Plains Runoff Outlook for Alberta

February 2001

Alberta
ENVIRONMENT

Notes

Alberta Environment publishes the **"Plains Runoff Outlook for Alberta"** monthly, usually from February to May. These reports are prepared by the Water Sciences Branch, Hydrology/Forecasting Section of the Department's Water Management Division.

Alberta Environment is grateful for the assistance of Environment Canada's Climatological Services Unit and Water Resources Branch in providing weather, precipitation and streamflow data. Snow survey data are also provided by the United States, Soil Conservation Service of Montana and the British Columbia Ministry of Environment, Lands and Parks.

The assistance of a number of private citizens who diligently report observations of precipitation and other data is also appreciated.

Alberta Environment and the National Resources Conservation Service (NRCS) from Portland, Oregon are collaborating on the Water Supply Forecasts for the Milk and St. Mary Rivers. Water Supply forecasts for the Western United States are available through the NRCS web page: http://www.wcc.nrcs.usda.gov/water/w_qnty.html

All data summarized in this publication are preliminary and subject to revision.

Data used in this report are available on request from: Alberta Environment, Water Sciences Branch, Hydrology/Forecasting Section, 10th Fl, Oxbridge Place, 9820 -106 Street, Edmonton, Alberta, T5K 2J6, **Fax: (780) 422-8606**

This report is also available through Alberta Environment's automated streamflow information/fax-on-demand service. To access this service toll-free, please call the Alberta Government RITE Operator at 310-0000, available 24 hours a day from anywhere in the province. At the prompt, enter the phone number **207-2718** for our streamflow information/fax on demand service.

Historical Streamflow Information: Environment Canada, Calgary, (403) 292-5317

Equivalents of Measure

Parameter	Metric Unit	Conversion to Imperial Units
Snow depth	centimetres	2.54 cm = 1 inch
Water Equivalent	millimetres	25.4 mm = 1 inch
Elevation	metres	1 m = 3.2808 feet
Streamflow	cubic metres per second	1 cms = 35.3 cfs
Volume	cubic decametre (dam^3)	1 dam^3=1000 m^3= 0.8107 acre-feet

Explanation of Descriptions

Much-above-average	In the upper 15% of recorded values
Above-average	Between the upper 15% and 35% of recorded values
Below-average	Between the lower 15% and 35% of recorded values
Much-below-average	In the lower 15% of recorded values

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Plains Runoff Outlook for Alberta – February 2001

Overview

The winter precipitation, November 1, 2000 to January 31, 2001, was much-below-normal across most of Alberta. In January, precipitation was sparse in the Plains area, with most locations recording little or no precipitation. As a result, snowpack in the Plains area of the province is below-average to much-below-average.

Fall precipitation (September to October) was near normal in southern areas of the province, above-normal in the north and below-normal in central regions, leaving most areas with dry soil moisture conditions heading into the winter.

The February 1, 2001 forecast is for much-below-normal spring runoff in north-central, central and southern Alberta. Spring runoff is forecast to be below-normal in northern Alberta as well as the Sundre region.

Winter Climatic Conditions

During January, precipitation was sparse in the Plains area, with most locations recording little or no precipitation (Figures 1 and 2). Record warm temperatures were recorded at many stations in January, which has contributed to the dry conditions in the province.

The winter precipitation, November 1, 2000 to January 31, 2001, was much-below-normal across Alberta (Figures 3 and 4). The only exception is in the Sundre area, where normal precipitation has been recorded so far this winter.

Plains Spring Snowmelt Runoff Outlook

Fall Precipitation

Fall precipitation (September to October) was near normal in southern areas of the province (Figures 5 and 6). Northern Alberta recorded above-normal precipitation while central regions recorded below-normal fall precipitation. The foothills of western Alberta received below-normal to much-below-normal fall precipitation in 2000. Despite normal fall precipitation in southern Alberta, conditions were dry as a result of much-below-normal precipitation in the summer of 2000, soil moisture conditions were still very dry heading into the winter season.

Plains Area Snowpack

Snowpack in the Plains areas of the province is below-average to much-below-average. A map of Plains area snowpack is available from the Environment Canada website located at: http://www.msc-smc.ec.gc.ca/ccrp/SNOW/snow_swe.html.

Spring Snowmelt Runoff Outlook

The February 1, 2001 forecast is for much-below-normal spring runoff in north-central, central and southern Alberta including the Slave Lake, Fort McMurray, Whitecourt, Cold Lake, Edson, Rocky Mountain House and Red Deer, Edmonton, Lloydminster, Coronation, Brooks, Calgary, Lethbridge, Medicine Hat, Milk River and Cypress Hills regions (Figure 7). Spring runoff is forecast to be below-normal in northern Alberta, including the Grande Prairie, Wabasca and Fort Chipewyan areas. Below-normal spring runoff is forecast for the Sundre area.

Routine snow surveys to monitor snowpack on the plains will begin in early March. Since it is early in the spring runoff forecasting season, weather conditions leading up to the spring snowmelt could change this runoff

forecast considerably. Check the Forecaster's Comments on the department web page throughout the month for updated information regarding spring runoff conditions.

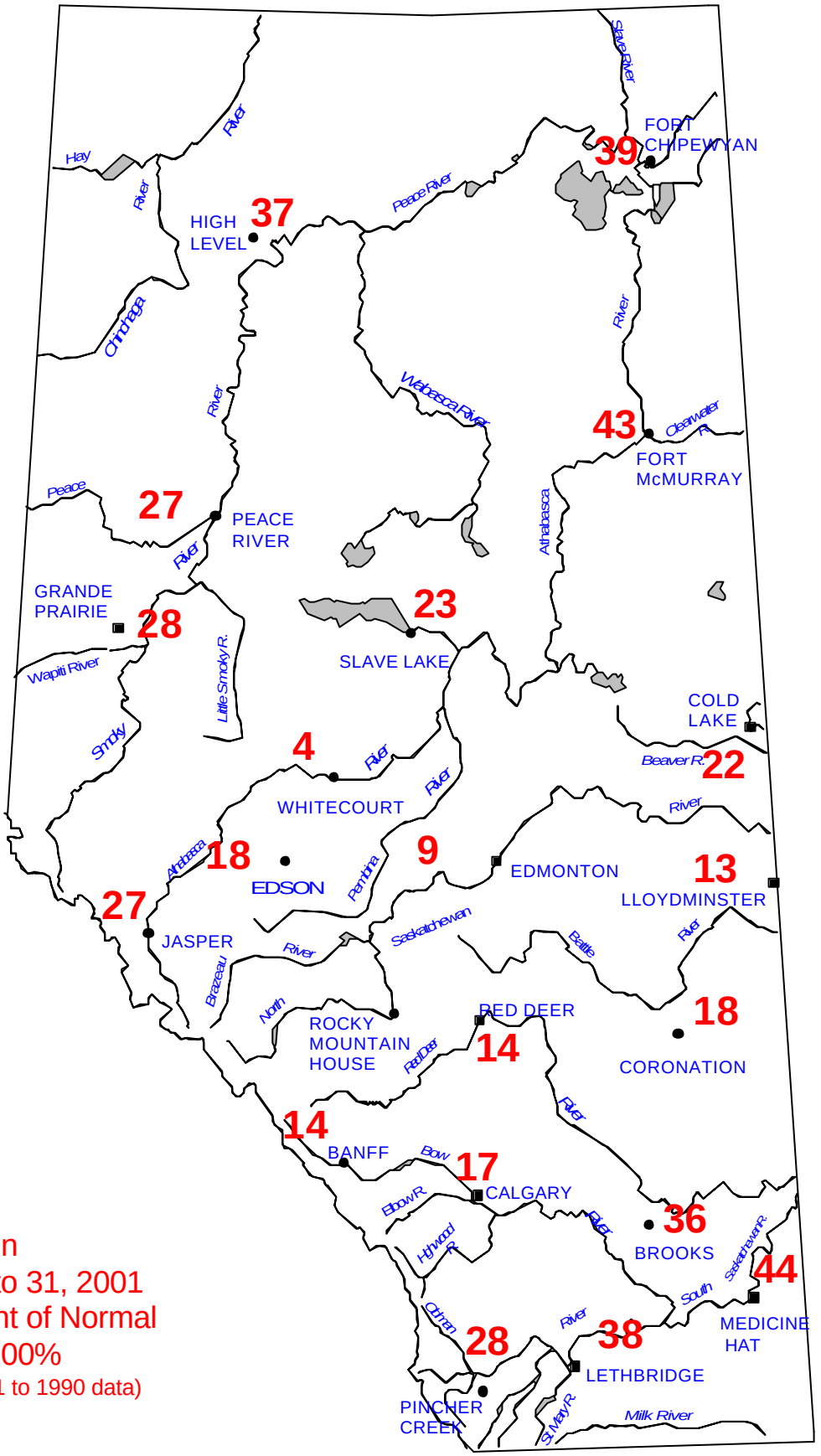

Figure 1
Precipitation
January 1 to 31, 2001
as a percent of Normal
Normal = 100%
(based on 1961 to 1990 data)

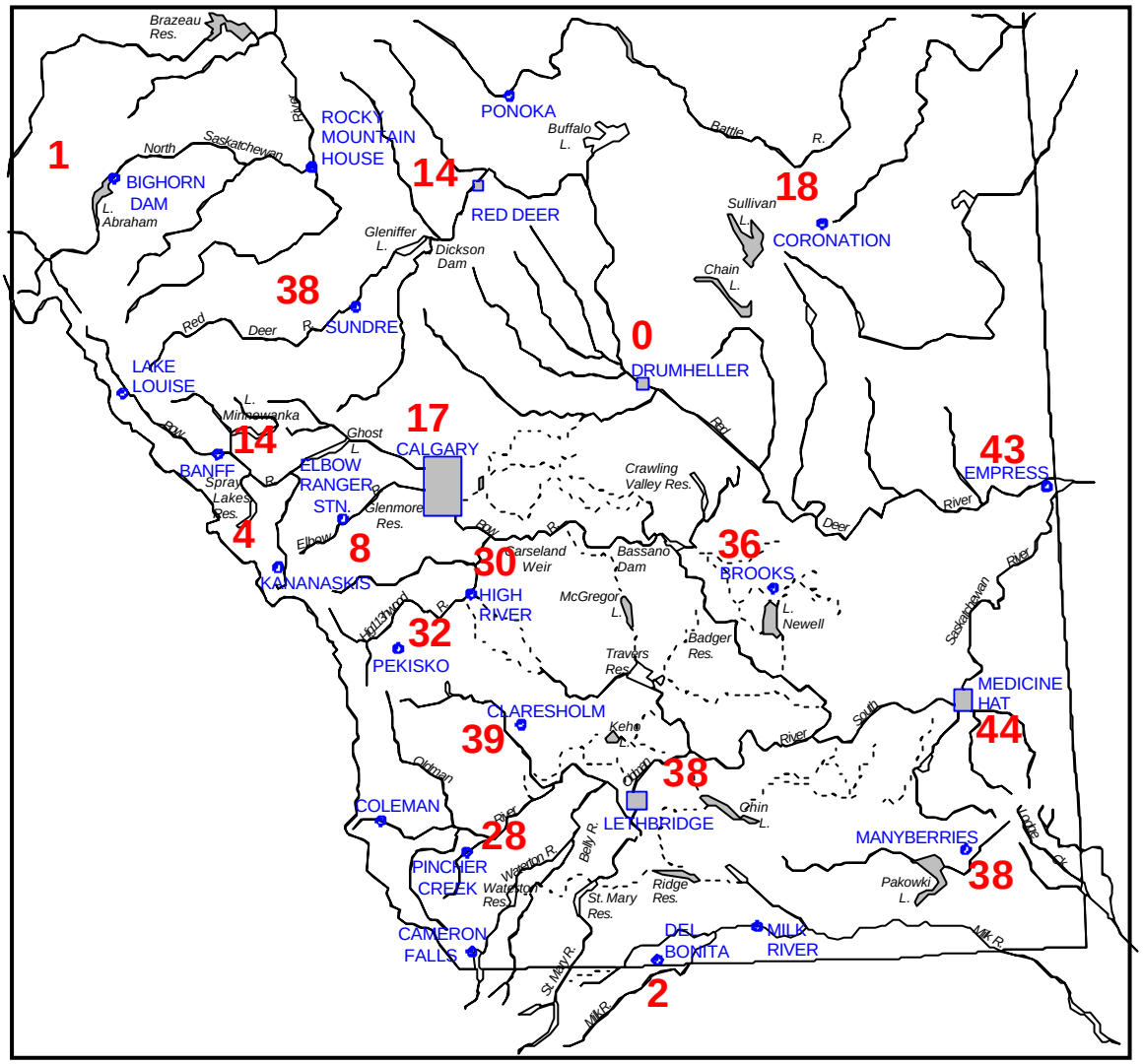

Figure 2
Winter Precipitation
Southern Alberta
January 1 to 31, 2001
as a percent of Normal
Normal = 100%
(based on 1961 to 1990 data)

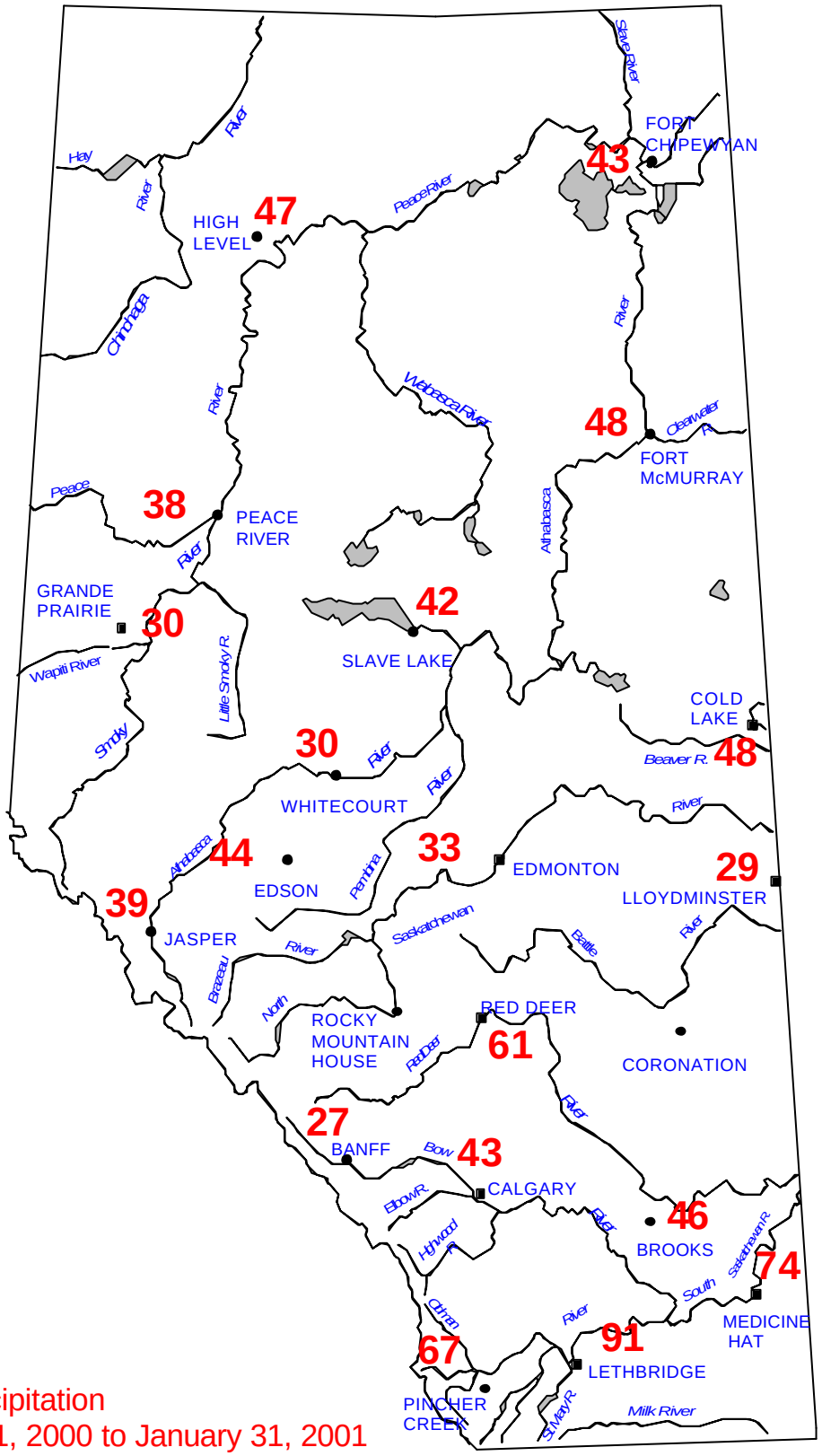

Figure 3
Winter Precipitation
November 1, 2000 to January 31, 2001
as a percent of Normal
Normal = 100%
(based on 1961 to 1990 data)

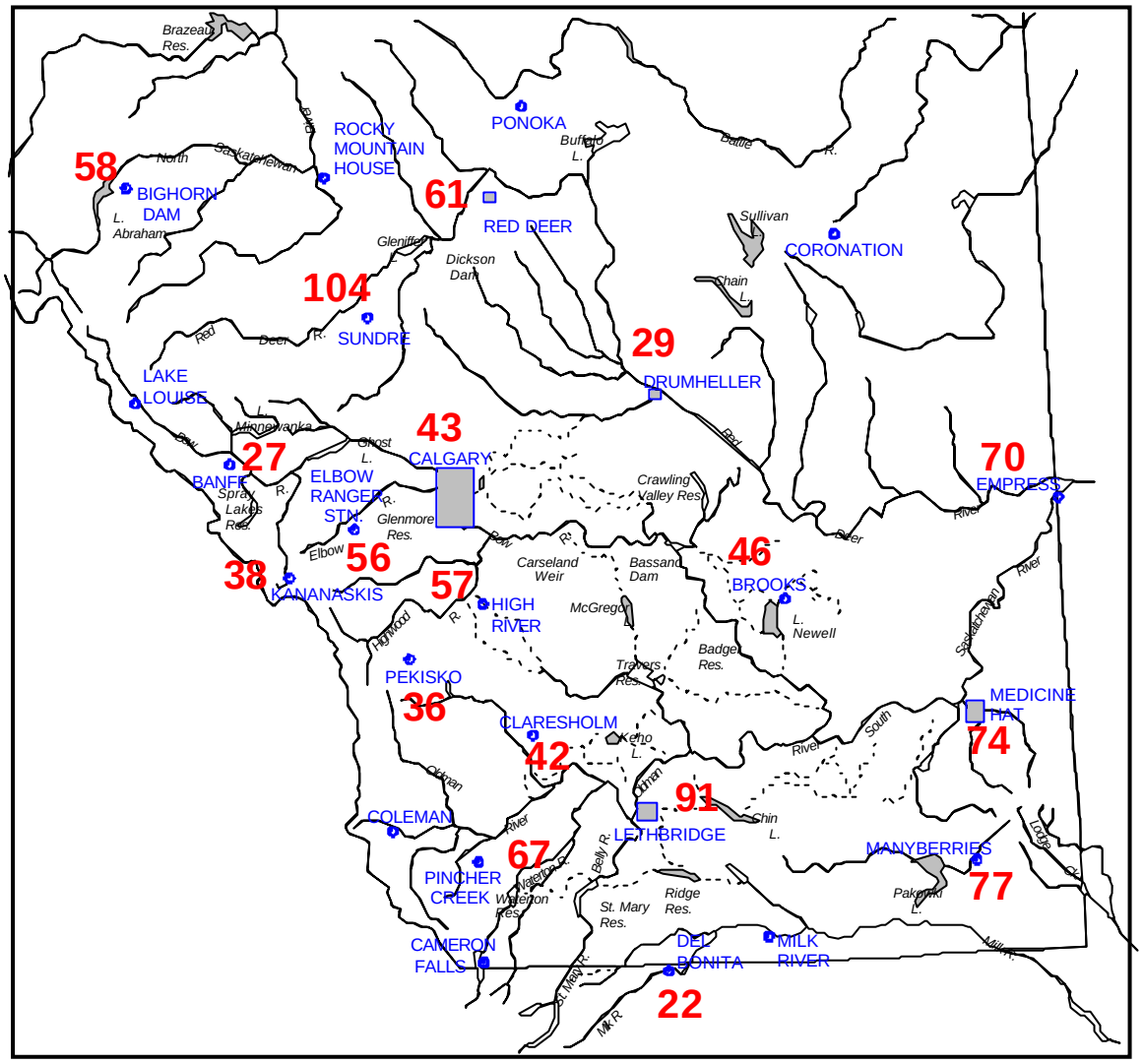

Figure 4
Winter Precipitation
Southern Alberta
November 1, 2000 to January 31, 2001
as a percent of Normal
Normal = 100%
(based on 1961 to 1990 data)

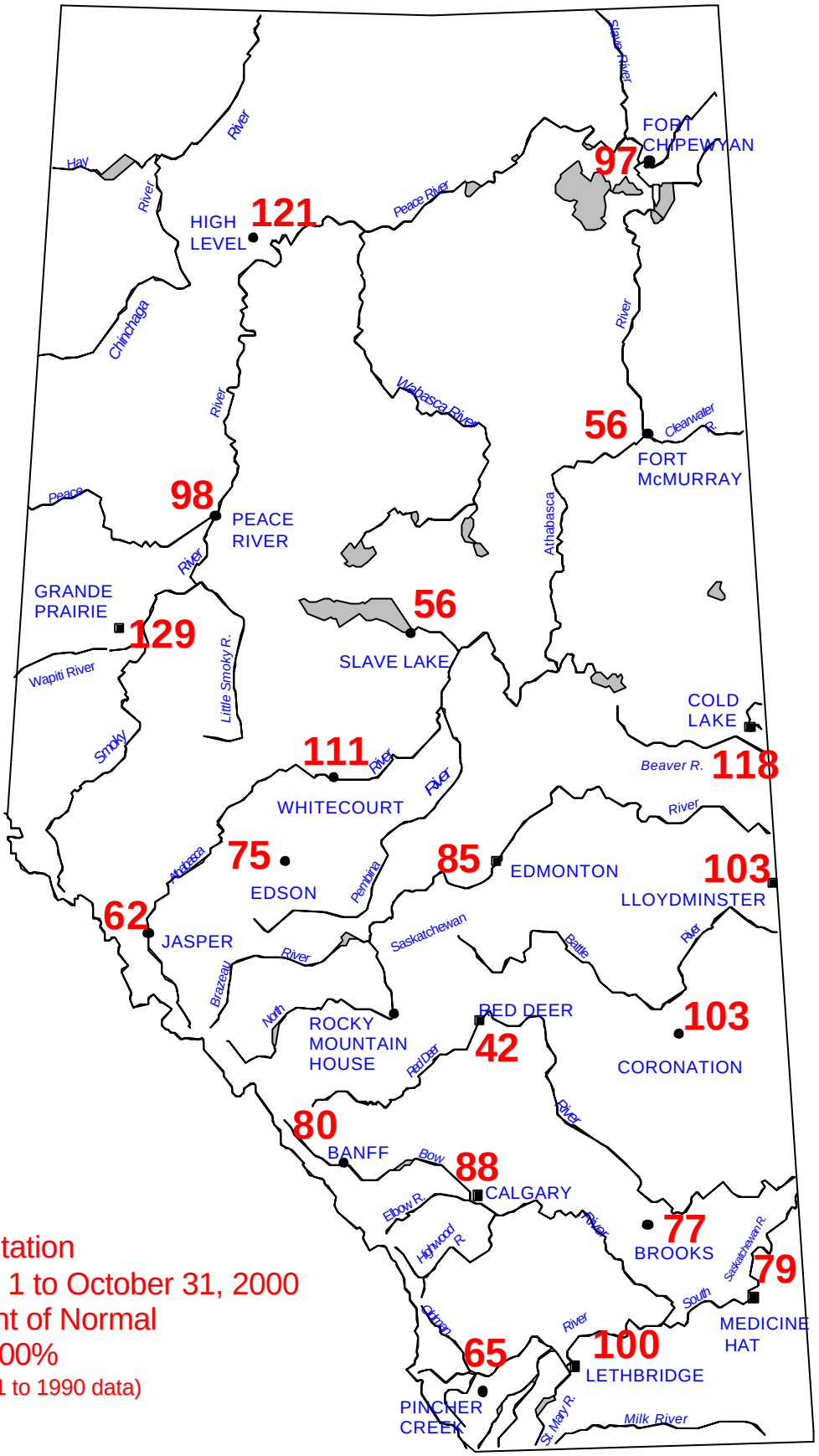

Figure 5
Fall Precipitation
September 1 to October 31, 2000
as a percent of Normal
Normal = 100%
(based on 1961 to 1990 data)

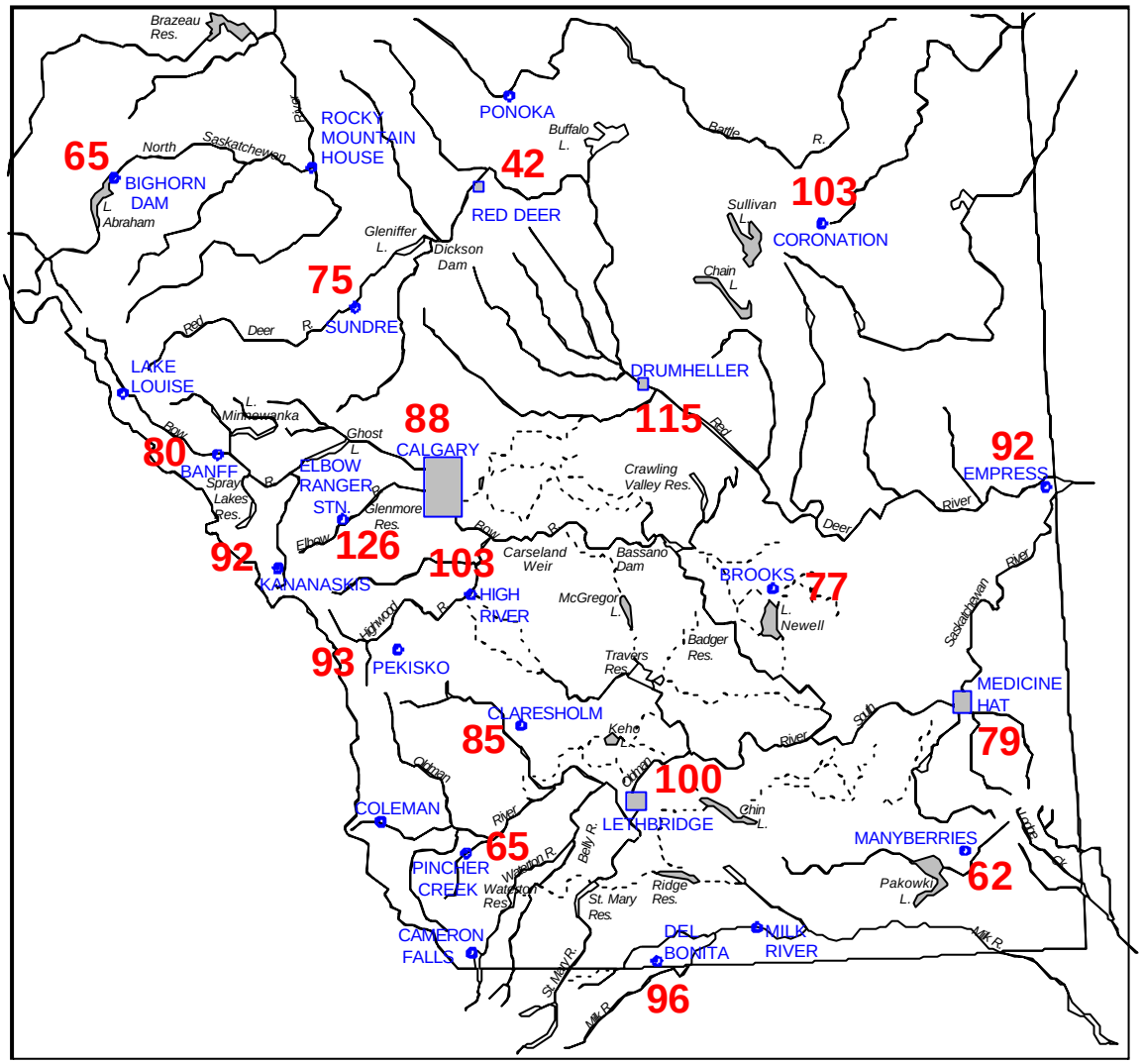

Figure 6
Fall Precipitation
Southern Alberta
September 1 to October 31, 2000
as a percent of Normal
Normal = 100%
(based on 1961 to 1990 data)

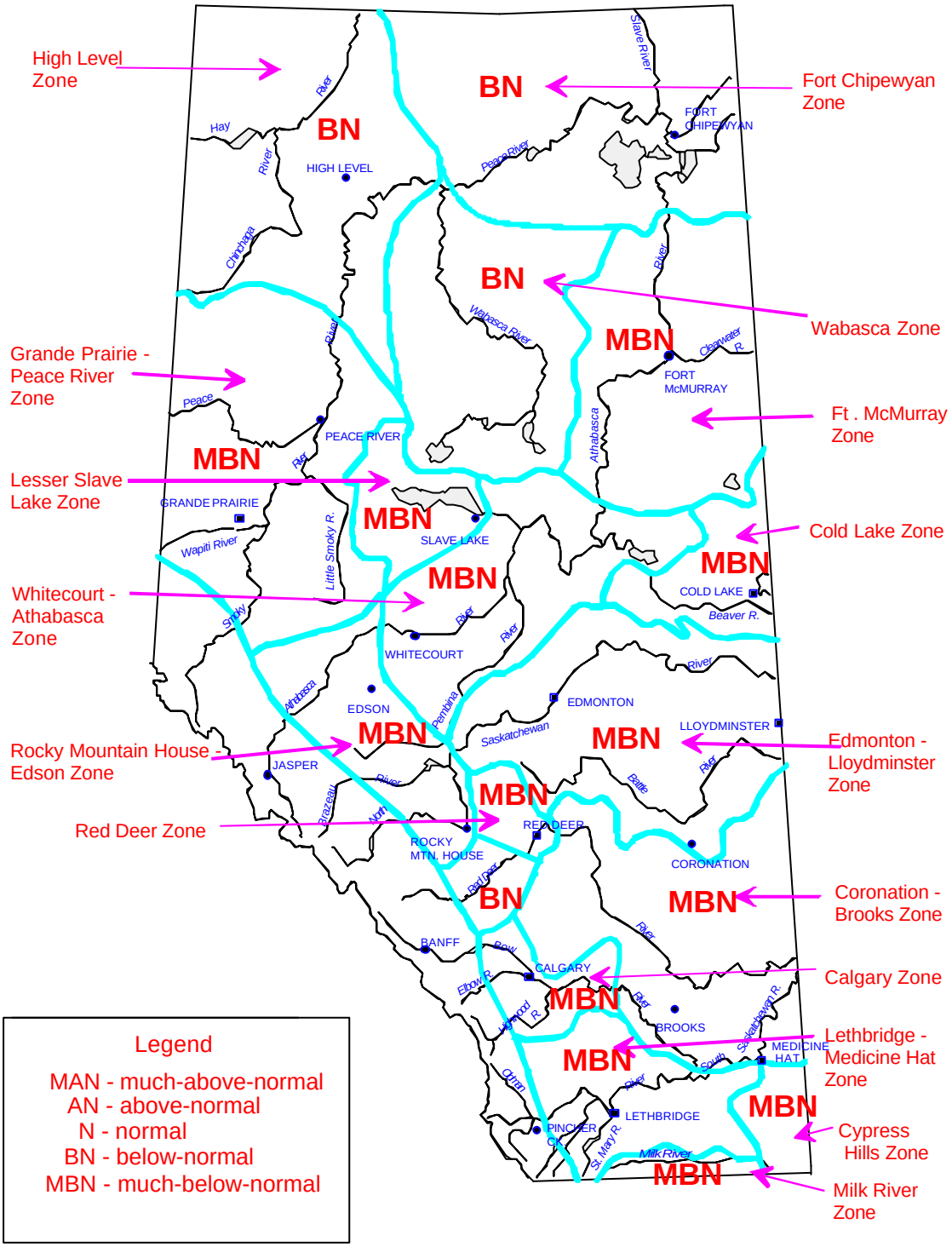

Figure 7
Plains Spring Runoff Outlook
as of February 1, 2001

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