Agricultural Moisture Situation Update
October 23, 2022

Synopsis

Over the past 18 days, southern Alberta has transitioned into a relatively wet weather pattern with most lands south of the Trans Canada Highway receiving anywhere from 10 to 40 mm of moisture (**Map 1**). A large area extending down from Calgary to the extreme southeast corner of the province received upwards of 30 mm of moisture, with some pockets receiving over 50 mm. Much of this moisture fell as snow over the weekend, with higher amounts found throughout the foothills and mountains. This has been sufficient to improve current moisture reserves.

Most of the rest of the province received only 5 to 10 mm of moisture, with some large widely scattered areas receiving less than 2 mm. A shift to wetter weather patterns soon would be welcome in these areas.

30-day precipitation Trends

Looking back over the past 30-days, most of the Southern region received above normal precipitation for this time of year, with a large swath of land that includes the City of Lethbridge, estimated to receive this much moisture over this time frame, less than once in 6-years (**Map 2**). Since late September lands around Lethbridge have received up to 50 mm of moisture (**Map 3**). Hopeful this trend continues into the winter months.

Elsewhere, the current drying trend has not yet reversed, with large areas of the province lying generally north of the Yellowhead Highway showing 30-day trends in at least the one in 12 to 25-year low category (**Map 2**). With the exception of southern Alberta, most areas received less than 10 mm of moisture in the last 30-days (**Map 3**).

365-day precipitation trends 2021 compared to 2022

By the end of October in 2021, most of the province was heading into the winter facing year over year deficits estimated to occur at least less than once in 25 to 50-years (**Map 4**). In comparison as of October 23 in 2022, over all, year over year deficits have improved dramatically (**Map 5**) but still largely remain on the dry end of the spectrum.

Currently, there are large areas of the province with year over year deficits near one in 3 to 6 year lows, along with some isolated pockets experiencing one in 12 to 25 year lows. This serves as a reminder that conditions can change dramatically year to year, and next year's cropping season is still a long way off.

Soil moisture reserves relative to normal

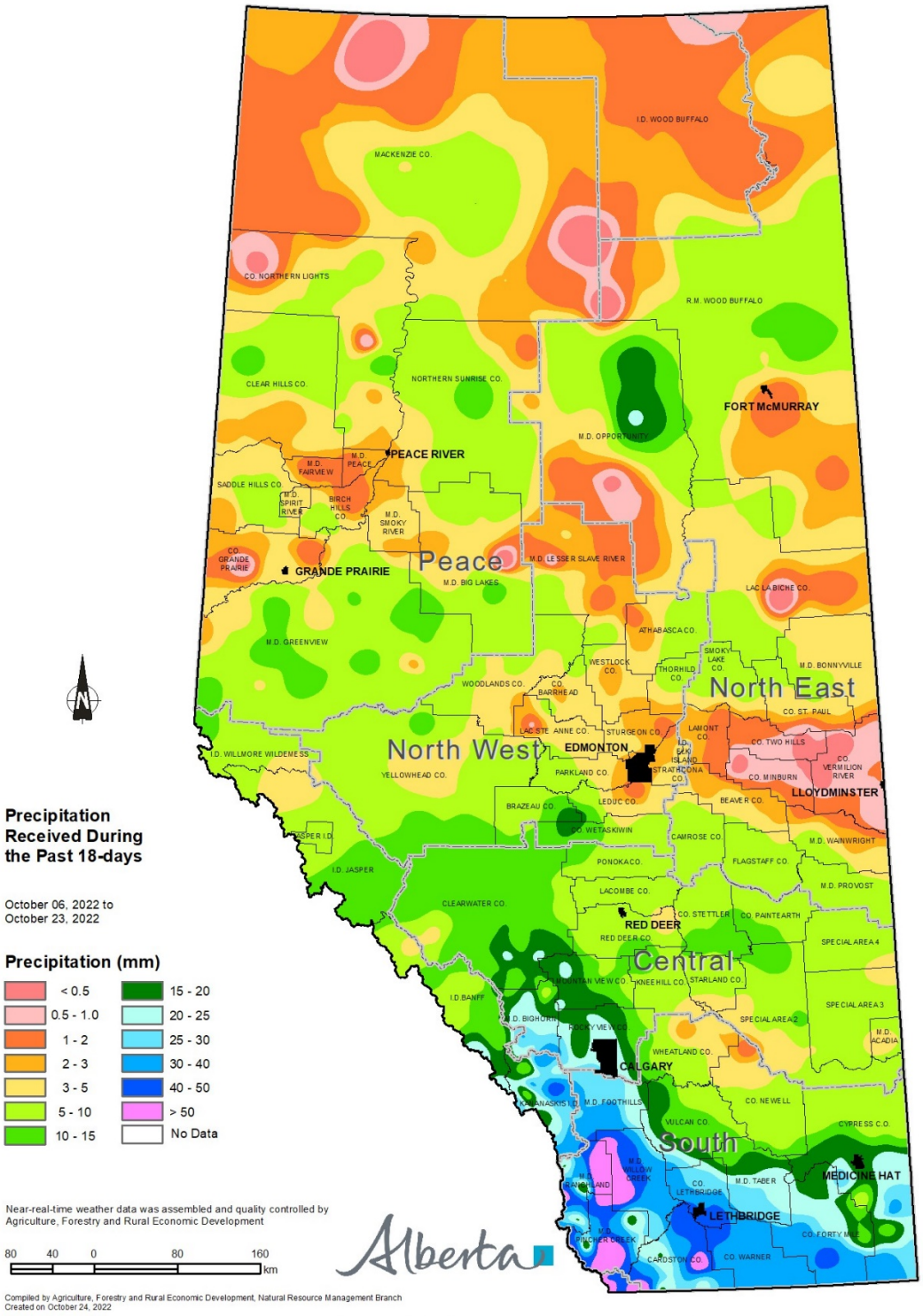
Most of the province has soil moisture reserves well below average (**Map 6**), with the exception of some parts of southern Alberta. Notably, more than half of the North East Region is sitting near one in 50-year lows, along with a large area in the North West, and scattered pockets in the Central, Peace and Southern Regions.

Perspective

Winter is all but upon us now and most of the province is still in need of moisture. However it's important to realize that winter only accounts for about 20-30% of the annual moisture supply and the normally dry months (November through to March) are still ahead of us (**Map 7**). Historically, on average in each of these months most lands will receive less than 20 mm of moisture, so overwinter deficits, while they are not comforting to see, are typically not as severe as moisture deficits that are experienced during the peak growing season (May, June and July).

Let 2022 serve as an important reminder of how quickly things can change. By the end of May 2022 there were significant year over year moisture deficits looming (**Map 8**) with most of southern Alberta situated experiencing one in 50-year lows and at least once in 12 to 25 year lows extended across many other areas. Fortunately June was exceptionally wet (**Map 9**) and for large parts of the southern Region this wetter than normal trend continued into July (**Map 10**). This resulted in provincial dryland yield averages that according the October 4, 2022 crop report, beat the historic 5 and 10-year averages.

Map 1



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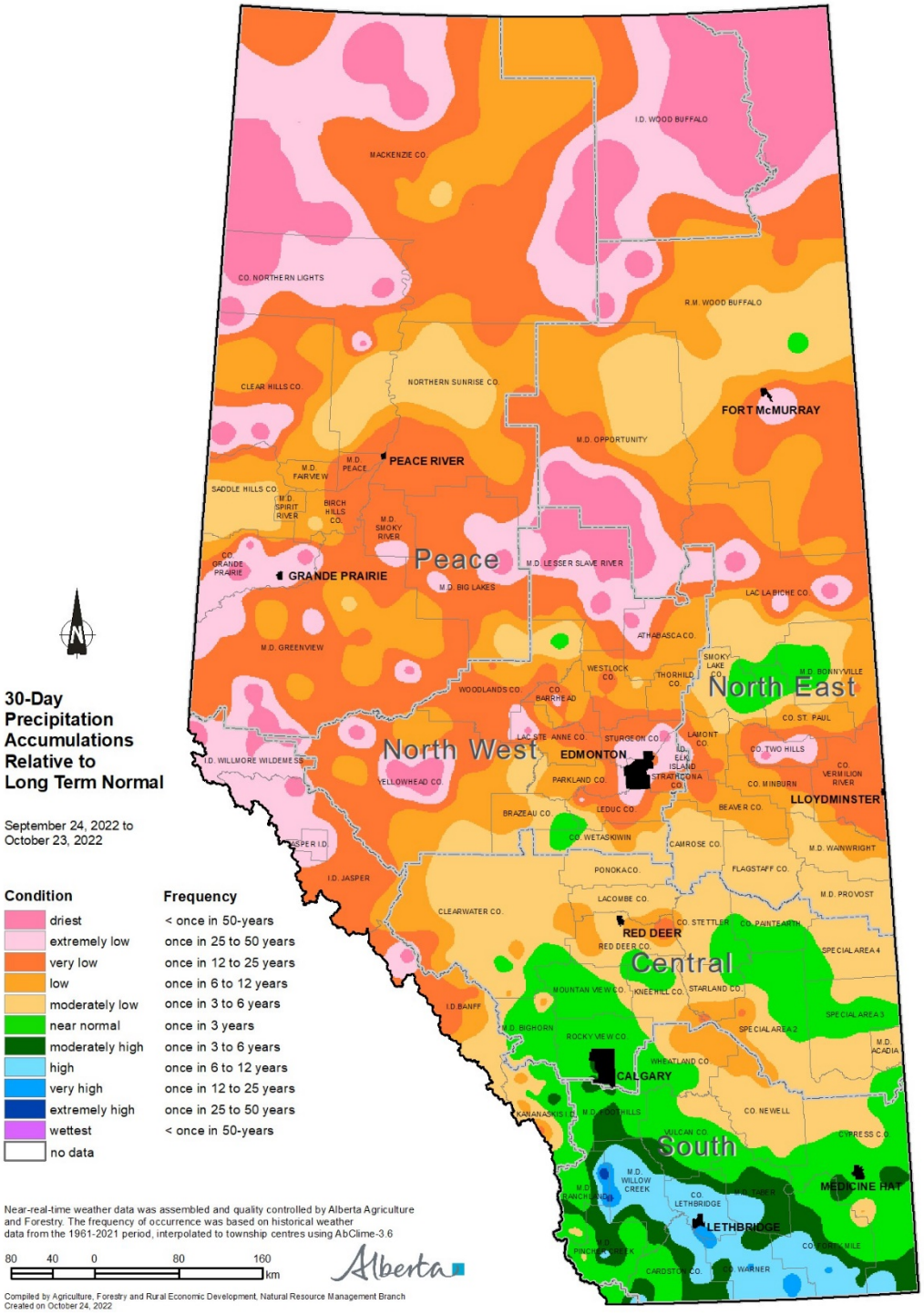
https://open.alberta.ca/publications/moisture-situation-update

Alberta

Map 2



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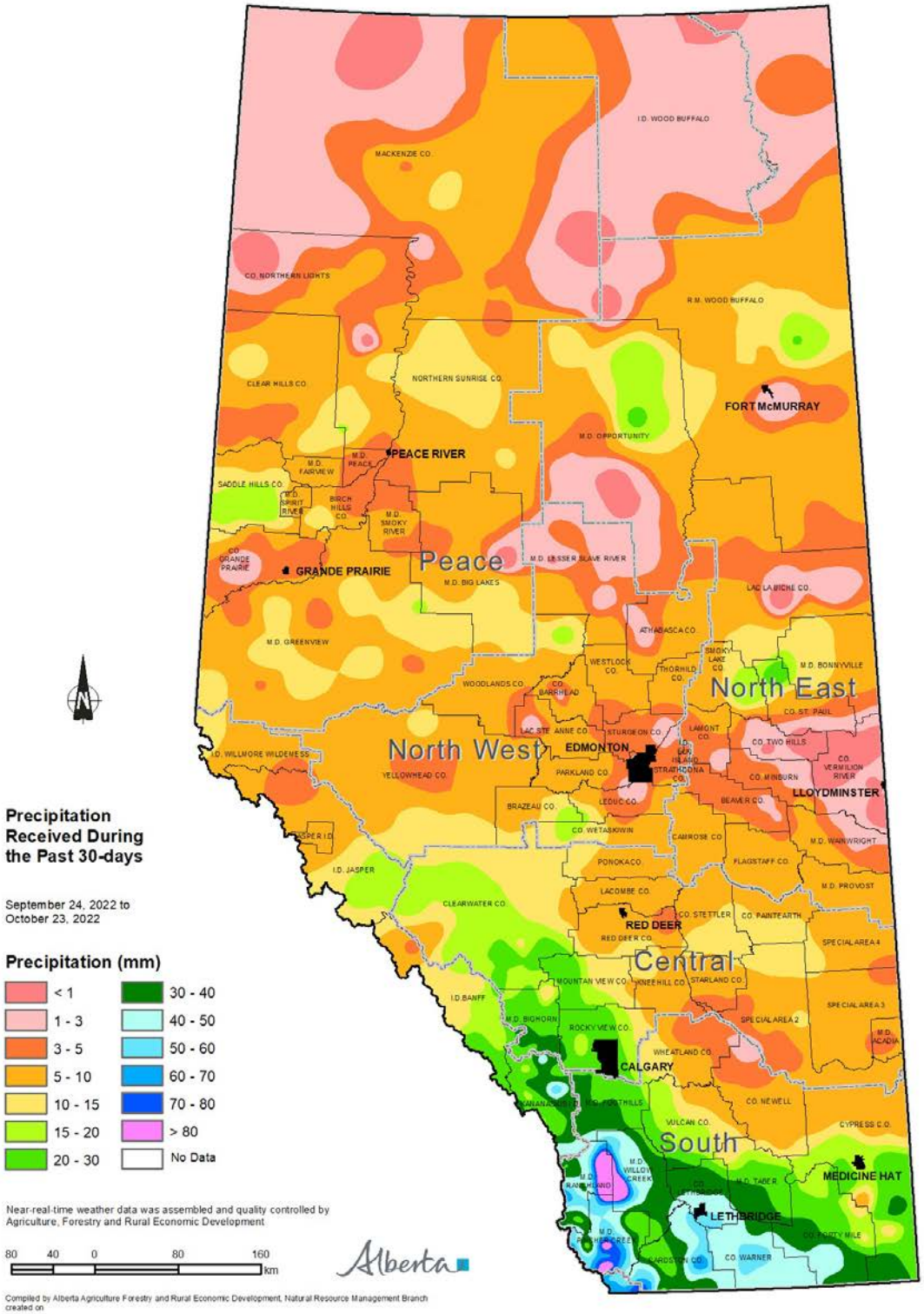
Map 3



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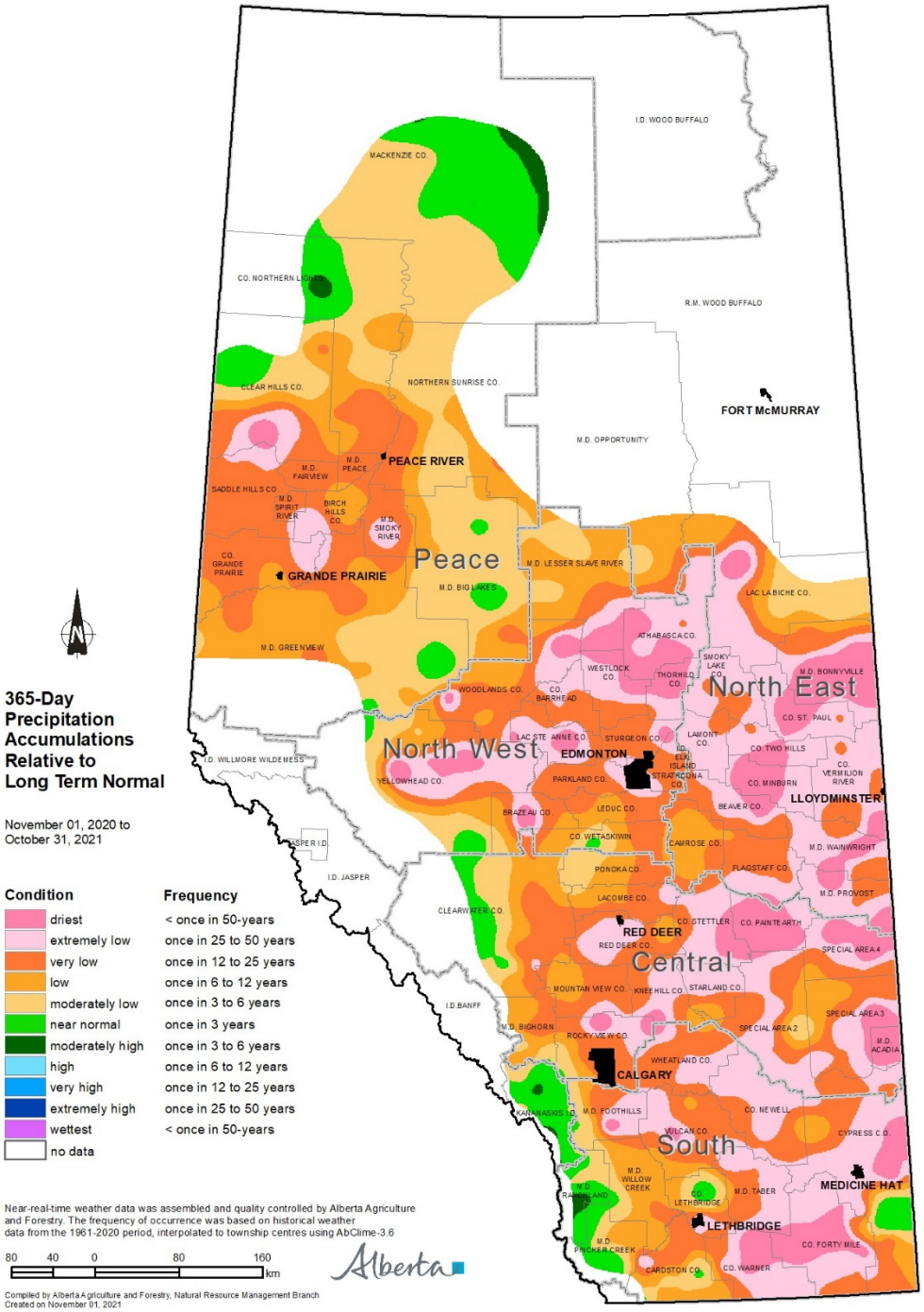
Map 4



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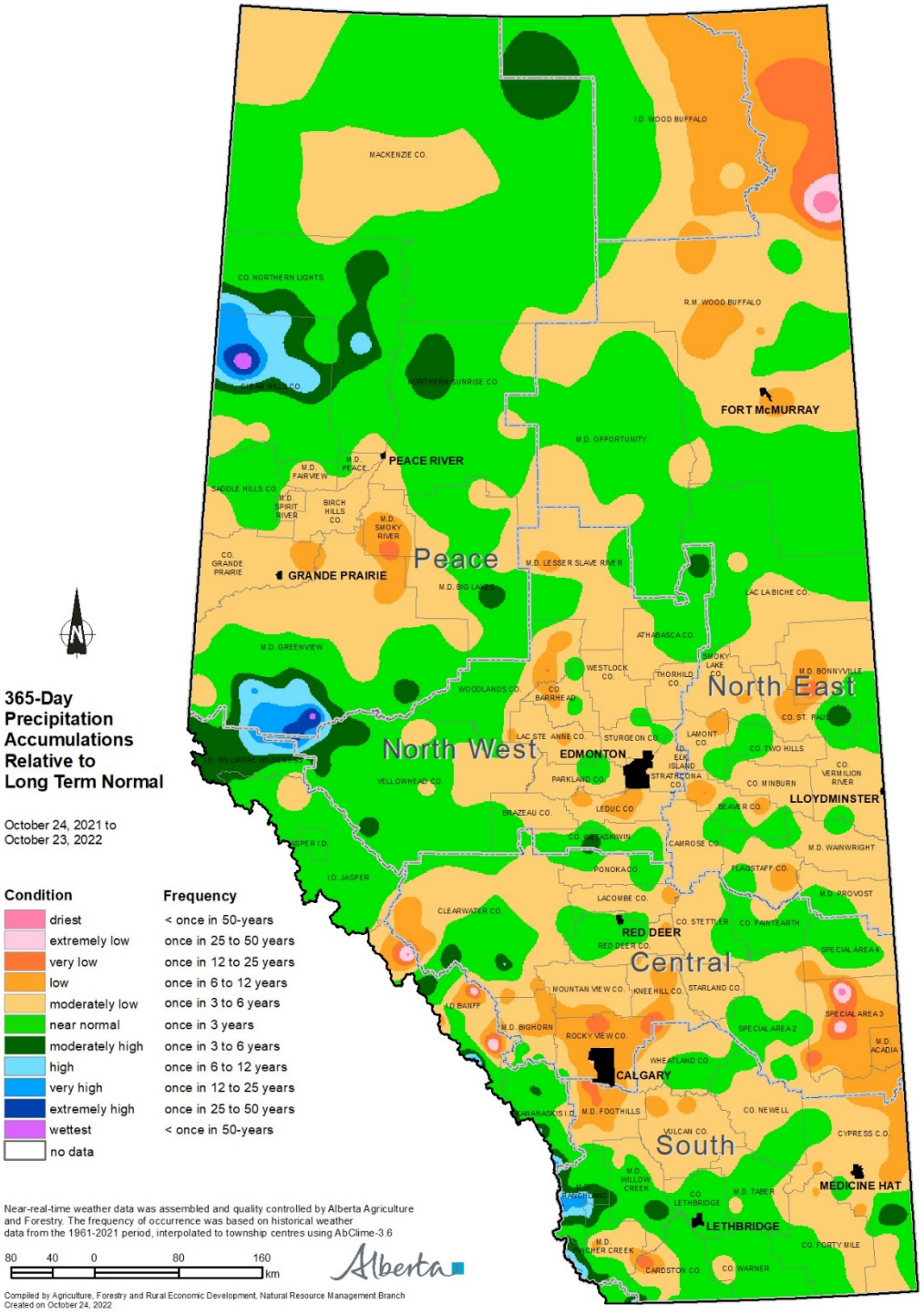
Map 5



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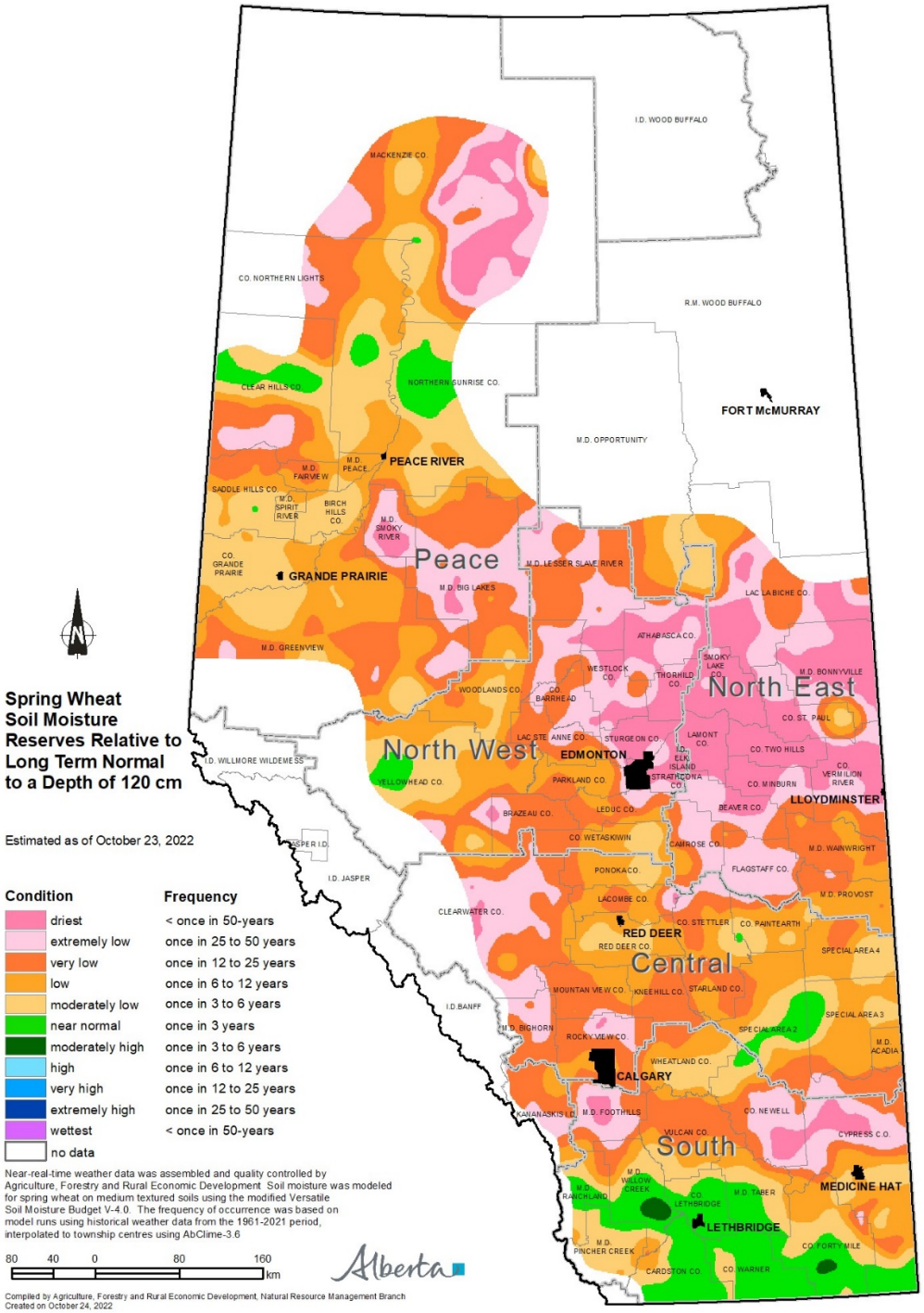
Map 6



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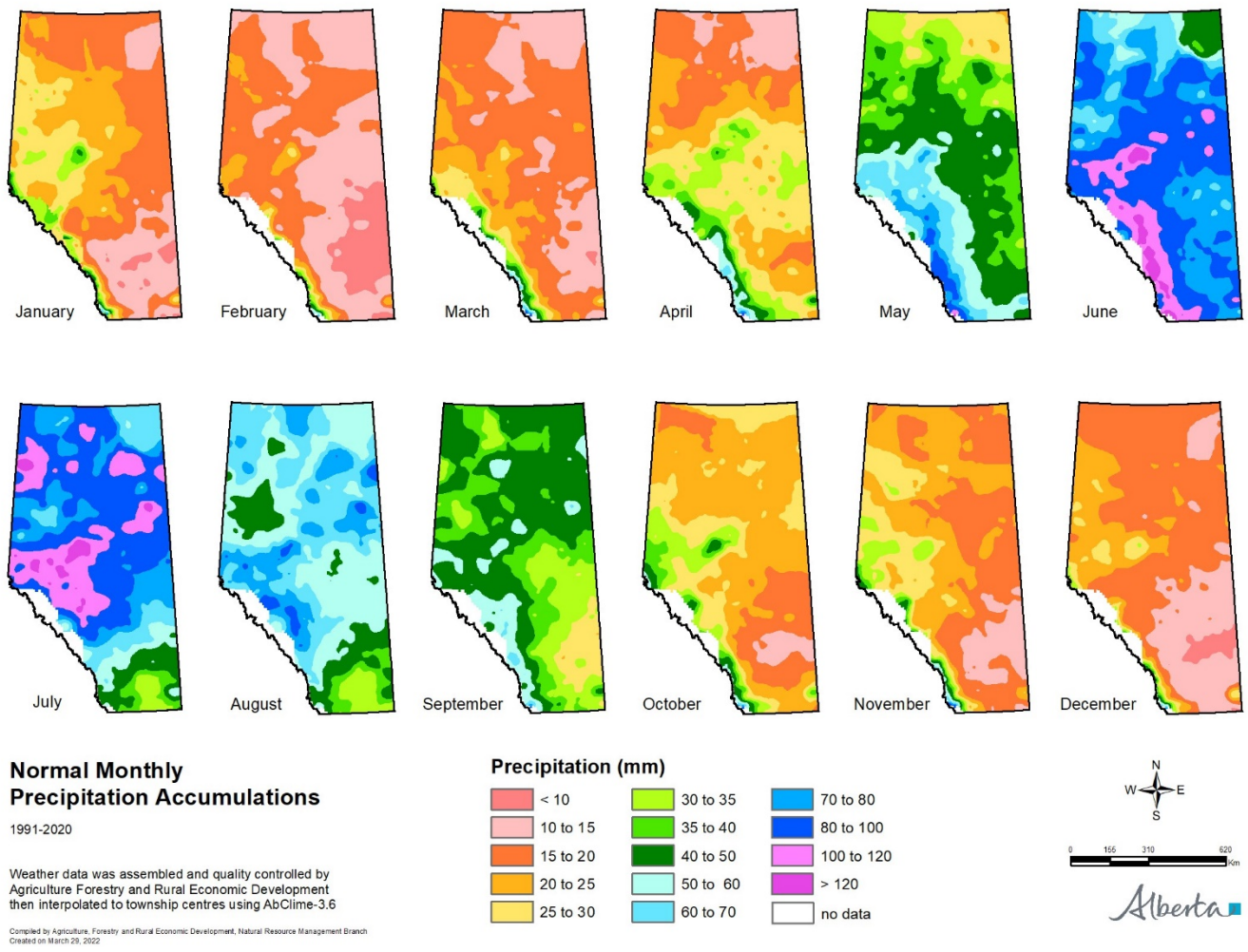
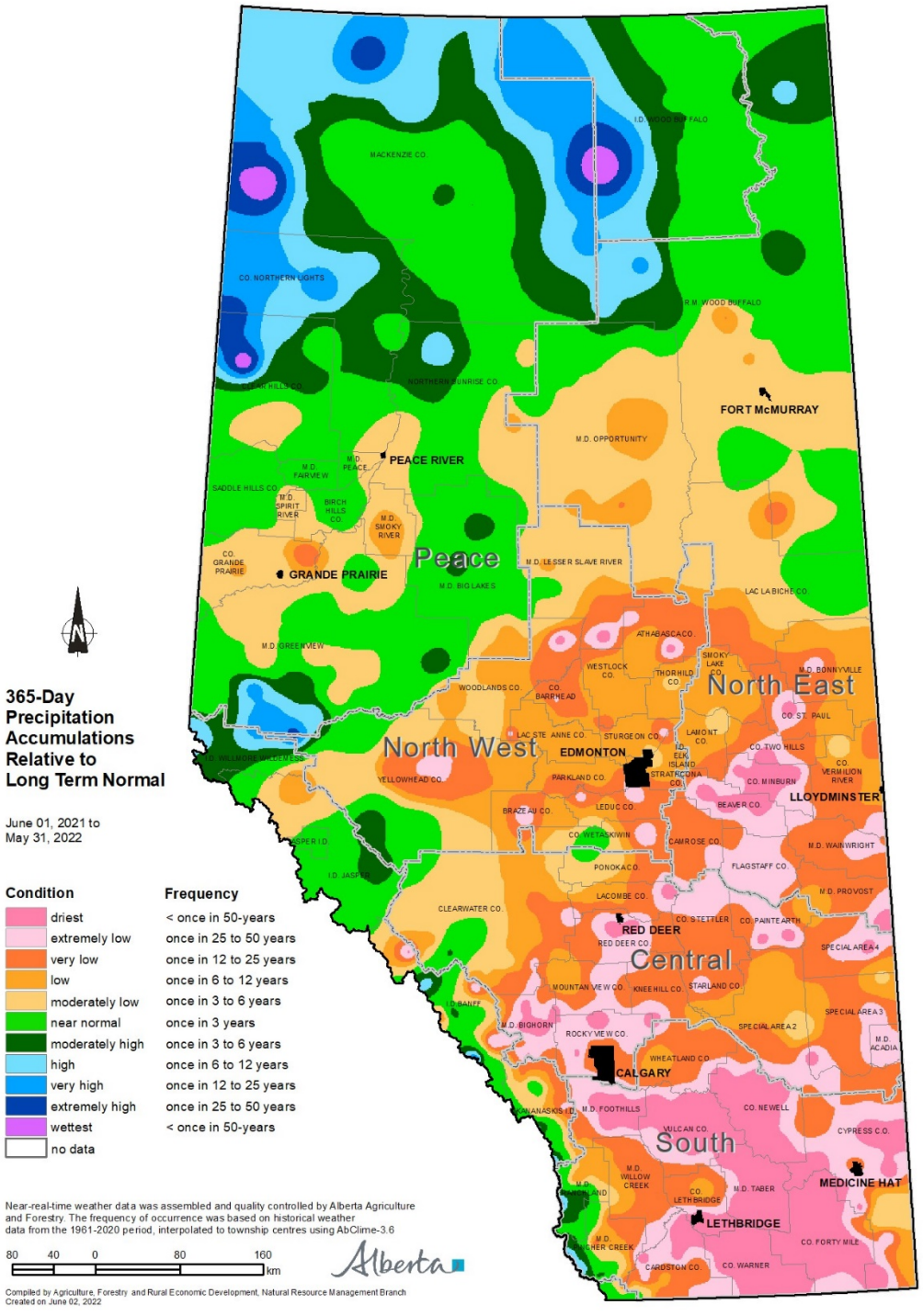
Map 7



Map 8



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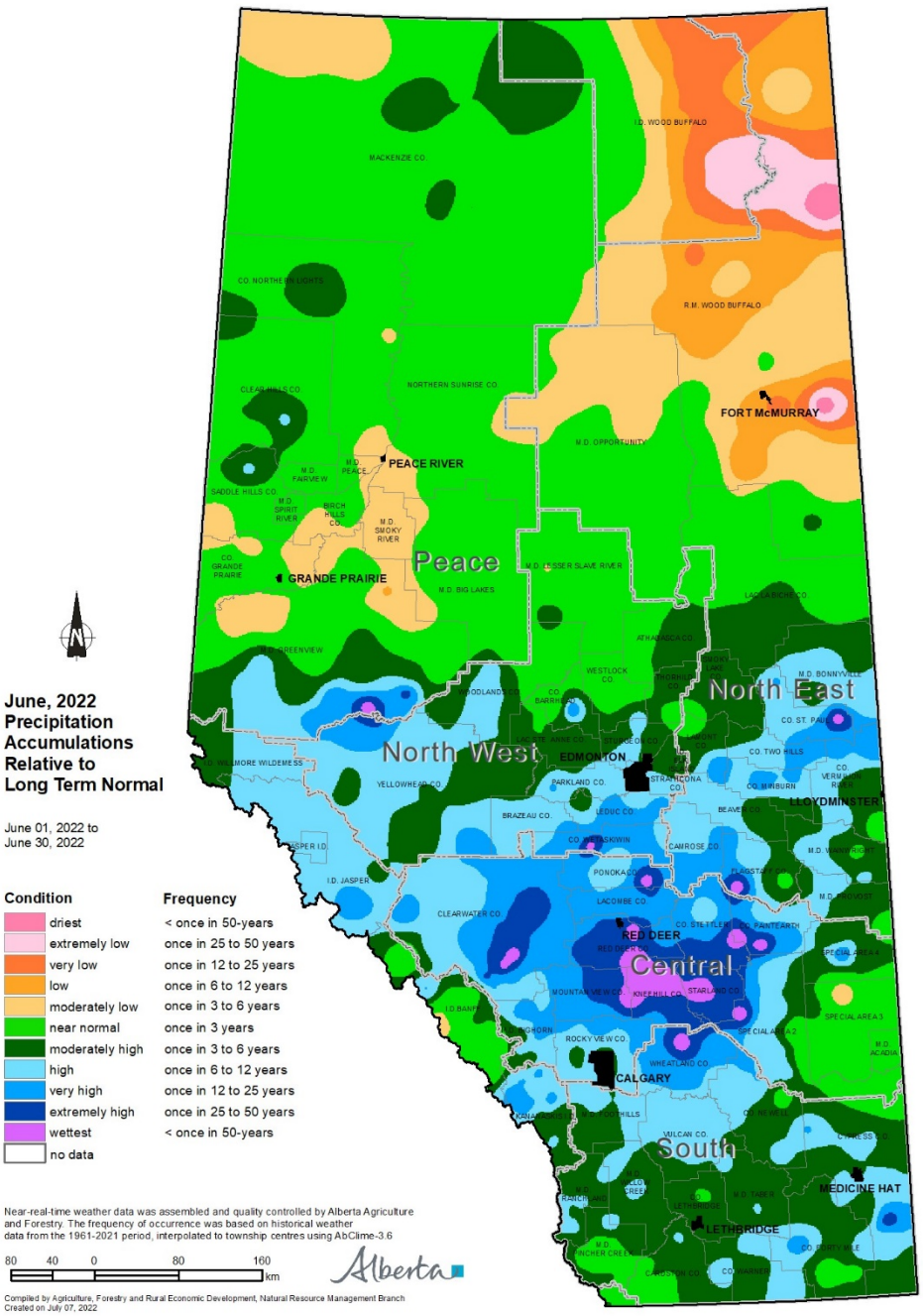
Map 9



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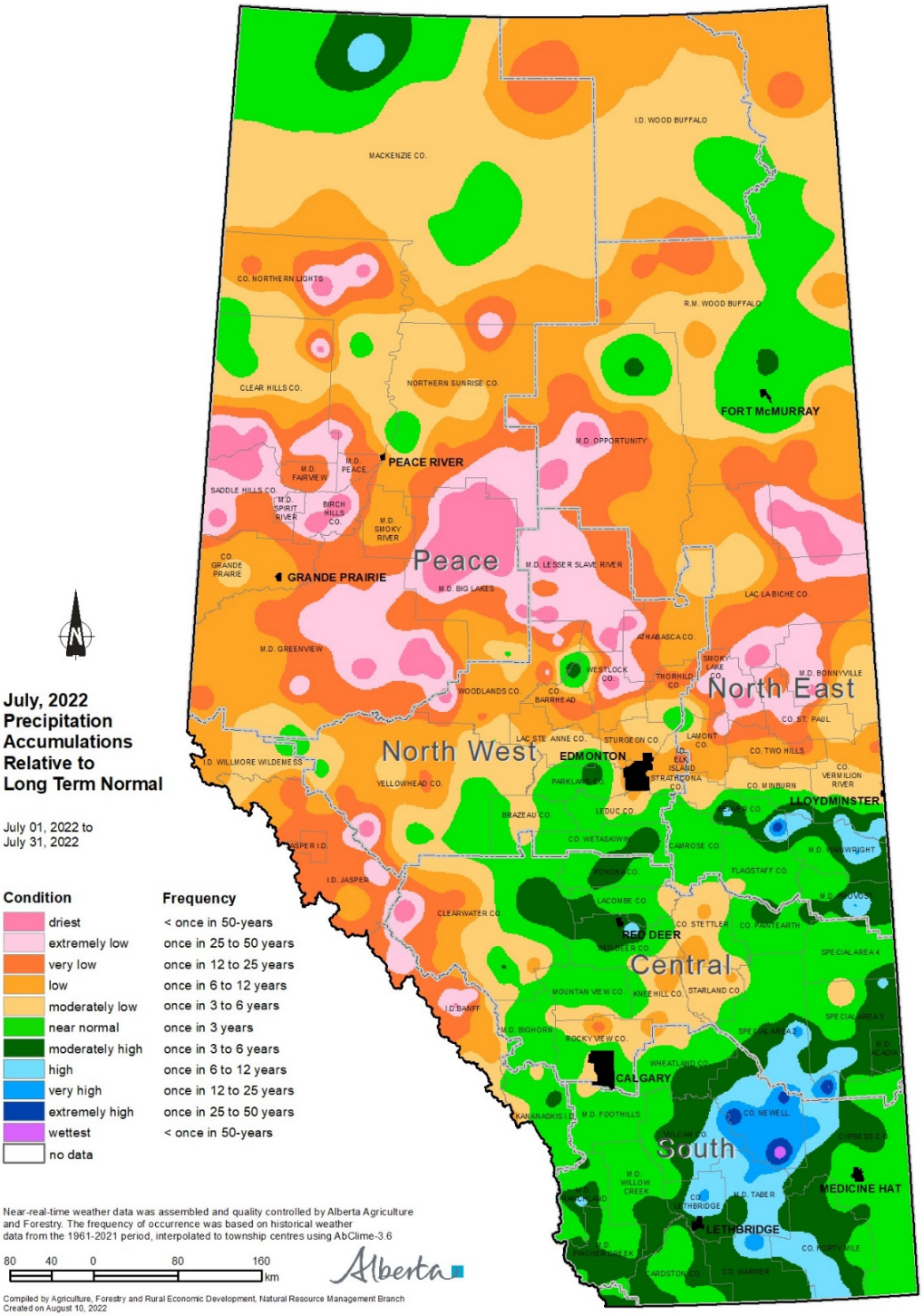
Map 10



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