

Agricultural Moisture Situation Update

December 21, 2022

Synopsis

The days are getting longer now! December 21st, marked the winter solstice which occurred at approximately 3:00pm in central Alberta. However, due to the drift in 'solar noon', relative to the consistent noon that our clocks read, the balance of the lengthening days over the next two weeks are only measurable by our watches in the evening. In fact, the mornings continue to remain as dark (by our watches) until about the middle of the first week in January when we finally see the sun rise a bit earlier each day. By January 15th we will be gaining almost 4 minutes of light each day and this grows to about 6 minutes per day by January 31st.

The recent cold snap has been severe and wide spread with nearly a quarter of the Province's stations reporting temperatures below -40 Deg. C (**Map 1**) at one time or another between December 19th and the morning of December 22. This will likely be another blow to Alberta's [waning mountain pine beetle populations](#). Temperatures below -40 Deg. C were recorded throughout the province, down as far south as Manyberries, with the coldest air entrenched deeply throughout the north-half of the province and the coldest temperature (unverified) of -48.8 Deg. C measured at the Kakwa Auto station, just north of Grande Cache. This is still a long way from the all-time record of -61.1C measured at Fort Vermillion on January 11, 1911.

Thankfully, a dramatic warm up is on the way with the Christmas weekend forecast to mark the rebound. As the weather turns warmer, further snow is expected throughout much of the province, along with high winds and the potential for freezing rain throughout many locals south of Red Deer, down as far as the US border. Please exercise extreme caution if you need to drive during this time.

Snow pack accumulations

Snow Pack accumulations through the agricultural lands are currently estimated to be at least normal throughout most of the province (**Map 2**), with the exception of the Peace Region which is trending between one in 3 to 6 year lows to one in 12 to 25 year lows.

Snow pack water equivalents (**Map 3**) range from less than 10 mm south of Calgary, to well over 40 mm throughout the dry areas of the North East and up to 70 mm in and around Pigeon Lake. If you're looking for winter snowpacks to

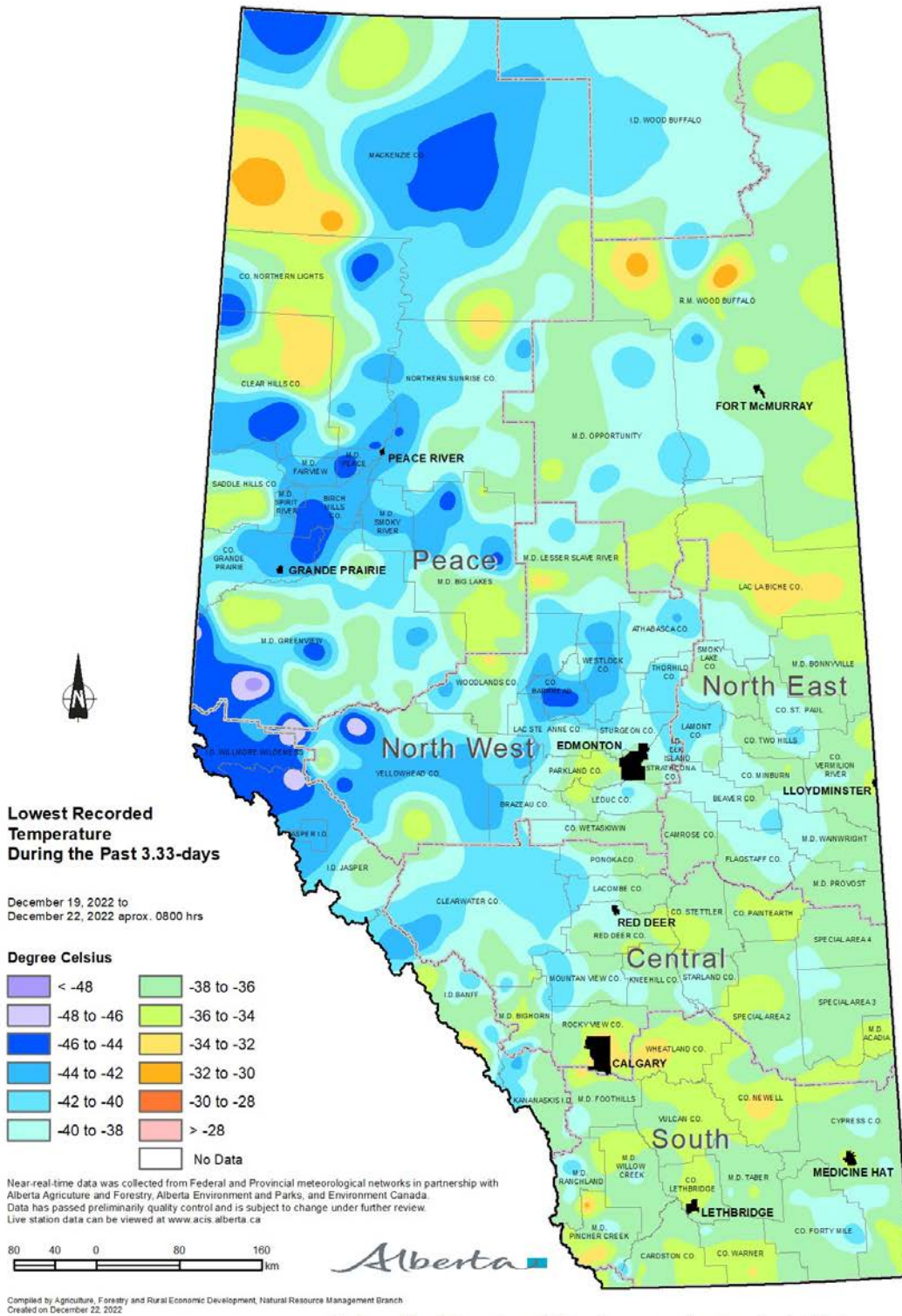
support your winter activities, set your sights for these areas, but please watch the local forecasts **as driving conditions will be treacherous over the Christmas weekend.**

Perspective

There is still plenty of winter left and, with respect to next year's cropping cycle, it's far too early to be concerned about the lack of snowpacks through the Peace Region,. For example, where snowpacks are sitting at one in 12 to 25 year lows near the town of Peace River, the long term average (1961-2021) November 1 to December 21st precipitation accumulations are about 35 mm, which compares to approximately 15 mm received over this same period, this year. In comparison, on average these lands will receive 85 mm over the November 1 to March 31 period.

Healthy snow packs serve to recharge surface water supplies during the spring melt period and help, somewhat, to boost surface soil moisture supplies which help give perennial crops a boost in the early part of the growing season. However, as always, annually planted crops will be most reliant on June and July rains. In many areas, 2022 which followed the drought of 2021, serves as a perfect example of how resilient crops are to dry spring weather and low spring soil moisture reserves, provided that well timed rains occur during these two critical months.

Map 1



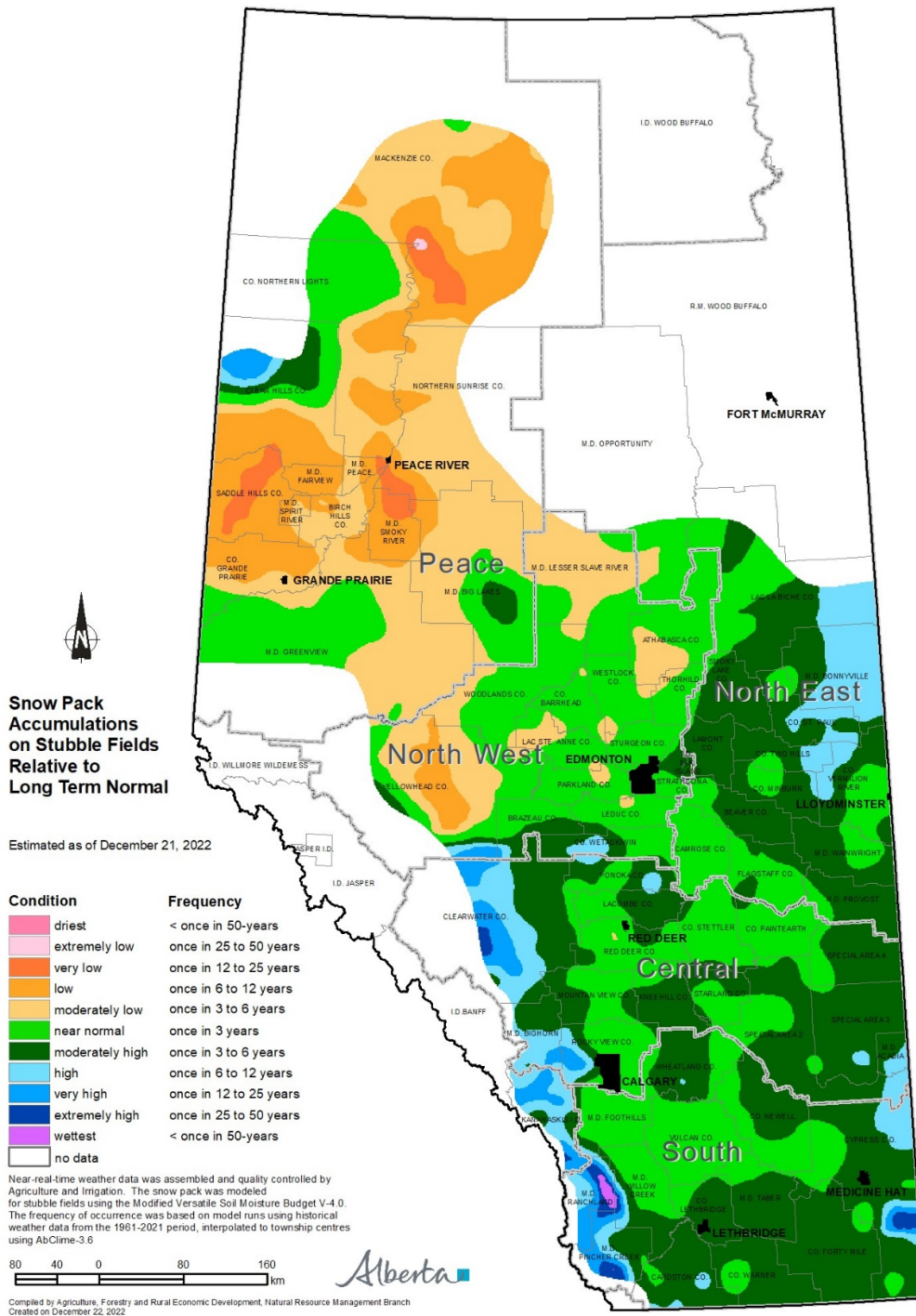
Visit weatherdata.ca for additional maps and meteorological data

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

©2022 Government of Alberta | December 22, 2022 | Agriculture and Irrigation

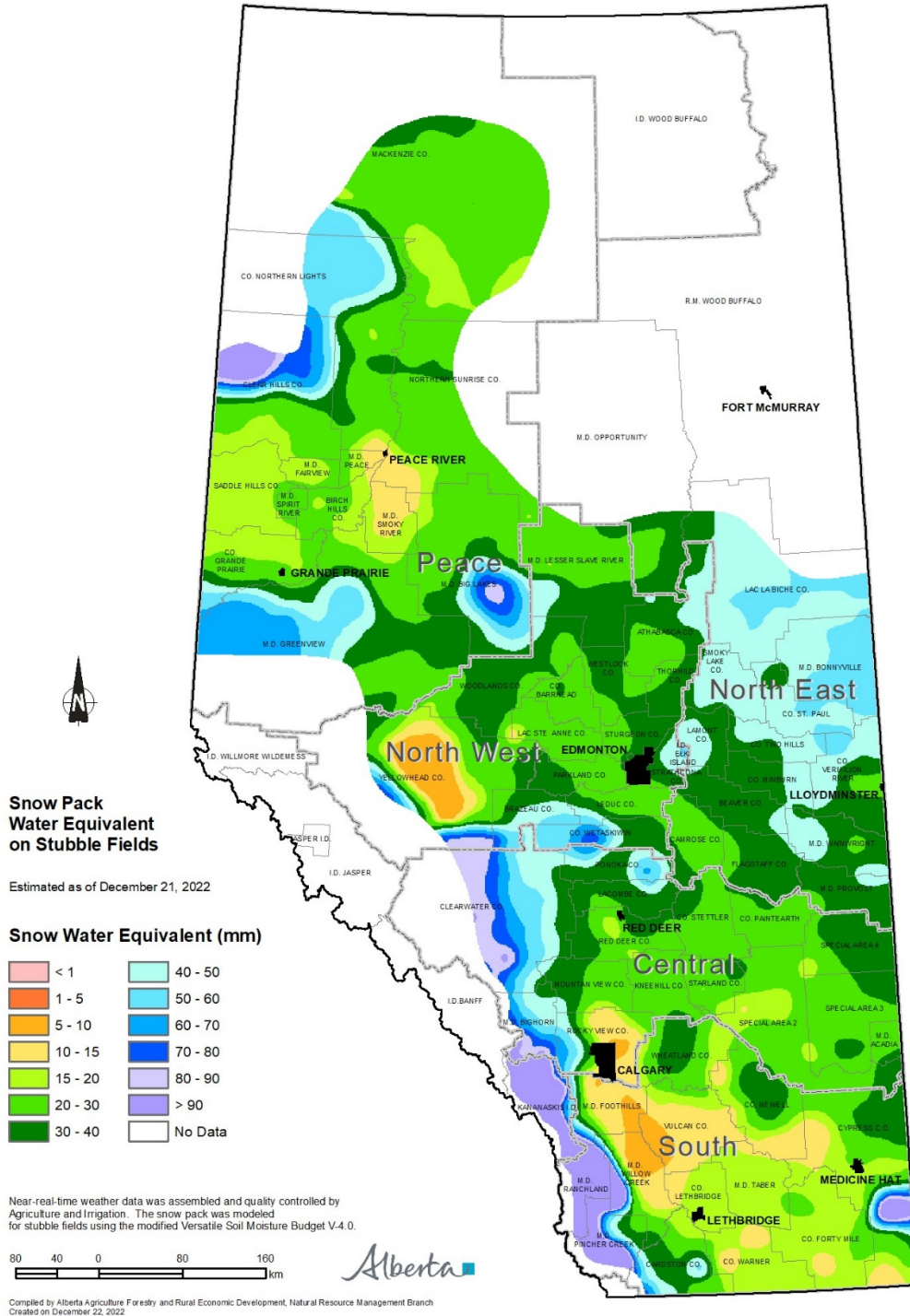


Map 2



Visit weatherdata.ca for additional maps and meteorological data

Map 3



Visit weatherdata.ca for additional maps and meteorological data