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, etc., consult the Bibliography of Recent Polar Literature (Geographical 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, or 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


GLACIOLOGICAL LITERATURE

GENERAL GLACIOLOGY


KUFETSNIK, V. N. O napravlennosti izmeneniy morkogo i nazemnogo olesdeneniya v rayone Baffinova zaliva [On the trend in changes of sea and land ice cover in the Baffin Bay region]. Trudy Arktycheskogo i Antarkticheskogo Nauchno-Issledovatelskogo Institutsa, Tom 24,1977, p. 73-81. [Relation to cycles of solar activity.]


GLACIOLOGICAL INSTRUMENTS AND METHODS


Fritzsche, W., and Osterer, F. Elektronische Messungen mit Puls-Echo in der Glaziologie. *Zeitschrift für Gletscherkunde und Glaziologie*, Bd. 13, Ht. 1–2, 1977 (pub. 1978), p. 275–83. [Discusses development of electronic instruments for snow and ice measurements, such as measuring depth, investigating firn layer, and detecting crevasses. Also used in searching for avalanche victims.]


Nakamura, H. Shimo no seirouhi “shimo bako” no sakusai [Fabrication of “frost box” apparatus for large-scale production of frost]. *Seppyo*, Vol. 40, No. 1, 1978, p. 31–36. [Frost produced as substitute for snow for use in laboratory experiments. Two types of apparatus described, producing 3.5 and 12.5 kg per day, respectively, according to density. English summary, p. 36.]


**Physics of ice**


BUSER, O., and AUßERMAYER, A. N. Electrification by collisions of ice particles on ice or metal targets. (In Dolezalek, H., and Reiter, R., ed. Electrical processes in atmospheres. Proceedings of the fifth International Conference on Atmospheric Electricity held at Garmisch-Partenkirchen (Germany), 2-7 September 1974. Darmstadt, Dietrich Steinkopff Verlag, 1977, p. 294-301.) [Mechanism of charge separation investigated by means of wind tunnel experiments with frozen droplets of 20 μm impinging on various targets.]


KAWATA, Y. Dielectric anisotropy in ice Ih. Journal of the Physical Society of Japan, Vol. 44, No. 6, 1978, p. 881-86. [Dielectric properties parallel and normal to c-axis of ice Ih measured down to −150°C. Anisotropy increases with decreasing temperature.]


KOSYAKOV, V. I., and SHESTAKOV, V. A. Vlijanievye poverkhnosti pereokhlazhennykh yvodnykh kapel’ na kinetiku obrazovaniya ledyanikh zarodyshe [The influence of supercooled water drop surface on the ice nuclei formation kinetics. Izvestiya Akademii Nauk SSSR. Fizika Atmosfery i Okeana, Tom 12, No. 10, 1976, p. 1104-95. [Theory based on homogeneous nucleation shows surface effect negligible in cases of interest for clouds.]


TUSIMA, K. Tankessho no masatsu ni kansuru kenkyii.

1. Kokuyii to kori no (0001) men

WEGENER, W.,

SANTRY, D. P. The effect of unit cell polarity on CNOO/2 crystal calculations.

SAINT-CURIONS, H. Influence de la tenaure en sel sur l'évolution des propriétés diélectriques des microcristaux de glace dopée de NH. Cl.


RIPMEESTER, J. A. NMR line shapes of tunneling methyl groups in enclathrated molecules. Journal of Chemical Physics, Vol. 68, No. 4, 1978, p. 1835-40. [Proton n.m.r. line shapes at < 5 K reported for various molecules in clathrates in D2O ice. Shapes can be explained only if distribution of tunneling frequencies is included.]


SAINT-GUIRONS, H. Influence de la tenaure en sel sur l'évolution des propriétés diélectriques des microcristaux de glace dopée de NH. Cl.

SAUNDERS, C. P. R. The interactions of freely-falling ice crystals. (In Dolezalek, H., and Reiter, R., ed. Electrical processes in atmospheres. Proceedings of the fifth International Conference on Atmospheric Electricity held at Garmisch-Partenkirchen (Germany), 2-7 September 1974. Darmstadt, Dietrich Steinkopff Verlag, 1977, p. 310-13.) [Laboratory study of crystals of size 50 μm interacting during free fall in high electric field showed that aggregates of crystals were formed.]


TUSIMA, K. [i.e. TSUSHIMA], K. Tankesshō no masatsu ni kansuru kenkyū. I. Kōkū to kōri no (0110) men

TUSIMA, K. [i.e. TSUSHIMA], K. Tankesshō no masatsu ni kansuru kenkyū. II. Kōkū to kōri no (0001) men

WALKAFEN, G. E., and ABBE, M. Raman studies of the bending and librational bands from water and ice VI to 30°C. Journal of Chemical Physics, Vol. 68, No. 10, 1978, p. 4694-95. [Results imply little, if any, H-bond breakage.]


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LAND ICE. GLACIERS. ICE SHELVES


ALT, B. T. Synoptic climate controls of mass-balance variations on Devon Island ice cap. Arctic and Alpine Research, Vol. 10, No. 1, 1978, p. 61-80. [Presents conclusions made from study of 14 years (1961-74) of synoptic weather charts for June to August, together with available meteorological and glaciological data from north-west region of ice cap.]


BAKOV, Ye. K., and OSMONOVOV, A. Basseyen verkhov'ye r. Sarydzhaza os' u st'ya r. Kuylu i v ysdche [Basin of the upper Sarydzhaza river from the mouth of the Kuylu river and above]. Katalog lednikov SSSR. [Catalogue of glaciers of the U.S.S.R.], Tom 14, Vyp. 2, Chast' 7, 1977, 43 p. [Part of I.H.D. catalogue of glaciers of the U.S.S.R., giving details of what is known of glaciers in this part of Central Asia. (Kirgiziya). The Tom and Vyp. numbers correspond with those of Resursy povrakhkhnostykh vod SSR (Surface water resources of the U.S.S.R.).]


BOGORODISKY, V. V., and TREPOP, G. V. Issledovaniye lednikovogo pokrova Antarktidy metodom radio­lokatsionnogo zondirovaniya [Research on the Antarctic ice sheet by radar sounding]. Informacionnyy Byulleten' Sotskoy Antarkticheskoy Ekspeditsii, No. 97, 1978, p. 104-23. [Description of research in measuring thickness, surface movement, structure, and physical characteristics of ice.]


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THOMAS, R. H. Calving bay dynamics and ice sheet retreat up the St. Lawrence valley system. Géophysique Physique et Quaternaire, Vol. 31, Nos. 3–4, 1977, p. 347–56. [Reviews dynamics of collapsing ice sheets and applies results to Laurentian Channel.]


VARNAKOVA, G. M. Osobennosti dehliirivaniya pokrovnykh i gorných lednikov v polyarnykh rayonakh (na primere Novoy Zemli) [Peculiarities of interpreting continental and mountain glaciers in polar areas (Novaya

[Tom 341, 1977, p. 5-17. Based on seasonal distribution of floating ice in the Arctic basin.]


PARSHAR, S. Sea ice-75. Analysis of SLAR data. Styrelsen för Vintersjöfartsforskning. Forskningsrapport, Nr. 16 : 4, 1976, 46 p. [See entry under Blomquist, A., and others, ibid., Nr. 16 : 1, 1975, for details of this research programme.]


ROBILLARD, L. Supression de la couverture de glace par un rejet thermique. Canadian Journal of Civil Engineering, Vol. 5, No. 1, 1978, p. 53-57. [Discusses prevention of formation of floating ice during winter by thermal discharge and how extent of free surface without ice may be predicted.]


STRONG, D. C., and WORSFOLD, R. D. Additional ground truth activities and aids to SAR image interpretation, Hopedale, Labrador, winter—1977. C-CORE Publication (Memorial University of Newfoundland. Centre for Cold Ocean Resource Engineering) 27-36, 1978, viii, 68 p. (Project SAR ’77. Field Data Report No. 7.). [Studies at field station established on coast of Labrador as part of sea ice project.]


TAKIZAWA, T. Undō kajū ni yoru hyōban no henkei (joho) [Deflection of a floating ice sheet subjected to a moving load (preliminary report)]. Teion-kagaku: Low Temperature Science, Ser. A, [No.] 35, 1977, p. 233-40. [Presents results made with snow-mobile, weight 165 kg, on ice of thickness 40 cm, water depth 5 m, distance 300 m. English summary, p. 240.]


TAYLOR, R. B. The occurrence of grounded ice ridges and shore ice piling along the northern coast of Somerset Island, N.W.T. Arctic, Vol. 31, No. 2, 1978, p. 133-49. [Massive piles and ridges were examined between 1973 and 1976. Can occur each summer, but magnitude and site of formation differ.]


TSURIKOVA, A. P. Izucheniye khimii morskikh l'dov (sostoyaniye i zadachi) [Studies on sea ice chemistry (state of the art and objectives)]. Okoanologiya, Tom 17, Vyp. 1, 1977, p. 55-64. (Review. English summary, p. 64.)

UDEN, I. Sea ice-75. Ground truth report. Styrelsen för Vintersjöfartsforskning. Forskningsrapport, Nr. 16 : 2, 1976, 67 p. [See entry under Blomquist, A., and others, ibid., Nr. 16 : 1, 1975, for details of this research programme.]

UDEN, I., and OMBEDSTED, L. Sea ice-75. Dynamical report. Styrelsen för Vintersjöfartsforskning. Forskningsrapport, Nr. 16 : 8, 1976, 63 p. [See entry under Blomquist, A., and others, ibid., Nr. 16 : 1, 1975, for details of this research programme.]

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Glatziooogologie, Bd. 13, Ht. 1—2, 1977 [pub. 1978], p. 239-60. [Presents measurements dating from 1952 to 1969, and now published for first time.]


Judson, A. S. Calculations of permafrost thickness. (In Bliss, L. C., ed. Truelove Lowland, Devon Island, Canada: a high Arctic ecosystem. Edmonton, Alberta, University of Alberta Press, 1977, p. 26-30.) [Describes method which was then applied to Truelove Lowland. Thickness varied from 216 m at coast to 659 m on adjacent upland.]


Kondrat'yev, V. G. Novoobra zovanie mnogo letney merzloto v poym e r. Yenisey (rayon g. Dudinka). [New formation of permafrost on the flood plain of the Yenisey river (Dudinka region)]. Merzlotnyye Issledovaniya, Vyp. 16, 1977, p. 73-77. [Translated from Russian to English.]


Zamolotchkova, S. A. Sezonnoye pucheniye i osadka porod v nizov'ях r. Yenisey [Seasonal heaving and settling of rocks in the lower reaches of the Yenisey river]. Merzlotnyye Issledovaniya, Vyp. 16, 1977, p. 65-72. [In Russian.]


METEOROLOGICAL AND CLIMATOLOGICAL GLACIOLOGY


Glazyrin, G. Ye., and Stupin, V. V. Sopostavleniye vysot verkhney granitsy le sа v firnovoy linii v gorах yugozapadnogo Tadzhikistana [Comparison between the tree-line and the firm line in the mountains of southwestern Tadjikistan]. Materialy Glya tsioletogicheskiх Issledovaniy. Kronika. Obshchennia, Vyp. 30, 1977, p. 193-98. [Parallel rises in height confirmed; in arid areas tree and firn lines converge when precipitation increases.]


VOROBYEV, B. M. Chislennaya model' stationarnogo grudovogo protsess v yestestvennykh uslovivax i pri zasev convektnogo obloka ledyanymi chastistami [Numerical model of a stationary hail process under natural conditions and during seeding of cumulus by ice particles].  *Izvestiya Akademii Nauk SSSR. Fizika Atmosfery i Okeana*, Torn 13, No. 8, 1977, p. 839-44. [Model based on author's theory and kinetics of crystallization predicts that hail nucleus formation can be accelerated by small concentrations of seeding agent. English abstract p. 844.]

**Snow**


Igadaki, K. Electric charge current due to drifting snow. By Dolezalek, B., and Reiter, R., ed. Electrical processes in atmospheres. Proceedings of the fifth International Conference on Atmospheric Electricity held at Garmisch-
Partenkirchen (Germany), 2-7 September 1974. Darmstadt, Dietrich Steinkopff Verlag, 1975, p. 211-15. [Current of more than $10^4$ A passed vertical cross-sectional area of 2 m height $\times$ 1 m width.]

Jackson, M. C. Snow cover in Great Britain. Weather, Vol. 35, No. 8, 1978, p. 298-309. [Includes number of days with snow lying in a winter, some exceptional winters, and depth of snow cover, based on continuous observations in this century.]


Kopriva, A. P., and Sakuno, G. G. Metodika i rezul'taty isledovaniy radiatsionnykh kharakteristik snezhno-firnogo pokrova [Methods and results of research into radiation characteristics of the snow-firn cover]. Trudy Arkticheskogo i Antarkticheskogo Nauchno-Isledovatel'skago Instituta, Tom 342, 1977, p. 90-96. [Based on research at Mirny station, Antarctica, in 1966.]

Kornev, A. V. [Theory behind construction of avalanche defences. English summary, p. 91.]


Narita, H. Sekisetsu no insōshoku to henkeikeshiki no kankeiki. I. Waisokudo 2.6/day -2.5×10⁻¹⁰/day de no yuki nohenkei to hadira [Uniaxial tension of snow. I. Deformation and fracture of snow at strain at rate of 2.5 to 2.6×10⁻¹⁰/day]. *Teiō-kagaku: Low Temperature Science*, Ser. A, No. 35, 1977, p. 67-73. [Laboratory study. English summary, p. 75.]


Štam, F., and Volovčík, S. Maximul’nyi generator. Grafoanaliticheskaya rekonstrukciya snezhnoikh lavin [Investigations of avalanches]. *Vedriš (Reyjavík), Ár 20, Ht. 1, 1977, p. 18-20. [Discusses difficulties in interpreting these variations, caused chiefly by influence of rain and fractionation due to melting. Based on field work in the Swiss Alps and Bavaria.]

Sudakov, P. A., and Plekhanov, P. A. Vremennaya i prostranstvennaya izmenchnost’ maksimal’nykh snegozhapa v glial’tial’noy zone Zailiyskogo Alatay [Time and spatial variability of maximum snow storage...


VLASOV, V. P. Razrabotka modeli protivolavinnikh lesnykh nasazhdennykh (na primere severnogo oklona Zapadnogo Kavkaza) [Development of a model for anti-avalanche forest plantations (for example on the northern slope of the western Caucasus)]. Materialy Glyatsiologicheskikh Issledovaniy. Khronika. Obsuzhdeniya, Vyp. 31, 1977, p. 112-17. [Discusses planting forests in avalanche-prone areas. English summary, p. 117.]

WAGNER, —. Katastrofe Schneefielle im Januar 1978 in den USA. Wetterkarte des Deutschen Wetterdienstes (Hamburg), Jahrg. 1978, Nr. 37, 1978, 1 p. [Describes conditions leading to this exceptionally heavy snowfall.]

