

The Partners Advisory Committee: The Users Advocates



Harvey Hill, Manager
Climate Decision Support and Adaptation Unit, AAFC,
MANITOBA DRI USERS WORKSHOP
DRAFT AGENDA
January 14, 2010
Radisson Hotel, 288 Portage Avenue
Winnipeg Manitoba



Agriculture and
Agri-Food Canada

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PAC committee formed

- **Harvey Hill**, PAC Committee Chairman
- **Rick Lawford** - Network Manager, Drought Research Initiative
- **Bill Girling**, P.Eng. Manitoba Hydro
- **Irene Hanuta**, Ph.D.
Senior Policy Analyst - Climate Specialist, AAFC-PFRA
- **Bart Oegema**, MAsc. P.Eng., Sask. Watershed Authority
- Ryan Cossitt, Environ. Science Research Officer, Sask Ag.
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- **Elaine Wheaton, Unit Manager, Climatology, SK. Res. Council**
 - **Alf Warkentin, Senior Hydrologic Forecaster, Manitoba Water Stewardship**
 - **Itenfisu, Daniel, Manager and DroughtModeller, Alberta Agriculture**
 - **Keller, Ray, Team Leader, Flow Forecasting, Alberta Environment (Former member)**
 - **Andy Nadler, Agricultural Meteorologist, Manitoba Agriculture, Food and Rural**

PAC Committee Meeting, October 2007

- Issues raised included
- Interpolation questions
 - Interpolation approaches. What are the quantified dangers of using interpolation schemes? What are the benefits?
 - He raised concerns about using probabilistic and inaccurate forecasts for policy decisions
 - **Possible Action for DRI:**
 - DRI should place more emphasis in providing the accurate comprehensive data related to evapotranspiration, precipitation, etc needed to drive models.

- **Questions regarding the reliability of indices was also raised**

Issues Continued

- **Forecasting of soil moisture and drought**
- **Manitoba hydro requires hydrologic forecasts up to 12 months.**
- **They need to understand the frequency of wet and dry cycles for reservoir management and electrical production.**
- **Paleo-climate information desired to understand climate drivers of droughts. (El Nino, AO, etc.)**
- **Possible Action for DRI:**
 - **DRI could assist in documenting the threshold conditions for drought caused by climate variations and contribute to the determination of drought predictability by region**

- Manitoba Water Stewardship needs better understanding of how climate and hydrologic variability may be affected by climate change to address:

1. Flood avoidance and
2. Coordinate agricultural uses with downstream risk management.

Possible DRI Action:

- DRI could facilitate linkages of Manitoba and Alberta soil moisture data and experts such as Julian Brislow and Rick Raddatz to support DRI research and improve estimates of soil moisture conditions with existing technology.

Issues Continued

- Saskatchewan Agriculture needs reliable drought indices, better model parameters and drought impacts and adaptation information.
- Manitoba Agriculture needs better soil moisture and drought indice forecasts and drought probability predictions.
- Also noted the importance of information on snow pack and snow melt.

Group Discussion:

- Can DRI support the **Prairie Provincial Water Board (PPWB)**?
- Need an improved understanding of **multi-year droughts, their magnitudes, spatial extent.**
- **Evapotranspiration** processes are important to the applied community.
- A **review journal article** collaboration between DRI scientists and the applied community was discussed.
- **The accuracy and timeliness of drought information needs better resolution to support decision making.**
- **Drought indices beyond precipitation and temperature** such as soil moisture variability required.
- Suggested PAC meet with DRI Investigators to explore some of these issues in greater depth at this workshop.

Next Steps

- How to get research to applied community
- A possible approach maybe to adapt the NOAA Climate Transition Program to the Needs of the Canadian Community
http://www.climate.noaa.gov/cpo_pa/nctp/
- Also want to explore how the recent CFCAS funding might facilitate linkages between the two communities.

Next Steps (Continued)

- Working with the Network Manager to explore some form of meeting with the adaptation community
- Will explore the journal article

So What Happened?

- Data archives were developed
- A soil moisture forecasting model was developed
- A simulation exercise concept was developed in partnership with NAIS that is now part of the Prairies Regional Adaptive Collaborative Project and is being considered for longer term droughts at a variety of spatial scales.
 - A presentation about this was made at the 2008 CMOS symposium
- The prairie landscape hydrology modeling advances related to pothole patterns is being considered for adoption in the NAIS Landscape and Infrastructure and Resiliency Assessment project.
- End users consistently attended the DRI meetings

A Modest Attempt to Take the "I" out of the "Hydro- Illogical" Cycle

*Harvey Hill*¹, *Terry Rolfe*², *Elaine Wheaton*³, *Richard Lawford*⁴,
*John Pomeroy*⁵, *Ronald Stewart*⁶, *Nancy Lee*⁷

CMOS Congress, Kelowna,
May 28, 2008

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Drought Preparedness Assessment Exercise

- A “war game” or simulation to assess the preparedness of organizations and regions to droughts of varying intensities.
- DEWS Drought Early Warning System is the DRI contribution.



In the “If We Ever Do This Again” or Needs to Be Done Next Time” Category

Note to CFCAS



- **Invest in the last 10% required to link the research to operations prototypes.**
- **It was tough to do due to limited budget, time, and priorities.**



Questions?