

Tropical Storms over North Indian Ocean during Summer Monsoon tend to intensify in a Warming Environment

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Abstract

Tropical Easterly Jet (TEJ) of summer monsoon over north Indian Ocean is weakening in recent years. This is because of higher warming on the equatorial side of TEJ than on the northern side, although on both sides a significant warming trend is seen. This warming seems to be a part of the general warming trend known to be occurring since mid 1970s. The easterly shear shows a positive correlation with the number of severe storms suggesting that a decrease in easterly shear is favourable for the formation of severe storms. Thus if the present decreasing trend of TEJ intensity continues, which is highly probable in view of presently occurring green-house warming, there is a strong likelihood of the formation of tropical cyclones of hurricane intensity even during the summer monsoon. Presently the intense systems are known to form only in the pre and post monsoon seasons, when the vertical wind shear is small.