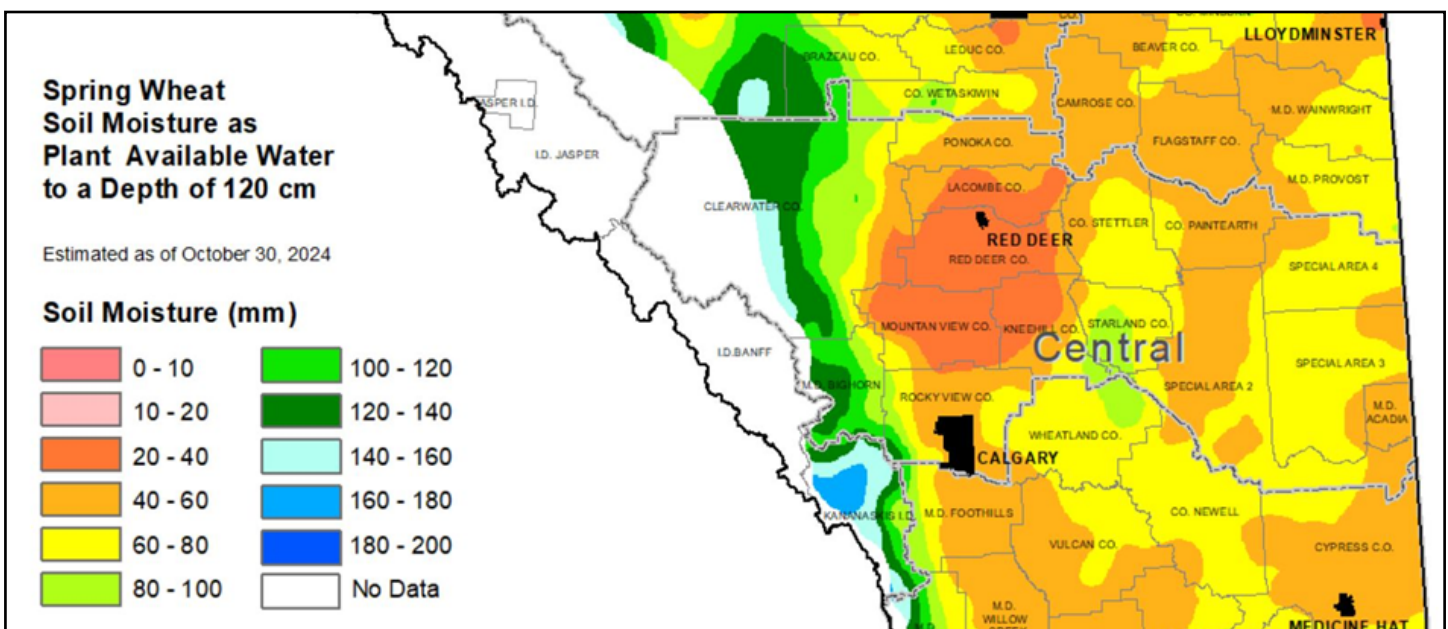


Soil Moisture Update

Last fall, I wrote an optimistic report, anticipating a good start to the 2025 crop season, based on the soil moisture data I was reviewing from probes that I monitor on behalf of some BRI customers. Four months later, with 2/3 of the winter behind us, I thought it would be a good idea to check in with the Alberta Climate Information Service (ACIS) to see if the current conditions still support my initial optimism. This also gives me a chance to put in my annual plug for this website, which is a great resource whether you are looking for current weather conditions, data from the weather station nearest your farm for YTD precipitation, or even historical data, such as the average date of the last killing frost of the spring in your area.

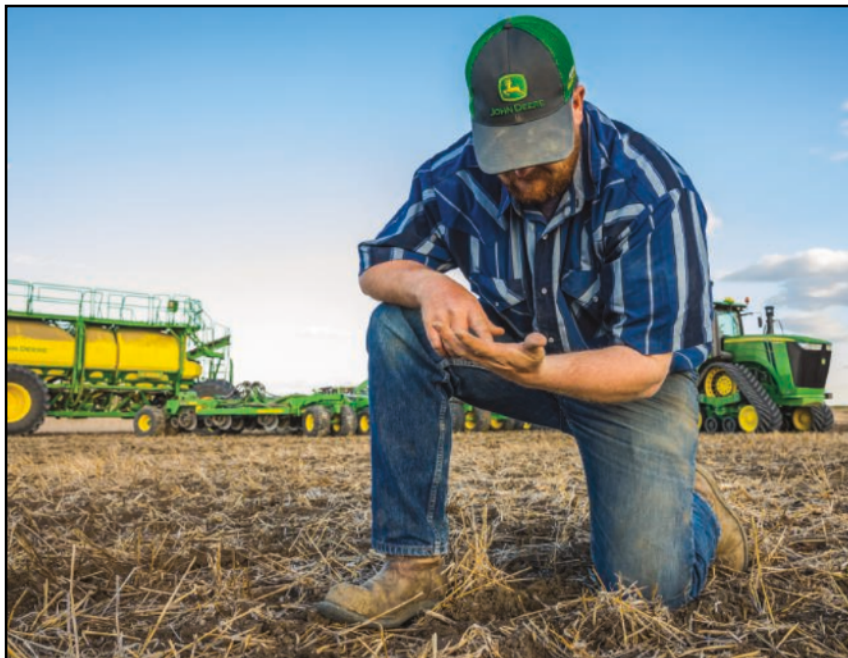
As a starting point, I looked at where ACIS saw soil moisture as of Oct 30th. Their view was about 20% less optimistic than what I was seeing on the weather stations I look after. Their estimate ranged from a low of 40 mm to a high of 80 mm across East Central Alberta. No doubt this is more accurate than the much smaller sample size in a relatively limited geography that I work with, but it's also a good reminder that soil moisture conditions are highly variable. The trends I saw in my data remained consistent with what ACIS was reporting though – soil reserves were better in Provost and Wainwright Counties than in Flagstaff and Camrose. This situation is a reversal of the usual pattern, where Provost and Wainwright generally go into winter with 40 to 60 mm of soil moisture and Camrose can expect 60 to 80 mm. Flagstaff, the traditional transition zone, is sitting about where you would expect based on historical data.

SOIL MOISTURE AS OF OCT 30TH, 2024

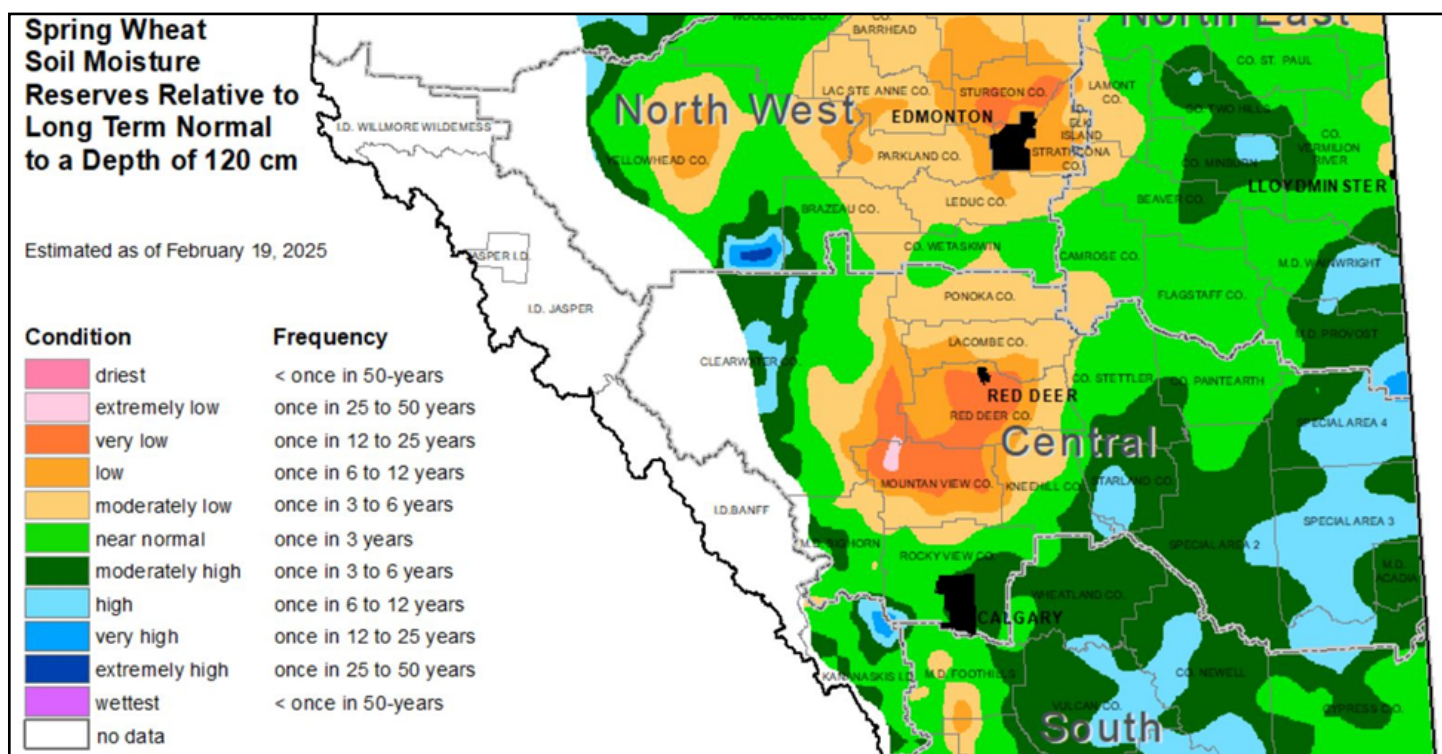


The latest data on cold weather precipitation (Nov 1 – Feb 19), shows that most of the region has received a “normal” amount of moisture for the year to date. This amount ranges anywhere from 40 to 80 mm, with the highest levels falling in Provost and Wainwright Counties.

So where does that leave the soil moisture situation today? According to the map of reserves compared to normal, the southwest corner of Camrose County is moderately low compared to 30 year averages. Everywhere else ranges from near normal to moderately high, with some pockets of high moisture in the east.



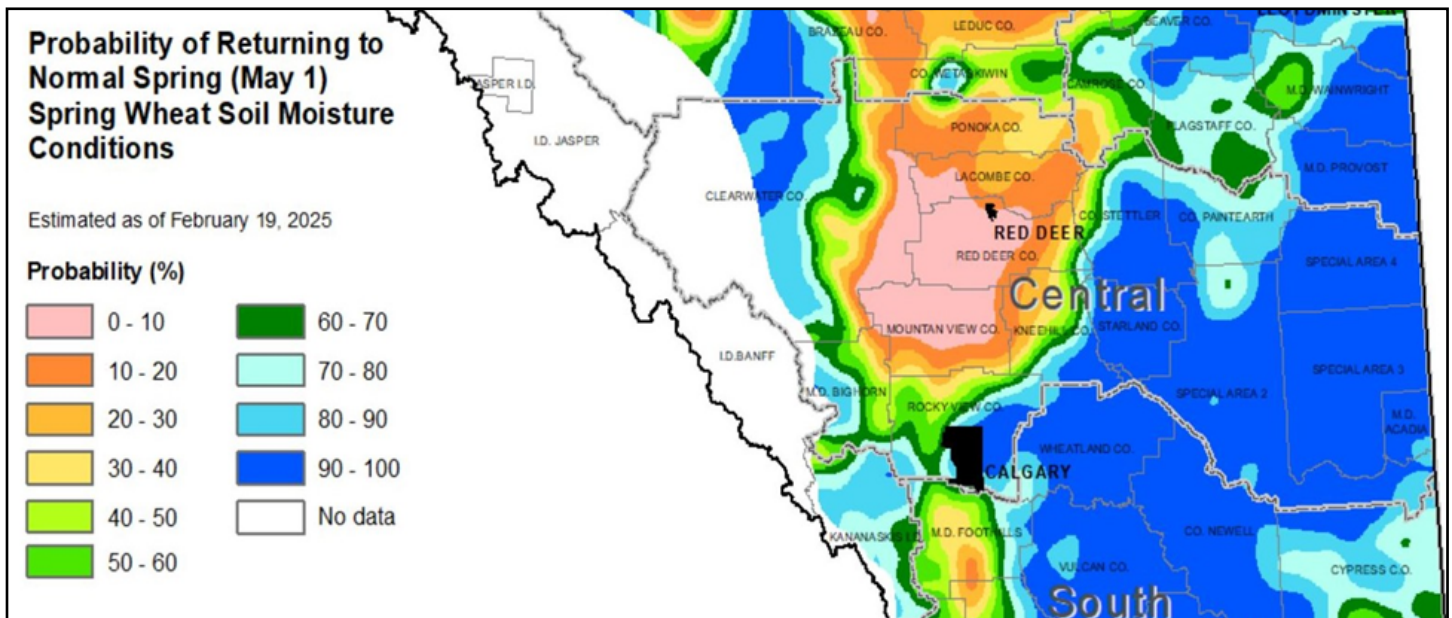
SOIL MOISTURE RESERVES VS. NORMAL AS OF FEB 19th



So what can we make of this situation; where we went into freeze up last fall with the east side of the Province wetter than normal and the west side drier than normal, followed by normal winter precipitation? The physical amount of water in the soil really hasn't changed since the ground froze last fall, so how do we estimate the impact of winter precipitation on spring soil moisture?

Well, ACIS has a model that helps out with that. Based on historical data, they take the fall soil moisture levels and model what spring conditions will look like based on cold weather precipitation received. Using this information, they generate a map that is updated weekly to account for moisture as it is received. The map shows the probability of soil moisture returning to a minimum of “normal” conditions as of May 1st, 2025. I've included the February 19th map of the model on the next page.

PROBABILITY OF NORMAL MAY 1st SOIL MOISTURE (CALCULATED FEB 19th)



According to this map, the southwest corner of Camrose County only has about a 20 to 30% chance of having their normal spring soil moisture by May 1st, with the odds improving steadily as you move north and east. Flagstaff County can expect a 60 to 80% chance of normal spring moisture conditions and if you farm on the eastern side of the Province, you probably don't have to worry about chasing seedbed moisture. For those of you farming in Camrose County, this is not a reason to panic. Moisture levels at freeze up were 40 to 60 mm; the model is only telling us that you have about a 1 in 4 chance of seeing your normal 100 mm by May 1st. At worst, you are looking at spring soil moisture conditions of 60 to 80 mm; what would be considered normal for the rest of the region!

Knowing your soil moisture situation is a valuable tool in planning the upcoming season, as moisture ultimately decides yield. Knowing what you have in reserve helps you set realistic yield goals and budget accordingly. The Alberta Climate Information Service provides critical, localized moisture data that is well worth looking into as you make your final plans for the 2025 cropping year. Check them out by following this link.

<https://acis.alberta.ca/acis/>

Wayne Spurrill
P. AG

Agonomist

BATTLE RIVER
IMPLEMENTS LTD.

Camrose Store: (780) 672-4463
Cell: (780) 679-8225
email: wspurrill@briltd.com

www.briltd.com
Toll Free: (877) 913-3373

Camrose • Killam • Provost • Wainwright