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The Canadian Agriculture Weather Prognosticator

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WORLD WEATHER ISSUES

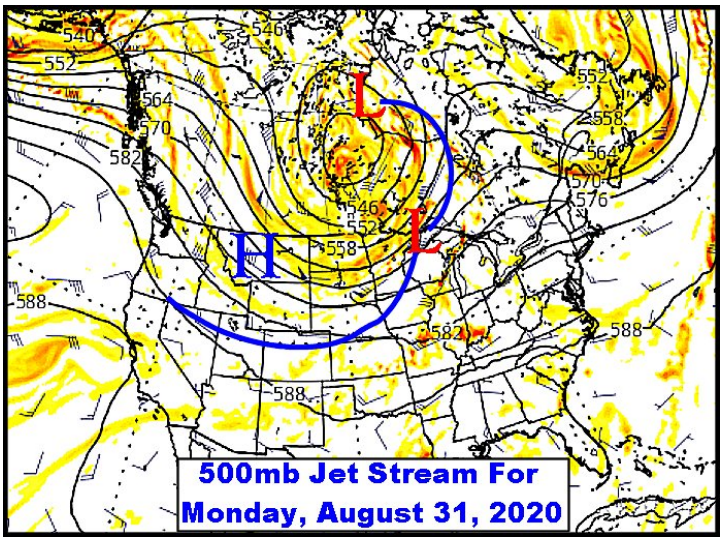
- Australia has trended drier again; Queensland wheat will reproduce in early September and the ground is quite dry
- Recent frost and freezes in eastern Australia has burned some small grain and canola growth
- Excessive rain has reached into northwestern India and will soon move to far northern India possibly damaging a few crops
- China flooding continues randomly, but the worst of the nation's flooding is over—at least until a tropical cyclone impacts the nation
- Eastern Ukraine to Bulgaria is still too dry with lower summer crop yields resulting; dryness is also ongoing in Russia's Southern Region
- U.S. Midwest crop areas have been drying out recently, but the impact on summer crops has been low
- Argentina wheat is getting some needed rain this week, but production cuts are still likely
- Ontario, Quebec Crops are finishing well

The End Of Summer Is Near

An impressive early season shot of cold air is expected to move through western Canada late this weekend and early next week. The cool off fits well with our comments in the last prognosticator when we stated there would be a couple of "near-misses" of cold weather in early to mid-September and that we felt the majority of the Prairies would come through this period without much damage. Well, the test is certainly on with the first bout of cold now on the forecast charts.

This cold surge has been predicted by most of the global forecast models over the past week and they have not waivered much and that is never a good sign if you are trying to avoid frost and freezes. This trough of low pressure is bringing in large amounts of cold air into western Canada and enough cold weather is expected to put quite a chill up one's spine.

Breezy conditions, rain and drizzle will accompany the cool down. The environment will have many folks quite concerned about a repeat of last autumn when winter weather evolved too early halting fieldwork before it was completed and raising all kinds of crop quality issues. Some of the crop eventually was buried in snow which ended the harvest season very early.



World Weather, Inc. is not looking for a repeat in that pattern, although the chill coming within the next week will certainly make many people think twice about that statement.

One of our greatest concerns for the Prairies is the dry bias that has evolved in the past few weeks over a large part of the central and southwest. The air and soil are so dry that extreme high temperatures have been reaching into the middle and upper 30s at times. Dry air can induce huge diurnal changes in temperature and we have been seeing that with lows in the teens and highs in the middle and upper 30s Celsius.

The same principal that promotes hotter than usual conditions when the air is dry can support colder than usual conditions when the air cools. For that reason, we are concerned about the next week's cold air masses because there will not be much moisture around when they arrive sending temperatures on a tailspin that could bring some frost to a part of the region.

The End Of Summer Is Near (continued from page 1)

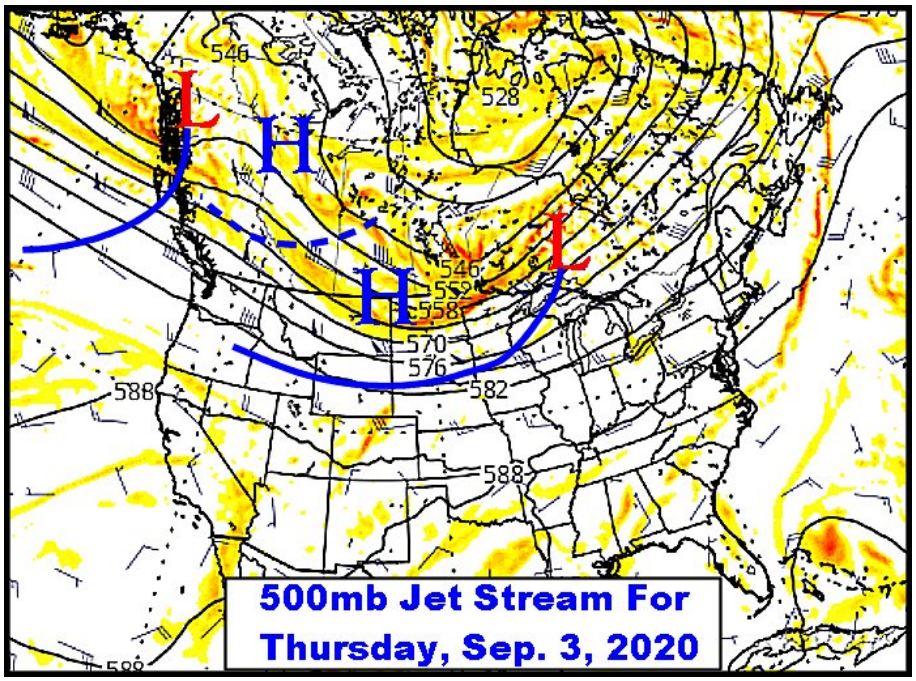
No damaging freeze is expected during the next ten days, but temperatures will come darn close to a threat which is what we wrote about in the last prognosticator. Next weekend's trough of low pressure will bring down temperatures quickly and after seeing 30-degree highs this week, we may be faced with lows in the lower and middle single digits early next week.

All that is needed to induce a frost event would be a significant, well-organized surface high pressure center. None is currently advertised, but as sharp as the upper level trough of low pressure is advertised to be it would not be surprising to find a notable high pressure center evolving. For that reason, some special attention is needed to the short range forecast.

Quite often the first shot of cold air in the autumn comes with cloudiness and showers as the atmosphere's moisture gets condensed out by the sudden arrival of cool air. However, with the heart of the Prairies already so dry there is not much moisture to squeeze out and that too raises some worry over possible early season frost and freezes that surprises us all.

Another concern is not over the dryness and cool potential in the dry areas, but the cool potential in the wetter areas. Many of the summer crops in the driest areas of the Prairies have been forced to mature quicker than usual because of dryness and that will help reduce the impact of early frost or freezes if such conditions do evolve. However, there are many immature crops in Alberta's west and north along with northwestern and northeastern Saskatchewan and some areas in northern Manitoba that need more time for crop maturity before frost comes into the picture.

The wet bias in Alberta this summer has been a problem all season long and crops need some sunny and warm weather for a while to get maturation to occur more swiftly. Crop development is behind not only because of the wet bias, but because temperatures were not all that warm during much of the summer and there is need for a quick bout of dry and warm weather.



Temperatures Monday afternoon in western Alberta were already limited to the range of 12 to 16 and lows Tuesday were +2 to +4 in the same area. That is too cool for being in the "warm" air. The reason for the cool air was mostly associated with dense cloudiness and rain, but if it is that cool without a cold airmass what will it be like Sunday and Monday when a viable cold airmass arrives?

The cold airmass expected Sunday into early next week may prove to be more of a threat in the U.S. northwestern Plains and than in western Canada with a cold surface high pressure center expected in Montana and Wyoming. However, that cold high pressure center comes into that area from western Canada and there will have to be some temperatures in the frost range across Alberta the night before the coldest air reaches into the northwestern U.S. Plains. That makes Sunday and Monday coldest in Alberta and will be the nights most threatened by the cold.

Frost will only occur if the sky is cloud free and there is some potential for cloudiness and some breezy conditions to be present on these two mornings. Nevertheless, the traditionally coldest areas in Alberta around the Sundre and Rocky Mountain House will be vulnerable to some frost and a possible light freeze along with some neighboring areas to the south into northern Montana.

Southern Alberta, like Montana, has been dry and very warm to hot in recent weeks speeding summer crops along in their development which may help to minimize the impact of cold if it becomes significant enough to bring on frost and freezes.

Some reinforcing cool air will follow into the Prairies later next week. Wednesday and Thursday, September 3-5, may bring a better risk of frost and light freezes to both Alberta and Saskatchewan.

There may be one more potential for frost and freezes around September 8 and 9 in Alberta and Saskatchewan, but confidence in that event is low because it is so far out in time.

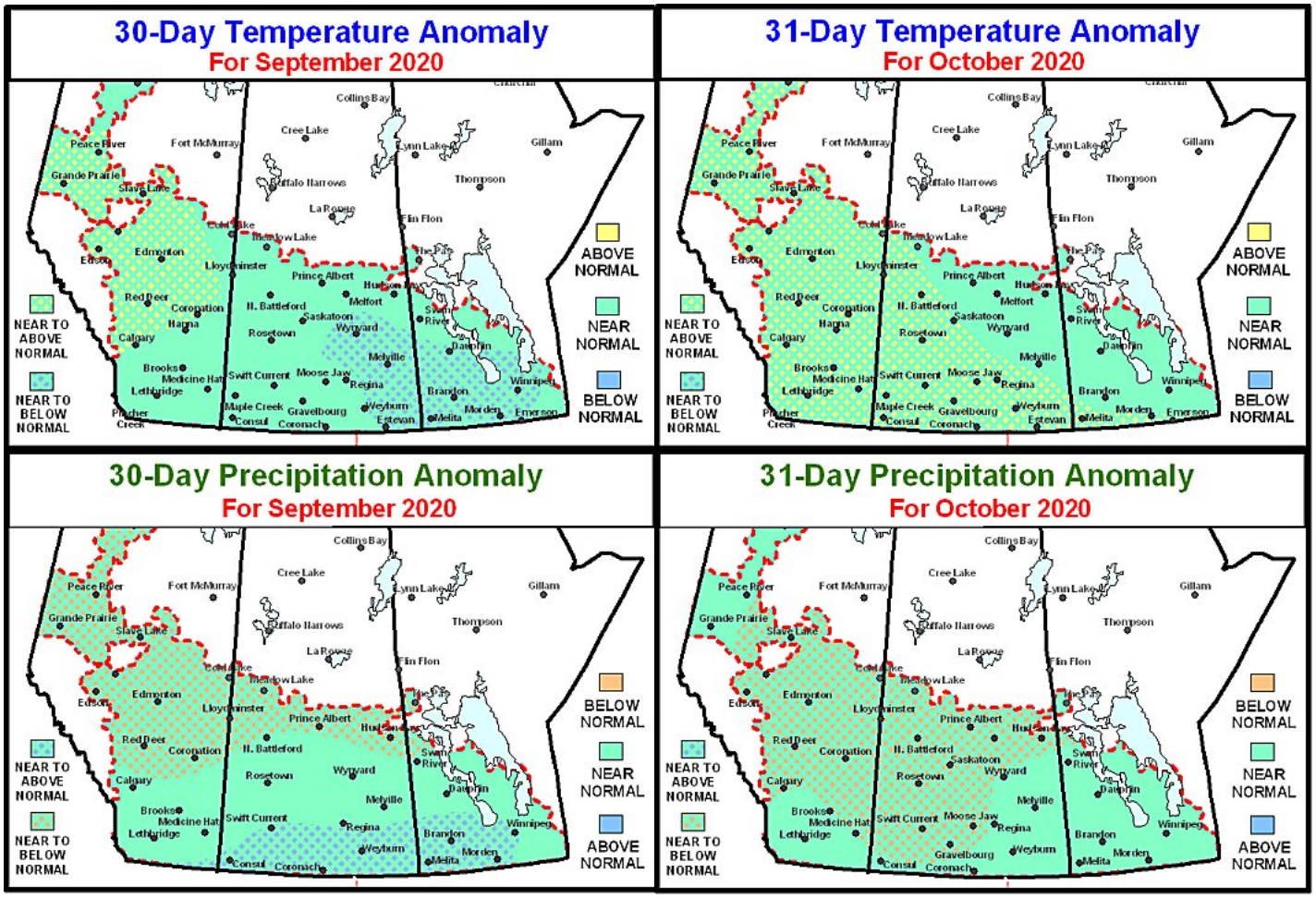
Early Autumn Weather Better Than Last Year

Anxiety across the Prairies is running a little higher than usual this August for a number of reasons all of which are weather related. One of the bigger concerns is over harvest weather and memories of last year's rugged harvest. This year will not be like that, although there may be a few moments when the fear of déjà vu will creep up some of our spines. The reality is that there will only be a few weather systems in September that will produce enough rain to slow farming activity and their verification will be dependent on the tropics, the Gulf of Alaska and the amount of cold air that is in the arctic.

As dry as the air is over the central Prairies and areas south into the United States it will be very difficult to get the kind of generalized storm system to impact the region from southern Alberta to central and southern Saskatchewan for a while. Moisture will have to build up in the U.S. Plains and Rocky Mountain region so that passing storms in the Prairies can drag that moisture northward, but that kind of moisture build up is quite unlikely for a while. The only way the near to above average precipitation bias in September is going to occur is by frequent small storm systems rushing across the southern Prairies and that is a trend that may evolve for a little while after the early month cool off occurs in September. That suggests the greatest precipitation in the south-central and southeastern Prairies will likely evolve briefly during the middle to latter part of September Conditions in the early and latter part of the month should be good, although some coolness will be around. There is a relatively good chance that the September precipitation is overstated because of the dry bias to the south, but there will be a period in which several fast moving disturbances will impact the region. Later in the month, after the early month cooling passes there will be a return of warmer conditions until late month.

October will also be a moth that is mixed with brief periods of precipitation, but no big soaking. Field progress should advance relatively well and the temperature bias should become more predominantly warm biased as time moves along.

Overall, harvest weather should be much improved throughout the Prairies and as dry as it is in southern Saskatchewan any moisture that falls will be quickly soaked into the ground resulting in fast surface drying shortly after the occurrence. The bottom line should not be too bad this year—not ideal, but not bad.



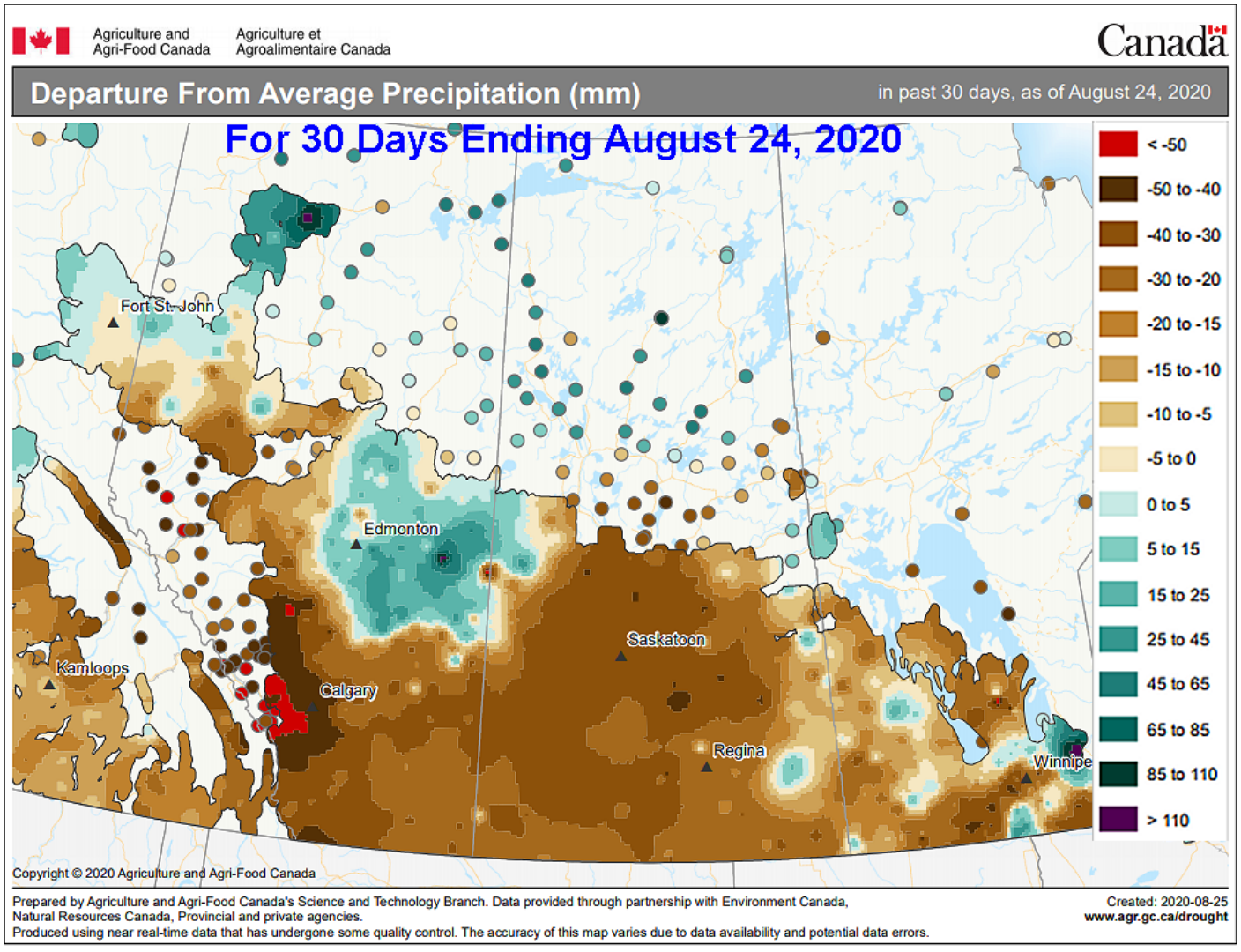
Prairies Drought Flares Some More

Have the 1980s returned???? After some badly needed dryness relief occurred in 2019 and earlier this summer dryness in the eastern and southern Prairies has been accelerated by a ridge of high pressure extending north from the United states into the Prairies.

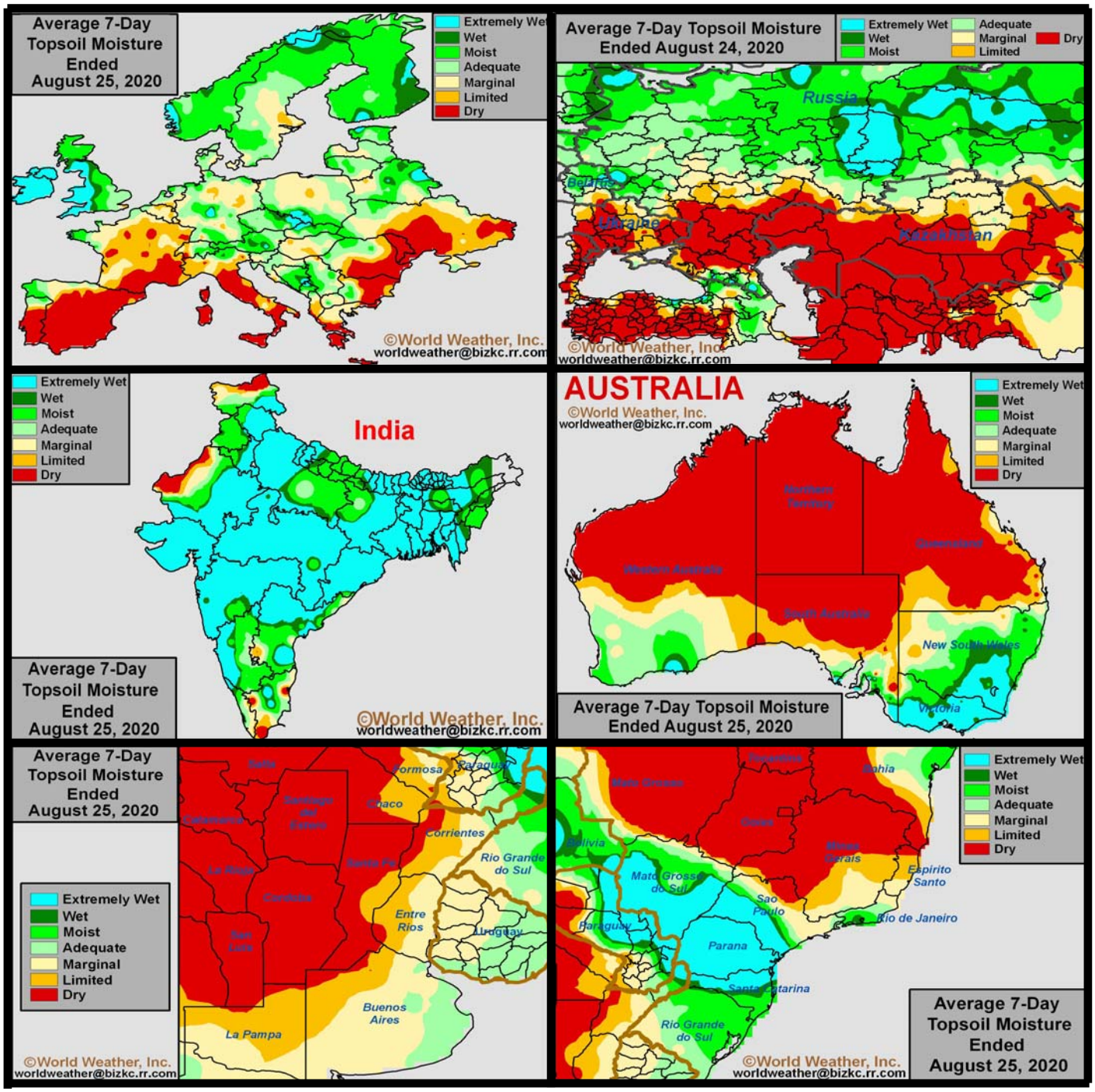
Dryness was still present in the spring this year, but there were signs of relief and enough timely rain fell to support crops early on with the exception of a few areas in east-central to south-central Saskatchewan where moisture struggles resumed early in the growing season. Some timely relief came to Saskatchewan's driest areas just in time to support more aggressive crop development in July, but not long after rain fell it became obvious that the region was going to slip back to the early spring weather pattern limiting rainfall only this time with warmer temperatures.

The worst case scenario then evolved with persistent weeks of warm and dry weather. From mid-July through early August soil moisture steadily declined as daily high temperatures reached into the upper 20s and lower to middle 30s routinely while relative humidity was low and rainfall was absent. During the 30-day period ending August 24, the southern and eastern Prairies experienced moisture deficits of 20 to 50 millimeters. Totally dry weather did not occur, but when the temperatures started heating up in August the decline in soil moisture was accelerated to the point of no return. Crop stress began to evolve in the areas that had moisture deficits lingering from previous years of drought and since then has expanded to include a larger portion of east-central and southern Saskatchewan and parts of central Manitoba.

Dryness has been okay in the early season crop areas. Peas, Lentils and early canola have managed to develop favorably enough to avoid the bigger yield losses. However, late season crops have a different story to tell with flax, corn, soybeans and late season canola suffering from too much heat and dryness. The environment must change, but time is literally running out with autumn weather right around the corner.



Selected Weather Images From Around The World



Outside of India and China there are many areas in the world that are running a little low on soil moisture. Dryness in Europe and southern portions of the Commonwealth of Independent States has been quite persistent in recent weeks and months hurting unirrigated summer crop yield. Rain potentials in these areas is not very good—at least not in the driest areas including eastern Ukraine into Kazakhstan and from eastern Ukraine into parts of Bulgaria and Romania. France, in the meantime, does have potential to received some rain during the next two weeks, but the moisture will only improve the planting prospect for 2021 and will not do much to change summer crop production for 2020. Australia is drying down in many areas especially in the west. No area in that nation needs rain more than Queensland where reproduction of winter crops is just a couple of weeks away. Argentina is starting to get rain at the time of this report while Southern Brazil just recently received significant rain to improve wheat and early corn.

Western Prairies Crops Need Dry, Warm Bias

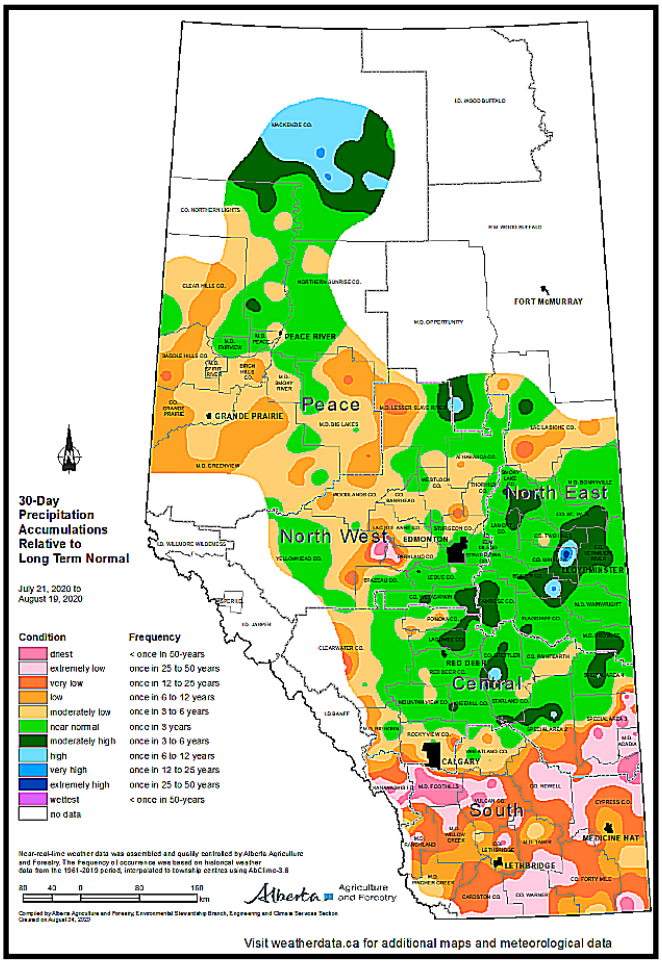
Net drying has evolved in recent weeks across the Front Range area of Alberta and that change has certainly been welcome. However, many other areas in the western, central and northern parts of the Province have continued to deal with frequent bouts of rain.

The wet situation is not as bad as it was earlier in the summer because of recent warmer temperatures. Better drying rates have occurred between rain events. However, with colder weather just a week away concern is rising over the ability of this year's crops to completely mature before the first frost and freezes arrive.

Plant development rates are well behind the norm, although some warmer weather during mid-summer did help accelerate development for a little while. A couple of days this week not only brought rain to areas west of Alberta Highway 2 and north of Highway 16, but afternoon temperatures were limited to the lower and middle teens. That is too cool for this environment and the ground will begin to saturate again if this trend continues.

Western and northern Alberta absolutely must experience drier and warmer weather in September to speed along crop maturation and to induce better drying conditions so that a fifth year of harvest delays does not evolve The coming week to ten days of colder biased weather may help shutdown the precipitation, but evaporation rates are going to drop off and that may leave moisture abundance in the soil and more importantly crop development advancing slowly.

Of course the biggest concern is that the cold air masses of Sunday and Monday and again later next week might be potent enough to induce frost and freezes. Such conditions cannot be ruled out. Some frost is expected and it will not be a difficult task to achieve since temperatures over this past week have already been quite nippy. The only thing that the western Prairies do not have advertised right now is a strong surface high pressure center. If a strong high pressure system evolves in the coming week to ten days there may not be anything that can stop the temperatures from plummeting to dangerous levels.



Cloudiness, showers and wind may not be desirable by most producers on an average day right now because of the need for crop maturation. However, these are exactly the conditions that are needed to protect immature summer crops from a damaging frost or freeze.

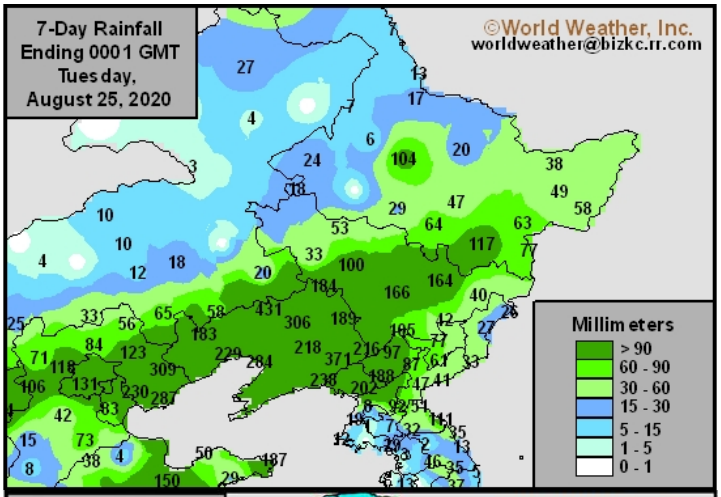
Frost will not develop with cloud cover. Breezy nights will also help to fend off frost even if the sky is free of clouds, but light and variable wind and clear skies would result in a potential freeze that could end the growing season at the expense of grain and oilseed production.

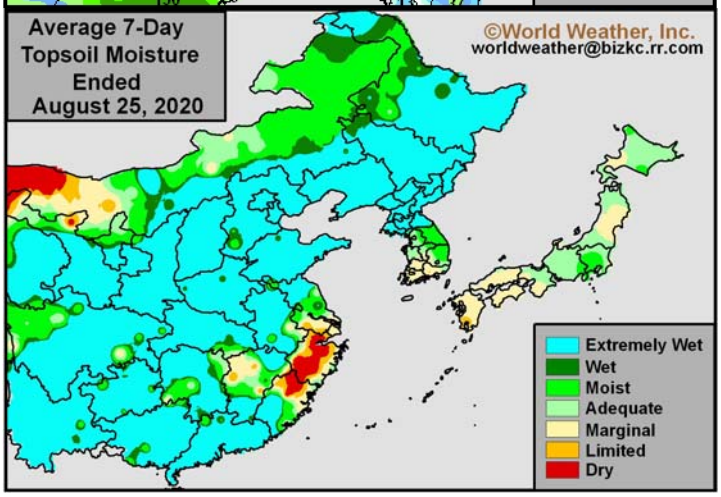
As noted above and previously in this prognosticator there is no strong surface high pressure system advertised for the coming week to ten days of chilly weather, but that does not mean one cannot develop in this period of cold. It might just be a little odd to be praying for rain and windy conditions in this environment, but that is exactly what is needed.

It is possible that following this bout of colder weather there may be some warmer and drier weather poised to come into the region. World Weather, Inc. believes that will be the case—at least for a little while. As time moves along the northern Pacific Ocean region is expected to become more active with storm systems and the potential for frequent disturbances coming into the U.S. Pacific Northwest and moving east northeast will across the central and eastern Prairies. If this scenario plays out for a while in September, western and northern Alberta may get some of the drier and warmer weather that is desired, but the environment does not look to be persistent enough to provide the needed dry and warm finish to the growing season. The odds are far greater that western and northern Alberta will experience a week to possibly ten days of drier and warmer weather after the cold spell, but the old pattern of mild temperatures and periods of rain could resume shortly thereafter.

Typhoon Bavi To Bring More Flooding To NE China

Liaoning, northeastern Hebei, and portions of Jilin recently received substantial rain saturating the soil and inducing some flooding. Parts of the region were already saturated or nearly saturated before the heavy rain event began resulting in the flood conditions. Additional rounds of heavy rain will evolve Wednesday into Friday as Typhoon Bavi slowly tracks over Northeast China. The rain will likely promote more severe flooding in several areas. Strong wind speeds will also evolve for Liaoning and neighboring areas as Bavi initially makes landfall. Corn, soybean, rice and sugarbeets may be significantly impacted due to the rain and strong winds, most notably in Liaoning where some structural and personal property damage is also expected.





Liaoning, central Jilin and northeastern Hebei reported significant rain during the past week. Moisture totals for the seven-day period ending this morning ranged from 4.84 to 12.17 inches with local amounts up to 16.97 inches in Liaoning. Central and southern sections of Heilongjiang and both the northern and southern sections of Jilin into east-central Inner Mongolia also received 1.30 to 4.61 inches of rain. Needless to say, these areas are excessively wet especially since the region was already too wet when the week began. Other areas in northeastern China received light rain during the past week with soil moisture rated more adequately.

The environment has been generally favorable for the corn, soybeans, rice, sugarbeets, wheat and other crops produced in Northeast China this year. Much of the spring wheat should already be out of the ground, though recent rainfall may have limited late season harvesting. The wet weather may have also slowed late season summer crop development and maturation. Flooding in the past week may have threatened crops in low-lying areas and drying is becoming a desperate need to get crops finished off for the season so that harvesting can occur.

In the meantime, Typhoon Bavi will move from the East China Sea through most of northeastern China late Wednesday into the weekend. The storm will bring additional excessive rain to areas that are already too wet in Liaoning and Jilin, China as well as neighboring areas of North Korea. Moisture totals by Saturday morning will range from 3.00 to 6.00 inches and local amounts over 8.00 inches in much of Liaoning while other northeastern China provinces receive 0.75 to 3.00 inches with local amounts over 4.00 inches.

The additional rainfall from Typhoon Bavi will likely promote more serious flooding in Liaoning and neighboring areas. The rain and strong wind could damage a significant amount of corn, soybeans, rice, sugarbeets and other crops produced in the region. Minor flooding will also be possible in a few locations of Jilin and Heilongjiang, though crop damage should be much less.

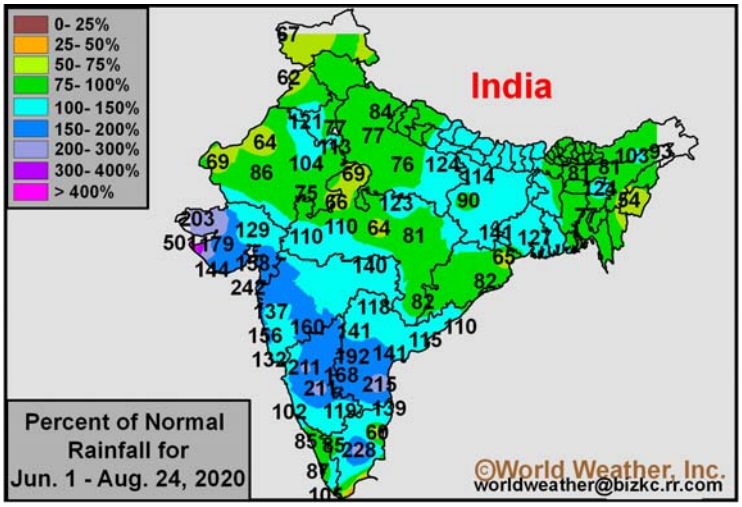
Northeastern China is not the only area that will be impacted by this typhoon. Western parts of the Korean Peninsula will also experience some windy conditions, rough coastal waves and periods of heavy rain. The storm center will pass very close to northwestern North Korea where the potential for excessive wind, rain and flooding may also occur. Northern parts of North Korea are nearly as wet as northeastern China and nearly all of the rain that falls this week will be runoff.

China has been dealing with excessive rain during much of the spring and summer this year starting south of the Yangtze River in March and shifting to the Yangtze River Basin in June and early July before reaching portions of the North China Plain and Yellow River Basin in late July and early August. Damage to personal property and crops has been tremendous this year with estimates as of August 15 reaching nearly US $26 billion. This week's flooding will add to that loss.

India Flooding Expands; Some Drying Needed

Flooding expanded in central India during the past week with many areas from Uttar Pradesh through Madhya Pradesh to parts of Gujarat and Rajasthan reporting some significant flood related transportation, infrastructure, agricultural or personal property damage. Excessive rain has occurred in many areas in each of the states noted, but other areas in the nation have continued to experience a good mix of weather this summer.

Nationally, rainfall is 8% above normal so far this summer which is very close to the May 20 World Weather, Inc. prediction for the summer of 106.5% of normal rain. There is potential that the summer will end up wetter than usual due to additional rain of significance expected over the next few weeks. Some soil moisture shortages and rainfall deficits have been reported in parts of northern India, but the driest areas have been in minor production areas of Himachal Pradesh, Jammu and Kashmir and western Uttar Pradesh. Monsoonal rain this week will continue to favor much of the country outside Karnataka, southwestern Maharashtra, and neighboring areas with additional flooding in Gujarat and neighboring areas as well as a few eastern crop areas.



India reported varying amounts of rain during the past week. Gujarat, western Madhya Pradesh, northern Maharashtra, and southern Rajasthan reported 3.62 to 12.01 inches of rain for the seven-day period ending this morning. The most significant rain fell over the weekend and flooding resulted. Northern, eastern, and much of central India received 1.10 to 4.57 inches of rain during this time with local amounts up to 9.37 inches in Himachal Pradesh, West Bengal, Jharkhand, and the Eastern States. Pockets in Uttar Pradesh and Bihar also only received 0.28 to 1.10 inches of rain. Andhra Pradesh and portions of Karnataka and Tamil Nadu received 0.59 to 2.64 inches with local amounts up to 4.02 inches in Andhra Pradesh. Western Rajasthan received up to 1.02 inches of precipitation. Soil moisture is rated adequate to excessive in much of the country. However, northwestern Rajasthan and portions of Tamil Nadu still have short to very short moisture.

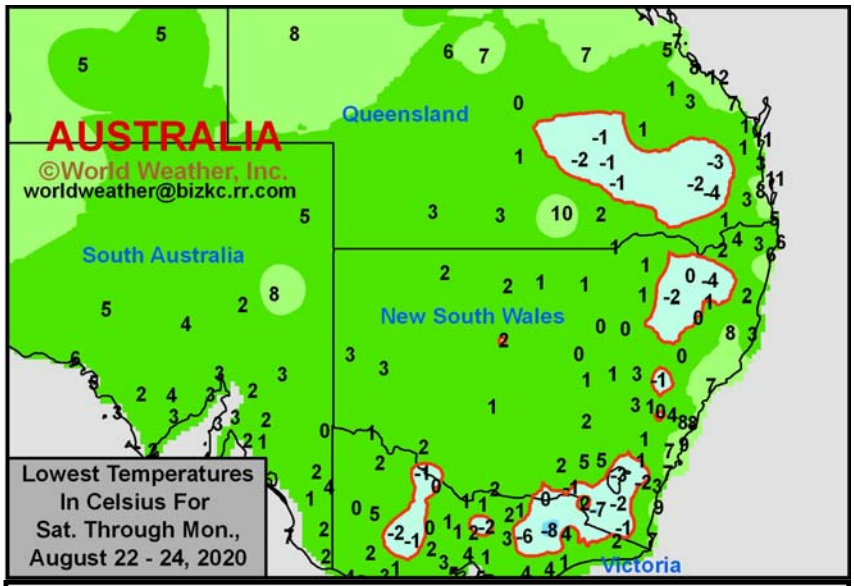
Monsoonal rain has been above normal from southern India into Maharashtra, western Madhya Pradesh, and Gujarat this season. These areas reported 110-228% of normal rainfall with pockets in western Gujarat receiving up to five times' normal precipitation from June 1 to August 24. Many areas from West Bengal into Jharkhand, Bihar, southeastern Uttar Pradesh and northeastern Madhya Pradesh received near to above normal rainfall, ranging 90-141% of normal. Other production areas in India received 64-104% of normal rainfall with wetter pockets in Haryana and the Eastern States.

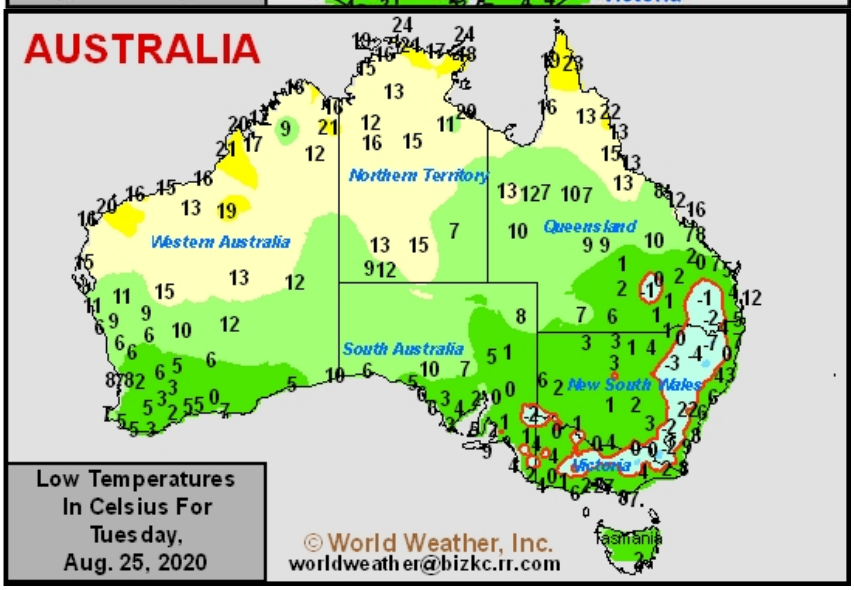
The environment has remained generally favorable for aggressive crop growth in much of India during the past week and over much of the summer. Flooding and excessively wet conditions may have slowed or delayed growth in the wettest areas of western India in more recent days. Some crop damage has resulted, although assessing the damage will not be possible until the harvest is complete. Some of the greater rainfall was spread out over multiple days which helped to limit the extent of flooding. Production potentials are good for much of the grain, oilseed, rice, cotton and other crops produced this time of year.

A large portion of eastern, central, western and northern India will see several waves of monsoonal rain this week. A monsoon low-pressure center over the northern Bay of Bengal will slowly move west-northwesterly across the country this week that will promote periods of significant rain in many areas. Moisture totals by next Monday morning will range from 2.00 to 6.00 inches most often with portions of northern Gujarat and southern Rajasthan receiving 6.00 to 12.00 inches of rain much of which will occur today and Tuesday as the weekend rain event finally winds down. Several pockets from West Bengal into Uttar Pradesh, eastern Madhya Pradesh, and neighboring areas will also receive up to 10.00 inches of rain and flooding will occur in each of these areas. Soil moisture for much of the nation will remain rated adequate to excessive.

Australia Weekend Frost, Freezes Impact Winter Crops

An unusually strong cold airmass for late winter has impacted southeastern Australia over the past few days and temperatures fell below freezing in many areas late in the weekend through Tuesday morning in several areas in New South Wales, Victoria and southeastern Queensland. The impact of cold was minimal except on Queensland crops where some wheat and barley was expected to reproduce in the early part of September. Some yield reducing damage may have occurred in a few Queensland locations, but the extent of damage should have been light. Additional bouts of frost and freezes were expected in southeastern Australia through much of this week.





Lowest temperatures Saturday through Tuesday were in the range of -2 to +5 from Victoria and South Australia into Queensland, including much of New South Wales. The coldest conditions occurred in the Great Dividing Range where the impact will be minimal on crops. The only area where crops might have been advanced enough to be harmed by the cold was in southeastern Queensland where crops were suspected of being in the late joint to boot stage of development with a few fields beginning to head. Temperatures below -2 Celsius would be cold enough to damage crops in this situation.

This morning's temperatures were the coldest since late last week and just the beginning of nightly frost and freezes expected this week. Most of the coldest weather this week will be in southeastern New South Wales and Victoria, but additional frost and freezes will occur in Queensland and northern New South Wales crop areas through at least Thursday of this week.

The cold may help delay the onset of reproduction in Queensland which might help buy a little time for improved rainfall to occur prior to the start of heading and flowering. Queensland is still too dry and so are some fields in extreme northern New South Wales. It is unclear how much damage occurred from frost and freezes the past few days, but World Weather, Inc. would guess mostly a light amount, but with more frost and freezes later this week there may be a little more. Crops in central and southern New South Wales, Victoria and South Australia are not developed enough to be harmed by recent frost or freezes or those anticipated for this workweek.

In the meantime, frost also impacted a portion of Brazil wheat country during the weekend resulting in some damage and drought continues to negatively impact Argentina wheat. South Africa wheat country has also been dry biased in recent weeks in the mostly unirrigated eastern production areas. Argentina is expecting rain, but South Africa will stay dry.

U.S. Drying Stresses Late Season Crops

Late season dryness in the United States has been accelerated by the same ridge of high pressure that has impacted the Prairies over the past few weeks. The most recent bout of warm and dry weather has stressed many crops and their condition ratings fell significantly during the past week. Declining crop conditions as reported by producers in the states does not necessarily mean a fall in production, but if the dry and warm conditions prevail much longer the situation could lead to some loss.

Moisture from Hurricane Laura is expected to move through the lower Midwest and the western and northern portions of the Delta during the Thursday through Saturday period. Some of the rain will be heavy and sufficient amounts will occur to bolster soil moisture in each of those areas. That should reduce the area of dryness to the northern and western Midwest Corn Belt.

A couple of frontal systems moving across the Midwest next week will bring opportunity for rain to all of the region and in the Delta and southeastern states. Sufficient rain is expected to bolster soil moisture and to put an end to the concern over dryness. Any potential yield loss that has occurred from short term dryness this late summer would stop and for some crops there might be a temporary improvement in crop conditions. However, it will be very important that rain falls uniformly and that does not seem very likely.

Some notable cooling is also expected next week which should reduce evaporation rates and conserve soil moisture. Despite the recent hardship for crops resulting from poor moisture and warm temperatures, the U.S. crop is still going to be big.