Agricultural Moisture Situation Update
July 18, 2024

Synopsis (map 1)

Precipitation has been quite hit and miss since the last report (July 11, 2024), ranging from a few areas in the North East Region that received upwards of 20 mm, to large areas in each of the four agricultural regions that received no rain (Map 1). Since the end of the first week in June temperatures have been above average for this time of year and highs of 30°C or more have been common, along with many warm nights were temperatures failed to dip below 20°C. Hot weather is expected to persist this weekend and well into next week, which will continue to put many crops under stress, particularly in those areas that have low soil moisture reserves and/or have remained dry over the past few weeks. Long range weather predictions are pointing to a cooling trend towards the end of next week, as a low pressure system is set to arrive from the west. Hopefully this will bring much needed moisture to the province in the face of this persistent heat wave.

Recent precipitation trends (Map 2, 3, 4, 5, 6 and 8)

Growing season precipitation accumulations have been variable, with about half of our agricultural lands receiving (on balance) at least near normal precipitation since April 1, and about 25% of these lands receiving less than 70% of average (Map 2). Unfortunately, this time frame tends to be "back loaded" with the majority of this precipitation occurring prior to the onset of July and it does not provide a completely accurate description of current moisture conditions across the province.

Following a dry winter, in April most lands south of Red Deer received at least near normal moisture (Map 3), while parts of the southern Peace Region were dry along with large areas east of Red Deer, and a few pockets in the North West and North East Regions. May was a relatively wet month, with much of the east-half of the province receiving well above average moisture with a few small dry pockets remaining west of Edmonton and West of Red Deer (Map 4). June, on average, one of the wettest months of the year, saw a drying trend emerge across parts of the North East, through much of the North West and most of the west-half of the Central Region, along with large areas of the Southern Region (Map 5). As July unfolded, hot weather began to build into the province with most areas since July 1 experiencing well below normal moisture (Map 6), with the exception of a few areas in the Southern Region, the central Peace Region and the border lands between Alberta and Saskatchewan, up as far north as Lloydminster. Moisture deficits seen across the North West and western portions of the Central Regions and northern parts of the North East Region intensified with some areas experiencing once in 50-year lows.

Looking out over the past 60-days (May 19th to July 17th) moisture deficits have enveloped most of the North West Region, parts of the North East Region, the west-half of the Central Region, much of the Southern Region (Map 7), along with the southern and northern portions of the Peace Region. Currently many crops are in critical stages of development and heat and lack of moisture are affecting yield potential. July is a very critical month for crops and most are well developed with moisture demand entering peak levels, rendering crops very susceptible to moisture stress. According to the current weather forecasts, we still have several days of heat to endure. Hopefully the low pressure system that is currently off the coast of BC is able to penetrate the interior and bring with it a much needed cool down late next week, along with some wide spread rains.

Perspective (Map 8, 9 and 10)

The cooler weather predicted to arrive late next week is still several days off, and while the forecast models tend to agree, it remains to be seen if this will materialize and bring much needed moisture. The growing season of 2024 has proven to be quite variable so far, with unseasonably cool temperatures persisting through June, and in many areas, wet weather dominating through April, May and early June. This suddenly turned into a wide spread drying trend in recent weeks. Hopefully this pattern breaks soon and towards the end of July and well into August we see temperatures moderate along with a return to more normal precipitation patterns.

Current 12-hr precipitation forecasts, courtesy of Forestry and Parks Fire Weather Section, for today (Map 8), Friday (Map 9) and Saturday and Sunday (Map 10), indicate that most of the moisture we expect to receive over the next few days will be concentrated along Alberta's western border.

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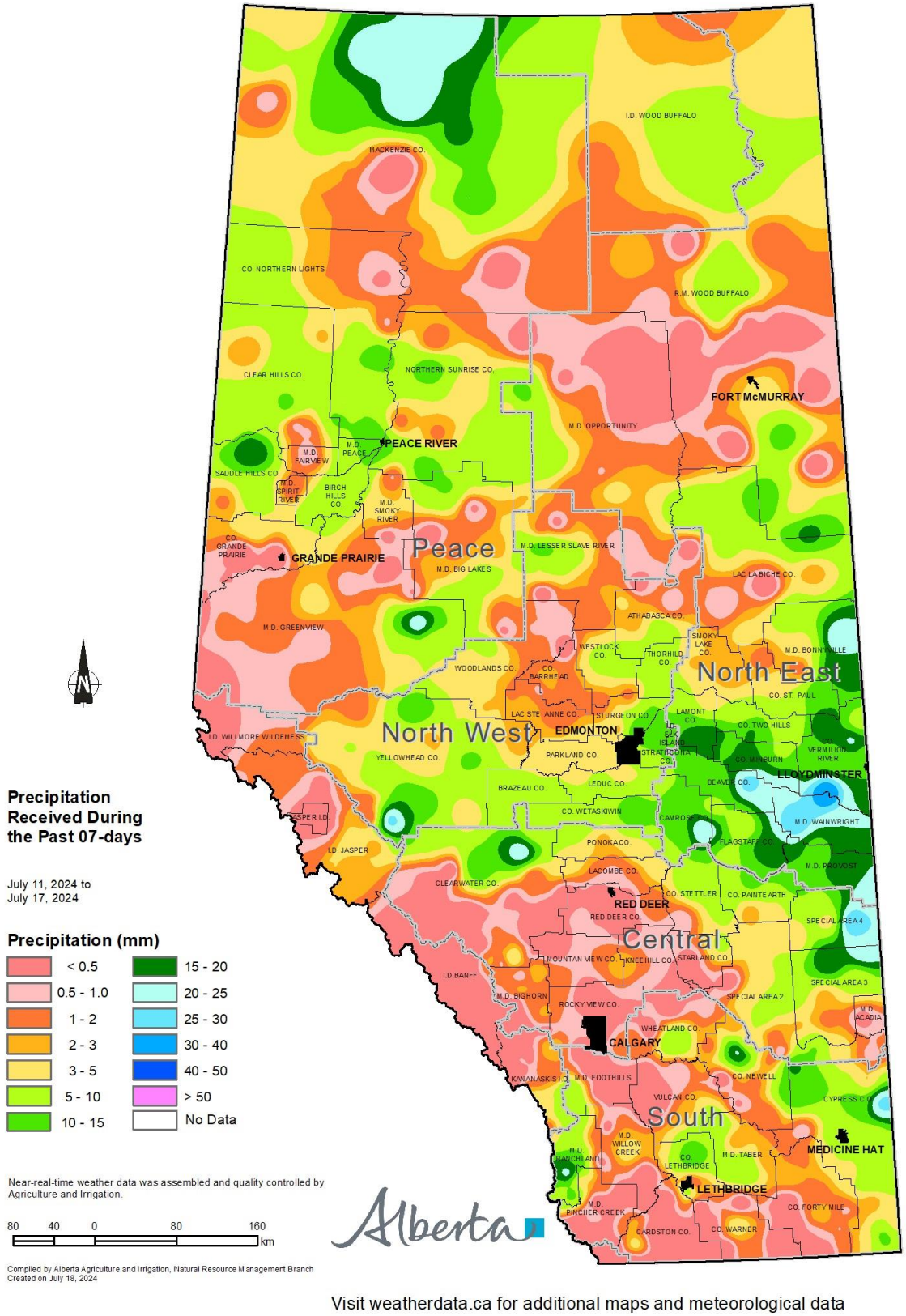
Map 1



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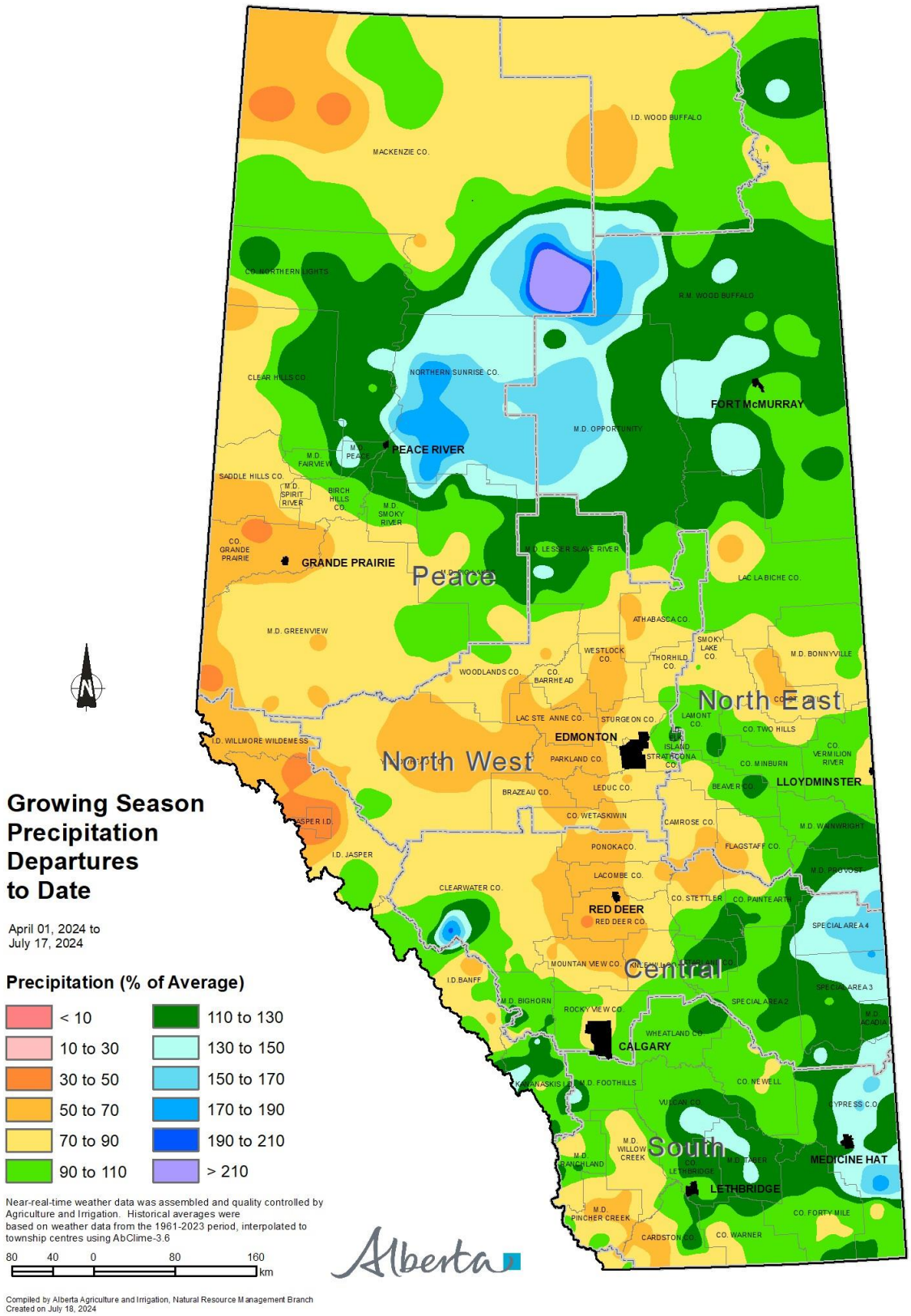
Map 2



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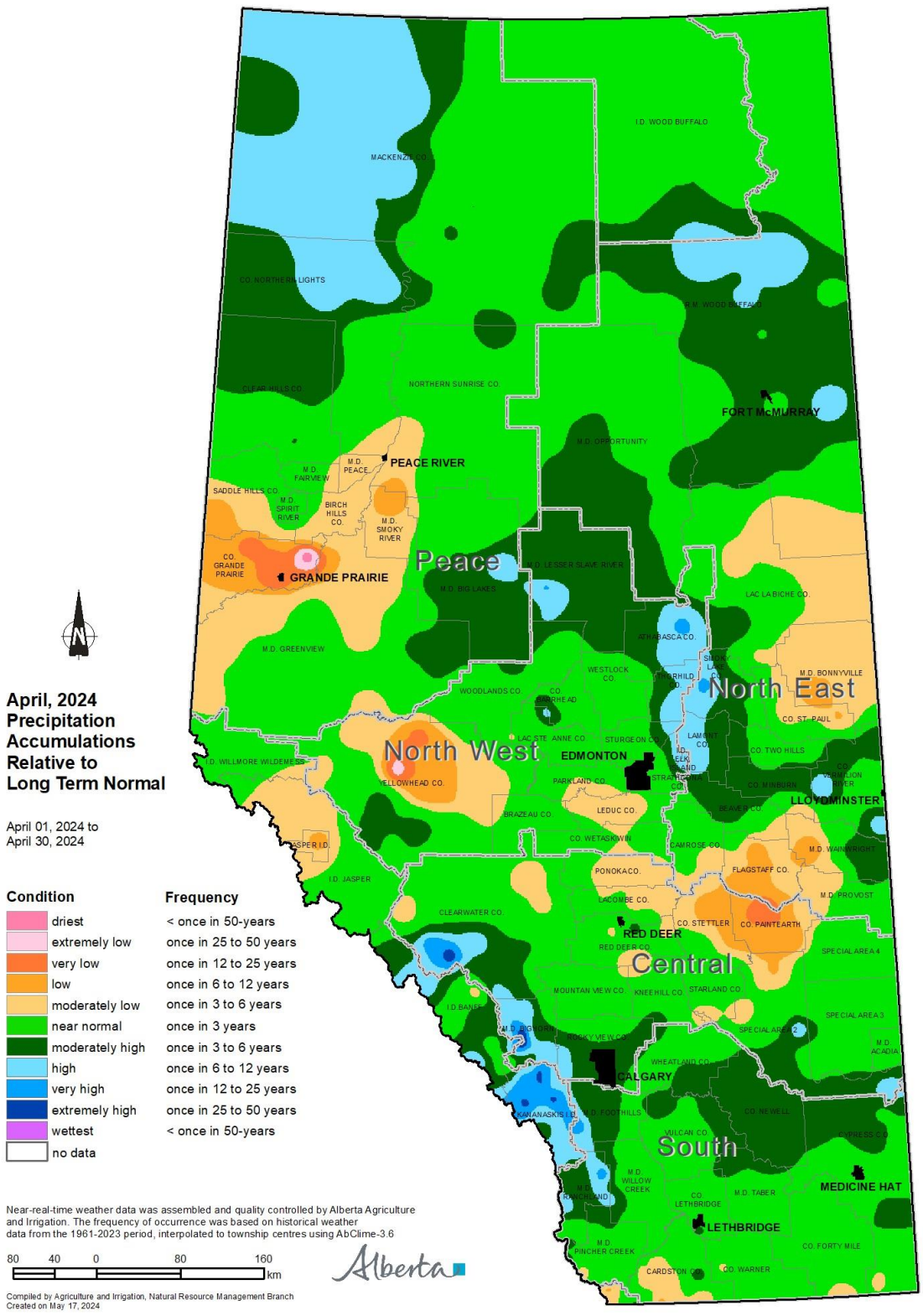
Map 3



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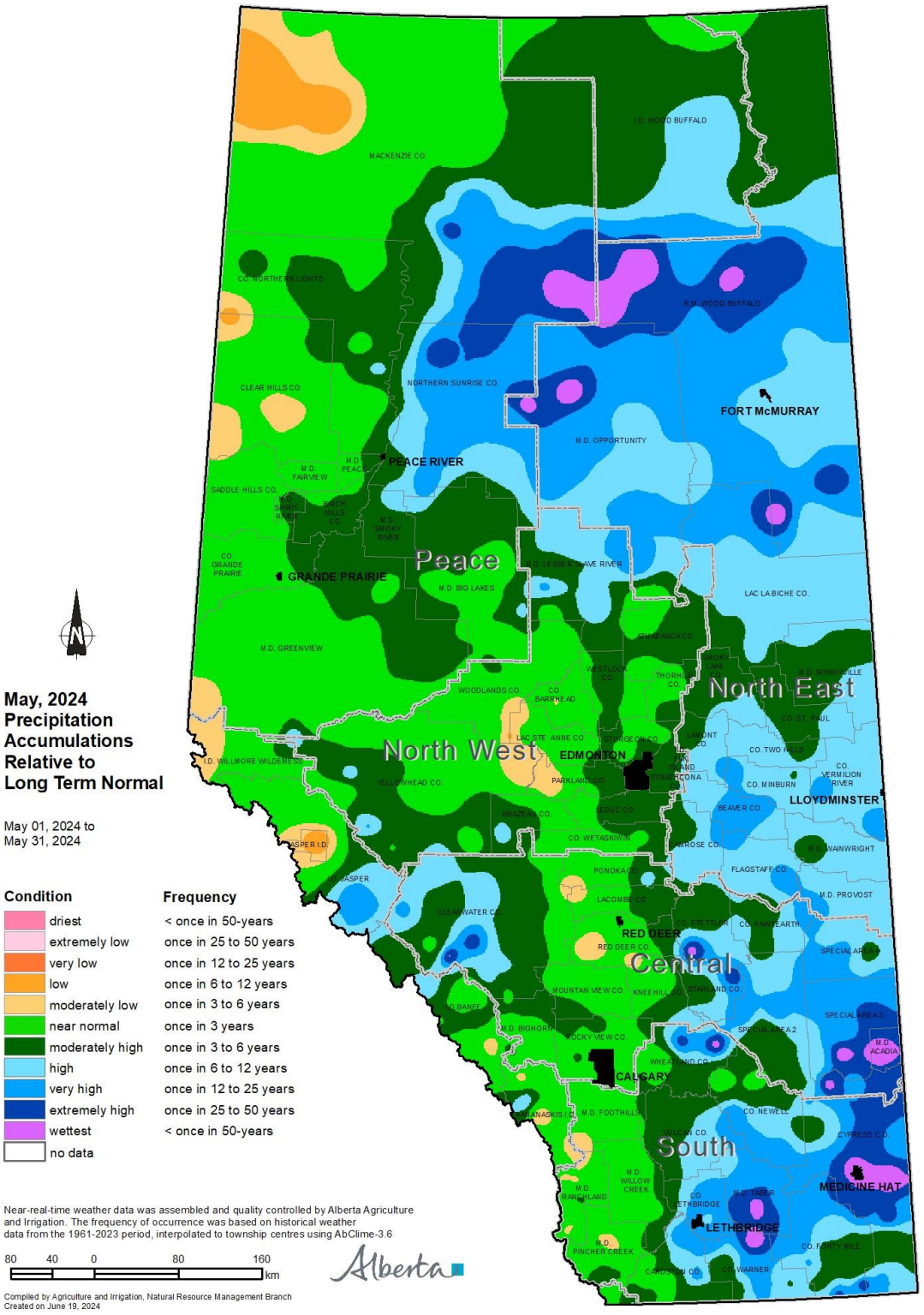
Map 4



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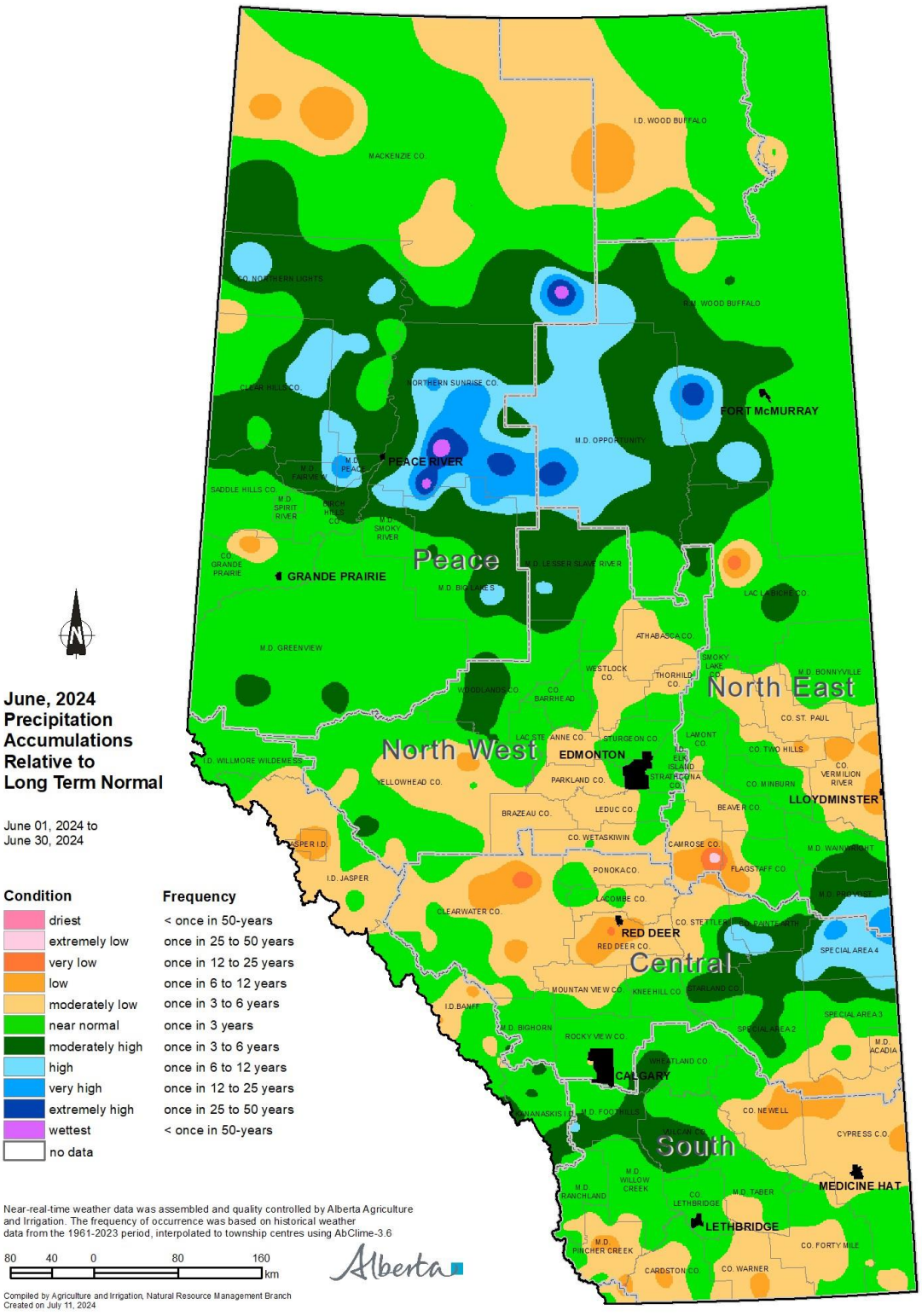
https://open.alberta.ca/publications/moisture-situation-update

Map 5



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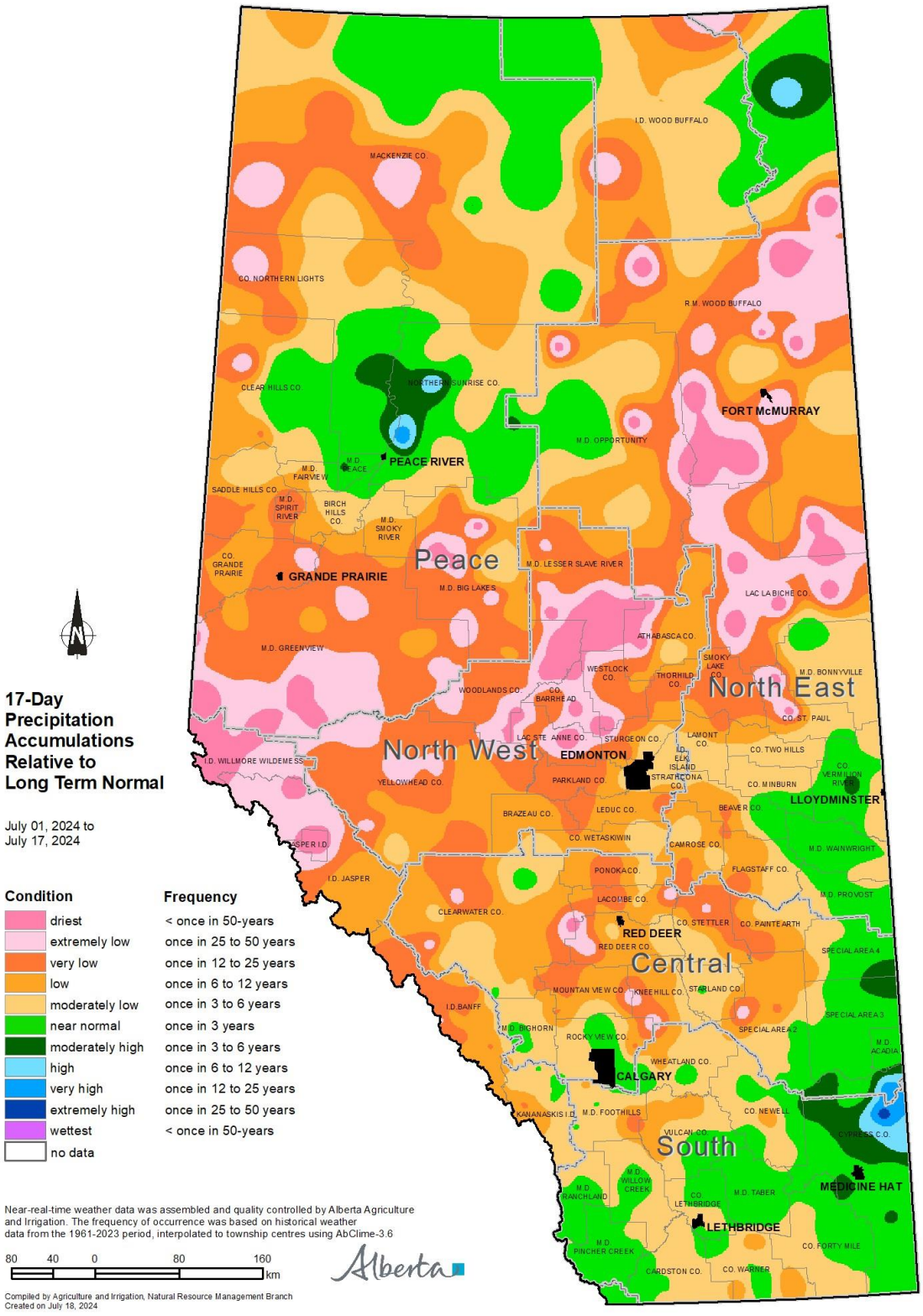
Map 6



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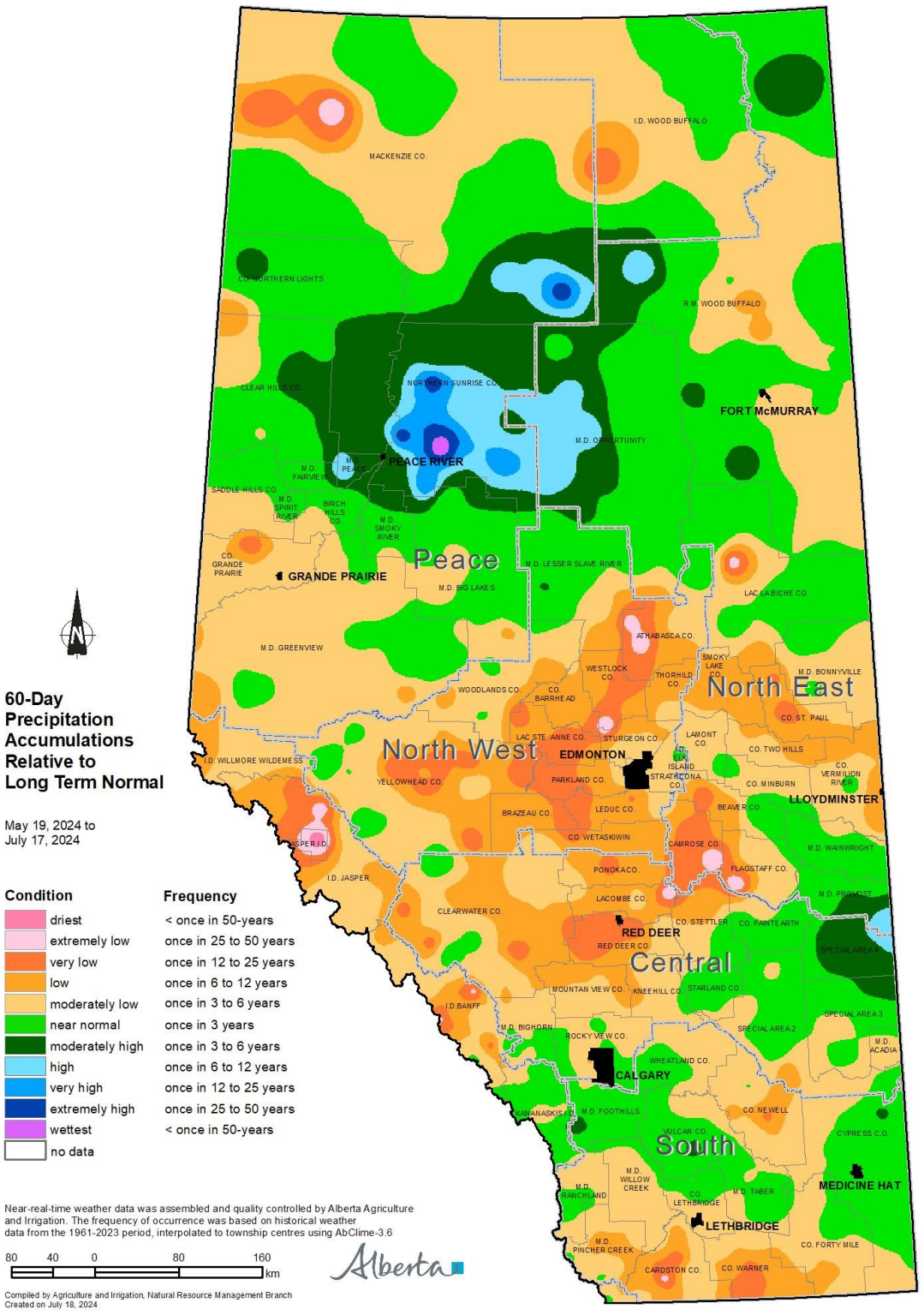
Map 7



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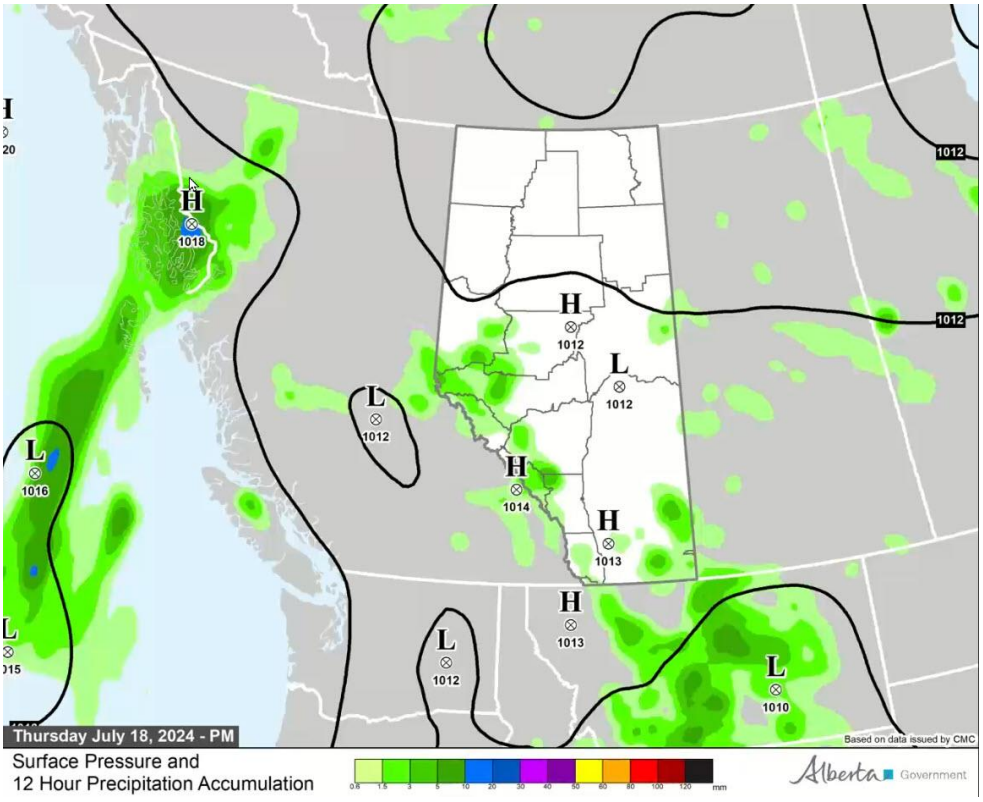
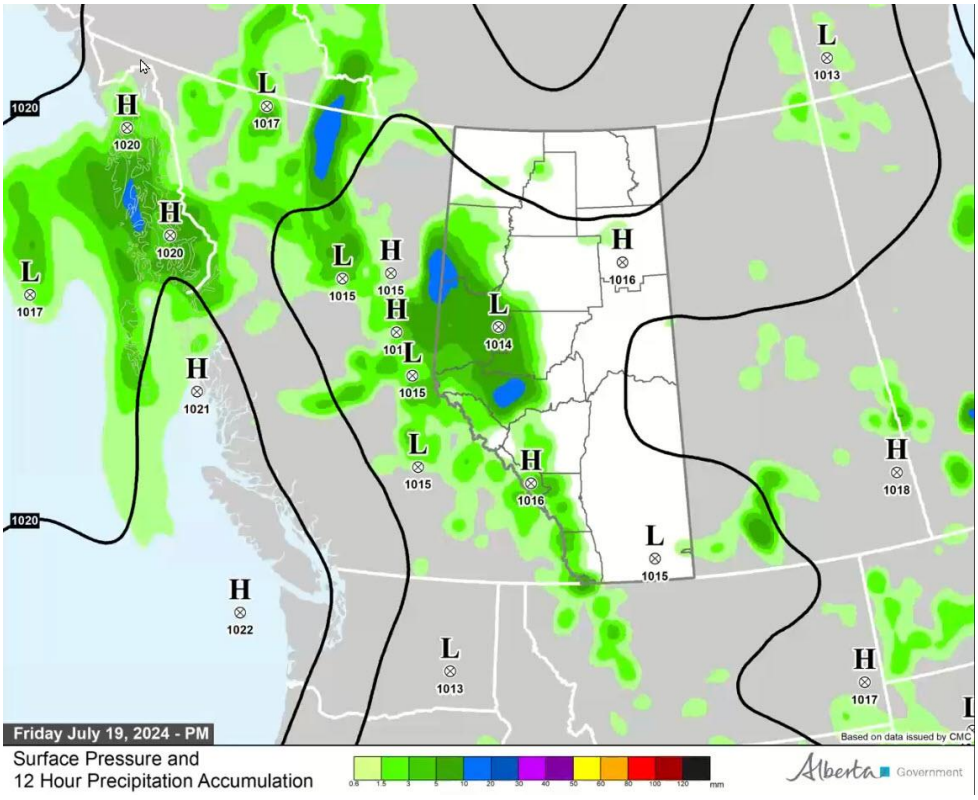
Map 8



Map 9



Map 10