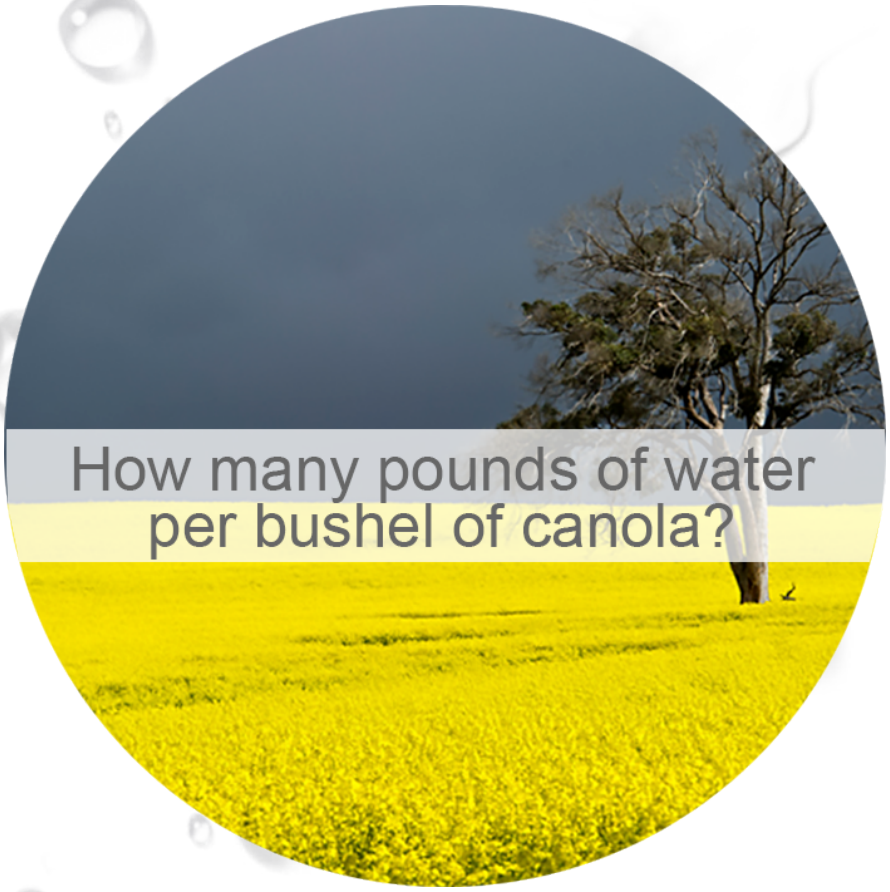


BATTLE RIVER IMPLEMENTS

AGRONOMY UPDATE

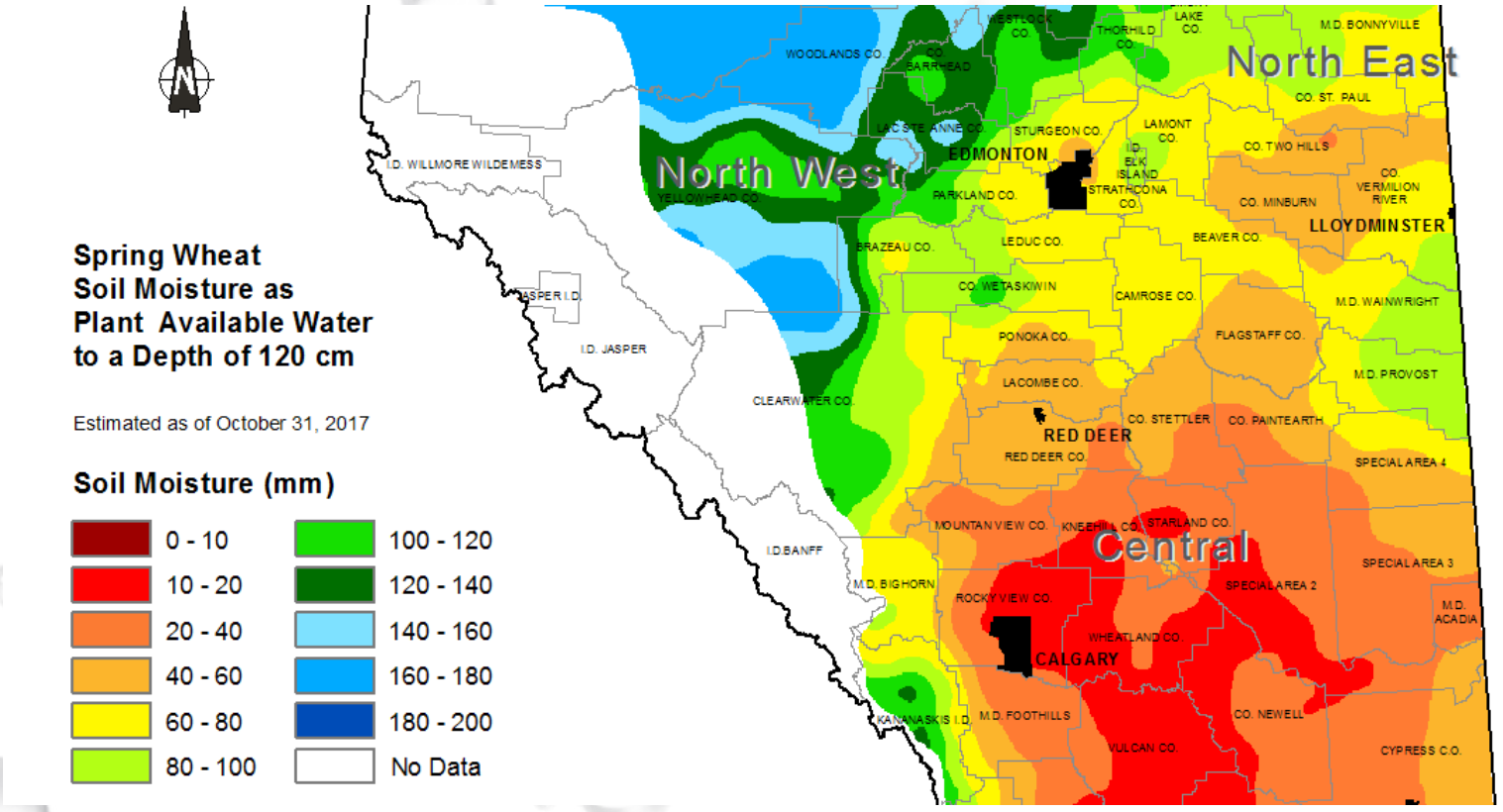
APRIL 2018

As I sit down to write this at the end of March, we are in the middle of a cold snap that just doesn't want to let go – spring has never seemed so far away! But the reality is that it will be on us before we know it. Many people are using these last days before they hit the fields to review commodity prices and market outlooks, fine tune their cropping plans and to rationalize that annual tug of war between agronomy and economics. When we sit down to work on yield projections, break even pricing and a fertility plan that gives us a reasonable chance of achieving our goals, there is one factor that people often overlook; or more accurately ignore, as it's a variable that is out of our control, and that is moisture.

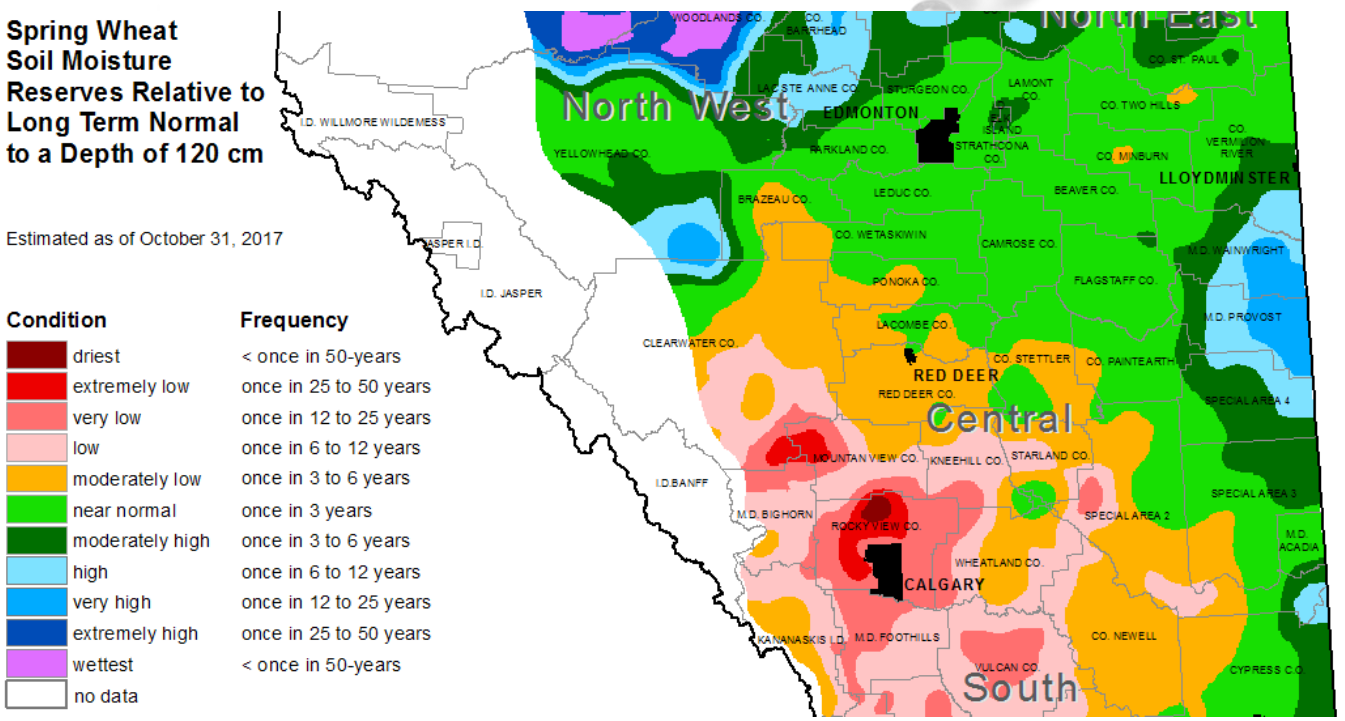
More often than not, moisture is the input that limits our crop production. While many people can tell you how many pounds of nitrogen it takes to grow a bushel of any given crop, how many know the number of pounds of water it takes to grow a bushel of wheat, or barley or canola? I attended a meeting this winter where one of the speakers, Elson Solberg, put the number at somewhere between 50,000 and 65,000 lbs of water per bushel of crop produced. If you look around, you may find other numbers that are different (some over 100,000 lbs!), but you get the general idea – it takes a lot of water to grow a crop!

While we can't measure how much moisture we are going to get this upcoming summer, there is something we can measure – soil stored moisture we already have. If we know how much we start the season with, we can use that in conjunction with long term averages to come up with a fertility plan and target yields that gives us a strong basis to make our projections. With that in mind, I would like to spend some time reviewing what our soil stored moisture looked like at the end of harvest, and where we stand right now.

So let's start with a snapshot of where we stood at the end of the 2017 season. Below is a map that shows the situation as of October 31, 2017. You can see on the map below that most of east central Alberta ended the 2017 season with somewhere between 1.5 and 4 inches of soil stored water, with the eastern portions of the counties of Wainwright and Provost the wettest and Flagstaff County the driest. This report lines up with what I was seeing in the field last fall. I did some soil testing in both Flagstaff and Camrose Counties and recorded soil moisture levels anywhere from 1 inch to 2.5 inches.

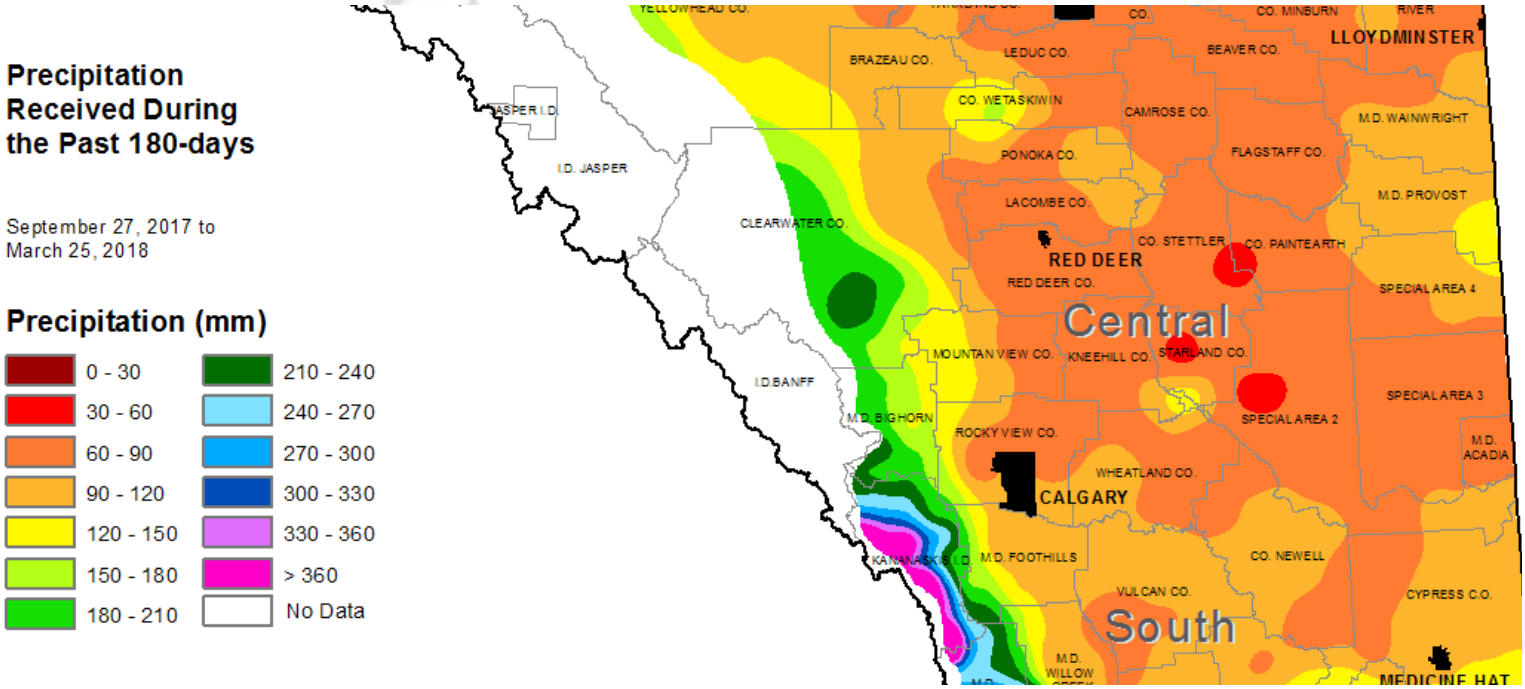


That doesn't seem like a lot, especially in Flagstaff County. But how does it compare to the long term averages? When you take the moisture levels and compare them to the long term data, the map begins to take on some context.

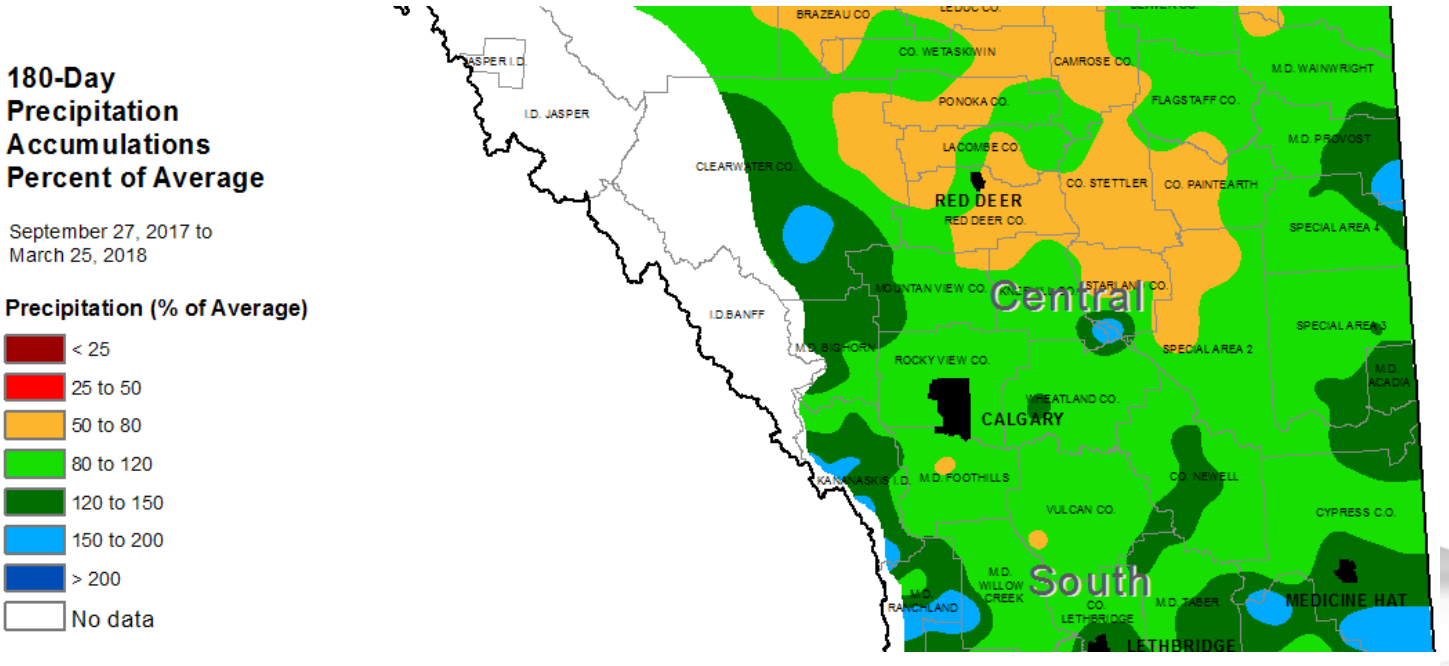


As you can see, the soil conditions we were seeing at the start of winter were either wetter than normal, or at worst, relatively common – our soil moisture levels at the end of the season were about what we see once every 3 years, which is as close to normal as you can get.

Ok, that takes care of our starting point, but what's been happening since then? As of the time I am writing this, the most current information available covers up until March 25, 2018. Here is how much measureable precipitation we had received up until then.

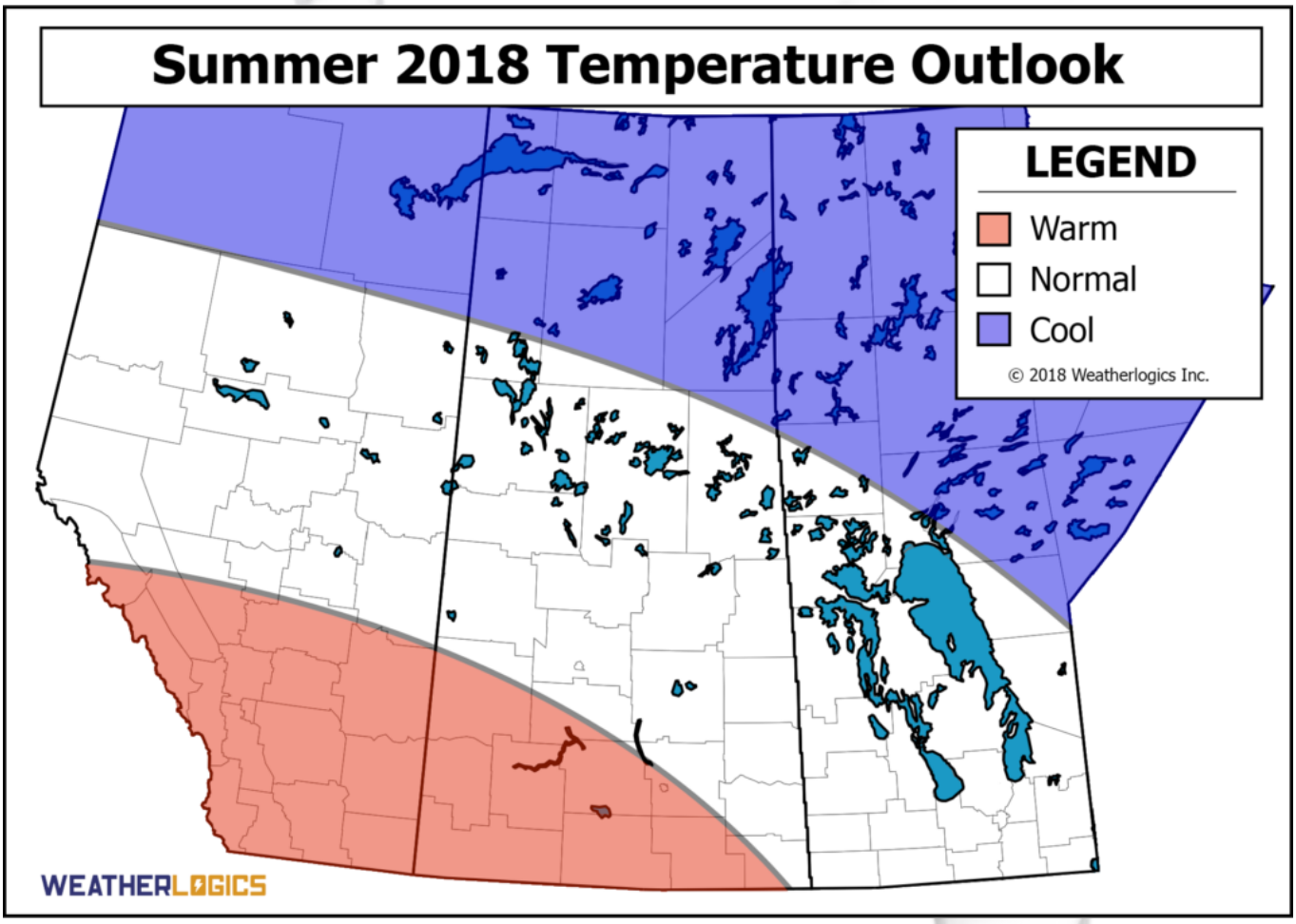


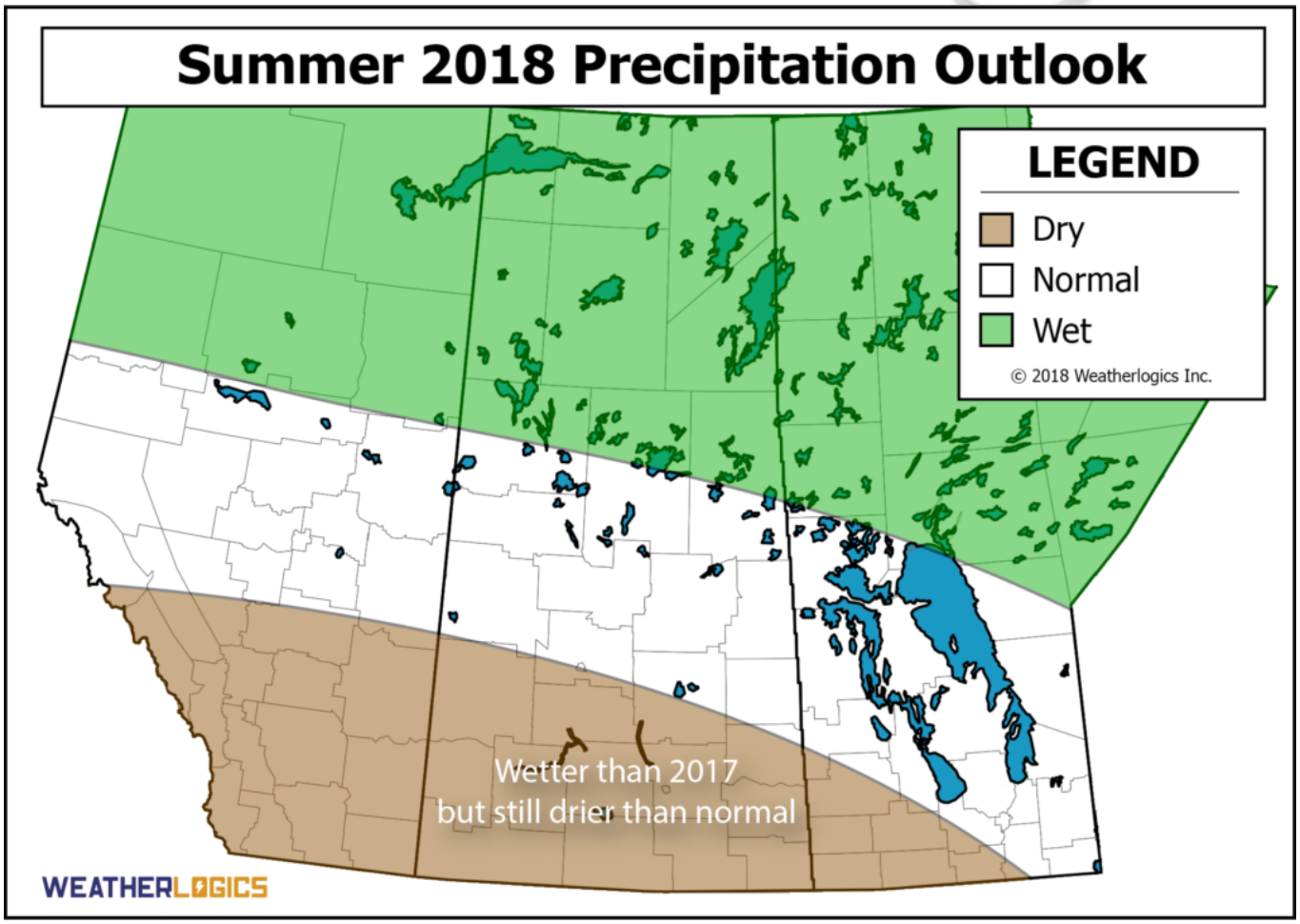
There's a lot of brown on this map! Most of the area has received somewhere between 2.3 and 4.6 inches of precipitation over the winter, with a small pocket in Provost County getting almost 6 inches in places. Again, this number doesn't mean much to me without some context. What is the long term average that we can expect to see most winters? .



So now that we have this information, we can see that while the eastern parts of the province are still tracking as average to above average moisture conditions, there are parts of Camrose County that are trending drier. Now winter precipitation does not necessarily turn into soil stored moisture – there will be runoff. But when you look at the overall picture, I think it would be fair to say that we should start the year with enough soil moisture to start the crop.

After that, the only information source we have to go on right now is long range forecasting. The Weather Network predicts an overall warmer than normal summer across the Prairies, with "near normal" precipitation. WeatherLogics attempts to give us forecasting that is specific to Alberta and their map of the summer presently looks like the this.


Summer 2018 Temperature Outlook
LEGEND
Warm
Normal
Cool
© 2018 Weatherlogics Inc.
WEATHERLOGICS


Summer 2018 Precipitation Outlook
LEGEND
Dry
Normal
Wet
© 2018 Weatherlogics Inc.
Wetter than 2017
but still drier than normal
WEATHERLOGICS

So according to these guys we are looking at either normal temperature and moisture or trending to hotter and drier as we seem to be very close to the dividing line on their model. The other thing noted on many models is that we can expect spring to be delayed with cool conditions and near normal moisture.

Now that I have gone through the exercise of finding out what our stored soil moisture is, what we generally receive for moisture and what the long range forecast is, what do I really know? Well, I know that moisture going into spring is close to normal, but trending drier. I also know that in season moisture is forecast to be the same way – possibly normal, or close to it, with a risk of getting a bit on the dry side the further south I get. So now I can look at this information in the context of my average yields, commodity pricing and input costs and start to make some rational choices on my cropping decisions.

If you want to find out more about the types of weather records that are available to you, check out this link, http://agriculture.alberta.ca/acis/ ; you will find all the maps I used and much more at this site. While the information on soil stored moisture is one that I think is important, it is missing a critical component that would make it more useful – it does not reflect soil texture, which will influence the amount of that water that is crop available. It also does not give you a feel for how much soil moisture that different crops can access – the model is based on Spring Wheat only. The technology to take this information to a field and crop specific level and allow us to make meaningful in season management decisions is starting to become available however. We are actually planning on test driving a program this summer that we hope can have a real and positive impact on a your ability to make the best possible management decisions for your crop in real time throughout the growing season based on the water driven yield potential on a field specific basis. Stay tuned to learn more about “Crop Intelligence” as we get to know the system this year.

Wayne Spurrill, P.Ag
Agronomist
Battle River Implements

www.briltd.com

wspurrill@briltd.com

Cell: 780-761-1616

Office: 780-672-4463

To subscribe or unsubscribe, please email us at mhafso@briltd.com