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Delayed ENSO impact on spring precipitation over North Atlantic/European region

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The delayed impact of winter sea-surface temperature (SST) anomalies in tropical Pacific on spring precipitation over the North Atlantic/European (NAE) region is examined using both measured and modeled data for the period 1901-2002. The study utilizes Climate Research Unit (CRU) monthly precipitation dataset and also sea-level pressure dataset taken from re-analysis performed by Hadley Centre. Furthermore, ensembles of numerical integrations from three different model experiments performed by SPEEDY, an AGCM of intermediate complexity were also used. Correlations between CRU precipitation and SST anomalies strongly indicate a possible relationship between winter SST anomalies in tropical Pacific and variability of spring precipitation over the NAE region. The SPEEDY simulations forced with observed global SST anomalies as well as the integrations forced with observed SST anomalies in tropical oceans coupled with fixed slab ocean layer in northern Atlantic were applied for the purpose of a more detailed examination of that relationship and to propose a possible physical mechanism of the delayed ENSO impact on spring precipitation in the remote NAE region.