Alberta’s AgroClimatic Information Service (ACIS)

Agro-Meteorological Applications and Modelling Unit
Environmental Stewardship Division
Alberta Agriculture and Forestry (AF)

www.weatherdata.ca
Climate Normals

- Reference point to compare current trends/conditions to past
- Useful for comparing locations/regions
- Typically an arithmetic average of a 30-year period
  - 1961-1991
  - 1971-2000
  - 1981-2010
- Updated every decade...if your lucky!!!
What is Normal?

• It's a setting on your drier?
• The number you get as you pass from one extreme to the other?
*Reconstructed from Lethbridge (1902 to 1921), Lethbridge CDA (1918 to 2007), Lethbridge A (1987 to 2007), Lethbridge CDA-ACIS (2006-2016)
Annual precipitation recorded at Lethbridge* 1900 to 2016

*Reconstructed from Lethbridge (1902 to 1921), Lethbridge CDA (1918 to 2007), Lethbridge A (1987 to 2007), Lethbridge CDA-ACIS (2006-2016)
Annual Precipitation Recorded at Lethbridge* 1900 to 2016

*Reconstructed from Lethbridge (1902 to 1921), Lethbridge CDA (1918 to 2007), Lethbridge A (1987 to 2007), Lethbridge CDA-ACIS (2006-2013)
Annual Precipitation Randomly Generated* 1900 to 2016

*Generated using Excel's NORMINV(RAND(),449,93) function
Annual Precipitation for Edmonton 1883 to 2016

- Annual Precipitation
- 30-year average
- Long term average

Total Precipitation Reported (mm) vs Year

Data ranges from 1883 to 2016.
Annual Precipitation for Edmonton 1883 to 2016

Total Precipitation Reported (mm)

Year

Annual precipitation
30-year average
long term average
Lethbridge Precipitation Accumulations Relative to Normal for 2016

Deficit/surplus
Normal precipitation
Actual precipitation

Accumulated Precipitation (mm)
Precipitation Deficit/surplus (mm)

Date

29-Jan-16 29-Feb-16 31-Mar-16 30-Apr-16 31-May-16 30-Jun-16 31-Jul-16 31-Aug-16 30-Sep-16 31-Oct-16 30-Nov-16 31-Dec-16
What Does all this Mean?

- Climate variability is more important than climate normal’s
- Meteorological records are relatively short
- Abrupt unpredictable changes from wet-dry-wet.
- Last weeks, months, seasons, years, weather is a very poor predictor for what's ahead
- The pattern is there is no bankable pattern
Alberta Climate Information Service

Investigating your weather and climate

www.weatherdata.ca
Welcome to ACIS, an interactive tool that helps producers, farm consultants, and researchers to see Alberta weather forecasts, browse over 10,000 maps of Alberta weather and Alberta climate-related information, and access near real-time station data from over 350 meteorological stations operating in the province of Alberta. The maps and weather data describe Alberta's weather, climate, and related agriculture features to help with your long-term planning and decision-making throughout the growing season.

Alberta Weather Station Conditions Summary

Obtain up-to-date current weather conditions measured by the weather station of your choice. Interact with dynamic graphs that resize to the time period that you select. Additionally, view at-a-glance weather derivatives for the current growing season to make more informed operational decisions.

Alberta Weather Station Data and Graphs

Find out where the meteorological stations are in Alberta and download, graph and compare near-real-time data from more than 350 stations. Both hourly and daily data is available with the hourly data usually only about 2 hours old and daily data current as of yesterday. The data has been quality controlled and missing or erroneous data values have been filled and flagged. Data flags that are included with the downloaded data indicate if the data is actual, computed, or missing.

Alberta Climate and Atlas Maps

As of February 2013, there were over 12,000 maps in the archive. Many of these maps date as far back as 1961. Each week about 40 new maps are added to the viewer, describing current conditions and trends. Explore Alberta's current and historical climate trends and extremes. Currently map categories include precipitation, temperature, soil moisture, snowpack, drought indices and others. AF is committed to adding new categories all the time. Give us some feedback and if we can benefit a wide enough audience, you may see a brand new set of maps.

Alberta Weather Conditions Map

View a map of current weather conditions near any location or across the province. See values for a variety of weather elements plotted on an interactive map interface. You can also go through historical records and see how the weather conditions were spatially distributed in the past.

Alberta Weather Radar Imagery

View current weather radar imagery on an easy-to-use, interactive map interface. You can zoom the radar map right to any location to see if it received precipitation in the last few hours or if a storm system is heading in its direction. You can also view the entire province at a glance to get the big picture. The radar viewer also lets you display the most recent radar image, automatically fetching new data as it becomes available.

Alberta Weather Forecast

View a week-long forecast for several locations as issued by the Environment Canada Weather Office.
Weather Station Data viewer

- Hourly, daily, monthly yearly
- Frost probabilities
- Growing Degree days
- Corn Heat Units
- Normals
Hourly Station Observations in Local Standard Time; Created January 10, 2017

Temperature (°C)

Date

Air Temp. Min. Lethbridge Demo Farm IMCIN

0 Celsius
Weather Conditions Map
Historical Weather Data

Monthly Precipitation Totals
Climate and Atlas Maps

Average Corn Heat Units
Climate and Atlas Maps

1 in 4 year low Corn Heat Units
Climate and Atlas Maps

1 in 10 year Low Corn Heat Units
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