THE EDITOR

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ON THE MICROSEISMS ASSOCIATED WITH THE BAY CYCLONE—30 SEPTEMBER 1959

Recently Pisharoty and Srivastava (1961) have presented the microseismic data of the above cyclone in respect of Colaba and Madras stations. The above observations are very much different from the data presented by Iyer and Kartha (1960) so far it relates to the peak amplitude during the microseisms storm. This led the writer to examine the microseismograph record of Shillong during the period of the storm. On account of the low background noise in the Shillong microseismograms it is very convenient to study the development of microseisms because the station is absolutely free from the so called local short period noise on account of the surf effects due to the proximity of the sea as in the case of Cochin, Colaba and Madras.

It will be seen from Fig. 1 that the microseismic amplitude began to increase at about 1200 GMT of 29 September 1959 and the maximum amplitude was recorded between 0600 and 1800 GMT on 30 September 1959. The observations plotted in the graph are from the records of Sprengnether microseismograph at Shillong having the following constants—

$T_0 = T_g = 6 \cdot 6$ sec

Synchronous Magnification=4000

Damping—Critical

Pisharoty and Srivastava have suggested an explanation for the rise of microseismic amplitude between 25 and 29 September at Cochin as compared to Madras and Colaba and the above authors have pointed out that the curves given by Iyer and Kartha exhibit a decrease in the microseismic activity at 1400 IST on 30 September while Colaba and Madras recorded their maximum amplitudes. Whatever may be the cause for the increased microseismic activity at Cochin during 25 to 29 September, the observations at Madras,

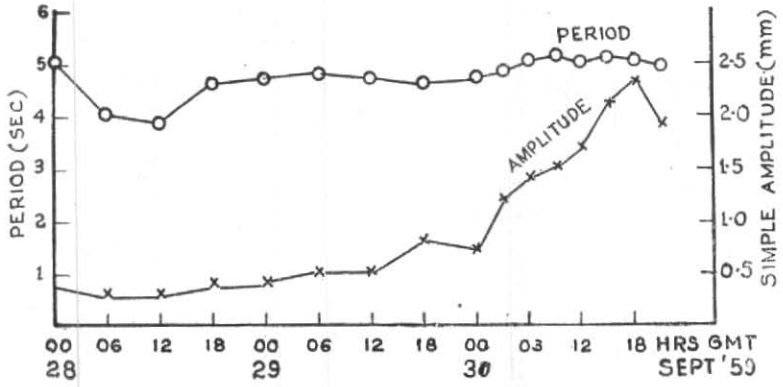

Fig. 1

Colaba and Shillong clearly indicate that the increased microseismic activity at Cochin could not be attributed to the development of the Bay cyclone as considered by Iyer and Kartha. The maximum microseismic activity observed at Cochin on 29 September 1959 could not be attributed to the cyclone because on 29th, the disturbance was at the stage of deep depression when no pronounced microseismic activity was recorded at Madras and Shillong. This is in perfect agreement with the observations of Tandon (1957) that shallow or even deep depressions situated in water remote from the shore may not be able to generate microseisms of sufficient intensity to be recorded at distant seismograph. On the other hand the maximum microseismic activity recorded at Colaba, Madras and Shillong on 30 September and 1 October is in keeping with the synoptic situation that the disturbance intensified into a cyclonic storm by the morning of 30 September 1959. No explanation is, however, available for the decreased microseismic activity at Cochin on 30 September and 1 October 1959 when all other stations of India Meteorological Department recorded maximum amplitude. The explanation is to be sought either in the instrumental difficulties or rather with the so called geological barriers which did not allow the microseismic waves to propagate along the path from the storm centre to Cochin. No such barriers are apparently present in the path so far Colaba, Madras and Shillong are concerned.

R. C. BANERJI

Central Seismological Observatory,

Shillong

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