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The Canadian Agriculture Weather Prognosticator

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World Weather

- China's drought stricken region has shrunk, but remains a concern in the Yellow River Basin
- Northern Europe has been consistently drier biased in recent weeks and the region needs rain
- Black Sea region crops are getting another round of mild and moist weather that could lead to higher yielding winter crops and better summer crop development when warming arrives
- Safrinha crops in Brazil are in better than expected conditions for being planted so late
- Argentina's wheat planting may be the best in years due to favorable soil moisture
- U.S. Northern Plains expecting drought relief this week
- Southern Australia still dry for wheat, barley and canola

Pattern Reversal To Drop Temperatures

Last winter World Weather, Inc. identified two repeating patterns that were dominating the Prairies. These two patterns started in late October and early November and have been oscillating back and forth for months. Both patterns offer brief periods of rain, but there are usually more dry days than wet ones and most of the precipitation usually occurs in the transitional period between the two patterns.

In case you had not noticed, the temperatures in the Prairies turned much cooler this week. Temperatures in Alberta slipped to the single digits and teens after being in the 20s and 30s not too many days earlier.

Some cooling has already reached the eastern Prairies with the hottest weather from earlier this week now a thing of the past. The change from unusually hot to cooler than usual conditions is helping to induce this week's big rain event in southwestern Manitoba and eastern Saskatchewan. The temperature change also played a big role in the rain that fell from central through southwestern Alberta earlier this week .

We are now transitioning into the "cool" pattern. In this pattern most of the Prairies will be cooler biased initially, but in time (next week) temperatures will return to normal and possibly a little warmer than usual in Alberta and British Columbia while shots of cool air impact northern and eastern Saskatchewan and Manitoba.

Frost and a few freezes are expected to occur periodically over the next ten days in the eastern Prairies. Spring planting has advanced quickly this year with some crops already emerging. Frost and freezes may threaten some of the early emerging crops.

Peas and lentils are not likely to be seriously impacted by the cooler weather and only a small portion of the very little of the canola crop has been planted and even less is emerged. Canola is the main crop that could be threatened by the cold. Corn and soybeans are at risk, too, but very few of those crops have been planted.

Temperatures are not going to be cool and stay cool. Instead over the next week to ten days they will bounce around from normal to below normal and back again. There is some risk of crop damage in northern and eastern Saskatchewan and Manitoba.

Some frost and light freezes have already occurred in parts of Alberta and that may linger for a while before the region trends more notably warmer.

Temperatures this weekend will slip near and below freezing in the eastern Prairies, but no strong surface high pressure center is expected and that should keep most temperatures above the damage threshold.

Two weak weather disturbances coming to the southern Prairies next week will induce some short term warming during the late weekend and early part of next week before another wave of cooling comes late next week and into the following weekend.

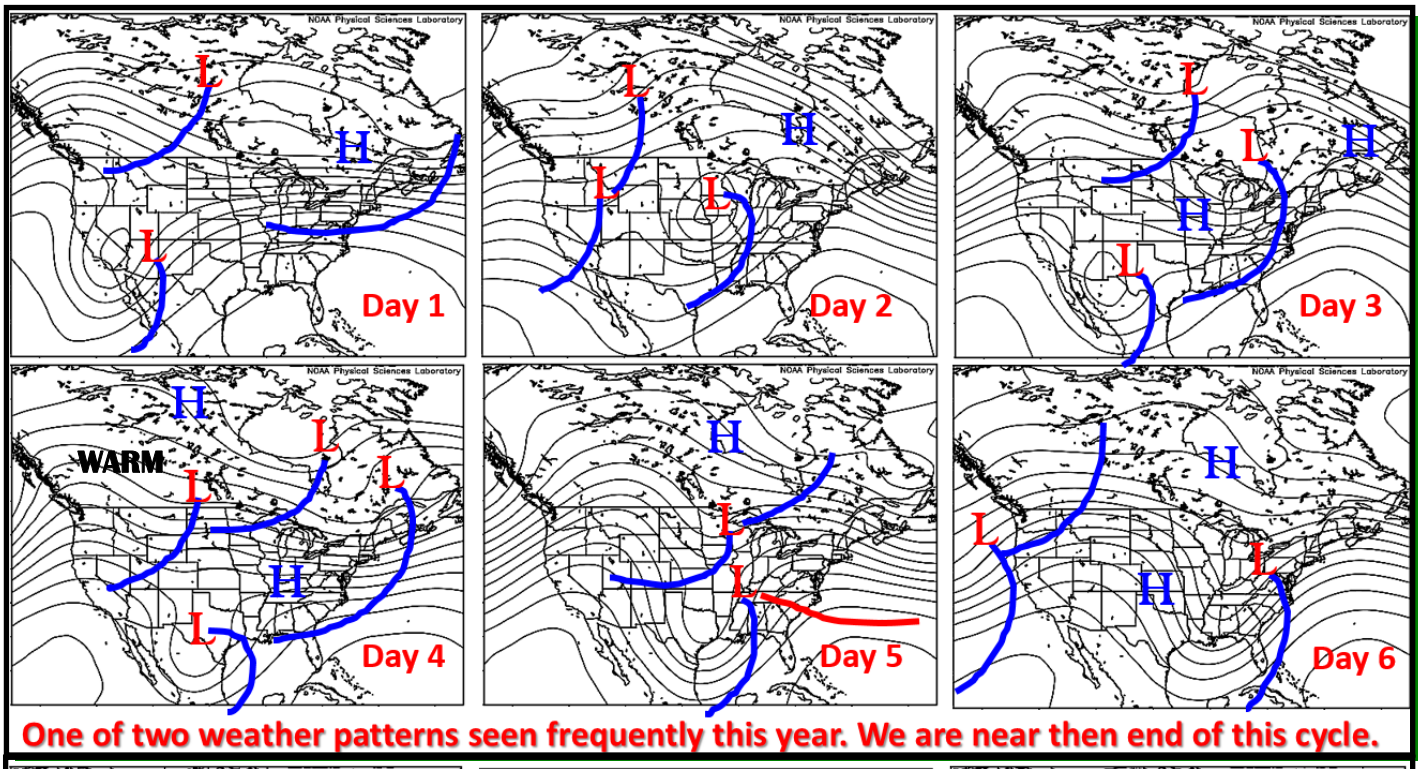
There is low potential for a more potent cold airmass to settle into the far eastern Prairies late next week or in the following weekend, although it would not be surprising to see the risk of frost and light freezes return briefly.

Pattern Reversal To Drop Temperatures (from page 1)

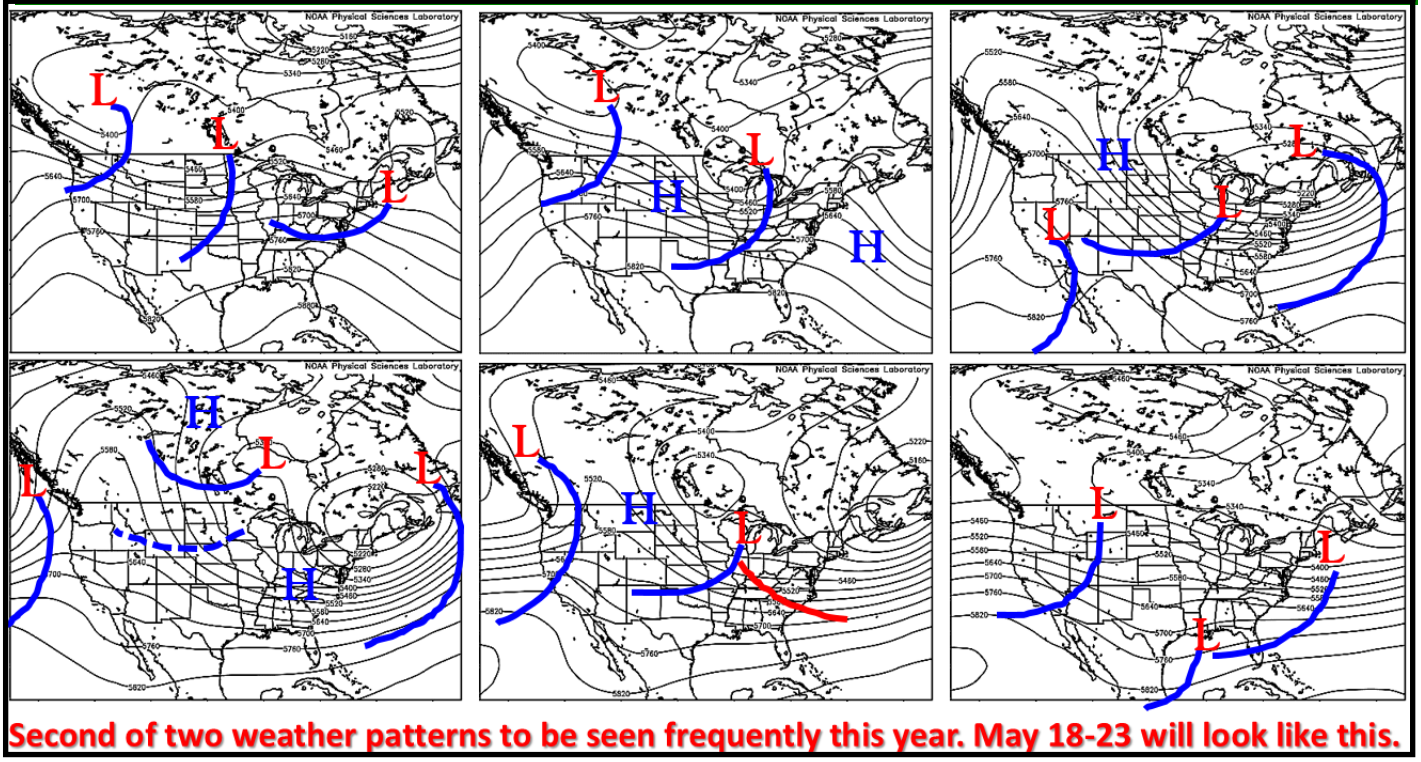
That may be the last of the cold threat period, though confidence is low.

There is potential for the warmer pattern to return in early June. If that verifies there will be potential for rain once again and the risk of frost and freezes should abate. The June rain event could finally bring some relief to dryness in western Saskatchewan. and eastern Alberta

By the way, as warming returns to the Prairies during early June there will be potential for crop threatening cold to impact Ontario and Quebec and that should be closely monitored. There is potential for hard freezes in that region during the first half of June.



One of two weather patterns seen frequently this year. We are near then end of this cycle.



Second of two weather patterns to be seen frequently this year. May 18-23 will look like this.

June Should Provide Improved Moisture In Many Areas

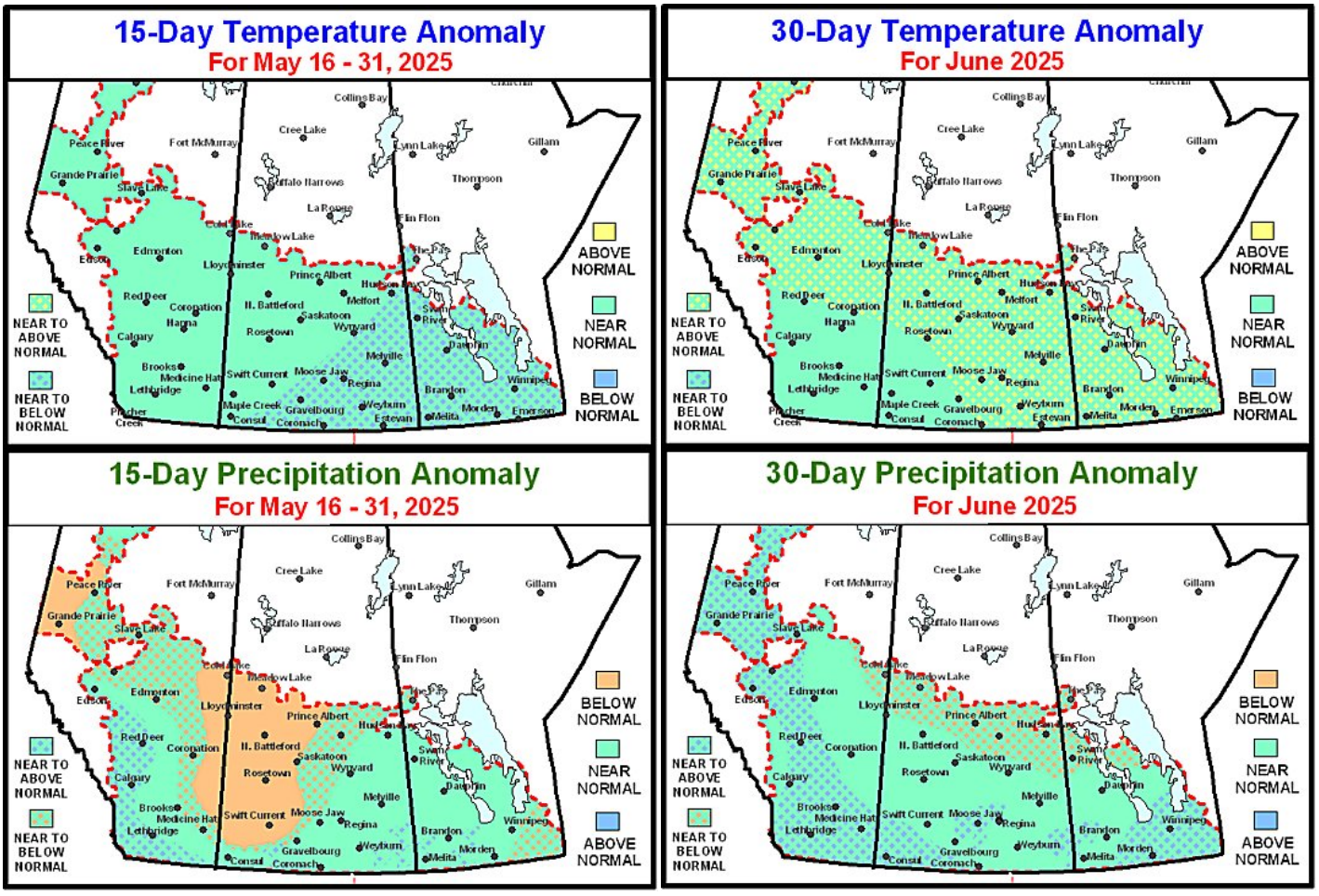
This week's rain event in the eastern Prairies is likely to be the single greatest event for the month of May. The original forecast for May suggested conditions would improve, but World Weather, Inc. was never expecting a frequent rain pattern and data at mid-month has not presented itself any differently. As noted in the page 1 and 2 article we are pushing out of Pattern One (which is warm and drier biased) and into Pattern Two which usually brings a significant precipitation event followed by another period of dry weather. That new period of dryness usually occurs with mild to cooler temperatures for several days and then a new high pressure ridge evolves and the Prairies start to warm again, but precipitation continues lighter than usual.

Because of the Pattern One to Pattern Two transition, this week is behaving somewhat similar to that which brought us the moisture abundance in November. This wetter bias is unlikely to last very long and May is liable to finish out with much smaller and weaker weather disturbances that fail to produce much "significant" precipitation. For that reason, western Saskatchewan and a part of eastern Alberta are unlikely to get out of the below average precipitation mode until we get into June.

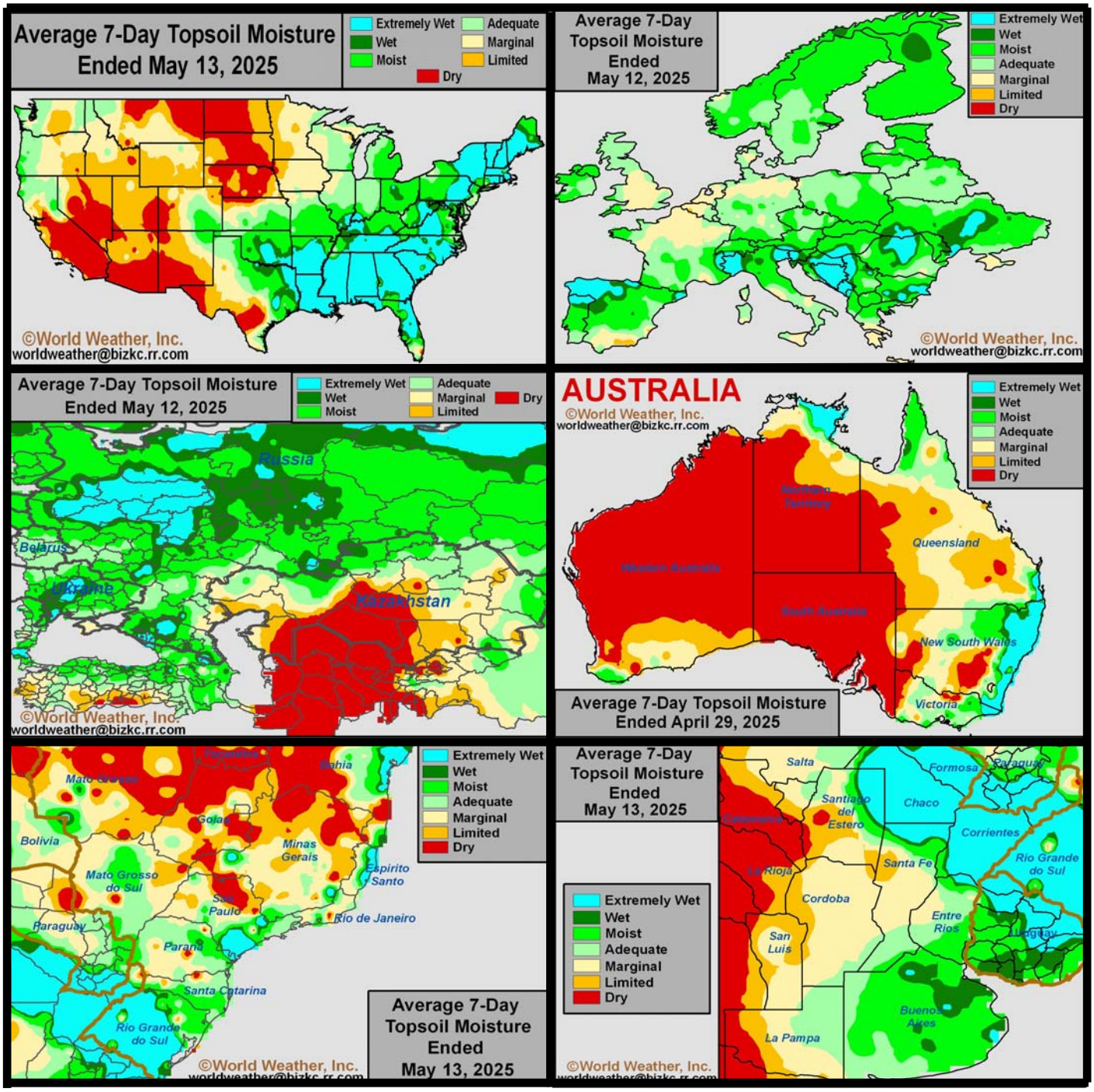
June has the potential to generate more frequent precipitation in many areas across the Prairies. Resulting rainfall will still be a little lighter than usual in the north, but there will be some parts of the region in the west and south that may end up with at least a slightly wetter bias. The most important part of the June forecast is the more frequent shower pattern that should help provide the moisture crops need to germinate, emerge and establish.

The distribution of June rain will not be ideal, but it should be the best overall month of rain for the spring season. World Weather, Inc. believes the jet stream will remain strong enough to prevent a blocking ridge pattern during the month and without that there should be at least a more routine occurrence of rain even if lighter than usual.

The more frequent precipitation tendency in southern parts of the Prairies in June will be countered by lighter than usual precipitation in the north and temperatures should be near to above normal with northern and eastern parts of the Prairies warmest. The wetter bias expected in the southwestern Prairies will hold back the temperatures. World Weather, Inc. still believes a cooler bias to temperatures is possible in June for the SW, but for now they are predicted to be near normal.

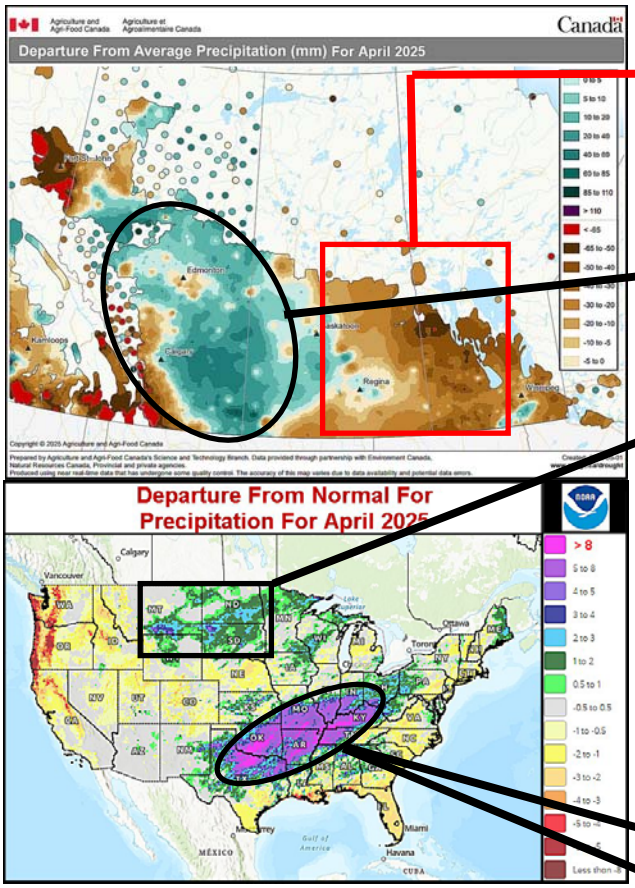


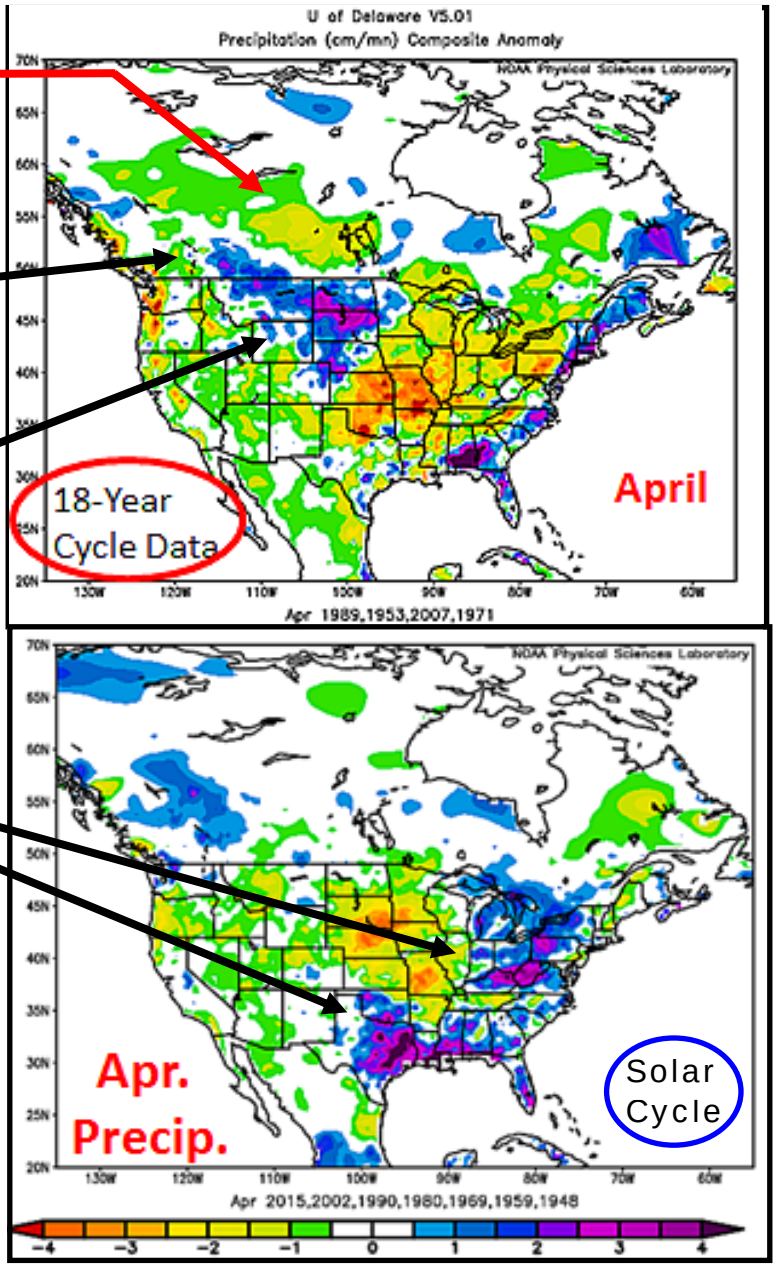
Selected Weather Images From Around The World



Drought and dryness continue to impact the North Sea region; including much of Germany as well as neighboring countries and those surrounding the North Sea. No change is likely for at least one more week to possibly ten days and then some rain will be possible. U.S. weather is too wet in the Delta, Tennessee River Basin and lower eastern Midwest and more rain is expected in the next ten days keeping some areas too wet. The northern U.S. Plains and southeastern Canada's Prairies had been too wet until this week. Now, rain is falling and should be greatly improving soil moisture in a part of the dry region. Western Saskatchewan and eastern Alberta still need rain. Rain in the Black Sea region this spring has been good for improving winter wheat, barley and rye production potentials after dry weather last autumn. Brazil's Safrinha corn and cotton are experiencing variable moisture conditions with some need for rain. Argentina's moisture situation should be good for the coming wheat planting season. Australia is too dry.

Influences On Prairie Weather; Where To From Here



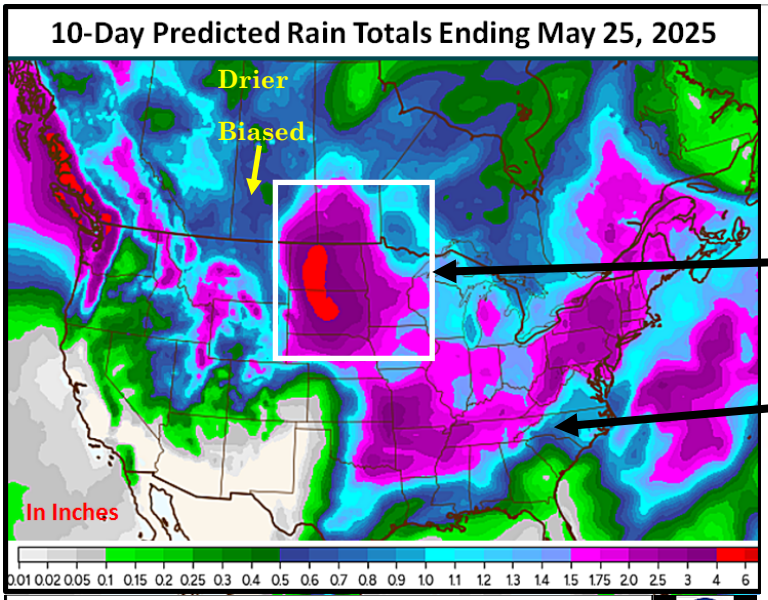


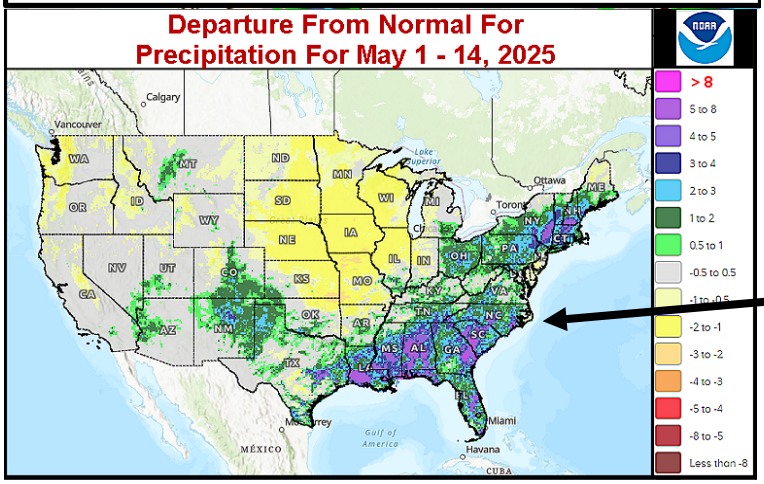
This year's weather in North America is being influenced by the 18-year cycle, the solar cycle and neutral ENSO conditions. This messy page is trying to illustrate where our weather is paralleling two of the three weather patterns. Here we present on the left side of the page rainfall departures from normal in Canada's Prairies (top left) and the U.S. (bottom left). We are then showing on the right side of this graphic what happened in 7 of the past solar cycles (bottom right) and the most recent four 18-year cycles (top right).

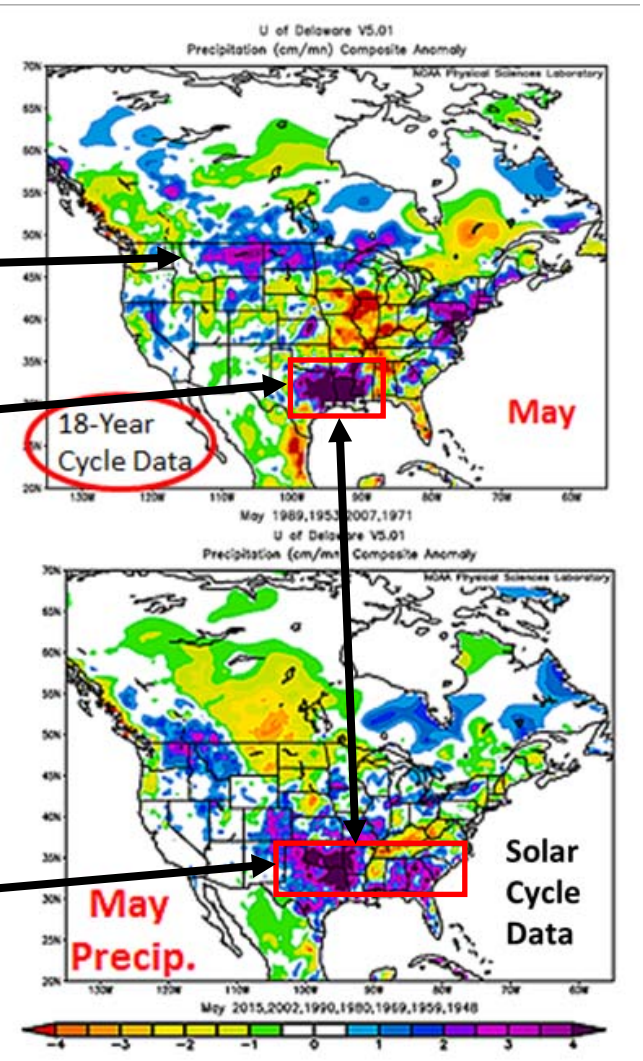
Notice the wetter biases in April across the western Prairies and the northern Plains and see that a similar pattern occurred in the 18-year cycle years. Also, notice the drier bias in the eastern Prairies during April of this year was similar to that of April in other 18-year cycle years. Also notice the wet bias in the southern U.S. Plains and lower eastern Midwest from this past April and how it compares to that of the composite of seven past solar cycles. You may find this to be like "grasping at straws", but there is some influence visible in our weather from April with that of these other years. The primary reason for this exercise is to try and create a better forecast for the summer of 2025 since the 18-year cycle data and the solar cycle data are very different. Even though they are different the forecast signals are strong and we believe the key to May, June and July weather lies in these past years and the ENSO data.

The rain event occurring this week in the northern U.S. Plains and Canada's Prairies seems to also fit in with the 18-year cycle and solar cycle data (see next page). Enough rain will fall by Saturday of this week to induce above normal rainfall the Dakotas and a few neighboring areas in southeastern Saskatchewan and southwestern Manitoba. At the same time the lack of rain in the remainder of Saskatchewan looks much like that of the solar cycle and so does the wet weather that occurred early this month in the southern U.S. Plains. The point of all this is that there is strong evidence that these two cycles are very much influencing North America right now.

Influences On Prairie Weather; Where To From Here (from page 5)







Admittedly, this assessment is a bit messy and perhaps real confusing, but that is the problem with this summer's weather outlook. We have two strong influences on North America weather fighting each other making the forecast quite difficult from the perspective of choosing a pattern to follow. In this case we believe a melding together of the various influences is absolutely necessary.

World Weather, Inc. is convinced that the patterns of influence are very much present in our atmosphere and using them as predictors for the balance of the summer season can be a very positive thing to do. More importantly, this assessment has provided us with greater confidence that the Prairies will not be as dry as the solar cycle has suggested because of the influence from the 18-year cycle. Melding those two patterns together gives most of the Prairies a favorable mix of rain and sunshine over the next six weeks. Yes, there will be some areas that will be drier than usual and certainly there will be some pockets of wet biased conditions, but World Weather, Inc. does not see any good reason to continue promoting broad-based drought across the Prairies.

There may not be enough rain to fix the moisture deficits from multiple years of drought in the southwest, but there should be enough rain to support crops in a less threatening manner relative to that of recent past years. May is going to continue offering some areas relief from recent dryness while other areas (like western Saskatchewan and eastern Alberta) will receive some timely rainfall of lighter than usual intensity, but conditions should still help to support crops—not necessarily ideally, but in a favorable enough manner to leave all producers with sufficient reason to have hope for better conditions this season compared to recent past years.

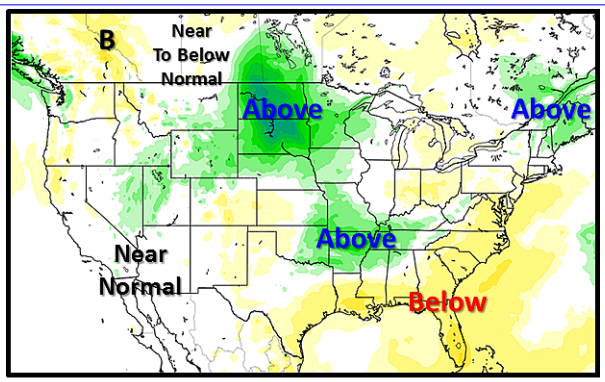
The dominating 22-year solar cycle peaked out in 2024 and we should move toward better (not perfect) weather. On the next page World Weather, Inc. provides a series of composite rain maps including both the 18-year and solar cycle data.

Influences On Prairie Weather; Where To From Here (from page 6)

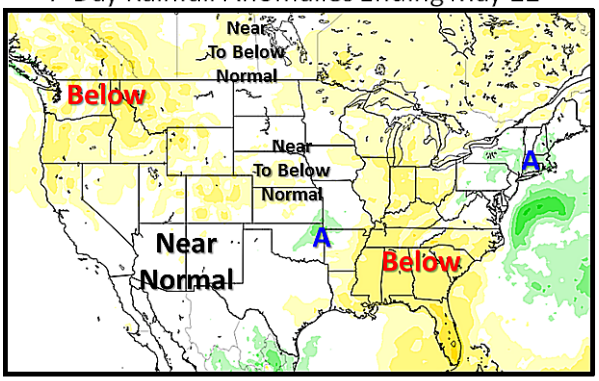
The charts below are composite rainfall maps containing seven years of late spring and summer weather that followed the solar maximum in the previous calendar year and four 18-year cycle years. Do not pay much attention to the details of each of the maps. Instead notice that there are no seriously dry or exceptionally wet biases that show up in the Prairies weather through the entire growing season. Keep in mind that the blue and pink colors on the maps are above normal rain and the green, yellow and orange are drier biased. The more intense the colors the stronger the precipitation anomalies.

Based on this study and the distribution of rainfall seen in April and May. World Weather, Inc. believes we are still headed in the correct direction and our forecast maps released on April 30 are still in a position to verify. Another set of forecast maps will be released at the end of this month. For now the balance of May is on target to be wetter biased in the southeastern one-third of Saskatchewan and western and southern parts of Manitoba while a near to below normal bias is expected in the remainder of the Prairies. By the time we average out all of the rainfall for the month of May our original forecast should be close.

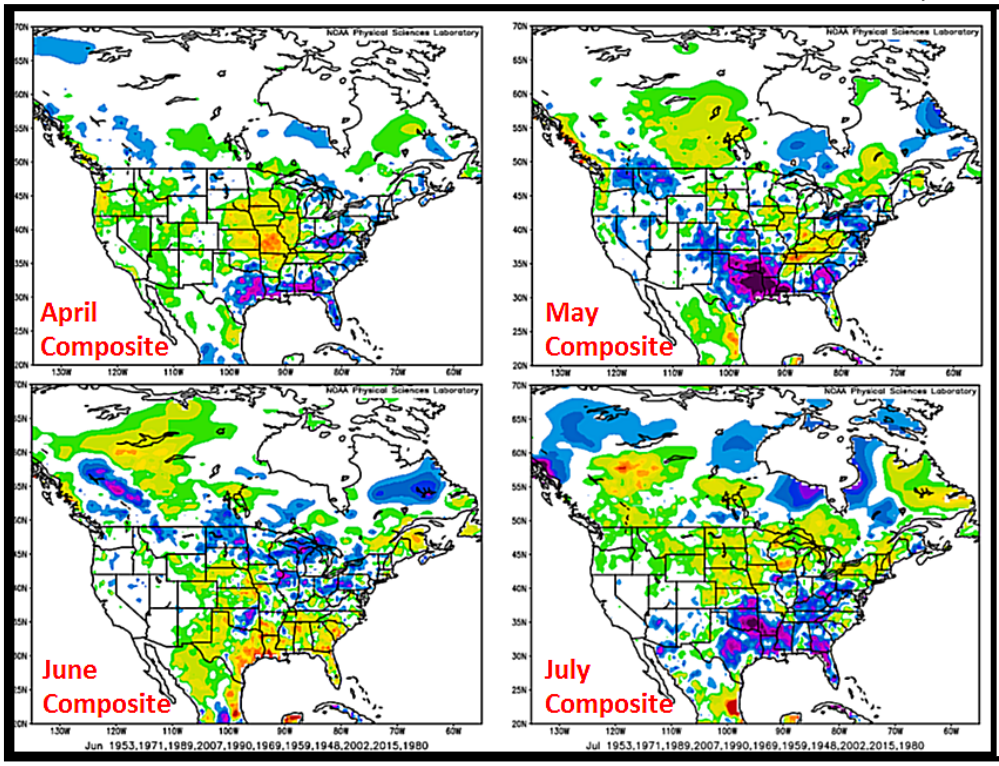
The drier bias in western Saskatchewan and eastern Alberta is a concern, but there should be some moisture in the next couple of weeks; though not enough to fix the long term moisture deficits and the same is true for the Peace River region which will remain much too dry.



7-Day Rainfall Anomalies Ending May 22



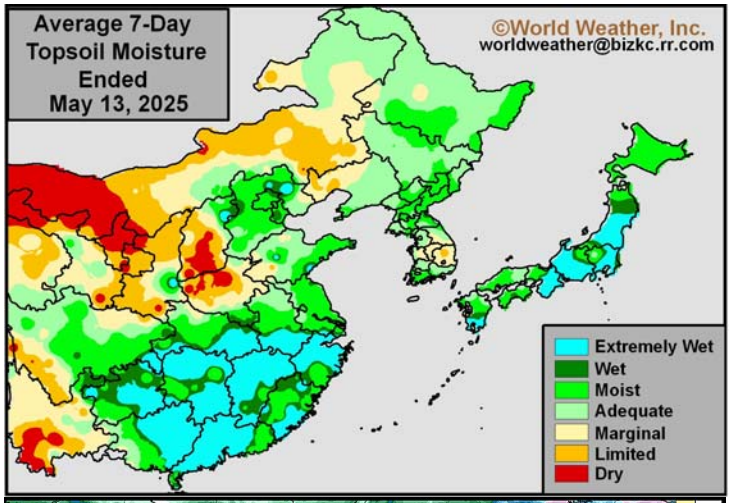
7-Day Rainfall Anomalies Ending May 29

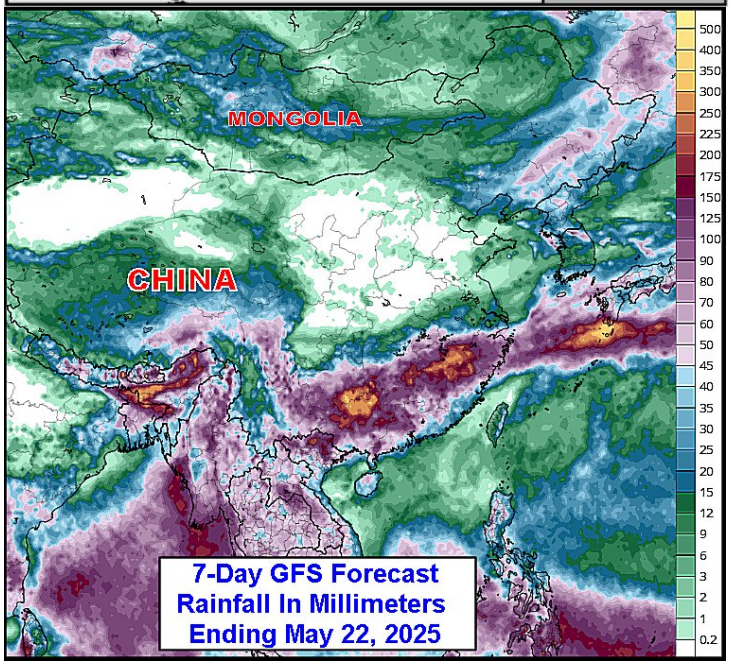


The best guidance for the late, spring, summer and autumn seems to come from a composite of all 18-year cycle years and all post solar maximum years. These anomalies seem to have the best fit to what has happened so far this year and confidence is relatively strong about the expectations for the summer. **Not the best year for Prairies rainfall, but no disaster either.**

North China Plain To Dry Down As Temperatures Heat Up

Several areas in China's North China Plain and central Yellow River Basin received rain during the past week easing long term dryness. The area of most serious dryness shrank by about 40% from the previous week; however, the trend will now go the other way with dryness expanding again in this coming week as limited rain and warmer temperatures return. The change may intensify crop moisture stress in unirrigated fields especially for spring and summer crops. Wheat is filling and maturing with harvesting getting under way soon. Wheat production may have been negatively impact by spring dryness this year, but mostly in unirrigated fields.





Recent rainfall helped bolster topsoil moisture in portions of the North China Plain in recent days. Topsoil moisture is rated marginally adequate to adequate in Hebei and Shandong as well as Jiangsu and the same is true for Heilongjiang, Jilin and southeastern Liaoning. In contrast, topsoil moisture is rated short to very short in portions of Shanxi, Henan, Shaanxi and neighboring areas. The Yangtze River Basin and areas south to the South China Sea coast were saturated with moisture while Yunnan stayed quite dry.

Subsoil moisture is still rated short to very short across much of the Yellow River Basin and North China Plain with a few areas of marginally adequate moisture. Both the Northeast Provinces and areas near and south of the Yangtze River have adequate subsoil moisture.

Precipitation was welcome in the North China Plain and central Yellow River Basin. Recently-planted coarse grains, oilseeds, cotton, and other crops may have established a little better than earlier this month, though much more rain is needed to support ideal long-term crop conditions. Establishment and early-season development conditions remained less than ideal to poor in the fields that missed out on the heavier rain. Winter wheat filling, maturation and any early season harvesting may have slowed in the wettest fields.

Drier- and warmer-than-normal weather will return to the North China Plain and central Yellow River Basin through the middle of next week. Little rain is expected and any rain that does occur will be lost to evaporation. Daytime highs will often peak in the 80s and 90s Fahrenheit as well, which will promote aggressive drying. There is potential for some erratic rainfall May 22-28, though not enough will fall to fix the dryness.

The environment will again deteriorate for the summer coarse grains, oilseeds, cotton, and other crops across the North China Plain and central Yellow River Basin in the coming week. The ground will remain too dry for ideal growth and the need for abundant rain will remain high late this month into early June. Wheat maturation and eventual harvesting will advance with few disruptions.

In the meantime, favorable weather is impacting the Northeast Provinces while some heavier rain evolves in the Yangtze River Basin resulting in some potential for flash flooding.