Winter Precipitation in North America and the Pacific-North America pattern in GEOS-S2Sv2 Seasonal hindcast
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Brief overview of GEOS-S2Sv2 forecast system
- Atmospheric initial conditions are produced by a 3 hour (21z to 00z) replay of MERRA2
- Ocean initial conditions are from ODAS production
- Sea-ice initial conditions are generated using NSIDC and MERRA2
- Resolution: 1/2 degree atmosphere, 1/2 degree ocean

Data analyzed in this study
- Initialized every 5 days, forecast length is 9 months
- First lead month JFM monthly forecast from 1982 to 2015
- Observation data from MERRA2 Reanalysis

PNA in GEOS-S2Sv2 winter hindcast
- Obs
- Model

Precipitation in GEOS-S2Sv2 winter hindcast
- Obs
- Model

u250 in GEOS-S2Sv2 winter hindcast
- Obs
- Model

Summary
- GEOS-S2Sv2 captures winter PNA pattern reasonably well with overestimation of both phase of PNA
- Winter precipitation forecasts have higher skills in positive PNA years
- Underestimation of winter precipitation anomaly at west coast of US may be related with south shift of jet stream in the model

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