AGRICULTURAL WATER FUTURES

What will Canadian Agriculture look like in 100 yrs?

AWF Goal: **Determine how Canadian agriculture can best respond to risk and uncertainty associated with current and future climatic and socio-economic stressors**

WP1: **Improve our ability to accurately calculate the water use and water productivity for crop and livestock production systems;**
WP2: **Improve understanding of impacts of climate and soil geomorphic factors on transport pathways and water quality (N, P, C);**
WP3: **Strengthen the foundation for adaptation in agricultural water decision making, focusing on water quality.**

Pan-Canadian Context:
SK, MB, ON, NS

AWF Team and Overall Approach

Research Team:	Investigators:	HQP:	Approach:
	Merrin Macrae (PI)	P. Harder	
University of Saskatchewan	Robert Gordon (Co-PI)	M. Kopanizare	
	Warren Helgason (Co-PI)	J. Plach	Data Mining & Synthesis
	Rob de Loë (Co-PI)	J. Liu	
		A. Frank	
University of Waterloo	Richard Petrone	R. Agyeman	
		F. Alvarado	Field Work
	Roy Brouwer	*L. Guo*	(physical and social science)
Wilfred Laurier University	Peter Deadman	*S. Kurkute*	
	Johanna Wandel	*M. Al-Bahouh*	
		K. Vivekanthan	
	Derek Robinson	H. Lui	Modeling
ECCC	Jeremy Pittman	K. Haan	
		D. Dixon	
	Helen Baulch	L. Corlett	
OMAFRA	Terry Fonstad	M. Marshall	
		S. Higgins	
	Yanping Li	*K. Grant*	
AAFC	John Pomeroy	*R. Carlow*	
		D. Price	
	Jane Elliott	M. Eicher-Sodo	
	Henry Wilson	*L. Guo*	

Progress to Date

- **HQP Recruitment**
- **Sites Selected for Study**
  - **Swift Current, Clavet, Kenaston, Outlook, South Tobacco Creek, Brandon, L. Winnipeg, Thames River, Essex, Thomas Brook**
- **Compilation of Data**
- **Field instrumentation and monitoring**
- **Surveys**
- **Modelling**

Photo: Warren Helgason

Photo: C. Van Esbroeck

Core Needs and Contributions

- **Data Management Team**
  - Needs: WISKI, AQUARIUS support, data formatting
  - Contributions: Edge-of-field, watershed scale hydrometric and water quality data; data on human subjects

- **GWF Core Modelling Team**
  - Needs: Climate Simulations, CRHM Development/Training
  - Contributions: Process knowledge for model development, testing of model at sites, 'practice' data sets

- **Knowledge Mobilization Team**
  - Needs: Synergies with other GWF projects, assistance with larger venues and outreach & identification of KM opportunities
  - Contributions: Existing relationships with farm organizations and opportunities for additional outreach & impact for AWF and GWF

Key Users and KM Plan

- **Co-Creators** (Highly Involved)
  - AAFC, ECCC, OMAFRA, UTRCA, SIPA

- **Advisors** (Involved slightly less frequently)
  - Agricultural Industry Groups *(e.g*, OSCIA, Canadian Dairy Association), WSASK), Deerwood Soil Mgmt Group), OMAFRA, MOECC, AAFC, MAFRED, Conservation Authorities & Districts

- **End Users** (Outreach &Dissemination)
  - Researchers, Government, Ag Industry Groups, Farmers

Work Package Meetings	Advisory Meetings	Academic Conferences, Special Sessions	Field Days
Stakeholder Advisory Panel	Workshops & Small Meetings		Ag Media

Ag Industry Meetings

Users