

## GLACIOLOGICAL LITERATURE

THIS selected list of glaciological literature has been prepared by J. W. Glen with the assistance of T. H. Ellison, W. B. Harland, Miss D. M. Johnson, G. T. Warwick and the Staff of the Scott Polar Research Institute. Its field is 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, or by informing Dr. Glen of publications of glaciological interest.

## GENERAL GLACIOLOGY

- [INTERNATIONAL GEOPHYSICAL YEAR, 1957-58.] *The United Kingdom contribution to the International Geophysical Year 1957-58*. London, Royal Society, 1957. 72 p. 10s. [Historical background, present programme and station lists. Establishment and programme of Halley Bay base.]
- JONES, Sir H. S. *The International Geophysical Year. Proceedings of the Royal Institution of Great Britain*, Vol. 36, Part 1, No. 162, 1956, p. 172-89. [Full exposition of aims and general plans of International Geophysical Year by General Editor of Publications of the Special Committee of the I.G.Y.]
- LEBEDEV, V. L. *Antarktika [The Antarctic]*. Moscow, Gosudarstvennoye Izdatel'stvo Geograficheskoy Literatury [State Publishing House for Geographical Literature], 1957. 192 p. [Physical geography: land ice, sea ice, climate, flora and fauna, oceanography.]
- TAYLOR, A. *Physical geography of the Queen Elizabeth Islands, Canada*. New York, American Geographical Society, 1956. 12 vols. (Contract No. Nonr-1070 (00).) [Vol. 1: introduction; geology. Vol. 2: glaciology. Vols. 3-10: physiography. Vol. 11: bibliography. Vol. 12: maps.]

## GLACIOLOGICAL INSTRUMENTS AND METHODS

- ASHBURN, E. V., and others. Narrow pass band albedometer, by E. V. Ashburn, C. P. Pentoney, Z. W. Hohanshelt and R. G. Weldon. *Review of Scientific Instruments*, Vol. 27, No. 2, 1956, p. 90-91. [Instrument to determine variation of albedo with wavelength.]
- ROBIN, G. de Q. Measurement of ice thickness in polar regions. *Times Science Review*, Spring 1957, p. 13-14. [Technique of refraction and reflection shooting.]
- SKJÖLDEBRAND, R. An infrared spectrophotometer and its use for the isotopic analysis of heavy water. *Applied Scientific Research*, Sect. B, Vol. 5, No. 5, 1956, p. 401-08. [Fast and accurate method for determining D<sub>2</sub>O concentration in H<sub>2</sub>O.]

## PHYSICS OF ICE

- ALPERT, L. Crystallization of supercooled water by ultrasonic irradiation. *Journal of Meteorology*, Vol. 13, No. 3, 1956, p. 317-18. [Brief review.]
- BOWDEN, F. P. Adhesion and friction. *Endeavour*, Vol. 16, No. 61, 1957, p. 5-18. [Includes results of experiments on adhesion and friction of ice and snow.]
- BRILL, R., and CAMP, P. Influence of pressure on the dielectric properties of ice. *Nature*, Vol. 179, No. 4560, 1957, p. 623-24. [Experiments show that a small change takes place.]
- CARTE, A. E. The freezing of water droplets. *Proceedings of the Physical Society*, Ser. B, Vol. 69, No. 442B, 1956, p. 1028-37. [Observations of supercooling of small droplets.]
- GREEN, R. E., jr., and MACKINNON, L. Determination of the elastic constants of ice single crystals by an ultrasonic pulse method. *Journal of the Acoustical Society of America*, Vol. 28, No. 6, 1956, p. 1292. [Measurement of  $c_{33}$  and  $c_{44}$ .]
- JAFFRAY, J., and MONTMORY, R. Congélation orientée de l'eau sur fondue sur des surfaces cristallines : 1° cas du mica muscovite. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, Tom. 243, No. 2, 1956, p. 126-29. [Orientation relation between lattices of ice and mica onto which it is frozen.]
- KRÜGER, G. J., and MAGUN, S. "Negative" Schneekristalle. *Photographie und Forschung*, Ht. 8, 1955, 8 p. [Development of "negative" crystals in ice called by Tyndall "Ice flowers" and formerly by Germans "Tyndallsche Schmelzfiguren".]
- LAVROV, V. V. Vyazkost' l'da v zavisimosti ot temperatury [Temperature dependence of ice viscosity]. *Zhurnal Tekhnicheskoy Fiziki [Journal of Technical Physics]*, Tom 17, No. 9, 1947, p. 1027-34. [Laboratory experiments, paying special attention to crystalline structure of ice. English translation: SIPRE Translation No. 5.]
- NISSAN, A. H. Hydrogen-bond strength of ice. *Nature*, Vol. 178, No. 4547, 1956, p. 1411-12. [Probable value of hydrogen bond energy estimated for ice and water.]
- PRUPPACHER, H. R., and SÄNGER, R. Mechanismus der Vereisung unterkühlter Wassertropfen durch disperse Keimsubstanzen. *Zeitschrift für Angewandte Mathematik und Physik*, Vol. 6, Fasc. 5, 1955, p. 407-16; Fasc. 6, 1955, p. 485-93. [Experiments on the freezing of droplets in the presence of various nucleating substances and discussion of theory of nucleation. English summaries p. 416, 493.]
- RUNDLE, R. E. The structure of ice. *Journal of Physical Chemistry*, Vol. 59, No. 8, 1955, p. 680-82. [Discussion of the question of whether ice has a polar or non-polar structure.]

## LAND ICE. GLACIERS. ICE SHELVES

- ABEL, G. Salisburgo, il paese delle grotte di ghiaccio. *Atti del VII Congresso Nazionale di Speleologia, Sardegna, 3-8 Ottobre 1955*. [Como, 1956], p. 256-62. [Short account of ice-caves in the Salzburg District, Austria.]
- AVSYUK, G. A. Temperatura l'da v lednikakh [Temperature of ice in glaciers]. *Trudy Instituta Geografii [Transactions of the Institute of Geography]*, Vypusk 67, 1956, p. 63-141. [Author distinguishes five types of glacier by temperature regime; expanded version of his paper in *Izvestiya Akademii Nauk SSSR. Seriya Geograficheskaya*, 1955, No. 1, p. 14-31.]
- BROCKAMP, B. Seismische Beobachtungen des grönländischen Inlandeises. *Berichte des Meteorologisch-Geophysikalischen Institutes zu Frankfurt a.M. und seines Taunus-Observatoriums*, No. 6, 1956, p. 18-24. [Discussion of the importance of seismic techniques in solving various problems of ice cover.]
- BUGAYEV, V. A. *Na lednike Fedchenko [On the Fedchenko glacier]*. Leningrad, Gidrometeorologicheskoye Izdatel'stvo [Hydrological and Meteorological Publishing House], 1948. 48 p. [Investigation of this glacier in Pamirs since its discovery, with special reference to author's expedition of 1946.]
- [CANADA: GLACIOLOGY.] Glaciological research in western Canada in 1956. *Canadian Alpine Journal*, Vol. 40, 1957, p. 96-98. [On British Columbian glaciers; some results of depth and flow measurements given.]
- COOK, J. C. Some observations in a northwest Greenland crevasse. *Transactions. American Geophysical Union*, Vol. 37, No. 6, 1956, p. 715-18. [Results of 1955 studies.]
- HUBLEY, R. C. An analysis of surface energy during the ablation season on Lemon Creek Glacier, Alaska. *Transactions. American Geophysical Union*, Vol. 38, No. 1, 1957, p. 68-85. [Results of studies 1953-54. Turbulent transfer of energy the most important factor in causing ablation.]
- HUBLEY, R. C. Glacier studies during the International Geophysical Year, 1957-58. *American Alpine Journal*, Vol. 10, No. 2, 1957, p. 97-101. [Importance of data to be collected on glacier fluctuation, meteorology, etc.]
- LIESTØL, O. Glacier dammed lakes in Norway. *Norsk Geografisk Tidsskrift*, Bd. 15, Ht. 3-4, 1955-56, p. 122-49. [Regime and development of Mjølkedalvatn, Demmevatn, Skadevatn, Brimkjelen, Koldevatn, Blomster-skardvatnet, and lakes at Østerdalsisen and Strupskardet.]
- LLIBOUTRY, L. La mécanique des glaciers en particulier au voisinage de leur front. *Annales de Géophysique*, Tom. 12, Fasc. 4, 1956, p. 245-76. [Theory of glacier flow in particular near the snout; includes criticisms of Nye's theories on flow and crevasse formation.]
- MAGNANI, M. Glacialismo, depósitos glaciales y fenómenos periglaciales en la región de Santa Cruz: observaciones 1947-1955—(1). *Revista de la Facultad de Ciencias Exactas Físicas y Naturales*, Año 17, Nos. 3-4, 1955, 11 p. [Present glacier cover, glacial deposits and periglacial features in the Santa Cruz territory of Argentina.]
- MANLEY, G. Glaciers and the changing climate. *New Scientist*, No. 17, 1957, p. 33-35. [Climatic change as shown by behaviour of glaciers; the International Geophysical Year and its plans in this connexion.]
- MEL'NIK, Yu. P. Lednik Shkhel'dy. *Priroda [Nature]*, 1957, No. 5, p. 113. [Description of glacier in central Caucasus.]
- NADAI, A. Forces that move a glacier. *Journal of Applied Physics*, Vol. 27, No. 11, 1956, p. 1386-87. [Uses a linear viscous law.]
- NIELSEN, L. E. Preliminary study on the regimen and movement of the Taku Glacier, Alaska. *Bulletin of the Geological Society of America*, Vol. 68, No. 2, 1957, p. 171-80. [Measurements of surface velocity and of accumulation and ablation.]
- NIELSEN, L. E., and STOCKTON, F. D. Flow patterns in glacier ice. *Journal of Applied Physics*, Vol. 27, No. 11, 1956, p. 1386. [Generalization suggested by Ronald L. Shreve to the paper by the same authors, *ibid.*, Vol. 27, No. 5, 1956, p. 448-53.]
- NORLING, G. Glaciärsommar i Sarek. *Svenska Turistföreningens Årsskrift*, 1956, p. 289-308. [Investigations of Mikka and Tjågnoris glaciers (Sarek area), north Sweden, 1954.]
- ODELL, N. E. Air survey of the New Zealand Alps. *Geographical Journal*, Vol. 122, Part 4, 1956, p. 451-55. [Account of geological reconnaissance, April 1956, with special reference to glaciers.]
- OKKO, V. Sulavan jäätikönreunan geomorfologisessta työstä. *Terra*, Årg. 69, No. 1, 1957, p. 12-20. [Geomorphological effects of melting glacier margins. English summary.]
- SCHYTT, V. Bilder från grönländska isar. *Ymer*, Årg. 76, Ht. 2, 1956, p. 101-20. [Pictures of characteristic glaciological phenomena, east of Thule airbase, north Greenland. Explanatory text. English summary.]
- SCHYTT, V. Lateral drainage channels along the northern side of the Moltke Glacier, north-west Greenland. *Geografiska Annaler*, Årg. 38, Ht. 1, 1956, p. 64-77.
- SHARP, R. P. Glaciers in the Arctic. *Arctic*, Vol. 9, Nos. 1-2, 1956, p. 78-117. [Size, nature and distribution.]
- SHUMSKIY, P. A. Issledovaniye lednikovogo pokrova Antarktity [Investigation of the ice cover of Antarctica]. *Priroda [Nature]*, 1957, No. 7, p. 84-87. [Brief results of Soviet glaciological journey inland from Mirnyy in early 1957.]
- WASHBURN, A. L. Unusual patterned ground in Greenland. *Bulletin of the Geological Society of America*, Vol. 67, No. 6, 1956, p. 807-10. [Description and tentative interpretation of sorted net resting on clear glacier ice.]
- WHITE, S. E. Glaciological studies of two outlet glaciers, northwest Greenland, 1953. *Meddelelser om Grønland*, Bd. 137, Nr. 8, 1956, 31 p. [Nordre Tvillinggletscher, Søndre Tvillinggletscher, about 50 km. north-east of Dundas (former Thule).]

## ICEBERGS. SEA, RIVER AND LAKE ICE

- ARMSTRONG, T. E. *Sea ice recording and reporting methods*. Ottawa, Defence Research Board, 1955. 53 p. [Survey and recommendations.]
- BLACK, W. A. *A report on sea ice conditions in the Eastern Arctic, summer 1956*. Ottawa, Department of Mines and Technical Surveys, Geographical Branch, 1957. [32] p. 50 c. (Miscellaneous Papers Series. Geographical Paper No. 9.) [Ice reconnaissance survey carried out summer 1956 from supply ship C.G.S. *d'Iberville*.]

- BLÜTHGEN, J. *Die Eisverhältnisse der Küstengewässer von Mecklenburg-Vorpommern*. Remagen, Selbstverlag der Bundesanstalt für Landeskunde, 1954. 142 p. D.M. 14.50. (Forschungen zur Deutschen Landeskunde, Bd. 85.) [Present and past ice conditions on Baltic coasts of Mecklenburg.]
- CRARY, A. P. Arctic ice island research. *Advances in Geophysics* (New York), Vol. 3, 1956, p. 1-41. [Results of glaciological studies of T-3; results of oceanographic and other observations.]
- CRARY, A. P., and others. Evidence of climatic change from ice island studies, by A. P. Crary, J. Laurence Kulp and E. W. Marshall. *Science*, Vol. 122, No. 3181, 1955, p. 1171-73. [Analysis of horizontal dirt layers in cores collected 1952-54 from T-3.]
- GINZBURG, B. M. O metodike dolgosrochnykh prognozov zamerzaniya i vskrytiya rek [Method of long-term forecasting of freeze-up and break-up of rivers]. *Meteorologiya i Gidrologiya* [Meteorology and Hydrology], 1956, No. 2, p. 10-14. [Present methods; recommended lines of future study.]
- HATTERSLEY-SMITH, G. The rolls on the Ellesmere ice shelf. *Arctic*, Vol. 10, No. 1, 1957, p. 32-44. [Discussion of origin and evolution of undulations.]
- KORZHUYEV, S. S., and TIMOFEEV, D. A. Rechnyye bechevniki i rol' rechnogo l'da v formirovani i kh mikrorel' yefa (na primere rek yuzhnoy Yakutii) [River banks and the part played by river ice in the formation of their microrelief (based on examples from southern Yakutiya)]. *Trudy Instituta Geografii* [Transactions of the Institute of Geography], Tom 68, 1956, p. 69-95, illus. [Scouring and other effects of ice on portion of bank between high and low water marks.]
- KURDYUKOV, K. V. Perenos gornyykh porod ozernym l'dom [Transport of rocks by lake ice]. *Priroda* [Nature], 1957, No. 1, p. 90-92. [Granite blocks transported by ice across Balkhash in Central Asia.]
- LAVROV, V. V. K voprosu obrazovaniya vnutrivodnogo l'da [Formation of frazil ice]. *Meteorologiya i Gidrologiya* [Meteorology and Hydrology], 1957, No. 5, p. 43-45. [Theory of origin.]
- MARUSENKO, Ya. I. Deyatel'nost' l'da na beregakh rek [Ice action on river banks]. *Priroda* [Nature], 1956, No. 12, p. 91-93. [Examples from Soviet Arctic.]
- NUSSER, F. Eine neue internationale Eisnomenklatur. *Deutsche Hydrographische Zeitschrift*, Jahrg. 9, Ht. 4, 1956, p. 174-82. [German version of World Meteorological Organisation's ice nomenclature.]
- SAVCHENKOVA, Ye. I. Ispolzovaniye indeksa atmosferynoy tsirkulyatsii dlya razrabotki dolgosrochnogo prognoza srokov vskrytiya rek [Use of the index of atmospheric circulation for working out long-term forecasts of break-up of river ice]. *Meteorologiya i Gidrologiya* [Meteorology and Hydrology], 1957, No. 5, p. 34-37. [Correlation between dates of break-up of river ice in north-western U.S.S.R. and type of air circulation in North Atlantic area.]
- SCHMIDT, E. Issensationer. *På Skidor*, 1957 [pub. 1956], p. 161-66. [Case of sea and lake ice decreasing in thickness during renewed frost (Stockholm).]
- SPEHLING, WALTER. Vergleich der Eisanscheinungen in der Memel und der ungarischen Donaustrecke zwischen Budapest und Mohács in den Jahren 1900-1944. *Bundesanstalt für Gewässerkunde* (Koblenz), *Mitteilung* Nr. 85, 1957, p. 5-7. [Comparison of ice conditions in the Memel and in the Danube, with days of partial and complete ice blockage in past years.]
- [TERMINOLOGY OF FLOATING ICE.] Antarctic ice terminology: "Iceberg tongues". *Polar Record*, Vol. 8, No. 55, 1957, p. 375-76. [Proposed new term.]
- [TERMINOLOGY OF FLOATING ICE.] *Illustration of the international ice nomenclature*. Hamburg, Fotohaus Friedrich Kunze, 1957. [15] p., 82 photos. [Illustrating terms in World Meteorological Organisation's ice terminology (1956), with captions in English, French, Spanish and Russian.]
- TRESHNIKOV, A. F. The Soviet drifting station SP-3, 1954-55. *Polar Record*, Vol. 8, No. 54, 1956, p. 222-29. [Abbreviated version of lecture delivered at Scott Polar Research Institute on 21 April 1956.]
- WORDIE, Sir J. M. Ice in the Weddell Sea. *Marine Observer*, Vol. 27, No. 175, 1957, p. 31-33. [Brief review of factors affecting accessibility of Coats Land, Antarctica, through Weddell Sea.]

## GLACIAL GEOLOGY

- CHARLESWORTH, J. K. *The Quaternary era with special reference to its glaciation*. London, Edward Arnold, 1957. 2 Vols. [World glaciology and glacial geology; bibliography.]
- FLINT, R. F. *Glacial and Pleistocene geology*. New York, John Wiley, [c1957]. xiv, 553 p. [Revised and augmented edition of author's *Glacial geology and the Pleistocene epoch*, New York, 1947.]
- GILLBERG, G. Den glaciala utvecklingen inom Sydsvenska höglandets västra randzon. *Geologiska Föreningens i Stockholm Förhandlingar*, Bd. 77, Ht. 4, No. 483, 1955, p. 481-524; Bd. 78, Ht. 2, No. 485, 1956, p. 187-232; Bd. 78, Ht. 3, No. 486, 1956, p. 357-458. [Series of papers on the Pleistocene deglaciation in south-west Sweden. The first deals with erosion and till accumulation, the second with the geomorphology of accumulation, and the third with the development of glacial lakes. English summaries.]
- GLEN, J. W., and others. On the mechanism by which stones in till become oriented, by J. W. Glen, J. J. Donner and R. G. West. *American Journal of Science*, Vol. 255, No. 3, 1957, p. 194-205. [Theory of processes in ice which cause stones in till to have a preferred orientation.]
- HARRISON, P. W. New technique for three-dimensional fabric analysis of till and englacial debris containing particles from 3 to 40 mm. in size. *Journal of Geology*, Vol. 65, No. 1, 1957, p. 98-105.
- HARRISON, P. W. A clay-till fabric: its character and origin. *Journal of Geology*, Vol. 65, No. 3, 1957, p. 275-308. [Measurement of fabric of till from Illinois, and general discussion of theory of till fabric developments.]
- HOPPE, G., and LILJEQUIST, G. H. Det sista nedisningsförloppet i Nordeuropa och dess meteorologiska bakgrund. [1.] Inlandsisen och dess klimatologiska miljö, av G. Hoppe. [2.] Meteorologiska synpunkter på istidsproblemet, av G. H. Liljequist. *Ymer*, Arg. 76, Ht. 1, 1956, p. 43-74. [Course of last Ice Age in northern Europe and its meteorological background. English summary.]
- IVES, J. D. Till patterns in central Labrador. *Canadian Geographer*, No. 8, 1956, p. 25-33. [Detailed examination of small scale pattern of glacial deposits in area 45 miles south-east of Knob Lake.]

- MACKAY, J. R. Deformation by glacier-ice at Nicholson Peninsula, N.W.T., Canada. *Arctic*, Vol. 9, No. 4, 1956, p. 219-28. [Effects discussed. Results of author's field work, 1955.]
- MERCER, J. H. Geomorphology and glacial history of southernmost Baffin Island. *Bulletin of the Geological Society of America*, Vol. 67, No. 5, 1956, p. 553-70. [Special reference to fluctuations of land ice and sea level.]
- SCHELL, I. I. Theory of ice ages. *Science*, Vol. 125, No. 3241, 1957, p. 235. [Discussion of theory proposed by M. Ewing and W. L. Donn, *Science*, Vol. 123, No. 3207, 1956, p. 1061-66.]
- THOMPSON, H. R. A landslid moraine in Baffin Island. *Canadian Geographer*, No. 6, 1955, p. 13-16. [Explanations of debris fan in northern part of Pangnirtung Pass.]
- WARWICK, G. T. Caves and glaciation—I. Central and southern Pennines and adjacent areas. *Transactions of the Cave Research Group of Great Britain*, Vol. 4, No. 2, 1956, p. 125-60. [Effect of Pleistocene glaciation on caves is discussed.]

## FROST ACTION ON ROCKS AND SOIL. FROZEN GROUND. PERMAFROST

- BROWN, R. J. E. Permafrost investigations in the Mackenzie Delta. *Canadian Geographer*, No. 7, 1956, p. 21-26. [Investigation of conditions at old Aklavik site, 1953-54.]
- BRUNET, R. Deux processus d'érosion en haute montagne pyrénéenne. *Revue de Géomorphologie Dynamique*, An. 7, Nos. 9-10, 1956, p. 143-47. [Describes some frost agencies causing erosion, especially of granites.]
- FRASER, J. K. Physiographic notes on features in the Mackenzie Delta area. *Canadian Geographer*, No. 8, 1956, p. 18-23. [Examination of pingo-like features.]
- [FROST ACTION AND FROZEN GROUND: TERMINOLOGY.] Frost and permafrost definitions. (*In Factors related to frost action in soils*. Washington, D.C., Highway Research Board, 1955, p. 107-10. (Bulletin 111.)) [List of terms prepared by Highway Research Board committee on frost heave and frost action in soil.]
- KOMAROV, V. D. Issledovaniye vodopronitsayemosti merzloy pochvy [Study of water permeability of frozen soil]. *Meteorologiya i Gidrologiya* [*Meteorology and Hydrology*], 1957, No. 2, p. 10-18. [Laboratory experiments to determine effect of variations in moisture content and temperature on permeability.]
- MACKAY, J. R. Field observation of patterned ground. *Canadian Alpine Journal*, Vol. 40, 1957, p. 91-96, illus. [Hints to observers on classification, description and field notes.]
- MARKOV, K. K. Some data on the periglacial phenomena in the Antarctic (Preliminary report). (*In Accounts and materials of the Complex Antarctic Expedition of the USSR Academy of Sciences*. Moscow, USSR Academy of Sciences, 1956, p. 47-54.) [Periglacial features of land forms in Mirnyy region, based on observations in 1955-56.]
- MISENER, A. D., and others. Heat flow measurements in permafrost at Resolute Bay, Northwest Territories, by A. D. Misener, P. C. Bremner and J. H. Hodgson. *Journal of the Royal Astronomical Society of Canada*, Vol. 50, No. 1, 1956, p. 14-24. [Analysis of temperatures measured in bore holes up to 650 ft. deep, 1950-53.]
- PARKHOMENKO, S. G. Zamerzaniye pochv i rykhlykh gornyykh porod [Freezing of soils and friable rocks]. *Materialy k Osnovam Ucheniya o Merzlykh Zonakh Zemnoy Kory* [*Materials on the Principles of Study of the Frozen Zones of the Earth's Crust*], Vypusk 3, 1956, p. 40-84. [Physical and mechanical processes of freezing of water in soil.]
- STAGER, J. K. Progress report on the analysis of the characteristics and distribution of pingos east of the Mackenzie Delta. *Canadian Geographer*, No. 7, 1956, p. 13-20. [Characteristics of 1,380 pingos located.]
- VYALOV, S. S. Polzuchest' i dlitel'noye soprotivleniye merzlykh gruntov [Creep and long term strength of frozen soils]. *Doklady Akademii Nauk SSSR* [*Reports of the Academy of Sciences of the U.S.S.R.*], Tom 104, No. 6, 1955, p. 850-53. [Results of recent experiments to determine strength of frozen ground.]

## METEOROLOGICAL AND CLIMATOLOGICAL GLACIOLOGY

- KLINOV, F. Ya. Ledyanye kristally i ledyanye tumany v atmosfere [Ice crystals and ice fogs in the atmosphere]. *Priroda* [*Nature*], 1957, No. 2, p. 83-86. [Types of crystal observed at Verkhoysansk in temperatures between  $-35^{\circ}$  and  $-58^{\circ}\text{C}$ ., 1952-54.]
- LILJEQUIST, G. H. Energy exchange of an antarctic snow-field. Long-wave radiation and radiation balance (Maudheim,  $71^{\circ} 03' \text{S}$ ,  $10^{\circ} 56' \text{W}$ ). *Norwegian-British-Swedish Antarctic Expedition, 1949-52. Scientific Results* (Oslo, Norsk Polarinstittutt), Vol. 2, Part 1B, 1956, p. 111-84.
- LILJEQUIST, G. H. Energy exchange of an antarctic snow-field. Wind structure in the low layer (Maudheim,  $71^{\circ} 03' \text{S}$ ,  $10^{\circ} 56' \text{W}$ ). *Norwegian-British-Swedish Antarctic Expedition, 1949-52. Scientific Results* (Oslo, Norsk Polarinstittutt), Vol. 2, Part 1C, 1957, p. 185-234.
- LILJEQUIST, G. H. Energy exchange of an antarctic snow-field. Surface inversions and turbulent heat transfer (Maudheim,  $71^{\circ} 03' \text{S}$ ,  $10^{\circ} 56' \text{W}$ ). *Norwegian-British-Swedish Antarctic Expedition, 1949-52. Scientific Results* (Oslo, Norsk Polarinstittutt), Vol. 2, Part 1D, 1957, p. 235-98.
- SAAR, R. VON. Eishöhlen, ein meteorologisch-geophysikalisches Phänomen. *Geografiska Annaler*, Årg. 38, Ht. 1, 1956, p. 1-63. [Ice caves as meteorological phenomenon, studied in Dachstein, Oberösterreich (Austria).]
- ZAMORSKIY, A. D. *Atmosfernyy led. Iney, gololed, sneg i grad* [*Atmospheric ice. Hoar frost, glazed frost, snow and hail*]. Moscow, Leningrad, Izdatel'stvo Akademii Nauk SSSR [Publishing House of the Academy of Sciences of the U.S.S.R.], 1955, 377 p. [Formation and structure of ice crystals falling as precipitation and growing on objects exposed to air.]

## SNOW

- BADER, H., and others. Snow and its metamorphism. Der Schnee und seine Metamorphose, by H. Bader, R. Haefeli, E. Bucher, J. Neher, O. Eckel and Chr. Thams with an introduction by P. Niggli. Translated by J. C. van Tienhoven. *U.S. Snow, Ice and Permafrost Research Establishment. Translation* 14, 1954, xix, 313 p., illus. [Snow cover studies carried out at Weissfluhjoch, Davos, under direction of the Snow and Avalanche Commission of Switzerland, 1936-37, 1937-38. Originally published as *Beiträge zur Geologie der Schweiz. Geotechnische Serie. Hydrologie*, Lief. 3, 1939.]

- DUNKLE, R. V., and BEVANS, J. T. An approximate analysis of the solar reflectance and transmittance of a snow cover. *Journal of Meteorology*, Vol. 13, No. 2, 1956, p. 212-16. [Theoretical.]
- GOLD, L. W., and WILLIAMS, G. P. Dependence of snowfall on temperature. *Nature*, Vol. 177, No. 4520, 1956, p. 1137-38. [Observations on dependence of snowfall on mean daily temperature.]
- GRISHIN, I. S. Vliyaniye meteley na akumuliyatsiyu snega v ovrazhno-balochnoy seti basseyna r. Dona [Influence of snow storms on accumulation of snow in the gully area of the Don basin]. *Meteorologiya i Gidrologiya* [*Meteorology and Hydrology*], 1957, No. 5, p. 37-40. [Snow storms increase amount of snow collected in gullies and ravines.]
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