

# 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, 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.

## GENERAL GLACIOLOGY

- DOUMANI, G. A., ed. *Antarctic bibliography. Vol. 1.* Washington, Library of Congress, 1965, 506 p. \$4.25.
- LLIBOUTRY, L. *Traité de glaciologie. Tom. 1. Glace—neige—hydrologie nivale. Tom. 2. Glaciers—variations du climat—sols gelés.* Paris, Masson et Cie., 1965, 2 vols.: vi, 427 p.; 429–1040 p.
- LOEWE, F. Arktis und Antarktis im Lichte neuerer Forschung. *Polarforschung*, Bd. 5, Jahrg. 34, Ht. 1–2, 1964 [pub. 1965], p. 225–36. [Survey of recent glaciological and other research results in the Arctic and Antarctic regions.]
- PAL'GOV, N. N., ed. *Akademiya Nauk Kazakhskoy SSR. Sektor Fizicheskoy Geografii. Glyatsiologicheskkiye issledovaniya v Kazakhstane [Academy of Sciences of the Kazakh S.S.R. Sector of Physical Geography. Glaciological investigations in Kazakhstan]*. Vyp. 5. Alma-Ata, Izdatel'stvo "Nauka" Kazakhskoy SSR [Publishing House "Nauka" of the Kazakh S.S.R.], 1965, 190 p. [Continuation of four volumes published 1961–64 entitled *Mezhdunarodnyy Geofizicheskyy God. Glyatsiologicheskkiye issledovaniya v period MGG: Zailiyskiy i Dzhungarskiy Alatau* (Vyp. 4, *Zailiyskiy i Kirgizkiy Alatau*). Contains the following papers, all in Russian with English summaries: K. G. Makarevich and P. F. Shabanov, "Ice discharge in the Talgar glaciers and its role in the river runoff", p. 5–21; R. G. Golovkova, "Radiation and heat balance of accumulation zone of the Zailiyskiy Alatau glaciers", p. 22–33; P. A. Sudakov, "On the problem of calculation of atmospheric precipitation in the high mountain areas of the Zailiyskiy Alatau", p. 34–45; Ye. N. Vilesov, "Some results of itinerary temperature sounding of the Zailiyskiy Alatau glaciers", p. 46–53; R. G. Golovkova and G. A. Rakhimzhanova, "On the problem of ablation heat regime of the central Tuyuksu glacier", p. 54–61; V. A. Zenkova, "Glacier discharge of the Malaya Almatinka rivers of the Zailiyskiy Alatau range", p. 62–72; P. F. Shabanov, "Experience in determination of liquid runoff from glacier firns", p. 73–78; N. Ya. Barvenko, "On changes of velocity of ice movement on the Tuyuksu glacier of the Zailiyskiy Alatau mountain range", p. 79–86; G. A. Tokmagambetov, "Physicomechanical properties of soils of morainic deposits of the Malaya Almatinka glaciers", p. 87–100; P. A. Cherkasov and N. V. Yerasov, "Recent glaciation of the Second Tentek river basin in the Dzhungar Alatau range", p. 101–16; P. A. Cherkasov, "Seismic sounding of the Aganakty-Tentekskaya river basin glaciers in the Dzhungar Alatau range", p. 117–34; L. K. Didenko-Kislitsina, "On amount and age of the Dzhungar Alatau glaciation", p. 135–57; R. V. Khonin, "Recent glaciation in the basin of the Belaya Berel river", p. 158–71; R. V. Khonin, "On hydrologic regime of the Berel glaciers", p. 172–80; N. N. Pal'gov, "Determination of natural flow of ice runoff, thickness and mass of mountain glaciers by means of method of balances", p. 181–89.]
- SHUMSKIY, P. A. *Principles of structural glaciology: the petrography of fresh-water ice as a method of glaciological investigation. Translated from the Russian by David Kraus.* New York, Dover Publications, 1964, xi, 497 p. \$3.00.

## GLACIOLOGICAL INSTRUMENTS AND METHODS

- KENNETT, P. Use of aneroid barometers for height determinations on the Larsen Ice Shelf. *British Antarctic Survey Bulletin*, No. 7, 1965, p. 77–80. [Advisability of using aneroid barometers instead of levelling on large ice sheets.]
- PELEVIN, V. S. Metod prokhodki skvazhin v tolsheche l'da posredstvom vysokotemperaturnoy gazovoy strui [Method of boring holes in ice with a high-temperature gas jet.] *Informatsionnyy Byulleten' Sovetskoy Antarkticheskoy Ekspeditsii [Information Bulletin of the Soviet Antarctic Expedition]*, No. 48, 1964, p. 35–37.
- PHILBERTH, K. Über zwei Elektro-Schmelzsonden mit Vertikalstabilisierung. *Polarforschung*, Bd. 5, Jahrg. 34, Ht. 1–2, 1964 [pub. 1965], p. 278–80. [Description of hotpoints for boring in ice which have good vertical stability.]
- SCHAEFER, V. J. Preparation of permanent replicas of snow, frost, and ice. *Weatherwise*, Vol. 17, No. 6, 1964, p. 279–87. [Survey of current techniques.]
- SMITH-JOHANSEN, R. I. Resin vapour replication technique for snow crystals and biological specimens. *Nature*, Vol. 205, No. 4977, 1965, p. 1204–05. [Description of method.]
- WILGAIN, S., and others. Strontium 90 fallout in Antarctica, [by] S. Wilgain and E. Picciotto [and] W. de Breuck. *Journal of Geophysical Research*, Vol. 70, No. 24, 1965, p. 6023–32. [Measurements at "Base Roi Baudouin", Scott Base and South Pole show three radioactive levels of use in glaciological dating.]

## PHYSICS OF ICE

- BOSEN, J. F. Formula for approximation of the ratio of the saturation vapor pressure over ice to that over water at the same temperature. *Monthly Weather Review*, Vol. 92, No. 11, 1964, p. 508.

- BROCKAMP, B., and QUERFURTH, H. Untersuchungen über die Elastizitätskonstanten von See- und Kunsteis. *Polarforschung*, Bd. 5, Jahrg. 34, Ht. 1-2, 1964 [pub. 1965], p. 253-62. [Ultrasonic measurements of the elastic waves show a temperature dependence of the longitudinal waves, as well as the shear waves.]
- BRYANT, G. W., and FLETCHER, N. H. Thermoelectric power of ice containing HF or NH<sub>3</sub>. *Philosophical Magazine*, Eighth Ser., Vol. 12, No. 115, 1965, p. 165-76. [Value depends markedly on type and concentration of impurities. Results compared with Jaccard's theory.]
- CHAI, S. Y., and VOGELHUT, P. O. Activation energy of direct-current electrical conductivity of ice with HF and NH<sub>3</sub> added. *Science*, Vol. 148, No. 3677, 1965, p. 1595-97. [Experimental determination as function of concentration.]
- CHALMERS, B., and WILLIAMSON, R. B. Crystal multiplication without nucleation. *Science*, Vol. 148, No. 3678, 1965, p. 1717-18. [Observation of growth of disk-shaped crystals below ice layer into supercooled water. Fracture of neck of such crystals suggested as source of frazil ice.]
- CHAN, R. K., and others. Effect of pressure on the dielectric properties of ice I, [by] R. K. Chan, D. W. Davidson, and E. Whalley. *Journal of Chemical Physics*, Vol. 43, No. 7, 1965, p. 2376-83. [Measurements up to 2 kbar of static dielectric constant, relaxation time and d.c. conductivity and discussion of mechanisms.]
- DAVIS, E., and STRICKLAND-CONSTABLE, R. F. Evaporation and growth of crystals from the vapour phase. (In Rutner, E., and others, ed. *Condensation and evaporation of solids: proceedings of the International Symposium on Condensation and Evaporation of Solids*, Dayton, Ohio, September 12-14, 1962, edited by E. Rutner, P. Goldfinger [and] J. P. Hirth. New York, London, Gordon and Breach, [c1964], p. 665-79.) [Measurements of rates of growth and evaporation of polycrystalline ice at -80°C. and -90°C. and interpretation of results in terms of mechanisms. Discussion by Motzfeldt and Hirth on p. 678-79.]
- DINGER, J. E. Electrification associated with the melting of snow and ice. *Journal of the Atmospheric Sciences*, Vol. 22, No. 2, 1965, p. 162-66. [Experimental results. Interpretation in terms of release of air bubbles.]
- DOUGHERTY, T. J. Electrical properties of ice. I. Dielectric relaxation in pure ice. *Journal of Chemical Physics*, Vol. 43, No. 9, 1965, p. 3247-52. [Theoretical study generalizing work of Onsager and Dupuis and of Jaccard.]
- EVANS, L. F. Requirements of an ice nucleus. *Nature*, Vol. 206, No. 4986, 1965, p. 822. [Silver iodide is shown to assist nucleation of ice-I even at pressures at which ice-III is the stable phase.]
- FUKUTA, N. Activated ice nucleation by sprayed organic solutions. *Journal of the Atmospheric Sciences*, Vol. 22, No. 2, 1965, p. 207-11. [Ice nucleating ability of some organic materials is enhanced by spraying solutions of them. Activation temperatures approaching 0°C. are produced.]
- GOLD, L. W. The initial creep of columnar-grained ice. Part I. Observed behavior.—Part II. Analysis. *Canadian Journal of Physics*, Vol. 43, No. 8, 1965, p. 1414-22; No. 8, 1965, p. 1423-34. [Part I: results of creep tests in uniaxial compression perpendicular to the long axes of the columns. Part II: analysis of experiments yields a power-law dependence on stress.]
- HICKLING, R. Nucleation of freezing by cavity collapse and its relation to cavitation damage. *Nature*, Vol. 206, No. 4987, 1965, p. 915-17. [Suggestion that ice nucleates at the very high pressures in cavitation collapse.]
- HIGASHI, A., and others. Bending creep of ice single crystals, [by] A. Higashi, S. Koinuma and S. Mae. *Japanese Journal of Applied Physics*, Vol. 4, No. 8, 1965, p. 575-82. [Experiments on specimens cut from large glacier crystals. Stress and temperature dependence. Results consistent with Johnston's dislocation theory.]
- HIGUCHI, K. Tyndall figures formed in crystallographic plane perpendicular to basal plane of ice crystals. *Nature*, Vol. 202, No. 4931, 1964, p. 485-87.
- HOBBS, P. V. The aggregation of ice particles in clouds and fogs at low temperatures. *Journal of the Atmospheric Sciences*, Vol. 22, No. 3, 1965, p. 296-300. [The results predicted are found to be in quantitative agreement with the degree of sintering observed in aggregates of ice particles from natural ice fogs.]
- HOBBS, P. V., and MAGONO, C. The effect of air bubbles in ice on charge transfer produced by asymmetrical rubbing. *Journal of the Atmospheric Sciences*, Vol. 21, No. 6, 1964, p. 706-07. [Letter from Hobbs discussing mechanism of effect found by Magono and Y. Shiotsuki, *ibid.*, p. 666-70, with reply by Magono.]
- HOBBS, P. V., and SCOTT, W. D. Step-growth on single crystals of ice. *Philosophical Magazine*, Eighth Ser., Vol. 11, No. 113, 1965, p. 1083-86. [Theory to explain temperature dependence of step-growth rate and interaction between steps on the basal plane of ice.]
- HOBBS, P. V., and SCOTT, W. D. A theoretical study of the variation of ice crystal habits with temperature. *Journal of Geophysical Research*, Vol. 70, No. 20, 1965, p. 5025-34. [Theory based on velocity of step-growth on different faces of ice crystals.]
- HOEKSTRA, P., and others. The migration of liquid inclusions in single ice crystals, [by] P. Hoekstra, T. E. Osterkamp, and W. F. Weeks. *Journal of Geophysical Research*, Vol. 70, No. 20, 1965, p. 5035-41. [Observation of rate of migration of brine pockets of KCl and NaCl and of solid KCl; discussion of mechanism.]
- KEVAN, L. Cation interactions of trapped electrons in irradiated alkaline ice. *Journal of the American Chemical Society*, Vol. 87, No. 7, 1965, p. 1481-83. [Line-width studies on electron spin resonance spectra of  $\gamma$  irradiated alkaline H<sub>2</sub>O and D<sub>2</sub>O ice. Results show trapped electrons to be distributed over a radius of at least 3-4 Å.]
- KOPP, M., and others. Measurement by NMR of the diffusion rate of HF in ice, [by] M. Kopp, D. E. Barnaal, and I. J. Lowe. *Journal of Chemical Physics*, Vol. 43, No. 9, 1965, p. 2965-71. [Measurement and interpretation of very high diffusion rate found.]
- LATHAM, J. The effect of air bubbles in ice on charge transfer produced by asymmetric rubbing. *Journal of the Atmospheric Sciences*, Vol. 22, No. 3, 1965, p. 325-28. [Measurement of charge developed when metal tube coated with ice slid over an ice incline both with and without bubbles in the ice.]
- LATHAM, J., and STOW, C. D. Electrification associated with the evaporation of ice. *Journal of the Atmospheric Sciences*, Vol. 22, No. 3, 1965, p. 320-24. [Experimental study of charge developed when ice evaporates with a temperature gradient normal to its surface.]

- LATHAM, J., and STOW, C. D. The influence of impact velocity and ice specimen geometry on the charge transfer associated with temperature gradients in ice. *Quarterly Journal of the Royal Meteorological Society*, Vol. 91, No. 390, 1965, p. 462-70.
- LATHAM, J., and others. Charge transfer between model ice crystals separated in an electric field, by J. Latham, R. E. Mystem and J. D. Sartor. *Nature*, Vol. 206, No. 4991, 1965, p. 1344-45. [Measurement of critical distances for charge transfer between artificial ice crystals of various shapes.]
- LAVROV, V. V. O razlichii svoystv l'da na szhatiye i na rastyazheniye [The difference between the properties of ice in tension and compression]. *Doklady Akademii Nauk SSSR [Reports of the Academy of Sciences of the U.S.S.R.]*, Tom 162, No. 1, 1965, p. 54-56. [Ratio of stress to plastic strain and ultimate strength much lower in tension. Effect attributed to gaps between grains. English translation in *Soviet Physics—Doklady*, Vol. 10, No. 5, 1965, p. 429-31.]
- LEADBETTER, A. J. The thermodynamic and vibrational properties of H<sub>2</sub>O ice and D<sub>2</sub>O ice. *Proceedings of the Royal Society, Ser. A*, Vol. 287, No. 1410, 1965, p. 403-25. [Theoretical analysis of thermodynamic properties to deduce terms in the vibrational spectrum of H<sub>2</sub>O and D<sub>2</sub>O ice. Amplitudes of vibration of O, H and D atoms are deduced which agree well with X-ray and neutron scattering data.]
- MACKLIN, W. C., and RYAN, B. F. The structure of ice grown in bulk supercooled water. *Journal of the Atmospheric Sciences*, Vol. 22, No. 4, 1965, p. 452-59. [Growth directions are not oriented exactly with the basal plane of the seed; complex structure resulting is studied by flash photography.]
- PHILIP, J. R. Kinetics of growth and evaporation of droplets and ice crystals. *Journal of the Atmospheric Sciences*, Vol. 22, No. 2, 1965, p. 196-206. [Theoretical study of the validity of quasi-stationary analysis of evaporation and condensation processes in small droplets and ice crystals.]
- POWER, B. A., and POWER, R. F. Vanillin, cis-terpin hydrate, and cis-terpin as ice nucleators. *Science*, Vol. 148, No. 3673, 1965, p. 1088. [These substances may be ice nuclei in the atmosphere.]
- TEICHMANN, I., and SCHMIDT, G. Untersuchungen über den reziproken Piezoeffekt des Eises. *Physica Status Solidi*, Vol. 8, No. 3, 1965, p. K145-47. [Experiment yielding zero first order piezoelectric coefficient for ice. Second order effect measured.]
- TODD, C. J. Ice crystal development in a seeded cumulus cloud. *Journal of the Atmospheric Sciences*, Vol. 22, No. 1, 1965, p. 70-78. [Direct study of crystals collected in a cloud used to deduce details of nucleation and growth.]
- WAKAHAMA, G. Kōri no naibu-hakai ni tsuite [Internal fracture of ice]. *Teion-kagaku [Low Temperature Science]*, Ser. A, Vol. 23, 1965, p. 39-50. [Classification of various types of fracture in ice crystals and polycrystalline ice. English summary, p. 48-49.]
- WEISSMANN, M., and COHAN, N. V. Molecular orbital study of the hydrogen bond in ice. *Journal of Chemical Physics*, Vol. 43, No. 1, 1965, p. 119-23. [Theoretical calculation yielding values of bond energy and dipole moment in good agreement with experiment.]
- WEISSMANN, M., and COHAN, N. V. Molecular orbital study of ionic defects in ice. *Journal of Chemical Physics*, Vol. 43, No. 1, 1965, p. 124-26. [Theoretical calculation of energy for diffusion of defects showing H<sub>3</sub>O<sup>+</sup> to be more mobile.]
- WHALLEY, E., and DAVIDSON, D. W. Entropy changes at the phase transitions in ice. *Journal of Chemical Physics*, Vol. 43, No. 6, 1965, p. 2148-49. [Discussion of slopes of lines in phase diagram of ice and implications in terms of ordering of structures and entropy.]
- WILSON, G. J., and others. Dielectric properties of ices II, III, V, and VI, [by] G. J. Wilson, R. K. Chan, D. W. Davidson, and E. Whalley. *Journal of Chemical Physics*, Vol. 43, No. 7, 1965, p. 2384-91. [Measurements up to 300 kc./sec. and interpretation in terms of the structures.]

## LAND ICE. GLACIERS. ICE SHELVES

- BAUER, A. Travaux du groupe de glaciologie de la IXe Expédition Antarctique Soviétique (été austral 1963-1964). *La Houille Blanche*, 1965, Nr. 5, p. 115-24. [Condensed report of papers by Shumskiy and Bauer being published in Russian on variation of the ice cover of eastern Antarctica and of measurements made on a traverse.]
- BOGORODSKIY, V. V., and others. Elektromagnitnoye zondirovaniye antarkticheskogo lednika [Electromagnetic sounding of the Antarctic Ice Sheet], [by] V. V. Bogorodskiy, V. N. Rudakov [and] V. A. Tyul'pin. *Zhurnal Tekhnicheskoy Fiziki [Journal of Technical Physics]*, Tom 35, Vyp. 6, 1965, p. 1150-53. [Sounding between Mirny and "Pionerskaya" station gave a depth of 850 m. at a place of known depth of 900 m. English translation in *Soviet Physics—Technical Physics*, Vol. 10, No. 6, 1965, p. 886-88.]
- BULLEN, K. E., and GOODSPEED, M. J. Seismic investigations of Antarctic structure. *Annals of the International Geophysical Year*, Vol. 30, 1965, p. 213-59. [Seismic measurements leading to the determination of the thickness of the ice cap, seismic ice velocities and some features of the structure below the ice.]
- DEBENHAM, F. The glacier tongues of McMurdo Sound. *Geographical Journal*, Vol. 131, Pt. 3, 1965, p. 369-71. [Various problems arising from the earlier account by Wright and Priestley.]
- EPSTEIN, S., and others. Six-year record of oxygen and hydrogen isotope variations in South Pole firn, by S. Epstein, R. P. Sharp and A. J. Gow. *Journal of Geophysical Research*, Vol. 70, No. 8, 1965, p. 1809-14. [Stake, firn stratigraphy and isotope measurements compared.]
- GIOVINETTO, M. B. Preliminary report on drainage systems of Antarctica. *Polarforschung*, Bd. 5, Jahrg. 34, Ht. 1-2, 1964 [pub. 1965], p. 240-46. [Division of Antarctic Ice Sheet into drainage systems and estimate of individual mass balances.]
- GONFIANTINI, R. Some results on oxygen isotope stratigraphy in the deep drilling at King Baudouin station, Antarctica. *Journal of Geophysical Research*, Vol. 70, No. 8, 1965, p. 1815-19. [Accumulation deduced.]

- HOLDSWORTH, G. An examination and analysis of the formation of transverse crevasses, Kaskawulsh Glacier, Yukon Territory, Canada. *Ohio State University. Institute of Polar Studies. Report No. 16*, 1965, 91 p. [Observations to test Nye's theory of the longitudinal strain rate on the surface of a valley glacier and investigation of the mechanics and mode of formation of transverse crevasses.]
- LLIBOURY, L. How glaciers move. *New Scientist*, Vol. 28, No. 473, 1965, p. 734-36. [Discussion on Glen's, Nye's, Weertman's and the author's theories.]
- LOEWE, F. Das grönländische Inlandeis nach neuen Feststellungen. *Erdkunde*, Bd. 18, Ht. 3, 1964, p. 189-202. [Review of present knowledge of Greenland Ice Sheet. English summary.]
- LUNDE, T. On the firn temperatures and glacier flow in Dronning Maud Land. *Norsk Polarinstitutt. Årbok*, 1963 [pub. 1965], p. 7-24. (Den Norske Antarktisekspedisjonen, 1956-60. Scientific Results, No. 7.)
- MERCER, J. H. Glacier variations in southern Patagonia. *Geographical Review*, Vol. 55, No. 3, 1965, p. 390-413. [Results obtained in 1963 from the Upsala glacier and its vicinity.]
- MILLER, M. M., and others. Tritium in Mt. Everest ice—annual glacier accumulation and climatology at great equatorial altitudes, [by] M. M. Miller, J. S. Leventhal and W. F. Libby. *Journal of Geophysical Research*, Vol. 70, No. 16, 1965, p. 3885-88. [Tritium used to verify semi-annual stratification on Khumbu Glacier and hence deduce accumulation of 1.7 m. water equivalent.]
- OECHSLIN, M., and VANEY, P. Mattmark.—La catastrophe de Mattmark. *Les Alpes. Bulletin Mensuel du Club Alpin Suisse*, 41e An., [No.] 10, 1965, p. 222-26. [Avalanche of the Allalin Gletscher in August 1965.]
- PÄLMASON, G. Gravity measurements in the Grimsvötn area. *Jökull*, År 14, No. 3, 1964, p. 61-66. [Gravity measurements and estimates of ice thickness on the Vatnajökull ice cap.]
- PILLEWIZER, W. Bewegungsstudien an einem arktischen Gletscher. *Polarforschung*, Bd. 5, Jahrg. 34, Ht. 1-2, 1964 [pub. 1965], p. 247-53. [Studies of block-flow by the calving of the Kongsvegen glacier in Vestspitsbergen.]
- POST, A. S. Alaskan glaciers: recent observations in respect to the earthquake-advance theory. *Science*, Vol. 148, No. 3668, 1965, p. 366-68. [Aerial studies show rockfalls but no significant snow and ice avalanches or catastrophic advances.]
- RAGLE, R. H., and others. Effects of the 1964 Alaskan earthquake on glaciers and related features, [by] R. H. Ragle, J. E. Sater and W. O. Field. *Arctic*, Vol. 18, No. 2, 1965, p. 135-37.
- RÜEGG, W. La Cordillère Blanche du Pérou et la catastrophe du Huascarán. *Les Alpes. Revue du Club Alpin Suisse*, 38e An., 4e Trimestre, 1962, p. 275-80. [Account of the formation of glacier-lagoons, of the rupture of the rock bastion and ice cap of the north Huascarán in 1962 and the resulting disastrous ice, snow and rock avalanche.]
- RUNDLE, A. S. Glaciological investigations on Sukkertoppen ice cap, southwest Greenland, summer 1964. *Ohio State University. Institute of Polar Studies. Report No. 14*, 1965, 11 p. [Temperatures at depth indicate that much of the ice cap is temperate. Snow pit and core analysis show significant variation in accumulation.]
- SAVAGE, J. C., and PATERSON, W. S. B. Additional borehole measurements in the Athabasca Glacier. *Journal of Geophysical Research*, Vol. 70, No. 14, 1965, p. 3511-13. [Results for 1963 confirming results of previous years. Also lists errata and corrigenda for Paterson and Savage, *ibid.*, Vol. 68, No. 15, 1963, p. 4537-43, and Savage and Paterson, *ibid.*, Vol. 68, No. 15, 1963, p. 4521-36.]
- SCHYTT, V. Notes on glaciological activities in Kebnekaise, Sweden, during 1964. *Geografiska Annaler*, Vol. 47A, No. 1, 1965, p. 65-71. [Accumulation, ablation and mass balance of Storglaciären during 1964. Variations of Swedish glaciers in 1964.]
- SHUMSKIY, P. A., and YEVTSEYEV, S. A. O napravlenii sovremennykh izmeneniy antarkticheskogo lednikovogo pokrova [Directions of recent changes of the Antarctic ice cover]. (In *Antarktika. Doklady Komissii 1962* [Antarctica. Reports of the Commission, 1962]. Moscow, Izdatel'stvo Akademii Nauk SSSR [Publishing House of the Academy of Sciences of the U.S.S.R.], 1963, p. 60-86.) [Discusses possible methods for determining recent changes and their causes.]
- SHUMSKIY, P. A., and ZOTIKOV, I. A. O donnom tayanii shel'fovykh lednikov Antarktity [Bottom melting of shelf ice of Antarctica]. (In *Antarktika. Doklady Komissii 1962* [Antarctica. Reports of the Commission, 1962]. Moscow, Izdatel'stvo Akademii Nauk SSSR [Publishing House of the Academy of Sciences of the U.S.S.R.], 1963, p. 87-108.) [Discussion of methods for determining bottom melting and deduction of mean rate.]
- SIMONOV, I. M. Snegonakopleniye na shel'fovykh lednikakh v rayone stantsiy Lazarev i Novolazarevskaya v 1962 g. [Snow accumulation on ice shelves in the region of "Lazarev" and "Novolazarevskaya" stations in 1962]. *Informatsionnyy Byulleten' Sovetskoy Antarkticheskoy Ekspeditsii* [Information Bulletin of the Soviet Antarctic Expedition], No. 49, 1964, p. 13-18.
- STENBORG, T. Problems concerning winter run-off from glaciers. *Geografiska Annaler*, Vol. 47A, No. 3, 1965, p. 141-84. [Factors which determine the run-off from glaciers during the winter and the general conditions for this run-off in different environments.]
- SUETOVA, I. A. Morfometricheskiye kharakteristiki Antarktity (ploshchadi, gipsograficheskaya krivaya poverkhnosti, srednyaya vysota i ob'yem) [Morphometric characteristics of Antarctica (areas, hypsographic curve of the surface, mean height and volume)]. (In *Antarktika. Doklady Komissii 1962* [Antarctica. Reports of the Commission, 1962]. Moscow, Izdatel'stvo Akademii Nauk SSSR [Publishing House of the Academy of Sciences of the U.S.S.R.], 1963, p. 28-34.)
- SZUPRYCZYŃSKI, J. Relief of the marginal zone of Werenskiöldbreen. *Norsk Polarinstitutt. Årbok*, 1963 [pub. 1965], p. 89-107. [Vestspitsbergen. Field work in 1960.]
- TAYLOR, L. D. Glaciological studies on the South Pole traverse 1962-1963. *Ohio State University. Institute of Polar Studies. Report No. 17*, 1965, 25 p. [Detailed pit studies, accumulation, temperature, firn properties, etc., at 25 stations over a 1,448 km. traverse between the South Pole and the Queen Maud Range and Horlick Mountains.]
- THORARINSSON, S. Sudden advance of the Vatnajökull outlet glaciers 1930-1964. *Jökull*, År 14, No. 3, 1964, p. 76-89. [Gives details, and a list, of nine glaciers affected by sudden advances from 1890 to 1964.]

- WESTPHAL, J. A. In situ acoustic attenuation measurements in glacial ice. *Journal of Geophysical Research*, Vol. 70, No. 8, 1965, p. 1849-53. [Attenuation of acoustic waves measured in Blue Glacier. Mechanism discussed.]
- ZOTIKOV, I. A. Teplovoy rezhim lednika tsentral'noy Antarktity [Heat regime of the central Antarctic glacier]. (In *Antarktika. Doklady Komissii 1961* [Antarctica. Reports of the Commission, 1961]. Moscow, Izdatel'stvo Akademii Nauk SSSR [Publishing House of the Academy of Sciences of the U.S.S.R.], 1962, p. 27-40.) [Theoretical model suggests melting occurs at bed in central Antarctic. Discussion of dispersal of melt water.]

## ICEBERGS. SEA, RIVER AND LAKE ICE

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#### FRANK DEBENHAM

It is with great regret that the Society has to announce the death of Professor Frank Debenham, Honorary Member of the Society. An obituary notice, and appreciations, will appear in the next issue of the *Journal of Glaciology*.