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Variability of oceanic tropical instability waves and its relationship with El Nino-Southern Oscillation

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Variability of tropical instability waves (TIW) simulated by an ocean general circulation model forced by the observed surface wind stress and heat flux is analyzed to investigate a possible interaction between El Nino-Southern Oscillation (ENSO) and TIW. The leading modes obtained from the empirical orthogonal function analysis (EOF) of the filtered SST and surface currents for the sub-seasonal-to-seasonal time scale are highly correlated to ENSO index. Furthermore, the lead-lag relationship between ENSO index and EOFs representing TIW variability is analyzed to figure out a possible causality existing between the interannual variability and sub-seasonal variability in the ocean.