Supplemental Material

Supplemental Online Materials for

"What Controls the Duration of El Niño and La Niña Events?"

Xian Wu, Yuko M. Okumura, and Pedro N. DiNezio

Institute for Geophysics, Jackson School of Geosciences

The University of Texas at Austin, Austin, Texas

Journal of Climate

Submitted October 10, 2018

Revised March 2, 2019

Corresponding author address: Xian Wu, Institute for Geophysics, Jackson School of Geosciences, The University of Texas at Austin, 10100 Burnet Road, Austin, TX 78758

Email: xianwu0403@utexas.edu

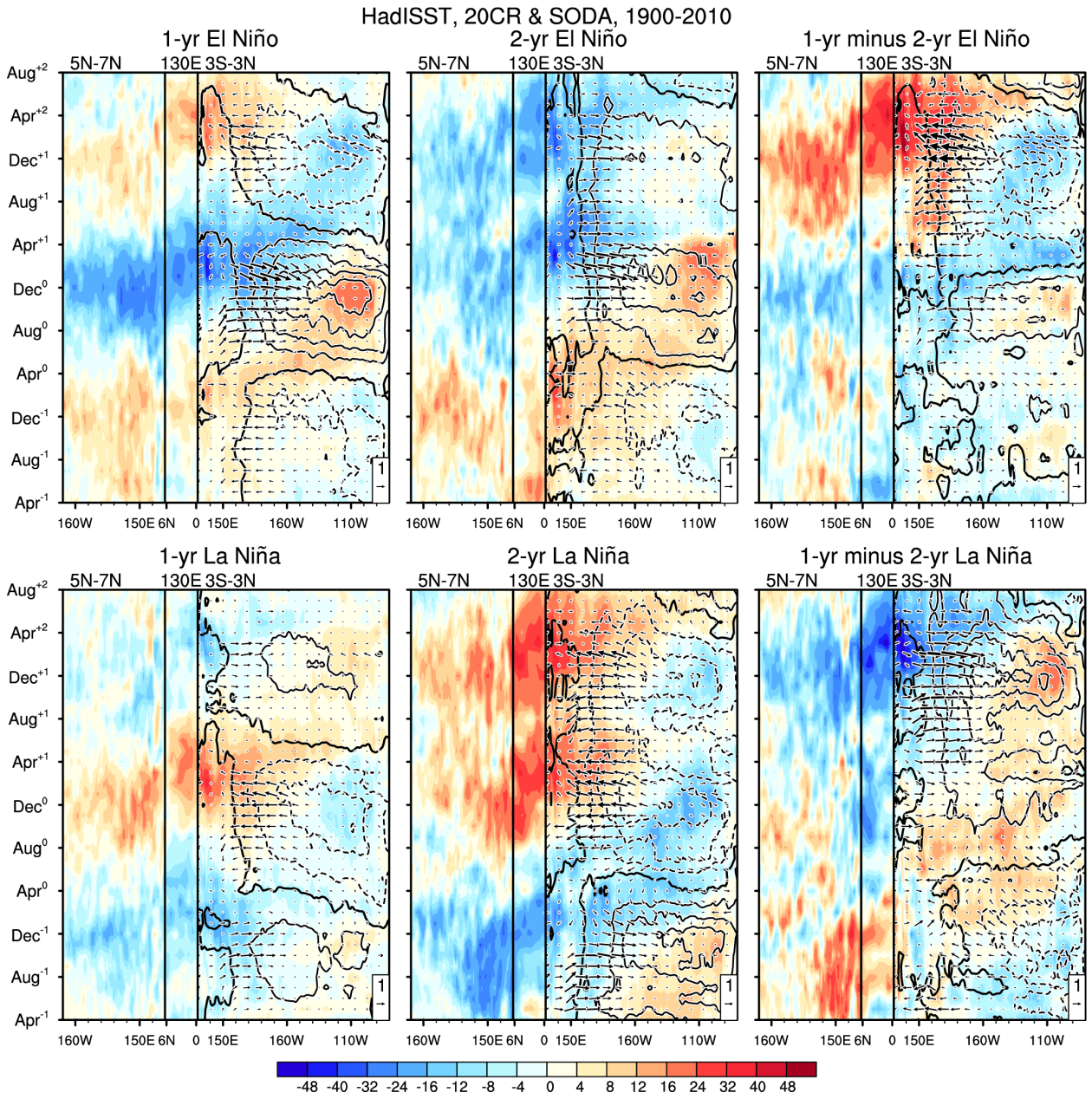


Figure S1. As in Fig. 4 but based on the SODA, HadISST, and 20CR datasets for 1900-2010 and the off-equatorial anomalies are averaged in 5°N–7°N. The statistical significance of these anomalies is shown in Fig. S2.

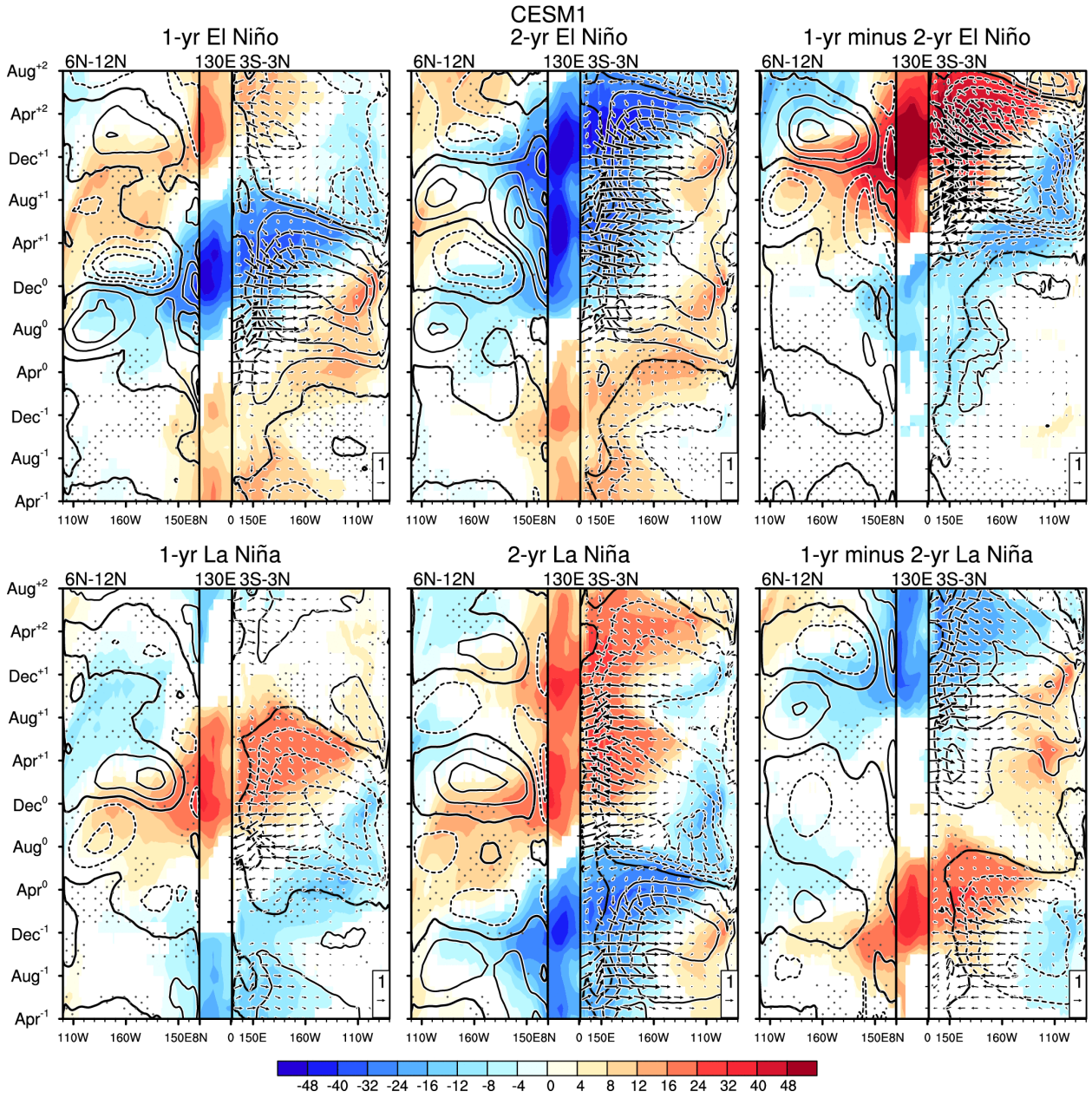


Figure S2. As in Figs. 4 and S1 but only thermocline (shading) and surface wind (vectors) anomalies statistically significant at the 98% (80%) confidence level are shown for CESM1 (observation). SST and wind stress curl anomalies (contours) that are not statistically significant at the 98% (80%) confidence level are masked with gray stippling for CESM1 (observation).

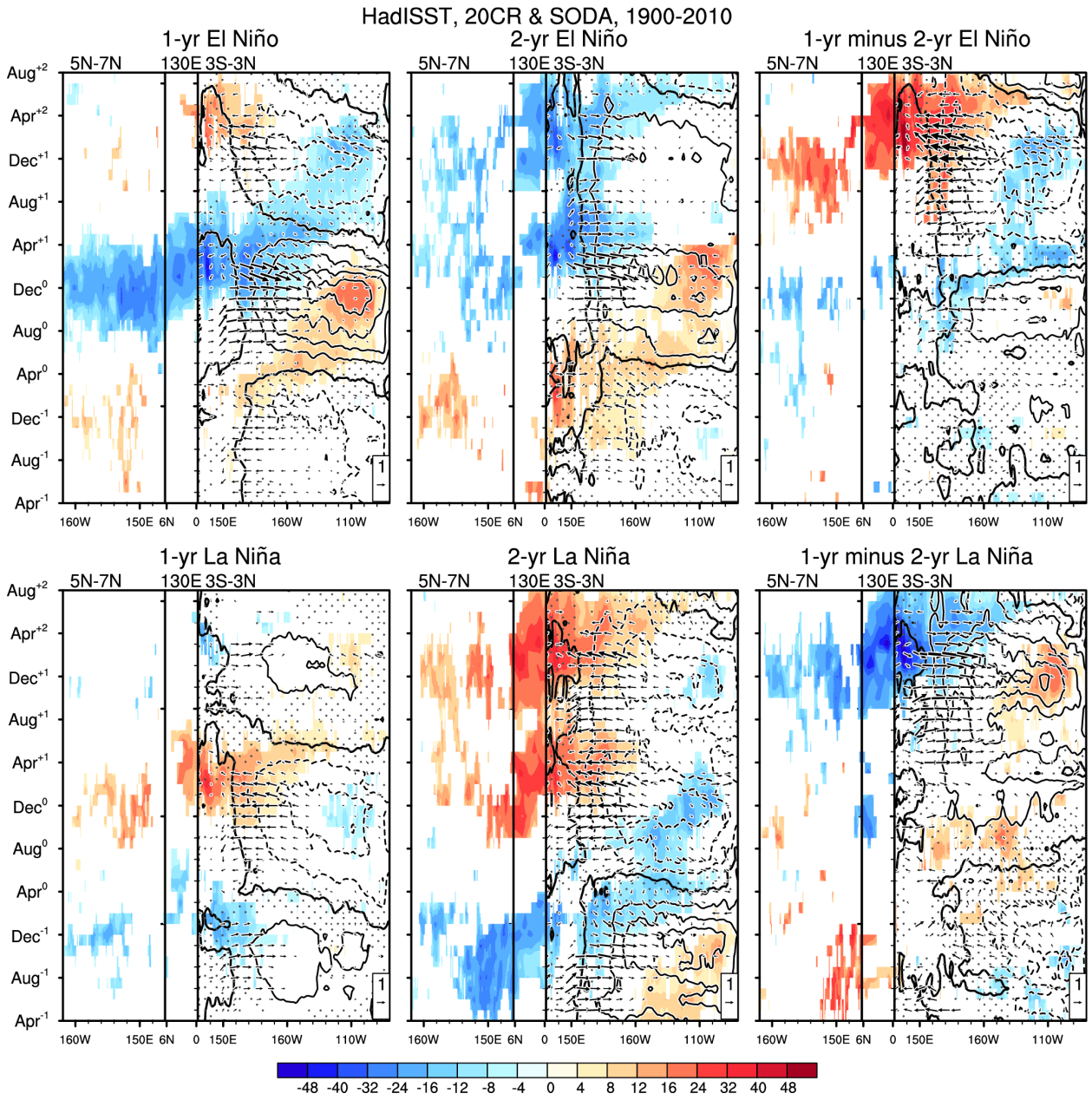
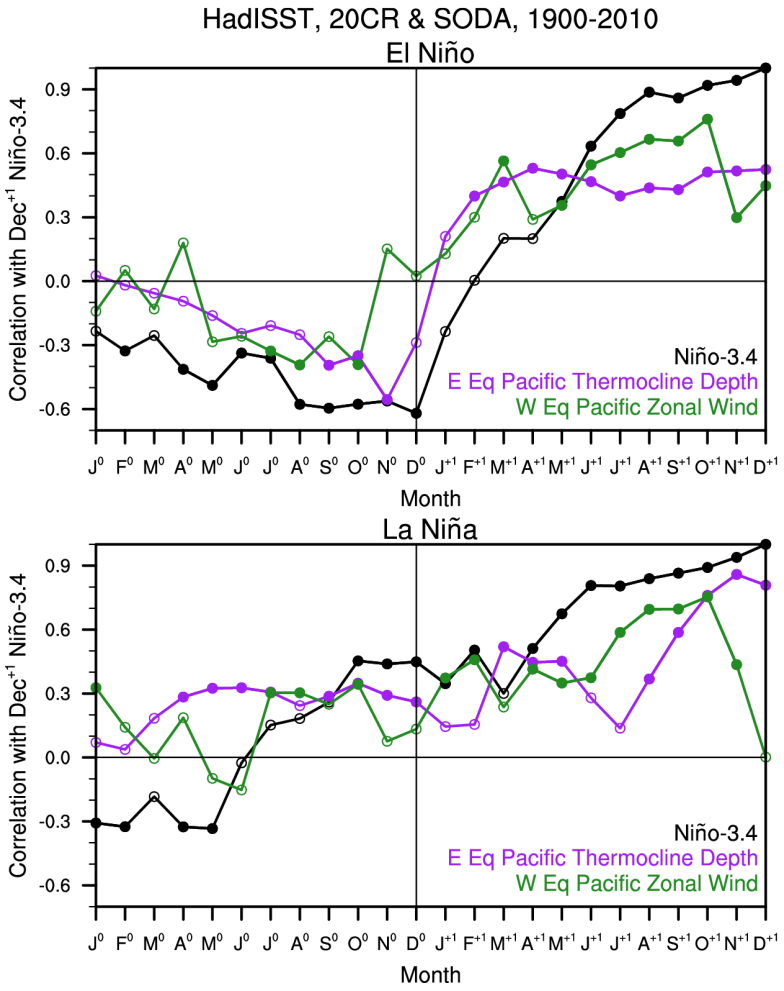
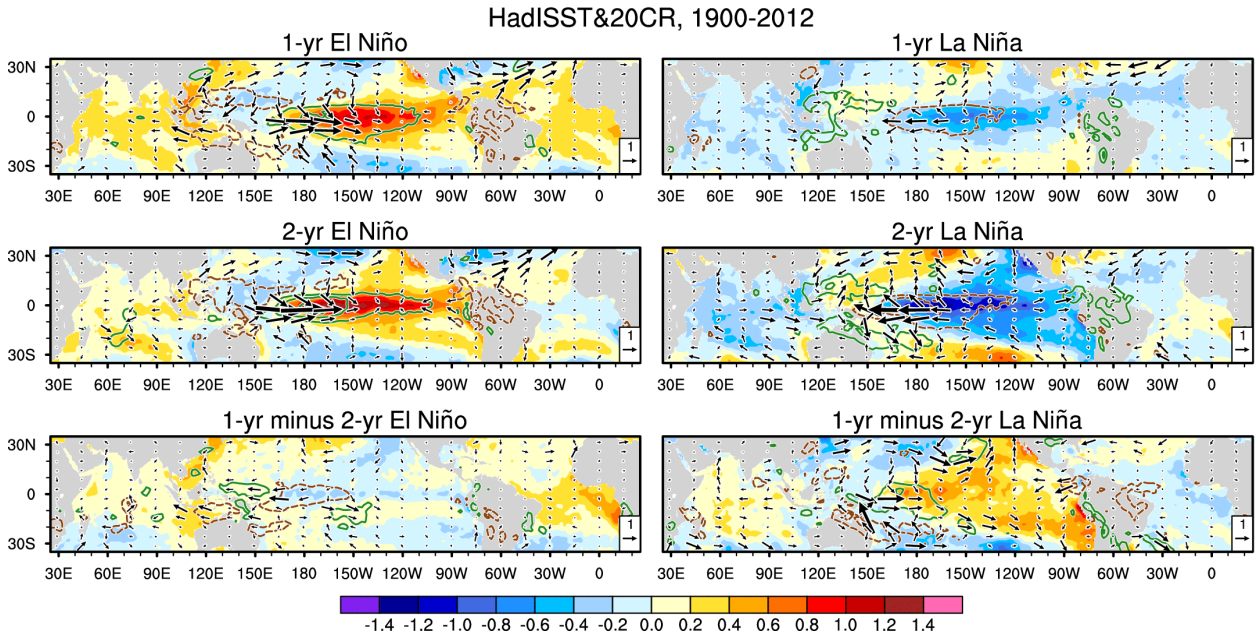


Figure S2. *(Continued)*



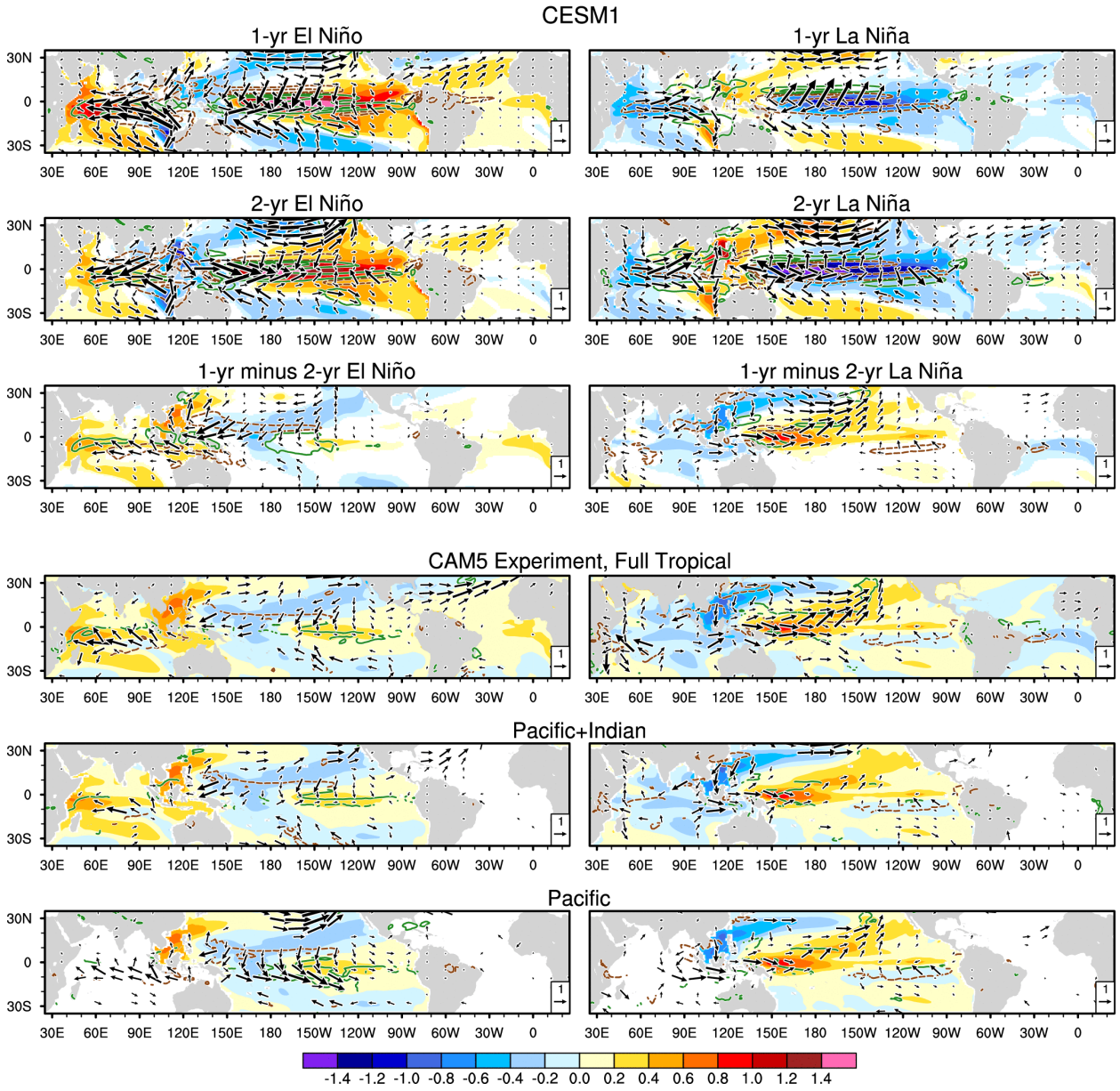
35

36 **Figure S3.** As in Fig. 5 but based on the SODA, HadISST, and 20CR datasets for 1900-2010. The
37 closed circles indicate correlations statistically significant at the 80% confidence level.



38

39 **Figure S4.** As in Figure 6 but based on the HadISST and 20CR datasets for 1900-2012.



40

41 **Figure S5.** As in Figs. 6 and S4 but only anomalies statistically significant at the 98% (90%)
42 confidence level are shown for CESM1 (CAM5 experiments and observation).

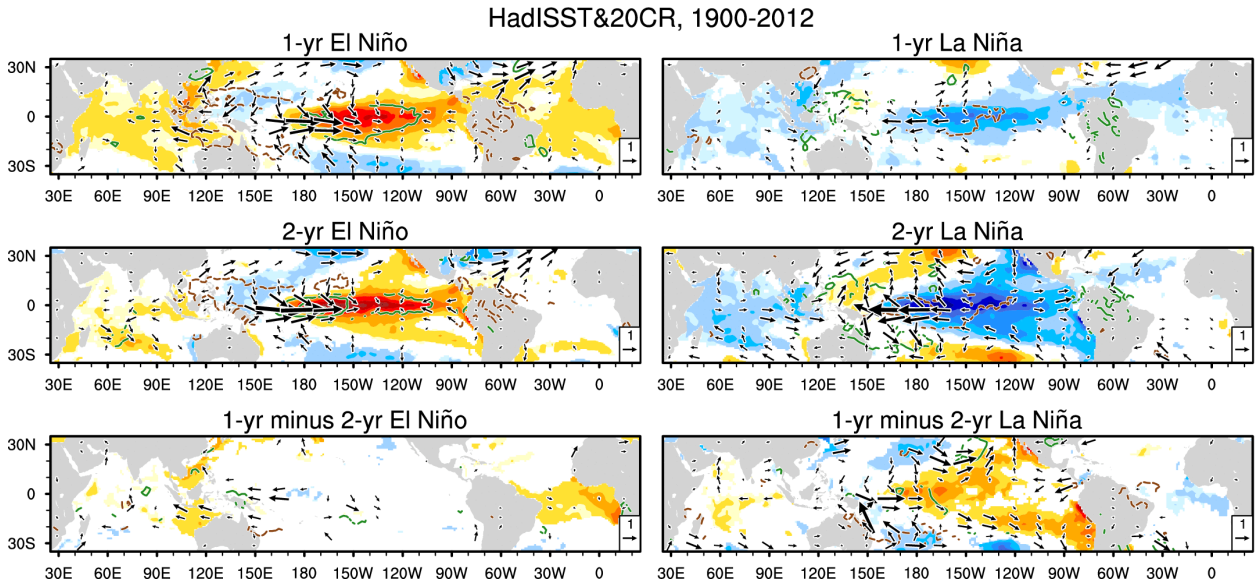


Figure S5. *(Continued)*

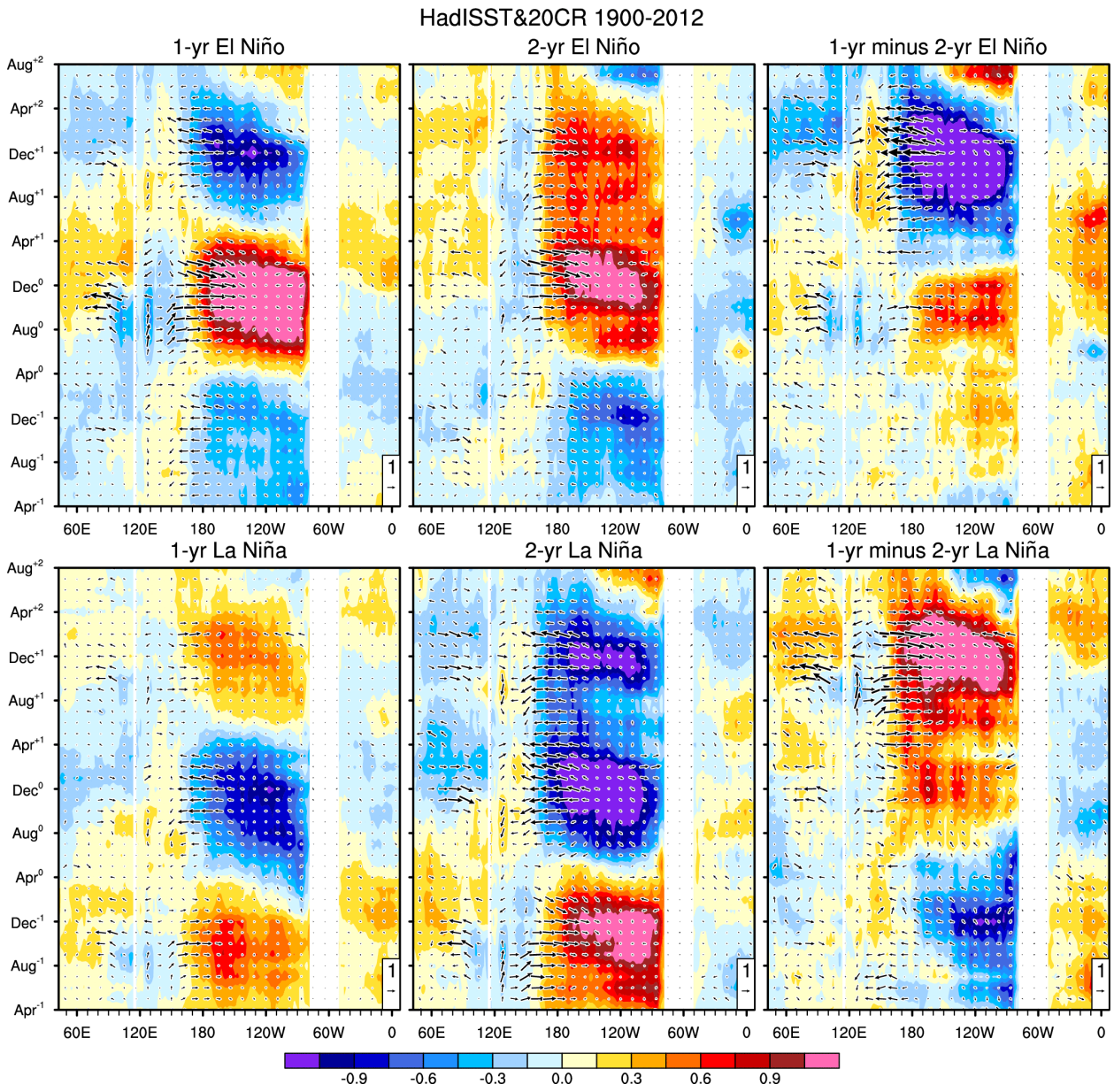


Figure S6. As in Fig. 7 but based on the HadISST and 20CR datasets for 1900-2012.

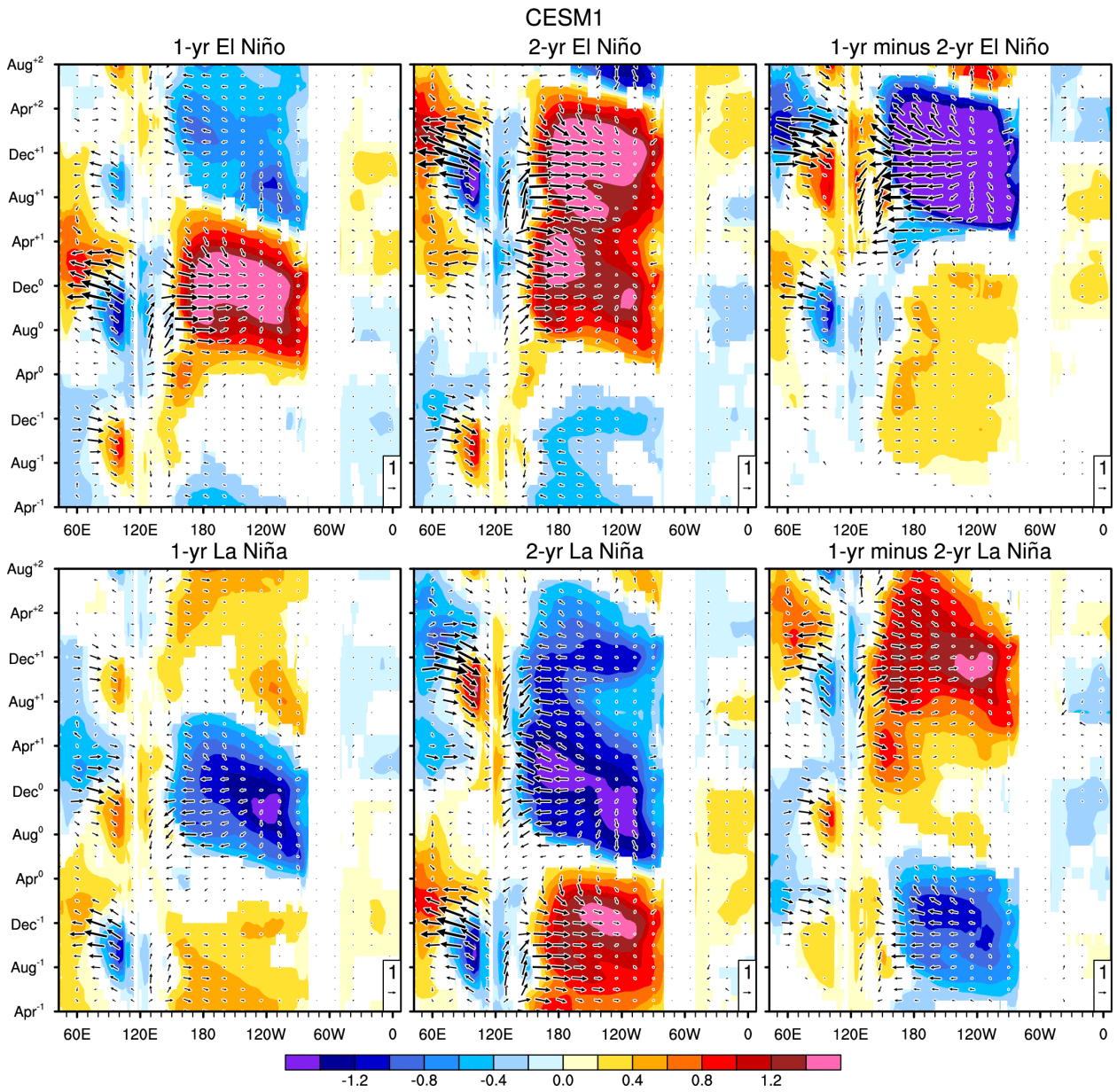


Figure S7. As in Figs. 7 and S6 but only anomalies statistically significant at the 98% (80%) confidence level are shown for CESM1 (observation).

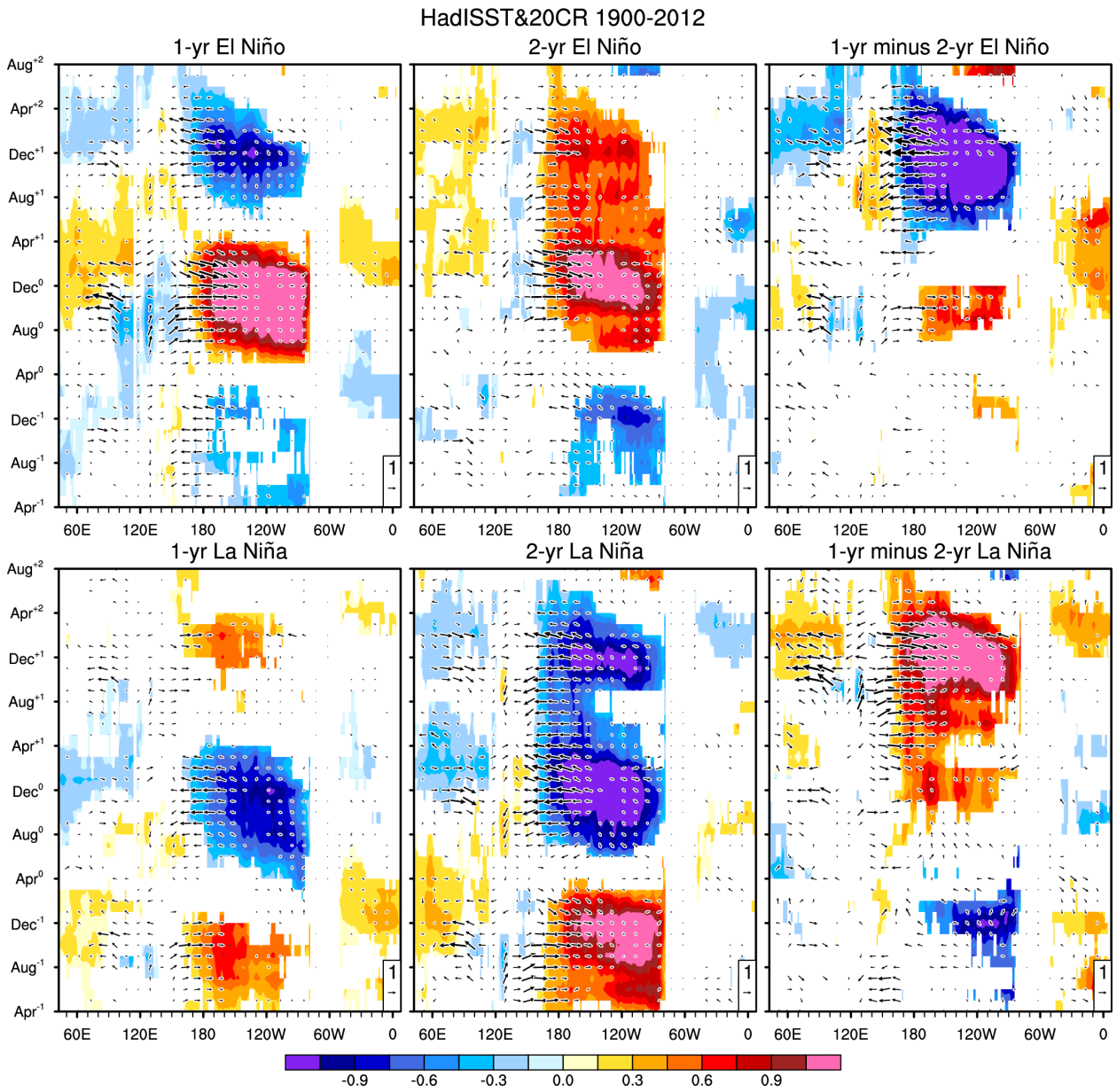


Figure S7. ***(****Continued)*

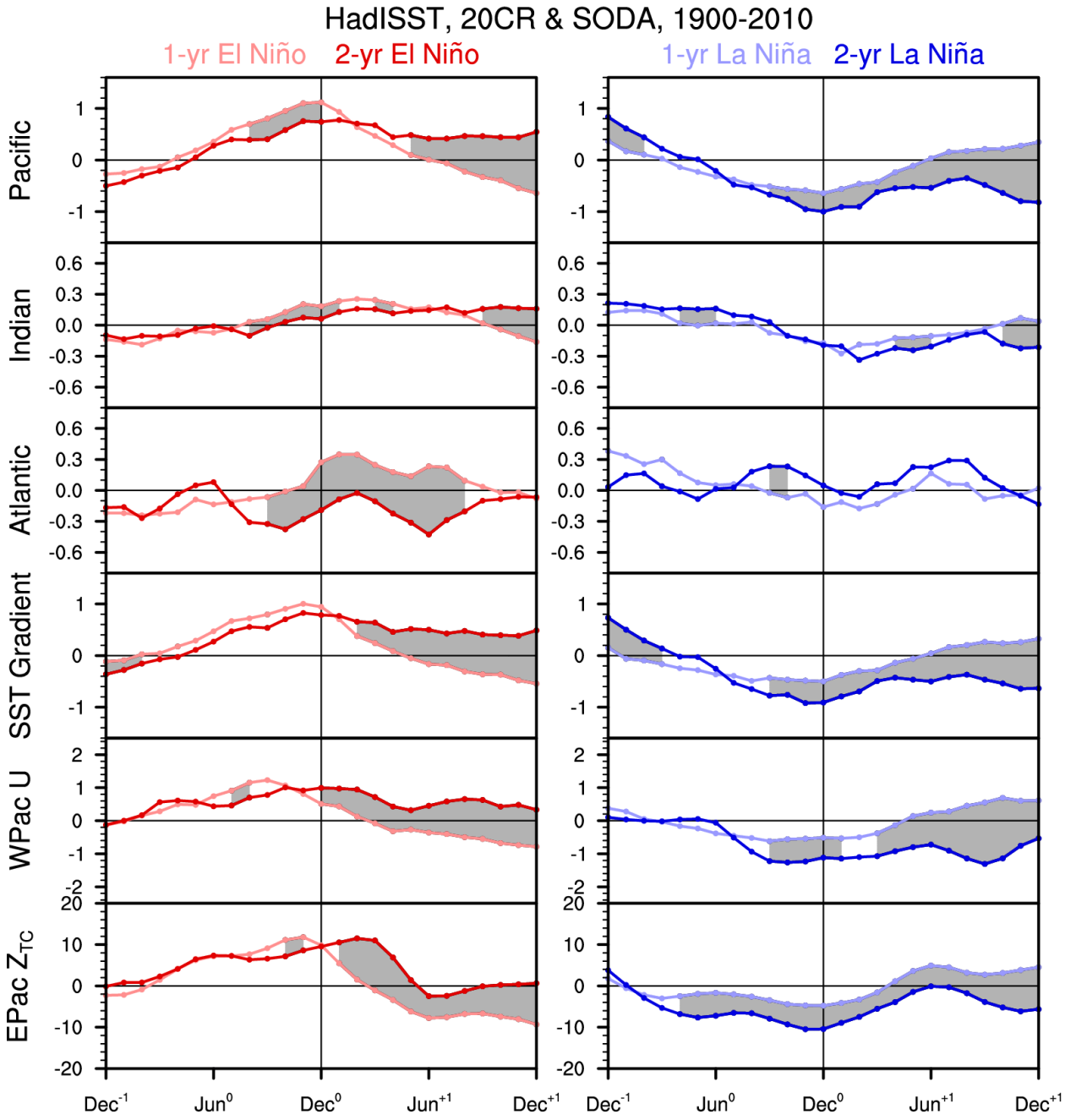


Figure S8. As in Fig. 8 but based on the HadISST, 20CR, and SODA datasets for 1900-2010. Gray shading indicates where the difference between the two composite is statistically significant at the 80% confidence level. Note all the indices are smoothed with a 3-month running mean filter.

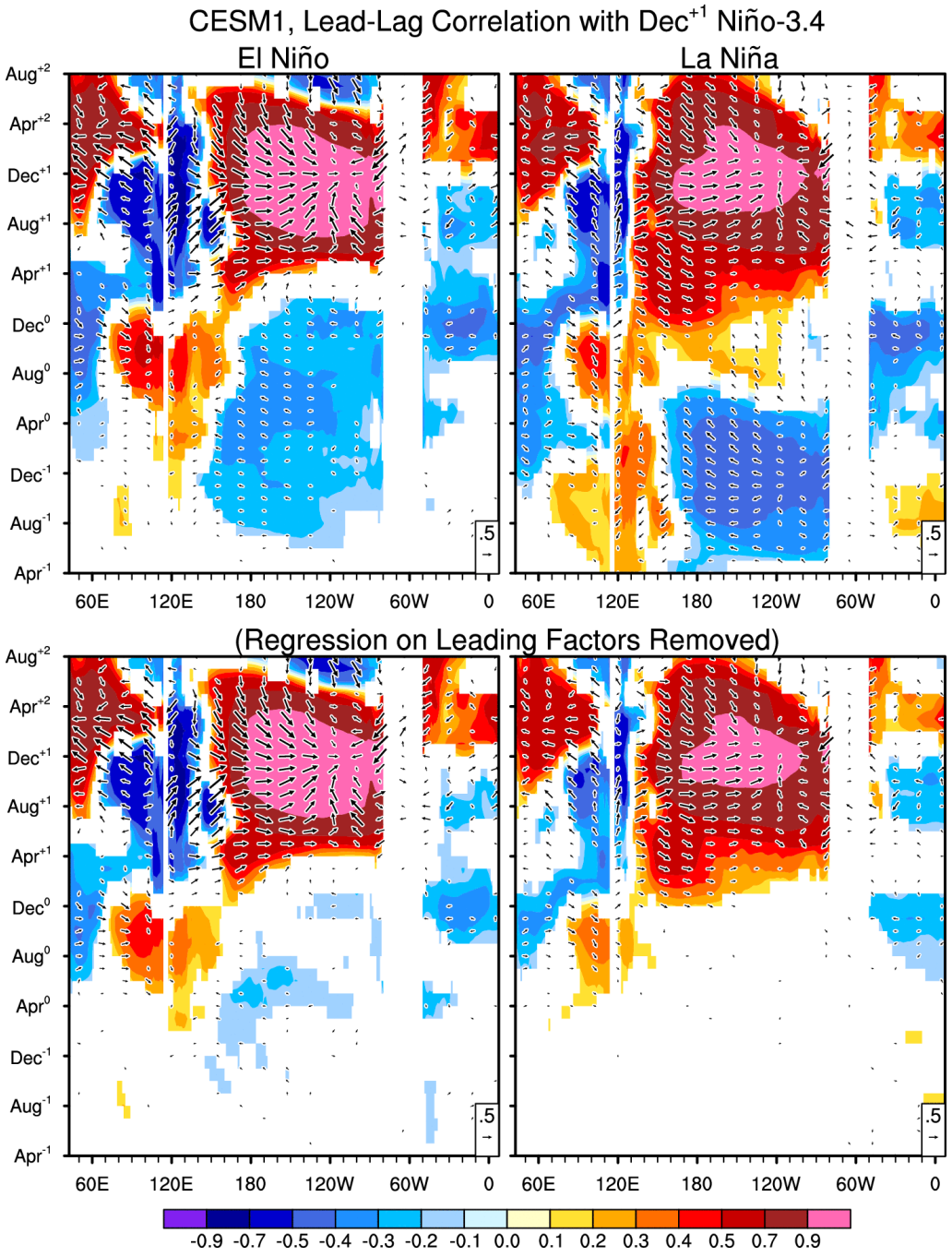


Figure S9. As in Fig. 10 but only correlations statistically significant at the 98% confidence level are shown.

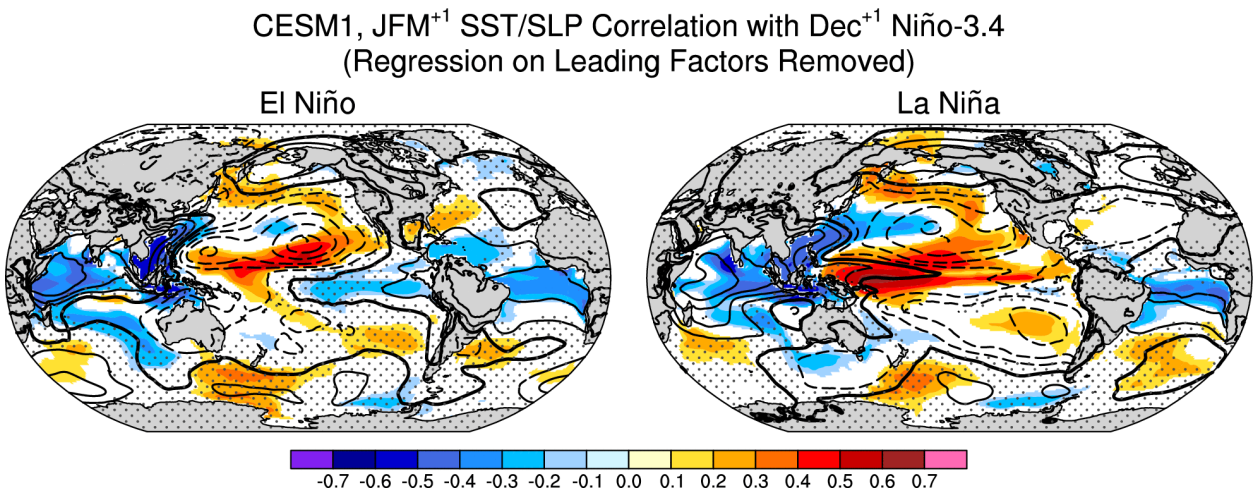
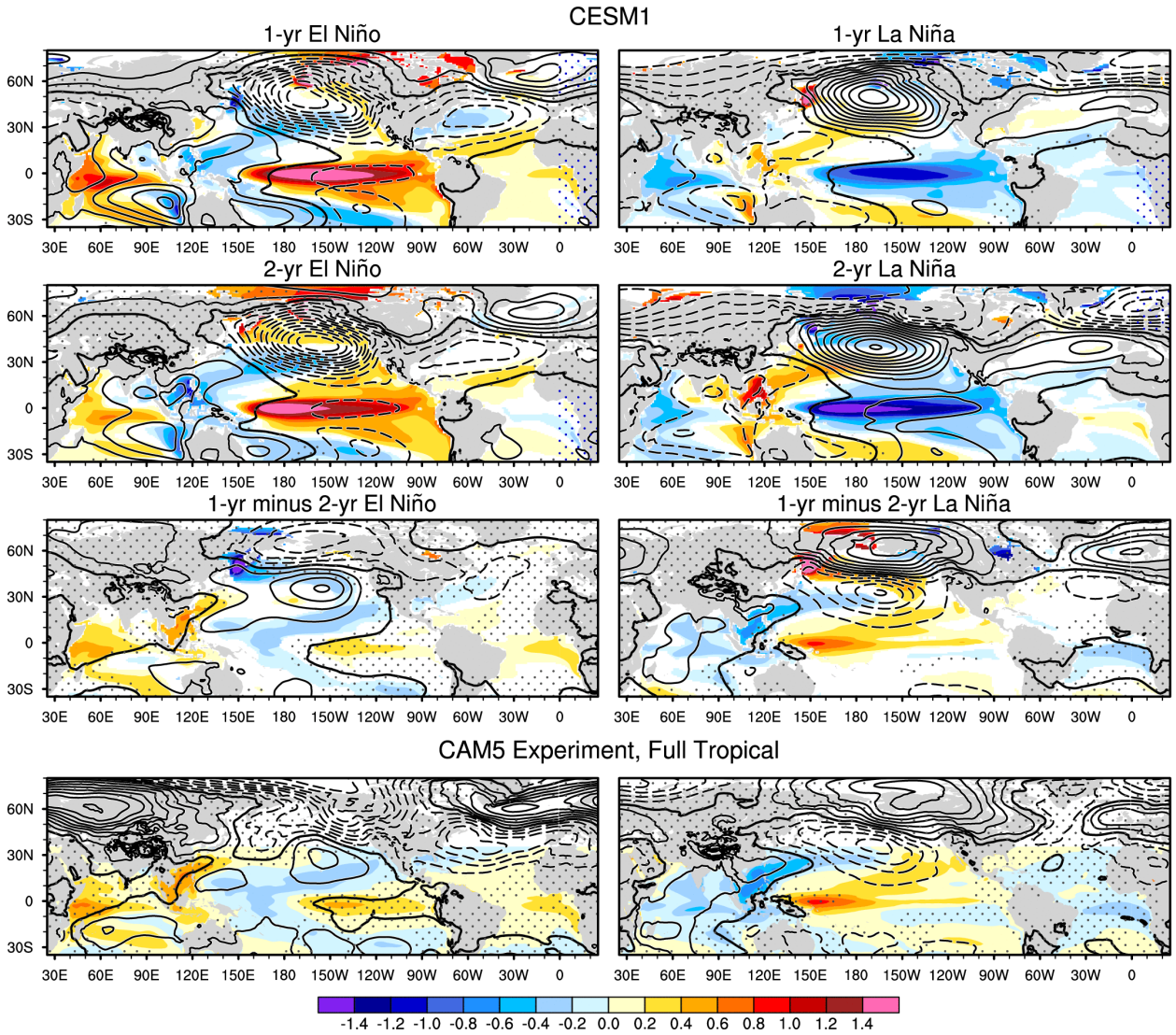


Figure S10. As in Fig. 11 but only SST (shading) correlations statistically significant at the 98% confidence level are shown. SLP correlations (contours) that are not statistically significant at the 98% confidence level are masked with gray stippling.



63

64 **Figure S11**. As in Fig. 12, but only SST (shading) anomalies statistically significant at the 98%
65 (90%) confidence level are shown for CESM1 (CAM5 experiment). SLP anomalies (contours)
66 that are not statistically significant at the 98% (90%) confidence level are masked with gray
67 stippling for CESM1 (CAM5 experiment).