



Supplement of

Exploring the ENSO modulation of the QBO periods with GISS E2.2 models

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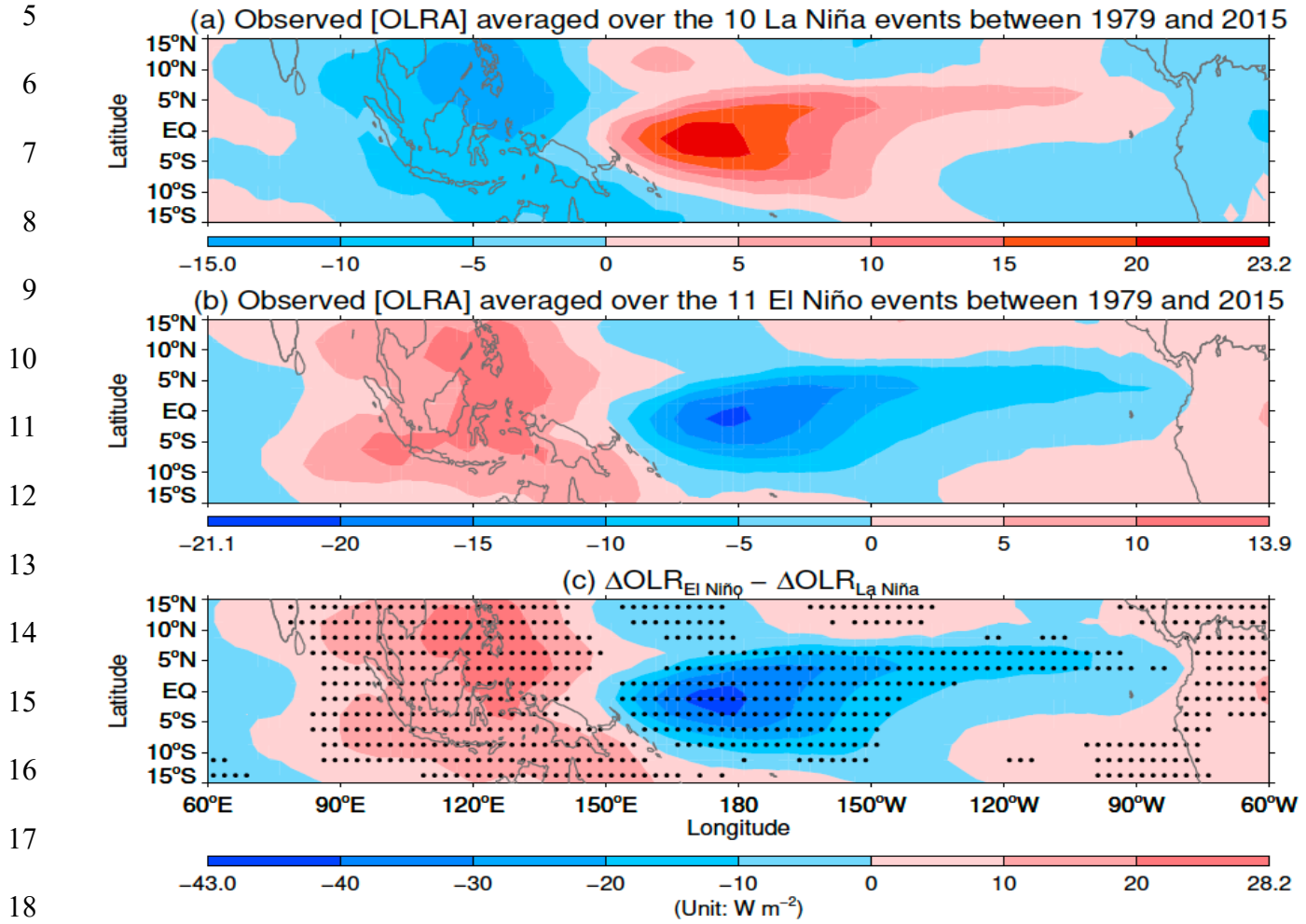
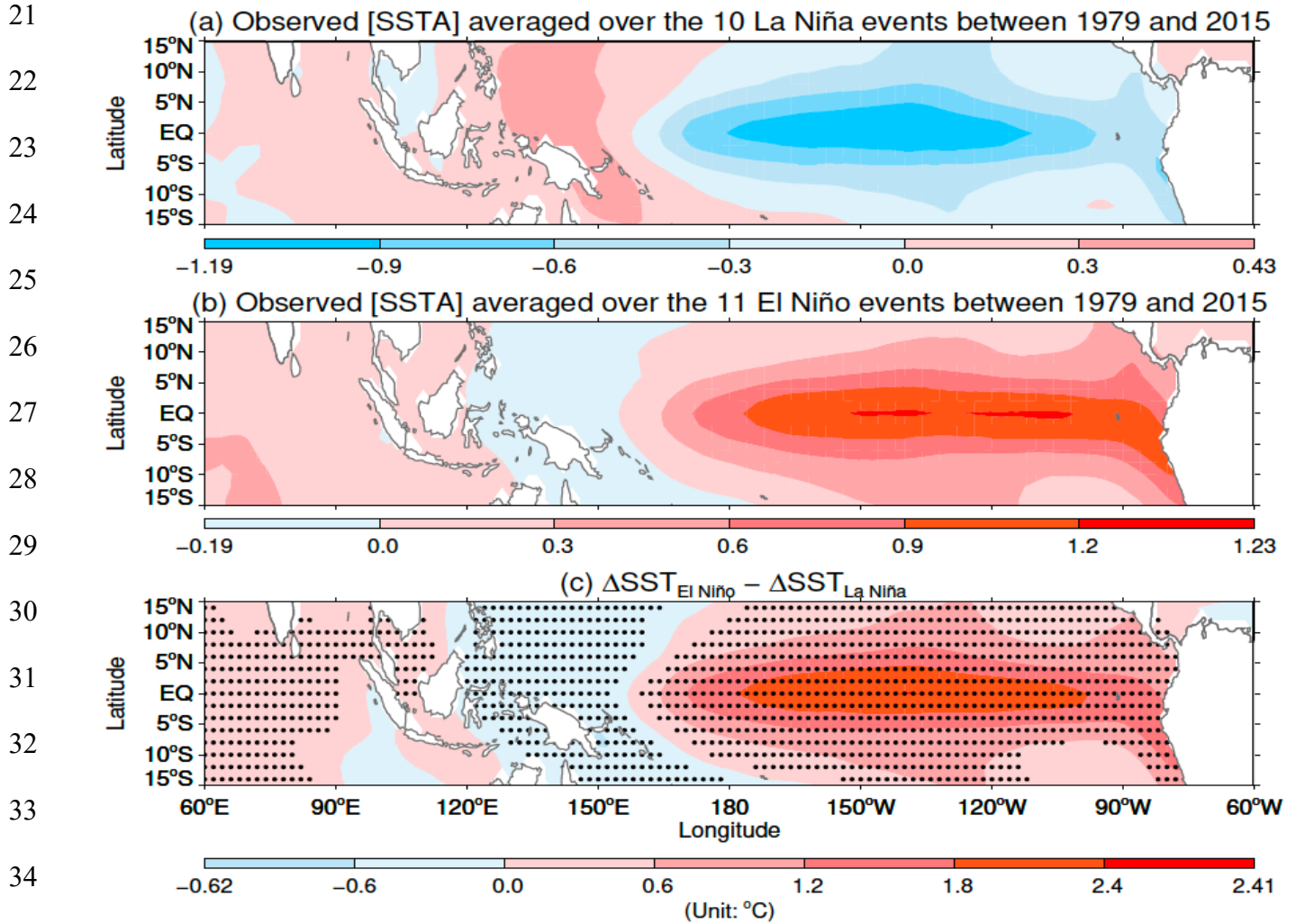
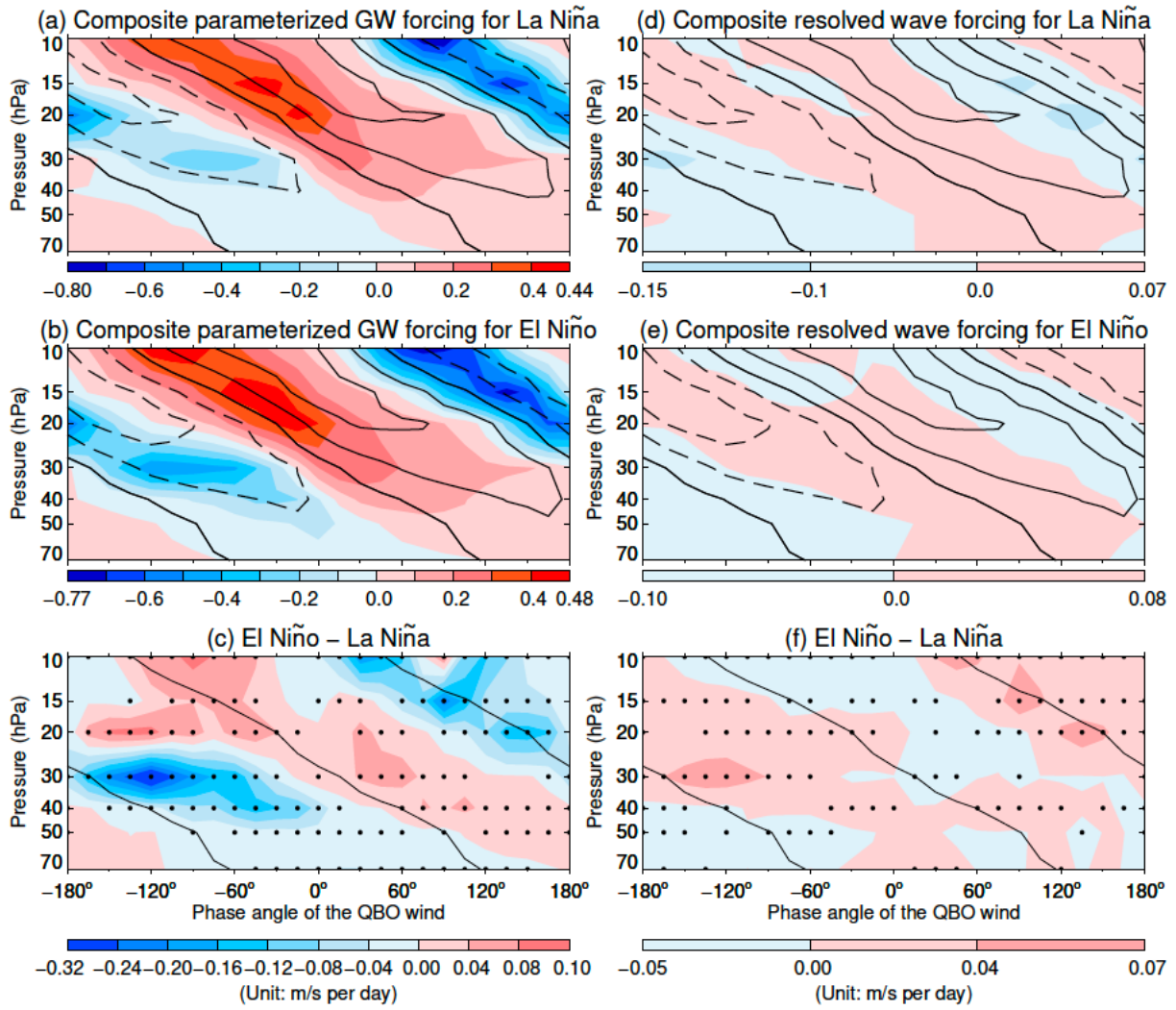


Fig. S1. Same as Fig. 2 except that we use [OLRA] to conduct statistical analysis. The stippling shows statistically significant grid points at the 95% confidence level.

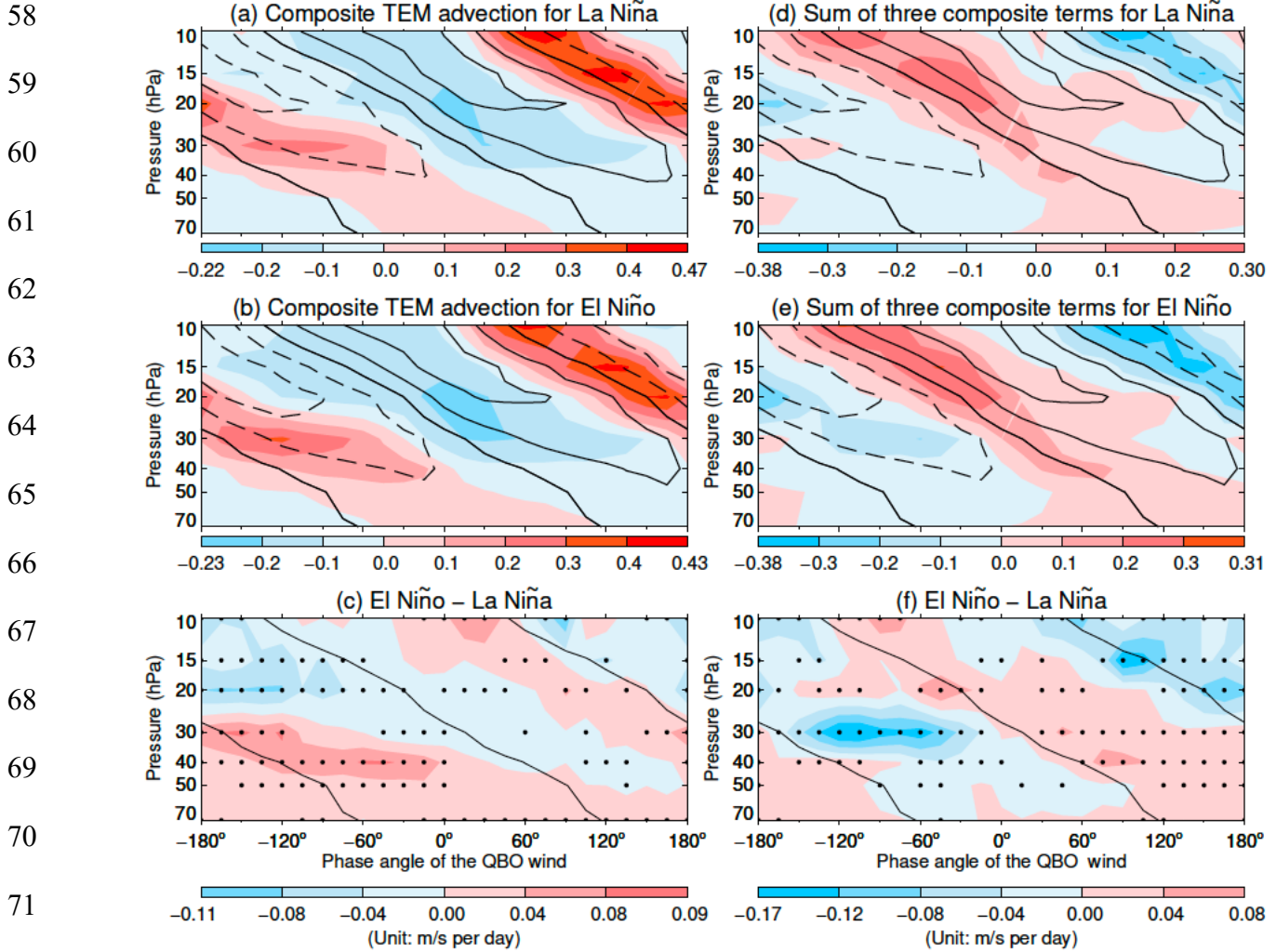


35 **Fig. S2.** Same as Fig. 3 except that we use [SSTA] to conduct statistical analysis. The stippling shows
 36 statistically significant grid points at the 95% confidence level.

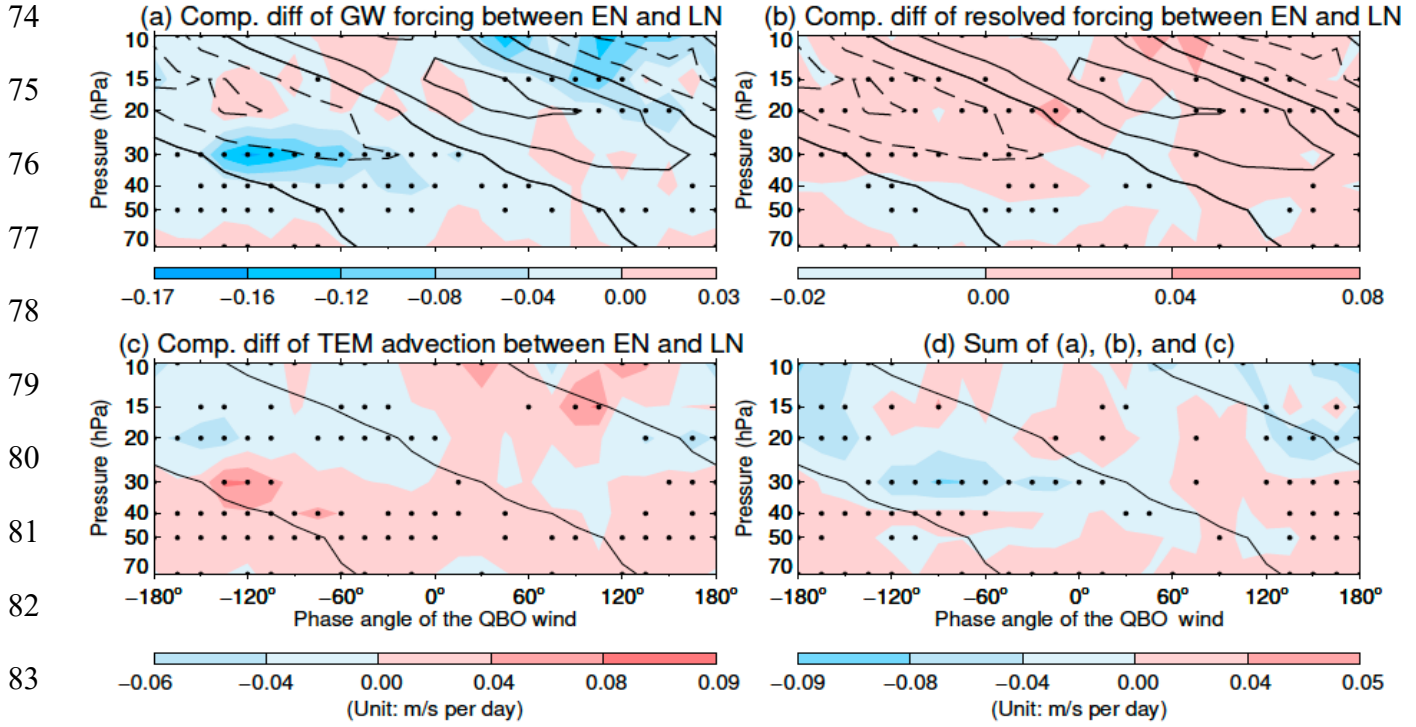
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52 **Fig. S3.** Same as Fig. 4 except that for all profiles of a diagnostic falling into each bin, we first averaged
 53 the profiles from any identical ENSO event into a mean profile in that bin, and that the resultant mean
 54 profiles of that diagnostic from all ENSO events in that bin were used to conduct our statistical analyses.
 55 The stippling shows statistically significant grids at the 95% confidence level. Note that in order to
 56 consistent with the FUB data, we only use the diagnostics at 10, 15, 20, 30, 40, 50, and 70 hPa
 57 levels.



72 **Fig. S4.** Same as Fig. 5 except using the same method as explained in Fig. S3. The stippling shows
 73 statistically significant grids at the 95% confidence level.



84 **Fig. S5.** Same as Fig. 6 except using the same method as explained in Fig. S3. The stippling shows
 85 statistically significant grids at the 95% confidence level.

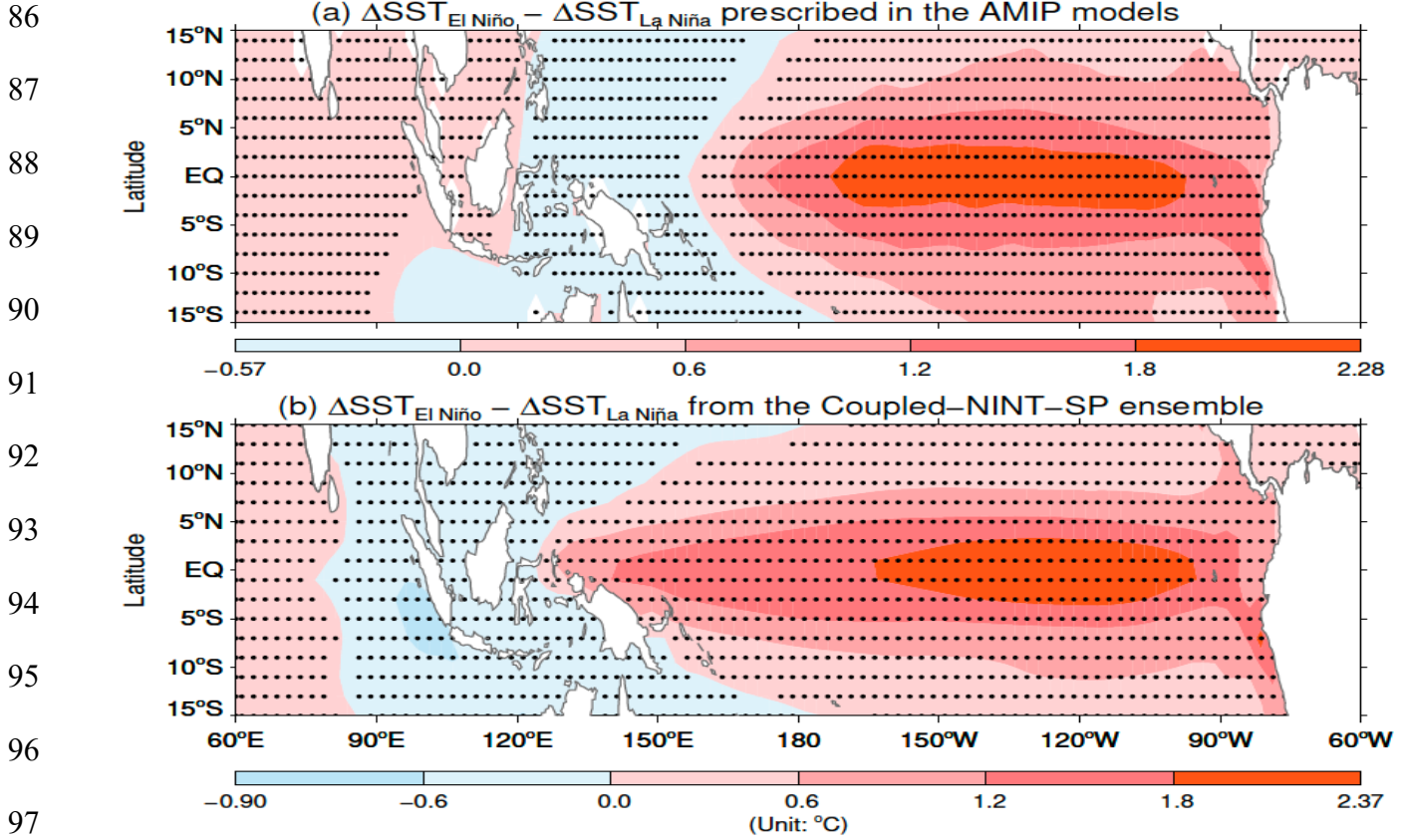
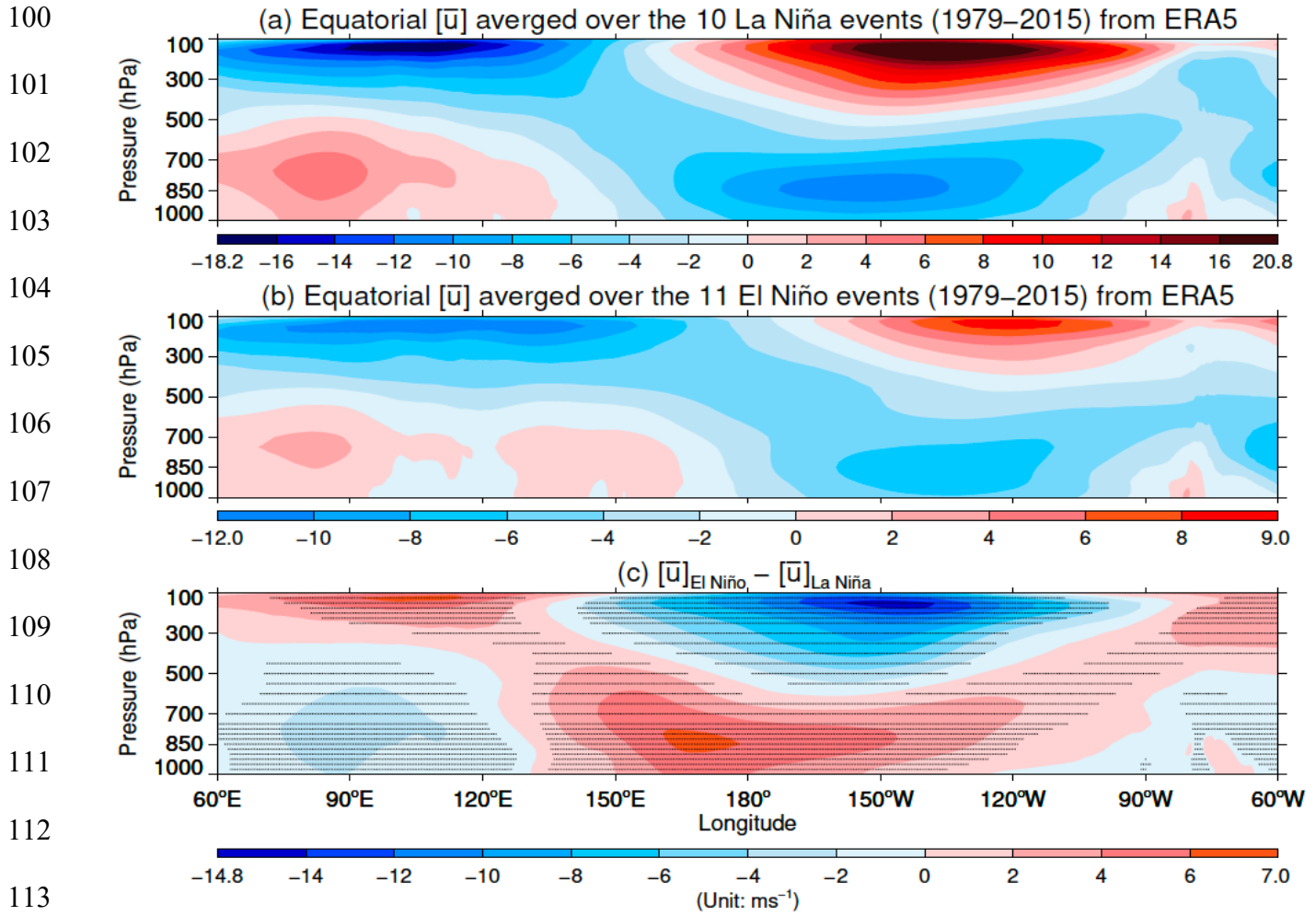
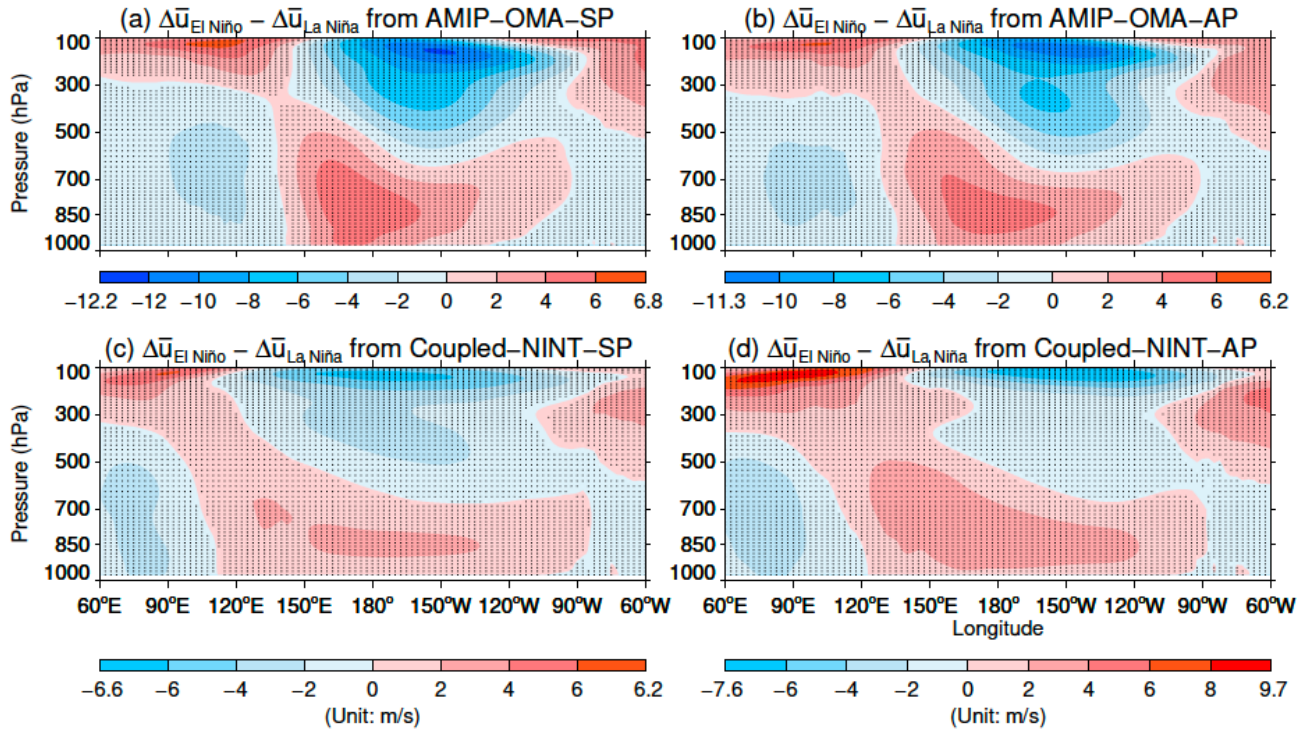


Fig. S6. Same as Fig. 8 except that we use [SSTA] as our sample points to conduct statistical analysis. The stippling shows statistically significant grid points at the 95% confidence level.

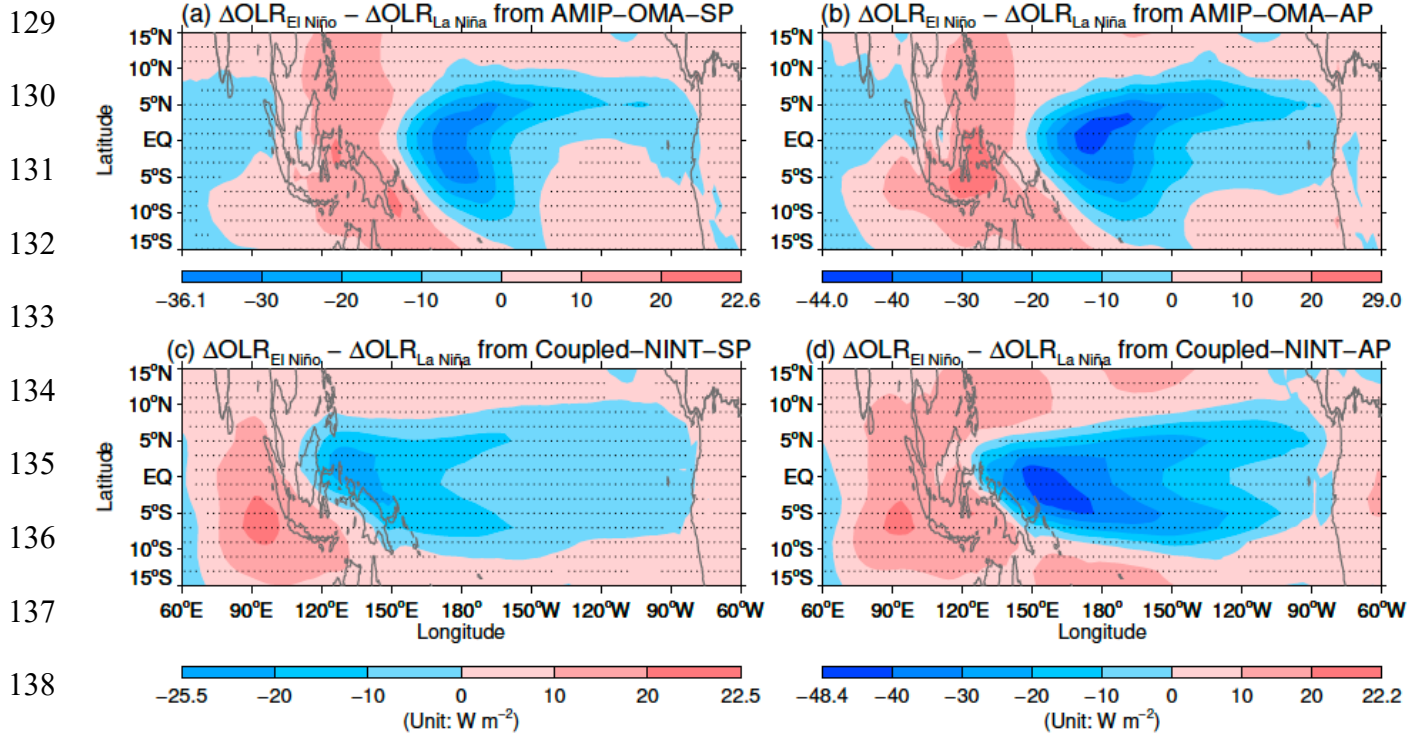


113 **Fig. S7.** Same as Fig. 10 except that we use the equatorial $[u]$ to conduct statistical analyses. The stippling
 114 shows statistically significant grid points at the 95% confidence level.
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127 **Fig. S8.** Same as Fig. 11 except that we use the equatorial [u] to conduct statistical analyses. The stippling
128 shows statistically significant grid points at the 95% confidence level.



139 **Fig. S9.** Same as Fig. 12 except that we use [OLRA] to conduct statistical analyses. The stippling
 140 shows statistically significant grid points at the 95% confidence level.