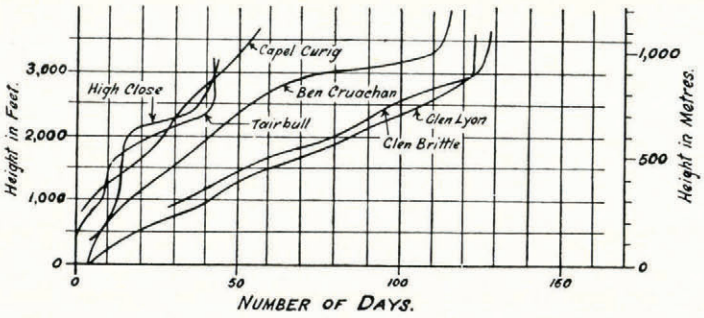

Fig. 1

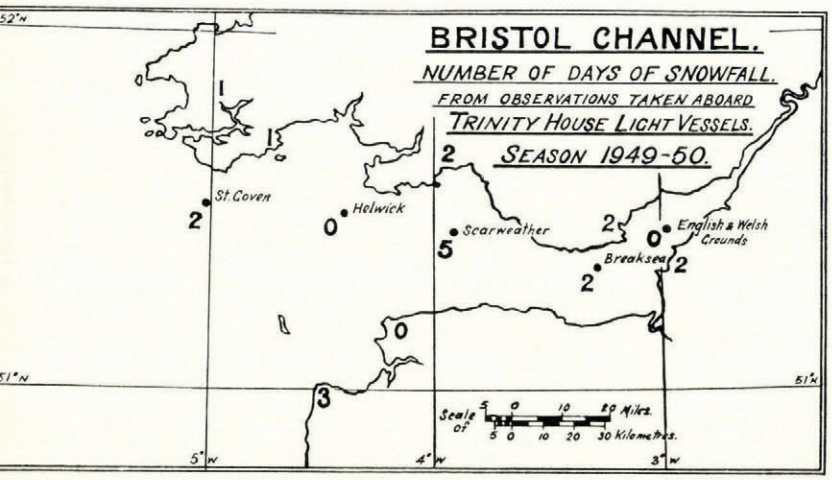

Fig. 3

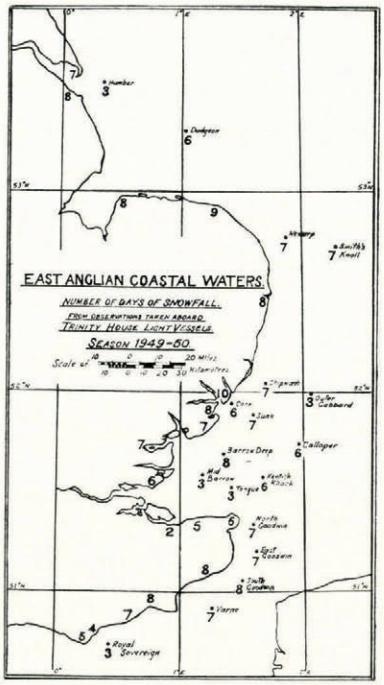

Fig. 2

SNOWFALL IN BRITISH COASTAL WATERS

Through the courtesy of the Elder Brethren of Trinity House and with the co-operation of the masters of twenty-six lightships, details of snowfall at sea are now available for the first time in these records.

No snowfall was reported during *September*, *October*, *November*, *May* or *June* at any ship station, and the *Seven Stones* lightship, off Cornwall, and the *Helwick* and *English and Welsh Grounds* vessels, in the Bristol Channel, reported an entirely snow-free season.

In *December* snow was reported on the *8th* by the *Morecombe Bay* lightship, and on the *9th* at *Breaksea* and *Scarweather* lightships in the Bristol Channel. Between the Humber and the Isle of Wight snowfall was reported on 3 days at the *South Goodwin* lightship, on 2 days at *Shipwash*, *North Goodwin* and *East Goodwin* lightships, and on one day at the *Sunk*, *Varne* and *Owers* lightships.

During *January* snowfall was reported from every lightship off the east coast from the Humber to the Isle of Wight, with a maximum of 5 days at the *Sunk* and *Barrow Deep* lightships, and but one day at the *Outer Gabbard*, *Royal Sovereign* and *Owers* lightships.

In *February* snowfalls were reported from all stations except the *Sunk*, *Royal Sovereign*, *Owers*, *Seven Stones*, *St. Goven*, *Helwick*, *Breaksea*, *English and Welsh Grounds* and *Morecombe Bay*,

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lightships. The *Humber* lightship reported exceptionally large snowflakes on the *25th* and *26th*. Snowfall for $4\frac{3}{4}$ hr. ending at 04.15 hr. on the *1st* at *Mid Barrow* lightship was reported as "continuous, but at times really thick," whereas at *Barrow Deep*, ten miles to the north-east, it was reported as "very light and of short duration."

During *March* snowfall was confined to but one day, at the *Dudgeon*, *Smith's Knoll* and *Cork* lightships respectively.

The late and somewhat heavy snowfalls of the *24th–25th April* were fairly widespread, but were not reported from the *Outer Gabbard*, *Barrow Deep*, *Mid Barrow* and *Tongue* lightships off the east coast, nor from the *Helwick* or *English and Welsh Grounds* vessels in the Bristol Channel. At the *North Goodwin* it was sufficiently thick for the fog-horn to be sounded because of the reduced visibility, and the *Varne* reported a "storm of 45 minutes duration." The *Royal Sovereign* reported squalls of snow and hail, and the *Owers* "light sleet or snow for 30-minute periods." The *Royal Sovereign* and *St. Goven* lightships alone experienced any snow on the *26th*, the early hours of which day produced the heaviest late-April snowfall for 31 years over inland districts of south-east England.

SUMMARY

East Anglian Area. The Map (Fig. 2, p. 525) shows the distribution of snow-days in this area for the season, together with that at adjacent shore stations. Broadly, it would seem that the snowfall at sea tends to be slightly less than on adjacent coasts; but the distribution shows considerable variation, with a maximum of 8 days at *Barrow Deep* and the *South Goodwin*. The minimum of 3 days occurred at the *Outer Gabbard*, *Mid Barrow*, *Tongue* and *Royal Sovereign* lightships. It will be of interest to see if the marked minimum at *Mid Barrow* and *Tongue* lightships is maintained in future seasons if the adjacent land and ship stations should again have at least twice the number of snow-days.

Bristol Channel. The season's distribution of snow-days in the Bristol Channel is shown in Fig. 3 (p. 525). It will be noted that the snowfall was, again, somewhat irregular, *Helwick* and the *English and Welsh Grounds* reporting none at all and *Scarweather* the maximum of 5 days.

D. L. C.

REVIEWS

THE GLACIAL ANTICYCLONE THEORY EXAMINED IN THE LIGHT OF RECENT METEOROLOGICAL DATA FROM GREENLAND. Part 2. FRANÇOIS E. MATTHES *and* ARTHUR D. BELMONT. (Prepared by the junior author from notes of the senior author after his death.) *Transactions, American Geophysical Union*, Vol. 31, No. 2, 1950, p. 174–82.

PART 1 of this paper was reviewed in the *Journal of Glaciology*, Vol. 1, No. 2, p. 79. Part 2 was to have dealt with the upper air data, but Dr. Matthes died before he could write it. Actually it is doubtful whether sufficient material yet exists for such a study to be fruitful. But he left a number of further notes on surface weather in Greenland, and the junior author has collected and arranged these and added some later material. This forms a valuable summary of the weather prevailing over an inland ice cap, and it leaves no doubt that the persistent anticyclonic conditions, and the maintenance of the ice sheet entirely by low-level condensation, which constitute Hobbs's theory, are a great exaggeration if not an illusion. Quiet weather prevails for less than half the time, and the main element in maintaining the ice sheet is clearly seen to be the snow brought by barometric depressions.

This must not be taken as implying that the great cold mass of Greenland does not influence the general weather situation—far from it. The normal sequence of events seems to be that