



Influence of climate change on ENSO characteristics using neural networks

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A preliminary study has been performed to analyze equatorial Pacific indices (Niño 3.4, Niño 1+2 and the index of the position of 28°C SST isotherm in the eastern part of the basin) by using a specific neural algorithm, the so-called “Self-Organizing Maps” (SOMs). The main results is a change found in the nature of the transitions between cold to warm and warm to cold extreme events from 1950 to present, around the late 1970’s.

This suggests that the method is able to identify changes in the variability of the tropical Pacific basin observed on decadal time scales (1976 climate shift in our case).

This methodology is then applied first to validate the 20c3m IPCC simulations for the second part of the twentieth century. Second it used to study the evolution of ENSO characteristics depending on the different IPCC scenarios (from the more optimistic one to the more pessimistic one).