



## Marshall, Shawn

Professor; Department of Geography

Selected Publications (2008-2011)

### In press:

Clarke, G.K.C., L'homme, N., and S.J. Marshall. Tracer transport in the Greenland Ice Sheet: three-dimensional isotopic stratigraphy. *Quat. Sci. Reviews*.

L'homme, N., G.K.C. Clarke, and S.J. Marshall. Tracer transport in the Greenland Ice Sheet: constraints on ice cores and glacial history. *Quaternary Science Reviews*.

Marshall, S.J. Quaternary Glaciations, In *Encyclopedia of Paleoclimatology and Ancient Environments* (Gornitz, V., Ed.), *Encyclopedia of Earth Science Series*, Kluwer Academic Publishers, Dordrecht, The Netherlands, 13 pp.

Marshall, S.J. Modelling glacier response to climate change. In *Glaciers and Earth's Changing Environment* (P.G. Knight, Ed.), Blackwell Publishing.

Shea, J. M., F. S. Anslow, and S. J. Marshall. Hydrometeorological relationships on the Haig Glacier, Canadian Rockies. *Annals of Glaciology*.

Shea, J. M., S. J. Marshall, and J. L. Livingston. Climate controls on glacier distribution in the Canadian Rockies. *Arctic, Antarctic and Alpine Research* 36.

### Submitted:

Fargey, S.E. and S.J. Marshall. Surface meteorological observations of upslope cyclonic precipitation events on the eastern slopes of the Canadian Rocky Mountains. *Hydrometeorology*.

Moran, T.A. and S.J. Marshall. Characteristics of precipitation and stable water isotope ratios on the Prince of Wales Icefield, Ellesmere Island, Nunavut, Canada. *Journal of Glaciology*.

### Books

Marshall, S.J., 2012. *The Cryosphere*. Princeton University Press series *Primers in Climate Science*, Princeton, NJ, 278 pp.

### Journal Articles and Book Chapters (peer-reviewed):

Adhikari, S. and S.J. Marshall, in press. Improvements to shear-deformational models of glacier dynamics through a longitudinal stress factor. *Journal of Glaciology*, 57 (206).

Bitz, C.M. and S.J. Marshall, in press. Cryosphere models on ocean and land. *Encyclopedia of Sustainability Science and Technology* (P. Rasch, Ed.), Springer, New York, NY.



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- Adhikari, S., S.J. Marshall and P. Huybrechts, 2011. On characteristic timescales of glacier AX010 in the Nepalese Himalaya. *Bulletin of Glaciological Research*, 29, 19-28.
- Cullen, R.M. and S. J. Marshall, 2011. Mesoscale temperature patterns in the Rocky Mountains and foothills region of southern Alberta. *Atmosphere-Ocean*, 49 (3), 189-205.
- Gillett, N.P., V. Arora, K. Zickfeld, S.J. Marshall and W.J. Merryfield, 2011. Ongoing climate change following complete cessation of carbon dioxide emissions. *Nature Geoscience*, 4, 83-87.
- Marshall, S.J., 2011. Evidence of environmental change from the cryosphere. In *The SAGE Handbook of Environmental Change, Vol I* (J.A. Matthews, Ed.), Sage Publications Ltd., London, U.K., pp. 211-238.
- Marshall, S.J., E.C. White, M.N. Demuth, T. Bolch, R. Wheate, B. Menounos, M. Beedle and J.M. Shea, 2011. Glacier water resources on the eastern slopes of the Canadian Rocky Mountains. *Canadian Water Resources Journal*, 36 (2), 109-134.
- Moran, T.A., S.J. Marshall and M.J. Sharp, 2011. Isotope thermometry in melt-affected ice cores. *Journal of Geophysical Research*, 116 (F02010), doi:10.1029/2010JF001738.
- Sinclair, K.E., S.J. Marshall and T.A. Moran, 2011. A Lagrangian approach to modelling stable isotopes in precipitation over mountainous terrain. *Hydrological Processes*, 25 (16), 2481-2491.
- Alley, R.B., J.T. Andrews, J. Brigham-Grette, G.K.C. Clarke, K.M. Cuffey, J.J. Fitzpatrick, S. Funder, S.J. Marshall, G.H. Miller, J.X. Mitrovica, D.R. Muhs, B.L. Otto-Bliesner, L. Polyak, and J.W.C. White, 2010. History of the Greenland Ice Sheet: Paleoclimatic insights. *Quaternary Science Reviews*, 29, doi:10.1016/j.quascirev.2010.02.007
- Alley, R.B., J.T. Andrews, G.K.C. Clarke, K.M. Cuffey, S. Funder, S. J. Marshall, J.X. Mitrovica, D.R. Muhs, and B. Otto-Bliesner, 2009. History of the Greenland Ice Sheet. In U.S. Climate Change Science Program Synthesis and Assessment Product 1.2, *Past Climate Variability and Change in the Arctic and at High Latitudes* (R.B. Alley et al., Eds.), U.S. Geological Survey, Washington D.C., pp. 303-415.
- Gardner, A.S., M.J. Sharp, R.M. Koerner, C. Labine, S. Boon, S.J. Marshall, D.O. Burgess, and D. Lewis, 2009. Near-surface temperature lapse rates over Arctic glaciers and their implications for temperature downscaling. *Journal of Climate*, 22, 4281-4298.



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Selected Publications (2008-2011)

- Mair, D., D. Burgess, M.J. Sharp, J. Dowdeswell, T. Benham, S.J. Marshall, and F. Cawkwell, 2009. Mass balance of the Prince of Wales Icefield, Ellesmere Island, Nunavut, Canada. *Journal of Geophysical Research*, 114, F02011.
- Marshall, S.J., 2009. Future climate and ice sheet scenarios: Response of the Greenland Ice Sheet to a warmer climate. In *The Greenland Ice Sheet in a Changing Climate*. Arctic Monitoring and Assessment Program report, Oslo, pp. 54-61.
- Marshall, S.J. and M.J. Sharp, 2009. Temperature and melt modelling on the Prince of Wales Icefield, Canadian High Arctic. *Journal of Climate*, 22 (6), 1454-1468.
- Marshall, S.J. and C.J. van der Veen, 2009. Modelling Greenland Ice Sheet dynamics. In *The Greenland Ice Sheet in a Changing Climate*. Arctic Monitoring and Assessment Programme report, Oslo, pp. 45-54.
- Moran, T.A. and S.J. Marshall, 2009. Effects of meltwater percolation on stable isotope stratigraphy in a high Arctic snowpack. *Journal of Glaciology*, 55 (194), 1012-1024.
- Sinclair, K.E. and S.J. Marshall, 2009a. Engaging students in atmospheric science: A university-high school collaboration in British Columbia, Canada. *Journal of Geoscience Education*, 57 (2), 128-136.
- Sinclair, K.E. and S.J. Marshall, 2009b. The impact of vapour trajectory on the isotope signal of Canadian Rocky Mountain snowpacks. *Journal of Glaciology* 55 (191), 485-498.
- Pritchard, M.S., A.B.G. Bush and S.J. Marshall, 2008. Interannual atmospheric variability affects continental ice sheet simulations on millennial timescales. *Journal of Climate* 21 (22), 5976-5992.
- Pritchard, M.S., A.B.G. Bush and S.J. Marshall, 2008. Neglecting ice-atmosphere interactions underestimates ice sheet melt in millennial-scale deglaciation simulations. *Geophysical Research Letters*, 35, L01503, doi:10.1029/2007GL031738.
- Sinclair, K.E. and S.J. Marshall, 2008. Postdepositional modification of stable isotopes in winter snowpacks in the Canadian Rocky Mountains. *Annals of Glaciology* 49, 96-106.
- Steffen, K., P.U. Clark, G. Cogley, D. Holland, S.J. Marshall, E. Rignot, and R.H. Thomas (2008). Rapid changes in glaciers and ice sheets and their impacts on sea level. In U.S. Climate Change Science Program Synthesis and Assessment Product 3.4, *Abrupt Climate Change*, (P.U. Clark et al., Eds.), U.S. Geological Survey, Washington D.C., pp. 60-142.