TO SUBSCRIBE CALL 913-383-1161 OR WRITE TO WORLDWEATHER@BIZKC.RR.COM

The Canadian Agriculture Weather Prognosticator

Volume X, Issue III | http://www.worldweather.cc | May 7, 2018

Ontario And Quebec

Improving Weather Is Expected In Ontario And Quebec During The Balance of May With Less Frequent Rain, But Temperatures May Be Cooler Biased For A While Slowing Drying And Crop Growth Rates.

WORLD WEATHER ISSUES

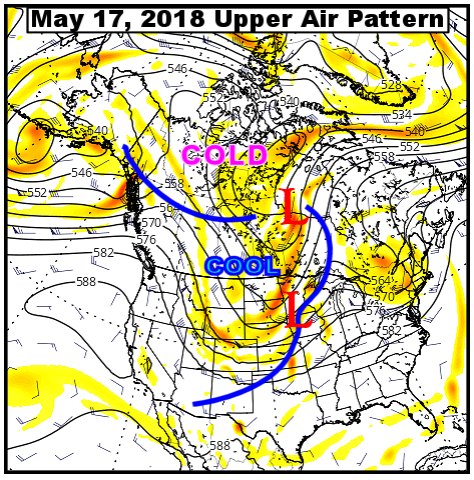
- Argentina Will Be Too Wet For Much Harvesting This Week, But Next Week Will Be Drier
- Brazil Second Season Corn Is Trending Too Dry, But It will Get Some Timely Rain Late This Week And Next Week
- Drying In Ukraine And Southern Russia Looks Like Last Year And A Close Monitoring Of The Situation Is Warranted
- Southern Australia Wheat, Barley, Canola And Pulse Areas Need Greater Rainfall For Planting
- India Monsoon Is Expected To Perform Favorably
- China Weather Will Be Very Good Over The Next Few Weeks
- U.S. Midwest Will Be Wet

Cooling In Eastern Prairies Soon

The 45-50 day chill cycle is beginning to show up in the computer forecast model data for late this week and again in the May 15-20 period.

The situation will still need to be closely monitored for some retrogression to the west. Manitoba is still in a little more of a precarious situation since its upper air wind flow will be northwesterly at times in late May and that will do two things. First, it will leave the potential for some of the eastern Canada coolness to drift westward bringing some light frost and freezes to the province and some immediate neighboring areas in eastern Saskatchewan. Second, the northwesterly flow pattern is expected to perpetuate a drier than usual pattern that has been prevailing for several weeks in eastern parts of the Prairies suggesting precipitation will remain quite limited through the end of May

Two cold air masses will move through Manitoba and northeastern and east-central Saskatchewan during the next ten days to two weeks as the 45-50 day chill pattern begins to evolve. The cold will bring frost and freezes to both provinces, but with most crops not planted as of last Friday and restricted fieldwork in some areas this week the odds are high that emergence and establishment of any early season crop should miss out on the threatening principles of the two coming cool air masses.



The first cool airmass is expected in Manitoba and northeastern and east-central Saskatchewan Thursday and Friday of this week. Frost and freezes are most likely in Manitoba and far northeastern Saskatchewan.

The second cool airmass is advertised to occur in the May 14-20 period. Now it is very important to note that the second cool airmass is probably not timed exactly right and its intensity may be overdone. There is also potential that the second cold surge is advertised too far to the west. With all of that said a close monitoring of weather in the next two weeks is still necessary. The mere fact that the forecast models have begun to pick up on this repeating pattern again is reason enough to stay leery and a little cautious in planting frost and freeze sensitive crops right away. The latest data suggests temperatures may not be colder than –3 or –4 Celsius and that may help reduce the risk of damage, especially since the coldest conditions will probably be in Manitoba.

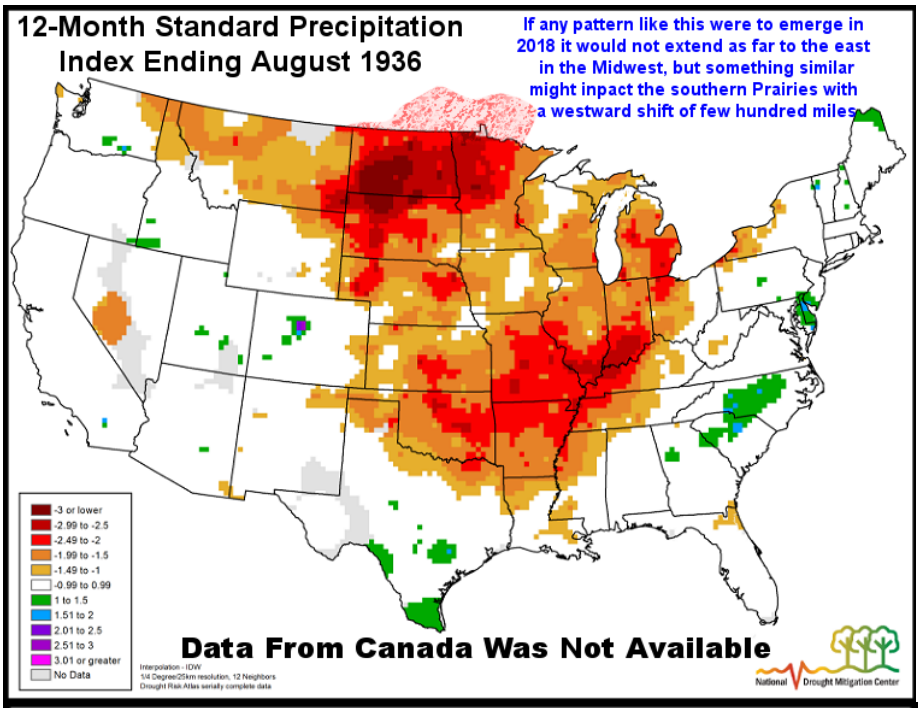
One more caution is that the chill cycle will continue into late May over eastern Canada which should reduce the risk to Manitoba and Saskatchewan after May 20, but World Weather, Inc. cannot guarantee that another shot of cold will not impact Manitoba before the end of the month.

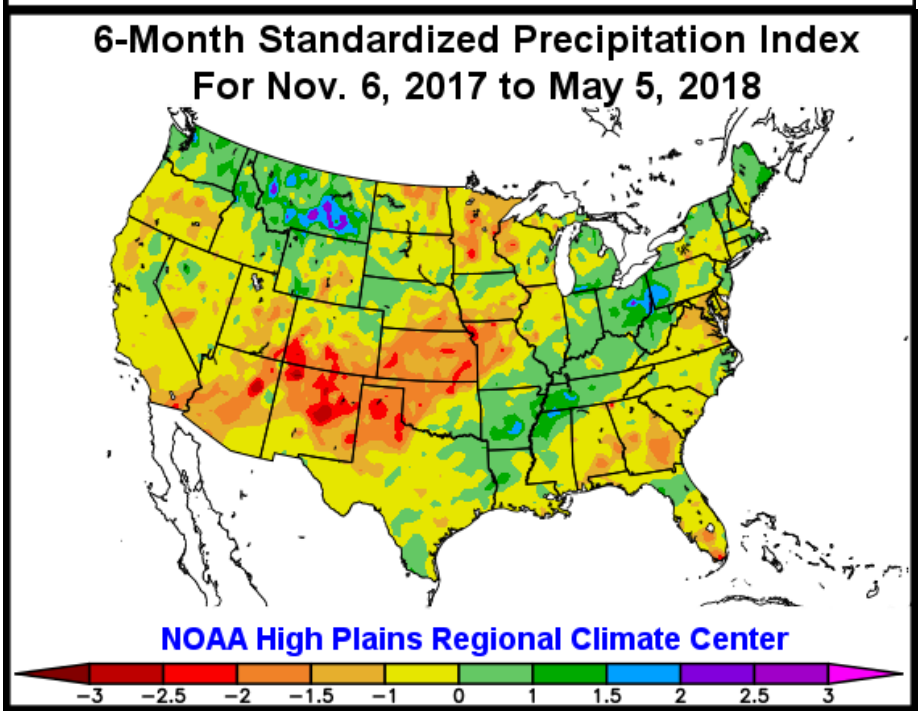
Gulf of Alaska Water, U.S. Weather Promotes Dryness

Limited changes in water temperatures in the Gulf of Alaska and off the U.S. Pacific Coast has been perpetuating the same weather pattern across the Prairies in the past two weeks that occurred earlier this spring and late winter. World Weather, Inc. reported on this in the April 24 prognosticator and further research has some scary results.

First, the lack of weather change over the past two weeks has been ideal for limiting precipitation events and warming soil. Many of the fields that received significant moisture last October and again in March have experienced very good pre-planting and early planting conditions. However, there are numerous areas in the southern and eastern parts of Saskatchewan and some in southern Manitoba that have dried out by some warmer than usual temperatures and planting moisture is quickly disappearing. This is not a good omen, especially when considering the Gulf of Alaska ocean water temperature anomalies and the May temperature biases in North America.

The Gulf of Alaska has not seen significant deviations in ocean surface temperature anomalies in the past two weeks. This is partially good news and mostly not so good news, especially when considering the ocean water off the southwestern United States has stayed anomalously warm while the Gulf of Alaska has been a little cool. The lack of change in these two ocean temperature anomalies have left the weather pattern over North America unchanged and it looks as though status quo is going to last a little longer into late May especially with the returning 45-50 day chill pattern expected over eastern Canada in the second half of this month.

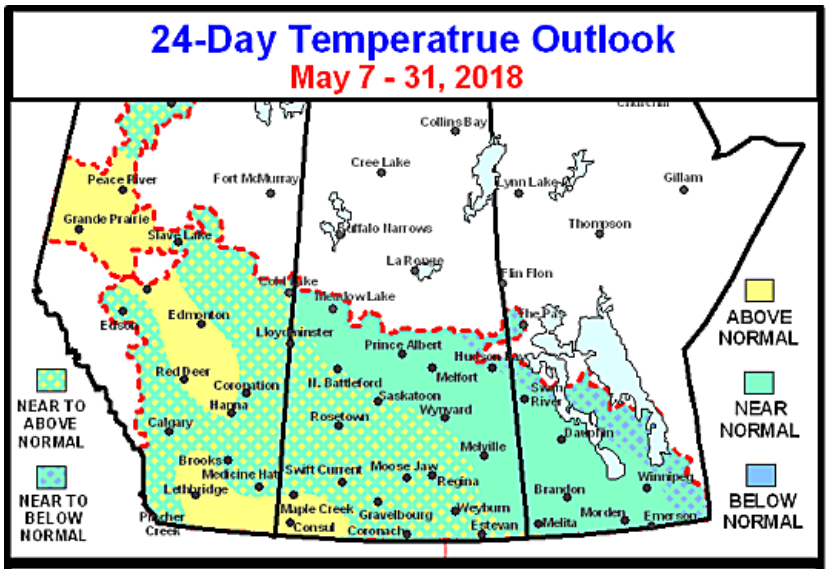


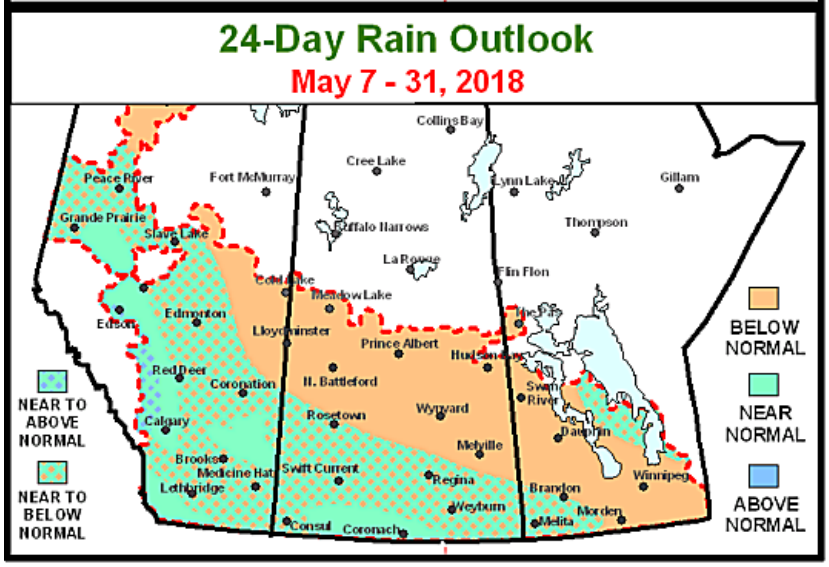


These three factors will see to it our weather changes little except for some warming in the western two thirds of the Prairies. Warmer temperatures and restricted precipitation can only lead us into further drying in parts of the Prairies. Rain will continue to fall along the front range in Alberta and in southwestern Saskatchewan most often which will be good for those areas in preparation for drier days later this growing season. However, the precipitation pattern will restrict moisture in many other areas and that means topsoil moisture in parts of south-central and eastern Saskatchewan and Manitoba is going to continue in decline. That suggests time is quickly going to run out for getting canola planted and successfully emerged in the lingering snow melt **(continued on page 7)**

Timing Of North America Weather Changes Not Good

World Weather, Inc. had expected a few weeks for transitional weather to settle in during May and June that would provide some needed moisture to the Prairies. We felt that May was going to send us just enough rain to maintain favorable topsoil moisture for planting this year. However, the perpetuation of Gulf of Alaska cool water and the persistence of warm water off the southwestern U.S. coast will perpetuate the early spring weather pattern into late May. This will become most seriously influenced by the 45-50 day chill cycle that is expected to return in eastern Canada during the second half of this month.





The returning chill cycle will keep a weak ridge of high pressure over western North America limiting rainfall in the Prairies through the end of May with the exception of the front range area of Alberta and some southwestern Saskatchewan locations where timely rain is expected for a while longer. However, the northwesterly flow pattern aloft over eastern Canada will limit rainfall in Manitoba and the northeast half of Saskatchewan through the end of May.

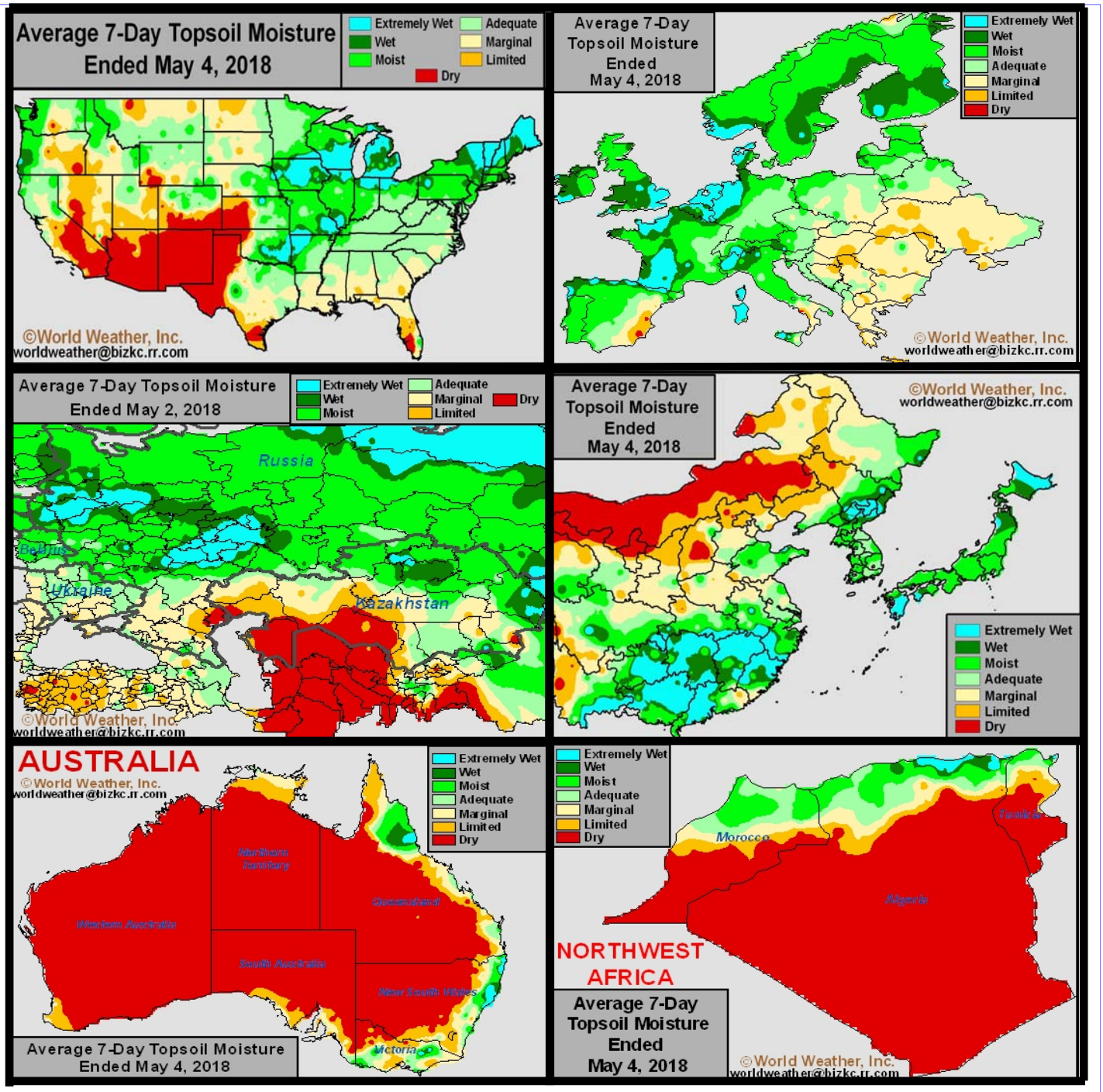
The North American jet stream has been split into two primary branches during much of this spring and that has occurred because of the anomalous ocean surface temperatures in the Gulf of Alaska and off the southwestern U.S. coast. The split has resulted in the high pressure region over the western Prairies and the active jet stream pattern in the United States perpetuating rain from the central and interior northern Plains into the Midwest. This situation has left the Prairies with a very poor environment for generating rain of significance, especially in the eastern Prairies.

Normally in mid– to late May the jet stream begins to shift northward and it usually brings timely rainfall to the Prairies. However, this year's ocean temperature anomalies and the periodic chill cycle will delay the northward shift in the jet stream and that will delay the onset of seasonal rainfall and perpetuate dryness in the central and eastern Prairies making it more difficult to get subsoil moisture deficits back to normal. In the meantime, topsoil conditions will often be drier than usual.

In the meantime, dryness is not abating from the U.S. southern Plains or the southwestern states and time is running out for relief in those areas. The longer dryness remains in these U.S. locations and in parts of Canada's Prairies the higher the potential will become that the two areas will expand toward one another during the warmer days of summer, especially given all of the expected weather patterns that will be in play from June through August.

It was the hope and expectation of World Weather, Inc. that the wetter biased pattern playing out in May across the interior northern U.S. Plains would be lifted north into Canada's eastern Prairies during the latter part of May and June as a ridge of high pressure built up across the U.S. Plains. However, the prolonged split jet stream in the North America will not allow the northward shift in the U.S. weather pattern to occur until sometime in early June. In the meantime, a dome of heat is expected to form over the U.S. drought-stricken areas in the second half of May and early June and that will help to create a ridge of high pressure in the Middle of North America favoring the U.S. high Plains **(continued on Page 8)**

Selected Weather Images From Around The World



A notable decline in topsoil moisture occurred in past couple of weeks in eastern Europe and in Ukraine and Russia's Southern Region, as well as Kazakhstan. These areas will have the chance for some rain during the next ten days resulting in "partial" relief, but greater rainfall will be needed. North Africa soil moisture is more abundant than usual and some additional rain is possible over the next ten days. Rain at this time of year in North Africa slows grain maturation and harvest progress and there may be "some" concern over grain quality in the wettest areas. Australia is still waiting on significant rain in Canola, wheat, barley and pulse production areas. Some rain is advertised for southeastern parts of Australia late this week that might improve planting moisture, but Western Australia will remain dry. China's soil is a little too dry in the north and some relief is expected during the weekend and early part of next week. U.S. Midwest weather dried down enough last week to support better planting conditions, but the region is moving back into a frequent rainfall pattern with milder weather in a week that will slow farming activity once again.

Argentina Too Wet, Brazil Too Dry

South America weather has been one of extremes between Brazil and Argentina during much of 2018. The first quarter of the year was marked by abundant rain in Brazil and severe drought in Argentina. The trend resulted in tremendous production of soybean and early corn across Brazil while cuts in production in Argentina reached up to 30% or more.

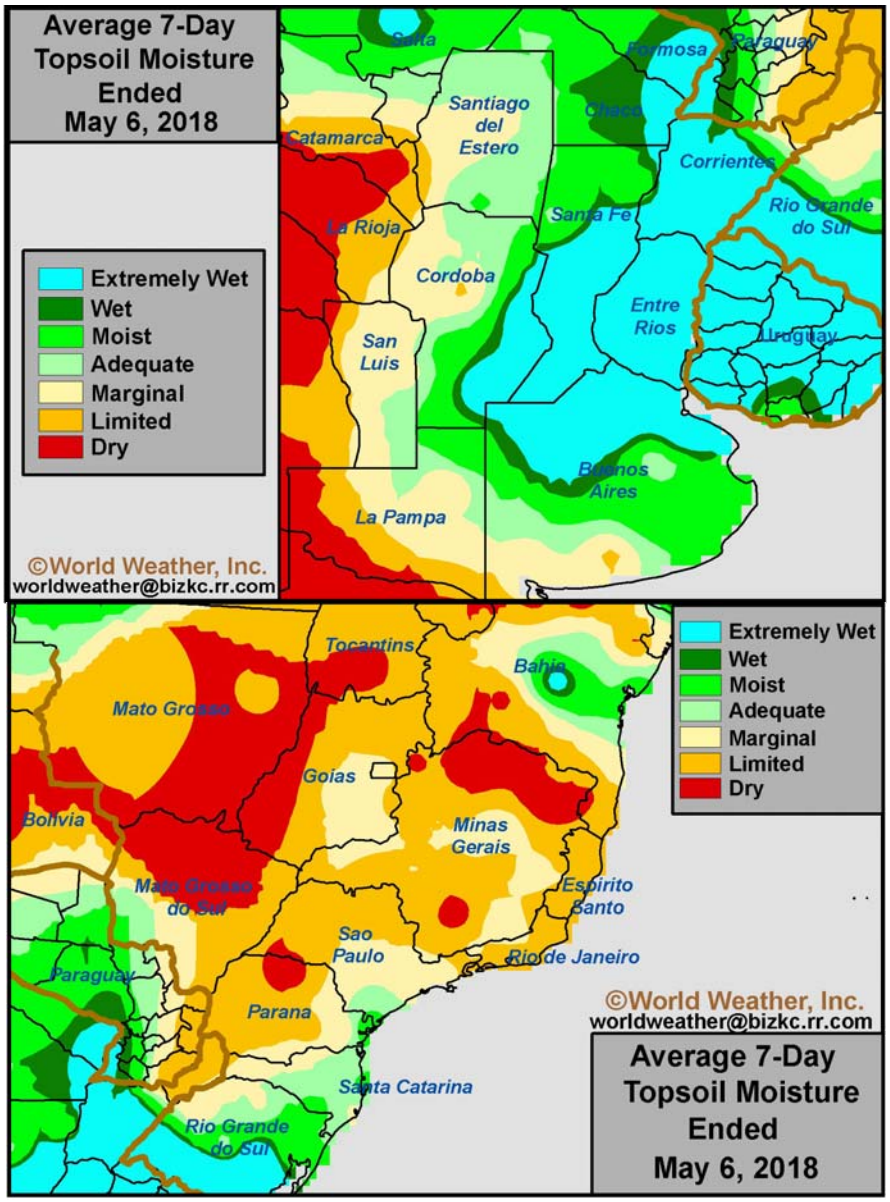
Weather conditions in April and early May have flipped around so that Brazil is now drying out and Argentina is becoming very wet.

The environment has brought on some significant field working delay in Argentina's central and eastern crop areas where the ground is saturated. Some flooding has occurred recently.

Harvesting of summer crops was well ahead of last year's pace during much of April because of the drought finishing off crops faster than usual. Rain that fell in April was not heavy or frequent enough to seriously bolster soil moisture for notable delays in farming activity, but that has been changing recently.

Rain has been falling much more frequently and more significantly in central Argentina, Uruguay and far southern Brazil in recent weeks. That has resulted in a notable increase in soil moisture and runoff that has incurred recently due to multiple inches of rainfall over saturated soil and that has led to flooding.

A nearly stationary frontal boundary is partially responsible for the moisture abundance in Argentina recently. The nearly stationary frontal boundary has occasionally reached into southern Brazil, but it has not reached any farther north than Santa Catarina leaving most of the important Safrinha corn production areas in a rapidly drying environment.



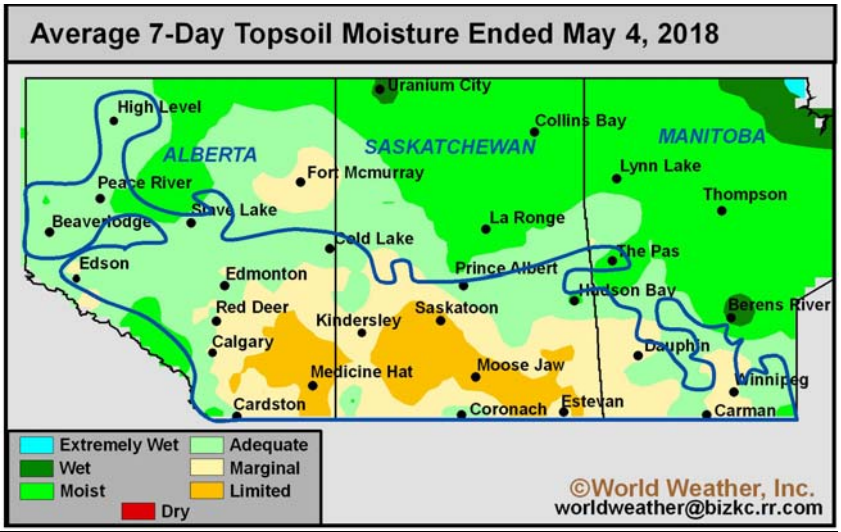
Temperatures have been near to above average in southern and center west Brazil during late April and early May and that has kept evaporation rates running high while rainfall was minimal. Soil moisture has been steadily declining and it is now dry enough that crop development is totally dependent on subsoil moisture.

There is potential for rain in Safrinha crop areas from Mato Grosso do Sul to Parana and Paraguay Friday into Saturday of this week. Resulting rainfall of 5 to 13 millimeters is expected which may be good for short term boost in topsoil moisture, but follow up rain will be needed to assure the best improvement for crops in the region.

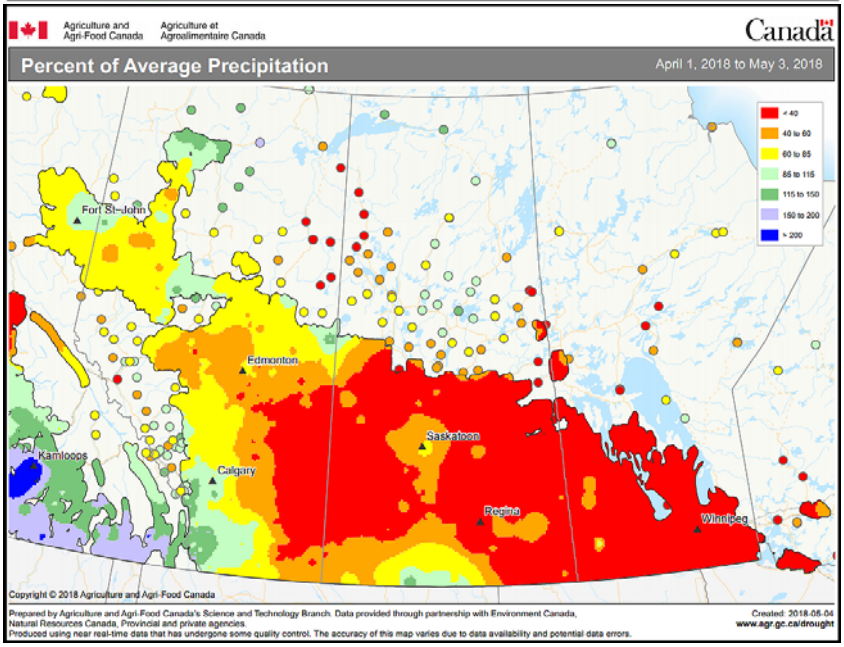
The next best opportunity for rain in Safrinha corn production areas in Brazil will be May 15-19 which might occur just in time to save production potentials. In the meantime, Argentina's rainy pattern is expected to break down during the coming weekend and last for a while next week.

Prairies Soil Moisture Declines; Drought Not Over

Precipitation during the April through May 3 period has been well below average and temperatures have been near to above average in that past week to ten days in some areas. The environment has done very little to improve soil moisture and much more to diminish it. The old drought of 2017 has been raising its head once again after it looked like some relief had occurred. Late season snow and rain events were improving topsoil moisture in many areas during late March and early April, but that changed in late April and early May as warmer temperatures arrived and precipitation diminished once again.



Actually precipitation since the first of April has been low in most of the Prairies. Normal precipitation has been limited to a few areas in northern and southwestern Alberta and in south-central Saskatchewan, but "normal" is not nearly enough to restore moisture deficits that remain significant down deep in the ground in some areas.



The improved topsoil moisture that occurred in the past few weeks was a byproduct of melting snow and a few March storm systems that brought some moisture to parts of Saskatchewan and Alberta. The impression left behind by the melting snow and deep frost in the ground was that conditions were not as bad as they were last autumn. To a certain degree that was true. Saskatchewan storm systems in October and March did a good job in offering some relief, but only portions of the region received significant relief to dryness. Frost in the ground limited the advancement of recent snow melt into the subsoil and that left moisture deficits in the subsoil from 2017.

Production in 2017 was better than expected because of abundant moisture in the soil left over from the very wet 2016 production year. That was quite a benefit for most of the Prairies, but this year will be much different. The same drought seems to be entrenched across the Prairies as last year and instead moisture abundances are in the soil in many areas outside of western and northern Alberta and northeastern Saskatchewan into parts of Manitoba are not doing well on top or subsoil moisture. The forecast is not tilted in a favorable manner across the drier biased areas and even though some rain will fall in the next few weeks it will disfavor Manitoba and the northeast half of Saskatchewan leading to growing dryness. In the meantime, dryness that is present in southern Alberta and Saskatchewan will be "partially" relieved at times due to several mid-latitude storm systems that will pass through the Prairies offering a little moisture from time to time.

Temperatures will then become the most important part of the forecast since the warmer conditions become the faster the ground will dry out. Most of the forecast models are suggesting a seasonably warm temperature regime this week and more notably warmer than usual period in the west for next week. The most consistent below average temperature regime for the balance of May will be in Ontario and Quebec where that 45– to 50-day repeating chill cycle is most likely to show itself once again.

Conditions in the far northern U.S. Plains will be similar to those in the Prairies, although areas away from the border will trend wetter.

Cool Water, U.S. Weather Promote Dryness (from page 2)

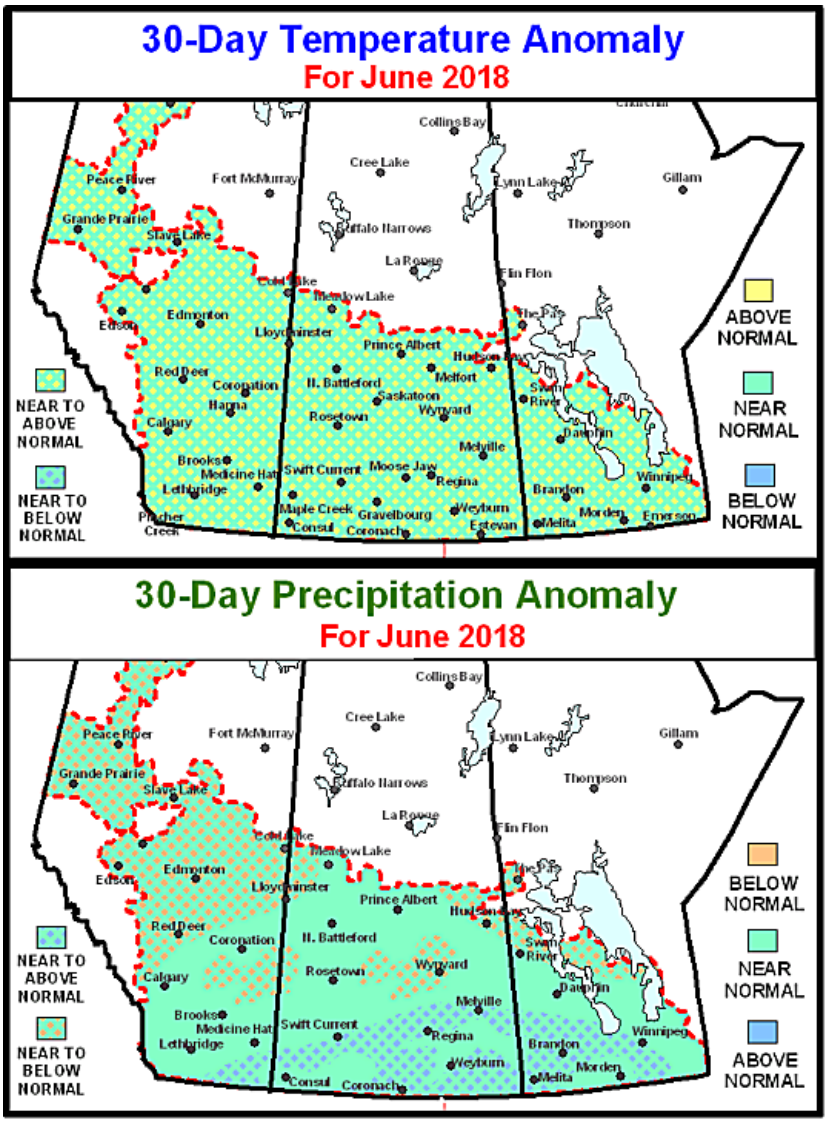
moisture and some increased urgency is necessary in getting these crops planted so that root systems can go down with the retreating soil moisture.

The most unfortunate part of this scenario is that subsoil moisture in many southern and east-central Saskatchewan and a few neighboring areas is so low that once that topsoil moisture is exhausted it will be very difficult for crops to reach down and find much subsoil moisture and that implies early season crop moisture stress.

Canada's central and eastern dryness pattern is certainly not over and anyone who does not believe that is not looking at the right set of data. World Weather, Inc. has tried to be optimistic this season, but we have never been convinced that subsoil moisture would be replenished in this growing season and we still do not believe that will be the case. Crops will struggle with dryness throughout the growing season in many areas that still have low subsoil moisture today and the timing of weather pattern changes this spring into summer is no longer favorable for a good window of opportunity for a period of lasting relief.

Too much moisture in western Alberta, including the Peace River Region and along the front range of the mountains will prevail for a while longer, but some drying is expected over time as we move deeper into the summer weather pattern and that will be good for production in those areas. In the meantime, U.S. anomalous weather recently provides a rather scary picture.

World Weather, Inc. went back and carefully assessed the cool temperature anomaly in the U.S. and south-central parts of the Prairies for the January through April period. What was discovered was a little disturbing because temperatures were substantially below average in the south-central Prairies into Montana and North Dakota. The anomalies were the greatest since 1899 and 1936. The summer of 1899 was a little cooler than usual in the western part of North America and near to above average in the eastern parts of the continent and precipitation was close to normal in the Prairies and drier biased in Ontario and Quebec. 1936, however, was drier than usual from the Prairies into the U.S. Plains and across parts of the Midwest.



The reason why this is scary is because of our influential weather patterns this summer from the 18-year cycle, the solar cycle and from our recent study of first quarter abating La Nina events all reinforce the 1936 weather pattern. Adding this information to our already low subsoil moisture in parts of the southern and east-central Saskatchewan and declining moisture tendencies in Manitoba raises some great worry.

That worry is further exacerbated when taking into account the expanding drought in the U.S. Plains and southwestern states at the same time dryness is prevailing in parts of the Prairies.

But with all of that said, there is potential for a little improvement in rainfall briefly during June before the summer drier weather bias kicks in that might offer a short term boost in topsoil moisture for parts of the southeastern Prairies. Confidence in this trend is low because of the limited window of opportunity that will exist for the rainfall improvement. A quick transition back to the drier bias is expected later in June and

Timing Of Weather Pattern Changes Not Good (From page3)

and Canada's central Prairies in June. If that pattern evolves as described Manitoba and southeastern Saskatchewan will pick up on a couple of extremely important rain events briefly during the transition into this new pattern. The most likely timing of this change will be after the 45-50 day repeating chill pattern abates from the Prairies which may be in early June. The developing ridge in the heart of North America will restrict the number of rain events and their significance enough to leave moisture deficits even though there will be some brief relief.

The ridge pattern in central North America will not be allowed to drift very far to the east in late June, July and August because of the influence of the solar cycle which will force cooler air into the eastern parts of the United States creating a northwesterly flow pattern in those areas and reinforcing the ridge of high pressure in the U.S. High Plains and central Canada's Prairies.

This scenario will result in warmer than usual and drier than usual conditions in parts of the Prairies. How dry it gets will be determined by the amplitude of the ridge in central North America. The wetter bias expected in the balance of May in the interior northern Plains should interfere with the ridge building for a while, but the ridge will become much better defined as cool air abates from eastern parts of the Canada Prairies and as that dome of heat builds northward from the U.S. southern Rocky Mountain region, southwestern desert region and southwestern Plains.

In the meantime, the wetter areas of the far western Prairies will experience additional wet weather for a while this month and then some drying in June followed by additional showers and thunderstorms later in the summer. The intensity of the high pressure ridge in central North America and its breadth will have much to say about who gets rain and where.

In this latest scenario the driest weather will first be in the eastern Prairies and then it will expand to the west into much of Saskatchewan and possibly in some eastern Alberta locations. Rain potentials will improve the farther west one travels during the summer.

2018 India Monsoon To Perform Favorably

Monsoonal weather is expected to perform favorably in India this summer. Near to above average precipitation is expected in much of the central and southwest while near normal amounts of moisture occur in many other areas. Rainfall along the upper east coast and in a part of the far north will be a little lighter than usual, but nothing that deviates far from normal.

May rainfall is expected to become wetter than usual in the far south as monsoonal and pre-monsoonal showers and thunderstorms begin a little early. Kerala, Karnataka and portions of the upper east coast from West Bengal through Bangladesh to the far Eastern States of India will be w little wetter biased during the balance of this month.

Winter crop harvesting will advance around the May precipitation and very little, if any, crop quality issues are expected.

The environment is expected to be mostly favorable for India's summer grain, oilseed and cotton crops. The only negative feature might be in the harvest of some winter crops because of rain that is expected to evolve over the next few weeks.

In the meantime, Pakistan will need a significantly great monsoon rain pattern this year because of lighter than usual winter precipitation. Some of the water reservoir levels and river flow data for 2018 may slip a little below average and that might be a concern for a few areas.