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Behaviour of longitudinal movements of OLR field over the Indian ocean during the tine period of 1970-1990

This investigation focuses on the longitudinal movements of Outgoing Longwave Radiation (OLR) field over the Indian ocean during the time period of 1974/ 1990 in the belt from 10^o N to 10^o S latitude and 30^o E to 110^o E longitude with the use of time-longitude sections. It is found that the OLR field over this region exhibits two behavioral types of longitudinal movement. During the period, 1974 – 1982, it shows dry condition type movement (low convective activity) and from 1983 – 1990, it shows wet condition type longitudinal movement (high convective activity).

Considering the period from 1974 – 1982, the lowest convective activity occurred in 1976 and highest convective activity took place in 1984 and 1988. From the end of the year 1975, low convective has started to move eastward till the end of the year 1976. During this time period there are three type of El-Nino events (1976 – 1977,1982 – 1983, 1986 – 1987). The pattern of OLR behaviour in 1976/1977 and 1986/ 1987 is different from that of 1982/ 1987 is different from that of 1982/ 1983.

It is worthy to note that the two El-Nino events 1976/ 1977 and 1986/ 1987 show opposite type of OLR behaviour with compared to 1982/ 1983 El—Nino event. During the period of 1983 – 1990, year to year behaviour of OLR was similar except for the El-Nino event that took place in 1986/ 1987 in 1976 – 1977 and 1986 – 1987, OLR show dry condition type (low convective activity) longitudinal movement and 1982 – 1983 shows wet condition type (high convective activity) longitudinal movement in the region. Comparing these three events together (76 – 77, 82 – 83, 86 - 87) it van be seen that the OLR field alternates between dry condition to wet condition in 5 – 6 year.