

# Agricultural Moisture Situation Update

October 25, 2020

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## Synopsis

October 16, 2020 marked the beginning of what is arguably one of the Province's widest spread and coldest ends to any October, looking back as far as 1961.

For 10 straight days temperatures remained well below freezing, with night-time temperatures dipping well into the negative teens or lower. Along with this cold air, came significant snow accumulations affecting lands west of Highway 2, stretching from Lethbridge to just south of Grande Prairie.

## 15-day temperature trends as of October 25, 2020 (Maps 1 and 2)

**Map 1** shows nearly the entire province experiences an October cold like this less than once in 50 years.

Looking deeper into the temperature records, this cold snap was exceptionally unusual. For example, in Calgary the mean daily average temperatures over the past 15 days was  $-4^{\circ}\text{C}$ . This surpassed other cold years by a huge margin, with the second, third and fourth coldest years standing at  $0.5^{\circ}\text{C}$  for 1961,  $1.0^{\circ}\text{C}$  for 2009 and  $1.1^{\circ}\text{C}$  for 1984.

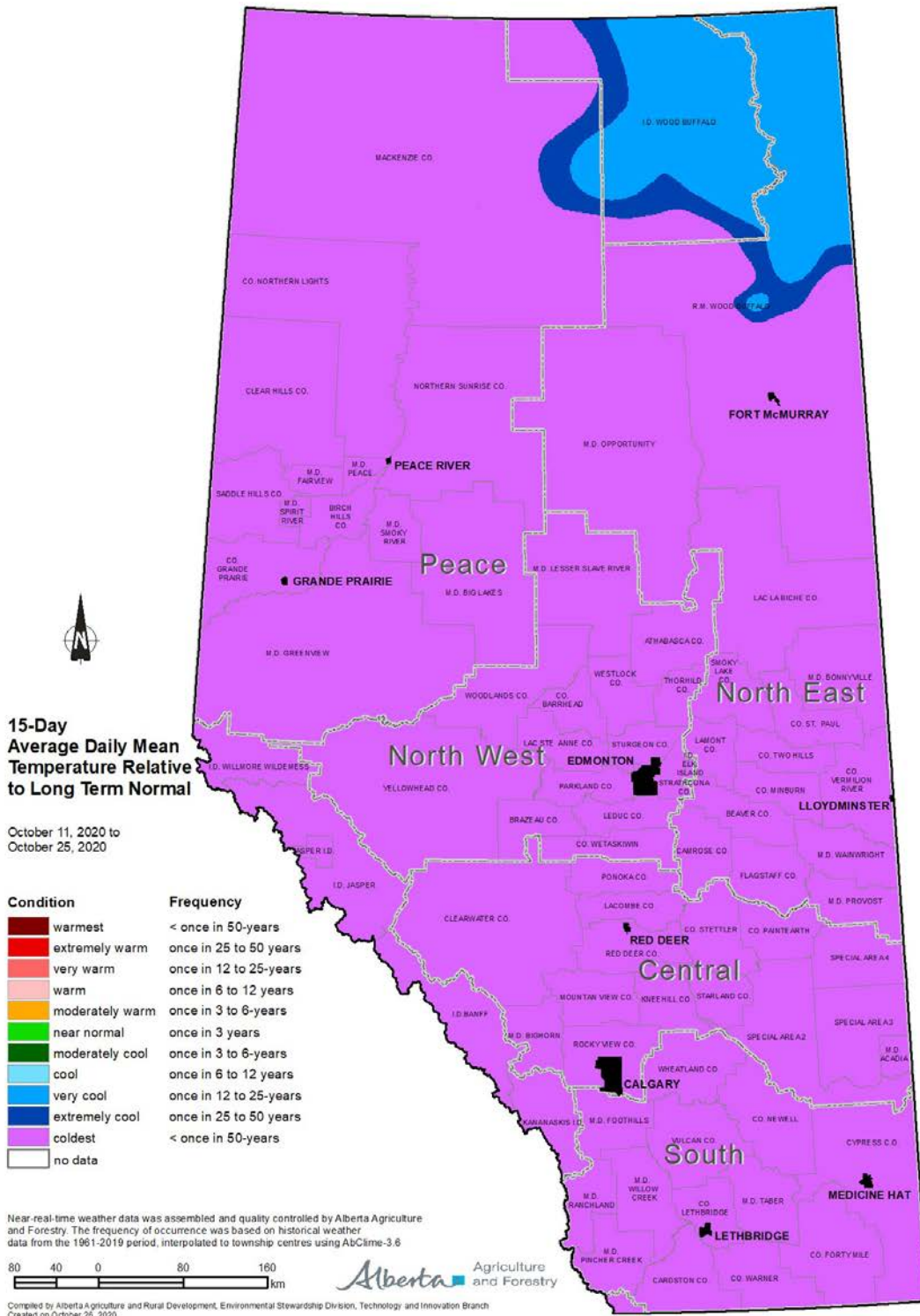
What is significant about this cold snap is that typically when a meteorological record is "broken" it's usually by a relatively small margin, as seen by the spread of only few tenths of a degree between the previous cold snaps in Calgary. This cold snap was more than 4 degrees colder than its predecessors were!

Interestingly enough the absolute minimum temperatures were not unprecedented for this time of year. For example, in Edmonton anytime between October 15<sup>th</sup> and October 25<sup>th</sup> record lows sit in the  $-14^{\circ}\text{C}$  to  $-19^{\circ}\text{C}$  range. What really made this cold snap stand out, was the length of time it persisted plus the fact that it stayed near record low temperatures for so long.

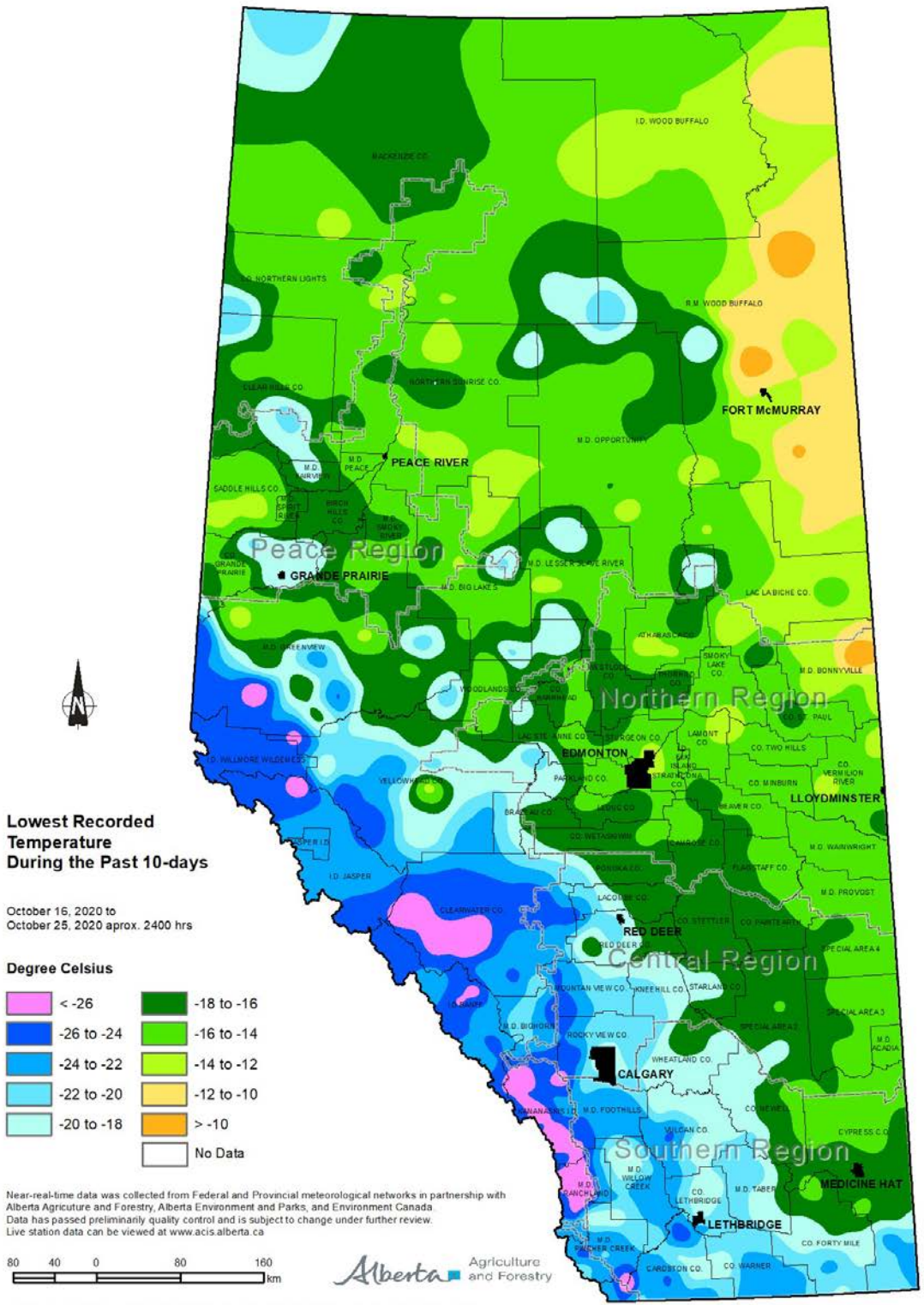
The deepest cold lingered throughout the foothills and mountains with temperatures in the  $-20^{\circ}\text{C}$  range affecting much of southern Alberta, ranging up along the foothills towards Grande Cache (**Map 2**). Some of the lowest temperatures were recorded at several mountain stations with  $-25^{\circ}\text{C}$  being common early on the morning of Oct 25<sup>th</sup>. The coldest recorded temperature was  $-29.4^{\circ}\text{C}$  at the Livingston station, high in the mountains west of Lethbridge.

## Snow pack accumulations as of October 25, 2020 (Map 3)

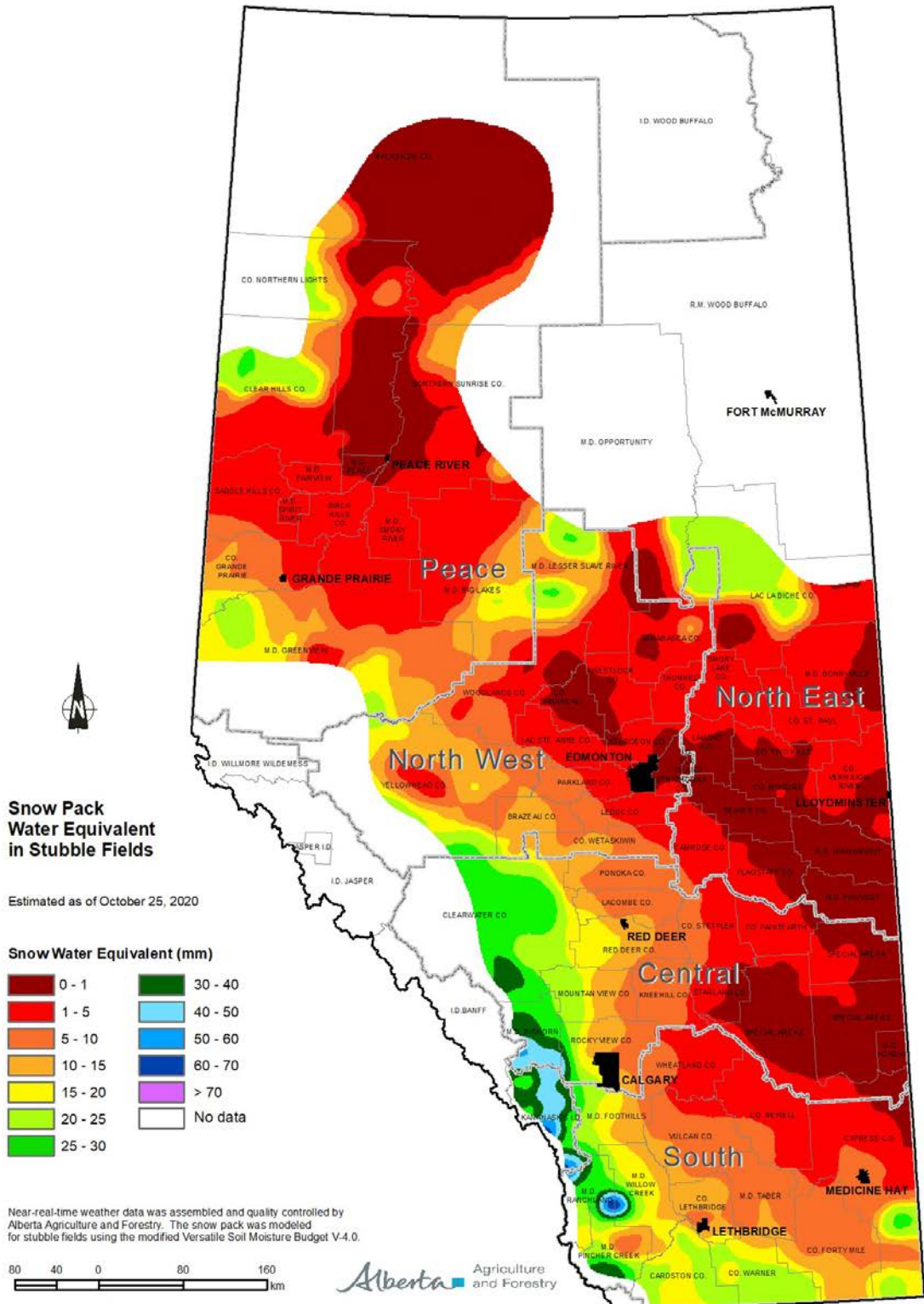
Along with the extreme cold, came the first significant winter snows of the year (**Map 3**). In general, most of the western portion of the province under the influence of the foothills received lingering snows. This affected areas from Grande Prairie all the way to the US border. Most of these locales received at least 10 to 15 cm of fresh snow. This increased westward with many of the foothill areas receiving upwards of 30 cm of snow.



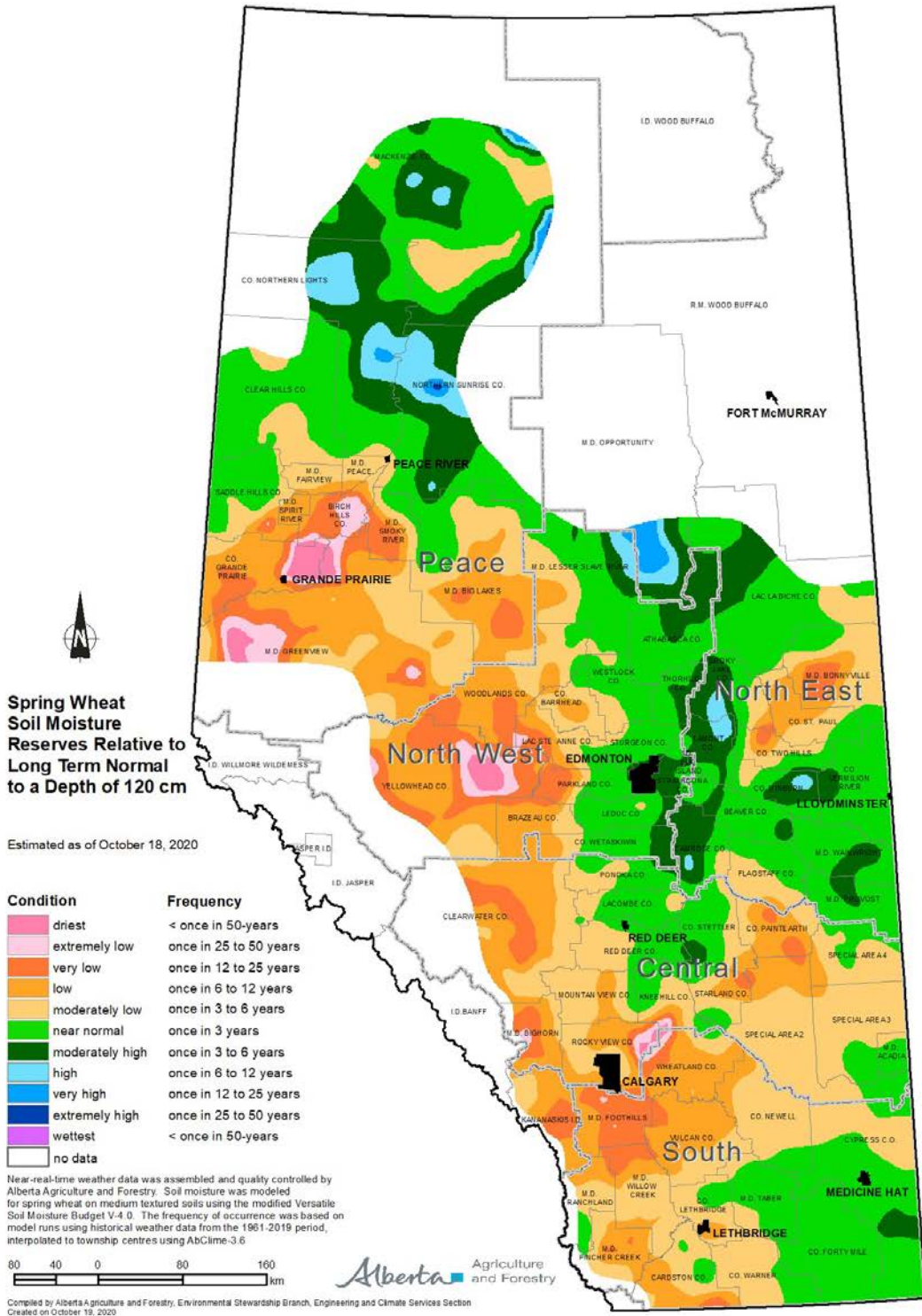
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