

Agriculture et Agroalimentaire Canada



Overview of the Canadian Drought Monitor Applications

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Canadian Drought Monitor

- The Canadian Drought Monitor is a system developed to monitor and report on the extent and severity of drought conditions across Canada.
- Since 2003, Canada has been assessing drought utilizing the 'Drought Monitor' methodology with the end goal of providing Canadian data for the North American Drought Monitor, a continental-wide drought monitoring collaboration between Canada, United States and Mexico, based off of the highly successful United States Drought Monitor.
- In 2009, Canada started to produce a national version of the Drought Monitor for an external audience.
- A variety of data and experts from across the country feed into the assessment which is provided on a monthly basis.
- Maps and Narratives are provided on our Drought Watch website for everyone to view.

Why Monitor Drought?

- The critical factor for an effective response is knowing what you are facing.
- Informs policy and response mechanisms
- Informs planning (producers, industry and government)
- Improves targeting and value for programs
- Results in a better understanding of drought



The Drought Monitor Concept...

Addresses the fact that there is no single definition of drought. The Drought Monitor:

- Is a consolidation of indices and indicators into one comprehensive national / international drought map;
- Captures the drought magnitude (duration and intensity), spatial extent, probability of occurrence and Impacts;
- Rates drought intensity by **percentile ranks**;
- Is an assessment of current conditions, NOT a forecast;
- Is NOT a drought declaration;
- Incorporates local expert input; and
- Tries to keep things simple for the end user to understand.

Monthly Assessments





- Previous assessment methodology was paper-based, was time consuming and required outside GIS assistance to digitize.
- New assessment methodology is more:
 - Efficient
 - Accurate
 - Functional
 - Open

CDM Assessment Structure



CDM Assessment Structure



CDM Editor Application

- Done internally (2-4 people from NAIS team)
- View different datasets (e.g. WMS, shapefiles, precipitation)
- This method is at least 50% more <u>efficient</u> than the old method
- Greater <u>accuracy</u> attained by overlapping layers to get a more overall view of drought conditions
- More <u>functional</u> than old method. Can add, edit and delete polygons according to drought designation values (D0-D4).
 Other tools include: erase, cut, merge, union, delete
- Changes done in Editor Application are automatically brought into Reviewer Application.

CDM Reviewer Application

- The Review team consists of ~80 persons from a variety of organizations
- The application is accessible externally
 - NAIS moderates group of reviewers
- Very similar to Editor Application, but with specific functions:
 - Suggest polygon changes and add your comments
- Provides a more <u>efficient</u> and <u>accurate</u> review method than the old method
- Suggested revisions and all comments are <u>open</u> for all reviewers to see. Way more open than the old method.
- Changes made in Reviewer Application are automatically updated in Editor Application

Embedded Map & Interactive Application

- Available through the Drought Watch web site
 - Accessible online by anyone (www.agr.gc.ca/drought)
- Users can view current and historic maps, one at a time or in an animation, as well as zoom in/out and pan around Canada
- Interactive application has even more functionality:
 - add data (such as WMS, shapefiles, etc.)
 - change base maps
 - print to various graphic file formats

Link to CDM



http://www.agr.gc.ca/eng/?id=1430766471261

Thank You

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