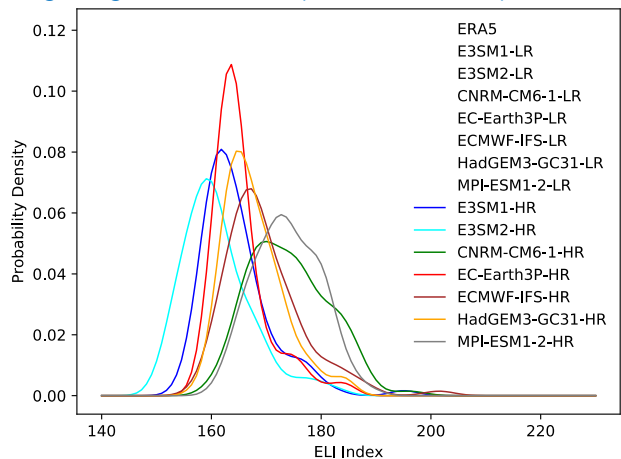# Simulated ENSO Teleconnections to US Winter Precipitation Extremes in a Model Resolution (complexity) Hierarchy
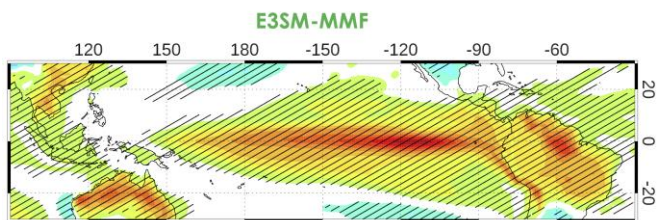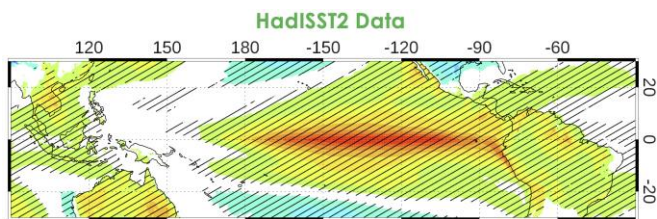
Salil Mahajan, Qi Tang, Walter Hannah, Noel Keen, Chris Golaz and Luke van-Roekel
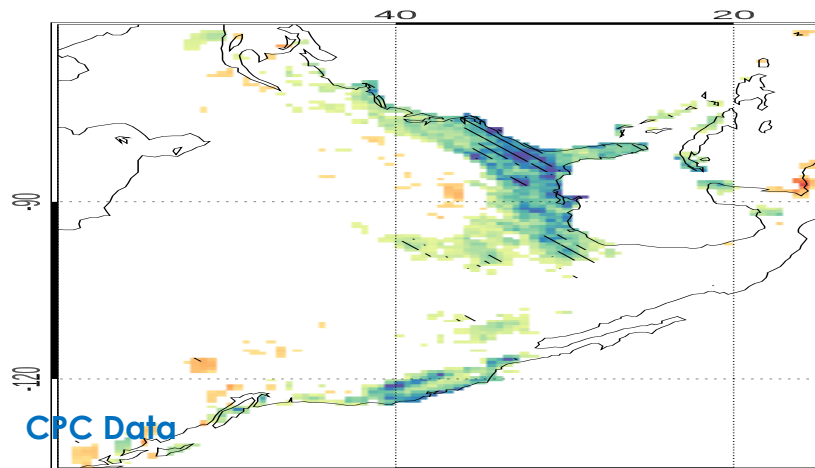
ENSO Diversity and Biases

ENSO Longitudinal Index (ELI):
Avg. long. location of Tropical Pacific deep convection

Regression of **SST** against the **Nino3.4 Index**
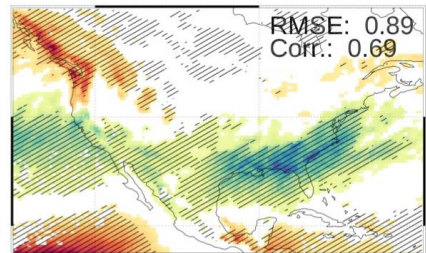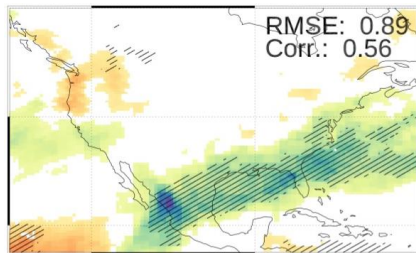

HadISST2 Data

E3SM-MMF

SST (K)

Teleconnections to Extremes (GEV)

CPC Data

E3SMv1-LR
RMSE: 0.89
Corr.: 0.56

E3SMv1-HR
RMSE: 0.89
Corr.: 0.69

E3SMv2-NARRM
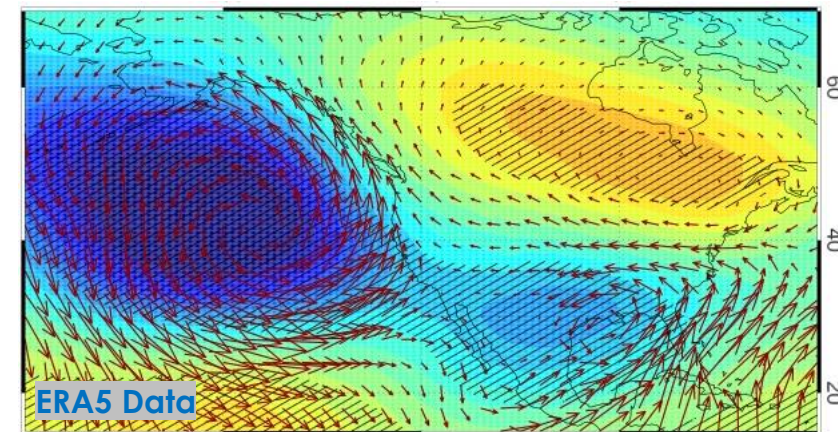RMSE: 0.80
Corr.: 0.62

E3SM-MMF
RMSE: 0.69
Corr.: 0.73
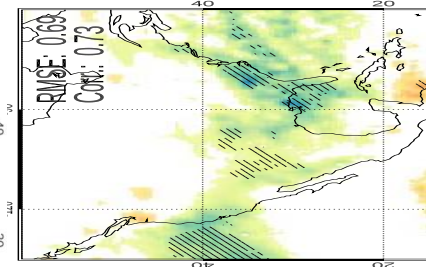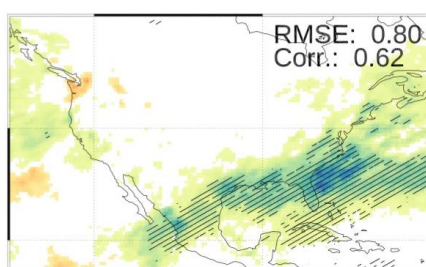
ENSO Dependence of Precipitation Extremes (mm/day)

Physical Drivers (Moisture Transport)

ERA5 Data

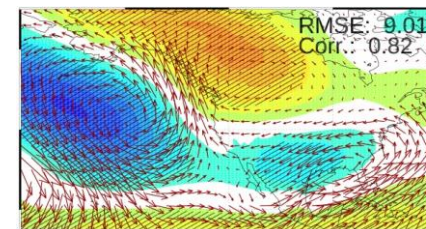**E3SMv1-LR**
RMSE: 7.24
Corr.: 0.83

E3SMv1-HR
RMSE: 5.59
Corr.: 0.93
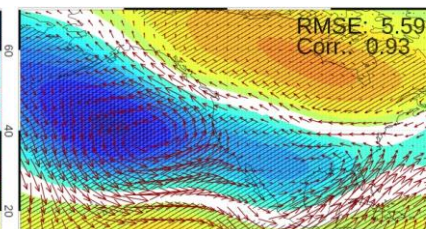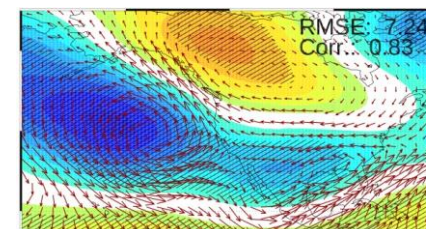
E3SMv2-NARRM
RMSE: 9.01
Corr.: 0.82

E3SM-MMF
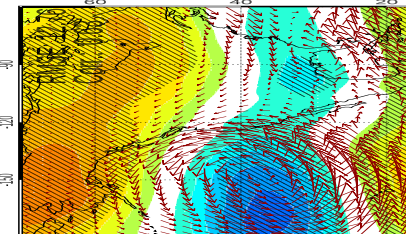
Geopotential Height at 500mb (m)

-30 -24 -18 -12 -6 0 6 12 18 24 30

1