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

The Canadian Agriculture Weather Prognosticator

Volume XVI, Issue IIII | http://www.worldweather.cc | June 04, 2024

World Weather At A Glance

- Southern Russia, eastern Ukraine and western Kazakhstan turning hotter while dry
- India's heatwave impacts milk production, threatens sugarcane and damages cotton
- Australia's rainfall to improve for winter crop planting
- Southeast Asia rainfall to improve as El Nino influence fades
- China's North China Plain is too dry and will continue drying
- U.S. crop areas are wet today, but should dry down in the central states during mid– to late-summer
- Mexico drought remains serious with a slow recovery likely
- Argentina wheat planting to accelerate and the outlook is good
- Brazil weather is improving with less rain in the south
- India monsoon should be a good performer

May Moisture Greater Than Expected

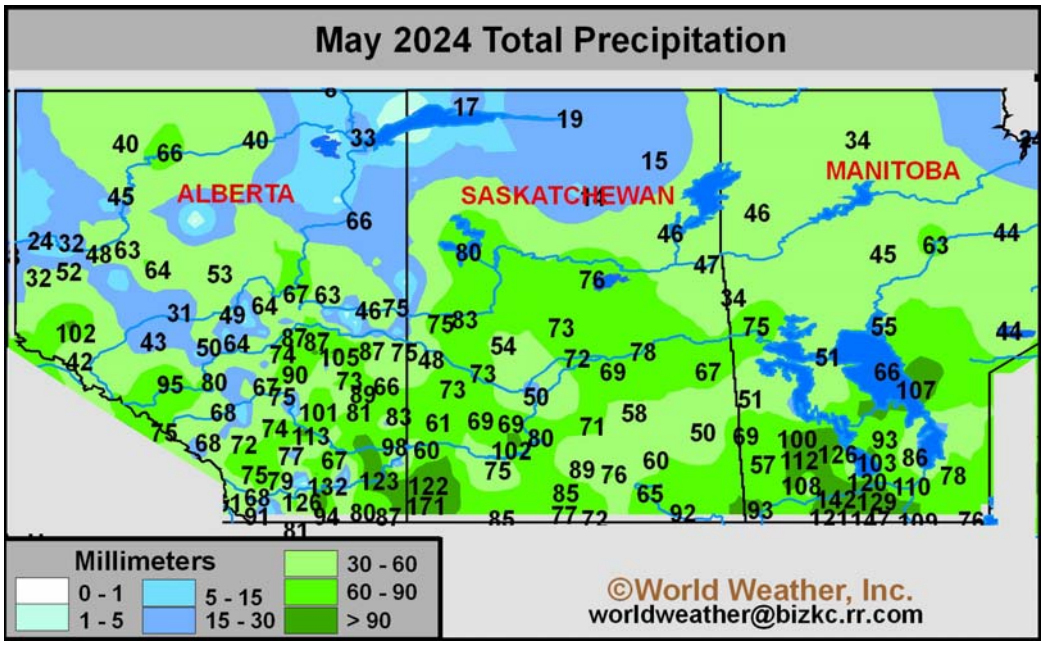
May turned out to be a much better than expected month of precipitation. The month was expected to be one of transition and it was, but the abundant rain expected in June got off to an early start. Now, a short term pause in the rain is coming and that may be celebrated by those southwestern farms that have become too wet recently.

Rainfall was greater than usual during May in north-central and eastern parts of Alberta through most of Saskatchewan to Manitoba. The exceptions were in east-central Saskatchewan and a small part of northwestern and far southeastern Manitoba where precipitation was near to slightly below normal. The driest area relative to normal was in the western part of the Peace River Region, including neighboring areas of British Columbia.

Actual rain totals for the month were rarely less than 2.00 inches and many areas received 2.00 to 4.00 inches. Some areas in southern Manitoba, southwestern Saskatchewan and southeastern Alberta reported 4.00 to more than 6.00 inches. Such rainfall in a single month across most of the Prairies has not occurred for a couple of years and was tremendously important event since the moisture profile in some areas was critically low prior to the planting season.

Unfortunately for some areas in Manitoba and northeastern Saskatchewan, the ground became too wet for fieldwork by the end of May. Other pockets of abundant rainfall recently have seen delays to fieldwork and yet very few producers want to complain after the multiple years of drought that have occurred in recent years.

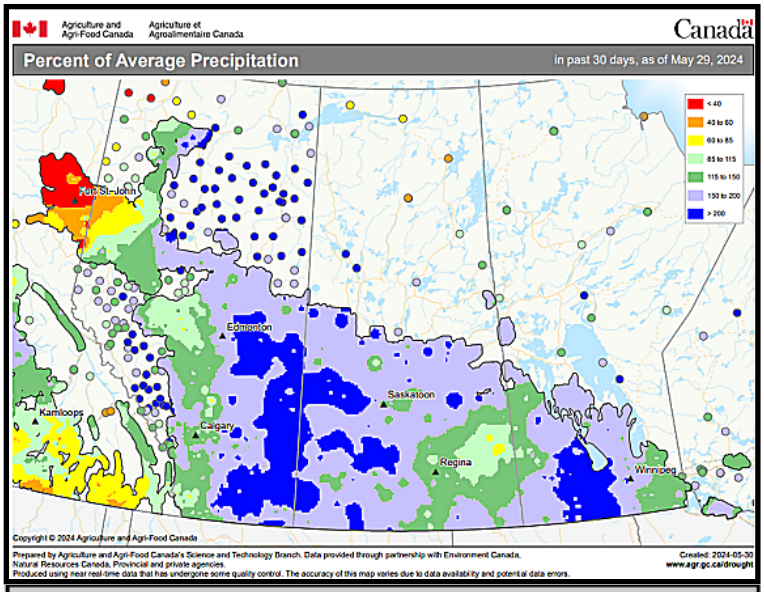
Overall, planting is

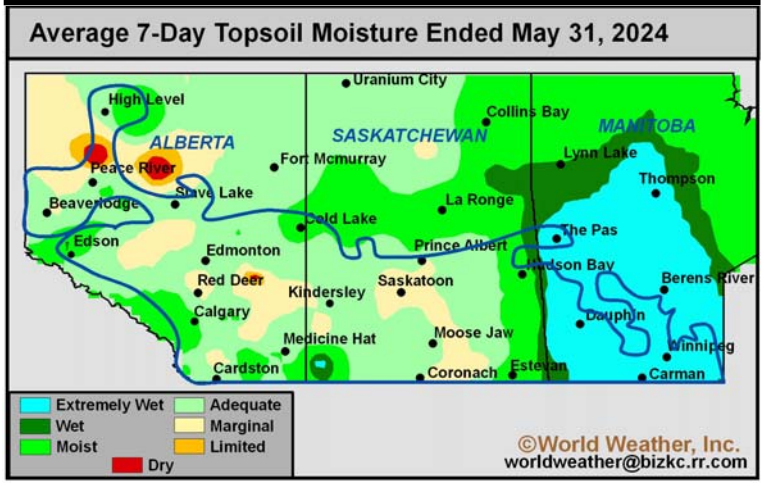


May Moisture Greater Than Expected (from page 1)

progressing a little slower than previous years due to the wet weather . As of May 27, planting was 77% complete in Saskatchewan, down from 91% for the previous five-year average. Planting was 58.5% complete in Alberta as of May 21, down from 62% for the previous five-year average. In Manitoba, planting was 47% complete as of May 21, down from 52% for the five-year average.

One more large storm system is impacting the northern and eastern Prairies this week. The storm will produce more rain just where it is not wanted or needed extending delays to fieldwork through another week. Total rainfall may vary from 20 to 45 millimeters with a few greater amounts by Wednesday night. The southwestern Prairies, however, will be left generally dry or at least receive minimal amounts of moisture.





A ridge of high pressure is expected to build into the western Prairies briefly late this week, but at the same time another weak storm system will move through the northeast part of Saskatchewan into Manitoba inducing one more round of light rain. The ridge will then shut down the greater rain events and curtail the high frequency of precipitation that has occurred recently. The break will be well-timed to get the remaining crops planted in the southwest before it gets too late.

Several days of drying are expected in the southwest beginning late this week and lasting through the following weekend. The drying may not be absolute, although any rain that does fall is expected to be relatively brief and light. Disruptions to the drying trend should be brief and with a little luck there should be sufficient time for the wetter areas in the southwest to experience sufficient drying so that fieldwork can conclude.

Temperatures will be cooler than usual in the north-central and eastern parts of the Prairies during the wetter period this week. That will make the wet bias a little greater concern while applying more pressure for an extended period of drying to evolve so that farmers in the east can get back into their fields.

In the meantime, drying in the southwestern Prairies will allow fieldwork to conclude without any serious delay. However, the warmer than usual temperatures that will accompany the drying trend in that part of the Prairies will likely lead to quick drying and a little concern about returning moisture stress for some areas. However, rain is expected to resume as a series of storm systems lines up across the northern Pacific Ocean during the second half of June and as each storm moves inland through the U.S. Pacific Northwest and British Columbia to the Prairies there will be opportunity for rain to resume in many areas across the Prairies, including the drier areas of the southwest.

The key to rainfall in late June will be in the orientation and intensity of the high pressure ridge over North America. The jet stream should be strong enough to perpetuate the storms into Canada, although that scenario must be closely monitored.

Overall, the benefit of recent rain in the southwestern Prairies followed by drier weather expected in early June should support a successful finish to planting and induce well-established crops with good production potential. The wetter areas in Manitoba and northeastern Saskatchewan, unfortunately, will trend wetter before they begin drying and the drying time may be too short before rain resumes to get all crops planted.

In the meantime, there will be some ongoing concern over dryness in parts of the Peace River region.

June Rainfall Should Be Sufficiently Mixed

The first half of June will be marked by the return of drier than usual weather in the southwestern Prairies. This trend is already in place early this week. The drier bias will contrast with, yet, another wave of significant rain in the northern and eastern parts of the Prairies. Manitoba and northeastern Saskatchewan will get the most significant precipitation and experience the greatest negative4 impact.

Some additional beneficial moisture will fall briefly early this week in the Peace River region and into a part of the Swan Hills and Slave Lake region while areas to the east may not find the expected rain quite as welcome or beneficial. Delays to farming activity are likely in northeastern Saskatchewan and Manitoba because of the expected rain.

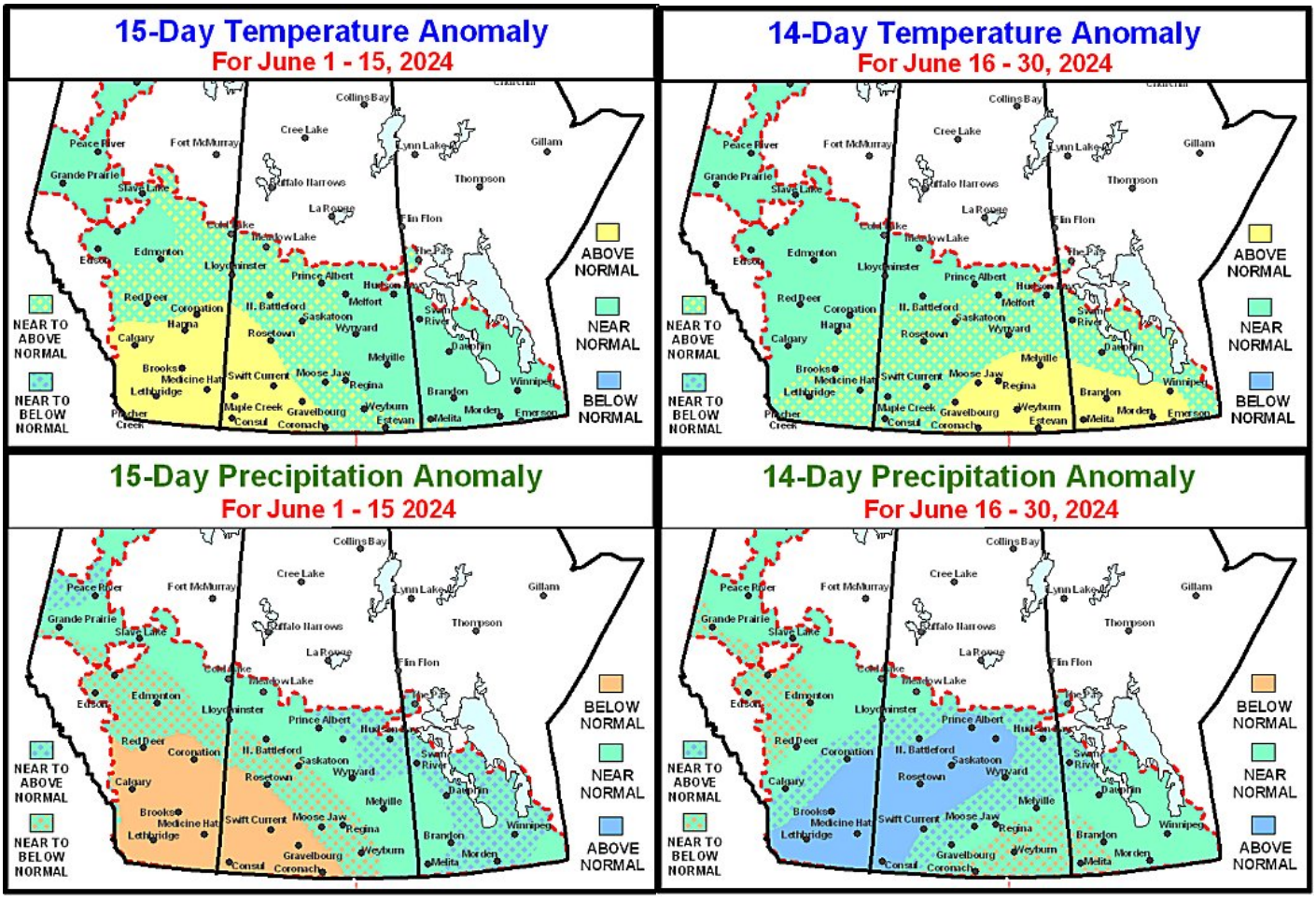
Temperatures in the first half of June will start off cooler biased in the rain y areas of the northeast while warming is expected in the west and central crop areas.

The second half of June is expected to transition back toward a wetter bias in the southwest and central parts of the Prairies. The break from rain in the northeast part of Saskatchewan will be of shortest duration and producers will need to take full advantage of the drier weather when it does finally evolve late this week, through the weekend and into the week of June10. Remember that absolute dryness may not occur which could complicate late season planting. Producers in the region should not look for ideal planting conditions.

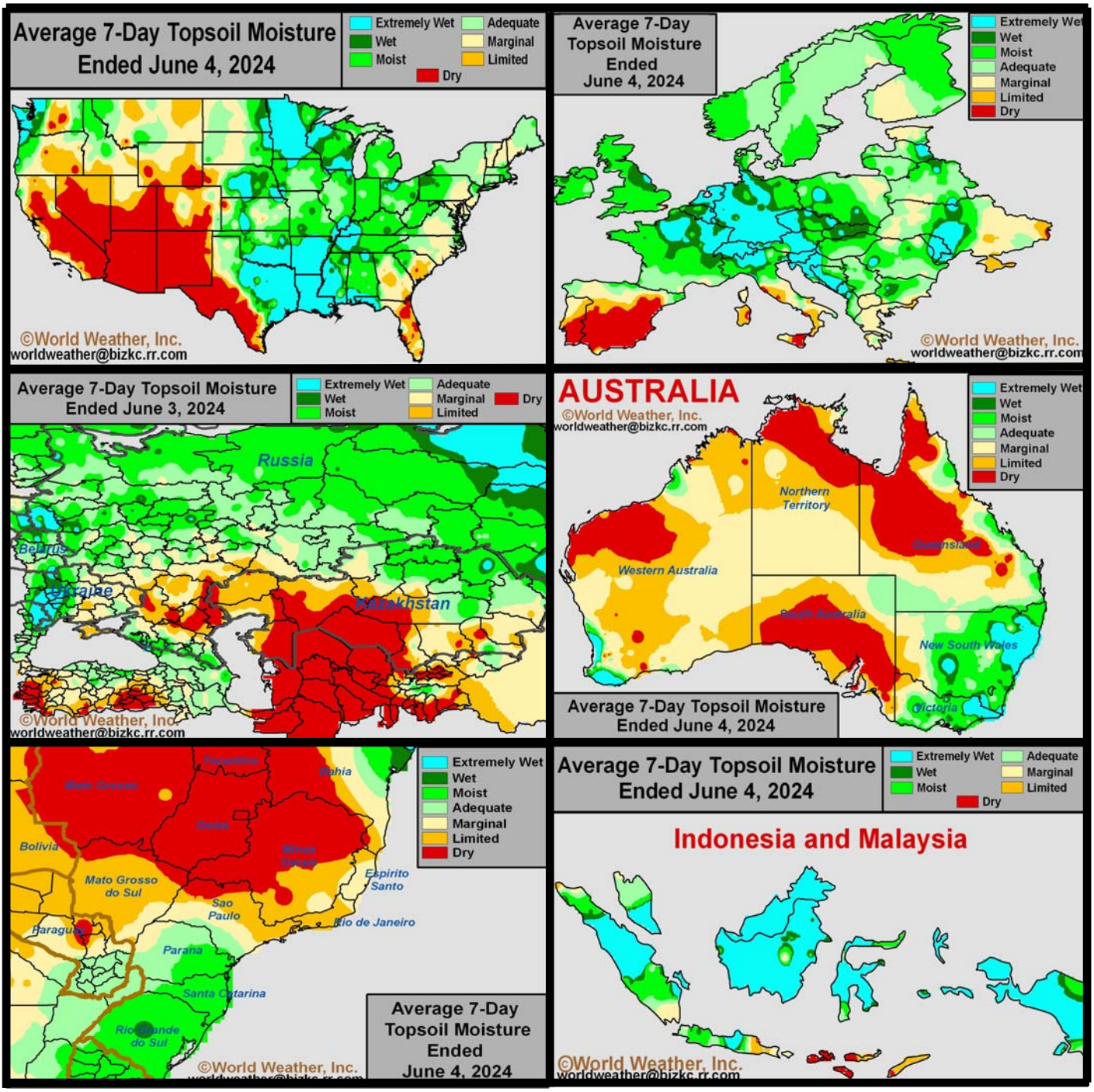
In the meantime, the drier bias in the southwestern Prairies should abate in the second half of this month and some of the drier bias should shift into the southeastern Prairies. Temperatures will also be warmer than usual in the southeast and south-central parts of the Prairies which could help to evaporate moisture from the soil more quickly and efficiently when rain is not falling.

Western parts of the Prairies will see near to below normal precipitation in the second half of the month with temperatures near normal.

July and August are still expected to provide a good mix of rain and sunshine across the Prairies. There will be some potential for a little drier than usual conditions in the southeastern Prairies while the north-central areas are wetter biased. Even though some moisture deficits will linger drought conditions like that of the past few years are unlikely to return.



Selected Weather Images From Around The World



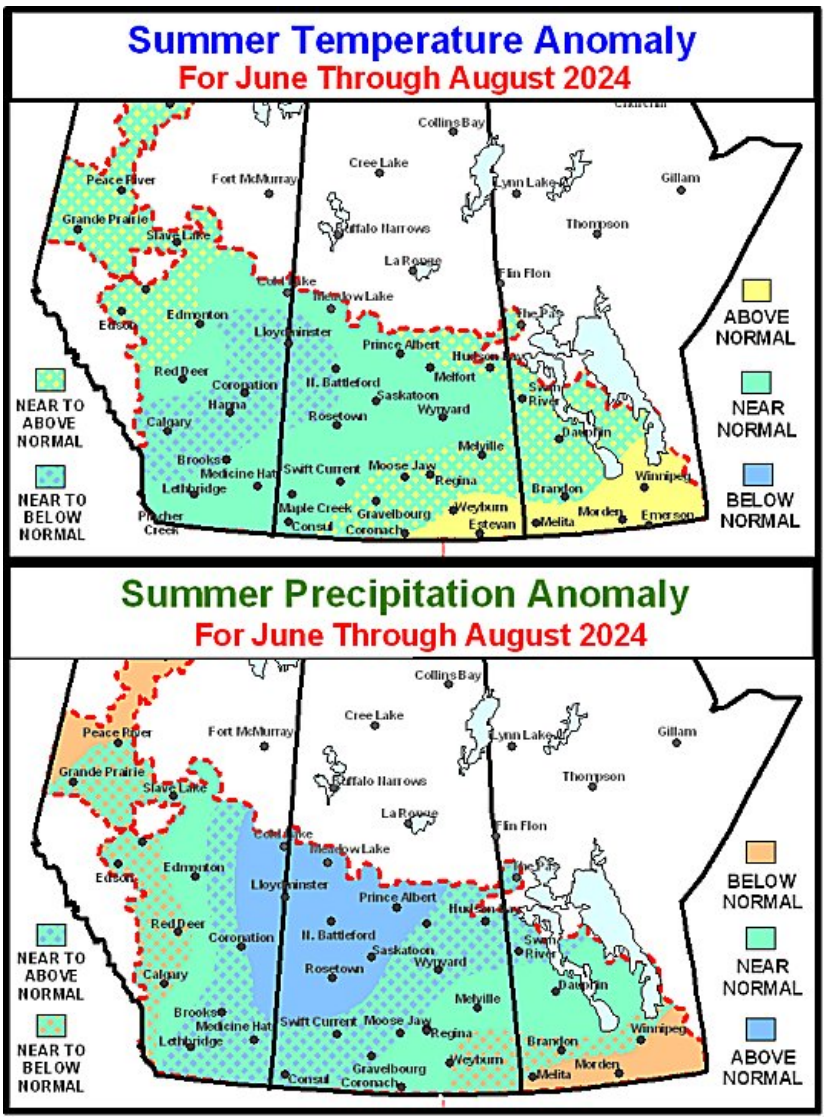
U.S. soil moisture is still rated adequate to surplus with a few pockets that are excessively wet. The environment has brought about several delays to spring planting, though progress has advances well enough to support favorable field working conditions. Western Europe has continued wetter than usual in recent weeks and there has been some concern over rapeseed and winter wheat quality. Some drying would be welcome in western Europe while the east needs greater rain. Russia's southern region and neighboring areas of eastern Ukraine and western Kazakhstan are still too dry and the pressure is on for lower winter wheat, barley and rapeseed production. Summer crops in southern Russia may also be threatened by dryness. In the meantime. Western and South Australia's wheat, barley and canola areas need greater rain to support better planting and emergence conditions. Indonesia and Malaysia are favorably moist and Brazil's Safrinha corn crop is expected to produce favorably, though not ideally.

Summer Outlook Still Expected To Be Better

Despite, talk about La Nina and ridge building in the central United States this summer the weather patterns in North America have changed enough to bring waves of rain to the Prairies already this year and this will continue as the summer wears on. Some dryness in expected in a part of the southwestern Prairies for a little while in the first half of this month, but a change toward a more active weather pattern is expected again during the middle and certainly the latter part of the month.

The frequent rain pattern will ensure moisture abundance in many areas. It will be difficult to get very precise about which area will be wettest, but the southwest through north-central parts of the Prairies should be most favored for the greatest rain. Other areas in the far west and the east will have opportunities for rain. The precipitation may not be above normal throughout the Prairies, but its timing will be sufficient to support a good environment for crop development.

The biggest hurdle in the near term is getting the remaining crops planted before it gets too late. This week's stormy weather in Manitoba and northeastern Saskatchewan is only going to perpetuate a wet bias that is already present and that could lead to some tough late season planting conditions. The clock is ticking away and there must be a significant break from the wetter biased conditions soon in order to get the remaining crops planted before optimum planting dates have passed. This week's wet bias will likely delay field entry in some areas for at least another full week after the rainy period ends and all of sudden we are looking at mid-June. Weather conditions will have to be ideal in the second half of this month to provide the best environment for getting the remainder of the crop planted before insurance cutoff dates have passed.



The bulk of the Prairies have had good weather this spring and fieldwork has advanced well, but there is concern about Manitoba and northeastern Saskatchewan because of the wet bias that has been playing out and that may prevail later into the growing season.

On the other side of the fence, there is the Peace River region which is still running some moisture deficits and there is need for greater rain. Not much is anticipated for a while, although totally dry weather is not likely. Any precipitation will be welcome, but more will be needed.

Southern Manitoba which has been wettest most recently will continue wettest into next week Drier weather is expected to develop in the region later this summer and that should change the overall condition of crops and fields. Some of the wettest areas today could become drier than usual later this summer.

Most other areas in the Prairies are likely to see an active weather pattern during the summer that may not saturate the soil in all areas, but some areas will be abundantly wet at times and that could have some negative impact on production.

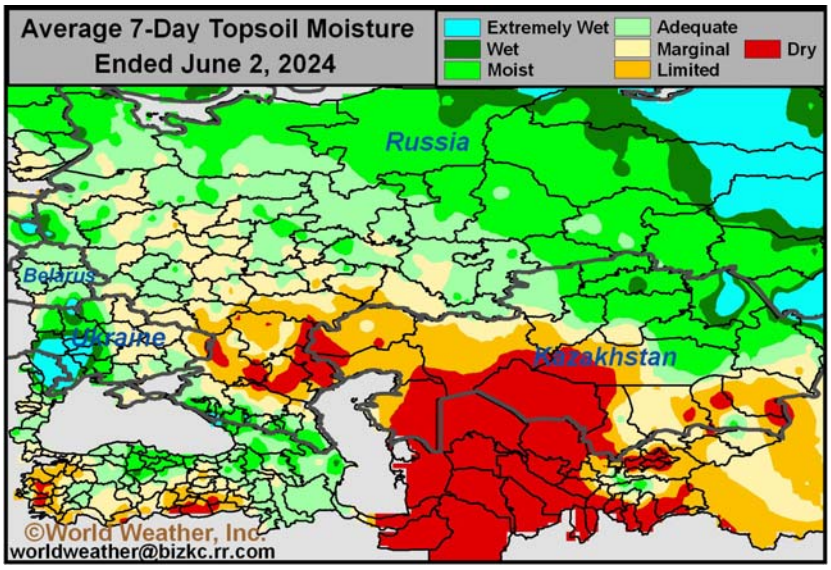
Most likely the majority of the Prairies will experience a good mix of rain and sunshine to support aggressive summer crop development while boosting long term soil moisture and water supply.

Temperatures this summer may be a little milder than usual in the wettest areas and neighboring areas to the west while the warmest conditions are likely in the southeast.

Warm Temperatures To Exacerbate South Russia Drying

The latest soil assessment shows the ground to be short to very short of moisture from eastern Ukraine through much of Russia's Southern Region to western Kazakhstan. The area produces nearly half of all winter cereals from Russia and small percentage of crop from Ukraine and Kazakhstan. Spring and summer crops are also grown in this dry region and they, too, are struggling.

Totally dry weather was not observed during the past week, though rain totals were rarely more than 0.35 inch which was far too light to have a lasting impact on crops or soil conditions. Temperatures also warmed to the 80s Fahrenheit during the weekend after a notable period of cooler biased weather. Several areas in Kazakhstan reported extreme temperatures in the 90s during the weekend as weak Sukhovei conditions evolved. A Sukhovei is a dry and warm to hot wind that blows from the east across the steppes of Kazakhstan into southern Russia. The drying wind can exacerbate a drought and worsen crop conditions. The Sukhovei, however, is quite weak and unlikely to have a huge impact other than supporting warmer temperatures over an extended period of time.



Rainfall in other areas of the western CIS; including western Russia, Belarus, and western Ukraine received seven-day rain amounts of 0.24 to 1.57 inches. Local rain totals to 5.55 inches occurred in the western fringes of Russia and southeastern Belarus. Other production areas in Russia, Kazakhstan, and Ukraine received 0.12 to 0.67 inch of rain with local amounts up to 1.26 inches. The moisture outside of the driest areas was supportive of ongoing favorable crop conditions and not much change is expected.

Much of the winter grain and rapeseed is reproducing and filling. Some of the yield may already be off because of early May freezes and to drought conditions in recent weeks. The added heat and continued dryness through the next ten days will further pressure yields lower and could result in a smaller winter grain and oilseed crop. Some computer forecast models have been trying to suggest developing showers after ten days, but that has not verified even though it has been in the forecast for an extended period of time.

There is no more important time for Russia winter grains than right now. Late May and early June is when the bulk of reproduction occurs and with limited soil moisture and warming temperatures yields are sure to fall. Additional drying, if it occurs, late this month would still have a negative impact on yields since grain sizes would fall further below the norm without sufficient rain or soil moisture for grain formation and filling. Harvesting begins in July for some crops and continues into August for others. Any rain that comes in late June or July would likely be too late for winter crops, but spring and summer crop conditions would likely improve.

Drier biased conditions will persist for the 'Southern Region, eastern Ukraine and western Kazakhstan this week and into the first half of next week. Periods of light rain will still occur, though resulting amounts will be lost to evaporation. Daytime highs will again surge to the 80s and 90s as well, which will promote additional drying for most locations. Late-season development conditions for the winter crops will further deteriorate and concerns for production losses will increase. There is potential for increased rainfall during the June 11 – 17 period, most notably in the 'Southern Region', though confidence is very low.

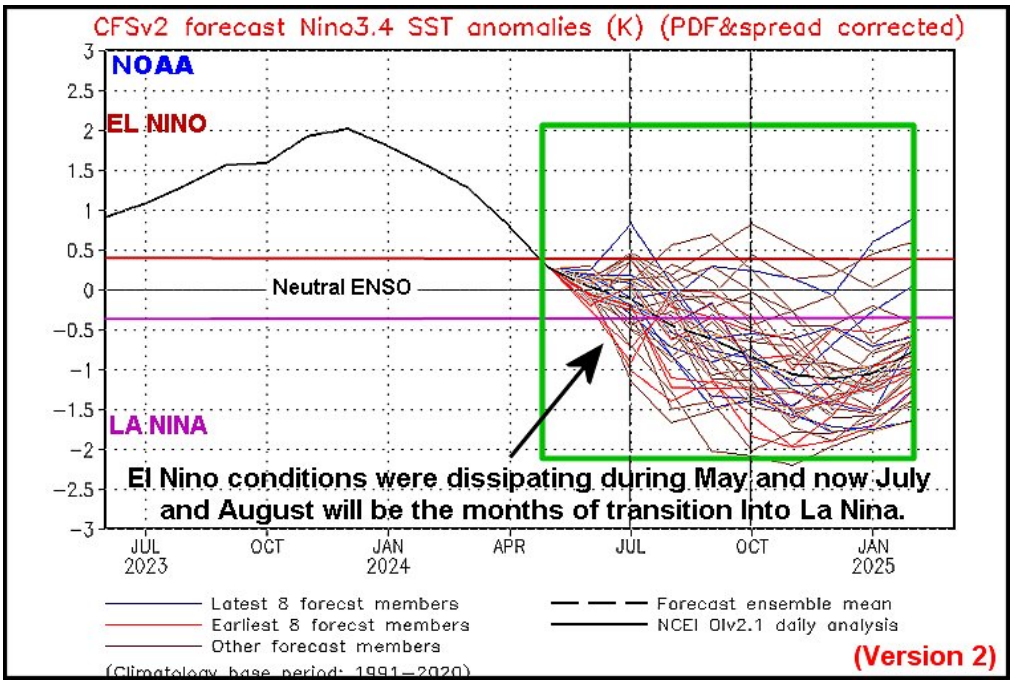
The remaining production areas in the western CIS will see a good mix of rain and sunshine this week. A series of disorganized disturbances will generate rain on a frequent basis with some of the most significant rain occurring over the weekend. Moisture totals by next Monday morning will range from 0.50 to 2.00 inches with local amounts of 3.00 inches or slightly more in the Ural Mountains region, western Russia, Belarus, and western Ukraine. Portions of the Baltic States will also only receive 0.10 to 0.50 inch of moisture. A similar weather pattern is expected June 11 – 17.

The waves of rain during the next two weeks will help maintain favorable late-season winter grain and oilseed development. Summer crop establishment and early-season development conditions will remain favorable as well.

Latest La Nina Forecasts Suggest Slower Evolution

The Australian Bureau of Meteorology recently implied that La Nina may not evolve through the Northern Hemisphere summer this year. That statement suggested La Nina may not be in place long enough by August to induce traditional anomalous weather around the world.

The U.S. National Oceanic and Atmospheric Administration (NOAA)'s CFSvs2 ENSO forecast model has recently changed dramatically delaying the onset of La Nina until the end of July and the beginning of August at the earliest. This change and that from Australia suggests that La Nina may evolve much later in the growing season and if it gets delayed much longer there is a chance that summer crop areas around the world may not be influenced by the phenomenon, at least not right away. This change has many implications around the world, but let's look at North America first.



Contrary to most recent beliefs, La Nina is mostly a friend to Canada when it is a single year event and not too strong. Many single year La Nina events have produced favorable rainfall across the Prairies. Trouble with La Nina and dryness usually comes when La Nina prevails over multiple years especially at the beginning of this particular 22-year solar cycle. That is one of the reasons why rainfall in 2020-2022 was so poor and temperatures very warm to hot at times. This year in the Prairies will be much different

The weather change may be more significant in the United States than in Canada. Most La Nina events in the United States contribute a drier and warmer bias to weather in the Great Plains and sometimes the western Corn and Soybean Belt. The pattern often pushes the jet stream far enough to the north to enhance rainfall in the Prairies while restricting it in the Plains. Delaying La Nina until late summer will limit the period of time dryness and heat may impact the central United States and that may help reduce some of the rainfall abundance expected in the Prairies; however, the wet bias in Canada will not completely go away.

Recent La Nina events have produced warmer than usual temperatures to much of the Plains and Midwest. Canada's Prairies are also often warmer than usual. The delay in La Nina this summer leaves the door wide open to more variety in weather patterns across North America.

The potential for dryness in the U.S. is still in place for late this summer, but more so because of the 18-year cycle than due to La Nina, although if La Nina evolves late this summer it will contribute to some of the warm and dry bias.

La Nina events also contribute to greater rain in India, Southeast Asia, eastern Australia central Africa, central America, Mexico and northern South America. The forecasts have been tilted toward wetter biases in each of these areas during June through September, but some of that wetter bias may be just a little later evolving now that forecast models are suggesting a slower development in the La Nina event.

A close monitoring of changing ocean surface temperatures is warranted for better clarity about the next few months of weather. Remember, though, La Nina must interact with other weather patterns.

Western Australia Rainfall To Improve For Winter Planting

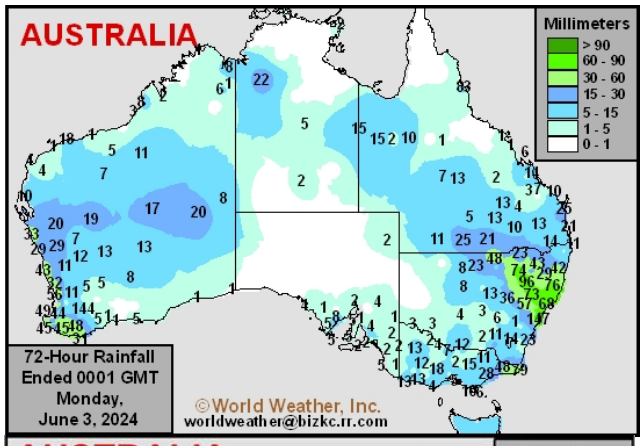
Although some spotty rainfall was noted during the past week, moisture deficits are ongoing in Western Australia and South Australia. Planting of wheat, barley, and canola has advanced in both states despite the lack of rain. However, there is a growing need for more rain to support ideal establishment and growth.

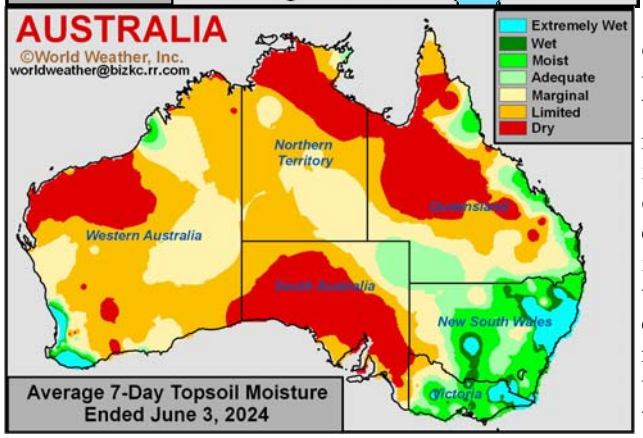
Planting of wheat, barley, and canola is ongoing in Australia. Planted acreage for wheat is expected to be above normal compared to the previous ten-year average as producers hope for late-season rainfall associated with the evolution of La Nina later this year. Barley and canola planted acreage may otherwise trend near or slightly below normal.

Western and South Australia remain too dry to support ideal establishment and long-term development. Recent rainfall has been beneficial, though much more is needed to completely eliminate moisture deficits. New South Wales, Queensland, and Victoria have received enough rain in recent weeks to support generally good establishment and early-season development.

Periods of rain are slated for **Western Australia** this week. Other than some spotty rainfall through midday Wednesday, high pressure will initially limit rainfall for much of crop country. A frontal boundary will promote more widespread rain late Wednesday into Thursday with some spotty rain lingering Friday. Another disturbance will generate rain over the weekend. Moisture totals by next Monday morning will range from 0.75 to 3.00 inches in west-central and southwestern Western Australia with locally greater amounts along the coastline. Other production areas in Western Australia will receive 0.10 to 0.75 inch of rain. Western Australia will again have a few opportunities for rain June 11 – 17, though amounts will be low.

The periods of rain this week will help improve the moisture profile for a large section of crop country in Western Australia. Establishment and early-season development conditions will improve for most locations. However, additional rain will be needed to remove moisture deficits and support ideal long-term crop conditions.





South Australia will only have a few opportunities for light rain this week. Much of the precipitation will occur early this week as an upper-level disturbance passes over the region. Other than a few spotty showers, the region will trend mostly dry later this week and weekend. Moisture totals by next Monday will range from trace amounts to 0.40 inch and locally more. The region will have additional opportunities for rain June 11 – 17. The periods of rain during the next two weeks will be unable to significantly improve the moisture profile. Minor improvements to wheat, barley, and canola will be possible. Much more rain will still be needed to support ideal long-term crop conditions.

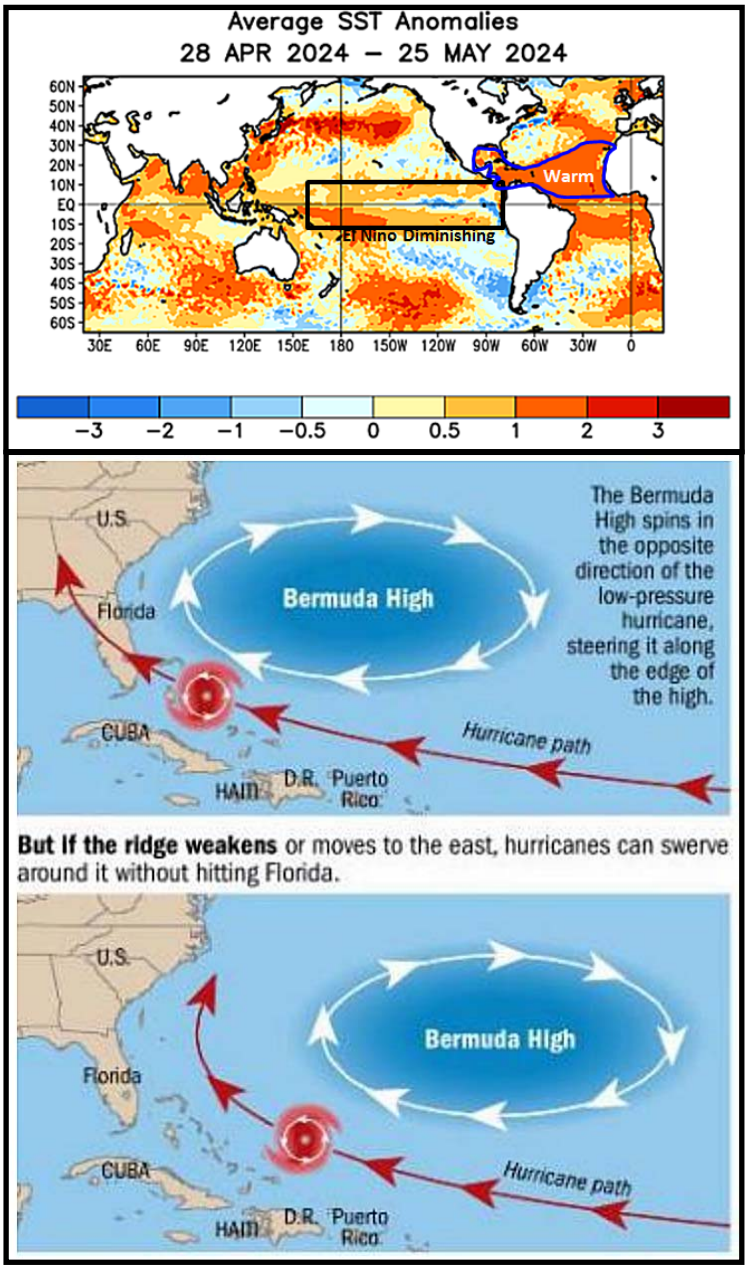
In the meantime, **eastern Australia** will trend drier than normal this week. An upper-level disturbance will still generate light rain when tracking over the region Tuesday into early Friday. Light rain will also be possible in southeastern Australia over the weekend. Eastern New South Wales will receive 0.10 to 0.75 inch of rain by next Monday morning. Portions of southeastern New South Wales will receive 1.50 inches or slightly more . Other locations will either miss rain or will not receive enough to counter evaporation. Drier biased conditions will likely persist for much of the region June 11 – 17.

Eastern Australia will have some soil moisture to support establishment and growth during the next two weeks despite the lack of rain. As long as timely rain occurs later in June or early July, no significant production impacts are expected. The development of La Nina later this year should improve spring reproductive conditions.

Bermuda High To Keep Many Tropical Storms In Atlantic

Unusually warm tropical Atlantic Ocean water has been given a lot of press in recent months. All forecasting entities have warned of a high frequency of tropical cyclones in the 2024 season. That does not really help much in preparing for the season, although the fear level has certainly been enhanced by all of the publicity and that should lead to some serious preparation for the season. Having a busy tropical cyclone season is easy to predict, but trying to assess the most favored region for land falling storms is a bit more challenging. World Weather, Inc. believes the U.S. Atlantic coast will be the most favored area for landfalling storms this season. However, Mexico, Central America and the lower Texas coast will also be favored. The central Gulf of Mexico Coast may have the lowest potential for land falling storms.

The steering of tropical cyclones across the Atlantic Ocean basin is largely determined by the subtropical high pressure system that is normally over open water in the Atlantic Ocean several hundred miles southeast of Bermuda. The clockwise circulation of air around the subtropical high pressure center usually steers tropical cyclones especially while they are weak. Large tropical cyclones and some of the more intense storms can break away from the influence of the subtropical high, but that high pressure system usually initiates storm movement.



The subtropical high pressure system's position in the Atlantic Ocean and its intensity will determine the initial movement of tropical cyclones and the larger the high pressure system becomes and the greater its intensity will determine much about the forward speed of developing storms. Sometimes the Bermuda High can influence the entire Atlantic Ocean from the west coast of Africa to the Gulf of Mexico and the western Atlantic Ocean.

Last summer (2023) the Bermuda High was often poorly defined. The system would appear and disappear frequently and it was rarely strong enough to push storms from Africa into the Gulf of Mexico. Last summer's ocean temperatures were also quite warm, although not as anomalously warm as this year. World Weather, Inc. believes the warm ocean water temperatures last summer interfered with the development of the subtropical high pressure system causing it to break down frequently or be easily displaced by other weather systems. This lack of intensity and stability led to the limited number of land falling storms in North America, according to World Weather, Inc.

El Nino also had some influence on storms in the Atlantic last year, but World Weather, Inc. has postulated that the warm ocean water actually

Bermuda High To Keep Storms In Atlantic (continued from page 9)

interfered with the subtropical high pressure system preventing it from becoming very strong and reducing its influence on tropical cyclone movement.

World Weather, Inc. believes the warmer ocean water this year may lead to a similar fate in the Bermuda High pressure system this summer. If that is the case, then the number of tropical cyclones that stay over open water in the Atlantic Ocean will once again be quite high. The high pressure system is not likely to attain such intensity that it will steer tropical cyclones from West Africa to the Gulf of Mexico Coast – at least not very frequently. However, it is very important to note that the Caribbean Sea and Gulf of Mexico are warming above normal too and that may lead to a few tropical cyclones in that part of the ocean as well.

World Weather, Inc.'s theory is that the more anomalously warm the ocean becomes, the more water vapor is available above the ocean due to greater evaporation. This can be illustrated by warming a pot of water on your kitchen stove. The warmer the pot of water becomes the more water vapor is given off to the air above the water. In your kitchen that is called "steam", in the world of meteorology it is called water vapor.

Warm oceans create greater evaporation and greater water vapor that escapes into the lower atmosphere. The warm, moist, air that is above the surface of the ocean is then heated by the sun and allowed to rise higher into the atmosphere where it will eventually run into cool air aloft. The mix of rising warm, moist, air with cool air aloft will result in showers and thunderstorms and a destabilization of the atmosphere. Destabilizing the atmosphere under a high pressure system aloft will cause the high pressure system to eventually weaken and dissipate.

If World Weather, Inc. is correct with its theory of unusually warm ocean water resulting in weaker subtropical high pressure systems, then (like last year) many more tropical cyclones that form in the Atlantic will not be steered into the Gulf of Mexico because of the weak or highly variable position of the subtropical high pressure center.

The latest data from the Atlantic Ocean, Gulf of Mexico and Caribbean Sea shows anomalously warm ocean water in nearly all areas. That suggests more than the usual number of tropical disturbances and storms. Most of those forming in the Atlantic will likely stay in the Atlantic Ocean and only a few will manage to reach the U.S. Atlantic Coast from Florida to Maine and even fewer storms that originate in the eastern Atlantic would likely make the trip into the Caribbean Sea or Gulf of Mexico – at least not while the subtropical high pressure system is weak or ill-defined.

Storms that form in the Caribbean Sea and Gulf of Mexico will have a tendency to move toward the west northwest in the absence of a strong subtropical high pressure systems. That movement suggests Central America, Mexico and Texas would have the potential of being most impacted by storms that form in the Caribbean or Gulf of Mexico this year unless the subtropical high pressure system becomes more stable and very large in size.

World Weather, Inc. expects 27 named storms this year with 10 hurricanes and 5 major hurricanes. However, the majority of the storms will stay over the Atlantic. Several storms will make landfall or have influence on the U.S. Atlantic Coast from Florida to New England. A smaller number of storms will reach into the Gulf of Mexico and Caribbean Sea with the fewest storms occurring along the central U.S. Gulf of Mexico Coast.