

# DRI Progress 2008



John Pomeroy, Ron Stewart

# THE DRI TEAM

## ➤ Co-leads:

Ron Stewart (PI, *Man*) and John Pomeroy (*Sask*)

## ➤ Network Manager:

Rick Lawford (*Manitoba*)

## ➤ Information Managers:

Philip Harder (*Man*), Patrice Constance (*Ouranos*)

## ➤ Investigators (13):

Bonsal (*Sask/NHRC*), Bullock (*Man*), Gyakum (*McGill*), Hanesiak (*Man*), Hayashi (*Calg*), Leighton (*McGill*), Lin (*McGill*), Pietroniro (*Sask/NHRC*), Snelgrove (*Memorial*), Strong (*Alta*), van der Kamp (*Sask/NHRC*), Wheaton (*Sask/SRC*), Woodbury (*Man*)

## ➤ Collaborators (+20):

Berg (*Guelph*), Boer (*EC*), Caya (*Ouranos*), Derksen (*EC*), Derome (*McGill*), Donaldson (*EC*), Granger (*EC*), Lee (*AAFC*), Martz (*Sask*), Raddatz (*Winnipeg*), Ritchie (*EC*), Sauchyn (*Regina*), Shabbar (*EC*), Sills (*EC*), Smith (*EC*), Skone (*Calgary*), Szeto (*EC*), Toth (*EC*), Walker (*EC*), Wang (*NRCan*), more.....

## ➤ Partners (+17):


AAFC, NR Canada, Env Canada, Alta Agric. Food & Rural Dev, Alta Env, DUC, Man Hydro, Man Water Stewardship, Ouranos, PARC, PPWB, Sask Agric, Sask Env, SRC, SWA, Sask Water, others.....

➤ Research expertise covers critical areas for DRI

➤ Solid track record of working together as well as being in and leading networks

# OBJECTIVE OF DRI

*To better understand the physical characteristics of and processes influencing Canadian Prairie droughts, and to contribute to their better prediction, through a focus on the recent severe drought that began in 1999*

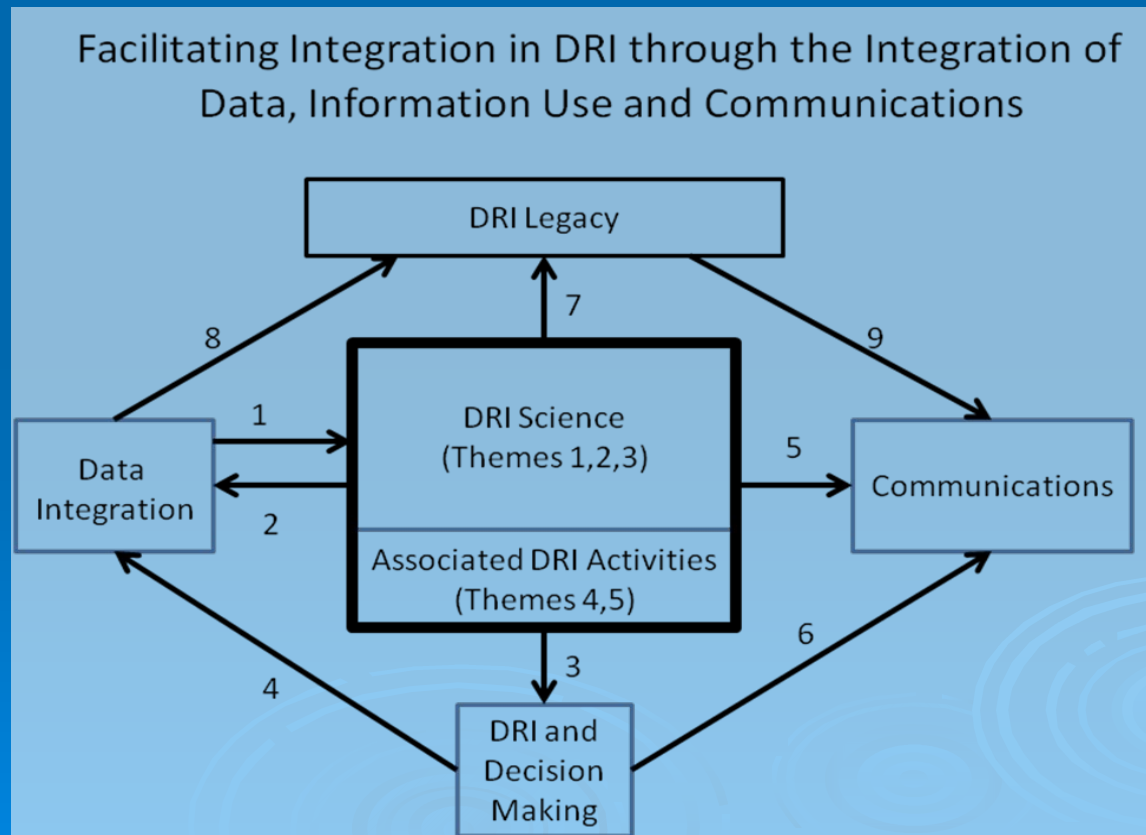


# DRI THEMES

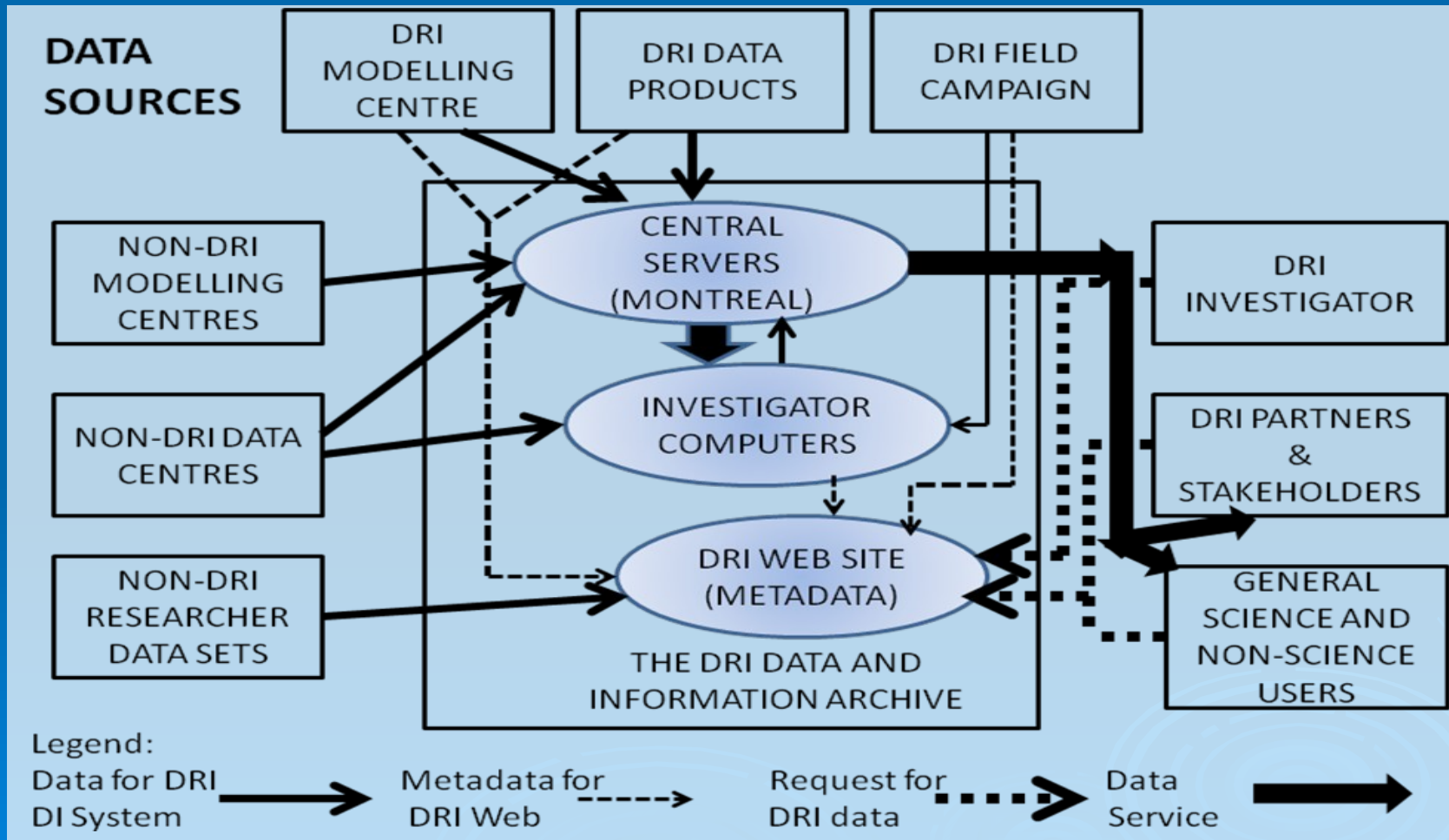
1. **Quantify the physical features,**
  - flows of water and energy into and out of the region, and
  - storage and redistribution within the region
2. **Improve the understanding** of processes and feedbacks governing the
  - formation,
  - evolution,
  - cessation and
  - structure of the drought
3. Assess and reduce uncertainties in the **prediction of drought**
4. **Compare the similarities and differences of current drought to previous droughts and those in other regions**
5. **Apply our progress to address critical issues of importance to society**

# Integration and Application of DRI Information and Science

- To enhance data integration, communication and outreach



# DRI Data and Information System



# DRI Data and Information Manager

Provide observational data management support for the DRI Network to facilitate access to data of interest to DRI researchers and enhances the utility of DRI Integrated Data System by making it more complete and professional.

*Philip Harder*



# DRI Outreach

- User needs assessment
  - Required timing and accuracy of drought prediction
- Drought Early Warning System (DEWS)
  - i) what information do sectoral users need to base their decision making on before, and during a drought?
  - ii) what information do forecast agencies need for drought forecast (beginning and end)?
  - iii) what level of confidence is needed before a forecast be used for a response?
  - iv) what is the value of quantifying uncertainty in a drought forecast?
  - v) what are the consequences of getting a forecast wrong?
  - vi) are there key times in the calendar year that can be identified for critical information?
  - vii) how might we best balance increasing confidence and decreasing scope of response as a prediction period is shortened?



# Theme Progress

- Theme 1:
  - Drought characterisation (workshop)
  - Regional water and energy budgets
- Theme 2:
  - Atmospheric and hydrological processes
  - Field campaign analyses
  - Evapotranspiration special issue CWRJ
- Theme 3:
  - Precipitation and atmospheric parameters
  - Soil moisture and runoff
  - Groundwater
  - Models: VIC, CRHM, MESH, CLASS, CRCM
  - Link to Berg CFCAS study
- Themes 4, 5:
  - Wetland hydrology
  - DEWS
  - Impact on hydroelectricity

# DRI Synthesis

- Major Effort for 2009.....



# DRI END

- 2010 Network funding from CFCAS ends
  - Legacy
    - Data
    - Information
    - Outreach
  - Wrap-up
  - Follow-on
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