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**LE BULLETIN DE L'UNION GÉOPHYSIQUE CANADIENNE**

**Message from the President**



No message from the President this issue, stay tuned for an update in the Winter Newsletter.

# 2016 Annual Meeting

## Call for Session Proposals for the 2016 Joint Scientific Congress of the CMOS and CGU, Fredericton, NB

*(la version française suit)*

Dear colleagues,

The 2016 Joint Scientific Congress of the CMOS (Canadian Meteorological and Oceanographic Society) and CGU (Canadian Geophysical Union) will be held in Fredericton, NB from 29 May – 2 June, 2016. More detailed information will be posted on the Congress website at <http://www.cmos.ca/> as it becomes available.

The theme of this congress is '*Monitoring of and Adapting to Extreme Events and Long-Term Variations*,' and scientific sessions are being invited for all areas of interest to the CMOS and CGU membership. The motivation for this theme is the major impact that Atlantic Canada has suffered from extreme events—e.g., flooding, storm surges, hurricanes—and their impacts across spatial and temporal scales.

At this time, we invite interested members of both societies to propose and take the lead on organizing scientific sessions. We particularly encourage session proposals covering subjects that may attract the interest of both societies. Although sessions will be determined and finalized after all abstracts have been received, this is an opportunity to organize a session in your particular area of expertise and interest. We anticipate that you would encourage your contacts to submit abstracts for that session. Sessions will be organized into 1.5-hour blocks of six 15-minute presentations (abstracts), or organizers may allot 30 minutes for an invited lead speaker and four 15-minute presentations. Multiple 1.5-hour sessions are welcome if the number of submitted abstracts warrant it. Note that the Joint Congress offers travel expenses for plenary speakers, but not for invited speakers associated with sessions.

To plan a special session for the 2016 Joint Congress, please submit your proposal at [http://www.cmos.ca/site/session\\_submission](http://www.cmos.ca/site/session_submission). The proposal should include the *session title* (up to 40 characters), information about the session conveners or co-conveners, and a short paragraph of up to 300 words describing the scientific content of the session. All session proposals should be received by 1 November, 2015. On-line abstract submissions will start in January 2016.

Scientific and plenary sessions of the Congress will take place from Monday, 30 May through Thursday, 2 June, 2016.

Any particular demand in terms of workshops, business meetings, courses, and other Congress-related events may be accommodated during Sunday 29 May, before the icebreaker reception, depending on available space. Please contact LAC Chair William Ward at [cmos.cgu.2016@gmail.com](mailto:cmos.cgu.2016@gmail.com).

We look forward to receiving your submissions.

Sincerely,

Paul Yang, Scientific Program Committee Chair

Brett Eaton, CGU Vice-President

## **Appel pour des propositions de sessions pour le congrès scientifique conjoint de la SCMO et de l'UGC de 2016 à Fredericton, NB**

Cher(e)s collègues,

Le prochain congrès scientifique conjoint de la SCMO (Société Canadienne de Météorologie et d'Océanographie), et de l'UGC (Union Géophysique Canadienne) se déroulera du 29 mai au 2 juin, 2016, à Fredericton, NB. Les renseignements complémentaires seront publiés, au fur et à mesure de leurs disponibilités, sur le site Web du congrès dont l'adresse est:

<http://www.cmos.ca/>.

Ce congrès aborde le thème de « *La surveillance et l'adaptation aux événements extrêmes et aux variations à long terme* ». Des sessions scientifiques sont à organiser, autour de ce thème, pour l'ensemble des domaines d'intérêt de la SCMO et de l'UGC. Ce thème est motivé par les impacts majeurs produits par les événements extrêmes (par exemple: inondations, ondes de tempêtes, ouragans) qui ont touché le Canada Atlantique et de leurs répercussions à différentes échelles spatiales et temporelles.

Nous invitons, dès aujourd'hui, les membres intéressés des deux sociétés hôtes à proposer des sessions scientifiques et à diriger leurs organisations. Nous encourageons tout particulièrement

les propositions de sessions couvrant des sujets qui soulèveraient de l'intérêt de la part des deux sociétés. Bien que les sessions soient déterminées et finalisées après avoir reçu tous les résumés, il s'agit d'une occasion d'organiser une session dans votre domaine d'expertise et d'intérêt. Nous espérons que vous allez par la suite encourager vos confrères à soumettre des résumés pour cette session. Les sessions seront organisées en blocs d'une heure et demie comprenant six présentations de 15 minutes (résumés), les organisateurs pourraient également allouer 30 minutes pour un orateur principal invité et quatre présentations de 15 minutes. Plusieurs sessions d'une heure et demie sont possibles si le nombre de résumés soumis le justifie. Veuillez prendre note que le congrès conjoint paye les frais de déplacement pour les orateurs pléniers et que cela ne s'applique pas dans le cas des orateurs invités associés à ces sessions particulières.

Si vous souhaitez planifier une session particulière lors de ce congrès conjoint de 2016, nous vous prions de soumettre par courriel votre proposition au lien suivant:

[http://www.cmos.ca/site/session\\_submission](http://www.cmos.ca/site/session_submission). La proposition doit inclure le *titre de la session* (jusqu'à 40 caractères), des renseignements sur l'animateur ou les co-animateurs, ainsi qu'un court paragraphe, de 300 maximum, décrivant le contenu scientifique de la session. Toutes les propositions de session doivent être reçues au plus tard le 1<sup>er</sup> novembre 2015. Les résumés de présentation pourront être soumis en ligne à partir du mois de janvier 2016.

Les sessions scientifiques et plénières du congrès se dérouleront du lundi 30 mai au jeudi 2 juin 2016

Selon la disponibilité des espaces de réunion, des ateliers, des réunions d'affaires, des cours de formation et d'autres événements reliés au congrès, pourraient être organisés le dimanche 29 mai avant le cocktail de bienvenue. À cet égard, veuillez contacter président du comité organisateur local, William Ward à l'adresse suivante: [cmos.cgu.2016@gmail.com](mailto:cmos.cgu.2016@gmail.com).

Dans l'attente de recevoir vos propositions.

Cordialement,

Paul Yang, Président du comité du programme scientifique

Brett Eaton, Vice-Président de l'UGC

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## CGU Announcements

### ***CHANGES TO THE EXECUTIVE***

Laura Brown (University of Toronto) has been voted unanimously as CGU Treasurer by the Board of Directors. Laura was previously the Hydrology Section Treasurer. CGU President Claire Samson would like to thank Rich Petrone (University of Waterloo) for his service as CGU Treasurer over many years, and for accepting a new assignment as Hydrology Section Treasurer (Laura and Rich swapped jobs!).

### ***OUTREACH UPDATES***

The updated CGU website has been fully up and running since the middle of summer. The fresh new look includes a live feed of news articles on the front page, a live twitter feed, and a searchable jobs database. We need to hear from you! T-shirts? Logos? News? Ideas? Contact us at [cgu.outreach@gmail.com](mailto:cgu.outreach@gmail.com).

A special note to CGU Sections: please send us updated Section info to keep the site—and the CGU as a whole—dynamic. It's *your* organization, and will be as relevant and up to date as *you* make it!

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## Other Related News

**CSHS Short Course in Physical Principles of Hydrology: Jan 10 - 21, 2016, Kananaskis Valley, Alberta.** This university-accredited, ten day field course examines the physical principles and processes that govern hydrology, with special reference to Canadian conditions. The course is open to both water resource professionals and graduate students. Deadline to register is December 1, 2015. [Registration info is here](#).

**The School of Environment and Sustainability at the University of Saskatchewan** launched a new [project-based, professional-style master's degree](#) that will provide students with the expertise to tackle complex issues concerning water availability and quality.

## **IUGG Update: A CANADIAN PRESIDENT FOR THE INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS**

*submitted by Jeong Woo Kim, CGU Geodesy Section Vice President*

Dr. Michael G. Sideris, Professor of Geodesy in the Department of Geomatics Engineering at the University of Calgary, is the new President of the **IUGG** for the period 2015-2019. Prof. Sideris was elected by unanimous vote to this prestigious position by the country-member Council of the IUGG at the XXVI IUGG General Assembly, which took place in Prague, Czech Republic, from June 22 to July 2, 2015. Prior to this, he was the elected Vice-President of the IUGG for the period 2011-2015, and President of the International Association of Geodesy for the period 2007-2011.

IUGG is a non-governmental, international scientific organization, established in 1919, which is dedicated to advancing, promoting, and communicating knowledge of the 'Earth System,' its space environment, and the dynamical processes causing change. It comprises eight semi-autonomous Associations, namely the International Associations of:

- Cryospheric Sciences (IACS)
- Geodesy (IAG)
- Geomagnetism and Aeronomy (IAGA)
- Hydrological Sciences (IAHS)
- Meteorology and Atmospheric Sciences (IAMAS)
- Physical Sciences of the Oceans (IAPSO)
- Seismology and Physics of the Earth's Interior (IASPEI)
- Volcanology and Chemistry of the Earth's Interior (IAVCEI)

IUGG is one of the 31 scientific Unions in the International Council for Science (ICSU, <http://www.icsu.org>). It encompasses a wide range of geosciences, dealing with subjects such as the shape of the Earth; its gravitational and magnetic fields; the dynamics of the Earth as a whole and of its component parts; the Earth's internal structure, composition and tectonics; the generation of magmas; seismicity, volcanism and rock formation; the hydrological cycle including snow and ice; all aspects of the oceans, the atmosphere, ionosphere, magnetosphere and solar-terrestrial relations; and analogous problems associated with the Moon and the planets. IUGG encourages the application of this knowledge to societal needs, such as mineral resources exploration, mitigation of natural hazards, and environmental monitoring and protection.

**REMINDER: CANADA WILL HOST THE 2019 IUGG ASSEMBLY IN MONTREAL**

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## CGU Recognitions and Award Winners

CONGRATULATIONS to the following CGU members!

- **Mike Church** elected a **Fellow of the American Geophysical Union**
- **Frank Hawthorne** elected a **Fellow of the Geological Society of America**
- **Kelin Wang** invited to give the **Francis Birch Lecture for Tectonophysics Section of the American Geophysical Union**
- **Philippe van Cappellen** and **Jeff McDonnell** **elected Fellows of the Royal Society of Canada.**
- **Sean Carey** awarded McMaster President's Award for Excellence in Graduate Student Supervision.
- **Jeff McDonnell's research team** **awarded \$1.8 million from Western Economic Diversification Canada** to create a research and testing facility to develop and commercialize innovative mine waste cover systems.
- **Bill Quinton** and Wilfrid Laurier's Changing Arctic Network (CANet) research team receives **\$3.2 million in funding** from the Canadian Foundation for Innovation (CFI).
- **Maria Strack** **awarded a grant from the** Ontario Research Fund – Small Infrastructure program to purchase a gas chromatograph and ultraportable greenhouse gas (GHG) sensor to measure peatland GHG flux under various land uses.
- **Phillipe Van Cappellen's PhD student**, Ekaterina Markelova, wins **EURATOM prize.**
- **Luke Copland's PhD student**, Adrienne White, awarded **James W. Bourque Studentship from Royal Canadian Geographical Society**
- **Stephen D  ry's PhD student**, Sina Abadzadesahraei, **awarded Geoscience BC Scholarship**
- **Tracy Brennand's PhD student**, Jonathan Cripps, awarded **CANQUA Dreimanis Doctoral Scholarship**. He also received the Canadian Geomorphology Research Group's (CGRG) **Olav Slaymaker Award** for the best student talk for his presentation at the CANQUA conference in St. John's in August.
- Congratulations to **Geodesy Section student members** on their thesis defenses! Both are members of the Geophysics & Geodesy Lab in the Department of Geological Sciences and Geological Engineering at Queen's University, and were supervised by Dr. Georgia Fotopoulos (CGU Geodesy Section Member-at-Large).
  - **Graham Mills**, PhD: '*Numerical tools for interpreting rock surface roughness*'
  - **Dimitrios Bolkas**, PhD: '*On the estimation of uncertainties and fusion of multi-platform geodetic data.*'



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## CGU Member Profiles

### **STUDENT MEMBER:**

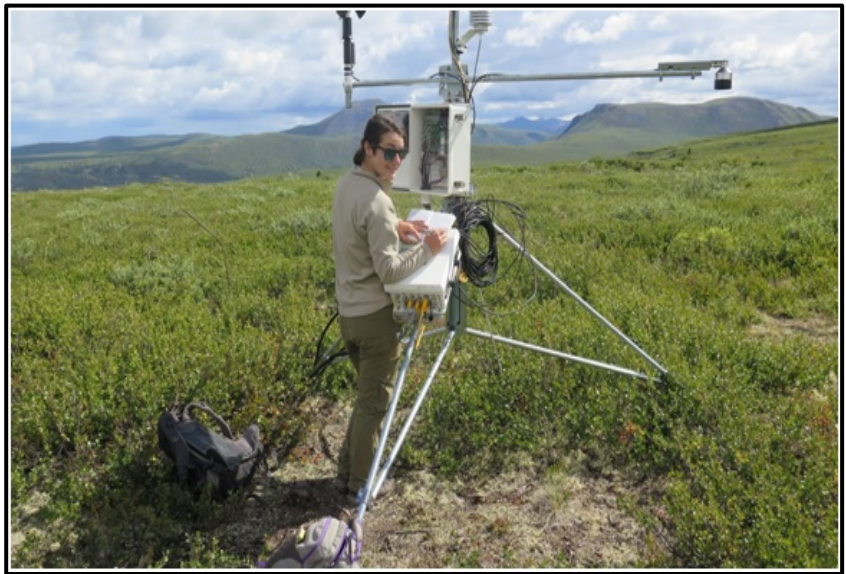
*NADINE SHATILLA*

#### **Where is home?**

Montreal, Quebec

#### **What is your current position?**

I'm a PhD student at McMaster University in Hamilton, Ontario. I started in May of 2014, so am about a year and a half into my program.



#### **What is your current research project?**

My research is part of the Changing Cold Regions Network (CCRN), which aims to integrate new and existing data to understand, diagnose and predict changes in the cryospheric, ecological, hydrological, and climatic components of the changing Earth system at multiple scales. More specifically, I'm looking at how climate change affects permafrost thaw and flow pathways in northern headwater catchments. My main research site is located about 20 km south of Whitehorse, Yukon in the Wolf Creek Research Basin. There are affiliated northern research basins across Canada, the US, and Europe that will potentially be used to test hypotheses across a range of catchments with slightly different geology, soils, and vegetation.

#### **What degree did you complete prior to starting this one, and where?**

I went to McMaster in 2011 to do my MSc with Dr. Sean Carey, and spent two years studying the influence of surface coal mining on the hydrochemistry and hydrology of watersheds in the Elk Valley of British Columbia. I'm afraid I'm a repeat offender, since I'm doing my PhD at the same university and with the same supervisor, although—in my defense—the projects are quite different.



**What led you to join the CGU?**

I joined the CGU after attending my first conference as an undergrad in Banff. I really enjoyed the atmosphere at the conference and thought the CGU would provide good opportunities for meeting other students and researchers in hydrology and related fields. The CGU provides opportunities for awards as well as a good forum for initiating collaborations in a more relaxed and welcoming setting.

**What do you enjoy most about being a CGU student member? Is there anything more you'd like to see CGU do for student members?**

I usually attend the eastern CGU Student Conference, which is a good place to learn about ongoing research projects. I think that the camaraderie with other students is really important. I'd like to see more workshops geared towards exploring how skills and knowledge gained during research can be applied elsewhere.

**What's your ultimate career goal?**

I like how fast-paced and dynamic consulting can be so my ultimate goal is to continue researching the hydrology of northern areas (not necessarily the Canadian north) in more applied contexts. Time will tell...

**What's your favourite activity outside of school/work?**

I started mountain biking while I was in Yukon this summer and had an amazing time riding some of the trails around Whitehorse and at Montana Mountain near Carcross. I really enjoy skiing and hiking but I have to say that mountain biking has stolen my heart for now.

**Tell us something most people don't know about you.**

I think people know too many incriminating things already.

**What are you currently reading that's not a scientific article?**

$E = mc^2$  by Brian Cox and Jeff Forshaw.

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## **REGULAR MEMBER: CLAIRE SAMSON**

*(CGU President)*

Claire is a Professor in the Department of Earth Sciences at Carleton University, and Associate Dean (Planning) in the Faculty of Graduate and Postdoctoral Affairs. She came to Carleton in 2003 after working for 10 years in the oil and gas, and space industries.

### **How did you get to your current position?**

My career has been a hybrid between private industry and academia.

After a one-year postdoc at Cambridge University, I joined the oil industry and worked for Shell International in The Netherlands for seven years.



When I relocated to Ottawa, Ontario, there wasn't a single drop of oil in the subsurface, so I had to be agile and find a new career direction. I was fortunate to have a solid foundation in engineering and physics (my undergraduate degree is in engineering physics). This helped me secure a job in space engineering with Neptec Design Group, a NASA contractor. While working with Neptec, I participated in a neat project that developed a laser imaging system for the space shuttle. This is where I learned the laser skills I use in my current research.

I joined Carleton University in 2003, where I teach introductory and advanced courses in natural disasters, and a fourth year course in exploration geophysics.

So after spending ten years in industry and 12 years in academia, I've now passed the threshold, and am more a prof than a private sector engineer!

### **What's your favourite part of your job?**

My favourite part of the job is my passion for doing research with my graduate students. In 2012, they nominated me for a **Graduate Mentoring Award**, which was my happiest moment at Carleton!

I have a large group of graduate students: 12 for Fall 2015 - this is a personal record!

It's this passion for working with graduate students that led me to recently (July 2015) become an Associate Dean in the Faculty of Graduate Studies. In this role, I hope to improve the experience of graduate students across the university.

**Briefly describe your research program.**

In my everyday life, I'm a bit of a techno dinosaur: I have a "vintage" laptop and have only recently bought my first cell phone. In my research, however, it's the opposite, as I'm striving to introduce new technologies in the earth sciences. Specifically, I'm using lasers to image rocks in an effort to derive their properties (e.g., density, surface roughness, etc.). I'm also using unmanned aerial vehicles (UAVs) to do airborne surveys. Finally, I'm involved in developing strategies to use space exploration rovers to study the surface geology of other planets.

All of these approaches have allowed me to combine my interests in geophysics with those in space engineering.

**What led you to join CGU, and how long have you been a member? Did you start as a student member?**

I was a student member a long time ago...When I joined Carleton University in 2003, I also joined the CGU. I wanted to re-connect with the Canadian geophysical community.

**What's the biggest benefit to being a CGU member?**

The biggest benefit is being part of a vibrant network of Canadian geoscientists. The important word here is 'Canadian': the CGU is a means to be connected with and to influence what is happening at home here in Canada.

**Where do you see CGU going in the future?**

As a professor, I'm very keen to see the CGU continue to invest in the next generation of Canadian geoscientists. We're already improving the way we communicate with members through Twitter, Facebook, etc., and I'll soon initiate a discussion about creating a mechanism for members—especially graduate students, who are new to publishing scientific papers—to publish their work.

## What's your favourite activity outside of work?

I have two awesome and complementary hobbies. I run (my “good weather” hobby) and I play piano (my “bad weather” hobby).

## What are you currently reading that's not a scientific article?

I'm reading a book about Marco Polo's travels that describes his journey across the steppes of Central Asia all the way to China. I love to travel, and this book makes me dream of exotic faraway places!



*Emanuel Bowen 1744: A Map of Marco Polo's Voyages & Travels in the 13th Century through a great Part of Asia, all Tartary, the East India Islands & Part of Africa*



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## CGU Members in the News

- **John Clague** [on just how prepared the Lower Mainland is for ‘the big earthquake.’](#)
- **John Clague** [on fracking-related earthquakes in northern BC.](#)
- **Luke Copland**’s research on [iceberg production from glaciers flowing into Arctic waters](#) could improve the safety of shipping through the Northwest Passage.
- **Luke Copland** commented on [sea level rise and climate change](#) in a Toronto Star article.
- **Claire Currie**’s [research on finding the ‘lost’ roots of the Andes mountains](#) was featured on the University of Alberta website



- **Stephen Déry** [interviewed by Environmental Research Web](#) about his latest paper on changes in snow cover extent in the northern hemisphere
- **Stephen Déry**’s PhD student, Sina Abadzadesahraei, was on CBC Daybreak North to talk about [his research on industrial water use in northeastern BC](#)
- **David Eaton** [on human-caused earthquakes](#) from fracking and other industrial activity.
- **Jaivime Evaristo** and **Jeff McDonnell** [featured in several news outlets](#) for recent research that challenges conventional theory on the way water moves through soil to nourish plants, recharge water stocks, and discharge into streams.
- **Mark Johnson** asks whether urban agriculture [uses too much water](#)
- **Melissa Lafrenière** talks about an [ongoing water quality study](#) for Iqaluit’s new drinking water supply
- **Merrin Macrae** [interviewed on the Ontario Ministry of Agriculture, Food, and Rural Affairs podcast](#) about phosphorous movement from fields to waterways, and its relation to rainfall and field management technique.

- **Jeff McDonnell** in Science Magazine on the **importance of creating a ‘research brand.’**
- **Brian Menounos** **teams up with the Kokanee brewing company** to create a beer from glacier ice.



- **John Pomeroy** on **flood mitigation** in the Elbow River Watershed.
- **John Pomeroy** on **drought in the mountain parks**
- **John Pomeroy** and Howard Wheeler on **long term planning for a drier West**
- **John Pomeroy** on **Western Canadian drought**
- **John Pomeroy** **warns Albertans** pummeled by severe thunderstorms that extreme weather events will increase with climate change
- **John Pomeroy**, Warren Helgason, and others featured in the Rocky Mountain Outlook **for their cold regions research**
- **Uldis Silins’** watershed research in the Crowsnest Pass was **featured in the Pass Herald**.
- Ian Walker and colleagues were **featured in several news outlets**, warning people on the Pacific coast to brace for hazards associated with a ‘monster’ El Nino year.
- **Cherie Westbrook** **presented to the Canadian Science Writers’ Association** annual meeting, held in Saskatoon, on *The Return of the Beavers*

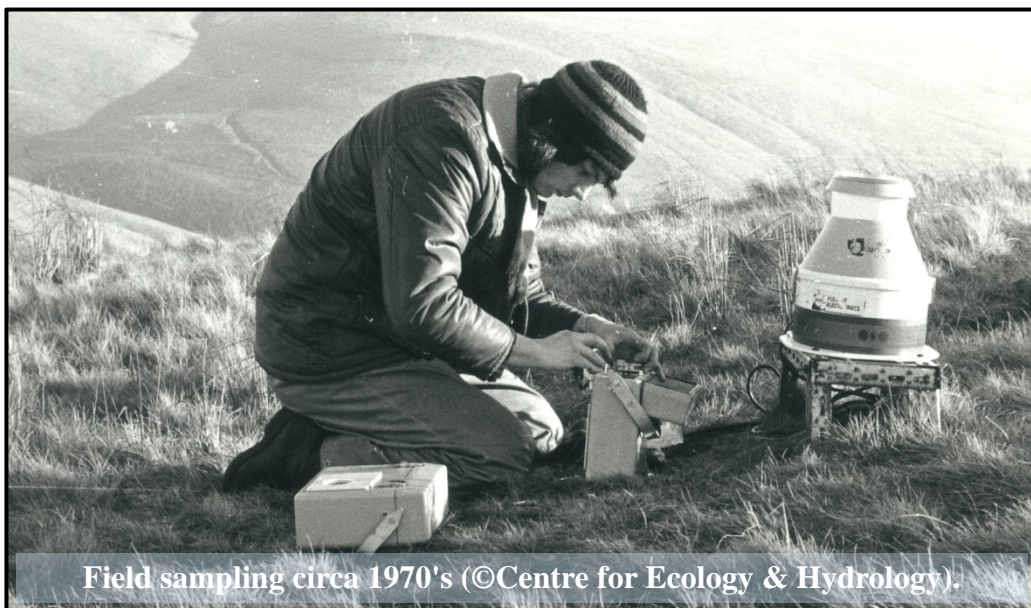




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## Recent Papers from CGU Members

- Abhar KC, **Walker IJ**, Hesp PA, Gares PA. 2015. **Spatial-temporal evolution of aeolian blowout dunes at Cape Cod**. *Geomorphology*. doi: 10.1016/j.geomorph.2015.02.015.
- Barnard PL, Short AD, Harley MD, Splinter KD, Vitousek S, Turner IL, Allan J, Banno M, Bryan KR, Doria A, Hansen JE, Kato S, Kuriyama Y, Randall-Goodwin E, Ruggiero P, **Walker IJ**, Heathfield DK. 2015. **Coastal vulnerability across the Pacific dominated by El Niño/Southern Oscillation**. *Nature Geoscience*. doi:10.1038/ngeo2539.
- **Bauer BO**, Hesp PA, **Walker IJ**, Davidson-Arnott RGD. 2015. **Sediment transport (dis)continuity across a beach-dune profile during an offshore wind event**. *Geomorphology*. doi:10.1016/j.geomorph.2015.05.004.
- Burt TP, **McDonnell JJ**. 2015. **Whither field hydrology? The need for discovery science and outrageous hydrological hypotheses**. *Water Resources Research*. doi: 10.1002/2014WR016839.



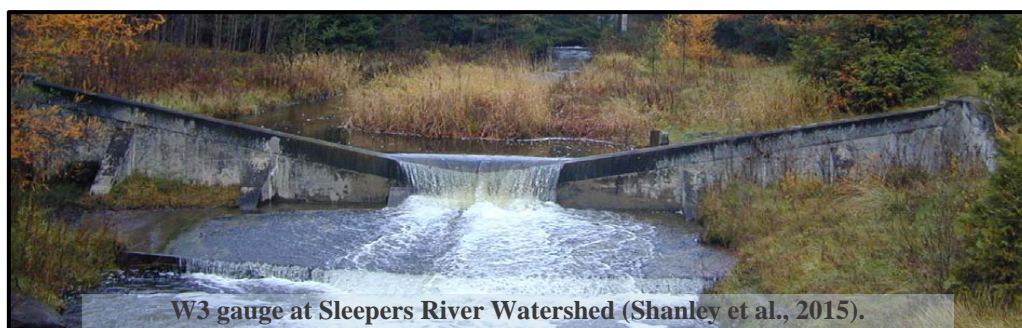
- Coleman Wasik JK, Engstrom DR, **Mitchell CPJ**, Swain EB, Monson BA, Balogh SJ, Jeremiason JD, **Branfireun BA**, Kolka RK, Almendinger JE. 2015. **Hydrologic fluctuations and sulfate regeneration increase methylmercury in an experimental peatland**. *Journal of Geophysical Research – Biogeosciences*. doi:10.1002/2015JG002993.
- Crasto N, **Hopkinson C**, Forbes DL, Lesack L, **Marsh P**, Spooner I, van der Sanden JJ. 2015. **A LiDAR-based decision-tree classification of open water surfaces in an Arctic delta**. *Remote Sensing of Environment* **164**: 90-102.
- Davidson SL, **Eaton BC**. 2015. **Simulating riparian disturbance: Reach-scale impacts on aquatic habitat in gravel bed streams**. *Water Resources Research*. doi: 10.1002/2015WR017124.

- Desjage P-A, **Lajeunesse P**, St-Onge G, Normandeau A, Ledoux G, Guyarda H, Pienitz R. 2015. **Deglacial and postglacial evolution of the Pingualuit Crater Lake basin, northern Québec (Canada)**. *Geomorphology*. **248**:327-343.
- Driedger AGJ, Dürr HH, Mitchell K, **Van Cappellen P**. 2015. **Plastic debris in the Laurentian Great Lakes: A review**. *Journal of Great Lakes Research* **41**(1): 9-19.
- Dumanski S, **Pomeroy JW**, **Westbrook CJ**. 2015. **Hydrological regime changes in a Canadian Prairie basin**. *Hydrological Processes*. doi:10.1002/hyp.10567.
- Emelko MB, Stone M, **Silins U**, Allin D, Collins AL, Williams CHS, Martens AM, **Bladon KD**. 2015. **Sediment-phosphorus dynamics can shift aquatic ecology and cause downstream legacy effects after wildfire in large river systems**. *Global Change Biology*. doi: 10.1111/gcb.13073.
- **Evaristo J**, Jasechko S, **McDonnell JJ**. 2015. **Global separation of plant transpiration from groundwater and streamflow**. *Nature* **525**: 91-94.
- Favaro EA, **Lamoureux SF**. 2015. **Downstream patterns of suspended sediment transport in a High Arctic river influenced by permafrost disturbance and recent climate change**. *Geomorphology* **246**: 359-369.
- **Gibson JJ**, Birks SJ, Yi Y. 2015. **Higher tritium concentrations measured in permafrost thaw lakes in northern Alberta**. *Hydrological Processes*. doi:10.1002/hyp.10599.
- Heathfield DK, **Walker IJ**. 2015. **Evolution of a foredune and backshore river complex on a high-energy, drift-aligned beach**. *Geomorphology* **248**:440-451.
- Heideman M, **Menounos B**, **Clague JJ**. 2015. **An 825-year long varve record from Lillooet Lake, British Columbia, and its potential as a flood proxy**. *Quaternary Science Reviews* **126**:158–174.



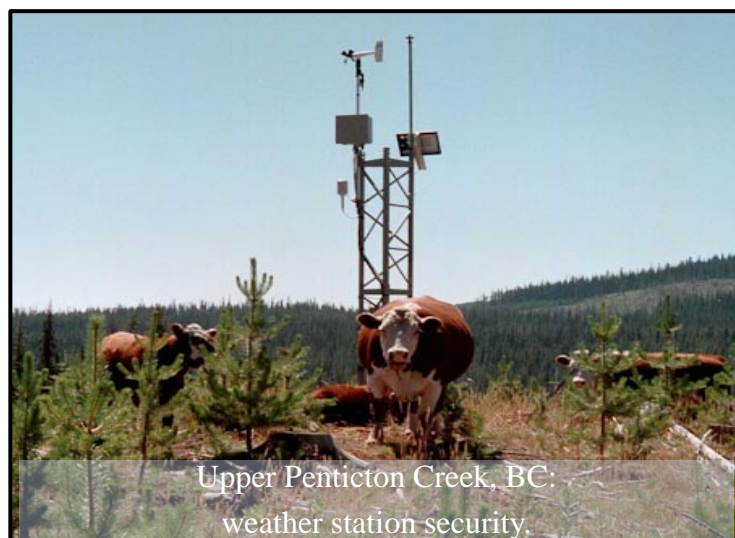
- Hesp PA, Smyth TAG, Nielsen P, **Walker IJ**, **Bauer BO**, Davidson-Arnott R. 2015. **Flow deflection over a foredune**. *Geomorphology*. doi: 10.1016/j.geomorph.2014.11.005.
- **Hokanson KJ**, **Lukenbach MC**, **Devito KJ**, Kettridge N, **Petrone RM**, **Waddington JM**. 2015. **Groundwater connectivity controls peat burn severity in the Boreal Plains**. *Ecohydrology*.doi: 10.1002/eco.1657.
- **Hugenholtz CH**, Barchyn TE, Favaro EA. 2015. **Formation of periodic bedrock ridges on Earth**. *Aeolian Research* **18**:135–144.
- **Ireson AM**, Barr AG, Johnstone JF, Mamet SD, **van der Kamp G**, **Whitfield CJ**, Michel NL, North RL, **Westbrook CJ**, DeBeer C, Chun KP, Nazemi A, Sagin J. 2015. **The changing water cycle: the Boreal Plains ecozone of Western Canada**. *WIREs WATER*. doi:10.1002/wat2.1098.

- **Johnson MS**, Lathuillière MJ, Tooke TR, Coops NC. 2015. **Attenuation of urban agricultural production potential and crop water footprint due to shading from buildings and trees**. *Environmental Research Letters* **10** 064007. doi:10.1088/1748-9326/10/6/064007.
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- Martínez-Carreras N, Wetzel CE, Frentress J, Ector L, **McDonnell JJ**, Hoffmann L, Pfister L. 2015. **Hydrological connectivity inferred from diatom transport through the riparian-stream system**. *Hydrology and Earth System Science* **19**: 3133-3151.
- Montemayor MB, **Price J**, Rochefort L. 2015. **The importance of pH and sand substrate in the revegetation of saline non-waterlogged peat fields**. *Journal of Environmental Management* **163**:87–97.
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Upper Penticton Creek, BC:  
weather station security.

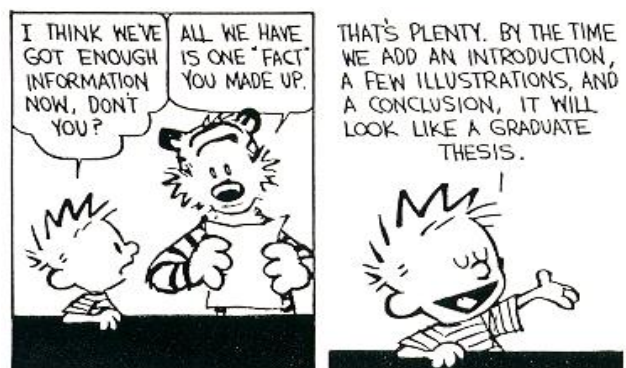
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# Job Postings

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## GRADUATE POSITIONS

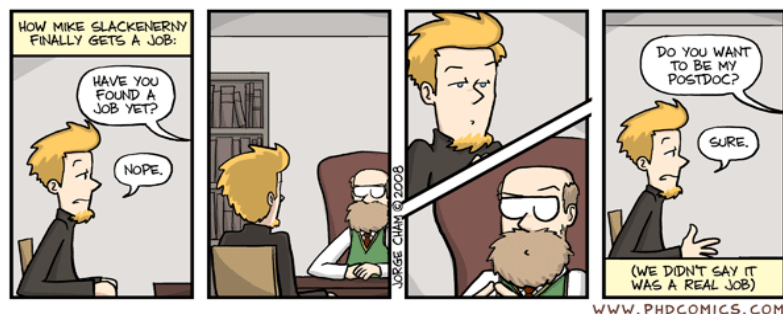
Positions	Program	Topic	Location and link
1	Field Assistant	Ecological work in the Canadian Arctic	<a href="#">Université Laval</a>
1	MSc	Dispersal & germination of Boreal trees	<a href="#">Memorial University</a>
1	PhD	Constraints on tree species distribution under climate change	<a href="#">Memorial University</a>
1	MSc or PhD	Remote sensing of freshwater in Hudson Bay	<a href="#">University of Manitoba</a>
1	PhD	Hydrometeorology and modelling	<a href="#">Université Laval</a>
1	MSc or PhD	Mercury cycling in Arctic coastal marine environments	<a href="#">University of Manitoba</a>
1	PhD	Subglacial sediment/basal hydrology and ice sheet modelling	<a href="#">Memorial University</a>
1	MSc	Mapping seagrass beds in Atlantic Canada using remote sensing	<a href="#">University of New Brunswick</a>
1	PhD	Sea ice remote sensing	<a href="#">University of Victoria</a>



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## POST-GRADUATE POSITIONS

Position	Research area	Location and link
Postdoc	Wildfire and environmetrics	<a href="#">NRCan: Pacific Forestry Centre</a>
Postdoc	Prairie Agriculture Water Modelling	<a href="#">University of Saskatchewan</a>
Postdoc	Wildfire, permafrost, and aquatic ecology	<a href="#">University of Alberta</a>
Postdoc	Modelling ice-structure interactions	<a href="#">Memorial University</a>
Postdoc	Agri-ecosystem Sustainability Modeling	<a href="#">Agriculture &amp; Agri-Food Canada</a>
Professional Specialist	Provincial Rivers Management Biologist	<a href="#">BC Government</a>
Regional Hydrologist	Hydrology	<a href="#">BC Government</a>
Groundwater Technician	Hydrology	<a href="#">BC Government</a>
Freshwater Scientist	Aquatic ecology	<a href="#">Environment Canada</a>
Faculty position	Environmental chemistry	<a href="#">University of Windsor (GLIER)</a>
Assistant Professor (2)	Environmental geography & urban sustainability	<a href="#">Ryerson University</a>
Assistant Professor	Physical geography (preferably Arctic & biogeochemistry)	<a href="#">York University</a>
Assistant Professor	Geophysics	<a href="#">University of Calgary</a>
Assistant Professor	Science of Environmental Change, Sustainability and Resilience	<a href="#">Concordia University</a>
Chair	Dept. of Earth & Environmental Science	<a href="#">University of Waterloo</a>
Ltd term Asst. Professor	Hydrology & Geomatics	<a href="#">University of Saskatchewan</a>



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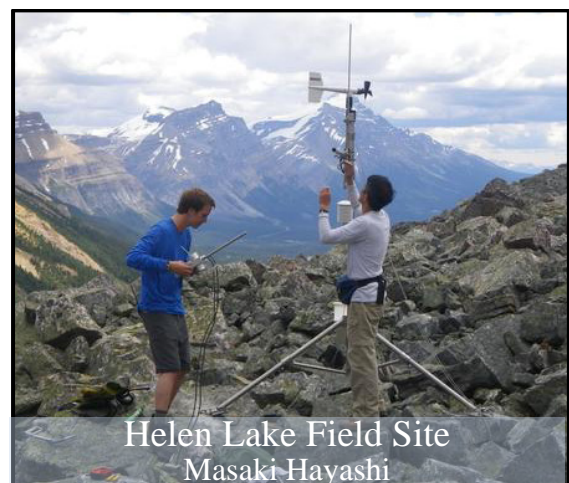
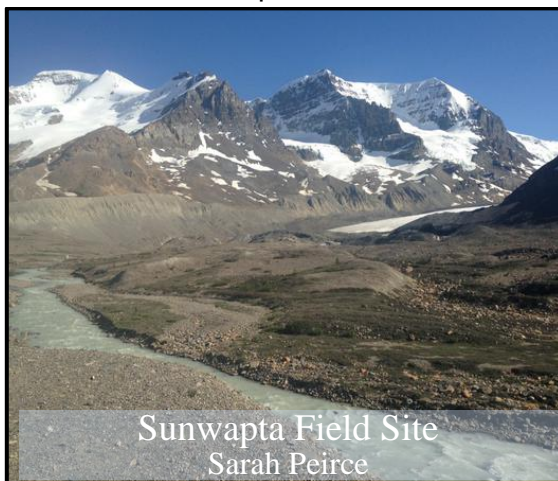
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## Conferences

- **Digital Earth 2015:** 5-9 October, Halifax, NS
- **McMaster Water Week 2015:** 5-9 October, Hamilton, ON
- **Earth Science Week:** 11-16 October, international.
- **Northwest Glaciologists Meeting:** 16-17 October, Portland State University, Oregon
- **Canadian Hydrogeology Conference:** 27-30 October, University of Waterloo, ON
- **Polar Data Forum:** 27-29 October, University of Waterloo, ON
- **Geological Society of America Annual Meeting:** 1-4 November, Baltimore, Maryland
- **Association of Canadian Universities for Northern Studies (ACUNS) 11<sup>th</sup> Student Conference:** 5-8 November. Hosted by the Arctic Institute of North America, University of Calgary, AB
- **Canadian Water Resources Association – BC Branch Conference:** 18-19 November, Vancouver, BC
- **Canadian Science Policy Conference:** 25-27 November, Ottawa, ON
- **The American Geophysical Union Fall Meeting:** 14-18 December, San Francisco, California
- **International Arctic Science Committee (IASC) Network on Arctic Glaciology Meeting:** 25-27 January 2016, Benasque, Spain
- **River Restoration Northwest 15<sup>th</sup> Annual River Restoration Symposium:** 2-4 February 2016, Skamania Lodge in Stevenson, Washington
- **European Geosciences Union General Assembly 2016:** 17-22 April 2016, Vienna, Austria

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### CGU member field photos



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## Message from the Executive Director

2015 is turning out to be a year of great significance on the international social and development scenes, as major decisions are being made by national leaders through the United Nations system.

The **Sendai Framework for Disaster Risk Reduction 2015-2030** was adopted at the Third UN World Conference in Sendai, Japan, on March 18, 2015. This framework addresses all types of natural disasters and promotes strategies to reduce the risks posed by disasters to society. The disasters, whether the result of volcanic eruptions, earthquakes, floods of various origin, droughts, or pollution spills are all geophysically based, and the science of geophysics informs management decisions on how best to mitigate and adapt to the disasters.

In late September, world nations gathered at the UN Sustainable Development Summit in New York to ratify the agreement **“Transforming our World: the 2030 Agenda for Sustainable Development.”** This is a remarkably extensive agreement to address the critical needs of the world’s peoples. The 17 sustainable development goals of the agreement demonstrate the scale and ambition of this new universal agenda, the primary product of which is to eradicate all dimensions of poverty. They seek to build on the Millennium Development goals and complete what these did not achieve. The

goals are integrated and indivisible, and balance the three dimensions of sustainable development: economic, social, and environmental. Many of the goals are water-dependent or water-related, thus knowledge of the hydrological sciences underpins management decisions.

Finally, the **Paris Climate Change Conference** will be held from November 30 – December 11. This is likely to be a decisive event, hopefully resulting in meaningful agreements on climate change mitigation and adaptation. If successful, it will set the agenda for measures to be taken universally to alleviate the risks associated with climate change over the next decades.

Thus, somewhat fortuitously, 2015 brings a number of very significant movements on the international scene that will have tremendous repercussions on global environmental and development issues over the next decades.

**We, as geophysical scientists, have a duty to not only better understand geophysical processes, but also to make our knowledge and understanding available to inform decision-makers at all levels in our societies for economic and social development while preserving our environmental heritage. We have much work to do!**

*Gordon Young*

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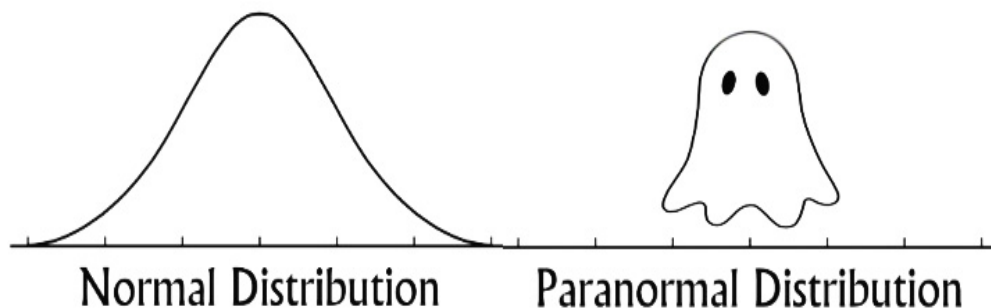
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**T**hanks for reading the newsletter! Let us know if there are things you like, dislike, or would like to see added or removed. This newsletter is about CGU members for CGU members, and should reflect what you're most interested in.

We welcome any and all of YOUR submissions. Have you published a paper or poster, or done a radio or TV interview? Found something funny? Got some great photographs? Send them to us at [cgu.outreach@gmail.com](mailto:cgu.outreach@gmail.com) and we can include it in the next newsletter, post it on the website, and send it out on Twitter and Facebook.

Your Outreach Team

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Happy Halloween!