Changes in dynamical parameters of the middle atmosphere associated with the storm activity over Bay of Bengal

K. Indira

Indian Institute of Tropical Meteorology,
Pune - 411 008

A deep depression was formed over the north Bay of Bengal (18°N, 78°E) during 22 to 25 July 1989. The cyclonic circulation associated with the disturbance extended up to 100 mb. In this connection, once weekly M-100 rocketsonde wind data for Thumba (8°32'N, 76°52'E) obtained during June to August 1989 are analysed. Mean square perturbation velocities ($\overline{v'^2}$) for the three months June, July, August are worked out at an interval of 5 km from 20 km to 55 km up to which winds are available.

Before the formation of the depression a decrease in the mean square perturbation velocity $\overline{v'^2}$ is observed from 30 km to 45 km layer. After the depression an increase in the mean square perturbation velocity $\overline{v'^2}$ is observed in the 30 to 45 km.

Decrease in the perturbation energy in the middle stratosphere (30-45 km) over Thumba during the formative stage of deep depression at higher latitude ($\sim$ 18°N) may be due to concentration of energy there. Similarly increase in the perturbation energy over Thumba could be due to dissipation of the deep depression at about (18°N, 78°E).

Above hypothesis proposed however could not be verified due to non-availability of the rocketsonde wind data at Balasore (21°51'N, 86°93'E).