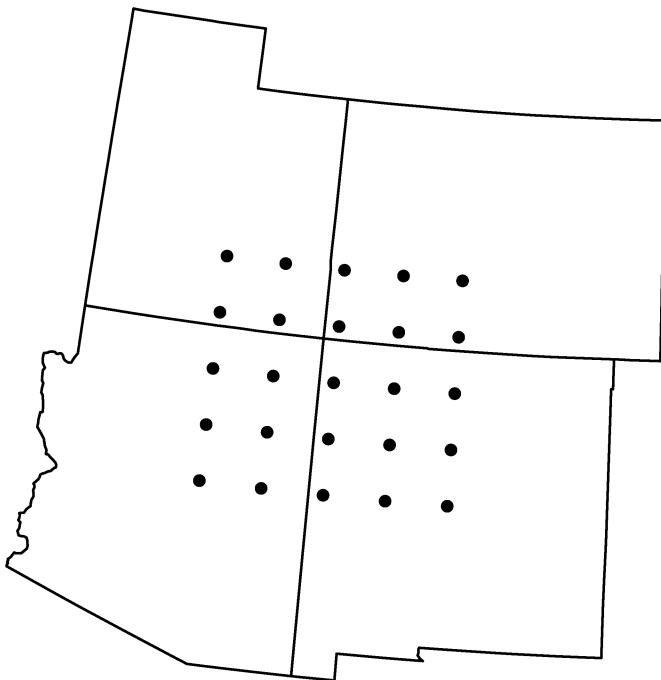


SPQR spacetime model fit metrics

Locations



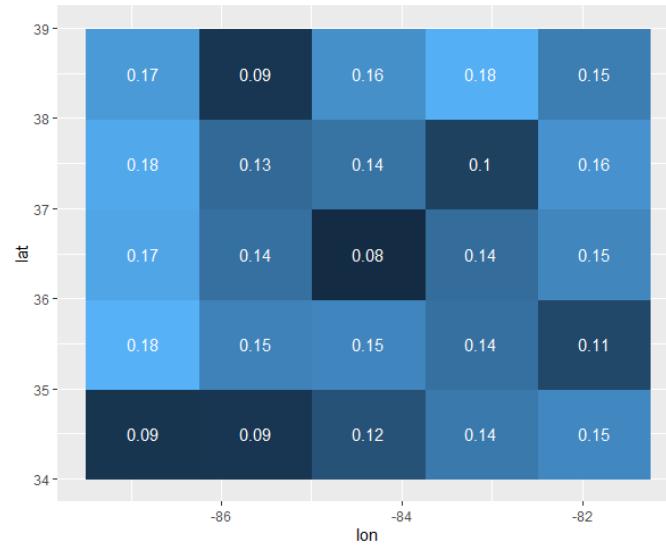
- I'm calling them SW and SE, though that is not entirely correct.
- Distances between grid points are somewhere in the range of 1-6 degrees

Wasserstein distance

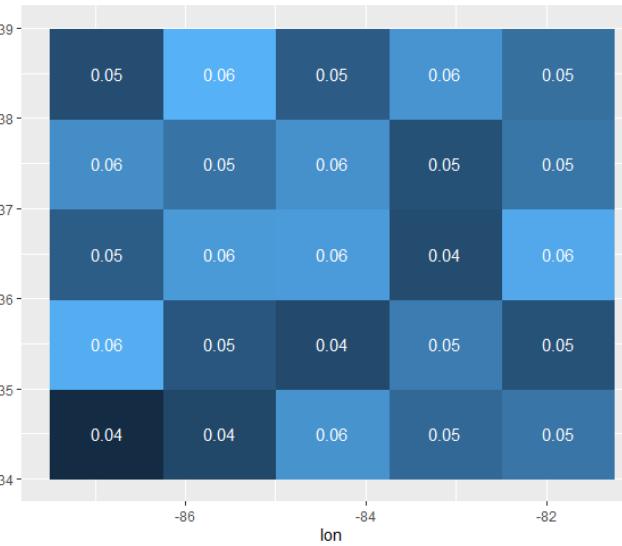
	Southwest	Southeast
Temp	0.304 (0.035)	0.139 (0.03)
Prcp	0.027 (0.009)	0.052 (0.007)

- Mean (SD) of Wasserstein distance across the 25 locations in each region
- Each value is computed based on all 12 months of data
- Additional measure of overall fit – RMSE of cross-correlations:
 - SW: 0.0002
 - SE: 0.0001

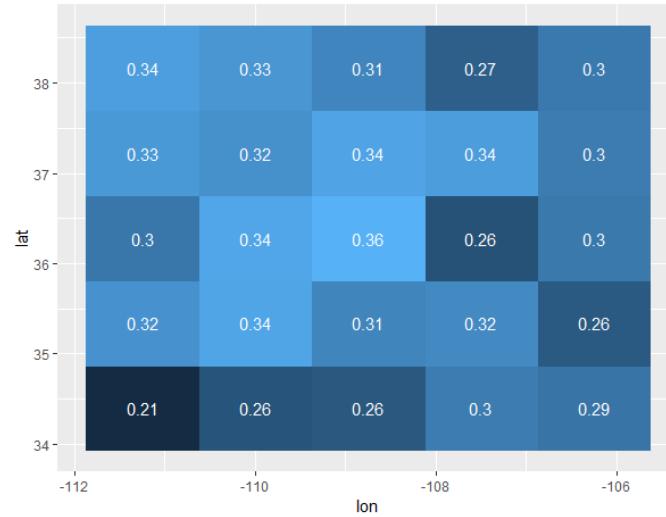
SE temp



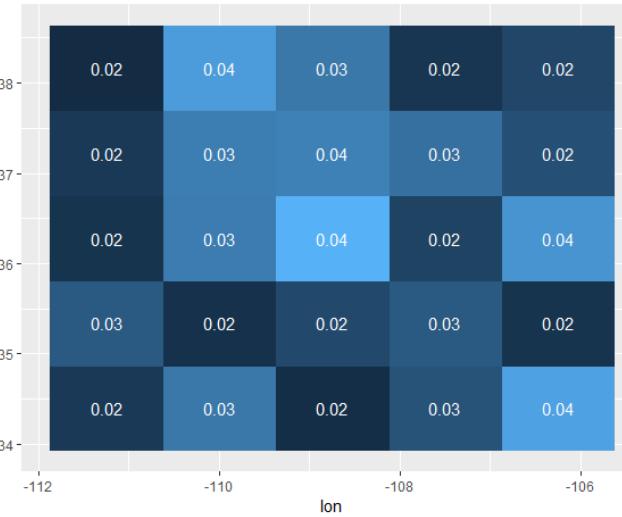
SE prcp



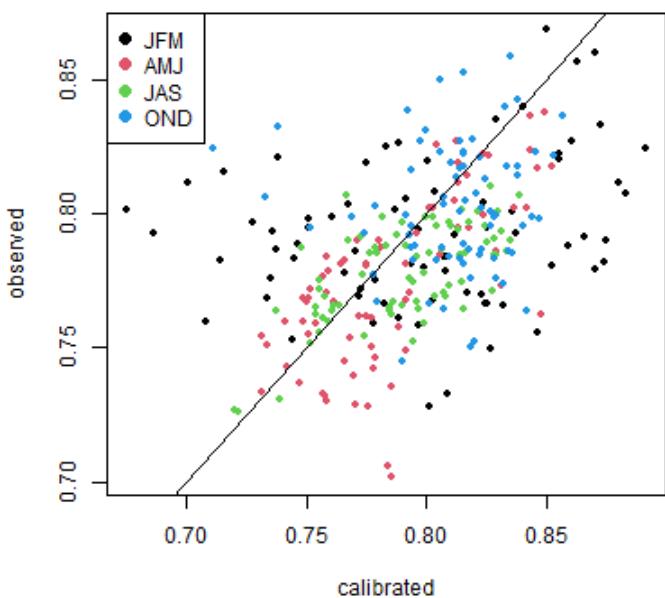
SW temp



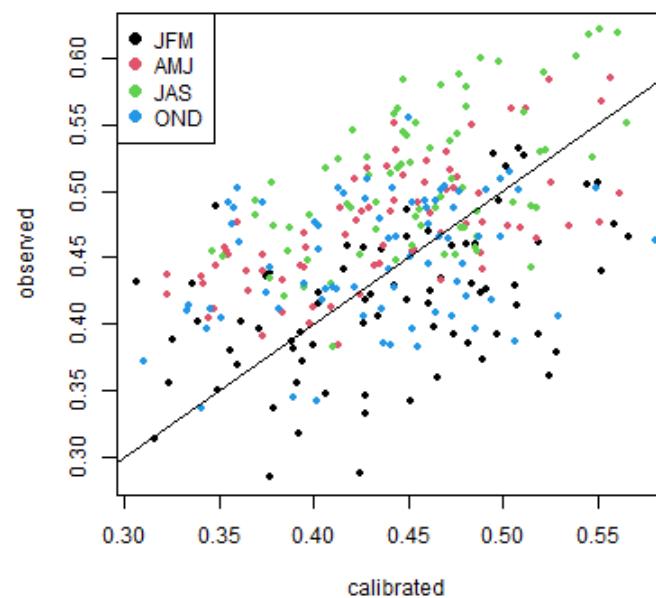
SW prcp



temp autocorrelations

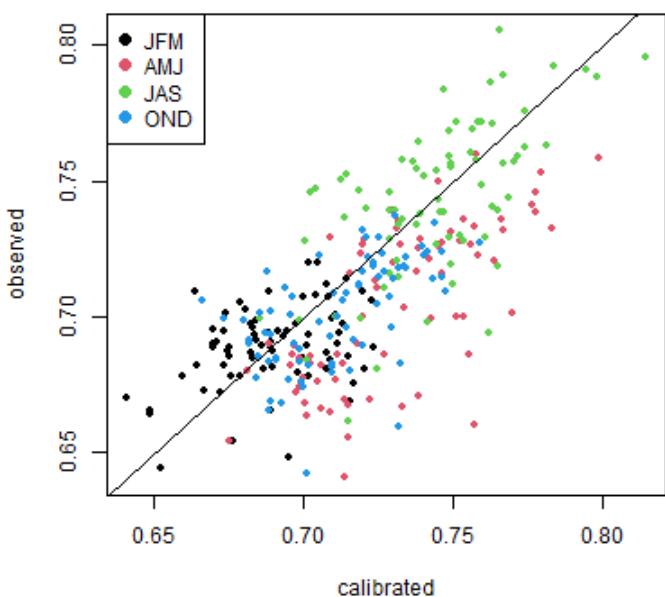


prcp autocorrelations

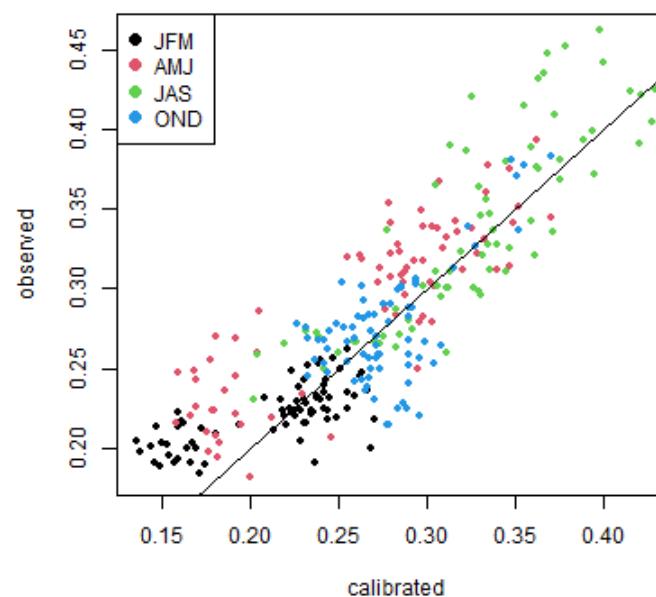


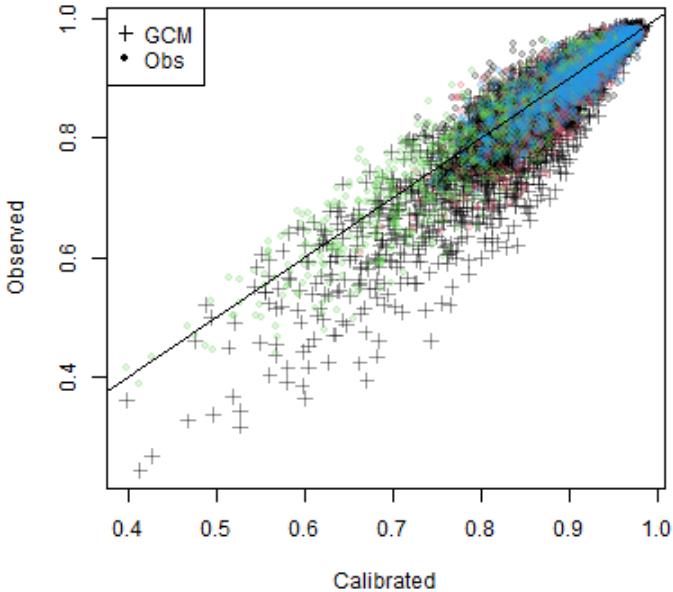
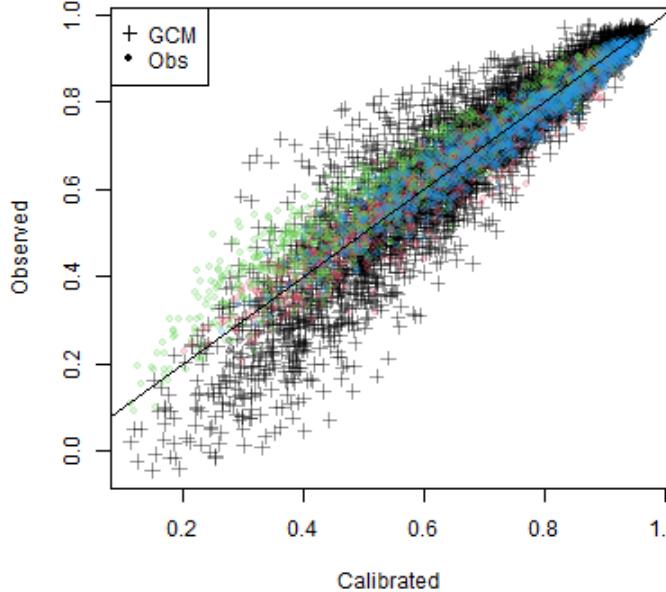
- Autocorrelations at each grid cell and each month (25×12 values)
- SW on top, SE in the bottom
- SE has less variability, but low prcp has more bias
- I don't have the autocorrelations for the GCM data saved, but I can overlay those

temp autocorrelations

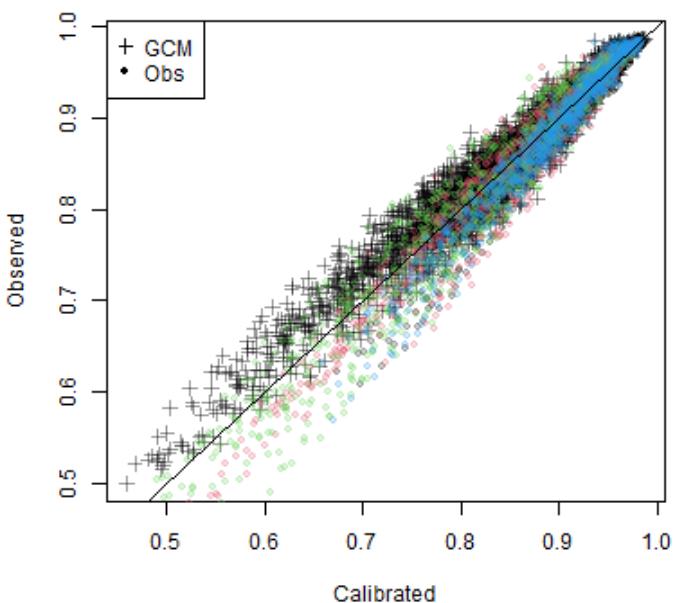
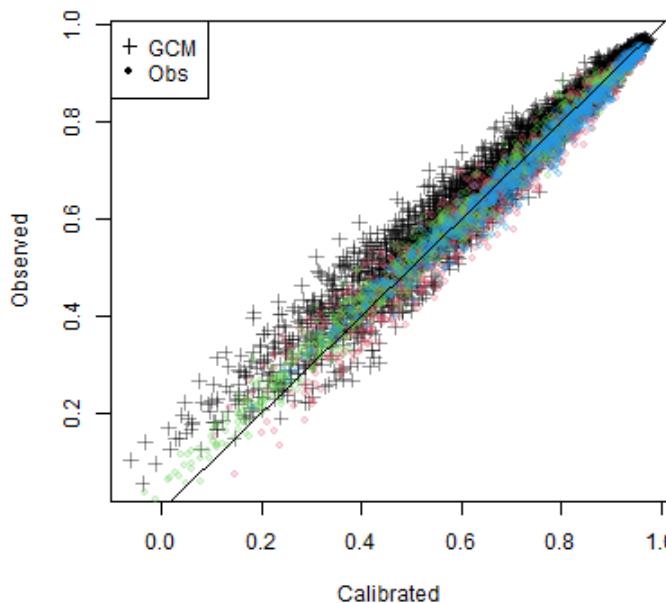


prcp autocorrelations

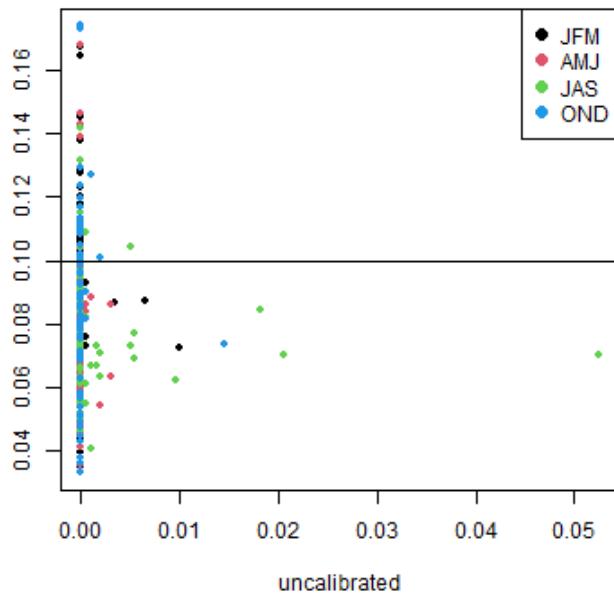


Temp spatial correlations**Prcp spatial correlations**

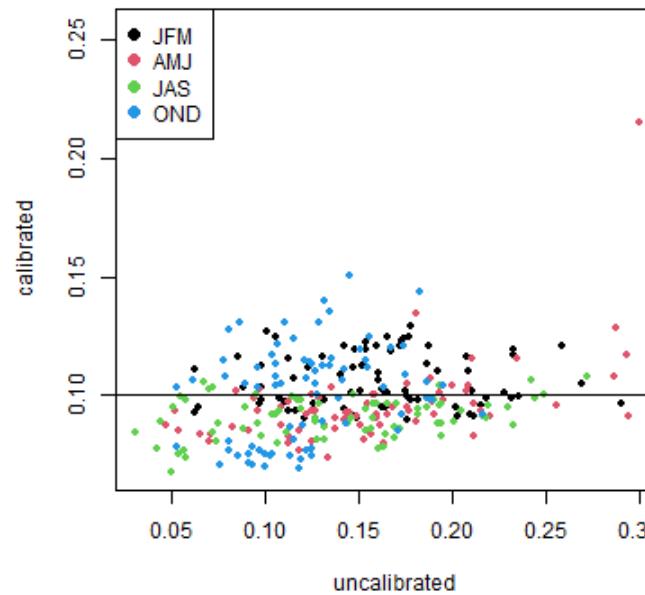
- Spatial correlations at each grid cell pair and each month (300 x 12 values)
- SW on top, SE in the bottom
- GCM spatial correlations overlaid
- SE has less variability
- Low values have more variability in all plots

Temp spatial correlations**Prcp spatial correlations**

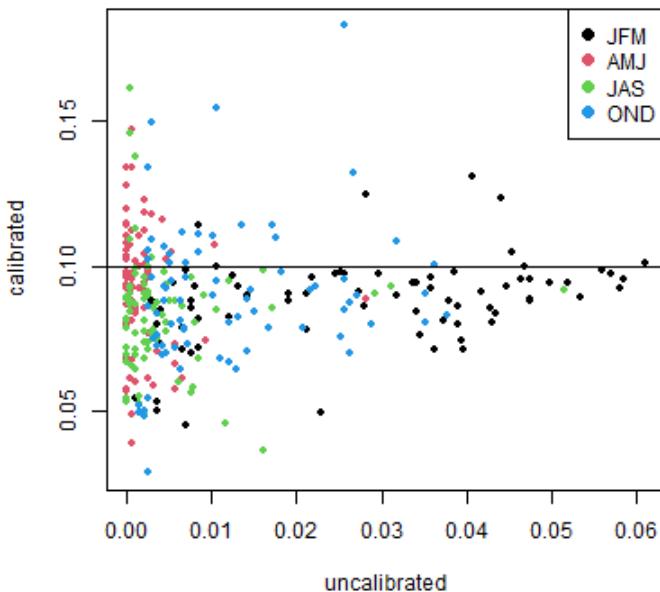
Temp exceedance probability above 0.90 quantile



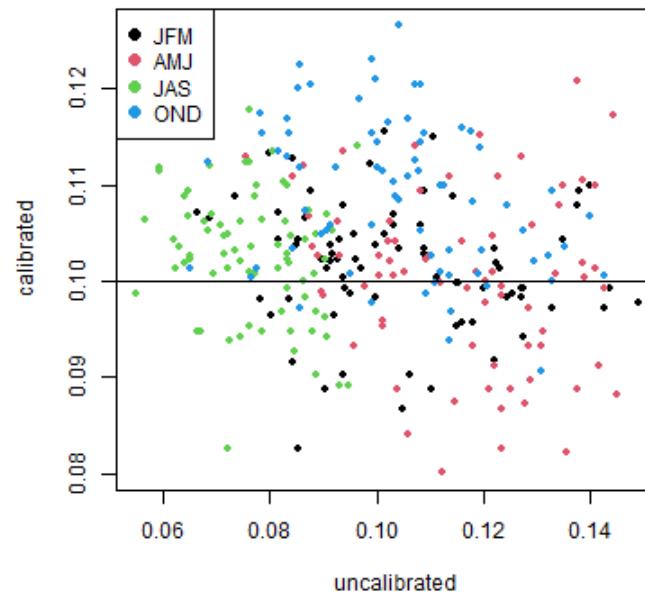
Prcp exceedance probability above 0.90 quantile



Temp exceedance probability above 0.90 quantile



Prcp exceedance probability above 0.90 quantile



- Exceedance probabilities at each grid cell and each month (25 x 12 values)
- SW on top, SE in the bottom
- True value always 0.10 in this case
- Temp interpretation:
 - GCM data for SW has very thin upper tails (x-axis)
 - SE also, but better than SW
 - Ranges seem roughly the same after calibration (y-axis)
- Prcp interpretation:
 - SW had a LOT more variability in its upper tail mass than SE (values ~0.30)
 - For SE, GCM actually lines up decently
 - After calibration, both SE and SW have similar ranges (except some SW outliers)