Moisture Situation Update – March 22, 2013

Synopsis:

Over the past 10 days or so, most of northern Alberta has been hammered with severe snow storms. The greatest accumulations across the agricultural areas of the province were recorded west of Edmonton, along the Yellowhead Highway as far west as Edson, along with the northern slopes of the Swan Hills in and around High Prairie. Some of these areas have seen upwards of 60 cm of fresh snow, with snow packs through the southeastern parts of the Peace Region now estimated to be this deep on average, less than once in 25 years.

Precipitation accumulations over the past 11-days as of March 22, 2013 (see map)

- Heavy snow fall covered a wide area from Red Deer to the northern tip of the Peace Region with total precipitation accumulations ranging from 10-15 mm, in and around Red Deer to upwards of 50 mm in the Edson area. Here it is estimated that new snow fall depth exceeds 60 cm (2 feet).
- Other areas hit hard by recent snows include the High Prairie area (45 to 50 mm of precipitation), or nearly 60 cm of new snow, and the Edmonton and Beaver lodge areas 30-35 mm of precipitation resulting up to 45 cm of new snow.

Snow pack accumulations relative to long term normal as March 21, 2013 (see map)

- Most the province has at least average snowpack's on the ground for this time of year, with many areas north of the Yellowhead highway experiencing above average snowpacks.
- In and around the Edmonton area, snow packs are estimated to be at about one in 7 year highs this grades up to 1 in 50 year highs through Edson, and the High Prairie area.
- It is estimated that Edson has over 230 mm of water stored in the snow pack, which going back as far as 1961 (52 years) is the most for a March 21, followed by 1999 (200 mm) and 1962 (170 mm).
- Snow packs in Edmonton are currently ranked as the 8th deepest over the past 52 years, with 130 mm of water contained in the snow pack. In comparison other years beat 2013 as follows, 1974 (185 mm), 1965 (155 mm) 1982 (150 mm) 1985 (145 mm) 1997, 1962 and 1972.
- For comparison in these high snowfall areas, July is typically the wettest month of the year, on average seeing about 90-120 mm of precipitation

Interesting facts

- It is estimated that Edson has over 230 mm of water stored in the snow pack, which going back as far as 1961 is the most for a March 21, followed by 1999 (200 mm) and 1962 (170 mm)
- Snow Packs through the High Prairie area rank second deepest in 52 years, currently estimated to contain about 240 mm of water, beaten only by 1994 (255 mm)
- Snow packs in Edmonton are currently ranking as 8th deepest over the past 52 years, with 130 mm of water contained in the snow pack. In comparison other years beat 2013 as follows, 1974 (185 mm), 1965 (155 mm) 1982 (150 mm) 1985 (145 mm) 1997, 1962 and 1972.
- For comparison, July is typically the wettest month of the year averaging about 90-120 mm for these high snowfall areas.
- For the Edmonton area, average daily high temperatures during the first two weeks of April are near 8C. At this rate approximately 5 mm of water can be liberated from a snow pack each day, meaning that the 40 mm of new snow water equivalent we received over the last 10 days or so, alone will take a least a week to melt. Then we can start on the snow pack under that! Let's hope we have above average temperatures coming soon!

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)

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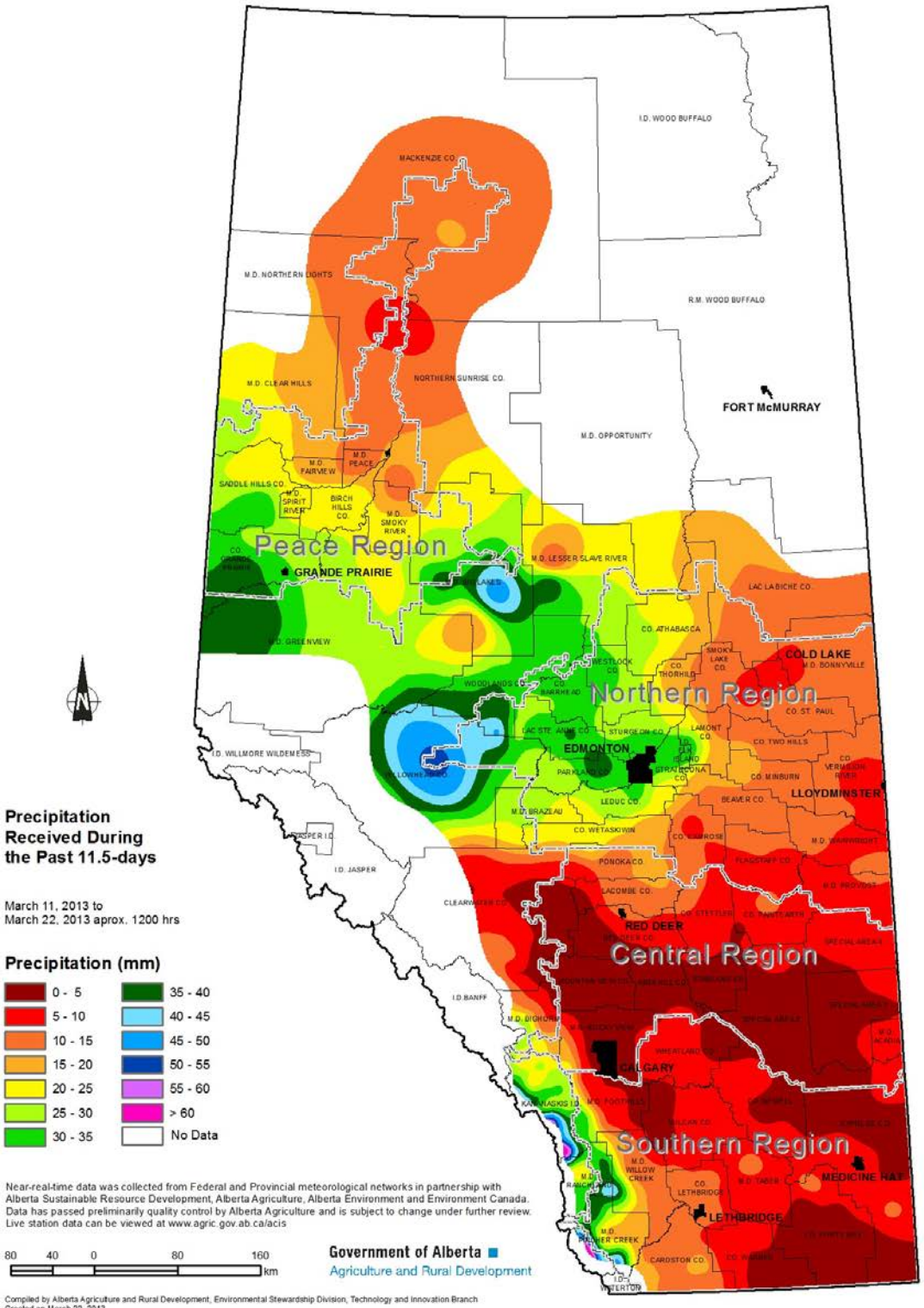


Precipitation Received During the Past 11.5-days

March 11, 2013 to
March 22, 2013 aprox. 1200 hrs

Precipitation (mm)

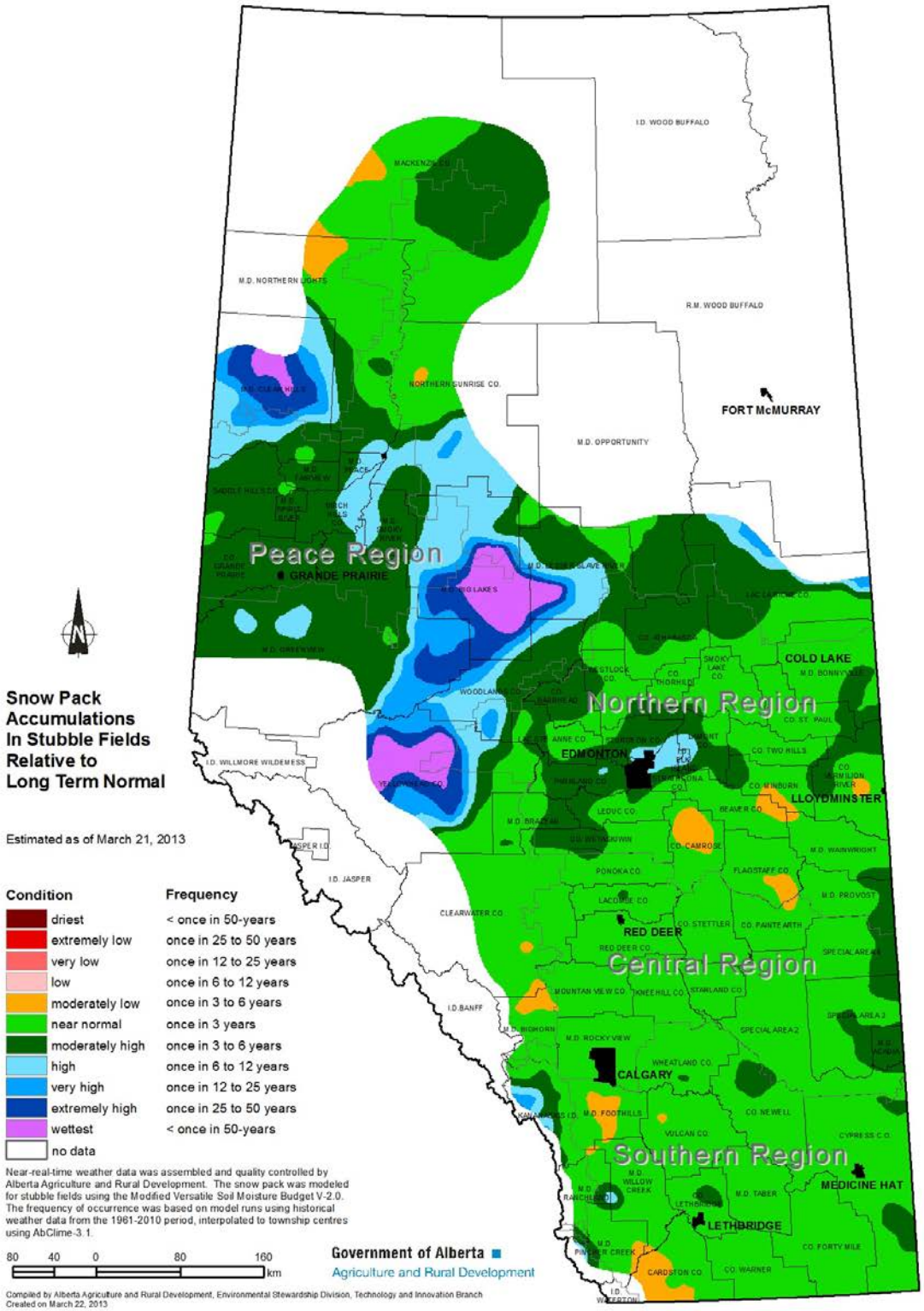
0 - 5	35 - 40
5 - 10	40 - 45
10 - 15	45 - 50
15 - 20	50 - 55
20 - 25	55 - 60
25 - 30	> 60
30 - 35	No Data

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 preliminarily 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

80 40 0 80 160 km

Government of Alberta
Agriculture and Rural Development

Compiled by Alberta Agriculture and Rural Development, Environmental Stewardship Division, Technology and Innovation Branch
Created on March 22, 2013


Peace Region
GRANDE PRAIRIE
Northern Region
EDMONTON
COLD LAKE
LLOYDMINSTER
FORT McMURRAY
Central Region
RED DEER
CALGARY
Southern Region
MEDICINE HAT
LETHBRIDGE
I.D. WOOD BUFFALO
R.M. WOOD BUFFALO
M.D. OPPORTUNITY
M.D. NORTHERN LIGHTS
NORTHERN SUNRISE CO.
I.D. WILLMORE WILDERNESS
I.D. JASPER
I.D. BANFF
CLEARWATER CO.
M.D. ROCKY VIEW
M.D. FOOTHILLS
WHEATLAND CO.
VULCAN CO.
CO. NEWELL
CYPRESS C.O.
M.D. TABER
CO. FORTY MILE
CO. WARNER
CARDSTON CO.
M.D. WILLOW CREEK
M.D. PINCHER CREEK
M.D. RANCHLAND
M.D. BIGHORN
SPECIAL AREA 2
SPECIAL AREA 3
CO. STETTLER
CO. PAINTEARTH
M.D. PROVOST
FLAGSTAFF CO.
CO. CAMROSE
M.D. WAINWRIGHT
BEAVER CO.
LEDUC CO.
PONOKA CO.
LACOMBE CO.
MOUNTAIN VIEW CO.
KNEEHILL CO.
STARLAND CO.
RED DEER CO.
CO. TWO HILLS
CO. ST. PAUL
CO. MINBURN
SMOKY LAKE CO.
THORHILD CO.
M.D. BONNYVILLE
ANNE CO.
M.D. GREENVIEW
M.D. SPIRIT RIVER
M.D. PEACE
M.D. FAIRVIEW
NORTHERN SUNRISE CO.
M.D. OPPORTUNITY
M.D. NORTHERN LIGHTS
MACKENZIE CO.
Snow Pack
Accumulations
In Stubble Fields
Relative to
Long Term Normal
Estimated as of March 21, 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 1961-2010 period, interpolated to township centres using AbClime-3.1.
80 40 0 80 160
km
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