



Thawing Permafrost: What Does it Mean for the Arctic?

Tamara K. Harms photo

Websites

NCAR Field Guide to Permafrost Research:
<http://www.ncar.ucar.edu/feature/fieldguides/permafrost/>

Geophysical Institute Permafrost Laboratory:
<http://www.gi.alaska.edu/research/snowicepermafrost/lab>

Books

The changing arctic landscape / Ken D. Tape. Fairbanks, AK : U. Alaska Press, c2010.

Advances in the geological storage of carbon dioxide: international approaches to reduce anthropogenic greenhouse gas emissions / edited by S. Lombardi, L.K. Altunina, S.E. Beaubien. Dordrecht : Springer, 2006.

Environmental change and geomorphic hazards in forests / edited by Roy C. Sidle. New York, CABI Pub. in association with the International Union of Forest Research Organizations, c2002.

Arctic melting : how global warming is destroying one of the world's largest wilderness areas / Chad Kister. Monroe, Me. : Common Courage Press, c2005.

Alaska's changing boreal forest / edited by F. Stuart Chapin III. New York : Oxford U.Press, 2006.

Articles

Alfaro, M. C., Ciro, G. A., Thiessen, K. J., & Ng, T. (2009). Case study of degrading permafrost beneath a road embankment. *Journal of Cold Regions Engineering*, 23(3), 93-111.

Blok, D. et al.(2010). Shrub expansion may reduce summer permafrost thaw in Siberian tundra. *Global Change Biology*, 16(4), 1296-1305.

Hobbie, S. E., Schimel, J. P., Trumbore, S. E., & Randerson, J. R. (2000). Controls over carbon storage and turnover in high-latitude soils. *Global Change Biology*, 6, 196-210.

Jorgenson, M. T., & Osterkamp, T. E. (2005). Response of boreal ecosystems to varying modes of permafrost degradation. *Canadian Journal of Forest Research*, 35(9), 2100-2111.

Kneisel, C. (2010). The nature and dynamics of frozen ground in alpine and subarctic periglacial environments. *Holocene*, 20(3), 423-445.

Li, G. et al. (2010). Development of freezing-thawing processes of foundation soils surrounding the China-Russia crude oil pipeline in the permafrost areas under a warming climate. *Cold Regions Science and Technology*, 64(3), 226-234.

Mann, D. H., Groves, P., Reanier, R. E., & Kunz, M. L. (2010). Floodplains, permafrost, cottonwood trees, and peat: What happened the last time climate warmed suddenly in arctic Alaska? *Quaternary Science Reviews*, 29(27-28), 3812-3830.

McGuire, A. D., Macdonald, R. W., Schuur, E. A. G., Harden, J. W., Kuhry, P., Hayes, D. J., et al. (2010). The carbon budget of the northern cryosphere region. *Current Opinion in Environmental Sustainability*, 2(4), 231-236.

Overpeck, J., Hughen, K., Hardy, D., Bradley, R., Case, R., Douglas, M., et al. (1997). Arctic environmental change of the last four centuries. *Science*, 278(5341), 1251-1256.

Reyes, A. V., Froese, D. G., & Jensen, B. J. L. (2010). Permafrost response to last interglacial warming field evidence from non-glaciated Yukon and Alaska. *Quaternary Science Reviews*, 29(23-24), 3256-3274.

Rouse, W. R. et al. (1997). Effects of climate change on the freshwaters of arctic and subarctic North America. *Hydrological Processes*, 11(8), 873-902.

Rydberg, J., Klaminder, J., Rosen, P., & Bindler, R. (2010). Climate driven release of carbon and mercury from permafrost mires increases mercury loading to sub-arctic lakes. *Science of the Total Environment*, 408(20), 4778-4783.

Turetsky, M.R. et al.(2007). The disappearance of relict permafrost in boreal North America: Effects on peatland carbon storage and fluxes. *Global Change Biology*, 13(9), 1922-1934.

Zhou, F. et al. (2009). Spatio-temporal simulation of permafrost geothermal response to climate change scenarios in a building environment. *Cold Regions Science & Technology*, 56(2), 141-151.