Project Management

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GWF & IMPC

Integrated Modelling Program for Canada
Global Water Futures

Dr. John Pomeroy

GLOBAL WATER FUTURES

SOLUTIONS TO WATER THREATS IN AN ERA OF GLOBAL CHANGE

WWW.GLOBALWATERFUTURES.CA

33 sub-projects

Core Modelling Team

Dr. Al Pietroniro
Environment Canada

Integrated Modelling Team

Dr. Saman Razavi

gwf.usask.ca/impc

Project Management

Integrated Modelling Program for Canada
Global Water Futures

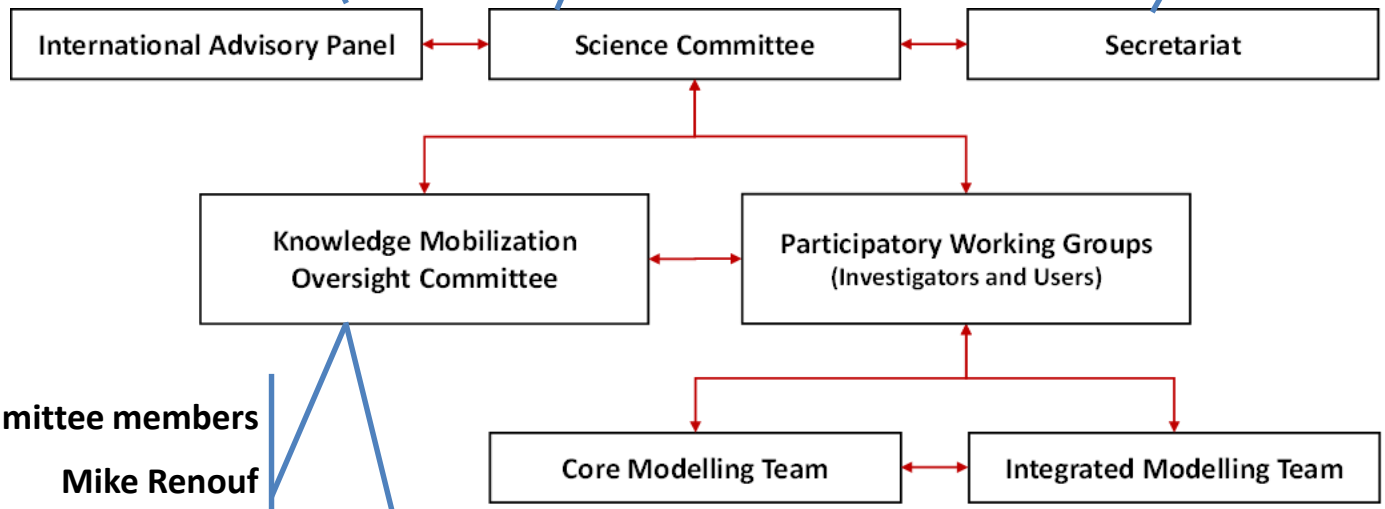
Eric Wood (Princeton U)
Hoshin Gupta (U Arizona)
Steven Chapra (Tufts U)
Casey Brown (U Mass.Amherst)
Thorsten Wagener (U of Bristol)
Patrick Reed (Cornell U)

Saman Razavi
Al Pietroniro
Howard Wheater
Pat Gober
John Pomeroy

Program Manager:
Amin Haghnegahdar

Data Manager:
Branko Zdravkovic

GIWS admin. staff



Committee members

Mike Renouf
Prairie Provinces Water Board

Wayne Jenkinson
International Joint Commission

Bob Holliday
Partners for Saskatchewan River Basin

Knowledge Mobilization Specialist
Stephanie Merrill
User Engagement Specialist
Hayley Carlson

Integrated Modelling Program for Canada
Global Water Futures

Progress so far

First Science Committee Meeting

Jul, 2017

IMPC Website

Bi-weekly Theme Meetings Begin

Theme A led by Amin H., Theme B led by Mohamed E. Themes C and D led by Hayley C., Water Quality led by Michael K./Luis M.

Sept

Kick-Off Workshop

Sept 14-15

IMPC B3 Meeting
Nov 1

Formation of Participatory Working Groups begins

Nov

KMOC Meetings Begin
Nov 23, Jan 12

IMPC Twitter

Indigenous Representatives and Issues Workshop

Jan 8

Jan, 2018

IMPC A5 Meeting
Jan 19

GWF Inception Meeting

Jan 22-23

March

Joint IMPC-Core Modelling Meeting
Jan 30

Inception Report

Annual Report

Data Policy Document: Consistency and Reproducibility

May

User Engagement Survey

IMPC at GWF Annual Science Meeting

June 3-6

July

First Annual General Meeting
Jul 18-19

Notable Progress

Integrated Modelling Program for Canada
Global Water Futures

- Using conference phone for WebEx ☺
- Inception and annual Report
- KM activities including Participatory Groups
- Website, Twitter

https://gwf.usask.ca/impc
https://twitter.com/IMPCwatermodels

- Data Compilation & Consistency
- Modelling Coordination & Consistency
  - Modellers Engagement!
  - Model configuration
  - Data used

Annual Meetings

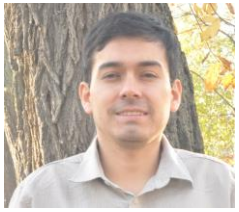
Integrated Modelling Program for Canada
Global Water Futures

1. Kick-off workshop (14-15 Sep. 2017)
   - *Inception report, planning*
2. 1st annual meeting (18-19 July 2018)
   - *Progress, interim results and plan*
3. 2nd annual meeting (17-18 July 2019)
   - *Progress, interim results, plan to complete*
4. 3rd annual meeting (15-16 July 2020)
   - *Summary and final report, plan for phase 2 under GWF*

Other Meetings

Integrated Modelling Program for Canada
Global Water Futures

- Current Meetings:
  - Theme A biweekly modelling meetings
    - organized by Amin Haghnegahdar
  - Theme B, monthly water management
    - organized by Mohamed Elshamy
  - Monthly Water Quality meeting
    - organized by Luis Morales
  - Theme D: User Engagement/KM meetings
    - organized by Hayley Carlson
- Meetings for each WP as needed led by investigators



This meeting by Numbers

Integrated Modelling Program for Canada
Global Water Futures

- 115 invitees, 88 attendees (last year 70 in total)
  - 75 in person, 13 WebEx

- 17 Organizations
  - Agriculture and Agri-Food Canada
  - Alberta Energy Regulator
  - Alberta Environment & Parks
  - City of Calgary
  - Cumberland House Cree Nation
  - Environment and Climate Change Canada
  - Government of Saskatchewan
  - Manitoba Hydro
  - Manitoba Infrastructure and Transportation
  - Mistik Lodge
  - Natural Resources Canada
  - Northern Village of Cumberland House
  - Partners for the Saskatchewan River Basin
  - Prairie Provinces Water Board
  - Sask. Power
  - Water Security Agency
  - Yukon Government

Important Dates & Deadlines

- **Bi-annual reports** due
  1. *15 March 2018*
  2. *15 September 2018*
  3. *15 March 2019*
  4. *15 September 2019*
  5. *15 March 2020*
  6. *15 July 2020*

Integrated Modelling Program for Canada
Global Water Futures

- 15 investigators
- ~ 15 HQPs

4 Research Themes 14 Sub-projects

A1: Atmospheric Modelling
Coupled atmospheric-hydrologic modelling to represent feedbacks under scenarios of change

A2: Hydrologic Modelling
Improving process representations to better simulate snow, glacier, groundwater, and permafrost

A3: Water Quality Modelling
Integrating land-surface and in-stream water quality processes into hydrologic modelling

A4: River Ice Modelling
Integrating river ice processes into hydrological modelling for operation and flood forecasting

A5: Modelling Intercomparison
Model intercomparison and multi-model analysis for improved prediction

A6: Floodplain Mapping
Improving floodplain mapping in flood sensitive watersheds

A7: Characterization of Uncertainty
Enabling decision making under uncertainty and identifying & reducing dominant controls of predictive uncertainty

THEME A: Integrated Earth Systems Modelling

THEME B: Water Management Modelling

B1: Basin-wide Water Resource Modelling
Developing a basin-wide water resources model to simulate different operational policies of existing and future water infrastructure

B2: Environmental Demands
Developing hydro-ecologic metrics for environmental demands in water management

B3: Hydro-economic Modelling
Developing an integrated hydro-economic model to assess the direct and indirect impacts of policy decisions based on socio-economic water valuation studies

C1: Future Scenario Generation
Projection of river-basin scale changes in climate, land surface, and water resources

C2: Optimization and Multi-Criteria Decision Analysis
Optimization and multi-criteria decision analysis to optimize policy and decision scenarios and evaluate trade-offs between different competing objectives

THEME C: Decision Making under Uncertainty

THEME D: User Engagement and Knowledge Mobilization

D1: Outreach and user engagement
Inclusion of user community representatives on modeling team, and iterative, two-way sharing of information between scientists and users

D2: Decision Support Systems
Developing decision support systems with advanced visualization tools

Acknowledgement

Integrated Modelling Program for Canada
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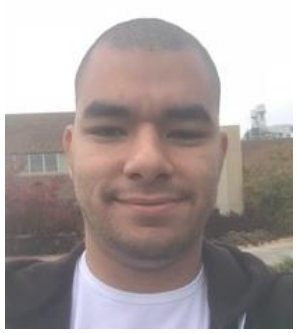
Hayley

Razi

Mustakim

Mohamed Abdelhamed



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