

Letter To The Editor

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HEAVY RAINFALL IN DECCAN (DESH) ON 30-31 AUGUST 1956

Locally heavy to very heavy rain fell in Deccan (Desh) during the 24 hours ending at 0300 GMT of 31 August 1956. On the 30th morning conditions were markedly unsettled in the west central Bay of Bengal. In such a situation it is usual to expect heavy rain along coastal Andhradesa and very unusual for heavy rains to occur in Deccan (Desh). Fig. 1 shows the rainfall amounts during the 24 hours ending at 0300 GMT of the 31st. It is interesting to note that the rainfall amounts over the Deccan (Desh) are much greater than along the coastal Andhradesa. Baramati and Ahmednagar recorded 4" and Aurangabad and Bijapur 3" each. The 2" of rain at Sholapur and Gulbarga suggest that heavy rain may have occurred in the adjoining portions of Hyderabad as well. This note discusses the probable mechanism of this heavy rainfall.

Figs. 2(a) to 2 (d) show the winds, stream-lines and isotachs at 0·9 and 1·5 km at 0200 and 0900 GMT of 30 August 1956. Winds have

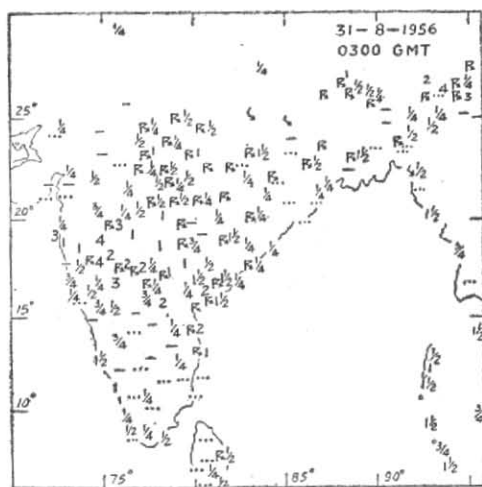


Fig. 1. Rainfall and thunderstorms during the 24 hours ending at 0300 GMT of 31 August 1956

been represented with the arrow head pointing to the direction towards which the wind was blowing and the speed is marked at the side. The marked confluence of stream-lines without sufficient increase of wind speed downwind shows appreciable

TABLE 1

Time of ascent and height (a.s.l.) of pibal winds	Convergence (units hr ⁻¹) in triangle bounded by			
	AGD-HYD-ANT	PNA-AGD-ANT	PNA-ANT-VNG	GDG-ANT-HYD
0200 GMT 0·9 km	-0·10	-0·06	0·0	..
0200 GMT 1·5 km	-0·04	-0·02	-0·11	..
0900 GMT 0·9 km	-0·17	-0·06	+0·04	-0·12
0900 GMT 1·5 km	-0·22	-0·06

AGD—Aurangabad, HYD—Hyderabad, ANT—Anantapur, PNA—Poona, VNG—Vengurla, GDG—Gadag
(Negative sign indicates convergence and positive sign divergence)

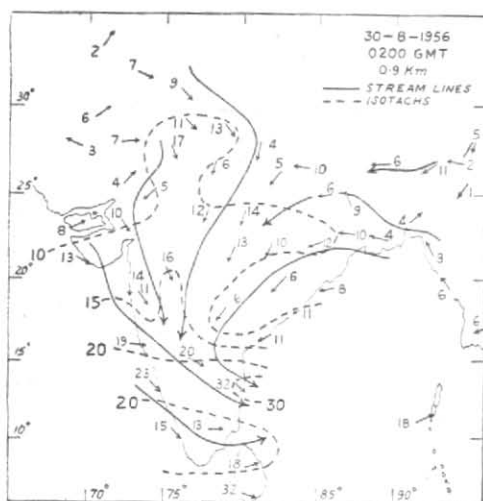


Fig. 2(a)

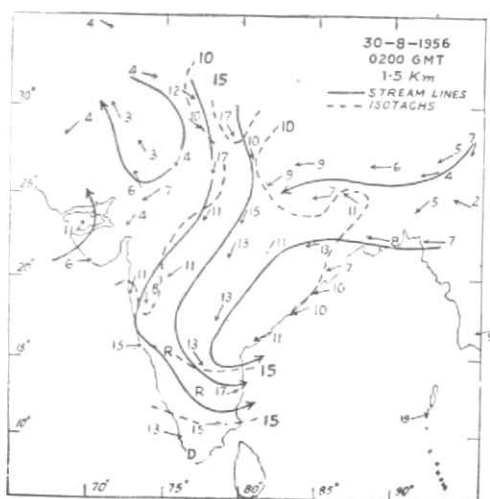


Fig. 2(b)

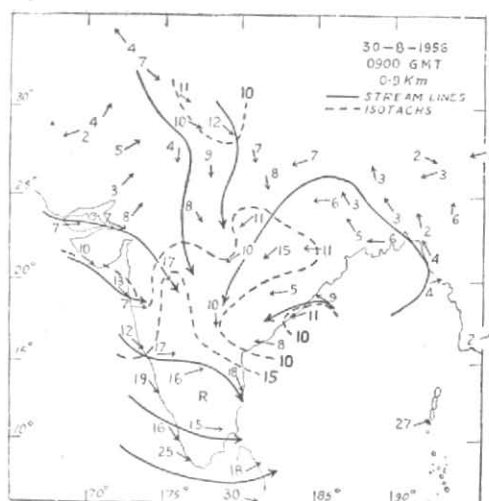


Fig. 2(c)

Winds, streamlines and isotachs

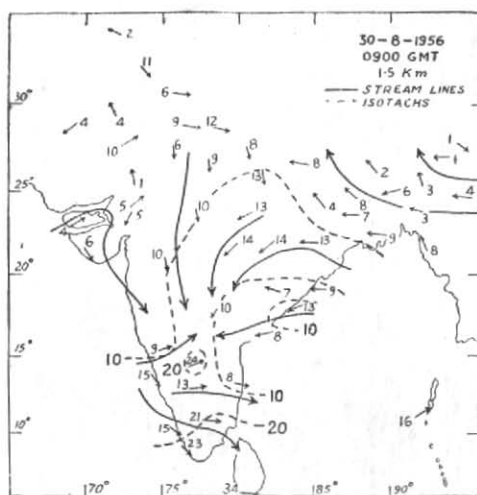


Fig. 2(d)

Winds, streamlines and isotachs

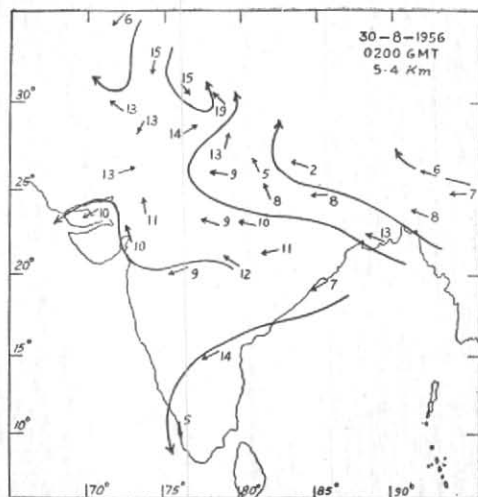


Fig. 3(a)

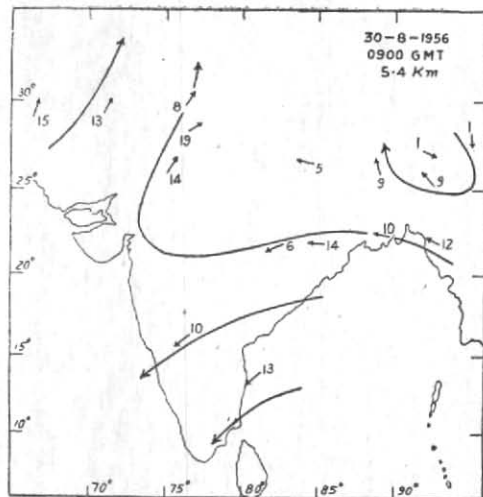


Fig. 3(b)

Streamlines at 5.4 km

convergence at 0.9 km between the longitudes 74° and 78°E and latitudes 15° and 20°N in the morning. At 1.5 km the convergence seems marked between the same longitudes but between 15° and 17°N . In the afternoon the convergence seems even more marked between 15° and 20°N and the same longitudes at both the levels. Values of convergence in different areas computed by Bellamy's method (1949) are given in Table 1 (p. 231). These show that very marked convergence prevailed between the longitudes 75° and 78°E and latitudes 15° and 20°N . The convergence decreased westwards. The magnitude of convergence increased in the afternoon and was as much as 0.22 hr^{-1} at 1.5 km. Though at 1.5 km at 0200 GMT there was

convergence of 0.11 hr^{-1} in the area between Poona, Anantapur and Vengurla, this was probably changing to divergence in the course of the day as seen from the values at 0.9 km.

Figs. 3(a) and 3(b) show the streamlines at 5.4 km at 0200 and 0900 GMT. There is marked diffluence of streamlines over Deccan (Desh) at both the times. Such marked diffluence is very likely to be associated with divergence.

Thus over Deccan (Desh) and neighbourhood there was marked convergence in the lower levels and possibly divergence in the mid-troposphere. This is a type of situation very favourable for convection and seems to have caused the heavy rainfall.

*Meteorological Office,
Santacruz
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Y. P. RAO
P. S. HARIHARAN

REFERENCE

Bellamy, J. C.

1949 *Bull. Amer. met. Soc.*, 30, 2, p. 45.
