



Tropical Atmospheric Response to Decadal Changes in the Atlantic Equatorial Mode.

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It has been shown that the atmospheric response to the Atlantic Equatorial Mode is non-stationary. After the 1970's, Sea Surface Temperature (SST) anomalies in the tropical Atlantic are able to alter the atmosphere in the tropical Pacific via modifications of the Walker circulation. Such changes could be related to the differences in the background state of the global SSTs before and after the 1970's, but also to changes in the interannual Equatorial Mode itself.

In this work we first describe the differences in the interannual Equatorial Mode before and after the 1970's. Then we use an AGCM to perform different sensitivity experiments, changing the spatial structure of the Equatorial Mode and we explore the differences in the atmospheric response over the tropical Pacific region to each of the SST patterns considered.

It is shown that the EM produces changes in the Walker Atlantic-Pacific cell before and after the 1970's, and that the key factor determining the final impact of such modification in the surface circulation of the tropical Pacific is the impact of the EM in the Indian Ocean and the Maritime Continent.