Supplemental Material

Journal of Climate
Advanced Peak Phase of ENSO under Global Warming
https://doi.org/10.1175/JCLI-D-24-0002.1

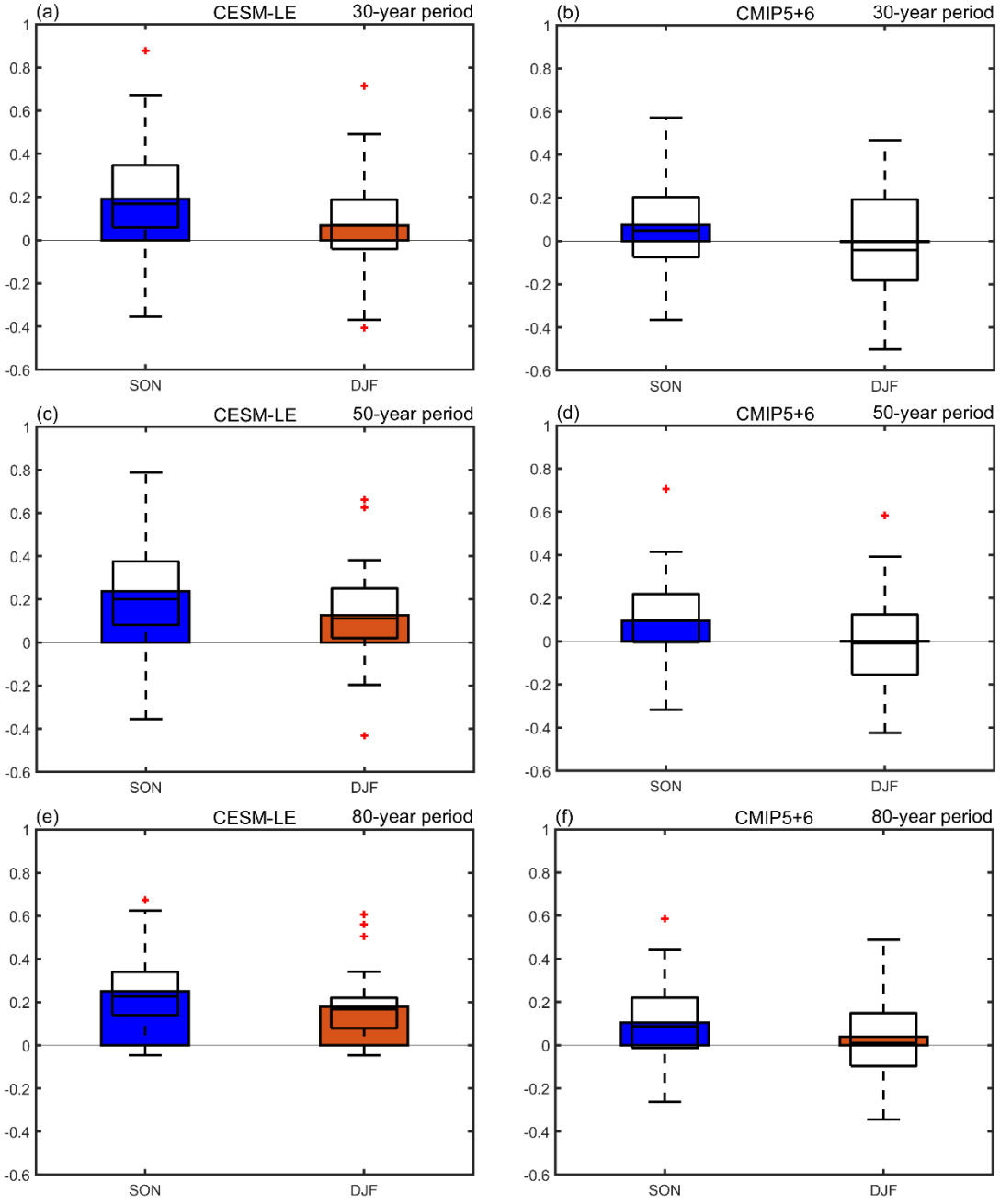

Fig. S1. Niño3.4 SST interannual variability between (a), (b) 1970-1999 and 2060-2089, (c), (d) 1950-1999 and 2050-2099, (e), (f) 1920-1999 and 2020-2099. The left column represents the results from CESM-LE, and the right column represents the results from CMIP5/6. The bar denotes the ensemble mean and the box-and-whisker plots show the 10th, 25th, 50th, 75th, and 90th percentiles.

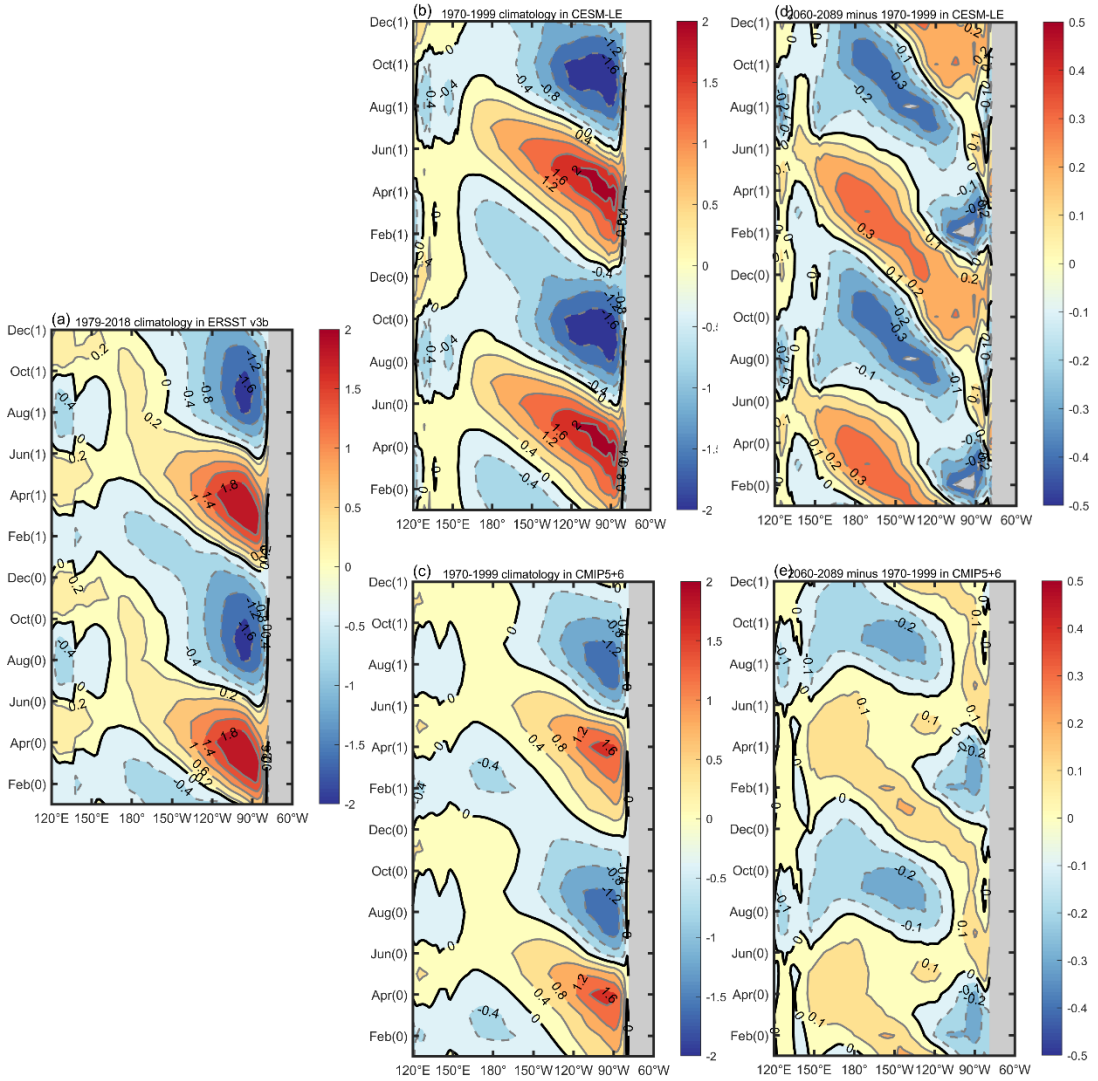

Fig. S2. The seasonal cycle of the equatorial (averaged in 5 ° S-5 ° N) Pacific climatological SST (K) during (a) 1979-2018 in ERSST v3b, (b) 1970-1999 in the CESM-LE, (c) 1970-1999 in CMIP models. The difference between 2060-2089 and 1970-1999 for (d) CESM-LE, and for (e) CMIP models, with the annual mean climatological SST removed beforehand. All the value in (b), (c), (d), and (e) are the multi-member or multi-model ensemble mean.

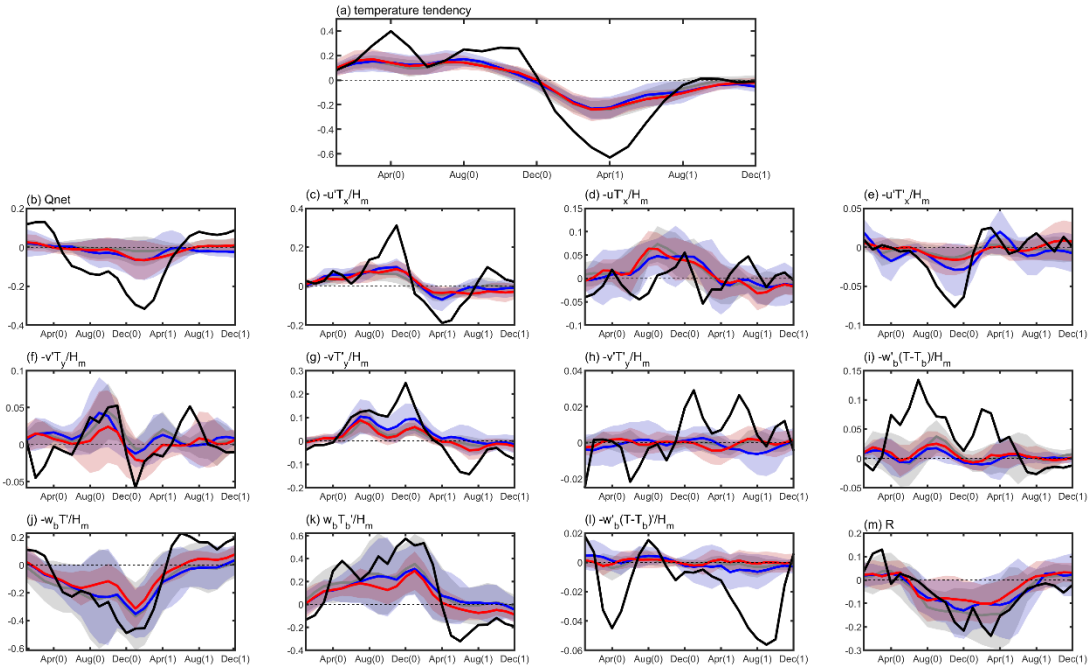

Fig. S3. Comparison of the heat budget terms during historical ENSO evolution between ECCO datasets and CMIP5/6 models. (a) Niño3.4 temperature tendency, (b)-(m) the term1 to term12 as presented in Fig. 2.

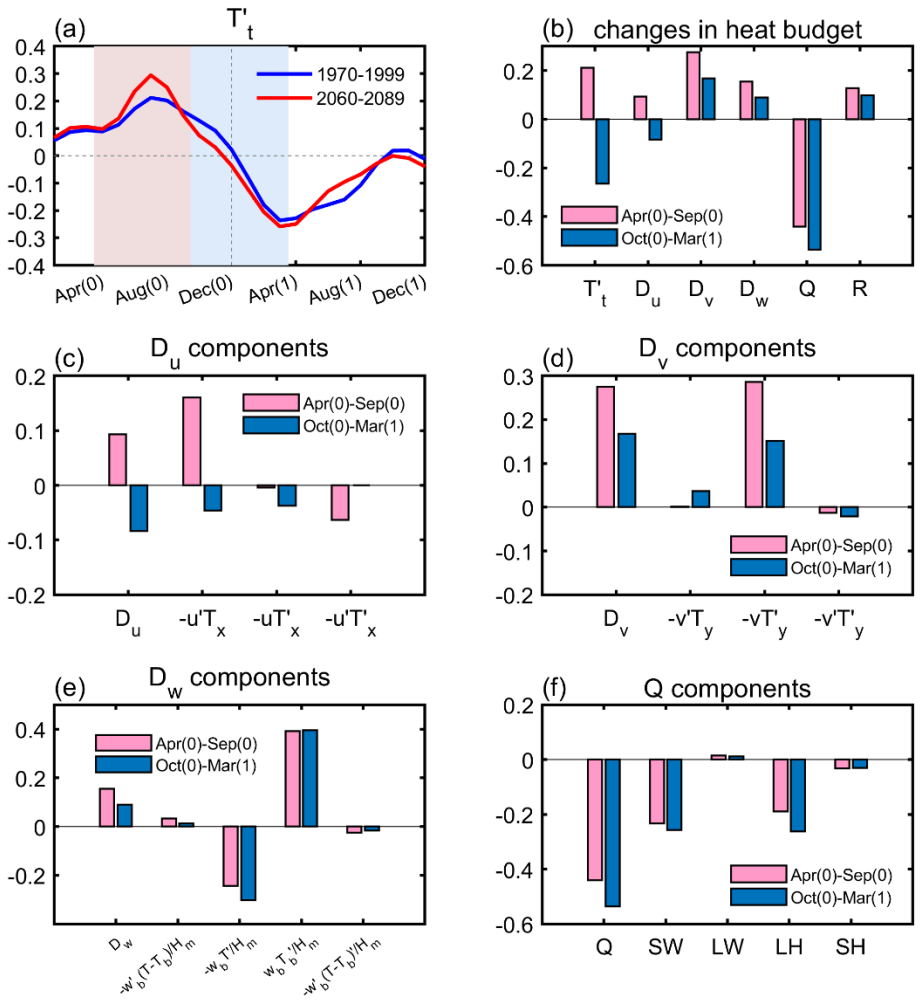

Fig. S4. Same as Fig. 3, but the mixed layer depth is defined as the depth where the temperature is 0.5 K cooler than the surface