

## 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.

- AICHELE, H. Frostgefährdete Gebiete in der Baar, ein kleinklimatische Geländekartierung. *Erdkunde*, Bd. 5, Ht. 1, p. 70-3. [Topographical surroundings of three frost-hollows in south-west Baden.]
- ALIMEN, HENRIETTE. Les formations glaciaires et fluvio-glaciaires de la feuille de Tarbes. *Comptes Rendus hebdomadaires des Séances de l'Académie des Sciences* (Paris), Tom. 227, 1948, p. 140-42. [Glacial deposits of the Adour valley in south-west France.]
- ALIMEN, HENRIETTE. La biogéographie et les glaciations aux diverses époques géologiques. *Compte Rendu sommaire des Séances de la Société de Biogéographie*, 26 Année, Nos. 228-39, 1949, p. 63-73.
- ALIVERTI, G. Sui coni di ghiaccio del Lys. *Geofisica Pura e Applicata*, Vol. 18, 1950, p. 192-97. [Ice cones on the Lys Glacier.]
- ARNOLD, J. R., and LIBBY, W. F. Radiocarbon dates. *Science*, Vol. 113, No. 2927, 1951, p. 111-20. [Dates of wood, peat, etc. including material in glacial deposits based on a new value for the radiocarbon half-life.]
- ASSELBERGHS, E. Caractères glaciaires des couches de base du Système de Karroo dans la vallée de Kwango. *Bulletin, Société Belge de Géologie, de Paléontologie et d'Hydrologie*, Tom. 56, Fasc. 1-2, 1947, p. 58-62.
- [AVALANCHES.] Vorläufige Zusammenstellung der Lawinenschäden im Winter 1950/51. *Schweizerische Zeitschrift für Forstwesen*, Jahrg. 102, No. 4, 1951, p. 227-28. [The 1951 Swiss avalanches; preliminary statement.]
- BATES, CHARLES C., and LILL, GORDON G. Current naval research in land and sea ice. *Transactions American Geophysical Union*, Vol. 31, No. 2, 1950, p. 278-81. [Reviews some recent work and states plans for future.]
- BEHRMANN, WALTER. Albrecht Penck. *Petermanns Geographische Mitteilungen*, 92 Jahrg., 3/4, Quartalsheft, 1948, p. 190-93. [Obituary.]
- BJÖRSJÖ, NILS. Israndstudier i södra Bohuslän. *Sveriges Geologiska Undersökning, Avhandlingar och Uppsatser*, Ser. C., No. 504, *Årsbok* 43, No. 2, 1949, 321 p., illus., maps, tables, diagrs. [Determination of positions of marginal deposits in southern Bohuslän, west Sweden; reconstruction of progress of ice melting by study of retreat of ice front. English summary.]
- BLACK, ROBERT F. Permafrost. TRASK, P. D., ed. *Applied sedimentation*. New York, John Wiley and Sons, [c1950], p. 247-75, map, diagrs. [Comprehensive summary of available literature on extent, nature and origin of permafrost in northern hemisphere, and on engineering problems caused by it.]
- BOCH, S. G. Yeshche neskol'ko zamechaniy o prirode snegovoy erozii. [Some further remarks on the nature of snow erosion.] *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva* [News of the All-Union Geographical Society] (Leningrad), Tom 80, No. 6, 1948, p. 609-11. [Geomorphological action of snow patches observed in polar Ural in 1946.]
- BOETTCHER, P. The avalanche catastrophe in the Alps, 19-21 January 1951. *Weather*, Vol. 6, No. 4, 1951, p. 105-07, illus. [Brief account of weather conditions.]
- BONACINA, L. C. W. Snowfall in the British Isles during the decade 1936 to 1945. *British Rainfall*, 1948, Part 3, p. 208-12. [Third historical survey; severe snowstorm in northern and eastern England, January 1940, was bordered in western England by an extensive and destructive ice storm.]
- BROOKS, C. E. P. Post-glacial climatic changes in the light of recent glaciological research. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 21-24. [The importance of the "polar front."]
- BROOKS, C. E. P. Oceans through the ages. *Marine Observer*, Vol. 21, No. 152, 1951, p. 103-10. [Development of the ocean basins in relation to Precambrian, Permo-Carboniferous and Pleistocene glaciations; holds that present period is an interglacial one.]
- BROUWER, A. De glaciene landschapstypen in Nederland. *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap*, Deel 67, No. 1, 1950, p. 20-32. [Northern part of the Riss II glacial stage in Holland exhibits typical old ground moraine landscape; south of river Vecht well developed push moraines occur.]
- BRYAN, KIRK. The erroneous use of Tjale as the equivalent of perennially frozen ground. *Journal of Geology*, Vol. 59, No. 1, 1951, p. 69-71.
- BÜDEL, JULIUS. Die räumliche und zeitliche Gliederung des Eiszeitklimas. *Die Naturwissenschaften*, 36 Jahrg., Ht. 4, 1949, p. 105-12; Ht. 5, 1949, p. 133-39. [Reconstructs height of snow-line in last glaciation, climatic vegetation zones of Europe, and thereby type of landscape.]
- CAHEN, L. À propos de formations éoliennes périglaciaires de la Série de Murashya. *Bulletin de la Société Belge de Géologie, de Paléontologie et d'Hydrologie*, Tom. 56, 1947, p. 9-15.
- CARLSTON, CHARLES W. Pleistocene history of coastal Alabama. *Bulletin of the Geological Society of America*, Vol. 61, No. 10, 1950, p. 1119-30.
- CHAMPION, D. L. Ablation in the Scottish Highlands. *Meteorological Magazine*, Vol. 79, No. 940, 1950, p. 292-95. [Observations in the Cairngorms, July, 1949, showed that melting and not evaporation was the chief cause of ablation.]
- COLBERTALDO, D. DI. Nuove osservazioni sui ghiacciai del Canin e del Montasio. *Universo*, An. 26, No. 2, 1948, p. 166-85. [Description of two small transitional types of glaciers in the karst region of the western Julian Alps.]
- CORTE, A. E. La expedición Británica—sueca—norvega (1949-1952). *Boletín de Estudios Geográficos* (Universidad Nacional de Cuyo), Vol. 1, No. 4, 1949, p. 37-44.
- CREUTZBURG, N. Erich von Drygalski und die deutsche Geographie. *Erdkunde*, Bd. 3, Ht. 2/3, 1949, p. 65-68. [Obituary.]
- CROCE, K. Die Entwicklung der Schneeräummaschinen für Strassen in den Jahren 1949/50. *Strasse und Autobahn*, 1950, Ht. 10, p. 8-14. [Recent developments in snow clearance apparatus.]
- DAVID, A. Irrigations et glaciologie [à propos du bassin de la Durance]. *Revue de Géographie Alpine* (Grenoble), Vol. 39, Fasc. 2, 1951, p. 317-23. [Decrease of ice reserves for irrigation.]

- DEEVEY, E. S. Late-glacial and post-glacial pollen diagrams from Maine. *American Journal of Science*, Vol. 249, No. 3, 1951, p. 177-207. [A tundra climate preceded the post-glacial forest advance and corresponds with the late glacial phase of Northern Europe.]
- DEFANT, A. Konvektion und Eisbereitschaft in polaren Schelfmeeren. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 25-35. [Effect of convection on ice formation in the northern seas.]
- EKHART, E. Das Temperaturfeld der Alpen und seine Jahresperiode. *Geografiska Annaler*, Årg. 32, Ht. 1-2, 1950, p. 1-36.
- EVERS, W. Die morphologisch-tektonischen Ursachen der diluvialen Vereisung Norddeutschlands. *Deutsche Geographische Blätter* (Bremen), Bd. 45, Ht. 1-2, 1949, p. 7-24. [Morphological and tectonic causes of the Pleistocene ice sheets in north Germany.]
- [EXPEDITIONS.] *Polar Record*, Vol. 5, No. 40, 1950, p. 589-620. [Brief account of many expeditions to Polar regions including Juneau Ice Field Project, 1948; Durham University Expeditions to Iceland, 1948 and 1949; Oxford University Expedition to North East Land (Nordaustlandet); Oceanographical Investigations at Point Barrow, Alaska, 1949.]
- EYTHÓRSSON, JÓN. Temperature variations in Iceland. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 36-55. [Temperature variations since 1871, precipitation and glacial recession.]
- FELS, EDWIN. Erich von Drygalski, 9.2.1865-10.1.1949. *Die Erde*, Ht. 1, 1949, p. 66-72. [Obituary and bibliography of writings.]
- FELS, EDWIN. Die Alpen und die Eiszeit. *Die Erde*, 1949-50, Ht. 3-4, p. 267-72. [Truth concerning ice erosion in the Alps probably lies between extreme views, the present morphology being partly pre-glacial.]
- FLINT, RICHARD FOSTER. Pleistocene drainage diversions in South Dakota. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 56-74. [Main changes from former to present drainage system in Missouri basin occurred in Kansan (second) glaciation.]
- FLINT, RICHARD FOSTER. Highland centers of former glacial outflow in northeastern North America. *Bulletin of the Geological Society of America*, Vol. 62, No. 1, 1951, p. 21-38. [Local glaciers at high levels probably preceded the general ice sheets in north-eastern North America.]
- FLINT, RICHARD FOSTER. Dating late-Pleistocene events by means of radiocarbon. *Nature*. Vol. 167, No. 4256, 1951, p. 833-36.
- FLINT, RICHARD FOSTER, and DEEVEY, EDWARD S. (JR.). Radiocarbon dating of late-Pleistocene events. *American Journal of Science*, Vol. 249, No. 4, 1951, p. 257-300.
- GLAISTER, R. M. Avalanche of the Glacier du Tour. *Weather*, Vol. 5, No. 4, 1950, p. 138-39.
- [GLACIOLOGICAL METHODS.] 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] pages. [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.]
- GODWIN, H. Comments on radiocarbon dating for samples from the British Isles. *American Journal of Science*, Vol. 249, No. 4, 1951, p. 301-07. [Reviews value of this method for Quaternary research; some results confirm previous estimates of age, others are discordant.]
- GORDON, SETON. Snow flora of the Scottish hills. *Nature*, Vol. 165, No. 4187, 1950, p. 132-34. [Many details of the Scottish snow beds and summer conditions; flora following the snow.]
- GRIERSON, JOHN. *Air whaler*. London, Sampson Low, Marston & Co., Ltd., 1949, xii, 243 p., illus., maps, 22 cm. 18s. [Voyage of floating factory *Balaena*, Antarctic season 1946-47, with special reference to work by aircraft under author's command; includes sea ice distribution maps.]
- GROSSMAYR, FRITZ BÉLA. Die Einflussnahme der Wintertemperatur in Ost-Island auf jene des darauffolgenden Sommers. *Polarforschung*, Jahrg. 17, Bd. 2, Ht. 1/2, 1947, p. 163-64. [Attempt to correlate some winter temperatures with those of following summers.]
- GROSSMAYR, FRITZ BÉLA. Die gewaltige Temperaturkompensation im Dezember: Barents-Seeregion und Weisses Meer mit Turkestan. *Polarforschung*, Jahrg. 17, Bd. 2, Ht. 1/2, 1947, p. 149. [Two tables showing comparative temperatures of Tashkent and Sövranger, 1881-1940, and Arkhangel'sk and Tashkent, 1884-1936.]
- GUICHONNET, P. La catastrophe du Glacier du Tour. *Revue de Géographie Alpine* (Grenoble), Vol. 38, Fasc. 1, 1950, p. 198-201. [Cause of the avalanche attributed to sudden temperature changes after hot summers.]
- GVINCHIDZE, N.M. Snezhnyye laviny i bor'ba s nimi. [Snow avalanches and the struggle against them.] *Priroda* [Nature] (Moscow), No. 11, 1948, p. 80-82. [Work done in the Caucasus and Kol'ski Poluostrov.]
- HANSEN, H. P. Postglacial forests along the Alaska Highway in British Columbia. *Proceedings of the American Philosophical Society*, Vol. 94, No. 5, 1950, p. 411-21. [Pollen analysis of peat sections from bogs and muskegs along the Alaska Highway.]
- HENNIG, R. Die Erwärmung der Arktis. *Wetter und Klima*. Bd. 2, Ht. 1/2, 1949, p. 49-51.
- HERRMANN, R. Das Durchbruchstal der Weser zwischen Holzminden und Bodenwerder. *Geologisches Jahrbuch*, Bd. 65, 1950, p. 611-20.
- HOBBS, WILLIAM HERBERT. New interpretation of the deposits of the Pleistocene continental glaciers. *Papers of the Michigan Academy of Science, Arts and Letters*, Vol. 32, 1946 [pub. 1948], p. 287-93. [Shows in tabular form the principal contrasts between Alpine and Continental glaciers.]
- HOPPE, GUNNAR. Några exempel på glacialfluvial dränering från det inre Norrbotten. *Geografiska Annaler* Årg. 32, Ht. 1-2, 1951, p. 37-59.
- HORBERG, L. Intersecting minor ridges and periglacial features in the Lake Agassiz basin, North Dakota. *Journal of Geology*, Vol. 59, No. 1, 1951, p. 1-18. [Suggests ridges representing frozen-ground structures formed during retreat of the late Wisconsin ice.]
- [ICEBERGS.] Southern ice reports during the year 1948. *Marine Observer*, Vol. 19, No. 144, 1949, p. 120.
- [JAPAN. CENTRAL METEOROLOGICAL OBSERVATORY.] *The climatographic atlas of Japan. Second Series, Climatography of snow and ice*. Tokyo, Central Meteorological Observatory, 1949. Maps.
- JAYET, A. Sur la surgissement et la ségrégation de matériaux erratiques profonds dans la moraine transversale du Glacier de Valsorey (Valais, Suisse). *Archives des Sciences* (Genève), Vol. 2, Fasc. 3, 1949, p. 531-33. [Doubts the fluvial or lacustrine origin of gravels near this glacier.]
- JOERG, W. L. G. Erich von Drygalski. *Geographical Review*, Vol. 40, No. 3, 1950, p. 489-91. [Obituary.]
- KIRWAN, L. P., and others. Glaciers and climatology; Hans W:son Ahlmann's contribution. By L. P. Kirwan, C. M:son Mannerfelt, C. G. Rossby and V. Schytt. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 11-20.
- KIRWAN, L. P. An international expedition to Antarctica. *Geographical Magazine*, Vol. 22, No. 7, 1949, p. 280-88, illus., map. [Norwegian-British-Swedish Expedition to Dronning Maud Land, 1949-52; programme and preparations.]

- KLEIN, GEORGE, J. Canadian survey of physical characteristics of snow-covers. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 106-24. [Instruments and methods.]
- KLUTE, FRITZ. Rekonstruktion des Klimas der letzten Eiszeit in Mitteleuropa auf Grund morphologischer und pflanzengeographischer Tatsachen. *Geographische Rundschau*, Jahrg. 1, No. 3, 1949, p. 81-89; No. 4, 1949, p. 121-26, maps.
- KÖHLER, H. On evaporation from snow surfaces. *Arkiv för Geofysik*, Bd. 1, No. 8, 1950, p. 159-85. [Equations and data.]
- KÖHLER, H. On the problem of condensation in the atmosphere. *Nova Acta Regiae Societatis Scientiarum Upsaliensis*, Ser. IV, Vol. 14, No. 9, 1950, p. 1-76. [Investigation of new ideas and new deductions from author's earlier investigations.]
- LAFARGUE, C. On the freezing of droplets of water and of aqueous solutions. *Centenary Proceedings of the Royal Meteorological Society*, 1950, p. 61-63. [The freezing of droplets at  $-41^{\circ}$  C. seems to be a molecular property of water and may not be caused by a freezing nucleus.]
- LAGUNOV, I. I. Redkaya po obilyu snega zima 1946/47 g. na Kamschatke [An uncommonly snowy winter in 1946-47 in Kamchatka]. *Priroda [Nature]* (Leningrad), No. 9, 1948, p. 95. [Two and a half times normal snowfall in south-eastern Kamchatka.]
- LAMB, H. H. Ablation in the Scottish Highlands. *Meteorological Magazine*, Vol. 80, No. 944, 1951, p. 58. [Letter.]
- LAMONT, ARTHUR H. Ice conditions over Hudson Bay and related weather phenomena. *Bulletin American Meteorological Society*, Vol. 30, No. 8, 1949, p. 288-89. [Nature and extent of sea ice; observed weather in relation to ice conditions.]
- LAWRENCE, DONALD B., and LAWRENCE, ELIZABETH G. Some glaciers of southeastern Alaska. *Mazama* (Portland, Oregon), Vol. 31, No. 13, 1949, p. 24-30. [Deals *inter alia* with the advance of the Taku Glacier.]
- LECKWIJK, W. VAN, and MACAR, P. Phénomènes pseudo-tectoniques la plupart d'origine périglaciaire dans les dépôts sablograveleux dits "ONX" et les terrasses fluviales de la région liégeoise. *Mémoires de la Société Géologique de Belgique*, Tome 73, Fasc. 1, 1949-50, 78 p. [Description of periglacial phenomena in the Liège district.]
- LEIGHLY, J. On continentality and glaciation. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 133-45. [Influence of an ice sheet on anticyclonic flow and consequent extension of the ice sheet.]
- LEIGHTON, MORRIS M., and WILLMAN, H. B. Loess formations of the Mississippi Valley. *Journal of Geology*, Vol. 58, No. 6, 1950, p. 599-623.
- LEMÉE, GEORGES, and BOURDIER, FRANCK. Une flore pollinique tempérée incluse dans les moraines dites würmiennes d'Armoay près de Thonon (Haute-Savoie) *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, Tom. 230, No. 26, 1950, p. 2313-14.
- LENDL, E. Neuere gletscherkundliche Forschungen im nordöstlichen Sibirien. *Mitteilungen der Geographischen Gesellschaft Wien*, Bd. 90, Ht. 1-12, 1948, p. 112-14. [Review of recent Russian glaciological work in north-east Siberia.]
- LEOPOLD, LUNA B. Pleistocene climate in New Mexico. *American Journal of Science*, Vol. 249, No. 2, 1951, p. 152-68. [Postulate that snow lines are controlled by summer temperatures is applied to the ice age temperature in New Mexico.]
- LEWIS, W. VAUGHAN. Glacial movement by rotational slipping. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 146-58.
- LÖFQUIST, BERTIL. Lifting force and bearing capacity of an ice sheet. *Canada. National Research Council. Technical Translation TT-164*, 1951, 27 pages. [Translation of paper by author in *Teknisk Tidskrift* (Stockholm), No. 25, 1944.]
- LUDLAM, F. H. The structure of shower clouds. *Nature*, Vol. 167, No. 4242, 1951, p. 254-56. [Not essential that presence of the crystals is necessary for rain production.]
- LUDLAM, F. H., and WEXLER, R. The growth of ice particles in cumulonimbus. *Weather*, Vol. 5, No. 7, 1950, p. 262. [Letter.]
- LUGEON, MAURICE, and JÉRÉMINE, ÉLISABETH. Sur la confirmation de la présence d'un Précambrien d'origine glaciaire en Normandie (Manche). *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, Tom. 230, No. 18, 1950, p. 1549-50.
- LYSGAARD, LEO. On the present climatic variation. *Centenary Proceedings of the Royal Meteorological Society*, 1950, p. 206-210. [Rise of temperature and decline of pressure in northern hemisphere.]
- McFARLANE, W. T., and others. Glacier survey in Banff and Jasper National Parks, 1949, by W. T. McFarlane assisted by R. V. Blair and J. Ozga. *Canadian Alpine Journal*, Vol. 33, 1950, p. 120-26. [Report on five glaciers; records kept annually since 1945 by Alpine Club of Canada.]
- MANLEY, GORDON. The snowline in Britain. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 179-93. [Theoretical glaciation level on Ben Nevis has risen some 90 m. since the period 1884-1903.]
- MANLEY, GORDON. The range of variation of the British climate. *Geographical Journal*, Vol. 117, No. 1, 1951, p. 43-68. [Range and possible trend of variation in British climate as deduced from fluctuations in historic and prehistoric times.]
- MANNERFELT, CARL M. SÖN. Marginal drainage channels as indicators of the gradients of Quaternary ice caps. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 194-99.
- MAŘAN, JOSEF. Vliv ledových dob na faunu Evropy. *Sborník Československé společnosti Zeměpisné*, Vol. 52, Part 2, 1947, p. 41-46, and Part 3, 1947, p. 96-103. [The influence of the glacial period on the fauna of Europe.]
- MAWSON, SIR DOUGLAS. The Elatina glaciation: a third occurrence of glaciation evidenced in the Adelaide system. *Transactions of the Royal Society of South Australia*, Vol. 73, Pt. 1, 1949, p. 117-21. [A fading phase of the Late-Proterozoic glaciation.]
- MEINARDUS, WILHELM. Erich von Drygalski. *Petermanns Geographische Mitteilungen*, Jahrg. 93, Ht. 4, 1949, p. 177-80. [Obituary.]
- MERCANTON, P.-L. L'accroissement du grain du glacier. *Actes de la Société Helvétique des Sciences Naturelles* (Lausanne), 1949, p. 122-23. [Accords with Seligman's findings in certain glaciers and awaits general confirmation.]
- MERCANTON, P.-L. Conférence de météorologie et de glaciologie alpine. *Die Alpen*, [Bd.] 26, [Ht.] 11, 1950, p. 215. [Conference held at Milan and Turin, 1950.]
- MERCANTON, P.-L. Examen de quelques formules pour la prédétermination de l'épaisseur du glacier, à l'occasion de sondages récents. *Geofisica Pura e Applicata*. Vol. 18, 1950, p. 170-74.
- MILLER, MAYNARD MALCOLM. Alaskan glacier studies, 1946. *American Alpine Journal*, Vol. 6, No. 3, Issue 20, 1947, p. 339-43, illus.
- MILLER, MAYNARD MALCOLM. 1948 season of the Juneau Ice Field research project. *American Alpine Journal*, Vol. 7, No. 2, Issue 22, 1949, p. 185-91, illus. [First season of field work.]
- MILLER, MAYNARD M. *Preliminary report of field operations. The Juneau Ice Field Research Project, 1949 season*. New York: American Geographical Society, Jan. 20, 1950. 37 pages, Maps, diagrs., 5 Appendixes. (Mimeographed.)
- MITCHELL, G. F. Two inter-glacial deposits in south-east Ireland. *Proceedings of the Royal Irish Academy*, Vol. 52, Sec. B, No. 1, 1948, p. 1-14. [Description of Ardcavan and Kilbeg deposits with notes on their ages.]

- MORAWETZ, S. Zur Frage der Eiserosion. *Mitteilungen der Geographischen Gesellschaft Wien*, Bd. 91, Ht. 1-6, 1949, p. 14-20. [Methods of deciding extent of glacial erosion by measuring quantity of transported deposits.]
- MUCHNIK, V. M. Nekotoryye sluchai obrazovaniya snezhnykh agregatov. [Some cases in which snowflake aggregates have been formed]. *Priroda [Nature]* (Leningrad), No. 9, 1950, p. 54-55. [Examination of ways in which snow crystals combine to form conglomerate masses in the air.]
- NICHOLS, ROBERT L., and MILLER, MAYNARD M. Glacial geology of Ameghino Valley, Lago Argentino, Patagonia. *Geographical Review*, Vol. 41, No. 2, 1951, p. 274-94. [Oscillations of the Ameghino glaciers from the maximum "Wisconsin" advance until today.]
- NILSSON, E. The pluvials of East Africa: an attempt to correlate Pleistocene changes of climate. *Geografiska Annaler*, Årg. 31, Ht. 1-4, 1949, p. 204-11. [Includes table correlating the main Pleistocene climatic phases in many parts of the world.]
- PENCK, ALBRECHT. Sechzig Jahre Eiszeitforschung. *Die Erde. Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, 1949, Ht. 1, p. 5-11. [Autobiography.]
- PLESHKOVA, T. T. Al'bedo zemnykh obrazovaniy [Albedo of formations on the earth's surface]. *Priroda [Nature]* (Leningrad), No. 10, 1948, p. 44-49. [Techniques used and results obtained in measuring albedo of various surfaces, including snow and sea ice; work of both Russian and foreign scientists.]
- PUTNAM, W. L. Snow Conditions II: Fresh and powder snow avalanches. *Appalachia*, Vol. 16, No. 8, (Magazine No. 110) 1950, p. 171-75.
- QUERVAIN, M. DE. Zur Entstehung der Lawinen. *Leben und Umwelt*, Jahrg. 7, Ht. 6, 1951, p. 121-31. [Avalanche types and recent research.]
- RAESIDE, J. D. Some post-glacial climatic changes in Canterbury [N.Z.] and their effect on soil formation. *Transactions of the Royal Society of New Zealand*, Vol. 77, Pt. 1, 1948, p. 153-71. [During the 7th and 13th centuries temperature was at least 2° C. warmer than now.]
- RAKOVEC, IVAN. The valley of the Vrata during the Pleistocene Period and the development of the Peričnik waterfall. (In Slovene with English summary). *Geografiski Vestnik* (Ljubljana) Vol. 20-21, 1948-9, p. 251-67. [Glacier action is evident in this part of Carniola. (Slovenia).]
- RAY, LOUIS L. Kirk Bryan. *Geographical Review*, Vol. 41, No. 1, 1951, p. 165-66. [Obituary.]
- RICHARDS, H. G. Postglacial marine submergence of arctic North America with special reference to the Mackenzie Delta. *Proceedings of the American Philosophical Society*, Vol. 94, No. 1, 1950, p. 31-37. [Delta region may have been submerged 500 ft. or more during late glacial time, so that sea level may have extended as far as Great Slave Lake.]
- ROSENDAHL, HALVOR. Albrecht Penck. *Norsk Geografisk Tidsskrift*, Bd. 12, Ht. 2, 1949, p. 57-60. [Obituary.]
- RUEGG, WERNER. La glaciation de la parte meridional de la Cordillera Blanca. *Informaciones y Memorias de la Sociedad de Ingenieros del Peru*, Vol. 1, No. 3, 1950, p. 170-72. [Reply to "Die Vergletscherung in der Südhälfte der Cordillera Blanca (Peru)" by Hans Kinzl, *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 1, Heft 1, 1949, p. 1-28.]
- SCHWARZBACH, MARTIN. *Das Klima der Vorzeit*. Stuttgart, Ferdinand Enke, 1950. viii, 211 pages, illus. [An introduction to palaeoclimatology.]
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## ERRATUM

Vol. 1, No. 9, p. 524, line 6: for "13 days at 2000 ft. in April" read "17 days at 2500 ft. in February."

CONCLUSION OF VOLUME I, *Journal of Glaciology*

## Index

The present issue closes Volume I of the *Journal of Glaciology*. An index to this volume is in preparation and will be ready for distribution with the next issue of the Journal in March 1952.

It had been the intention of the Society to distribute the Index free, but in view of the rising costs of paper and printing it has been found impossible to do this without substantial loss. The Index will cost seven shillings and sixpence and *those wishing to purchase it must place their orders to arrive on or before 1 November 1951*.

Orders must be accompanied by a remittance and should be addressed to the Assistant Secretary, Mr. D. W. Humphries, c/o Dept. of Geology, University of Sheffield, St. Georges Square, Sheffield 1.

## Bindings

For the convenience of members and subscribers binding cases will be available. These will be made of stout cloth blocked on the back in gold letters and with the snow crystal emblem. The price will be six shillings and sixpence, post free. Orders should be sent direct to the suppliers: The Review Press Ltd., 22 & 23 Laurence Pountney Lane, Cannon Street, London, E.C.4, accompanied by a cheque or post office order made payable to the Review Press Ltd., and crossed Barclay's Bank.

In addition, if desired, the Review Press will bind the numbers of Volume I, the cost, including the supply of the binding case, but not the Index, will be twenty-one shillings, post free.

It is regretted that Nos. 1 and 2 of the Journal are out of print. Arrangements for reprinting these have not yet been possible as the demand has not yet been large enough to cover the expense involved. All other back numbers are available, the price being seven shillings and sixpence each.