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Poster
One of the main modes of sea surface temperature variability in the Tropical Atlantic is the Atlantic Equatorial Mode or Atlantic Niño. The region of largest interannual variability, where the Atlantic Cold Tongue forms, is also a region of consistent biases in climate models. In this study, we investigated the interannual variability of the Tropical Atlantic and its changes in the recent decades in terms of the Bjerknes Feedback Index (IBJ) in a set of seven ocean reanalyses for the periods 1980-1999 and 2000-2010. Differences were observed among the reanalyses regarding their representation of each term of the Bjerknes Feedback, particularly regarding zonal surface currents, leading to differences in dynamical damping and the zonal advective feedback. However, a consistent negative index (damped) is observed in all reanalyses, with the thermocline feedback being the dominant positive term and thermal damping the dominant negative term. Warming trends are observed in sea surface temperatures in the cold tongue region in all reanalyses, as well as a decrease in interannual variability. These in turn are associated with a weakening in the Bjerknes Feedback in the early XXI century, indicated by a stronger and negative index. This results from a stronger thermal damping and weaker thermocline feedback, associated with a weaker response of equatorial zonal thermocline slope to equatorial zonal wind stress. Despite the spread among the reanalysis, the results obtained are consistent with previous studies.
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