

## 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.

- AHLMANN, HANS W:SON. Den nutida klimatfluktuationen och Grönland. *Grönlandske Selskabs Aarsskrift*, 1948, p. 9-38, illus., diagrs. [Present change in climate and the importance of research on the subject in Greenland.]
- AHLMANN, HANS W:SON. The Norwegian-Swedish-British Antarctic Expedition. *Tellus*, Vol. 1, No. 1, 1949, p. 59-60. [General research programme.]
- AHLMANN, HANS W:SON. Glaciological studies in Kebnekajse 1946-49. *Svensk Geografisk Årsbok*, 25, 1949, p. 106-27. [Glacier which crowns Kebnekajse decreased in altitude by 9.5 m. between 1902 and 1947 but increased again by 1.5 m. in 1948 after a snowy winter and cold summer.]
- ANDERSSON, J. G. Unsolved riddles—rockground and glaciation. *Svensk Geografisk Årsbok*, 25, 1949, p. 34-44, 79. [Considers that ice-free areas in Arctic and Antarctic may be due to deposition of soft dusty sediments, accelerating melting of snow-cover.]
- ARMSTRONG, J. E., and TIPPER, H. W. Glaciation in north central British Columbia. *American Journal of Science*, Vol. 246, No. 5, 1949, p. 283-310. [Suggests that the ice forming a Cordilleran ice-sheet accumulated in Coast Range and spread eastward.]
- BADER, HENRI. The preservation of Antarctic ice specimens: a discussion. *Journal of Geology*, Vol. 57, No. 4, 1949, p. 427-28. [Criticism of Howard's method of preserving ice specimens (*Journal of Glaciology*, Vol. 1, No. 4, 1948, p. 191) and Howard's reply.]
- BADER, HENRI. Trends in glaciology in Europe. *Bulletin Geological Society of America*, Vol. 60, No. 9, 1949, p. 1309-13. (Pleistocene research. A review by the members of the Committee on Inter-relations of Pleistocene Research, National Research Council. 2.) [Describes progress of glaciology in Europe, especially in Switzerland, Great Britain and Scandinavia.]
- BAILEY, ROBERT A. Nipher, Alter and other shields on snow gages compared. *Bulletin American Meteorological Society*, Vol. 28, No. 4, 1947, p. 198-99.
- BARBOSA, OCTAVIO, and ALMEIDA, F. M. de. Nota sobre a estratigrafia da série tubarão em São Paulo. *Anais da Academia Brasileira de Ciências* (Rio de Janeiro), Vol. 21, No. 1, 1949, p. 65-68. [Permian glaciation in São Paulo, Brazil.]
- BERGDAHL, ARVID. Glacialmorfologiska studier vid Kalmarsund. *Svensk Geografisk Årsbok* (Lund), Årg. 23, 1947, p. 46-79. [Studies on glacial morphology of Kalmarsund. English summary.]
- BÜDEL, JULIUS. Die klima-morphologischen Zonen der Polarländer (Beiträge zur Geomorphologie der Klimazonen und Vorzeitklimate 2). *Erdkunde*, Bd. 2, Lfg. 1/3, 1948, p. 22-53, illus., map. [Examination of ice-free arctic land areas.]
- CAILLEUX, ANDRÉ. Carte des actions périglaciaires quaternaires en France. *Bulletin de la Carte Géologique de France*, Tome 47, No. 225, 1948, 7 p. (Comptes rendus des collaborateurs pour les campagnes de 1946 et 1947.)
- CALLENDAR, G. S. Can carbon dioxide influence climate? *Weather*, Vol. 4, No. 10, 1949, p. 310-14. [Recent climatic improvement suggests that slightly more heat is being retained in the atmosphere; this could be due to increased carbon dioxide in accordance with former theories.]
- CARLE, W. Testigos de una glaciation diluvial en la Galicia Española. *Estudios Geograficos* Año 10, No. 37, 1949, p. 701-06. [Glaciated forms differ from the classic alpine type.]
- FENIGER, KLEMENS. Étude de la transmission de froid par convection naturelle et de la formation de givre. *Journal de Recherches du Centre National de la Recherche Scientifique*, No. 8, 1949, p. 245-65. [The form of the "frost" changes during deposition.]
- FISHER, JOEL E. Dirt Bands. *American Alpine Journal*, Vol. 7, No. 3, Issue 23, 1949, p. 309-17. [Publication No. 13 of the American Alpine Club Research Fund. Dirt bands on glaciers; types and possible method of origin.]
- GEORGI, J. Bemerkungen zur glazialen Antizyklone. *Annalen der Meteorologie*, Jahrg. 1, Heft 9/11, 1948, p. 277-83, map, diagrs. [Author suggests that anti-cyclonic wind system over Greenland is dependent on neighbouring pressure systems, the paths of which are guided by the Greenland ice-cap. English summary.]
- [GLACIER FLOW.] Glacier research. *Science Today*, Vol. 7, No. 168, 1950, p. 34-35. [Contrasts the results of Haefeli indicating extrusion flow in the Great Aletsch Glacier and the recent researches of Perutz which found none.]
- [GLACIER FLUCTUATION.] [Meteorological Office discussion.] *Meteorological Magazine*, Vol. 79, No. 931, 1950, p. 14-21. [Discussion on H. W:son Ahlmann's paper "The present climatic fluctuation," *Geographical Journal*, Vol. 112, Nos. 4-6, 1948, p. 165-95; Climatological, glaciological and other evidence.]
- HARE, F. KENNETH, and MONTGOMERY, MARGARET R. Ice, open water, and winter climate in the eastern Arctic of North America. *Arctic*, Vol. 2, No. 2, 1949, p. 78-89; No. 3, 1949, p. 149-64, illus., maps, diagr. [Analysis of distribution of winter temperature over the Canadian Eastern Arctic; review of existing knowledge of distribution of winter ice.]
- HOLMES, CHAUNCEY D. Glacial erosion and sedimentation. *Bulletin Geological Society of America*, Vol. 60, No. 9, 1949, p. 1429-36. (Pleistocene research. A review by the members of the Committee on Interrelations of Pleistocene Research, National Research Council. 5.) [Draws attention to some recent contributions to principles of glaciation, including glacial erosion, erosion topography, till fabric, palaeoclimatic influences.]
- JOST, WILHELM. Variations des glaciers. *Die Alpen*, Bd. 25, No. 12, 1949, p. 441-46. [Review of whole question of glacier fluctuation and its causes. German version of the same article *ibid.*, p. 461-69.]
- KANAVINŠ, EDVIGS. Allgemeine Grundlagen der langfristigen Eisvorhersagen für das Ostseegebiet auf Grund von Grosswetterhäufigkeiten. *Contributions of Baltic University, Pinneberg*, No. 55, 1947, 83 p., maps, tables, diagrs. [Study of influence of general weather conditions with regard to long-term ice forecasting in the Baltic. English summary.]
- KINZL, HANS. Formenkundliche Beobachtungen im Vorfeld der Alpengletscher. *Veröffentlichungen des Museum Ferdinandeum* (Innsbruck), Bd. 26/29, Jahrg. 1946/49, 1949, p. 61-82. (Kleibelsberg-Festschrift). [Descriptions of marginal and terminal moraines, "drumlin-like" moraine ends, dead ice, deposits of glacier streams, moraine-dammed lakes, and other evidences of glacial action in the periglacial regions of the Alps.]

- KOSIBA, A. Problem wahań klimatycznych i zlodowaceń. (The problem of the climatic oscillations and glaciations.) *Czasopismo Geograficzne*, Tom 17, Zesz. 3-4, 1939-46, p. 91-105.
- KRASTANOW, L. Ueber die Bildung und das Wachstum der Eiskristalle in der Atmosphäre. *Meteorologische Zeitschrift* (Braunschweig), Bd. 60, Heft 1, 1943, p. 15-26. [Shapes of ice crystals growing in the atmosphere and kindred phenomena handled quantitatively on basis of crystal structure of ice and theory of crystal growth.]
- LANDSBERG, HELMUT. Climatology of the Pleistocene. *Bulletin Geological Society of America*, Vol. 60, No. 9, 1949, p. 1437-42. (Pleistocene research. A review by the members of the Committee on Interrelations of Pleistocene Research, National Research Council. 6.)
- LARKIN, H. H., jr. A comparison of the Alter and Nipher wind shields for precipitation gages. *Bulletin American Meteorological Society*, Vol. 28, No. 4, 1947, p. 200-01.
- LIESTÖL, OLAV. Noen isavsmeltningsfenomener fra Nedre Telemark. *Norsk Geografisk Tidsskrift*, Bd. 12, Ht. 4, 1949, p. 171-77, illus., maps. [Some melt water phenomena in Nedre Telemark. Investigation of glaciofluvial delta formation between Flåvatn and Lunde.]
- LJUNGNER, ERIK. East-west balance of the Quaternary ice caps in Patagonia and Scandinavia. *Bulletin of the Geological Institution of the University of Upsala*, Vol. 33, 1949, p. 11-96, maps. [Suggests that conditions in Patagonia and Scandinavia were similar during important periods of glaciation.]
- LONG, THOMAS L. A comparison of snowfall catch in shielded and unshielded precipitation gages. *Bulletin American Meteorological Society*, Vol. 28, No. 3, 1947, p. 151-53.
- MEEK, V. Glacier observations in the Canadian cordillera. *Canadian Geographical Journal*, Vol. 37, No. 5, 1948, p. 190-209. [Annual survey by Dominion Water and Power Bureau to determine effect of glacier variation on run-off and stream flow. Description of individual glaciers in British Columbia and Alberta; well illustrated.]
- MILLER, MAYNARD M. Aerial survey of Alaskan glaciers, 1947. *Appalachia*, Vol. 27, No. 1, 1948, p. 113-15, illus. [Summary of work done by author.]
- NISKANEN, E. On the deformation of the Earth's crust under the weight of a glacial ice-load and related phenomena. *Annales Academiae Scientiarum Fennicae, Series A. III, Geologica-Geographica*, No. 7, 1943, p. 1-59. [Discussion on isostasy.]
- NUSSBAUM, F. Neuere Ergebnisse der Gletscherforschung. *Zeitschrift der Vereins Schweizerischer Geographielehrer* (Bern), Bd. 21, Heft 4, 1944, p. 81-96. [Review of developments in glacier research; glacier structure in firn area and tongue; banding, including Forbes' bands; flow problems, seismic soundings; erosion; fluctuation.]
- NUSSER, FRANZ. Eine Moränenbeobachtung auf Spitzbergen. *Mitteilungen der Geographischen Gesellschaft in Wien*, Bd. 85, Heft 7/10, 1942, p. 451-53, illus. [Explanation of a pressure moraine in Reuschhalvøya, north-west Spitsbergen.]
- ODELL, N. E. Yukon-Alaska Expedition of the Arctic Institute of North America. *Nature*, Vol. 165, No. 4192, 1950, p. 337-38. [Includes description of work on Seward firn field and Malaspina Glacier.]
- PETTERSSON, HANS. Exploring the bed of the ocean. *Nature*, Vol. 164, No. 4168, 1949, p. 468-70. [General account given to the British Association, Newcastle-upon-Tyne, September 1949. Includes the testing of Pleistocene chronology by the examination of sediment cores.]
- PUZANOV, V. P. O kharaktere udara lavinnogo snega v prepyatstviye [On the character of the impact of avalanche snow with an obstacle]. *Investiya Akademii Nauk SSSR. Seriya Geograficheskaya i Geofizicheskaya* [News of the Academy of Sciences of the U.S.S.R. Geographical and Geophysical series] (Moscow), No. 2, 1943, p. 86-88. [Measurement of impact of two avalanches near Kirovsk in 1940; one of fresh, dry snow; the other of old snow. English summary. Copy in Cambridge University Library.]
- RATHJENS, CARL. Der Stand der Eiszeitforschung im deutschen Alpenvorlande. *Jahresbericht d. Geographischen Gesellschaft von Bern*. Bd. 39, 1948, p. 21-30. [Discusses the work of Penck, Troll, Schaefer and others in the Bavarian Alps.]
- RENAUD, ANDRÉ. *Schweizer Gletscher*. Bern, Verlag Paul Haupt, 1949. 48 p., illus. (Schweizer Heimatbücher, No. 30.) [Instructional monograph on Swiss glaciers translated from the French *Nos glaciers*.]
- ROBERTS, BRIAN. Norwegian-British-Sweden Antarctic Expedition, 1949-52. *Nature*, Vol. 165, No. 4184, 1950, p. 8-9, 20. [Origin, aims and objects of the expedition.]
- ROCH, ANDRÉ. Le ski et les avalanches aux États-Unis d'Amérique. *Die Alpen*, [Bd.] 26, No. 2, 1950, p. 41-47. [Includes description of conditions of snowfall and avalanche danger during a tour through the United States.]
- RUSSELL, R. J. Freeze and thaw frequencies in the United States. *Transactions American Geophysical Union*, 1943, p. 125-33.
- SHARP, ROBERT, P. Early tertiary fanglomerate, Big Horn Mountains, Wyoming. *Journal of Geology*, Vol. 56, No. 1, 1948, p. 1-15. [Accumulations of coarse bouldery gravel of pre-Cambrian origin are identified as early Tertiary and may point to glaciation in that period.]
- SMITH, H. T. U. Giant glacial grooves in north-west Canada. *American Journal of Science*, Vol. 246, No. 8, 1948, p. 503-14. [Large glacial grooves upwards of a mile long and 100 ft. deep in Mackenzie valley record advance of an ice sheet along the valley.]
- SMITH, H. T. U. Physical effects of Pleistocene climatic changes in nonglaciated areas; eolian phenomena, frost action, stream terracing. *Bulletin of the Geological Society of America*, Vol. 60, No. 9, 1949, p. 1485-515. (Pleistocene research. A review by the members of the Committee on Interrelations of Pleistocene Research, National Research Council. 11.)
- THORP, JAMES. Interrelations of Pleistocene geology and soil science. *Bulletin Geological Society of America*, Vol. 60, No. 9, 1949, p. 1517-25. (Pleistocene research. A review by the members of the Committee on Interrelations of Pleistocene Research, National Research Council. 12.)
- TOLLNER, HANNES. Die Depression ostalpinet Firngrenzen von 1947 auf 1948. *Mitteilungen d. Geographischen Gesellschaft Wien*. Bd. 91, Ht. 1-6, 1949, p. 3-6. [After unfavourable snow conditions between 1940 and 1947 a marked lowering of the firn line took place between 1947 and 1948. Atmospheric circulation changes rather than mere temperature and precipitation variations are the cause.]
- WALKER, SIR GILBERT. Arctic conditions and world weather. *Quarterly Journal of the Royal Meteorological Society*, Vol. 73, Nos. 317-318, 1947, p. 226-56, maps, tables, diagrs. [Since 1905 there appears to have been a change in the origin of the ice off the Newfoundland Banks, more coming from west than from north. Little definite correlation found with world weather. Discussion, p. 253-56.]
- WERENSKIOLD, W. Wind conditions and glaciers. *Svensk Geografisk Årsbok*, 25, 1949, p. 128-29. [Preponderance of glaciers in east Spitsbergen does not appear to be fully explained by drifting of snow.]