

## Global Water Futures Inaugural Annual Science Meeting 2018

### Meeting Agenda

**Meeting Dates:** June 4–6, 2018

**Location:** McMaster University (Hamilton, ON) and Six Nations of the Grand River (Ohsweken, ON)

#### Meeting purpose and aims:

The primary purpose of the Global Water Futures (GWF) Annual Science Meeting is to provide a broad perspective of scientific progress from the entire GWF program, to stimulate transdisciplinary discussions and interactions amongst researchers, students and partners, and to showcase and celebrate the scientific and technical advancements emerging from the GWF program. Science presentations will involve regional or topical plenaries and transdisciplinary parallel sessions. In addition, the following activities and outcomes are envisioned:

- Workshops and events for the GWF community to advance its understanding of Indigenous water issues, knowledge, culture and history.
- A workshop to help develop best practices for knowledge mobilization between research partners.
- Plenary presentations on international water research programs and engagement opportunities for GWF.
- An opportunity for young professionals to come together and hold development activities that aid career advancement and social events to enhance camaraderie. This will include activities such as workshops, presentations and scientific poster sessions.

<b>Sunday, June 3, 2018</b>	
<b>GWF Young Professionals (YPs) Workshop &amp; Social</b>	
<b>15:00–17:00</b>	<b>Professional Development Workshop</b> (location: Michael DeGroot Centre for Learning and Discovery (MDCL 1110))
	Dr. Jeff McDonnell (University of Saskatchewan) will give advice on navigating grad school/career paths, the importance of student groups and collaborations, and tips on writing and publishing. Snacks and refreshments will be provided.
<b>17:30–23:00</b>	<b>Young Professionals Social Networking Evening and Bonfire</b> (location: Phoenix Bar and Grill and McMaster Altitude Compound)
	Join other YPs at The Phoenix Bar and Grill, from 5:30-8:00 PM. GWF-YP Chapter Chairs will introduce themselves. Appetizers will be provided with additional food and drinks available for purchase. Following this, we have arranged a bonfire from 8:00-11:00 PM. This will be held on campus at the McMaster Altitude Compound.

<b>Monday, June 4, 2018</b>	
<b>GWF Inaugural Annual Science Meeting – Day 1</b>	
<b>9:00–10:00</b>	<b>Meeting Opening</b> (room 1305/7) Convener/Chair: Maureen MacDonald, Dean of Science, McMaster University
9:00–9:10	Rob Baker      Welcome from the Vice President Research, McMaster University
9:10–9:20	Elan Henhawk      Traditional opening by an Elder of the Six Nations of the Grand River

9:20–9:30	Kevin Cash	Opening remarks from the Director General, Water Science and Technology, Environment and Climate Change Canada
9:30–9:40	Alysha Croker	Remarks from the Manager, Canada First Research Excellence Fund
9:40–10:00	John Pomeroy	Meeting Introduction Global Water Futures – vision and status <ul style="list-style-type: none"> <li>• Grand vision – who are we and why are we here?</li> <li>• Status of GWF and Progress to Date</li> </ul>
<b>10:00–10:55</b>	<b>Plenary Session (room 1305/7)</b> Chair: Sean Carey	
10:00–10:10	Dawn Martin-Hill	Six Nations of the Grand River field visit intention, objectives, cultural orientation
10:10–10:55	Vladimir Smakhtin	Global Sustainability Processes and a UN Water Decade: 2018-2028 (Keynote speaker: Vladimir Smakhtin, Director, United Nations University - Institute for Water, Environment and Health (UNU-INWEH))
<b>10:55–11:15</b>	<b>Refreshment Break</b>	
<b>11:15–12:00</b>	<b>Plenary Session (room 1305/7)</b> Chair: Dave Rudolph	
11:15–12:00	Al Pietroniro	Topical Issues <ul style="list-style-type: none"> <li>• Environment and Climate Change Canada’s water cycle prediction program and Global Water Futures</li> </ul>
<b>12:00–20:30</b>	<b>Visit to Six Nations of the Grand River, Ohsweken</b>	
<b>12:00–</b>	<b>Buses to depart McMaster University at 12:00 PM from outside the meeting space</b>	
12:45–14:15	Elan Henhawk, Chief Ava Hill	Arrival and Lunch with welcome & opening remarks
14:15–14:45	Dawn Martin-Hill	Topical Issues <ul style="list-style-type: none"> <li>• Indigenous science and ways of knowing</li> </ul>
14:45–15:00	“Matchmaking” Session: Finding Your Direction and Your Partners 1) East – Water Treatment Plant 2) North – Canoeing + Kayaking/ or Cruise on the Grand boat tour 3) South – Ecological hike 4) West – Kayanase Native Species Greenhouse + Traditional Longhouse 5) Center – Kawenni:io/Gaweni:yo Immersion school	
15:00–15:15	Transition to land-based activities	
15:15–17:15	Land-Based Knowledge Exchange Session	
17:15–17:45	Transition back to Gathering Place + Refreshment Break	
17:45–18:15	Land-Based Knowledge Exchange Session Feedback	
18:15–20:30	Dinner + Special Performance by Logan Staats	
<b>20:30–</b>	<b>Buses to return to McMaster University, leaving at 8:30 PM from Six Nations</b>	

**Tuesday, June 5, 2018**

**GWF Inaugural Annual Science Meeting – Day 2**

<b>9:00–10:15</b>	<b>Plenary Session (room 1305/7)</b>	
-------------------	--------------------------------------	--

	Chair: Jennifer Baltzer	
9:00–9:45	Jan Polcher	The Global Energy and Water Exchanges (GEWEX) Project of the World Climate Research Programme (Keynote Speaker: Jan Polcher, Laboratoire de Météorologie Dynamique du CNRS/IPSL, France and GEWEX Scientific Steering Group Co-chair)
9:45–10:15	Nandita Basu & Philippe van Cappellen	Regional Issues <ul style="list-style-type: none"> <li>• Great Lakes</li> </ul>
<b>10:15–10:45</b>	<b>Poster Viewing and Refreshments</b>	
<b>10:45–12:15</b>	<b>Knowledge Mobilization (KM) Workshop</b> (room 1305/7) Convener/Chair: Lawrence Martz To participate in the interactive KM workshop, text GWFKM to 37607. You will receive a confirmation by text, then you'll be able to play along!	
10:45–10:50	Lawrence Martz	KM workshop introduction
10:50–11:05	Kelly Munkittrick & Katrina Hitchman	Trends in KM for large water science programs <ul style="list-style-type: none"> <li>• KM lessons learned from 15-years of Canadian Water Network and the future through GWF</li> </ul>
11:05–11:55	GWF Partners Panel <ul style="list-style-type: none"> <li>• An interactive discussion with invited guests including KM insights and science and participation needs from the GWF program</li> <li>• Panelists include <ul style="list-style-type: none"> <li>○ Wayne Jenkinson (Engineering Advisor, International Joint Commission, Ottawa ON)</li> <li>○ Sandra Cooke (Senior Water Quality Supervisor, Grand River Conservation Authority, Cambridge ON)</li> <li>○ Michael Vieira (Hydroclimatic Studies Engineer, Manitoba Hydro, Winnipeg MB)</li> <li>○ Amber Skye (University of Toronto, Mohawk/ Six Nations, Ohsweken, ON)</li> </ul> </li> </ul>	
11:55–12:15	Stephanie Merrill & Andrew Spring	GWF Knowledge mobilization highlights <ul style="list-style-type: none"> <li>• Examples of good KM process from GWF year 1, delivered by KM specialists from core team</li> </ul>
<b>12:15–13:15</b>	<b>Lunch Break</b>	
<b>13:15–15:45</b>	<b>Parallel Sessions (Oral Presentations and Discussions)</b>	
	<b>Modelling and Observations – Part I</b> (room 1105) Chairs: Saman Razavi, Tricia Stadnyk Discussion Lead: Dave Rudolph Rapporteur: Ravi Selvaganapathy	
13:15–13:30	Bruce Davison	The MESH Model: Past, Present and Future
13:30–13:45	Shervan Gharari	Regional modelling with a simple land surface model: the strengths, weaknesses and a novel implementation of the Variable Infiltration Capacity (VIC) model

13:45–14:00	Juliane Mai	Status report on the Great Lakes Runoff Inter-comparison Project for Lake Erie (GRIP-E)
14:00–14:15	Stéfan Sauer	Integration of a Slope-Based Lateral Soil Water Algorithm into a Coupled Land Surface and Dynamic Vegetation Model
14:15–14:30	Kevin Shook	Challenges in modelling Prairie hydrology under future climates
14:30–14:45	Vincent Vionnet	High-resolution hydrological modelling of the June 2013 flood in the Canadian Rockies
14:45–15:00	Brian Menounos	Airborne Measurement of Seasonal Snow in Western Canada
15:00–15:15	Andre Bertoincini	GPM-IMERG Snowfall Estimates in Cold Mountainous Regions
15:15–15:45	Discussion	
	<b>Human – Water Interactions</b> (room 1309) Chairs: Graham Strickert, Lalita Bharadwaj Discussion Lead and Rapporteur: Rob de Loë, Nancy Doubleday	
13:15–13:30	Robert Patrick	Climate change and source water protection planning with First Nations in the prairie region
13:30–13:45	Rob de Loë	Linking Water Governance in Lake Erie to External Economic, Social and Political Drivers
13:45–14:00	Pat Chow-Fraser	Towards co-creation: youth engagement in monitoring stream health in indigenous communities
14:00–14:15	Hayley Carlson	How competing narratives influence water policy in the Saskatchewan River Basin
14:15–14:30	Zobia Jawed	The role of practitioners in DSS formulation
14:30–14:45	Mohammad Ghoreishi	Analyzing News Media Coverage in Extreme Environmental Events: The Key Role of Media in Human Adaptive behaviors toward water use
14:45–15:00	Roy Brouwer	The Economic Costs of Eutrophication in the Great Lakes Basin
15:00–15:15	Leila Eamen	An Evaluation of Current and Future Water Allocation Strategies in the Saskatchewan River Basin
15:15–15:45	Discussion	
	<b>Watershed Management and Disturbance</b> (room 1110) Chair and Rapporteur: Merrin Macrae Discussion Lead: Nandita Basu	
13:15–13:30	Grant Ferguson	Groundwater Protection - Looking Deeper
13:30–13:45	Tyler de Jong	Boots on the Ground: Wolf Creek Research Basin
13:45–14:00	Laura Lyon	Groundwater Flow and Permafrost Distribution in a Subarctic Watershed
14:00–14:15	Nicola Day	Drivers of land cover change after large fire disturbance in boreal forests
14:15–14:30	Anastasia Sniderhan	Forest growth dynamics in northwestern North America
14:30–14:45	Kimberly Van Meter	Landscape Legacies: Long-Term Nutrient Trajectories in Great Lakes watersheds and Beyond
14:45–15:00	Janina Plach	Dominant glacial landforms in the lower Great Lakes region exhibit differences in soil chemistry and potential risk of phosphorus loss

15:00–15:15	Jian Liu	Temporal and spatial controls of nitrogen to phosphorus ratios in a Canadian prairie watershed
15:15–15:45	Discussion	
<b>15:45–16:15</b>	<b>Poster Viewing and Refreshments</b>	
<b>16:15–17:00</b>	<b>Plenary Session</b> (room 1305/7) Chair: Philippe van Cappellen	
16:15–17:00	Mike Waddington & Merrin Macrae	Topical Issues <ul style="list-style-type: none"> <li>• Land Cover and Management – Forest &amp; Agriculture</li> </ul>
<b>17:00–18:00</b>	<b>Poster Viewing and Refreshments</b> <b>GWF YP Poster competition – YP's to present their posters for judging</b>	
<b>18:30–23:00</b>	<b>GWF Young Professionals Events</b>	
18:30–19:00	John Pomeroy	Dr. Pomeroy will highlight the role of the Young Professionals Program within the larger GWF context (room: MDCL 1110). Pizza and non-alcoholic beverages will be served.
<b>19:30–23:00</b>	<b>GWF Young Professionals Social</b> (location: Fairweather Brewing Company (5 Ofield Road, Unit#1))	

**Wednesday, June 6, 2018****GWF Inaugural Annual Science Meeting – Day 3**

<b>9:00–10:15</b>	<b>Plenary Session</b> (room 1305/7) Chair: Helen Baulch	
9:00–9:45	Anik Bhaduri	Towards a Sustainable Water Future: Shaping the next decade of global water research in the era of Anthropocene (Keynote Speaker: Anik Bhaduri, Executive Director, Future Earth - Sustainable Water Future Programme, Griffith University, Brisbane Australia)
9:45–10:15	Jennifer Baltzer & Heidi Swanson	Regional Issues <ul style="list-style-type: none"> <li>• Northern Canada</li> </ul>
<b>10:15–10:45</b>	<b>Poster Viewing and Refreshments</b>	
<b>10:45–12:15</b>	<b>Plenary Session</b> (room 1305/7) Chair: Ron Stewart	
10:45–11:15	Sean Carey & Cherie Westbrook	Regional Issues <ul style="list-style-type: none"> <li>• Western Cordillera</li> </ul>
11:15–11:45	Helen Baulch & Colin Whitfield	Regional Issues <ul style="list-style-type: none"> <li>• Prairies</li> </ul>
11:45–12:15	John Giesy	Topical Issues <ul style="list-style-type: none"> <li>• Environmental Forensics: What is it and what can it do?</li> </ul>
<b>12:15–13:15</b>	<b>Lunch Break</b>	

<b>13:15–15:45</b>	<b>Parallel Sessions (Oral Presentations and Discussions)</b>	
	<b>Modelling and Observations – Part II</b> (room 1105) Chairs: Saman Razavi, Tricia Stadnyk Discussion Lead: Dave Rudolph Rapporteur: Ravi Selvaganapathy	
13:15–13:30	Saman Razavi	An Overview of VARS-TOOL and its New Features for Comprehensive, Efficient, and Robust Sensitivity and Uncertainty Analysis of Earth and Environmental Systems Models
13:30–13:45	Razi Sheikholeslami	An Automated Parameter Grouping Strategy for Efficient Sensitivity Analysis of Large-scale Hydrological Models
13:45–14:00	Karl-Erich Lindenschmidt	Model couplings to include river water temperature, overland and instream water-quality and river ice processes in the MESH modelling system
14:00–14:15	Diogo Costa	Pursuing reliable hourly nutrient predictions in cold regions through the coupling of CRHM to an extended version of WINTRA
14:15–14:30	Mahyar Shafii	Spatio-temporal variations of landscape nitrate fluxes in agricultural catchments driven by flow pathways and nutrient transport mechanisms
14:30–14:45	Kiana Zolfaghari	A comparison of laboratory and field-based measurements of chlorophyll-a, turbidity, and dissolved organic carbon for agricultural surface waters in Ontario and British Columbia, Canada
14:45–15:00	Andrew Slaughter	Water resources management modelling for Integrated Water Resources Management within Canada's large river basins
15:00–15:15	Kasra Keshavarz	Integrated Water Resources Management of the Saskatchewan River Basin using WEAP
15:15–15:45	Discussion	
	<b>Aquatic Environment and Ecosystems</b> (room 1309) Chair: Mark Servos Discussion Lead: Patricia Chow-Fraser Rapporteur: Helen Baulch	
13:15–13:30	Jack Imhof	Understanding and Rehabilitating Damaged Riverine Ecosystems
13:30–13:45	Karen Kidd	Approaches to understanding the fate of mercury in aquatic ecosystems
13:45–14:00	Peter Huck	The Importance of Better Predicting Short- and Long-Term Water Quality Changes to Ensure Robust Drinking Water Treatment
14:00–14:15	Mazda Kompanizare	Improving estimates of phosphorus loads from tile-drained landscapes using Kriging techniques
14:15–14:30	Megan Larsen	Longer summers drive multiple cyanobacterial blooms on lake 227
14:30–14:45	Mark Servos	Modeling the response of fish to major infrastructure upgrades in wastewater treatment plants
14:45–15:00	Charles-François de Lannoy	Sensor Biofouling: Impact and Solutions
15:00–15:15	Juewen Liu	DNA-based biosensors for metal detection
15:15–15:45	Discussion	

	<b>Climate and Extremes</b> (room 1110) Chairs: Julie Thériault Discussion Lead and Rapporteur: Ron Stewart, Francis Zwiers	
13:15–13:30	Laura Twidle	The Impacts of Extreme Precipitation Events on the Insurance Industry
13:30–13:45	Mohamed Ali Ben Alaya	Probability of compound extreme precipitation events to inform engineering design
13:45–14:00	Zhenhua Li	Projected changes over western Canada using convection-permitting regional climate model
14:00–14:15	Elvis Asong	Cascade of uncertainty in CMIP5 climate projections for scenario-led water resource impact assessments in major river basins of Canada
14:15–14:30	Julie Thériault	Meteorological conditions, precipitation intensity and type distributions associated with icing on structures
14:30–14:45	Olivier Champagne	Atmospheric circulation shift in North America since 1980's as an explanation of increasing winter high flows events in southern Ontario
14:45–15:00	Bing Xu	Synthesis of carbon fluxes to heat and drought impacts in North America forests.
15:00–15:15	Lucia Scaff	Convective precipitation initiation over the leese side of the Canadian Rockies
15:15–15:30	Zhenhua Li	Combined Effects of ENSO and MJO on the Growing Season Precipitation over the Canadian Prairies
15:30–15:45	Discussion	
<b>15:45–16:15</b>	<b>Poster Viewing and Refreshments</b>	
<b>16:15–16:50</b>	<b>Meeting Closing Remarks and Summary</b> (room 1305/7) Chairs: Phani Adapa, Chris DeBeer	
16:15–16:25	Howard Wheeler	Remarks from the Strategic Advisor to GWF
16:25–16:40	John Pomeroy	Remarks and summary from the GWF Director
16:40–16:50	YP judging & award committee	Announcement of YP outstanding presentation award winners

<b>GWF Inaugural Annual Science Meeting</b>		
<b>Poster Presentations</b>		
Poster # (see map)	<b>Aquatic Environment and Ecosystems</b>	
1	Jordyn Atkins	Characterizing ELA Lakes to Predict Safe Drinking Water Sources with Minimal Disinfection By-Products
2	Emily Barber	Examining the base of the food web at the Experimental Lakes Area
3	Helen Baulch	Management options for nutrient control in the northern Great Plains

4	Helen Baulch (for Lisa Boyer)	Telling the story of a bloom
5	Ryan Carlow	How low can you go? The use of Geotextiles as a Filter for Phosphorus in Overland Flow from Agricultural Croplands in Southern Ontario
6	Leicester Fung	Internal and External Exposure Analysis of Mercury Amongst the Dene and Métis Communities of Northwest Territories.
7	Kirsten Grant	Subsurface flow paths and risk of P transport in no-till agricultural soils
8	Stephanie Higgins	The effect of variable snow cover on mineralization rates for soluble reactive phosphorus during winter
9	Heather Ikert	Can microRNA secreted from Trout be used to detect their response to stress?
10	Melani-Ivy Samson	Urban Metabolism of the Greater Toronto Area: A Study of Nitrogen and Phosphorus Across an Urban, Suburban, and Rural Continuum
11	Izabela Jasiak	SAMMS: Sub-Arctic Metal Mobility Study
12	Homa Kheyrollah Pour	Seasonal Patterns of Chlorophyll and Temperature in Lakes: Detection and Attribution of Climate Change Signal
13	Megan Larsen	Cyanobacterial bloom composition and duration within Contestogo reservoir: An investigation into the drivers of bloom formation
14	Yuhe (Joy) Liu	Past, Present, and Future: Quantification of Long-Term Phosphorus Legacies in the Grand River Watershed
15	Egina Malaj	Occurrence and distribution of pesticides in the Prairie Pothole Region
16	Meredith Marshall	Incorporation and tillage practices to mitigate phosphorus loss through tile drains following fall application of dairy manure
17	Esther McAleer	Risk assessment; reducing toxin exposure during Harmful Algal Blooms
18	Laura Neary	Widespread photosynthetically-induced CO <sub>2</sub> invasion in numerous lakes across the Peace-Athabasca Delta (Alberta, Canada)
19	Vinay Patel	Patterned cotton threads for nitrite detection
20	Dylan Price	Quantifying Phosphorus Inputs from Bunker Silo Effluent to a Riparian Wetland in Maryhill, Ontario
21	Fereidoun Rezanezhad	Winter Soil Processes in Transition
22	Farshad Shafiei	Characterization of nutrient budget in a large prairie reservoir
23	Guy-Thierry Tenkouano	Reservoir Nutrient Dynamics as a Function of Watershed and Management Controls
24	Tamara Van Staden	Targeting Phosphorus Legacies in the Laurentian Great Lakes Watersheds
25	Yichen Wu	Hydrophobicity of Peat Soils: Characterization of organic compounds associated with water repellency
Poster # (see map)	<b>Climate and Extremes</b>	

26	Vanessa McFadden	Precipitation intensity and type distribution during the January 2017 Ice Storm in the Maritime Provinces
27	Brock Tropea	Freezing Precipitation and Wet Snow Events Affecting Manitoba Hydro
28	Richard Yao Agyeman	Agroclimatic Indices Changes over Western Canada by the end of 21st Century in a Convective Permitting Regional Climate Simulation
Poster # (see map)	<b>Human – Water Interactions</b>	
29	Lalita Bharadwaj	Current Communications for HABs: Scoping the Literature and Managing Messages
30	Danielle Brandow	Country Food Contaminant Advisories: Assessing Awareness and Preferences of Health and Risk Communication Messages in the Sahtú Region of the Northwest Territories
31	Hayley Carlson	Knowledge to Action: Measuring perceptions of credibility, salience and legitimacy in the Integrated Modelling Program for Canada
32	Denea Cheecham-Uhrich	Incorporating the Social Component in Hydrological Modeling to Evaluate the Effectiveness of Agricultural BMPs in a Prairie River Basin
33	Nancy Doubleday	Envisioning Polycentric Water Governance in a Canadian Context
34	Ashleigh Duffy	Dialogue That Flows: The role of narrative in supporting watershed governance
35	Jorge Luis Fabra-Zamora	Water Risk Assessment in Mine and Site Decommissioning: An SES framework
36	Anna Frank	Modeling of agricultural system impact on phosphorus loads in the Thames River watershed: research methods overview
37	Faisal Hashi	Public, Private and Partnership and Public Utilities
38	Jessica Ives	Assessing drivers of human-induced change in Lake Erie using fuzzy cognitive mapping
39	Maria Mora	Water governance in Indigenous territories in Canada
40	Nidhi Nagabhatla	2030 Water Secure- Fostering Global Cooperation for Water Security Capacity Needs
41	Graham Strickert	Connecting with Communities: Adventures in Community Engaged Scholarship
42	Anuja Thapa	Building knowledge and capacity through watershed modeling in indigenous community
43	Li Xu	Resilience of socio-hydrological systems in Canadian prairies to agricultural drainage: Policy analysis and modelling approach
44	Mohanad Zaghoul	Integrating Flow Measurements, Flood-hazard Maps, and DEMs for flood mapping in Ungauged Large Scale Basins
Poster # (see map)	<b>Modelling and Observations</b>	
45	Mohamed Abdelhamed	Assessing baseflow simulation using MESH in Upper Liard Sub-Basin

46	Abdolreza Bahremand	The Application of MESH Land Surface-Hydrology Model in Sefidrud River Basin, Iran
47	Paul Bartlett	Effects of the Scale of Forcing on Winter Albedo and Snowpack Simulation in Boreal Forests Using the Canadian Land Surface Scheme
48	Serghei Bocaniov	Understanding the role of large-scale physical processes in algal bloom formation in a large shallow lake (Lake St. Clair, U.S.A. – Canada)
49	Amir Chegoonian	Preliminary assessment of Landsat-8 and Sentinel-2 data for the estimation of Chlorophyll-A concentration in Buffalo Pound Lake, Saskatchewan, Canada
50	Matt Courtney	Microwave Sensing in a Microfluidic Device for Water Quality Monitoring
51	Nhu Cuong Do (for Syed Mustakim Ali Shah)	Application of Network Flow Models for Integrated Water Resources Management in Saskatchewan River Basin
52	Nhu Cuong Do	Robust Global Sensitivity Analysis and its application to the water management model of Lake Diefenbaker-Saskatchewan river basin
53	Mohamed Elshamy	Impact of climate and associated land cover changes on the hydrology of the Mackenzie River Basin
54	Mohamed Elshamy (for Amin Haghnegahdar)	Towards improved subsurface representation in Land Surface Models
55	Muntazir Fadhel	A Comparison of Time Series Databases for Storing Water Quality Data
56	Xing Fang	Impact of meteorological forcing data on snowpack and streamflow simulations in the Canadian Rockies
57	Marina Freire-Gormaly	Experimental Characterization of Membrane Fouling under Intermittent Operation and Its Consideration for the Design Optimization of Solar Photovoltaic Powered Reverse Osmosis Drinking Water Treatment Systems for Remote Communities
58	Gagan Gill	Quantifying the bioavailable Ni <sup>2+</sup> through the development and comparison of two methods: a nickel ion selective electrode compared to a DNA aptamer sensor
59	Ming Han	Developing crop growth model in Raven
60	Phillip Harder	Land-Atmosphere Implications of Crops, Wetlands and Hydrology on the Canadian Prairies
61	Mohammed Hasan	A Multi-Spectral Fluorescence Imaging System for Water Quality (e.g. HAB) Monitoring
62	Sebastian Krogh	Past and future Arctic treeline hydrology under changing climate and vegetation
63	Zhaoqin Li	Monitoring river ice cover development using the Freeman-Durden decomposition of quad-pol Radarsat-2 images
64	Youssef Loukili	Setting the background for water prediction in the Yukon River Basin using MESH modeling system

65	Zhibang Lv	The influence of snow data assimilation on the performance of a coupled numerical weather forecast and physically based cold regions hydrological model
66	Igor Markelov	Dynamic modelling of geochemical (C, N, P, Fe, O, S) fluxes in lakes using a coupled water-column and sediment diagenesis model
67	Tatjana Milojevic	Multi-Fibre Optode Microsensors: affordable designs for monitoring oxygen in soils under varying environmental conditions
68	Zargham Mohammadi	A synthetic inverse modeling study to detect karst conduit patterns via hydraulic tomography
69	Doug Mulholland	A Software Platform for Integrated Monitoring, Modelling and Testing of Environmental Information Systems
70	Gazi E. Rahman	Present and future of Water quality monitoring system on IoT platform
71	Dominique Richard	Streamflow forecasting for the Yukon River and Liard River basins using a coupled atmospheric hydrological model
72	Mina Rohanizadegan	Evaluating evaporative fluxes in complex mountain terrain
73	Ilia Rudnitskiy	Interactive Visualization of Geospatial Water Datasets
74	Ricardo Tan	A Comparison of Time Series Databases for Storing Water Quality Data
75	Weigang Tang	Detection of shifting flow regimes at watersheds in western North America using Deep Learning techniques
76	Zelalem Tesemma	Improving mountain hydrological predictions by better representing mountain topography in a hydrological land surface model
77	Andrew Wicke	Sahtu Hydrologic Observatory: Hydrogeologic Conceptual Model and Baseline Conditions
78	Jared Wolfe	A Watershed Classification for the Canadian Prairies
79	Jefferson Wong	Assessment of the reliability of various remotely sensed and data assimilation based products in characterizing the water balances for cold region river basins in Canada
80	Yushan Zhang	Development of Real-time Cyanobacteria Sensors
81	Ana Zubiarrain Laserna	Chemiresistive sensors for monitoring the concentration of metal cations in water
Poster # (see map)	<b>Watershed Management and Disturbance</b>	
82	Prabha Amali Rupasinghe	Standardized remote-sensing strategy to study post-fire health recovery of boreal forests in Alberta
83	Eric Beamesderfer	Carbon and energy exchange of a mature, temperate deciduous forest in Southern Ontario, Canada
84	Maxime Beaudoin-Galaise	The 'Ruisseau des Eaux-Volées' experimental watershed – more than 50 years of data to promote
85	Alanna Bodo	Investigating the effects of variable harvesting applications on the regional water balance in a red pine plantation

86	Brittney Glass	Use of Remote Geophysical Imagery for the Analysis of Hydrogeological Processes in the Central Mackenzie Valley
87	Kristine Haynes	Permafrost thaw induced drying of wetlands at Scotty Creek, NWT, Canada
88	Manuel Helbig	Evapotranspiration of deciduous- and evergreen-dominated peatlands in the Hudson Bay Lowlands
89	Zobia Jawed	Use of Decision Support Tools to Address Emerging Issues in the Great Lakes
90	Vivekananthan Kokulan	Hydroclimatic controls on runoff generation in an artificially drained, near-level vertisolic clay landscape
91	Lindsey Langs	Investigating alpine forest water use under variable growing season and climate conditions in the Canadian Rocky Mountains, Kananaskis, Alberta
92	Shawn McKenzie	Stable Isotope and Dendroclimatological Methods to Evaluate Water Use in Forest Ecosystems
93	Cory Wallace	Tall shrubs mediate soil conditions and plant communities at the treeline-arctic tundra ecotone
94	Christine van Beest	Nutrient Cycling in a Fen Peatland One-Year Post-Wildfire
95	Brandon Van Huizen	Comparing methods of determining seasonal ground ice position in a boreal peatland
96	Guangyong You	Long-term Evapotranspiration Trends in Upper Stream of Heilongjiang (Amur) River in northeastern Asia