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Recent trend in the connection between Pacific and Atlantic Niños

B. Rodriguez-Fonseca (1), I. Polo (1), J. Garcia Serrano (1), C.R Mechoso (2)

: (1) Departamento de Geofisica y Meteorologia, Universidad Complutense de Madrid, (2) Department of Atmospheric Sciences, UCLA, USA. (brfonsec@fis.ucm.es / Fax: +34 913944440)

The equatorial Atlantic mode is an interanual coupled atmosphere-ocean mode of the tropical Atlantic variability that affects regional rainfall, mainly over the Gulf of Guinea. There is an evidence that this mode is affected much more than the tropical Pacific by remotely forced variability and it is well accepted that ENSO has an atmospheric impact over the tropical Atlantic through equatorial zonal surface winds. This positive connection with previous Pacific Niño anomalies has been stablished from 6 months lag, using observations from the 50's. Also a negative simultaneous relationship between basins have found pointing out the importance of the Inter-basin SST gradient for driving the atmospheric circulation across the equatorial South America via SLP gradient. Nevertheless, recent correlation analysis between Niño-3 and Atlantic3 SST (2) shows how, from the 70's, SSTAs in both regions are significantly correlated in boreal spring and have pointed out the particular Pacific-Atlantic relationship from 1975, suggesting Atlantic influences Pacific.. However , in early decades before the 70's, essentially no relationship appears to exist. In this work, we investigate the Pacific-Atlantic relationship in the second part of the XX century, taking especial attention to the 1979-2001 which is characterized by summer Altantic El Niño events in association with winter Pacific La Niña events. Possible explanations to this observational evidence will include the recent trends in the warming rates of the individual ocean basins, characterized by stronger warming in the Atlantic from the 80's.Also, this Atlantic leading influence on the Pacific SSTs could be related with the eastern equatorial Pacific cooling trend in the period after 1975 and the century-long warming

trend.