

# Manitoba Drought Management Program



Manitoba Water Stewardship  
Drought Research Initiative  
May 12 to 14, 2010

# Outline

- Program Overview
- Conceptual Framework
- Complimentary Activities
- Challenges and Research Needs

# Drought Program

- Manitoba Water Stewardship Drought Committee
- Interagency Drought Committee
- Developed conceptual framework that identifies various tasks.
- Initial focus has been on collecting background information, analysis and identification of potential indicators for different types of drought.
- Issue water availability and drought condition reports on a monthly or bi-weekly basis, as required.

[http://www.gov.mb.ca/waterstewardship/water\\_info/hydrology/drought.html](http://www.gov.mb.ca/waterstewardship/water_info/hydrology/drought.html)

# Conceptual Framework

- **Drought Definitions**
  - classification
  - phases
- **Water Supply and Demand Projections**
  - Short-, Medium- and Long-term
  - Water sustainability
  - Risks and impact assessment
- **Drought Action Strategies**
  - Reporting
  - Monitoring
  - Drought Mitigation
  - Water Conservation/Efficiency
- **Climate Change Adaptation**
  - Climate change and its potential impact
  - Adaptation strategy

# Complementary Activities

- **Manitoba WaterSmart (Softpath)**
- **Red River Basin Commission**
  - Immediate Drought Response Process
  - Water Conservation for Residential, Municipal, Commercial, and Industrial Needs.
- **Agriculture and Agri-Food Canada (Drought Planning Preparedness)**
  - to evaluate capacity for drought response and preparedness, and to identify actions that increases resiliency and decrease vulnerability to drought.
- **Prairie Provinces Water Board**
  - resiliency of master agreement

# Complementary Activities

- **International Water Institute, Fargo, North Dakota:**
  - Developing and Implementing a Regional Drought Decision Support System (RDDSS) for the Red River Basin of the North. The project will develop and use drought forecast products to communicate risk for agricultural producers and water supply users.
- **North America Drought Monitor (NADM)**
- **Canadian-U.S. Group on Earth Observations (GEO)**
  - Bilateral Study on Drought Indices and Definitions
- **Western Water Stewardship Council (WWSC)**
  - Sharing information and technology; exploring opportunities to collaborate on projects of common interest; and initiating development of a work plan to develop new partnership areas.
- **DRI**

# Challenges

- Predicting duration, severity and spatial extent of droughts.
- Soil moisture information and an indicator for drought monitoring
- Prairie surface water storage and groundwater indicators.
- Projection of future water supply and demand information (short- and long-term) under expected trend and climate change scenarios

# Research Needs

- Drought Indicators for:
  - Soil moisture
  - Prairie Surface Water Supplies and Groundwater
- Projection of future water supply and demand (short- and long-term) for expected trends and climate change scenarios for each river basin in Manitoba
- Drought predictions (duration, intensity and spatial extent).
- Risks and vulnerabilities of future droughts (socio-economic and environmental).



*Questions!*