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Atmospheric Response to Changes in the Atlantic Equatorial Mode and in the Background State of SST.

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It has been shown that the atmospheric response to the Atlantic Equatorial Mode is non-stationary. After the 1970's, SST anomalies in the tropical Atlantic are able to alter the atmosphere in the tropical Pacific via modifications of the Walker circulation; whilst no significant signal appears before that decade.
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. Using an AGCM we perform different sensitivity experiments, changing either the background state of the SSTs to a common interannual EM or changing the spatial structure of the Equatorial Mode with a common background state. We explore the differences in the atmospheric response to each of the SST patterns considered.