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The Canadian Agriculture Weather Prognosticator

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World Weather At A Glance

- North China Plain will get some timely rainfall in July that should bolster soil moisture and end crop moisture stress for some important summer crops
- Heat and dryness are returning to southern Russia and eastern Ukraine this month with some northward expansion possible for a little while
- Australia wheat, barley and canola planting and establishment is going relatively well, although greater rain would be welcome
- Europe is not facing any extreme weather, although wet weather in June may have hurt unharvested wheat and rapeseed
- Good harvest weather has occurred in North Africa
- India's Monsoon is finally kicking in more significantly after a sluggish start
- U.S. crops improving, although the upper Midwest is too wet

Warmer Days Ahead; Crops Should Improve

Concern about degree day and heat accumulation units across the Prairies has been rising in recent weeks. Most of the Prairies have had less than 10 days of temperatures over 25C so far this growing season and many areas have reported few consecutive days of such readings. More importantly is the nighttime temperatures dipped frequently to frost levels in late May and early to mid-June.

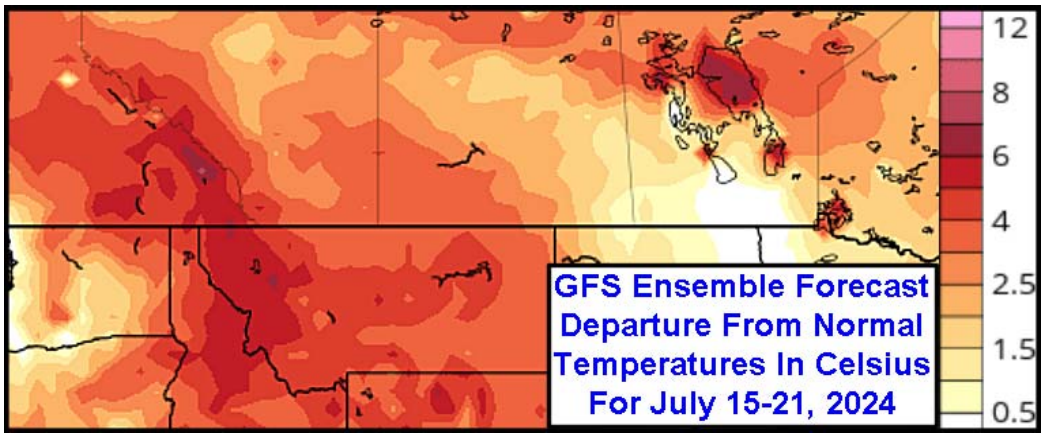
The cool weather is bad enough on its own, but there have been frequent cloudy days and hours of sunshine are down in many areas as well. The lack of sun, abundance of cool nighttime temperatures and (for some areas) an abundance of soil moisture has translated into delayed crop development.

Quite often the concern is not about heat units, but about it being too dry or too wet. This year's precipitation pattern has been mostly favorable for planting, although there are portions of the southwest that have still missed the general soakings of rain that others have had. On the flip side of that is in northern and in particular northeastern Saskatchewan and some northwestern parts of Manitoba where it was excessively wet for an extended period of time this spring limiting field access. There is some abandonment in the wettest areas, but the acreage of abandonment this year for the entire Prairies is quite low and the potential for a great production year remains relatively good, but heating is needed.

This first week of July is expected to continue cooler than usual in portions of the Prairies. Eastern and south-central areas, in particular, are going to deal with continued cooler than usual conditions. However, temperatures this week will not be nearly as anomalously cool as that of late June.

Next week's temperatures are expected to rise back near normal and some areas in the west will trend warmer than usual. By mid-month, most of the Prairies are expected to be seeing near to above normal temperatures. There is some potential for notably above average readings for a short period of time in mid– to late-month.

World Weather, Inc. believes that enough heat will come during mid to late July to stimulate more aggressive crop de-



Warmer Days Ahead; Crops Should Improve (from page 1)

velopment. It will be a very important period of time. The warm conditions are not expected to last very long, but perhaps long enough to stimulate faster crop development.

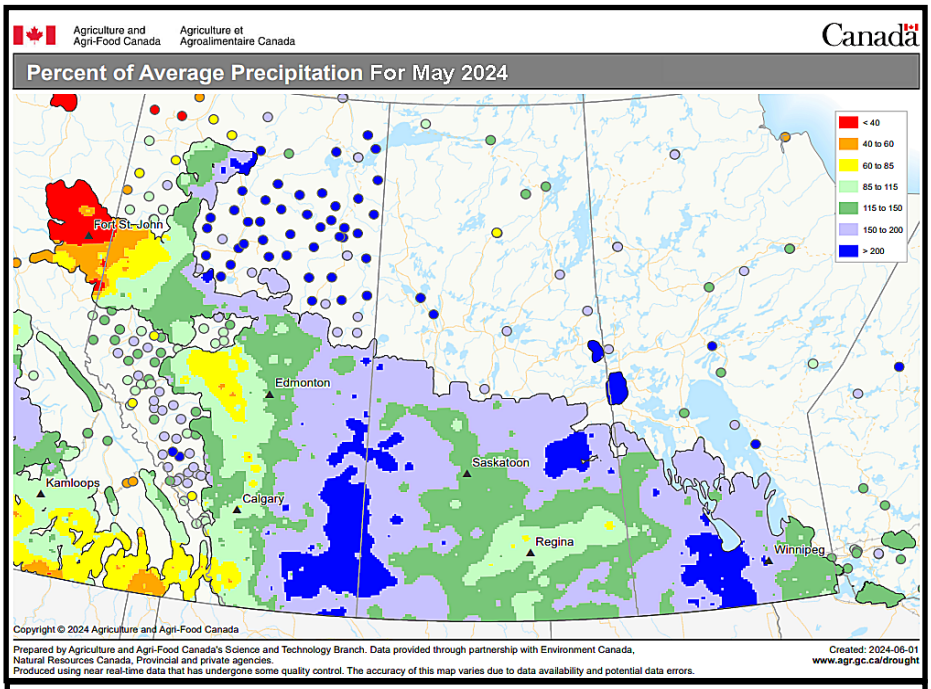
The good news for some areas is that while temperatures are warmer precipitation is expected to be less frequent and less significant. A bias toward below normal precipitation may evolve for a little while later this week through much of next week. After that, there may be a slow bias toward returning rainfall with late month precipitation expected to be ebbing wetter than usual once again. Hopefully, the mid-month drier and warmer period will be sufficient for some much needed spraying to occur in the previously wettest areas and for more aggressive crop development.

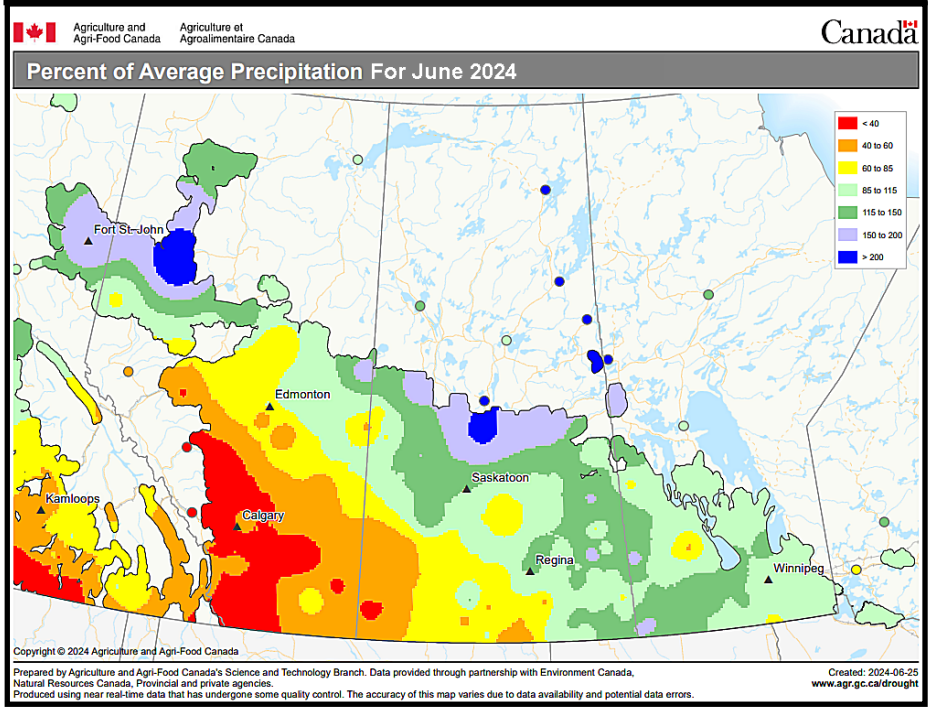
In the meantime, A big change in precipitation occurred during June with Palliser's Triangle experiencing much drier weather after abundant moisture occurred in May. The rainfall pattern was supposed to be drier than usual in the first half of June with improved rainfall in the second half of the month and that seemed to work relatively well, although a part of east-central Alberta and west-central Saskatchewan ended up getting a limited amount of rain during the second half of June leaving some need for greater rain.

A few areas in east-central Alberta and west-central Saskatchewan were trending too dry at the end of June when a last minute storm system managed to produce at least some rain into the region. There is still a notable moisture deficit in a part of the region and significant moisture is needed to adequately improve the long term outlook for the drier areas.

Rainfall in July is expected to be greatest in the central and eastern parts of the Prairies and in particular the southeast. Palliser's Triangle may not do real well with rainfall and it must be closely monitored. A delay in the development of La Nina and a predicted high pressure ridge position farther to the west in North America during early July promises to perpetuate the below normal precipitation and with returning warmer than usual temperatures the drying in some southwestern areas could get out of control relatively quickly hurting the prospects for some of the crops developing in the driest areas.

World Weather, Inc. is looking for the ridge position to shift back to the east for a little while in mid– to late July opening the door for improved rainfall in Palliser's Triangle, but the greatest rain could be farther to the east raising some concern for future crop development. Timely rain is expected, though, even though it may be light.





July Drying Southwest; Greater August Rain

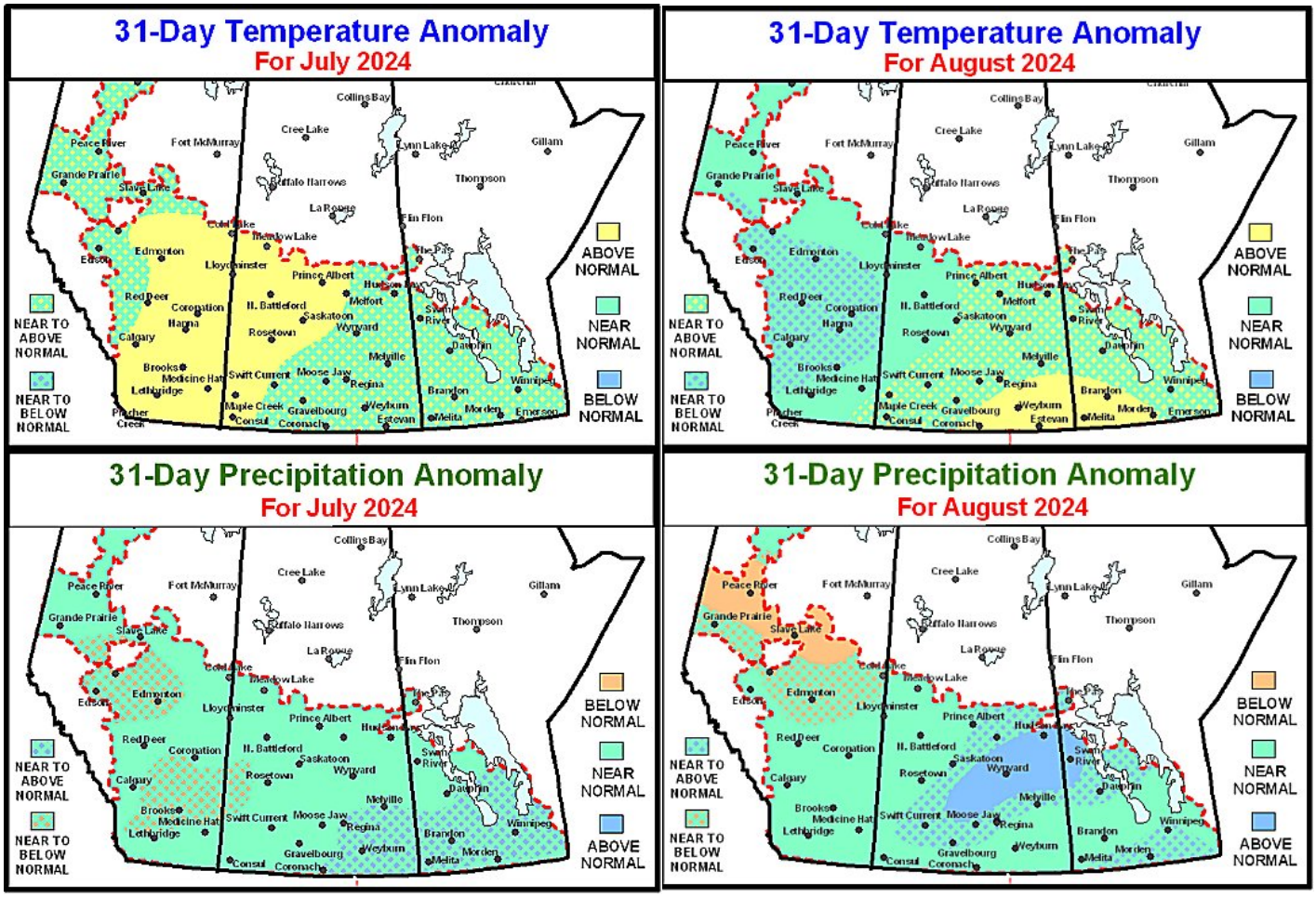
The most important change in weather during July will be warmer temperatures. The warming trend will be most significant during the middle to latter part of the month after one more cool week at the beginning of the month. The heat is needed to stimulate faster summer crop development, but as the temperatures turn warmer evaporation rates will increase and that may lead to quicker drying and an eventual need for greater precipitation and soil moisture.

There is some concern that July rainfall may continue lighter than usual in the southwestern part of the Prairies and in particular across east-central and southern Alberta and west-central and southwestern Saskatchewan. There have already been rumors about the return of drought to some of these areas and the weather pattern expected in early July is not going prevent those rumors from becoming more commonplace. The high pressure ridge responsible for the drying and warming should shift to the east later during July and into August and that should bring back the rain that is needed.

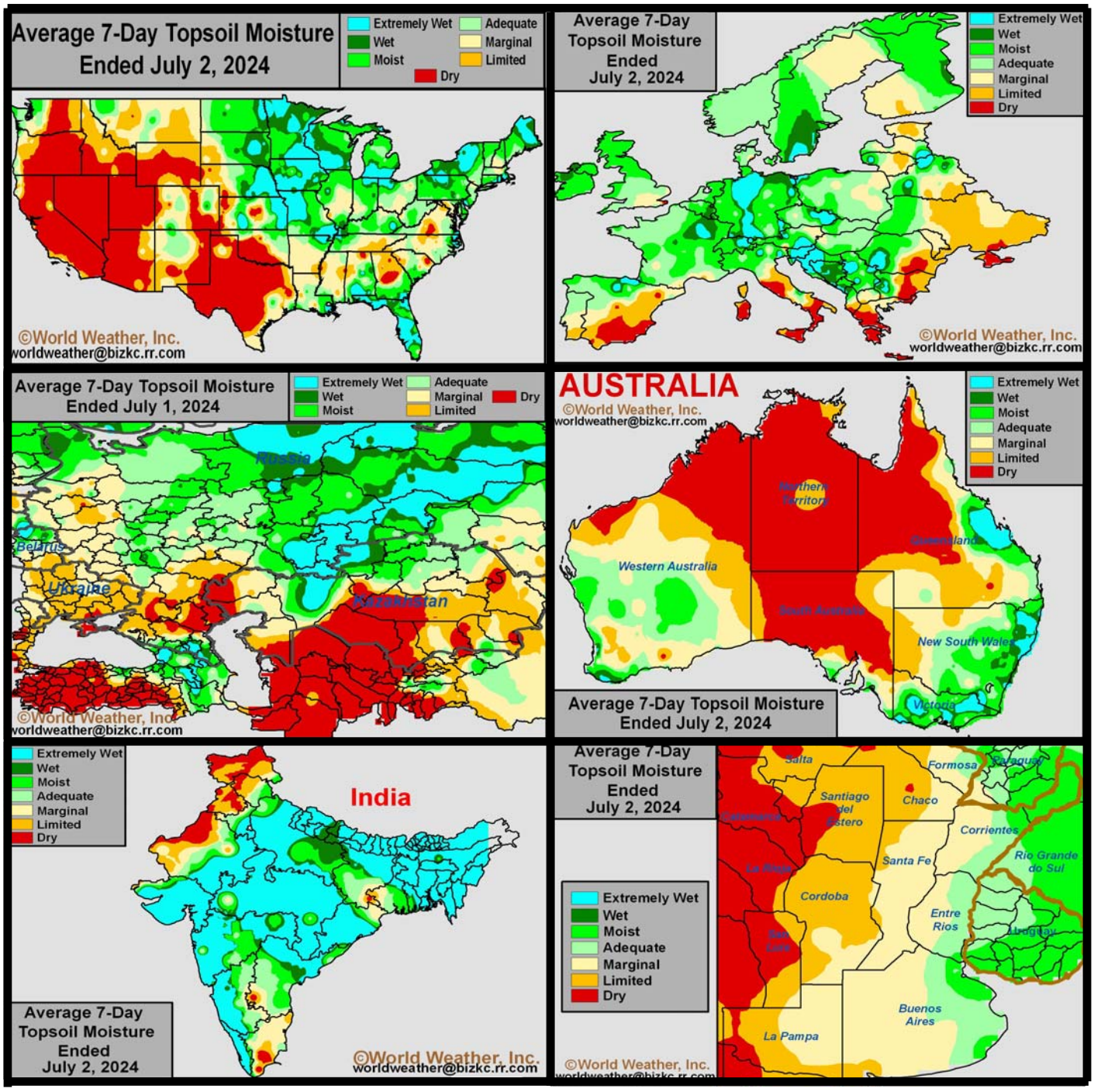
August rainfall has been reduced for the western Prairies while the area of greater rain in the eastern Prairies remains mostly the same as earlier this year. There have been some changes—the biggest of which is less abundant rain in northeastern, north-central and east-central Alberta and northwestern and west-central Saskatchewan. This change in the outlook is in response to the more westward shift in the early summer ridge position, but if the ridge shifts to the east a little more, as anticipated, the outlook for greater rain in the central Prairies will return in future prognosticators.

Confidence is still moderately high that the ridge will shift farther to the east in the second half of summer and that should bring some timely rain to the southwestern Prairies and greater warmth and rain to the eastern Prairies. The late summer weather pattern is not set into stone and a close monitoring of atmospheric changes is warranted over the next few weeks.

La Nina may eventually kick in during August, but its influence on the Prairies is likely to be less than originally predicted and that will add to the reduced rainfall outlook that shows up here. If La Nina does evolve late this summer it may also help bring an end to the 45-day repeating cold weather cycle that has recently brought chilly air to the Prairies. Without that pattern repeating, the risk of early season frost might be further reduced.



Selected Weather Images From Around The World



India's monsoon has recently kicked in more significantly producing generalized rain across the nation after the month of June had less than usual rain. The increasing rainfall has been greatest in Madhya Pradesh and areas north into Uttar Pradesh. There is still need for greater rain elsewhere. Australia and Argentina have both had a favorable autumn planting season, but there is need for greater rain in both nations especially in western and central Argentina and Western and South Australia. Dryness has begun to expand again in Russia's Southern Region and eastern Ukraine. The CIS dryness began early in the spring and cut into small grain and some rapeseed production, but the concern decreased in recent weeks because of winter crop maturity and timely rain. Now summer crops may be exposed to some heat and moisture stress. Europe weather is nearly ideal with little change likely and the U.S. Midwest has become too wet in the north while previously drier areas in the south are now trending wetter.

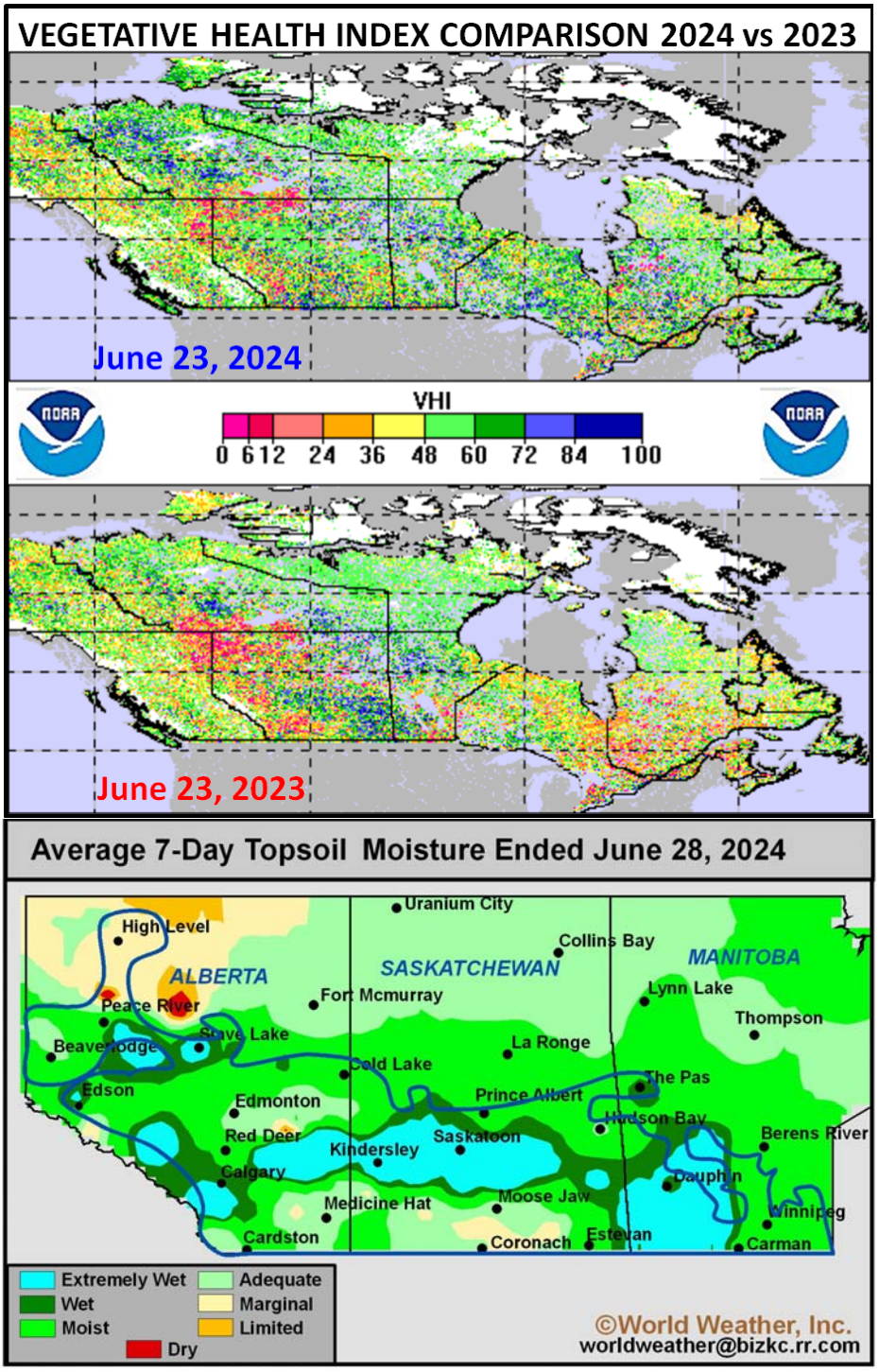
Vegetative Health In Western Prairies Better Than 2023

Beneficial planting moisture this spring has many of this year's spring and summer crops developing well or at least satisfactorily today. The biggest improvement in crop health is in western parts of the Prairies; including a fair amount of Alberta and portions of northern and western Saskatchewan. But do not let the graphics mislead you. There is still dryness down deep in the ground and there are still some areas that are in need of more rain.

Some southern and east-central Alberta crop areas still need more moisture as do a few crop areas in west-central and southwestern Saskatchewan where recent rain has been a little sporadic and light. It is also interesting to note the decline in vegetative health in east-central and southeastern Saskatchewan and neighboring areas of Manitoba relative to last year at this time. A little more rain, greater sunshine and warmer temperatures would help improve the situation, although there is no crisis in this region.

The latest soil assessment for the Prairies shows a favorable topsoil moisture profile. There are still pockets of dryness in various locations in eastern and far southern Alberta and in south-central Saskatchewan. Northern portions of the Peace River Region are also dry and greater rain is needed soon to improve the outlook for production this year.

No crop area in the Prairies is so void of moisture that crops are seriously stressed. There are however, pockets of drying that are catching the attention of some farmers and agronomists which is why the July outlook with a drier and warmer scenario for Palliser's Triangle is not a welcome forecast. Improving rain in late July and early August will be imperative since by that time some of the returning pockets of dryness in the west will be festering into larger areas of crop moisture stress making some producers very nervous.

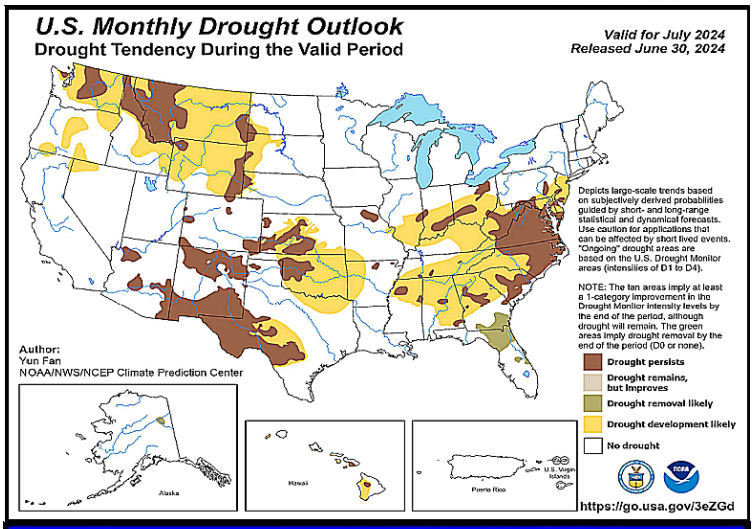


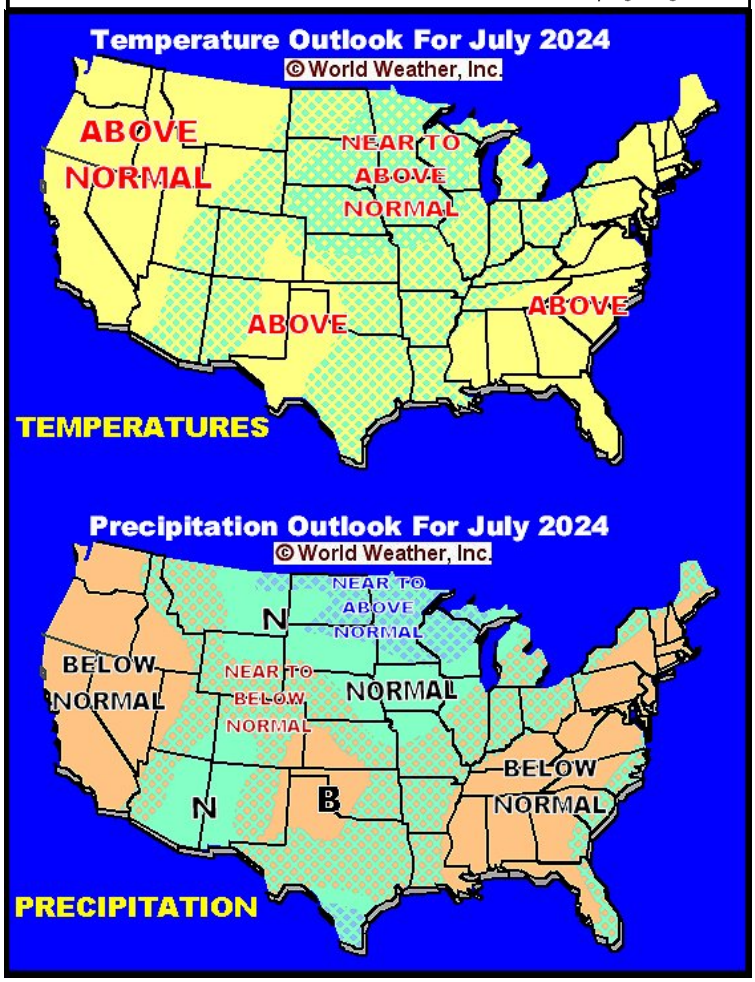
Subsoil moisture is not as plentiful as that of the topsoil and despite the good looking topsoil moisture chart (shown above) it would not take very many dry and warm to hot days for the moisture shortages to return in portions of the Prairies making producer production forecasts look a little less abundant.

In the meantime, moisture surpluses in Manitoba and northern Saskatchewan into portions of Alberta have become deterrents for spraying and other general farming activity. Drier conditions are needed in these areas.

Warm U.S. July Weather To Expand Dryness

Recent rain in the U.S. Midwest has crop conditions rated favorably in many areas, although it is too wet in the upper Midwest. Pockets of drought have managed to pop up across portions of the northwestern U.S. and in a part of the lower eastern Midwest and interior southeastern states recently while it is persisting in the central and southwestern Plains.





Weather in July is expected to be warm enough to stimulate quick drying in many areas and that, according to the U.S. National Weather Service and NOAA, may lead to expanding drought. World Weather, Inc. anticipates additional wet weather in the north-central U.S. and near to below normal precipitation in many other areas.

Soil assessments made July 2 show the U.S. Midwest having favorable soil moisture in many areas, although a little too much moisture is present in the northern Midwest while a few areas in the lower Midwest are becoming a little too dry. Recent drought development in some of the drier areas has not been a big issue, yet, although warmer than usual July temperatures and limited rain could easily lead to some greater expansion in the drought areas.

Drought in the southeastern and middle Atlantic Coast States is of greatest interest since the World Weather, Inc. Trend Model suggests warmer and drier than usual weather will be most persistent in that part of the nation. Net drying may also occur in the lower and eastern Midwest and the Delta as well as the southwestern U.S. Plains and far western states. Nearly the entire country will be warmer than usual during July with the most anomalously warm conditions expected along the Atlantic Coast in the southwestern Plains and in the far western states; including California and the Great Basin.

Rainfall in July will be near to above normal in the northern Plains and upper Midwest, although the warmer temperatures will help to limit flooding after the first days of the month. South Texas is the only other area that is expecting to be wetter than usual. Most other areas in the U.S. are predicted to receive below or near to below normal rainfall during the month. July is usually a month that requires greater than usual rainfall to prevent net drying especially when temperatures are warmer than usual. That is the primary reason that concern is rising for a month of drying for many areas even though there will be some periodic rain.

World Weather, Inc. is concerned about nighttime temperatures staying quite warm in the Midwest at times during July and that along with lighter than usual soil moisture could stress crops and livestock more than usual.

The combination of warmer than usual temperatures and somewhat limited rainfall will lead to net drying and that is why NOAA is expecting some drought expansion. The upper Midwest is the only area that will see a net increase in soil moisture.

Australia Rain Improves Wheat, Canola Establishment

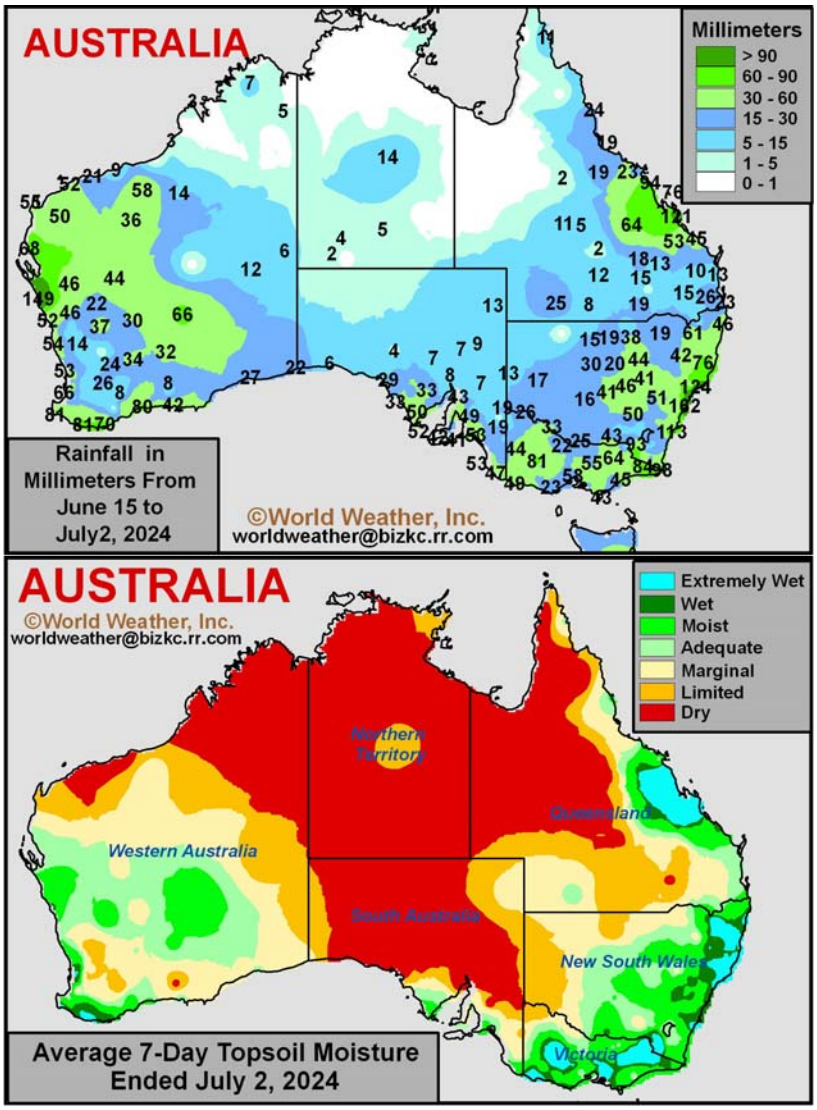
Much improved rainfall has evolved in Australia's wheat, barley and canola production areas. Some of the precipitation from late April through early June was restricted limiting crop emergence and establishment to Victoria, southern New South Wales and a few areas in Queensland where early season rainfall was greatest.

Western Australia, South Australia and Queensland have trended a little too dry during late May and June raising some concern over winter crop emergence and establishment in some of those production areas; however, the boost in precipitation noted since June 15 has changed the outlook.

There is still a big need for greater rain in South Australia, Queensland and portions of Western Australia, but patience is a virtue and it will have great rewards this year. All indications suggest that timely rain will continue to evolve across the nation during the next several weeks improving the moisture profile for a well established winter grain and oilseed crop.

La Nina has not evolved yet, but is expected later this year and when it does greater rain is likely in Queensland and New South Wales. There is some fear that the greater rain will come at a time when winter crop quality could be negatively impacted in the spring, but that is only a fear for now. La Nina should be weaker than usual this year and its influence on Australia may be a little different than usual.

In the meantime, some welcome rain is predicted in South Australia, southern Queensland and northern New South Wales in this next week to ten days resulting in a welcome boost in soil moisture for many areas that have been trending a little dry recently. Rain will also fall in Western Australia, although the precipitation there will not likely be quite as abundant and persistent away from the coast leaving some need for follow up rain. With that said, though, there is not much reason to be concerned about Western Australia precipitation this winter or early spring. Moisture should come and go routinely supporting a good production year—not only in Western Austr4alia, but in Victoria, New South Wales, Queensland and probably South Australia as well.

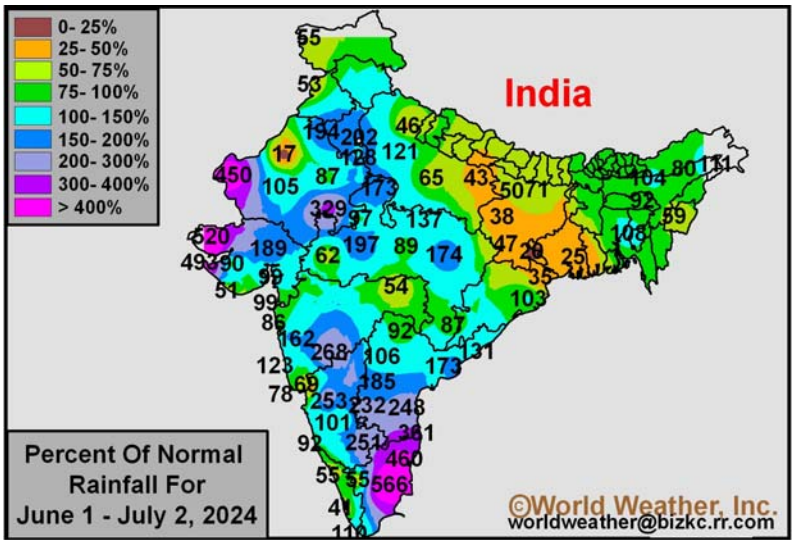


Soil moisture has already been increased across Western Australia and it remains favorably rated in both Victoria and much of New South Wales. If the forecast is correct improving soil moisture is likely in most of the nation by the third week in July. Winter crops should become better established and will be poised for good crop development in the spring.

Normally, winter crops become semi-dormant during late July and August and that will be a good time after the coming beneficial rain falls to induce some last minute improved crop establishment before growth is slowed for a few weeks.

India Monsoon Increasing; Floods Possible Northeast

India's monsoon has been steadily improving in recent days and this trend will continue for the next week to ten days in the central and northeastern parts of the nation. The wet bias is expected to lead to some flooding especially in the Ganges River Basin where some of the poorest monsoonal rains have occurred in recent past years. Planting has advanced around recent rain and the environment is improving for the emergence and establishment of early-season crops. Eastern into northern India will receive some of the most significant rain during the coming week as a monsoon low pressure center slowly advances over the country. Sufficient rain will fall to saturate the soil and induce some of the season's first significant flooding.



West Bengal, Jharkhand, Bihar, eastern Uttar Pradesh, Himachal Pradesh, and northeastern Odisha have trended drier than normal so far this season. Rainfall as a percent of normal from June 1 – July 2 ranged from 20-71%. Other locations in India generally received near to above normal rainfall with portions of southern India, Gujarat, and Rajasthan reporting two to more than four times normal rainfall. Pockets in central India and along the southwestern coastline were also drier or slightly drier than normal.

Although portions of India have started the monsoon season drier than normal, most locations received enough rain to support generally good establishment and early-season growth. Rainfall has been spread out enough to limit planting and fieldwork delays, though portions of the Eastern States, Bangladesh, and central India may have received enough rain to limit planting at times. Long-term crop prospects remain generally favorable across the country. The evolution of La Nina later this summer and early autumn could enhance late-season monsoonal rainfall. Producers may plant a greater than usual amount of crops this season in anticipation of increased rainfall.

Monsoonal rain will vary across India during the coming week. Eastern into northern India will receive some of the most frequent and significant rain as a monsoonal low-pressure center slowly advances over the country in the coming days. Bangladesh, the Eastern States, West Bengal, Jharkhand, and Bihar into Uttar Pradesh, Uttarakhand, Himachal Pradesh, Haryana, and much of Punjab, along with coastal sections of Karnataka and Maharashtra, will receive 3.50 to 7.00 inches of rain with local amounts of 10.00 inches or more by next Tuesday morning. Other locations in eastern India into much of central India, eastern Maharashtra, western Madhya Pradesh, eastern Gujarat, southern and eastern Rajasthan, and Kerala will receive 1.50 to 5.00 inches of rain with locally greater amounts in Madhya Pradesh. The remaining production areas in southern and western India will only have a few opportunities for monsoonal rain. These locations will receive 0.10 to 1.00 inch of rain with locally greater amounts in southern Andhra Pradesh, western Gujarat, and neighboring locations.

Much of India will again have opportunities for monsoonal rain on a frequent basis July 10 – 16. However, the southern tip of India and western fringes of Rajasthan will only receive light amounts of rain.

Waves of monsoonal rain will gradually bolster soil moisture for much of eastern and northern India during the coming week. Localized flooding will be possible and may damage some crops warranting a little replanting. The rain will otherwise be welcome in supporting good establishment and early-season development, most notably in the areas of eastern India that have trended drier than normal so far this season.

Central and much of western India outside western Rajasthan will also receive enough rain to support favorable establishment and development in coming weeks. Planting will advance around the periods of rain. Southern India will also have some moisture to support generally good development for the early-planted crops.

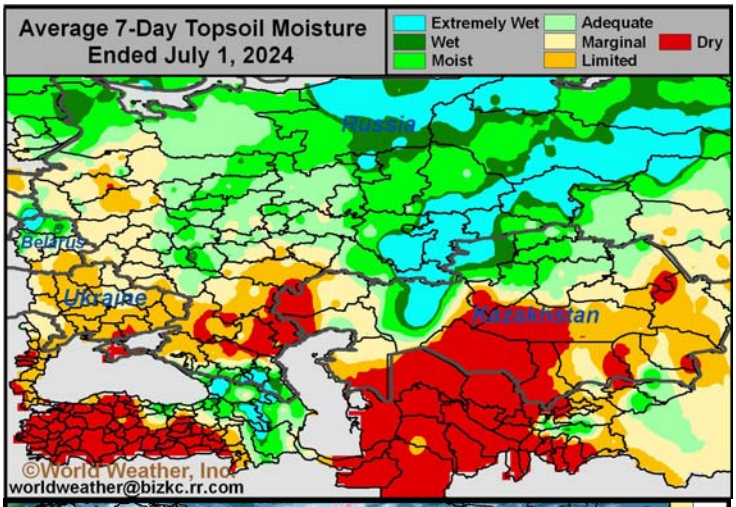
Russia, Ukraine Brace For New Surge Of Heat, Dryness

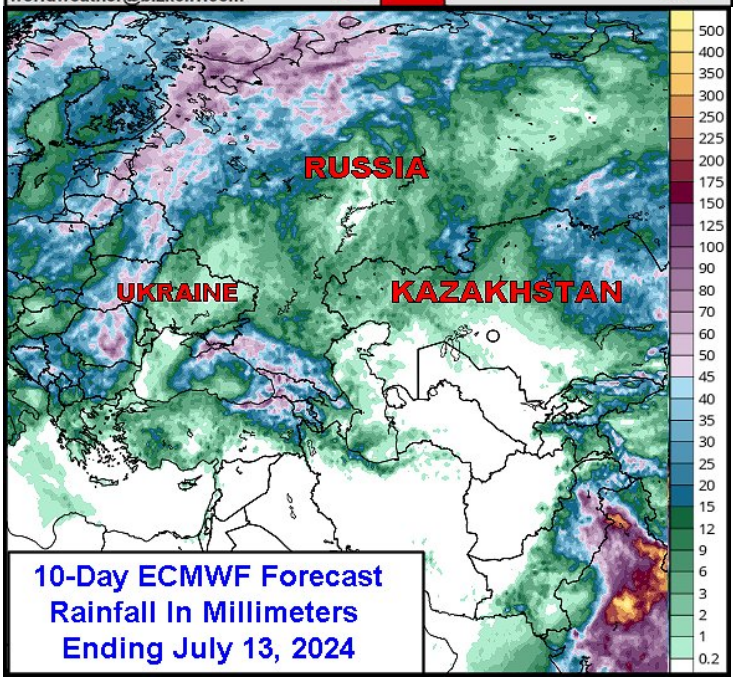
Areas from eastern Ukraine through Russia's Southern Region to western Kazakhstan have been dealing with dryness since late February. The drier than usual conditions during winter had little impact on the growing season, but once seasonal warming began the moisture deficits became more significant.

The Southern region of Russia produces 43% of the nation's winter wheat with another 13% coming from the North Caucasus region. Similarly, winter barley is largely (57%) grown in Russia's Southern Region with 42% coming from the North Caucasus region. Most winter grains in these areas are maturing and being harvested now and will continue doing so into August.

Damage due to dryness has occurred to the winter small grains and ongoing dryness now will only expedite crop maturation and quick field progress.

Rain fell more abundantly in June across much of the Russia and Ukraine offering some short term improvements in topsoil moisture, but it failed to eliminate dryness. Very warm temperatures developed during the weekend as dry weather resumed and the moisture profile on July 2 was clearly showing a notable decline in Ukraine, Russia's Central Region and both southern parts of the Volga wheat region and western Kazakhstan





Computer weather forecast models have suggested a stronger ridge of high pressure is going to return to the western CIS this week and it may prevail through much of next week. This ridge will be similar to that of the spring, though temperatures are much warmer and drying will occur faster and could have a more immediate impact on crops.

The latest forecasts have suggested that the southeastern half of Russia's Central Region and areas east to the southern Ural Mountains region and northwestern Kazakhstan may experience very warm temperatures and little to no rain. Daily highs in the 30s Celsius are expected in Ukraine and most of the areas noted above.

The drying bias that will be accelerated by warm to hot temperatures in the coming ten days raises new fears of additional production cuts for spring and summer crops. Nearly 30% of the spring barley crop and 15% of the Russia spring wheat is produced from some of these potentially impacted areas.

Much of Ukraine's corn, millet, barley and sunseed come from eastern parts of the nation where dryness may soon be greatest . A significant amount of Russia's corn, sunseed and soybean crop is also produced in the dry region.

The next ten days of heat and dryness may speed along winter crop maturation and harvesting, but it may stress spring and summer crops making it imperatively important that rain returns in the middle and latter part of July and occurs periodically until the growing season ends. Confidence in such a precipitation potential is low, but certainly by mid-July soil moisture in many of Russia and Ukraine's key spring and summer crop areas will be quite low threatening production.