

VITAE of FREDERICK E. NELSON

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Professional Preparation: B.S., Northern Michigan University, 1973; M.S. Michigan State University, 1979; Ph.D., University of Michigan, 1982.

Appointments: Adjunct Professor, Michigan State University, 2014-; Research Associate, Northern Michigan University, 2013-; Adjunct Professor, University of Wisconsin-Milwaukee, 2012-; Professor Emeritus, Department of Geography, University of Delaware, 2013-; Professor, Department of Geography, University of Delaware, 1997-2013; Professor, Department of Geography and Planning, State University of New York at Albany, 1994-97; Assistant through Full Professor, Department of Geography, Rutgers University, 1986-94; Visiting Professor of Geology and Physical Geography, Cornell University, 1991-94; Honorary Fellow, Department of Geography, University of Wisconsin-Madison, 1990-91, Visiting Assistant Professor of Geological Sciences, University of Michigan, 1985-86; Assistant Research Scientist, Department of Geological Sciences, University of Michigan, 1982-86.

Synergistic Activities: (a) Board of Governors, Arctic Institute of North America (2009-); (b) Member, International Permafrost Association Board of Directors (representative of USA), 2008-2018); (c) Member, U.S. Arctic Research Commission Task Force on Permafrost (2001-2004); (d) Co-Chair, International Permafrost Association Working Groups, "Permafrost and Climate Change," 1993-2003, "Permafrost and Climate," 2003-2012; (e) Chair, Association of American Geographers Cryosphere Specialty Group, 2003-2005; (f) Member of the Board, U.S. Permafrost Association, 2003-2018, USPA President 2006; (g) 1993-98; Editorial Board member, *Permafrost and Periglacial Processes*, 2000-2012; *Polar Geography*, 1991-; *Physical Geography*, 1987-; (h) Contributor to Intergovernmental Panel on Climate Change (IPCC) cryosphere reports, 1989 and 1995; Lead Author, Chapter 16 (*Polar Regions*), IPCC Third Assessment Report, 1999-2001; Contributing Author, IPCC Fourth Assessment Report, 2005-2007, shared in 2007 Nobel Peace Prize awarded jointly to IPCC and Al Gore; (i) Member of USA-Russia Agreement on Cooperation in the Field of Environmental Protection Working Group VIII, Climate Change, 1987-1997; (j) Councilor (2006-2015) and Vice President (2012-2015), American Geographical Society; (k) Distinguished Alumnus Award, Northern Michigan University, 2007.

Selected Publications (of approximately 160):

Nelson, F.E. and Outcalt, S.I. (1987). A computational method for prediction and regionalization of permafrost. *Arctic and Alpine Research* 19(3): 279-288.

Nelson, F.E. (1989). Cryoplanation terraces: periglacial cirque analogs. *Geografiska Annaler* 71A(1-2): 31-41.

Anisimov, O.A. and Nelson, F.E. (1996). Permafrost distribution in the Northern Hemisphere under scenarios of climatic change. *Global and Planetary Change* 14(1): 59-72.

Nelson, F.E., Shiklomanov, N.I., Mueller, G.R., Hinkel, K.M., Walker, D.A., and Bockheim, J.G. (1997). Estimating active-layer thickness over a large region: Kuparuk River basin, Alaska, U.S.A. *Arctic and Alpine Research* 29(4): 367-378.

- Nelson, F.E. (1998). Cryoplanation terrace orientation in Alaska. *Geografiska Annaler*, 80A(2): 135-151.
- Nelson, F.E., Hinkel, K.M., Shiklomanov, N.I., Mueller, G.R., Miller, L.L., and Walker, D.A. (1998). Active-layer thickness in north-central Alaska: systematic sampling, scale, and spatial autocorrelation. *Journal of Geophysical Research-Atmospheres*, 103(D22): 28,963-28,973.
- Brown, J., Hinkel, K.M., and Nelson, F.E. (2000). The Circumpolar Active Layer Monitoring (CALM) program: historical perspectives and initial results. *Polar Geography* 24(3): 165-258.
- Nelson, F.E., Anisimov, O.A., and Shiklomanov, N.I. (2001). Subsidence risk from thawing permafrost. *Nature* 410(6831): 889-890.
- U. S. Arctic Research Commission Permafrost Task Force (F.E. Nelson and L.W. Brigham, Lead Authors, 2003). *Climate Change, Permafrost, and Impacts on Civil Infrastructure*. Washington, D.C.: U.S. Arctic Research Commission, 62 + vi pp.
- Nelson, F.E. (2003) (Un)frozen in time. *Science* 299: 1673-1675.
- Nelson, F.E., (ed., 2004). Special Issue: Circumpolar Active Layer Monitoring (CALM) Workshop. *Permafrost and Periglacial Processes* 15(2): 99-188.
- Nelson, F.E. (ed., 2004). Eurasian Contributions to the Circumpolar Active Layer Monitoring (CALM) Workshop. *Polar Geography* 28(4): 253-340.
- Hinkel, K.M. and Nelson, F.E. (2007). Anthropogenic heat island at Barrow, Alaska during winter: 2001-2005. *Journal of Geophysical Research—Atmospheres* 112(D6): D06118, doi:10.1029/2006JD007837.
- Nelson, F.E., Shiklomanov, N.I., Hinkel, K.M., and Brown, J. (2008). Decadal results from the Circumpolar Active Layer Monitoring (CALM) program. *Proceedings of the Ninth International Conference on Permafrost*. Fairbanks: University of Alaska Press, pp. 1273-1280. (plenary paper)
- French, H. M. and Nelson, F.E. (eds., 2008). *Frozen in Time: Permafrost and Engineering Problems (A Book by Siemon W. Muller)*. New York: American Society of Civil Engineers Technical Committee on Cold Regions Engineering, 280 + xxxvix pp.
- Nelson, F.E. (2011). *America's Glory Road...on ice: Permafrost and the development of the Alcan Highway, 1942-1943*. In: Brunn, S.B., *Engineering Earth*. Amsterdam: Kluwer, 643-661.
- Nelson, F.E. (2013). 'The advancement of exploration along scientific lines': The American Geographical Society and the Arctic, 1851-1950. In: S.A. Kaplan and R.M. Peck (eds.), *North by Degree: New Perspectives on Arctic Exploration*. Philadelphia: American Philosophical Society, Lightning Rod Publications, 63-107.
- Shiklomanov, N.I., Streletskiy, D.A., Little, J.D., and Nelson, F.E. (2013). Isotropic thaw subsidence in undisturbed permafrost landscapes. *Geophysical Research Letters*, 40: 1-6. doi:10.1002/2013GL058295.
- Brigham, L.W. and Nelson, F.E. (eds., 2017). Geographical Perspectives on the Arctic. Special issue of *Geographical Review* 107(1): 1-257.
- Fagan, J.E. and Nelson, F.E. (2017). Sampling designs in the Circumpolar Active Layer Monitoring (CALM) program. *Permafrost and Periglacial Processes* 28(1): 42-51.
- Nelson, F.E. and Nyland, K.E. (2017). Periglacial cirque analogs: regional trends of cryoplanation terrace elevation in eastern Beringia. *Geomorphology* 293. (in press)