Scientific Achievement
Regional expressions of ENSO phase as temperature and precipitation anomalies are explored using direct ESM output and downscaled at convection-permitting scales with WRF. Simulations for the contemporary climate differ from those in the NOAA ENSO Climate Normals dataset due to large biases in HadGEM2. Downscaling with WRF improves agreement with observations.

Significance and Impact
ENSO is the primary internal mode of climate variability and is the source of large magnitude near-surface climate anomalies worldwide. Our work suggests a reversal in the sign of the ENSO phase response over eastern North America under simulations of the future climate with high greenhouse gas forcing.

Research Details
Two paired simulations are run: a strong El Niño (positive ENSO phase) and a weak La Niña (negative ENSO phase) for the historical and future years.