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Southern hemisphere zonl wave three and Tropicl wind anomalies

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Wind anomalies near the equatorial regions plays an important role in the Indian monsoon rainfall characteristics. Influence of high latitude processes on the Indian Monsoon is a much debated topic. There are studies that have shown influence of extra tropical modes like Southern Annular mode, North Atlantic Oscilation on the Rainfall characteristics of the Asian monsoon region. In this study we use the ERA- Interim data set to study the teleconnections between high latitude and the tropics. Here we analyse the influence of the zonal wave three phenomenon on the wind anomalies in the tropical regions of the Indian ocean. In its active phase, zonal wave three has three high and three low pressure cells in the southern high latitudes and allows exchange of mass between the low and high pressure centres in to the mid and subtropical latitudes. The analysis reveal that during June – August the southern hemisphere zonal wave three is negatively correlated with the zonal wind anomalies in the western Equatorial indian Ocean. This relationship probably arises out of the disruption in the Mascarene high, especially in the eastern subtropical regions of the Indian Ocean, during the active phase of wave three. Preliminary analysis suggests the June – August rainfall is only weakly correlated with the southern hemisphere zonal wave three. This could be due the interaction of southern high latitude processes with the tropics as well as with the ones originating the northern hemisphere, but more analysis are required. We extend our analysis to compare the results with the influence of Southern Annular mode and the North Atlantic oscillation on the Wind anomalies in the Tropics and the Monsoon rainfall.