

2009 (and 2010) DROUGHTS

OBJECTIVE

- To examine some aspects of the 2009 (2010) drought
- To compare it against the 1999-2005 one
- To ask for input from others

CMOS BULLETIN

1. Drought - the focus of DRI
2. Early Evidence
3. Drought Intensification
4. Soil Moisture Conditions
5. Hydrologic Conditions
6. Impacts
7. Drought Relief
8. Comparison with Other Droughts
9. Tracking and Predicting the Drought
10. Concluding Remarks

NADM April 2009

North American Drought Monitor

April 30, 2009

Released: Thursday, May 21, 2009





<http://www.ncdc.noaa.gov/nadm.html>

Analysts:


Canada - Trevor Hadwen
Richard Rieger
Mexico - Valentina Davydova
Adelina A Ibanil
Elvia Delgado
Reynaldo Pascual
Fernando Romero
U.S.A. - Brad Rippey
Richard Heim*
Liz Love-Brotak

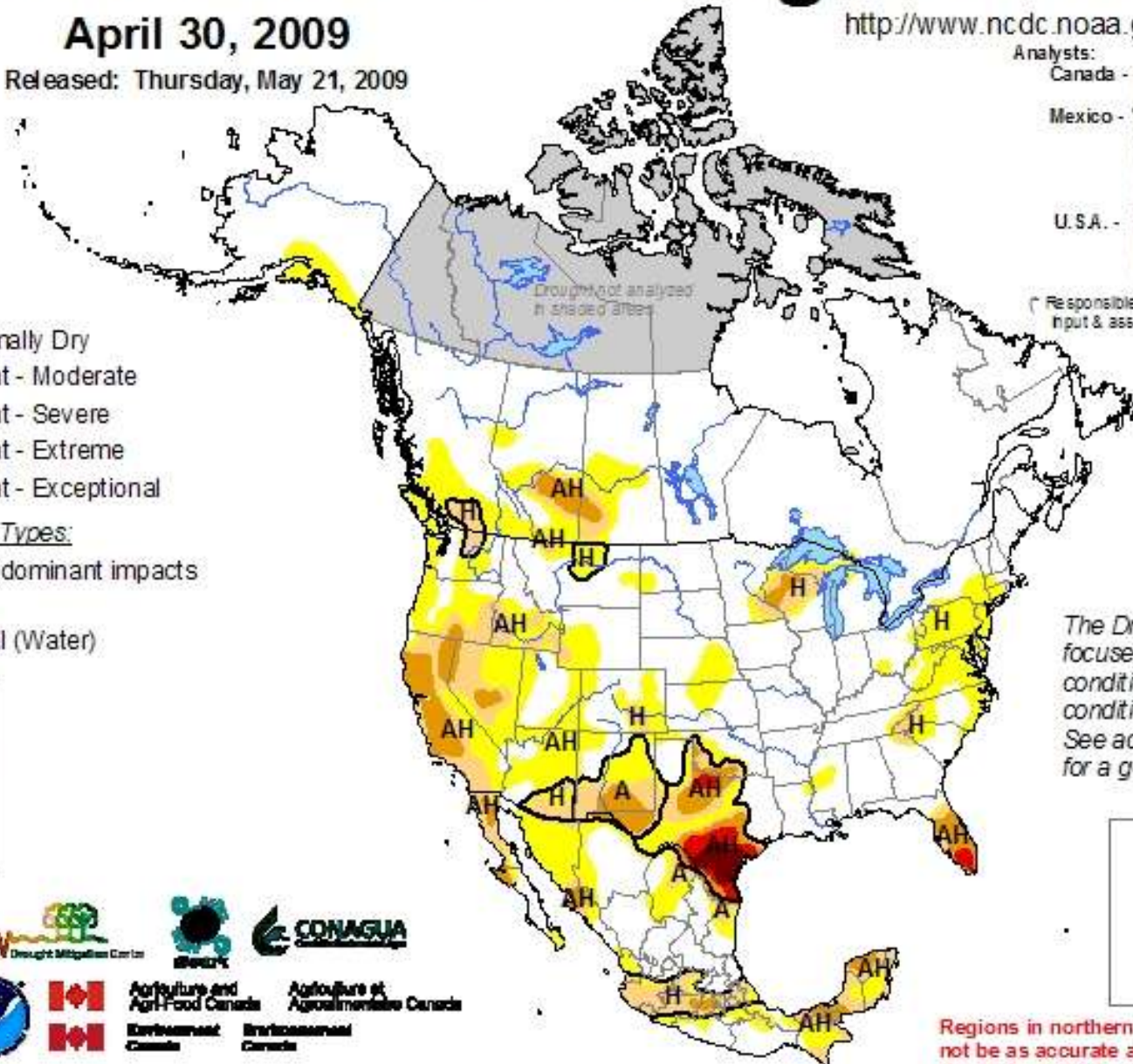
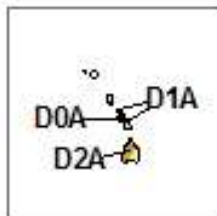
* Responsible for collecting analysts' input & assembling the NA-DM map)

Intensity:

-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

Drought Impact Types:

-  Delineates dominant impacts
- A = Agriculture
- H = Hydrological (Water)



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text for a general summary.



Regions in northern Canada may not be as accurate as other regions due to limited information.

NADM June 2009

North American Drought Monitor

June 30, 2009

Released: Monday July 20, 2009

<http://www.ncdc.noaa.gov/nadm.html>

Analysts:


Canada - Trevor Hadwen
Dwayne Chobanik
Richard Rieger
Mexico - Valentina Davydova
Adelina Encarnación
Elvia Delgado
Reynaldo Pascual
Fernando Romero
U.S.A. - Brian Fuchs*
Rich Tinker

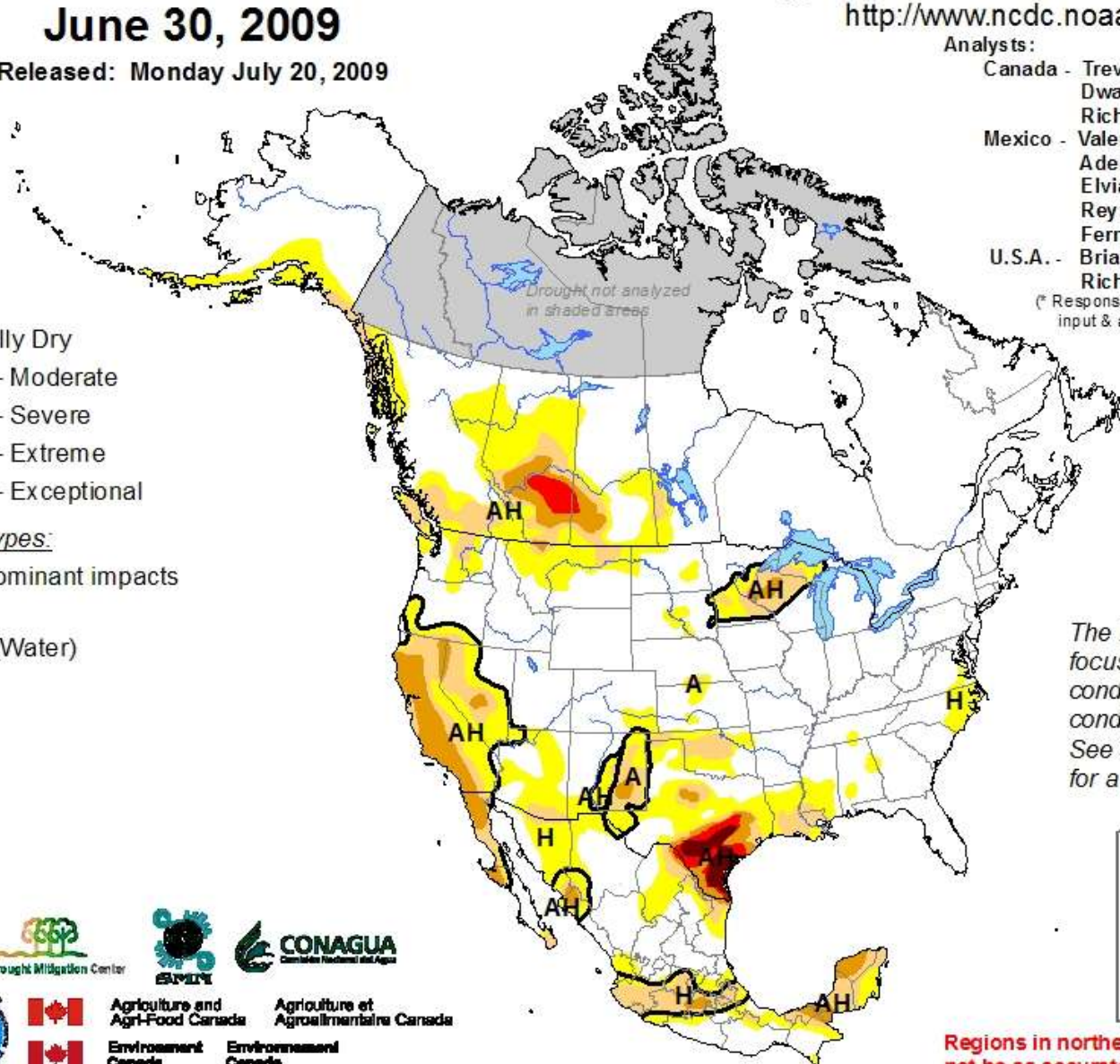
(* Responsible for collecting analysts' input & assembling the NA-DM map)

Intensity:

-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

Drought Impact Types:

-  Delineates dominant impacts
- A = Agriculture
- H = Hydrological (Water)

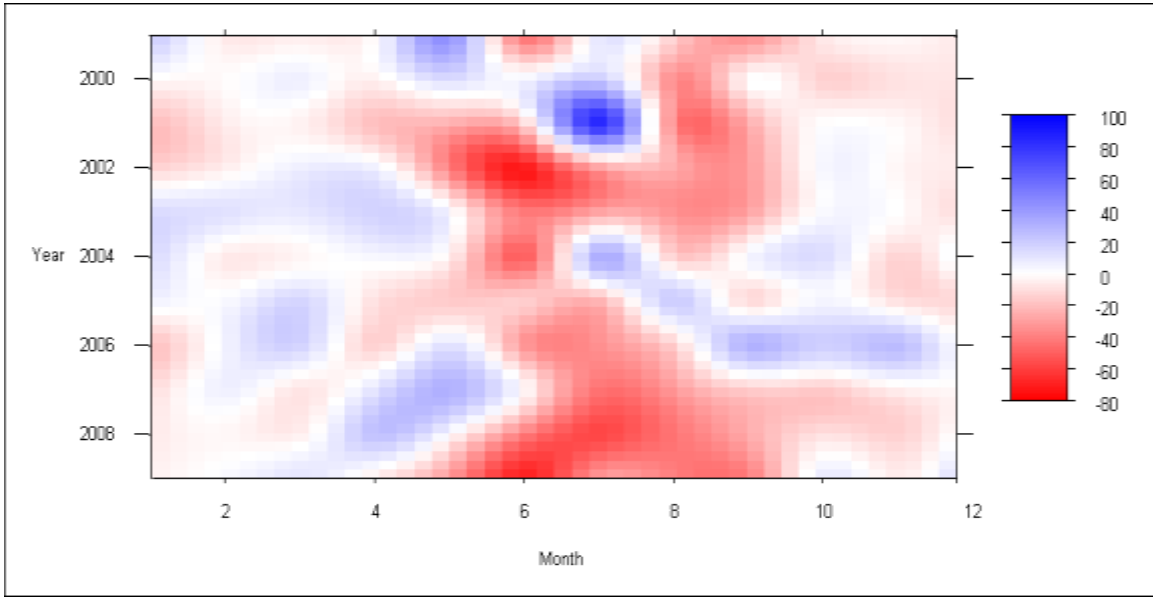


The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text for a general summary.

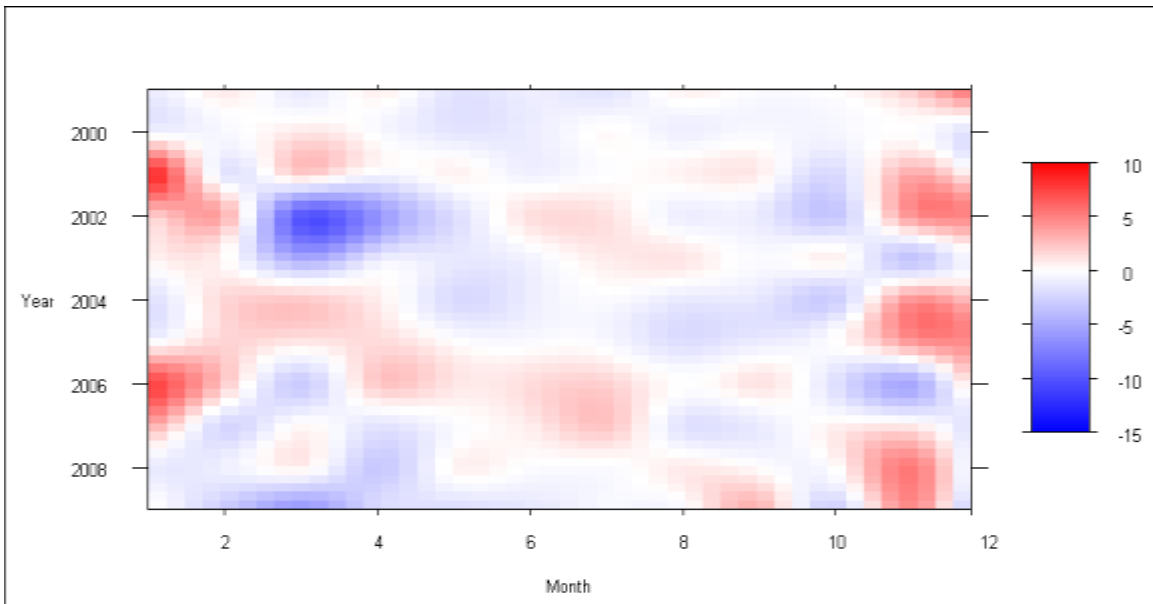


Regions in northern Canada may not be as accurate as other regions due to limited information.

Anomaly Plots

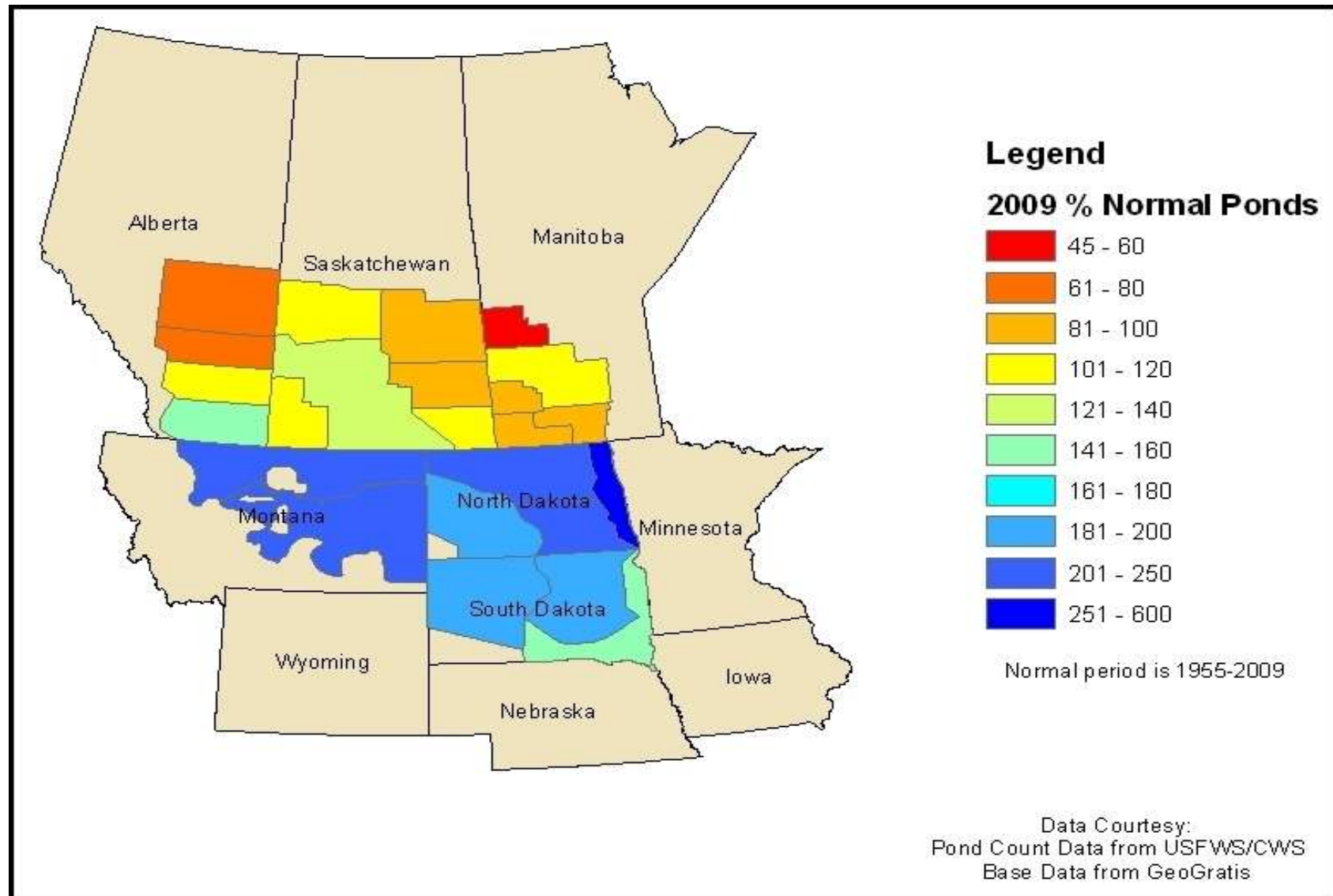


Precipitation Anomaly at
Edmonton 1999-2009



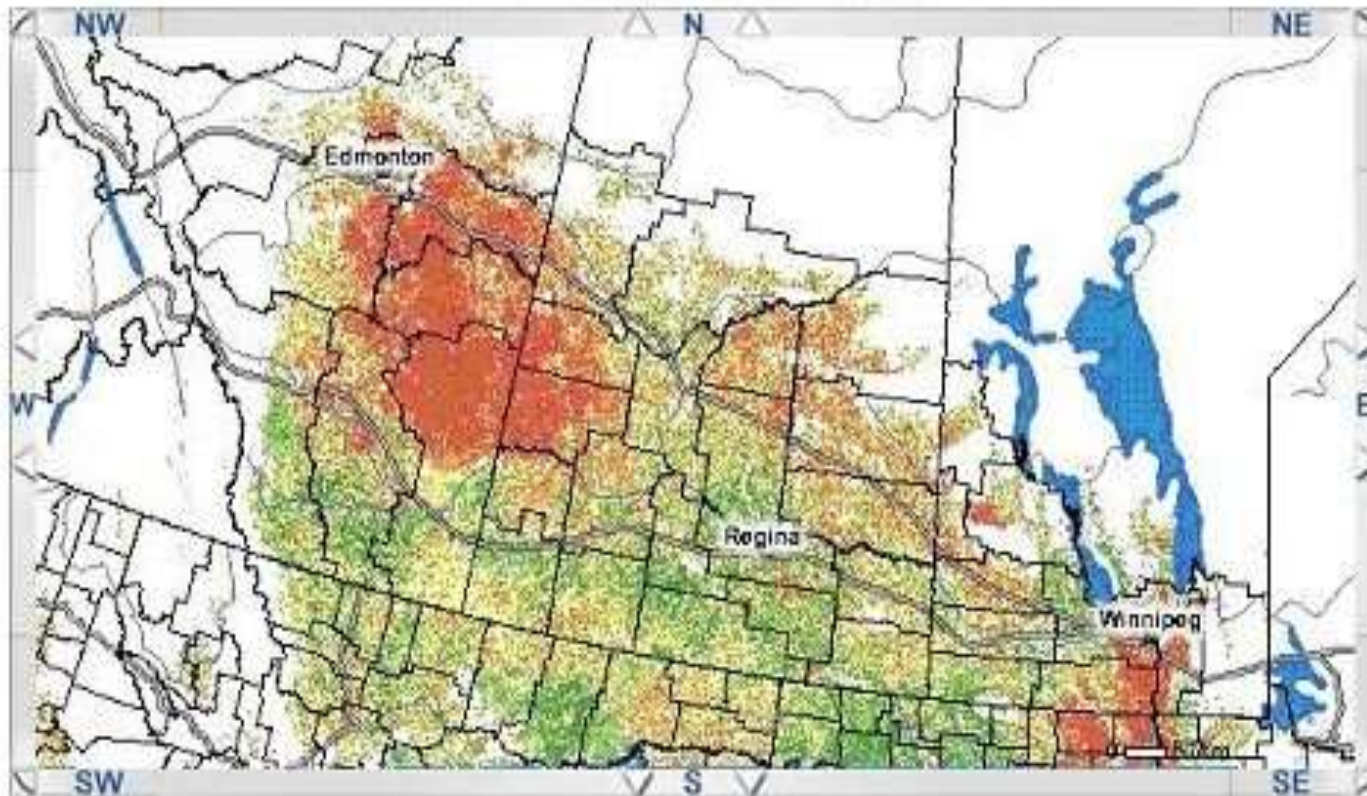
Temperature Anomaly at
Edmonton 1999-2009

2009 USFWS/CWS Spring Pond Count



June 22-28 2009 NDVI

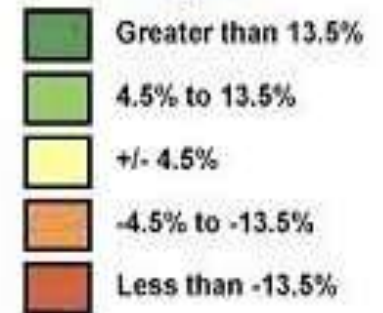
Difference in Normalized Difference Vegetation Index (NDVI) for June 22 to 28, 2009 compared to Normal



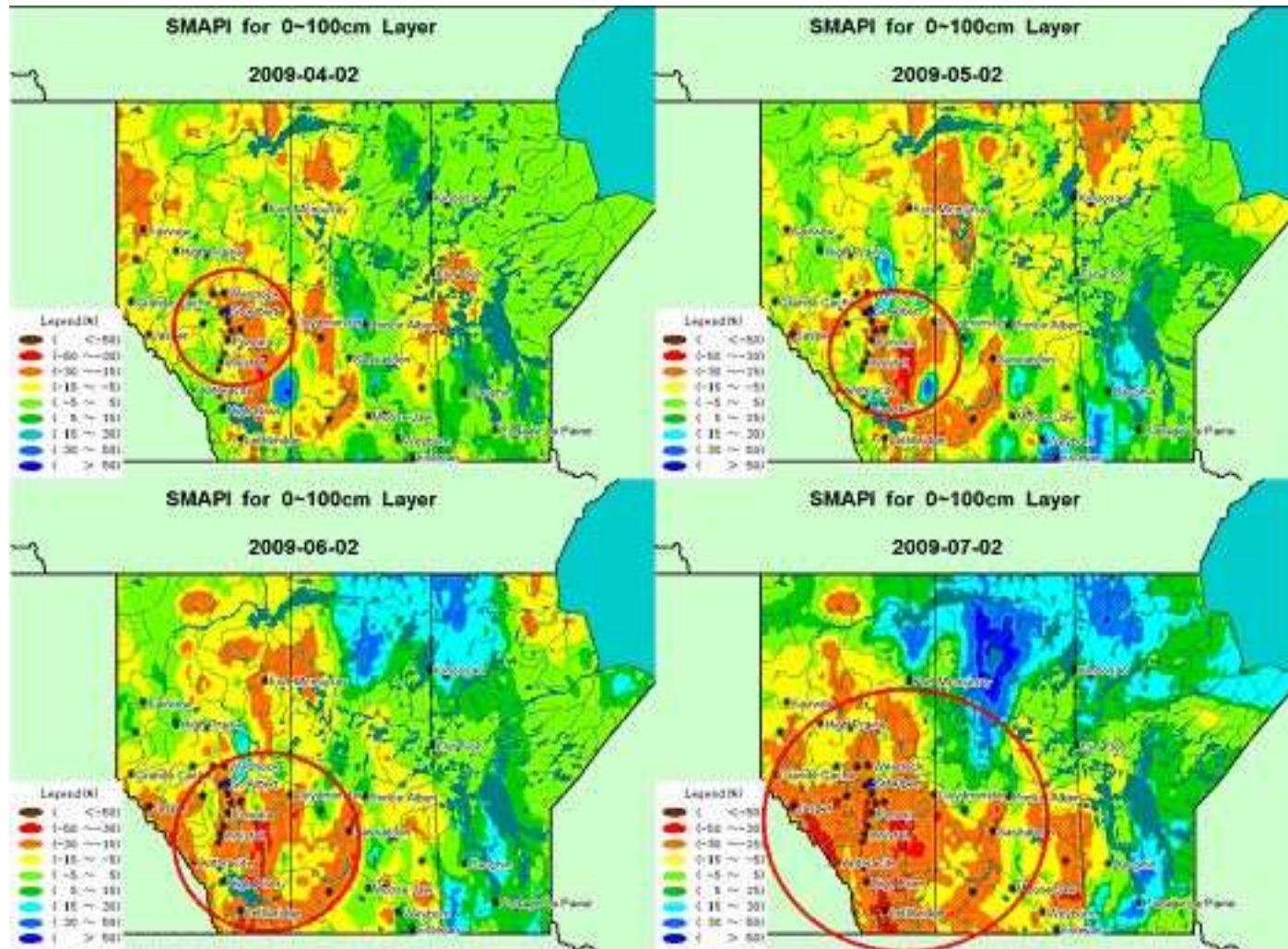
Locator map



Legend

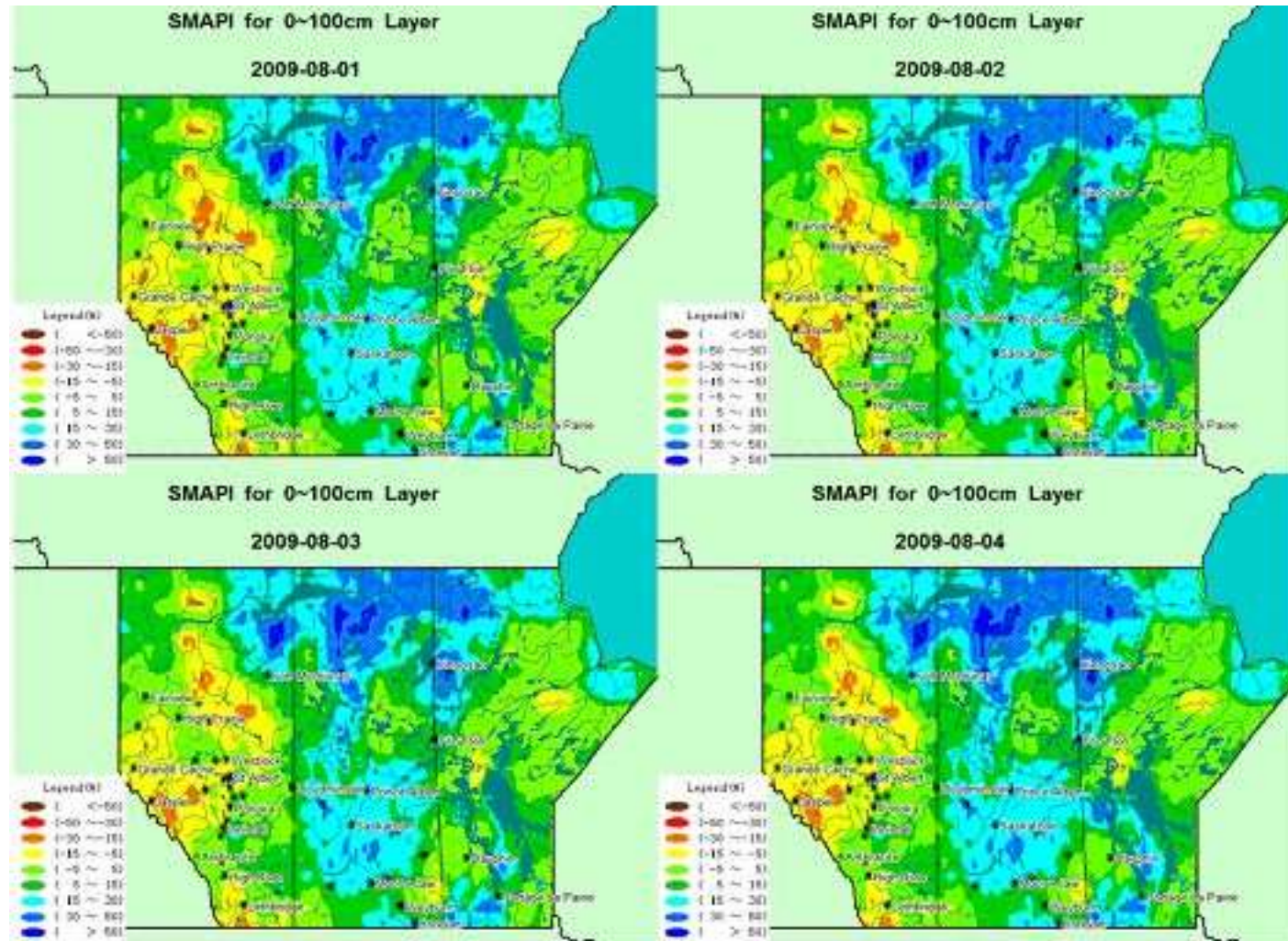


Spring 2009 VIC Soil Moisture progression



Category	SMAPI	Average Frequency
extreme drought	$\leq -50\%$	0.005
severe drought	-50% to -30%	0.020
moderate drought	-30% to -15%	0.100
mild drought	-15% to -5%	0.200
near normal	-5% to 5%	0.350
slightly wet	5% to 15%	0.200
moderately wet	15% to 30%	0.100
very wet	30% to 50%	0.020
extremely wet	$> 50\%$	0.005

35 day VIC Soil Moisture forecast



Category	SMAPI	Average Frequency
extreme drought	$\le -50\%$	0.005
severe drought	-50% to -30%	0.020
moderate drought	-30% to -15%	0.100
mild drought	-15% to -5%	0.200
near normal	-5% to 5%	0.350
slightly wet	5% to 15%	0.200
moderately wet	15% to 30%	0.100
very wet	30% to 50%	0.020
extremely wet	> 50%	0.005

NADM March 2010

North American Drought Monitor

March 31, 2010

Released: Tuesday, April 20, 2010






<http://www.ncdc.noaa.gov/nadm.html>

Analysts:


Canada - Trevor Hadwen
Richard Rieger
Dwayne Chobanik
Mexico - Valentina Davydova
Fernando Romero
Adelina A Ibanil
U.S.A. - Matthew Rosencrans
Jay Lawrimore*
Liz Love-Brotak

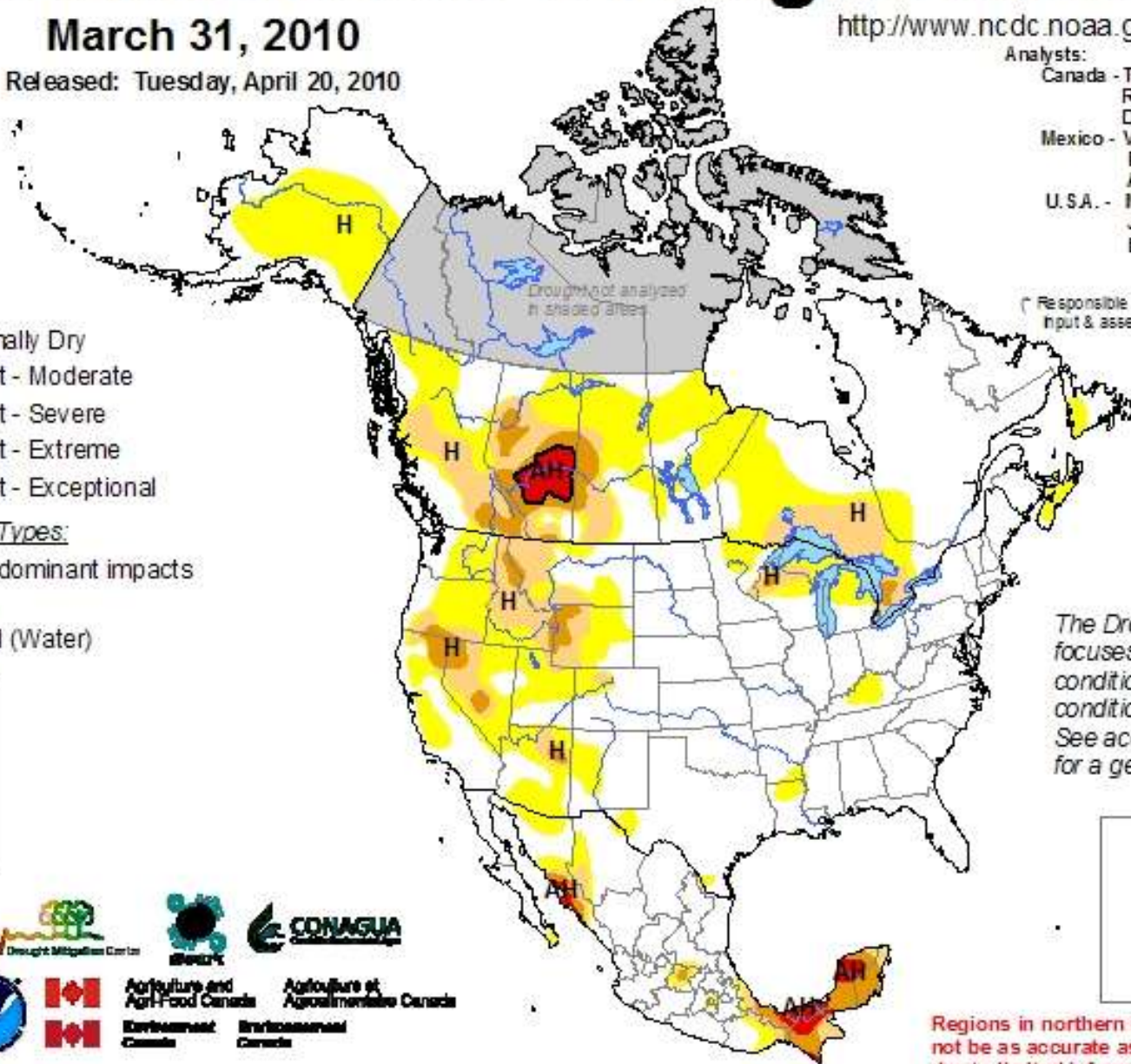
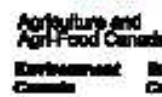
* Responsible for collecting analysts' input & assembling the NA-DM map

Intensity:

-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

Drought Impact Types:

-  Delineates dominant impacts
- A = Agriculture
- H = Hydrological (Water)



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text for a general summary.



Regions in northern Canada may not be as accurate as other regions due to limited information.

2010 Drought in the Media

Dave Simms, CBC News. Drought fears weigh on prairie farms: Some areas are driest in 25 years, and more than farming could be affected. April 1, 2010.

CBC News. Low B.C. snowpack causing concern.

March 8, 2010. Bill Kaufmann, Edmonton Sun. Dry winter sparks drought worries.

March 13, 2010.

Rod Nickel. Reuters. Blizzard arrives in dry Canada farm areas.

Fri Apr 9, 2010 Josh Wingrove and Dawn Walton. The Globe and Mail. Once-in-a-generation drought creates water crisis in Alberta. Apr. 13, 2010.

OTHERS?

Others have input?

Similarities and differences?

Responses to the drought

...