TROPICAL PACIFIC TRENDS AND CLIMATE VARIABILITY IN E3SM AND OTHER LARGE ENSEMBLES

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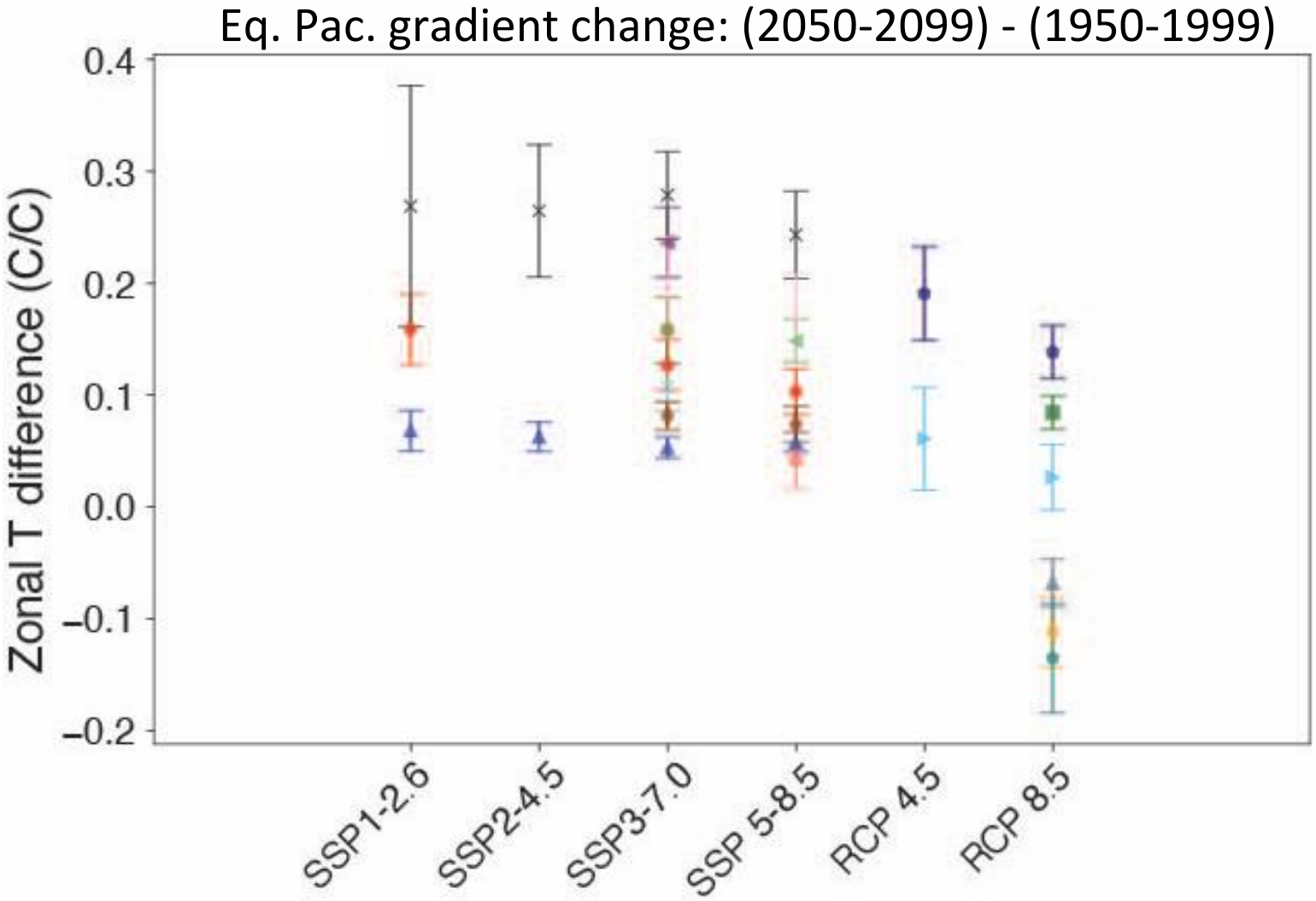
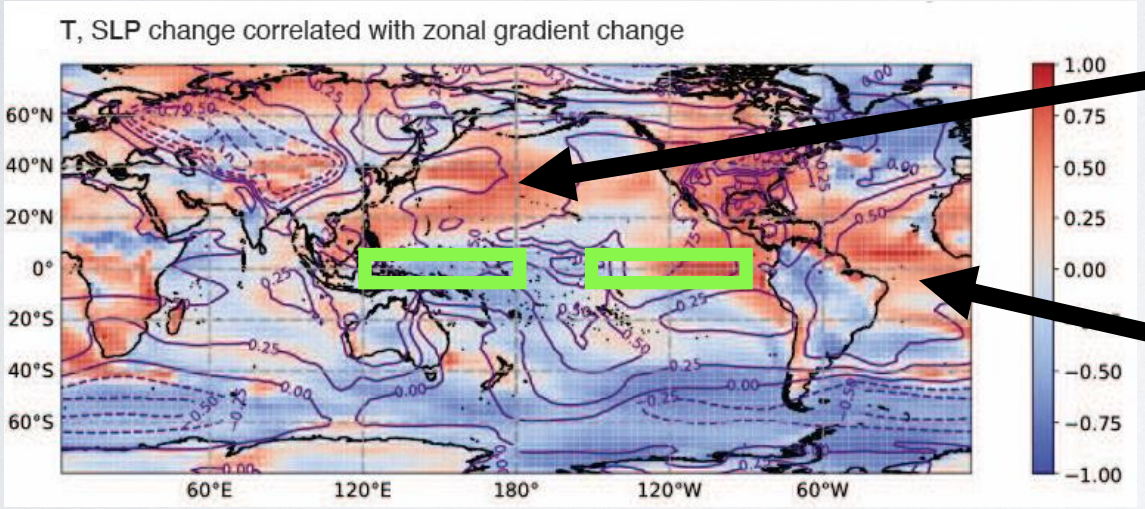
Models have unique “SST gradient sensitivities”



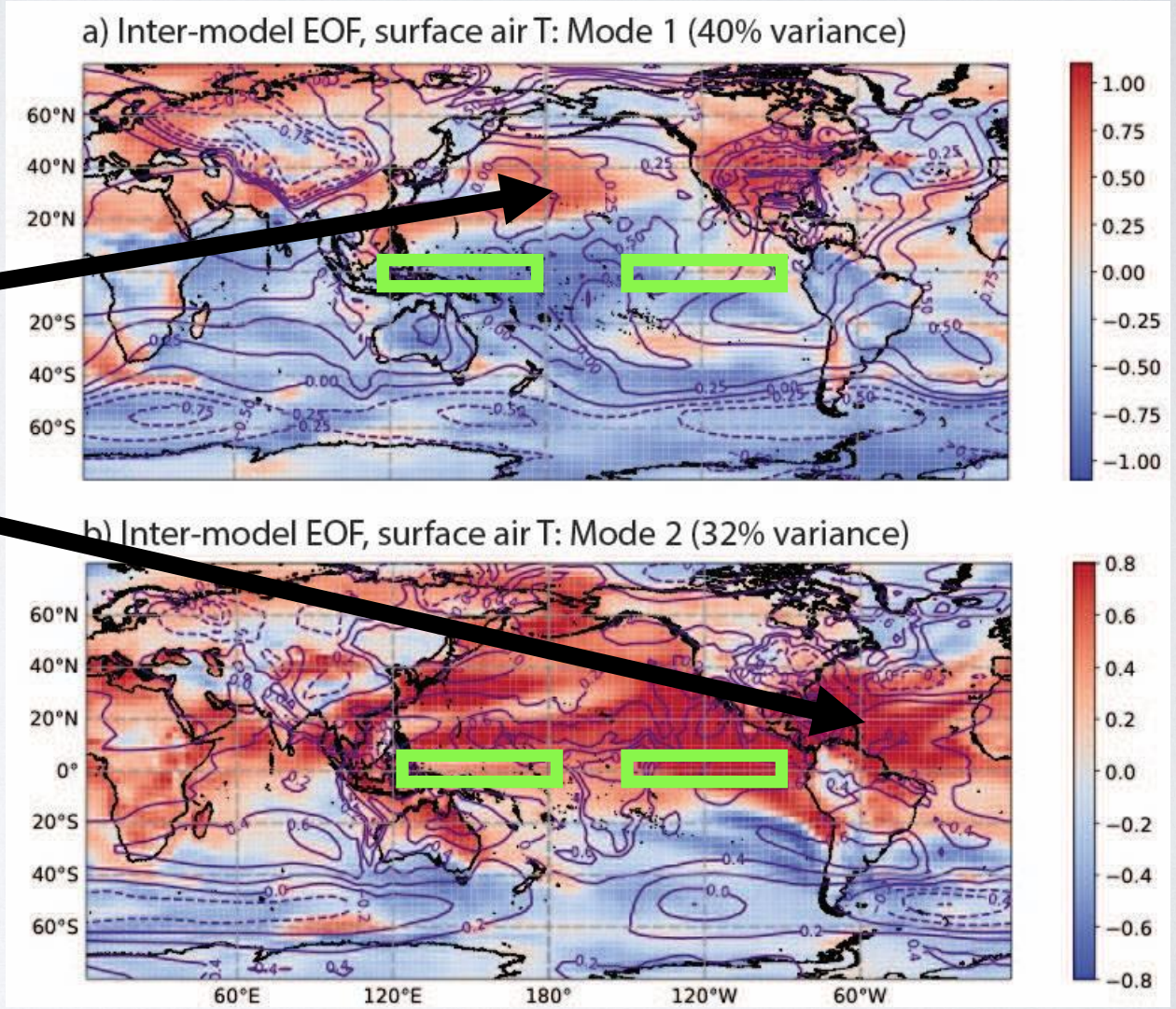
Large ensemble estimates of equatorial Pacific temperature gradient change: East - West

Normalized to global-mean temperature increase

SST gradient sensitivity: results from multiple influences

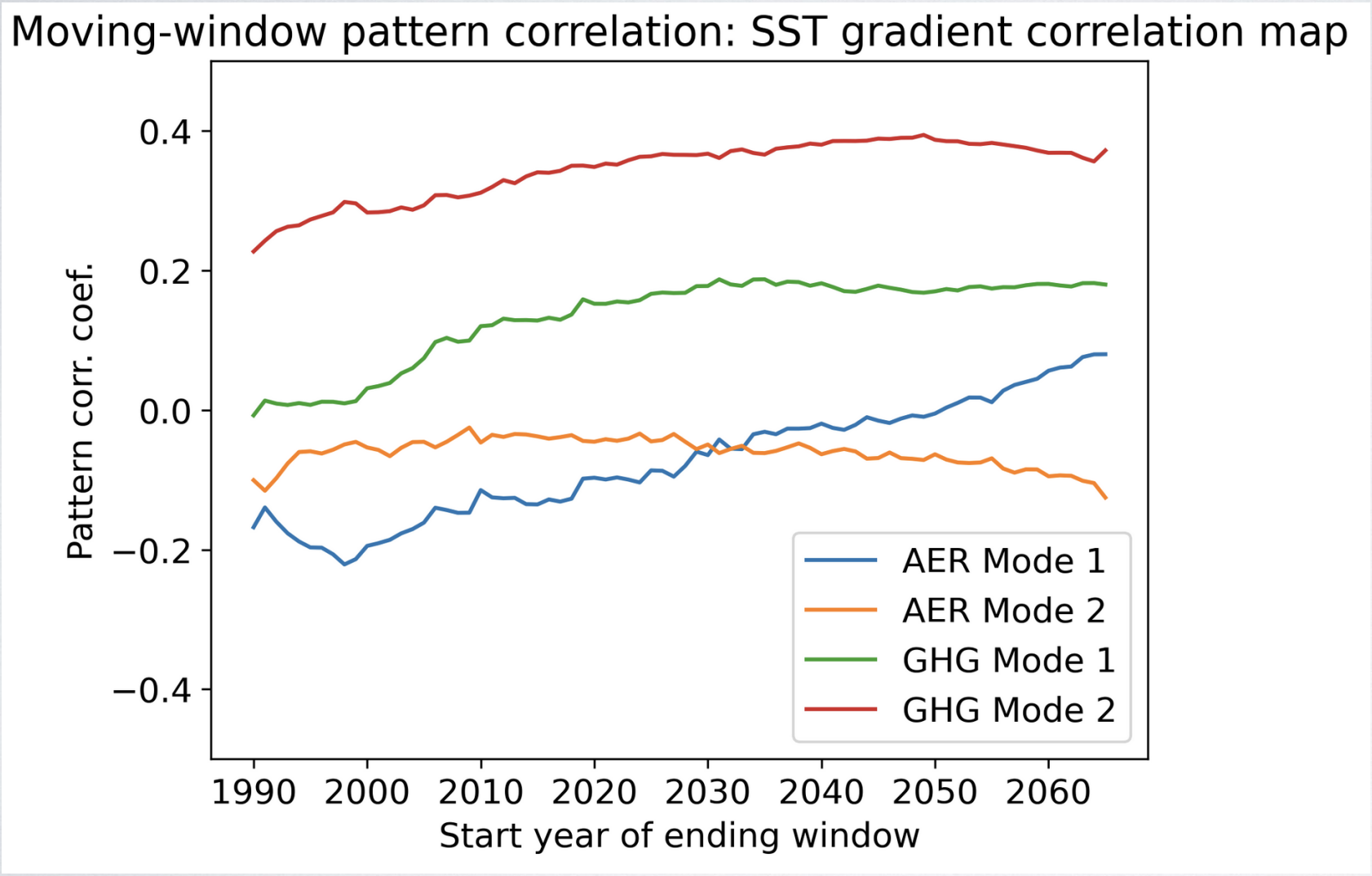


Pattern of ensemble-mean epoch differences correlated with gradient change (2050-2099 minus 1950-1999)
Temperature = colors; SLP = contours



EOF patterns of ensemble-mean temperature differences

Differences in GHG sensitivity may drive SST gradient changes



Pattern correlations vs time:

Temperature pattern correlated with SST gradient change

-versus-

Dominant modes of aerosol, GHG influences in single-forcing model simulations (Detection/Attribution MIP)