



Climate Networks around the Globe are Significantly Affected by Niño

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The temperatures in different zones in the world do not show significant changes due to El-Niño except when measured in a restricted area in the Pacific Ocean. We find, in contrast, that the dynamics of a climate network based on the same temperature records in various geographical zones in the world is significantly influenced by El-Niño. During El-Niño many links of the network are broken, and the number of surviving links comprises a specific and sensitive measure for El-Niño events. While during non El-Niño periods these links which represent correlations between temperatures in different sites are more stable, fast fluctuations of the correlations observed during El-Niño periods cause the links to break.