

## Research Publications

### **2018**

Aksamit, N.O., and Pomeroy, J.W. 2018. Scale Interactions in Turbulence for Mountain Blowing snow. *Journal of Hydrometeorology*, 19: 305-320. DOI: 10.1175/JHM-D-17-0179.1

Cantin, A., and Post, J.R. 2018. Habitat availability and ontogenetic shifts alter bottlenecks in size-structured fish populations. *Ecology*, 99: 1644-165.9.

Conway, J.P., Pomeroy, J.W., Helgason, W.D., and Kinar N.J. 2018. Challenges in Modeling Turbulent Heat Fluxes to Snowpacks in Forest Clearings. *American Meteorological Society*, 19: 1599-1616. DOI: 10.1175/JHM-D-18-0050.1

Cooke, B.J., and Roland. J. 2018. Early 20<sup>th</sup> century climate-driven shift in the dynamics of forest tent caterpillar outbreaks. *American Journal of Climate Change*, 7: 253-270.

Dobson, F.S., Abebe, A., Correia, H.E., Kasumo, C., and Zinner, B. 2018. Multiple paternity and number of offspring in mammals. *Proc. R. Soc. B*, 285: 20182042. <http://dx.doi.org/10.1098/rspb.2018.2042>

Dobson, F.S., and Viblanc, V.A., 2018. Fitness. In: Vonk J., Shackelford T. (eds) *Encyclopedia of Animal Cognition and Behavior*.

Freeman, B., Lee-Yaw, J., Sunday, J., and Hargreaves, A.L. 2018. Expanding, shifting, and shrinking: The impact of global warming on species' elevational distributions. *Global Ecology and Biogeography*, 27:1268–1276. <https://doi.org/10.1111/geb.12774>

Hargreaves, A.L., and Eckert, C.G. 2018. Local adaptation primes cold-edge populations for range expansion but not warming-induced range shifts. *Ecology Letters*. doi: 10.1111/ele.13169

Harrington, J.S., Mozil, A., Hayashi, M. and Bentley, L.R. 2018. Groundwater flow and storage processes in an inactive rock glacier. *Hydrological Processes*, 32: 3070-3088.

Karran, D.J., Westbrook, C.J., and Bedard-Haughn, A. 2018. Beaver-mediated water table dynamics in a Rocky Mountain fen. *Ecohydrology*. 11:e1923. <https://doi.org/10.1002/eco.1923>

Leroux, N.R., Pomeroy, J.W., and Helgason, W.D. 2018. Impact of Heat Convection Induced by Topography-Driven Air Ventilation on Snow Surface Temperature. *Proceedings, 75th Eastern Snow Conference*

Lane, J.E., Czenze, Z.J., Findlay-Robinson, R., and Bayne, E. Phenotypic plasticity and local adaptation in a wild hibernator evaluated through reciprocal translocation. *American Naturalist*. In Press

Long, P.R., Benz, D., Martin, A.C., Holland, P.W.A., Macias-Fauria, M., Seddon, A.W.R., Hagemann, R., Frost, T.K., Simpson, A.C., Power, D.J., Slaymaker, M.A. and Willis, K.J. 2018. LEFT – a web-based tool for the remote measurement and estimation of ecological value across global landscapes. *Methods in Ecology and Evolution*, 9(3): 571-579.

Marsh, C.B., Spiteri, R.J., Pomeroy, J.W., and Wheeler, H.S. 2018. Multi-objective unstructured triangular mesh generation for use in hydrological and land surface models. *Computers & Geosciences*, 119: 49-67. DOI: 10.1016/j.cageo.2018.06.009

Morrison, A., Westbrook, C. and Noble, B. 2018. A review of the flood risk management governance and resilience literature. *J Flood Risk Management*, 11: 291-304. doi:10.1111/jfr3.12315

Noorduyn, S.L., Hayashi, M., Mohammed, G.A. and Mohammed, A.A. 2018. A coupled soil water balance model for simulating depression-focused groundwater recharge. *Vadose Zone Journal*, 17: 170176.

Thériault, J.M., Hung, I., Vaquer, P., Stewart, R.E. and Pomeroy, J.W. 2018. Precipitation characteristics and associated weather conditions on the eastern slopes of the Canadian Rockies during March-April 2015. *Hydrology and Earth System Sciences*, 22: 4491-4512. DOI: 10.5194/hess-22-4491-2018

Viblanc, V.A., Schull, Q., Roth, J.D., Rabdeau, J., Saraux, C., Uhlrich, P., Criscuolo, F., and Dobson, F.S. 2018. Maternal oxidative stress and reproduction: Testing the constraint, cost and shielding hypotheses in a wild mammal. *Functional Ecology*, 32:722-735.

Wang, X., Shaw, E.L., Westbrook, C.J. and Bedard-Haughn, A. 2018. Beaver Dams Induce Hyporheic and Biogeochemical Changes in Riparian Areas in a Mountain Peatland. *Wetlands* (2018) 38: 1017. <https://doi.org/10.1007/s13157-018-1059-9>

Wood, W.H., Marshall, S.J., Whitehead, T.L., and Fargey, S.E. 2018. Daily temperature records from a mesonet in the foothills of the Canadian Rocky Mountains, 2005–2010. *Earth System Science Data*, 10 (1): 595-607

## **2017**

Aksamit, N.O., and Pomeroy, J.W. 2017. The Effect of Coherent Structures in the Atmospheric Surface Layer on Blowing-Snow Transport. *Boundary-Layer Meteorology*, pp: 1-23. DOI: 10.1007/s10546-017-0318-2

Antonio González, M., Blanco-Fontao, B., Martínez, D., Santos-Fuentes, A., Neuhaus, P., and Ruckstuhl, K. E. 2017. Preliminary results on snow surveys of Pyrenean grey partridge (*Perdix perdix hispaniensis*) in the Cantabrian Mountains. *European Journal of Wildlife Research*, 63 (81): 6 pages.

Bakhshaii, A., and Johnson, E.A. 2017. Atmospheric Observation under Sampling Problem: The Impact of Unresolved Micro-Scale Boundary Layer Eddies on Climate Trends. *Open Journal of Statistics*, 7 (6): 964-971.

Blank, D., Ruckstuhl, K., and Yang, W. 2017. Development of juvenile goitered gazelle social behavior during the hiding period. *Behavioural Processes*, 144C: 82-88.

Blonder, B., Moulton, D., Blois, J., Enquist, B., Graae, B., Macias-Fauria, M., McGill, B., Nogué, S., Ordonez, A., Sandel, B. and Svenning, J-C. 2017. Predictability in community dynamics. *Ecology Letters*, 20(5): 293-306.

Burn, D.H., and P.H. Whitfield. 2017. Changes in cold region flood regimes inferred from long record reference gauging stations. *Water Resources Research*. doi:10.1002/2016WR020108

Cheptou, P.O., Hargreaves, A.L., Bonte, D., and Jacquemyn, H. 2017. Adaptation to fragmentation. *Philosophical Transactions of the Royal Society B*. 372 (1712), 20160037.

Christensen, C.W., Hayashi, M., and Bentley, L. R. 2017. Scanning Calgary's 'Water Towers': Applications of Hydrogeophysics in Challenging Mountain Terrain. *Recorder*, 42(03): 28-35.

Cordeiro, M.R.C., Wilson, H.F., Vanrobaeys, J., Pomeroy, J.W., Fang, X., The Red-Assiniboine Project Biophysical Modelling Team. 2017. Simulating cold-region hydrology in an intensively drained agricultural watershed in Manitoba, Canada, using the Cold Regions Hydrological Model. *Hydrology and Earth System Sciences*, 21: 3483-3506.

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*, 31(24): 1-19.

- Dalton, C.S., Rakt, K. van de, Fahlman, Å., Ruckstuhl, K., Neuhaus, P., Popko, R., ... Meer, F. van der. (2017). Discovery of herpesviruses in Canadian wildlife. *Archives of Virology*, 162(2), 449–456.
- DeBeer, C.M., and 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: 199-213. DOI: 10.1016/j.jhydrol.2017.07.051
- Dierauer, J., Whitfield, P.H., and Allen, D.M. 2017. Assessing the Suitability of Hydrometric Data for Trend Analysis: The 'FlowScreen' package for R. *Canadian Water Resources Journal*. doi:10.1080/07011784.2017.1290553
- Ding, J., E.A. Johnson, and Y.E. Martin. 2017. Linking soil moisture variation and abundance of plants to geomorphic processes: A generalized model for erosion-uplifting landscapes. *Journal of Geophysical Research: Biogeosciences*, 123: 960-975.
- Eaton, B.C., Millar, R.G. 2017. Predicting gravel bed river response to environmental change using a physically based model. *Earth Surface Processes and Landforms*. doi: 10.1002/esp.4058.
- Gilbert, K.J., Sharp, N.P., Angert, A.L., Conte, G.L., Draghi, J.A., Guillaume, F., Hargreaves, A.L., R Matthey-Doret, R., and Whitlock, M.C. 2017. Local maladaptation reduces expansion load during range expansion. *American Naturalist*. 189: 368-380. <https://doi.org/10.1086/690673>
- Harder, P., Pomeroy, J., Helgason, W., 2017. Local-Scale Advection of Sensible and Latent Heat During Snowmelt. *Geophysical Research Letters*, 44: 9769-9777.
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- Karran, D.J., Westbrook, C.J., and Bedard-Haughn, A. 2017. Beaver-mediated water table dynamics in a Rocky Mountain fen. *Ecology*, e1923: 1-11.
- Karran, D.J., Westbrook, C.J., Wheaton, J. M., Johnston, C.A., and Bedard-Haughn, A. 2017. Rapid surface-water volume estimations in beaver ponds. *Hydrology and Earth System Sciences*, 21: 1039–1050.
- Kurylyk, B.L. and Hayashi, M. 2017. Inferring hydraulic properties of alpine aquifers from the propagation of diurnal snowmelt signals. *Water Resources Research*, 53: 4271-4285.
- Leroux, N.R., and Pomeroy, J.W. 2017. Modelling capillary hysteresis effects on preferential flow through melting and cold layered snowpacks. *Advances in Water Resources*, 107: 250-264. DOI: 10.1016/j.advwatres.2017.06.024
- Li, B., Wang, M., Blank, D.A., Xu, W., Yang, W., and Ruckstuhl, K.E. 2017. Sexual segregation in the Darwin's wild sheep, *Ovis ammon darwini*, (Bovidae, Artiodactyla), in the Mengluoke Mountains of Xinjiang, China. *Folia Zoologica*, 66(2): 126- 132.
- Martin, Y.E., and Johnson, E.A. 2017. Towards a strategy for Critical Zone science in Canada. *The Canadian Geographer*, 61 (1): 117–123.

- Martin, Y.E., Johnson, E.A., and Chaikina, O. 2017. Gully recharge rates and debris flows: A combined numerical modeling and field-based investigation, Haida Gwaii, British Columbia. *Geomorphology*, 278: 252-268.
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- Samimi, S., and Marshall, S.J. 2017. Diurnal Cycles of Meltwater Percolation, Refreezing, and Drainage in the Supraglacial Snowpack of Haig Glacier, Canadian Rocky Mountains. *Frontiers in Earth Science*, 5 (6); 1-15. <https://doi.org/10.3389/feart.2017.00006>
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- Wang, X., Siciliano, S., Helgason, B., and Bedard-Haughn, A. 2017. Responses of a mountain peatland to increasing temperature: A microcosm study of greenhouse gas emissions and microbial community dynamics. *Soil Biology & Biochemistry*, 110: 22-33.
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## **2016**

- Aksamit, N.O., and Pomeroy J.W. 2016. Near-surface snow particle dynamics from particle tracking velocimetry and turbulence measurements during alpine blowing snow storms. *The Cryosphere*, 10: 3043-3062. DOI: 10.5194/tc-10-3043-2016
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## **2015**

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