Name: Anushiya J
anushiya.cc@gmail.com
Anna University
Centre for Climate Change and Adaptation Research
CEG Campus
Anna University
Chennai 600 002

CE
Country: India
Title: Influences of El Nino Modoki on NEM Rainfall in Tamil Nadu, India.
Additional authors: Ramachandran.A, Jayanthi.N
Additional Affiliations:
Abstract:
El Nino Modoki phenomenon, which is distinctly different from the conventional El Nino is characterized by above-normal SST in the central equatorial Pacific ranked by below-normal SST in both east and west, there is negative/positive zonal SST gradient in both the eastern/western tropical Pacific. This phenomenon is quantified by an El Nino Modoki Index (EMI). These Modoki events significantly influence the weather patterns over many parts of the globe. Present study makes an initiative attempt to see the influence of EL Nino Modoki on NEM rainfall in Tamil Nadu. Tamil Nadu state, which is peculiar in its weather patterns when compared to other parts of the country as it gets the maximum rainfall in the NE monsoon (OND) and experiences visitation of cyclones once in 2 years. An attempt is therefore made to understand the influence of El Nino Modoki on the Tamil Nadu rainfall pattern during its rainy season of NE Monsoon. Nearly 138 years of Tamil Nadu rainfall data (1871-2008) are considered. EMI data are obtained from JAMSTEC (Japan Agency for marine science and Technology). Monthly and seasonal correlation between these two were analyzed. The results show the phenomenon has a positive influence on NEM rainfall in Tamil Nadu. There is 99% significant positive correlation of NEM rainfall and concurrent (OND) Modoki Index. Considering the individual months, the rainiest November month has the highest correlation at 99% confidence level followed by October, and December months. NEM Rainfall is also correlated with EMI of August September and October months to explore its predictive value. It is statistically significant at 95% confidence level. A regression equation has fitted and predicted for next 5 years. Results are inferred that El Nino Modoki has influence on NEM and can be considered for prediction.

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