

The Canadian Agriculture Weather Prognosticator

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May 10, 2020

WORLD WEATHER ISSUES

- Brazil's Safrinha (second) corn crop needs rain and some may fall this week to offer some partial relief during reproduction
- Argentina's summer harvest is advancing favorably
- Black Sea region precipitation was sufficient earlier this month for a temporary reprieve from dryness, but the region will dry out this week
- India's winter crop harvest has advanced favorably and yields are high
- India's monsoon season is expected to perform well in 2020
- Australia planting moisture has been good in New South Wales and Victoria for wheat, barley and canola; all other areas need rain
- Australia weather over the next ten days will be drier biased except in Victoria
- Europe weather will be wet from France and Spain to western Russia
- China spring weather is mostly good, although southern rapeseed yields may be low due to excessive rain

How Much Longer Will This Go On?

Canada weather ruts seem to get deeper and deeper as the years move along. One problem year is followed by another, so it seems. The past few years were plagued by dryness in the heart of the Prairies while northwestern parts of the Prairies were excessively wet at times. This year the situation is still too wet in parts of the northwest and a little too dry in other parts of the region from east-central and southeastern Alberta into a few locations in central Manitoba.

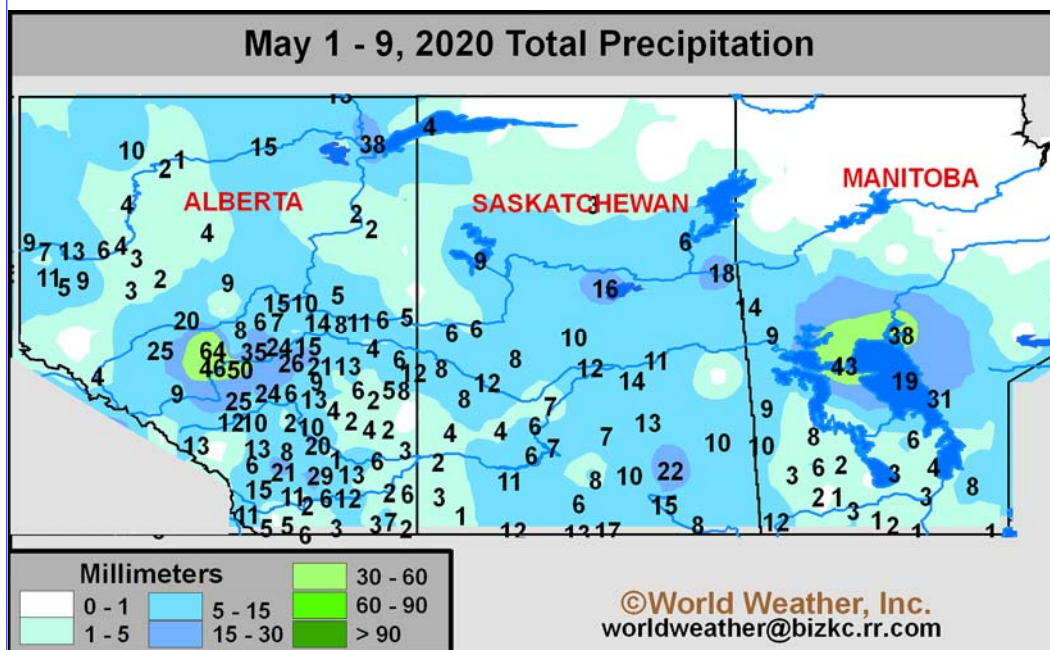
Southern Manitoba is fighting surplus moisture while the biggest issue of

late has been the persistence of cold weather. Warm days have been limited in the Prairies and that may be helping those areas with low soil moisture, but the situation is certainly not helping the planting pace. Field progress is moving along slowly in the eastern half of the Prairies with some areas just beginning to warm up enough to support planting and germination when along comes the latest bout of cold weather.

Colder than usual conditions have returned to the Prairies and today (May 10) will be the cold-

est for Manitoba and Saskatchewan, although cool conditions will linger for a while this week. Manitoba has dealt with the cool bias longest with temperatures this past week well below those of the western Prairies. The lack of warming has not been good for drying out fields in southern Manitoba where the combination wet and cool soil has limited field progress.

In Alberta, the moisture surplus situation is still most significant in the Peace River region where melting snow, saturated soil and brief periods of precipitation have frus-



How Much Longer Will This Go On? (continued from page 1)

trated the region's producers over the prospects for spring fieldwork. The latest precipitation surplus occurred between the upper Red Deer River and the upper North Saskatchewan River in southwestern Alberta where moisture totals of 20 to 64 millimeters occurred over this past week. Another area that is too wet and may frustrate producers is immediately west of the Swan Hills.

Soil conditions get much better for spring planting in central and southern parts of Alberta and from there across much of Saskatchewan—at least from a moisture standpoint. However, there is an exception to everything and there are two regions in Alberta and west-central Saskatchewan that are getting too dry. The first region of dryness is most significant and extends from the Medicine Hat region to just northwest of Maple Creek, SK and from there to Eston, Netherhill, Coleville, Marengo and to the east of Acadia Valley. A second area of notable dryness in the topsoil extends northwest from Medicine Hat through the Howie and Atlee areas of

Alberta and the Pollockville, Big Stone and Hinook areas to Sullivan Lake, Fleet, Lure and Veteran, AB

These drier biased areas have some usable subsoil moisture, but the topsoil has firmed up enough to raise some concern about planting and emergence conditions. The situation is a concern, but not a crisis—at least not until another bout of serious warmth occurs before rain develops.

There are several other dry areas farther to the east in interior eastern and central parts of Saskatchewan. Some of the dryness was eased by rain and snow that fell Friday and Saturday. Additional rain is needed from Estevan to Weyburn region northward to Glenavon where the topsoil improved at least temporarily for planting by this week's rain. Some relief from the same weather system occurred from Summerberry north to Canora and Theodore with the Whitesand and Ebenezer areas needing rain most.

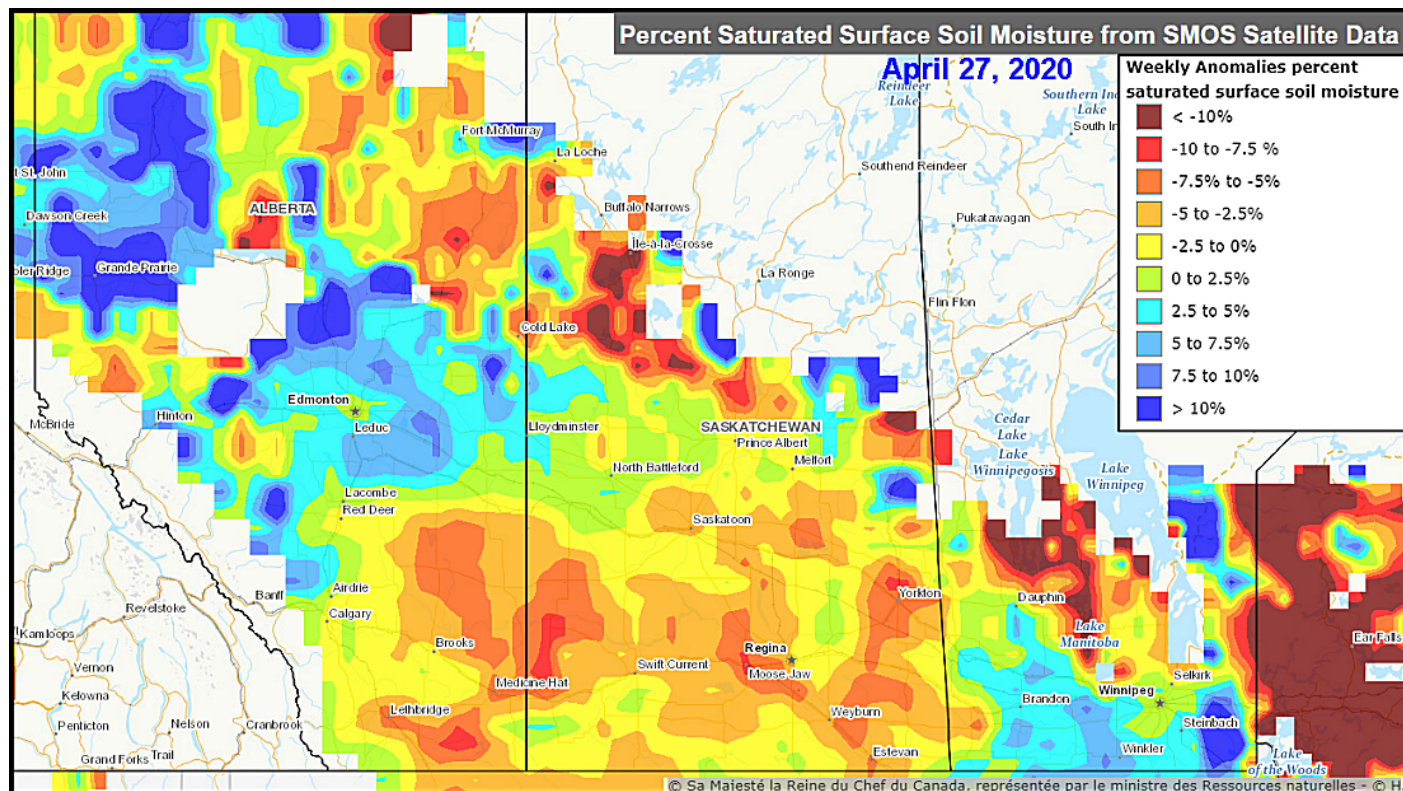
through Leakville, Pence and Moose Jaw areas to the Brownlee and Aylesbury region needs some moisture and this week's weather system only provided some partial relief.

Satellite imagery suggests a large region in Manitoba's Interlake region is also limited on topsoil moisture.

Each of these wet, dry and cold areas has been dealing with these conditions for an extended period of time and many folks are wondering how much longer this is going to prevail. The shots of cold have been a little too persistent this late winter and early spring and it is now having a bigger impact on farming across the eastern Prairies as is the wet bias in southern Manitoba and northwestern Alberta. Worry over dryness in southeastern Alberta and west-central Saskatchewan has been increasing and that area may have to wait longest for relief.

Weather patterns are expected to change—at for some areas and at least for a little while during the second half of this month as warmer air

Another corridor from Lang



How Much Longer Will This Go On? (continued from page 2)

returns to the region. The warm up will be welcome, but with it will come more rain. The moisture will be problematic for southern Manitoba, but welcome in the drier areas of eastern and southern Saskatchewan. West-central Saskatchewan and east-central to southeastern Alberta may not get enough rain to seriously change soil moisture, although there is some potential for a little light rain briefly in the week of May 17. The area that is more favored for the greatest rain will be in southern parts of the Prairies and in particular southern Manitoba, southeastern Saskatchewan and a small part of southeastern Alberta.

Weather conditions to the west and north in Alberta may have a drier bias during the balance of May that will prove to be fruitful for improving topsoil conditions in today's wettest areas. However, the region

will not be completely dry.

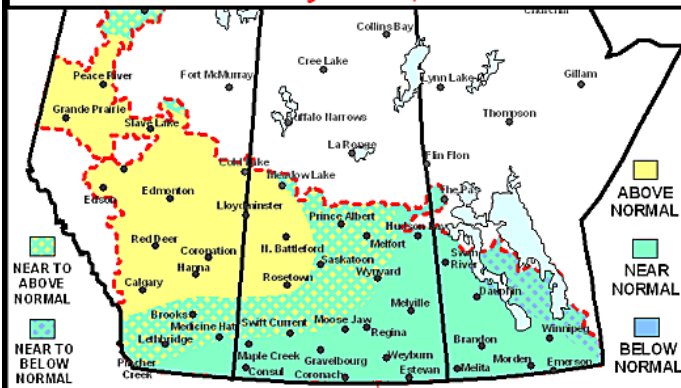
Enough moisture will occur in Manitoba's drier areas during the balance of May to induce better planting moisture once it warms up and warmer weather is expected. The balance of May should trend warmer with temperatures above average in northwestern areas including northwestern and central Alberta and a few northwestern Saskatchewan locations.

June weather is still expected to be a month of transition. One last round of notable coolness may occur in early June bringing one more threat of frost to a few Manitoba and extreme eastern Saskatchewan locations while the remainder of the Prairies continue to have a warmer bias. The cool off in early June will last about ten days and then the Prairies should warm up a little better. The southern parts of the Prairies may end up with a little

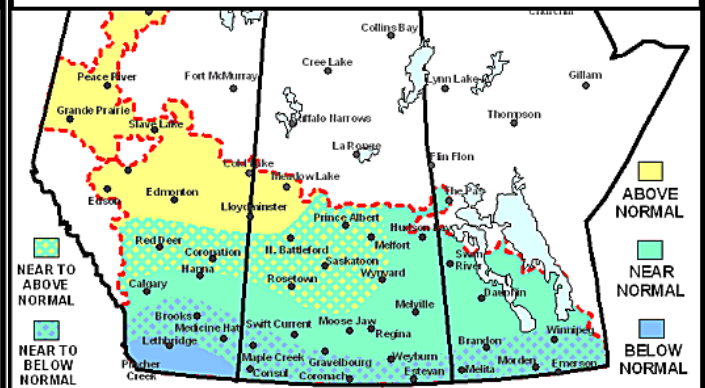
cooler bias, partially due to the cool shot in the east and also due to some cloudiness and precipitation that is expected in the southwest. There is some potential that southern Alberta and southwestern Saskatchewan will be wetter in June than shown below, but that will be sorted out in the next few weeks.

The eastern Prairies will trend drier than usual during the cooler biased period in early June with wetter conditions later in the month as warmer air reaches the region and the jet stream comes farther north in North America. The precipitation in June will be more mixed in other parts of the Prairies with some pockets of dryness still prevailing in west-central Saskatchewan and east-central Alberta, although there will be some timely precipitation to revitalize some of the crops in the region.

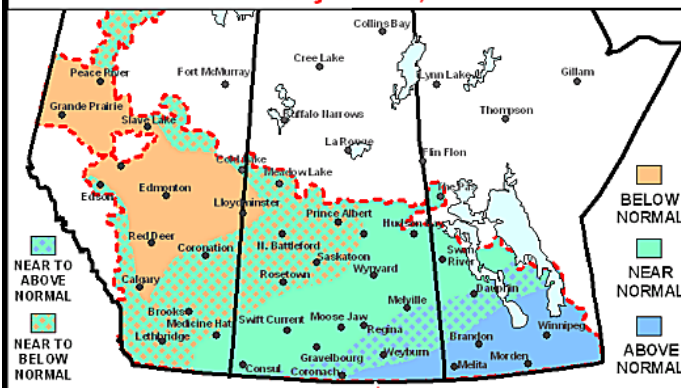
21-Day Temperature Anomaly
For May 10 - 31, 2020



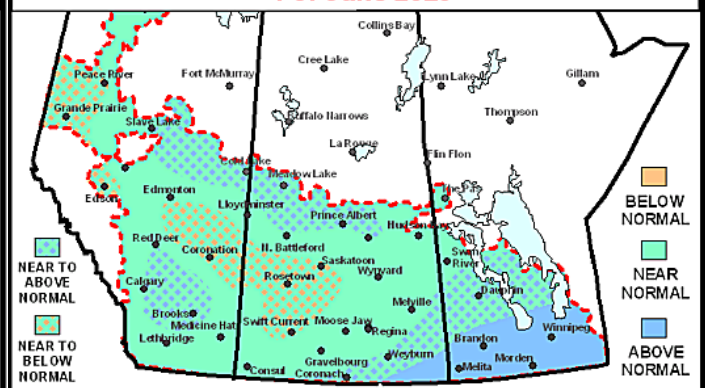
30-Day Temperature Anomaly
For June 2020



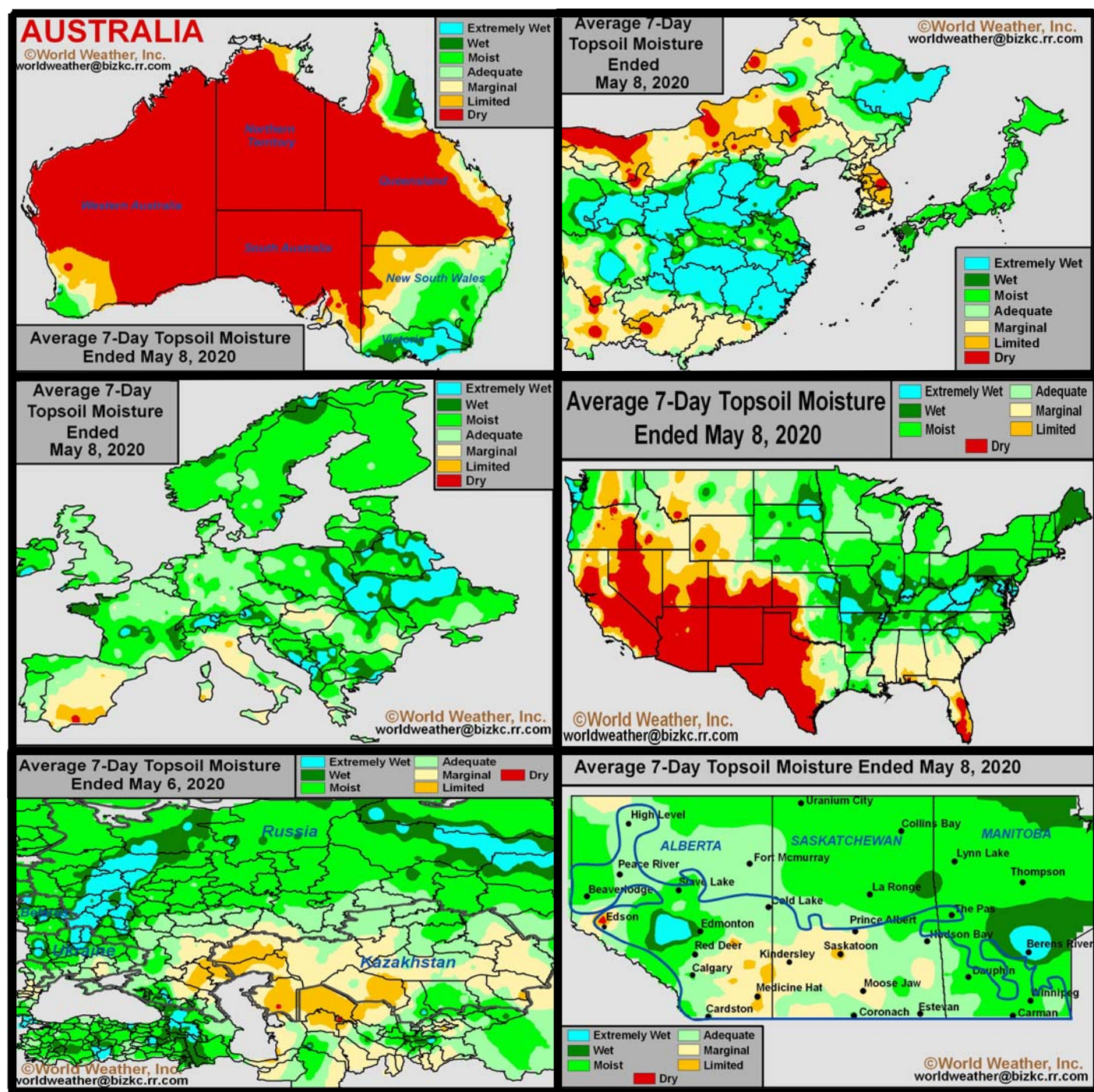
21-Day Precipitation Anomaly
For May 10 - 31, 2020



30-Day Precipitation Anomaly
For June 2020



Selected Weather Images From Around The World



The biggest change in soil moisture over the past 20 days has been in east-central China where the topsoil is now plenty moist for spring and summer crop planting and aggressive winter wheat development. Most of China's crop areas are rated very well for moisture. Southeastern Australia's soil moisture is rated quite favorably too, but the remainder of the nation's winter crops which are produced throughout the far south and in Queensland are still in need of significant moisture. Dryness is also a problem in the west-central and southwestern U.S. Plains where hard red winter wheat in unirrigated areas is struggling with dryness and extreme heat. Some relief is expected the dry areas of the U.S. southern Plains in this coming week, but some of the rain may fall a little late. Most U.S. Midwestern crop areas are favorably moist for crop development, but some freeze damage occurred May 8-9. Europe soil moisture is rated well in many areas, dryness remains in western Kazakhstan and Russia's Southern Region. Canada's Prairies moisture varies from short in the heart of the region to abundantly wet in parts of Alberta and moist in Manitoba.

Canada's Cold Comes Early; Raises Worry About June

Cold weather did not waste any time returning the Prairies in this past week. Temperatures Sunday, May 10 fell to -9 Celsius at Drinkwater and Gray, SK while almost all of the Prairies have experienced cold conditions at one time or another this month hard freezes have occurred in this past week across most of Saskatchewan and Manitoba, but for most areas the cold came without any frost sensitive crops, like canola corn and soybeans, being up. Most of the planting of these crops has not occurred yet and those areas that have planted did so only recently limiting exposure to the cold.

The cold weather returned sooner than expected, but it does still fit the repeating pattern that we noted in the last prognosticator. We have been pointing out that returning bouts of well below average temperatures have been occurring in approximate 30-day intervals since last December. Some of the bouts of cold have lasted longer than others, but despite what is happening in the Prairies the Northern Hemisphere is warming. The warming atmosphere will shorten the duration of cold air bouts and start limiting their southward expansion.

May 8-10 has proven to be an impressive period of cold for North America. Freezes have occurred southward into the central U.S. Plains and Midwest where damage to early emerged summer crops and some winter grain has occurred. The next wave of significant cold is possible in late May and/or early June, but the atmosphere should be warmer by then which will restrict the southward extent of cold into the

United States and limit its deviation from normal as well.

However, for the Prairies the cold will have some interesting potential. As we noted in the last prognosticator, there is a tendency in the spring for years like this to push the colder air surges farther to the east as time moves along. This past week's cold stayed out of Alberta and only briefly impacted the western part of Saskatchewan. This compares the bouts of cold that occurred in April that were more broad based across the Prairies.

The next bout of cold for the Prairies will likely take a little more of an

much confidence as this latest bout of cold had. So, it will come down to individual farmer preference whether to plant or not plant as early as usual. There is a risk of frost and freezes in Manitoba and eastern Saskatchewan if the next bout of cold occurs as in these previous episodes. To be safe producers may want to consider putting seed into the ground in late May for the frost sensitive crops just in case there is another round of cold weather that would nip these crops if planted sooner than that.

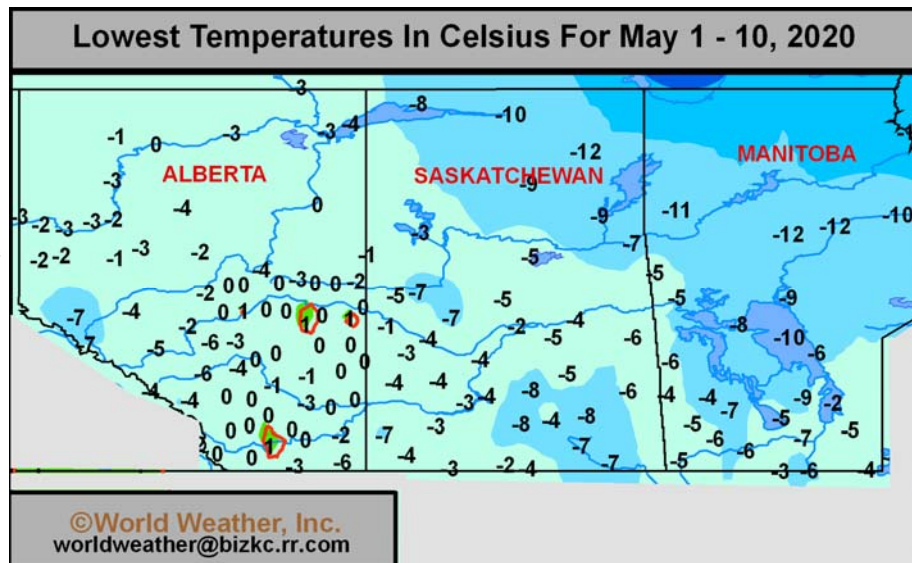
Warmer weather is expected to resume late in this coming week. The warm up should last at least ten

days and possibly a little longer before there is potential for "significant" cooling once again.

In the meantime, seasonal warming is expected to continue in the western Prairies where there does not seem to be much reason to be concerned about big temperature swings. If cold returns to Alberta or western Saskatchewan it would be a

fluke event and not a part of some repeating weather pattern that can be used as a forecasting tool to help forewarn producers.

Ridge building should begin to occur a little more consistently in the central United States in June and that should help limit the southward advance of cold air masses in the future and that will help end this repeating pattern, but until a persistent ridge evolves in the U.S. Plains this pattern will prevail. Some weak ridge building will occur in late May, but it may not be strong enough to thwart the last round of cold from occurring.



easterly shift. That should take more of western Saskatchewan and eastern Alberta out of the potential for threatening cold, but leave Manitoba at some risk of seeing more frost and freezes. Eastern Saskatchewan will be bothered by the next wave of cold, too, but it will not be nearly as potent as this latest bout of cold has been.

The returning potential for cold in late May or early June is one that carries less confidence than that which has just occurred. World Weather, Inc. was quite convinced that there would be a return of cold in May, but the forecast for late May and/or early June cold does not carry nearly as

Cold Air Brings Damage To U.S. Crops

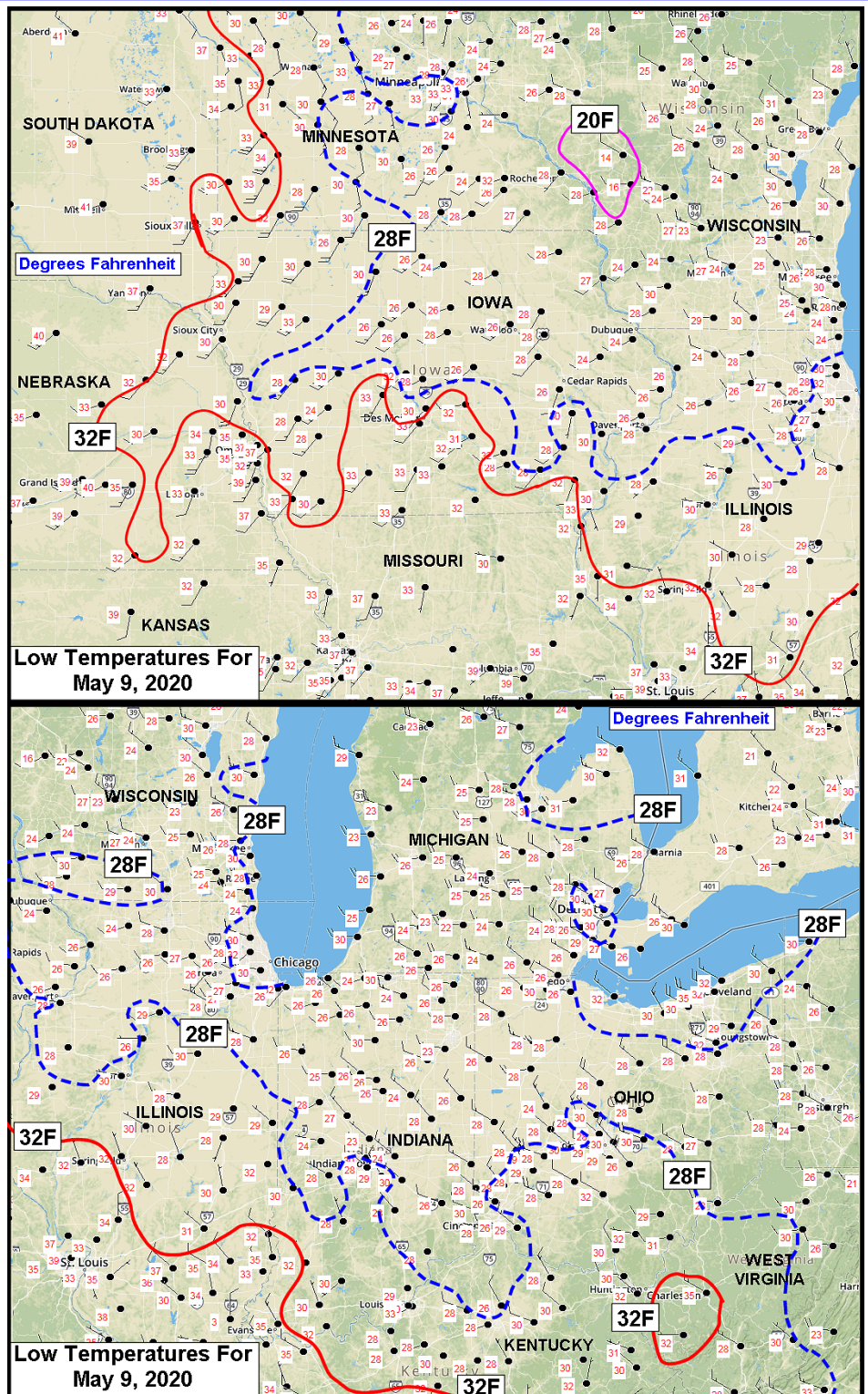
Unusually cold air penetrated deeply into the U.S. Plains and Midwest bringing frost and freezes to areas where corn and soybeans had begun to emerge. Temperatures dropped below freezing as far south as northern Kansas, eastern Nebraska, central and southeastern Iowa, central Illinois and all the way south into northeastern Tennessee and a few northern North Carolina locations May 8-10.

Hard freezes occurred in most of northwestern Illinois, central and northeastern Iowa, Wisconsin, Minnesota, the Dakotas, much of Indiana, Michigan and portions of northwestern and central Iowa. Emerged corn and soybeans were damaged throughout all of these areas and an assessment of the impact will be made over the next few days. There is much market speculation as to what producers will do because of the low futures market prices and worry about the global economy.

Producers in the upper Midwest will have time to replant their corn if they desire to do so, but those in the lower Midwest will not likely be successful in replanting corn because of the lateness of the season. Some corn might be planted to soybeans if farmers want to put out the extra expense of replanting at a time when there is good global stocks of grain and oilseeds and a world economic situation that looks a bit grim because of COVID-19. Soybean replanting will have to be considered with the same potential issues.

Winter wheat was also impacted by the last few days of unusual cold. However, most of the hard red winter wheat produced in the central Plains was not seriously impacted since most temperatures only reached the frost and light freeze threshold and most of the crops impacted were not far enough along in their development to have been seriously impacted.

Soft wheat in the Midwest is a different story. Booting and heading



wheat in Illinois, Indiana, Ohio and Kentucky was vulnerable to losses especially since some of the Kentucky crop was likely flowering. Losses in these crops is likely, although deter-

mining the significance of that loss will not be possible until the harvest is complete. Some loss is expected, however. Additional cold will occur in the northern states this week.

China Crop Conditions To Remain Favorable

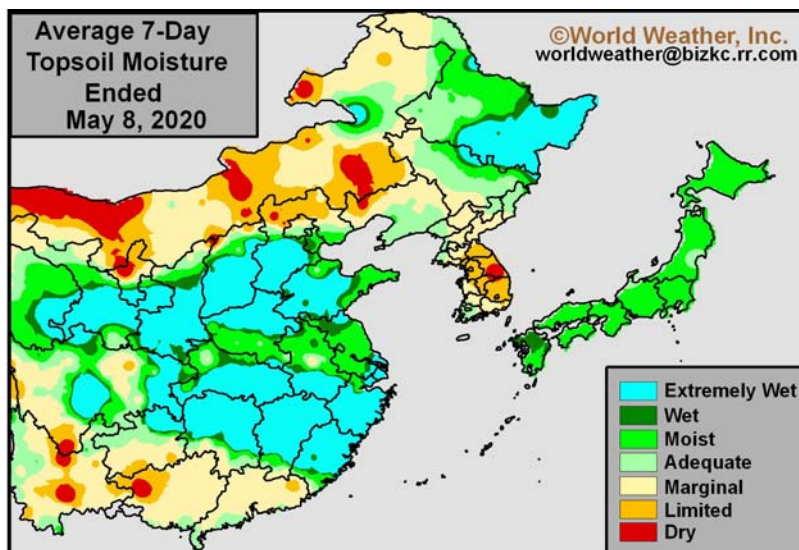
Winter wheat and rapeseed conditions are generally favorable in China due to bouts of rain and warm weather in recent weeks. Planting and establishment of the spring grains, oilseeds and rice has also advanced favorably so far this season. A good mix of rain and sunshine will continue to support a favorable environment for most locations. Only Inner Mongolia and a few neighboring areas in northern Hebei and western Liaoning are struggling with dryness and would welcome more frequent rain. Planting and fieldwork delays will be possible near and south of the Yangtze River in the next few days, though a lack of significant follow-up this week will support more aggressive fieldwork.

Soil moisture is rated adequate to excessive in much of the Yangtze River Basin due to the recent rainfall. Flooding was suspected, although the rain was spread out over multiple days to help minimize the extent of flooding. In contrast, portions of southern China dried significantly during the past week and many areas currently have marginally adequate to slightly short topsoil moisture, but subsoil moisture is still more than sufficient to carry on normal crop development.

Part of the reason for quick drying in southern China was due to a bout of much warmer temperatures that occurred for a while last weekend and earlier this week. Temperatures in most of eastern China soared into the 30s Celsius during that period of time with extremes reaching 39 degrees in a part of Henan, Anhui, western Guizhou and western Guangxi as well as southern Yunnan. The heat accelerated evaporation which quickly firmed the soil.

Most areas in eastern China had moisture abundance prior to the hotter weather, but those areas that were low on moisture to begin the week experienced a notable decline in soil and winter crop conditions. These areas include much of Inner Mongolia and portions of northeastern Hebei, northwestern Liaoning and a few neighboring areas where the ground is now too dry for optimum winter and spring crop development. Planting and especially emergence will likely be slow in these northern crop areas until rain falls to bolster topsoil moisture.

Soil moisture varies from short to adequate in the North China Plain



and central Yellow River Basin. Heilongjiang has adequate to excessive moisture while other areas in Northeast China have adequate to marginally adequate moisture.

Winter rapeseed growth conditions have been variable in the Yangtze River Basin so far this spring. Portions of the region from eastern Guizhou through Hunan to Jiangxi received excessive moisture over a six-week period from early March through the second week of April resulting in horrific flooding that damaged crops in many areas. Production cuts are expected in these southern Yangtze River Basin pro-

duction areas.

In contrast, crop areas north of the Yangtze River have seen a good distribution of rain this spring resulting in very good crop development. The main winter wheat areas in the North China Plain and Yellow River Basin as well as northern rapeseed areas should see favorable yields this year.

Planting and establishment of rice, coarse grains and oilseeds has been variable in China in recent weeks. The southernmost provinces had plenty of moisture for aggressive growth earlier this spring before the recent bout of dry weather. Crop conditions are mostly favorable, though a boost in rain would be welcome. Planting and fieldwork conditions have often been sluggish in the Yangtze River Basin during the periods of wet weather. Prospects are generally favorable for most crops despite the excessive topsoil moisture.

In the North China Plain and central Yellow River Basin, early season planting and establishment conditions have been mostly favorable. Henan, southern Hebei, and neighboring areas have been a little dry at times, though no critical dryness was noted.

Central Inner Mongolia, northern Hebei, and western Liaoning have been too dry to support favorable planting and establishment. Significant rain is needed to reverse the moisture deficits and support better crop conditions. Early season prospects are mostly favorable in the remaining portions of Northeast China. However, some timely rain would be welcome in Jilin, Liaoning, and northeastern Inner Mongolia.

Southeastern Europe Dryness Eased

Some very important rain fell across the European Continent during the past week bringing some improvement to topsoil moisture and crop conditions. The rainfall distribution was not even and numerous areas are still looking for greater rainfall. For now, though, the majority of the continent is experiencing favorable planting and crop development conditions with a few pockets of ongoing concern.

Romania, southern France and several areas in the western Balkan region and in Ukraine received enough rain to bolster soil moisture in a favorable manner, but many other areas reported only light rainfall that was welcome, but left an ongoing need for additional precipitation. The lighter rainfall areas did advance their spring planting quite favorably and early seed germination and plant emergence has begun in many areas.

Soil moisture is now rated quite favorably across the European continent – at least in the topsoil. There are pockets of dryness remaining in southern Ukraine, southeastern Romania, northwestern Hungary, western Slovakia and in a few random locations across Germany. None of the dryness was very serious, but conditions can change greatly at this time of year with a brief bout of warm and dry weather and there is a ridge of high pressure advertised for central Europe this week into next month that could bring back a more stressful environment for a few crop areas.

Central and southern Spain also has marginally adequate moisture. Rain-fed crop development likely

slowed as the ground dried while irrigated crop conditions are mostly favorable. Other production areas in Europe generally have adequate moisture due to recent rainfall. Winter wheat, barley, and rapeseed development has expanded in much of Europe and crop prospects are generally favorable. Early season spring grain and oilseed planting and establishment conditions are mostly good as well.

Romania and much of the Balkan region into southern Ukraine will be drier biased through the middle of next week. Brief periods of light and

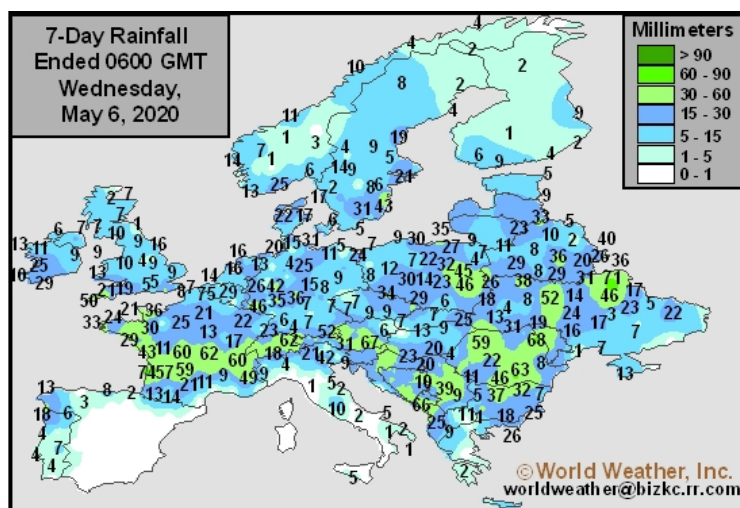
ground may become too dry for favorable crop conditions by the middle of next week.

Northern Germany and northern fringes of France into the United Kingdom will also be drier biased during the coming week. Many areas in northern Germany will see a gradual reduction in moisture, which may slow both winter crop development and spring crop planting and establishment. A good shot of rain would be welcome later this month. Northern France and the United Kingdom will have a few opportunities for light rain through the middle of next week that will limit drying. Crop conditions will be mostly favorable outside a few fields that become a little to dry.

The Iberian Peninsula and remaining portions of France into southern Germany, northern Italy, and Poland will see a good mix of rain and sunshine during the coming week. The most widespread and significant precipitation will evolve over the weekend into

early next week as a strong upper-level disturbance passes over the continent.

Winter wheat, barley, and rapeseed conditions will remain favorable for much of Europe outside the driest areas in the coming weeks. Rain totals will not be enough to significantly impact quality in the more advanced crops. Spring grains and oilseeds will also continue to establish and grow under generally favorable conditions. Planting and fieldwork may be sluggish in some of the wettest areas.



erratic rain are still slated for several areas, though resulting rainfall will be too light to counter evaporation. Temperatures will be cooler biased, which will limit drying at times. However, the driest areas in Romania and southern Ukraine will be too dry to support aggressive growth. Concern for production cuts of the winter wheat and barley will further increase if the drier biased environment continues through the second half of May. Other portions of the Balkan region will have enough moisture to support normal crop development during the next few days. The

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Southern U.S. Plains Dryness To Be Partially Eased

Areas struggling with dryness in the U.S. west-central and southwestern Plains will have several opportunities for scattered showers and isolated thunderstorms during the next seven days. These events will produce varying amounts of rain that will offer some relief from dryness. Additional rain will still be needed to sustain improvement. Wheat production potentials are still expected to be lower in hard red winter wheat production areas, though the rain will help limit some of the losses.

Rainfall has been variable across southern sections of the U.S. in recent weeks. West Texas and much of Oklahoma into western Kansas and eastern Colorado were drier or much drier than normal. Rainfall ranged from 5-50% of normal for the 30-day period ending May 10. Other portions of the central and southern Plains were drier or slightly drier than normal as well. The Delta received near to slightly above normal rainfall during this time while precipitation in the southeastern states was often above to well above normal with portions of Georgia and western South Carolina receiving more than three times' normal precipitation. In the meantime, the Midwest received near to below normal precipitation with exceptions in much of Illinois, northern Kentucky, southern Ohio and pockets in eastern North Dakota and Montana. Western North America was also drier than normal with exceptions for southern California.

West Texas and western fringes of Oklahoma into western Kansas and eastern Colorado are quite dry and have been notably drier biased for an extended period of time, not only during the past 30 days, but extending back into the last days of March. Abundant rain is needed to reverse moisture deficits and to improve future crop conditions. Central Oklahoma into Nebraska and the remaining portions of Kansas have, otherwise, been in good shape with timely rainfall and adequate soil moisture.

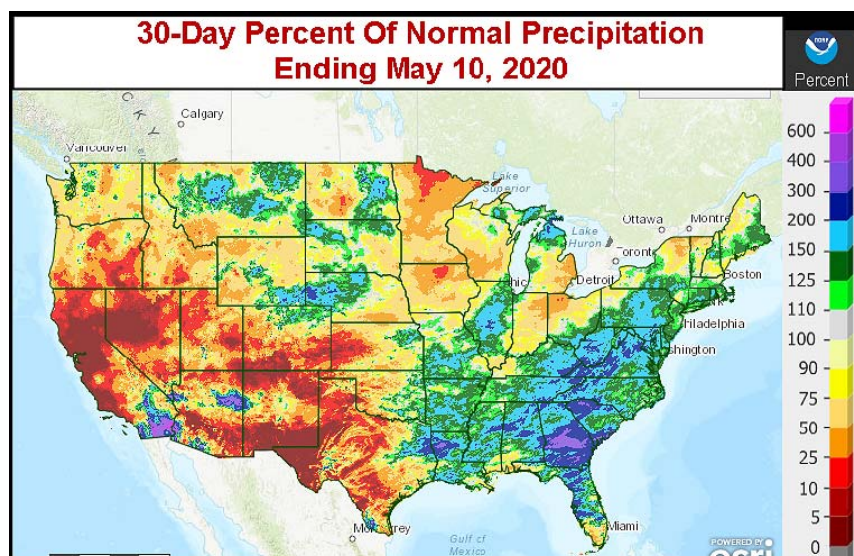
Winter wheat conditions have

as early spring crops are developing relatively well. Southwestern Oklahoma, however, is too dry for some of its unirrigated spring and summer crops.

A series of disturbances will advance over the central and southern Plains in the coming days in part due to an arctic airmass that builds over central and eastern North America through the middle of next week. These systems will promote scattered showers and isolated thunderstorms that will help alleviate some of the dryness. The

greatest amount of rain will evolve from central Oklahoma into southern Kansas by the end of next week. Moisture totals by next Friday morning will range from 1.50 to 3.00 inches with local amounts over 4.00 inches. Other production areas will receive 0.25 to 1.00 inch of rain with local amounts of 1.50 inches or slightly more from the Texas Panhandle into central Kansas. Another round of erratic rain is expected May 16 – 17 as well.

Soil moisture will gradually increase from central Oklahoma into southern Kansas during the next ten days. Winter wheat conditions will either improve or remain favorable. Only minor relief is expected in other portions of hard red winter wheat country, including the west-central and southwestern portions of the Plains. Crop development in the high Plains region will improve temporarily, but production losses are still expected.



further deteriorated from the Texas Panhandle and western Oklahoma into western Kansas and eastern Colorado in recent weeks. The decline has resulted from ongoing dryness, periods of excessive heat and frost and freeze damage in mid- to late April. Production cuts are already expected this year, though there is still time for some improvement. Central Oklahoma into central and eastern sections of crop country in Kansas and Nebraska saw periods of rain earlier this year that promoted a better environment for the crops and wheat as well

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