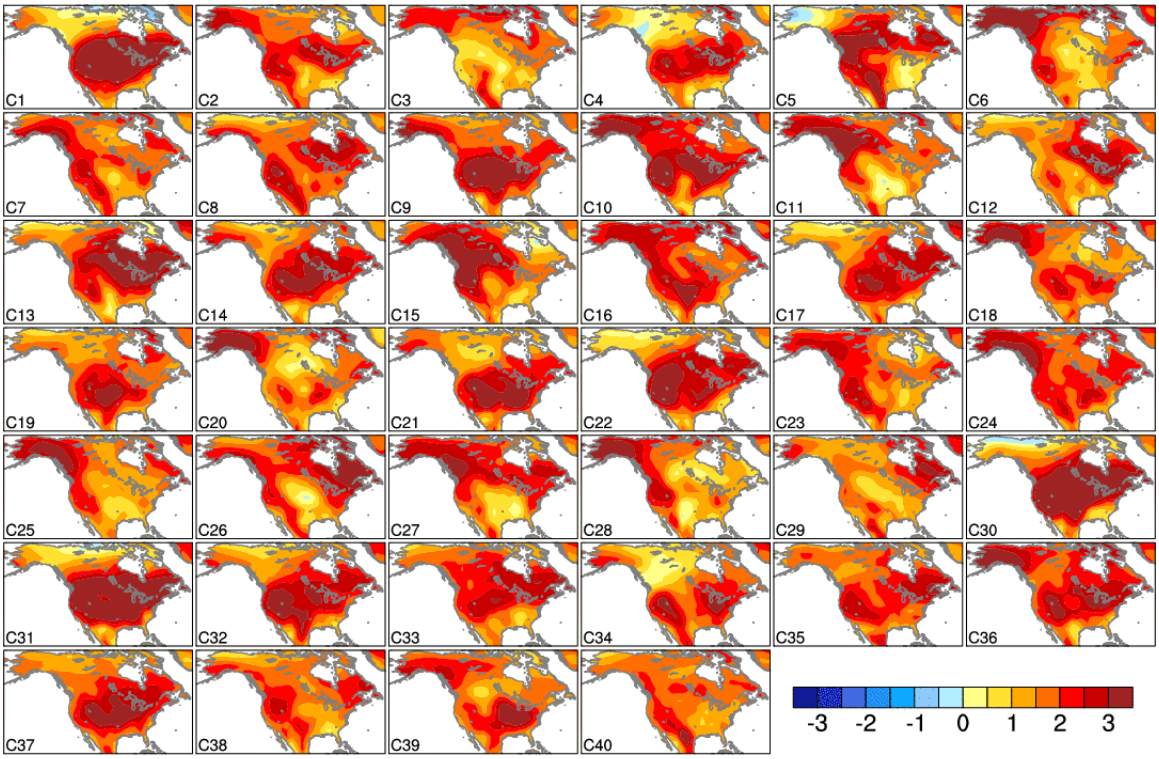
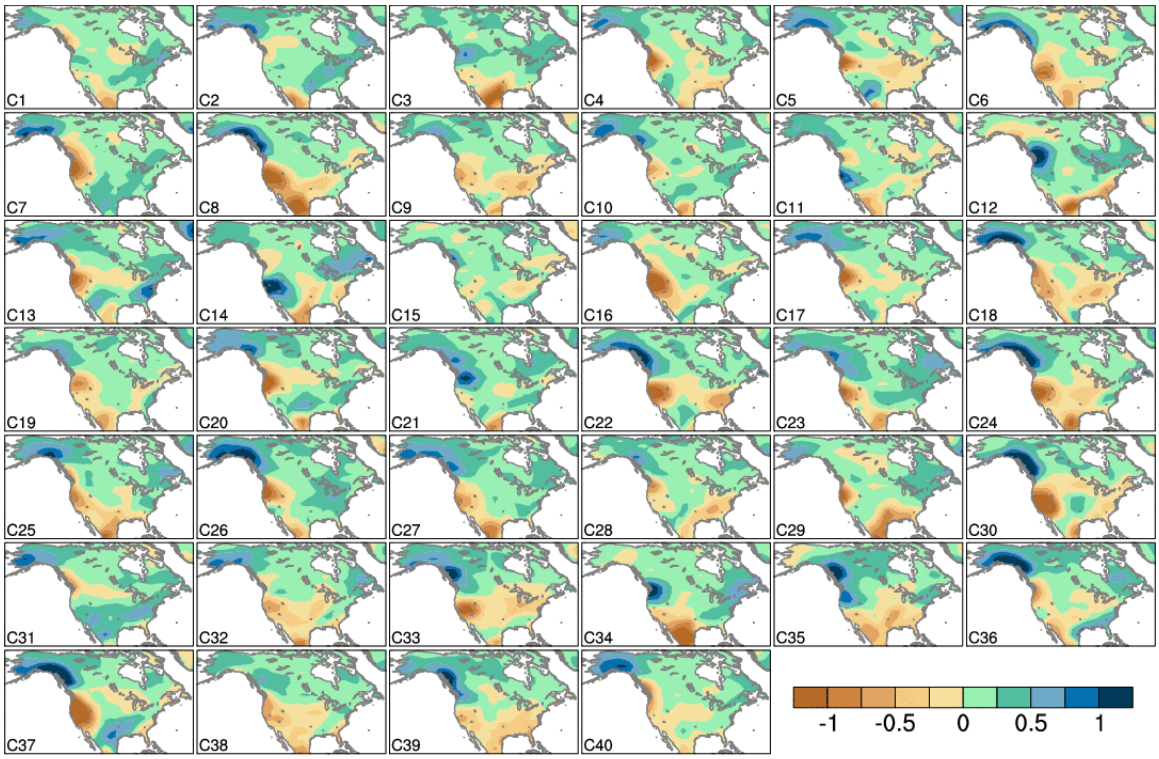
Supplemental Materials for "Projecting North American Climate Over the Next 50 Years: Uncertainty due to Internal Variability" by C. Deser, A. S. Phillips, M. A. Alexander, and B. V. Smoliak, Submitted to *J. Climate*, July 26 2013.

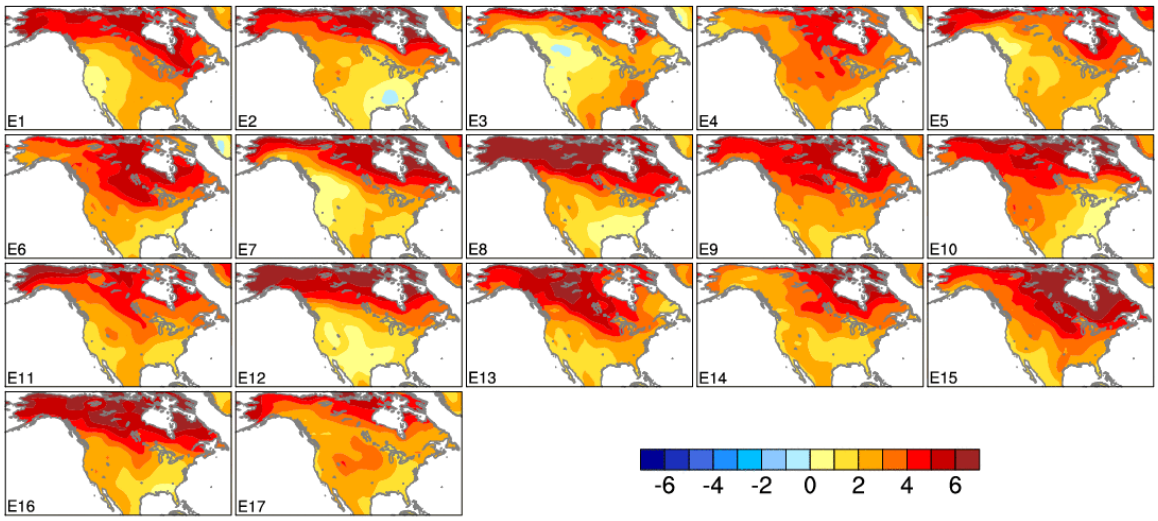
This document contains Supplementary Figures referenced in the main text.



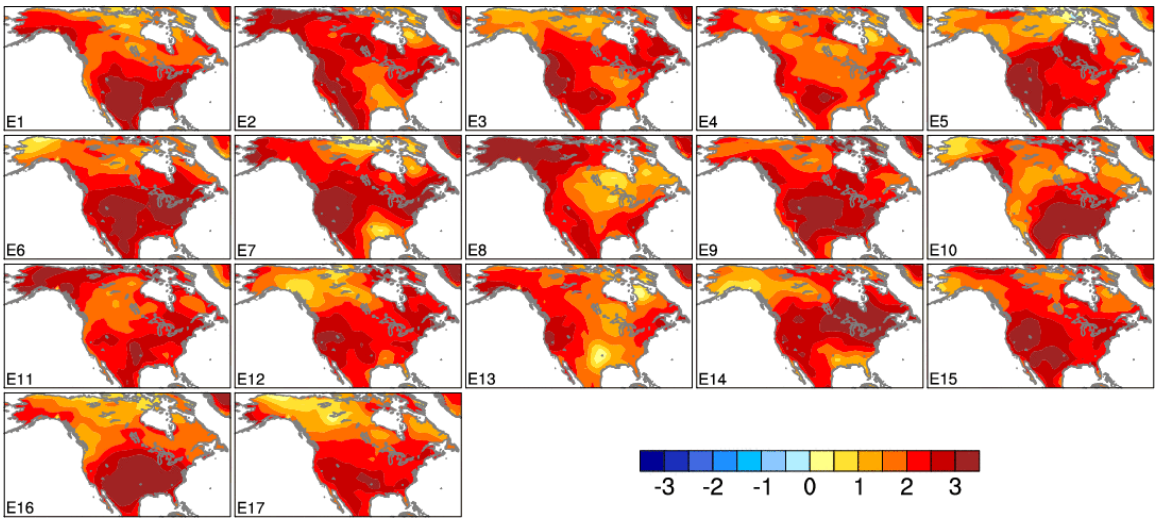
Supplementary Figure 1. Summer SAT trends (2010-2060; C per 51 years) from each of the 40 CCSM3 ensemble members.



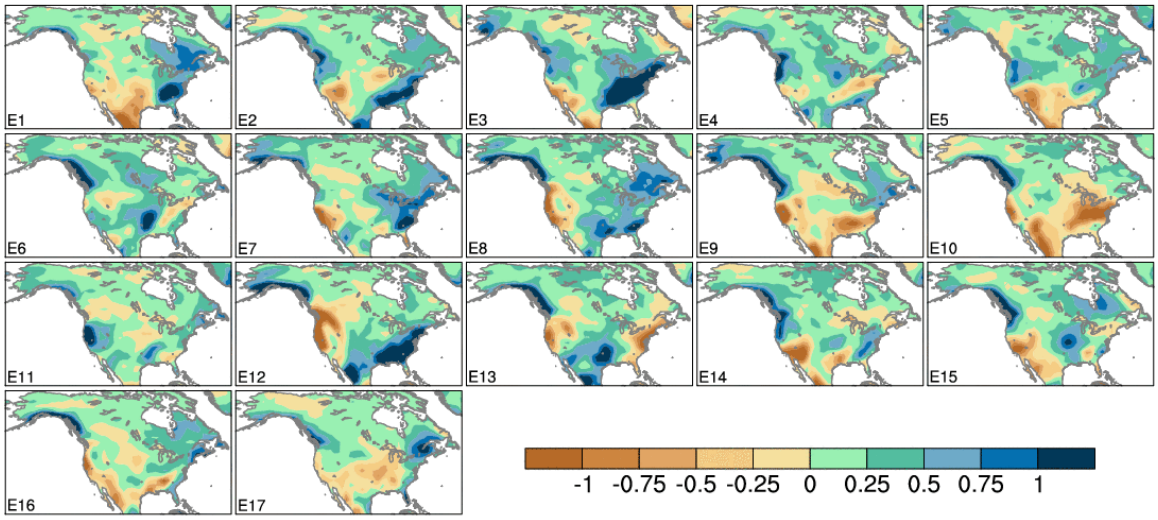
Supplementary Figure 2. Winter precipitation trends (2010-2060; mm d^{-1} per 51 years) from each of the 40 CCSM3 ensemble members.



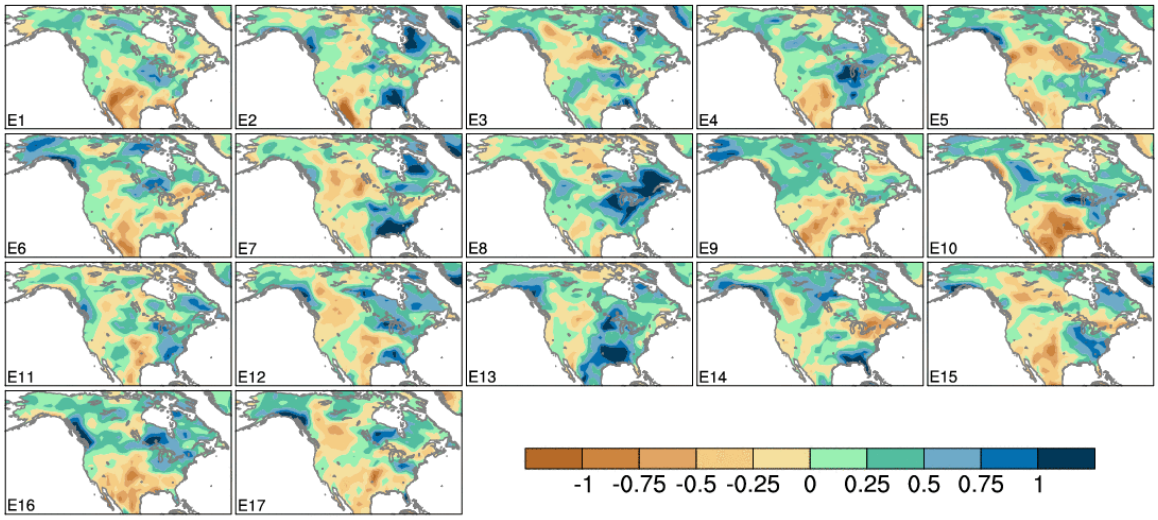
Supplementary Figure 3. Winter SAT trends (2010-2060; C per 51 years) from each of the 17 ECHAM5 ensemble members.



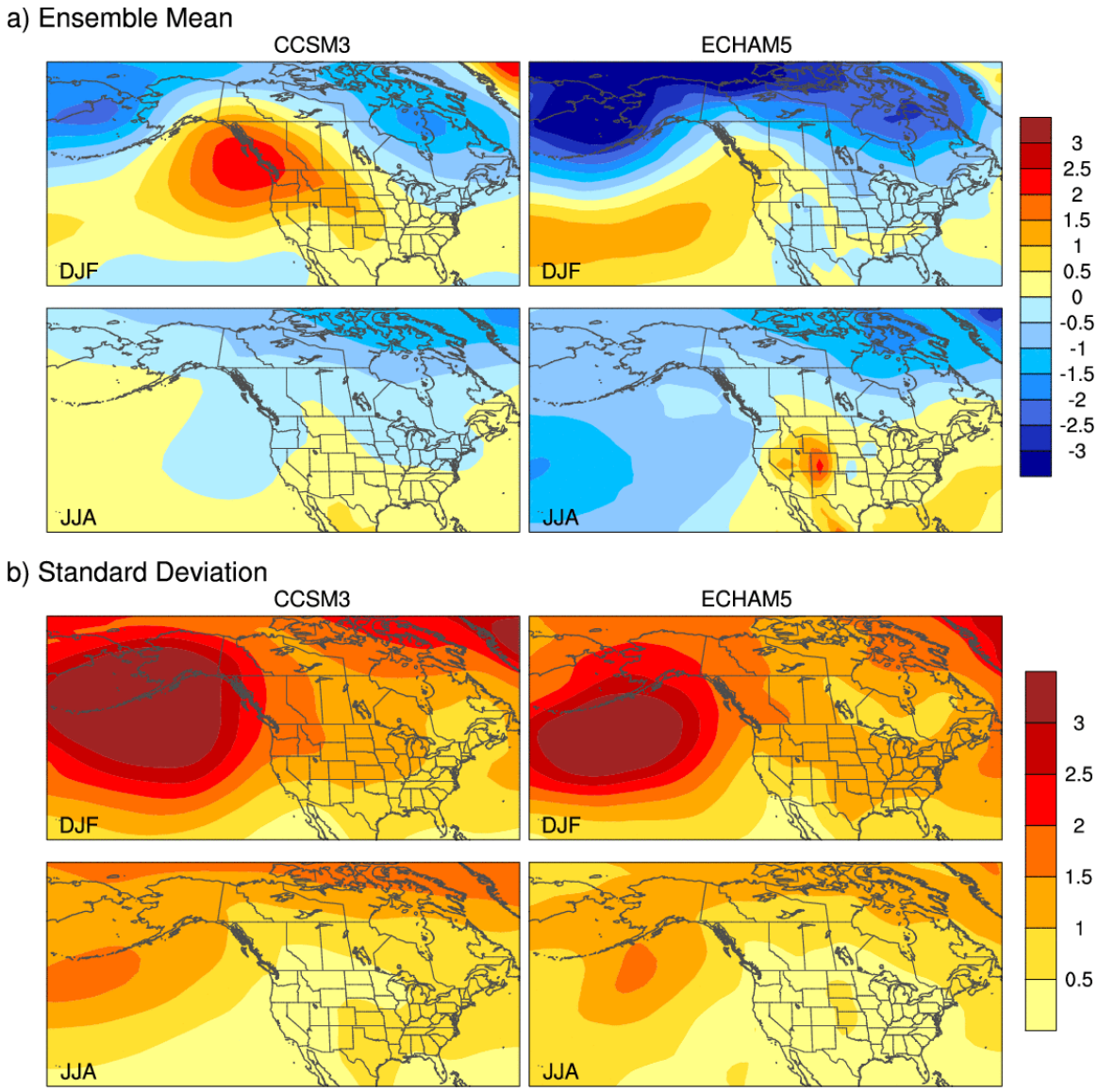
Supplementary Figure 4. Summer SAT trends (2010-2060; C per 51 years) from each of the 17 ECHAM5 ensemble members.



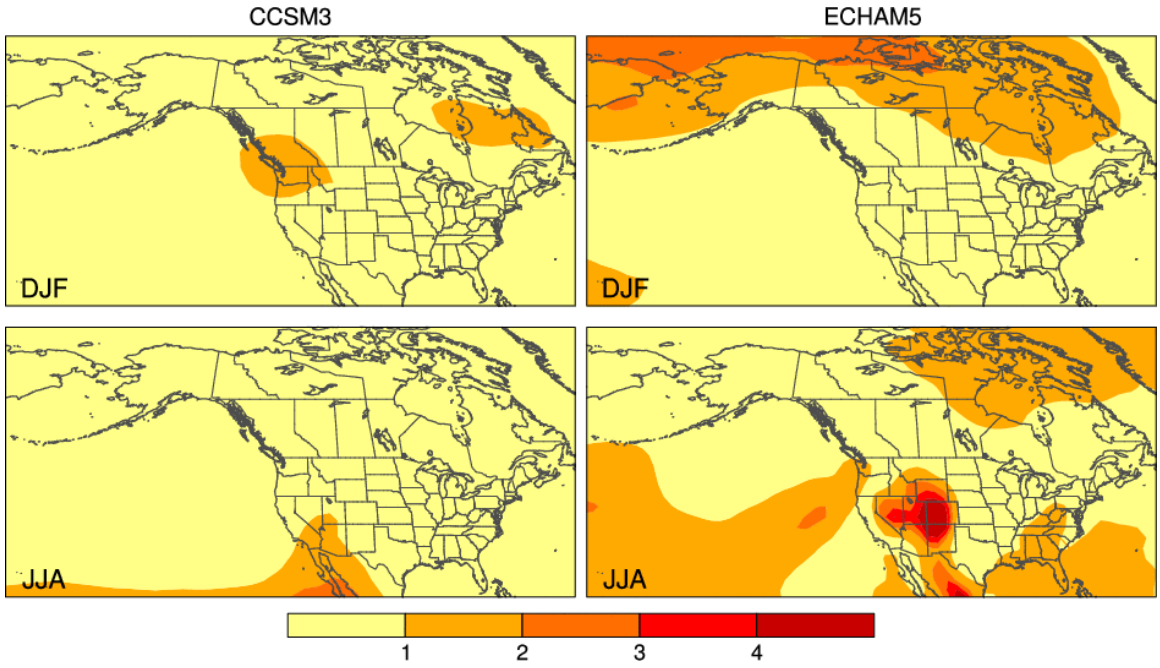
Supplementary Figure 5. Winter precipitation trends (2010-2060; mmd^{-1} per 51 years) from each of the 17 ECHAM5 ensemble members.



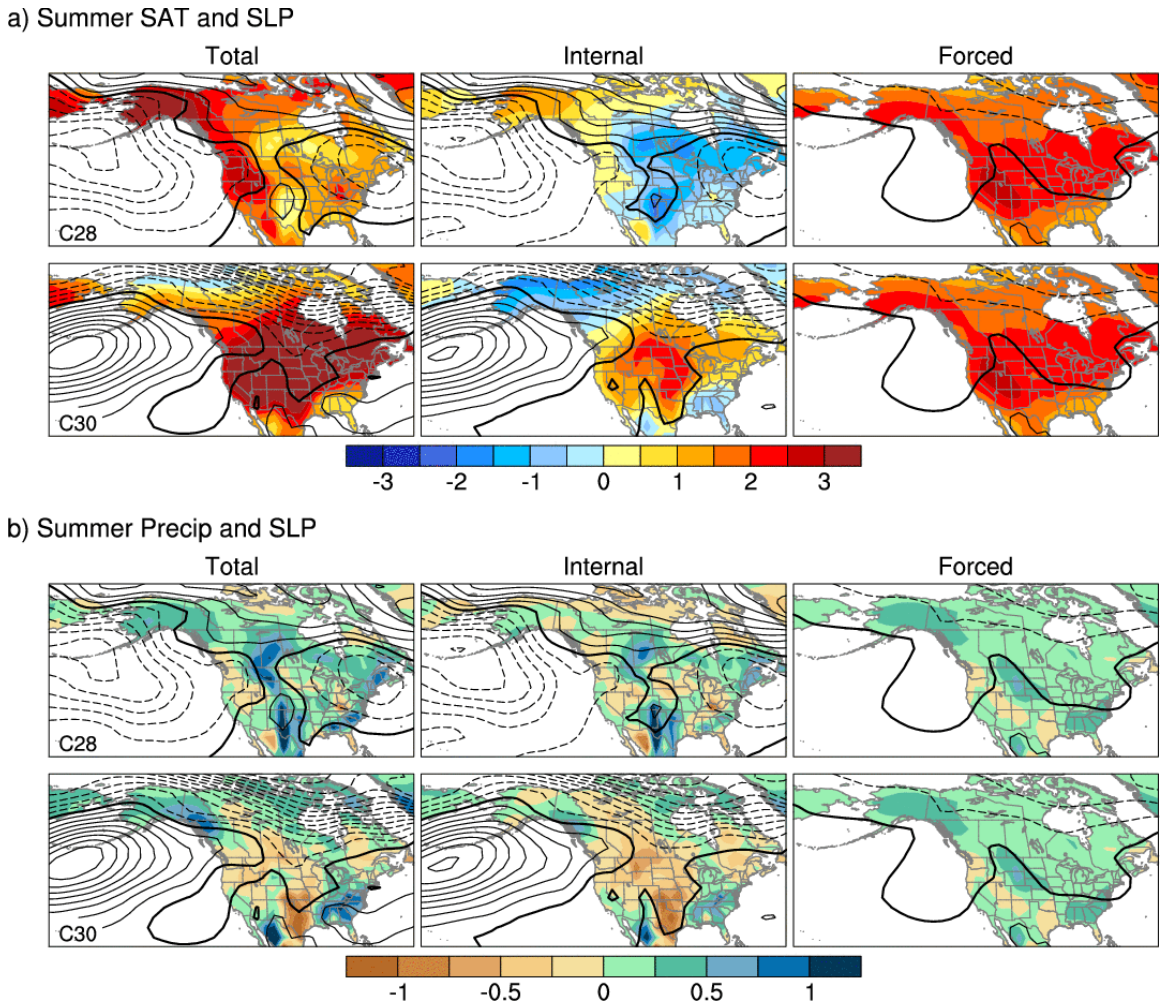
Supplementary Figure 6. Summer precipitation trends (2010-2060; mmd^{-1} per 51 years) from each of the 17 ECHAM5 ensemble members.



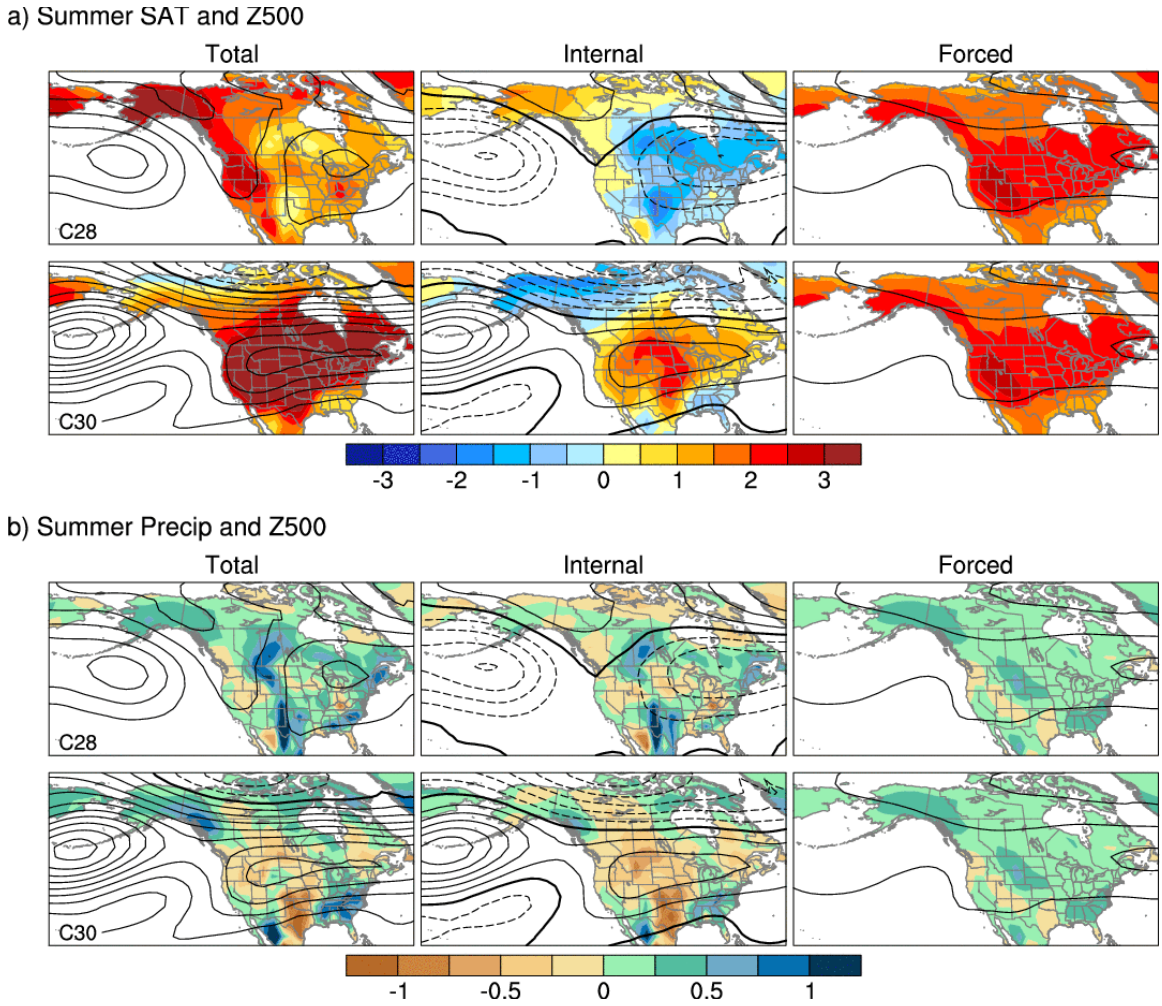
Supplementary Figure 7. SLP trends 2010-2060 (hPa per 51 years): a) Ensemble-mean and b) standard deviation from CCSM3 (left) and ECHAM5 (right). Top (bottom) panels in a) and b) are for DJF (JJA).



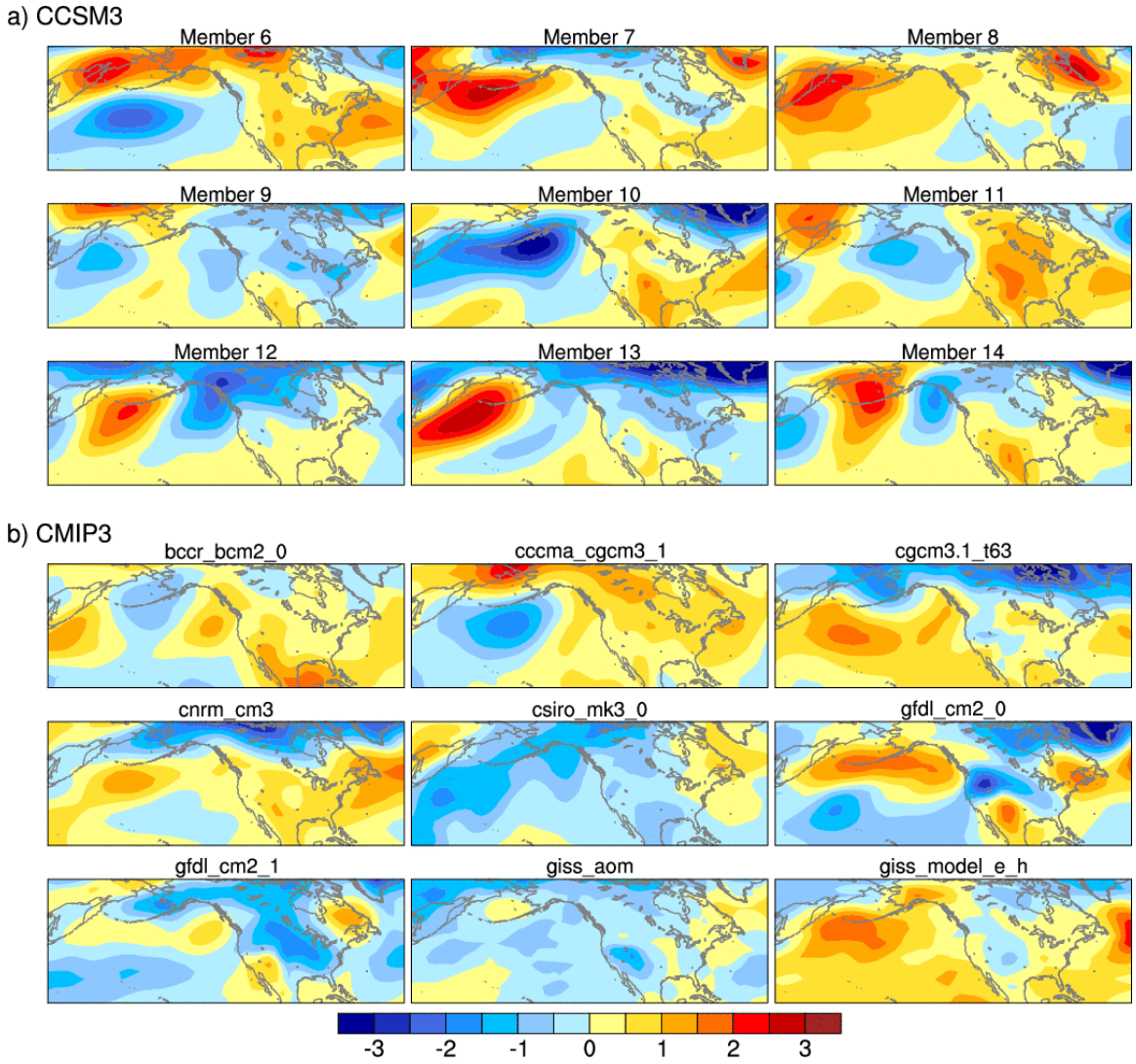
Supplementary Figure 8. Signal-to-noise ratio maps for SLP trends during 2010-2060 from CCSM3 (left) and ECHAM5 (right) in DJF (top) and JJA (bottom). Signal-to-noise is defined as the absolute value of the forced (ensemble-mean) trend divided by the standard deviation of trends across the individual ensemble members.



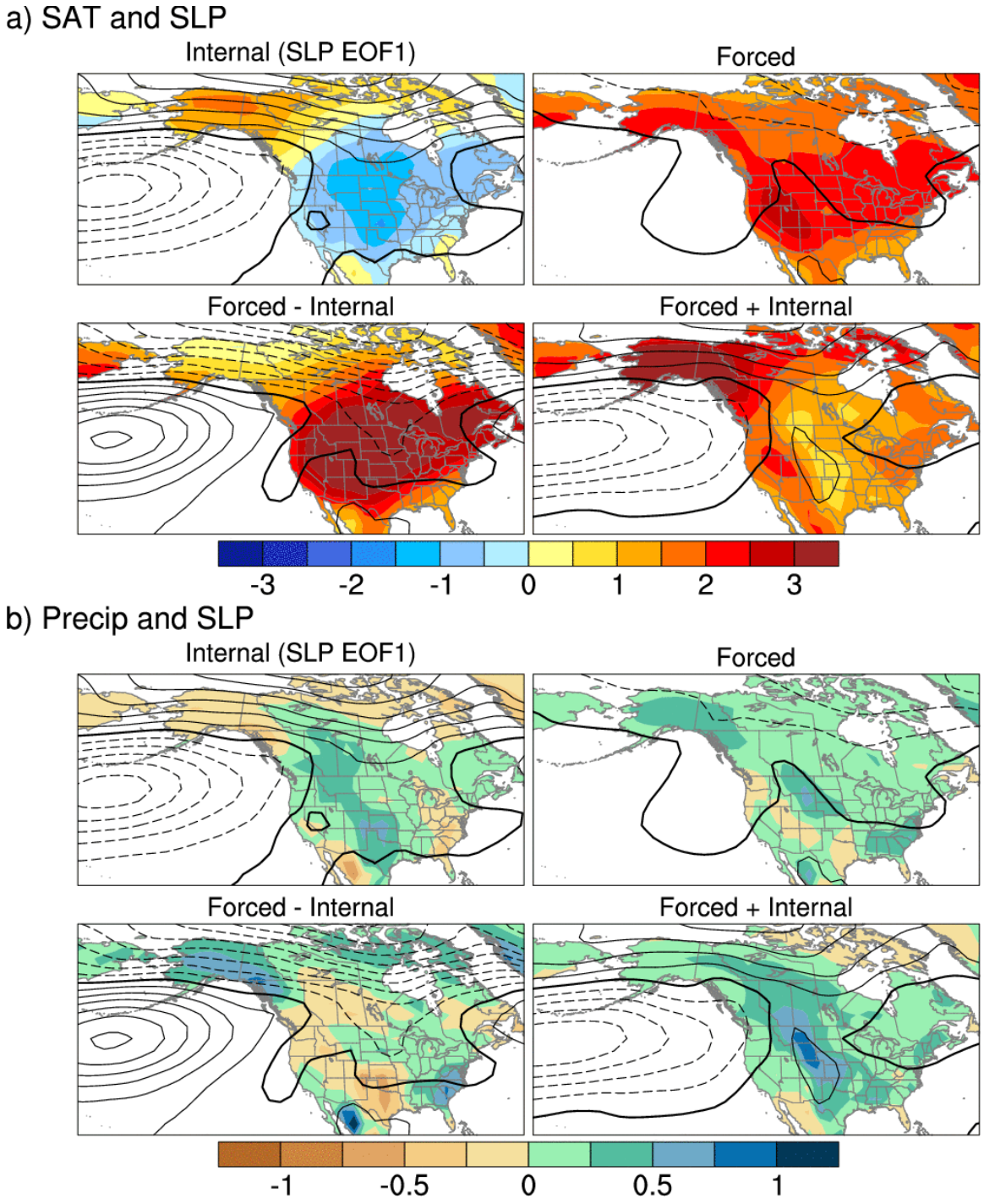
Supplementary Figure 9. Total 2010-2060 summer trends (left) decomposed into internal (middle) and forced (right) components for two contrasting CCSM3 ensemble members (runs 28 and 30) for: a) SAT (color shading; C per 51 years) and SLP (contours); and b) precipitation (color shading; mmd^{-1} per 51 years) and SLP (contours). SLP contour interval is 0.5 hPa per 51 years, with solid (dashed) contours for positive (negative) values; the zero contour is thickened.



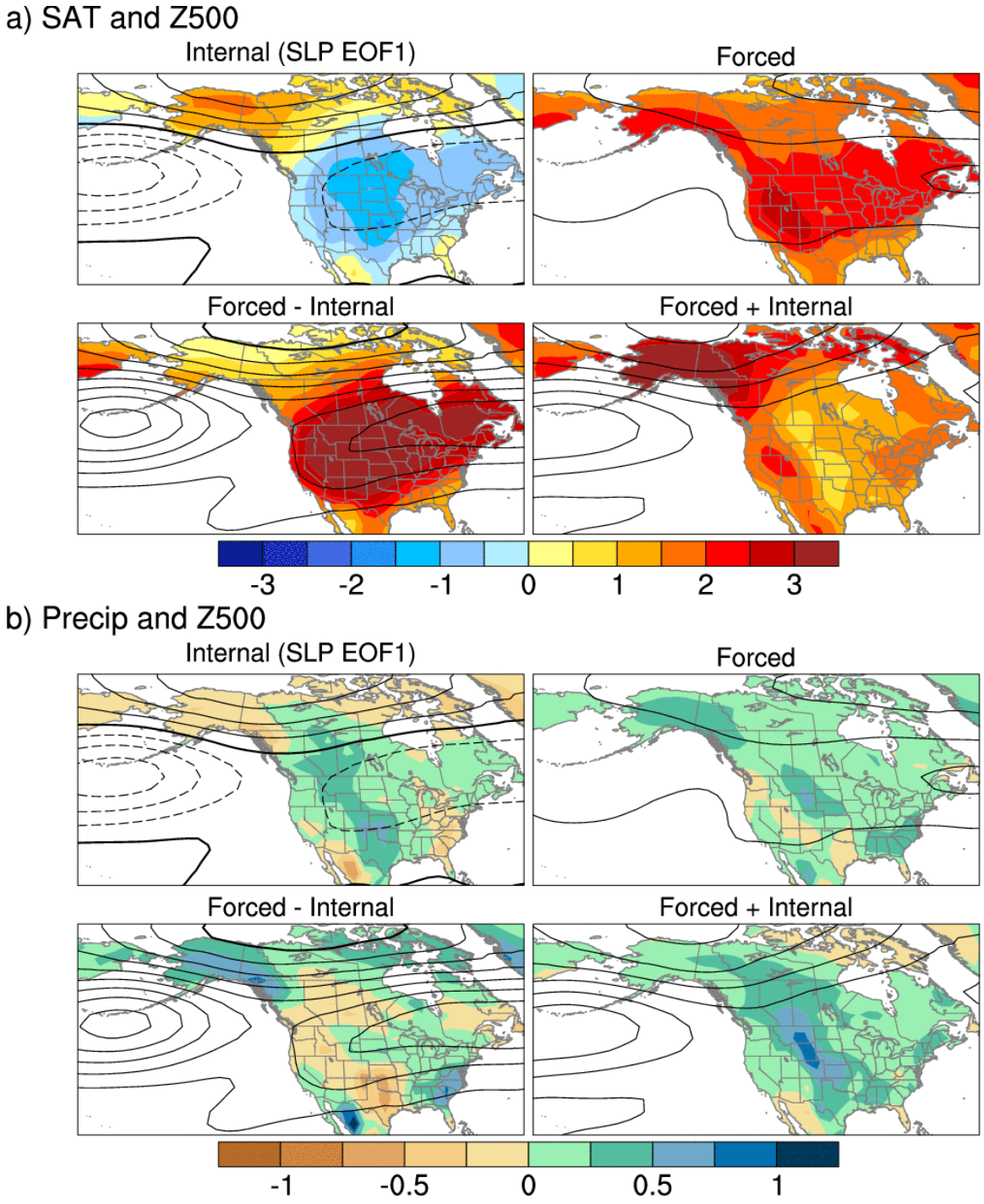
Supplementary Figure 10. As in Supplementary Figure 9 but using 500 hPa geopotential height (Z500) in place of SLP. Z500 contour interval is 10m per 51 years, with solid (dashed) contours for positive (negative) values; the zero contour is thickened.



Supplementary Figure 11. Summer SLP trends (2010-2060; hPa per 51 years) from a) 9 individual realizations of CCSM3 (runs 21-29) and b) 9 CMIP3 models, selected alphabetically.



Supplementary Figure 12. a) (top left) Regressions of summer SLP and SAT trends upon the leading PC of summer SLP trends in the 40-member CCSM3 ensemble. Values have been multiplied by two. (top right) CCSM3 ensemble-mean summer SLP and SAT trends. (lower left) Top right minus top left; (lower right) top right plus top left. b) As in a) but substituting precipitation for SAT. Contour interval is 0.5 hPa per 51 years; color shading in units of C per 51 years for SAT and mm d^{-1} per 51 years for precipitation.



Supplementary Figure 13. As in Supplementary Figure 12 but using 500 hPa geopotential height (Z500) in place of SLP. Z500 contour interval is 10m per 51 years, with solid (dashed) contours for positive (negative) values; the zero contour is thickened.