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The Canadian Agriculture Weather Prognosticator

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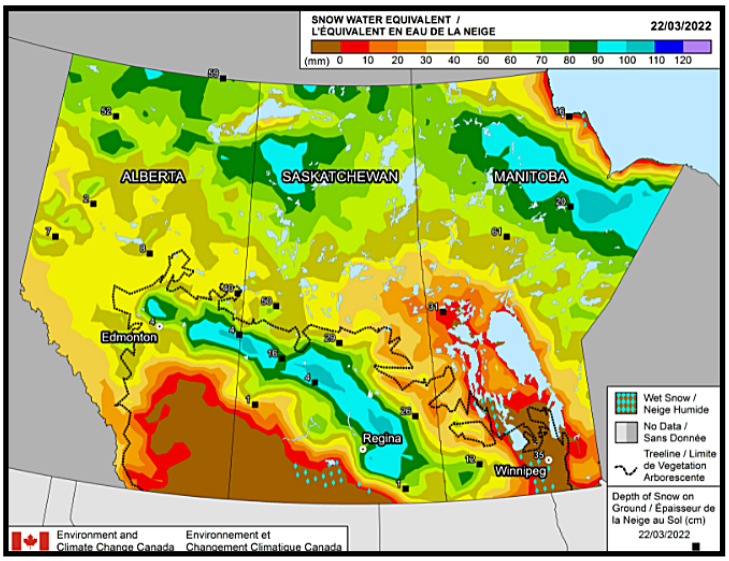
World Weather At A Glance

- Drought continues in the west half of North America from northern Mexico to Central Canada's Prairies
- Too much rain is falling in U.S. Midwest, Delta and Tennessee River Basin resulting in delays to spring fieldwork
- Europe is turning much colder this week and the first half of April will generate some impressive snowfall and very cold temperatures
- Western Russia may be facing spring floods this year because of deep snowpack and more precipitation coming prior to the snow melt season
- India's winter crop maturation and harvest season is advancing well
- China's rapeseed crop has been too wet, but will be drying down this week
- U.S. hard red winter wheat areas have seen better moisture recently improving crop development potentials

Late Planting May Be Best Plan Southwest

Another growing season is about to begin and like so many of them in the recent years, worry will be prevalent in many areas.

Too much snow is on the ground and frequent bouts of additional precipitation is occurring across the northern and some eastern parts of the Prairies where planting delays may occur because of too much moisture. Snow depths on the northern fringe of the Prairies and in parts of Manitoba are great enough to delay spring fieldwork simply because of the time needed to melt the snow and dry out the soil. The potential remains high for more precipitation in these wetter areas.



In contrast, southwestern and some central portions of the Prairies are dealing with up to five years of drought and no planting or subsoil moisture. Precipitation events keep skipping the region and April is upon us.

Dealing with surplus soil moisture may be easier than dealing with drought—at least in this season because producers will be faced with a difficult choice to make when soil temperatures are good for planting. Anyway one looks at the dry situation there is a risk. Planting by the calendar raises the potential of putting seed in the ground, but not having any moisture to germinate or establish the crop. Planting after the first rain or snow event of the season has occurred brings risk because in a prolonged drought like this no one really knows if and when there will be follow up rain which leaves some crops vulnerable to withering and possible death if there is no follow up rain.

Planting early in limited soil moisture and a drought environment also raises the potential for frost and freeze damage since wild temperature swings will still be possible as long as drought prevails. Waiting to plant for ideal soil moisture can be risky too since there is always the potential that drought will not end, although that is not the prescription for this season.

So, what is the outlook and best advice for planting this year? For most of the Prairies thinking late might be the best guidance to give. With some forecasters still predicting another doom and gloom year in the Prairies this

Late Planting May Be Best Plan Southwest (continued from page 1)

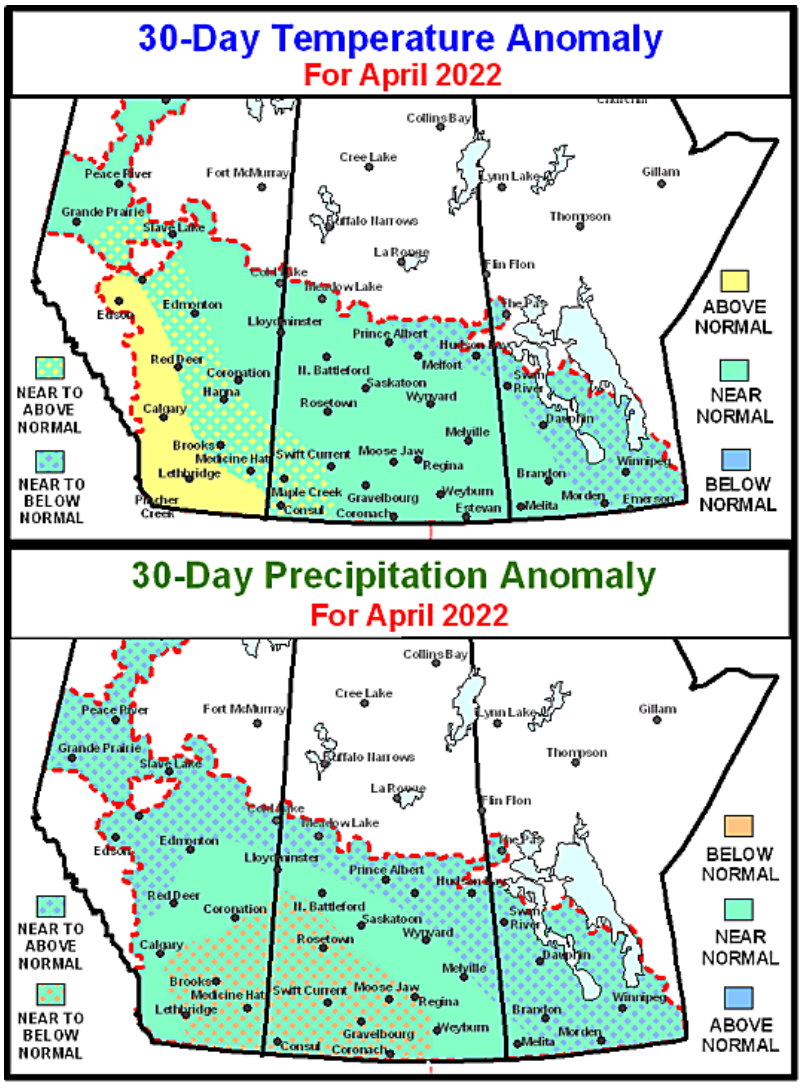
year the best plan would be to plant early and take advantage of the moisture when you have it. However, that is not the best advice for this year. Planting late is the better plan because the odds of changing weather are still high for this summer.

A switch from drought to more frequent and significant rain is still expected by World Weather, Inc. The challenge will be to spring planting. Once the crops are seeded and we get to late spring and early summer the odds will become more favorable for timely rainfall. In fact, rain frequency and intensity will likely increase during the coarse of the summer for the drought stricken areas from central and southern Alberta through much of Saskatchewan as well as northern and western Manitoba.

Getting the rain to fall initially will be the biggest challenge. There is such a huge amount of land that is drought stricken from northern Mexico to central Canada's Prairies that any storm system destined to arrive from the southwest will have to pass over and through some very dry areas. That means storm systems will have a tendency to dry out as they pass through western North America—at least initially. That will make the initial rainfall in the central and southwestern Prairies sporadic, light, and mostly inconsistent. Some farms will get favorable amounts of moisture while others not far away will still be bone dry. That will make advising producers as to when to plant this year extremely challenging. What works for some farms will not work for others—at least not until a few storm systems have passed through the region.

The best advice is to be aware that April precipitation might be good for a short period of time and the itch to begin seeding in the warmer areas will be strong. But, be sure to take into account the subsoil moisture profile and find a trustworthy meteorologist who can accurately predict whether the significant rain you just received was a fluke or the beginning of a trend change.

Trend changes will occur this year, but the toughest part of the forecast is guessing when that change will occur and for which part of the Prairies. It will be different for all. A very close watch on the rain distribution and the medium-range weather forecast models will be necessary for those areas suffering from no subsoil moisture to ensure crops will have sufficient moisture to emerge and establish rather than germinating and then failing because of no subsoil moisture and no rain.



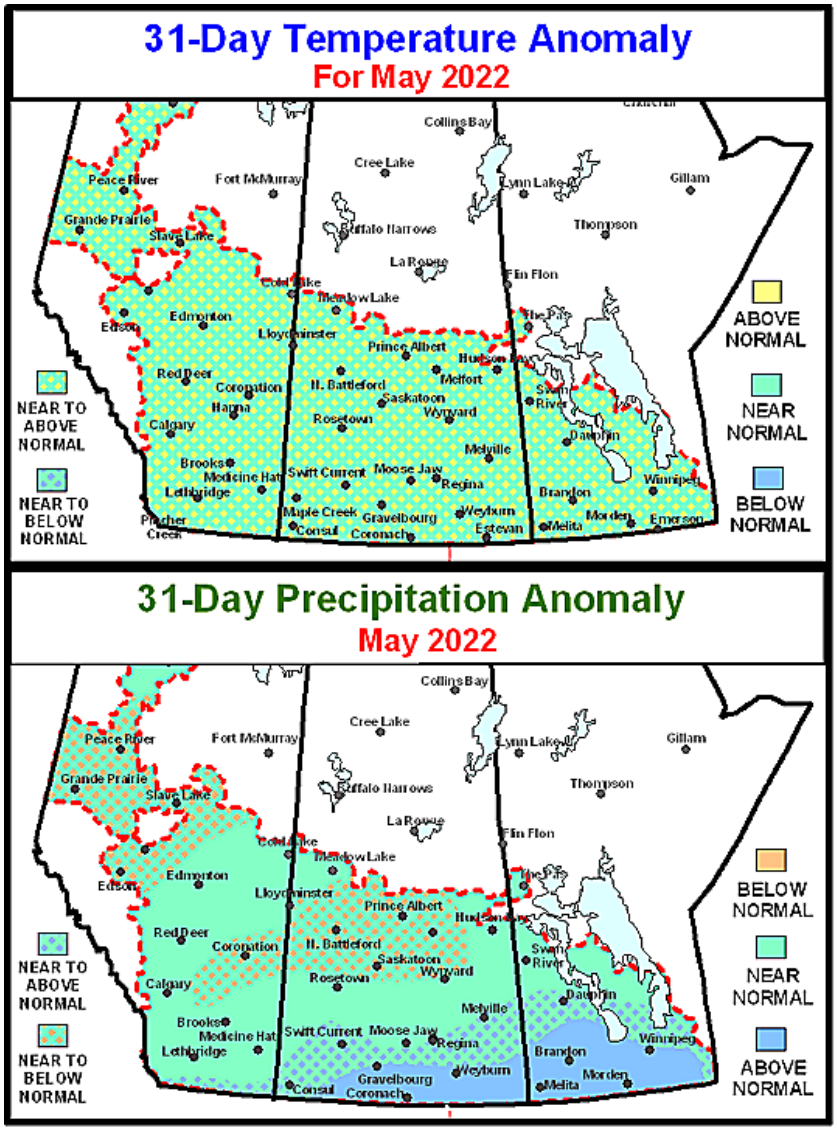
Most of our research suggests the Prairies will be in a wetter mode by the second half of May. Conditions may not be ideal at that time, but the most challenging part of spring should be ending by then and a better level of confidence will be present that follow up rain will occur. Some of the driest areas in the southwestern Prairies may not see a frequent succession of weather systems until summer, but there should be enough weather disturbances lined up by the second half of May to support germination, emergence and establishment.

Now with all of that said, there is potential for rain and some snow to fall prior to late May and some areas will get enough moisture to plant within a few weeks of the normal start date. For those lucky producers, there will be some potential that the Prairies could turn drier biased once again for a little while in late April and early May . That is extremely important to note.

Late Planting May Be Best Plan Southwest (continued from page 2)

The returning drier bias almost has to happen as the ridge of high pressure that has dominated far western Canada during the winter shifts to the east. The ridge should end up over the U.S. Plains in May and once in that position the door should be open for frequent storms to march from the U.S. Pacific Northwest into the heart of the Prairies. Paying attention to the ridge of high pressure's movement and mean position will tell us much about whether more rain is coming or not.

Confidence is high that the ridge will shift far enough to the east to support improved rainfall during the summer and possibly in May to greatly ease dryness. It would not be surprising to see some areas in Saskatchewan and southeastern Alberta become too wet in July and August, but few will be complaining about that except possibly early planted lentil producers. Too much rain at harvest time could be an issue for Lentils. There might also be some concern for early planted canola getting too wet at the end of the season which is another reason to think about later planting dates.



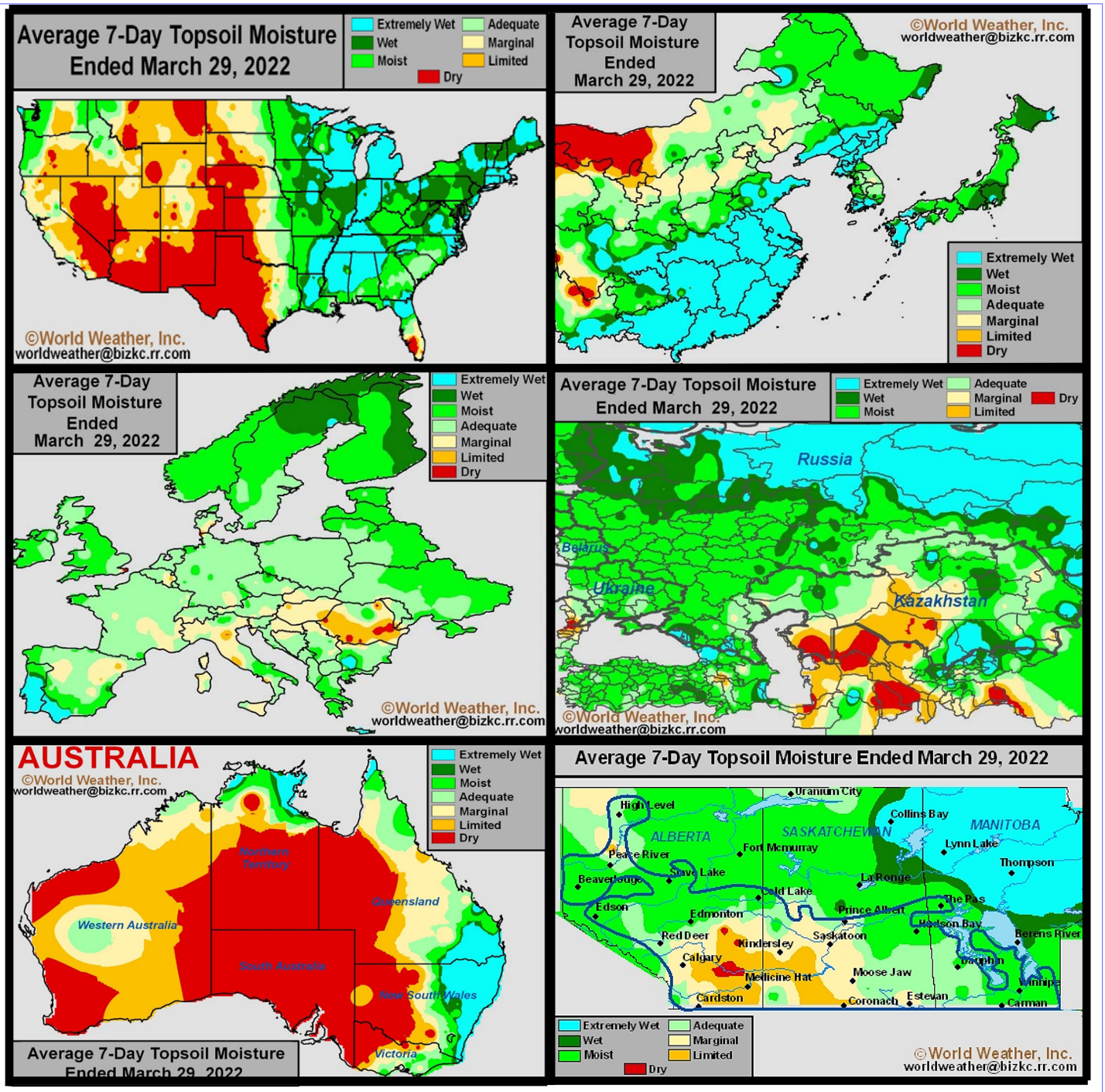
For the wetter areas in the Prairies, planting later than usual this year might not be a choice. It will take a while for the significant snowpack to melt and for the runoff to move down stream and for the topsoil to firm. Additional precipitation at times during the early spring in the wetter biased areas may lead to delayed planting because of wet biased conditions. Manitoba could experience this because it, like the northern U.S. Plains and upper Midwest, will get frequent rain and snow events this spring while the winter snowpack is melting and that could lead to greater flood potentials.

Flooding on the U.S. side of the Red River Basin is under way and that flood water will shift northward into Manitoba in the next few weeks. Much of the snow in Manitoba has not melted yet and when it does the runoff will complicate the runoff situation and could worsen the Red River flood.

West-central Manitoba, east-central and far northern Saskatchewan and northern Alberta also have a considerable amount of snow to melt and that will raise the potential for flooding, wet fields and extended delays in fieldwork. The situation in these areas could get more serious if a wetter than usual bias continues along with cooler biased temperatures deeply into the spring season. That is not expected, but it is not out of the realm of possibilities. A frequent precipitation pattern is expected in mot of these areas during April and there is 50 to more than 100 millimeters of moisture tied up in the snow field without considering additional precipitation.

The bottom line is one of contrasts for the Prairies this spring. Northern and east-central areas are a little too wet or could be for a while this spring delaying fieldwork. A much larger part of the central and southwestern Prairies are still dealing with drought and the best advice is to not be too aggressive about getting into the fields early this year. Wait for a succession of weather systems to bring relief to the drought first. Relief is expected, but as long as you are willing to accept planting in May instead of April all should work out. Remember that the best rain of the season will fall during the summer and not during the spring. Don't wait for the miracle, but be patient.

Selected Weather Images From Around The World



U.S. soil conditions in the Midwest, Delta and Tennessee River Valley are saturated with moisture. The outlook calls for more rain in all three areas while temperatures are milder than usual resulting in poor drying rates between rain events. That may lead to planting delays this spring. China has also had too much rain in its rapeseed production region this spring and crop conditions are not as good as they should be; however a turnaround in weather is expected soon resulting in drier and warmer conditions favoring better crop development potential. Russia and Europe weather in recent weeks has been drier than usual, but seasonably cool temperatures conserved soil moisture leaving the region favorably moist. Both Europe and the CIS will now trend wetter than usual and some record cold is expected as well in northern crop areas. Canada's Prairies are still too dry in the central and southwest with many farmers holding their breadth for a decent rain. Eastern Australia summer crop conditions are mostly good.

A Better Summer Lies Ahead For Prairies

World Weather, Inc. has still not changed the general theme for summer 2022 in recent weeks and months. The outlook for summer is still looking favorable for much of the Prairies and especially the areas suffering from drought.

Confidence for improved rainfall has been kept moderately high for the past few weeks. The primary reason for the favorable outlook comes from the fact that the 18-year cycle dictates a well-mixed spring and summer weather pattern that should translate into good crop development potential once dryness is eased.

The summer weather pattern is not likely to be dominated by the 18-year cycle alone this year. The influence of La Nina and the negative phase of Pacific Decadal Oscillation (PDO) should be rather significant, but for Canada's Prairies that influence is mostly a reinforcement of the 18-year cycle pattern. Prevailing La Nina will support dryness in the U.S. Plains and immediate neighboring areas while the negative PDO supports a trough of low pressure in the far western U.S. and a ridge of high pressure over the U.S. Plains. Both of these weather phenomena will help ensure a ridge of high pressure builds in the central U.S over the Plains and far western Corn Belt.

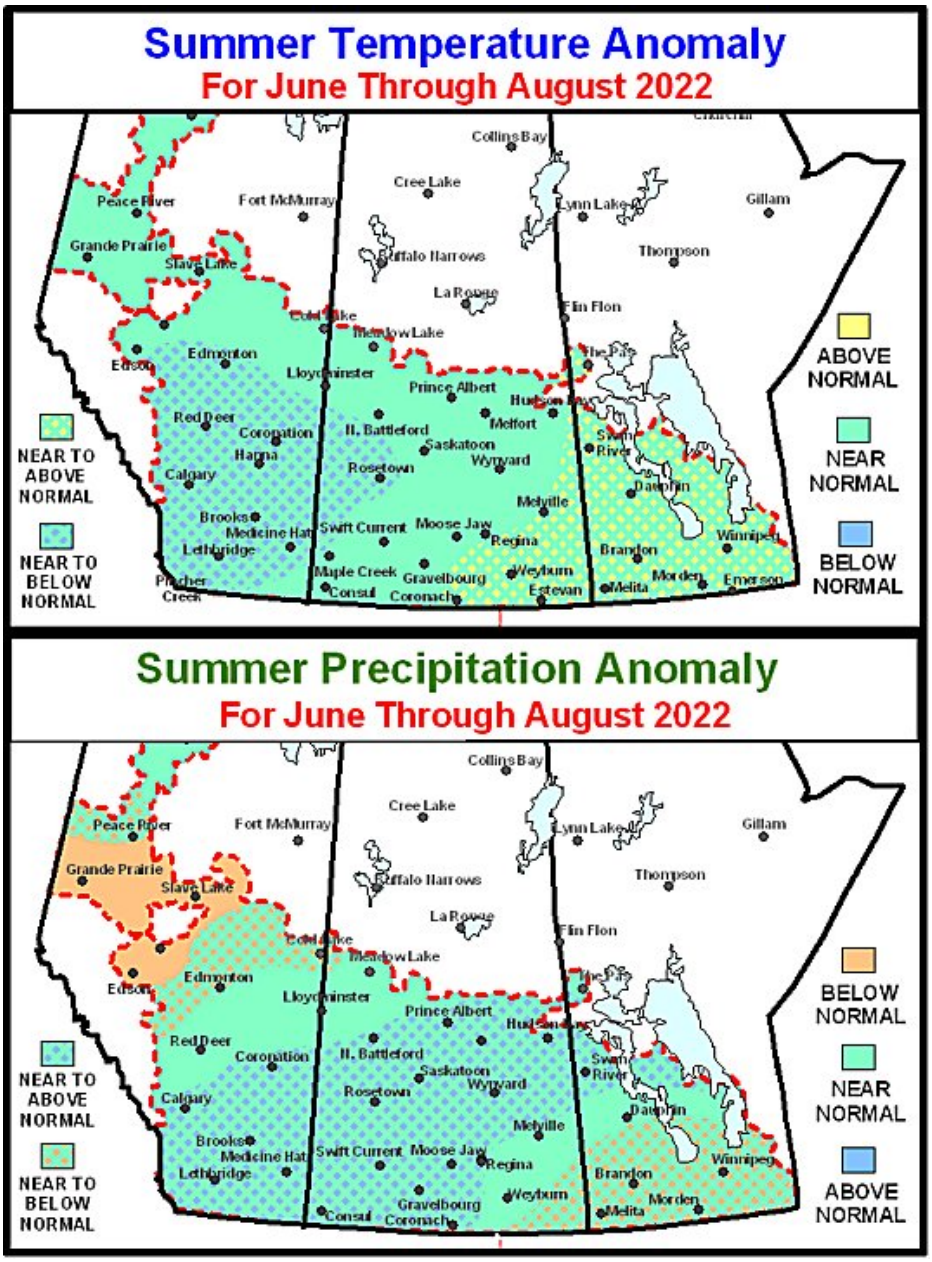
The ridge may start out over the Rocky Mountains, but over time it will drift to the east and as it does storm systems coming into the U.S. Pacific Northwest will move along the back side of the ridge bringing waves of rain to the Prairies from southern Alberta and Montana through a large part of Saskatchewan. The biggest unknown for this summer is how far to the east will the high pressure ridge go and what kind of amplitude will it have.

The stronger high pressure builds into the U.S. Plains, the higher the potential will be for Manitoba and southeastern Saskatchewan to trend drier than usual during the heart of summer. The U.S. Northern Plains and upper Midwest might also trend drier during the summer if the ridge builds strongly into the Plains.

Dryness in the southeastern Prairies would only occur during the summer and mostly after favorable spring precipitation had fallen leaving the ground favorably to abundantly wet during the spring planting and early crop development season. A drier finish to the summer might prove beneficial for early maturing crops.

In the meantime, routinely occurring rainfall from southern Alberta into the heart of Saskatchewan will bring a sharp increase in soil moisture to areas that were once too dry.

Late this summer, there will be potential for western Alberta to also dry down leading to a good harvest season in the Peace River Region and areas south into the Swan Hills region and neighboring areas. Western and northern Alberta could become a little too dry, but only in late summer.

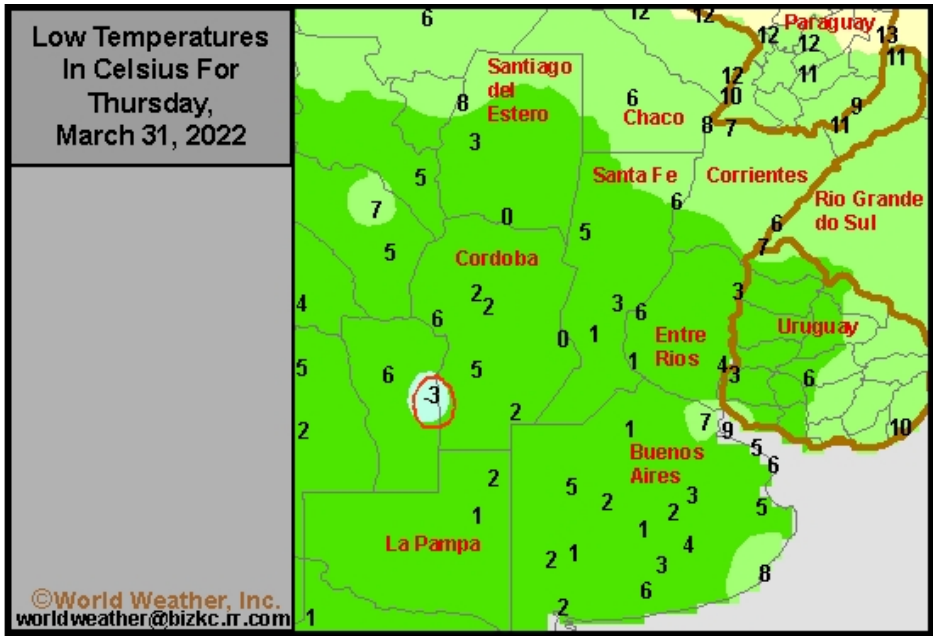


Argentina's First Frost Fails To Harm Summer Crops

Low temperatures Thursday, March 31, slipped to the 30s and lower 40s Fahrenheit (0 to 6C) across most of Argentina's key agricultural areas. Frost was noted in many areas, but most of it was soft frost and it should not leave behind a lasting impact on production. Crop development varies widely across the nation with some of the early planted crops being harvested. Other crops are filling and maturing, but some of the late planted corn and double-cropped soybeans will not be ready for harvesting until May and it is those crops that had the most to lose in the cold snap.

One location in east-central San Luis reported an extreme low of 27 Fahrenheit or -3C, but that has not been confirmed. Crop damage might have occurred at such temperatures this morning, although very few other areas experienced temperatures as cool as that.

Most of the temperatures were not low enough for a long enough period of time to induce a serious impact on crop development. No other bouts of frost or freezes are expected for a while, but World Weather, Inc. believes winter will be colder than usual this year with the months of May and July most anomalously cool. Some of the coolness may reach into Brazil and could raise a scare for coffee, sugarcane and grains.

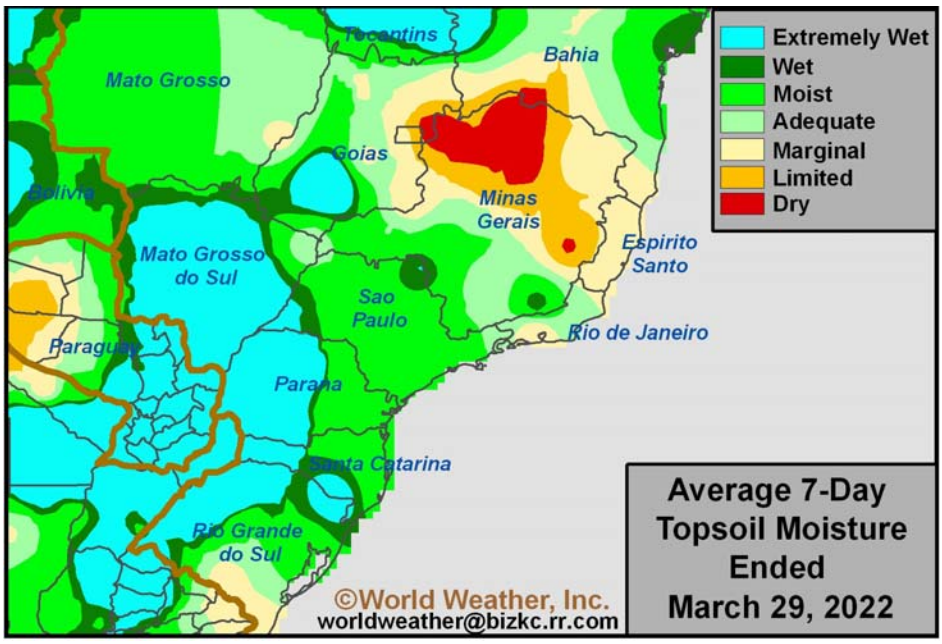


Brazil's Safrinha Corn Should Produce Well

Brazil soil moisture at the end of March was rated adequately to abundantly. Some areas from Mato Grosso do Sul southward through southern Paraguay and Parana were excessively wet while ideal soil moisture was present in Mato Grosso. Most of these areas play host to the most important Safrinha (second season) corn crop.

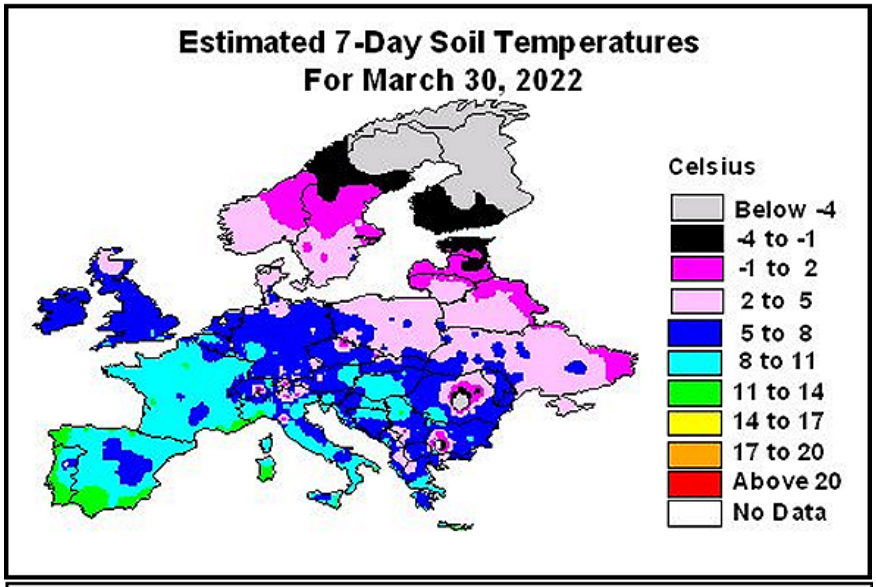
Monsoon rains normally end during April, but persistent La Nina conditions may help to prolong some of the rain more deeply into the month. The abundance of soil moisture today and a forecast that promotes more precipitation periodically through the month of April will leave the ground plenty wet when monsoonal rains finally end. That is a perfect scenario for Safrinha corn and cotton.

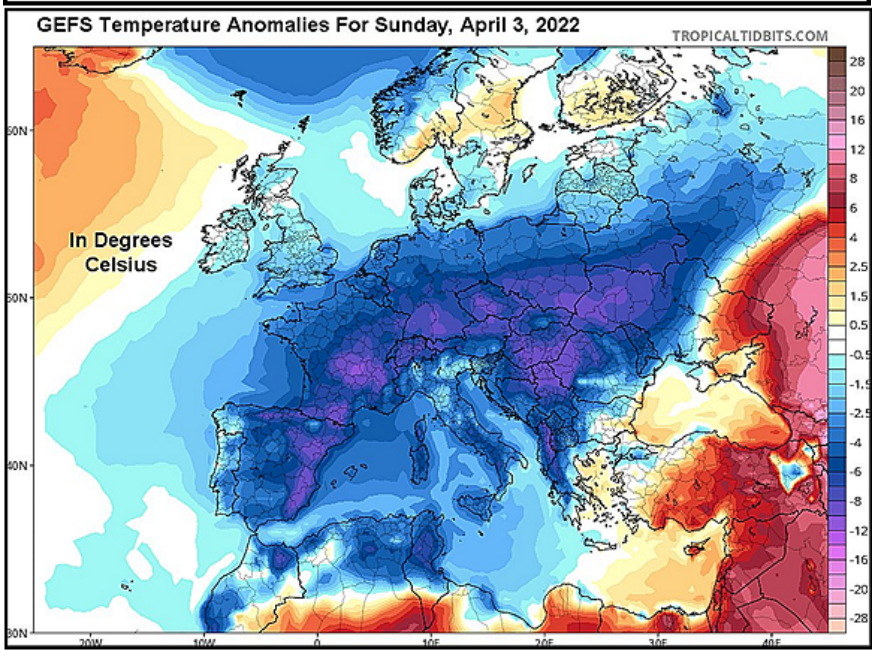
Late season crop areas need to have saturated soil when the monsoon finally ends. That way crops will have plenty of moisture to fall back upon after seasonal rains end. For that reason the odds are relatively good that Safrinha corn and cotton in Brazil will perform quite well.



Europe To See Wetter, Colder Weather Into Next Week

Precipitation was limited in much of Europe during the past week while temperatures were often warmer biased. The warmer weather helped induce greening and some minor winter crop development, but at the same time it led to more moisture declines in the topsoil. No areas were critically dry, although Romania is still carrying some notable moisture deficits left over from last summer and autumn. Colder air will now settle over the continent through the middle of next week and as it settles into the region a more frequent precipitation pattern is expected. The moisture will be helpful in restoring more favorable topsoil moisture, but the coolness will lower soil temperatures pushing some crops back into a semi-dormant state. Some of the precipitation from Germany through southern Poland into northwestern Ukraine, southern Belarus and neighboring areas in Russia will fall as snow with some significant accumulations that may delay spring fieldwork, stress livestock and delay travel.





Temperatures during the past month were often warmer than normal in Western Europe, although the warmest conditions were mostly confined to the past couple of weeks limiting the amount of crop growth that has occurred thus far. However, the warm weather of late has induced greening and stimulated some new crop growth. Spain and Portugal have been warmest for the longest period of time and crops are suspected of being most advanced in that region. Spring planting has also begun in southwestern Europe. .Many areas in Spain, France and Germany have trended a little too dry in recent days and the need for rain is beginning to rise for both winter and spring crops. A good shot of rain will be needed in the near future to lift topsoil moisture and maintain a good outlook for early season crops.

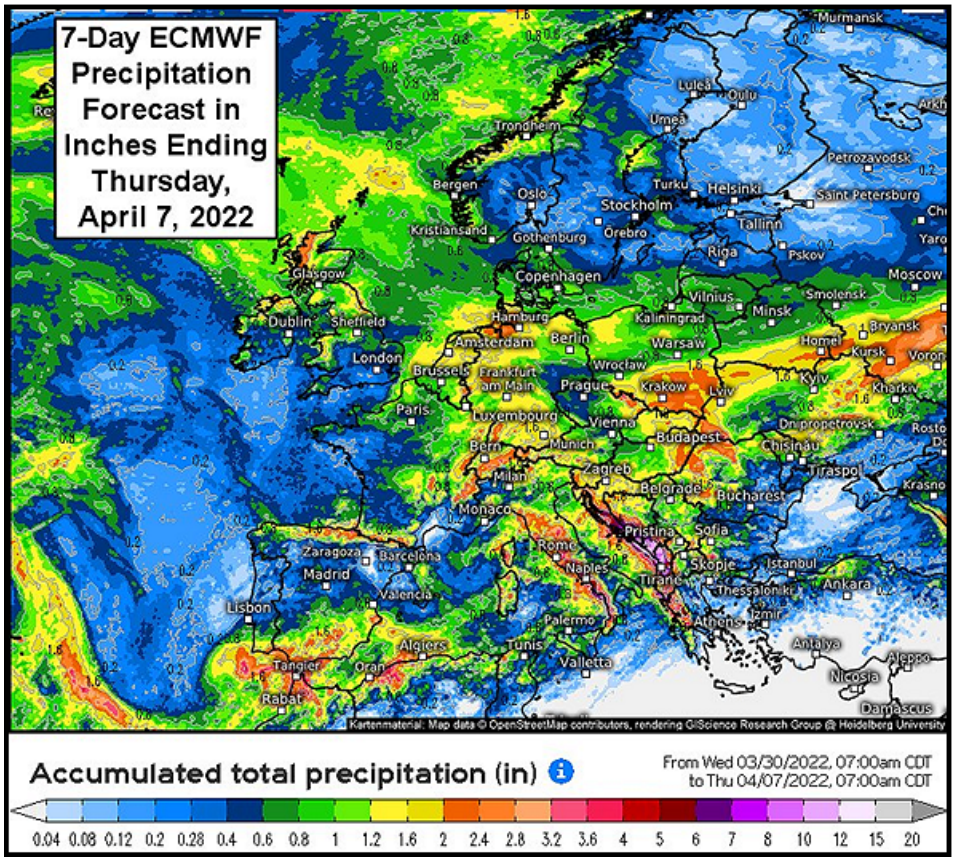
In Eastern Europe, Romania is still in need of significant precipitation to reverse its moisture deficits. Several other areas in the Balkan Countries have been drying down recently and would welcome rain. The temperature profile was near to below normal during the past month in much of Eastern Europe and an extended period of warmer weather will soon be needed. Many areas in Poland, Ukraine, and the Baltic States are too cold to bring winter crops out of dormancy.

A pool of arctic air will gradually spread across Europe in the next few days and linger through the end of the weekend. A reinforcing shot of cold air will also

Europe To See Wetter, Cooler Weather (Continued from page 7)

spread across the continent at the beginning and middle of next week. Temperatures will trend below to well below normal through next Wednesday. Portions of Bulgaria and southern Romania will still warm to the 60s and 70s Fahrenheit through Saturday. Daytime highs will otherwise be in the 30s and 40s most often with many areas in France and the Iberian Peninsula still warming to the 50s at times. Low temperatures will often drop to the 20s and 30s in mainland Europe.

In addition to the colder than normal weather, frequent waves of precipitation are slated for Europe through the middle of next week. Some of the most significant precipitation will evolve through Saturday as the first wave of cold air builds over Europe. Erratic precipitation will continue on a frequent basis later this weekend into the middle of next week as well. Moisture totals by next Wednesday morning will range from 0.50 to 3.00 inches most often with drier pockets in western France, northern Spain, northern Poland, and the Baltic States. Portions of the southwestern Balkans will also receive 4.00 to 8.00 inches of moisture with locally greater amounts.



Precipitation will often fall as a mixture of rain and snow in much of Europe outside the Iberian Peninsula and the southeastern Balkans. Some of the most significant snow will accumulate from Belgium and the Netherlands through western and central Germany and southern Poland into northwestern Ukraine, southern Belarus, and portions of western Russia. These areas will see snowfall ranging from 8 to 15 inches with local amounts up to 24 inches. A few locations in western Russia could even see 24 to 36 inches of snow accumulate over the next week to ten days, although changes to the forecast are probable. Light to moderate amounts of snow will also accumulate in portions of France, Romania, and the remaining portions of Eastern Europe outside the southeastern Balkans.

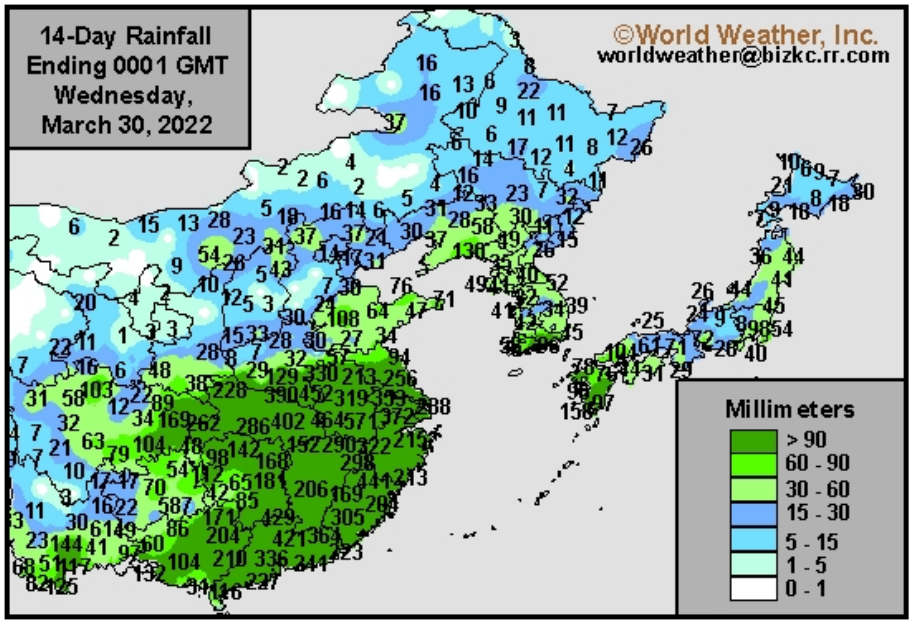
Rain and snow through the middle of next week will be enough to gradually bolster topsoil moisture in a large portion of Europe. Many areas in Romania will still have a shortage of topsoil moisture by this time next week, though marginal improvements are expected. The outlook for both the winter and spring crops will either improve or remain favorable due to the moisture. However, the cooler weather will limit new growth or keep the crops dormant for a little while longer.

The snow and cold rain expected in Europe will result in some stress to livestock and some travel delays. Power outages may also occur. There is some concern that when Europe begins to warm up again that some of the rainfall later in April could become heavy and may lead to some flooding for parts of the continent. Some of the weather anomalies expected in this next week could set a few records and turn some heads in the media, but these conditions are to be blamed on the recent stratospheric warming and associated split and relocation of the polar vortex – not a climate change issue.

China's Winter Rapeseed To See Improving Weather

Frequent rainfall in recent weeks has kept the ground excessively wet in much of the Yangtze River Basin and portions of the southeastern provinces of China. Temperatures were warm enough to promote rapeseed growth and development, though the wet conditions may have slowed development at times. Flooding occurred at times because of excessive rain and the most recent flooding was suspected in Jiangxi and neighboring areas .

A lack of rain advertised for April 1-7 and possibly out ten days will gradually improve rapeseed prospects across the Yangtze River Basin.



The ground is saturated from Guangxi, Guangdong, and Fujian into Hubei, Anhui, Jiangsu, and neighboring locations. Flooding likely occurred at times in Southern Anhui and several neighboring locations, along with portions of Guangdong. The flooding may have damaged some of the winter rapeseed in the wettest areas. Quality reductions and wet weather diseases were also a concern. The main winter rapeseed areas are too wet for ideal development and a period of drier weather is needed immediately to protect production potentials.

Little follow-up rain is expected for the coming week and some computer forecast models keep the Yangtze River Basin and areas to the south drying down for ten days.

Warmer weather will evolve for the remainder of the coming week with daytime highs in the 60s and 70s with pockets in the 80s.

Recent rainfall has kept the ground excessively wet in the main winter rapeseed areas of the Yangtze River Basin. Minor wheat production areas in the region will also be too wet and further delays to early corn, rice and cotton planting is expected. The warmer and drier weather later in the forecast period will dry down the soil sufficiently to improve crop and field conditions. Rapeseed development will steadily improve once the region's excessive moisture is gone. Early-season planting and general fieldwork prospects will also improve as the ground dries

ELSEWHERE IN CHINA

The **North China Plain and neighboring winter wheat areas** have plenty of moisture to support aggressive growth this spring, but warming is needed before any plant development can become aggressive. High temperatures will often peak in the 60s and 70s Friday into at least the middle of next week resulting in more aggressive growth.

Early-season planting and fieldwork has likely advanced slowly at times in the southernmost provinces this month. Frequent rainfall has kept the ground saturated outside portions of Yunnan and flooding was suspected at times in Guangdong and neighboring locations. Early season planting of corn and rice may be advancing well, but there is need for some drier biased conditions to induce the best crop development potential.

Southern China will trend drier this weekend into the middle of next week. Moisture totals by Saturday morning will range from 0.50 to 2.00 inches with drier pockets along the southern coastline. Soil moisture will remain at adequate to excessive levels through the middle part of next week, despite some drying. Planting and field working conditions will slowly improve once the drier and warmer weather evolves.

Northeast China has adequate to excessive soil moisture. Corn, soybean, rice, and other early season planting will likely get off to a good start later this spring, though most locations remain too cold to support widespread planting today.