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On the nature of the relationship between tropical Atlantic variability and summer Mediterranean climate. What has changed in recent decades?

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The Equatorial Atlantic Mode has been linked to the Mediterranean/European summer climate, in a way that positive SST anomalies in the Tropical Atlantic during summer have been related with colder and wetter conditions in the Western and Central Mediterranean in late summer (July and August), pointing to the perturbation of the Hadley cell and the storm track as key factors in the possible mechanisms linking these two areas.
Analyzing the second half of the XXth century, we find how the Mediterranean summer response to the Equatorial Mode is non-stationary, being different before an after the late-70s climate shift. Between these two periods, changes in the different tropical ocean basins, as well as in the interactions among them, have been also reported.
In this work we explore the nature of this change in the European response to the Equatorial Mode by performing a set of simulations with the Speedy AGCM, prescribing 1950-2000 observed SSTs in the different tropical ocean basis, as well as in the whole tropics.
In order to asses the importance of the local SSTs in the European/Mediterranean response, the same simulations have been re-done with the Speedy model coupled to a Slab Ocean Model in the North Atlantic ocean and Mediterranean sea.
The results point to the whole tropical ocean as the responsible for the atmospheric response observed in the Mediterranean in summer during the second period of the study, being the ocean-atmosphere interaction a key factor in the accurate modulation of the response.