Letter to the Editor

551.515.1

RAPID WEAKENING AND UNUSUAL MOVEMENT OF BAY STORM OF 8-9 NOVEMBER 1965

1. A well marked low pressure area over west central Bay concentrated into a depression by the evening of 7 November 1965, and was centred near Lat. 13°N, Long. 84°E. It intensified into a deep depression by next morning when it was centred near Lat. 13°N, Long. 83°E, after a westerly movement. It intensified further into a cyclonic storm of small extent centred 081200Z close to Lat. 12°N, Long. 81°E, with associated cyclonic circulation extending to 6·0 km. a.s.l. TIROS observation at 080503Z reported a disturbed area centred at Lat. 12°N, Long. 81°E, banding well defined, and eye visible. The cyclonic storm remained practically stationary till 9th morning after which it moved southwestwards and rapidly weakened into a depression during the course of the day. It remained as a depression close to south Madras coast on 10 November and weakened further into a low pressure area on 11 November 1965. The track of the above system is shown in Fig. 1(b).

2. The rapid weakening of the cyclonic storm and its southerly movement between morning to evening of 9 November 1965 are most striking and unusual. In the upper tropospheric levels on this day, there was a well-marked trough in the westerlies extending unusually far to the south right into southwest Bay from Nepal. At 0001Z of 9th abnormally strong N/NW winds of speed over 50 kt were reported by most of the stations in the belt of Long 77°E to 83°E and north of Lat. 18°N (Fig. 1 a). The associated trough line AB in Fig. 1 (a), in the Indian latitude was running from Darjeeling to southwest Bay (Lat. 12°N, Long. 81°E) through Chaibasa and Visakhapatnam. The southern end of this well-marked trough lay almost over the cyclonic storm in the lower levels in the southwest Bay. The trough moved east along with the belt of strong winds by evening and the trough line CD in Fig. 1 (b) was observed running from Dhubri to southwest Bay (Lat. 12°N, Long. 83°E) through Burdwan and Puri. With this easterly movement of this trough line, the convergent portion of the high level trough lay over the cyclonic circulation in the lower levels, with the result there was a marked fall in the advection of positive vorticitiy

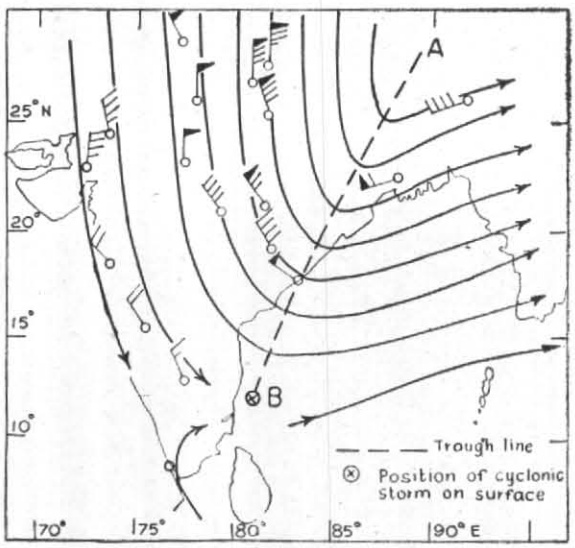

Fig. 1(a)

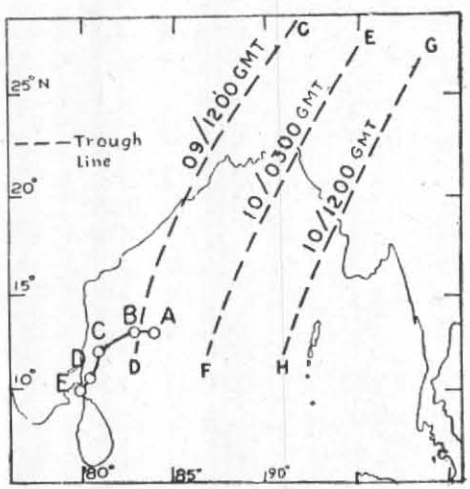

Fig. 1(b)

over the area, inhibiting the cyclogenesis. The northerly orientation of the current aloft the cyclonic circulation, steered the storm in a southerly direction. The system, therefore, rapidly weakened with the eastward passage of the trough line at 0001Z of 9th.

3. By 10th morning, the trough moved rapidly east with trough line EF in Fig. 1 (b) running from

Dibrugarh to south Bay (Lat. 12°N, Long. 87°E) through Chittagong. Strong northerly winds shifted to the east and was confined relatively to a narrower belt about the meridian of Calcutta. By the evening of the 10th, the trough line moved further east (GH in Fig. 1 b) and extended from upper Burma to southeast Bay (Lat. 12°N, Long. 91°E), and the southern end of the trough moved outside the area of the disturbance in the lower levels.

4. Pending detailed examination of all aspects of this cyclonic disturbance, it would appear that the movement of the marked trough in esterlies extending to far southern latitudes unusual for the month, was a potent factor for the rapid weakening and the unusual movement of the storm between morning to evening of 9 November 1965.

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