

Trend Analysis of Iran's Precipitation and Its Relation to the Teleconnection Forces

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Introduction

Climate is in under influenced with some different complex phenomena. One of important parameters is Precipitation that has change from a year to other year. Teleconnection Patterns and Indices are remote controller of precipitation amount variation in Iran and the entire world. So in this paper on of main goal is relationship between teleconnection and precipitation trends in main meteorological station of IRAN that have long term data base.

Materials and Methods

By using Statistical analysis over Precipitation data via 36 Weather Station from 196°-2009 in whole Country and 34 Teleconnection Indices from NOAA, we analysis and notice to archive component that have up most impact on Precipitation variation in Iran.

Results and Discussion

According to the relationship between major teleconnection indices and Iran's rainfall, we investigate to recognition of their effects and phenomena on climate of Iran. As a results the Sum of 36 stations, the precipitation of Iran has decrease trend. In some station decrease precipitation was intense specific around NW of Iran. According to results, most of the stations studied are declining rainfall, so that the rainfall time series also represents a significant decreasing trend of rainfall is also (by using the Mann Kendal Method). As an important result, according to the path analysis diagram of annual precipitation, convection in the region of 100 degrees in east longitude in the Indian Ocean region related to the Madden-Julian Oscillation, as the original signal and the effect of precipitation was determined (External Indicators). Also, for the first time in Iran, monthly Teleconnection patterns' impacts charts over average rainfall is provided for analysis of operational, training and long-term forecasts.

Conclusion

In resent decade, Global increasing temperature causes change over most atmospheric parameters in whole world and the other hand these atmospheric parameters themselves have impact as feedback over other branches of Climate and weather machine. One of important results in current paper using Path Analysis Approach is showing effect of convection in eastern Indian Ocean (Madden-Julian Oscillation) that cause variation in average of Iran's precipitation by means of change in other teleconnection patterns in time series.

Keywords: Teleconnection Forces, Trend of Iran's Precipitation, Climate Variation.

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