

# **Report on DRI Prediction Workshop**

(September 20, 2007, McGill University; prepared by Charles Lin)

## Objectives

- Better integrate existing atmospheric and hydrological research on prediction in DRI
- Assess needs and availability of observational and model data
- Assess performance of seasonal forecast of the 1999-2005 drought
- Examine key process studies that contribute to simulations of the drought
- Take the first steps in preparation of a synthesis paper

## Agenda

The agenda is attached at the end of this report.

## Attendance

There were 19 participants from three universities (McGill, Manitoba, Saskatchewan), Environment Canada (EC), Ouranos, and the DRI Board of Directors. The list of participants is attached at the end of this report.

## Summary of workshop

The workshop opened with introductory comments by Ron Stewart and Charles Lin. There were 5 scientific presentations focusing on different aspects of drought simulation by DRI researchers. Patrice Constanza (data manager) then presented an update on the Data Access Interface and the use of Google Earth for visualization and data integration. The presentations are available on the DRI web site. After the presentations, there was a discussion period that focused on the workshop objectives.

## Next steps

- Key variables required for further analysis
  - Snowpack (SSM/I, visible imagery): Ron Stewart to lead team (Kevin Schook, Patrice Constanza, and Ann Walker's group in EC) to follow up
  - Soil moisture: Lei Wen to follow up with Aston Chipanshi of PFRA and Garth van der Kemp (EC) on available observations
- Seasonal forecast
  - Monthly forecasts over a period of 4 months from GCM3/CLASS are now available for the period 1969-2003; Lei Wen to make the monthly data available to DRI community
  - Patrice will work with CMC and the HFP team (Juan Sébastien) to get the twice daily data; this is estimated to take 3-4 months
  - Initialization of soil moisture and snowpack: Charles Lin will work with the HFP team (Jacques Derome, George Boer, Hai Lin) to start this initiative, this involves running GCM3/CLASS; also, a request will be made to extend the HFP runs beyond 2003 to 2005

**DRI Prediction Workshop**  
**Department of Atmospheric and Oceanic Sciences, Room 934, Burnside Hall,**  
**McGill University, Montreal, September 20 (Thursday), 2007**  
**Agenda**

**08:30 – 09:00:** Registration

**09:00 – 09:05:** Background on DRI and Prediction (Ron Stewart)

**09:05 – 09:15:** Objectives of Workshop (Charles Lin)

**Part I: The 1999-2005 Drought (Chair: Charles Lin)**

**09:15 – 09:35:** Large-Scale Characteristics Associated With the 1999-2005 Canadian Prairie Drought: Implications for Improved Drought Prediction (Barrie Bonsal)

**09:35 – 09:55:** Regional climate model simulations of the 1999-2005 Prairie drought: A model inter-comparison study (K. K. Szeto, B. Rockel, K. H. Szeto, R.E. Stewart, C. Jones, M. MacKay, J. Roads and L. Wen)

**09:55 – 10:15:** Use of Canadian Regional Climate Model (CRCM) data and its verification during the 1999 – 2004 drought over Canadian Prairies (AKM Bhuiyan, John Hanesiak).

**10:15 – 10:45:** Coffee

**Part II: Drought and Data Integration (Chair: Ron Stewart)**

**10:45 – 11:05:** Using the Cold Regions Hydrological Model to Predict the Prairie Hydrology of Droughts (Kevin Shook, John Pomeroy)

**11:05 – 11:25:** Reconstructing Canadian Prairie Droughts for the period from 1950 through 2005 using the Variable Infiltration Capacity (VIC) Hydrological Model (Lei Wen, Charles Lin, Zhiyong Wu, Guihua Lu)

**11:25 – 11:55:** Update on DAI and Data available and latest Google Earth developments (Patrice Constanza)

**11:55 – 13:00:** Lunch (In Room)

**13:00 – 15:00:** Open Discussion

Some initial questions for discussion include:

1. Have we completed the documentation of predictions for the drought period?
2. What were some of the key successes and failures of the drought predictions?
3. How can we improve our integration of relevant information?
4. What specific suggestions do we have for moving ahead?

**15:00 – 15:10** Closing Remarks (Ron Stewart, Charles Lin)

**DRI Prediction Workshop  
September 20 (Thursday), 2007**

Name	Affiliation	Signature
Rabah Aider	McGill	
Eyad Atallah	McGill	
AKM Bhuiyan	U Manitoba	
Barrie Bonsal	EC	
James Bruce	DRI	
Patrice Constanza	McGill	
Jacques Derome	McGill	
Erin Evans	McGill	
Heather Greene	McGill	
John Gyakum	McGill	
Henry Leighton	McGill	
Charles Lin	McGill/EC	
Hai Lin	McGill/EC	
Erin Roberts	McGill	
Kevin Shook	U Saskatchewan	
Ronald Stewart	McGill	
Laxmi Sushama	Quranos	
Kit Szeto	EC	
Lei Wen	McGill	