

The Canadian Agriculture Weather Prognosticator

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January 17, 2017

Canada Crop Weather Issues At A Glance

- Southeast Canada Remains Plenty Moist With Abundant Snow
- Portions of SW Ontario Snow Free
- Snow Cover In Prairies Light Except Southeast

WORLD WEATHER ISSUES

- Argentina Has Been Too Wet Since Late December; Some Yield Cuts
- Brazil Weather Remains Mostly Very Good, Despite Recent Drying In North
- Australia Summer Crops Expecting Timely Rain Next Two Weeks
- North Africa Dryness Confined To Morocco And NW Algeria
- South Africa Rainfall And Crop Conditions Improve
- India Continues Drier Biased And Needs Rain
- Some Rain May Fall In Northern India Early Next Week
- U.S. Hard Red Winter Wheat Areas Get Significant Relief From Persistent Dryness

Warm Weather May Ease Flood Potential

Confidence is not high, but some computer forecast model runs recently have suggested a warmer than usual temperature bias will prevail through the next few weeks in the Prairies. Such conditions may lend an opportunity to melt some snow in portions of the region and that might be good for spring field working opportunities and for helping to minimize flood potentials.

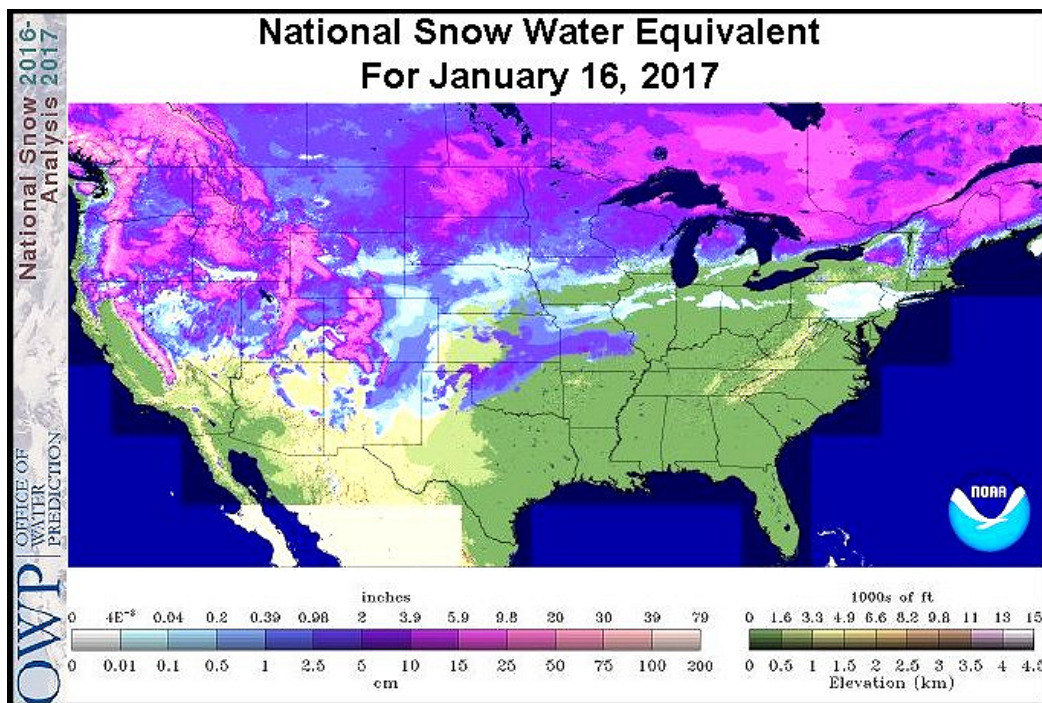
Worry over flooding came from an abundant precipitation pattern that impacted North Dakota and Manitoba during De-

cember and the first days in January. Substantial snowfall in these areas, over saturated soil in some cases, will raise the potential for flooding when the snowmelt season arrives.

Snow depths in southern Manitoba and portions of North Dakota vary from 20 to more than 30 inches (50-75cm). The water equivalency in that snow varies from 2.00 to more than 5.00 inches and if all of that snow melts at the same time the potential for serious flooding in the lower Red River Basin will increase greatly this spring. Manitoba will have

the greatest potential problems with excess moisture since the ground is already saturated or nearly saturated in many areas and not capable of absorbing much moisture. Manitoba's snow depths are among the greatest, as well.

The best scenario for avoiding a serious bout of flooding is to melt the snow slowly over multiple weeks. Warmer than usual temperatures will help the process and several computer forecast model runs recently have suggested a warmer than usual bias is possible in much of the



Warm Weather May Ease Flood Potential (Cont. From Page 1)

Prairies for up to four weeks. If such conditions occur there will be some potential for gradual snowmelt and that would be perfect in reducing the risk of flooding.

Warmer than usual weather in January rarely supports much snow melt of significance, but the coming week of temperatures will get above freezing periodically and that should help to slowly melt some snow from the deepest areas. The slow snow-melt will have to prevail for an extended period of time and it is possible that enough reduction in the depth over Manitoba may occur in the next few weeks to at least reduce some of the runoff potential when the true snow melt season arrives.

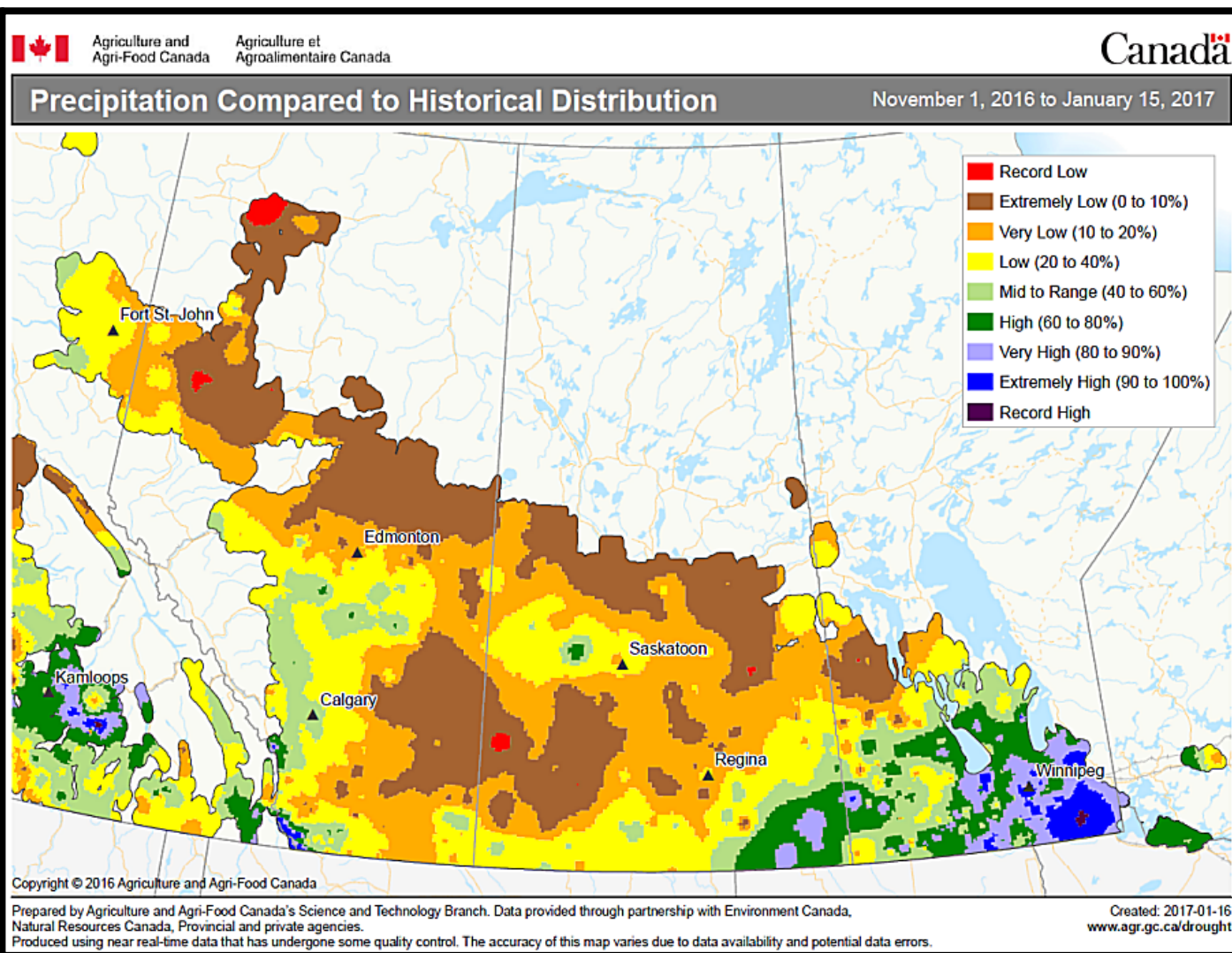
In addition to the helpful potential in reducing flood potentials, some of the Prairies that were unable to harvest late season crops in the autumn might become snow free earlier than usual so that harvesting can be completed before planting begins.

It is a long shot, but World Weather, Inc. does see the potential for a strong jet stream in the southern and eastern United States where frequent precipitation will fall. The pattern would bode well for Canada giving the Prairies a chance to stay in a lighter than usual precipitation pattern and keeping temperatures a little warmer biased. That would help the situation greatly.

Outside of the southern Manitoba

and southeastern Saskatchewan crop region that has been wetter biased so far this winter, most of the Prairies have reported less than usual precipitation. Relative to the past 68 winter seasons this one ranks in the lowest 10 to 20th percentile of all years for dryness. A couple of locations (indicated by red color) have reported the driest November through January 15 period on record.

Weather trends in the first half of January have changed and a drier bias is now in place for many of the previously wetter areas. Many locations in the Prairies have reported less than 10 millimeters of rain in the past two weeks with quite a few getting less than 6 and that has been welcome.



India's Weather Critical For Production Next Few Weeks

Monsoonal rainfall was late in abating from India during September and October resulting in greater than usual precipitation during that period of time for many areas. Planting of winter crops benefited greatly from the more abundant precipitation than usual. Planting occurred faster and earlier than usual in many areas, but that may not have been best for some crops because of the ensuing drier biased conditions that followed.

Drier biased weather in November was not a problem and much field-work was accomplished during that period of time.

Planting likely advanced swiftly and the combination of lingering moisture from October rainfall and irrigation systems most crops became well established. There was a bias for warmer than usual conditions through the planting season and that accelerated drying for many areas depleting some of the abundant moisture left over from the early autumn.

December continued drier than usual and temperatures were still warmer than usual early in the month, especially in northwestern parts of the nation. The environment was not very unusual for the autumn season, but concern began rising during the month that fields were becoming too dry and there might be

some stress for a few of the unirrigated crops. Late December arrived and needed cooling began. The cooler conditions helped slow drying rates, but the process continued and ongoing dryness became a little more of a concern with reproduction just a few weeks away.

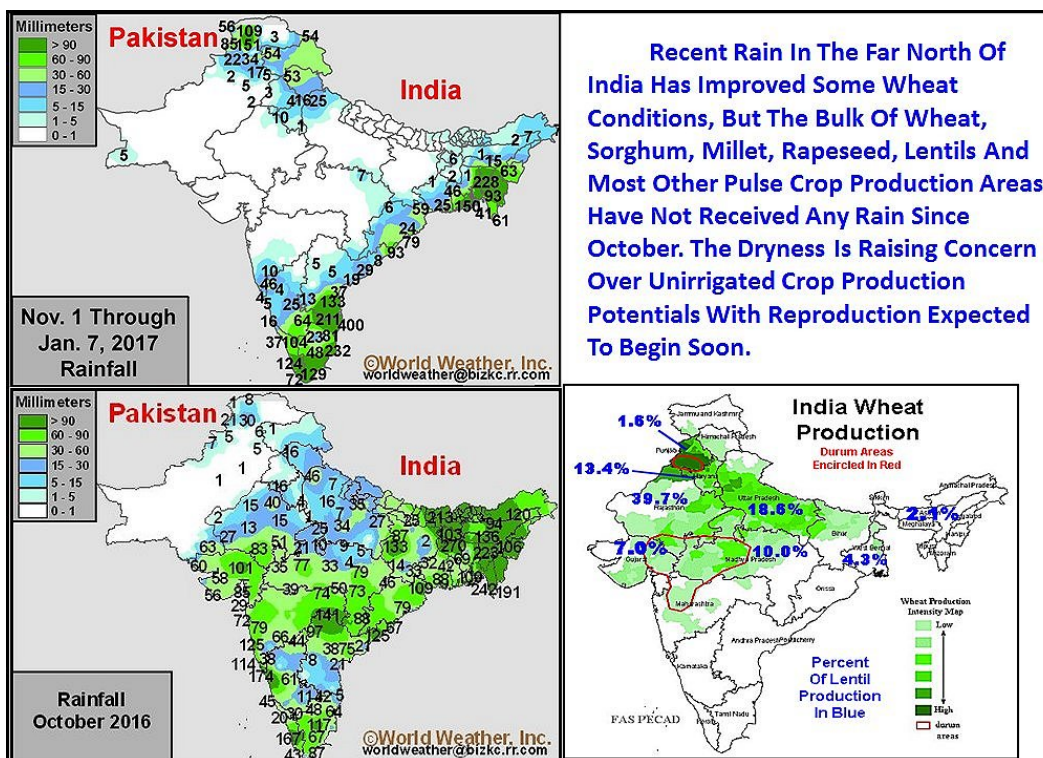
The forecast for the balance of January and February is quite similar to that of early January. There will be opportunities for rain in the extreme north and perhaps a little further to the southeast through Uttar Pradesh and a few neighboring areas, but a general soaking of rain will likely be hard to come by.

By the end of February rainfall will be near to above average from the Ganges River Basin through Punjab, Uttaranchal to Jammu and Kashmir. The precipitation will be light and somewhat erratic leaving need for more moisture to induce the best environment for average to

above average yields. Most likely the drier tendency for most of the west and central parts of the nation will result in some mediocre yields with unirrigated crops expecting to suffer some lighter than usual yields. This will include crops like rapeseed, millet, sorghum, wheat, lentils and other pulse crops.

Far southern India will also receive some rain during the next few weeks and amounts will likely end up relatively close to normal.

The single most important determining factor for winter production in India is temperatures during late January, February and early March. Warmer than usual conditions will shave off yield, especially the more



Rain has occurred a couple of times this month from Jammu and Kashmir southward through Himachal Pradesh to parts of Punjab, Haryana, Uttaranchal and northernmost Uttar Pradesh. Most of the rain south of Punjab was not very great while that to the north was more significant. Only a small portion of winter grain, oilseeds and other crops are produced in the far north and the bulk of winter crops have continued to be dry.

Reproduction occurs late this month through February for most of India. Irrigated crops will likely perform in an average manner during this time as long as temperatures are not excessively warm or hot. Dryland crops, however, will not yield well without a few opportunities for rain.

India's Weather Critical Next Few Weeks (Cont. From Page 3)

anomalous the temperatures become. Hot temperatures will dramatically reduce production potentials, especially if conditions have been dry. The outlook for the next six weeks is for temperatures to be close to 30-year averages with slight warmer bias.

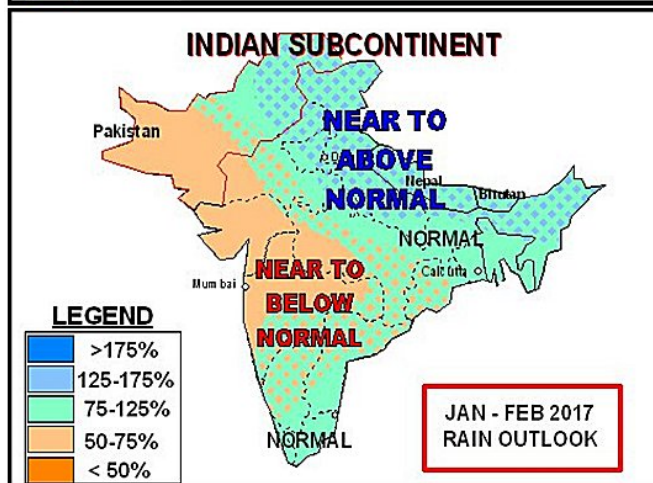
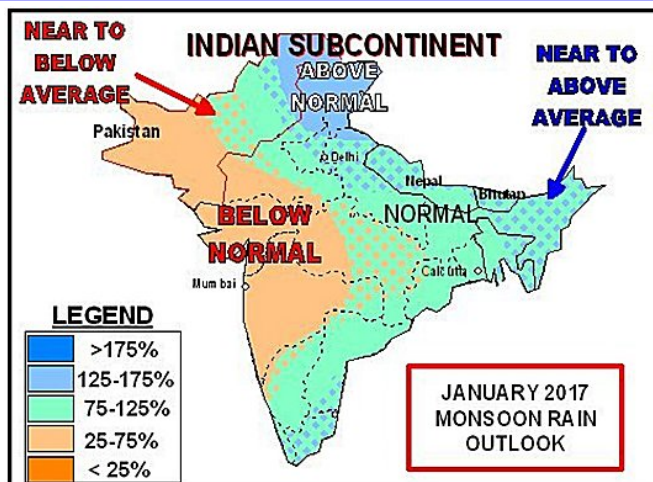
If a couple of light rain events can impact the bulk of India in the next few weeks production will be much improved, but if it stays dry some crops may not produce as well as normal. The coming two weeks produce rain in the far north only with the majority of central India staying generally dry or it will receive an inadequate amount of moisture to counter evaporation.

Crops in India are not nearly as stressed as they were in 2016 because of the abundant moisture that fell in October and lack of hot weather so far, but much could change if significant rain does not fall soon. Production will definitely be improved over that of last year, but last year's crop was seriously hurt by the El Nino driven drought. This year's crops may lose some production, but losses will not be similar to those last year, but

more likely just below average if a few showers of limited significance occur and more significantly below average if no rain falls.

The latest forecast model data has suggested some rain may evolve in northern parts of the nation as early as next week. Preliminary indications suggest the precipitation will impact areas from northern and eastern Rajasthan into Uttar Pradesh with the greatest amounts in the far north where some rain has already occurred recently.

Any rain that occurs next week would help to bring the January/February outlook closer to verifying.

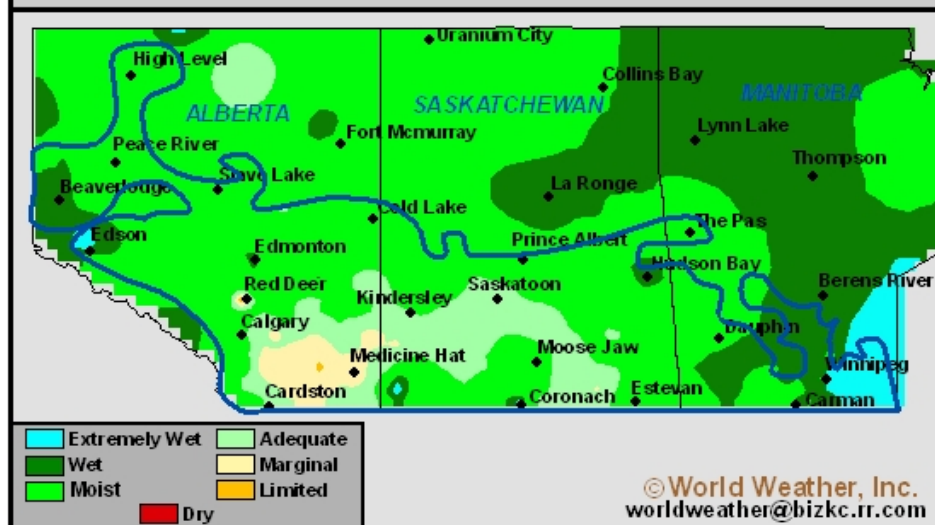


Prairie Soil Moisture

There is need for improved topsoil moisture in southern Alberta and in a few areas in southern Saskatchewan. However, most producers would probably prefer that it stay a little drier biased in this region until the start of spring and then allow some light moisture to occur in support of planting.

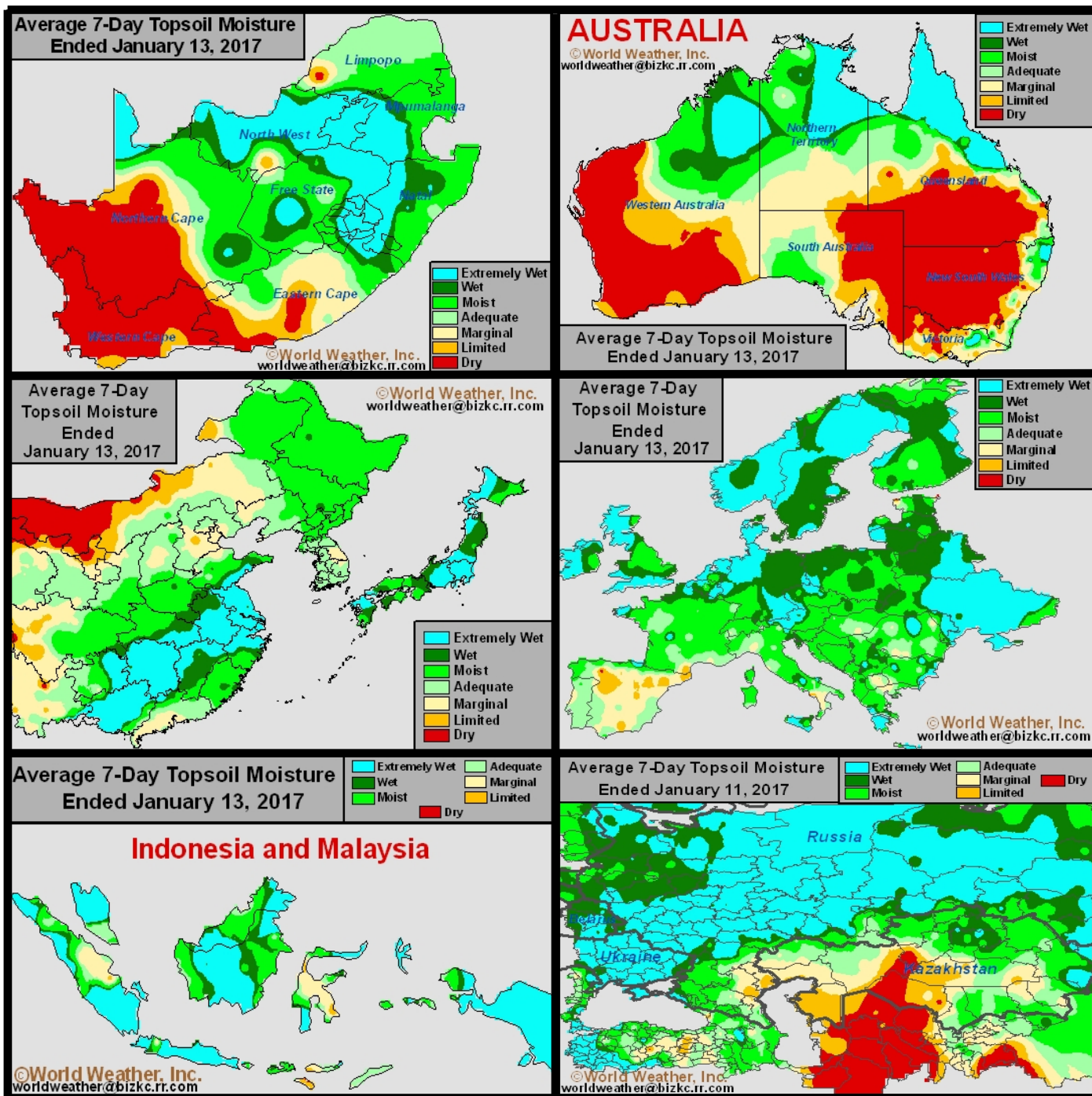
The remainder of the Prairies continues with adequate to abundant soil moisture. The graphic to the right does not show the pockets of excessive moisture very well, but there are still quite a few areas in the Prairies that are much too wet. Some of the larger areas that are too wet include southern Manitoba, north-eastern Saskatchewan (near Hudson Bay), and in north-central Alberta.

Average 7-Day Topsoil Moisture Ended January 13, 2017



Many of these areas will need an extended period of drier weather this spring to assure sufficient drying so that any remaining crops can be harvested while limiting new precipitation so that the ground can dry out properly.

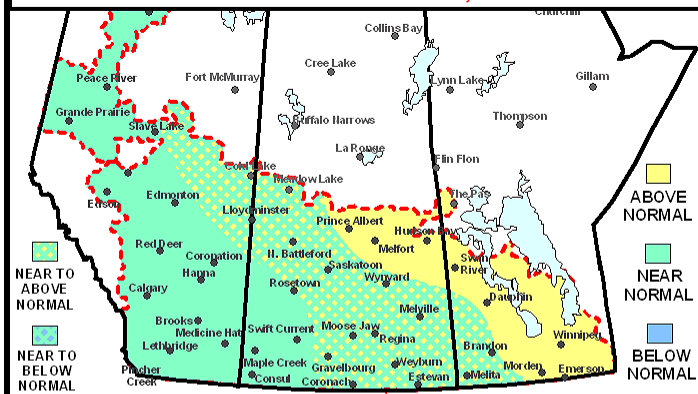
Selected Weather Images From Around The World



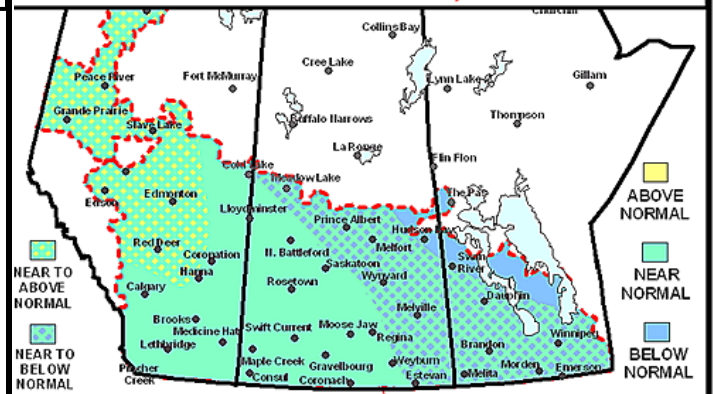
Very few areas around the world are too dry right now. Eastern Australia is one region where summer crops need a bolstering in topsoil moisture to support the best yields and crop quality. Cotton, sorghum and a number of other crops are produced in eastern and central Queensland and New South Wales where the need for rain is greatest. Most of these drier areas in Australia will get rain over the next two weeks. In the meantime, much of Russia, Ukraine, and northern and eastern Europe are favorably to abundantly moist with widespread snow on the ground to protect most dormant winter crops from the potential of winterkill. Southeast Asia oil palm production areas are favorably moist and that will translate into continued support of improving oilseed production. China's winter rapeseed is also expected to perform well along with huge production potentials in winter wheat. Most wheat production areas in the world have very good conditions or have recently received significant moisture—as is the case in The U.S. Plains.

Canada Prairies Weather Outlook Into Spring

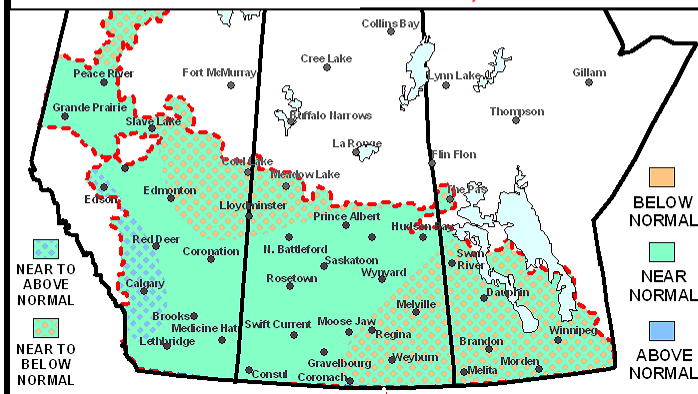
30-Day Temperature Anomaly
For Jan. 15 To Feb. 14, 2017



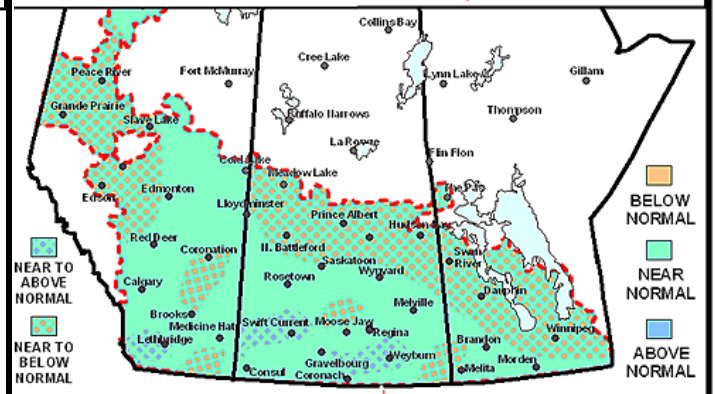
30-Day Temperature Anomaly
For Feb. 15 To Mar. 31, 2017



30-Day Precipitation Anomaly
For Jan. 15 To Feb. 14, 2017

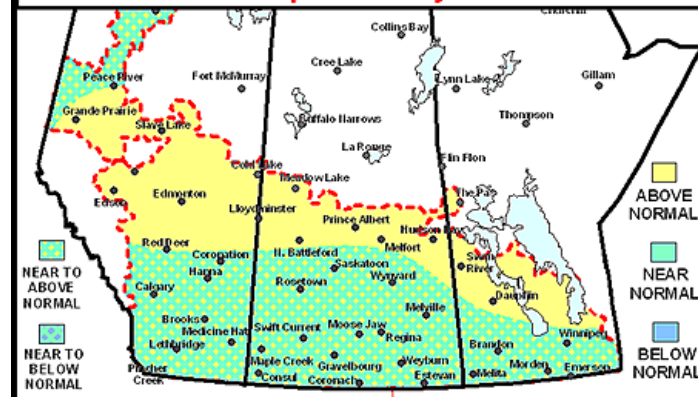


30-Day Precipitation Anomaly
For Feb. 15 To Mar. 31, 2017

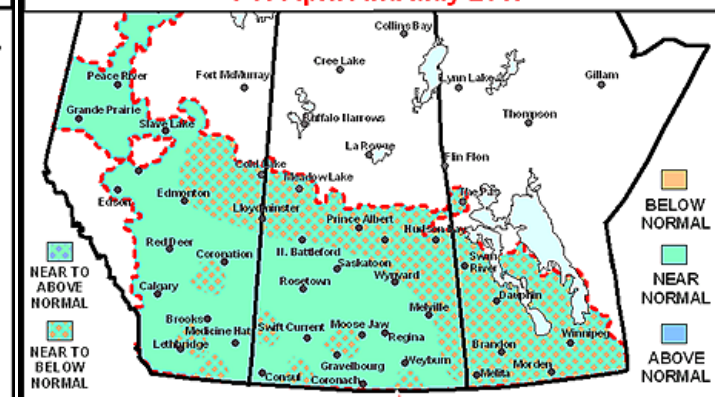


Warmer than usual temperatures will occur across most of the Canadian Prairies during the next 30 days. The warmth will help to induce some snow melt, although the process will be extremely slow. There will not be an abundance of new precipitation in the region and many of the deeply buried snow areas in the southeastern Prairies will receive below average precipitation for a while during this forecast period. A return to cooler conditions will occur in the eastern Prairies during the Feb. 15-Mar. 15 period while precipitation is erratic and often near to below average. Spring should be a little warmer biased with the northern Prairies warmest relative to normal. Precipitation in April and May will likely be near to below average in many areas, although confidence is still a little low. The U.S. should experience the most active weather in the early spring and that should favor less precipitation in the Prairies.

Spring Temperature Anomaly
For April And May 2017



Spring Precipitation Anomaly
For April And May 2017



Argentina Trends Too Wet; Brazil Stays In Mostly Good Shape

Too much rain has occurred in Argentina frequently in the past few weeks. Flooding has impacted portions of the production region and some damage has occurred to a part of the crop. World Weather, Inc. believes Argentina has lost upwards to 7% of its production of summer crops this year because of flooding in late October, drought like conditions in early to mid-December and more flooding in the past three weeks.

Dryness has occurred in southern portions of both Buenos Aires and La Pampa in recent weeks and the stress may have shaved a little yield off of those crops in addition to the damage that occurred in central parts of Argentina over the past few weeks as noted above.

Argentina is now moving toward a drier and warmer than usual bias that will

begin this week and continue next week. Limited rainfall and warmer than usual temperatures will acceler-

initially and may eventually firm up the soil a little more than desired, but that will not occur for at least another ten days.

Brazil weather was trending too dry late last week in portions of Mato Grosso, Goias, Tocantins and western Bahia. Parts of north-eastern Sao Paulo and southern and western Minas Gerais were also drying out, but rain during the weekend proved to be perfectly timed and raised topsoil moisture to stop any viable threat of crop moisture stress.

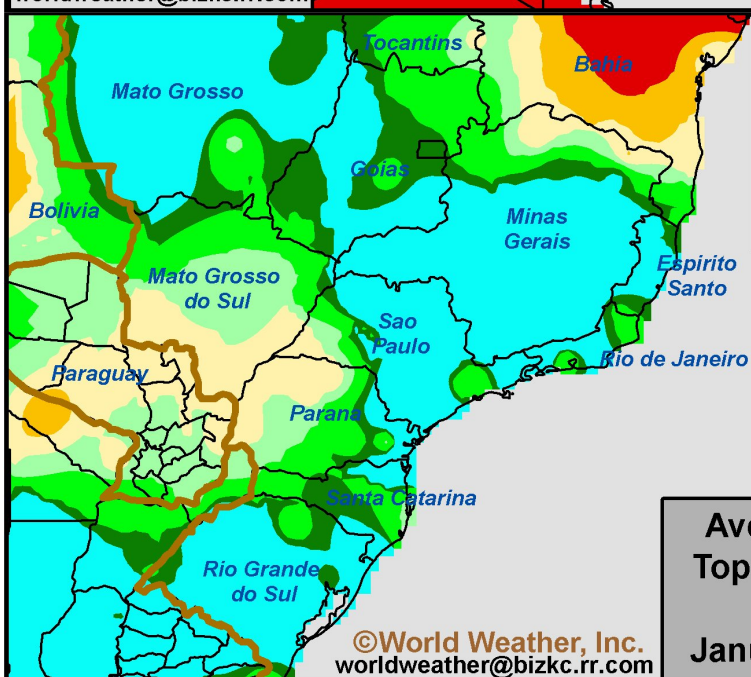
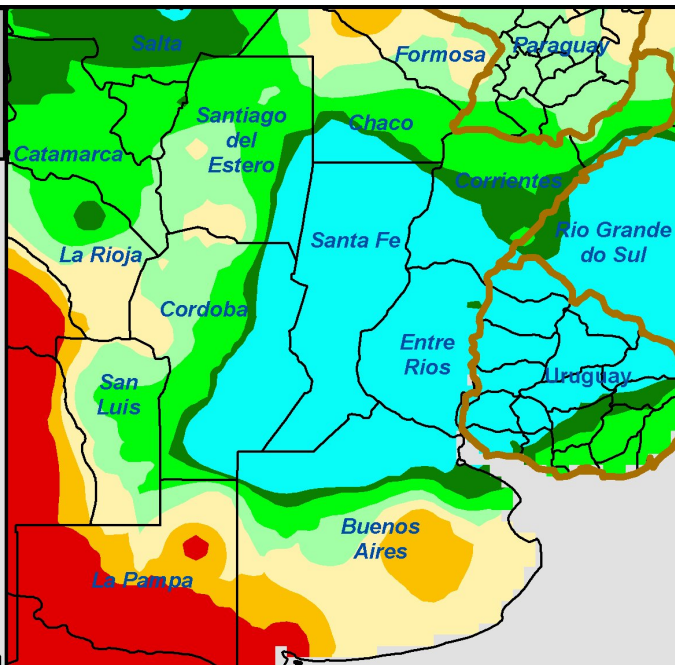
Brazil still has a region of dryness that is quite persistent in the north-east. Bahia is at the center of that multi-year drought and significant rain must fall soon to stop the decline in production for many crops. Coffee and sugarcane have been hurt

as much as or more than corn and beans.

Average 7-Day Topsoil Moisture Ended January 16, 2017



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Average 7-Day Topsoil Moisture Ended January 16, 2017

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ate drying rates which will be good

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