

## Appendix F – Publications and Academic Presentations

### Summary:

- Peer-reviewed journal publications: 108
- Conference Presentations – Invited, Plenary & Keynote: 117
- Conference Presentations: 202
- Books and Book Chapters: 03
- Non-refereed publications including model code: 13
- Graduate and undergraduate theses: 14

### Peered Reviewed Journal Publications

- Aksamit NO, Pomeroy JW. 2017. The Effect of Coherent Structures in the Atmospheric Surface Layer on Blowing-Snow Transport, *Boundary-Layer Meteorology*, 167 (2): 211 - 233. DOI: 10.1007/s10546-017-0318-2
- Aksamit NO, Pomeroy JW. 2018. Scale Interactions in Turbulence for Mountain Blowing Snow, *Journal of Hydrometeorology*, 19(-): 305 - 320. DOI: 10.1175/JHM-D-17-0179.1
- Gupta, H.V., and Razavi, S. 2018. Rethinking the Fundamental Basis of Sensitivity Analysis for Dynamical Earth Systems Models, *Water Resources Research*, (submitted).
- Werner, A.T., R.R. Shrestha, A.J. Cannon, M.S. Schnorbus, F.W. Zwiers, G. Dayon, F. Anslow, 2018. A long-term temporally, gridded daily meteorological dataset for northwest North America. Submitted, *Scientific Data*. (PCIC supported)
- Appels, W., Bradford, L.E.A., Chun, Kwok, Coles, A., Strickert, G. E.H. 2017. DIY meteorology: use of citizen science to monitor snow dynamics in a data-sparse city. *FACETS* <https://doi.org/10.1139/facets-2017-0030>
- Arlos, M.J., W.J. Parker, J.R Bicudo, P. Law; K.A. Hicks, M. Fuzzen, S. Andrews, M.R. Servos. 2018. Modeling the exposure of wild fish to endocrine active chemicals: potential linkages of total estrogenicity to field-observed intersex. *Water Research* 139:187-197. <https://doi.org/10.1016/j.watres.2018.04.005>
- Arlos, M.J., W.J. Parker, Pam Law, José Bicudo, Patricija Marjan, S.A. Andrews, M.R. Servos. 2018. Multi-year prediction of estrogenicity in municipal wastewater effluents. *Science of the Total Environment* 610-611C:1103-1112. <http://doi.org/10.1016/j.scitotenv.2017.08.171>
- Asong, Z.E., Razavi, S., Wheeler, H.S., Wong, J.S. 2017. Evaluation of Integrated Multisatellite Retrievals for GPM (IMERG) over Southern Canada against Ground Precipitation Observations: A Preliminary Assessment. *Amer. Meteor.* doi: 10.1175/JHM-D-16-0187.1
- Barszcz, A., J. A. Milbrandt, J. M. Thériault. 2018. Improving the explicit prediction of freezing rain in a km-scale numerical weather prediction model [Submitted *Weather and Forecasting*, WAF-D-17-0136 ]
- Baulch, H.M., Elliott, J.A., Cordeiro, M.R.C., Flaten, D.N., Lobb, D.A., and Wilson, H.F. 2018. Soil and water management practices: A review of opportunities to mitigate nutrient losses to surface waters in the Northern Great Plains. In review: *Journal of Environmental Quality*

- Ben Alaya, M.A., F.W. Zwiers, X. Zhang. 2018a. Probable maximum precipitation: its estimation and uncertainty quantification using bivariate extreme value analysis. *Journal of Hydrometeorology*, accepted. (CNRCWP network supported)
- Ben Alaya, M.A., F.W. Zwiers and X. Zhang. 2018b. Evaluation and comparison of CanRCM4 and CRCM5 to estimate probable maximum precipitation over North America. To be submitted to *Journal of Hydrometeorology*. (CNRCWP network supported up to 31 Mar 2018; to be completed with GWF Climate Related Precipitation Extremes (CRPE) project support)
- Ben Alaya, M.A., F.W. Zwiers and X. Zhang. 2018d. Probability of compound extreme precipitation events to inform engineering design. To be submitted to *Hydrol. Earth Sys.Sci.* (CNRCWP network supported up to 31 Mar 2018; to be completed with GWF CRPE project support)
- Brimelow, J.C., W.R. Burrows and J.M. Hanesiak. 2017. The changing hail threat over North America in response to anthropogenic climate change. *Nat. Clim. Change*, DOI: 10.1038/NCLIMATE3321
- Brouwer, R. and Sheremet, O. 2017. The economic value of river restoration. *Water Resources and Economics*, 17: 1-8.
- Chu, T., Das, A. and Lindenschmidt, K.-E. 2017. RADARSAT-2 based digital elevation models derived from InSAR for high latitudes of northern Canada. *Journal of Applied Remote Sensing* 11(3): 035013. <http://dx.doi.org/10.1117/1.JRS.11.035013>
- Chun, K.P., Mamet, S.D., Metsaranta, J., Barr, A., Johnstone, J., Wheeler, H. 2017. A novel stochastic method for reconstructing daily precipitation times-series using tree-ring data from the western Canadian Boreal Forest. *Dendrochronologia*. doi: 10.1016/j.dendro.2017.01.003.
- Cober, J., Macrae, M.L. and Van Eerd, L. 2018. Nutrient release from living and terminated cover crops under variable freeze-thaw cycle magnitudes. *Agronomy Journal*. 110:1036-1045. doi:10.2134/agronj2017.08.0449
- Connon, R., É. Devoie, M. Hayashi, T. Veness, and W. Quinton. 2018. The influence of shallow taliks on permafrost thaw and active layer dynamics in subarctic Canada. *Journal of Geophysical Research: Earth Surface*. 123. DOI: 10.1002/2017JF004469.
- Costa D, Roste J, Pomeroy J, Baulch H, Elliott J, Wheeler H, Westbrook C. 2017. A modelling framework to simulate field-scale nitrate response and transport during snowmelt: The WINTRA model, *Hydrological Processes*, 32 (3): 4250-4268. DOI: 10.1002/hyp.11346
- Curry, C.L. and F.W. Zwiers. 2018. Examining controls on peak annual streamflow and floods in the Fraser River Basin of British Columbia. *Hydrol. Earth Syst. Sci*, doi:10.5194/hess-2017-531. (CanSISE supported).
- Curry, C.L., S.U. Islam, F.W. Zwiers and S.J. Dery and F.W. Zwiers. 2018. Projected changes in the flooding regime of the Fraser River Basin, British Columbia. To be submitted to *Hydrol. Earth Sys. Sci.* (CanSISE supported).
- Das, A., Reed, M. and Lindenschmidt, K.-E. 2018. Sustainable ice-jam flood management for socio-economic and socio-ecological systems. *Water*, 10: 135 <http://dx.doi.org/10.3390/w10020135>
- DeBeer C M, Pomeroy J W. 2017. Influence of snowpack and melt energy heterogeneity on snow cover depletion and snowmelt runoff simulation in a cold mountain environment, *Journal of Hydrology*, 553(1): 199 - 213. DOI: 10.1016/j.jhydrol.2017.07.051

- Farjad, B., Gupta, A., Razavi, S., Faramarzi, M., & Marceau, D. J. 2017. An Integrated Modelling System to Predict Hydrological Processes under Climate and Land-Use/Cover Change Scenarios. *Water*, 9(10), 767.
- Ferguson, G., McIntosh, J.C. Grasby, S.E., Hendry, M.J. Jasechko, S., Lindsay, M.B.J and Luijendijk, E. Accepted. The Persistence of Brines in Sedimentary Basins. *Geophysical Research Letters*.
- Fisher, J.B., Hayes D.J., Schwalm, C.R. et al. incl. Sonntag, O. 2018. Missing pieces to modelling the Arctic-Boreal puzzle. *Environmental Research Letters*, 13, 020202.
- Gharari, S. and Razavi, S. 2018. Hysteresis in Hydrology and Hydrological Modelling: Memory, Path-Dependency, and Missing Physics, *Journal of Hydrology* (submitted).
- Guerrero, J.L., Pernica, P., Wheeler, H., Mackay, M. and Spence, C. 2017. Parameter sensitivity analysis of a 1-D cold region lake model for land-surface schemes. *Hydrol. Earth Syst. Sci.*, 21, 6345-6362, doi: 10.5194/hess-21-6345-2017
- Haghnegahdar A. and Razavi, S. 2017. Insights into Sensitivity Analysis of Environmental Models: On the Impacts of Parameter Perturbation Scale and Model Metric Choice, 95, 115–131 <https://doi.org/10.1016/j.envsoft.2017.03.031>
- Haghnegahdar A., Razavi S., Yassin F., and Wheeler H. 2017. Multi-criteria sensitivity analysis as a diagnostic tool for understanding model behavior and characterizing model uncertainty, *Hydrol. Process.*, 1-15, <https://doi.org/10.1002/hyp.11358>
- Halofsky, J., Andrews-Key, S., Edwards, J., Johnston, M., Nelson, H., Peterson, D., Schmitt, K., Swanston, C., Williamson., T. 2018. Adapting forest management to climate change: The state of science and applications in Canada and the United States. *Forest Ecology and Management*, 421.
- Harder P, Pomeroy J, Helgason W. 2017. Local-Scale Advection of Sensible and Latent Heat During Snowmelt, *Geophysical Research Letters*, 44: 9769 - 9777. DOI: 10.1002/2017GL074394
- Harrington, J.S., Hayashi, M. and Kurylyk, B.L. 2017. Influence of a rock glacier spring on the stream energy budget and cold-water refuge in an alpine stream. *Hydrological Processes*, 31: 4719–4733.
- Helbig, M., Quinton, W. L., Sonntag, O. 2017. Warmer spring conditions increase annual methane emissions from a boreal peat landscape with sporadic permafrost. *Environmental Research Letters*, 12, 115009.
- Hernández-Henríquez, M. A., Sharma, A. R., Taylor, M., Thompson, H. D. and Déry, S. J. 2018. The Cariboo Alpine Mesonet: Subhourly hydrometeorological observations of British Columbia's Cariboo Mountains and surrounding area since 2006, submitted to *Earth System Science Data*.
- Islam, S. U., Curry, C. L., Déry, S. J., Zwiers, F. W. 2018. Quantifying projected changes in runoff variability and flow regimes of the Fraser River Basin, British Columbia, submitted to *Hydrology and Earth System Sciences*.
- Jawed, Z. and Krantzberg, G. 2017. A comparative analysis of practitioners' experience in sediment remediation projects to highlight best practices, *Water Quality Research Journal* (Submitted and reviewed)
- Johnston, L. and Flannigan, M.D. 2018. Mapping Canadian wildland fire interface areas. *International Journal of Wildland Fire*. 27:1-14. <https://doi.org/10.1071/WF16221>

- Jones, P.D. and Giesy, J.P. 2017. Quantification of Dioxins by GC-Orbitrap MS. *Organohalogen Compounds*, (In Press)
- Kahsay, T., Kuik, O., Brouwer, R., van der Zaag, P. 2017. The economy-wide impacts of climate change and irrigation development in the Nile basin: A computable General Equilibrium approach. *Climate Change Economics*, 8(1): 1750004-1-30.
- Karran D, Westbrook CJ, Bedard-Haughn A. 2018. Beaver-mediated water table dynamics in a Rocky Mountain fen. *Ecohydrology* 11(2): DOI: 10.1002/eco.1923.
- Kharin, V.V., G.M. Flato, X. Zhang, N.P. Gillett, F.W. Zwiers, K. Anderson. 2018. Risks from climate extremes change differently from 1.5°C to 2.0°C depending on rarity. Accepted, *Earth's Future*. (ECCC and PCIC supported)
- Kochtubajda, B., C. Mooney and R.E. Stewart. 2017. Characteristics, atmospheric drivers and occurrence patterns of freezing precipitation and ice pellets over the Prairie Provinces and Arctic Territories of Canada: 1964 – 2005. *Atmos. Res.*, 191, 115–127.
- Krantzberg, G. 2018. Stormwater as an Asset: Perspectives on Climate Change Resilience and Infrastructure Innovations. *Renew Canada* (in press)
- Kythreotis A.P., Mantyka-Pringle C., Mercer T.G., Whitmarsh L.E., Corner A., Paavola J., Chambers C.D., Miller B., Light A. and Castree N. 2018. Citizen Social Science for more integrative and effective climate action and policy. In review: *Sustainability Science*.
- Levin-Koopman, J., Kuik, O., Tol, R. and Brouwer, R. 2017. The potential of water markets to allocate water between industry, agriculture, and public water utilities as an adaptation mechanism to climate change. *Mitigation and Adaptation Strategies for Global Change*, 22(2): 325. doi:10.1007/s11027-015-9662-z.
- Li Y., Szeto K, Stewart R, Theriault J, Chen L, Kochtubajda B, Liu A, Boodoo S, Goodson R, Mooney C, Kurkute S. 2017. The June 2013 Alberta Catastrophic Flooding: Water vapor transport analysis by WRF simulation. *Journal of Hydrometeorology*, Vol. 18, 2057-2078.
- Li, C., X. Zhang, F.W. Zwiers, G. Li. 2018. How much information is required to well-constrain local estimates of future precipitation extremes? To be submitted to *Earth's Future*. (ECCC and PCIC supported)
- Li, C., X. Zhang, F.W. Zwiers, Y. Fang, A.M. Michalak. 2017. Recent very hot summers in northern hemispheric land areas measured by wet bulb globe temperature will be the norm within 20 years. *Earth's Future*, doi:10.1002/2017EF000639
- Li, Z. and Lindenschmidt, K.-E. 2018. Coherence of Radarsat-2, Sentinel-1, and ALOS-1 PALSAR for monitoring spatiotemporal variations of river ice covers, *Canadian Journal of Remote Sensing* 44(1): 1-15. <https://doi.org/10.1080/07038992.2018.1419424>
- Li, Z., Li, Y., Bonsal, B., Manson, A., and Scaff, L. 2018. Combined Impacts of ENSO and MJO on the 2015 Growing Season Drought over the Canadian Prairies. *Hydrol. Earth Syst. Sci. Discuss.*, <https://doi.org/10.5194/hess-2018-56>.
- Lindenschmidt, K.-E. and Li, Z. 2018, accepted. Monitoring river ice cover progression at a large spatial scale using the Freeman-Durden decomposition of quad-pol Radarsat-2 images. *Journal of Applied Remote Sensing*.
- Lyu, H., K.A. McColl, X. Li, C. Derksen, A. Berg, T.A. Back, E. Euskirchen, M. Loranty, J. Pulliainen, T. Rowlandson, A. Roy, A. Royer, A. Langlois, J. Stephens, H. Lu, D. Entekhabi. 2018. Validation of the SMAP freeze/thaw product using categorical triple location. *Remote Sensing of Environment*. 205, 329-337.

- Maavara, T., Slowinski, S., Rezanezhad, F., Van Meter, K., and Van Cappellen, P. 2018. The role of groundwater discharge fluxes on Si:P ratios in a major tributary to Lake Erie. *Science of the Total Environment*, 622-623, 814-824. doi:10.1016/j.scitotenv.2017.12.024.
- MacDonald M, Pomeroy J, Essery R. 2018. Water and energy fluxes over northern prairies as affected by chinook winds and winter precipitation, *Agricultural and Forest Meteorology*, 248: 372 - 385. DOI: 10.1016/j.agrformet.2017.10.025
- Martin T.G., Kehoe L., Mantyka-Pringle C., Chades I., Wilson S., Bloom R., David S., Fisher R., Mehl K., Prieto D., Wayland M., Wellicome T., Zimmer K., and Smith P. 2018. Prioritizing recovery funding to maximize conservation of endangered species. In review: *Conservation Letters*.
- Masud, M.B., Khaliq, M.N., Wheeler, H.S. 2017. Future changes to drought characteristics over the Canadian Prairie Provinces based on NARCCAP multi-RCM ensemble. *Clim. Dynam.* doi: 10.1007/s00382-016-3232-2.
- Masud, M.B., Khaliq, M.n., Wheeler, H.S. 2017. Projected changes to short-and-long-duration precipitation extremes over the Canadian Prairie Provinces. *Clim. Dynam.* doi: 10.1007/s00382-016-3404-0.
- Mehdi, H., F.H. Dickson, L.M. Bragg, M.R. Servos, P.M. Craig. 2018. Impacts of wastewater treatment plant effluent on energetics and stress response of rainbow darter (*Etheostoma caeruleum*) in the Grand River watershed. *Comparative Biochemistry and Physiology, Part B*. In press. <https://doi.org/10.1016/j.cbpb.2017.11.011>
- Moore PA, Lukenbach MC, Kettridge N, Petrone RM, Devito KD, Waddington JM. 2017. Peatland water repellency: Importance of soil water content, moss species, and burn severity. *Journal of Hydrology* 554: 656-665, doi: 10.1016/j.jhydrol.2017.09.036.
- Morales-Marín, L., Wheeler, H. and Lindenschmidt, K.-E. 2018. Estimating sediment loadings in the South Saskatchewan River catchment, *Water Resources Management* 32(2): 769-783. <http://dx.doi.org/10.1007/s11269-017-1838-8>
- Morales-Marin, L., Wheeler, H.S., and Lindenschmidt, K.-E. 2017. Assessment of nutrient loadings of a large multipurpose prairie reservoir. *J. Hydrol.* doi: 10.1016/j.jhydrol.2017.04.043.
- Morrison A, Noble BF, Westbrook CJ. 2018. Flood risk management in the Canadian Prairie provinces: Defaulting towards flood resistance and recovery versus resilience. *Canadian Water Resources Journal* doi: 10.1080/07011784.2018.1428501.
- Naveau, P., A. Ribes, F.W. Zwiers, A. Hannart, A. Tuel, P. Yiou. 2018. Revising return periods for record events in a climate event attribution context. *Journal of Climate*, doi:10.1175/JCLI-D-16-0752.1
- Pappas, C, Matheny, AM, Maillet, J, Sonnentag, O, Baltzer, J, et al. 2018. Boreal tree hydrodynamics: asynchronous, diverging, yet complementary. *Tree Physiology*, doi:10.1093/treephys/tpy043.
- Parsons, C.T., Rezanezhad, F., O'Connell, D.W., and Van Cappellen P. 2017. Sediment phosphorus speciation and mobility under dynamic redox conditions. *Biogeosciences*, 14, 3585-3602, doi:10.5194/bg-14-3585-2017.
- Pattison-Williams JK, Pomeroy JW, Badiou P, Gabor S. 2018. Wetlands, Flood Control and Ecosystem Services in the Smith Creek Drainage Basin: A Case Study in Saskatchewan, Canada, *Ecological Economics*, 1(47): 36 - 47. DOI: 10.1016/j.ecolecon.2017.12.026

- Pavlovskii, E., Hayashi, M. and Lennon, M.R. 2018. Transformation of snow isotopic signature along groundwater recharge pathways in the Canadian Prairies. *Journal of Hydrology* (in press).
- Pechlivanidis, I.G., McIntyre, N., Wheeler, H.S. 2017. The significance of spatial variability of rainfall on simulated runoff: an evaluation based on the Upper Lee catchment, UK. *Hydrol. Res.* doi: 10.2166/nh.2016.038.
- Peters, R., Fonti, P., Frank, D., Poyatos, R., Pappas, C. et al. incl. Sonnentag, O. 2018. Quantification of uncertainties in tree sapflow measured with the thermal dissipation method. *New Phytologist*, accepted.
- Plach, J., Macrae, M.L., Ali, G., Brunke, R.I., English, M.C., Ferguson, G., Lam, W.V., Lozier, T.M., McKague, K., O'Halloran, I.P., Opolko, G., and Van Esbroeck, C. 2018. Supply and transport limitations on phosphorus losses from agricultural fields in the Lower Great Lakes Region, Canada. *Journal of Environmental Quality*. 47(1):96-105. Doi:10.2134/jeq2017.06.0234
- Powley, H.R., Krom, M.D., and Van Cappellen, P. 2018. Phosphorus and nitrogen trajectories in the Mediterranean Sea (1950-2030): Diagnosing basin-wide anthropogenic nutrient enrichment. *Progress in Oceanography*, in press, doi: 10.1016/j.pocean.2018.03.003.
- R. Connon, É. Devoie, M. Hayashi, T. Veness, and W. Quinton. 2018. The influence of shallow taliks on permafrost thaw and active layer dynamics in subarctic Canada. *Journal of Geophysical Research: Earth Surface*. 123. DOI: 10.1002/2017JF004469.
- Razavi S., and Vogel, R. 2018. Prewhitening of hydroclimatic time series? Implications for inferred change and variability across time scales, *Journal of Hydrology*, 557, 109-115, doi:10.1016/j.jhy
- Remmer CR, WH Klemt, BB Wolfe and RI Hall. 2018. Inconsequential effects of flooding in 2014 on lakes in the Peace-Athabasca Delta (Canada) due to long-term drying. *Limnology and Oceanography* (in press). doi: 10.1002/lno.10787.
- Robinne, F.-N., Bladon, K.D., Miller, C., Parisien, M.A., Mathieu, J. and Flannigan M.D. 2018. A spatial evaluation of global wildfire-water risks to human and natural systems. *State of the Total Environment*. 610:1193-1206. DOI: 10.1016/j.scitotenv.2017.08.112
- Rokaya, P., Budhathoki, S. and Lindenschmidt, K.-E. 2018. Trends in the Timing and Magnitude of Ice-Jam Floods in Canada, *Nature Scientific Reports* 8(1): 5834. <http://dx.doi.org/10.1038/s41598-018-24057-z>
- Rowlandson, T.L., A.A. Berg, A. Roy, E. Kim, R. Pardo Lara, J. Powers, K. Lewis, P. Houser, K. McDonald, P. Toose, A. Wu, E. De Marco, C. Derksen, J. Entin, A. Colliander, X. Xu, Alex Mavrovic. Capturing Agricultural Soil Freeze/Thaw State through Remote Sensing and Ground Observations: A Soil Freeze/Thaw Validation Campaign. *Remote Sensing of Environment*. 211, 59-70.
- Sadeghian, A., Chapra, S., Hudson, J., Wheeler, H., Lindenschmidt, K.-E. 2018. Improving in-lake water quality modeling using variable chlorophyll a/algal biomass ratios, doi: 10.1016/j.envsoft.2017.12.009
- Sadeghian, A., Hudson, J., Wheeler, H., and Lindenschmidt, K. E. 2017. Sediment plume model— a comparison between use of measure turbidity data and satellite images for model calibration. *Environ. Sci. Pollut. Res.* doi: 10.1007/s11356-017-9616-y

- Shafii, M., Basu, N., Craig, J.R., Schiff, S.L., and Van Cappellen, P. 2017. A diagnostic approach to constraining flow partitioning in hydrologic models using a multiobjective optimization framework. *Water Resources Research*, 53, 3279-3301. doi:10.1002/2016WR019736.
- Sheikholeslami, R., and Razavi, S. 2017. Progressive Latin Hypercube Sampling: An efficient approach for robust sampling-based analysis of environmental models, *Environmental Modelling & Software*, 93: 109–126 doi: 10.1016/j.envsoft.2017.03.010
- Sheikholeslami, R., and Razavi, S. 2018. Avoiding the Guise of an Anonymous Review, *Eos, Transactions of American Geophysical Union*, (in Press).
- Sheikholeslami, R., Yassin, F., Lindenschmidt, K.-E., and Razavi, S. 2017. Improved Understanding of River Ice Processes Using Global Sensitivity Analysis Approaches. *Journal of Hydrologic Engineering* 22(11): 04017048 [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0001574](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001574)
- Sillmann, J., T.L. Thoranisdottir, N. Schaller, L. Alexander, G.C. Hegerl, S.I. Seneviratne, R. Vautard, X. Zhang, F.W. Zwiers. 2017. Understanding, modeling and predicting weather and climate extremes: Challenges and opportunities. *Weather and Climate Extremes*, 18, 65-74, doi:10.1016/j.wace.2017.10.003
- Sniderhan, A., G. McNickle, and J. Baltzer. 2018.). Assessing local adaptation vs. plasticity under different resource conditions in seedlings of a dominant boreal tree species. *AoB PLANTS*. 10: 1. DOI: 10.1093/aobpla/ply004 Designated **Editor's Choice**
- Sprenger M, Tetzlaff D, Buttle J, Carey SK, McNamara JP, Laudon H, Shatilla NJ, Snelgrove J, Soulsby C. 2018. Storage, mixing and fluxes of water in the critical zone across northern environments inferred by stable isotopes of soil water. *Hydrological Processes*, Accepted.
- Stott, P.A., D.J. Karoly, F.W. Zwiers. 2017. Is the choice of statistical paradigm critical in extreme event attribution studies? *Climatic Change*, 144, 143-150, doi:10.1007/s10584-017-2049-2
- Mridul K. Thomas, Simone Fontana, Marta Reyes, Michael Kehoe, Francesco Pomati. 2018. The predictability of a lake phytoplankton community, over time-scales of hours to years. *Ecology Letters*.
- Van Meter, K. J., & Basu, N. B. 2017. Time lags in watershed-scale nutrient transport: an exploration of dominant controls. *Environmental Research Letters*, 12(8), 084017. <https://doi.org/10.1088/1748-9326/aa7bf4>
- Van Meter, K. J., Van Cappellen, P., & Basu, N. B. 2018. Legacy nitrogen may prevent achievement of water quality goals in the Gulf of Mexico *Science* <http://doi.org/10.1126/science.aar4462>
- Wada, Y., Bierkens, M. F.P., de Roo, A., Dirmeyer, P., Famiglietti, J., Hanasaki, N., Konar, M., Liu, J., Schmied, H.M., Oki, T., Pokhrel, Y., Sivaplan, M., Troy, T., van Dijk, A., van Emmerik, T., Van Huijgevoort, M., Van Lanen, H., Vorosmarty, C., Wanders, N., Wheeler, H. 2017. Human-water interface in hydrological modelling: current status and future directions. *Hydrol. Earth Syst. Sci.*, 21, 4169-4193, doi: 10.5194/hess-21-4169-2017
- Walker, XJ, Baltzer, JL, Cummings, SR, Day, NJ, Johnstone, JF, Rogers, BM, Turetsky, MR, Mack, MC. (2018). Estimating depth of burn in boreal black spruce and jack pine stands of the NWT, Canada. *International Journal of Wildland Fire* 27(2) 125-134.
- Warren, RK, Pappas, C, Helbig, M, Chasmer, LE, Berg, AA, Baltzer, JL, Quinton, WL, Sonnentag, O. 2018. Minor contribution of black spruce transpiration to evapotranspiration in boreal permafrost peatlands. *Ecohydrology*, DOI: 10.1002/eco.1975

- Whitfield PH\*, Pomeroy JW. 2017. Assessing the quality of the streamflow record for a long-term reference hydrometric station: Bow River at Banff, Canadian Water Resources Journal, 42(4): 391 - 415. DOI: 10.1080/07011784.2017.1399086
- Wilkinson S, Moore PA, Flannigan MD, Wotton BM, Waddington JM. 2018. Did enhanced afforestation cause high severity peat burn in the Fort McMurray Horse River wildfire? Environmental Research Letters 13: 014018, doi: 10.1088/1748-9326/aaa136.
- Williamson, M, T.R. Rowlandson, A.A. Berg, A. Roy, P. Toose, C. Derksen, L. Arnold, E. Tetlock. 2018. L-band radiometry freeze/thaw validation using air temperature and ground measurements. Remote Sensing Letters. 9(4), 403-410.
- Williamson, M., J.R. Adams, A.A. Berg, C. Derksen, P. Toose, A. Walker. 2018. The detection of soil freeze/thaw using soil moisture probes: Implications for remote sensing validation networks. Hydrology Research. 49(1), 1-16. 10.2166/nh.2017.183
- Wong, J.S., Razavi, S., Bonsal, B.R., Wheeler, H.S., Asong, Z.E. 2017. Inter-comparison of daily precipitation products for large-scale hydro-climatic applications over Canada, Hydrol. Earth Syst. Sci. doi: 10.5194/hess-21-2163-2017.
- Yanping Li, Kit Szeto, Ron Stewart, Julie Theriault, Liang Chen, Bob Kochtubajda, Anthony Liu, Sudesh Boodoo, Ron Goodson, Curtis Mooney, Sopan Kurkute, 2017: A Numerical Study of the June 2013 Flood-Producing Extreme Rainstorm over Southern Alberta. Journal of Hydrometeorology, vol. 18, 2057-2078.
- Yassin, F., Razavi, S., Wheeler, H., Sapriza-Azuri, G., Davison, B., Pietroniro, A. 2017. Enhanced Identification of a Hydrologic Model using Streamflow and Satellite Water Storage Data: A Multi-criteria Sensitivity Analysis and Optimization Approach. Hydrol. Process. doi: 10.1002/hyp.11267
- Yuwei Xie, Xiaowei Zhang, Jianghua Yang, Seonjin Kim, Seongjin Hong, John P. Giesy. 2018. Un Hyuk Yim, Won Joon Shim, Hongxia Yu, Jong Seong Khim. eDNA-Based Bioassessment of Coastal Sediments Impacted by an Oil Spill. Environ. Pollu., 238: 739–748.
- Z. Li, Y. Li, B. Bonsal, A. Manson, L. Scaff. 2018. Combined Impacts of ENSO and MJO on the 2015 Growing Season Drought over the Canadian Prairies, Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-56>.
- Zhang, T.Q., Zheng, Z.M., Lal, R., Lin, Q., Sharpley, A.N., Shoiber, A.L., Smith, D., Tan, C.S., and Van Cappellen, P. 2018. Environmental indicator principium with case references to agricultural soil, water, and air quality and model-derived indicators. Journal of Environmental Quality, 47. doi: 10.2134/jed2017.10.0398.
- Zhang, X., G. Li, A. Cannon, T. Murdock, S. Sobie, F.W. Zwiers, K. Anderson, B. Qian. 2018. Indices of Canada's future climate for general and agricultural adaptation applications. Accepted, Climatic Change. (ECCC, AAFC and PCIC supported)
- Zhenhua Li, Alan Manson, Yanping Li, Chris Meek. 2017. Circulation Characteristics of Persistent Cold Spells in Central-Eastern North America. Journal of Met. Res., Vol. 31, 250-260.
- Zhenhua Li, Yanping Li, Barrie Bonsal, Alan Manson, Lucia Scaff. 2018. Combined Impacts of ENSO and MJO on the 2015 Growing Season Drought over the Canadian Prairies, Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-56>



## Books and Book Chapters

- Gober, Patricia. 2018. Building Resilience to Uncertain Water Futures. Cham Switzerland: Palgrave MacMillan.
- Gober, Patricia. 2018. Environmental Risks and Hazards from a Cognitive-behavioral Perspective. In Handbook of Behavioral and Cognitive Geography, edited by Daniel L. Montello, 322-333. Chapter 18. Cheltenham, UK: Edward Elgar.
- Powley, H.R., Van Cappellen, P., and Krom, M.D. (2017) Nutrient cycling in the Mediterranean Sea: The key to understanding how the unique marine ecosystem functions and responds to anthropogenic pressures. In Mediterranean Identities - Environment, Society, Culture (Editor: Borna Fuerst-Bjelis), Chapter 3, pp. 47-77, ISBN:978-953-51-3586-9, InTechOpen.

## Non-Refereed Publications including Model Code

- Brouwer, R., Liu, H. and Neverre, N. (2017). A Survey of Hydro-Economic Models in Canada. Global Water Futures Report, University of Waterloo, October 2017. 12 pp.
- Exposure, Nutritional Status, and County Food Use (Fort Providence Results). Prepared for Chief and Council of Fort Providence First Nation. pp 1-37.
- Glass, B. (2018). Locating priority groundwater monitoring locations in the Central Mackenzie Valley using thermal and optical band Landsat imagery. Graduate class paper and journal publication draft.
- Invited Comments: Razavi, S. (2017), Feature: When Uncertainty Matters, American Geophysical Union, Hydrology Section, December 2017 Newsletter.
- Li, H. (2018). A Practical Guide to Build the Input-output Model of Water Consumption in Canada. Global Water Futures Report, University of Waterloo, February 2018. 20 pp.
- Ratelle M\*, Laird BD. (2017). Community Report for Contaminant Biomonitoring in the Northwest Territories Mackenzie Valley: Investigating the Links Between Contaminant Exposure, Nutritional Status, and County Food Use (West Point Results). Prepared for Chief and Council of West Point First Nation. pp 1-38
- Ratelle M\*, Laird BD. (2018). Community Report for Contaminant Biomonitoring in the Northwest Territories Mackenzie Valley: Investigating the Links Between Contaminant Exposure, Nutritional Status, and County Food Use (Deline Results). Prepared for Deline Gotine Government. pp 1-38.
- Ratelle M\*, Laird BD. (2018). Community Report for Contaminant Biomonitoring in the Northwest Territories Mackenzie Valley: Investigating the Links Between Contaminant Exposure, Nutritional Status, and County Food Use (Kakisa Results). Prepared for Chief and Council of Ka'a'gee Tu First Nation. pp 1-38.
- Ratelle M\*, Laird BD. (2018.) Community Report for Contaminant Biomonitoring in the Northwest Territories Mackenzie Valley: Investigating the Links Between Contaminant
- Wolfe BB and JJ Venkiteswaran. 2018. SAMMS (Sub-Arctic Metal Mobility Study) Newsletter – Winter 2018. Newsletter distributed to SAMMS research partners. Available at <http://samms.ca>.
- Zwiers, F.W. and X. Zhang, 2018: Synthesis of key issues and challenges - Urban/Coastal/Riverine Flood and Climate Change. In International workshop on floods and climate change: Codes and standards perspective, Attar, A., Z. Lounis and M. Armstrong, Eds., National Research Council, Ottawa

Zwiers. VIC-GL model , which integrates the Clarke regional glaciation model into VIC, is being further developed by the Pacific Climate Impacts Zwiers. We are actively running our upgraded version of VIC (see below) on drainage basins in BC and, in some cases, extending beyond BC (e.g., the entire Columbia basin). It is anticipated that completed simulations will begin to find their way onto our PCIC data portal later this year. (PCIC supported).

Zwiers. We are also developing a data portal that will allow users to obtain simulated stream flow at any point on the drainage network of basins that we have simulated. Anticipated release is sometime this year. (PCIC supported).

### **Graduate and Undergraduate Theses (under project investigator supervision)**

Anderson, E. (2018) Quantifying ecosystem services for Agricultural Wetlands: A global review. Supervised: C Mantyka-Pringle and R. Clark. Undergraduate thesis. Submitted

BES Honours Undergraduate thesis: Babaran, D. 2018. The adoption of VEC monitoring and multivariate analysis on the Blair Creek sub-watershed as a model for CEA. Bachelor of Environmental Studies Honours Thesis. School of Environment, Resources and Sustainability, University of Waterloo, Waterloo, ON. 84 p.

Black, KE. (2017). Influence of topography and moisture and nutrient availability on green alder function on the low arctic tundra, NT. Wilfrid Laurier University

Brock Tropea- Ronald Stewart- U of Manitoba : Freezing precipitations and wet snow events affecting Manitoba Hydro

Cornell T. Fe Analysis in Natural waters using the FeLumell: Is high DOC a concern? Co-op Work-term Report 4A Biology, Environmental Science (Ecology Specialization)

Cornell T. Preliminary Investigation of Algal Bloom Formation in Conestoga Lake, a Temperate Reservoirs Lake Located in the Grand River Watershed. Co-op Work-term Report 3A Biology, Environmental Science (Ecology Specialization)

Jordan Harrington, MSc, Principal Supervisor, The Hydrogeology of a Rock Glacier and Its Effect on Stream Temperature, 2017 (Completed)

Laird MJ. (2018). Dietary Exposure Assessment and Contaminants Biomonitoring in the Dehcho Region, Northwest Territories: Exploring the Relationship Between Mercury Exposure, Omega-3 Fatty Acid Status, and Fish Consumption. M.Sc. Thesis. School of Public Health and Health Systems, University of Waterloo.

Nikolas Aksamit, PhD, Doctorate, Principal Supervisor, Alpine Turbulence and Blowing Snow, 2013 to 2017 (Completed)

Qualbe Shadman Chowdhury, 2018. Biogeochemical Signatures in Intensively Managed Great Lakes Watersheds, Masters thesis, Department of Civil and Environmental Engineering, University of Waterloo, Waterloo, ON

Reid, KA. (2017). Effects of wildfires on tree establishment in conifer-dominated boreal forests in southern Northwest Territories. Wilfrid Laurier University

Threndyle R. Effect of burn severity on post-fire peat hydrophobicity. BSc thesis (25 pages) submitted to the School of Geography and Earth Sciences, McMaster University. Supervised by JM Waddington.

Vanessa Mcfadden-Julie Thériault-UQAM : Freezing rain in the Maritime Provinces

White, A. (2018). Drivers of post-fire vascular plant regeneration in the conifer-dominated boreal forest of southern Northwest Territories. Wilfrid Laurier University.

### **Conference Presentations (Invited, Plenary, Keynote)**

Baltzer, J.L. (2018). Ecological resilience in northern watersheds. The Howard Wheeler Symposium. University of Saskatchewan, Saskatoon, SK.

Basu, N.B. (2017). Biogeochemical Hotspots: Role of Small Water Bodies in Watershed Nutrient Processing. Credit Valley Corporation (CVC), Toronto, November 23rd, 2017.

Basu, N.B. (2017). Biogeochemical Hotspots: Role of Small Water Bodies in Watershed Nutrient Processing. Toronto and Region Conservation Authority (TRCA), January 2018.

Basu, N.B. (2017). Nutrient Legacies and Time Lags: Implications for Water Quality, Canada Center for Inland Waters, Environment and Climate Change Canada, Burlington, May 2018

Basu, N.B. (2018) and Van Meter, K.J. Landscape Legacies: Long-Term Nitrogen Trajectories in the Mississippi River Basin and Beyond, Sixth Interagency Conference on Research in Watersheds (ICRW), July 23-26th, 2018, at the National Conservation Training Center (NCTC), Shepherdstown, West Virginia

Basu, N.B. (2018). Biogeochemical Hotspots: Role of Small Water Bodies in Watershed Nutrient Processing, Webinar on Wetlands: From Science to Action organized by Canadian Freshwater Alliance, September 25, 2018 ([https://www.freshwateralliance.ca/fresh\\_ideas\\_wetlands](https://www.freshwateralliance.ca/fresh_ideas_wetlands))

Basu, N.B. and Van Meter, K.J. (2018). Modelling Nutrient Legacies and Dynamics in Human Dominated Landscapes, Invited Keynote Speaker, Integrated Hydrosystems Modeling, University of Tübingen, Tübingen, Germany.

Basu, N.B. and Van Meter, K.J. (2018). Nutrient Legacies in Anthropogenic Catchments: Implications for Water Quality. Invited Lecture at Canada Center for Inland Waters, Environment and Climate Change Canada, Burlington, ON, May 4, 2018.

Basu, N.B. and Van Meter, K.J. (2018). Nutrient Legacies in Anthropogenic Catchments: Implications for Water Quality. Invited Lecture at University of Illinois at Urbana Champaign, Urbana, IL April 20, 2018.

Basu, N.B., K. J. Van Meter, P. Van Cappellen. Landscape Legacies: Long-Term Nitrogen Trajectories in Human-Impacted Watersheds. Canadian Geophysical Union Joint Meeting, Niagara Falls, Canada, June 2018

Baulch, H.M. (2018) Prairie Water Futures. Red River Basin Commission. Winnipeg MB, January 2018. INVITED

Bedard-Haughn, A. (2018) Wetland Functions on the Prairies. Agricultural Producers Association of Saskatchewan Mid-term meeting. Saskatoon, SK. March 27, 2018 INVITED

Canadian Institute of Forest – SEEK Special Session September 2017: “Vulnerability and Adaptation to Climate Change in Sustainable Forest Management and the Forest Industry in Saskatchewan”. Ottawa, Canada.

Carey SK, Shatilla NJ, Tang W. What can high frequency data tell us about hydrological and biogeochemical processes in a permafrost-underlain watershed that we do not already know? Presented at the American Geophysical Union Annual General Meeting, New Orleans, USA. December 2017.

- Connon, R. and W. Quinton. Permafrost thaw induced changes to hydrological connectivity. 2017 American Water Resources Association Spring Conference: The emerging science of aquatic system connectivity. Salt Lake City, Utah, USA. May 1-3, 2017. Invited Presentation.
- Connon, R. Co-convener of 'Permafrost Hydrology' session at 2018 European Conference on Permafrost in Chamonix, France.
- Connon, R. Wilfrid Laurier University research initiatives in the Northwest Territories. 2018 Northern Association of Professional Engineers and Geoscientists, Yellowknife, Northwest Territories. Mar. 16-17, 2018. Invited Presentation.
- Costa D, Pomeroy J, (2017). Non-point source modelling (HYPE and future of MESH/CHM). GWF Integrated Modelling Program for Canada (IMPC) kick-off Workshop, Saskatoon, September 14, 2017.
- de Loë, R. (Invited) Agriculture in the evolving landscape of water governance. Leadership Summit, Christian Farmers Federation of Ontario. Waterloo, Ontario. March 27, 2018.
- de Loë, R. (Invited) Where does agriculture fit in the water governance landscape? Water Stewardship Workshop, Christian Farmers Federation of Ontario. Guelph, Ontario. September 28, 2017.
- DeBeer C, Pomeroy J, (2017). International Network for Alpine Research Catchment Hydrology (INARCH). 2017 GHP-TPE Meeting, Kathmandu, October 17, 2017
- DeBeer C, Wheeler H, Pomeroy J, (2018). CCRN status and future directions as a GEWEX RHP. Changing Cold Regions Network Annual General Meeting "The CCRN Finale", Saskatoon, March 5, 2018
- Fereidoun Rezaeezad, T. Milojevic, D. Oh, C. Smeaton, C. T. Parsons, C. McCarter and P. Van Cappellen.
- Ferguson, G. Energy and Pore Space Management. Keynote Lecture at German Geological Society - Hydrogeology Section Meeting. March 21-24, 2018. Bochum, Germany.
- Ferguson, G. Is Deep Groundwater Really Stagnant? Invited Lecture at University of Arizona. January 25, 2018, Tucson, Arizona.
- Ferguson, G. Hydrogeological Lessons Learned from Deep Subsurface Development of the Williston Basin, Canada. Invited Lecture to International Association of Hydrogeologists - Australian National Chapter. April 8, 2017, Sydney, Australia.
- Forest Products Association of Canada (FPAC) Adaptation/Mitigation Workshop, March 13th & 14th. Presenter on: "Vulnerability and Adaptation to Climate Change in Sustainable Forest Management In Saskatchewan: Mistik Case Study". Edmonton, Alberta.
- Francis Zwiers, A brief update on climate science, Southern Interior Silviculture Committee 2018 Winter Workshop, Kamloops, February 13, 2018 (keynote speaker)
- Francis Zwiers, Changing weather extremes: Why it isn't an alternative fact, TISED, Faculty of Engineering, McGill University, August 30, 2017 (invited seminar)
- Francis Zwiers, Climate Uncertainty: Are we facing an increase in the frequency and severity of extreme events? Okanagan Water Stewardship Board, Kelowna, December 14, 2017 (invited speaker)
- Francis Zwiers, Probable maximum precipitation estimation and uncertainty quantification using bivariate extreme value analysis, Department of Statistics, University of Manitoba, October 19, 2017 (invited seminar)

- Francis Zwiers, Probable maximum precipitation estimation and uncertainty quantification using bivariate extreme value analysis, International Workshop on Tropical-subtropical Weather, Climate and Oceans, Sun Yat-sen University, Guangzhou, China, November 20, 2017 (invited lecture)
- G. Krantzberg. Governance challenges for a resilient Great Lakes basin ecosystem. Keynote ELLS-IAGLR Conference, Lake Geneva, France, September 2018
- G. Krantzberg. If we really aren't sure can we take action? International Association for Great Lakes Research. June 18-22, 2018 [Abstract accepted, invited]
- Giesy, J.P. . "Environmental Forensics: What is it and What can it do?" To: Symposium in Honor of Prof. Giesy. Beijing China, March 16, 2018. Invited
- Giesy, J.P. "Environmental Forensics: What is it and What can it do?" To: School of Biological Sciences of the University of Hong Kong, Hong Kong, SAR, Peoples Republic of China, February 2, 2018. Invited
- Gober, Patricia. (2018), The Challenge of Non-stationarity for Water Research and Management: A social Science Perspective. Howard Wheeler Symposium, Saskatoon, SK, March 9, 2018.
- Haghnegahdar A. (2017), Advances in Addressing Challenges Facing Water Resources in Canada under a Changing Climate and Environment, Water Crisis Symposium- Tehran, Iran, July 18-19, 2017.
- Haghnegahdar A. (2017), Overview of the Integrated Modelling Program for Canada (IMPC), School of Civil Engineering, Shiraz University, Shiraz, Iran, August 23rd, 2017.
- Harder, P.\*, Pomeroy, J., Helgason, W. (Poster) Diagnosing stubble management and climate variability impacts on runoff and infiltration in cold semi-arid agricultural regions. AGU Fall Meeting. New Orleans, LA. December 11, 2017.
- Hecker, M., Jardine T., Jones P., Xie Y., DeBofsky A., Giesy, J. "Environmental DNA: A novel approach to characterize biodiversity." Presentation to AREVA Resources. February 27, 2018. Invited
- Hecker, M., Zee, J., Gerhart, A. Doering, J., Jardine, T. "eDNA as an Early Detection Tool for the Potential Spread of Zebra Mussels (*Dreissena polymorpha*) to Saskatchewan Lakes. Presentation to Fish and Wildlife Development Fund. Saskatoon, SK, November 2017. Invited
- Hecker, M., Zee, J., Gerhart, A. Doering, J., Jardine, T. "eDNA as an Early Detection Tool for the Potential Spread of Zebra Mussels (*Dreissena polymorpha*) to Saskatchewan Lakes." Presentation to Saskatchewan Environment Aquatic Invasive Species Task Force. Saskatoon. January 19, 2018. Invited
- Hecker, M., Zee, J., Gerhart, A. Doering, J., Jardine, T. "eDNA as an Early Detection Tool for the Potential Spread of Zebra Mussels (*Dreissena polymorpha*) to Saskatchewan Lakes." Presentation to Saskatchewan Wildlife Federation. Prince Albert. March 9, 2018. Invited
- Howard Wheeler (2017), CWRA National Conference 2017, June 5-7, 2017, Lethbridge, Alberta.
- Howard Wheeler (2017), Water Futures in Changing Cold Regions, 51st CMOS Congress 2017, June 4-8 2017, Toronto, Canada.
- Howard Wheeler (2017), Western University, Department of Civil and Environmental Engineering, London, Ontario.
- Jardine, T., Abu, R., Andrews, E., Baines, S., Belcher, K., Bharadwaj, L., Bradford, L., Mantyka-Pringle, C., Steelman, T., Reed, M., and Strickert, G. 2017. Canada's inland deltas: Complex

- social-ecological systems in need of environmental flows. Workshop on Social and Ecohydrological Connections for Environmental Flows, June 20-23, 2017, National Socio-Environment Synthesis Center, Annapolis, MD.
- Laird, BD. (2017). Biomonitoring in the Northwest Territories Mackenzie Valley. Northern Contaminants Program Results Workshop. Yellowknife, Canada (Invited Platform).
- Liu J., Baulch H., Roste J., and Elliott J. (2018) Agricultural water quality on the prairies: Challenges, choices and solutions. Saskatchewan Drainage – Water Management Conference. Melfort, Saskatchewan. January 23, 2018.
- Macrae, M.L., Brunke, R.I., English, M.C., Ferguson, G., Lam, V., Lozier, T., McKague, K., O’Halloran, I., Plach, J.\*, Van Esbroeck, C.\* (Invited) Impacts of Land Management Practices on Phosphorus Losses from Agricultural Fields and Watersheds in Ontario, Canada. Annual Meeting of SERA-17. Oregon, Ohio, August 14-17, 2017.
- Macrae, M.L., Brunke, R.I., English, M.C., Ferguson, G., Lam, V., Lozier, T., McKague, K., O’Halloran, I., Plach, J.\*, Van Esbroeck, C.\* (Invited) Importance of Climate Drivers and Land Management Practices on Runoff and Phosphorus Losses. 60th Annual Meeting of the International Association for Great Lakes Research. Detroit, MI, USA. May 16-19, 2017.
- Mantyka-Pringle C., Messmer D., Leston L., Asong E., Bayne E., Bortolotti L., Sekulic G., Wheeler H., Howerter D., and Clark R. (2018) Interaction Effects of Climate, Climate change and Agricultural Land-use on Avian and Food-web communities. Research presented at the Prairie Habitat Joint Venture Science Committee Annual Meeting, Winnipeg, MB. February 27, 2018 INVITED
- Marsh C\*, Pomeroy J, Wheeler H, (2017). Simulating Complex, Cold-region Process Interactions Using a Multi-scale, Variable-complexity Hydrological Model. American Geophysical Union Fall Meeting, New Orleans, December 11, 2017
- Marsh C, Pomeroy J, Wheeler H, (2017). Simulating Complex, Cold-region Process Interactions Using a Multi-scale, Variable-complexity Hydrological Model. American Geophysical Union Fall Meeting, New Orleans, December 11, 2017.
- Ministry of Environment, Forest Services Branch Policy and Adaptation Workshop, March 27th, 2018. Presenter on: “Vulnerability and Adaptation to Climate Change in Sustainable Forest Management In Saskatchewan: Mistik Case Study”.
- Mistik Management Ltd. Public Advisory Group. Presenter on: “Vulnerability and Adaptation to Climate Change in Sustainable Forest Management In Saskatchewan: Mistik Case Study”. November, 2017.
- P. Van Cappellen. 23rd Biannual Symposium on Environmental Biogeochemistry. Cairnes, Australia, September 2017
- P. Van Cappellen. Damming of rivers as a driver of global environmental change. Howard Weather Symposium. Saskatoon, Canada, March 2018
- P. Van Cappellen. Damming profoundly changes riverine nutrient delivery to the global coastal zone. International Workshop on Surface-Earth System Science. Tianjin, China, March 2018
- P. Van Cappellen. Innovation in Integrated Water Management. 2nd International Summit on Water Environmental Management. Nanjing, China, November 2017

- Pomeroy J (2017). Cold regions hydrology in mountain and northern river basins: measurements, processes and modelling. High Altitudes meet High Latitudes: Globalizing Polar Issues Conference, Crans-Montana, Switzerland, September 11, 2017
- Pomeroy J (2017). The big thaw, Canada and the Global Water Futures Programme. Grantham Institute Seminar, London, October 27, 2017
- Pomeroy J (2017). Wolf Creek as an Outdoor Hydrology and Climate Laboratory - 25 years of Contributions to Understanding Global Energy and Water Cycling. Wolf Creek Summit, Whitehorse, September 28, 2017
- Pomeroy J (2018). Cold regions process and modelling studies. Changing Cold Regions Network Annual General Meeting "The CCRN Finale", Saskatoon, March 5, 2018
- Pomeroy J (2018). Upcoming projects and work by Global Water Futures. Government of Alberta Workshop on Floodplain Mapping and Climate Change, Edmonton, March 20, 2018
- Pomeroy J and INARCH members, (2017). Climate Change and Mountain Hydrology: Results from the Global Energy and Water Exchange Project's International Network for Alpine Research Catchment Hydrology. Knowledge Forum on Water Security and Climate Change: Innovative Solutions for Sustainable Water Resources Management, Paris, October 18, 2017.
- Pomeroy J, (2017). Canadian Prairie Hydrology and Runoff Generation. Prairie WATERSAVE - Brown Bag Meeting, Saskatoon, October 3, 2017.
- Pomeroy J, (2017). Cold regions hydrology in mountain and northern river basins: measurements, processes and modelling. High Altitudes meet High Latitudes: Globalizing Polar Issues Conference, Crans-Montana, September 11, 2017
- Pomeroy J, (2017). The big thaw, Canada and the Global Water Futures Programme. Grantham Institute Seminar, London, October 27, 2017
- Pomeroy J, (2017). The Global Water Futures Programme and its Science Contributions to the UN's Sustainable Development Goals and the Paris Climate Agreement. Knowledge Forum on Water Security and Climate Change: Innovative Solutions for Sustainable Water Resources Management, Paris, October 18, 2017
- Pomeroy J, (2017). The Global Water Futures Programme and the National Water Prediction and Forecasting System. Canadian Dam Association Conference & Exhibition, Kelowna, October 14, 2017.
- Pomeroy J, (2017). Wolf Creek as an Outdoor Hydrology and Climate Laboratory - 25 years of Contributions to Understanding Global Energy and Water Cycling. Wolf Creek Summit, Whitehorse, September 28, 2017
- Pomeroy J, (2018). Cold regions process and modelling studies. Changing Cold Regions Network Annual General Meeting "The CCRN Finale", Saskatoon, March 5, 2018
- Pomeroy J, (2018). Introduction, GWF overview, and aims & objectives for the meeting. Global Water Futures Inception Meeting, Waterloo, January 22, 2018.
- Pomeroy J, (2018). Upcoming projects and work by Global Water Futures. Government of Alberta Workshop on Floodplain Mapping and Climate Change, Edmonton, March 20, 2018
- Pomeroy J, Carey S (2017). Wolf Creek Research Basin – Yukon's Own Water and Climate Science Catalyst. Yukon Science Institute, Whitehorse, September 26, 2017

- Pomeroy J, Helgason (2018). Theme B overview and synthesis: CCRN Special Observation and Analysis Period (SOAP). Changing Cold Regions Network Annual General Meeting "The CCRN Finale", Saskatoon, March 5, 2018
- Pomeroy J, Pradhananga D\*, Brown T\*, Anderson E\*, Demuth M, (2017). Modelling Changing Glacier Hydrological Processes using an Object Oriented Cold Regions Hydrological Model and Long-term In-situ and Remote Sensing Information. AGU Fall Meeting, New Orleans, December 11, 2017
- Pomeroy J, Rasouli K, Fang X, Whitfield P, Marks D, Janowicz R, (2017). Water Futures for Cold Mountain Ecohydrology under Climate Change - Results from the North American Cordilleran Transect. AGU Fall Meeting, New Orleans, December 11, 2017.
- Pomeroy J, Shook K, Fang X, Annand H, Krogh S, (2017). Overview of CRHM development and application at the observatories, including long term diagnostic CRHM runs using WRF PGW, station downscaled RCM and statistically downscaled RCM, including transient change impacts. Discussion on insights from fine-scale results for large-scale modelling and next steps. Changing Cold Regions Network Modelling and Theme D Workshop, Canmore, November 2, 2017.
- Pomeroy, J. (2017). The big thaw, Canada and the Global Water Futures Programme. Grantham Institute Seminar, London, October 27, 2017 INVITED
- Pomeroy, J. (2018). Upcoming projects and work by Global Water Futures. Government of Alberta Workshop on Floodplain Mapping and Climate Change, Edmonton, March 20, 2018
- Pomeroy, J. (Invited) Cold regions process and modelling studies. Changing Cold Regions Network Annual General Meeting "The CCRN Finale". Saskatoon, SK. March 5, 2018.
- Pomeroy, J. (Keynote). The Global Water Futures Programme and the National Water Prediction and Forecasting System. CDA Conference & Exhibition. Kelowna, BC. October 14, 2017.
- Pomeroy, J., Shook, K.\*, Fang, X.\*, Annand, H.\*, Krogh, S.\*(Invited) Overview of CRHM development and application at the observatories, including long term diagnostic CRHM runs using WRF PGW, station downscaled RCM and statistically downscaled RCM, including transient change impacts. Discussion on insights from fine-scale results for large-scale modelling and next steps. Changing Cold Regions Network Modelling and Theme D Workshop. Canmore, AB. November 2, 2017.
- Rasouli K, Krogh S, Pavlovskii I, Hayashi M, Pomeroy J, (2017). The role of soil freezing and thawing in hydrological processes: Canadian case studies. The 2nd Asian Conference on Permafrost, Sapporo, July 2, 2017.
- Razavi, S. (2017), A New Framework for Comprehensive, Efficient, and Robust Global Sensitivity Analysis, The European Commission Joint Research Centre (JRC) – Ispra – 2 May 2017.
- Razavi, S. (2017), Observation, Diagnosis, and Prediction of Hydroclimatic Change: A Canadian Approach, Ferdowsi University, Mashad, Iran May 9, 2017.
- Razavi, S. (2017), Observation, Diagnosis, and Prediction of Hydroclimatic Change: A Canadian Approach, International Conference on Climate Change, Ministry of Energy, Tehran, Iran 27-28 February, 2017.
- Razavi, S. (2017), Observation, Diagnosis, and Prediction of Hydroclimatic Change: A Canadian Approach, University of Tehran, Tehran, Iran, April 23, 2017.



- Rudolph, D. L. (2018). Wrestling with Recharge: Quantifying Surficial Mass Flux for Diffuse Pollution Problems. Integrated Hydrosystem Modelling: How Complex Should Integrated Models Be? April 3-6, 2018, University of Tübingen, Germany (invited)
- Salk, KR. Exploring the nitrogen cycle in Lake 227 and beyond. Experimental Lakes Area Seminar Series, July 2017
- Salk, KR. Salk Illuminating a changing nitrogen cycle in lakes using stable isotopes. Norwegian Institute for Water Research Faglungsj Seminar Series, October 2017
- Salk, KR. Upstream and in-lake drivers of harmful algal blooms. Heidelberg University, March 2018
- Salman, M\*. (2017). Geophysical methods for mapping permafrost. Canadian Exploration Geophysical Society Mini Symposium, December 2017, Toronto, ON. (invited)
- Shook, K.\*, Pomeroy, J. (Poster) Classification of Prairie basins by their hysteretic connected functions. AGU Fall Meeting. New Orleans, LA. December 11, 2017
- Strickert, G.E.H. (2018), Connecting with Communities: Adventures in Community Engaged Scholarship, Assiniboine River Basin Initiative. Holiday Inn, Regina, Saskatchewan, February 14th, 2018.
- Strickert, G.E.H. (2018), Water Quality in the Saskatchewan River Basin, Who is Worried About What?, Partners for the Saskatchewan River Basin Annual Conference. Le Duke, Alberta.
- Strickert, G.E.H., Hassanzedah, E., Jardine, T., and Bradford, L.E.A. (2017). Water Quality in the Saskatchewan River Basin: Who is worried about what? Partners for the Saskatchewan River Basin Annual Conference: Le Duke, Alberta. October 18, 2017. INVITED
- Swanson, H.K. (2018). We Want to Eat the Fish: investigating levels of mercury in northern fish. Invited Lubinsky Memorial Public Lecture, University of Manitoba, Winnipeg, MB, March 1, 2018
- Thériault, J M (2017), Winter precipitation types, Canadian Geophysical Union Congress, Vancouver, British Columbia, Canada (Invited, OP)
- Turetsky, M. (2018). International collaborations between NASA and Global Water Futures/Northern Water Futures. All Scientist Meeting for NASA Arctic Boreal Vulnerability Experiment, Seattle, USA
- Turetsky, M. (2018). Understanding and scaling change in lowland permafrost: Cross-scale feedbacks to hydrology and carbon. Arctic Systems Change Workshop. Plenary Speaker. UCAR, Boulder Colorado, USA
- US Forest Service, Southwest Oregon Forestry Adaptation Workshop, April 17th & 18th, 2018. Presenter on: "Vulnerability and Adaptation to Climate Change in Sustainable Forest Management In Saskatchewan: Mistik Case Study".
- Westbrook CJ. "Leave it to Beaver", presented at: Putting Beavers to Work for Watershed Resiliency and Restoration Symposium, 7 December 2017, Cochrane, AB. Held jointly by: Miistakis Institute and the Alberta Riparian Habitat Management Society (gave invited talk and sat on a Q&A panel)
- Wetlands hydrogeochemical processes under changing winter conditions. Invited talk at the 53rd Central Canadian Symposium on Water Quality Research, February 22nd 2018, University of Toronto. Invited by Dr. Ron Hofmann.
- Wolfe, J.D. (2018) Prairie Water Overview. Global Water Futures – Indigenous Partners meeting, Saskatoon SK. January 8, 2018. INVITED

- Zwiers, F.W: A brief update on climate science, Southern Interior Silviculture Committee 2018 Winter Workshop, Kamloops, February 13, 2018 (keynote speaker)
- Zwiers, F.W: Changing weather extremes: Why it isn't an alternative fact, TISED, Faculty of Engineering, McGill University, August 30, 2017 (invited seminar)
- Zwiers, F.W: Climate Uncertainty: Are we facing an increase in the frequency and severity of extreme events? Okanagan Water Stewardship Board, Kelowna, December 14, 2017 (invited speaker)
- Zwiers, F.W: Probable maximum precipitation estimation and uncertainty quantification using bivariate extreme value analysis, Department of Statistics, University of Manitoba, October 19, 2017 (invited seminar)
- Zwiers, F.W: Probable maximum precipitation estimation and uncertainty quantification using bivariate extreme value analysis, International Workshop on Tropical-subtropical Weather, Climate and Oceans, Sun Yat-sen University, Guangzhou, China, November 20, 2017 (invited lecture)
- Zwiers, F.W: Probable maximum precipitation estimation and uncertainty quantification using bivariate extreme value analysis, Workshop on Environmental Risk Modelling, Centre de Recherches Mathematique, Universite de Montreal, August 30, 2017
- Zwiers, F.W: Update on extremes, with a focus on engineering applications, BC Hydro Adaptation Working Group, Burnaby, BC, September 27, 2017
- Zwiers. (2017). Climate Uncertainty: Are we facing an increase in the frequency and severity of extreme events? Okanagan Water Stewardship Board, Kelowna, December 14 (invited speaker)
- Zwiers. A brief update on climate science, Southern Interior Silviculture Committee 2018 Winter Workshop, Kamloops, February 13 (keynote speaker)

### Conference Presentations (non-invited)

- A. Bieniada, L. Hug, C. Parsons, P. Van Cappellen, M. Strack. Methanogenic and methanotrophic communities in extracted and restored peatlands. Canadian Geophysical Union Annual Meeting 2018, Niagara Falls, Ontario, June 12, 2018
- A. Werenka, K.J. Van Meter, B. Tolson, N.B. Basu. Too Much Phosphorous: Is Investment in Biogas Plants a Viable Alternative for Water Quality Improvement? Canadian Geophysical Union Joint Meeting, Niagara Falls, Canada, June 2018
- Abstract submitted for the GWF Annual Science Meeting in June, 2018: Nancy C. Doubleday, "Envisioning Polycentric Water Governance in a Canadian Context".
- Anis, M. R, Pietroniro, A., Elshamy, M., Razavi, S., and Wheeler, H., (2017), Effects of irrigation on the water and energy balances of the Bow river basin in Alberta, Canada, Canadian Geophysical Union (CGU) Annual Scientific Meeting, May 28-31, 2017, Vancouver (Oral Presentation).
- Anis, M.R., Haghnegahdar, A., Razavi, S., and Wheeler, H. (2017), Global Sensitivity Analysis of the WASIM hydrological model using VARS, European Geosciences Union (EGU) General Assembly, April 23-28, 2017, Vienna, Austria (Poster Presentation).
- Anis, M.R., Razavi, S., and Wheeler, H. (2017), An integrated modelling framework for regulated river systems in Land Surface Hydrological Models, European Geosciences Union (EGU) General Assembly, April 23-28, 2017, Vienna, Austria (Oral Presentation).

- Balliston & Price, 2018. Long-term impacts of high volume groundwater extraction on sub-arctic peatlands: developing hydrological and ecological process-based feedback models. Poster presented at the Canadian Geophysical Union Hydrology Section Student Conference 2018, London, Ontario.
- Baltzer, JL and 22 other authors. (2017). A global assessment of drivers of post-fire regeneration in boreal forests. Arctic Change 2017, Quebec City, QC.
- Baulch, H., J. Elliott, H.F. Wilson, M.R.C. Cordeiro, D.N. Flaten and D. Lobb. Soil and water management for nutrient control in the Northern Great Plains. Society of Canadian Limnologists, Canadian Conference for Fisheries Research. Edmonton, Alberta. Jan 4-7, 2018.
- Black, K\*, Baltzer, J. (2017). Seasonal thaw and topography determine tall shrub function on the low arctic tundra. Arctic Change 2017, Quebec City, QC.
- Bodo A and Arain M.A., 2018. Investigating the effects of variable harvesting applications on tree transpiration in a red pine plantation. Poster presentation at the Canadian Geophysical Union (CGU) Eastern Student meeting held in London, Ontario on March 17, 2018.
- Boyer, L., S. Higgins, P. Leavitt and H. Baulch. The dynamics of nitrogen-fixing cyanobacterial in prairie lakes. SCL, Edmonton, Alberta. January 2018
- Bruneau, J. & J. Hanesiak, 2017: Future Changes in Convective Precipitation & Severe Weather Environment in Western Canada, CMOS Congress, June 4-8, Toronto, Canada
- Bruneau, J., J. Hanesiak and William Burrows: Future Changes in Precipitation and Severe Weather Environments, 5th (final) Changing Cold Regions Network (CCRN) Meeting, March 5-6, 2018, Saskatoon, SK
- C. McCarter, F. Rezanezhad, B. Gharedaghloo, J. Price, P. Van Cappellen. Influence of peat depth on solute transport in peat. 2017 AGU Fall Meeting, 11-15 December 2017, New Orleans, Louisiana.
- Carlow\*, R., Macrae, M.L., Plach\*, J., Brunke, R.I. How low can you go? The use of Geotextiles as a Filter for Phosphorus in Overland Flow in Agricultural Croplands of Southern Ontario. Poster Presentation. Canadian Soil Science Society Annual Meeting. Peterborough, Ontario. June 12-14, 2017.
- Cober\*, J.R., Macrae, M.L., and Van Eerd, L.L. Relationship between cover crop species and winter phosphorus release to runoff in a field setting. Oral Presentation. Canadian Soil Science Society Annual Meeting. Peterborough, Ontario. June 10-14, 2017.
- Connon, R., É. Devoie, M. Braverman and W. Quinton. Over-winter flowpaths through talik networks in discontinuous permafrost terrains. 2017 Yellowknife Geoscience Forum, Yellowknife, Northwest Territories. Nov. 14-16, 2017.
- Connon, R., Impacts of thawing permafrost at the Scotty Creek Research Station, NWT, Canada. Changing Cold Regions Network Annual Meeting, Saskatoon, SK. March 5-6, 2018.
- Connon, R., W. Quinton, É. Devoie and M. Hayashi. The role of taliks as tipping points for permafrost thaw. Canadian Geophysical Union Annual General Meeting, Vancouver, British Columbia. May 29-31, 2017.
- Costa D, Pomeroy J, Wheeler H, (2017). PULSE: A numerical model for the simulation of snowpack solute dynamics to capture runoff ionic pulses during snowmelt. 2017 AGU Fall Meeting, New Orleans, December 11, 2017.

- D. Byrnes, K.J. Van Meter, N.B. Basu. Biogeochemical Asynchrony: Anthropogenic and Landscape Drivers of Nutrient Seasonality Across the Great Lakes Basin and Beyond. Canadian Geophysical Union Joint Meeting, Niagara Falls, Canada, June 2018
- D.H. Oh, F. Rezanezhad, I. Markelov, C. P. R. McCarter, P. Van Cappellen. Effect of freeze-thaw cycles on greenhouse gas fluxes from peat soils. 2017 AGU Fall Meeting, 11-15 December 2017, New Orleans, Louisiana.
- Das A., Rokaya, P. and Lindenschmidt, K.-E. (2017), Assessing the impacts of climate change on ice jams along the Athabasca River at Fort McMurray, Alberta, Canada. CGU HS Committee on River Ice Processes and the Environment, 19th Workshop on the Hydraulics of Ice Covered Rivers, Whitehorse, Yukon, Canada, July 9-12, 2017. <http://cripe.ca/docs/proceedings/19/Das-et-al-2017.pdf>
- DeHaan, K., Petrone, R.M. Preliminary planning for water use efficiency study of cereal and non-cereal crops in southern Ontario for future application in Cold Regions Hydrological. Canadian Geophysical Union – Eastern Student Conference. London, Ontario. March 17, 2018.
- Devoie, É., J. Craig, W. Quinton and R. Connon. Quantifying thaw mechanisms in discontinuous permafrost: Is talik formation a tipping point? 2017 Yellowknife Geoscience Forum, Yellowknife, Northwest Territories. Nov. 14-16, 2017.
- Devoie, É., R. Connon, W. Quinton, and J. Craig. Modelling the effects of talik development in discontinuous permafrost. Changing Cold Regions Network Annual Meeting, Saskatoon, SK. March 5-6, 2018.
- Dixon, H. J., A. Lister, D. MacLatchy and H. K. Swanson. Investigating walleye movement in Tathlina Lake, Northwest Territories. Great Lakes Acoustic Telemetry Observation System Coordination Meeting, Ann Arbor, Michigan. Feb 27-Mar 1, 2018.
- Duffy, A. and Thapa, A. (2018) Incorporating stakeholder viewpoints into water quality modeling and decisions” World Water Day 2018 Symposium (GIWS, University of Saskatchewan). March 22, 2018. (Poster)
- É. Devoie, J. Craig, W. Quinton and R. Connon. Quantifying thaw mechanisms in discontinuous permafrost: Is talik formation a tipping point? (2017) Yellowknife Geoscience Forum, Yellowknife, Northwest Territories.
- English, M. (2017). ‘Antecedent conditions governing flow in an unregulated arctic watershed and implications for hydroelectric power generation in the Northwest Territories’ – Oral presentation at the international Arctic Change conference in Quebec City.
- English, M. (2017). ‘Towards understanding hydrological patterns producing low flow in the Snare River system, Northwest Territories’ – Poster presentation at the 45th annual Geoscience Forum in Yellowknife.
- English, M., J. Hickman, S. Kokelj and P. Marsh. Towards an understanding of the relationships between precipitation and surface discharge in unregulated basins of the Snare River watershed. International Arctic Change 2017 Conference. Quebec City, Quebec. Dec. 11-15, 2017.
- Ensom TP on behalf of Marsh P, Mann P, Walker B, Toure A, Wilcox E, Sonnetag O, Derksen C. (2017). Integrating High Resolution Field Observations and Modelling to Improve Our Understanding of Climate Change Induced Hydrological Change. Permafrost Modelling

- and Monitoring Session, 45th Yellowknife Geoscience Forum, Yellowknife, NWT. 14 November 2017. Oral Presentation.
- Ensom TP, Marsh P, Kokelj SV. (2017). Hydrothermal Regime of Stream Channels in Tuktoyaktuk Coastlands and Anderson Plain, Northwest Territories. Permafrost Hydrology Session, 45th Yellowknife Geoscience Forum, Yellowknife, NWT. 16 November 2017. Oral Presentation.
- Ensom TP, Marsh P, Kokelj SV. (2017). Hydrothermal Regime of Stream Channels: Tuktoyaktuk Coastlands and Anderson Plain. Cold Regions Research Centre Symposium, Wilfrid Laurier University, Waterloo ON, 1 December 2017. Oral Presentation.
- Ensom TP, Marsh P, Kokelj SV. (2017). Hydrothermal Regimes in small channels and water tracks of the Tuktoyaktuk Coastlands and Anderson Plain. ArcticNet Arctic Change 2017 Conference, Quebec City, QC. December 2017. Poster Presentation.
- F. Cheng, N.B. Basu. Biogeochemical hotspots: The importance of small water bodies in landscape nutrient processing. Canadian Geophysical Union Joint Meeting, Niagara Falls, Canada, June 2018
- F. Rezanezhad, C.P. R. McCarter, B. Gharedaghloo, C. Kleimeier, T. Milojevic, H. Liu, T. K. D. Weber, J. S. Price, W.L. Quinton, B. Lennartz, P. Van Cappellen. Structure of peat soils and implications for biogeochemical processes and hydrological flow. 2017 AGU Fall Meeting, 11-15 December 2017, New Orleans, Louisiana.
- F. Rezanezhad, T. Milojevic, D. Oh, C. Smeaton, C. Parsons, C. McCarter, P. Van Cappellen. Soil hydrogeochemical processes under changing winter conditions. Canadian Geophysical Union Annual Meeting 2018, Niagara Falls, Ontario, June 13, 2018
- F. Rezanezhad, T. Milojevic, D. Oh, C.T. Parsons, C. M. Smeaton, C. McCarter and P. Van Cappellen. Wetlands hydrogeochemical processes under changing winter conditions. 53rd Central Canadian Symposium on Water Quality Research, February 22nd 2018, University of Toronto
- Faber J\*, Owca T\*, Kay M, Wiklund J, Wolfe B, Hall RI. (2018). Understanding the effects of industry on the Peace-Athabasca Delta (Canada): developing baseline hydrological conditions and sediment metal concentrations using paleolimnology. Canadian Geophysical Union - Hydrology Section Ontario Student Conference, Western University, London.
- Faber J\*, T Owca\*, BB Wolfe and RI Hall. (2017). Establishing baseline hydrological conditions and sediment metal concentrations for the Peace River Floodplain in the Peace in the Peace-Athabasca Delta, using paleolimnology. Cold Regions Research Centre Day, Wilfrid Laurier University.
- Fortin V, Vionnet V, Dimitrijevic M, Abrahamowicz M, Gauthier N, Garnaud C, Belair S, Milbrandt J, Pomeroy J, Forecasting of rain-on-snow events in alpine region using a fully coupled atmosphere/snowpack/hydrology model. 2017 AGU Fall Meeting, New Orleans, December 11, 2017. (poster)
- Fouché, J., Sonnentag, O., Helbig, M., Wischnewski, K., Hould Gosselin, G., Quinton, W.L., Moore, T. (2018), Dissolved organic carbon export and its contribution to the carbon budget in a boreal peat landscape undergoing rapid permafrost thaw (oral). 5th European Conference on Permafrost, June 23-July 1, Chamonix-Mont Blanc, France.

- Fouché, J., Sonnentag, O., Hould Gosselin, G., Hould Gosselin, G., Hanisch, J., Quinton, W.L., Moore, T.R. (2017). Dissolved organic carbon export and its contribution to the carbon budget in a boreal peat landscape undergoing rapid permafrost thaw (oral). Abstract B31J-04, December 11-15, New Orleans, Louisiana, USA.
- Francis Zwiers, Probable maximum precipitation estimation and uncertainty quantification using bivariate extreme value analysis, Workshop on Environmental Risk Modelling, Centre de Recherches Mathématique, Université de Montréal, August 30, 2017
- Francis Zwiers, Update on extremes, with a focus on engineering applications, BC Hydro Adaptation Working Group, Burnaby, BC, September 27, 2017
- G. J. Pronk, A. Mollage, T. Milojevic, C. Smeaton, F. Rezanezhad, P. Van Cappellen. Depth dependent microbial carbon use efficiency in the capillary fringe as affected by water table fluctuations in a column incubation experiment. 2017 AGU Fall Meeting, 11-15 December 2017, New Orleans, Louisiana.
- Gharari, S. and Razavi, S. (2017), Do small-scale hysteretic processes affect the larger-scale behavior of watersheds?, European Geosciences Union (EGU) General Assembly, April 23-28, 2017, Vienna, Austria (Oral Presentation).
- Gharari, S., and Razavi, S., (2017), Do small-scale hysteretic processes affect the larger-scale behavior of watersheds?, Canadian Geophysical Union (CGU) Annual Scientific Meeting, May 28-31, 2017, Vancouver (Oral Presentation).
- Gharari, S., Safaei, S., Razavi, S., and Wheeler, H., (2017), On the closure of the water balance in the catchments of the Canadian Rockies, Canadian Geophysical Union (CGU) Annual Scientific Meeting, May 28-31, 2017, Vancouver (Oral Presentation).
- Gharari, S., Safaei, S., Sheikholeslami, R., Haghnegahdar, A., and Razavi, S. (2017), Estimation of rainfall over the Canadian Rockies by approximating the water balance component, European Geosciences Union (EGU) General Assembly, April 23-28, 2017, Vienna, Austria (Poster Presentation).
- Giering Y, McPhee J, Pomeroy J, Landscape-based discretization for modeling of hydrological processes in the semi-arid Andes Cordillera: a case study in Morales Basin. AGU Fall Meeting, New Orleans, December 11, 2017
- Grant\*, K.N., Macrae, M.L., Rezanezhad, F., Lam\*, W.V. Phosphorus movement and solute transport in frozen and unfrozen soil under no-till management with different fertilizer application strategies. Poster Presentation. Canadian Soil Science Society Annual Meeting. Peterborough, Ontario. June 11-14, 2017.
- Haghnegahdar, A., Elshamy, M, Yassin, F., Princz, D., Razavi, S., Wheeler, H., and Pietroniro, A., (2017), A comprehensive sensitivity assessment approach for analyzing the behavior of a land surface-hydrology model, Canadian Geophysical Union (CGU) Annual Scientific Meeting, May 28-31, 2017, Vancouver (Oral Presentation).
- Haghnegahdar, S., Razavi, S., and Sheikholeslami, R. (2017), Dealing with Model Crashes in Global Sensitivity Analysis, Canadian Geophysical Union (CGU) Annual Scientific Meeting, May 28-31, 2017, Vancouver (Oral Presentation).
- Hanesiak, J. & K. Ziolkowski, 2017: Influence of Bores on Nocturnal Convective Initiation During PECAN and on the Canadian Prairies: A Case Study Analysis, 17th Conference on Mesoscale Processes, June 24-28, San Diego, CA

- Hanesiak, J. et al: Weather / Climate extremes and NECI Processes, 5th (final) Changing Cold Regions Network (CCRN) Meeting, March 5-6, 2018, Saskatoon, SK
- Hanke\*, K.M., Macrae, M.L., Basu, N., Michaud, A. Seasonal impacts of climate change on hydrology, nutrients and sediment loads in the Medway Creek watershed in southern Ontario. Oral Presentation. Canadian Soil Science Society Annual Meeting. Peterborough, Ontario. June 11-14, 2017.
- Harder P, Pomeroy J, Helgason W, Diagnosing stubble management and climate variability impacts on runoff and infiltration in cold semi-arid agricultural regions. 2017 AGU Fall Meeting, New Orleans, December 11, 2017. (poster)
- Helbig, M., Quinton, W.L., Sonnentag, O. (2017). Warmer spring in the sporadic permafrost zone increases annual methane emissions from a boreal peat landscape (oral). Abstract B11J-06, December 11-15, New Orleans, Louisiana, USA.
- Hewitt, K.L. and Ferguson, G. (2017) Management of an Intertill Aquifer in the East Regina Area, Saskatchewan. Joint Annual Meeting of the Canadian Geotechnical Society and the International Association of Hydrogeologists - Canadian National Chapter. Oct 1–4. Ottawa, Ontario.
- Hickman, J., M. English and S. Kokelj. Antecedent conditions governing flow in an unregulated arctic watershed and implications for hydroelectric power generation in the Northwest Territories. International Arctic Change 2017 Conference. Quebec City, Quebec. Dec. 11-15, 2017.
- Hickman, J., M. English and S. Kokelj. Identification of patterns in hydrological conditions governing flow in an unregulated river basin in the Northwest Territories, and implications for downstream hydroelectric power generation. 5th European Conference on Permafrost, Chamonix, France, June 22-29, 2018.
- Hickman, J., M. English and S. Kokelj. Towards understanding hydrological patterns producing low flow in the Snare River system, Northwest Territories. 2017 Yellowknife Geoscience Forum, Yellowknife, Northwest Territories. Nov. 14-16, 2017.
- Hrach, D., Petrone, R. Quantifying seasonality and role of shading dynamics on a subalpine wetland, Kananaskis, Alberta. CGU Eastern Student Section Meeting 2018, poster presentation.
- Hurkuck, M., Marsh, P., Quinton, W.L., Humphreys, E., Lafleur, P. Helbig, M., Hould Gosselin, G., Sonnentag, O. (2017), A meso-network of eddy covariance towers across the Northwest Territories to assess high-latitude carbon and water budgets under increasing pressure (poster). Abstract B21F-2014, December 11-15, New Orleans, Louisiana, USA.
- J. Ives, R. Rooney, S. V. Ivanova, J. Ciborowski, N. Barker, J. Gannon. Assessing drivers of human-induced change in Lake Erie using fuzzy cognitive mapping. International Association for Great Lakes Research Conference, Toronto, Canada, June 2018
- J. Mai and B. Tolson (2018). Model Variable Augmentation MVA for Online Diagnostic Assessment of Sensitivity Analysis Results. EGU2018-9947. EGU General Assembly. Vienna, Austria. 09-13/04/2018
- Jasiak I\*, Kay M, Wolfe BB and Hall RI. (2018). Clear as mud: Reconstructing the hydrology and contaminant deposition at a lake in the Peace-Athabasca Delta, Canada. World Water Day, University of Waterloo, Waterloo.

- Jasiak I\*, M Kay, BB Wolfe and RI Hall. (2018). Reconstructing hydrological conditions and contaminant deposition in the Peace-Athabasca Delta, Alberta. Canadian Geophysical Union - Hydrology Section Ontario Student Conference, Western University, London.
- Jasiak I\*, M Kay, BB Wolfe and RI Hall. (2018). Reconstructing the hydrology and contaminant deposition at a lake in the Peace-Athabasca Delta, Canada. World Wetlands Day, University of Waterloo, Waterloo.
- Jason Flemke, Yanping Li, Changhai Liu, 2017: Central U.S. WRF composite radar verification using MODE-Time Domain, 51st CMOS Congress Annual Meeting, Toronto, ON, Canada, June 5, 2017
- Jason Flemke, Yanping Li, Changhai Liu, 2017: Central U.S. WRF composite radar verification using MODE-Time Domain. 18th Annual WRF User's Workshop, Boulder, CO, USA, June 14, 2017
- Jason Flemke, Yanping Li, Changhai Liu, 2018: Central U.S. WRF Statistical Verification of Simulated Composite Radar. 22nd Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS) and 98th American Meteorological Society Annual Meeting, Austin, Texas, January 10, 2018
- Jorge S\*, CR Remmer\*, BB Wolfe and RI Hall. (2018). Use of aquatic cellulose  $\delta^{18}O$  in surface sediments to track differences in basin hydrology of lakes across the Peace-Athabasca Delta, northern Alberta. Canadian Geophysical Union - Hydrology Section Ontario Student Conference, Western University, London.
- K. G. Lamb, S. Bryne-Mamahit, M. Stastna. Idealized numerical simulations of Ontario's Grand River plume. EGU General Assembly 2018. Vienna, Austria. April 8-13, 2018.
- K. J. Van Meter, P. Van Cappellen, N. B. Basu. Past, Present, and Future: Quantification of Long-Term Phosphorus Legacies in Canada's Grand River Watershed. Canadian Geophysical Union Joint Meeting, Niagara Falls, Canada, June 2018
- K. Zolfaghari, S. Bird, G. Wilkes, D. Ellis, K.D.M. Pintar, N. Gottschall, E. Topp, C.R. Duguay, H. McNairn, D.R. Lapen. A Comparison of Lab- and Field-based Water Quality Measurements for Agricultural Surface Waters. International Association for Great Lakes Research. June 18-22, 2018. [abstract submitted]
- Kay ML\*, C Remmer\*, J Vucic, L Neary\*, MacDonald, K Wesenberg, K Thomson, K Brown, JA Wiklund, B Wolfe and RI Hall. (2017). Discerning the effects of major energy projects, climate change and tributary flow on hydrology of lakes in the Athabasca Delta using paleolimnology. Canadian Association of Geographers – Ontario Division Annual Meeting, Queen's University, Kingston.
- Kay ML, C Remmer\*, J Vucic, L Neary, MacDonald, K Wesenberg, K Thomson, K Brown, JA Wiklund, B Wolfe and RI Hall. (2018). Use of a binary mixture model to reconstruct 300 years of Athabasca River sediment metal concentration from floodplain lake cores. Canadian Geophysical Union - Hydrology Section Ontario Student Conference, Western University, London.
- Kehler, S. & J. Hanesiak, 2017: Cases of Elevated Convection Initiation on Frontal Surfaces in 2015, CMOS Congress, June 4-8, Toronto, Canada.
- Kehoe, M.J. and H. Baulch. Using high frequency buoy data to forecast harmful algal blooms. Society of Canadian Limnologists (SCL), Edmonton, Alberta. January 2018.



- Klemt W\*, RI Hall and BB Wolfe. (2017). Use of floodplain sediments to determine pre-industrial baseline and extent of metal pollution of the Athabasca River in the Alberta Oil Sands Region. Cold Regions Research Centre Day, Wilfrid Laurier University.
- Klemt W\*, RI Hall and BB Wolfe. (2018). Defining the natural range of variation and extent of metal pollution of the Athabasca River in the Alberta oil sands region: an approach using floodplain lake sediments. Canadian Geophysical Union - Hydrology Section Ontario Student Conference, Western University, London.
- Klemt W\*, RI Hall and BB Wolfe. (2018). Floodplain lakes as archives of natural and anthropogenic trace metal deposition in the Alberta oil sands: a journey through time. World Water Day, University of Waterloo, Waterloo.
- Klemt W\*, RI Hall and BB Wolfe. (2018). Flood-prone lakes as archives of natural and anthropogenic trace metal deposition in the Alberta oil sands. World Wetlands Day, University of Waterloo, Waterloo.
- Klemt W\*, RI Hall and BB Wolfe. (2018). Use of floodplain lake sediments to determine pre-industrial baselines and extent of metal pollution of the Athabasca River in the Alberta oil sands region. Canadian Conference for Fisheries Research / Society of Canadian Limnologists, Edmonton.
- Krogh S, Pomeroy J, (2017). Determining hydrological changes in a small Arctic treeline basin using cold regions hydrological modelling and pseudo-global warming approach. 2017 AGU Fall Meeting, New Orleans, December 11, 2017.
- Langs, L., Petrone, R. Investigating alpine forest water use during variable growing season and climate conditions in the Canadian Rocky Mountains, Kananskis, Alberta. CGU Eastern Student Section Meeting 2018, poster presentation.
- Li Y., Kurkute S, and Chen L. (2018), Projected Changes over Western Canada Using Convection-Permitting Regional Climate Model. 31st Conference on Climate Variability and Change and 98th American Meteorological Society Annual Meeting, Austin, Texas, January 7-11, 2018.
- Li Y., Kurkute S., and Chen L. (2017), Projected changes over western Canada using convection-permitting regional climate model and the pseudo-global warming method. 2017 AGU Fall Meeting, New Orleans, Louisiana, December 11-15, 2017.
- Li, Y., and Co-authors. Projected changes over western Canada using convection-permitting regional climate model and the pseudo-global warming method. 2017 AGU Fall Meeting. New Orleans, Louisiana. December 13, 2017.
- Li, Y., Chen, L., Chen, F., Barlage, M. Evaluate the surface coupling strength of the continental scale 4-km WRF regional climate simulations. 51st CMOS Congress Annual Meeting. Toronto, Ontario. June 5, 2017.
- Li, Y., Kurkute, S. The Lagrangian identification of moisture sources for precipitation over Western Canada. 51st CMOS Congress Annual Meeting. Toronto, Ontario. June 5, 2017.
- Li, Z., Li, Y., Bonsal, B., Manson, A. Madden-Julian Oscillation and Summer Precipitation over the Canadian Prairies. 2017 AGU Fall Meeting. New Orleans, Louisiana. December 14, 2017.
- Lindenschmidt, K.-E. (2017), Modelling probabilities of ice jam flooding from artificial breakup of the Athabasca River ice cover at Fort McMurray. CGU HS Committee on River Ice Processes and the Environment, 19th Workshop on the Hydraulics of Ice Covered Rivers,

- Whitehorse, Yukon, Canada, July 9-12, 2017.  
<http://cripe.ca/docs/proceedings/19/Lindenschmidt-2017.pdf>
- Liu, N., Kells, J. and Lindenschmidt, K.-E. (2017), Two-way fluid-structure interaction model of waves propagating in a channel with an ice cover. CGU HS Committee on River Ice Processes and the Environment, 19th Workshop on the Hydraulics of Ice Covered Rivers, Whitehorse, Yukon, Canada, July 9-12, 2017. <http://cripe.ca/docs/proceedings/19/Liu-et-al-2017.pdf>
- Lyon L, McKenzie JM, Langston G, Effects of groundwater flow on permafrost distribution in a subarctic watershed. GEOTOP Student Meeting. (Poster). La Malbaie, Canada, March 23, 2018
- M. P. Wilson, H. Kheyrollah Pour, Nandita Basu, P. Van Cappellen. Variability of Chlorophyll-a and Temperature in Lake Erie and lake St. Clair using remotely-sensed observations. 9th annual World Water Day, University of Waterloo, Waterloo, Canada, March 22, 2018.
- M. P. Wilson, H. Kheyrollah Pour, Nandita Basu, P. Van Cappellen. Variability of Chlorophyll-a and Temperature in Lake Erie and lake St. Clair using remotely-sensed observations. World Wetland Day 2018, University of Waterloo, Waterloo, Canada, February 2, 2018.
- M. Samson, K. J. Van Meter, N. Basu. Urban Metabolism of the Greater Toronto Area: A Study of Nitrogen and Phosphorus Across an Urban, Suburban, and Rural Continuum. Canadian Geophysical Union Annual Meeting 2018, Niagara Falls, Ontario, June 13, 2018
- Macrae, M.L., Brunke, R.I., English, M.C., Ferguson, G., Lam\*, V., Lozier\*, T., McKague, K., O'Halloran, I., Plach\*, J., Van Esbroeck\*, C. Improving water quality in agricultural watersheds in the Great Lakes region with best management practices. 2nd Sino-Canada Water Environment Workshop. Waterloo, Ontario. September 18-20, 2017.
- Macrae, M.L., Brunke, R.I., English, M.C., Ferguson, G., Lam\*, V., Lozier\*, T., McKague, K., O'Halloran, I., Plach\*, J., Van Esbroeck\*, C. Phosphorus losses from agricultural fields in Ontario: Importance of the non-growing season. Seminar in the Dept. of Geography, York University. Toronto, Ontario. October 6, 2017.
- Marinier, S, J M Thériault (2017), Case study of an ice pellet storm over the Toronto area in a climate change context, CMOS Congress, Toronto, Ontario, Canada [OP]Discovery Grant
- Marsh C\*, Wayand N\*, Pomeroy J, Wheeler H, Spiteri R, (2017). A finite volume, scalar-transport blowing snow model for use with variable resolution meshes. AGU Fall Meeting, New Orleans, December 11, 2017
- Marsh C, Wayand N, Pomeroy J, Wheeler H, Spiteri R, (2017). A finite volume, scalar-transport blowing snow model for use with variable resolution meshes. AGU Fall Meeting, New Orleans, December 11, 2017
- Marsh CB, Spiteri RJ, Pomeroy JW, Wheeler HS, PBSM3D: A complex terrain blowing snow model for use with variable resolution meshes. 3rd annual INARCH workshop at Schneefernerhaus Zugspitze, Germany, February 8, 2018
- Mathieu, E., R. Connon, W. Quinton, and O. Sonnentag. The impact of a low-severity burn on the trajectory of permafrost thaw: Scotty Creek, Northwest Territories, Canada. Changing Cold Regions Network Annual Meeting, Saskatoon, SK. March 5-6, 2018.
- Matte, D, J M Thériault, and R Laprise (2017), Climate change study of mixed precipitation over southern Quebec using a Regional Climate Models, CMOS Congress, Toronto, Ontario, Canada [PP] Discovery Grant

- Mavrovic, A., Roy, A., Royer, A., Sonnentag, O., Pappas, C\*, Filali, B., Boone, F. (2017), Vegetation dielectric characterization using an open-ended coaxial probe (poster). Abstract B23E-2129, December 11-15, New Orleans, Louisiana, USA.
- Menounos et al. (2017). Estimates of Glacier Mass Change for Western North America. American Geophysical Union
- Morales-Marin L.A., Rokaya P, Wheeler H.S., and Lindenschmidt K.-E. (2017), A stream temperature model for the Peace-Athabasca River basin, 2017 AGU Fall Meeting, New Orleans, Louisiana, December 11-15, 2017.
- Neary L\*, C Remmer\*, M Kay, W Klemm\*, B Wolfe and R Hall. (2018). Widespread photosynthetically-induced CO<sub>2</sub> invasion in numerous lakes across the Peace-Athabasca Delta (Alberta, Canada). World Water Day, University of Waterloo, Waterloo.
- O. Al-Dabbag and G. Krantzberg. The Effects of Nitrogen Dynamics on Toxic, Non-Diazotrophic Microcystis spp. in Eutrophic Lakes International Association for Great Lakes Research. June 18-22, 2018 [Abstract accepted].
- O. Sonnentag, M. Helbig, R. Connon, G. Gosselin, E. Haughton, K. Wischniewski, J. Hanisch, T. Moore and W. Quinton. (2017). The subcatchment-and catchment-scale hydrology of a boreal headwater peatland complex with sporadic permafrost. Canadian Geophysical Union Annual General Meeting, Vancouver, British Columbia.
- Owca T, C Remmer, M Kay, R Hall and B Wolfe. (2017). Determining sources, pathways and spatial distribution of metals in lakes of the Peace-Athabasca Delta from concentrations in periphytic algae and surface sediment. Canadian Association of Geographers – Ontario Division Annual Meeting, Queen’s University, Kingston.
- Owca T, C Remmer, M Kay, R Hall and B Wolfe. (2017). Determining sources, pathways and spatial distribution of metals in lakes of the Peace-Athabasca Delta from concentrations in periphytic algae and surface sediment. Cold Regions Research Centre Day, Wilfrid Laurier University.
- Pappas, C., Baltzer, J.L., Barr, A., Black, T.A., Bohrer, G., Detto, M., Maillet, J., Matheny, A.M., Roy, A., Sonnentag, O. (2017), Boreal tree light- and water-use: asynchronous, diverging, yet complementary (oral). Abstract B23F-2122, December 11-15, New Orleans, Louisiana, USA.
- Pisek, J., Buddenbaum, H., Camacho, F. et al. incl. Sonnentag, O. (2017), Photon recollision probability as a useful concept for compatibility check between leaf area index and foliage clumping products (poster). Abstract B31D-2005, December 11-15, New Orleans, Louisiana, USA.
- Plach, J., Macrae, M.L., Williams, M. King, K. Risk of Phosphorus loss from agricultural soils in the lower Great Lakes Region of Canada and USA. Annual Meeting of SERA-17. Oregon, Ohio. August 14-17, 2017.
- Plach, J., Macrae, M.L., Williams, M., King, K. Risk of Phosphorus loss from surface and subsurface soils in tile drained agricultural croplands in the lower Great Lakes Region of Canada and the USA. Oral Presentation. Canadian Soil Science Society Annual Meeting: Soil and the Environment. Peterborough, Ontario. June 10-14, 2017.
- Plach, J., and Macrae, M.L. Soil Management Impacts on Water Quality. Oral Presentation. Soil Summit on Canadian Soil Health 2017. Soil Conservation Council of Canada (SCCC). August 22-23, 2017. Guelph, Ontario.

- Quinton, W., R. Connon, É. Devoie, M. Braverman. Toward understanding the trajectory of hydrological change in the southern Taiga Plains, NWT. Canada. 21st International Northern Research Basins Symposium and Workshop. Yakutsk, Russia. August 5 – 12, 2017.
- Quinton, W., R. Connon, et al. (25 authors). Summary of the Changing Cold Regions Network (CCRN) hydrological research at Scotty Creek. Changing Cold Regions Network Final Meeting, Saskatoon, SK, Mar. 5-6, 2018.
- R. Connon and W. Quinton. Permafrost thaw induced changes to hydrological connectivity. (2017). American Water Resources Association Spring Conference: The emerging science of aquatic system connectivity. Salt Lake City, Utah, USA.
- R. Connon, É. Devoie, M. Braverman and W. Quinton. Over-winter flowpaths through talik networks in discontinuous permafrost terrains. 2017 Yellowknife Geoscience Forum, Yellowknife, Northwest Territories.
- R. Connon, W. Quinton, É. Devoie and M. Hayashi. (2017). The role of taliks as tipping points for permafrost thaw. Canadian Geophysical Union Annual General Meeting, Vancouver, British Columbia.
- Rasouli K, Pomeroy J, (2017). Permafrost Response to Transient Vegetation and Climate Changes in a Northern Mountain Basin, Canada. The 2nd Asian Conference on Permafrost, Sapporo, July 2, 2017
- Rasouli K, Pomeroy J, Hayashi M, Fang X, Gutmann E, Li Y, Assessment of the Suitability of High Resolution Numerical Weather Model Outputs for Hydrological Modelling in Mountainous Cold Regions. 2017 AGU Fall Meeting, New Orleans, December 11, 2017. (poster)
- Ratelle M, Bouchard M, Laird BD. (2017). Metals Biomonitoring in Hair Blood, and Urine in the Northwest Territories, Canada. International Symposium on Biological Monitoring. Naples, Italy (Poster).
- Ratelle M, Laird M, Swanson H, Laird BD. (2017). Contaminant and Nutrient Biomonitoring in the Northwest Territories, Canada: Shedding Light on the Risks and Benefits of Food Choices. International Symposium on Biological Monitoring. Naples, Italy (Platform)
- Remmer C, WH Klemt, BB Wolfe and RI Hall. (2017). Spatial and temporal approaches for monitoring changes in climate change and flooding on hydro-limnological conditions in a northern freshwater delta. Arctic Change 2017, Quebec City.
- Remmer C, WH Klemt, BB Wolfe and RI Hall. (2017). Spatial and temporal approaches for monitoring impacts of climate change and flooding on low water levels in a northern, freshwater delta. Cold Regions Research Centre Day, Wilfrid Laurier University.
- Remmer CR, T Owca, BB Wolfe and RI Hall. (2018). Multi-year landscape scale assessment of hydrological processes controlling lake water balance in a northern, freshwater delta using water isotope tracers. Canadian Geophysical Union - Hydrology Section Ontario Student Conference, Western University, London.
- Rohanizadegan, M., Petrone, R., Pomeroy, J., Warren, H. Improving meteorological forcing of mountain evapotranspiration calculations. 18th Annual WRF User's Workshop, Boulder, Colorado, June 12-16, 2017

- Rohanizadegan, M., Petrone, R., Pomeroy, J., Warren, H. Improving meteorological forcing of mountain evapotranspiration calculations. Canadian Geophysical Union Annual Meeting 2017, poster presentation.
- Rokaya, P., Das, A. and Lindenschmidt, K.-E. (2017), Exploring flow operation schemes for sustainable ice-jam flood management along the Peace River in western Canada. CGU HS Committee on River Ice Processes and the Environment, 19th Workshop on the Hydraulics of Ice Covered Rivers, Whitehorse, Yukon, Canada, July 9-12, 2017. <http://cripe.ca/docs/proceedings/19/Rokaya-et-al-2017.pdf>
- Rokaya, P., Wheeler, H. and Lindenschmidt, K.-E. (2017), Quantifying the drivers of water security risks in a complex northern deltaic ecosystem, 2017 AGU Fall Meeting, New Orleans, USA, 11-15 December 2017. (poster)
- Roy, A., Sonnentag, O., Derksen, C., Toose, P., Pappas, C, Mavrovic, A., El Amine, M., Royer, A., Berg, A.A. (2017), Use of ground-based radiometers for L-Band freeze/thaw retrieval in a boreal forest site (oral). Abstract B24-01, December 11-15, New Orleans, Louisiana, USA.
- Roy, A., Toose, P., Mavrovic, A., Pappas, C. et al. incl. Sonnentag, O. (2018). Use of L-band ground-based radiometers for freeze/thaw retrieval in a boreal forest site. 38th IEEE International Geosciences and Remote Sensing Symposium (IGARSS).
- Rudy A, Connon R, É. Devoie, M. Braverman, E. Wilcox, B. Walker, J. Baltzer, W. Quinton and P. Marsh. Implications of thawing permafrost on water in the Northwest Territories. (2017). Yellowknife Geoscience Forum, Yellowknife, Northwest Territories.
- Rudy, A., R. Connon, É. Devoie, M. Braverman, E. Wilcox, B. Walker, J. Baltzer, W. Quinton and P. Marsh. Implications of thawing permafrost on water in the Northwest Territories. 2017 Yellowknife Geoscience Forum, Yellowknife, Northwest Territories. Nov. 14-16, 2017.
- S. Bocaniov, H. Kheyrollah Pour, D. Scavia, P. Van Cappellen. Understanding the role of physical processes in algal bloom formation in Lake St Clair. International Association for Great Lakes Research. June 18-22, 2018 [Abstract accepted].
- Savage CAM, CR Remmer, BB Wolfe and RI Hall. (2018). Field-testing the cellulose-water oxygen isotope fractionation factor using periphytic algae for paleohydrological reconstructions. Canadian Geophysical Union - Hydrology Section Ontario Student Conference, Western University, London.
- Savage CAM, CR Remmer, BB Wolfe and RI Hall. (2018). Field-testing the cellulose-water oxygen isotope fractionation factor using periphytic algae for paleohydrological reconstructions. World Water Day, University of Waterloo, Waterloo.
- Scaff L, Prein A.F., Li Y, Liu C, Rasmussen R, Ikeda K (2017), Simulating the convective precipitation diurnal cycle in a North American scale convection-permitting model. 2017 AGU Fall Meeting, New Orleans, Louisiana, December 11-15, 2017.
- Shah P, Venkiteswaran JJ, Molot LA. Phytoplankton Fractionation of Iron. The 2nd Interdisciplinary Freshwater Harmful Algal Blooms Workshop, bringing together leading experts from across North America on Toronto ON, April 16-18, 2018
- Shea J, Harder P, Pomeroy J, Kraaijenbrink P, Improved quantification of mountain snowpack properties using observations from Unmanned Air Vehicles (UVAs). AGU Fall Meeting, New Orleans, December 11, 2017
- Sheikholeslami, R., and Razavi, S. (2017), An Efficient and Robust Sampling Strategy for Uncertainty and Sensitivity Analysis of Environmental Systems Models, Canadian

- Geophysical Union (CGU) Annual Scientific Meeting, May 28-31, 2017, Vancouver (Oral Presentation).
- Shook K, Pomeroy J, Classification of Prairie basins by their hysteretic connected functions. 2017 AGU Fall Meeting, New Orleans, December 11, 2017. (poster)
- Shook, K. and Pomeroy, J. (2017) Classification of Prairie basins by their hysteretic connected functions. AGU Fall Meeting, New Orleans, December 11, 2017
- Sniderhan, A, Mamet, S, Baltzer, J. (2017) Black spruce growth dynamics in northwestern Canada: contrasting trends and climatic drivers from tree-line to tree-line. Ecological Society of America Annual Meeting, Portland, OR
- Sniderhan, A, Mamet, S, Baltzer, J. (2017). Treeline to treeline: latitudinal variability in black spruce growth dynamics in northwestern Canada. Arctic Change 2017, Quebec City, QC.
- Sniderhan, A., Mamet, S., Baltzer, J. Treeline to treeline: Latitudinal variability of black spruce growth dynamics in northwestern Canada. International Arctic Change 2017 Conference. Quebec City, Quebec. Dec. 11-15, 2017.
- Sonnentag, O. (2017). Changing land-atmosphere interactions of thawing boreal forest landscapes in northwestern Canada. College of Science seminar series, September 21, Swansea University, Swansea, Wales, United Kingdom.
- Sonnentag, O. (2017). Changing land-atmosphere interactions of thawing boreal forest landscapes in northwestern Canada. Department of Building, Civil and Engineering seminar series, November 14, Concordia University, Montreal, Québec, Canada.
- Sonnentag, O. (2017). Changing land-atmosphere interactions of thawing boreal forest landscapes in northwestern Canada. Ecosystem Sciences seminar series, October 9, Swedish Agricultural University, Umea, Vaesterbotten, Sweden.
- Sonnentag, O. (2017). Changing land-atmosphere interactions of thawing boreal forest landscapes in northwestern Canada. Life and Environmental Sciences seminar series, December 20, University of Iceland, Reykjavik, Iceland.
- Sonnentag, O., Helbig, M., Hould Gosselin, G., Ryu, Y., Wischnewski, K., Hanisch, J., Moore, T.R., Quinton, W.L. (2017), The subcatchment- and catchment scale hydrology of a boreal head-water peatland complex with sporadic permafrost (oral). Abstract H43U-03, December 11-15, New Orleans, Louisiana, USA.
- Sonnentag, O., M. Helbig, R. Connon, G. Gosselin, E. Houghton, K. Wischnewski, J. Hanisch, T. Moore and W. Quinton. The subcatchment-and catchment-scale hydrology of a boreal headwater peatland complex with sporadic permafrost. Canadian Geophysical Union Annual General Meeting, Vancouver, British Columbia. May 29-31, 2017.
- Stewart, R.E., M. Brugman, R. Mo, G. Bramwell, J. Bau, M. MacDonald and J. Goosen, 2017: Recent high impact freezing rain events in BC. Can. Geoph. Union Conf., Vancouver.
- St-Pierre M, J M Thériault, D Paquin (2017), Influence of the model spatial resolution on atmospheric conditions leading to freezing rain in regional climate simulations, CMOS Congress, Toronto, Ontario, Canada [OP] Discovery Grant
- Swanson, H.K., Branfireun, B., and Low, G. (2017). Understanding in-lake versus catchment controls on fish mercury levels in northern Canadian lakes. Oral presentation at: The 13th International Conference on Mercury as a Global Pollutant, July 16-21, 2017, Providence, RI.

- Swanson, H.K., Low, G., and Branfireun, B.A. (2017). Among-lake variability in food fish mercury concentrations in the Dehcho region, NT. Oral presentation at: Northern Contaminants Meeting 25th Anniversary Results Workshop, September 26-28, 2017, Yellowknife, NT.
- Swanson, H.K., Low, G., Evans, M., and Branfireun, B. (2017). Understanding and predicting fish mercury levels in the Dehcho region, NT. Poster presentation at: Society for Ecotoxicology and Chemistry North America Meeting, November 12-16, 2017
- T. Chandrakumaran, M. Stone, N. B. Basu, M. Emelko. Spatial and Temporal Trends in Phosphorus and Suspended Solids Yields along an Urban River Reach. International Association for Great Lakes Research Conference, Toronto, Canada, June 2018
- T. Milojevic, F. Rezanezhad, C. Parsons, C. Smeaton, P. Van Cappellen. Multi-Fibre Optode Sensors: affordable designs for monitoring oxygen in soils under varying environmental conditions. 2017 AGU Fall Meeting, 11-15 December 2017, New Orleans, Louisiana.
- Tang W, Carey SK. Utilizing Wavelet Analysis to assess hydrograph change in northwestern North America. Presented at the American Geophysical Union Annual General Meeting, New Orleans, USA. December 2017.
- Turetsky, M. (2017). A cross-scale framework of peatland resilience based on long-term research in interior Alaska and the Northwest Territories, Canada. American Geophysical Union Annual Meeting, New Orleans, USA
- Turetsky, M.R., Kane, E.S., Baltzer, J.L., Quinton, W.L., Euskirchen, E.S., Sonnentag, O., Wal-drop, M.P., Neumann, R., Douglas, T. (2017). A cross-scale framework of peatland resilience based on long-term research in interior Alaska and the Northwest Territories, Canada (oral). Abstract B14A-03, December 11-15, New Orleans, Louisiana, USA.
- Union (EGU) General Assembly, April 23-28, 2017, Vienna, Austria (Oral Presentation).
- Van Meter, K.J., N.B. Basu (2017) "Changing waters: Are climate-driven changes in discharge regimes increasing eutrophication risk in the Great Lakes Basin?" IAGLR 2017, Detroit, Michigan.
- Vionnet V, Wayand N, Marsh C, Fortin V, Pomeroy JW, Snowdrift-resolving atmospheric downscaling for snow hydrological forecasting in alpine regions. 3rd annual INARCH workshop at Schneefernerhaus Zugspitze, Germany, February 8, 2018. (poster)
- Vivekananthan, K., Macrae, M.L., Ali, G.A., Lobb, D.L. Climatic controls on activation of runoff pathways in a vertisolic heavy clay soil in an artificially drained near-level landscape. Oral Presentation. CGU and CSAFM Join Annual Scientific Meeting, Vancouver, British Columbia. May 28-31, 2017.
- Vivekananthan, K., Macrae, M.L., Lobb, D.L., Ali, G.A. Evaluating runoff water quality in a vertisolic clay soil in an artificially drained near-level landscape in Red River Valley. Poster Presentation. Canadian Soil Science Society Annual Meeting. Peterborough, Ontario. June 11-14, 2017.
- W. Quinton, R. Connon, É. Devoie, M. Braverman. (2017). Toward understanding the trajectory of hydrological change in the southern Taiga Plains, NWT. Canada. 21st International Northern Research Basins Symposium and Workshop. Yakutsk, Russia.
- Waddington, 2017. Managing wildfires in an era of drought and warming. The Ohio State University. November 2, 2017.

- Waddington, 2018. Did enhanced afforestation cause high severity peat burn in the Fort McMurray Horse River wildfire? Society of Ecological Restoration. Restoration for Resilience. Vancouver. February 16, 2018.
- Waddington, 2018. Ecohydrology: Shifting paradigms in an era of shifting ecosystems. University of California - Berkeley. March 23, 2018.
- Waddington, 2018. Mitigating wildfire carbon loss through peatland restoration. Society of Ecological Restoration. Restoration for Resilience. Vancouver. February 16, 2018.
- Wallace, C, Baltzer, J. (2017). The influence of *Alnus viridis* shrub patches on fine-scale environmental conditions on the Canadian low-Arctic tundra. Ecological Society of America Annual Meeting, Portland, OR
- Wallace, C, Baltzer, J. (2017). The influence of *Alnus viridis* shrub patches on understory vegetation community composition in the low-Arctic of the Northwest Territories. Arctic Change 2017, Quebec City, QC.
- Wang, J., Sulla-Menashe, D.J., Woodcock, C.E., Sonnentag, O., Friedl, M.A. (2017). Multidecadal rates of disturbance- and climate change-induced land cover change in Arctic and boreal ecosystems over western Canada and Alaska inferred from dense Landsat time series (oral). Abstract B14A-07, December 11-15, New Orleans, Louisiana, USA.
- Warren, S., Puestow, T., Richard, M., Khan, A.A., Khayer, M. and Lindenschmidt, K.-E. (2017), Near Real-time ice-related flood hazard assessment of the Exploits River in Newfoundland, Canada. CGU HS Committee on River Ice Processes and the Environment, 19th Workshop on the Hydraulics of Ice Covered Rivers, Whitehorse, Yukon, Canada, July 9-12, 2017. <http://cripe.ca/docs/proceedings/19/Warren-et-al-2017.pdf>
- Watts, J.D., Kimball, J.S., Du, J., Zona, D., Euskirchen, E.S., Helbig, M., Sonnentag, O., et al. (2017). Detecting recent changes in the Arctic-Boreal carbon sink using satellite remote sensing, flux tower data and biophysical models (oral). Abstract B11J-03, December 11-15, New Orleans, Louisiana, USA.
- Wayand N, Marsh C, Shea J, Pomeroy J, (2017). Remotely Sensed Snow Redistribution Indices. AGU Fall Meeting, New Orleans, December 11, 2017
- Wheater H, Xu L, Gober P, Pomeroy J, Wong J, Resilience of Socio-Hydrological Systems in Canadian Prairies to Agricultural Drainage: Policy Analysis and Modelling Approach. 2017 AGU Fall Meeting, New Orleans, December 11, 2017. (poster)
- Williamson, J., Petrone, R. Assessing the role of tree growth patterns on the spatial variability of evapotranspiration on a subalpine hill slope in Kananaskis, Alberta. CGU Eastern Student Section Meeting 2018, poster presentation.
- Wilson, H.G., J.A. Elliott and A.J. Glenn. The influences of changing weather patterns and land management on runoff biogeochemistry in a snowmelt dominated agricultural region. American Geophysical Union, Fall Meeting. New Orleans, Louisiana. Dec 11-15, 2017.
- Yanping Li, and Co-authors, 2017: Projected changes over western Canada using convection-permitting regional climate model and the pseudo-global warming method. 2017 AGU Fall Meeting, New Orleans, Louisiana, December 13, 2017
- Yanping Li, and Co-authors, 2018: Projected Changes over Western Canada Using Convection-Permitting Regional Climate Model. 31st Conference on Climate Variability and Change and 98th American Meteorological Society Annual Meeting, Austin, Texas, January 9, 2018



- Yanping Li, Liang Chen, Fei Chen, Mike Barlage, 2017: Evaluate the surface coupling strength of the continental scale 4-km WRF regional climate simulations, 51st CMOS Congress Annual Meeting, Toronto, ON, Canada, June 5, 2017
- Yassin F, Anis M.R., Razavi S., and Wheeler H. (2017), Towards an Improved Representation of Reservoirs and Water Management in a Land Surface-Hydrology Model, 2017 AGU Fall Meeting, New Orleans, Louisiana, December 11-15, 2017. (poster)
- Yassin, F., Razavi, S., and Wheeler, H., (2017), Improved representation of water management and reservoirs in a land surface-hydrology model, Canadian Geophysical Union (CGU) Annual Scientific Meeting, May 28-31, 2017, Vancouver (Oral Presentation).
- Z. Jawed and G. Krantzberg, Use of Decision Support tools to Address emerging issues in the Great Lakes, GWF Annual Science Meeting, McMaster University, June 3-6, 2018 (Abstract in Progress and will be submitted soon)
- Zee, J., Hecker, M., Gerhart, A., Doering, J., and Jardine, T. 2017. eDNA as an early detection tool for the potential spread of zebra mussels (*Dreissena polymorpha*) to Saskatchewan lakes. Canadian Ecotoxicity Workshop, Guelph, October 1-4.
- Zhang Z., Li Y, Chen F, Barlage M (2018), The Importance of Soil Moisture to Influence and Predict Summer Extreme Heat Events in North America. 32nd Conference on Hydrology and 98th American Meteorological Society Annual Meeting, Austin, Texas, January 7-11, 2018.
- Zhang, F. and Lindenschmidt, K.-E. (2017), River ice hydraulic modeling of the Slave River Delta. CGU HS Committee on River Ice Processes and the Environment, 19th Workshop on the Hydraulics of Ice Covered Rivers, Whitehorse, Yukon, Canada, July 9-12, 2017. <http://cripe.ca/docs/proceedings/19/Zhang-Lindenschmidt-2017.pdf>
- Zhe Zhang, Yanping Li, Fei Chen, Michael Barlage, 2018: Climate- Groundwater Interaction on Modeling Wetlands in Prairie Pothole Region. 8th GEWEX Science Conference, 6-11 May 2018 in Canmore, Alberta, Canada
- Zhe Zhang, Yanping Li, Fei Chen, Michael Barlage, 2018: The Importance of Soil Moisture to Influence and Predict Summer Extreme Heat Events in North America. 32nd Conference on Hydrology and 98th American Meteorological Society Annual Meeting, Austin, Texas, January 8, 2018
- Zhe Zhang, Yanping Li, Fei Chen, Mike Barlage, 2017: One-way downscale on a 4-km continental scale climate simulation and test on land surface coupling strength. 18th Annual WRF User's Workshop, Boulder, CO, USA, June 14, 2017
- Zhenhua Li, Yanping Li, Barrie Bonsal, Alan Manson, 2017: Madden-Julian Oscillation and Summer Precipitation over the Canadian Prairies. 2017 AGU Fall Meeting, New Orleans, Louisiana, December 14, 2017
- Zhenhua Li, Yanping Li, Barrie Bonsal, Alan Manson, 2018: Madden-Julian Oscillation and Summer Precipitation/Drought in the Canadian Prairies. 32nd Conference on Hydrology and 98th American Meteorological Society Annual Meeting, Austin, Texas, January 8, 2018
- Zwieback, S., S. Westermann, M. Langer, J. Boike, P. Marsh, A. Berg. 2018. Can satellite soil moisture retrievals improve permafrost monitoring? European Geophysical Union Meeting. Vienna, Austria.

## Appendix G – International Joint Faculty Appointment

Summary: International joint faculty appointments: 23

### Arain, Altaf

- Adjunct Professor, United Nations University – Institute of Water Environment and Health (UNU-INWEH). Participation in research, HQP training and outreach activities in collaboration with UNU-INWEH team members. 2017 to Present.

### Doubleday, Nancy

- Adjunct Professor, United Nations University – Institute of Water Environment and Health (UNU-INWEH). Water, Health, Environment student projects (re R. Narro; S. Newell); Water and Peace (A. Debray and N. Nagabhatla). January, 2016 to January, 2018.
- Adjunct Professor, United Nations University – Institute of Water Environment and Health (UNU-INWEH). Water, Health, Environment student projects (re R. Narro; S. Newell); Water and Peace (A. Debray and N. Nagabhatla). January, 2018 to January, 2020.

### Giesy, John

- Distinguished Visiting Professor, University of Hong Kong. Grant proposals and joint projects, and manuscripts, advising students and teaching. November 2017 to December 2018.
- Concurrent Professor, Nanjing University. Grant proposals and joint projects, and manuscripts, advising students and teaching. 2003 to present.
- Guest Professor, Xiamen University. Grant proposals and joint projects, and manuscripts, advising students and teaching. 2008 to present.
- Member, Board of Directors. Program Review. City University Hong Kong, State Key Laboratory in Marine Pollution. 2006 to present.
- Distinguished Visiting Professor, Hong Kong Baptist University. Grant proposals and joint projects, and manuscripts, advising students. 2014 to present.
- Visiting Professor and Graduate Faculty, Baylor University. Grant proposals and joint projects, and manuscripts, advising students. 2016 to present.
- Einstein Professor, Chinese Academy of Science. Lectures and seminars. 2009 to present.


### Hecker, Markus

- Guest Professor, Xiamen University. Joint projects and manuscripts, advising students and teaching.

### Helgason, Warren

- Special Lecturer, Beijing Normal University. Deliver graduate course in Land-Atmosphere. 2010 to 2018.

### Krantzberg, Gail

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- Adjunct Professor, United Nations University – Institute of Water Environment and Health (UNU-INWEH). Research collaboration, curriculum development, joint policy briefs. March 15th, 2018 to TBD.

#### Liber, Karsten

- Distinguished Professor, Institute of Loess Plateau, Shanxi University, Shanxi, China

#### McDonnell, Jeffrey

- 6<sup>th</sup> Century Chair in Hydrology, University of Aberdeen
- University Distinguished Professor of Hydrology (Adjunct), Oregon State University
- Honorary Professor, Nanjing Hydraulic Research Institute
- Visiting Professor, Hohai University

#### Petrone, Rich

- Adjunct Professor, University of KwaZulu-Natal. PhD Committee Member. January 2018 to present.

#### Pomeroy, John

- Visiting Professor, Chinese Academy of Sciences, Lanzhou, China
- Honorary Professor, Dept. of Geography & Earth Sciences, Aberystwyth University, UK

#### Van Cappellen, Philippe

- Honorary Professor, Tianjun University. Students and PDF exchanges on joint project on nutrients in dam and reservoirs. April 2018 to TBD.
- Honorary Professor, Tianjun University. Students and PDF exchanges on joint project on nutrients in dam and reservoirs. March 25<sup>th</sup>, 2018 to TBD.