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The Canadian Agriculture Weather Prognosticator

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WORLD WEATHER ISSUES

- Brazil's second season corn in interior southern parts of the nation will need timely rain this month to ensure good conditions for reproduction in May
- Argentina's soil conditions are good enough for late season crops to finish favorably
- Southern Australia will need significant moisture in the next few weeks to improve wheat, barley and canola planting conditions; planting does not begin until late this month and in May
- U.S. planting delays will continue in April for the lower Midwest, Delta and Tennessee River Basin
- Flooding rain is impacting southern China, but key wheat and rapeseed areas are in good shape
- India is still poised for a huge wheat, rapeseed and pulse crop
- North Africa rain has fallen in time to improve some crops, but losses in Morocco are irreversible
- Turkey and other Middle East countries have seen good weather for wheat and pulse crops.

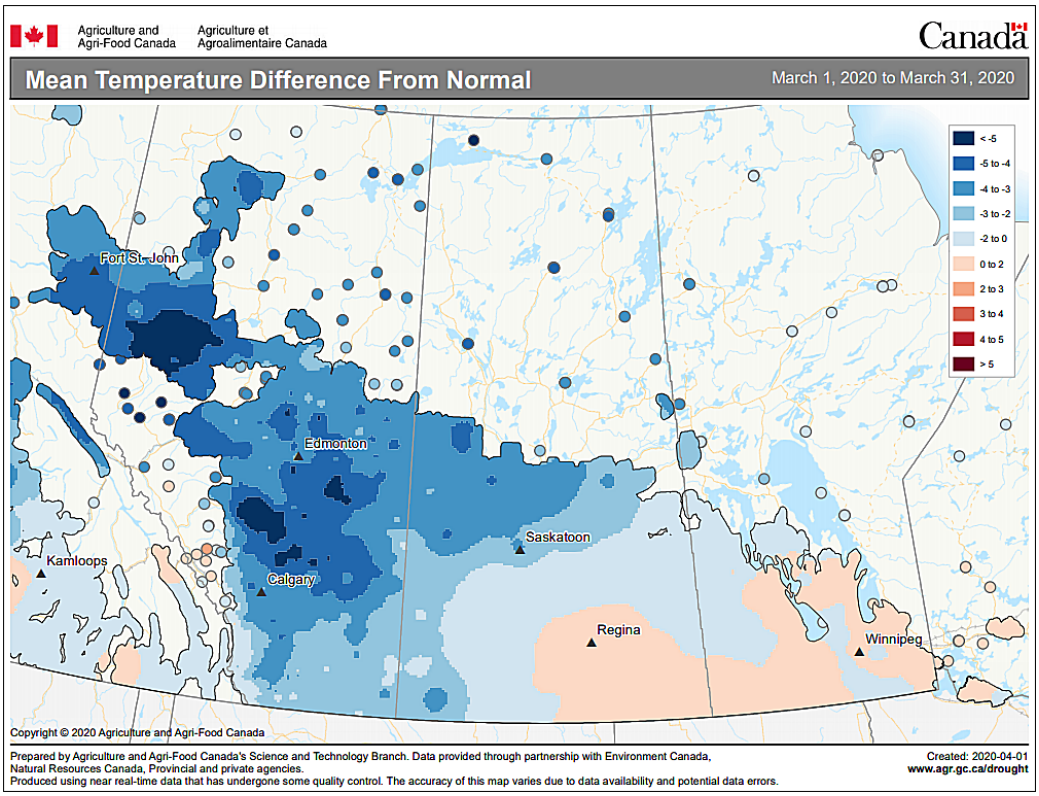
Welcome To Another Growing Season

It is April first! No fooling, it really is. This is the start of our 12th year providing the Prairies with this product and the only year in which we have seen such bitter cold on the first day of April, although it has happened before. It is amazing how much cold air has been periodically in place across the Prairies this year while almost the entire remaining Northern Hemisphere has experienced unusually warm temperatures. Aren't we lucky?

Temperatures in late March slipped to –30 degrees Celsius in portions of the Prairies and this morning (April 1) the low at Mynam, AB was –28 While Meadow Lake, SK dropped to –26. The normal low for April 1 at Meadow Lake is –6. So, only 20 degrees below average! In some recent past years there was some planting under way in southern Alberta by this date, but not this year.

Average temperatures in March for the western Prairies was 3 to more than 5 degrees below average with portions of central and northwestern Alberta enduring the most persistent cold. In contrast, temperatures were much closer to normal in southeastern Saskatchewan and in portions of Manitoba.

The extremes in weather did not stop with the temperatures in March. Precipitation was well below average, again, in



Welcome To Another Growing Season (continued from page 1)

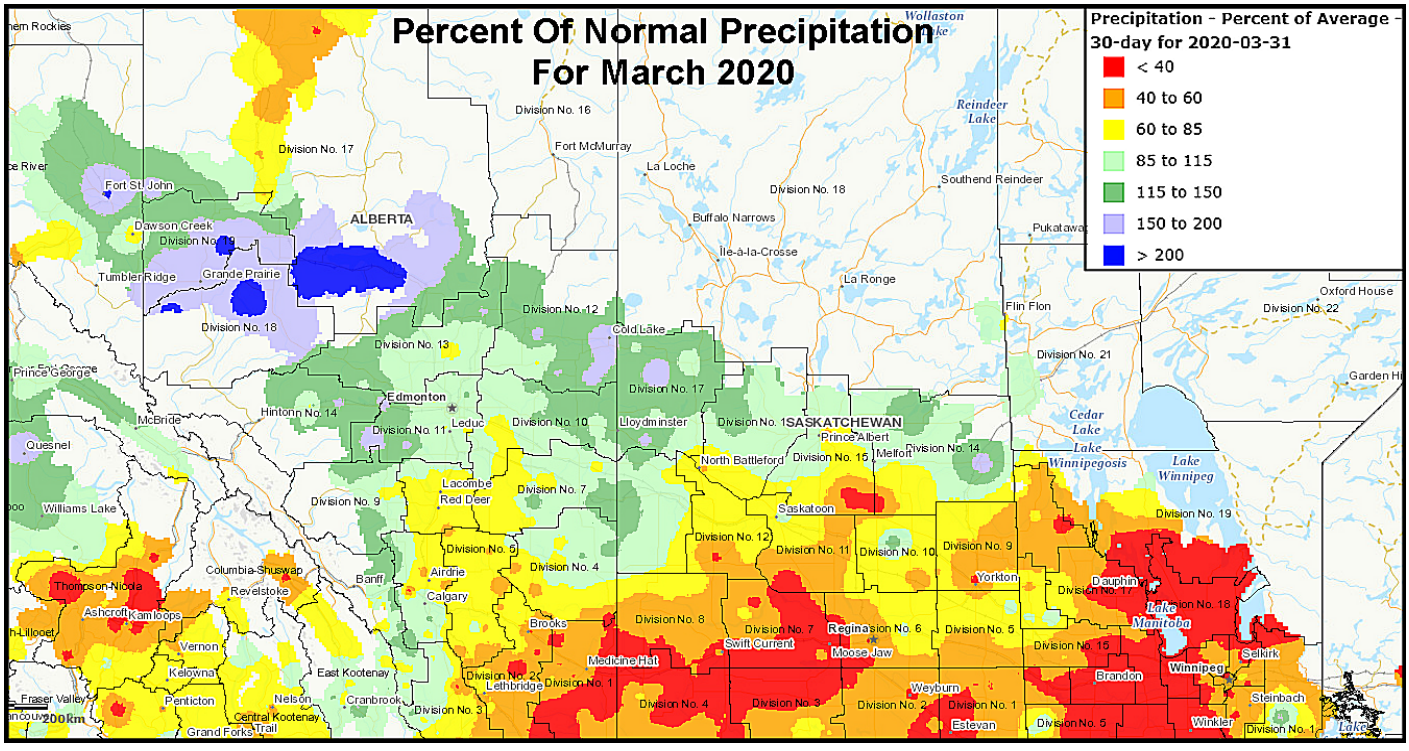
many southern and eastern parts of the Prairies. Much less than 40% of normal precipitation occurred in a large part of Manitoba and from central through southwestern Saskatchewan to southeastern Alberta. Some of the drier biased conditions in central through southwestern Saskatchewan was a concern because that area has not had much precipitation this entire winter and moisture deficits remain from the past three years of drought.

World Weather, Inc. is still anticipating change this year for the southern and eastern Prairies. A wetter bias is still expected in many of those regions during the late spring and summer with Manitoba and southeastern into south-central Saskatchewan probably carrying the highest potential for wet biased conditions for the longest part of the growing season.

That does not mean a repeat of 2010, but it does imply some careful planning for getting into the fields this year. The wetter bias will come and go periodically over the next few weeks, but in the latter part of May and June it could become a more persistent feature limiting the opportunity for late season planting. There will still be opportunities for plant in that latter part of the planting season, but there could be a little more challenge to it by then.

This growing season will also present some serious challenges in western and some northern Alberta locations and possibly in a few northwestern Saskatchewan locations. These areas are plenty to excessively wet and some of these areas have a crazy amount of snow on the ground. The last week in March brought multiple waves of snow back to some of this region. Grand Prairie now has 71 centimeters or 28 inches of snow on the ground as of this writing. Now that may be an extreme, but there are many other areas in western and northern Alberta that have substantial snow on the ground. Some of the water equivalency in the snow cover today varies from 30 to 60 millimeters with a couple of locations carrying 80mm. That could be a real problem if the heavily snow covered areas were suddenly release all of that moisture suddenly during a significant warm up. The ground is saturated beneath that snow and in such a case as that there would be some significant flooding. However, just having significant snow in place over snow covered areas in regions that still have 2019 crops out in fields greatly reduces the amount of time that producers will have to collect last year's crops and then turn around and plant the new crop. Weather conditions will have to cooperate for that process to be successful.

And the final issue that needs to be dealt with this spring is the ongoing dryness in some areas. Dryness was eased in many areas last autumn and as long as some timely precipitation occurs this spring there will be a favorable planting environment. However, it will be very important for the drier areas to get timely precipitation through the spring to ensure that no extended period of dry weather will threaten the survival of crops. World Weather, Inc. does not believe dryness will be much of an issue for a while, but east-central Alberta and west-central Saskatchewan will have to be closely monitored.



April Outlook Turns Colder; Drier Interior West

The cold surge dropping through western Canada this week is impressively deep and broad based. This will be the coldest week in April—thank goodness, but that does not imply spring begins next week. Additional bouts of cool weather are expected periodically through the month that will keep the averages below normal. Temperatures into Friday will be far enough below average in some areas to thwart the monthly average below normal almost by itself. Temperatures will moderate and as they do there will be additional opportunities for some light precipitation.

The most anomalously great precipitation in the Prairies this month may be under way at the time of this writing as a significant snow event continues to spread across Manitoba and northeastern Saskatchewan. These areas will get other precipitation this month, but it will likely be very light like that of winter.

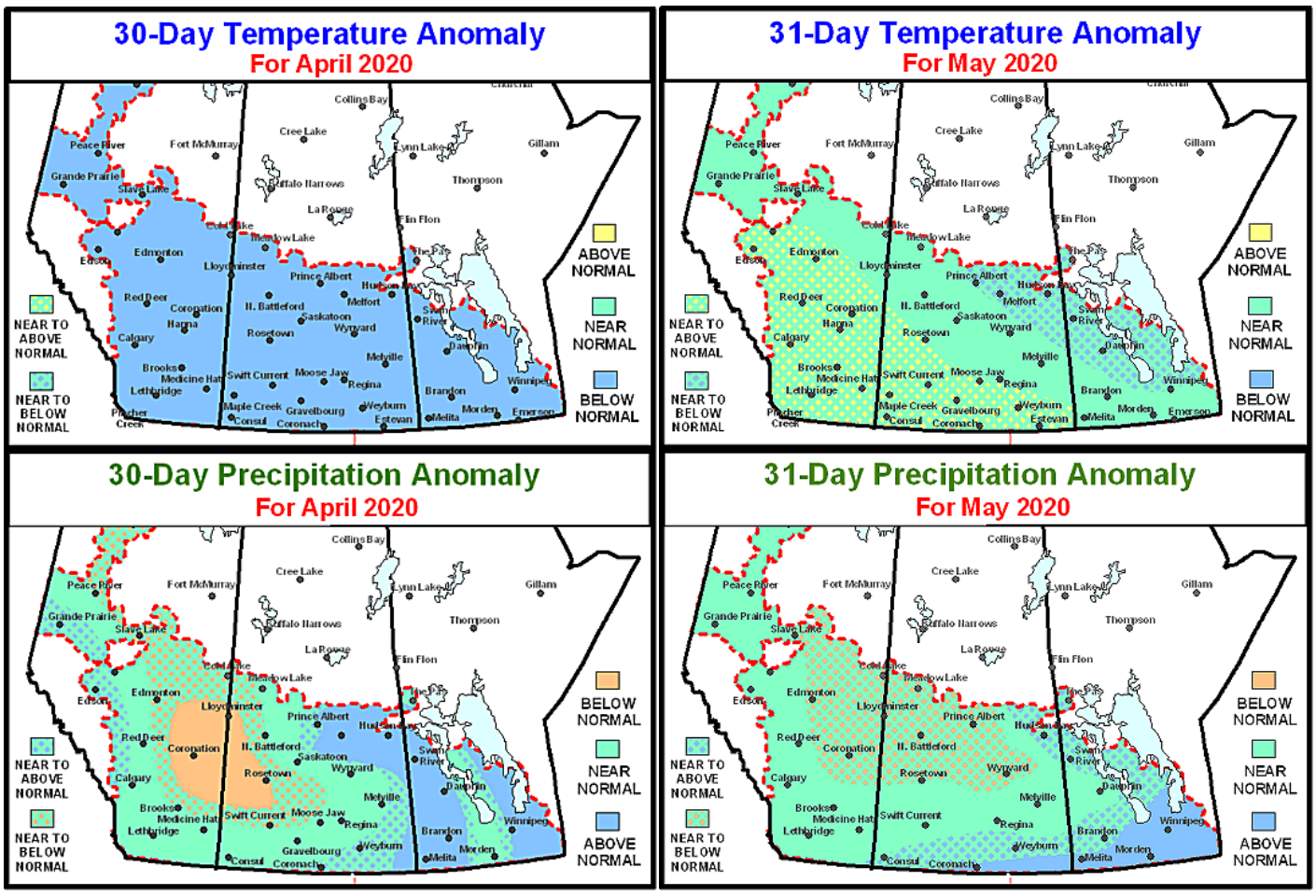
A northwesterly flow pattern aloft will be responsible for the cooler weather in the Prairies this month. The pattern will bring shots of cool and dry air southward from northwestern parts of the nation and Alaska for a while and that will result in continued below average precipitation in central parts of the Prairies. The jet stream will shift far to the south keeping most of the significant precipitation falling in the United States. That will further limit precipitation in the Prairies at least for a while.

April weather may include a few bouts of rain and snow down the front range in Alberta, but areas from east-central Alberta into west-central Saskatchewan will be least likely to receive significant precipitation.

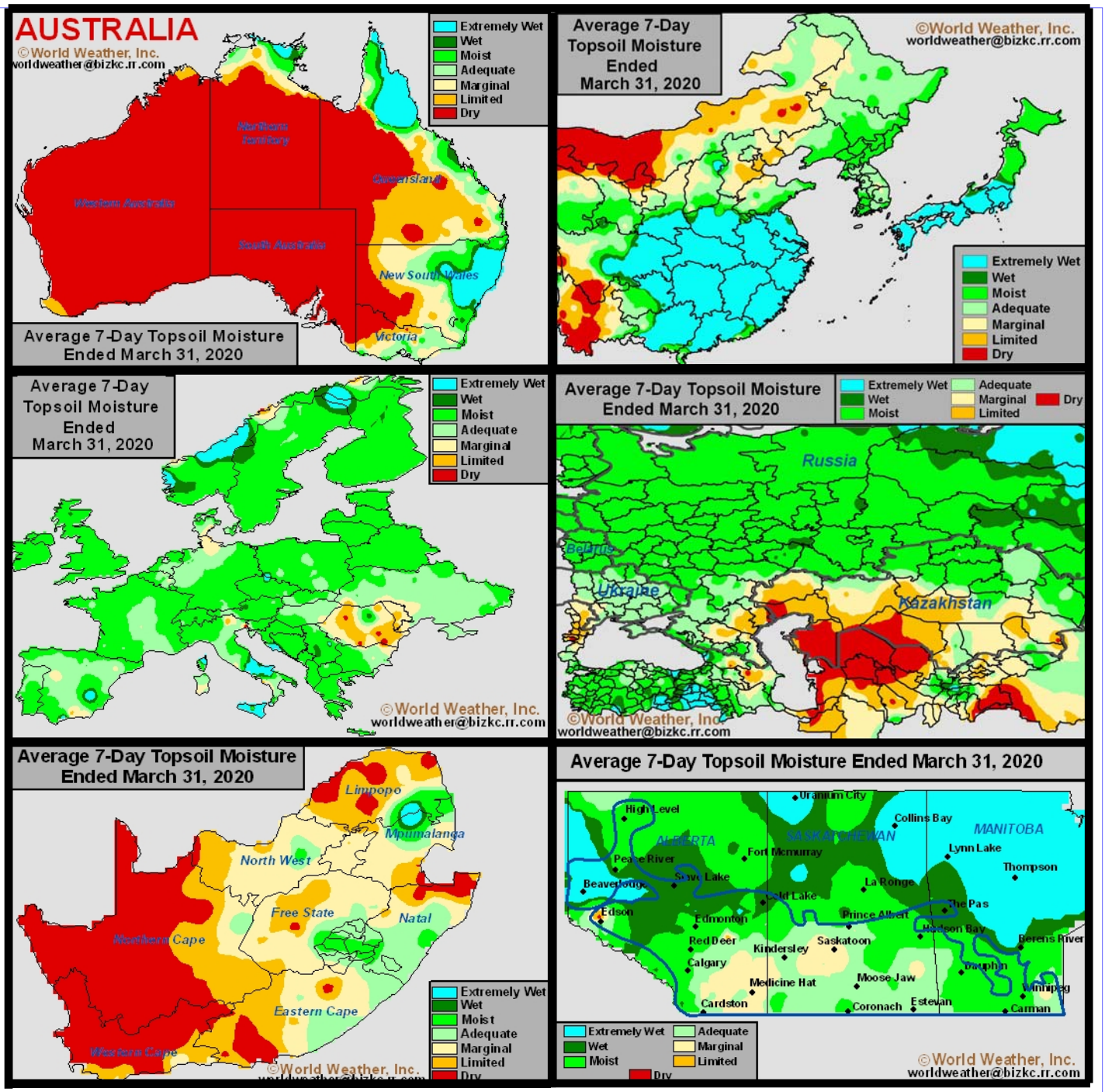
May weather will bring warmer weather and a more mixed weather pattern during the month. The outlook may be erroneously dry, but until the northern branch of the jet either weakens or turns in some other direction other than northwesterly the precipitation bias will not change much.

The odds are high that the second half of May will trend wetter in the southern and eastern parts of the Prairies and some temporary changes in late April and early May weather will offer some foreshadowing of this pattern, but it will not likely lock in until late May.

Confidence in the April weather pattern is high, but changes in the May outlook are still possible and a close monitoring on ocean temperatures in the Gulf of Alaska and off the U.S. west coast is warranted.



Selected Weather Images From Around The World



Australia has dried out once again and needs significant precipitation in the next few weeks to bolster topsoil moisture across the south in preparation for wheat, canola and barley planting. Rain will fall over the next few days in New South Wales which will likely translate into better planting moisture temporarily, but net drying will follow warranting the need for more rain. Southern China has one of the biggest problems relative to the other grain and oilseed production areas in the world today. Too much rain has been falling in recent weeks and the ground is quite saturated causing delays to corn and rice planting. Crop prospects farther north in China are looking good, but seasonal warming is needed to stimulate wheat and rapeseed growth. Dryness is still a concern from Romania into parts of Ukraine and from Russia's Southern Region through Kazakhstan and these areas should get some rain later this spring. South Africa summer crops are seeing good weather to finish out this year's crops. Canada's Prairies are too wet in western Alberta, northwestern Saskatchewan and northern Manitoba. Some other pockets are dry biased.

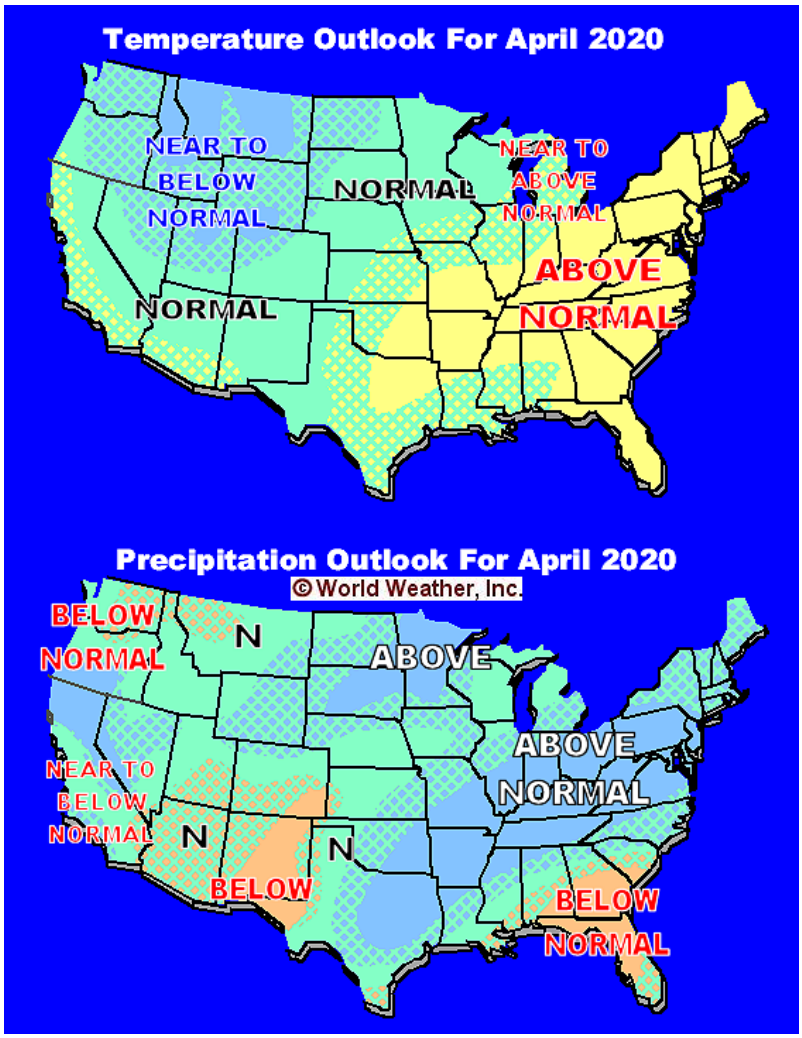
Canada's Cold Will Bring More Delays To U.S. Planting

Weather conditions in North America will be changing in April, but not many will be celebrating the changes. Extremely cold weather in western Canada at the beginning of this month will seep into the northwestern United States inducing a bout of wet weather across the central and eastern parts of the nation. Shortly thereafter the cold in Canada will moderate and shift to the southeast pushing the jet stream back to the south resulting in more rain for the waterlogged U.S. Delta, Tennessee River Basin and lower Ohio River Valley.

Rain will be most widespread in the U.S. Midwest over the next few days while the cold weather is still in Canada and the U.S. Pacific Northwest. However, as the cold air shifts to the north-central U.S. the jet stream will drop back to the same old position it has been in for weeks resulting in frequent rain across the southeastern Plains, Delta, lower Midwest and Tennessee River Basin. The pattern will prevail as long as the colder biased conditions prevail in Canada's Prairies and the northern U.S. Plains.

Some computer forecast model runs recently have suggested the pattern will remain locked in place through a large part of April. There will be some short term bouts of warming, but they will be quickly followed by additional cool air. The U.S. rainy pattern may relax back to the north for brief periods of time when Canada's temperatures are a little warmer, but the rain will shift back to the south with each new bout of cold.

As a result of this persistent weather pattern, the excessive moisture that has been prevailing in the U.S. mid-south region and lower Midwest is going to prevail and planting delays that have already been significant in the past few weeks will prevail through a larger part of this month. Some planting will occur in the southern Delta and in the far southeastern corner of the U.S. where rainfall is not likely to be very frequent or great.



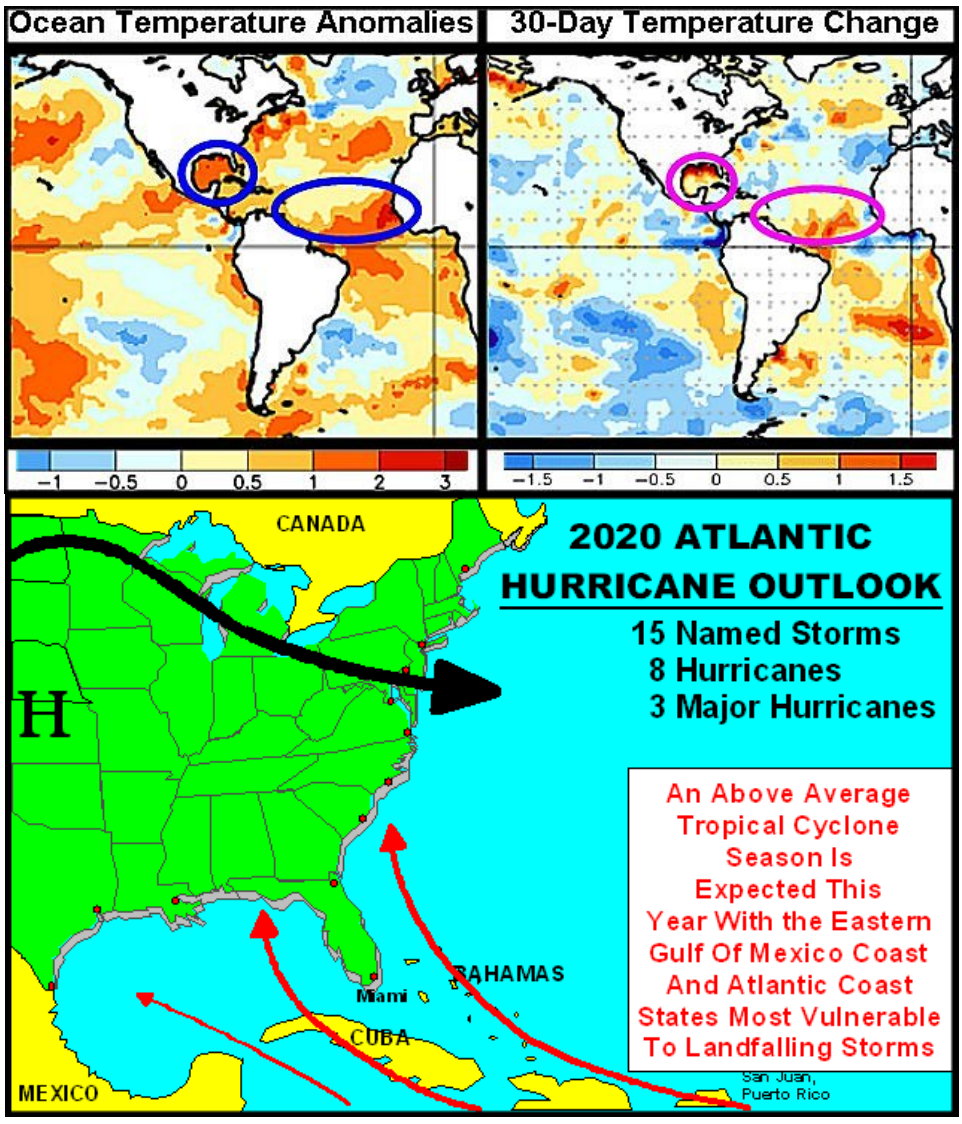
World Weather, Inc. believes changes in the weather pattern in May that will impact the Prairies will also impact the U.S. and a sudden northward shift in rainfall is expected and that will lead to a sudden shutdown in rainfall in the U.S. mid-south region. The sudden change toward drier biased conditions will occur in time for some aggressive planting to take place. However, by that time it will be too late for some producers to be successful with corn planting and will likely switch to sorghum, cotton or late season soybeans. The same area that is usually planted will likely be planted, but it may not be planted with the crops that were originally slated for the region.

The change in crop plantings may help reduce the acreage committed to corn this year which was announced by the USDA this week to be more than expected. With oil prices down, the demand for ethanol very low and a global recession expected to expand, the need to reduce corn acreage will be necessary and farmers will likely make the change to other crops without much hesitation.

In the meantime, the wetter biased weather advertised in the north-central United States comes from the same storm impacting Manitoba at the time of this writing and from another weak disturbance that will pass through the region in this first week of April. One more storm will pass through the region later in the month when a short term bout of warming impacts Canada and the north-central United States allowing at least one fair sized storm system to sneak across the region raising moisture totals for the month.

Warm Ocean To Promote Active Hurricane Season

Warmer-than-usual ocean water in the Gulf of Mexico and tropical Atlantic Ocean will raise the potential for an active tropical cyclone season in those basins during 2020. The warm water is also occurring in a year in which neutral ENSO conditions are present and that alone would support at least a normal number of tropical systems. World Weather, Inc. believes there will be more storms than usual this summer and there will be potential for an early start to the season with activity in Gulf of Mexico and Caribbean Sea in late May and June.



Ocean temperature anomalies have been consistently above average in the Gulf of Mexico and in a part of the tropical Atlantic Ocean in recent months. The most recent temperature changes in each region have not suggested any cooling. In fact, the anomalies have become more significant in recent weeks. There is still plenty of time for ocean cooling to take place, but given the environment that is present today it seems prudent to bring these conditions into the public eye.

Given the already shaky global economic situation that is present today because of Coronavirus and COVID-19 the last thing North America needs is an active tropical cyclone season. Cooling is needed in both the Gulf of Mexico and tropical Atlantic Ocean in the next few weeks and months to help curb the potential for the advertised active storm season, but as of today there is not much sign of that kind of change taking place – at least not through the first half of April.

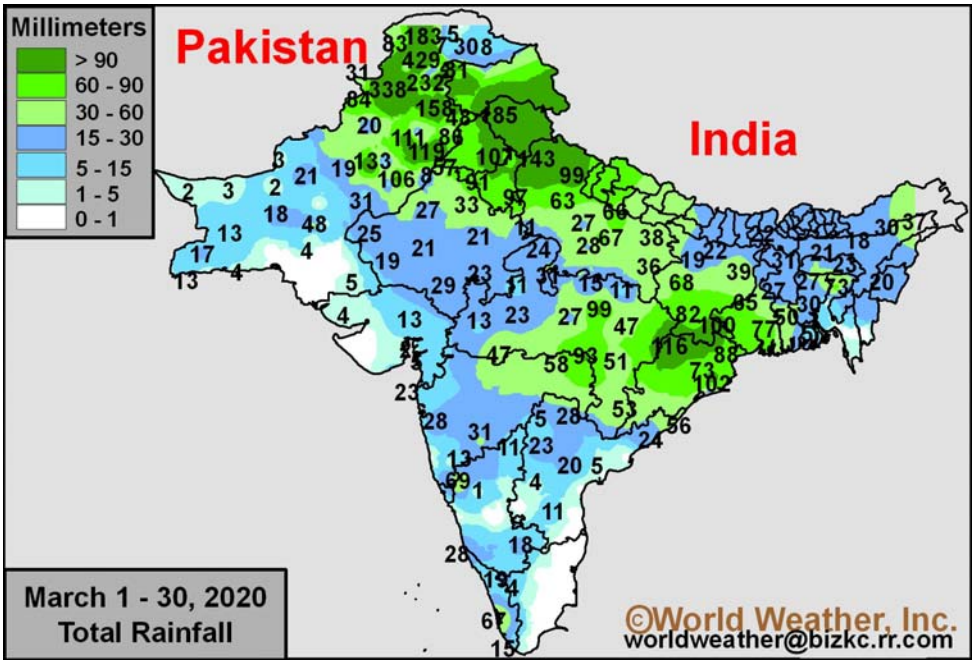
If conditions remain as they are in May, World Weather, Inc. believes there would be potential for tropical disturbances to appear earlier than usual as the jet stream over North America starts to shift northward in late May and June. The warm water would not only suggest more tropical cyclones, but there would be potential for some of the storms to be strong. World Weather, Inc. knows it is quite early in the forecasting season, but under the current circumstances at least 15 named storms will be possible this year, 8 of which will be hurricanes and 3 of those could be major hurricanes. That compares to average of 12 named storms per season from 1981 through 2010, 6 of which usually become hurricanes and 3 major hurricanes.

A slightly more active Gulf of Mexico and Caribbean Sea in late May and June might be very important as long as there are no major tropical cyclones. Dryness is already present in South Texas, in most of Florida and along the immediate Gulf of Mexico coast between the two regions. Drying in the southeastern corner of the United States is expected to prevail through the next several weeks raising need for relief when the warmer days of May and June arrive. Corn, soybean, peanut and cotton producers as well as Florida fruit and vegetable producers may be in need of significant moisture by that time. No one wants a significant tropical cyclone to impact their region, but a couple of weak tropical systems would provide some much needed relief to dryness.

India Wet Weather Must Stop To Protect Winter Crops

India has had some incredibly wet weather since the second half of last summer. There were some brief breaks, but the volume of moisture collected in the nation over the autumn and winter was far more than usual resulting in tremendous winter crop yields in many production areas. However, rainy weather in March has raised some crop quality concerns and the moisture must stop now to protect all crops from possible quality declines. Wheat, rapeseed and pulse crops could all suffer a notable decline in quality if rain does not stop immediately.

Weekend rainfall was reported in many parts of India. Locally significant amounts in parts of Maharashtra and from Haryana and Uttaranchal northward to Jammu and Kashmir as well as northern Pakistan were amazingly great. Rain totals in Maharashtra peaked at 35 millimeters (1.38 inches) which was impressive on its own, but some areas in western Himachal Pradesh and neighboring areas in northern Pakistan reported rain totals of 36-110 millimeters (1.42-4.33 inches). There was one unconfirmed rain total from Friday that reached 153mm or nearly 6.00 inches. These are incredibly significant amounts of rain for any time of year, but especially in late March. Most of the greatest rain stayed north of key wheat production areas, but there were some minor production areas that were certainly impacted.



Some of the heavy rainfall may have been accompanied by some strong wind speeds and possible hail. Some local flooding may have also occurred. All of these conditions are not good for crops and especially not any mature wheat, rapeseed or pulse crops. Most of the region impacted most significantly with the greatest rain, wind and hail was north of key winter crop areas, but some of the lighter rain that fell to the south did impact some of the production region. The weekend rain coupled with that reported in recent weeks raised concern over grain quality declines for early maturing wheat. Most of the early maturing crop, however, is located farther to the south where rainfall was more erratic and light which should have protected the majority of crops from damage.

Rapeseed is produced a little more abundantly to the west and south of where the greatest weekend rain was reported and many of the key pulse production areas are also farther to the south, but there is a minor portion of the crop that does get produced in the higher latitudes. The weekend rain was just one of many rain events noted this month and the bigger concern is about rain frequency and significance for the month to date. Normally, winter crops reproduce and fill in February and March making late March, April and early May very important for crop maturation and harvesting. Additional rain during this time of year can have a devastating impact on some of the crops.

World Weather, Inc. believes that most of India's crops have benefited from frequent precipitation in recent months. Winter grain, oilseed and pulse crop production should be high from the majority of the nation, but drying is needed now and it must prevail through the harvest season to protect crop quality. Any additional rain of significance could have a tremendous negative impact on the grade and general quality of pulses and rapeseed. Wheat could go from a beautiful high quality crop to one of very low quality if the rainy weather continues any longer. April will be a critical month since most crops mature in April and harvesting accelerates from early to late in the month. Harvesting usually continues in May with the northernmost crops in India – where it has been wettest recently – being last to be harvested. The fact that harvesting in the north occurs late in the spring reduces the potential that weekend weather harmed very many crops. Some damage is suspected from severe weather, but the extent of the loss should be low and mostly localized.