

## Moisture Situation Update – November 5, 2013

### Synopsis

Over the past two weeks, two major snowfall events blanketed much of Alberta's agricultural area with winter's first snow. The first event started on October 26th, and brought mixed snow and rain to much of the south-half of the province. Soon after, November 2nd, a second event swept across the province. By November 5th, some areas between Wetaskiwin and Calgary were left with upwards of 50 cm of snow.

Despite the recent precipitation events, soil moisture reserves going into fall are extremely low across the east-central parts of the province. Low reserves are primarily the result of well above normal temperatures through September and October, coupled with below average precipitation accumulations.

### Precipitation received over the past 11 days as of November 5th, 2013-see map

- Most of the agricultural areas in the province saw some moisture with upwards of 60 mm recorded in the foothills in and around Sundre.
- Prime agricultural lands between Wetaskiwin and Calgary saw upwards of 20 mm, diminishing eastward to 5-10 mm along much of the Alberta-Saskatchewan Border.

### Snow Pack Accumulations as of November 5th, 2013 –see map

- The winter snow pack has a good start across the central parts of the province, with snow depths estimated to be upwards of 50 cm south west of Red Deer. It is estimated that these areas see this much snow this early in the season on average less than once in 50 years.

### Soil Moisture Reserves Relative to Long-Term Normal as of November 5th, 2013 -see map

- Parts of east-central Alberta are estimated to have soil moisture reserves this low, less than once in 50 years. Fortunately, growing season precipitation has been adequate to sustain good crop growth over the past few years. Depleted soil moisture reserves in these areas are a function of three consecutively dry falls, a time that is critical for recharging soil moisture reserves.
- Since September 2011, these dry areas have received a total of 650-700 mm, vs. the long term average that ranges between 900-950 mm. This is about 250 mm below normal in some areas.
- Soil moisture reserves across the Peace region are variable, ranging from near normal across central and western portions of the region, to less than once in 12 year lows found in some small pockets across the south and north.

### Perspective

- While soil moisture reserves may be extremely low in some areas, there is still ample time to replenish these reserves ahead of the next growing season.
- Low soil moisture reserves increase the risk of crop moisture stress in the face of hot dry weather.

### Interesting Facts

- Since the start of the winter snows (October 26th), the lowest temperatures were recorded during the early hours of November 5th, with the Parby Creek near Mirror station (50 km east of Leduc) recording -27.5 °C. In stark contrast, warmest temperatures were recorded at Stavely AAFC station of 22.5 °C in late afternoon on October 26th
- The highest one day total occurred in the mountains north of Watertown Lakes Park at the Spinkop Creek station, where 37.5 mm of precipitation was recorded. That's well over a foot of snow in one day.

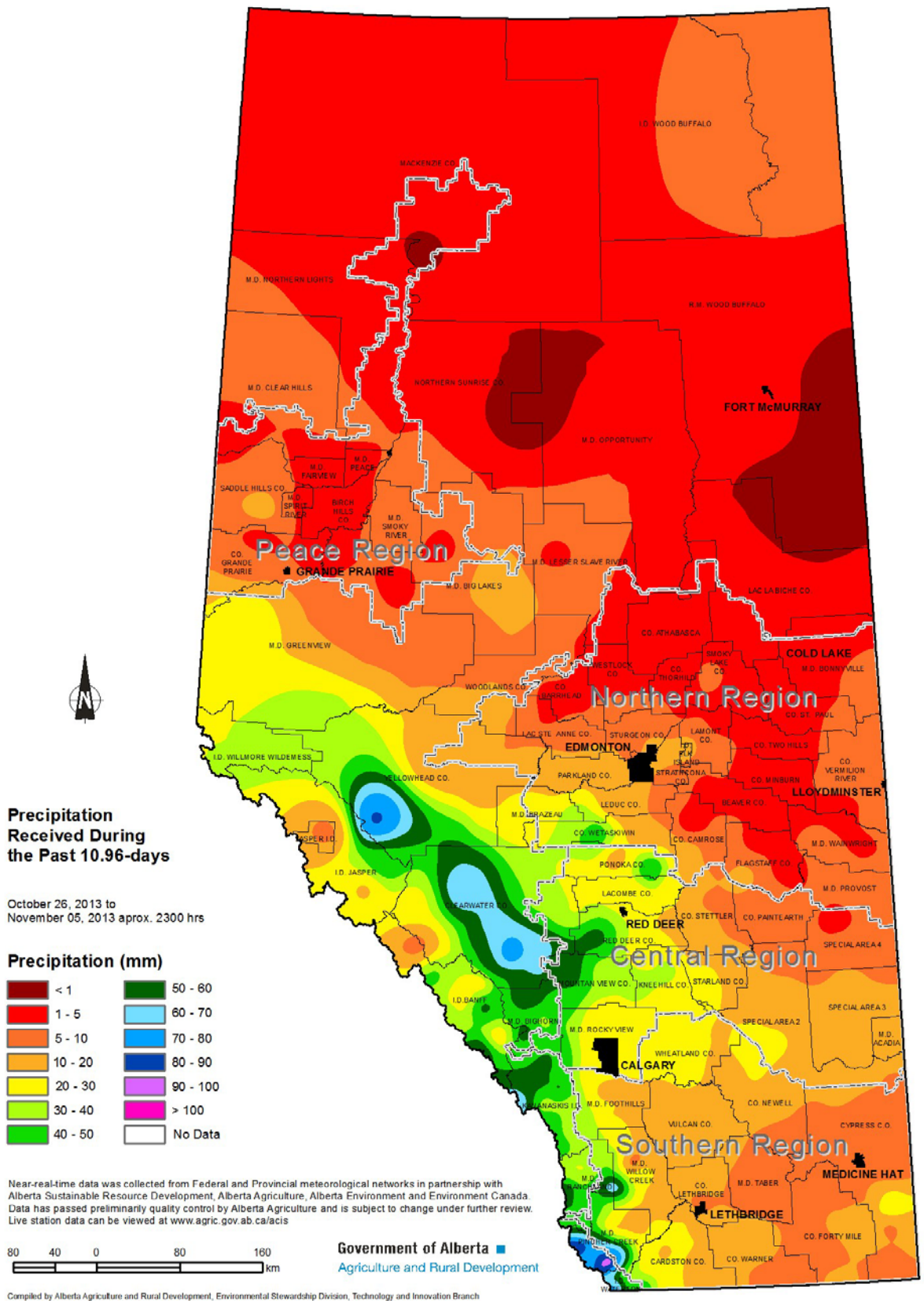
**Additional Maps** can be found at [www.agriculture.alberta.ca/maps](http://www.agriculture.alberta.ca/maps)

**Near-real-time hourly station data** can be viewed/downloaded at [www.agriculture.alberta.ca/stations](http://www.agriculture.alberta.ca/stations)

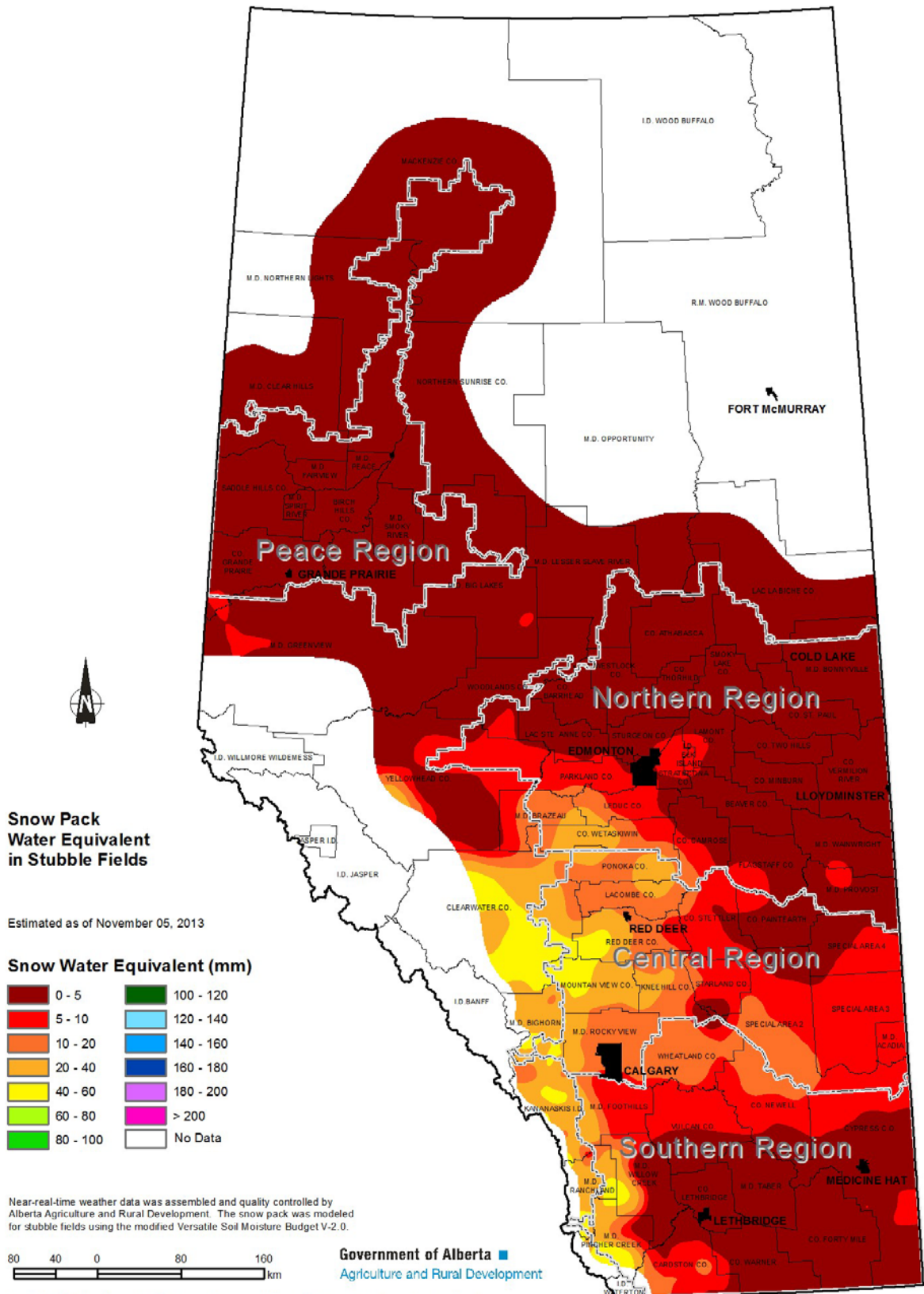
**Note:** Data has about a two hour lag and is displayed in MST (add one hour for daylight savings time)

Ralph Wright  
Soil Moisture Specialist  
Agro-meteorological Applications and Modelling Section

# Moisture Situation Update – November 5, 2013



# Moisture Situation Update – November 5, 2013



# Moisture Situation Update – November 5, 2013

