

Agricultural Moisture Situation Update

July 24, 2024

Synopsis (Maps 1 to 7)

Since the last report (July 18, 2024) above average temperatures have prevailed along with little widespread relief in the form of rain. Since the heat arrived on July 7th, roughly 3-weeks ago, many locations have seen approximately 10-days that exceeded 30°C. Across the southeast portions of the province several stations recorded temperatures of nearly 40.0°C (**Map 1**). This was still far from the all-time heat record in Alberta where temperatures reached 43.3°C on July 21st in 1931 at Bassano Dam. During the last three weeks, most of the agricultural areas saw maximum temperatures reach as high as 34 to 36°C. Looking back as far as 1961, over the past 15-days temperatures this warm are seen on average, less than once in 50-years (**Map 2**). Unfortunately, the meteorological record prior to 1961 is too sparse for generating maps of this kind, which would allow for a more meaningful, longer-term perspective on the recent heat wave.

Unusually high temperatures through last week were accompanied by sporadic thunderstorm activity across the western portions of the province, as well as through the Peace Region and through parts of the Southern Region (**Map 3**). Unfortunately, rainfall was largely absent across much of the east-half of the province. Late yesterday (June 24th) and early into this morning, a moisture bearing low pressure system moved into the province from the west, bringing meaningful rainfall to many parts of the North West, Peace and western portions of the Central Region. **Map 4** (unverified raw data) adds the rain that's fallen to the 7-day map depicted in **Map 3** and its promising for much of the Peace and North West Regions with many locations now exceeding 20 mm. This system is forecast to persist until at least Sunday with an additional 10-60 mm expected to fall across a large area of the province lying roughly north of Red Deer by midnight tonight (**Map 5**). As the system moves eastward, by Friday more rain is expected to fall in this general area (**Map 6**). On Sunday a second low is expected to form, bringing some moderate relief to some lands potentially down as far south as Brooks (**Map 7**).

30-day precipitation trends (Maps 8 and 9)

Over the past 30-days most of the southern portions of the province, lying generally south of Red Deer have seen at least near normal precipitation accumulations (**Map 8**). However, July is normally a dry month through much of the Southern Region, so total precipitation accumulations during this heat wave are still less than 40 mm through many locals (**Map 9**). However, there are still several areas here that

have received reasonable moisture with many stations recording well over 60 mm through broad swaths of the Central Region, along with parts of the Northwest and the extreme southern and central Peace Regions. In contrast, large parts of the North East, eastern portions of the North West and parts of the extreme northern Peace Region have been experiencing near once in 50-year low precipitation accumulations (**Map 8**), with relatively large areas receiving less than 30 mm (**Map 9**). Fortunately, a major cool down is occurring, and these areas are likely to see ample rains over the next few days (**Maps 5-7**). For those crops that have not been excessively damaged by heat and/or moisture stress, this rain will be beneficial, at least in the short term, but further rains will likely be needed over the coming weeks to ensure present yield potential is sustained.

Soil Moisture Reserves Relative to Normal (Map 10)

Current soil moisture reserves are highly variable ranging from at least near normal across parts of the Southern Region and through parts of the Special Areas and the also through the central Peace Region, to once in 50-year lows showing up through parts of the Peace, North West, North East and Central Regions. These areas need rain now, and thankfully, at least for those areas lying north of Red Deer, it appears to be on the way. The cooling trend over the next several days will help further reduce moisture stress in crops, particularly if the rain falls as it is forecast to do.

Perspective

The effects of recent heat and lack of rainfall have likely not been fully quantified, yet. Last week's [Crop Report](#), which was current as of July 16, was released only 9-days into the current heat wave. In this report, it was stated that "**While conditions are still rated above the 5- and 10-year average provincially, crops are starting to show signs of heat stress like heat blast in canola, while other crops are coming out of flowering prematurely or dropping tillers.**" At this time provincially 72.9% of "major crops" were rated good to excellent which is above the 10-year average (63.2%). Tame hay ratings were marginally better than the 10-year average in the good to excellent categories. This week's Crop Report will be released tomorrow (Friday, July 26th) and will be current as of July 23 and it is likely that these values will be lower. Later in the season a first look at estimated yield potentials will shed further insights into the potential yield declines that may have occurred with this July's persistent hot and dry spell.

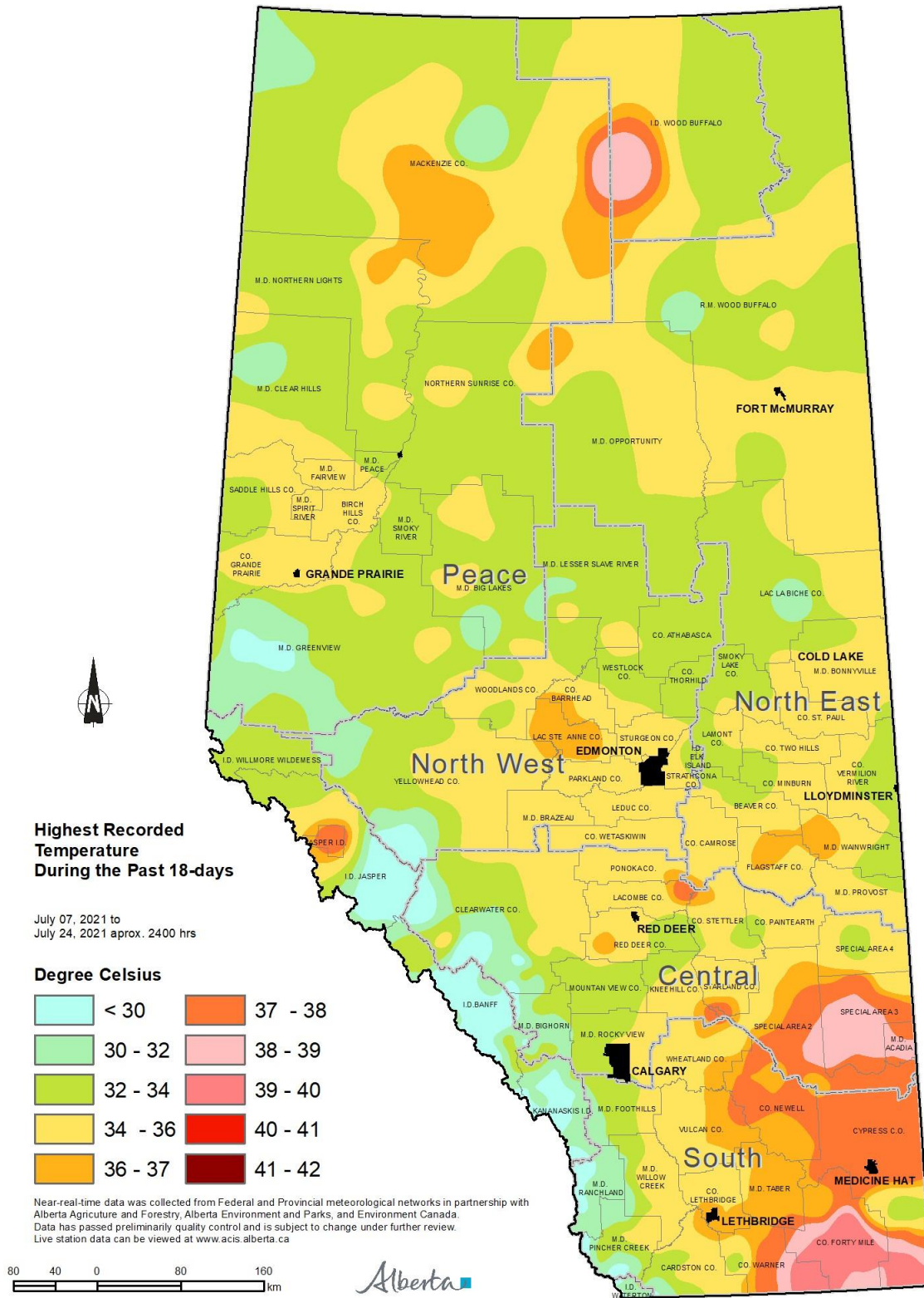
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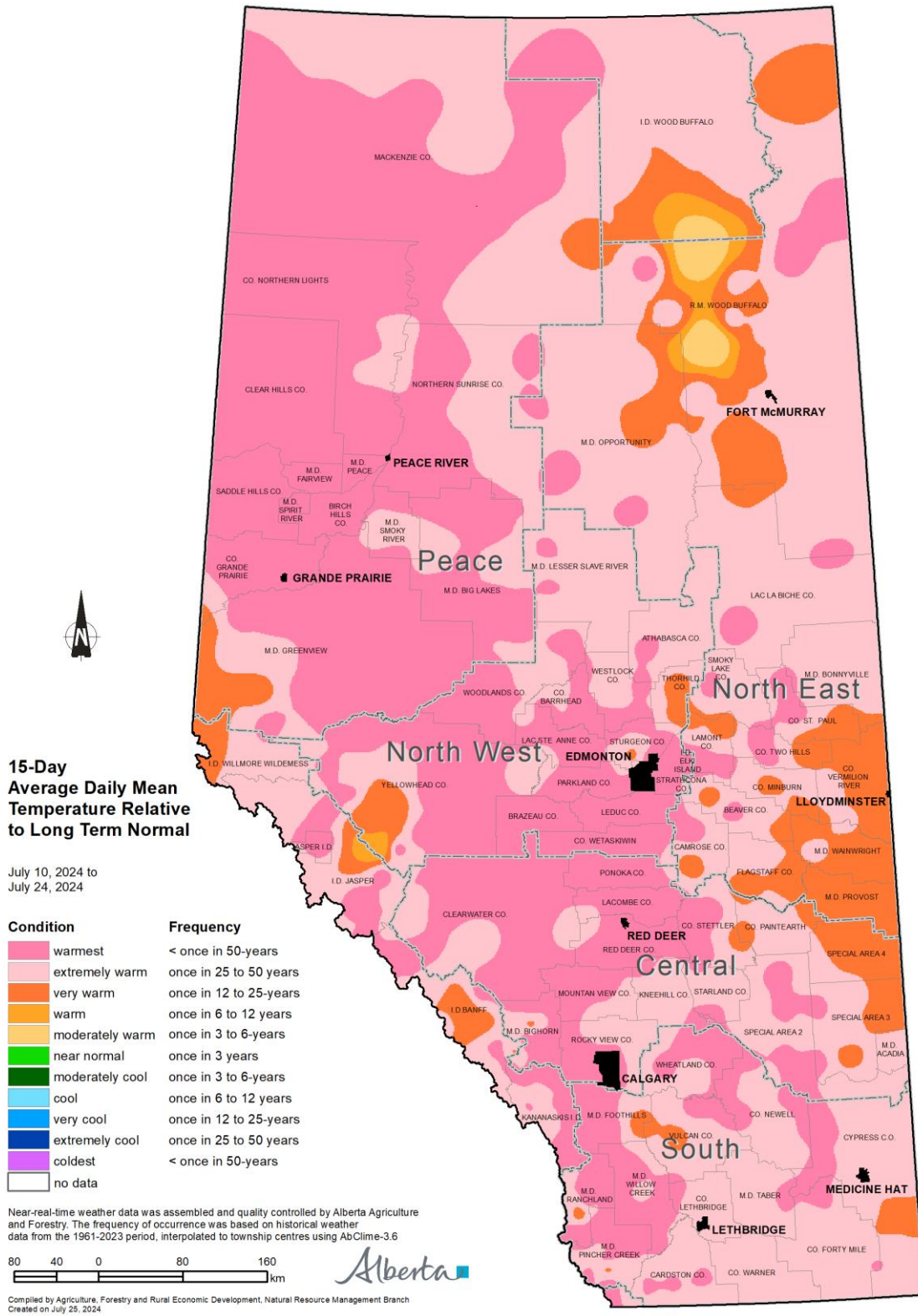
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Map 1



Map 2



Visit weatherdata.ca for additional maps and meteorological data

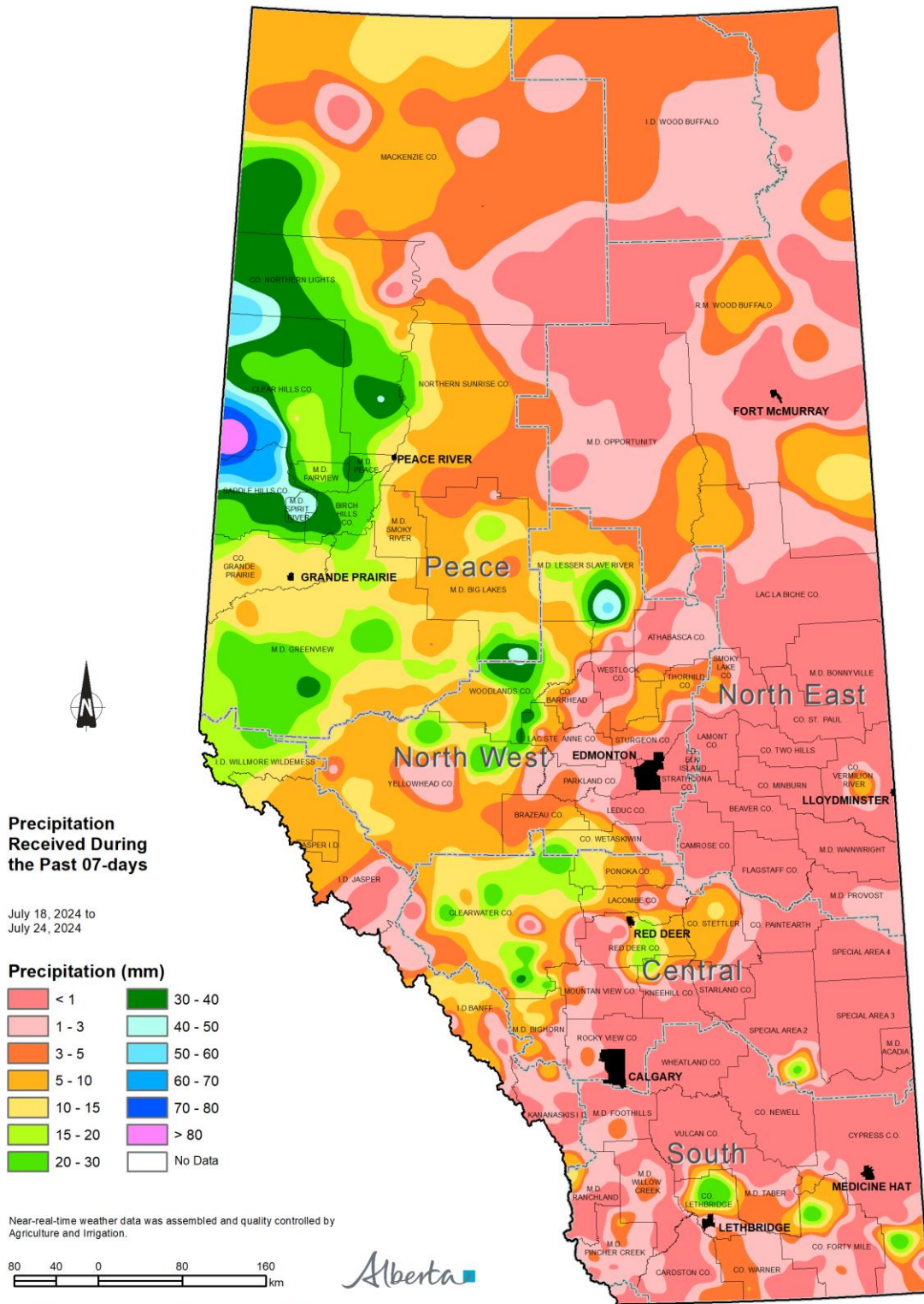
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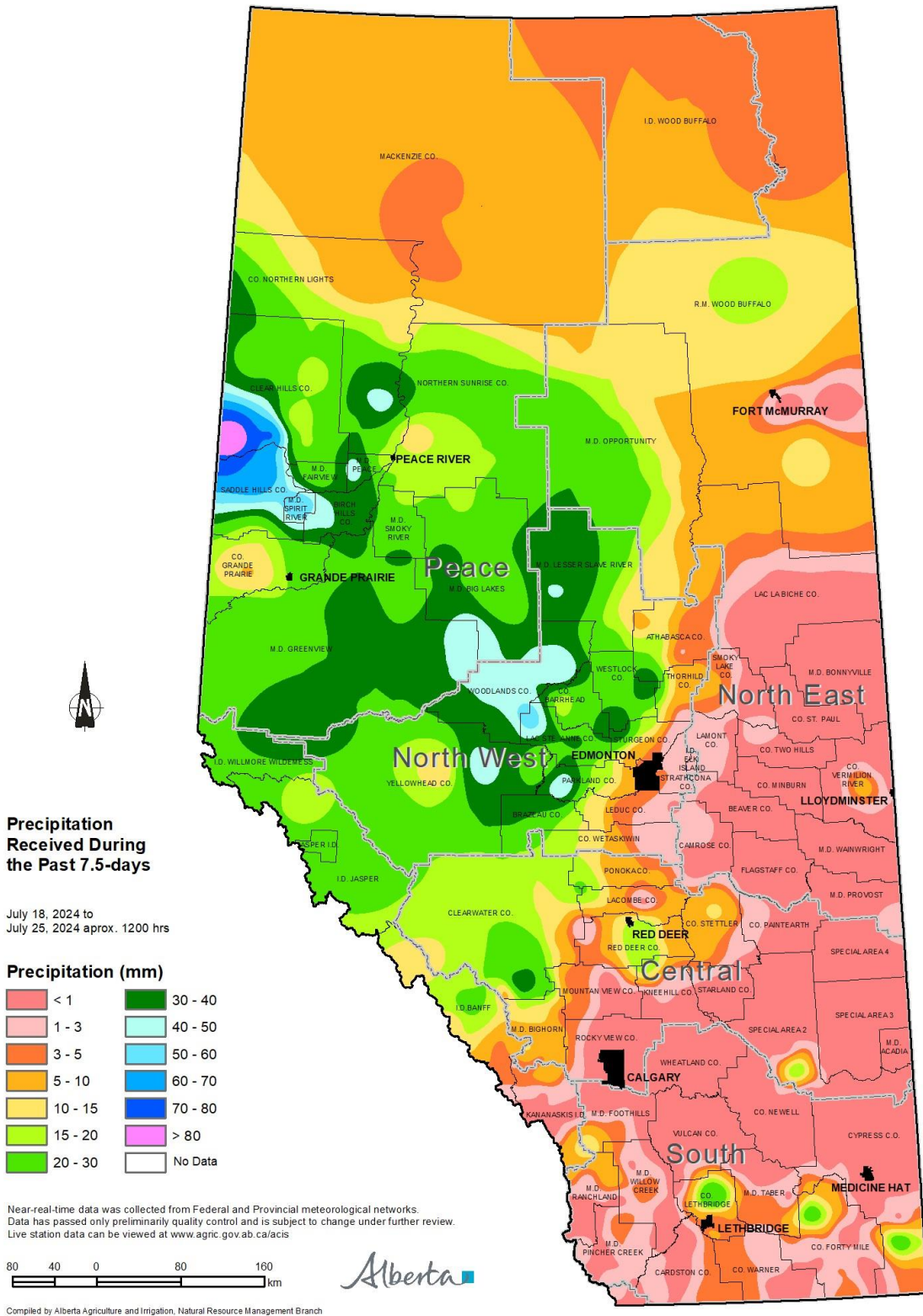


Map 3



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Map 4



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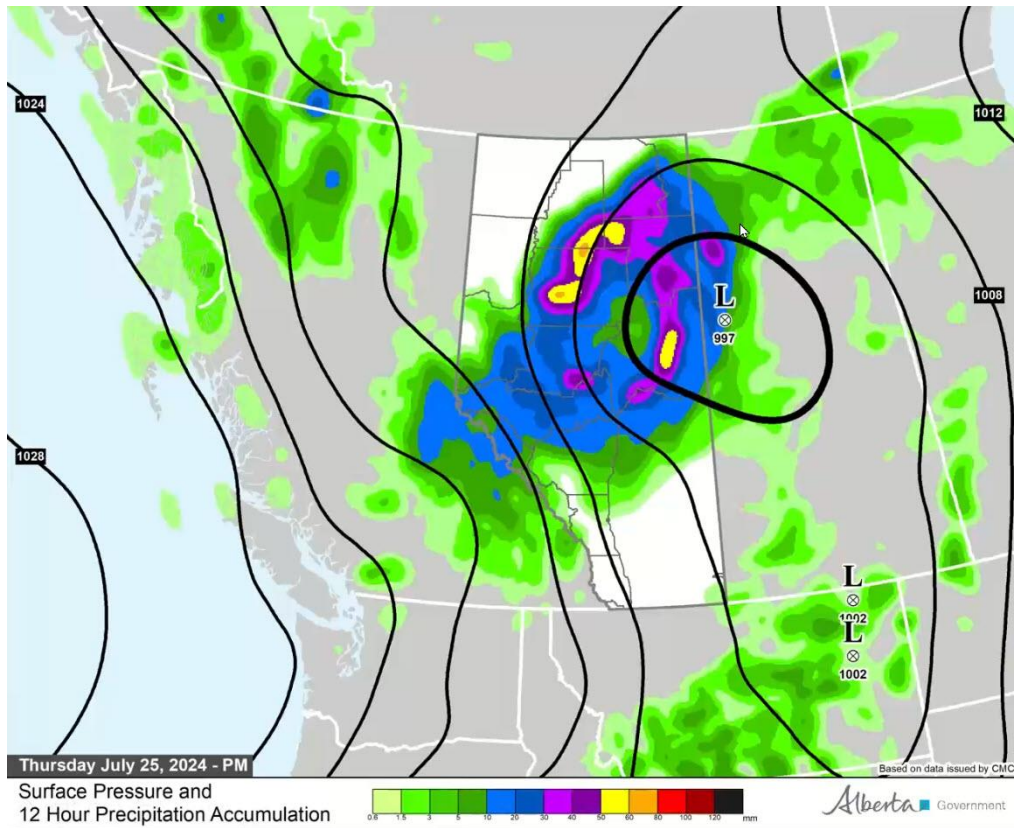
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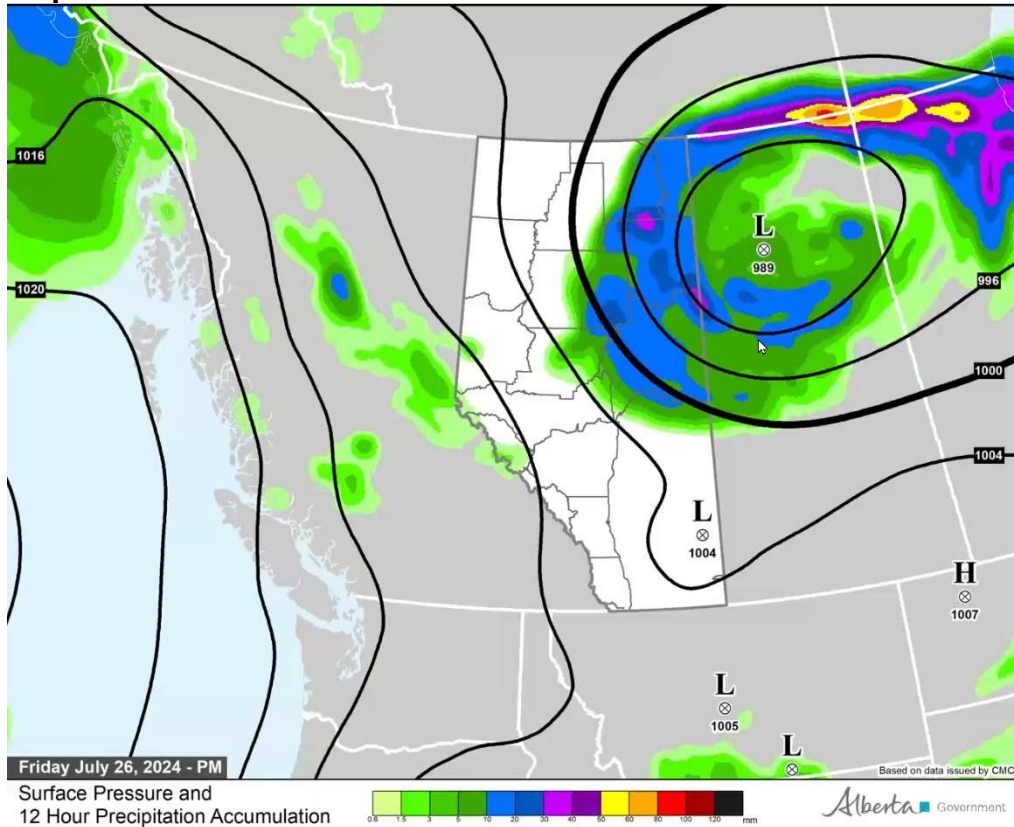
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Map 5



Map 6



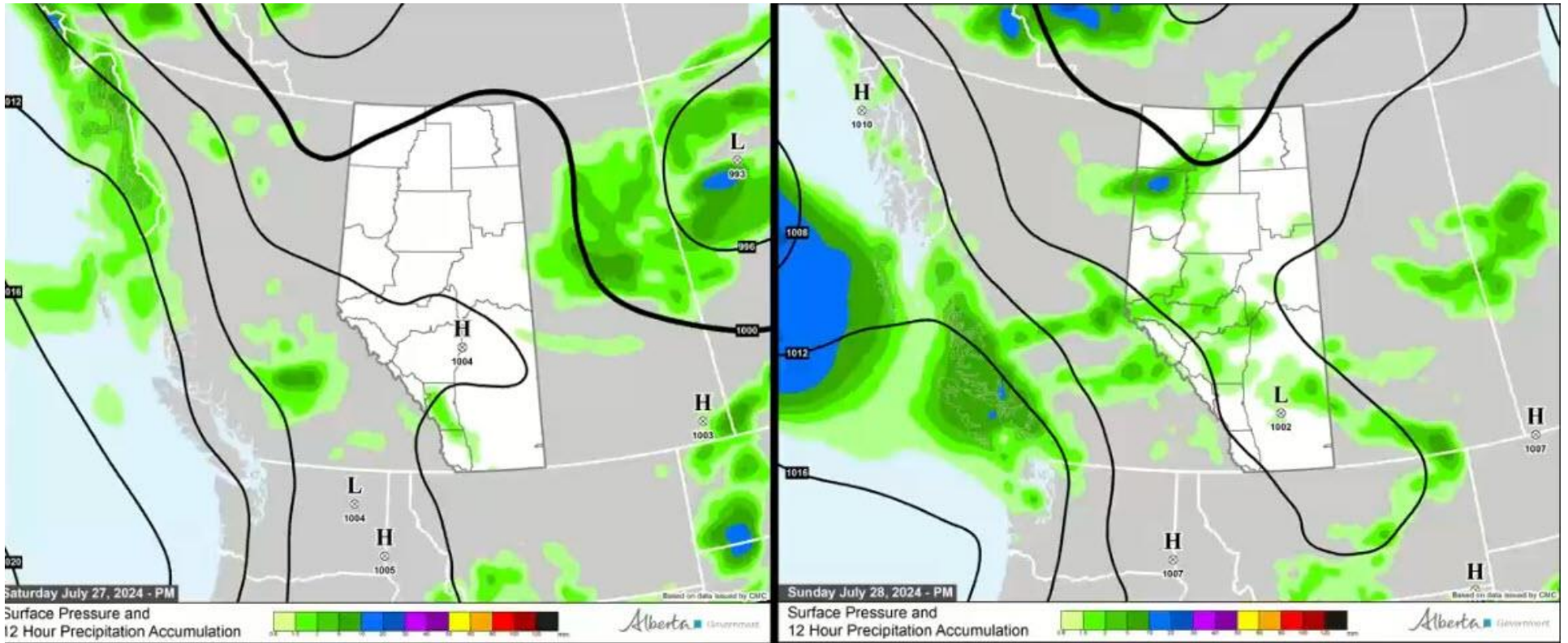
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Map 7

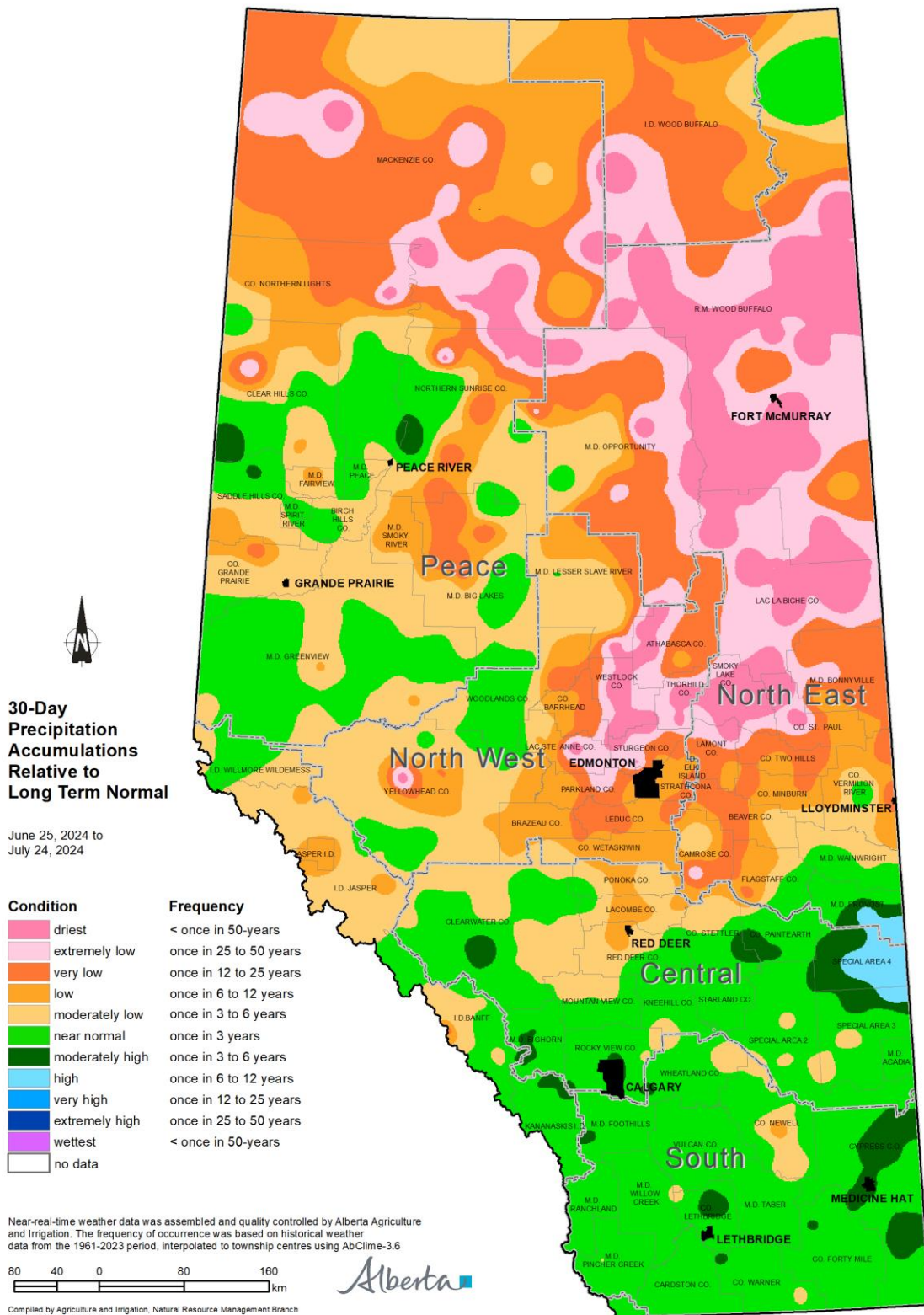


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Map 8



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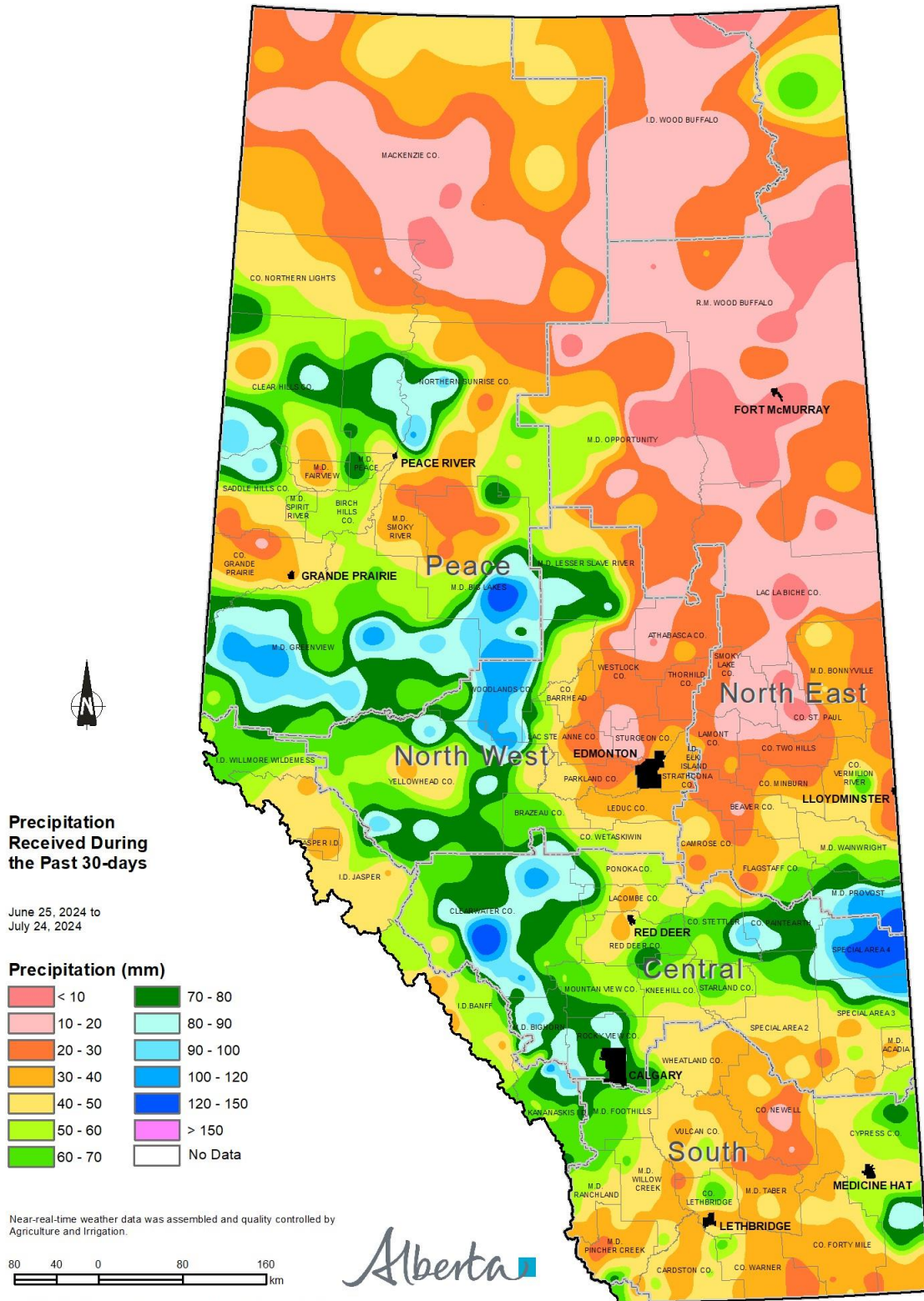
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Map 9



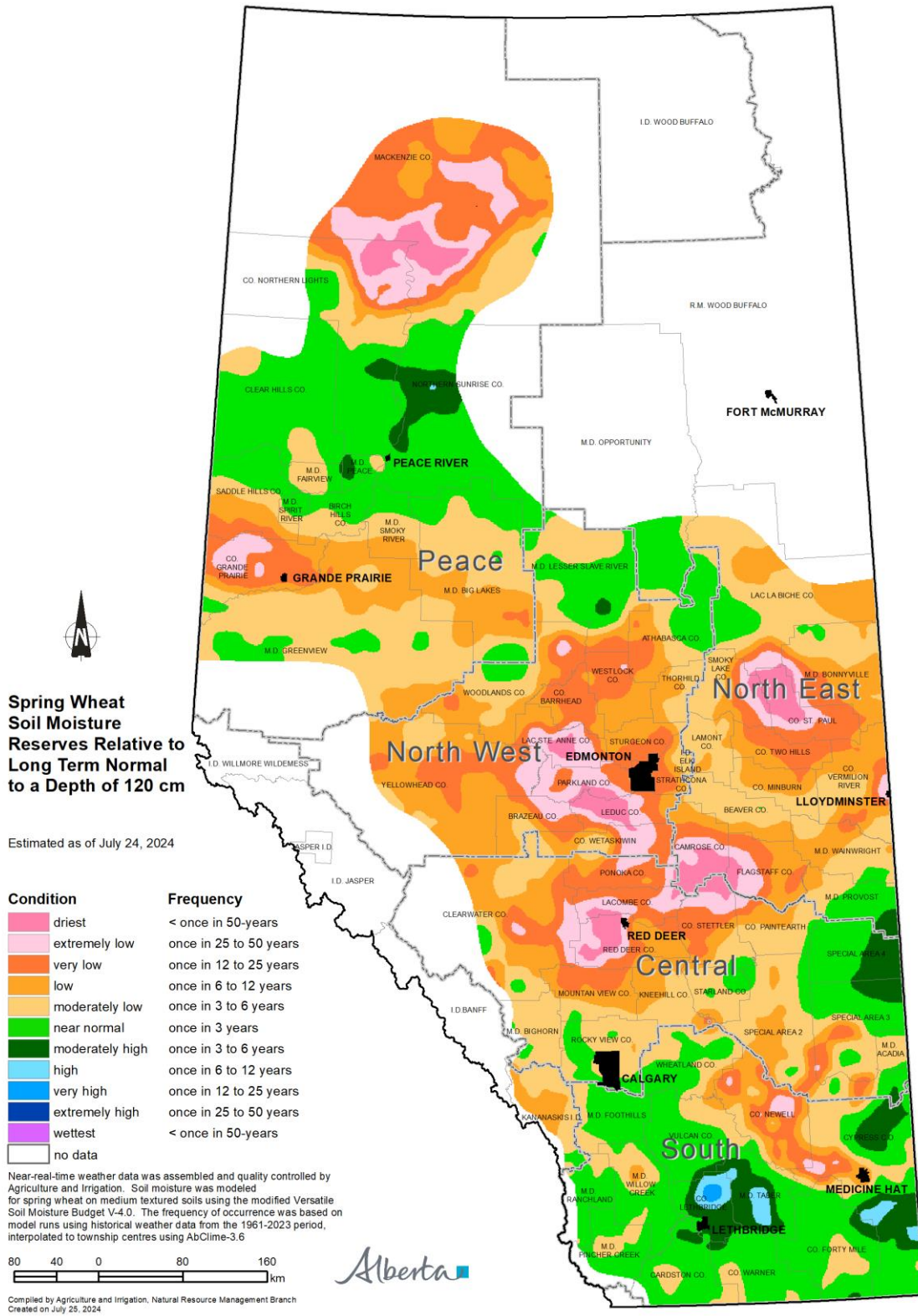
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Map 10



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