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La Nina and positive SO cause for unusual rain?

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CHENNAI The unusually-heavy rains over Tamil Nadu and other parts of southern peninsula may have been caused by La Nina and the positive phase of southern oscillation (SO), global scale circulation features.

La Nina, the opposite of El Nino, pertains to the anomalous decline in the temperature of the central tropical Pacific Ocean while the southern oscillation refers to the air pressure difference between Tahiti in the Pacific and Darwin in the northern Australia.

(According to the website of the Climate Prediction Centre, National Weather Service of the National Oceanic and Atmospheric Administration of the United States Government, El Nino and La Nina episodes normally last 9 months to a year. They often begin to form during June-August, reach peak strength during December-April, and decay during May-July).

Stating that La Nina and the positive phase of SO normally co-exist, Y.E.A. Raj, director of the Regional Meteorological Centre, who has carried out numerous studies on the rainfall patterns of Tamil Nadu, says that the positive SO pushes equatorial trough towards the northern latitude, causing rainfall over the peninsular parts of India.

[During January to April, the equatorial trough over the North Indian Ocean lies very close to the equator, at about two-three degree north].

However, Dr. Raj points out that there is no one-to-one correlation between the rainfall over

the State and the events. "Several factors contribute to the current prolonged spell of rainfall. What we can say is that La Nina and the positive phase of SO are among them."

Termining the present spell unusual, Dr. Raj recalls that in March 1944, the State registered 8.35 cm and exactly 40 years later, 8.15 cm. As on date, the State received 1.6 cm.

He also points out that La Nina and the southern phase of SO had also contributed for vigorous rainfall in December 2007 and the extension of the monsoon into January 2008. The heavy rainfall in December made a difference to the total rainfall of the 2007 monsoon.

During October- December 2007, the State recorded 52 cm against the normal 43 cm, an excess of 21 per cent. Usually, the State registers about 9 cm rainfall in December but it received 22 cm in the last month of the previous year.

Though the rainfall has been widespread, southern districts have generally experienced higher amounts of rainfall than others. From March 1 to 23, Tirunelveli, Ramanathapuram, Virudhunagar, Tuticorin, and Sivaganga districts received 39 cm, 35 cm, 27 cm, 26 cm and 25 cm respectively. In the central parts of the State, Nagapattinam district registered 32 cm while Cuddalore in the north recorded 27 cm and the Nilgiris in the west 26 cm.

The Union Territory of Puducherry registered 23 cm. As the current period is part of summer, the values of normal rainfall in all the districts are very low.