

Moisture Situation Update – March 3, 2013

Synopsis:

Over the weekend, a large storm system brought upwards of 20 mm of precipitation to many areas along the foothills, stretching from Grande Cache to the US border. Heading in an eastward direction from the foothills, total accumulations dropped sharply, with many areas along the Queen Elizabeth II (QE II) Highway between Edmonton and Lethbridge seeing up to 10 mm.

Overall, February precipitation accumulations were generally below normal across most of the agricultural areas, with temperatures for the month estimated to be this warm only once in 6 to 12 years, ranging to less than once in 12 to 25 years across most of the Peace Region.

Despite a relatively dry February, snow packs for this time of year are still estimated to be at least near normal across much of the province, with the exception of some areas in central Alberta and parts of Southern Alberta where snow packs tend to be below normal. Current snow pack water storage is estimated to range from 40 to 60 mm in and around the Red Deer area, grading to over 125 mm across parts of the Peace Region.

Precipitation accumulations over the past 7-days as of March 3, 2013 (see map)

- A large storm system brought significant mixed rain and snow accumulations to many areas west of the QE II Highway. Along the highway, between Edmonton and Lethbridge, upwards of 5 to 10 mm fell, grading to well over 20 mm across many parts of the foothills.
- The greatest accumulations were centered south of Hinton (> 50 mm) with many mountain stations recording upwards of 60 mm. The Cut Head Lake station, near Lake Louise recorded the most (more than 80 mm).

February average daily mean temperatures relative to long term normal as of March 3, 2013 (see map)

- Most of the province experienced above average temperatures during February.
- The Peace region was the warmest, estimated to see a February this warm only once in 12 to 25 years.

Snow pack accumulations relative to long term normal as of March 3, 2013 (see map)

- For the most part, north of the Trans-Canada Highway, snow pack accumulations are at least near normal, with some areas in central Alberta estimated to have below normal snow packs.
- Across much of the central parts of the Peace Region, snowpack's are well above normal, with large areas seeing snow packs this deep on average less than once in 3 to 6 years.
- Across the Swan Hills and throughout parts of the Clear Hills, snow packs are estimated to be near 1 in 50 year highs, and in places are estimated to be upwards 2 meters deep (> 6 feet).

Snow pack water equivalents as of March 3, 2013 (see map)

- Generally north of Red Deer, snow packs are estimated to contain at least 50 mm water (if melted), grading to over 80 mm of water, for many areas north of the Yellowhead highway.
- Snow water equivalents across the agricultural areas of the province are greatest across the Peace Region, with the central locations estimated to contain over 125 mm. Thus currently stored snow water, is more than equivalent to the average June (wettest month) precipitation totals that generally range from 80 to 100 mm.
- Most areas, south of the TransCanada highway are virtually snow free, with the exception of the Cypress Hills where upwards of 100 mm of water is estimated to reside in the snow pack.

Interesting Facts –see map:

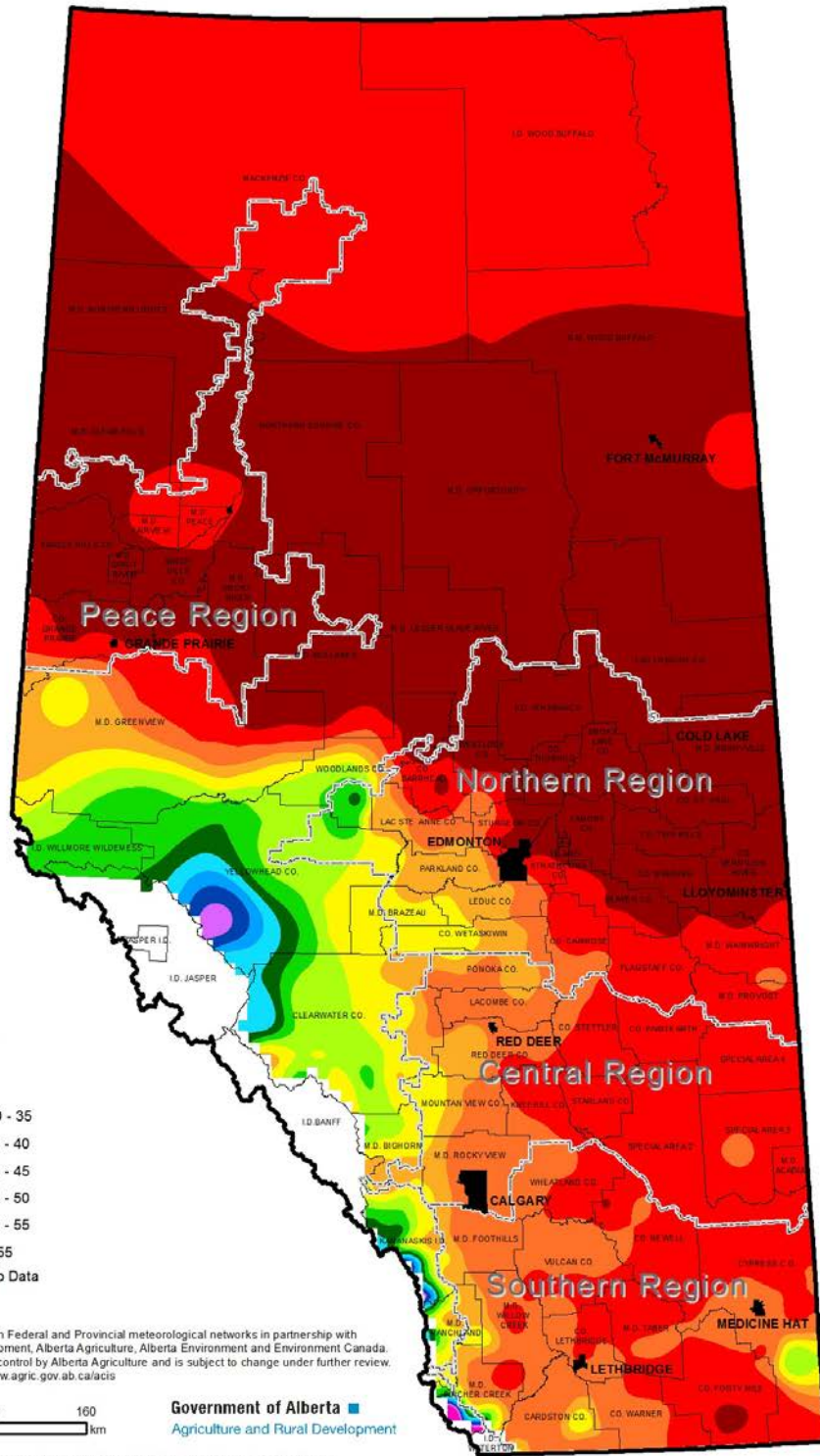
March marks the break to the dry winter season across the southern agricultural areas of the province and across many parts of the foothills, with western areas typically seeing upwards of 30 mm of precipitation, grading to 20 to 30 mm heading eastward. In comparison, across most of the rest of the province, March is still relatively dry with average accumulations only ranging from 10 to 20 mm. The trend that brings wetter conditions across the south and throughout the foothills typically persists until the end of May. July brings an abrupt shift in these patterns with southern plains areas seeing a distinct drying trend accompanied by intense summer heat.

Additional Maps can be found at www.agriculture.alberta.ca/maps

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 (add one hour for daylight savings time)

Ralph Wright

Agrometeorology Applications and Modelling Section, ARD



Precipitation Received During the Past 6.96-days

February 25, 2013 to March 03, 2013 approx. 2300 hrs

Precipitation (mm)

	< 1		30 - 35
	1 - 5		35 - 40
	5 - 10		40 - 45
	10 - 15		45 - 50
	15 - 20		50 - 55
	20 - 25		> 55
	25 - 30		No Data

Near-real-time data was collected from Federal and Provincial meteorological networks in partnership with Alberta Sustainable Resource Development, Alberta Agriculture, Alberta Environment and Environment Canada. Data has passed preliminary quality control by Alberta Agriculture and is subject to change under further review. Live station data can be viewed at www.agric.gov.ab.ca/acis



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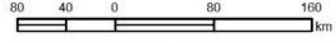
Compiled by Alberta Agriculture and Rural Development, Environmental Stewardship Division, Technology and Innovation Branch.
Created on March 04, 2013

**February, 2013
Precipitation
Accumulations
Relative to
Long Term Normal**

February 01, 2013 to
February 28, 2013

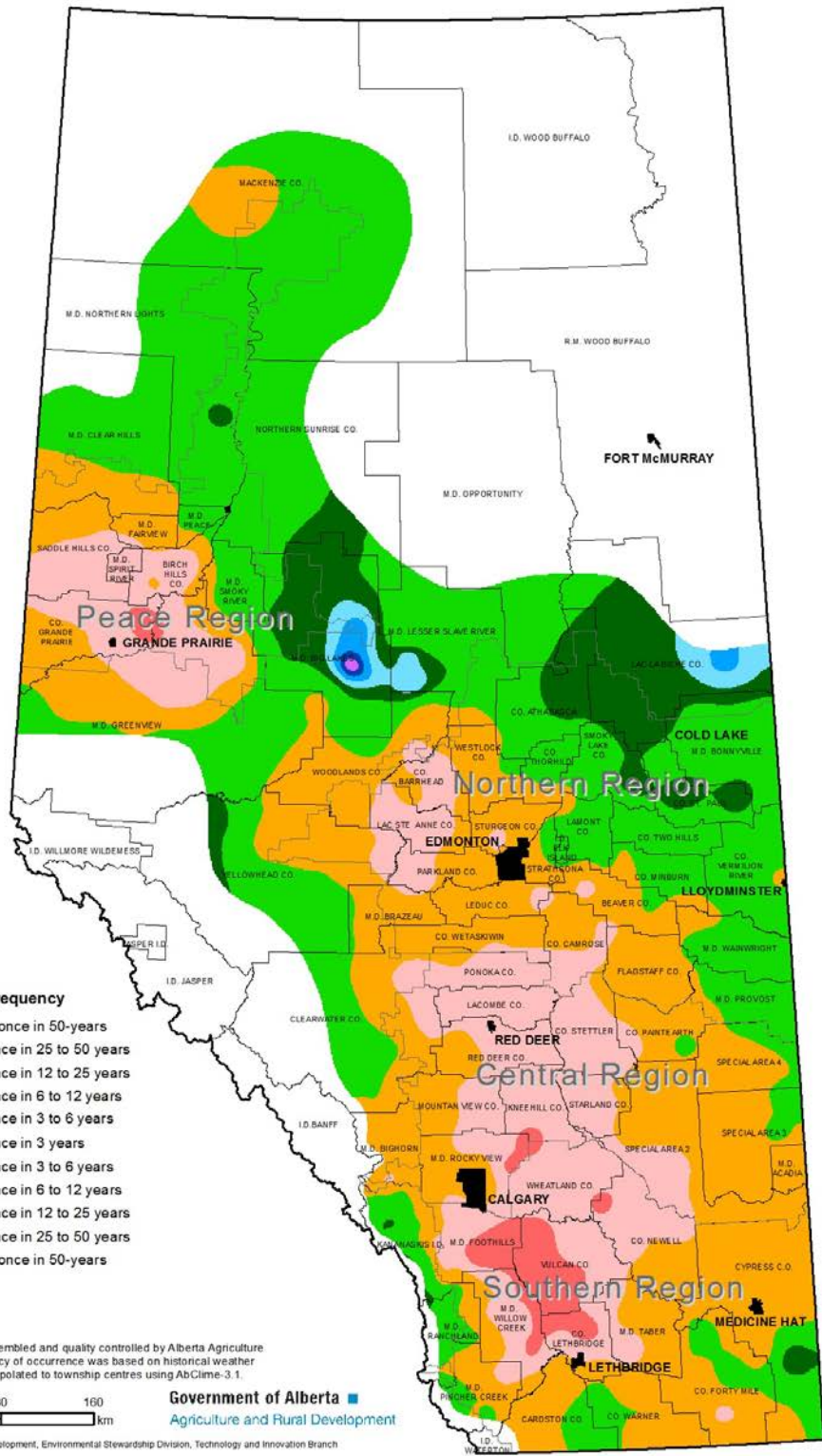
Condition	Frequency
driest	< once in 50-years
extremely low	once in 25 to 50 years
very low	once in 12 to 25 years
low	once in 6 to 12 years
moderately low	once in 3 to 6 years
near normal	once in 3 years
moderately high	once in 3 to 6 years
high	once in 6 to 12 years
very high	once in 12 to 25 years
extremely high	once in 25 to 50 years
wettest	< once in 50-years
no data	

Near-real-time weather data was assembled and quality controlled by Alberta Agriculture and Rural Development. The frequency of occurrence was based on historical weather data from the 1961-2010 period, interpolated to township centres using AbClima-3.1.















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Created on March 05, 2013



Snow Pack Accumulations In Stubble Fields Relative to Long Term Normal

Estimated as of March 03, 2013

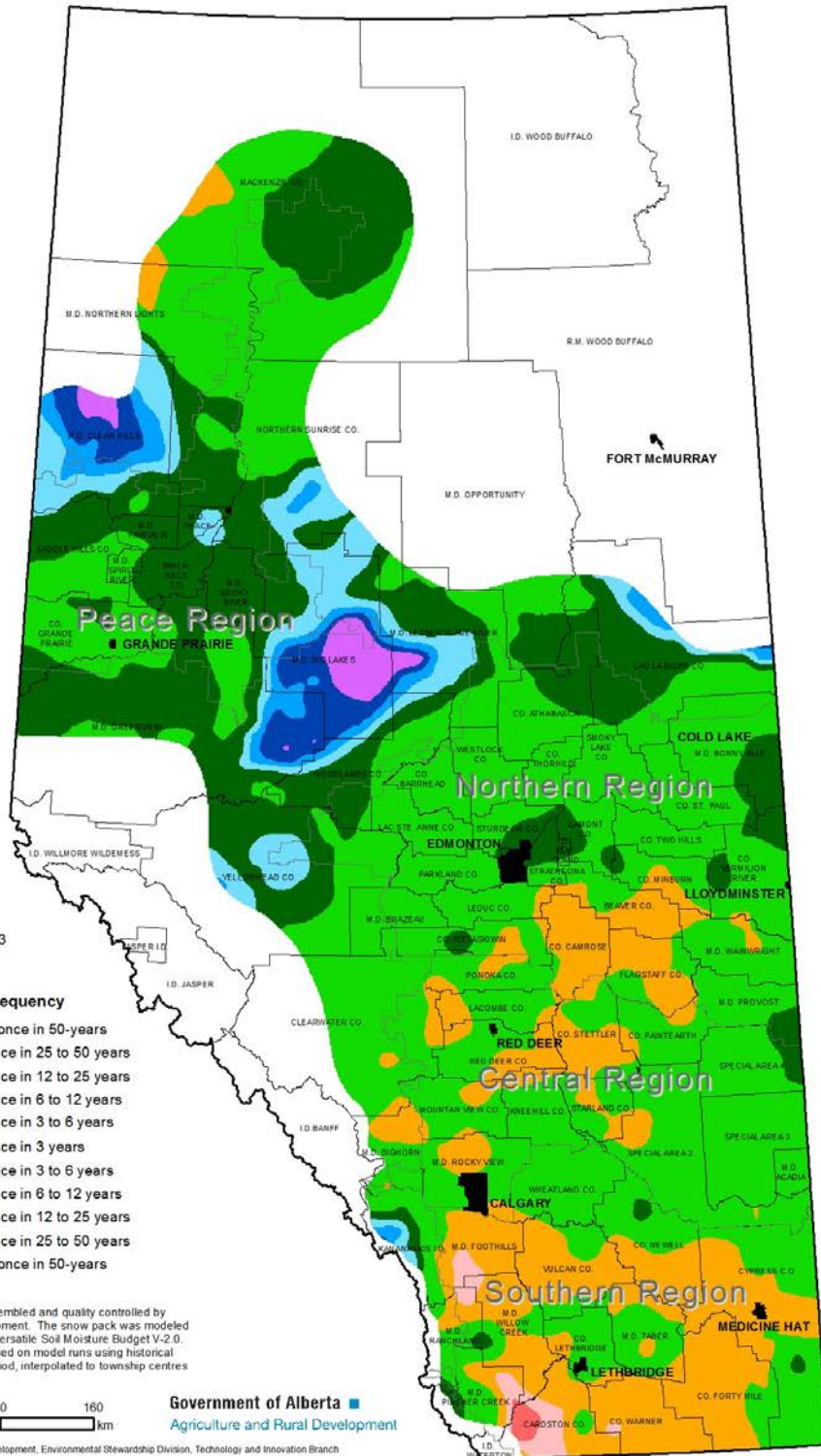
Condition	Frequency
 driest	< once in 50-years
 extremely low	once in 25 to 50 years
 very low	once in 12 to 25 years
 low	once in 6 to 12 years
 moderately low	once in 3 to 6 years
 near normal	once in 3 years
 moderately high	once in 3 to 6 years
 high	once in 6 to 12 years
 very high	once in 12 to 25 years
 extremely high	once in 25 to 50 years
 wettest	< once in 50-years
 no data	

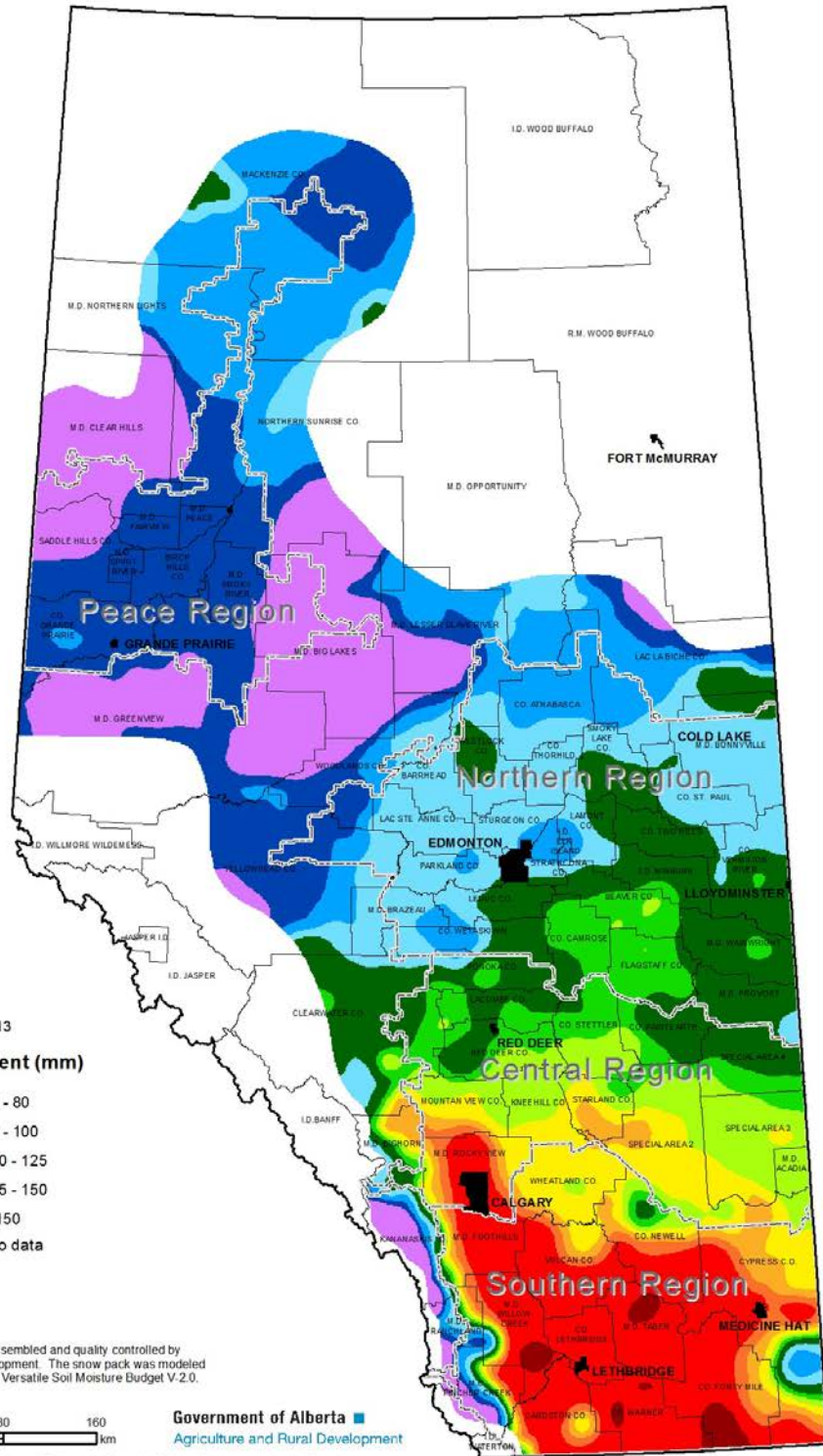
Near real-time weather data was assembled and quality controlled by Alberta Agriculture and Rural Development. The snow pack was modeled for stubble fields using the Modified Versatile Soil Moisture Budget V-2.0. The frequency of occurrence was based on model runs using historical weather data from the 1981-2010 period, interpolated to township centres using AbClim-3.1.



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Compiled by Alberta Agriculture and Rural Development, Environmental Stewardship Division, Technology and Innovation Branch
Created on March 04, 2013

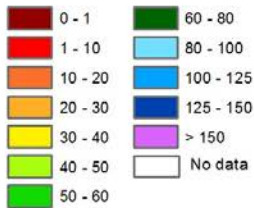




**Snow Pack
Water Equivalent
in Stubble Fields**

Estimated as of March 03, 2013

Snow Water Equivalent (mm)

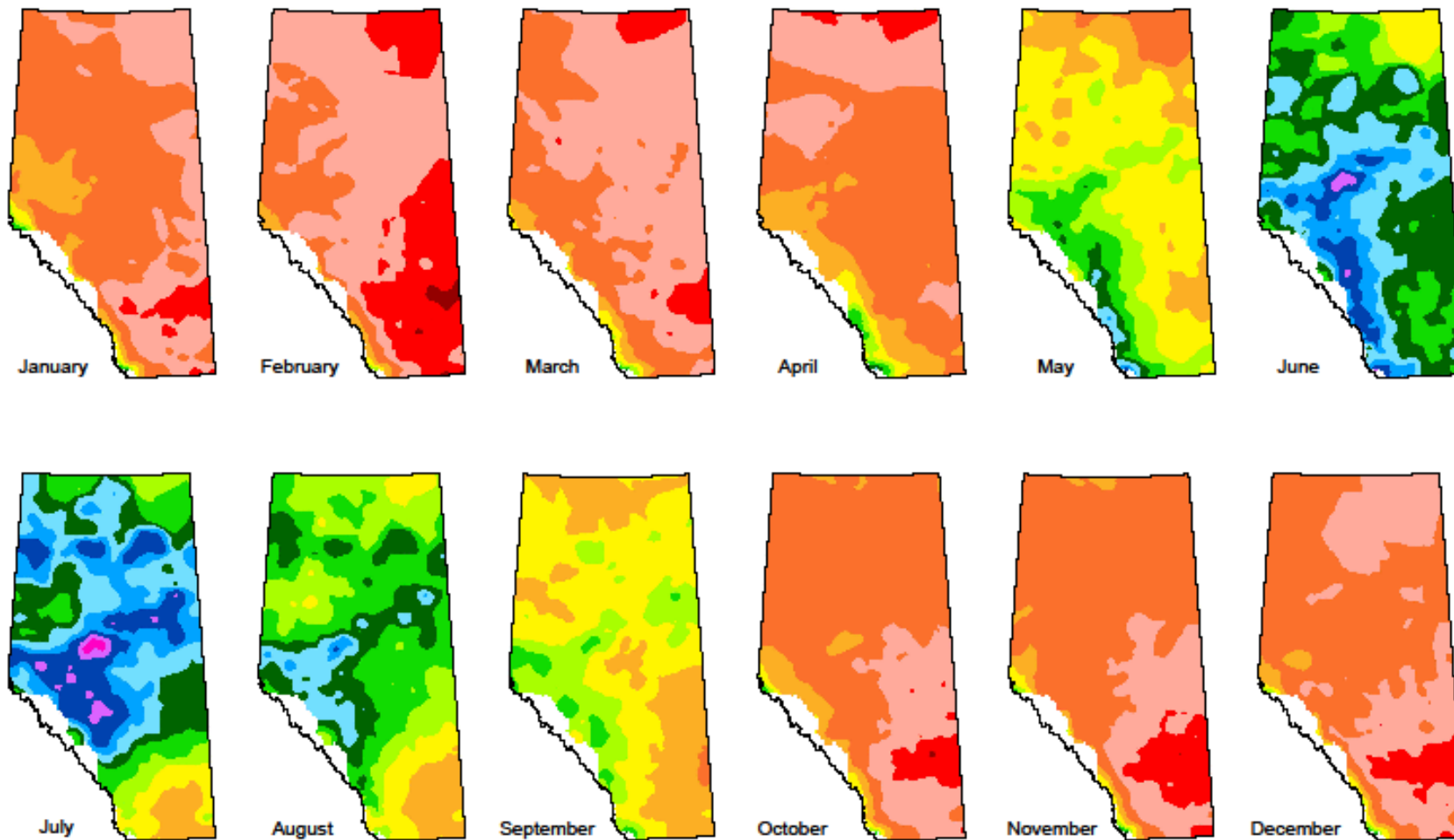


Near-real-time weather data was assembled and quality controlled by Alberta Agriculture and Rural Development. The snow pack was modeled for stubble fields using the modified Versatile Soil Moisture Budget V-2.0.



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Compiled by Alberta Agriculture and Rural Development, Environmental Stewardship Division, Technology and Innovation Branch
Created on March 04, 2013



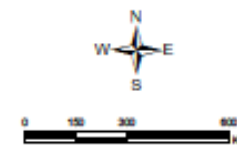
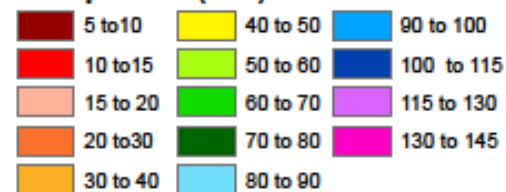
Average Monthly Precipitation in Alberta

for the period 1961-2010

Average based on historical weather data from the 1961-2010 period, interpolated to township centers using AbClim-3.1.

Compiled by Alberta Agriculture and Rural Development, Environmental Stewardship Division, Technology and Innovation Branch
Created on December 08, 2011

Precipitation (mm)



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