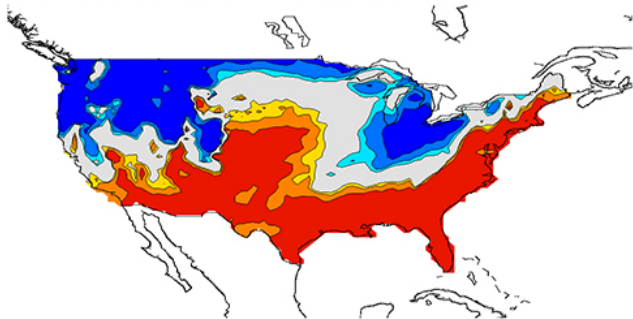
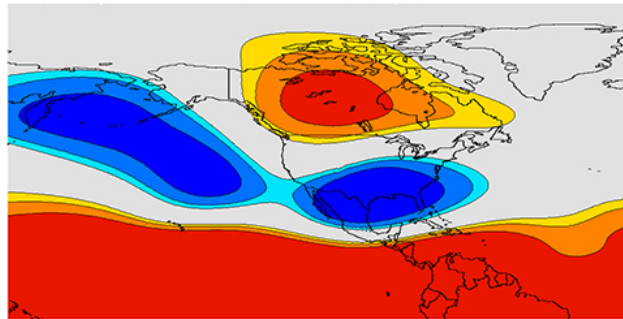


Influence of ENSO on Wintertime Precipitation

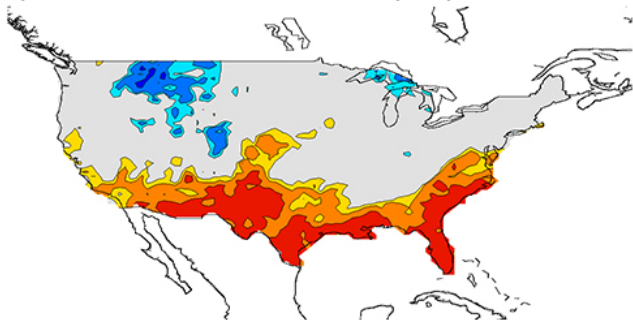
a) M2AMIP : PRCPTOT vs. NINO3.4 (DJF)



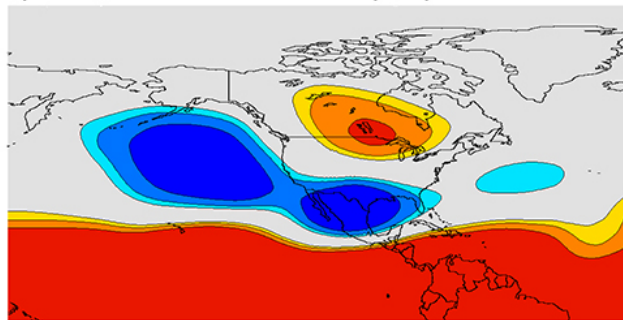
b) M2AMIP : H500 vs. NINO3.4 (DJF)



c) CPCU : PRCPTOT vs. NINO3.4 (DJF)



d) MERRA2 : H500 vs. NINO3.4 (DJF)



The most substantial influence of El Niño-Southern Oscillation (ENSO) on day-to-day weather in the United States occurs during the winter season of December, January, and February (DJF). The Niño3.4 index has a statistically significant positive correlation with the total seasonal precipitation in the southern portion of the country (i.e., the positive phase of ENSO is associated with above average precipitation) and a negative correlation over the Great Lakes and the Montana area (the positive phase of ENSO is associated with drier than average conditions). This pattern can be seen in M2AMIP (Panel a), observations (Panel c), and MERRA-2 (not shown), with excellent agreement between the observations and MERRA-2.