

Robert L. Hawley
Associate Professor
Department of Earth Sciences
Fairchild Hall, Dartmouth College
Hanover, NH, 03755
robert.l.hawley@dartmouth.edu

Appointments:

- Associate Professor, Dartmouth College, July 2014 to present
- Affiliate Associate Professor, University of Washington, September 2016 to present
- Assistant Professor, Dartmouth College, July 2008 to July 2014
- Affiliate Assistant Professor, University of Washington, July 2008 to September 2016
- Institute Associate, Scott Polar Research Institute, July 2008 to June 2016
- Research Associate, Scott Polar Research Institute, March 2005 to July 2008
- Visiting Scientist, University of Washington, March 2005 to July 2008
- Research Assistant, University of Washington, August 1999 to February 2005

Education:

- Ph.D., Geophysics, University of Washington, February 2005.
Thesis title: “Borehole Investigations of Firn Processes”
Advisor: Edwin D. Waddington
- B.S. Geological Sciences, University of Washington, 1997

Professional Interests:

Research: Remote sensing of snow and ice, glacier, ice sheet, and ice stream dynamics, firn processes, mass balance of glaciers and ice sheets, paleoclimate, ice cores and borehole logging, glaciological instrumentation, ice physics, subglacial hydrology.

Teaching: Ice and Climate, physical glaciology, ice physics, scientific computing, science writing

Short List of Key Publications: (Direct mentoring of authors: * grad student, ** undergrad student, *** post-doc)

* Giese, A., A. Boone, P. Wagon, and **R. L. Hawley**. 2020. Incorporating moisture content in surface energy balance modeling of a debris-covered glacier. *The Cryosphere* **14**, 1555-1577. doi.org/10.5194/tc-14-1555-2020

*Lee, I., **R.L Hawley**, S. Bernsen, S.W. Campbell, *D Clemens-Sewall, C.C. Gerbi and K. Hraby. 2020. A Novel Borehole Tilt Sensor for Investigation of Streaming Ice: Application to Jarvis Glacier, Alaska. *Journal of Glaciology* **66**(255), pp 74-82. doi:10.1017/jog.2019.84

Lewis, Gabriel, E. Osterberg, **R.L. Hawley**, H-P. Marshall, T. Meehan, K. Graeter, F. McCarthy, *T. Overly, Z. Thundercloud, Ferris, D. 2019. Recent Precipitation Decrease Across the Western Greenland Ice Sheet Percolation Zone. *The Cryosphere* **13**, pp 2797-2815. doi:10.5194/tc-13-1-2019.

R. L. Hawley and **J. D. Millstein. 2018. Quantifying the cost of snow drift on Arctic structures: a case study at Summit, Greenland, using UAV-based Structure-from-Motion photogrammetry. *Cold Regions Science and Technology*. **167** pp. 163-170 doi: 10.1016/j.coldregions.2018.10.007

*K. M. Schild, C. E. Renshaw, D. I. Benn, A. Luckman, **R. L. Hawley**, P. How, N. R. J. Hulton, L. Trusel. 2018. Calving Rates due to Subglacial Discharge and Fjord Circulation. *Journal of Geophysical Research*. doi:10.1029/2017JF004520

*Schild, K, **R. L. Hawley**, J. W. Chipman, and D. I Benn. 2017. Quantifying suspended sediment concentration in subglacial sediment plumes discharging from two Svalbard tidewater glaciers using Landsat-8 and in situ measurements. *International Journal of Remote Sensing* **38**:23, 6865-6881, doi:10.1080/01431161.2017.1365388

Brunt, K. M., **R. L. Hawley**, ***Eric R. Lutz, M. Studinger, J. G. Sonntag, M. A. Hofton, L. C. Andrews, and T. A.. Neumann. 2017. Assessment of NASA airborne laser altimetry data using ground-based GPS data near Summit Station, Greenland, *The Cryosphere*, **11**, 681-692, doi:10.5194/tc-11-681-2017

Lewis, Gabriel, Osterberg, Erich, **Hawley, Robert**, **Whitmore, Brian, Marshall, Hans Peter, Box, Jason. 2016. Regional Greenland Accumulation Variability from Operation IceBridge Airborne Accumulation Radar. *The Cryosphere*. doi:10.5194/tc-2016-248

*Overly, T. B, **R. L. Hawley**, V. Helm, E. M. Morris, and **R. N. Chaudhary. 2016. Greenland annual accumulation along the EGIG line, 1959–2004, from ASIRAS airborne radar and neutron-probe density measurements. *The Cryosphere*, doi:10.5194/tc-10-1679-2016.

* Schild, K. M., **R. L. Hawley**, and *B. F. Morriss. 2016. Subglacial hydrology at Rink Isbrae, West Greenland inferred from sediment plume emergence. *Annals of Glaciology* 57(72).

*G J Wong, E C Osterberg, **R L Hawley**, Z R Courville, D G Ferris and J A Howley. 2015. Coast-to-interior gradient in recent northwest Greenland precipitation trends (1952-2012). *Environmental Research Letters* (10) doi:10.1088/1748-9326/10/11/114008

* Geise, A., **R. L. Hawley** 2015. Thermal diffusivity in the shallow firn at Summit, Greenland, inferred from subsurface temperature profiles. *Journal of Glaciology* 61(227) 503-510 doi:10.3189/2015JoG14J204.

Hawley, R. L., Z. R. Courville, **L. M. Kehrl, ***E. R. Lutz, E. C. Osterberg, T. B. Overly, *G. J. Wong. 2014. Recent Accumulation Variability in Northwest Greenland from GPR and Shallow Cores Along the Greenland Inland Traverse. *Journal of Glaciology*. 60(220), 60, doi: 10.3189/2014JoG13J141

** Kehrl, L. M., **R. L. Hawley**, E.C. Osterberg, **D.A. Winski, and **A.P. Lee. 2014. 25 years of volumetric change on lower Peyto Glacier, Alberta, Canada. *Journal of Glaciology* 60(219)

*Morriss, B. F., **R. L. Hawley**, J. W. Chipman, L. C. Andrews, G. A. Catania, M. J. Hoffman, M. P. Lüthi, and T. A. Neumann. 2013. A ten-year record of supraglacial lake evolution and rapid drainage in West Greenland using an automated processing algorithm for multispectral imagery. *The Cryosphere* 7 1767-1877. doi:10.5194/tc-7-1869-2013

Hawley R. L., O. Brandt, T. Dunse J.-O. Hagen V. Helm, J. Kohler, K. Langley, E. Malnes K.-A. Hogda. 2013. Using airborne Ku-band altimeter waveforms to investigate winter accumulation and glacier facies on Austfonna, Svalbard. *Journal of Glaciology* 59(217), doi: 10.3189/2013JoG13J051.

*Wong, G. J., **R. L. Hawley**, ***E. R. Lutz, and E. C. Osterberg. 2013. Trace-element and physical response to melt percolation in Summit (Greenland) snow. *Annals of Glaciology*, 54(63), doi:10.3189/2013AoG63A602.

Awards:

- Dean of the Faculty Scholarly Innovation and Advancement Award, 2020
- Dartmouth Center for the Advancement of Learning Teaching Science Fellow, 2017-2018
- Douglas C. Floren Fellow, 2014-2015
- Karen E. Wetterhahn Memorial Award for Distinguished Scholarly Achievement, 2014
- Dartmouth Graduate Faculty Mentor of the Year Award, 2013
- Dartmouth Junior Faculty Fellowship, 2011
- NASA New Investigator Program, 2009
- 1st. place David A. Johnston Award for Outstanding Research, 2002
- 3rd. place David A. Johnston Award for Outstanding Research, 2001
- Mary Gates Research Training Award, 1996

Professional Memberships

- Member, International Glaciological Society (IGS)
- Member, American Geophysical Union
- Member, Institute of Electrical and Electronics Engineers (IEEE) Geoscience and Remote sensing Society