



Agriculture and  
Agri-Food Canada

Agriculture et  
Agroalimentaire Canada



# Canadian Participation in NADM - Status Update -

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**AAFC-PFRA, Regina**  
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Canada

# Outline

- Who is involved in the NADM from Canada
- Review of the current process for Canada
- Explore some potential opportunities and areas for improvement



The poster features a background of cracked, dry earth. At the top left, the logos for Agriculture and Agri-Food Canada and Agriculture et Agroalimentaire Canada are displayed. In the center, a map of North America is overlaid with the flags of Canada, the United States, and Mexico. A white pen is shown drawing the map. The text is arranged in three main sections: English, French, and Spanish. At the bottom, there are logos for the National Oceanic and Atmospheric Administration (NOAA), the United States Department of Agriculture (USDA), the Canadian Council of Ministers of the Environment (CCME), the National Drought Mitigation Center (NDMC), and the National Center for Environmental Prediction (NCEP).

**North American  
Drought Monitor  
Workshop**

**Atelier sur  
la surveillance  
des sécheresses  
à l'échelle  
nord-américaine**

**Taller del Monitor  
de Sequía para  
América del Norte**

Agriculture and Agri-Food Canada / Agriculture et Agroalimentaire Canada  
Environment Canada / Environnement Canada

NOAA / USDA / CCME / NDMC / NCEP

Canada

# Who's Involved

- **Meteorological Services of Canada (MSC), Environment Canada** is mandated to be Canada's national weather and hydrometeorological organization. MSC provides a national focus for meteorological services in Canada, which includes collecting a wide range of weather information, communicating and processing information, meteorological research and development, atmospheric computer modeling, forecasting and consultation and delivery of service to the public.
- **Agriculture and Agri-Food Canada - (PFRA)** has been monitoring drought and providing early warning as an ongoing activity for over 30 years due to the drought sensitivity of the Canadian Prairie region. In 2001, AAFC began to include all of the major agricultural regions of Canada as a result of the nation-wide drought, which impacted virtually all regions of the country. AAFC has established a Climate Related Production Risk Committee (formerly the AAFC Drought Committee) to assist with its monitoring and risk assessment activities.

# Canadian Contributing Organizations and Review Team

- AAFC-PFRA District and Regional Offices
- Alberta Environment
- Alberta Agriculture, Food and Rural Development
- B.C Ministry of Environment – River Forecast Centre
- Environment Canada
- Manitoba Hydrologic Forecast Centre
- Natural Resources Canada – Canadian Forest Service
- Ontario Ministry of Natural Resources – Low Water Response
- Saskatchewan Agriculture, Food and Rural Revitalization
- Saskatchewan Watershed Authority

**All arrangements with contributing organizations are informal at this point**

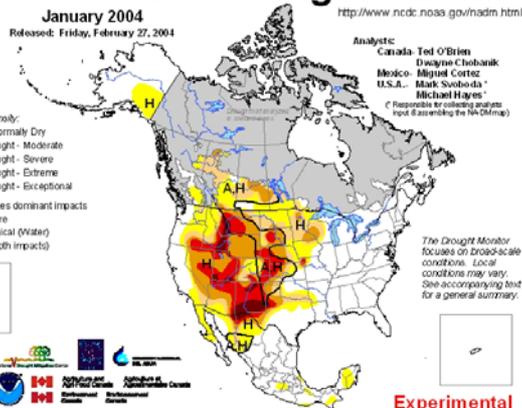
# Current Commitments and Operations

1. NAIS produces drought indicator maps, completes the drought assessment produces a drought map and narrative each month.
2. Environment Canada provides precipitation data to AAFC and the US (NCDC) for indicator continental maps.
3. NAIS take the Lead Authorship for NADM approximately twice a year

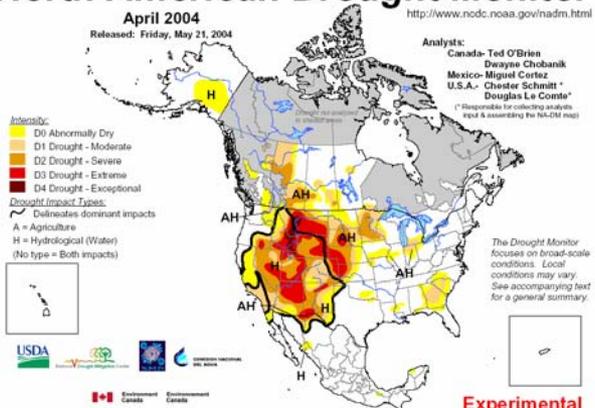
# Changes in Canada's Monitoring and Reporting

- Initially Canada was only assessing the agricultural areas.
- We added northern regions within the prairies in the spring of 2004.
- Later that year we added the rest of the Canadian Provinces, outside the agricultural extent.
- We still do not map the territories

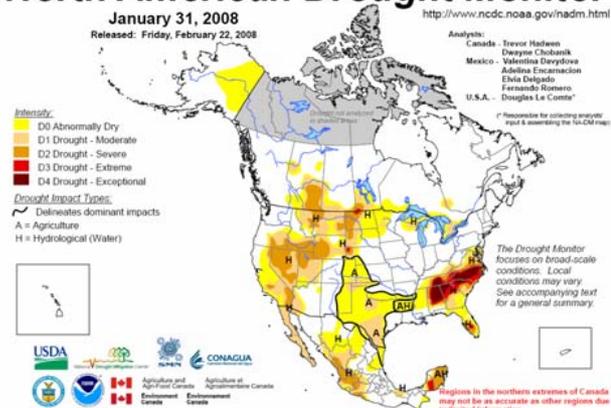
## North American Drought Monitor



## North American Drought Monitor



## North American Drought Monitor



# Not Experimental Anymore But...

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

## North American Drought Monitor

January 31, 2008

Released: Friday, February 22, 2008

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

### Analysts:

Canada - Trevor Hadwen  
Dwayne Chobanik  
Mexico - Valentina Davydova  
Adelina Encarnacion  
Elvia Delgado  
Fernando Romero  
U.S.A. - Douglas Le Comte\*

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

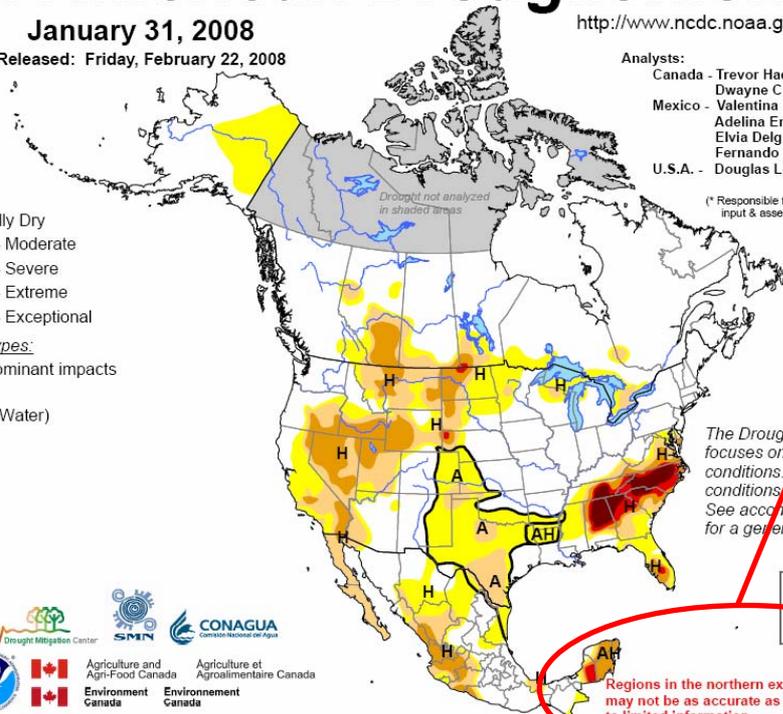
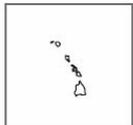
### Intensity:

- 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 the northern extremes of Canada may not be as accurate as other regions due to limited information.

# Progress – List of Proposed Projects from 2004

1. Increase the number of real time climate data sites through networking. (Significantly Increased)
2. Increase the historical data base through the development of a gridded data set. (gridded data set completed)
3. Development and make operational use of the modified Palmer Drought Index and related tools. (Completed - National Drought Model products posted on the Drought Watch Website Monthly )
4. Develop the SPI for the agricultural year, winter and growing season. (National Drought Model – for rolling time periods but have not done the seasonal work yet)

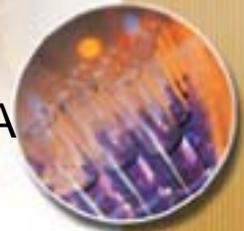
# Progress – List of Proposed Projects from 2004

6. In partnership with Statistics Canada and other natural resource departments, research and develop the Satellite Vegetation Index Program on a national scale. (Completed and released in 2007)
7. Apply the streamflow monitoring program under development by MSC and investigate developing a percentile data base. (Not Complete)
8. Apply the soil moisture model in the modified Palmer Drought Index package through the development of a percentile data base. (Not Complete)
9. Build a team to expand the drought assessment to a national scale and contribute directly to the NADM . (In Progress)
10. Improve our set of drought indicators (significantly improved) NAIS has the ability to quickly and easily produce maps of any region of Canada for a wide range of indicators and timescales – we have the ability to produce over 700 maps daily – most posted on the Drought Watch website )

# Potential Opportunities and Areas of Growth and Limiting Factors

- Possibilities are endless, however we face some significant limited factors including:
  - **Lack of data** - Most of our data is for the agricultural areas of Canada. Very little is available for arctic or even the boreal areas. There is certainly room to improve this by adding more provincial data.
  - **Need for research.** We need to better understand how to assess drought regionally, including in northern Canada.
  - The **resources** (people and money) dedicated to this project is very low in Canada; we need to expand the team within Canada to deliver the NADM more efficiently and more accurately.

# Thank You



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# Canada