PERSONAL DATA

NAME: Thomas Eugene Osterkamp

EDUCATION:

B.A. Physics, Southern Illinois University, 1962
M.S. Physics, Saint Louis, University, 1964
Ph.D. Physics, Saint Louis University, 1968

POSITIONS HELD AND EXPERIENCE:

Laboratory Assistant, Shell Oil Company Research Laboratory, Wood River, Illinois, 1958-1962.
Teaching Assistant, Saint Louis University, St. Louis, Missouri, 1962-1964.
Physicist, U.S. Army, Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire, Summer, 1964.
NASA Predoctoral Trainee at Saint Louis University, St. Louis, Missouri, 1964-1967.
Teaching Assistant, Saint Louis University, St. Louis, Missouri, 1967-1968.
Assistant Professor of Physics, University of Alaska, Fairbanks, Alaska, 1968-1973.
Associate Professor of Physics and Geophysics, University of Alaska, Fairbanks, Alaska, 1973-1979.
Professor of Physics and Geophysics, University of Alaska, Fairbanks, Alaska, 1979-1997.
Professor Emeritus, University of Alaska, Fairbanks, Alaska, 1997 to present.

NATIONAL AND INTERNATIONAL COMMITTEES, BOARDS, RECOGNITION:

NASA Predoctoral Fellowship in Physics at Saint Louis University, St. Louis, Missouri, 1964-1967.
Member of the Committee on Glaciology, Polar Research Board, National Academy of Sciences, National Research Council of the United States of America, 1 January 1974 through 30 June 1978.
Member of the Hydromechanics of Ice Task Committee, Committee on Hydromechanics, Hydraulic Division of the American Society of Civil Engineers, 7 February 1975 through 1 January 1977.
Sabbatical leave - Visiting Physicist at the U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire, September 1976 through July 1977.
Member of the Committee on Permafrost, Polar Research Board, National Academy of Sciences, National Research Council of the United States of America, 1 July 1981 through 30 June 1984.
Research Achievement Award, Geophysical Institute, University of Alaska, Fairbanks, Alaska, 4 April 1983.
Member of the Committee on Glaciology, Polar Research Board, National Academy of Science, National Research Council of the United States of America, 1 July 1984 through 30 June 1986.
Member of the Editorial Board, Cold Regions Science and Technology Journal, 1983-present.
Sabbatical leave from the University of Alaska, Fairbanks, Sept. 1, 1985 through Aug. 31, 1986.
Member of the Committee on Permafrost, Polar Research Board, National Academy of Sciences, National Research Council of the United States of America, November 1988 through June 1991.
Member of the American Geophysical Union Committee on Snow, Ice and Permafrost,

September, 1988-1992.
Member of the Working Group on Global Change and Permafrost, International Permafrost Association, 1988-present.

PROFESSIONAL ORGANIZATIONS:

American Geophysical Union

CURRENT RESEARCH INTERESTS:

I am interested in the scientific aspects of environmental and engineering problems involving ice and permafrost. This includes problems in the areas of soil physics, thermodynamics, heat and mass flow, and growth and decay processes that are associated with lake ice, river ice, sea ice, permafrost, subsea permafrost, seasonally frozen ground, and the seasonal snow cover.

PUBLICATIONS:
**Books**

Osterkamp, T. E., Subsea Permafrost, Chapter in, Encyclopedia of Ocean Sciences, p. 2902-2912, Academic Press, 2001.
Osterkamp, T. E. and C. R. Burn, Permafrost, Chapter in, Encyclopedia of Atmospheric Sciences, Academic Press, 2002.

**Journal and Other Peer Reviewed Publications**

1. Hoekstra, P., T.E. Osterkamp, and W.F. Weeks, The migration of liquid inclusions in single ice crystals, J. Geophys. Res., 70, 5035, 1965.
2. Osterkamp, T.E. and A.H. Weber, Electrical phenomena accompanying the phase change of dilute KCl, NaCl, LiCl solutions into single crystal ices, Bull. Am. Phys. Soc., 14, 192, 1969.
3. Osterkamp, T.E., Physics of ice at the University of Alaska, The Northern Engineer, 2(3), 11, 1970.
4. Osterkamp, T.E. and A.H. Weber, Electrical phenomena accompanying the phase change of dilute KCl solutions into single crystals of ice, J. Glaciol. 9(56), p. 269, 1970.
5. Byrd, R.C., M.C. Yerkes, W.M. Sackinger and T.E. Osterkamp, Snow measurement using millimeter wavelengths, Proc. of the Banff Symposia, September 1972, published by UNESCO/WMO/IASH, 1972.
6. Gilfilian, R.E., W.L. Kline, T.E. Osterkamp, and C.S. Benson, Ice formation in a small Alaskan stream, Proc. of the Banff Symposia, September 1972, published by UNESCO/WMO/IASH, 1972.
7. Byrd, R.C., M. Yerkes, W.M. Sackinger, and T.E. Osterkamp, Prediction of sea ice physical properties by use of radar, Proc. of the Banff Symposia, September 1972, published by UNESCO/WMO/IASH, 1972.
8. Byrd, R.C., M. Yerkes, W.M. Sackinger, and T.E. Osterkamp, Millimeter wave reflectivity of sea ice, Proc. of the IEEE International Conference on Engineering in the Ocean Environment, September 1972, Newport, Rhode Island.
9. Benson, C.S. and T.E. Osterkamp, Underwater ice formation in rivers as a vehicle for sediment transport, Oceanography of the Bering Sea (D.W. Hood and E.J. Kelley, ed.), Inst. of Marine Science, University of Alaska, Fairbanks, Alaska, 1974.
10. Osterkamp, T.E., Wastewater sludge ice, J. Glaciology, 13(67), p. 155, 1974.
11. Osterkamp, T.E., T. Ohtake, and D.C. Warniment, Detection of airborne ice crystals near a supercooled stream, J. Atmos. Sci., 31(5), 1464-1465, 1974.
12. Osterkamp, T.E., Structure and properties of ice lenses in frozen ground. Proc. of the AGU Conf. on Soil-water Problems in Cold Regions, May 6-7, 1975, Calgary Alberta, Canada.

13. Osterkamp, T.E., Supercooling and frazil ice formation in a small subarctic stream. Proceedings: Research Seminar, Thermal regime of river ice, Laval University, Quebec, Canada, Tech. Mem. No. 114, Nat. Res. Council, Canada, 1975.
14. Harrison, W.D. and T.E. Osterkamp, Theoretical models for subsea permafrost, Proc. of the Third Internat. Conf. on Port and Ocean Eng. under Arctic Conditions, August 1975, D.C. Burrell and K.W. Hood (ed), Institute of Marine Science, University of Alaska, Fairbanks, Alaska, 99701.
15. Osterkamp, T.E., Tanana River ice cover, Proc. of the Third Int. Symposia on Ice Problems, Hanover, New Hampshire, August 1975, published by the IAHR, Comm. on Ice Problems.
16. Osterkamp, T.E., R.E. Gilfilian and C.S. Benson, Observations of stage, discharge, pH and electrical conductivity during periods of ice formation in a small Sub-Arctic stream, Water Resour. Res., 11(2), 68-272, 1975.
17. Osterkamp, T.E. and R.E. Gilfilian, Nucleation characteristics of stream water and frazil ice nucleation, Water Resour. Res., 11(6), 926-928, 1975.
18. Johnson, P., J. Burdick, D.C. Esch, T. McFadden, T.E. Osterkamp and J. Zarling, Yukon River break-up, 1976, Proc. of the Second Int. Symp. on Cold Regions Engineering, Dept. of Civil Eng., University of Alaska, Fairbanks, AK, August, 1976.
19. Osterkamp, T.E. and W.D. Harrison, Subsea permafrost: its implications for offshore resource development, The Northern Engineer, 8(1), 31-35, 1976.
20. Osterkamp, T.E., Some potential ice problems associated with hydroelectric development in Alaska, The Northern Engineer, 9(2), 4-6, 1977.
21. Osterkamp, T.E., A method for cutting and preparing thin sections of frozen soil, J. Glaciol., 18,(78), 143-144, 1977.
22. Osterkamp, T.E. and W.D. Harrison, Subsea permafrost regime at Prudhoe Bay, Alaska, J. Glaciol., 19(81), 627-637, 1977.
23. Osterkamp, T.E., Frazil ice nucleation mechanisms, J. Glaciol., 19(81), 619-626, 1977.
24. Yould, E.P. and T.E. Osterkamp, Cold regions considerations relative to development of the Susitna Hydroelectric Project, Proc. of the Cold Regions Specialty Conference, Anchorage, Alaska, May 17-19, 1978, published by the American Society of Civil Engineers, New York, NY, 1978.
25. Iskandar, I.K., T.E. Osterkamp and W.D. Harrison, Chemistry of interstitial water from subsea permafrost, Prudhoe Bay, Alaska. Proc. of the Third International Conference on Permafrost, Edmonton, Alberta, Canada, July, 1978, published by the National Research Council (Canada), Ottawa, Ontario, Canada, 1978.
26. Harrison, W.D. and T.E. Osterkamp, Heat and mass transport processes in subsea permafrost, I: An analysis of molecular diffusion and its consequences. J. Geophys. Res., 83(C9), 4707-4712, 1978.
27. Osterkamp, T.E. Frazil ice formation: A review, J. Hydraulics Div., ASCE, 104(HY9), 1239-1255, September 1978.
28. Osterkamp, T.E., Mercury-in-glass thermometers for precise temperature measurements near 0¡C, J. Glaciol., 22(87), 385-388, 1979.
29. Osterkamp, T.E., R.W. Jurick, G.A. Gislason and S.-I. Akasofu, Electrical resistivity measurements in permafrost terrain at the Engineer Creek road cut, Fairbanks, Alaska, Cold Regions Science and Technology, 3(4), 277-286, 1980.
30. Hanscom, J.T. and T.E. Osterkamp, Potential caribou-ice problems in the Watana Reservoir, Susitna hydroelectric project, The Northern Engineer, 12(1), 4-8, 1980.
31. Gosink, J. P. and T.E. Osterkamp, Hydraulic resistance generated by frazil ice formation, Proc. of the Workshop on Hydraulic Resistance of River Ice, Canada Center for Inland Waters, Burlington, Ontario, Canada, 1980.
32. Osterkamp, T.E. and R.W. Jurick, Detecting massive ground ice in permafrost by Geophysical methods, The Northern Engineer, 12(4), 27-30, 1981.
33. Osterkamp, T.E. and M.W. Payne, Estimates of permafrost thickness from well logs in northern Alaska, Cold Regions Science and Technology, 5, 13-27, 1981.
34. Harrison, W.D. and T.E. Osterkamp, A probe method for soil water sampling and

subsurface measurements, Water Resour. Res., 7(6), 1731-1736, 1981.
35. Harrison, W.D. and T.E. Osterkamp, Interstitial water electrical conductivity measurements in subsea permafrost off the coasts of Alaska, the Roger J.E. Brown Memorial Volume, Proceedings of the Fourth Canadian Permafrost Conference, Calgary, Alberta, March 2-6, 1981, H.M. French (ed.) NRC, Ottawa, Canada, 1982.
36. Osterkamp, T.E. and W.D. Harrison, Temperature measurements in subsea permafrost off the coast of Alaska, the Roger J.E. Brown Memorial Volume, Proceedings of the Fourth Canadian Permafrost Conference, Calgary, Alberta, March 2-6, 1981, H.M. French (ed.) NRC, Ottawa, Canada, 1982.

37. Osterkamp, T.E., Potential impact of a warmer climate on permafrost in Alaska, Proc. Conf. on the Potential Effects of Carbon Dioxide - Induced Climatic Changes in Alaska, April, 1982, p. 106 - 113, J.H. McBeath (ed.), Misc. Pub. 83-1, SALRM, University of Alaska, Fairbanks, AK.
38. Swift, D.W., W.D. Harrison and T.E. Osterkamp, Heat and salt transport processes in thawing subsea permafrost at Prudhoe Bay, Alaska, Proc. of the Fourth Int. Conf. on Permafrost, July 18-23, 1983, Fairbanks, AK, National Academy of Sciences, Washington, DC.
39. Osterkamp, T.E., Response of Alaskan permafrost to climate, Proc. of the Fourth Int. Conf. on Permafrost, July 18-23, 1983, Fairbanks, AK, National Academy of Sciences, Washington, DC.
40. Gosink, J.P., T.E. Osterkamp and P.A. Hoffman, Modeling of ice-covered lakes, Proc. of the Frontiers of Hydraulic Engineering Conference, Am. Soc. of Civil Engineers, MIT, Cambridge, Massachusetts, August 9-12, 1983.
41. Gosink, J.P. and T.E. Osterkamp, Measurements and analyses of velocity profiles and frazil ice crystal rise velocities during periods of frazil ice formation in rivers, Ann. Glaciol., 4, 79-84, 1983.
42. Kawasaki, K., T.E. Osterkamp, R.W. Jurick and J. Kienle, Gravity measurements in permafrost terrain containing massive ground ice, Ann. Glaciol., 4, p. 133-140, 1983.
43. Osterkamp, T.E., R.E. Gilfilian, J.P. Gosink and C.S. Benson, Water temperature measurements in turbulent streams during periods of frazil ice formation, Ann. Glaciol., 4, 209-215, 1983.
44. Osterkamp, T.E., K. Kawasaki and J.P. Gosink, Shallow magnetic induction measurements for delineating near-surface hot groundwater sources in Alaskan geothermal areas, J. Energy Resour. Tech., 105(2), 156-161, 1983.
45. Osterkamp, T.E. and J.P. Gosink, Frazil ice formation and ice cover development in interior Alaska streams, Cold Regions Science and Technology, 8(1), 43-56, 1983.
46. Osterkamp, T.E. and J.P. Gosink, A reconnaissance study of the hydrothermal characteristics of Pilgrim Springs, Alaska, J. Energy Resour. Tech., 106, 96-102, 1984.
47. Osterkamp, T.E. and J.P. Gosink, Observations and analyses of sediment-laden sea ice, The Alaskan Beaufort Sea - Ecosystem and Environment, P. Barnes, E. Reinmitz and D. Schell, (ed.), Academic Press, Inc., 1984.
48. Walker, G.G., K. Kawasaki and T.E. Osterkamp, Transient electromagnetic detection of subsea permafrost near Prudhoe Bay, Alaska, Proc. of the 60th Annual Meeting, AAPG-SEPM-SEG, Anchorage, AK, 22-24 May, 1985.
49. Petersen, J.K., K. Kawasaki, T.E. Osterkamp and J.H. Scott, Nuclear well logging in permafrost, Proc. of the 60th Annual Meeting, AAPG-SEPM-SEG, Anchorage, AK, 22-24 May, 1985.
50. Osterkamp, T.E., J.K. Petersen and T.S. Collett, Permafrost thickness in the Oliktok Point, Prudhoe Bay and Mikkelsen Bay areas of Alaska, Cold Regions Science and Technology, 11, 99-105, 1985.
51. Osterkamp, T.E. and G.C. Baker, Measurements of the linear thermal expansion coefficients of asphalt pavement at low temperatures, Cold Regions Science and Technology, 12, 299-301, 1986.
52. Gosink, J.P. and T.E. Osterkamp, Frazil ice nucleation by ejecta from supercooled water,

Proc. IAHR Ice Symposium, Inst. of Hydraulic Res., University of Iowa, Iowa City, Iowa, 1986.
53. Gosink, J.P., K. Kawasaki and T.E. Osterkamp, Heat and moisture transport during annual freezing and thawing, EOS, Trans. Am. Geophys. Union, 68, 1264, 1987.
54. Osterkamp, T.E., Freezing and thawing of soils and permafrost containing unfrozen water or brine, EOS, Trans. Am. Geophys. Union, 68, 1263, 1987.
55. Baker, G.C. and T.E. Osterkamp, Laboratory freezing of saline sands, EOS, Trans. Am. Geophys. Union, 68, 1263, 1987.
56. Holty, J.G., K. Kawasaki and T.E. Osterkamp, Observations of effects on agricultural soils of the artificial enhancement of snowmelt in Interior Alaska, Agroborealis, 19(1), 20-26, 1987.
57. Osterkamp, T.E., W.D. Harrison and D.M. Hopkins, Subsea permafrost in Norton Sound, Alaska, Cold Regions Science and Technology, 14, 173-180, 1987.
58. Osterkamp, T.E., Freezing and thawing of soils and permafrost containing unfrozen water or brine, Water Resour. Res., 23, 2279-2285, 1987.
59. Gosink, J.P., J. Holty, K. Kawasaki and T.E. Osterkamp, Heat and moisture transport during annual freezing and thawing, Proc. of the Fifth Int. Conf. on Permafrost, Vol. 1, p. 355-360, Tapir Publishers, Tr¿ndheim, Norway, 1988.
60. Baker, G.C. and T.E. Osterkamp, Salt redistribution during laboratory freezing of saline sand columns, Proc. of the Fifth Int. Symp. on Ground Freezing, Vol. 1, p. 29-34, A.A. Balkema, Brookfield, VT, 1988.
61. Baker, G.C. and T.E. Osterkamp, Implications of salt fingering processes for salt movement in thawed coarse-grained subsea permafrost, Cold Regions Science and Technology., 15, 45-52, 1988.
62. Osterkamp, T.E., Permafrost temperatures in the Arctic National Wildlife Range, Cold Regions Science and Technology, 15(2), 191-193, 1988.
63. Kawasaki, K. and T.E. Osterkamp, Mapping shallow permafrost by electromagnetic induction -- practical considerations, Cold Regions Science and Technology, 15(3), 279-288, 1988.
64. Baker, G.C., and T.E. Osterkamp, Salt redistribution during freezing of saline sand columns at constant rates, Water Resour. Res., 25(8), 1825-1831, 1989.
65. Osterkamp, T.E., G.C. Baker, W.D. Harrison and T. Matava, Characteristics of the active layer and shallow subsea permafrost, J. Geophys. Res., 94(C11), 16, 227-16, 236, 1989.
66. Gosink, J.P., and T.E. Osterkamp, Permafrost thickness variations in response to changes in paleoclimate, EOS, Trans. Am. Geophys. Union, 70(43), 1, 113, October 1989.
67. Gosink, J.P., and T.E. Osterkamp, Models for permafrost thickness variation in response to changes in paleoclimate, Proc. of the Fifth Canadian Permafrost Conf., Laval University, Quebec, Canada, June 1990.
68. Baker, G.C., T. Matava, and T.E. Osterkamp, Brine movement during freezing of saline sand columns, Proc. of the Fifth Canadian Permafrost Conf., Laval University, Quebec, Canada, June 1990.
69. Osterkamp, T.E., T. Zhang, T. Fei, and J.P. Gosink, Permafrost temperatures in shallow boreholes along a north-south transect of Alaska, EOS, Trans. Am. Geophys. Union, 71(43), 1603, 1990.
70. Osterkamp, T.E., and A.H. Lachenbruch, Thermal regime of permafrost in Alaska and predicted global warming, J. Cold Regions Eng., 4(1), 38-42, 1990.
71. Esch, D. C., and T.E. Osterkamp, Cold regions engineering: Climatic warming concerns for Alaska, J. Cold Regions Eng, 4(1), 6-14, 1990.
72. Osterkamp, T.E. and J.P. Gosink, Variations in permafrost thickness in response to changes in paleoclimate, J. Geophys. Res., 96, B3, 4423-4434, 1991.

73. Zhang, T., T.E. Osterkamp, and J.P. Gosink, A model for the thermal regime of permafrost within the depth of annual temperature variations, Proc. Third Int. Symp. on Cold Regions Heat Transfer, University of Alaska, Fairbanks, AK, June 1991.

74. Osterkamp, T.E., and T. Fei, Potential occurrence of gas hydrates in the continental shelf near Lonely, Alaska, Proc. of the 6th Int. Conf. on Permafrost, Beijing, China, July, 1993.
75. Zhang, T., and T.E. Osterkamp, Changing climate and permafrost temperatures in the Alaskan Arctic, Proc. of the 6th Int. Conf. on Permafrost, Beijing, China, July, 1993.
76. Nelson, F.E., A.H. Lachenbruch, M.K. Woo, E.A. Koster, T.E. Osterkamp, M.K. Gavrilova, and G.O. Chang, Permafrost and changing climate, in Permafrost: Sixth Int. Conf. Proc., Vol. 2, South China University of Tech. Press, Wushan, Guangzhou, PRC, 1994.
77. Osterkamp, T.E., T. Zhang, and V.E. Romanovsky, Evidence for a cyclic variation of permafrost temperatures in Northern Alaska, Permafrost and Periglacial Processes, 5, 137-144, 1994.
78. Osterkamp, T.E., Evidence for warming and thawing of discontinuous permafrost in Alaska, EOS Trans. Am. Geophys. Union, 75(44), 85, 1994.
79. Romanovsky, V.E., and T.E. Osterkamp, Temporal and spatial behavior of the active layer in Northern Alaska: 1986-1993, EOS Trans. Am. Geophys. Union, 75(44), 86, 1994.
80. Romanovsky, V.E., and T.E. Osterkamp, Subsea permafrost and gas hydrate dynamics since the late Pleistocene near Cape Thompson and Barrow, Alaska, Proc. AAAS 45th Arctic Science Conf., Book 1, p. 208-209, Anchorage, AK, Aug., 1994.
81. Zhang, T., and T.E. Osterkamp, Considerations in determining thermal diffusivity from temperature time series using finite difference methods, Cold Regions Science and Technology, 23, 333-341, 1995.
82. Romanovsky, V.E. and T.E. Osterkamp, Interannual variations of the thermal regime of the active layer and near-surface permafrost in Northern Alaska, Permafrost and Periglacial Processes, 6, 313-335, 1995.
83. Osterkamp, T.E. and V.E. Romanovsky, Characteristics of changing permafrost temperatures in the Alaskan Arctic, Arctic and Alpine Res. 28(3), 267-273, 1996.
84. Zhang, T., T.E. Osterkamp, and K. Stamnes, Influence of the depth hoar layer of the seasonal snow cover on the ground thermal regime, Water Resour. Res. 32(7), 2075-2086, 1996.
85. Zhang, T., T.E. Osterkamp, and K. Stamnes, Some characteristics of the climate in northern Alaska, Arctic and Alpine Res., 28(4), 509-518, 1996.
86. Romanovsky, V.E., and T.E. Osterkamp, Thawing of the active layer on the coastal plain of the Alaskan Arctic, Permafrost and Periglacial Processes, 8(1), 1-22, 1997.
87. Osterkamp, T.E., and V.E. Romanovsky, Freezing of the arctic layer on the Coastal Plain of the Alaskan Arctic, Permafrost and Periglacial Processes, 8(1), 23-44,1997.
88. Zhang, T., T.E. Osterkamp, and K. Stamnes, Effects of climate on the active layer and permafrost in Alaska north of the Brooks Range, Permafrost and Periglacial Processes, 8(1), 45-68,1997.
89. Romanovsky, V.E., and T.E. Osterkamp, An evaluation of three numerical models used in simulations of the active layer and permafrost temperature regimes, Cold Regions Science and Technology, 26, 195-203,1997.
90. Osterkamp, T. E., D. C. Esch, and V. E. Romanovsky, Infrastructure: Effects of climatic warming on planning, construction and maintenance, Proc. of the BESIS Workshop, June, 1997.
91. Osterkamp, T. E., and V. E. Romanovsky, Comments on the paper by Smith and Riseborough [7(4), 301-309, 1996], Permafrost and Periglacial Processes, 9, 87-89, 1998.
92. Osterkamp, T. E., and V. E. Romanovsky, Evidence for warming and thawing of discontinuous permafrost in Alaska, Permafrost and Periglacial Processes, 10, 17-37, 1999.
93. Romanovsky, V. E., and T. E. Osterkamp, Effects of unfrozen water on heat and mass transport processes in the active layer and permafrost, Permafrost and Periglacial Processes, 11, 219-239, 2000.
94. Osterkamp, T. E., L. Viereck, Y. Shur, M. T. Jorgenson, C. H. Racine, A. P. Doyle, and R. D. Boone, Observations of thermokarst in boreal forests in Alaska, Arctic, Antarctic, and Alpine Research, 32(3), 303-315, 2000.

95. Jorgenson, M. T., C. H. Racine, J. C. Walters, and T. E. Osterkamp, 2000. Permafrost degradation and ecological changes associated with a warming climate in central Alaska. Climatic Change 48(4): 551-579.

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97. Serreze, M., Walsh, J.E., Chapin, F.S. III, Osterkamp, T.E., Dyurgerov, M., Romanovsky, V., Oechel, W.C., Morison, J., Zhang, T., and Barry, R.G.. Observational evidence of recent change in the northern high-latitude environment, Climate Change, 46, 159-207, 2000.

**Reports**

1. Hoekstra, P., T.E. Osterkamp and W.F. Weeks, The migration of liquid inclusions in single ice crystals, Research Report 183, Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire, 1965.

2. Osterkamp, T.E., Thermistors for temperature measurement, B7003, Inst. Arc. Environ. Eng., University of Alaska, Fairbanks, AK, 1970.

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9. Osterkamp, T.E., A conceptual model of offshore permafrost, Report No. UAG R-234, Geophysical Institute, University of Alaska, Fairbanks, AK, April 1975.

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