

## GLACIOLOGICAL LITERATURE

THIS bi-annual list of glaciological literature aims to cover the *scientific* aspects of snow and ice in all parts of the world. Attention is drawn to the bibliographies in each number of the *Polar Record* (Cambridge), which aim to cover the significant work dealing with expeditions, research, equipment and conditions of living in the Polar regions. Both journals, however, deal with Polar literature having specific glaciological interest and with general matters of a practical nature such as snowcraft.

Readers will greatly assist the Editor by notifying him of their own, or any other, publication of glaciological interest.

- ARAKAWA, K., and HIGUCHI, K. Studies on the freezing of water. (I.) *Journal of the Faculty of Science, Hokkaidō University*, Ser. 2, Vol. 4, No. 3, 1952, p. 201-08. [Growth of stellar crystals from disc crystals.]
- AUTY, R. P., and COLE, R. H. Dielectric properties of ice and solid D<sub>2</sub>O. *Journal of Chemical Physics*, Vol. 20, No. 8, 1952, p. 1309-14. [Complex dielectric constants measured from melting point to -65° C. (H<sub>2</sub>O) and -35° C. (D<sub>2</sub>O).]
- AVERY, E. C., and GROSSWEINER, L. I. Thermoluminescence of ice. *Journal of Chemical Physics*, Vol. 21, No. 2, 1953, p. 372-73. [Ice, irradiated with X-rays at -183° C., glows when subsequently warmed.]
- BADER, H., and others. Preliminary investigations of some physical properties of snow, by H. Bader, B. L. Hansen, J. A. Joseph, M. A. Sandgren. *U.S. Snow*, [Ice and Permafrost Research Establishment] Report 7, 1951, viii, 48 p. [+14 sheets diagrs.] [Mechanics of snow compaction; description of instruments for its investigation.]
- BARRÈRE, P. Équilibre glaciaire actuel et quaternaire dans l'ouest des Pyrénées centrales. *Revue Géographique des Pyrénées et du Sud-Ouest*, Tome 24, Fasc. 2, 1953, p. 116-34.
- BERG, H. Temperaturmessungen in der schneenahen Luftschicht. *Wetter und Leben*, Jahrg. 5, Ht. 1/2, 1953, p. 34-35. [Temperature of air layer above snow.]
- BERGER, C., and SAFFER, C. M., jr. The existence of "beta" ice. *Science*, Vol. 118, No. 3070, 1953, p. 521-22. [Seljakov's report of rhombohedral ice formed by freezing supercooled water at ordinary pressure almost certainly fallacious.]
- BIAYS, P. Les îles de glace arctiques. *Annales de Géographie*, 62 An., No. 333, 1953, p. 377-80. [Form, origin, movement.]
- BIGG, E. K. The supercooling of water. *Proceedings of the Physical Society of London*, Series B, Vol. 66, No. 404, 1953, p. 688-94. [Drops suspended at the interface of two insoluble liquids were used to find dependence of supercooling on volume and cooling rate.]
- BLUE, R. W. The librational heat capacity of ice and of heavy ice. *Journal of Chemical Physics*, Vol. 22, No. 2, 1954, p. 280-83. [Heat capacity of ice can be split into translational and rotational parts by studying the difference in heavy ice.]
- BOSSOLASCO, M. Sulla micrometeorologia del manto nevoso. *Geofisica e Meteorologia*, Vol. 2, No. 1/2, 1954, p. 1-2. [Micro-climate of the snow cover.]
- BOUT, P. *Études de géomorphologie dynamique en Islande*. Paris, Hermann, 1953. 219 p. (Actualités scientifiques et industrielles, 1197. Expéditions Polaires Françaises [travaux], III.) [Includes chapters on soil polygons and periglacial erosion.]
- BRUNNER, T. Einige Beobachtungen über das Haften von Eis an Oberflächen. *Zeitschrift für angewandte Mathematik und Physik*, Vol. 3, Fasc. 6, 1952, p. 460-66. [Shear tests on adhesion of ice to clean and greased surfaces.]
- CAILLEUX, A., and TAYLOR, G. *Cryopédologie: étude des sols gélés*. Paris, Hermann, 1954. 220 p. (Actualités scientifiques et industrielles, 1203. Expéditions Polaires Françaises [travaux], IV.) [Physical mechanisms; true soils; superficial formations; practical applications. Bibliography.]
- CAPELLO, C. Gli apparati morenici di diversione. *Bollettino del Comitato Glaciologico Italiano*, 2 Ser., No. 3, 1952, p. 25-44. [Effect of morainic obstructions on flow of the Macunaga and Miage glaciers.]
- CHALMERS, J. A. Electric charges from ice friction. *Journal of Atmospheric and Terrestrial Physics*, Vol. 2, No. 6, 1952, p. 337-39. [Experiments showing that when ice is rubbed the large fragments carry a negative charge.]
- CUMMING, W. A. The dielectric properties of ice and snow at 3.2 cm. *Journal of Applied Physics*, Vol. 23, No. 7, 1952, p. 768-72. [Data of use in studying radar echoes from snow-covered terrain and snowstorms.]
- DESSENS, H. Sur la microstructure et la précipitation artificielle d'un brouillard surfondu. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, Tome 235, No. 25, 1952, p. 1675-78. [Examination of a supercooled town fog with ultramicroscope showed presence of rare, asymmetric ice crystals.]
- DIAMOND, M., and LOWRY, W. P. Correlation of density of new snow with 700 mb temperature. *U.S. Snow, Ice and Permafrost Research Establishment. Research Paper 1*, 1953, 3 p.
- DIENER, V. D. Nekotoryye osobennosti zamerzaniya rek i ozer v zapolyar'ye [Some features of the freezing of rivers and lakes in the polar regions]. *Priroda [Nature]* (Moscow), 1953, No. 10, p. 119-20. [Characteristics of new freshwater ice.]
- DREIMANIS, A. Studies of friction cracks along shores of Cirrus Lake and Kasakokwog Lake, Ontario. *American Journal of Science*, Vol. 251, No. 11, 1953, p. 769-83. [Friction cracks do not always dip in direction of ice flow.]
- EPSTEIN, S., and MAYEDA, T. Variation of O<sup>18</sup> content of waters from natural sources. *Geochimica et Cosmochimica Acta*, Vol. 4, No. 5, 1953, p. 213-24. [Low O<sup>18</sup>:O<sup>16</sup> ratios obtained from marine waters contaminated with melt water from ice fields.]
- FINSTERWALDER, R. Die zahlenmässige Erfassung des Gletscherrückgangs an Ostalpengletschern. *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 2, Ht. 2, 1953, p. 189-239. [Data on glacier retreat for eight glaciers in the Eastern Alps.]
- FLOHN, H. Studien über die atmosphärische Zirkulation in der letzten Eiszeit. *Erdkunde*, Bd. 7, Ht. 4, 1953, p. 266-75. [Climate during last glacial period and speculation on cause of ice ages.]
- FRIEDMAN, I. Deuterium content of natural waters and other substances. *Geochimica et Cosmochimica Acta*, Vol. 4, Nos. 1/2, 1953, p. 89-103. [Accurate method using a mass spectrometer. Includes results in Bering Sea and off coast of Greenland.]
- FRIEDRICH, W. Die Ursachen der Lawinenkatastrophen im Jänner 1951. *Anzeiger der Österreichischen Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Klasse*, Jahrg. 88, Nr. 6, 1951, p. 117-25. [Analysis of the causes of the Austrian avalanches, January 1951.]
- FRIEDRICH, W. Schneerollen. *Wetter und Leben*, Jahrg. 5, Ht. 3/4, 1953, p. 82-83. ["Snow rollers."]
- FUCHS, ALFRED. Die Scherfestigkeit von Schnee und Eis in Abhängigkeit von der Temperatur. *Veröffentlichungen des Museum Ferdinandeum* (Innsbruck), Bd. 26/29, Jahrg. 1946/49, [pub.] 1949, p. 101-05. [Shear strength of snow and ice in relation to temperature.]
- FUCHS, ALFRED. Räumliche Abbildungen von Schneegefügen als Dauerpräparate. *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 2, Ht. 2, 1953, p. 299-301. [New method of making permanent snow replicas.]

- FUCHS, ALFRED. Über eine Verbesserung des Rotations-Zerreissapparates für Schneeeproben. *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 2, Ht. 2, 1953, p. 302-03. [Improved "tearing" apparatus for testing strength of snow samples.]
- GARCIA-SÁINZ, L. Los glaciares cuaternarios de la Sierra de la Estrella. *Boletim da Sociedade de Geografia de Lisboa*, Sér. 71, Nos. 4-6, 1953, p. 170-71. [Reconstruction of Quaternary glaciers on the Sierra de Estrella (Portugal).]
- GARRIGUE, H. Observations sur les impuretés dans l'air libre. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, Tome 236, No. 24, 1953, p. 2309-11. [Radioactivity in snow probably of distant origin, e.g. atomic bombs; the dust and soot are of local origin.]
- GILL, E. W. B. Electrification by freezing. *British Journal of Applied Physics*. Supplement No. 2, 1953, p. S16-S19. [Potentials of order 100 volts found when ice formed from dilute solutions. A theory is suggested.]
- GOURLEY, MARY G., and CROZIER, W. D. Persistent residues from ice particles. *Physical Review*, Ser. 2, Vol. 92, No. 2, 1953, p. 526. [Ice particles formed and evaporated at  $-75^{\circ}$  C. leave residue capable of nucleating further ice particles.]
- GRUNOW, J. Kritische Nebelfroststudien: nach Beobachtungen auf dem Hohenpeissenberg. *Archiv für Meteorologie, Geophysik und Bioklimatologie*, Ser. B, Bd. 4, Ht. 4, 1953, p. 389-419. [Fog deposit, frequency of occurrence and meteorological conditions.]
- HAEFFEL, R. Kriechprobleme im Boden, Schnee und Eis. *Wasser und Energiewirtschaft*, 1954, Nr. 3, 19 p. [Problems of creep in soils, snow and ice; includes sections on creep in causing avalanches, apparent viscosity and extrusion flow in glaciers.]
- HAST, N. Observations regarding resistant surface films of crystals. *Arkiv för Fysik*, Bd. 4, Ht. 6, 1952, p. 535-39. [Ice from distilled water leaves surface film as a veil-like structure visible in electron microscope.]
- HAWKE, E. L., and BONACINA, L. C. W. The Snow Survey of Great Britain. *Quarterly Journal of the Royal Meteorological Society*, Vol. 79, No. 339, 1953, p. 168-71. [Correspondence on a review of the 1949-50 and 1950-51 Snow Survey, *ibid.*, Vol. 78, together with reply by reviewer.]
- HEAPS, H. S. An analysis of downpunching. *Transactions of the Royal Society of Canada*, Third Ser., Vol. 47, Section 4, 1953, p. 17-21. [Mathematical discussion of stress pattern in crust of the Earth due to surface load of an ice sheet.]
- HEINSHIMER, G. J. Schwund der Staubschichten in einem Gletscher: nach Beobachtungen am Glaciar Derecho in der Cordillera von San Juan (Argentinien). *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 2, Ht. 2, 1953, p. 185-88. [Suggests mechanism by which one side of the glacier is dirt-laden, other side dirt-free.]
- HELK, J. V., and DUNBAR, MOIRA. Ice islands: evidence from north Greenland. *Arctic*, Vol. 6, No. 4, 1953, p. 263-71. [Photographs of only areas in north Greenland where ice of this nature is found.]
- HEUSSER, C. J. Palynology of the Taku Glacier snow cover, Alaska, and its significance in the determination of glacier regimen. *American Journal of Science*, Vol. 252, No. 5, 1954, p. 291-308. [Investigation of the pollen and spore stratigraphy of the glacier as a help in determining its regime.]
- HEUSSER, C. J., and others. Geobotanical studies on the Taku Glacier anomaly, by C. J. Heusser, R. L. Schuster and A. K. Gilkey. *Geographical Review*, Vol. 44, No. 2, 1954, p. 224-39. [Botanical evidence on why this glacier is advancing.]
- HIGUCHI, K. A method for observation of falling snow particles. *Journal of the Meteorological Society of Japan*, Ser. 2, Vol. 32, No. 3, 1954, p. 19-24. [Shadow photography of snow crystals to obtain shape, size and mass.]
- HOINKES, H. Wärmeumsatz und Ablation auf Alpengletschern. II. Hornkees (Zillertaler Alpen), September 1951. *Geografiska Annaler*, Årg. 35, Ht. 2, 1953, p. 116-40. [Studies of ablation on alpine glaciers, 1950-51.]
- HOINKES, H. Zur Frage der Schmutzbänder auf den Gletscherzungen. *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 2, Ht. 2, 1953, p. 177-84. [Suggests cause of non-sedimentary "dirt-bands" (ogives) to be as proposed by Tyndall.]
- HOINKES, H. Zur Mikrometeorologie der eisnahen Luftschicht. *Wetter und Leben*, Jahrg. 5, Ht. 1/2, 1953, p. 33-34. [Micrometeorology of air layer above ice.]
- HOPPE, G. Nägra iakttagelser vid isländska jöklar sommaren 1952. *Ymer*, Årg. 73, Ht. 4, 1953, p. 241-65. [Observations of 12 of Vatnajökull's lobes and tongues. Superficial moraines uncommon on Icelandic glaciers. English summary.]
- HOPPE, G., and SCHYTT, V. Some observations on fluted moraine surfaces. *Geografiska Annaler*, Årg. 35, Ht. 2, 1953, p. 105-15. [Ground moraine surfaces recently exposed by retreating ice are often strikingly "fluted", the ridges consisting of fine material.]
- HOWELL, W. E. Some measurements of ablation, melting and solar absorption on a glacier in Peru. *Transactions. American Geophysical Union*, Vol. 34, No. 6, 1953, p. 883-88.
- HUMBEL, F., and others. Anisotropie der Dielektrizitätskonstante des Eises, von F. Humbel, F. Jona und P. Scherrer. *Helvetica Physica Acta*, Vol. 26, Fasc. 1, 1953, p. 17-32. [Measurement of the dielectric constant of ice for various orientations of a single crystal at temperatures from  $-5^{\circ}$  to  $-40^{\circ}$  C.]
- IMBERT, B. Sondages sismiques en Terre Adélie: rapports scientifiques des Expéditions Polaires Françaises S. III. 2. *Annales de Géophysique*, Tome 9, No. 1, 1953, p. 85-92. [Results of 4 series of observations made south of Port-Martin, Dec. 1951 and Jan. 1952.]
- ITOO, K. Mass, size and crystallizing [sic] velocity of skeleton-shaped depth hoar. *Papers in Meteorology and Geophysics* (Tokyo), Vol. 2, No. 2, 1951, p. 189-90. [Description and growth of depth hoar.]
- ITOO, K. Forms of ice crystals in the air: on small ice crystals (II). *Papers in Meteorology and Geophysics* (Tokyo), Vol. 3, No. 3, 1953, p. 207-16.
- ITOO, K. Size, mass and some other properties of ice crystals in the air: on small ice crystals (III). *Papers in Meteorology and Geophysics* (Tokyo), Vol. 3, No. 4, 1953, p. 297-306.
- IVANOV, K. YE, and LAVROV, V. V. Ob odnoy osobennosti mekhanizma plasticheskoy deformatsii l'da [A peculiarity in the mechanism of plastic deformation of ice]. *Zhurnal Tekhnicheskoy Fiziki* [Journal of Technical Physics], Tom 20, Vyp. 2, 1950, p. 230-31. [Plastic deformation curve of ice is stepped, like that of some metals. English translation by J. A. Bender, U.S.S.R. [Snow], [Ice and] P[ermafrost] R[esearch] E[stablishment]. Translation 10.]
- IVANOVSKIY, A. D. Snegovoy rezhim tsentral'noy lesostepi [Snow regime in the central forest-steppe region]. *Gidrotekhnika i Melioratsiya* [Hydraulic Engineering and Reclamation] (Moscow), No. 12, 1952, p. 13-22. [Effect of variation of relief and shelter-belts on snow fall, melting and runoff.]
- JAEGER, F. Der Rückgang der Gletscher des Kilimandjaro. *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 2, Ht. 2, 1953, p. 306-11. [Retreat of Kilimanjaro glaciers.]
- JOBERT, N. Dispersion des ondes de Rayleigh en milieu hétérogène; application au névé du Groenland. *Annales de Géophysique*, Tome 9, Fasc. 1, 1953, p. 28-32. [Theoretical study.]
- KAMPE, H. J. AUFM, and others. The influence of temperature on the shape of ice crystals growing at water saturation, by H. J. aufm Kampe, H. K. Weickmann and J. J. Kelly. *Journal of Meteorology*, Vol. 8, No. 3, 1951, p. 168-74. [Laboratory experiments on crystals formed at various temperatures.]

- KAMPE, H. J. AUFM, *and others*. Remarks on "Electron-microscope study of snow-crystal nuclei", by H. J. aufm Kampe, H. K. Weickmann and H. H. Kedesdy. *Journal of Meteorology*, Vol. 9, No. 5, 1952, p. 374-75. [Criticism of paper by M. Kumai, *ibid.*, Vol. 8, No. 3, 1951, p. 151-56, with reply by Kumai, *ibid.*, p. 375-76.]
- KAUTSKY, G. Eine von einem Gletscher gefurchte Moräne. *Geologiska Föreningens i Stockholm Förhandlingar*, Bd. 75, Ht. 4, 1953, p. 490-92. [Moraine furrowed by glacier.]
- KELLER, J. B., and WEITZ, M. Reflection and transmission coefficients for waves entering or leaving an icefield. *Communications on Pure and Applied Mathematics*, Vol. 6, No. 3, 1953, p. 415-17. Equations for the reflection and transmission of water waves are derived.]
- KLEBELSBERG, R. VON. Ergebnisse der Gletschermessungen des Österreichischen Alpenvereins in den Österreichischen Alpen 1951 und 1952. *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 2, Ht. 2, 1953, p. 331-43. [Detailed account of glacier fluctuation in Austrian Alps.]
- KLEBELSBERG, R. VON. Die Gletscher der Österreichischen Alpen 1952-53. *Mitteilungen des Österreichischen Alpenvereins*, Jahrg. 9 (79), Ht. 1/2, 1954, p. 5-7. [55 of the principal Austrian glaciers in retreat in 1953, 2 in advance.]
- KRAMERS, H., and STEMERDING, S. The sublimation of ice in vacuum. *Applied Scientific Research*, Vol. A3, No. 1, 1951, p. 73-82. [Results show gas kinetic accommodation is nearly unity from  $-40^{\circ}$  to  $-60^{\circ}$  C. and confirm theory.]
- KUMAI, M., and ITAGAKI, K. Cinematographic study of ice crystal formation in water. *Journal of the Faculty of Science, Hokkaido University*, Ser. 2, Vol. 4, No. 4, 1953, p. 235-46. [Disc crystals are formed at higher temperature and grow more slowly than needle crystals.]
- KUMM, A. Über die Entstehung von elektrischen Ladungen bei Vorgängen in der kristallinen Eisphase. *Archiv für Meteorologie, Geophysik und Bioklimatologie*, Ser. A, Bd. 3, Ht. 5, 1951, p. 382-401. [Charges are found on crystals broken from a hoar layer.]
- LACHAPPELLE, E. R. *Snow studies on the Juneau Ice Field*. New York, American Geographical Society, 1954, 31, +1. [J.I.R.P. report no. 9.] [Experimental results of 1952 summer season; includes descriptions and methods of using instruments.]
- LANGLEBEN, M. P. The terminal velocity of snowflakes. *Quarterly Journal of the Royal Meteorological Society*, Vol. 80, No. 344, 1954, p. 174-81. [Photographic measurements.]
- LAWRENCE, D. W., and ELSON, J. A. Periodicity of deglaciation in North America since the late Wisconsin maximum. *Geografiskå Annaler*, Årg. 35, Ht. 2, 1953, p. 83-104. [The first part on Alaskan glaciers by Lawrence, the second on late Wisconsin recession by Elson.]
- LIED, HERTA. Der Abfluss des Glogau-Baruth-Hamburger Urstromtals während des Brandenburger Stadiums der Weichsel-Eiszeit. *Petermanns Geographische Mitteilungen*, Jahrg. 97, 2 Quartalsheft, 1953, p. 89-96. [Summer ablation amounted to 80-90% of annual ablation.]
- LIPSCOMB, W. N. Residual entropy of the polar structure of ice. *Journal of Chemical Physics*, Vol. 22, No. 2, 1954, p. 344. [Discussion of paper by Rundle, *ibid.*, Vol. 21, 1953, p. 1311, pointing out an error.]
- LLIBOUTRY, L. Les Andes de Santiago, leurs pénitents et leurs glaciers. *Bulletin de la Société Scientifique du Dauphiné*, Tome 69, No. 2, 1954, p. 7-11. [Description of *penitentes*, theory of formation, general description of glaciers near Santiago, which exhibit large advances and retreats.]
- LOVELL, C. W., jr., and HERRIN, M. Review of certain properties and problems of frozen ground, including permafrost. U.S. [Snow,] [Ice and] P[ermafrost] R[esearch] E[stablishment]. Report 9, 1953, x, 124 p. [Includes chapter on terminology, definition and classification.]
- MCDONALD, J. E. Homogeneous nucleation of supercooled water drops. *Journal of Meteorology*, Vol. 10, No. 6, 1953, p. 416-33. [Theory of supercooling of water drops.]
- MAGONO, C. On the fall velocity of snowflakes. *Journal of Meteorology*, Vol. 8, No. 3, 1951, p. 199-200. [Fall velocity as function of maximum diameter.]
- MANTIS, H. T., ed. Review of the properties of snow and ice, with reports by H. Bader, C. S. Benson, P. P. Bey, R. H. Doherty, R. J. Goldstein, J. A. Joseph, S. W. Rasmussen, D. C. Schiavone. U.S. [Snow,] [Ice and] P[ermafrost] R[esearch] E[stablishment]. Report 4, 1951, x, 156 p. [Physical properties, chiefly mechanical; reviews, bibliographies, abstracts.]
- MARTIN-CHAVANNES, J. Les débâcles au vallon de Ferpècle. *Die Alpen*, 29 Jahrg., No. 1, 1953, p. 26-29. [The flood of 4 August 1952 in the valley of Ferpècle attributed to the Mont Miné glacier.]
- MASON, B. J. Progress in cloud physics research: a progress report on recent investigations at Imperial College, London. *Archiv für Meteorologie, Geophysik und Bioklimatologie*, Ser. A, Bd. 6, Ht. 1, 1953, p. 1-52. [Includes review of laboratory and theoretical studies on supercooling and freezing of water and on growth of ice crystals from the vapour. Bibliography.]
- MELCHER, D. Experimentelle Untersuchung von Vereisungserscheinungen. *Zeitschrift für angewandte Mathematik und Physik*, Vol. 2, Fasc. 6, 1951, p. 421-43; Vol. 5, Fasc. 1, 1954, p. 89. [Experiments to determine factors influencing growth of rime in laboratory and the field.]
- MURPHY, E. J. Surface migration of water molecules in ice. *Journal of Chemical Physics*, Vol. 21, No. 10, 1953, p. 1831-35. [Activation energy for surface migration is 5.2 Kcal/mole.]
- NAKAYA, U. Formation of snow crystals. U.S. Snow, Ice and Permafrost Research Establishment. Research Paper 3, 1954, 12 p. [Ice crystals form either from supercooled droplets, from seeding, or by condensation of vapour on to solid nuclei; snow crystals develop from these ice crystal "germs".]
- NORDNES, S., and SUND, T. Isavsmeltingen på Saltfjellet. *Norsk Geografisk Tidsskrift*, Bd. 14, Nr. 1-4, 1953, p. 165-204. [Glacial geology of Saltfjellet and Nordre Bjellåvatn district, north Norway. English summaries.]
- NORINDER, H., and SIKSNA, R. Experiments concerning electrification of snow. *Arkiv för Geofysik*, Bd. 2, Ht. 1, Nr. 3, 1954, p. 59-89. [Experiments on the electrification of snow when it is poured, blown through a nozzle, etc.]
- NUSSBAUM, F., and GYGAX, F. La glaciación cuaternaria en la Cordillera cantábrica. *Estudios Geográficos*, Año 14, No. 51, 1953, p. 261-70.
- OBENLAND, E., and OBENLAND, LISA. Zum Entwicklungsgang der Schneedecke. *Berichte des Deutschen Wetterdienstes in der US-Zone*, Bd. 7, Nr. 42, 1952, p. 186-90. [Depth of snow in relation to the weather situation.]
- OWSTON, P. G. Diffuse scattering of X-rays by ice. *Acta Crystallographica*, Vol. 2, Pt. 4, 1949, p. 222-28. [Diffuse scattering is due to thermal vibrations, whose amplitude is 0.4 Å at  $-5^{\circ}$  C. The streaks may be due to H atom interchange.]
- PALMER, L. S., and others. Dielectric constant of water films, by L. S. Palmer, A. Cunliffe and J. M. Hough. *Nature*, Vol. 170, No. 4332, 1952, p. 796. [Dielectric constant of thin water films is more like that of ice than of the bulk liquid.]
- PASCHINGER, H. Fünf Jahre Pasterzenmessungen 1947-1951. *Mitteilungen des Naturwissenschaftlichen Vereines für Kärnten*, Jahrg. 142, Ht. 2, 1953, p. 7-15. [Summary of annual recessions and ablation on Pasterzenkees, Eastern Alps, 1947-51.]

- PETERSON, S. W., and LEVY, H. A. A single crystal neutron diffraction study of heavy ice. *Bulletin of the American Physical Society*, Vol. 28, No. 5, 1953, p. 10. [Data in full agreement with the Pauling model of the structure of ice. Reprinted in *Physical Review*, Ser. 2, Vol. 92, No. 4, 1953, p. 1082.]
- PRESS, F., and EWING, M. Propagation of elastic waves in a floating ice sheet. *Transactions. American Geophysical Union*, Vol. 32, No. 5, 1951, p. 673-78. [Derivation of characteristic equation and discussion.]
- PRESS, F., and EWING, M. Theory of air-coupled flexural waves. *Journal of Applied Physics*, Vol. 22, No. 7, 1951, p. 892-99. [Theory of these waves in a floating ice sheet is derived for the case of an impulsive point source in either air or water.]
- PROUDFOOT, V. B. The glaciation of the Dingle Peninsula. *Irish Geography*, Vol. 3, No. 1, 1954, p. 36-38. [No evidence that an ice sheet covered the area during any stage of the local glaciations.]
- PUGH, H. L. D., and PRICE, W. I. J. Snow drifting and the use of snow fences. *Polar Record*, Vol. 7, No. 47, 1954, p. 4-23.
- QUERVAIN, M. DE. Strength properties of a snow cover and its measurement, translated by Charles M. Gottschalk. U.S. S[now.] I[ce and] P[ermafrost] R[esearch] E[stablishment]. *Translation* 9, 1951, [i], 8 leaves + 2 plates. [Translated from *Geofisica Pura e Applicata*, Vol. 18, 1950, p. 179-91.]
- RASMUSSEN, W. C. Periglacial frost-thaw basins in New Jersey. *Journal of Geology*, Vol. 61, No. 5, 1953, p. 473-74. [Disputes view that basins of interior drainage in Atlantic Coastal Plain of New Jersey can be entirely explained by periglacial action.]
- RAU, W. Über den Einfluss des Tropfenvolumens auf die Unterkühlbarkeit von Wassertropfen und die Bedeutung des Gefrierpektrums. *Zeitschrift für Naturforschung*, Bd. 8a, Ht. 2/3, 1953, p. 197-204. [Amount of supercooling of water drops as a function of their volume.]
- RICHARDSON, W. E. Dirt polygons. *Weather*, Vol. 9, No. 4, 1954, p. 117-21. [Mode of formation of snow-surface polygons on Cross Fell.]
- RICHMOND, G. M. Modification of the glacial chronology of the San Juan Mountains, Colorado. *Science*, Vol. 119, No. 3096, 1954, p. 614-15. [Identification of tills, including some recent deposits up to 1860.]
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## ERRATA

- Vol. 2, No. 15, p. 337. The captions for Figs. 4 and 5 were interchanged in error.
- „ „ p. 365. For "December 1954" read "December 1953."
- „ „ p. 376. For "Zumberge, J. H., and Wilson, J. Tuzo" read "Zumberge, J. H., and Wilson, James T."