E1-03 : A COMPARATIVE STUDY OF THE DROUGHTS OF 1983, 1987 AND 1992

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This paper discusses the global circulation features that gave rise to drought conditions over Sri Lanka during January to March 1983, 1987 and 1992.

Since 1980, there had been three El Nino/Southern Oscillation (ENSO) events. These were in 1982/83, 1986/87 and 1991/92.

The 5-month mean Southern Oscillation Index has decreased from (i) -22.1 in November 1982 to -29.1 in March 1983 (ii) -3.3 in November 1986 to -13.1 in March 1987 and (iii) -9.0 in November 1991 to -16.7 in March 1992.

The average positions of the sub-tropical ridge axis from 60°E to 100°E at the 850 hPa (1500 m), 700 hPa (3000 m) and 500 hPa (5000 m) levels during January to March have, in general, been South of the long term mean position, the highest deviation being in 1983 at the 850 and 700 hPa levels. The location of the ridge axis South of the mean position implies suppressed convective activity and hence low rainfall over the Island.

A district wise analysis of the rainfall showed that the land area which received less than 10% of the rainfall was 55% (1983), 11% (1987) and 46% (1992).

On the basis of the above, it appears that the drought of 1983 had been the worst.