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Poster
Interannual sea surface temperature (SST) variability in the equatorial and southeastern tropical Atlantic has been shown to be reduced since the early 2000s. To investigate projected future changes in the southeastern tropical Atlantic interannual SST variability, an ensemble of FOCI coupled model simulations with a nested high-resolution ocean component run under the global warming scenario RCP8.5 is analyzed. We show that in comparison to 1970-1999, the interannual SST variability in the Angola Benguela area (ABA) during 2070-2099 decreases along with reduced western equatorial Atlantic (WAtl) zonal wind variability. Both equatorial remote forcing and local forcing are known to play an important role in driving interannual SST variability in the ABA under present-day conditions. While the reduction of the ABA interannual SST variability is consistent with the weaker WAtl zonal wind variability, no significant relationship was found with the local meridional wind variability. The weaker WAtl zonal wind variability during 2070-2099 relative to 1970-1999 appears to be related to a more stable atmosphere over the equatorial Atlantic. The enhanced stability is due to anomalous descent over the western equatorial Atlantic forced by the stronger warming of the South American continent in comparison to the Atlantic Ocean. Finally, the weakening of the interannual SST variability in the ABA is not significantly related to the magnitude of the local warming.
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