GLACIOLOGICAL LITERATURE

This is a selected list of glaciological literature on the scientific study of snow and ice and of their effects on the Earth; for the literature on polar expeditions, and also on the "applied" aspects of glaciology, such as snow ploughs, readers should consult the bibliographies in each issue of the Polar Record. For Russian material the system of transliteration used is that agreed by the U.S. Board on Geographic Names and the Permanent Committee on Geographical Names for British Official Use in 1947. Readers can greatly assist by sending reprints of their publications to the Society, by informing Dr J. W. Glen of publications of glaciological interest. It should be noted that the Society does not necessarily hold copies of the items in this list, and also that the Society does not possess facilities for microfilming or photocopying.

CONFERENCES


GENERAL GLACIOLOGY


GLACIOLOGICAL INSTRUMENTS AND METHODS


151
Auer, A. H., Jr. Inferences about ice nucleation from ice crystal observations. *Journal of the Atmospheric Sciences*, Vol. 29, No. 2, 1972, p. 311–17. [Study of freezing nuclei and deposition nuclei as causes of ice crystals in natural cap clouds.]


Davis, B. L. An examination of the theory of heterogeneous nucleation of ice. *Journal of the Atmospheric Sciences*, Vol. 29, No. 3, 1972, p. 557–64. [Activity curves of AgI-bearing smoke used in theory of efficiency curve which are not in agreement with experiment.]


Hasegawa, S., and others. Ice crystal forming ability of the smoke emitted from the silver iodide-lead iodide system, by S. Hasegawa, T. Higashiyama, H. Fukuda. *Reports, Research Laboratory Surface Science, Okayama University*, Vol. 3, No. 5, 1971, p. 231-38. [Conditions of mixture of PbI2 and AgI for most effective ice nucleus formation.]


BROCHU, M. Observations de nevés sur les côtes du nord-ouest du nouveau-Québec.

BRADLEY, R. S., CHURSKI, Z. Genesis and evolution of the river system in the forefield of the Skeidararjökull (Iceland).

BOGACKI, M. Eolian processes on the forefield of the Skeidararjökull (Iceland).


SOUTHERN, E., ROZENTAL', O. M. Voprosy obrazovaniya ida v vode i rastvorakh.

ROZENTAL', O. M. Struktura i vmerzaniye v ledgidaatstonnykh kompleksov ionov. [Structure and freezing in ice of ionic hydration complexes]. Zhurnal Strukturnoy Khimii, Tom 12, No. 5, 1971, p. 917–19. [Theoretical calculation of concentration and charge effects on freezing a solution assuming ideal stirring.]

ROZENTAL', O. M. Voprosy obrazovaniya ida v vode i rastvorakh. II. Kinetika kristallizatsii vodnykh rastvorov elektrolitov [Problem of the formation of ice in water and solutions. II. Kinetics of crystallization in aqueous electrolyte solutions]. Zhurnal Fizicheskoy Khimii, Tom 46, Vyp. 3, 1972, p. 657–59. [Nucleation ability is related to ion hydration. Thus a solution of negatively hydrated ions is less able to freeze than one of positively hydrated ions. English translation in Russian Journal of Physical Chemistry, Vol. 46, No. 1, 1972, p. 111.]


SAVELEV’YEV, I. B. Aktivnoye vozdeystviye merzlogo dispersnogo osnovaniya na strukturu prikontaktnogo sloya namorozhennogo ida [Active action of a frozen dispersing base on the structure of a contact layer of frozen-on ice]. Doklady Akademii Nauk SSSR, Tom 201, No. 1, 1971, p. 86–89. [Experimental study of ice frozen on to various substrates.]


SOUTHERN, E., and WALKER, R. W. Friction of rubber on ice. Nature, Physical Science, Vol. 237, No. 78, 1972, p. 142–44. [Measurements −1°C to −40°C show friction—velocity curves at all temperatures are similar in shape, with maximum occurring. Results similar to friction of rubber on other smooth surfaces.]

WHALLEY, E. The dipole moment derivative of the hydrogen bond in ice. Canadian Journal of Chemistry, Vol. 50, No. 3, 1972, p. 310–14. [Calculation gives value which is less than that found from far infra-red spectrum, most of intensity therefore attributed to specific H-bond interactions.]

LAND ICE. GLACIERS. ICE SHELVES

AGETA, Y., and NARUSE, R. Measurements of ice flow around Skallen Rock, south of Syowa station, Antarctica. Nankyou Shiryo: Antarctic Record, No. 42, 1971, p. 61–64. [No significant differences in velocity were observed from stake measurements made in February–October–February.]


BRADLEY, R. S., and MILLER, G. H. Recent climatic change and increased glacierization in the Canadian Arctic. Nature, Vol. 237, No. 5355, 1972, p. 385–87. [During the past decade, mean annual temperatures on Baffin Island have been increasing, but so has glacierization.]


Dorofeyev, I. G. [What happened to Lednik Fedchenko during the thirty years 1928-58.]. *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva,* Tom 104, Vyp. 1, 1972, p. 36-39. [Recorded measurements of the shrinkage of this glacier in the Pamir.]


Fleischer, P. J., and Sales, J. K. [Laboratory models of glacier dynamics]. *Geological Society of America, Bulletin,* V. 83, No. 3, 1972, p. 905-10. [Models of glaciers were produced by pouring a mixture of moulding plaster and water down a prefashioned trough of non-absorbent material.]


Golovkina, L. S. [Landshafntnoye polozh e niye i diffe r ents iats iya le dniko vy kh pokro v [Landscape and differentiation of ice sheets]. *Trudy Arkticheskogo i Antarctiche skogo Nauchno-Issledovatel'skogo Institute,* Tom 304, 1971, p. 85-103. [Discussion with reference to ice of Ostrov Komsomolets, Severnaya Zemlya.]


**Icebergs. Sea, river and lake ice**

Allen, J. An analysis of the effect of bottom scouring icebergs. In Proceedings of the Canadian seminar on icebergs... 1971,... [1971], p. 110–11. [Detailed investigations of icebergs, including movement, shape and changes in surface topography, geological effects, marine life, and effects on adjacent water and bottom.]

Anderson, C. The flow of icebergs along the Canadian east coast. In Proceedings of the Canadian seminar on icebergs... 1971,... [1971], p. 32–61. [Discusses the movement of icebergs past a fixed point.]

Bailey, W. B. A review of U.S. Coast Guard published data on icebergs in the North Atlantic. In Proceedings of the Canadian seminar on icebergs... 1971,... [1971], p. 30–47. [Part of a paper by R. P. Dinsmore, listed below. General information, including comments on ice detection by radar and by satellite.]


Belyakov, L. N. Osobennosti turbulentnogo obmena v dreyovykh tekcheniyakh v more, svobodnom ot l'da, i v more, pokrytom dreyfuyushchim l'dom [Features of turbulent heat exchange in currents in an ice-free sea and in a sea covered with pack ice]. Trudy Arkticheskogo i Antarkticheskogo Nauchno-Issledovatel'skogo Instituta, Tom 302, 1971, p. 19–25. [Based on observations, 1959–60 and 1963–64, from Arctic drifting stations.]

Benecet, C. P. A description of Project ICE (Iceberg Cross-section Echo). In Proceedings of the Canadian seminar on icebergs... 1971,... [1971], p. 115–23. [Study of underwater profiles of free floating icebergs, based on use of sonar transducer.]


Clinton, J. D. How icebergs affect exploitation and development activity offshore. In Proceedings of the Canadian seminar on icebergs... 1971,... [1971], p. 19–29. [Discusses how commercial activities such as exploitation of oil and gas may be affected by ice and iceberg drift with reference to conditions in the Labrador Sea.]


Corbin, S., and Benson, G. S. The winter thermal regime of Goldstream Creek, Alaska. Proceedings of the 22nd Alaska Science Conference, College, Alaska, August 17 to 19, 1971, p. 169. [Abstract. Analysis of temperature distribution in and near the Aftes of a sub-Arctic stream throughout the winter cycle.]


Grant, A. C. Comments on surficial aspects of the Labrador shelf region. In Proceedings of the Canadian seminar on icebergs... 1971,... [1971], p. 3–15. [Discusses effects of Quaternary ice sheets on bottom topography of the continental shelf and resulting nature of the surficial deposits.]

To be continued...
Grant, D. A. Iceberg tracking of the Labrador coast by aircraft of Maritime Command, 1970-1971. (In Proceedings of the Canadian seminar on icebergs ... 1971 ..., 1971, p. 62-79.) [Approximate rate of movement of 4 selected icebergs in 1970 was 1 knot, but there was no discernible movement in 1971. Details are given of the dyes used to mark the icebergs.]


H Amanda, L.-E. Le glacier de Iakoutie en Sibérie nordique. Biuletyn Peryglacjalny, No. 21, 1972, p. 75-86. [Observations on the floating ice of the rivers Lena and Aldan, also on the structure of the non-tidal rivers.]


Kornilov, N. A., and Komova, V. V. Ledovyye uslovyye plavaniya d/c “Ob”’ v antarkticheskikh vozakh letom 1968-69 g. [Ice conditions during navigation of the Ob’ in Antarctic waters in the summer of 1968-69]. Trudy Svetskoy Antarkticheskoy Ekspeditsii, Tom 57, 1971, p. 246-75. [Includes appendix, p. 257-75, of observations, mainly between “Molodezhnaya” and Mirny.]

Laizer, J. Circulation of water along the Labrador coast. (In Proceedings of the Canadian seminar on icebergs ... 1971 ..., 1971, p. 16-18.) [Detailed knowledge of current velocities is the only way to predict the movement of ice accurately.]

Loken, O. H., and others. Iceberg studies in the Glaciology Subdivision, [by] O. H. Loken, C. S. L. Ommanney, G. Holdsworth and U. [sic, i.e. K.] C. Arnold. (In Proceedings of the Canadian seminar on icebergs ... 1971 ..., 1971, p. 128-34.) [Current work is described on an inventory of all tidewater glaciers calving into the Canadian Arctic, the mechanism of calving, the iceberg discharge from various glaciers, and the distribution of icebergs in selected areas.]


Pelletier, B. R. Side scan sonar surveys and ice scouring in the Beaufort Sea. (In Proceedings of the Canadian seminar on icebergs ... 1971 ..., 1971, p. 48-49.) [Summary. Scouring may be caused by the keels of large pressure ridges in the ice and by icebergs.]

Peters, R. Underwater profiles of icebergs. (In Proceedings of the Canadian seminar on icebergs ... 1971 ..., 1971, p. 113-14.) [Describes preliminary tests using an echo-sounder transducer lowered over the side of the ship.]


Sanderson, R. M., and Davis, G. P. Ice conditions through the North-west Passage. Marine Observer, Vol. 42, No. 236, 1972, p. 69-80. [Description of general ice conditions, particularly the pattern of break-up from mid-June to early September.]


Shamov’t’yev, V. A. Ledovyye uslovyye v rayone Mirnogo v 1968 g. [Ice conditions in the Mirny area in 1968]. Trudy Svetskoy Antarkticheskoy Ekspeditsii, Tom 55, 1972, p. 174-81. [Fast ice conditions in the Davis Sea.]


STURM, M. Über die Auswirkungen des horizontalen Wärmemtransports durch den Fehmarnbelt auf die Eisverhältnisse in der südlichen Ostsee. *Petermanns Geographische Mitteilungen*, Jahrg. 115, Quartalsbl. 4, 1971, p. 262-67. [Influence of heat advection from Danish waters passing into the Baltic Sea on the melting of sea ice in the southern Baltic was studied, using 1949-61 estimates of the heat balance of the sea in the vicinity of the Fehmarnbelt lightship.]


WEBB, M. S. Surface water temperature and ice regimes of Georgian Bay. *Water Resources Research*, Vol. 8, No. 2, 1972, p. 372-89. [Data from radiometric satellite and earth satellite surveys were used to determine areal patterns of surface water temperature and their seasonal variation. Ice coverage showed wide year to year variation, maximum area ranging from 40% to 90% of the whole.]


**GLACIAL GEOLOGY**

ALEXANDROWICZ, S. W. Formen der glazigenen Störungen mizöser Braunkohlenformation in Turosów an der Nyasa (Westpolen). *Bulletin de l’Académie Polonaise des Sciences. Série des Sciences de la Terre*, Vol. 19, No. 1, 1971, p. 45-54. [Forms of disturbances caused by static non-uniform loading with ice masses or dead ice of the Miocene brown coal formation in this region of Poland were investigated.]

ANDREWS, J. T., and BARNETT, D. M. Analysis of strandline tilt directions in relation to ice centers and postglacial crustal deformation. *Geografiska Annaler*, Vol. 54A, No. 1, 1972, p. 1-11. [Considers results and implications of projecting the directions of strandline tilts from 36 sites within this area toward the supposed areas of maximum ice thickness. Data examined for evidence to support hypothesis that centres of crustal uplift migrated as the form of the ice sheet changed.]

ANDREWS, J. T., and DUGDALE, R. E. Quaternary history of northern Cumberland Peninsula, Baffin Island, N. W. T. Part 5. Factors affecting corrie glacierization in Ookoa Bay. *Quaternary Research*, Vol. 1, No. 4, 1971, p. 532-51. [Each of 165 corries is described by 17 variables detailing shape, location and geometry, and having some relationship to the glaciological conditions in each corrie. Elevation and orientation were the important factors.]


CLAPPERTON, C. M. Geomorphology of the Stromness Bay—Cumberland Bay area, South Georgia. *British Antarctic Survey Scientific Reports*, No. 70, 1971, 25 p., map [in end-pocket]. [Detailed study of glacial, periglacial and marine processes of landform development in this ice-free area. Glacial advances in the 1870's and 1920's are commented upon, as well as earlier glaciations.]

DROZ, J. Caractéristiques des blocs erratic blocks are distinguished and described.]

**JOURNAL OF GLACIOLOGY**
FROST ACTION ON ROCKS AND SOIL. FROZEN GROUND. PERMAFROST


ANANYAN, A. A., and POLTEV, N. F. Rezul'taty laboratornykh issledovaniy nekotorykh teplofizicheskikh svoystv rykhlykh gornykh porod po rayonam Bodaybo i Aldana [Results of laboratory research on heat properties of friable soils in the Bodaybo and Aldan regions]. Merzlotnyye Issledovaniya, Vyp. 11, 1971, p. 92-98. [Freezing and thawing experiments.]


BAULIN, V. V., and others. Rasprostraneniye vechnomerzlykh porod v rayone shirotnogo techeniya r. Obi [Distribution of permanently frozen soils near the middle course of the river Ob'.] [By] V. V. Baulin, I. V. Yelimov, V. G. Timofeyev. Merzlotnyye Issledovaniya, Vyp. 11, 1971, p. 142-51. [West Siberian lowland.]

BELOUSHKINA, YE. B. Otrazheniya klimacheskikh izmeneniy v morfologii povtoro-zhil'nykh l'dov [The reflection of climatic variations in the morphology of veined ices]. Merzlotnyye Issledovaniya, Vyp. 11, 1971, p. 173-78. [Studies in the northern part of the Western Siberian lowland.]


BROCHU, M. Premières observations de dépôts de solifluxion fossiles en Gaspésie. Biuletyn Peryglacjalny, No. 21, 1972, p. 15-20. [Examination and subsequent dating of slope deposits, caused by solifluxion, observed in the Gaspé Peninsula, Quebec.]


CLARK, R. Periglacial landforms and landscapes in the Falkland Islands. Biuletyn Peryglacjalny, No. 21, 1972, p. 33-50. [General description, referring to past and present climatic conditions.]

FRENCH, H. M. Asymmetrical slope development in the Chiltern Hills. Biuletyn Peryglacjalny, No. 21, 1972, p. 51-73. [Model of asymmetrical slope and valley development is proposed which stresses the importance of fluvial processes in periglacial environments, referring to Pleistocene conditions in this region of southern England.]

SISONS, J. B. Dislocation and non-uniform uplift of raised shorelines in the western part of the Forth valley. Institute of British Geographers. Transactions, No. 55, 1972, p. 143-59. [Results suggest that raised shorelines in areas of glacial rebound have uniform or gradually changing gradients does not apply to this area.]


WEIDICK, A. Holocen e shore-line s and glacial stages in Greenland—an attempt at correlation. Gronlands Geologiske Undersøgelse. Rapport No. 41, 1972, 39 p. [Dates of former sea-levels were determined by dating shells collected in west Greenland, the results being compared to published information from other parts of Greenland in order to check the deduced uplift. The result was then used to determine the extent of the inland ice.]


James, P. A. The periglacial geomorphology of the Rankin Inlet area, Keewatin, N.W.T., Canada. *Bulletin Peryglacial*, No. 21, 1972, p. 87-126. [Describes occurrence and suggests mode of formation of fissures (expanded joints); also discusses block streams, solifluction aprons, slope colluvium, the West Union talus, and two associated erosional forms.]

Hedges, J. Expanded joints and other periglacial phenomena along the Niagara escarpment. *Bulletin Peryglacial*, No. 21, 1972, p. 87-126. [Describes occurrence and suggests mode of formation of fissures (expanded joints); also discusses block streams, solifluction aprons, slope colluvium, the West Union talus, and two associated erosional forms.]


Kaplina, T. Forma nacheäl'noy stadii obrazovaniya ledyanikh zhil [Forms of the first stage of the formation of glacial veins]. *Merzlotyanye Issledovaniya*, Vyp. 11, 1971, p. 166-72. [Study made in flood-plain deposits at and under the highway Indigirka river.]


Mccann, S. B., and others. Fluvial processes in a periglacial environment, Queen Elizabeth Islands, N.W.T., Canada. [By] S. B. McCann, P. J. Howarth and J. G. Cogley. *Institute of British Geographers. Transactions*, No. 55, 1972, p. 69-82. [Study of hydrological regime of two streams illustrates their geomorphological importance: 90% of annual run-off occurs in the spring snow melt flood and storm run-off is rapid in the presence of permafrost and the absence of vegetation.]


Morgan, A. V. Late Wisconsinan ice-wedge polygons near Kitchener, Ontario, Canada. *Canadian Journal of Earth Sciences*, Vol. 9, No. 6, 1972, p. 607-17. [Polygonal ground shown in air photographs. Trenching of a polygon exposed wedge-shaped sand and gravel infilled structures, interpreted as ice wedge casts.]

Pulinova, M., and Pulina, M. Phenomenes cryogenes dans les grottes et gouffres des Tatras. *Bulletin Peryglacial*, No. 21, 1972, p. 201-35. [Describes cryogenic phenomena, including ice, now being formed in the periglacial climate of the caves and pits of the Polish part of the Tatry mountains.]

Seppala, M. Pingo-like remnants in the Pellojarvi area of Finnish Lapland. *Geografiska Annaler*, Vol. 54A, No. 1, 1972, p. 38-45. [Describes circum hill ridges and suggests they are collapsed pingos.]

These documents cover a range of topics including periglacial geomorphology, thermal contraction cracks, periglacial phenomena, and ice wedge formation in various environments. The references span from scientific journals to conference proceedings, providing a comprehensive view of periglacial processes as observed in both Northern and Arctic environments.


S N O W


