The Seasonal Footprinting Mechanism in CFSv2: Simulation and Impact on ENSO Prediction

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The seasonal footprinting mechanism (SFM) is thought to be a pre-cursor to the El Nino Southern Oscillation (ENSO). Fluctuations in the North Pacific Oscillation (NPO) impact the ocean via surface heat fluxes during winter, leaving a sea-surface temperature (SST) "footprint" in the subtropics. This footprint persists through the spring, impacting the tropical Pacific atmosphere-ocean circulation throughout the following year.

The simulation of the SFM in the NCEP/Climate Forecast System, version 2 (CFSv2) is likely to have an impact on operational predictions of ENSO. We explore the simulation of the SFM in the CFSv2 decadal simulations and compare with reanalysis products. Additionally, we investigate the relationship between the SFM and ENSO prediction skill in the NCEP/CFSv2 retrospective forecasts.