

SHORTER CONTRIBUTIONSAN UNUSUAL PRESSURE FLUCTUATION IN THE GREAT AUSTRALIAN BIGHT.

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On a passage from Sydney, New South Wales, to Fremantle, Western Australia, the "S.S. Irish Cedar" crossed the Bight between 9th and 12th March, 1954. On the 10th March between 0300 and 2100 G.M.T. and again from 111500 to 120300 G.M.T., some unusual pressure fluctuations were observed. A copy of the trace taken from the ship's barograph appears in fig. 1.

The synoptic charts during the period of the 10th-12th showed a quasi-stationary front extending from about 38°S, 135°E to 37°S, 120°E, orientated in the general east-west direction and convex northward. An anticyclone (1022 mb.) was centred over the Bight and appeared to be divided into two discrete cells by the front. A low pressure centre was located approximately 150 miles south-east of Albany.

Between the periods of rapid pressure fluctuations on the 10th and again on the 11th and the early part of the 12th March the barograph trace showed a more or less steady rise in pressure.

EXPLANATION

On the 10th the ship approached the front (fig.2) as indicated by the fall in pressure from approximately 1020 mb. to 1018 mb. between 0300Z and 0800Z hours. During the next 12 hours the course of the ship followed closely that of the quasi-stationary front and this could explain the long period of fluctuations in pressure.

It appears that the ship then moved away from the front (fig.2) with a consequent rise in the pressure as shown by the trace during the period between 101700 G.M.T. and 110900 G.M.T.

The pressure system had moved slightly eastward during the 11th and 12th and at 111500 G.M.T. the ship approached the front again (fig. 3) and followed it until 120900 G.M.T. and as previously rapid changes in pressure were experienced. The steady fall in pressure during the above period may be attributed to the fact that the ship was also approaching a low pressure centre as shown in fig. 3.

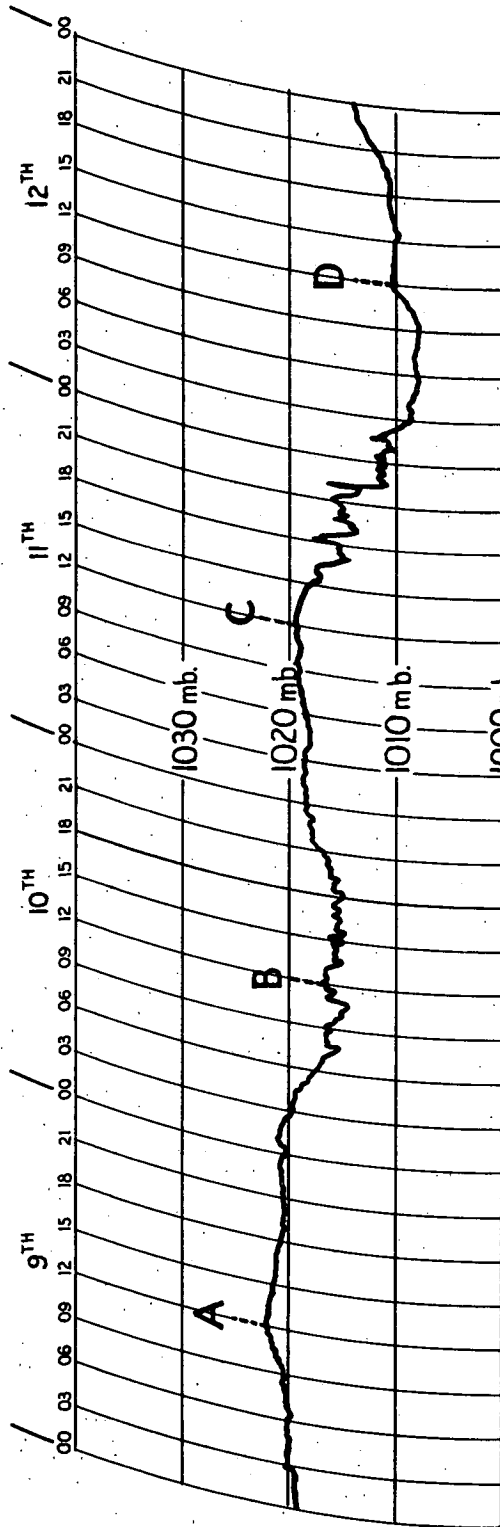


Fig. 1. Barograph from S/S. Irish Cedar 8th-13th. March 1954. A, B, C and D are 1200 G.M.T. time marks at positions A, B, C and D. Shown in figs. 2 and 3.

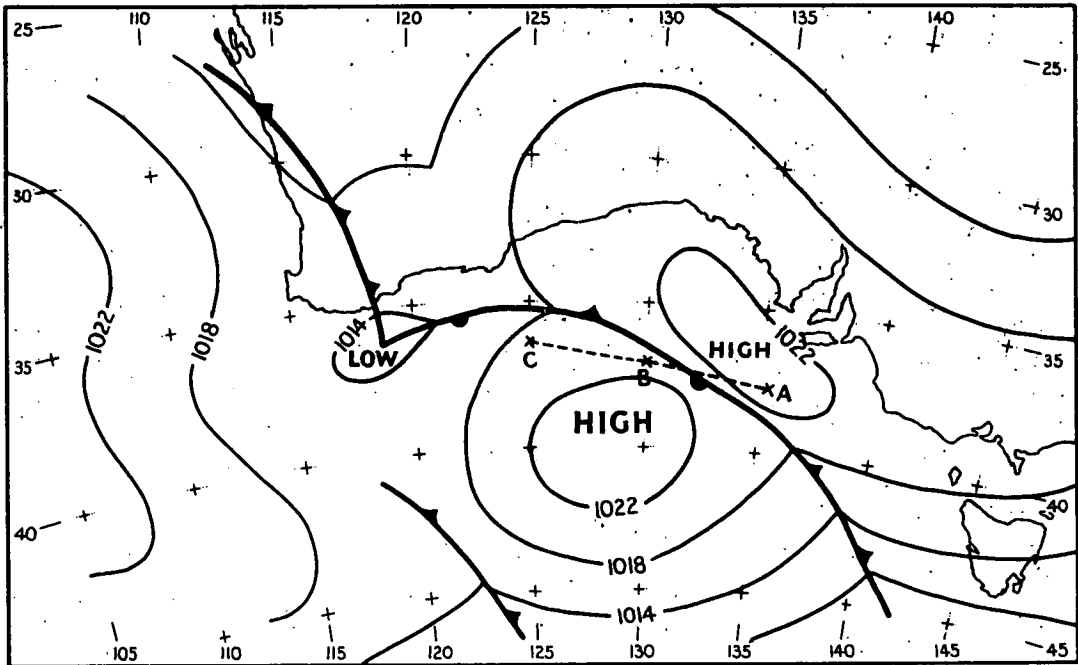


Fig. 2. M.S.L. chart for 2200 GMT. 9th. March 1954.

A, B, C. Positions of S/S Irish Cedar at 1200 G.M.T. on the 9th, 10th and 11th March respectively.

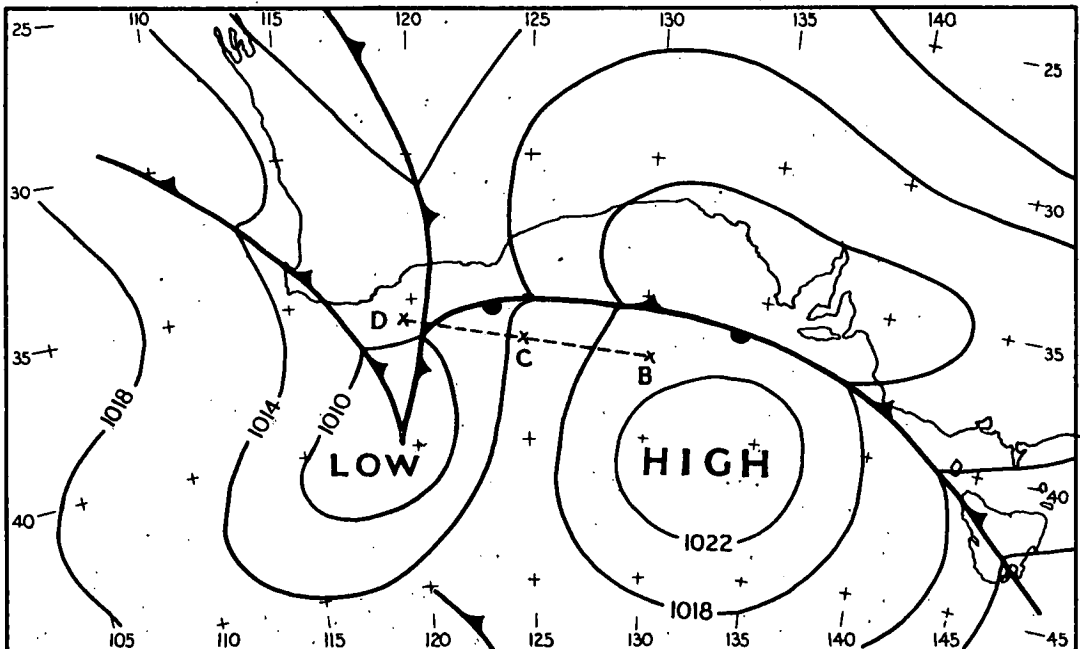


Fig. 3. M.S.L. chart for 2200 G.M.T. 11th. March 1954

B, C, D. Positions of S/S Irish Cedar at 1200 G.M.T. on the 10th, 11th, 12th. March respectively.