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SNOW SURVEY OF GREAT BRITAIN Season 1953-54

An annual report of the Snow Survey of Great Britain has been published by the British Glaciological Society in each of the past seven years in its *Journal of Glaciology*. In 1953 the work of the Survey terminated, and the collection of the records was undertaken by the Meteorological Office. The report for 1953-54 which follows has accordingly been prepared in the British Climatology Branch of the Meteorological Office.

As in previous years the basic material for the report has been derived from the returns made by many enthusiastic voluntary observers who have provided, month by month, daily records of snowfall and of any snow-cover within their range of vision. These records relate to a network of land stations distributed over the country, and are augmented by data extracted from the regular monthly returns from official weather stations and from voluntary climatological stations reporting to the Meteorological Office. In addition, information on snowfall around our coasts has again been provided by the returns from lighthouses and lightships, made available by the courtesy of the Elder Brethren of Trinity House and by the Commissioners of Irish Lights, and also by the returns from a number of ships at sea, supplied through the good offices of various shipping companies. Without the co-operation of all those responsible for these voluntary observations it would not have been possible to have prepared this report in anything approaching its present detail.

In general, measurements of snow depth in this report refer to 0900 G.M.T. or thereabouts.

Summary of the 1953-54 season.—The season may be classed as one of less than average snowfall. Data for the ten representative stations* in Great Britain, at altitudes between 400 and 1,200 ft., which have been used for seasonal comparison since the survey of 1946-47 give a mean of 26 days with snow lying at the hour of morning observation. This compares with an average of 34 such days derived from the past seven seasons. In the preceding seven seasons the mean number of days ranged from 13 in 1948-49 and 1949-50 to 66 in the snowy season of 1946-47, showing the great variability of snowfall in the British Isles. The seasonal distribution of snowfall in 1953-54 was in strong contrast to that of 1952-53, when late autumn and early winter were unusually cold and much

* These stations are:—Dalwhinnie, Braemar, West Linton, Eskdalemuir, Huddersfield (Oakes), Buxton, Whipsnade, Little Rissington, Princetown and Rhayader.



FIG. 1—GREAT BRITAIN AND NORTHERN IRELAND

snow fell in the later half of November and middle of December. In the present season the late autumn and early winter were exceptionally mild¹. In consequence there was remarkably little snow until early January; even on Ben Nevis the snow in December was described as very light and patchy. The latter part of January and the first part of February 1954 were, however, extremely cold. The heaviest snowfalls occurred over western and southern districts of Great Britain on January 25–26 and in the north and east on February 27–28.

Notes on the months.—*September 1953.*—No reports of snow were received and on Ben Nevis snow completely disappeared about the end of the month.

October 1953.—The weather was again mild for the season in Scotland. There was little snow, though sleet showers occurred at Lerwick on the 3rd, Glenlivet on the 14th and 15th, and at Leverburgh, Isle of Harris, on the 26th–29th; very slight falls of snow were recorded on Ben Nevis on the 14th, 25th and 27th. Snow lay on some of the mountains in central and western Scotland mainly at heights above 2,500 ft. between the 27th and 31st and on Ben Nevis also on the 25th.

November 1953.—The month was unusually mild throughout the country and there was very little snow. Snow or sleet showers occurred at times at a few places, mainly during the first week and on the 30th. Snow lay on the mountains in central and western Scotland on some mornings during the first part of the month and on the 30th; on Ben Nevis it lay throughout the month, generally at a height above 3,000 ft. At Leverburgh, the observer noted that outdoor daffodils were showing.

December 1953 was also exceedingly mild. The extreme mildness of the month can be deduced from the following quotations by observers. Mr. A. F. Airey of Windermere writes: "Prunus trees were in blossom at Ambleside and Grasmere" and Mr. L. H. Lomas of Leverburgh, Isle of Harris, reported: "Daffodils showing five months earlier than usual". Slight snow or sleet fell at times in the later part of the month, chiefly on the 24th and 25th and in the south-east on the 31st. On the 24th drifts of 2 ft. were observed at 2,000 ft. on the eastern faces of the Braes of Balquhiddy. Snow lay on some Scottish mountains and on Sca Fell, Westmorland, from the 24th or 25th to the 31st and locally at times during the first part of the month, particularly on the 4th and 5th. On Ben Nevis it lay throughout the month above 3,500 ft. but it was very light and patchy. No snow-cover was reported on the Welsh mountains during the months October to December inclusive.

January 1954.—The first ten days were mainly cold, and a notably cold spell with severe frost occurred from the 23rd to the 31st. Snow or sleet was widespread on the 6th and 7th and rather widespread around the 13th. Heavy snow fell in western districts of Great Britain and much of southern England on the 25th–26th, and mainly small amounts fell daily thereafter until the end of the month. At Clun, Shropshire, the average depth was 13 in. on the 26th–28th and 14 in. on the 29th–31st; at Evancoyd, Radnorshire, 12 in. fell on the night of the 25th–26th and the average depth was 12 in. on the 26th–28th; at Meggernie Castle Gardens in Glen Lyon, Perthshire, the average daily depth after the 26th was 11 in.; at Bwlchgwyn snow lay 12 in. deep on the 26th and there were drifts 6 ft. deep on the 28th; on the Brecon Beacons there were drifts up to 6 ft. on the 29th–31st.

February 1954.—At some places in the south temperature remained at 32°F. or below continuously from the evening of January 29 to the morning of February 7. Thus the snow which fell at the end of January lay on the ground during the first part of February, and mainly slight snow fell at times also during this period. The strong north-easterly winds in southern England caused drifting and some villages were isolated, notably in Kent; on the 1st drifts up to 7 ft. were reported at Throwley, near Faversham, and at Biddenden drifts up to 3 ft. on the 3rd persisted for a week. Considerable snow fell in the north and east from the 6th or 7th to the 10th and, with strong winds, in the northern Pennines on the 12th–13th. On the hills around Balquhiddy, Perthshire, snow was 15 in. deep without drifting at 1,200 ft. on the 9th. Drifts up to 5 ft. were recorded at Moor House, Westmorland, and at Alston, Cumberland, on the 10th. Snow fell again during the last few days and was heavy locally at times; it was fairly widespread on the 28th. At Moor House the average depth was 9 in. on the 25th and 12 in. on the 26th–28th.

March 1954.—The weather was unsettled and changeable, with a very cold wintry spell during the first few days. On the 1st snow lay on high ground from the snowfall at the end of February, and more snow fell in some parts during the first three or four days. On the hills in the neighbourhood of Plymouth the snowfall above 400 ft. on the 1st was the heaviest of the winter; depths of 6 in. were reported around Princetown. In north-west England and north Wales heavy snow occurred on the 2nd accompanied by strong winds; the observer at Bwlchgwyn (1,267 ft.) recorded: "the blizzard of the 2nd was the worst of the winter with excessive drifting" and roads were blocked by 2200. At Fairburn (500 ft.), Ross and Cromarty, the average depth on the 4th was 5 in. drifting to 5 ft. and at Glenferness (700 ft.), Nairnshire, there were drifts up to 8 ft. on the 4th. The weather was warm from about the 10th to 12th, but a marked fall of temperature occurred on the 13th and some snow fell locally on the 13th and 14th. Scattered wintry showers occurred at times during the last week.

April 1954.—April was dry generally, and notably sunny. Mean temperature was below the average in England and Wales but somewhat above the average in Scotland. The nights were unusually cold; ground frosts were frequent and air frost was severe locally at times and occurred more often than is usual in April. There was little snow, though snow or sleet showers occurred at times; they were widespread between the 4th and 6th, and occurred locally in western districts of England and Wales on the 1st, at a few scattered places on the 12th and 13th, and in many parts of Scotland on the 30th. There were few days with snow cover even on the hills except on those in the neighbourhood of Glen Lyon during the first half of the month and on the 30th. Ben Nevis was snow-covered throughout the month at heights above 2,500 ft., and down to below 1,500 ft. on the 30th.

May 1954.—The first week and the period 14th–24th were mainly cool, while it was warm on the whole from about the 10th to 12th and 26th to 31st, though the last days were cooler in eastern districts. Snow or sleet showers occurred on the 1st–6th (particularly on the 1st–3rd), and locally in north-west England on the 22nd. On the slopes of the Dunstable Downs, the snow was fairly heavy from 1700 to 1800 on the 2nd.

Duration of snow-cover on British mountains.—The mean number of days of snow-cover at 2,500 ft. on four mountain groups used as indices was 71 as compared with an average of 83 for the past seven seasons. The stations used

were Glenbrittle (Cuillin Hills), Meggernie (Glen Lyon), Capel Curig (Snowdonia) and Tairbull (Brecon Beacons). Diagrams showing the distribution of snow-cover relative to height for 10 stations are given in Fig. 2.

Harris, in the Outer Hebrides, reported snow-cover on some days in each month from November to May. The maximum number of days, 21, occurred in February at heights above 1,500 ft. The snow-line reached sea level on seven days during the season.

The Cuillins of Skye had some cover on one day in October and in each month from December to April; at 3,500 ft. there was continuous cover from January 13 to April 3. The snow-line reached sea level on eight days in February and three days at the beginning of March.

The peaks around Glen Lyon had snow-cover on October 28 and in each month from November to May; it lay continuously down to 3,000 ft. from January 21 to April 11, and at station level (760 ft.) from January 25 to February 16, and from February 24 to March 7.

The Paps of Jura were snow free until January 5 and from March 16 to April 30, but on May 1 snow lay down to sea level for the one day. At 2,500 ft. it lay continuously from January 26 to February 9 and February 16 to March 9.

Ben Nevis was snow free until October 24. The summit was under continuous cover from October 26 until January 9 and from January 12 until the end of the season. In the period up to January 9, however, snow-cover came down to 2,000 ft. on only 10 days. Between January 13 and March 7 there was cover at station level (30 ft.) on 11 days.

The peaks near Capel Curig had no snow-cover until January 6, but they were under cover on some days in each month during the rest of the season. Snow-cover came down to station level (700 ft.) from January 26 to February 6 and from February 28 to March 5. Cover was observed on three days in early April and on the first two days of May.

In south Snowdonia there was no snow-cover until January 7 and then it only lasted two days; there was continuous cover at 2,500 ft. from January 26 to February 8 and from February 25 to March 5. Snow-cover was observed on three days in early April but none from April 7 to the end of the season.

The Brecon Beacons were snow free until January 6. Cover was continuous at 2,500 ft. from January 26 to March 28. It came down to station level (660 ft.) from January 26 to February 9, on February 19 and 20 and on six days in the first half of March. There were two days with snow-cover in the first week in April and three in early May.

Cross Fell was snow free until December 24 when snow persisted for three days. The summit was covered continuously from January 29 to February 20 and February 24 to March 11. Snow-cover was observed on 2 days in April and on 5 days in May, the latest date being May 22. Snow was observed below 1,000 ft. on January 14, continuously from January 29 to February 12 and February 25 to March 7, and on March 22.

Helvellyn was snow free until January 7 apart from some cover on December 25. The summit was covered continuously from January 26 to 31 and February 4 to March 9. Snow-cover was observed also on April 5 and May 6 and 22. Snow lay at station level (520 ft.) on January 26 and 31, February 4, 7-12 and 26-28 and March 3.

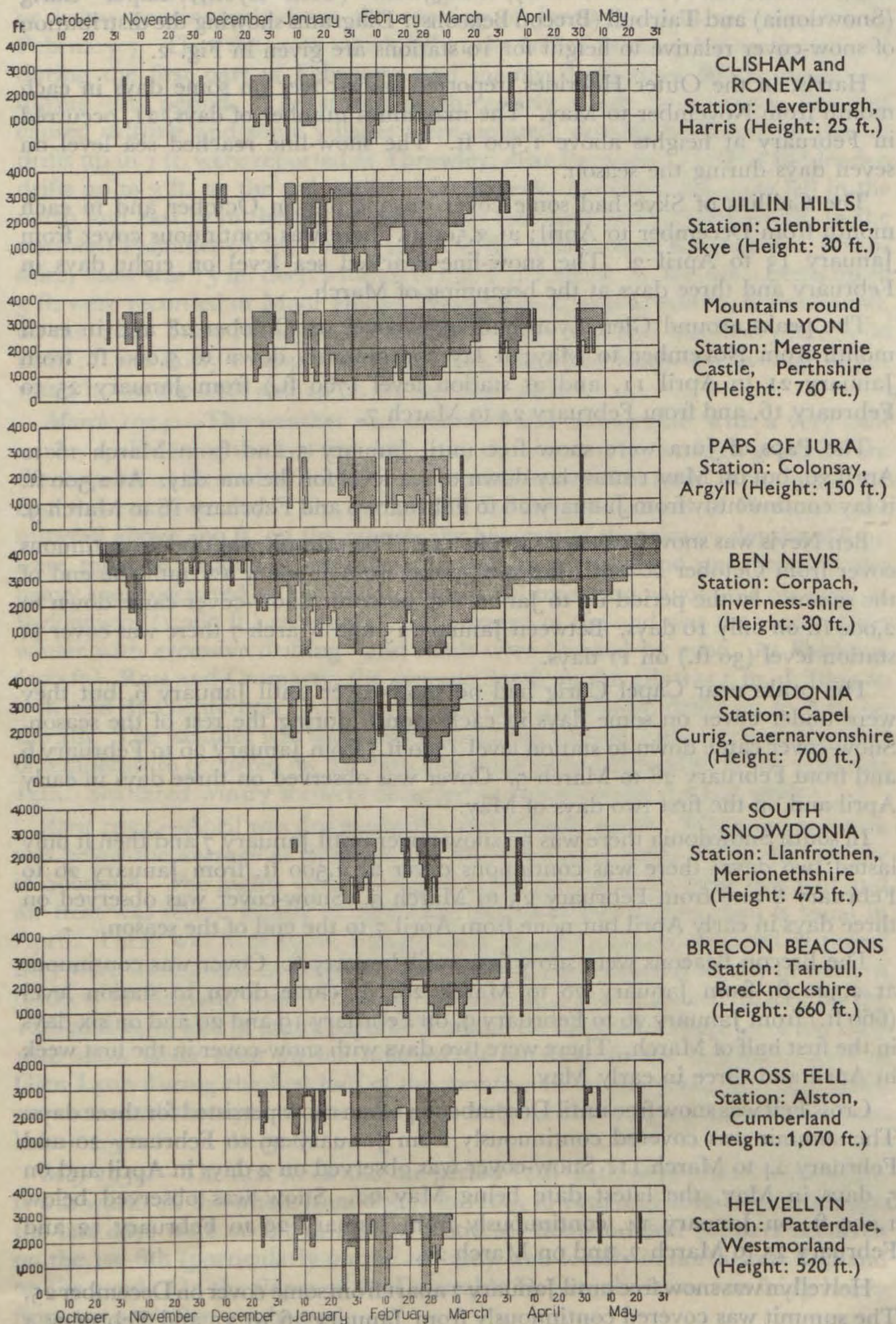


FIG. 2—DISTRIBUTION OF SNOW-COVER IN RELATION TO HEIGHT

Curves showing the total seasonal duration at six stations are drawn in Fig. 3; 200 days' cover was exceeded on Ben Nevis above 3,500 ft. and 100 days' cover was exceeded on the mountains about Glen Lyon above 2,500 ft.

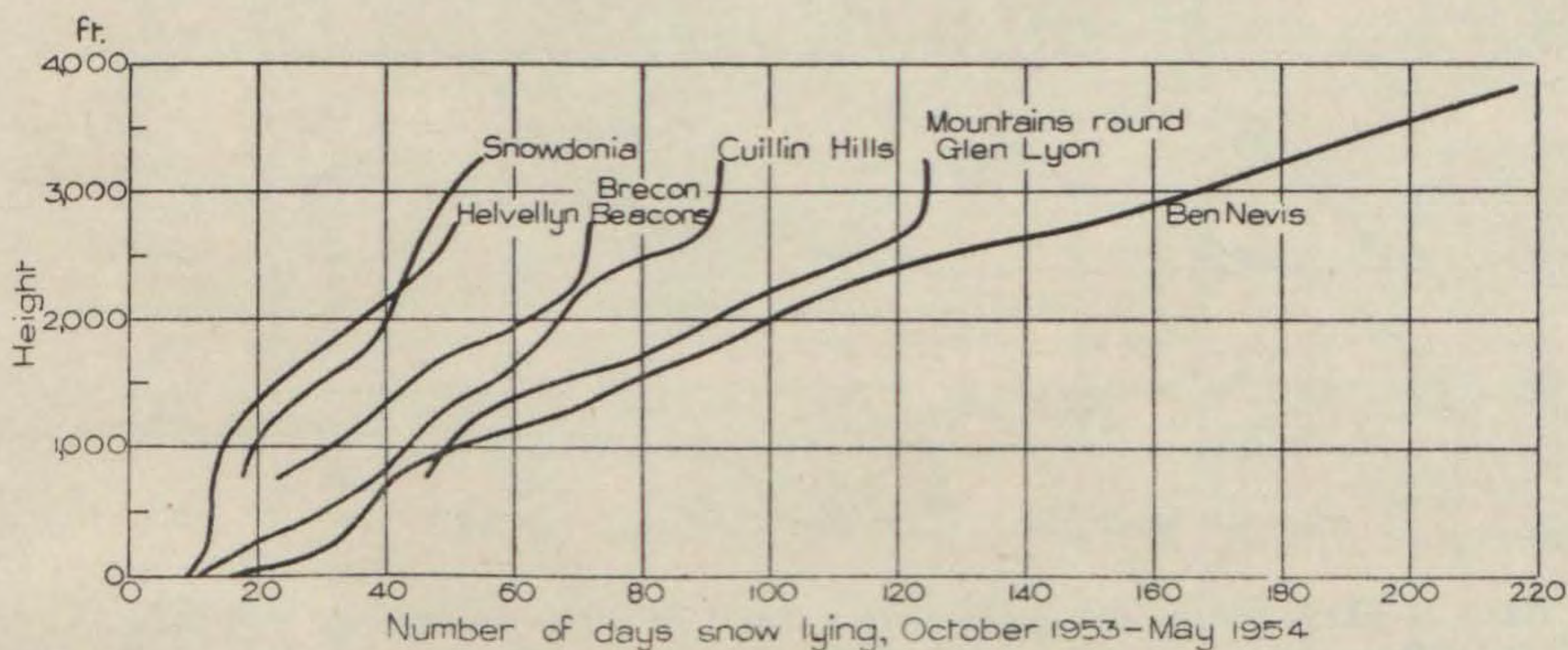


FIG. 3—SEASONAL DURATION OF SNOW-COVER

Snowfall in British coastal waters.—Returns were received for the 1953–54 season from 91 lighthouses and lightships round the coasts of England and Wales and from 60 lighthouses and lightships round the Irish coast; 18 returns were received from merchant ships. The earliest snowfall at sea was reported by the Morecambe Bay light-vessel on December 13. Most of the snowfall reported at sea occurred between the beginning of January and the end of the first week in March. The number of days with snow during the season ranged from only 2 at the Scarweather light-vessel in the Bristol Channel and at the Eddystone, Bishop Rock and Wolf Rock lighthouses to 24 at the Cromer and Inner Dowsing light-vessels. The last report of snowfall at sea came from the M.V. *Lochiel* who experienced scattered snow showers on May 1 when she was on passage from Port Askaig, Islay, to Loch Tarbert, Jura.

REFERENCE

1. LEWIS, L. F.; Exceptional weather of November 1953 to early February 1954. *Met. Mag.*, London, **83**, 1954, p. 143.