

The background image shows a close-up of dry, cracked soil. The soil is a dark, ashy-brown color and is heavily fissured with deep, irregular cracks. Sparse green plants, likely corn seedlings, are scattered across the surface, some appearing to struggle in the dry conditions. The overall scene conveys a sense of agricultural drought.

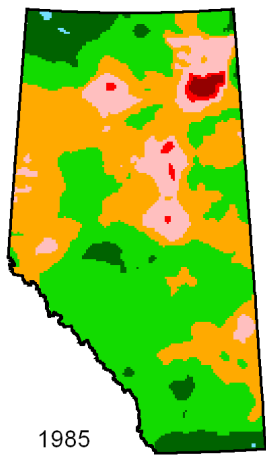
Agricultural Drought Monitoring and Reporting in Alberta

Daniel Itenfisu and Ralph Wright

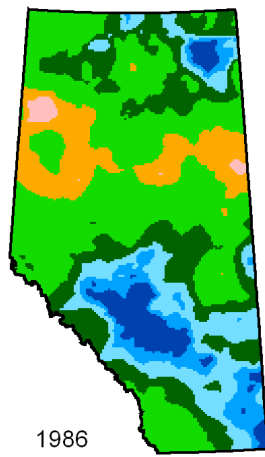
Alberta Agriculture and Rural Development

Presentation Overview

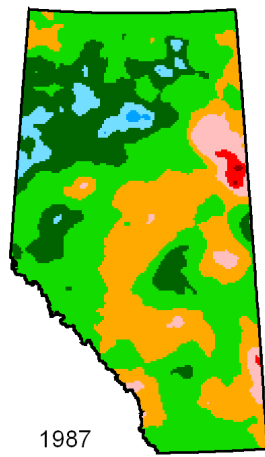
- The Alberta Agricultural Drought Risk Management Plan
- Meteorological Stations expansion
- Drought Indices
- Data Quality Control and Data Filling
- Data Delivery: Agro Climatic Information Service (web)



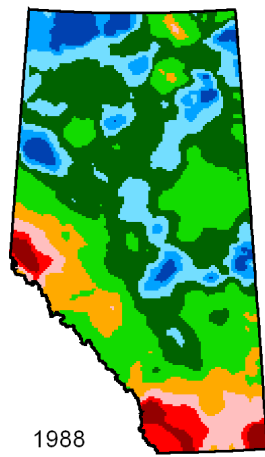
1985



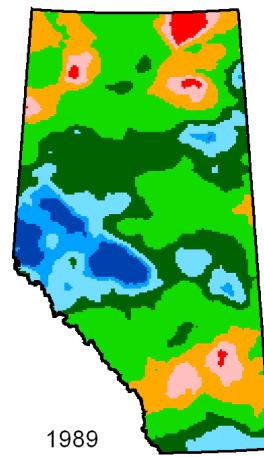
1986



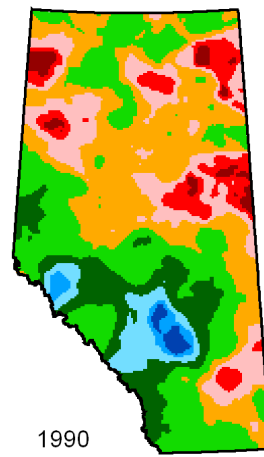
1987



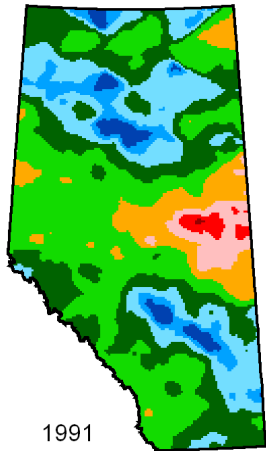
1988



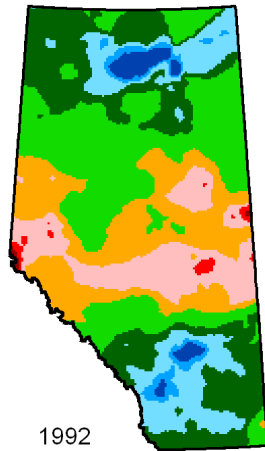
1989



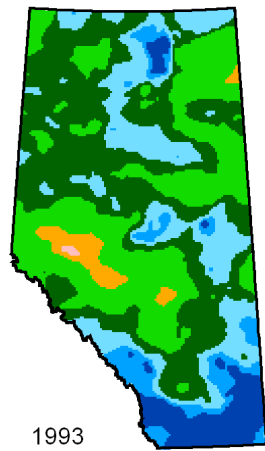
1990



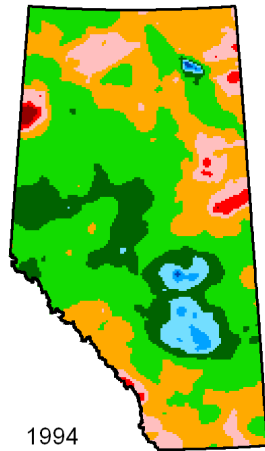
1991



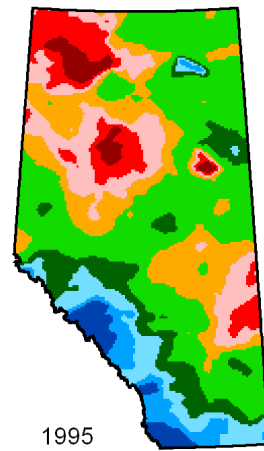
1992



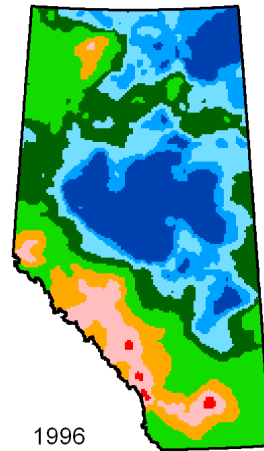
1993



1994



1995



1996

Growing Season (April 1 to September 31) Precipitation Accumulations Relative to Long Term Normal

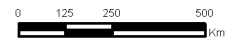
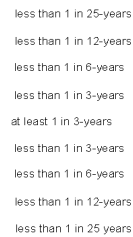
Years 1985 to 1996

The frequency of occurrence was based on historical weather data from the 1961-2005 period, interpolated to township centres using AbClim-1.0.

Condition



Frequency of Occurrence



Alberta

The AB Agriculture Drought Risk Management Plan (ADRMP)

- The plan provides a framework for a **coordinated, pro-active** approach to mitigate the effects of drought in the agricultural areas of Alberta.
- **Partners - Alberta Agriculture, Alberta Environment, AFSC, PFRA, Counties**

ADRMP Plan Strategies

- Drought Monitoring and Reporting and analysis: onset, severity and extent, ending, forecast ...
- Drought Preparedness — taking action before a drought to increase the level of readiness by all stakeholders.
- Drought Response — taking action during and immediately following a drought to reduce its impacts.

The Drought reporting system soon recognized the inadequacy of the existing weather data in the province

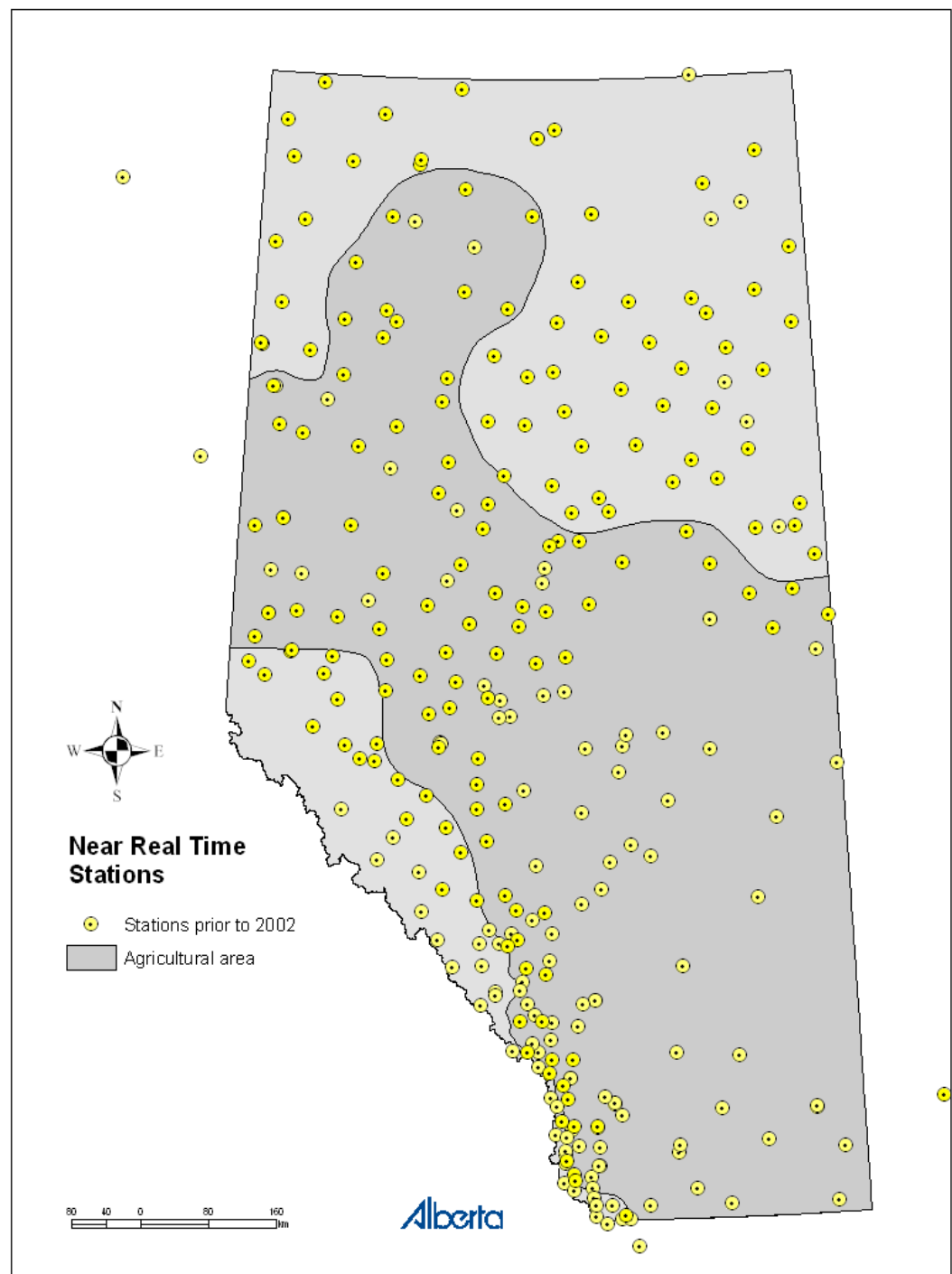
Alberta Weather Stations Prior to 2002

Networks owned by -
MSC, AENV and SRD

Mainly Measure -

- Precipitation
- Temperature
- Humidity

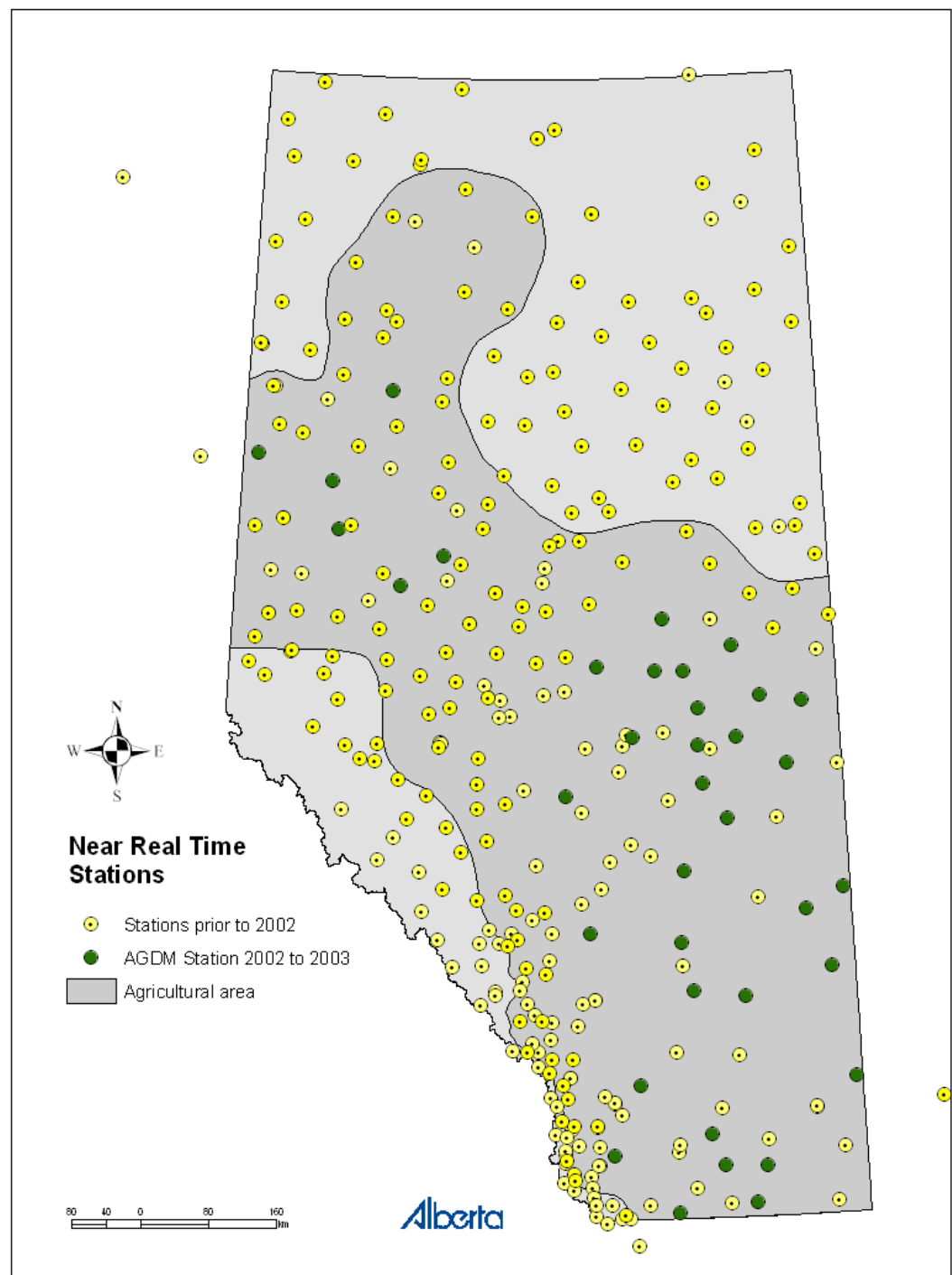
History Current Status



Near Real Time Network

-2002 to 2003

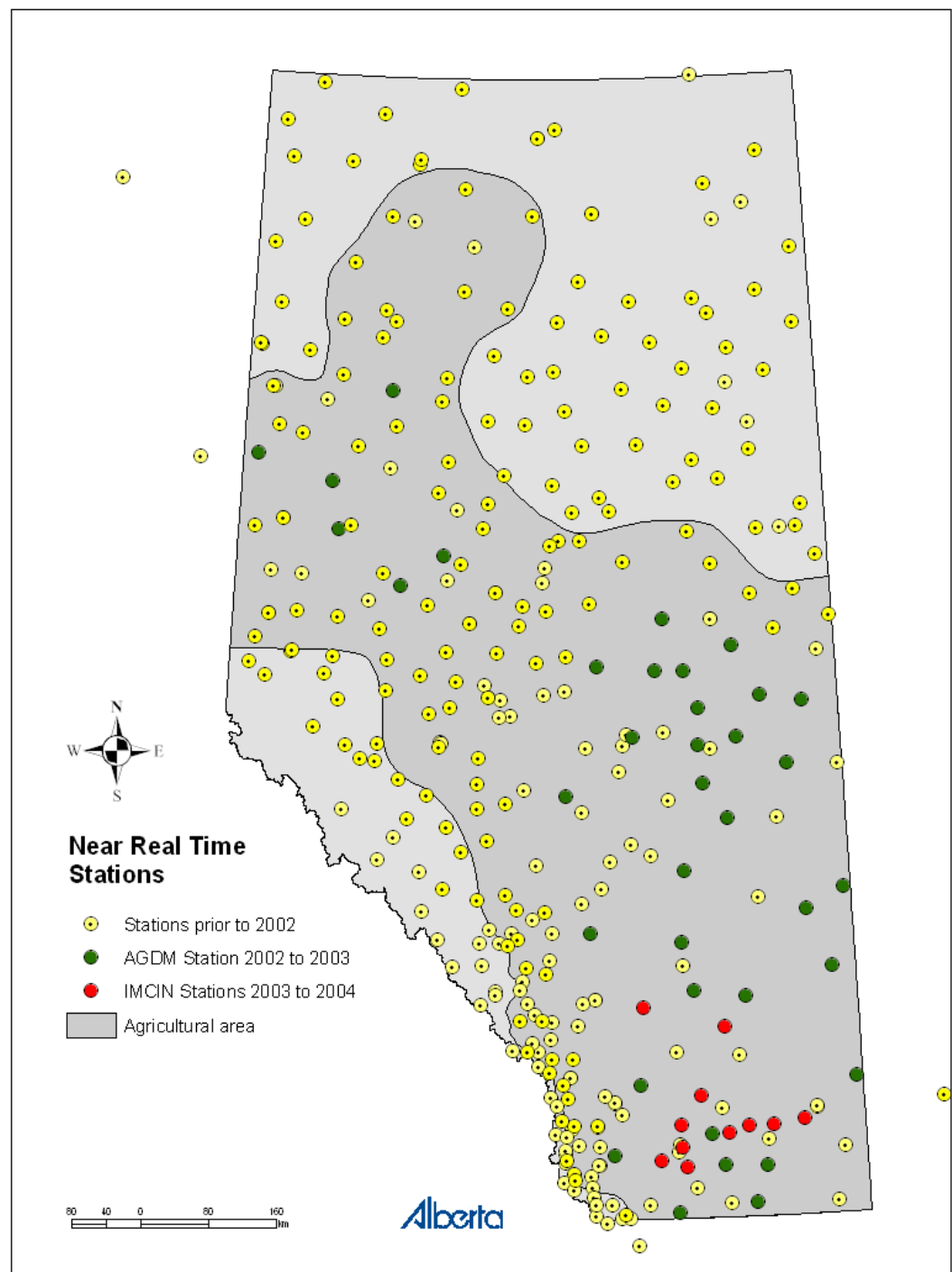
ARD, Fed's
added 36 AGDM stations



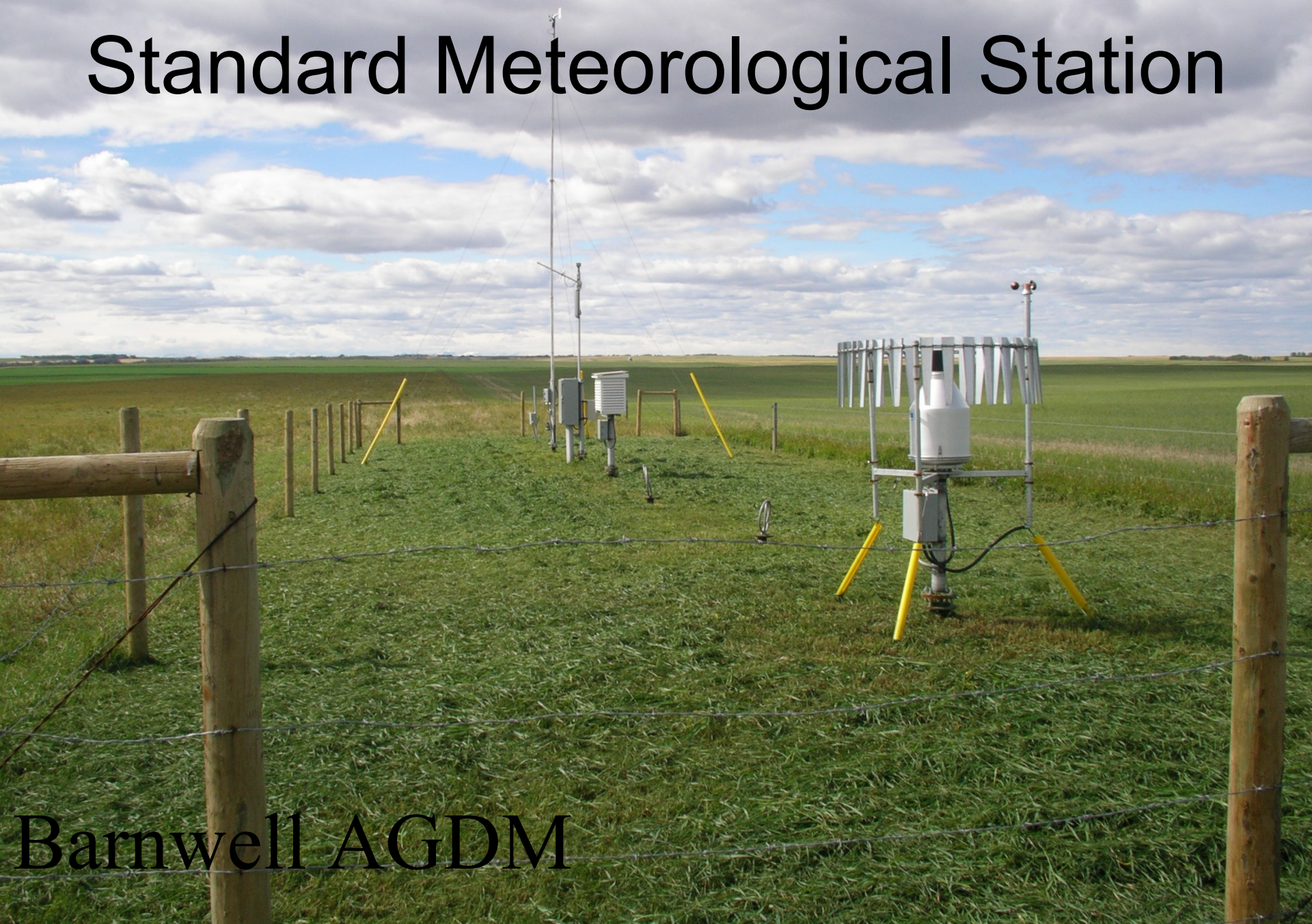
History and Current Status

Near Real Time Network

-2003 to 2004
ARD added
11 IMCIN stations



Standard Meteorological Station



Barnwell AGDM

Parameters Measured at ARD's Meteorological Stations

Soil Moisture and Temperature

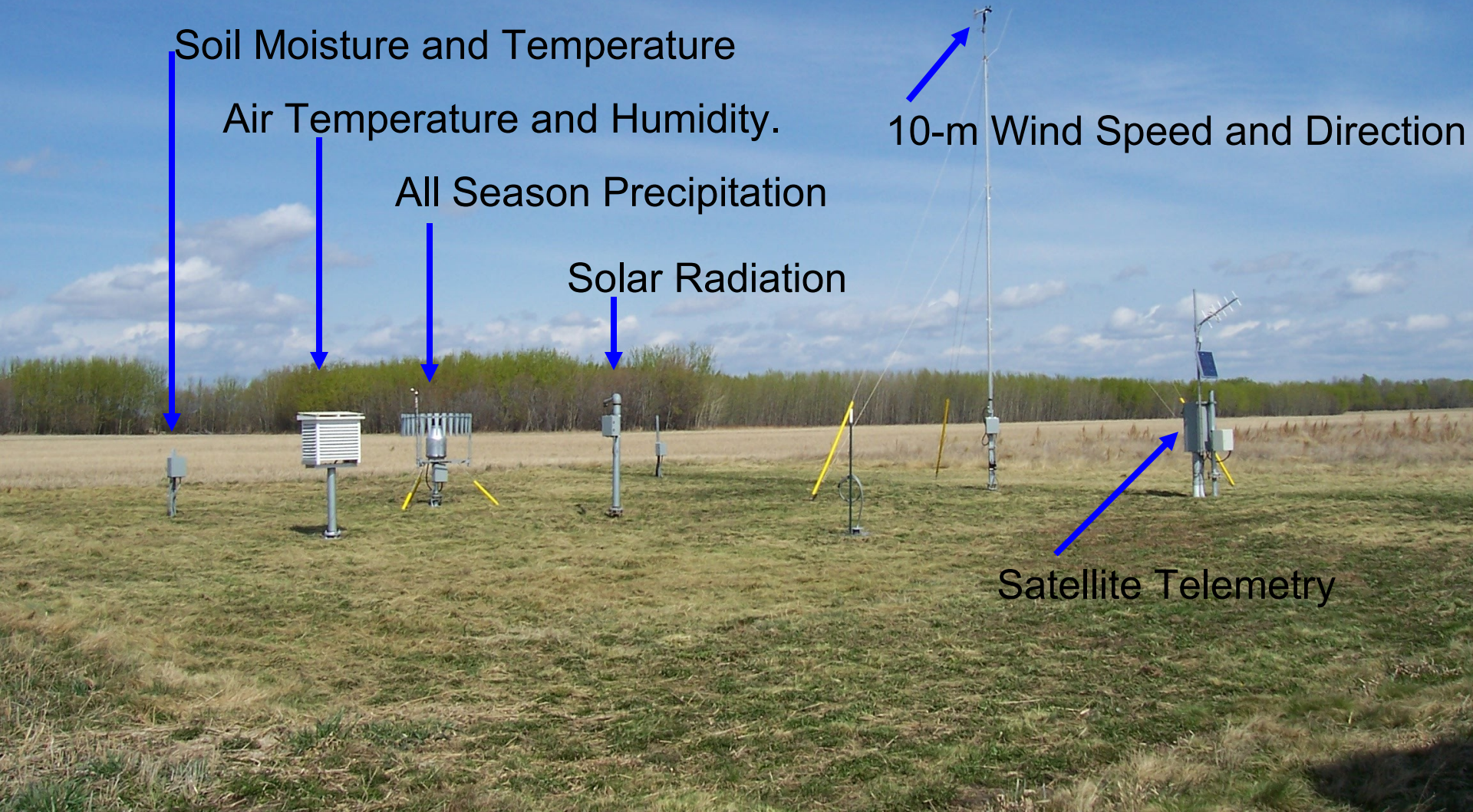
Air Temperature and Humidity.

All Season Precipitation

Solar Radiation

10-m Wind Speed and Direction

Satellite Telemetry

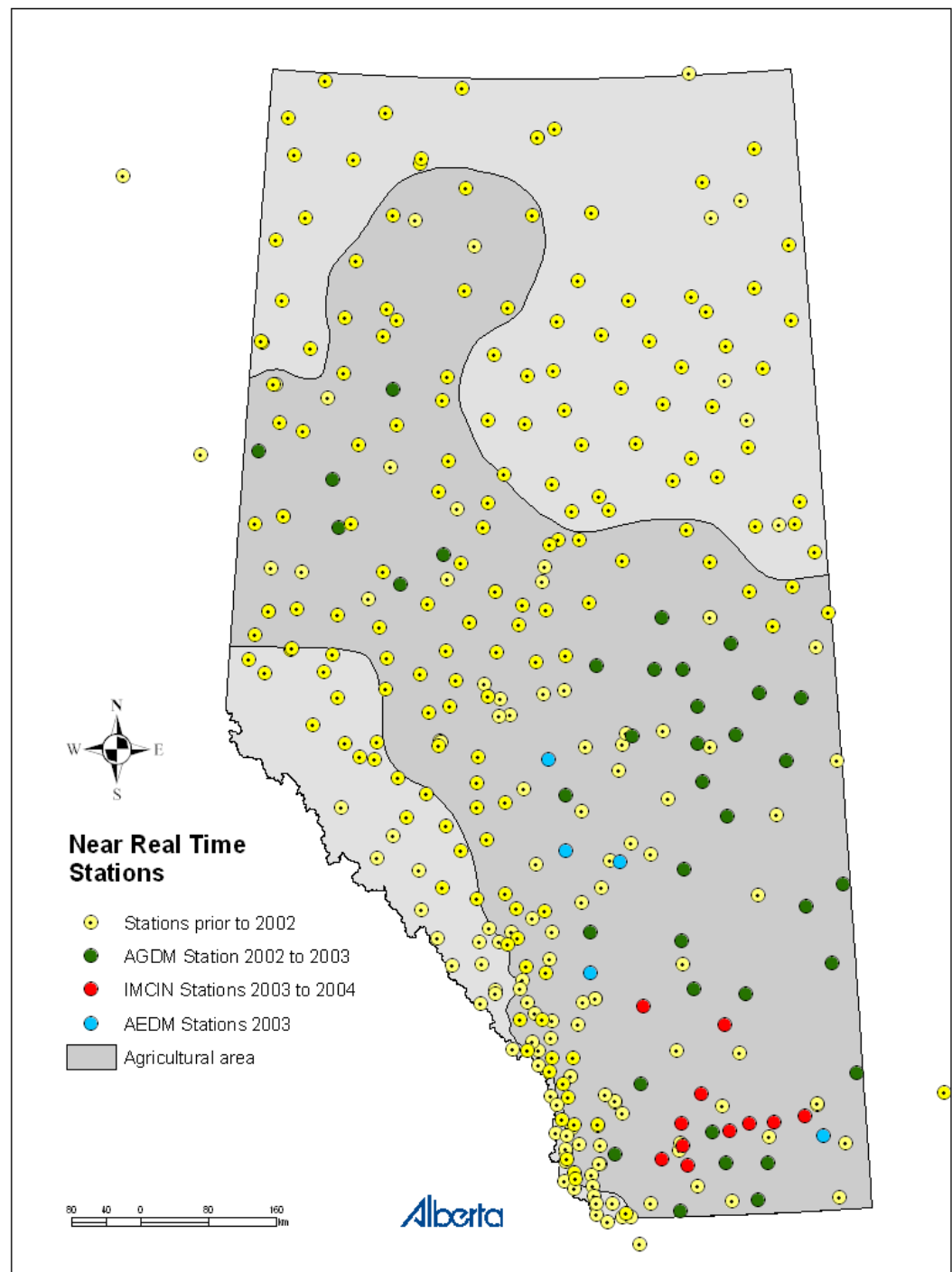


Near Real Time Network

-2003

ARD and AENV

added 5 AEDM stations

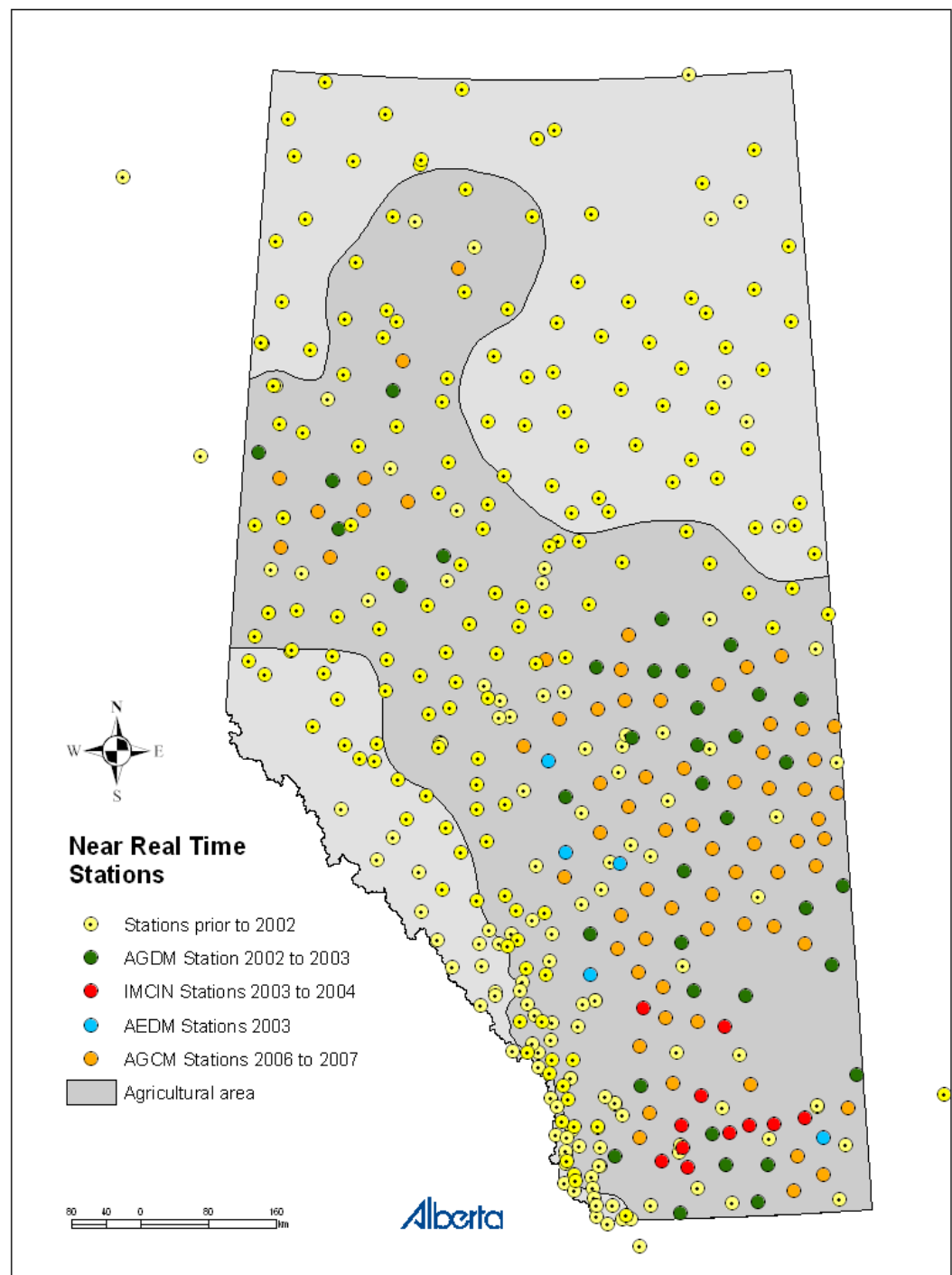


History and Current Status

Near Real Time Network

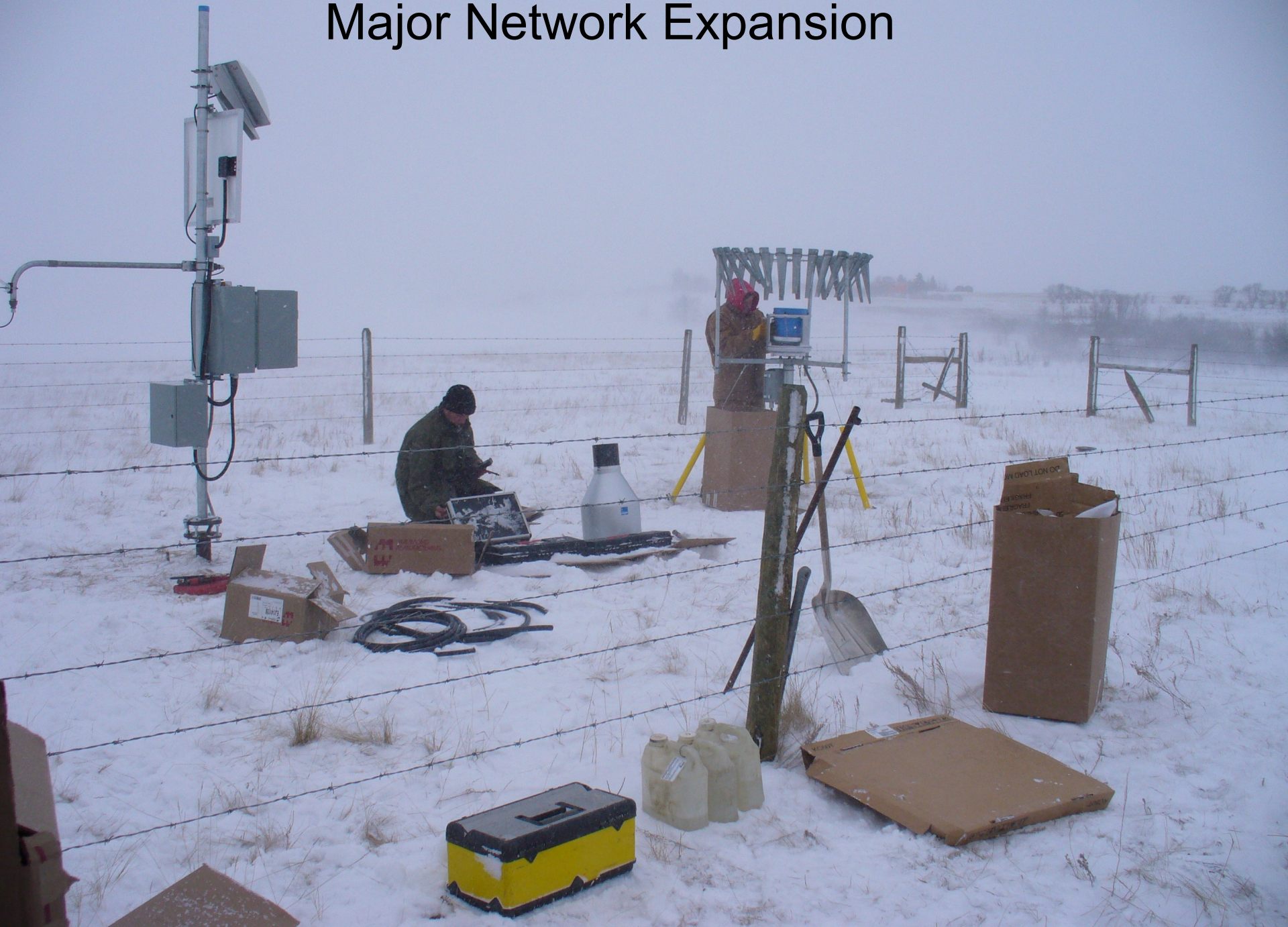
-2007 to 2008

ARD, AFSC, AENV, Fed's
added 67 AGCM stations

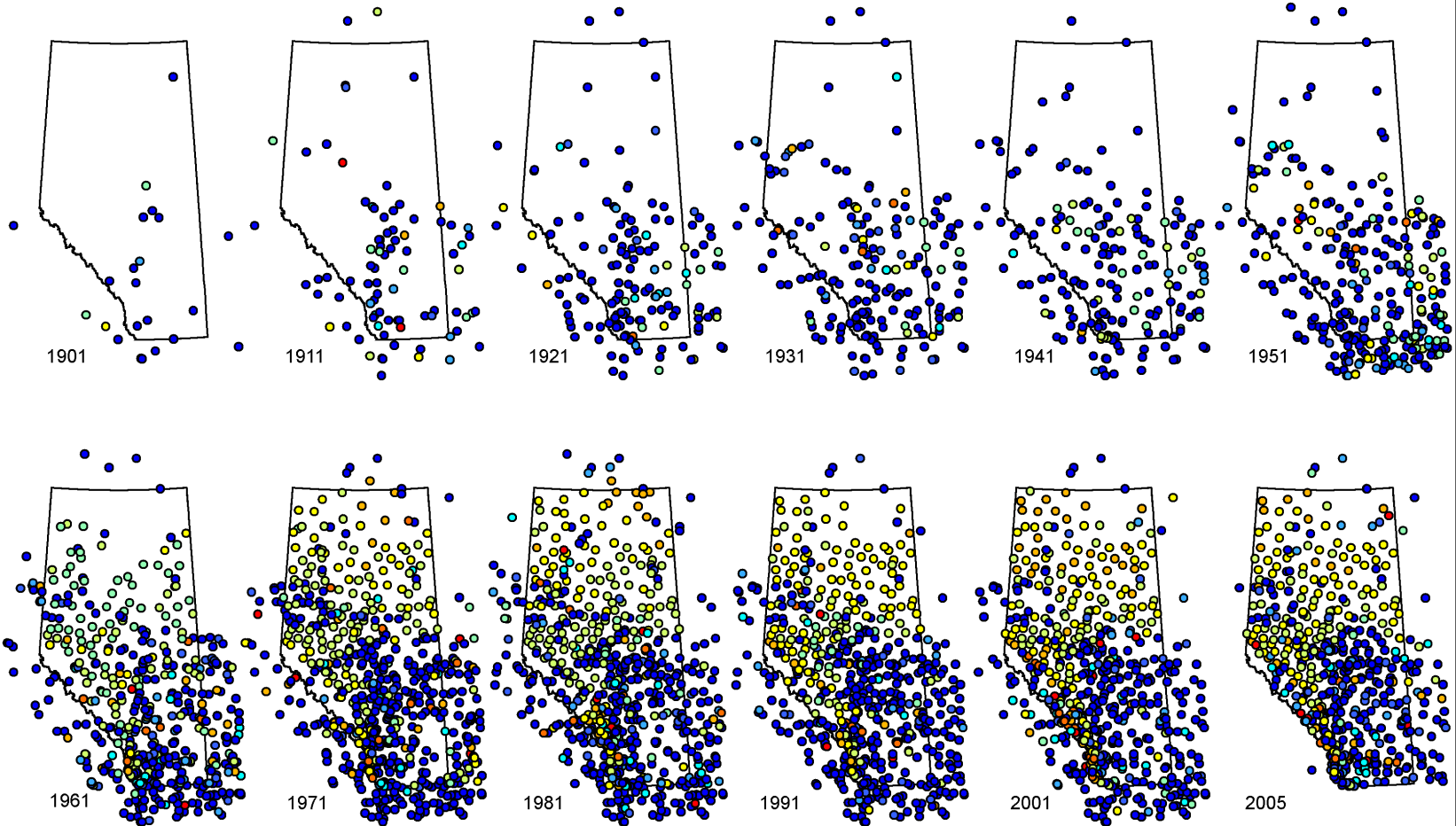


History and Current Status

Major Network Expansion

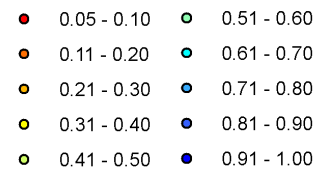


Alberta Historical Weather Data



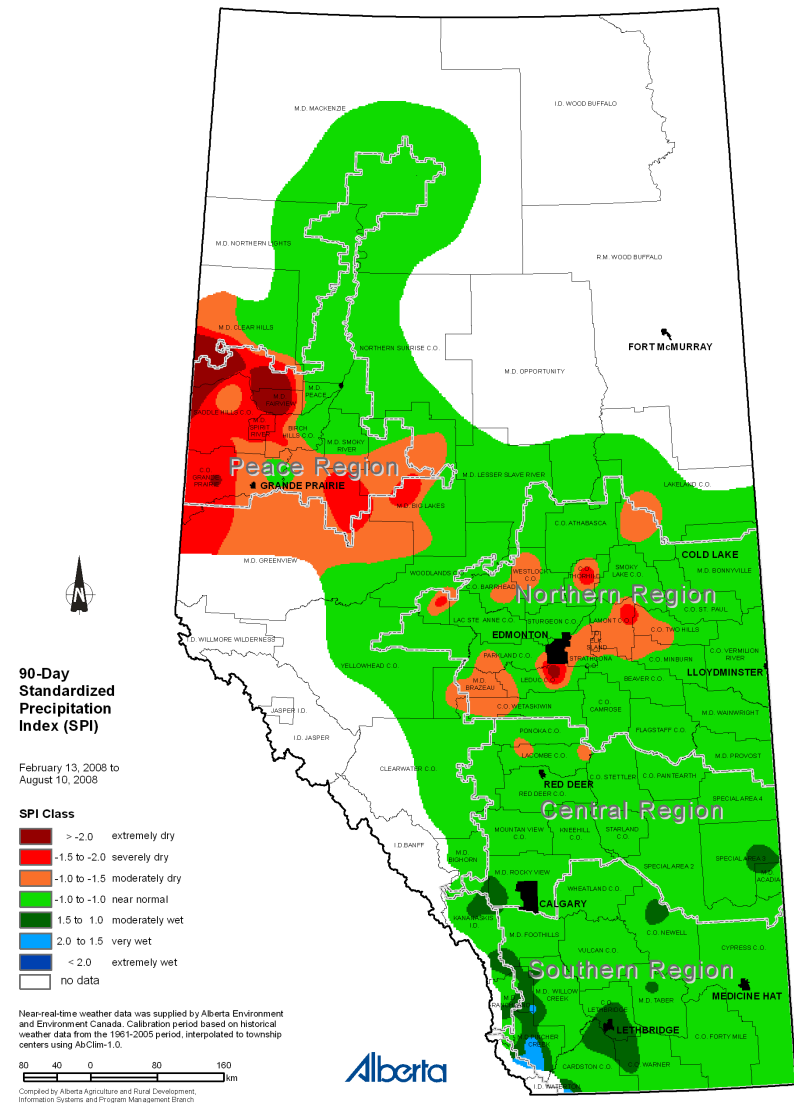
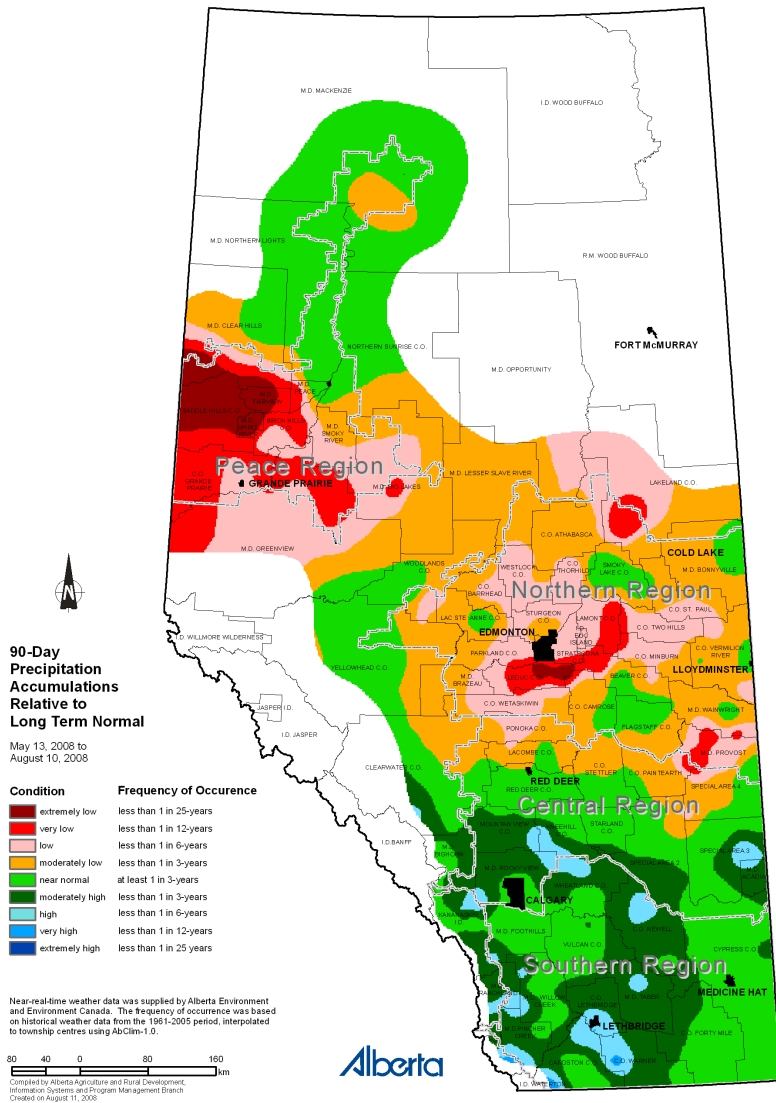
Snap shot of stations across time, with the completeness of each station recorded as density.
 For example: 0.6 implies that the station contains 60% of the data for the year, and 40% missing observations.

Station Completeness Index



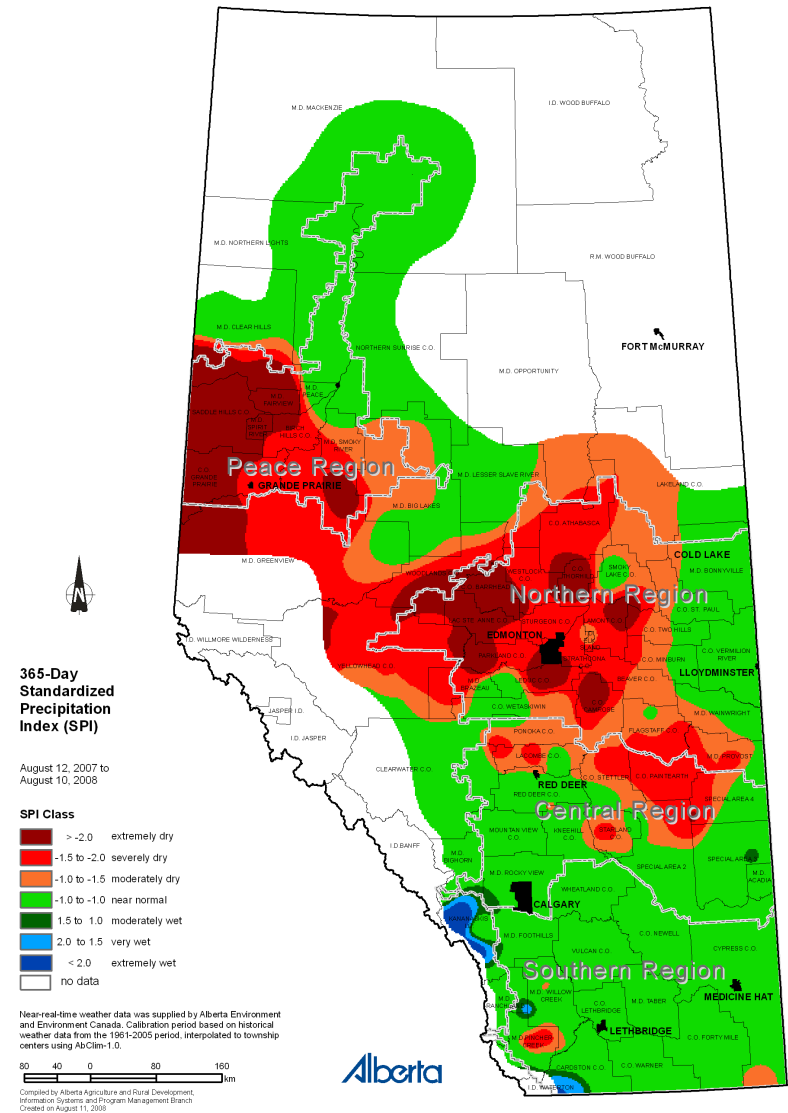
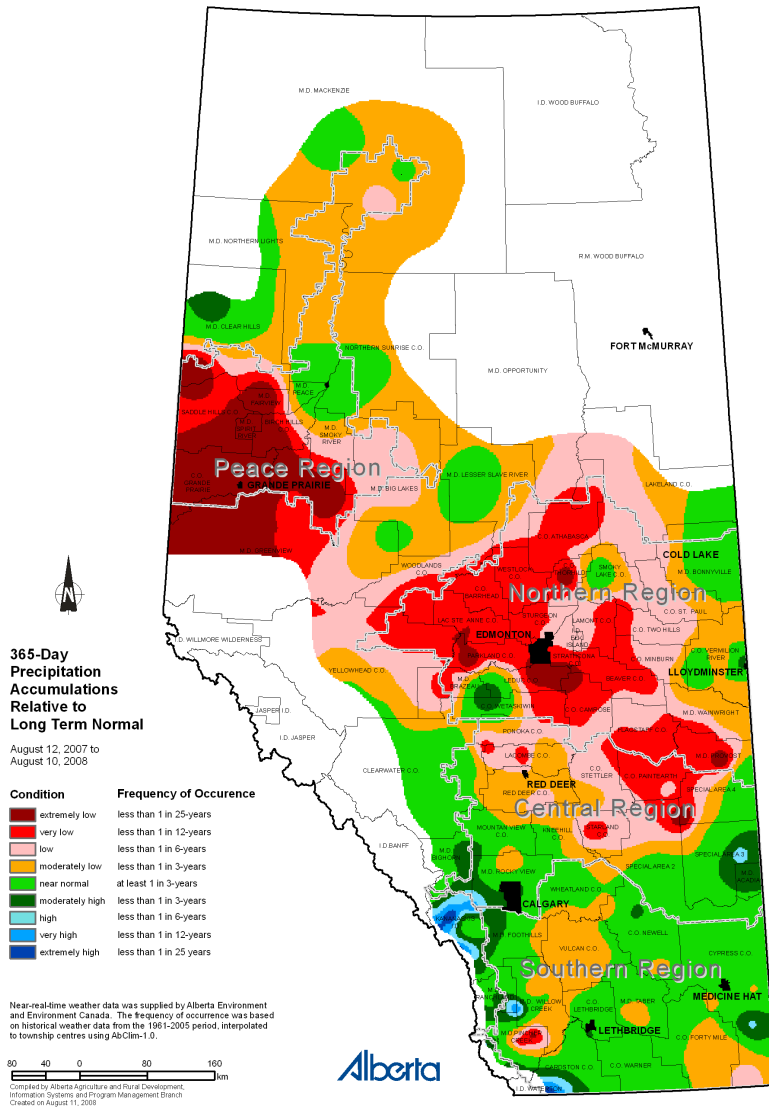
Percentile Index

SPI

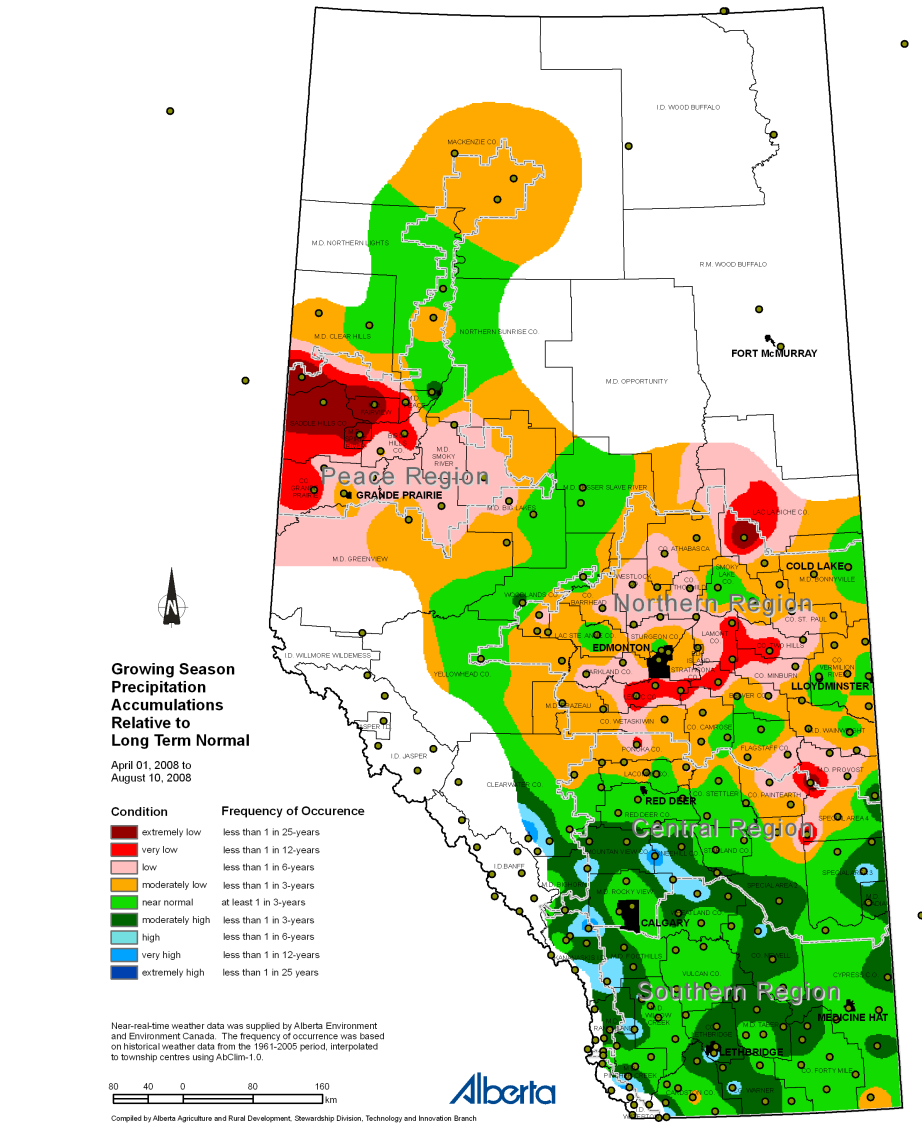
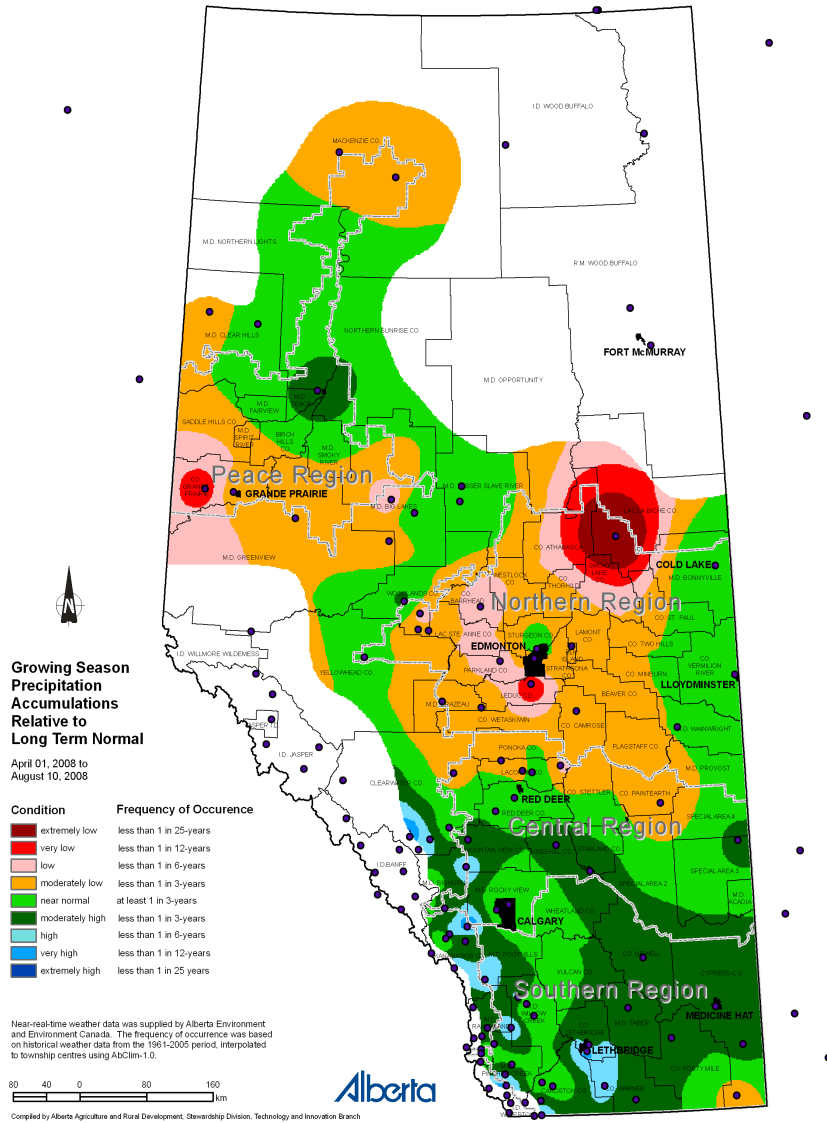


Percentile Index

SPI



Stations Density and Drought Indicators



Weather Data Second Generation QAQC:

Providing:

- quality assurance and quality control
- filling missing and invalid data

Station Metadata

- **Controlled** through the Station Maintenance Application (forcing data base integrity) and the application is tied to QA/QC and Web delivery

Station	Sensor	Code	Person	Stream	Organization	Name	Network	Alias	Commission Date	Organization	Transmission	Last Update	Decommission Date
10540						Abee AGDM	AGDM	ABEE		Alberta Agriculture and R...	GOES	2008-09-11	
15219						Acadia Valley AGCM	AGCM	AVAL	2008-05-05	Alberta Agriculture and R...	GOES	2008-08-25	
11799						Akamina Pass	ANV	AKAM		Alberta Environment	GOES	2008-07-29	
10310						Albert Hall AGCM	AGCM	ALBE		Alberta Agriculture and R...	GOES	2008-07-29	
6039						Alliance AGCM	AGCM	ALLI	2007-02-22	Alberta Agriculture and R...	GOES	2008-07-29	
10585						Andrew AGDM	AGDM	ANDR		Alberta Agriculture and R...	GOES	2008-07-29	
9882						Athabasca AGCM	AGCM	ATHA		Alberta Agriculture and R...	GOES	2008-07-29	
877						Atlee AGCM	AGCM	ATLE		Alberta Agriculture and R...	GOES	2008-07-31	
9927						Atmore AGDM	AGDM	ATMO		Alberta Agriculture and R...	GOES	2008-07-29	
907						Azure	ANV	AZUR		Alberta Environment	GOES	2008-07-30	
1288						Banff CS	EC	WBA		Environment Canada	UNKN	2008-08-12	
2004						Banff Springs	EC	BANF		Environment Canada	UNKN	2008-07-30	
9211						Barnwell AGDM	AGDM	BARN		Alberta Agriculture and R...	GOES	2008-07-29	
9681						Barons AGCM	AGCM	BARO		Alberta Agriculture and R...	GOES	2008-07-29	
2015						Barrhead CS	EC	BARR		Environment Canada	UNKN	2008-07-30	
10159						Bassano AGCM	AGCM	BASO		Alberta Agriculture and R...	GOES	2008-07-29	
12025						Battle River Headwaters	ANV	BAHW		Alberta Environment	GOES	2008-07-29	
2024						Beauvais Park	ANV	BEAU		Alberta Environment	UNKN	2008-07-30	
15721						Beaverlodge RCS	EC	BEAV		Environment Canada	UNKN	2008-07-30	
10176						Beiseker AGCM	AGCM	BEIS		Alberta Agriculture and R...	GOES	2008-07-29	
6048						Bellshill AGCM	AGCM	BELL	2007-03-22	Alberta Agriculture and R...	GOES	2008-07-29	
6054						Big Valley AGCM	AGCM	BIGV	2007-04-07	Alberta Agriculture and R...	GOES	2008-07-29	
12319						Black Diamond	ANV	BDIA	2008-04-30	Alberta Environment	GOES	2008-07-30	
9747						Blood Tribe Ag. Project IM...	IMCIN	BTAP		Alberta Agriculture and R...	GOES	2008-07-29	
11019						Bodo AGDM	AGDM	BODO		Alberta Agriculture and R...	GOES	2008-07-29	
15729						Bow Island	EC	BOWI		Environment Canada	UNKN	2008-07-30	
10045						Bow Island North IMCIN	IMCIN	BISL		Alberta Agriculture and R...	GOES	2008-07-29	
11773						Bow Summit (New)	ANV	BSUM		Alberta Environment	GOES	2008-08-01	
2032						Bow Valley	EC	BOWV		Environment Canada	UNKN	2008-07-30	
6012						Broken Plate	AGDM	BRET		Alberta Agriculture and R...	MODM	2008-08-06	

Information | Sensor Elements | Images

Station: Abee AGDM

Station Detail

Name: * Abee AGDM

Aliases: EC_ID: 3010010, WMO_ID: 71285, AENV_ID: ABEE, TC ID: XAF

Commissioned: []

Station Type: AGDM

Network: * Agriculture Drought Monitoring N...

Operator: Alberta Agriculture and Rural Dev...

Organization: Alberta Agriculture and Rural Dev...

Comment...

Location

Latitude (dec degrees): * 54.2773

Longitude (dec degrees): * 112.9654

Elevation (metres): 664.00

Easting: 632414.36

Northing: 6013880.87

Technicians: Aldo Dimaria

River Basin: []

Province: Alberta

Transmission Detail

Trans Type: * GOES

References: Transmit Channel : 175E, Transmit Time : 0:18:30, Transmit Window : 0:00:15

Season Start: []

Season End: []

Freq: Hourly

Station Metadata

Revert | Apply

ID	Name	Network	Alias	Commission Date	Organization	Transmission	Last Update	Decommission Date
10540	Abee AGDM	AGDM	ABEE		Alberta Agriculture and R...	GOES	2008-09-11	
15219	Acadia Valley AGCM	AGCM	AVAL	2008-05-05	Alberta Agriculture and R...	GOES	2008-08-29	
11799	Akamina Pass	ANV	AKAM		Alberta Environment	GOES	2008-07-29	
10310	Albert Hall AGCM	AGCM	ALBE		Alberta Agriculture and R...	GOES	2008-07-29	
6039	Alliance AGCM	AGCM	ALLI	2007-02-22	Alberta Agriculture and R...	GOES	2008-07-29	
10585	Andrew AGDM	AGDM	ANDR		Alberta Agriculture and R...	GOES	2008-07-29	
9882	Athabasca AGCM	AGCM	ATHA		Alberta Agriculture and R...	GOES	2008-07-29	
877	Atlee AGCM	AGCM					08-07-31	
9927	Atmore AGDM	AGDM					08-07-29	
907	Azure	ANV					08-07-30	
1288	Banff CS	EC					08-08-12	
2004	Banff Springs	EC					08-07-30	
9211	Barnwell AGDM	AGDM					08-07-29	
9681	Barons AGCM	AGCM					08-07-29	
2015	Barrhead CS	EC					08-07-30	
10159	Bassano AGCM	AGCM					08-07-29	
12025	Battle River Headwaters	ANV					08-07-29	
2024	Beauvais Park	ANV					08-07-29	
15721	Beaverlodge RCS	EC					08-07-30	
10176	Beiseker AGCM	AGCM					08-07-29	
6048	Bellshill AGCM	AGCM					08-07-29	
6054	Big Valley AGCM	AGCM					08-07-29	
12319	Black Diamond	ANV					08-07-30	
9747	Blood Tribe Ag. Project IM...	IMCIN					08-07-29	
11019	Bodo AGDM	AGDM					08-07-29	
15729	Bow Island	EC					08-07-30	
10045	Bow Island North IMCIN	IMCIN					08-07-29	
11773	Bow Summit (New)	ANV					08-08-01	
2032	Bow Valley	EC					08-07-30	
6012	Bow Valley Plate	AGDM					08-08-04	

Add Sensor Elements

Available Sensors

New Detached

- Sensors
 - Air Temperature Average
 - HMP45C212
 - HMP45CF
 - Unknown
 - Air Temperature Maximum
 - Air Temperature Minimum
 - Battery Voltage 1
 - Humidity
 - Precipitation 2nd -TBRG (PC)
 - Precipitation TBRG (P1)
 - Precipitation Wieghing (PR)
 - Precipitation TBRG 6-hr (P6)
 - Radiation Incoming
 - Snow Depth
 - Snow Water
 - Soil Moisture 005 cm
 - Soil Moisture 020cm
 - Soil Moisture 050cm
 - Soil Moisture 100cm
 - Soil Temperature 005 cm
 - Soil Temperature 020 cm
 - Soil Temperature 050 cm

Attached Sensors

- Air Temperature Average (HMP45CF)
- Air Temperature Maximum (HMP45CF)
- Air Temperature Minimum (HMP45CF)
- Battery Voltage 1
- Humidity (HMP45CF)
- Precipitation Wieghing (PR) (GEONOR T-200B)
- Wind Direction 10 meter (RM-Young)
- Wind Speed 02 meter (Met-One)
- Wind Speed 10 meter (RM-Young)

Close

Information **Sensor Elements** Images

Station: **Abee AGDM**

Name	Code	Unit	Manufacturer	Model	Capacity	Comment	Decommission Date
Air Temperature Average	AT	(C)	Campbell Scientific	Thermistor			
Air Temperature Maximum	TX	(C)		Thermistor			
Air Temperature Minimum	TN	(C)		Thermistor			
Battery Voltage 1	VB	Volts		Wet Cell Battery			
Humidity	HU	(%)		Capacitive			
Precipitation Wieghing (PR)	PR	(mm)	GEONOR	Weighing Type	600 mm Capacity		
Wind Direction 10 meter	WD	Degrees Azimuth	RM-Young	Vane			
Wind Speed 02 meter	UA	(Km hr-1)	Met-One	Cup Anemometer			
Wind Speed 10 meter	WS	(Km hr-1)	RM-Young	Wind Mill Anemometer			

Detail... Reattach Detach **Attach...**

Revert Apply

Station Metadata

ID	Sensor Type	Model	Manufacturer	Class	Comment	Last Update
6007	Air Temperature Average	HMP45CF	Campbell Scientific	Thermistor		2008-09-09
6011	Air Temperature Average	Unknown	Unknown	Unknown		2008-09-09
5002	Air Temperature Maximum	HMP45C212	Campbell Scientific	Thermistor		2008-09-09
10622	Air Temperature Maximum	HMP45CF		Thermistor		2008-09-09
10624	Air Temperature Maximum	Unknown				2008-09-09
5003	Air Temperature Minimum	HMP45C212	Campbell Scientific	Thermistor		2008-09-09
10623	Air Temperature Minimum	HMP45CF		Thermistor		2008-09-09
10625	Air Temperature Minimum	Unknown	Unknown			2008-09-09
6170	Battery Voltage 1			Wet Cell Battery		2008-07-29
5005	Humidity	HMP45C212	Campbell Scientific	Capacitive		2008-09-09
6164	Humidity	HMP45CF	Campbell Scientific	Capacitive		2008-09-09
6165	Humidity	Unknown	Unknown	Unknown		2008-09-09
6162	Precipitation 2nd -TBRG (PC)	Unknown	Unknown			2008-07-29
6004	Precipitation TBRG (P1)	BSI-306	Blue Sky Instruments			2008-07-29
6160	Precipitation TBRG (P1)	Unknown	unknown			2008-07-29
1106	Precipitation Weighing (PR)	CEM Stand Pipe		Weighing Type	Large Capacity Guage (1500 mm)	2008-09-04
11399	Precipitation Weighing (PR)	Fischer & Porter		Weighing Type		2008-09-04
5010	Precipitation Weighing (PR)	GEONOR T-200B	GEONOR	Weighing Type	600 mm Capacity	2008-09-09
6161	Precipitation Weighing (PR)	Pluvio -1000 mm Capacity	OTT	Weighing Type	Large Capacity Guage 1000 mm	2008-09-09
6005	Precipitation weighing (PR)	Unknown	Unknown	Weighing Type		2008-09-09
6006	Precipitation TBRG 6-hr (P6)	Unknown	Unknown			2008-06-23
6013	Radiation Incoming	CM3		Pyronometer		2008-09-04
9807	Radiation Incoming	Licor 200		Pyronometer		2008-09-04
6006	Radiation Incoming	CDJ like	Kipp and Zonen	Pyronometer		2008-09-04

Information

Sensor

ID: 5010

Code: PR

Sensor Element: Precipitation Weighing (PR)

Default Units: (mm)

Model: GEONOR T-200B

Manufacturer: GEONOR

Class: Weighing Type

Comment: 600 mm Capacity

Validation

Default Range Validation [max=null, min=0, msg=range check, value < 0]

Default Step Validation [dur=1, max=27.2, min=null, msg=step check, maximum intensity exceeded]

Default Difference Validation [diff=20, msg=difference check, recharge possible]

Default Difference Validation [diff=5, msg=difference check, sensor drift excessive]

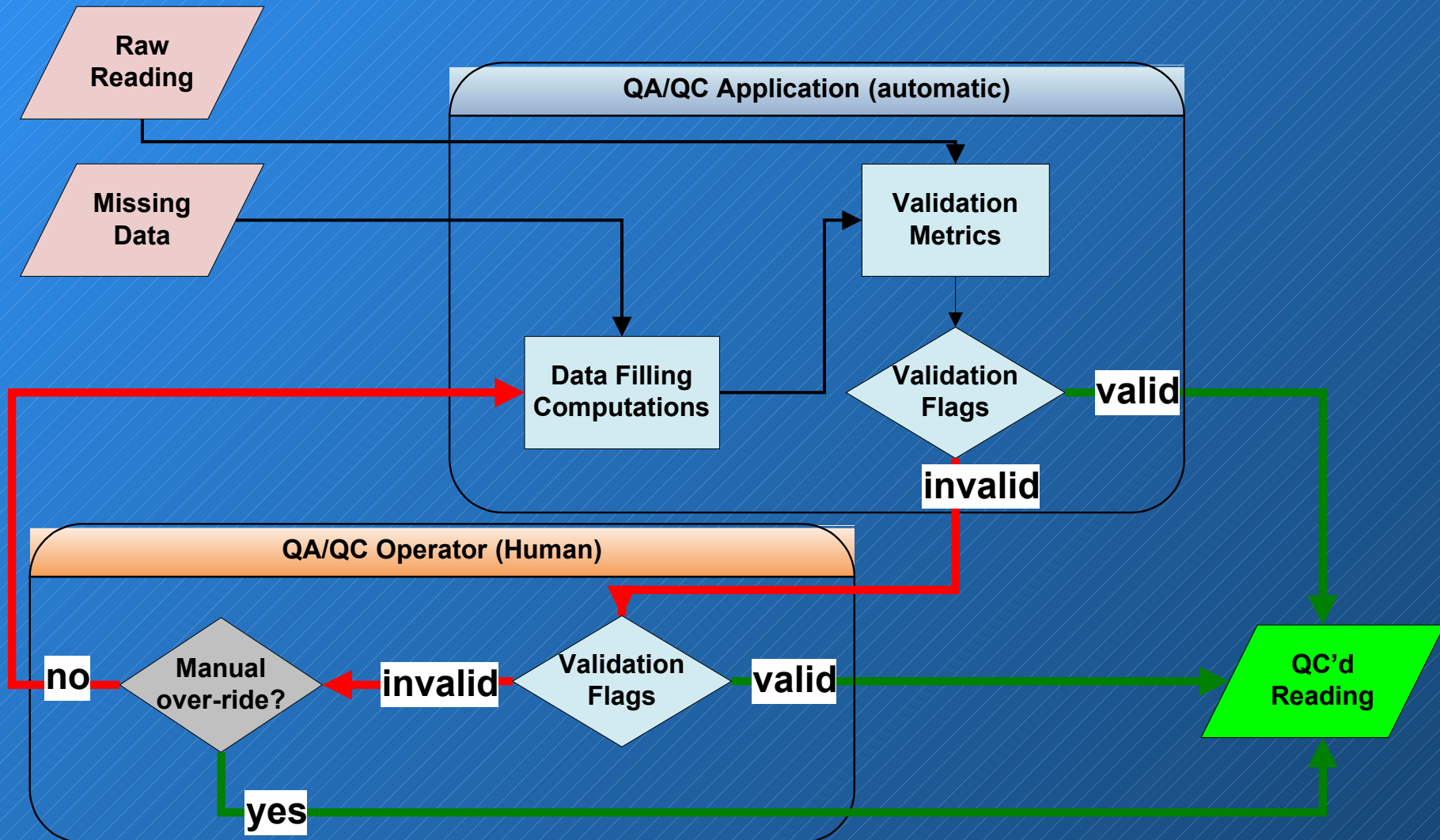
Default Difference Validation [diff=1, msg=difference check, evaporation possible]

Default Range Validation [max=600, min=, msg=geonor capacity exceeded (600 mm), alert tech.]

Default Range Validation [max=450, min=, msg=geonor gauge near capacity (600mm), alert tech.]

Station Metadata

QA/QC Flow Logic Diagram: (Hourly Data)



Date All

September 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

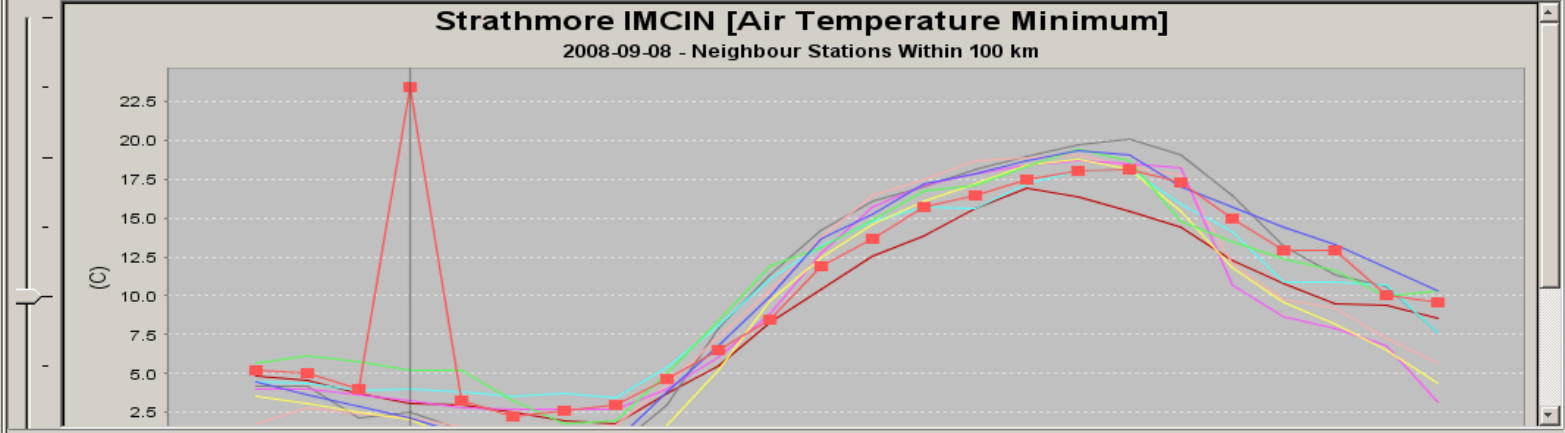
HOURLY:2008-09-08:10298

Station	Uniq Fds	Snsr Cnt	Tot Obs	Pcnt Act	Pcnt Accp	Pcnt Comp	Pcnt Rej	Act Obs	Obs Accp	Comp Obs
St. Mary Ranger Station	1	3	72	100.0	100.0	0.0	0.0	72	72	0
St. Mary Reservoir	1	5	96	100.0	100.0	0.0	0.0	96	96	0
St. Paul AGDM	1	18	432	95.83	98.14	4.16	1.85	414	424	18
Standard AGCM	1	8	192	100.0	100.0	0.0	0.0	192	192	0
Stavely AAFC	2	6	144	98.61	91.66	1.38	8.33	142	132	2
Stettler AGDM	1	17	408	100.0	100.0	0.0	0.0	408	408	0
Strathmore IMCIN	1	11	264	95.07	95.45	4.92	4.54	251	252	13
Sundre A	2	7	168	99.4	100.0	0.59	0.0	167	168	1
Sunshine CS	1	3	72	100.0	100.0	0.0	0.0	72	72	0
Tawatinaw AGCM	1	9	192	95.83	100.0	4.16	0.0	184	192	8
Teepee Creek AGCM	1	9	216	100.0	100.0	0.0	0.0	216	216	0
Tennessee Creek	1	3	72	100.0	100.0	0.0	0.0	72	72	0
Thorsby AGCM	1	8	192	100.0	100.0	0.0	0.0	192	192	0
Three Hills	1	8	192	100.0	100.0	0.0	0.0	192	192	0

Sensor Code	Name	Sensor ID	Station ID
AT	Air Temperature Average	130	11213
TX	Air Temperature Maximum	131	11213
TN	Air Temperature Minimum	132	11213
vB	Battery Voltage 1	11228	11213
HU	Humidity	133	11213
P1	Precipitation TBRG (P1)	11230	11213
PR	Precipitation Wieghing (PR)	11231	11213
IR	Radiation Incoming	11232	11213
WD	Wind Direction 10 meter	11233	11213
JA	Wind Speed 02 meter	11234	11213
WS	Wind Speed 10 meter	11235	11213

3 : Validation - Neighbour - Graph | 2 : Validation - Neighbour - Table | 1 : Validation - Station - Graph

Validation - Neighbour - Graph Strathmore IMCIN



Accept	Source	Validation Code	Station	Sensor	Time Slot	Reading Raw	Reading	Timestamp	Validation M...	Compute Message	Version	Status
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	00:00	5.22400	5.22400	2008-09-08			0	ACCEP
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	01:00	4.99800	4.99800	2008-09-08			0	ACCEP
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	02:00	3.99800	3.99800	2008-09-08			0	ACCEP
REJECTED	ACTUAL	UNCHECKED	Strathmore IMCIN	Air Temperature Minimum	03:00	23.40000	23.40000	2008-09-08			0	REJEC
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	04:00	3.30000	3.30000	2008-09-08			0	ACCEP
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	05:00	2.25700	2.25700	2008-09-08			0	ACCEP
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	06:00	2.60400	2.60400	2008-09-08			0	ACCEP
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	07:00	2.99600	2.99600	2008-09-08			0	ACCEP
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	08:00	4.61700	4.61700	2008-09-08			0	ACCEP
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	09:00	6.55500	6.55500	2008-09-08			0	ACCEP

Date All

September 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

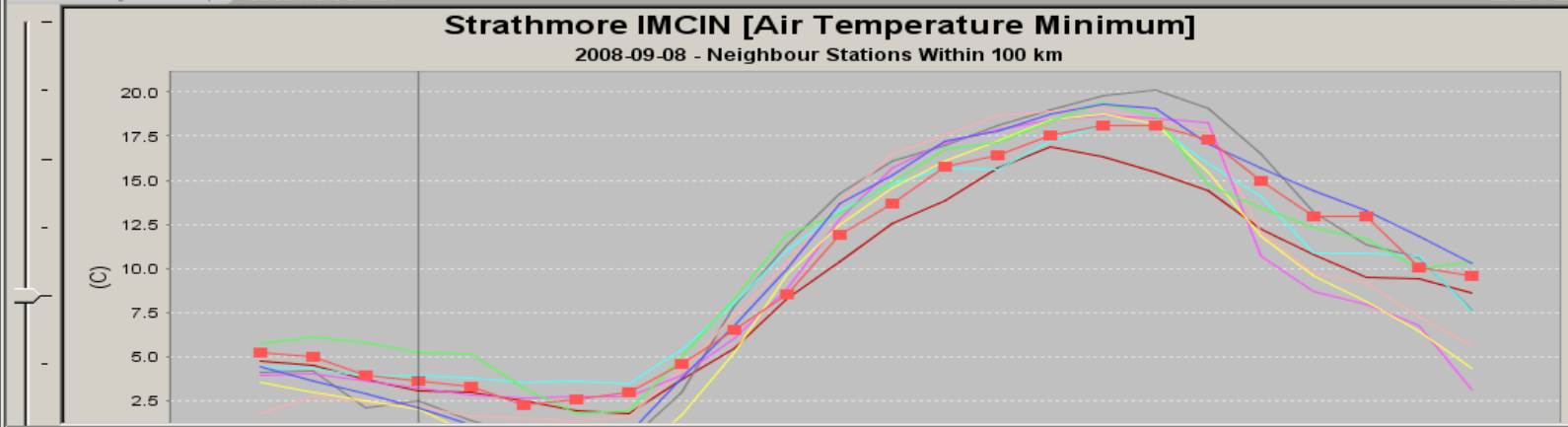
HOURLY:2008-09-08:10298

Station	Uniq Fds	Snsr Cnt	Tot Obs	Pcnt Act	Pcnt Accp	Pcnt Comp	Pcnt Rej	Act Obs	Obs Accp	Comp Obs
St. Mary Ranger Station	1	3	72	100.0	100.0	0.0	0.0	72	72	0
St. Mary Reservoir	1	5	96	100.0	100.0	0.0	0.0	96	96	0
St. Paul AGDM	1	18	432	95.83	98.14	4.16	1.85	414	424	18
Standard AGCM	1	8	192	100.0	100.0	0.0	0.0	192	192	0
Stavelly AAFC	2	6	144	98.61	91.66	1.38	8.33	142	132	2
Stettler AGDM	1	17	408	100.0	100.0	0.0	0.0	408	408	0
Strathmore IMCIN	1	11	264	95.07	95.45	4.92	4.54	251	252	13
Sundre A	2	7	168	99.4	100.0	0.59	0.0	167	168	1
Sunshine CS	1	3	72	100.0	100.0	0.0	0.0	72	72	0
Tawatinaw AGCM	1	9	192	95.83	100.0	4.16	0.0	184	192	8
Teepee Creek AGCM	1	9	216	100.0	100.0	0.0	0.0	216	216	0
Tennessee Creek	1	3	72	100.0	100.0	0.0	0.0	72	72	0
Thorsby AGCM	1	8	192	100.0	100.0	0.0	0.0	192	192	0
Three Hills	1	8	192	100.0	97.39	0.0	2.6	192	187	0

Sensor Code	Name	Sensor ID	Station ID
AT	Air Temperature Average	130	11213
TX	Air Temperature Maximum	131	11213
TN	Air Temperature Minimum	132	11213
vB	Battery Voltage 1	11228	11213
HU	Humidity	133	11213
P1	Precipitation TBRG (P1)	11230	11213
PR	Precipitation Weighing (PR)	11231	11213
IR	Radiation Incoming	11232	11213
wD	Wind Direction 10 meter	11233	11213
JA	Wind Speed 02 meter	11234	11213
wS	Wind Speed 10 meter	11235	11213

3 : Validation - Neighbour - Graph 2 : Validation - Neighbour - Table 1 : Validation - Station - Graph

Validation - Neighbour - Graph Strathmore IMCIN



Accept	Source	Validation Code	Station	Sensor	Time Slot	Reading Raw	Reading	Timestamp	Validation M...	Compute Message	Version	Status
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	00:00	5.22400	5.22400	2008-09-08			0	ACCEPTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	01:00	4.99800	4.99800	2008-09-08			0	ACCEPTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	02:00	3.99800	3.99800	2008-09-08			0	ACCEPTED
REJECTED	COMPUTED	UNCHECKED	Strathmore IMCIN	Air Temperature Minimum	03:00	23.4000	3.65	2008-09-08		Linear Interpolation computed [CN:1 IR:1]	0	REJECTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	04:00	3.30000	3.30000	2008-09-08			0	ACCEPTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	05:00	2.25700	2.25700	2008-09-08			0	ACCEPTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	06:00	2.60400	2.60400	2008-09-08			0	ACCEPTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	07:00	2.99600	2.99600	2008-09-08			0	ACCEPTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	08:00	4.61700	4.61700	2008-09-08			0	ACCEPTED
ACCEPTED	ACTUAL	VALID	Strathmore IMCIN	Air Temperature Minimum	09:00	6.55500	6.55500	2008-09-08			0	ACCEPTED

Data Filling

- Attempt to fill all time series using only valid raw readings
- Flag every record
- If filling fails, leave values missing.

Filling Priority Sequence

Data Manipulation

Computed Fills

Exclude: Wind dir, Battery Voltage

Linear Interpolation

2 Gap ≤ 2
Exclude P1, P6, PC

Inverse Distance Weighted (IDW)

4 Exclude - soil moisture, soil temperature, snow depth, snow water, wind direction

1 IDW Inner Ring-60 km

2 IDW Outer Ring-120 km

Linear Interpolation:

5 gap > 2 , max gap = 6
Exclude PR, P1, P6, PC

End Point

6 Gap ≤ 2
Exclude PR, P1, P6, PC

Failed to Compute

8 PR Adjustment
between **valid** weights (PR)

Daily Roll Up

All Sensors

24-obs. summary complete

24-obs. summary estimated: actual%=a, estimated%=b

24-obs. summary estimate **suspect**: actual%=a, estimated%=b, suspect%=d

24-obs. summary **suspect** incomplete: actual%=a, estimated%=b, suspect%=c, missing% = d

24-obs. summary estimated: actual%=a, adjusted%=b

24-obs. summary estimate **suspect**: actual%=a, adjusted%=b

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- Quick Map Viewer
- Climate Mapper
- Weather Mapper
- Station Viewer
- About

AgroClimatic Information Service (ACIS)

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Welcome to ACIS, an interactive tool that helps producers, farm consultants, and researchers create maps. These maps describe Alberta's weather, climate and related agriculture features to help with your long-term planning and decision-making throughout the growing season.

You can navigate directly to the viewers by selecting the tabs at the top of the page.

To learn more about using the viewer, choose one of the categories below.

ACIS Case Studies

Learn how you can use ACIS to find the length of the growing season, determine the driest area in the province, and monitor crop growth.

[View case studies](#)

ACIS Viewers Explained

Find out about the features of each viewer and take a quick tour to learn the functions of this tool.

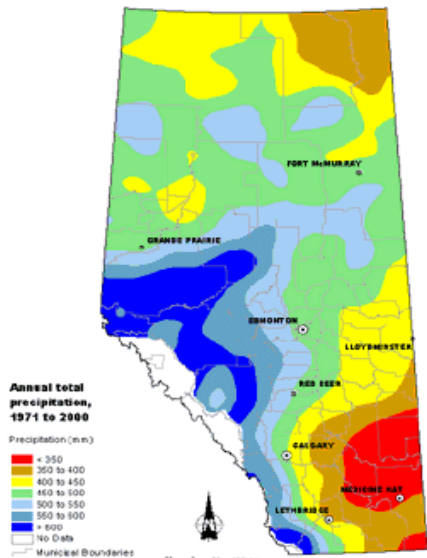
[Viewers explained](#)

ACIS Help

Not sure what that rectangular button does? Want to know how to run a query? View the Help section for brief explanations on the functions of the viewers.

[Help](#)

To learn the functions of this tool, take a [quick tour](#).



Based on 1971 to 2000 data from Environment Canada, Alberta Environment and the U.S. National Climate Data Center. Map displayed on Township generalization.

www.agric.gov.ab.ca/acis

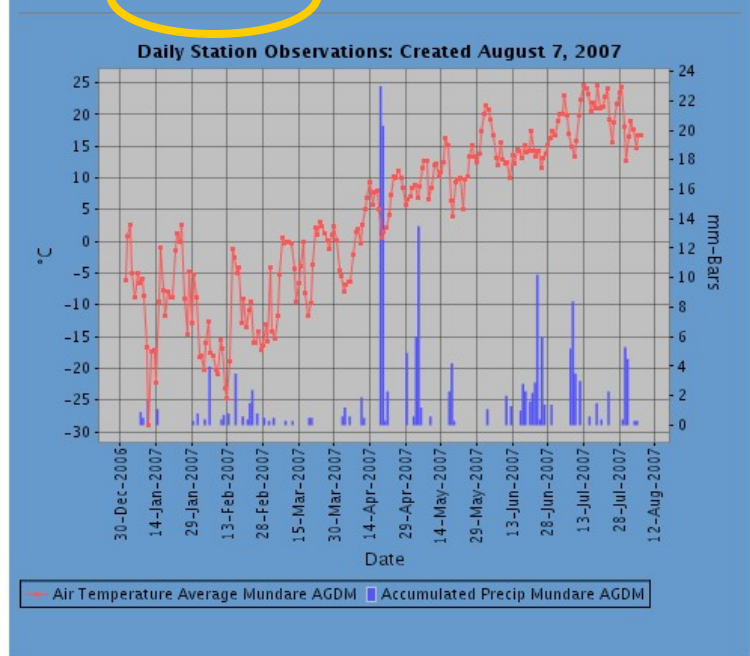
RopinTheWeb | Agriculture and Food

Location: [Alberta Government Home](#) > [Ropin' The Web Home](#) > ACIS
[ACIS Main Page](#) | [Quick Viewer](#) | [Climate Mapper](#) | [Weather Mapper](#) | **Station Viewer** | [About](#)

AgroClimatic Information Service Station Viewer

Stations Parameters Graph

TOOLS [Download Data](#)



Near Real Time Data Provided by Alberta Environment, Environment Canada and Alberta Agriculture and Food.

Note: Raw data has undergone QA/QA and data filling. It is preliminary in nature and is subject to change.

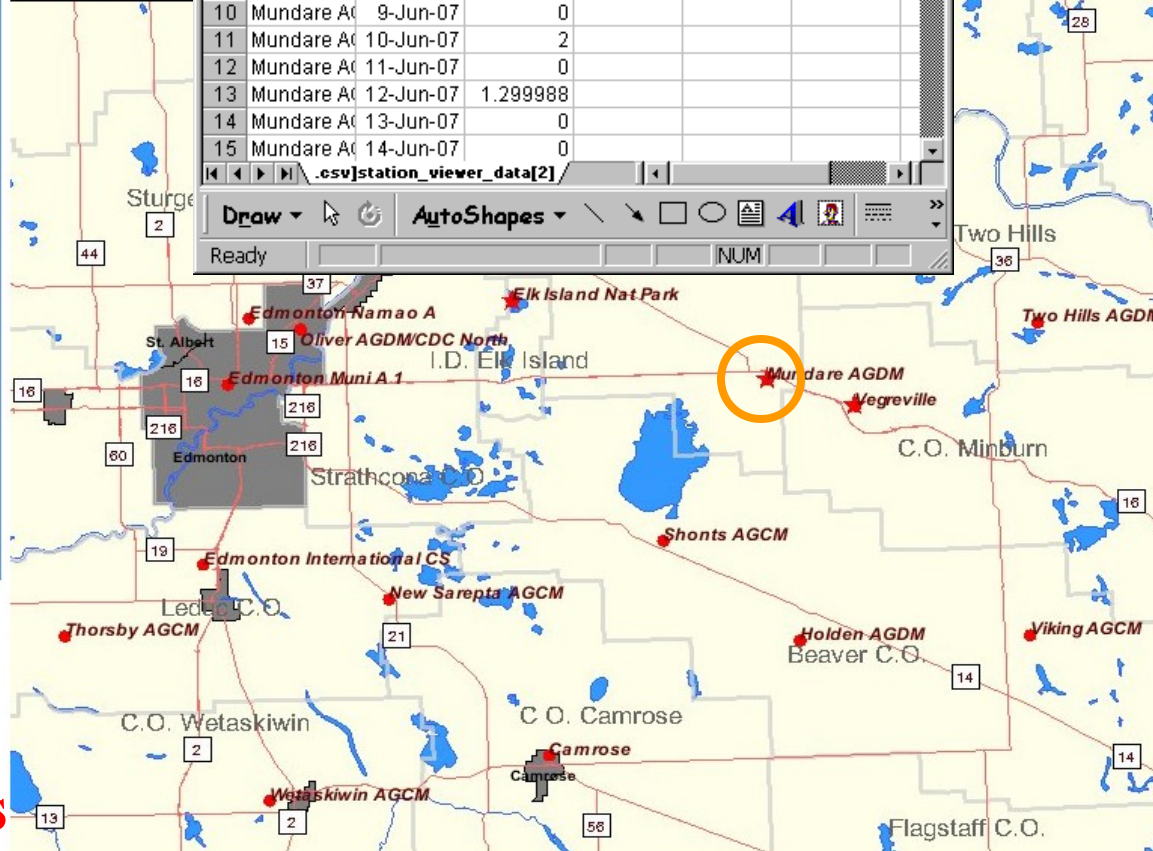
Station Viewer

www.agric.gov.ab.ca/acis

Microsoft Excel - station_viewer_data[2].csv

File Edit View Insert Format Tools Data
 Analyze PUP 2000 Window Help Column Fit

A	B	C	D	E	F
1	Station	Date	Accumulated Precip (mm-Bars)		
2	Mundare AG	1-Jun-07	0		
3	Mundare AG	2-Jun-07	1.099991		
4	Mundare AG	3-Jun-07	0		
5	Mundare AG	4-Jun-07	0		
6	Mundare AG	5-Jun-07	0		
7	Mundare AG	6-Jun-07	0		
8	Mundare AG	7-Jun-07	0		
9	Mundare AG	8-Jun-07	0		
10	Mundare AG	9-Jun-07	0		
11	Mundare AG	10-Jun-07	2		
12	Mundare AG	11-Jun-07	0		
13	Mundare AG	12-Jun-07	1.299988		
14	Mundare AG	13-Jun-07	0		
15	Mundare AG	14-Jun-07	0		





Thank-you

Bow Island North IMCIN

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