

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 aims 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, publications of glaciological interest.

- ANDERSON, HENRY W. The effect of freezing on soil moisture and on evaporation from a bare soil. *Transactions American Geophysical Union*, Vol. 27, No. 6, 1946, p. 863-70, tables, diagr. [Results of experiments at Northfork, California.] [ARCTIC AVIATION.] North Polar Flights of "Aries." Part 3: Aircraft Performance. *Royal Air Force, Empire Air Navigation School, EANS Report No. 45/24*, [1946], 12+[4] p., tables. [Includes discussion on "icing."]
- [ARCTIC OCEAN: SEA-ICE.] *Atlas der Vereisungsverhältnisse Russlands und Finnlands, ihrer Küstengewässer sowie wirtschaftlich und militärisch wichtigen Binnenwasserstrassen mit Textlichen Vorbemerkungen und Tabellen*. Bearbeitet von der Deutschen Seewarte; Oberkommando der Kriegsmarine, 1942, 16×11 in. (German marking: Nr. 2197a.) [Atlas of 94 coloured ice maps with explanatory text covering Baltic, White Sea, Barents Sea, Northern Sea Route and north-west Pacific Ocean; copy in Oceanographical Branch of the Hydrographic Department, Admiralty.]
- BAARTMANS, J. A., and others. De morfologie van de Java-en Soenda Zee. *Tijdschrift Koninklijk Nederlandsch Aardrijkskundig Genootschap* (Amsterdam), Deel 64, 1947, p. 442-65. [Contains glacial-chronological table according to G. L. Smit Sibinga.]
- BANNON, J. K. Artificial Stimulation of Rain Formation. *Meteorological Magazine*, Vol. 76, No. 902, 1947, p. 169-74. [Suggests the mechanism of induced precipitation by means of the formation of ice crystals by "dry ice" and the consequent release of heat.]
- BELOTELKIN, K. T. Soil-freezing and forest-cover. *Transactions American Geophysical Union*, 1941, Part 1(B), p. 173-75, diagrs. [Measurements of depth of frost in the ground, Gale River Experimental Forest, northern New Hampshire, 1937-40; conclusions; discussion, p. 175.]
- BERGGREN, W. P. Prediction of temperature-distribution in frozen-soils. *Transactions American Geophysical Union*, 1943, Part 3, p. 71-77, tables, diagrs. [Analysis of an idealized system permitting exact mathematical formulation; discussion, p. 76-77.]
- BONACINA, L. C. W. The self-generating or automatic process in glaciation. *Quarterly Journal Royal Meteorological Society*, Vol. 73, Nos. 315-16, 1947, p. 85-88. [Paper headed "Climatic change and the retreat of glaciers"; followed by "Self-preserving glaciers," by Leonard Hawkes, *q.v.*, similarly headed, and discussed in conjunction, p. 90-95.]
- BROOKS, C. F. A new heated rotation anemometer. *Mount Washington Observatory News Bulletin*, (Gorham, N.H.) No. 16, 1948, p. 4. [Description of invention of Dr. J. Lugeon, Director of Schweizerische Meteorologische Zentralanstalt.]
- BRUET, E. Glaciations pléistocènes et terrasses climatiques en Equateur. *Bulletin l'Association de Géographes Français*, No. 188-189, 1947, p. 90-99.
- BRYAN, KIRK. The study of permanently frozen ground and intensive frost-action. *Military Engineer* (Washington), Vol. 40, No. 273, 1948, p. 304-08. [Brief outline of subject with comments by various authorities on the author's proposed new cryopedological nomenclature.]
- BUNTING, G. Snow Rollers. *Meteorological Magazine*, Vol. 77, No. 907, 1948, p. 19-20. [Snow rollers formed by wind.]
- BUSK, H. G. Remarks on a "Pluvial Period" for East Africa. *Weather*, Vol. 3, No. 7, 1948, p. 219-20. [Letter.]
- CABOT, EDWARD C. The northern Alaskan coastal plain interpreted from aerial photographs. *Geographical Review*, Vol. 37, No. 4, 1947, p. 639-48. [Includes description and excellent photographs of polygon areas.]
- CAILLEUX, ANDRÉ, and HUPÉ, PIERRE. Présence de sols polygonaux et striés dans les Pyrénées françaises. *Comptes rendus des Séances de l'Académie des Sciences*, Tome 225, 1947, p. 1353-55.
- CHAMPION, DONALD L. What is a Day of Snowfall? *Weather*, Vol. 2, No. 12, 1947, p. 368-69. [Definition of "a day of snowfall."]
- CHURCH, J. E. Snow study program at Soda Springs near Donner Summit of central Sierra Nevada. *Transactions American Geophysical Union*, 1943, Part 3, p. 77-90, illus., tables, diagrs. [Tentative conclusions on co-operative investigations of snow and snow-melting by the Nevada Agricultural Experiment Station and the U.S. Weather Bureau at Soda Springs, California.]
- [CHURCH, PHIL E., and CHURCH, J. E.] The duralumin snow-sampler under strain: a discussion. *Transactions American Geophysical Union*, 1941, Part 1(B), p. 152-53. [Correspondence indicating present weaknesses under severe conditions and corrective measures.]
- CHURCH, PHIL E. Type curves and variability of annual snowfall: state of Washington. *Transactions American Geophysical Union*, 1941, Part 1(B), p. 159-70, maps, tables, diagrs. [Regional division of Washington, on the basis of duration and maximum depth of snow cover; computation of variations in annual snowfall.]
- CHURCH, PHIL E. Ice-crusts and snow-settling, Snoqualmie Pass, winter of 1940-1941. *Transactions American Geophysical Union*, 1941, Part 3, p. 793-96. [Observations made and results obtained; comments by C. H. Diebold, p. 795-96.]
- [CONFERENCE PROCEEDINGS.] Proceedings of the 1947 conference on snow and ice. *Canada, National Research Council, Associate Committee on Soil and Snow Mechanics, Technical Memorandum No. 10*, 1947, [ii], 35+[9] p. [Conference held in Ottawa 17-18 September 1947 under the joint auspices of the Associate Committees on Soil and Snow Mechanics and on Geodesy and Geophysics. Summarized in *Journal of Glaciology*, Vol. 1, No. 3, 1948, p. 116-17.]
- CONKLING, HAROLD. Whither snow-surveys? *Transactions American Geophysical Union*, Part 1(B), p. 136-37. [Work accomplished, and possible future developments; comments by J. E. Church, p. 137.]
- COWGILL, PHILIP S. A review of Chatillon and Sons' latest spring balance for the Mount Rose snow sampler. *Transactions American Geophysical Union*, 1941, Part 1(B), p. 148. [Includes some suggested improvements.]
- CRIDDLE, WALTER D., and MARR, JAMES C. Midwinter forecasting of the snow-water runoff on years of extremely light or heavy February 1 mountain snow-covers. *Transactions American Geophysical Union*, 1944, Part 1, p. 141-48, tables, diagrs. [Conclusions based on analysis of records for 39 snow-courses in the Columbia Basin.]

- CROCE, K. Technisch wichtige Eigenschaften vom Schnee. *Winterdienst auf Strassen und Reichsautobahnen*, Bd. 31, 1941, p. 20-29. [Properties of snow important from the point of view of snow removal.]
- DEMCHENKO, M. A. Odstupanie lednikov v basseynere. Terek [Retreat of glaciers in the basin of the river Terek.] *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva* [News of the All-Union Geographical Society] (Moscow, Leningrad) Tom 79, No. 5, 1947, p. 590-92. [Evidence of retreat of several Caucasus glaciers, from observations at various dates up to 1941. Copy in Foreign Office Research Department, London.]
- DEMAREST, MAX HARRISON. Ice-deformation in the flow of glaciers. *Transactions American Geophysical Union*, 1941, Part 2, p. 525. [Abstract only; thin-section studies of ice from the glaciers of Mt. Rainier.]
- DOLEZEL, EDWARD J., and others. Progress in icing research. By Edward J. Dolezel, Robert M. Cunningham, and Robert E. Katz. *Bulletin American Meteorological Society*, Vol. 27, 1946, p. 261-71.
- DYSON, J. L. Shrinkage of Sperry and Grinnel Glaciers, Glacier National Park, Montana. *Geographical Review*, Vol. 38, 1948, p. 95-103. [If Sperry and Grinnel glaciers do not reach hydrological equilibrium within the next five to ten years they will be reduced to a stagnant condition and later to extinction.]
- EVKERS, W. Ein wichtiges Problem der Gletscherforschung und ein Vorschlag zu seiner Lösung. *Zeitschrift für die Gesamte Naturwissenschaft*, Jahrg. 6, F. 1-2, 1940, p. 17-23. [Problem of determining the rate and periodicity of the movement of glaciers; advocates use of photogrammetric methods.]
- FIELD, N. A. Snow cover until mid-July on the Cotswolds. *Weather* (London), Vol. 3, No. 5, 1948, p. 149-50. [Letter.]
- FIELD, WILLIAM O., jr. Glacier studies in Alaska, 1941. *Geographical Review*, Vol. 32, No. 1, 1942, p. 154-55. [Expedition sponsored by the American Geographical Society studied glaciers in north-eastern Alaska, August-September 1941.]
- FOBES, C. B. The ice clearing dates of the Maine lakes. *Bulletin American Meteorological Society*, Vol. 26, 1945, p. 331-333.
- GARSTKA, WALTER U. Hydrology of small watersheds under winter conditions of snow-cover and frozen soil. *Transactions American Geophysical Union*, 1944, Part 6, p. 838-74, 1060, illus., maps, tables, diags. [Observations made on two cultivated watersheds and one wooded watershed near East Lansing, Michigan, by the Soil Conservation Service and the Michigan Agricultural Experiment Station. Discussion, p. 871-74, 1060.]
- GERDEL, R. W. Snow-temperature studies and apparatus at the Soda Springs, California, cooperative snow-research project. *Transactions American Geophysical Union*, 1944, Part 1, p. 118-22, illus., tab. [Description of instruments, and notes on results obtained with them.]
- HAWKES, LEONARD. Self-preserving glaciers. *Quarterly Journal Royal Meteorological Society*, Vol. 73, Nos. 315-316, 1947, p. 89-99, diags. [Follows a paper on "The self-generating or automatic process in glaciation," by L. C. W. Bonacina, q.v.]
- HOBBS, W. H. American and Eurasian Glaciers of the Past: a Picture based on existing ones. *Scientific Monthly*, Vol. 66, 1948, p. 99-106.
- *HOLMES, CHAUNCEY D. Till Fabric. *Bulletin Geological Society America*, Vol. 52, 1941, p. 1299-354. [Study of the arrangement of component materials in undisturbed till shows that the embedded stones generally tend to lie with their long axes parallel to the direction of glacier flow.]
- *HOLMES, CHAUNCEY D. Nebraskan-Kansan Drift Boundary in Missouri. *Bulletin Geological Society America*, Vol. 53, 1942, p. 1479-90. [The Nebraskan-Kansan drift contact was mapped to ascertain the present distribution of the two drift sheets.]
- HOLMES, CHAUNCEY D. Kames. *American Journal Science*, Vol. 245, No. 4, 1947, p. 240-49. [Origin of the term and its gradual adoption into scientific use.]
- HOUSTON, CLYDE E. Snow and ice. *Transactions American Geophysical Union*, Vol. 28, No. 5, 1947, p. 809-11. [Selected bibliography of recent periodical articles, mostly American; includes various references to snow surveying.]
- JOHNSTON, W. A. Glacial Lake Agassiz, with special reference to the mode of deformation of the beaches. *Canada. Geological Survey, Bulletin*, No. 7, 1946, vi, 20 p. [Summarizes unpublished work of author between 1912 and 1929, dealing particularly with mode and amount of uplift of land in the lake basin.]
- LAKTIONOV, A. F. Itogi issledovaniya ledyanogo pokrova morey sovetsskoy arktiki i ledovoye prognozy. [Results of investigation of ice cover of seas of Soviet Arctic and ice forecasting.] *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva*. [News of the All-Union Geographical Society] (Leningrad), Tom 77, No. 6, 1945, p. 341-50. [Survey of work done by Arctic Institute in this field, 1920-45, listing papers by various authors and briefly summarizing contents of each. Copy at Royal Geographical Society, London.]
- LIGHT, PHILLIP. Analysis of high rates of snow-melting. *Transactions American Geophysical Union*, 1941, Part 1(B), p. 195-205, diags. [Theoretical melting formula for predicting the melt resulting from a given meteorological situation.]
- LINSLEY, RAY K., jr. A simple procedure for the day-to-day forecasting of run-off from snow-melt. *Translations American Geophysical Union*, 1943, Part 3, p. 62-67, diags. [Outline of methods developed by office of U.S. Weather Bureau at Sacramento, California.]
- MCLAUGHLIN, W. W. Some accomplishments in snow-surveying. *Transactions American Geophysical Union*, 1943, Part 3, p. 38-43. [Includes information on modern methods.]
- MAKSIMOVICH, G. A. Peshchernye l'dy [Cave ice] *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva* [News of the All-Union Geographical Society] (Moscow, Leningrad), Tom 79, No. 5, 1947, p. 537-49. [Forms, structure and origin of cave ice; its distribution in the world; bibliography. Copy in Foreign Office Research Department, London.]
- MIDDLETON, W. E. K. The colours of snowfields in sunlight. *Transactions Royal Society of Canada*, Section 3, 1943, p. 39-43.
- MULLER, SIMON WILLIAM, comp. *Permafrost, or permanently frozen ground, and related engineering problems*. Ann Arbor Mich., J. W. Edwards, Inc., 1947. ix, 231 p., illus., maps, diags., 22 $\frac{1}{2}$ cm. \$3.00. [First prepared by U.S. Geological Survey, and issued as U.S. Army Office of the Chief of Engineers, Strategic Engineering Study No. 62, 1943.]
- NUSSBAUM, F. Neuere Ergebnisse der Gletscherforschung. *Schweizer Geograph*, Heft 5, 1943, 16 p. [Mainly a review of DRYGALSKI, ERICH VON, and MACHATSCHKE, FRITZ. *Gletscherkunde*, Wien, Franz Deuticke, 1942 (Enzyklopädie der Erdkunde).]
- NYE, J. F. The flow of glaciers. *Nature*, Vol. 161, No. 4099, 1948, p. 819-21. [Account of joint meeting of British Glaciological Society, British Rheologists' Club and Institute of Metals, 29 April 1948.]
- OBRUCHEV, V. A. K 100-letiyu pervoy akademicheskoy ekspeditsii po izucheniya vechnoy merzloty [On the 100th anniversary of the first Academy expedition to study permanently frozen soil]. *Izvestiya Vsesoyuznogo*

* Reprint in possession of the Society and can be seen on application.

- Geograficheskogo Obshchestva* [*News of the All-Union Geographical Society*] (Leningrad), Tom 78, No. 5-6, 1946, p. 469-74. [Studies of this subject by A. F. Middendorf, who travelled in Siberia, 1842-45, for the Imperial Russian Academy of Sciences. Copy at Royal Geographical Society, London.]
- OVBY, C. D. Cold spells and the Pleistocene Ice Age. *Weather*, Vol. 3, No. 7, 1948, p. 220. [Note on synchronization of European Ice Age with pluvial periods in tropical Africa.]
- PAGET, Fred. The use of snow-surveys as an aid in flood control operation of reservoirs. *Transactions American Geophysical Union*, 1943, Part 3, p. 28-38, tab., diags. [Correlation between snow-survey data and the run-off of King's River, California; discussion p. 36-38.]
- PAULSON, JOSEPH B., jr. A method for calculating the effect of snow on runoff during rainstorms. *Transactions American Geophysical Union*, 1944, Part 1, p. 15-21, tables, diagr. [Method developed to supply the basic information of "equivalent rainfall," necessary for the calculation of the flood-hydrograph from rain falling on a basin covered to a known extent with a snow-blanket; comments by R. K. Linsley, p. 20-21.]
- POPOV, YU. N. O sovremennom oledenenií severo-vostoka Azii v svyazi s problemoy drevnego oledeneniya. [On contemporary glaciation of north east Asia in relation to the problem of past glaciation]. *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva* [*News of the All-Union Geographical Society*] (Moscow, Leningrad), Tom 79, No. 3, 1947, p. 280-88. [Discovery of glaciers in this area since 1939 throws light on previous theories of past glaciation. Copy in Foreign Office Research Department, London.]
- POST, F. A., and DREIBELBIS, F. R. Some influences of frost penetration and microclimate on the water relationships of woodland, pasture, and cultivated soils. *Proceedings Soil Scientific Society America*, Vol. 7, 1942 (1943), p. 95-104.
- POTTS, HARRY L. A photographic snow-survey method of forecasting runoff. *Transactions American Geophysical Union*, 1944, Part 1, p. 149-53, illus., diags.
- ROCKIE, W. A. Pitting on Alaskan farm lands: a new erosion problem. *Geographical Review*, Vol. 32, No. 1, 1942, p. 128-34, illus. [Based on study at Fairbanks Agricultural Experiment Station, 1938-40; pitting apparently caused by melting of ground ice.]
- SALMI, MARTTI. Die postglazialen Eruptionsschichten Patagoniens und Feuerlands. *Annales Academiae Scientiarum Fennicae*, Ser. A, III. Geol.-Geogr., No. 2, 1941, p. 1-115. [Suggests relationship between periodic volcanic activity and retreat of ice during last stages of Pleistocene glaciation in Patagonia and Tierra del Fuego.]
- SCHYTT, VALTER. Glaciologiska arbeten i Kebnekajse. *Ymer* (Stockholm), Arg. 67, Häft 1, 1947, p. 18-42. [Investigations in 1945 of retreat of Storglaciären and Rabots glaciär on the Kebnekajse, north Sweden.]
- [SEA ICE.] International Ice Observation and Ice Patrol Service in the North Atlantic Ocean. Season of 1946. *U.S. Coast Guard Bulletin* (Washington), No. 32, 1947, iv, 188 p., maps, tables. [Ice conditions from 1942 to 1946 inclusive. Contains section on radar detection of floating ice.]
- SHARP, ROBERT P. Ground-ice mounds in tundra. *Geographical Review*, Vol. 32, No. 3, 1942, p. 417-23, illus. [Origin and development of these mounds, and their relation to tundra forms; author studied these features in the Wolf Creek area, Yukon Territory, Wood Yukon Expedition, 1941.]
- SMITH, H., ed. U.S. Coast Guard cutter *Northland's* ice and oceanographic observation cruise, Baffin Bay and Davis Strait, autumn of 1940. *Transactions American Geophysical Union*, 1941, Part 3, p. 788-92, illus., map. [Survey of icebergs and glacier-fronts, 5-23 September 1940; comments by Max Harrison Demorest, p. 791-92.]
- SPINK, P. C. Ice on Kilimanjaro and Mt. Kenya. *Weather*, Vol. 3, No. 7, 1948. [Letter giving further information on ice conditions.]
- STOCK, C. S. d'ESTE. Skating and ice penetration. A scientific study of blade pressures. *Modern Refrigeration*, 16 Oct. 1947, p. 266-67, diags.
- SUTTON, JAMES. A Changing Climate? *Weather*, Vol. 2, No. 12, 1947, p. 368. [Short letter; the effect of climatic change on the Kebnekajse glaciers, north Sweden.]
- TROLL, CARL. Strukturböden, Solifluktion und Frostklima der Erde. *Geologische Rundschau*, Bd. 34, Heft 7/8, 1944, p. 545-694. [Comprehensive treatise on the structure of soils and types of solifluction in the different subnival climates of the world, based on field studies in the tropical Andes, East and South Africa, the Alps and Himalaya, and also on other sources.]
- VILLENEUVE, G. OSCAR. Snow and ski-ing. Second edition. *Quebec. Forest Protection Service, Bulletin* No. 2, 1947 [24] p., illus. [Instructions for recording winter snow conditions, by the Director of the Quebec Meteorological Bureau; includes glossary of principal terms for snow description.]
- WEN-PO, W., and LEE, T. S. A preliminary study of the Quaternary glaciation of the Nanshan. *Bulletin Geological Society of China*, Vol. 26, 1946, p. 165-71. [In English.]
- WILSON, J. T. Further eskers north of Great Slave Lake. *Transactions Royal Society of Canada*, 3rd Series, Vol. 39, Section 4, 1945, p. 151-53, map. [Brief notes on eskers plotted from aerial photographs of an area in Mackenzie District, Northwest Territories.]
- WOOD, W. A., and DEWSNAP, N. Mechanical behaviour of crystal boundaries in metals. *Nature*, Vol. 161, No. 4096, 1948, p. 682-83. [Experimental evidence that boundaries of certain crystals behave as viscous liquids.]
- WOODCOCK, ALFRED H., and RILEY, GORDON A. Patterns in pond ice. *Journal of Meteorology*, Vol. 4, 1947, p. 100-01.
- WORK, R. A., and CHILDRETH, R. W. A steel pipe-climber. *Transactions American Geophysical Union*, 1944, Part 1, p. 124-26, illus. [Equipment for use on pipes marking snow-courses; comments by Fred Paget, p. 125-26.]
- WORK, R. A. Mechanized transport for snow surveying. *Transactions American Geophysical Union*, Vol. 27, No. 3, 1946, p. 396-99, illus. [Results of tests of an unnamed make of snow vehicle; comments by R. W. Childreth.]

ERRATA

Vol. I, No. 4, p. 175: for "Photograph by Robert P. Sharp" read "Photograph by H. Bradford Washburn."

p. 214, par. 1, penultimate line: for "references" read "referees."