



Preliminary Runoff Outlook
for
Saskatchewan

**Based on conditions as of
January 15, 2011**

Prepared by:

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Preliminary Runoff Outlook

The Saskatchewan Watershed Authority is starting to prepare for the 2011 spring runoff with the issuing of this preliminary runoff outlook. The preliminary 2011 spring runoff potential for the province is shown in Figure 1. This estimate is based on soil moisture conditions at freeze-up and existing snowpack accumulations as of the mid- January and assumes average climatic conditions to the end of spring runoff. Above normal spring precipitation and/or a faster melt than normal would result in higher runoff. Also it must be emphasized that this forecast is based on limited precipitation data and should be used as a general guide for large areas. Local conditions may vary significantly. The Saskatchewan Watershed Authority will be preparing more detailed runoff forecasts in early February, March and April.

The present snowpack condition of the western portion of the agricultural area of the province is above normal. The present snowpack condition of the eastern western portion of the agricultural area of the province is well above normal. Fall moisture conditions were very wet due to above normal summer and fall precipitation. Due to the combination of the wet fall and above normal winter snowpack there is a high potential for high runoff across the agricultural area of the province.

The present snowpack condition across the northern forested portion of the province is generally near normal. Fall precipitation in the north was also near normal.

Climate Conditions

Summer 2010 precipitation across the entire agricultural portion of the province was very high, as shown in Figure 2. In many areas it was the wettest summer on record. In addition to widespread above normal general rainfall there were also several high intensity local rainfall events.

Fall precipitation was well above normal across the entire province. Freeze-up generally occurred in mid November. The November 2010 Cropland topsoil moisture conditions are shown in figure 3 (published by Saskatchewan Agriculture and Food) This figure shows the western portion of the province went into freeze-up with adequate topsoil moisture conditions while topsoil in the eastern portion of the province had a surplus.

In the eastern portion of the agricultural portion rivers, creeks and lakes went into fall at very high levels for that time of year.

The accumulated winter precipitation (November 1, 2010 to January 13, 2011) is shown in Figure 4. This figure is based on winter precipitation recorded at Environment Canada meteorologic stations with automated snow gauges. Field observations report more snow than indicated in this figure.

Figure 5 shows the water equivalent of the snowpack as estimated by Environment Canada via satellite on January 15, 2011. This figure shows above normal snowpack across the agricultural portion of the province with well above normal snowpack in the north east and extreme southwest areas.

A moderate La Nina in the equatorial pacific is expected to continue through the remaining winter months of 2011 which could result in significant snowfall.

Snowpack accumulations in the mountain headwaters of the North Saskatchewan River basin are below normal. Snowpack accumulations in the mountain headwaters of the South Saskatchewan River basin range from well below normal in the Bow river Basin to above normal in the Oldman River basin. Lake Diefenbaker is expected to fill this year. Due to maintenance issues at the hydro-generation station, outflow has been limited. Because of this, the reservoir has not been drawn down as low as typical for this time of year. Depending how maintenance progresses, it may be necessary to spill water in May to create room for the mountain snowmelt.

January 15, 2011 Potential Runoff Summary:

In summary, above normal summer and fall rainfall across the entire agricultural portion of the province and above normal snowfall to date could potentially result in high spring runoff. Even with average weather conditions between now and runoff it there will be some flooding. Unfavorable weather conditions between now and spring runoff, such as above normal precipitation and or a rapid melt, will significantly increase the level of flooding.

The Saskatchewan Watershed Authority will continue to monitor the 2011 spring runoff conditions across Saskatchewan. Snow surveys will be conducted to verify snow accumulation. The Provincial Runoff Forecasts will be issued the beginning of February, March, and April.

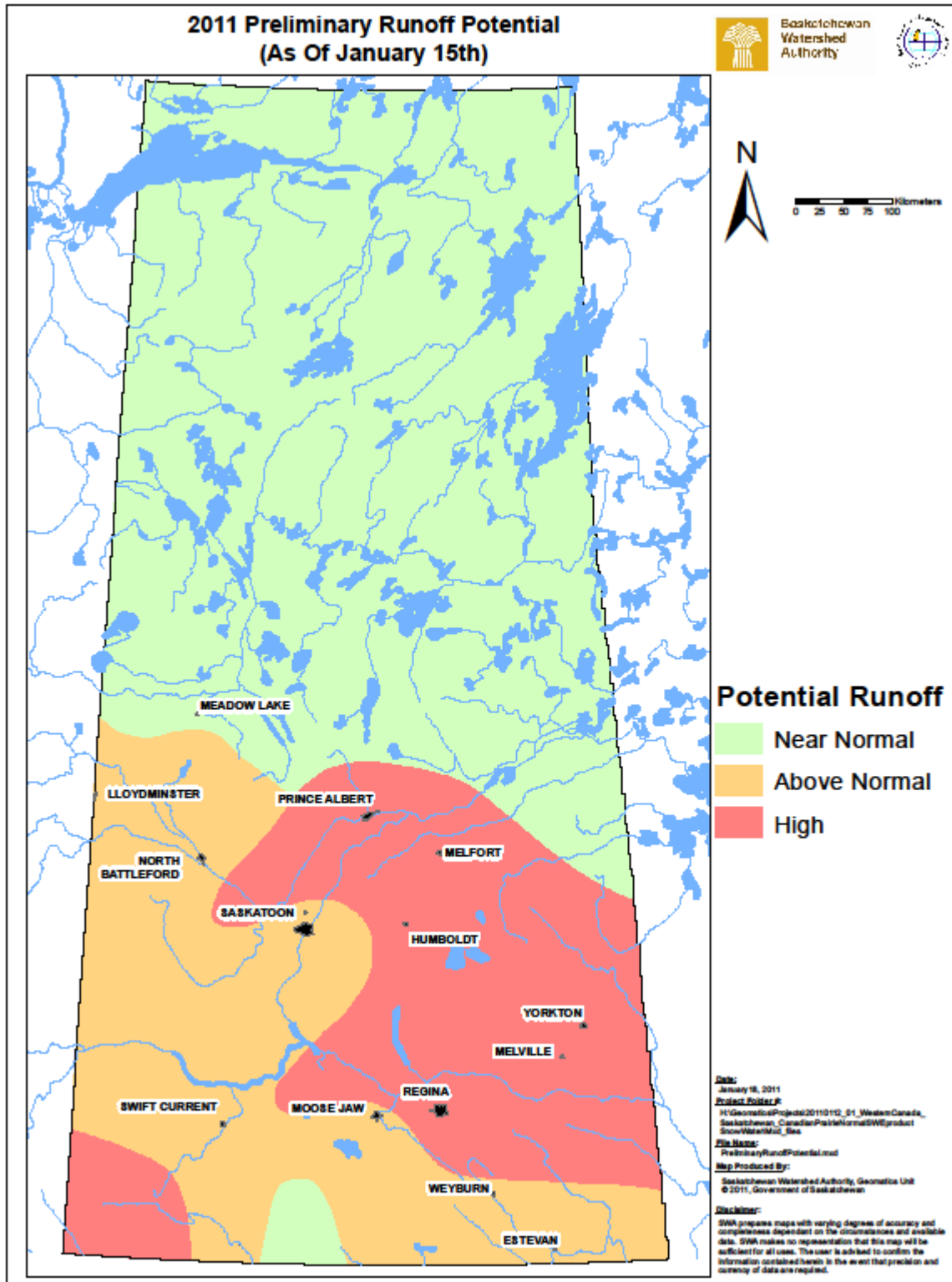
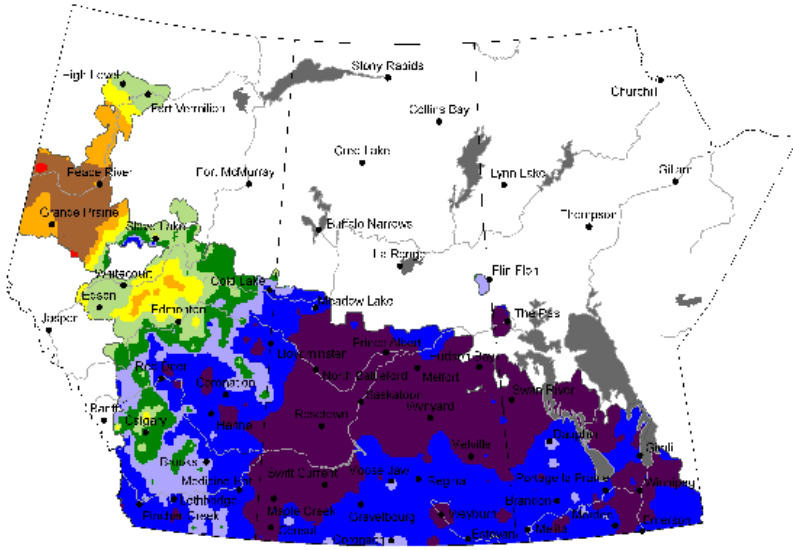
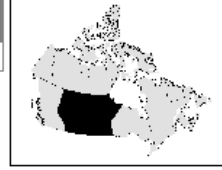


Figure 1

Precipitation Compared to Historical Distribution (Prairie Region)

April 1, 2010 to October 31, 2010



- Record Dry
- Extremely Low (0-10)
- Very Low (10-20)
- Low (20-40)
- Mid-Range (40-60)
- High (60-80)
- Very High (80-90)
- Extremely High (90-100)
- Record Wet
- Extent of Agricultural Land
- Lakes and Rivers

Produced using near real-time data that has undergone initial quality control. The map may not be accurate for all regions due to data availability and data errors.

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Prepared by Agriculture and Agri-Food Canada's National Agroclimate Information Service (NAIS). Data provided through partnership with Environment Canada, Natural Resources Canada, and many Provincial agencies.

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Figure 2

Cropland Topsoil Moisture Conditions

November 2, 2010

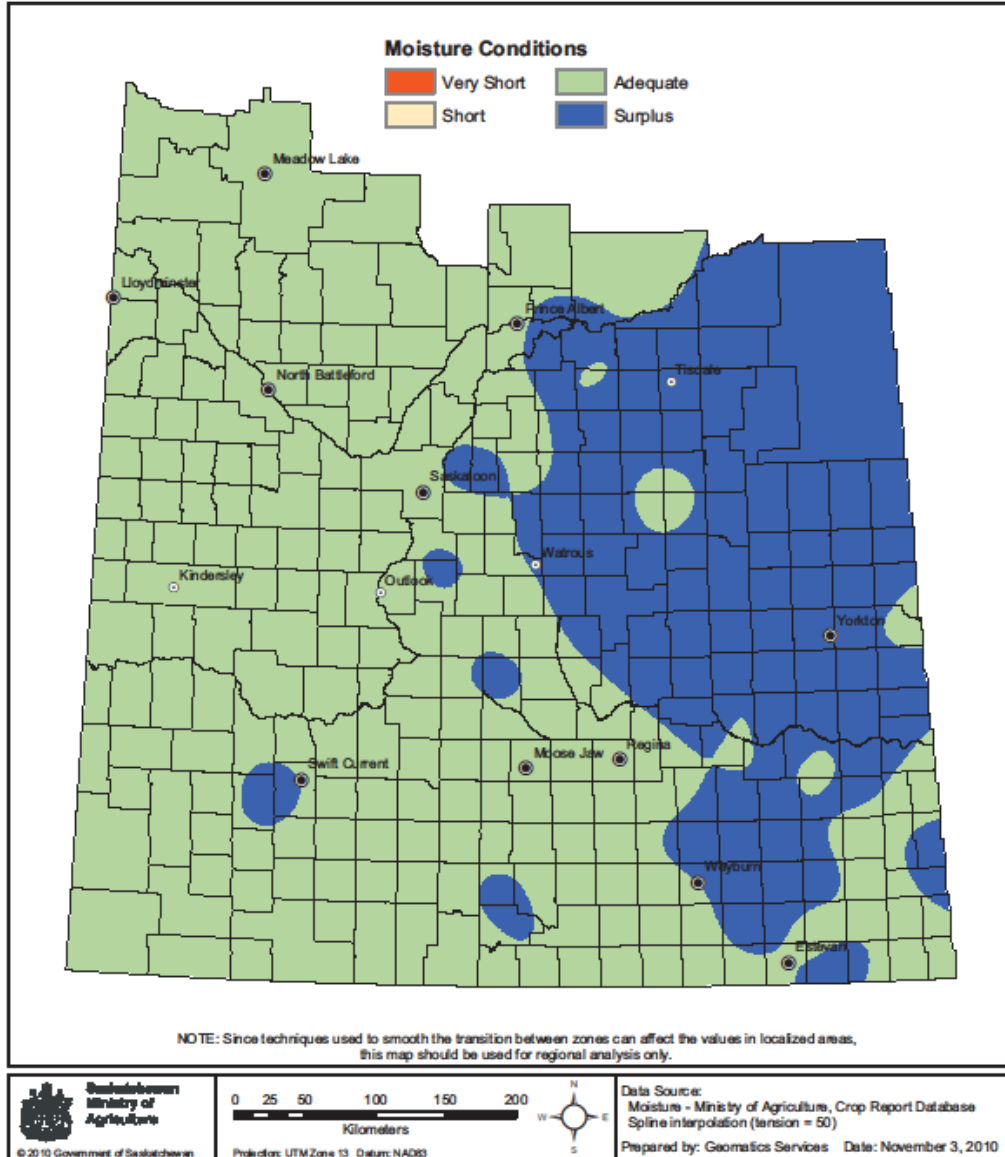


Figure 3

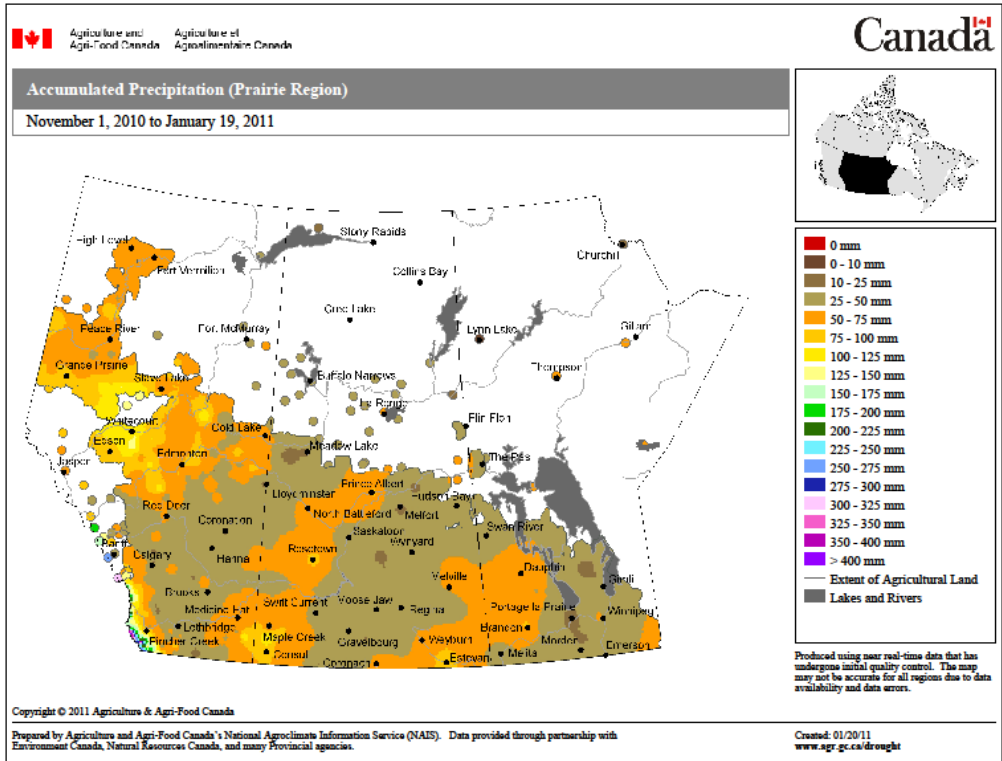


Figure 4

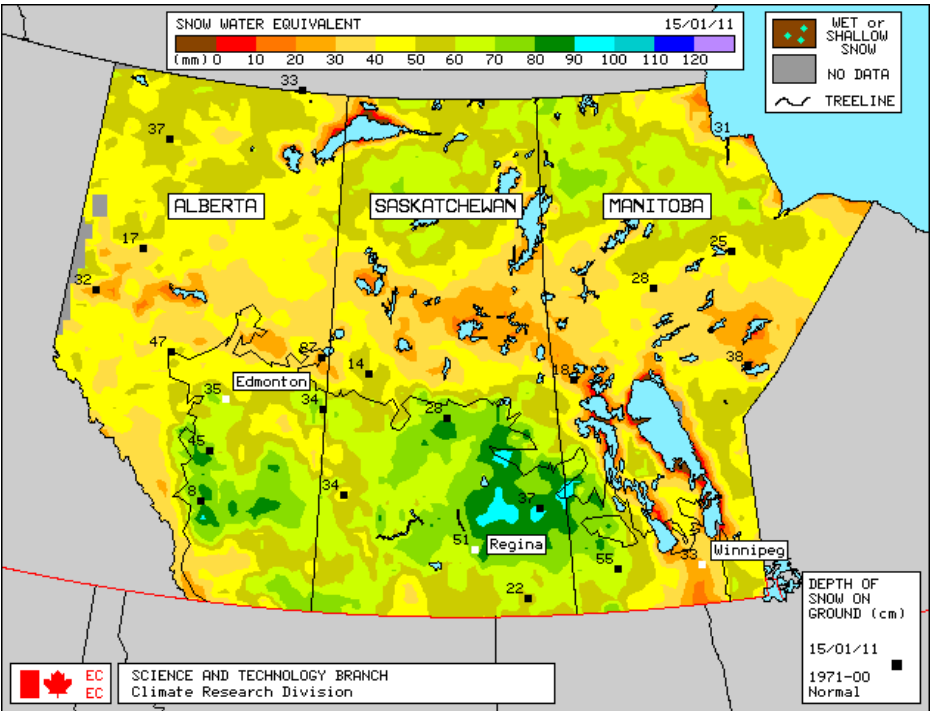


Figure 5

