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The Canadian Agriculture Weather Prognosticator

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Ontario And Quebec

Improving Weather Has Evolved In Ontario and Quebec Where Cool And Wet Weather Was Threatening Planting And Early Development. Wheat In SE Canada Has Improved Along With Corn And Soybeans.

WORLD WEATHER ISSUES

- Unusually Hot Weather Occurred From Texas And Northern Mexico To Manitoba In Late May
- Dryness Easing Rain In Eastern Prairies During Early June
- Dryness Worries Ukraine And Southern Russia Farmers
- Spring Wheat And Sunseed Areas Of Eastern Russia Dealing With Cold And Wet Weather And Little Change Is Expected For 10 Days.
- India Monsoon Poised To Begin Normally
- Portions Of Eastern Europe And Ukraine Drier Biased; Worry Rising Over Black Sea Crop Weather In 2018
- Southern Australia Still Needs Significant Rain For Wheat, Barley And Canola Planting

Warming Ocean Helps Summer Outlook

Gulf of Alaska temperatures have warmed significantly in recent weeks and this has helped to reduce at least one of the factors that was raising the potential for a warmer and drier than usual summer.

As stated previously, our summer weather this year would be favorable in many locations across the Prairies if it was up to the 18-year cycle that we speak about frequently. The 18-year cycle was and still is promoting a weak ridge of high pressure in central North America this summer. Such a feature would allow frequent storm systems to move over the top of the ridge and benefit many Canadian Prairies farms. However, with the Gulf of Alaska ocean surface temperatures as cold as those in other drought years of 1961, 1988, 2017 and 1936 earlier this season there was great fear that 1) atmospheric moisture in western Canada would be reduced and 2) a stronger ridge of high pressure would build into the Prairies from the central United States.

Recent warming in the Gulf of Alaska has reduced some of the fear over a hot, dry, summer. Conditions are not quite good enough for World Weather, Inc. to sound the "all clear", but this change is huge in regard to summer weather and any hot, dry, weather we might get.

There is still potential for a stronger than usual ridge of high pressure this summer. The potential remains from the lingering influence of first quarter abating La Nina events and from the Solar Cycle.

Abating first quarter La Nina events of the past have produced a drier and warmer than usual bias to the U.S. Plains and western Corn Belt during the June through August period. In many cases, this bias extended north into southern Manitoba and southeastern Saskatchewan during July and August and this suggested trend was independent of the Gulf of Alaska ocean temperatures. Losing some of the influence of cold Gulf of Alaska surface water temperatures reduces the potential for a warmer and drier than usual summer, but it does not completely eliminate it.

This year's first quarter abating La Nina event could still bring back some dry and warm weather in a few weeks in the southeastern Prairies leaving the situation still somewhat tenuous. If dryness and warm conditions resume later this summer the abundant rainfall that is advertised in early June will be all the more important.

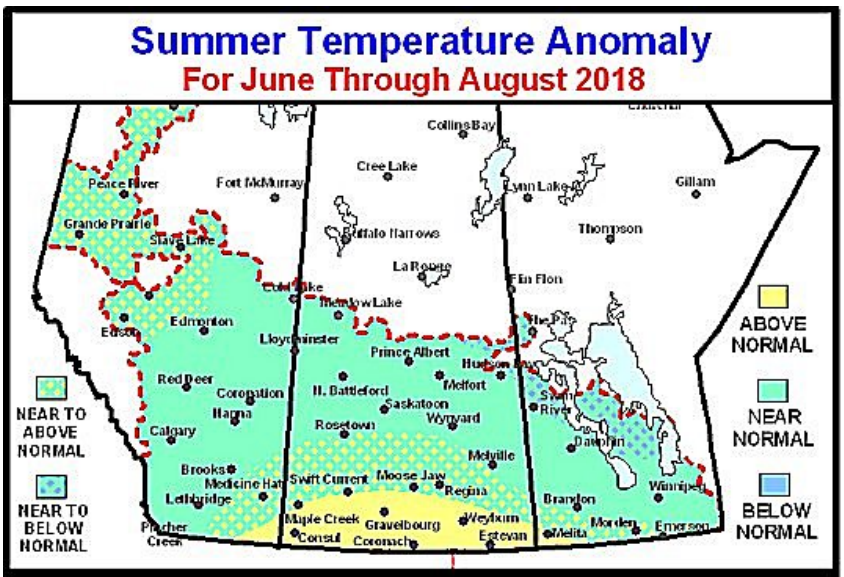
Soil moisture must be increased over the next few weeks to give crops a better chance of establishing and developing normally. Some areas in the Prairies have been so dry recently that crops were destined for failure without significant rain immediately. That makes the next ten days to two weeks of possible rain very important in raising soil moisture reserves to carry on crop development during any periods of warm and dry weather that might come along in July and August.

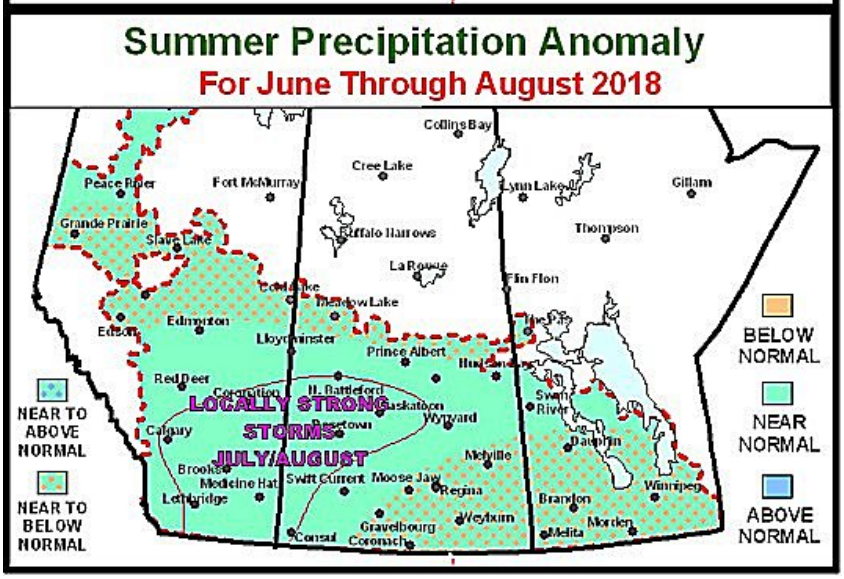
Another contributing factor that may return a warmer and drier biased outlook for at least a part of the Prairies is the Solar Cycle. Influence from the solar cycle will likely reinforce the intensity of a ridge of high pressure in central portions of North America. A ridge of high pressure is already ex-

Warming Ocean Helps Summer Outlook (from page 1)

pected this summer by the 18-year cycle. Cooling in eastern North America, associated with the solar cycle can actually lead to stronger ridge building in central North America. Any stronger ridge building that occurs would have the potential to make summer drier and warmer than suggested by the 18-year cycle.

The biggest unknown about the summer weather is how significantly the solar cycle will influence North America. In the past some years have been significantly cooler biased in the central and eastern parts of the United States and southeastern Canada resulting in less of a threat for dryness because of lower evaporation rates in the areas influenced by the solar cycle. In a few cases the colder weather in eastern North America associated with the solar cycle can lead to a stronger ridge of high pressure over the Plains and Prairies which could harm the summer outlook taking away rainfall and raising temperatures.





World Weather, Inc. has begun speculating that perhaps the solar cycle will phase in with the recurring 45-55 day chill cycle that we talked about earlier this season that brought on some mid– to late May frost and freezes. If these patterns phase in with each other starting in the first or second week of July there may be a more significant bout of cooling taking place across central and eastern portions of North America that will reduce the risk of a hot summer for many areas in the eastern Prairies and the U.S. corn and soybean production areas.

The phasing of the 45-55 day chill cycle and the solar cycle could lead to cooler biased temperatures in the eastern Prairies during the second half of summer while leaving Alberta and British Columbia warmer than usual. It is also important to note that the first quarter abating La Nina events have also generated a cooler than usual bias in the southeastern United States which is one of the more significant areas that usually cool down during the summer in solar minimums.

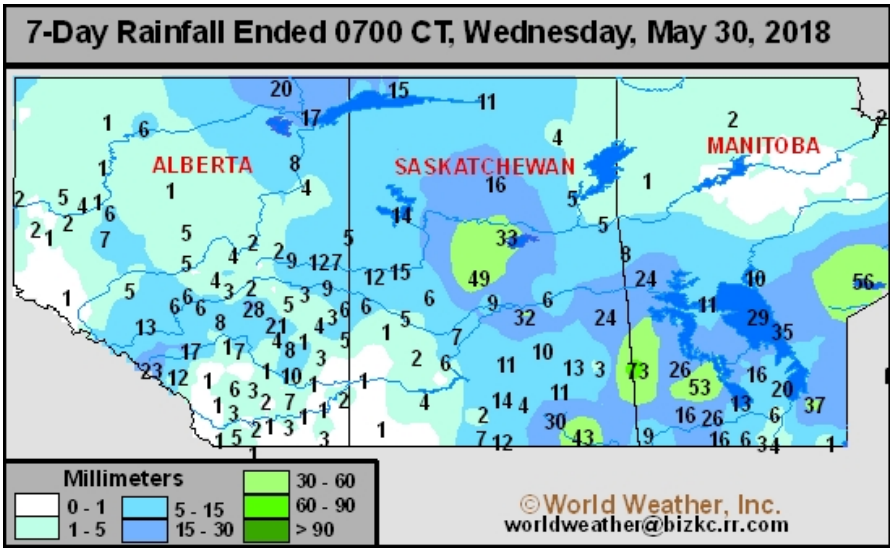
The possible in-line phasing of the solar minimum, the 45-55 day chill cycle and the influence from abating first quarter La Nina events leaves some potential for the 18-yar cycle ridge of high pressure advertised for the central parts of North America this year to be a little stronger than usual and possibly shifted slightly farther to the west.

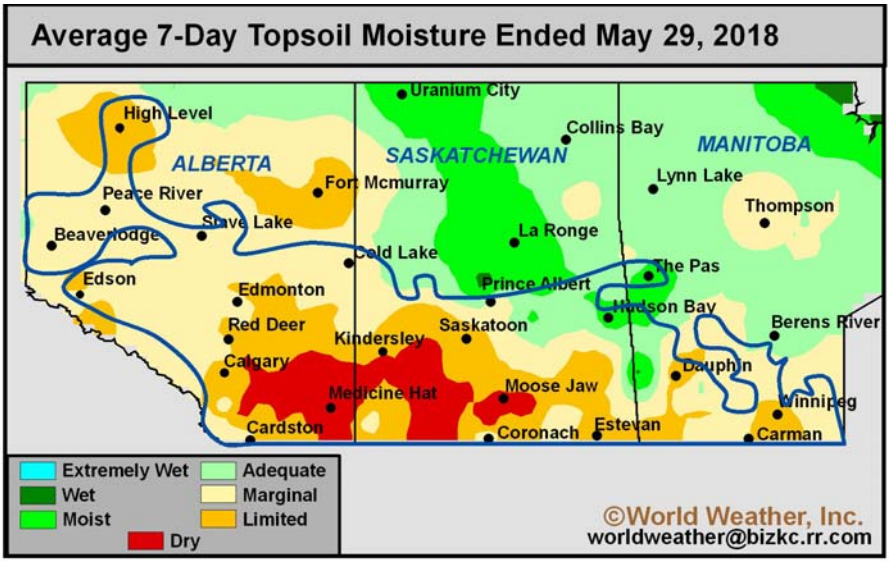
In conclusion, World Weather, Inc. cannot rule out the potential for returning warmer and drier biased weather later this summer, but we are greatly encouraged by the warming Gulf of Alaska situation since that will help raise the frequency and significance of mid-latitude storm systems that will influence the Prairies this summer. We will leave the potential drier biased conditions in place for the southeastern corner of the Prairies during the heart of summer, but that drying would not likely occur until July leaving June as a potential beneficial month for timely rainfall.

The bottom line will leave subsoil moisture low this summer in many areas and producers and crop development will be dependent upon each storm that comes and goes through the Prairies for the necessary moisture to ensure the best possible crop development.

Prairies Dryness Reaches Peak; Rain Likely

Weather pattern changes in the past week have already brought some rain to parts of the Canadian Prairies. Several areas in Manitoba and eastern Saskatchewan reported timely rain that helped improve topsoil moisture, but dryness remains a widespread problem in the Prairies and relief is needed immediately. The evolving weather pattern responsible for the past week of scattered showers will continue over the next week to ten days offering more frequent and more significant rainfall to much of the Prairies. Dryness is expected to remain in the subsoil and portions of the southwestern Prairies may not do well with rain amounts, but most of the region will experience at least some short term improvements making today's dryness the most serious of the next two weeks.





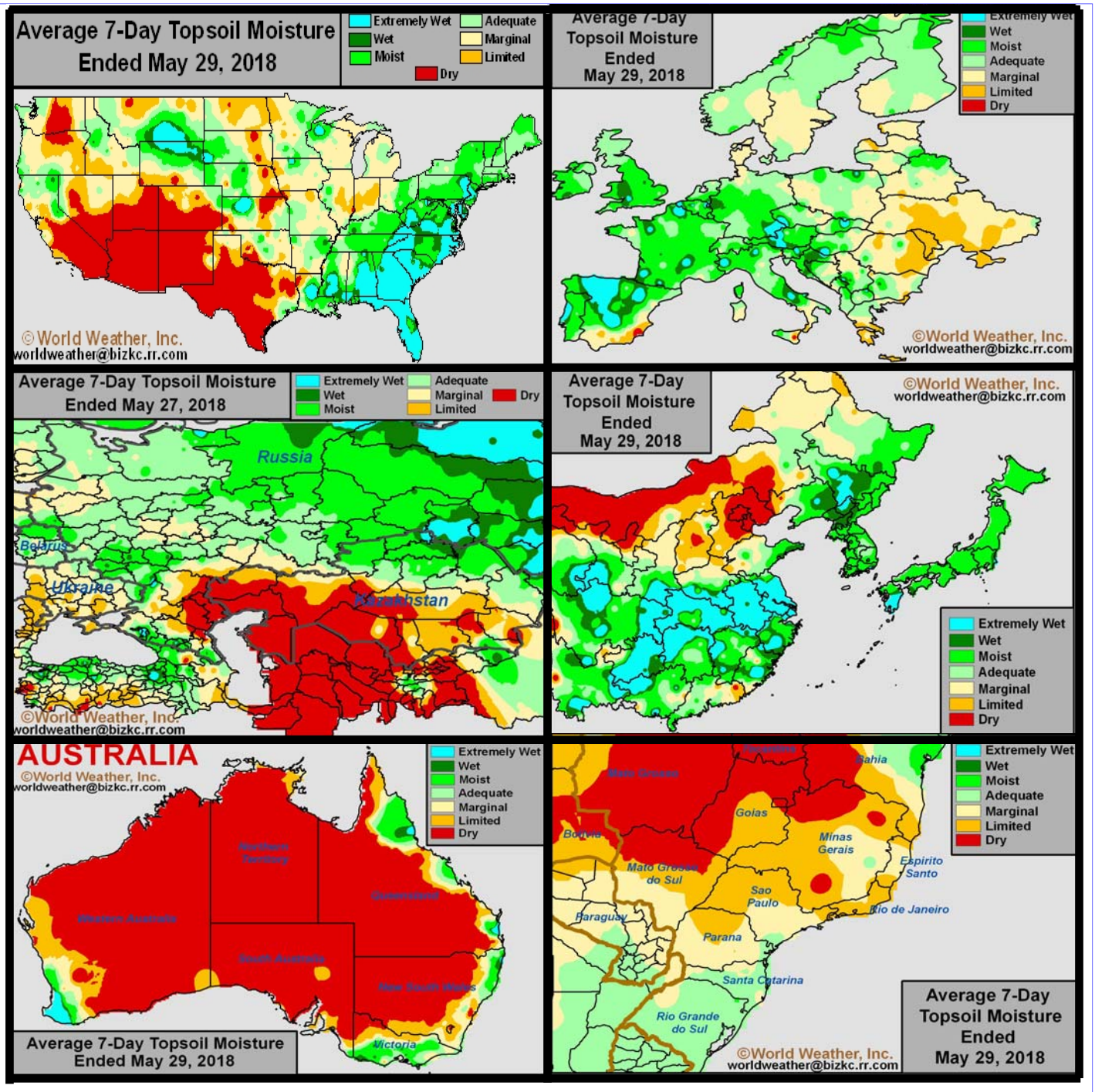
Rainfall in the most recent seven-day period favored areas from northern and eastern Saskatchewan and Manitoba. Moisture totals ranged from 0.35 to 1.50 inches with a few pockets receiving 2.00 to nearly 3.00 inches. Areas further to the west in Alberta and the remaining portions of Saskatchewan only received a trace to 0.50 inch of rain during this time with local amounts up to 1.10 inches in central Alberta. Several pockets in southern Alberta and southwest Saskatchewan were also dry during the past week. Temperatures were above average with daytime highs peaking into the 70s and 80s Fahrenheit with several extremes in the lower 90s.

Soil moisture remains short to very short across much of the Prairies despite some relief during the past week. Abundant precipitation will be needed to completely restore soil moisture to normal (outside northwest Alberta). Soil moisture is critically short in southern Alberta and much of southern Saskatchewan where some of the warmest and driest weather occurred in recent weeks. Both top and subsoil moisture is rated very short in these areas. Nearly all of the Prairies have short topsoil moisture except in the areas that received rain this past week and today's soil is probably the driest that it will be over the next two weeks due to anticipated rain. Drought relief is least likely in the southwestern part of Saskatchewan and all areas will need follow up rain throughout the summer to sustain any improving trend that evolves over the first half of June.

Planting advanced swiftly in recent weeks after getting off to a slow start in April. Manitoba is nearly finished planting with only a few fields not yet fully planted as of earlier this week. Saskatchewan had 70% of its crop in the ground as of May 21, which is up from 55% for the 2013-2017 average and up from 50% for the 2008-2017 average. Alberta was behind normal planting dates as of May 22 with 67.4% of the crop in the ground. Aggressive planting likely occurred during the past few days in Alberta and Saskatchewan due to the lack of abundant rain.

A series of disturbances will impact the Prairies through the middle of next week. A disturbance that recently advanced across the region will generate showers in Manitoba today while a new disturbance brings erratic rain to Alberta and Saskatchewan. The new disturbance will slowly …..(continued on page 5) ……

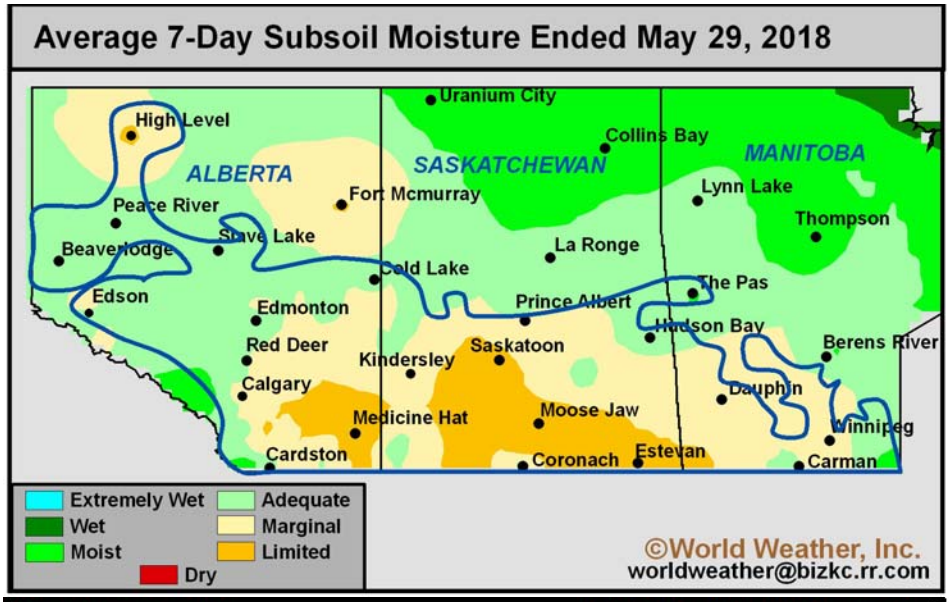
Selected Weather Images From Around The World

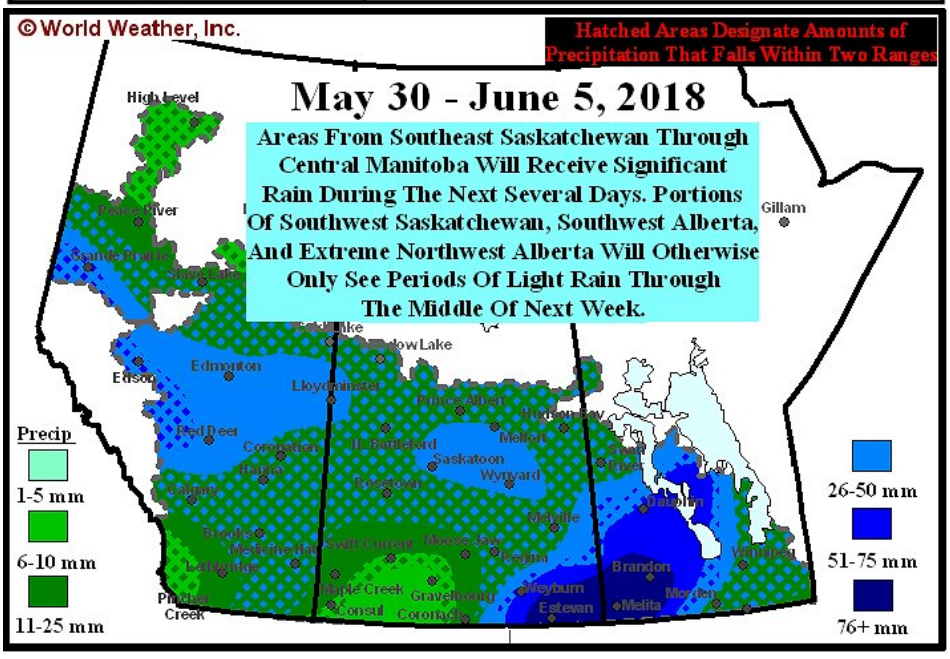


U.S. topsoil moisture has decreased in many areas across the Midwest and Great Plains recently. Topsoil moisture is the lowest it has been at this time of year since 2012. Subsoil moisture is still rated favorably, however, and no serious crop issues are expected for a while due to expected timely rainfall. In Europe and the western Commonwealth Of Independent States conditions contrast from being favorably moist in the west to quite dry in the east. Ukraine and Romania have the greatest need for rain, although areas north into Scandinavia are also running a little dry. Dryness in Russia is most serious in the lower Volga River Basin and areas east into Kazakhstan. The eastern Russia New Lands, however, have been too wet and cool recently delaying spring wheat and sunseed planting. Australia is still waiting for greater rain in wheat, barley and canola production areas to raise soil moisture for autumn and winter planting. In the meantime, second season corn in Brazil is still hurting for moisture and yields have slipped a little lower this year because of prolonged dryness and warm weather.

Prairies Dryness Reaches Peak; Rain Likely (from page 3)

advance over the U.S. northern Plains Thursday before gradually shifting over Saskatchewan and Manitoba Friday and Saturday. Heavy rain is slated for portions of Manitoba and southeast Saskatchewan during this time while light to moderate rainfall occurs elsewhere. Another low pressure center and associated frontal boundary will sweep over the region later this weekend and early next week with some more light rain slated Tuesday and next Wednesday.





Areas from southeast Saskatchewan through Manitoba's Interlake region will receive some of the most significant rain during the coming week. Moisture totals through next Wednesday morning will range from 1.00 to 3.00 inches with local totals over 4.00 inches. In the meantime, several areas in southwest Saskatchewan, southwest Alberta, and extreme northwest Alberta will only receive 0.25 to 0.75 inch of rain. Rainfall in the remaining production areas will generally range from 0.75 to 2.00 inches and locally greater amounts near the Rocky Mountain front range and from central Alberta through central Saskatchewan.

The frequent precipitation pattern is expected to continue June 7-13, although rainfall expected during that period will be lighter than that of this first week of the outlook. All of the rain will be welcome and most of it will induce improved crop emergence and establishment conditions. Follow up rain will be very important in the drier areas of the central and southwestern Prairies, although a short term benefit from rain is expected in those areas, as well. Long term moisture deficits will continue in many areas in eastern and southern Saskatchewan and possibly in parts of southern Alberta after this period of rainy weather leaving the need for additional moisture more deeply into the summer season. However, sufficient improvements in crop and field conditions will occur in this coming week to ten days to induce a notable improvement in early season crop development.

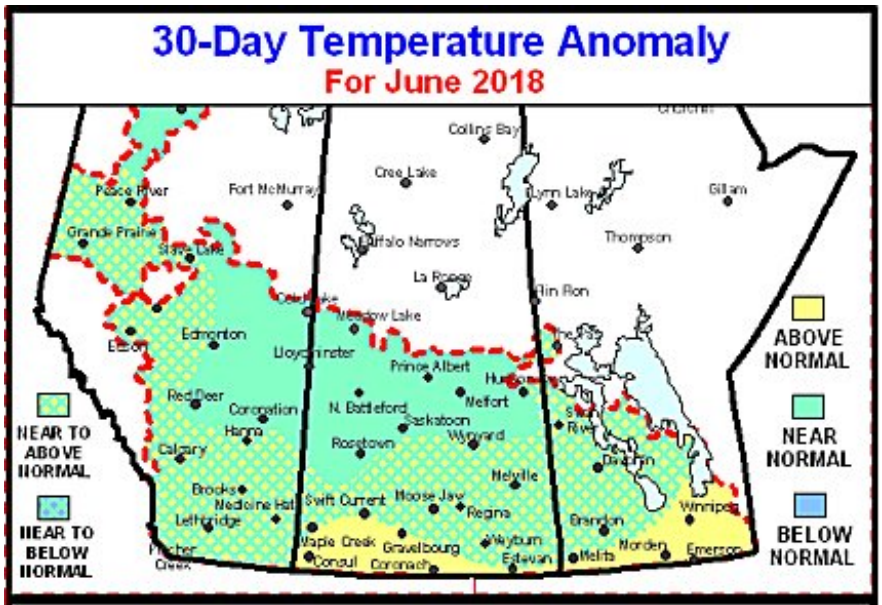
Some of the rain advertised over the next couple of weeks may be exaggerated by some of the computer weather forecast model runs, but even if half of the predicted rain falls there would be sufficient relief in most of the Prairies to stimulate much improved root development and better germination and emergence. These conditions will set the stage for crops to eventually dig down deeper for a more favorable level of subsoil moisture in some areas for a more sustainable period of crop growth and development.

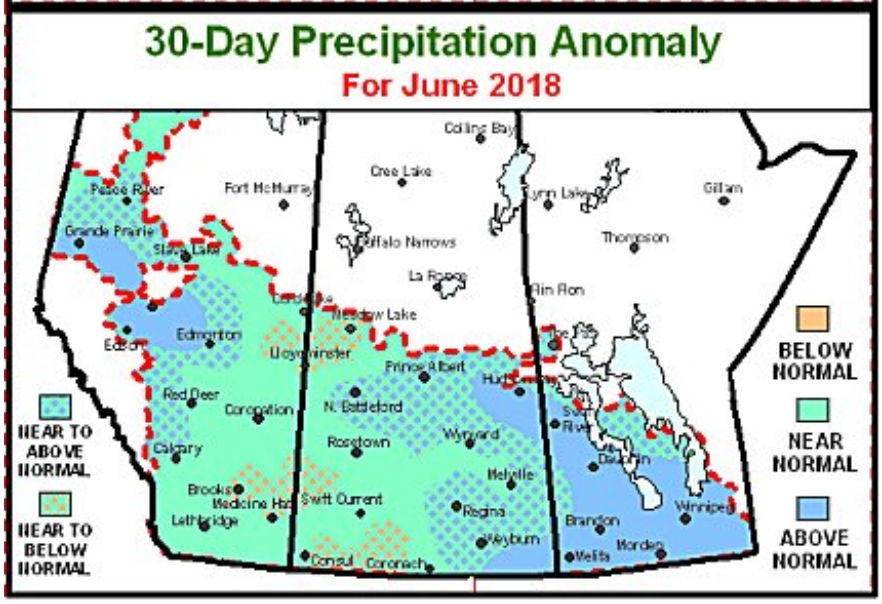
Temperatures in the coming two weeks will not be as warm as they have been and that will conserve soil moisture through slower evaporation. A warmer bias will return later this summer, but the cool and wet conditions will be great for establishment.

June Weather Looks Favorably Moist In Many Areas

June weather is expected to be better than expected because of increased rainfall in the first ten days to two weeks of the month.

The anticipated transitional weather pattern change that we eluded to in our last prognosticator has verified very well with increased shower and thunderstorm activity in late May. The May 17 prognosticator suggested this transitional period of weather would last a few weeks and indeed it will. Showers and thunderstorms will occur more often in the next ten days than that seen in months and resulting rainfall will be impressive in eastern parts of the Prairies—at least in some locations.





June rainfall is expected to continue periodically in the second half of the month, but it will become a little more erratic and less concentrated relative to the first half of this month.

World Weather, Inc. is not convinced that the southwestern parts of the Prairies will do very well with rainfall in June. Totally dry weather is certainly not expected, but rain amounts in southwestern and some west-central Saskatchewan locations may be a little below average. The same can be said for crop areas in east-central and some interior southern Alberta locations. However, these areas should still get enough rain to improve topsoil moisture periodically and that may be just enough to keep crops viable in the driest areas.

A more general soaking of rain will still be needed in the southwestern part of the Prairies to begin a period of more significant recovery from dryness. With that said, any precipitation that occurs in the next couple of weeks will be a Godsend for the region and should help buy a little more time before the region becomes critically dry.

In contrast, some areas in Manitoba and extreme eastern Saskatchewan could become a little too wet for a brief period of time in early June. The region will have ample time to dry out again a little later in the month. No one is likely to complain much about the rain after the recent prolonged period of dryness. Follow up moisture will still be needed, but the eastern Prairies and far western and northern Alberta should be favorably to abundantly wet at times during the month.

A few other pockets of below-average precipitation will be possible along the Alberta/ Saskatchewan border,. But the situation is not likely to be very serious. All areas will rejoice in the rain that is received during the month.

Temperatures in early June will slip below average in northern parts of the Prairies. There is some concern that persistent cold weather in Russia in recent days will move over the polar region of the world and settle into the Prairies for mid– to late June. World Weather, Inc. is not ready to buy into this trend, but this pattern has been seen multiple times before in the autumn, winter and early spring of 2018 and it is not out of the realm of possibilities for cooler air to return. If any part of the June forecast is going to change it may be in temperatures with a need for additional cooling relative to what is shown here.

Russia Freezes Unlikely To Permanently Harm Crops

Frost and freeze conditions are expected in western Russia Friday morning with frost possible at the same time in far northern Ukraine. Temporary damage to winter and some spring crops is expected, but a lasting impact is not very likely unless temperatures get colder than expected.

A large pool of colder than usual air will drop into western Russia Thursday and Friday dropping temperatures well below average. The cold will be accompanied by some windy conditions which should help to keep the atmosphere favorably mixed to avoid threatening cold conditions on Thursday morning. However, readings on Friday will slip to the upper 20s and 30s in a large part of western Russia due to calmer wind speeds and greater subsidence associated with a strong region of high pressure that will settle over far westernmost parts of Russia.

Breezy conditions may still be present in a part of the region Friday morning which will help most temperatures stay above the damage threshold in wheat and rye production areas. Winter crops are most advanced in the region, but have not likely reached a critically important stage in development that would lead to production cuts. Most crops are still in the vegetative to pre-reproductive phases of development and temperatures down into the upper 20s and 30s should be easily tolerated.

A few temperatures in northern Ukraine may slip to the 30s Fahrenheit, but significant freezes are not likely and most temperatures will stay just above the threshold for frost. Winter and spring crops in Ukraine are not likely to be negatively impacted by the cold.

The coldest air will shift back to the eastern New Lands Saturday morning where freezes at this time of year are a little less rare. The eastern New Lands have already been dealing with frequent bouts of frost and freeze conditions this month and both planting and crop development are notably behind.

A report from Russia earlier this week suggested spring planting in the eastern New Lands was 25% behind last year's pace and nearly 40% off of the 2016 planting pace.

Not only has it been cool in the New Lands, but it has also been wet with frequent rain contributing to field working delays. Low temperatures have kept drying rates poor which is one of the reasons why planting and emergence are so far behind the usual pace. In this case, however, the delay to planting may be a blessing since the region's crops might have been more vulnerable to damage by this weekend's cold had planting occurred more normally.

Additional bouts of cool air will impact western portions of Russia and Ukraine next week, but they are not expected to be as potent and the impact on crops should be relatively light.