

Agricultural Moisture Situation Update

May 10, 2023

Synopsis

After a cool March and April, May marked a major shift in the weather with daytime temperatures rapidly rising into the high 20's during the first week of the month. May 3 to 5 marked the hottest days, with nearly a quarter of Alberta's stations reporting temperatures between 30 to 33 Degrees C. This comes on the heels of relatively dry weather which has been persistent since at least early August of last year. Over the past few days, a cooling trend developed, bringing welcome, albeit modest rains to many areas. Looking ahead another wave of heat is expected over the weekend and into at least the early part of next week.

Over the past 8-days, many lands have received at least 10 mm of rain (**Map 1**), helping to temporarily supply much needed rain to a landscape struggling under the influence of a long dry spell. However as seen on the map much of this has been "hit and miss". Over the past three days, thunderstorm activity has been extremely spotty with some areas receiving brief down pours and others nearby missing out entirely. Some notably larger areas have seen very little rain in recent days, particularly through the western Peace Region as well as parts of the North East Region.

With another round of warm weather looming this weekend and persisting into next week, rain will be needed soon. Hopefully the May long weekend proves to be a wet one, like it has many times before.

Dry conditions beginning August 2022

In the 283 days since July 31, 2022, much of the province between the TransCanada Highway in the south, extending north beyond the Yellowhead highway, has experienced a period this dry on average less than once in 25-years (**Map 2**), with large areas within these boundaries estimated to be near one in 50-year lows. Since this time, eastern portions of the Central Region and some lands in the North East have received less than 100 mm of precipitation (**Map 3**). Some widely scattered pockets in the Central Region have received less than 80 mm. For many, this represents a short fall of approximately 100 mm of moisture over this same time frame.

Soil moisture reserves as of May 8, 2023

As of May 10th, soil moisture reserves are well below average across most of the provinces growing areas with significantly large areas in the Peace, Northwest, North East and Central Regions estimated to have reserves this low on average less than once in 50-years (**Map 4**). However, a late and gradual snow melt, cool April temperatures and recent rains appear to have supplied enough near surface moisture to allow spring green-up to progress, relatively unimpeded by low soil moisture reserves.

Currently, soil moisture deficits across the east-half of the province range between 25 to 50 mm and across parts of the west-half of the province between 50 to 75 mm (**Map 5**). This means that these areas will need a spell of wet weather, delivering upwards of 50 to 75 mm to bring reserves up to near normal levels for this time of year.

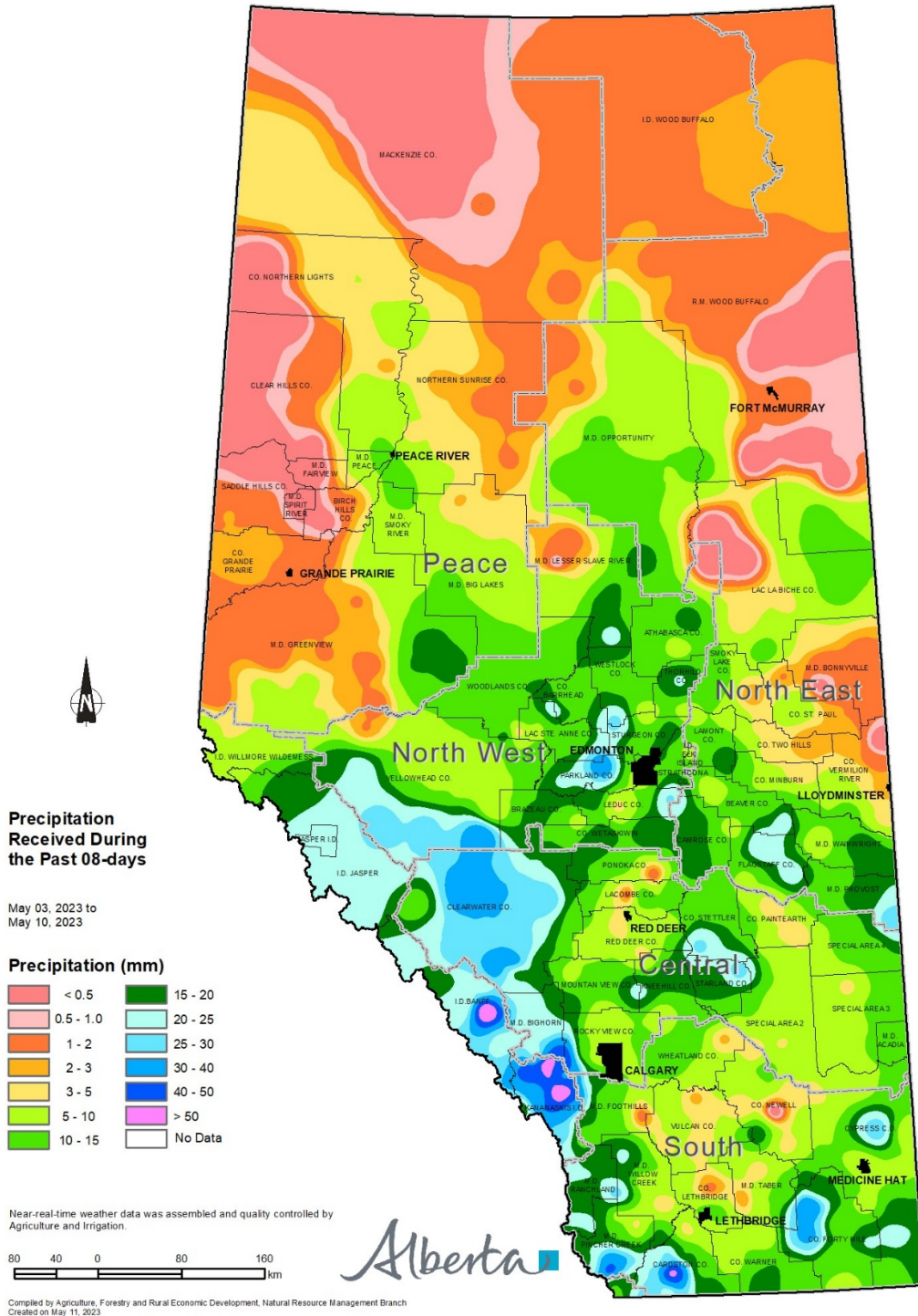
Historically, soil moisture reserves start building in the fall and as the snow melts, then continue to build well into June. Stored soil moisture is an important source of water for plants and acts as a buffer against spells of hot and/or dry weather. This is especially true when plants are well established and in critical growth stages. As such there is still time to receive moisture. As it stands now, crops will be more reliant on regularly well timed at least near normal precipitation accumulations in the days and weeks ahead.

Perspective

A good soaking rain is needed soon to bring soil moisture reserves up to near normal levels. Failing that, well timed regular, and at least near normal rainfall, will be needed to supply day to day plant moisture demands, particularly once seedlings become established and crop biomass starts building. On average, mid-May marks the start of Alberta's wet season which persists into early August for most lands across the province, lying north of Calgary, and the very early part of July for areas of the province lying south of the TransCanada highway (**Map 6**). Thus, there is still time to receive adequate moisture for crop growth.

Alberta's meteorological record is replete with dramatic shifts from wet to dry and from dry to wet and predicting when these shifts will occur is extremely difficult. Currently, the Meteorological Service of Canada's long range [forecasts](#) are predicting a strong probability of above normal temperatures for the May-June and July period, with near equal chances of receiving above, near or below normal rainfall.

Map 1



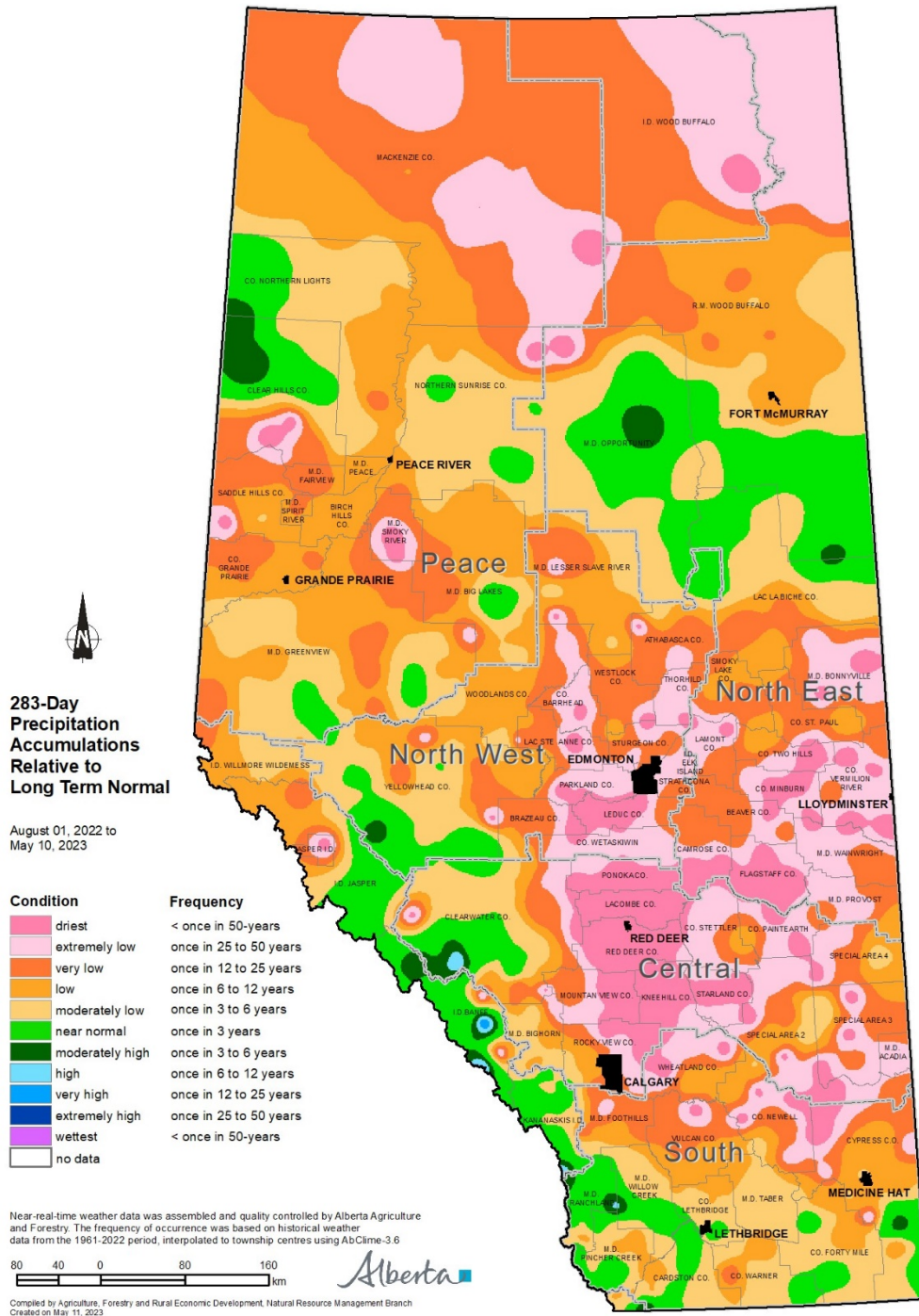
Visit weatherdata.ca for additional maps and meteorological data

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

©2023 Government of Alberta | May 11, 2023 | Agriculture and Irrigation

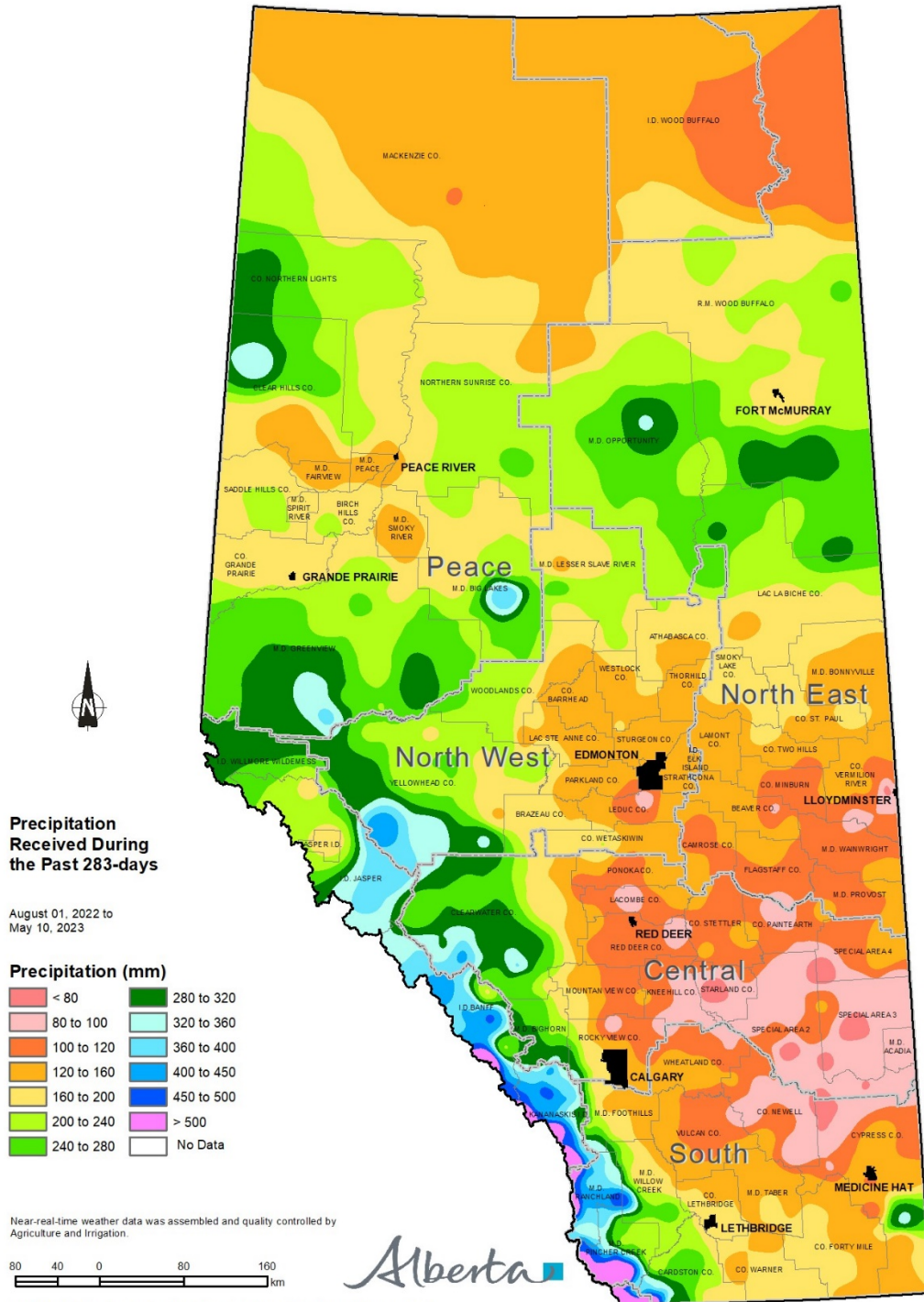


Map 2



Visit weatherdata.ca for additional maps and meteorological data

Map 3



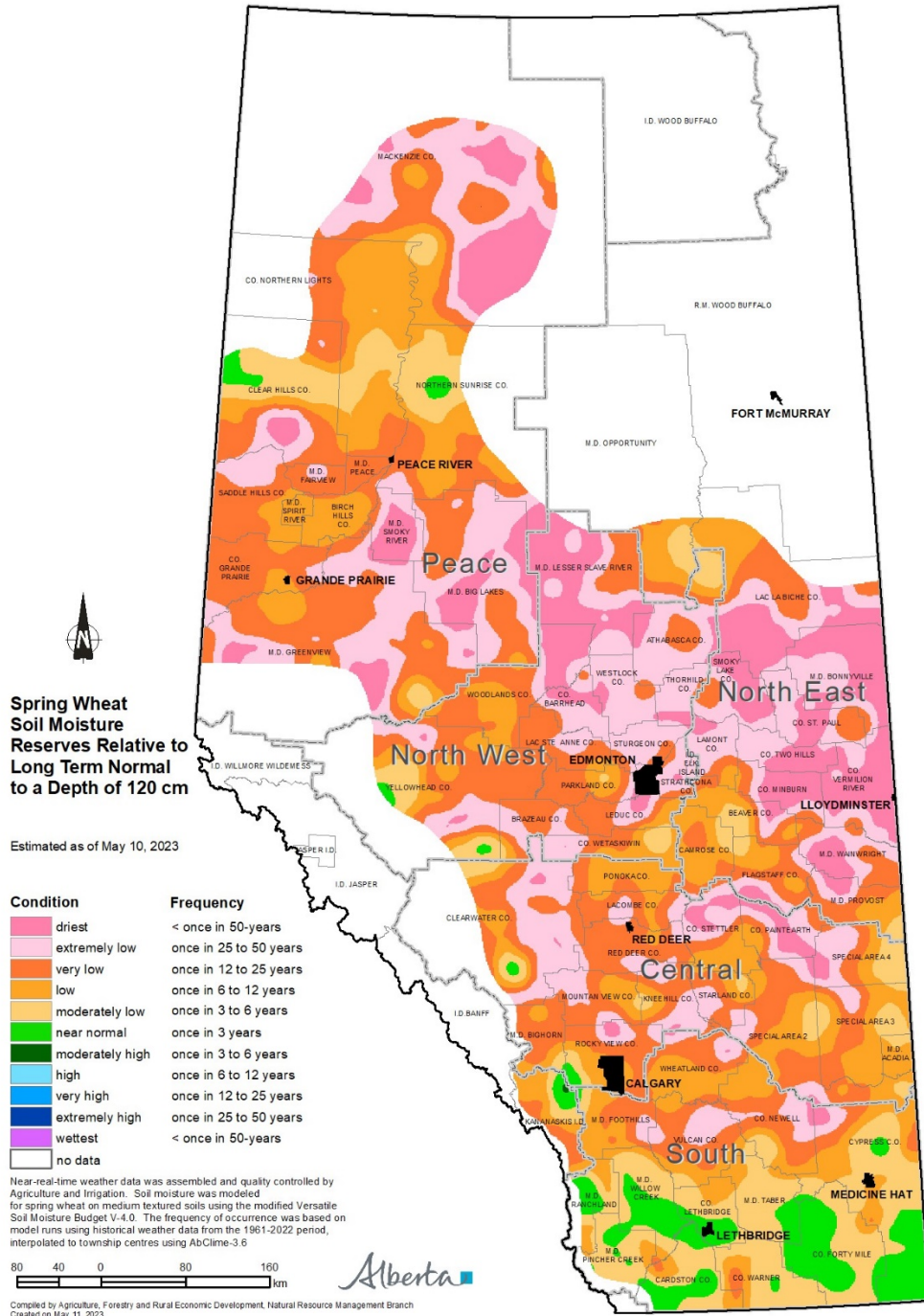
Visit weatherdata.ca for additional maps and meteorological data

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

©2023 Government of Alberta | May 11, 2023 | Agriculture and Irrigation

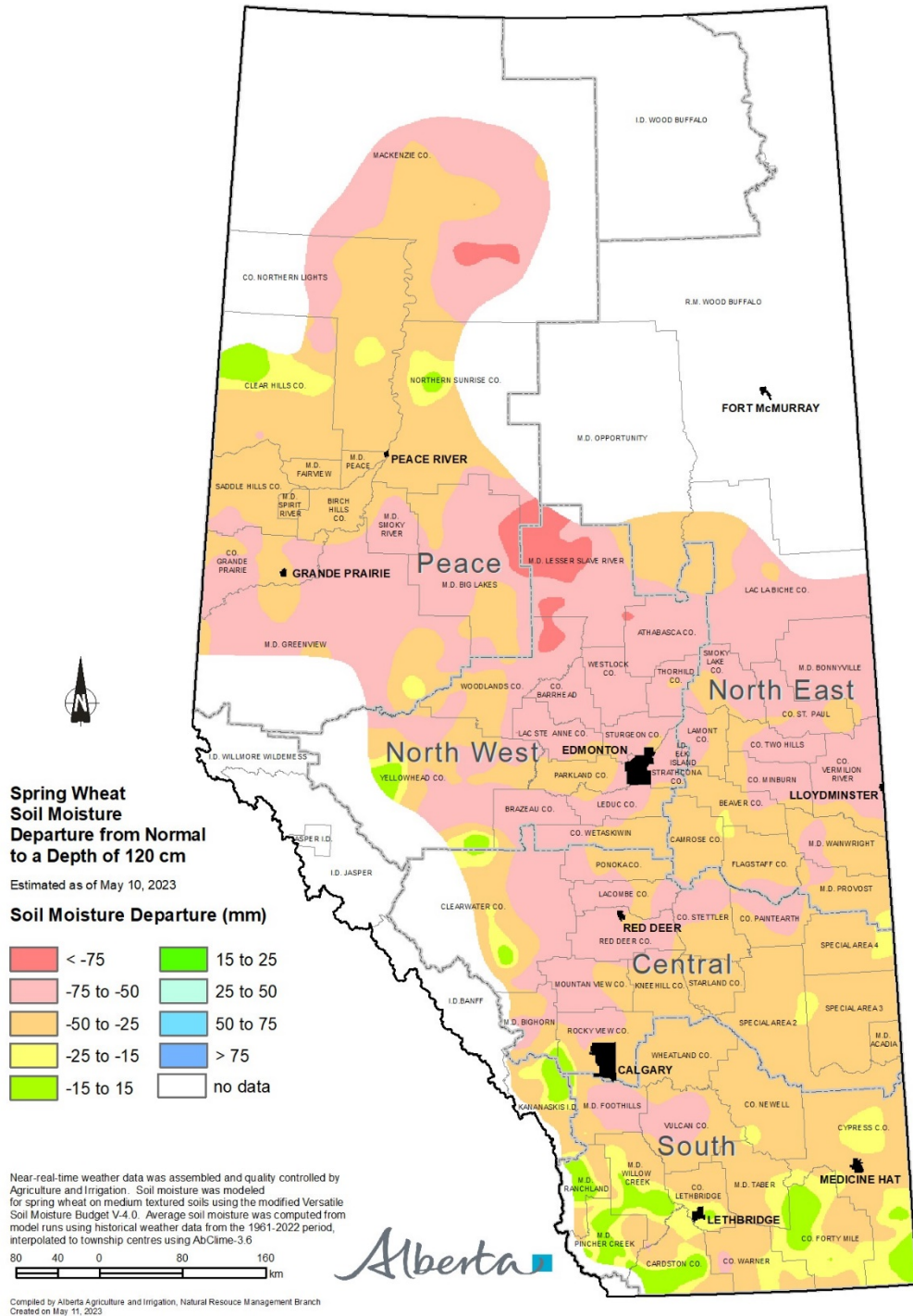


Map 4

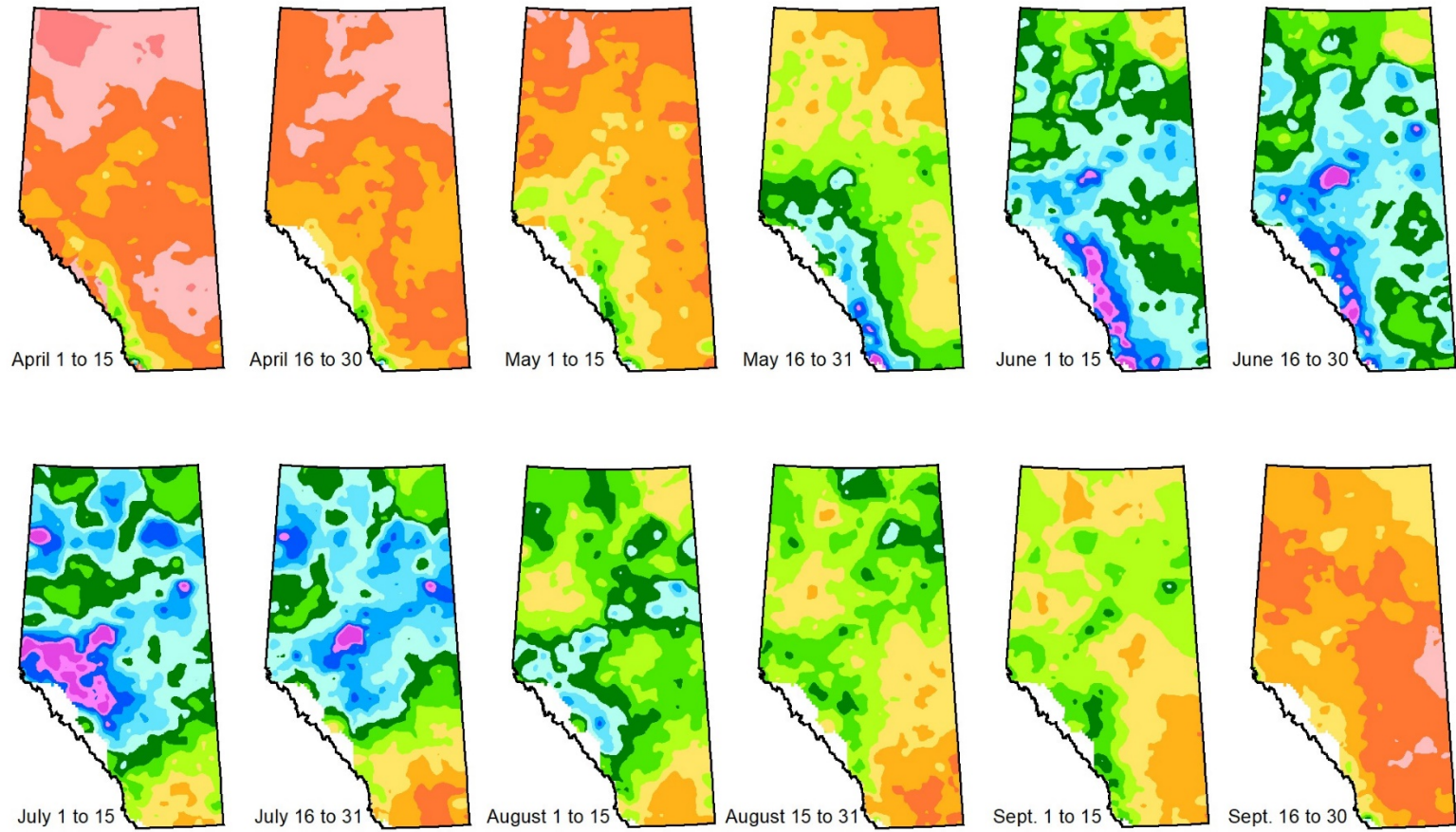


Visit weatherdata.ca for additional maps and meteorological data

Map 5



Map 6



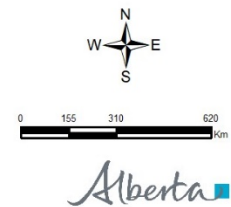
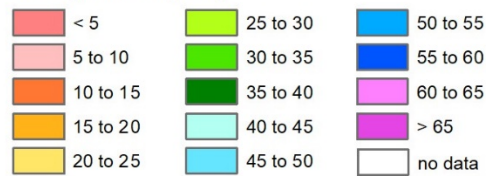
Normal Semi-Monthly Growing Season Precipitation Accumulations

1991-2020

Weather data was assembled and quality controlled by Agriculture Forestry and Rural Economic Development then interpolated to township centres using AbClime-3.6

Compiled by Agriculture, Forestry and Rural Economic Development, Natural Resource Management Branch
Created on March 29, 2022

Precipitation (mm)



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

©2023 Government of Alberta | May 11, 2023 | Agriculture and Irrigation