

Moisture Situation Update – February 22, 2019

Synopsis

Since the beginning of February, this winter has been exceptionally cold across the province. During the first week of February, most of the north-half of the province experienced temperatures dipping well below -40°C (**see map 1**). Since that time temperatures have moderated slightly, but remained cold, with many locations experiencing many hours at or below -30°C over the first three weeks of February (**see map 2**).

Over the past week or so, the arctic air mass that has been responsible for well below normal temperatures across most of the Prairies has modified slightly with temperatures moderating somewhat. Unfortunately, it may take at least until the end of the first week in March before we see a return to normal conditions, and this prediction is not certain (see the Special Weather Notification below).

Historically, normal daytime highs for March 1st, range from 2°C across the south, -3 to -4°C through the central areas, and drop down to -6 to -7°C up around Fort Vermillion.

The good news is that on average, we see a marked shift in the daily maximum temperatures across the province on or about March 8th (**see graph 1 - p.7**). Then through mid March, average daily highs remain near 4 to 7°C across the south, 0°C through central regions and -2 to -3°C across the extreme north. This lasts till roughly about the 25th of March, where we see another major shift in the normals, and from that point we see a steady uptrend through April with most areas experiencing average daily highs in the 13 to 14°C range by April 30th.

Snow pack accumulations as of February 19th have been at least near normal for agricultural lands north of the Yellowhead Highway, with the exception of the central Peace Region where they are below normal with some lands north of Manning estimated to have snow packs this low on average less than once in 12-years (**see map 3**). Through Central parts of the province snow packs are generally below normal, and then across the south are again near “normal”. However, reporting on southern snow packs can be difficult as they are typically ephemeral and it’s not uncommon to see bare ground at this time of year.

Since the beginning of winter (November 1, 2018) most areas have seen near normal moisture accumulations, with the exceptions of the central Peace Region and some areas across the south half of the province (**see map 4**). Notably, a large stretch of foothills lying west of Calgary, stretching down as far south as the Crowsnest Pass has experienced well below normal over winter moisture accumulations.

Significant Weather Notification for a prolonged Extreme Cold event in Alberta beginning Sunday February 24, 2019 (Issued: February 22, 2019)

Highlights:

- Extreme wind chill values near -40 expected Sunday morning for Northern Alberta
- Extreme wind chill values near -40 expected Monday morning for most parts of Alberta
- Temperatures will moderate the afternoon of Tuesday, February 26, but by the morning of Saturday, March 2, wind chill values near -40 return to much of the province
- Exact end time of event could last through the first week of March

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Impacts:

- Extreme wind chill can cause frostbite to develop on exposed skin within minutes
- Increased risk of hypothermia

Weather Event Details:

An Arctic ridge is forecast to build south and entrench itself over the Prairies bringing widespread cold temperatures. Wind chill values are forecast to be in the -40 range beginning the morning of Sunday, February 24th for northern sections of the province and Monday, February 25th morning for most parts of Alberta. Temperatures are expected to moderate slightly Tuesday, February 26th but the very cold air will return by Saturday, March 2nd. The second bout of cold weather will bring well below seasonal temperatures to most of the province, however the pocket of -40 wind chills will remain over northern and eastern sections of the province. The exact end time of this prolonged event is uncertain at this point, however some long range weather models are indicating it could last through the first week of March.

Certainty:

HIGH – for wind chill values near -40

LOW – for timing of this event, current models indicate a brief moderation in temperatures Tuesday, February 26 to Saturday March 2. As well for the event end time, at this time it appears temperatures moderate approximately a week later

Next Update:

An update to this notification may be issued if needed.

Please monitor current weather forecasts, warnings and special weather statements:

http://weather.gc.ca/canada_e.html

http://weather.gc.ca/warnings/index_e.html

<https://www.alberta.ca/working-extreme-temperatures.aspx>

Near-real-time hourly station data can be viewed/downloaded at

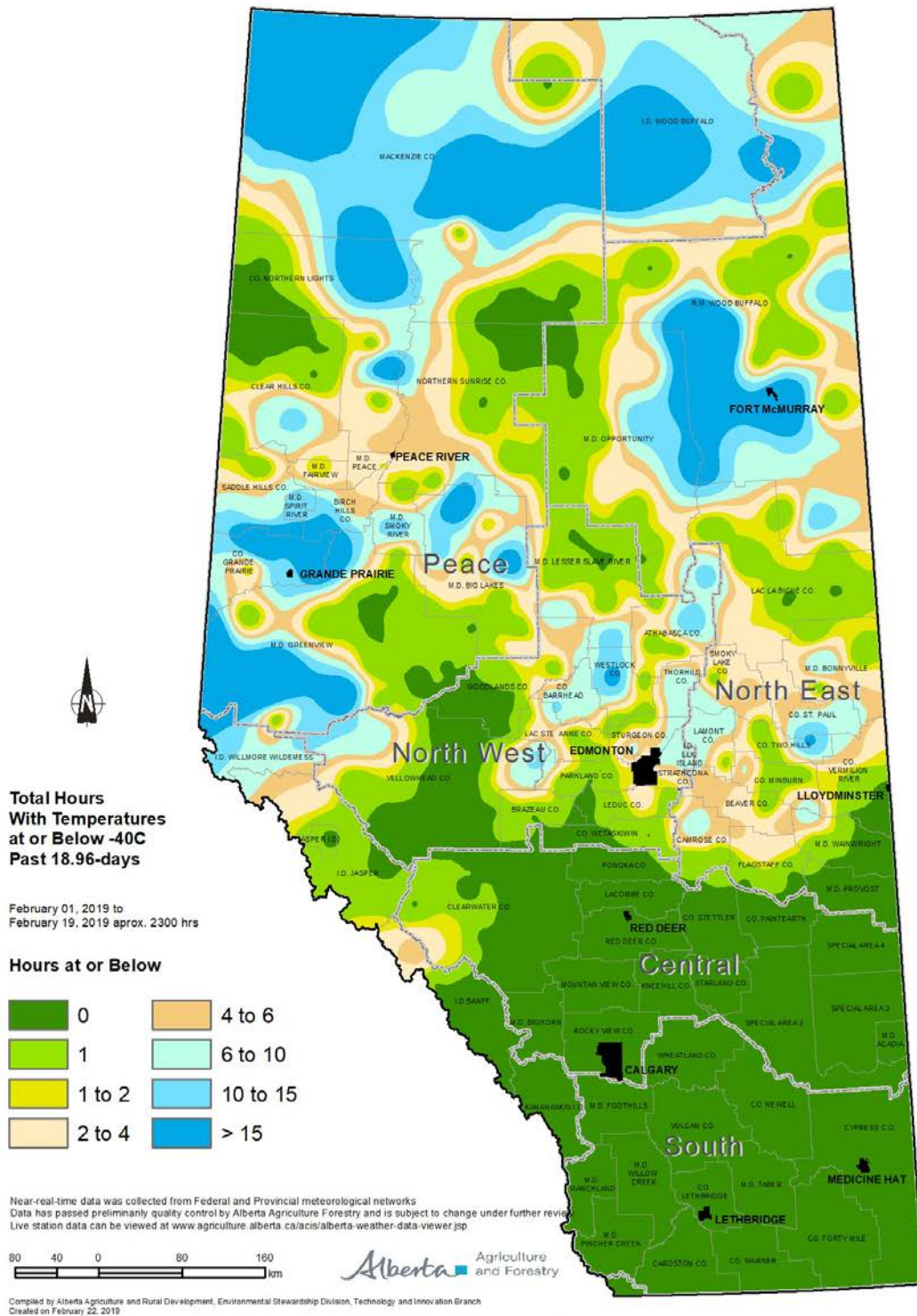
www.agriculture.alberta.ca/stations

Note: Data has about a two-hour lag and is displayed in MST.

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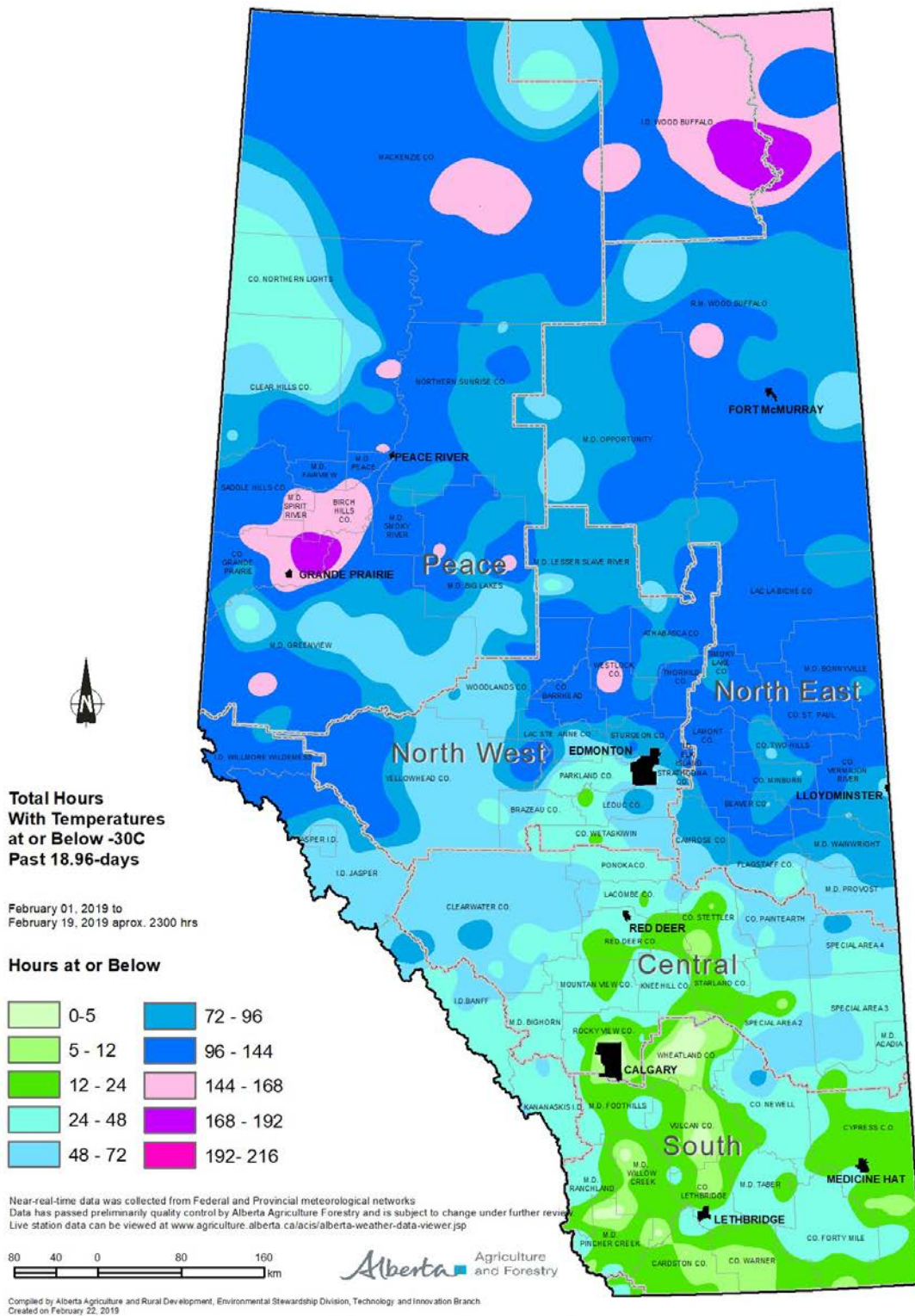
Map 1



Visit weatherdata.ca for additional maps and meteorological data

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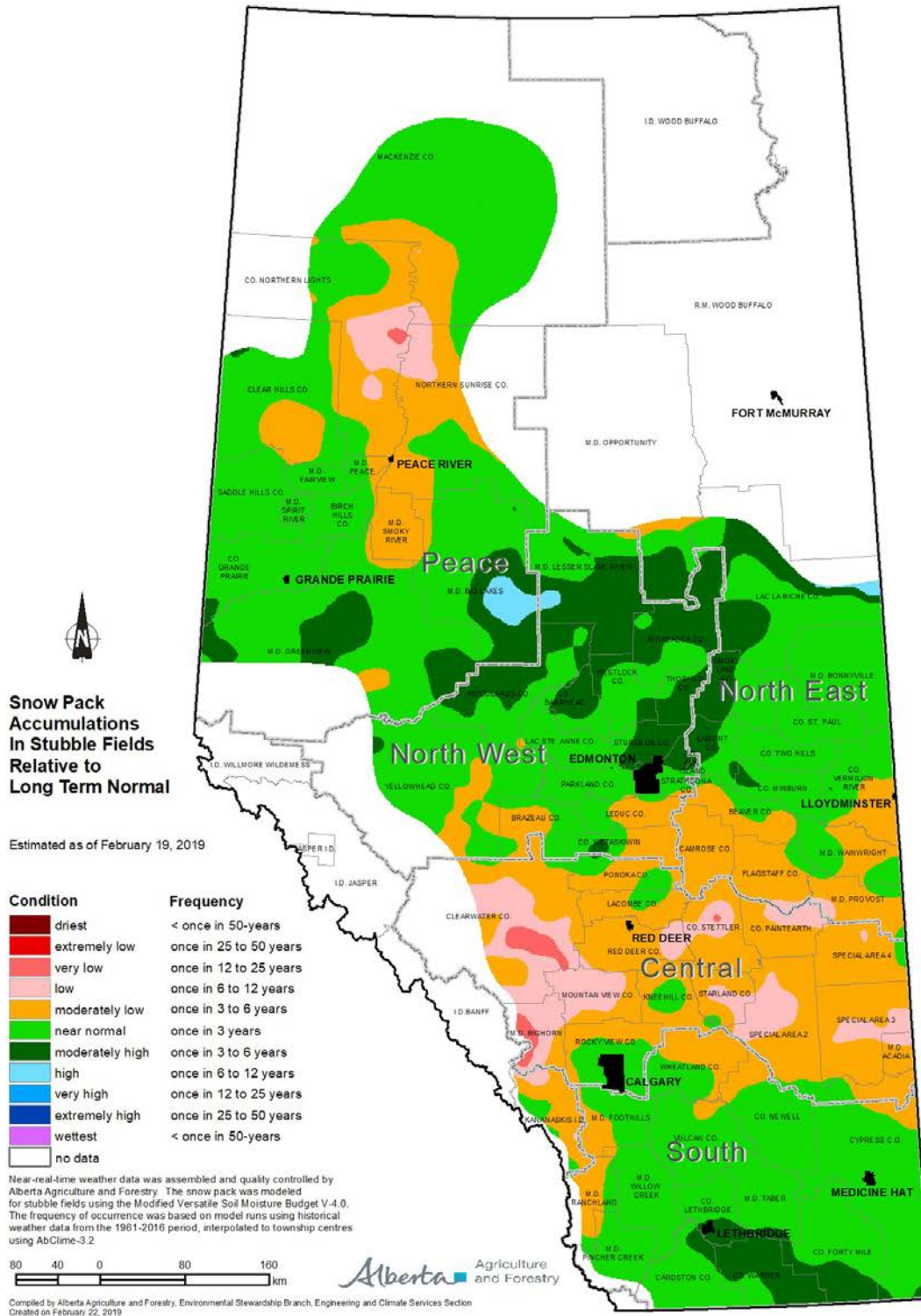
Map 2



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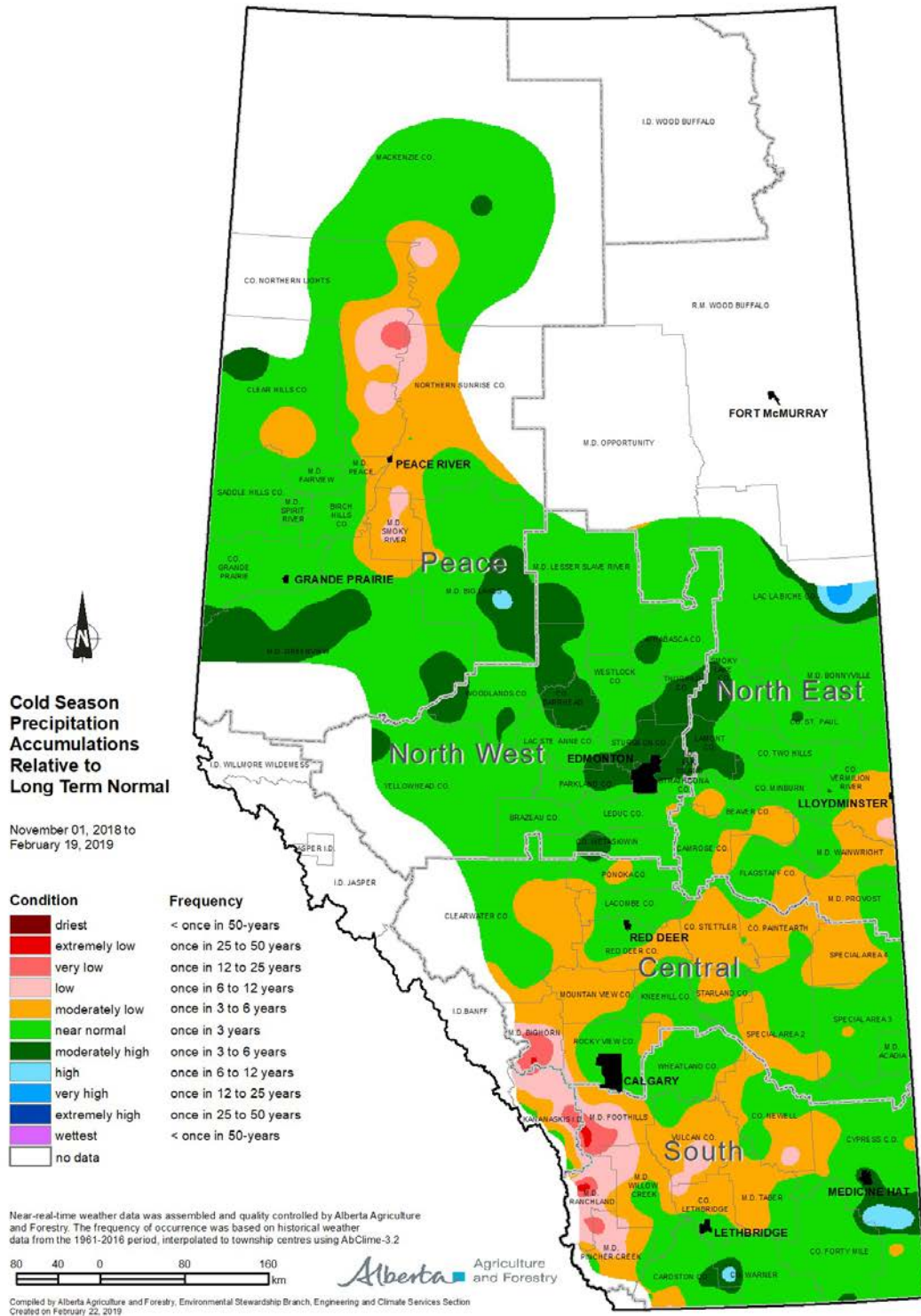
Map 3



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Map 4



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Graph 1

