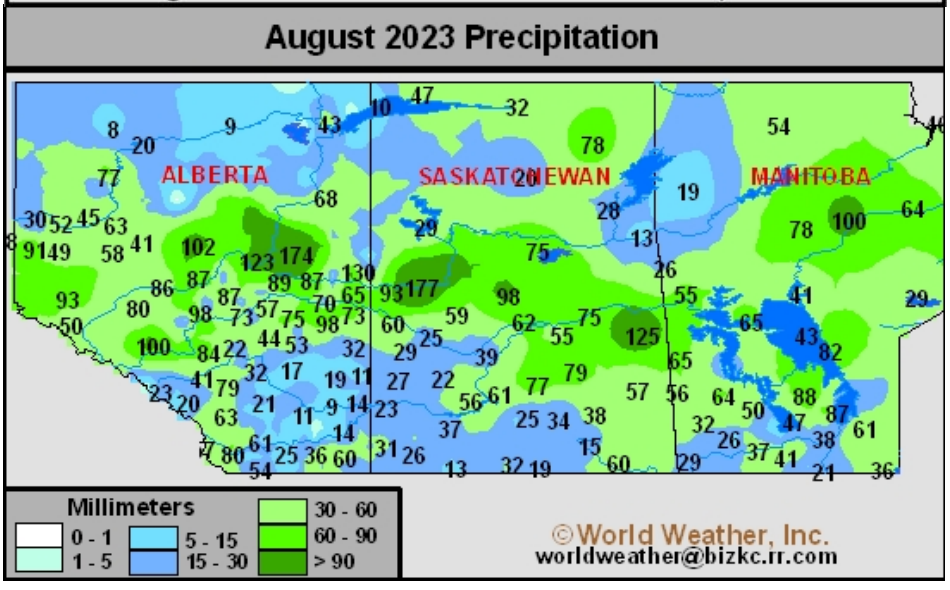
Soybeans are a light sensitive crop and will mature and drop leaves at about the same time in each growing season regardless of weather conditions. Most of the soybean crop has already begun to drop leaves from Canada through the north-central U.S. and this will continue through next week. That suggests the potential for improved yield by timely rain is mostly over especially since rainfall through the coming weekend will be minimal in both countries.

Corn is already maturing and being harvested in the United States and will be finishing out soon in the eastern Canada Prairies and neighboring areas in the north-central U.S. Other crops are already maturing and being harvested and the weather expected in the next ten days will not offer a significant change to yield potentials in any location.

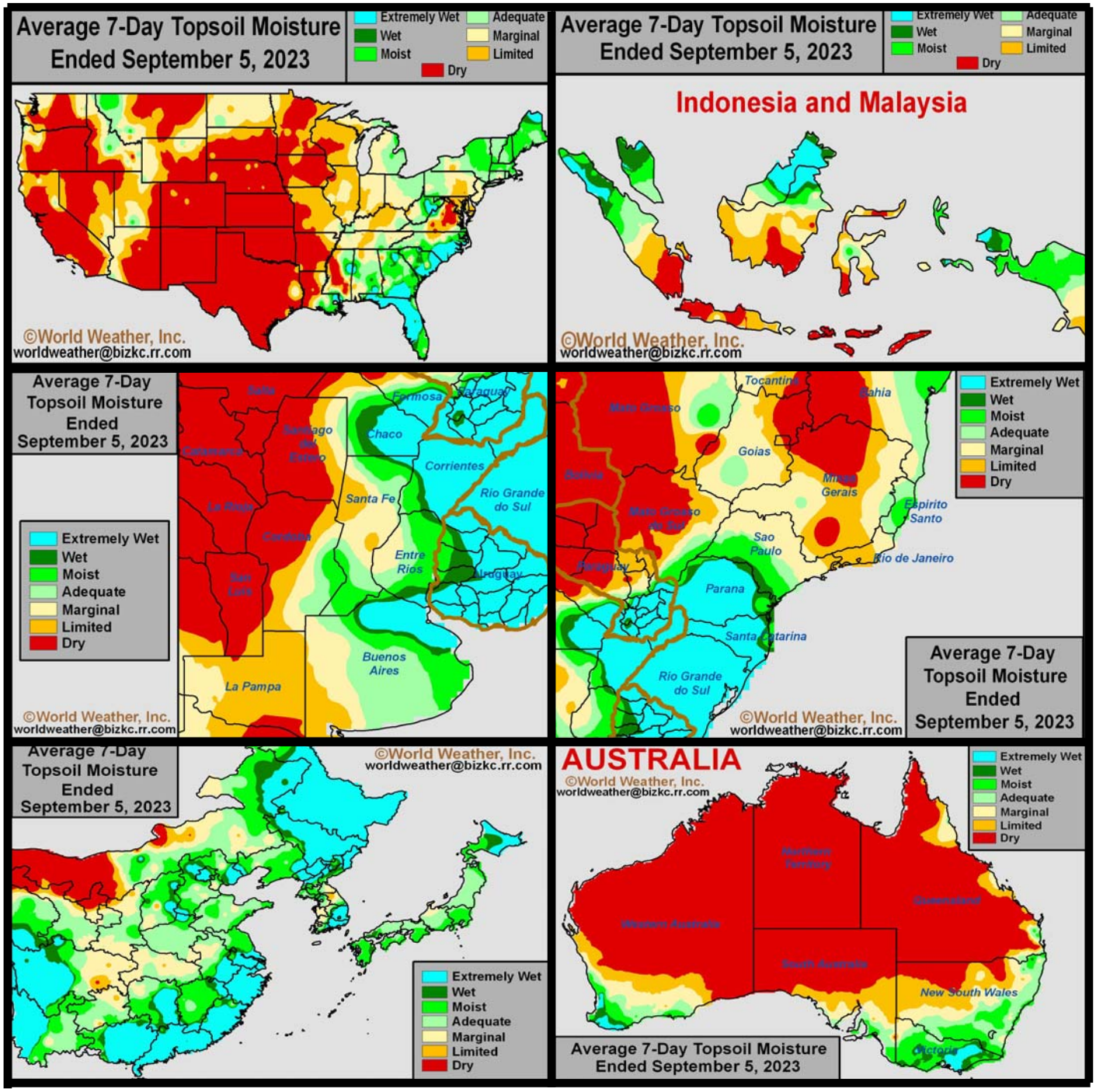
The second half of September may trend wetter and cooler in portions of both Canada's Prairies and the northern U.S. which may induce some periodic delays in harvesting, but the moisture will be needed for support of winter wheat planting in the U.S. Plains and Canada for support of 2024 spring planting season. Most of the rain will not be very disruptive.







Selected Weather Images From Around The World



Another week of hot, dry weather in the central U.S. depleted soil moisture across most of the Great Plains and the central and western Corn and Soybean Belt as well as parts of the Delta. The dryness has likely cut into yields for soybeans in particular, but possibly for some corn as well. Hard red winter wheat areas need rain for planting. Notice the drying that has occurred in recent weeks in Indonesia. This has impacted short rooted crops, but not oil palm, rubber or coconut production, but worry is rising over sugarcane and rice as well as many other crops. Worry is also rising over Queensland and northern New South Wales winter wheat and barley where reproduction is likely under way and there is no soil moisture to support it. Southern Australia crops are in better shape. Argentina is still too dry in the west while rain in the east has maintained a good outlook for wheat. Flooding rain occurred in southern Brazil this week with more than 12 inches falling this past weekend. China is beginning to dry down favorably.

September Rainfall May Still Be Erratic, Light

The balance of September will be drier and warmer biased in the Prairies. Weather patterns are unchanging in North America and the active tropical cyclone season in the Atlantic Ocean Basin is not going to help provide an opportunity for change.

The southwestern U.S. monsoon pattern should be ending soon and El Nino will continue increasing its dominance on North America. As a result of this there is not going to be very many opportunities for generalized precipitation events over the next three weeks.

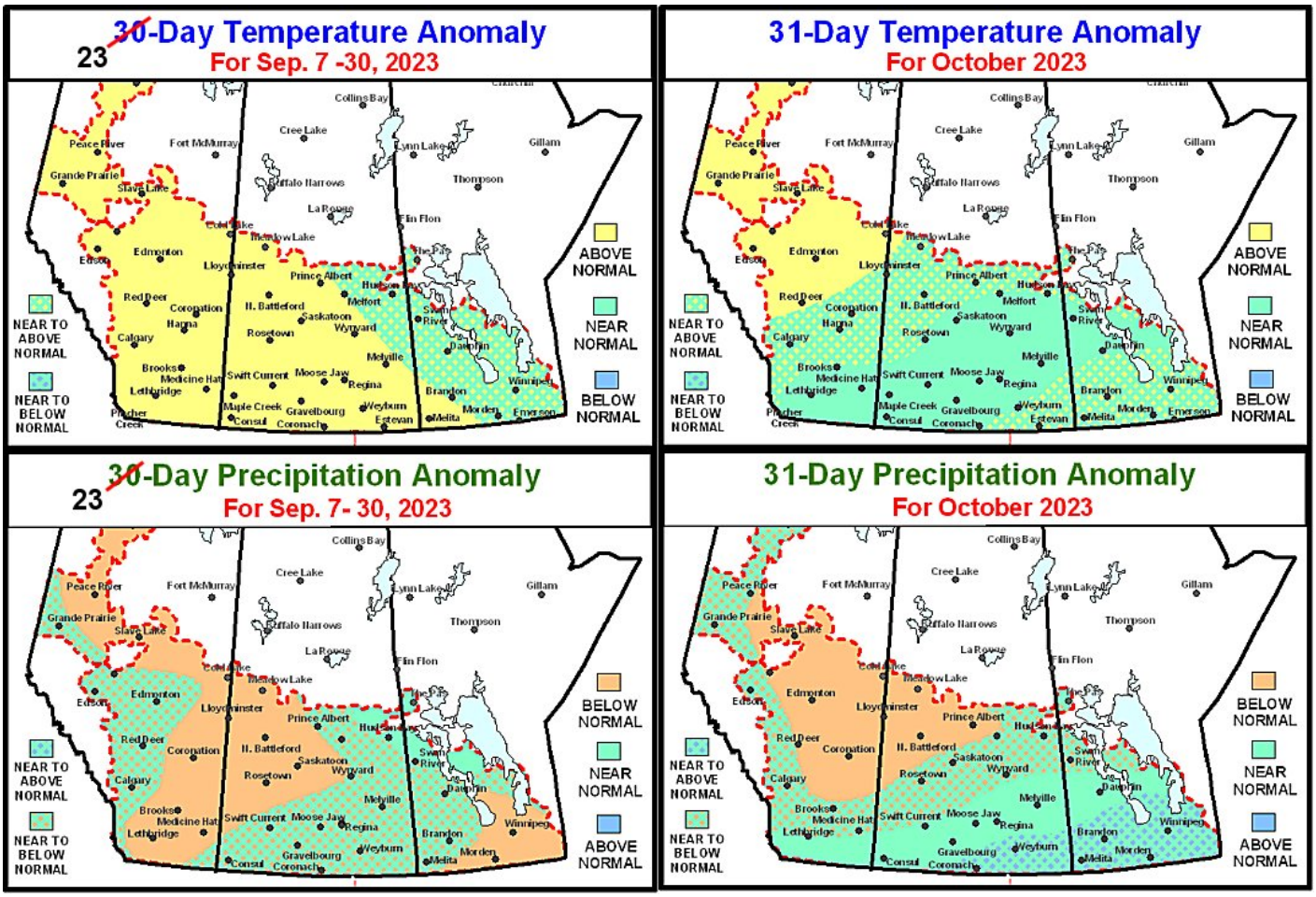
September should be a good month for crop maturation and harvest progress. Temperatures will be warmer than usual and any rain that falls will evaporate relatively soon after it falls.

There will be some periodic shower activity in the Prairies, but it will be similar to that which has already been occurring. Resulting rainfall will be much too light to seriously change soil moisture. For many producers, delaying the possible drought relief until after the harvest might be a blessing, but the only problem with that is there may not be enough time between the end of the harvest and the winter freeze up to get significant moisture into the soil leaving the Prairies at risk of another dry spring.

Recent data on the Pacific Decadal Oscillator (PDO) suggests the phenomenon remains strongly negative and if there is any potential good news for better October and November precipitation it may come from this event. Strongly negative PDO in the autumn of 2022 and 2021 resulted in significant precipitation from the U.S. Great Basin into the northern U.S. Plains and into a part of the eastern Prairies. That kind of surprise in the late autumn would be welcome for whoever receives the moisture; however, El Nino may get in the way because it will build a strong ridge of high pressure over western Canada during October and November which may prevent the wetter bias from developing and impacting the driest areas.

For now, the October outlook suggests near to above normal precipitation from southern and east-central Saskatchewan into central and southern Manitoba. Once again, though, confidence in this outlook is lower than usual. Drying in the western Prairies, however, should verify relatively well. Temperatures in October will be near to above normal.

November weather may continue to be influenced by El Nino limiting precipitation and maintaining a warm temperature bias.



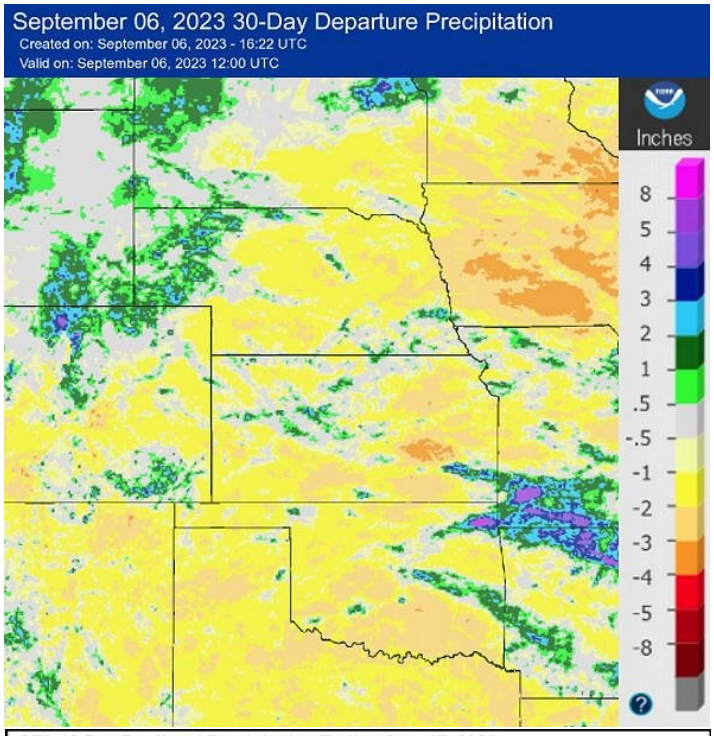
U.S. Hard Red Winter Wheat To Get Planting Moisture

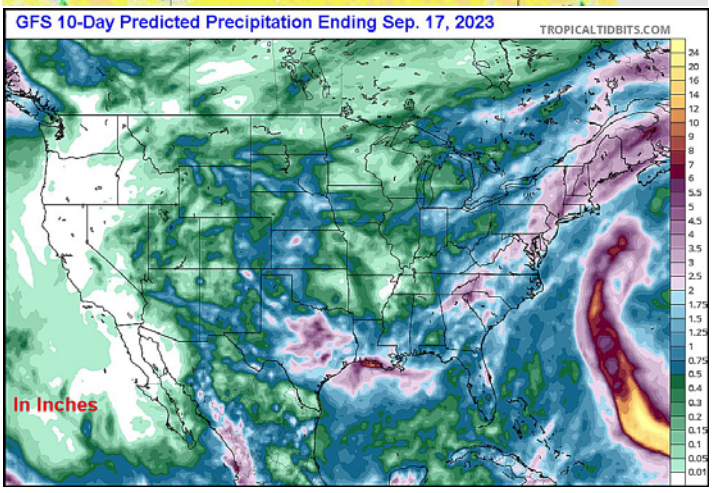
Drought conditions continue across the U.S. Hard Red Winter Wheat region with 30-day rainfall deficits varying from 0.50 to 3.00 inches. A rain event forecast to begin this weekend and last into mid-week next week is expected to bring 0.60 to nearly 2.00 inches of moisture from northern Nebraska and eastern Colorado to northern Texas. If this rain event verifies, the moisture profile is expected to improve greatly, although follow up precipitation that falls more routinely will be needed in the following weeks to ensure a well-established crop. Enough rain will fall from this event to improve planting, germination and emergence conditions.

In the past 30-days, much of the U.S. Hard Red Winter Wheat region has received less than normal rainfall, with moderate to exceptional drought still dominating the region. Soil moisture is rated very short to short in most of the region and recent temperatures in the upper 90s to nearly 110 degrees Fahrenheit have stressed livestock and late season summer crops.

Despite the fact that planting has already commenced, seed germination and plant emergence will not likely take place without some significant rain falling first. A full restoration of soil moisture is not needed, but the region must have sufficient rainfall to raise soil moisture sufficiently to support additional planting. Germination and early season plant growth will also be dependent upon the routine occurrence of rainfall once the crop is planted.

Initial planting of wheat in early September is normally used for grazing. The bulk of planting will occur in October with some of it beginning in late September. As long as soil moisture is in better shape by that time, the crop is likely get off to a favorable start.





A very important rain event is expected this weekend through the first half next week. Rain amounts between 0.60 and 1.90 inches is expected from northern Nebraska and eastern Colorado southward into northern Texas. There is potential for a few strong thunderstorms to evolve that might produce more than 2.00 inches of rain, but that should not be very common. Some of those stronger storms may also produce some hail and damaging wind which might threaten some of the livestock and summer crops in the region.

Cooler temperatures ranging from the upper 60s and 70s in the north and the 70s and lower 80s in the south are also expected to accompany this wave of precipitation. Morning low temperatures will slip into the 40s and 50s which is down considerably from the recent days of 60- and 70-degree readings away from the high Plains region.

If this forecast verifies, the moisture profile will improve greatly across the region. Scattered areas may see their moisture deficits eliminated completely, though further rain events will be needed to ensure the crop region as a whole sees their deficits relieved. Cooler than average temperatures expected to accompany this rain event will also aid in reducing how fast the moisture evaporates in the region. Overall, if this rain event verifies for the region, recently planted winter wheat will see better developing conditions. More precipitation will be needed in the following weeks to maintain adequate conditions for planted crops.

Some follow up precipitation is expected later next week and into the following weekend, but confidence in the additional rain is low and rainfall across the production region should be closely monitored.

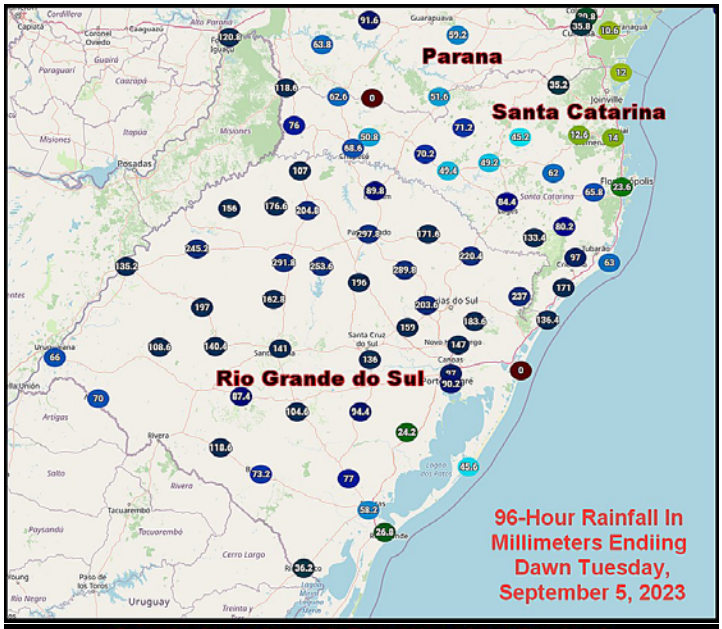
South America September Outlook: Classic El Nino

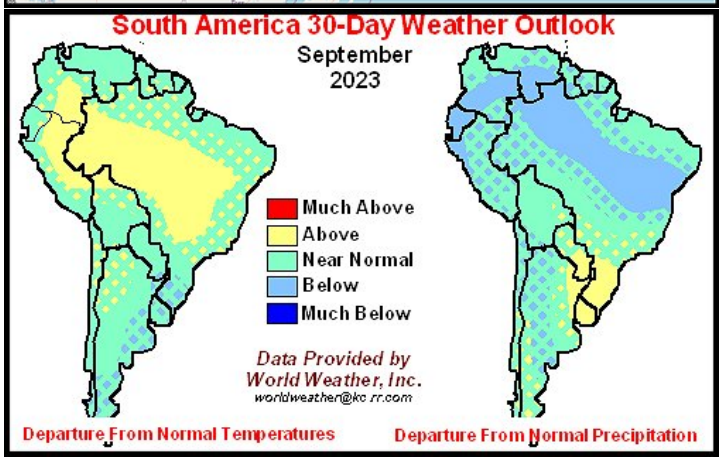
Weather patterns in South America recently have been looking just like those of recent past El Nino events. Typically, spring weather in an El Nino event results in above normal rainfall from eastern Argentina through Uruguay to southern Brazil and southern Paraguay. Quite often the precipitation becomes excessive especially in Rio Grande do Sul resulting in damage to winter wheat and delays to spring planting.

At the same time that flooding rain occurs in southern Brazil and neighboring areas there is a tendency for rainfall in western Argentina to be lighter than usual. Rain is also usually slow in developing in northeastern Brazil which could be a problem because in the last two significant El Nino events that drier bias ended up prevailing through the summer resulting in critically low water supply in Bahia, Minas Gerais and a few other areas. That is not an official prediction, but something that needs to be closely monitored.

This week's soil assessment for Brazil, Argentina, Uruguay and Paraguay suggests that the classic spring pattern for El Nino may already be in place. Rainfall last weekend ranged from 4.00 to more than 11.00 inches across Rio Grande do Sul and flooding was widespread. In the meantime, eastern Argentina received some welcome rain while the far west continued drier than usual. Northern Brazil also was dry, but that is normal for this time of year.

World Weather, Inc. believes that what is occurring in Brazil and Argentina today will likely dominate the weather scene through October and probably into November as well. That will translate into periodic flooding and damage to wheat in Rio Grande do Sul. The pattern will also perpetuate below normal rain in western Argentina where wheat production has already been cut because of poor establishment rainfall.





Abundantly wet conditions in southern Brazil will last through the end of September, and in some El Nino events this very same weather pattern can prevail through October and into early November. Seasonal rainfall should begin well in center west and center south Brazil this spring minimizing worry over soybean and corn planting conditions. Sugarcane and coffee should develop favorably as well.

The only areas that should be closely monitored are in western Argentina (and especially the northwest) as well as northeastern Brazil where rainfall may be lighter than usual for an extended period of time. The below-average rainfall in the Amazon River Basin should abate in October with a return to more normal rainfall.

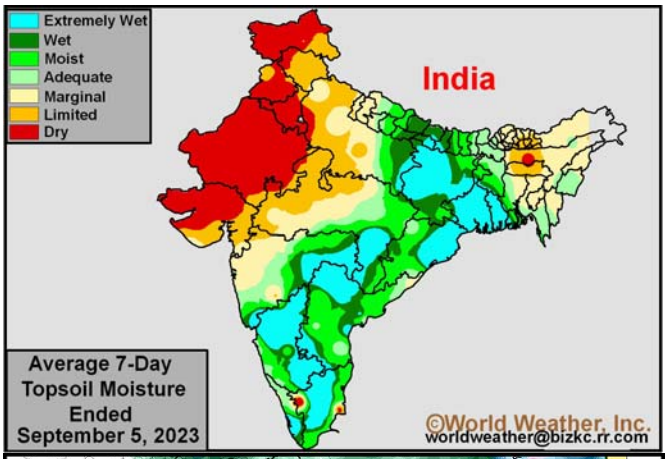
The precipitation anomalies expected this spring will help recharge soil moisture in eastern Argentina, Uruguay, Paraguay and southern Brazil after the past few years of restricted and lighter than usual precipitation. It is also important to note that there is already a notable moisture deficit in the interior part of northeastern Brazil and if the spring season continues producing less than usual rainfall in the region (as it may) there will be some greater concern about crops in central and western Bahia, northwestern Minas Gerais and a part of Tocantins.

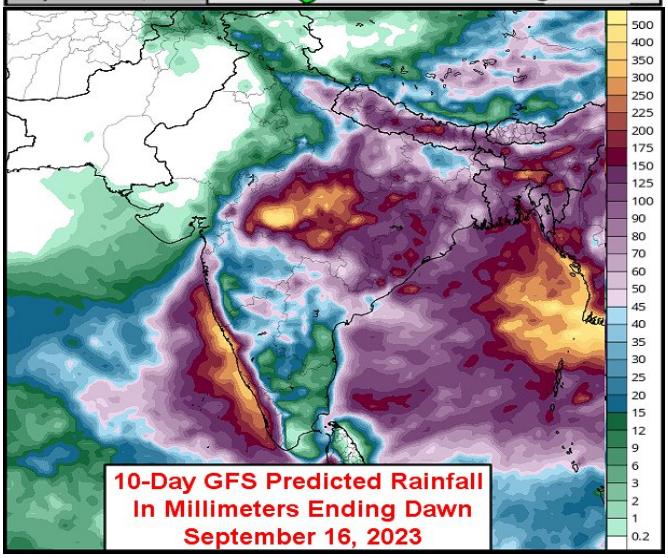
Northwestern India Will Continue Drying Down

Soil conditions have dried out significantly in Gujarat, Rajasthan, Punjab, Haryana and portions of northwestern Maharashtra, northern Madhya Pradesh and northwestern Uttar Pradesh. These areas normally do not experience withdrawing monsoonal moisture until the second and third weeks in September. The monsoon has not ended, but significant rainfall seems to have ceased in many of the northwestern crop areas.

Crop development rates have likely been slowed in the driest areas and some crop stress has evolved raising concern over production potentials. The drier bias has not only occurred in this most recent week, but during much of the past month. The need for rain is already high and rising in order to improve late-season development conditions. Production has been largely protected thus far by abundant rain that fell during the planting season and earlier in the growing season that supported good establishment and aggressive growth. July rainfall was abundant enough to dramatically improve soil moisture and water supply so that when August rainfall diminished crops still had good subsoil moisture to fall back upon. Production potentials are now being reduced in many areas because of the recent drying and due to the fact that subsoil moisture is beginning to be depleted.

A monsoonal disturbance will meander around eastern India during the coming week. The disturbance will help promote frequent rainfall in eastern and central India as well as into Maharashtra, northern sections of Karnataka, Andhra Pradesh, Uttarakhand, and northern Uttar Pradesh. Madhya Pradesh, Chhattisgarh, and the Eastern States will receive some of the most significant rain with totals ranging from 2.00 to 6.00 inches and local amounts of 9.00 inches or more by next Tuesday morning. Other locations will receive 0.75 to 4.00 inches of rain. Other areas in southern India will have a few opportunities for spotty rain during the coming week. These areas will receive 0.10 to 1.00 inch of rain with locally more in Kerala.





Gujarat and Rajasthan into the remaining portions of northern India will remain drier biased through most of next week. Most other locations in the north will either be dry or will not receive enough rain to significantly impact long-term soil conditions. Gujarat and Rajasthan will likely remain drier biased September 13 – 19 while the remaining production areas have opportunities for rain.

Dryness will intensify across Gujarat, Rajasthan, Punjab, and Haryana during the coming week. The environment will remain less than favorable to poor for late-season crop development as the ground continues to firm. The need for timely rain will increase later this month to avoid any significant production losses that may otherwise take place. Portions of southern India may again trend a little too dry for late-season growth by this time next week due to the lack of significant rain. Other production areas will have plenty of moisture to maintain aggressive development.

World Weather, Inc. does not believe rainfall in September will be very good for the north or western parts of the nation. Below and near to below normal rainfall is likely in most of the north and west. The driest areas will occur from Pakistan into Gujarat, Rajasthan and both Punjab and Haryana. Western and a few north-central crop areas will receive near to below average rainfall while most other areas receive near to above normal rainfall.

U.S. Midwest, Part of the Plains To Continue Dry

The outlook for September in the U.S. Midwest and Great Plains is not very good with below normal precipitation prevailing. This trend has already been in place since last spring with the majority of the growing season drier than usual.

August and early September drying and heat has led to some of the poorest soil moisture in the Plains and Midwest seen since the drought years of 2012 and 2013. Rain is needed, but unlikely to occur for a while.

Dry weather at this time of year can still negatively impact some late season crops like late double cropped soybeans, sorghum and peanuts, although most of the peanuts are grown in the southeastern states where it has not been droughty this year.

Continued dry biased weather in the Midwest and Great Plains through the end of September will expedite grain and oilseed maturation and allow early season harvesting to advance much faster than usual.

October weather "may" trend wetter in the northern Plains, and uppermost Midwest and the moisture could disrupt fieldwork and slow crop maturation. The driest bias in the U.S. is expected to shift from the upper Midwest to the eastern Midwest and Delta.

October will bring a few bouts of cooler than usual temperatures to the eastern part of the United States, but no big increase in rainfall is expected. That may translate into continued aggressive harvesting while also raising some concern over wheat planting and establishment moisture.

Shortly after October, weather in North America will become more classic El Nino like which will include a wetter bias in the southern United States December through February and warmer and drier biased weather from the northern States into western Canada. There is potential for cooler than usual temperatures in the eastern and southern United States this winter and the odds are great that Texas will get some much needed drought relief.