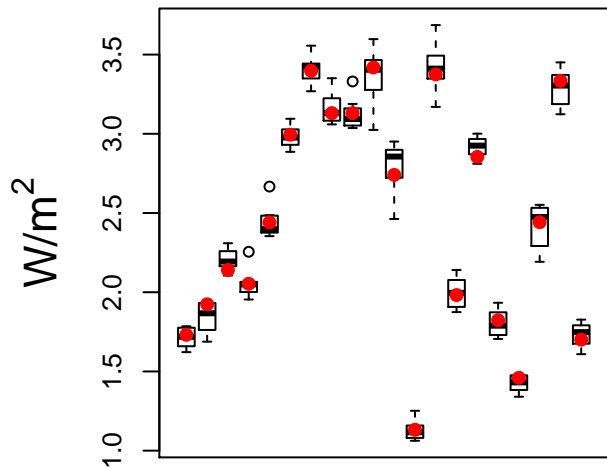
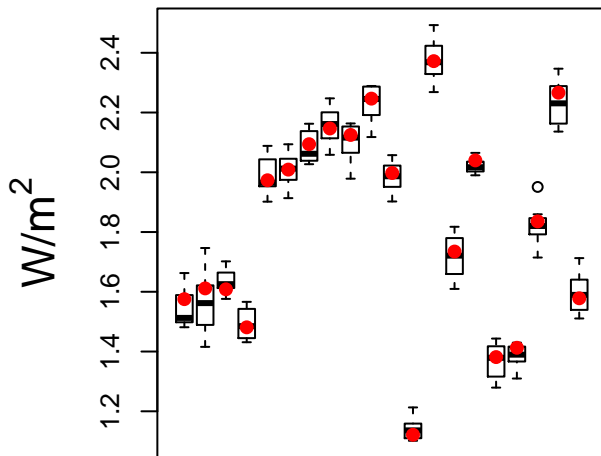


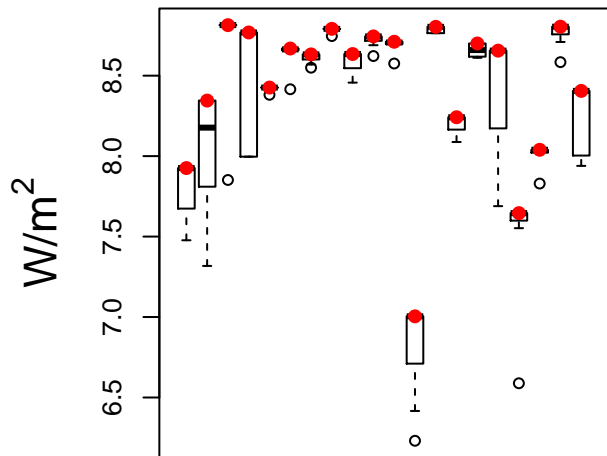
Mean – Wind



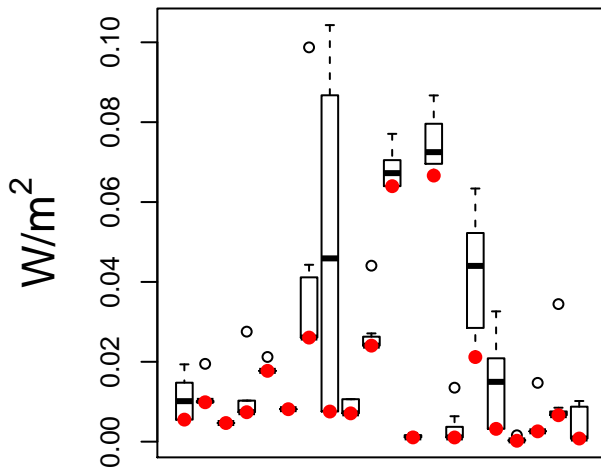
Stan Dev – Wind



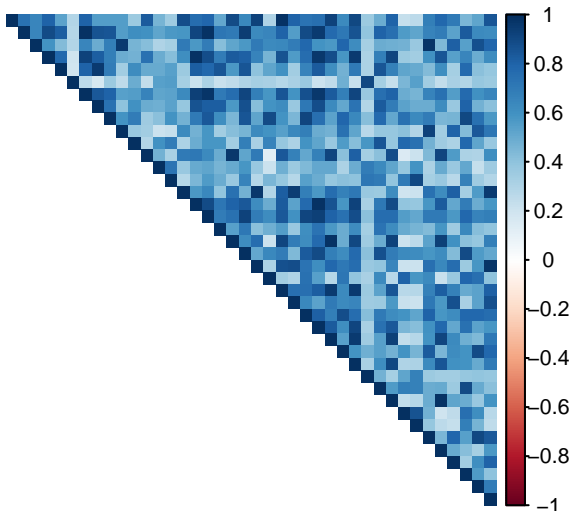
Maximum – Wind



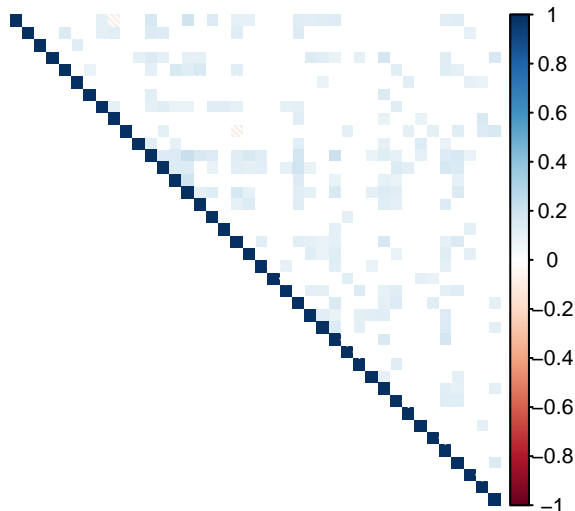
Minimum – Wind



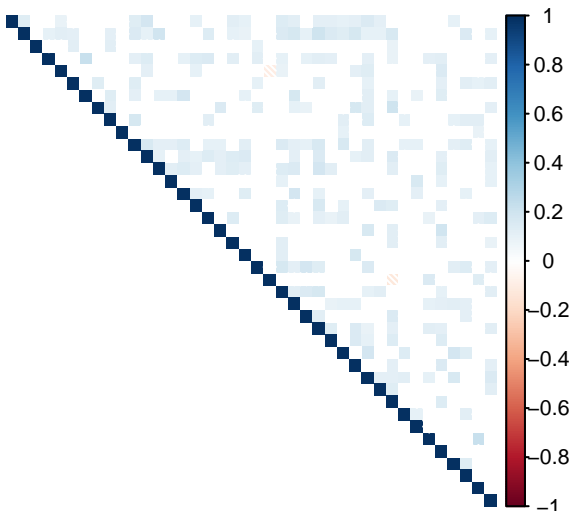
**Cross Correlation
Data**



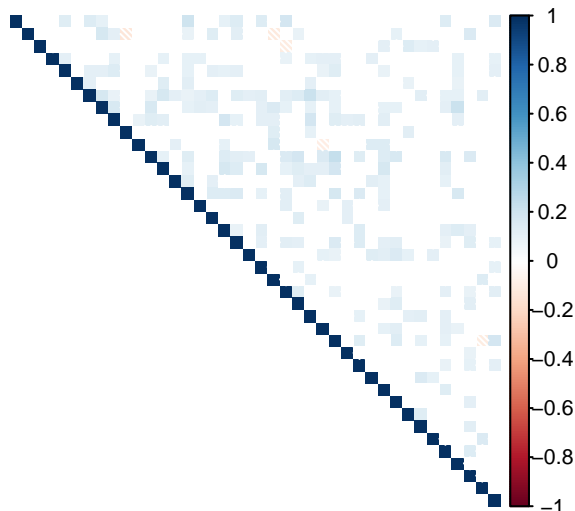
**Cross Correlation
Simulation Run – 1**



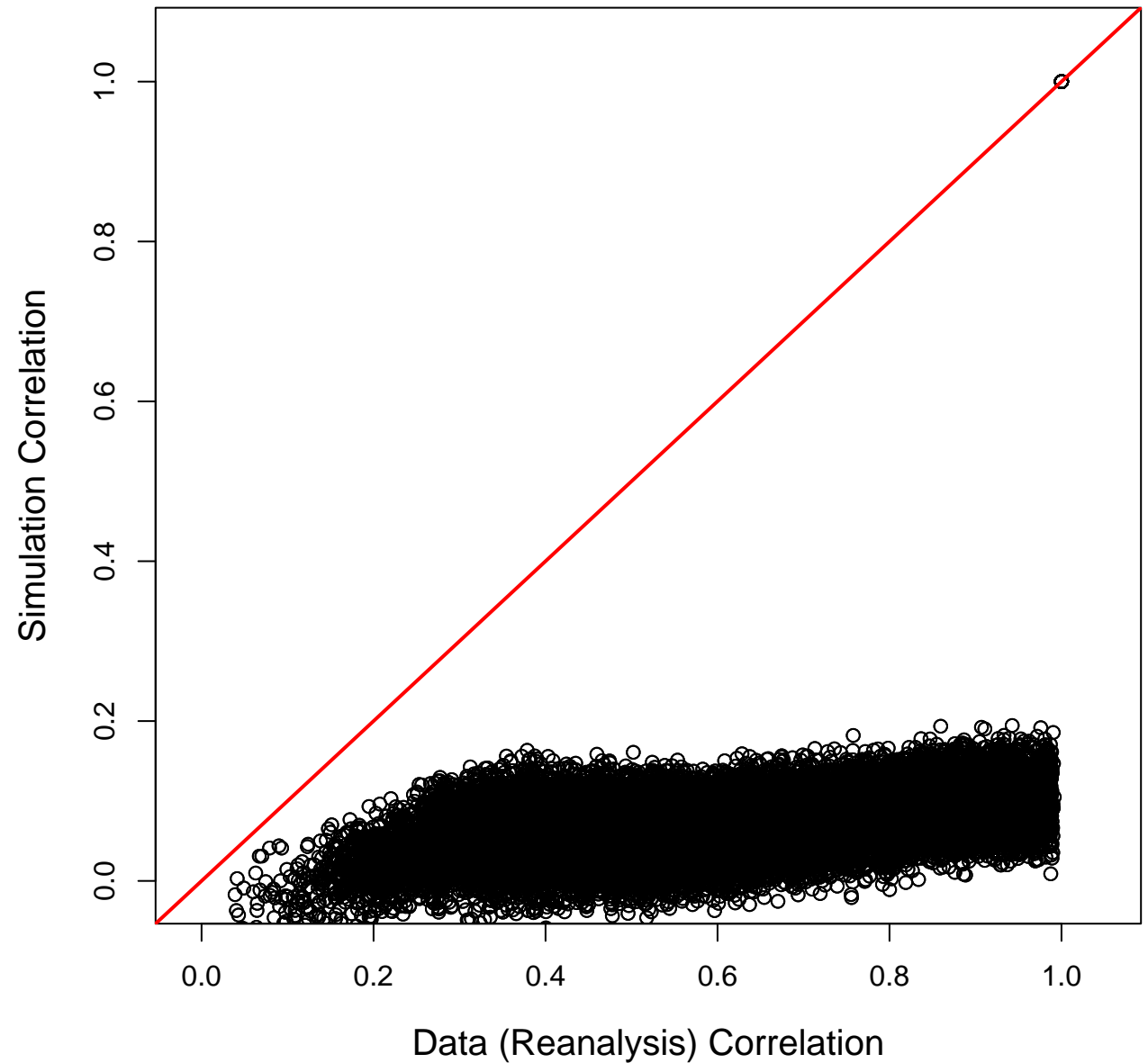
**Cross Correlation
Simulation Run – 5**



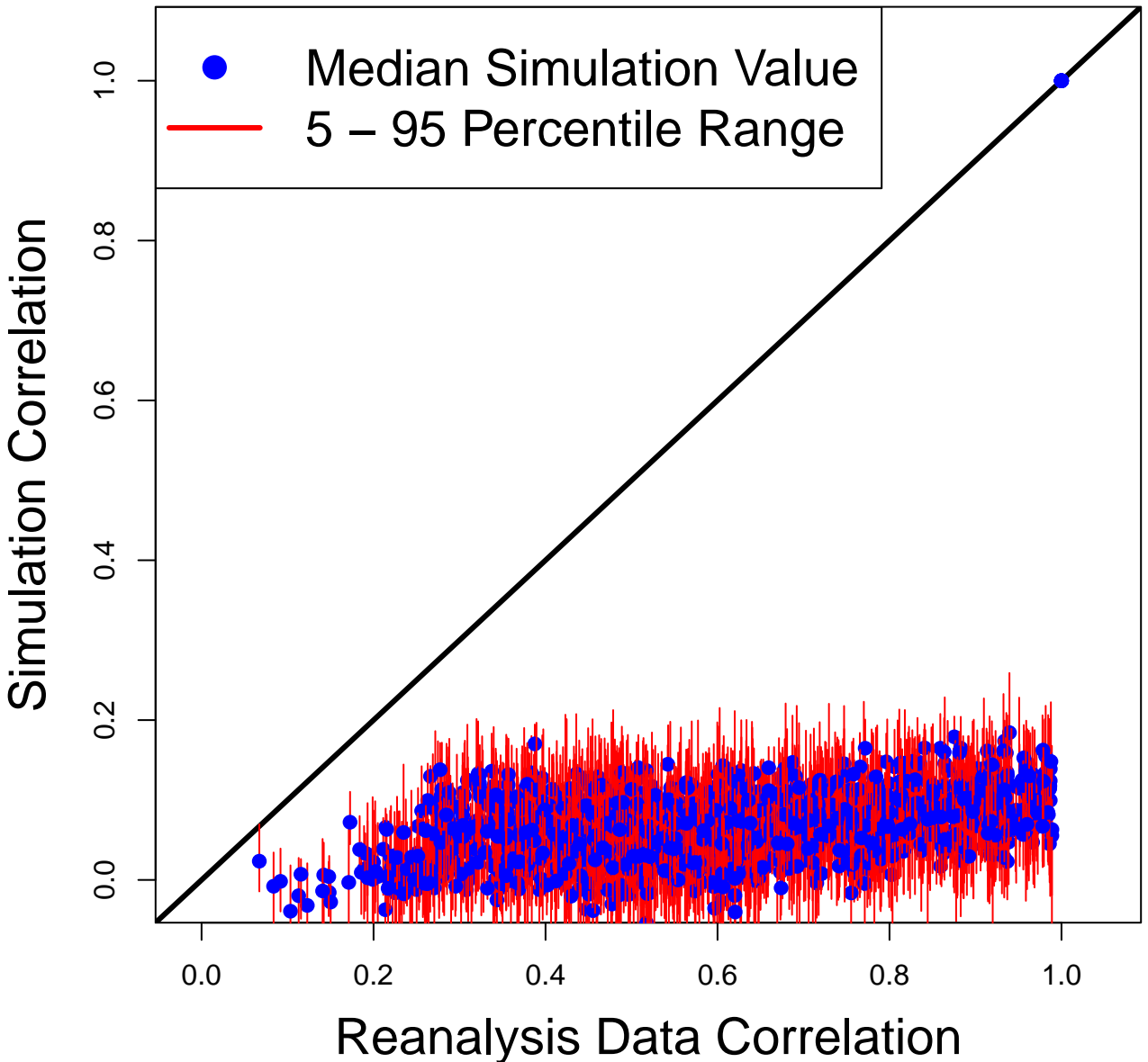
**Cross Correlation
Simulation Run – 7**



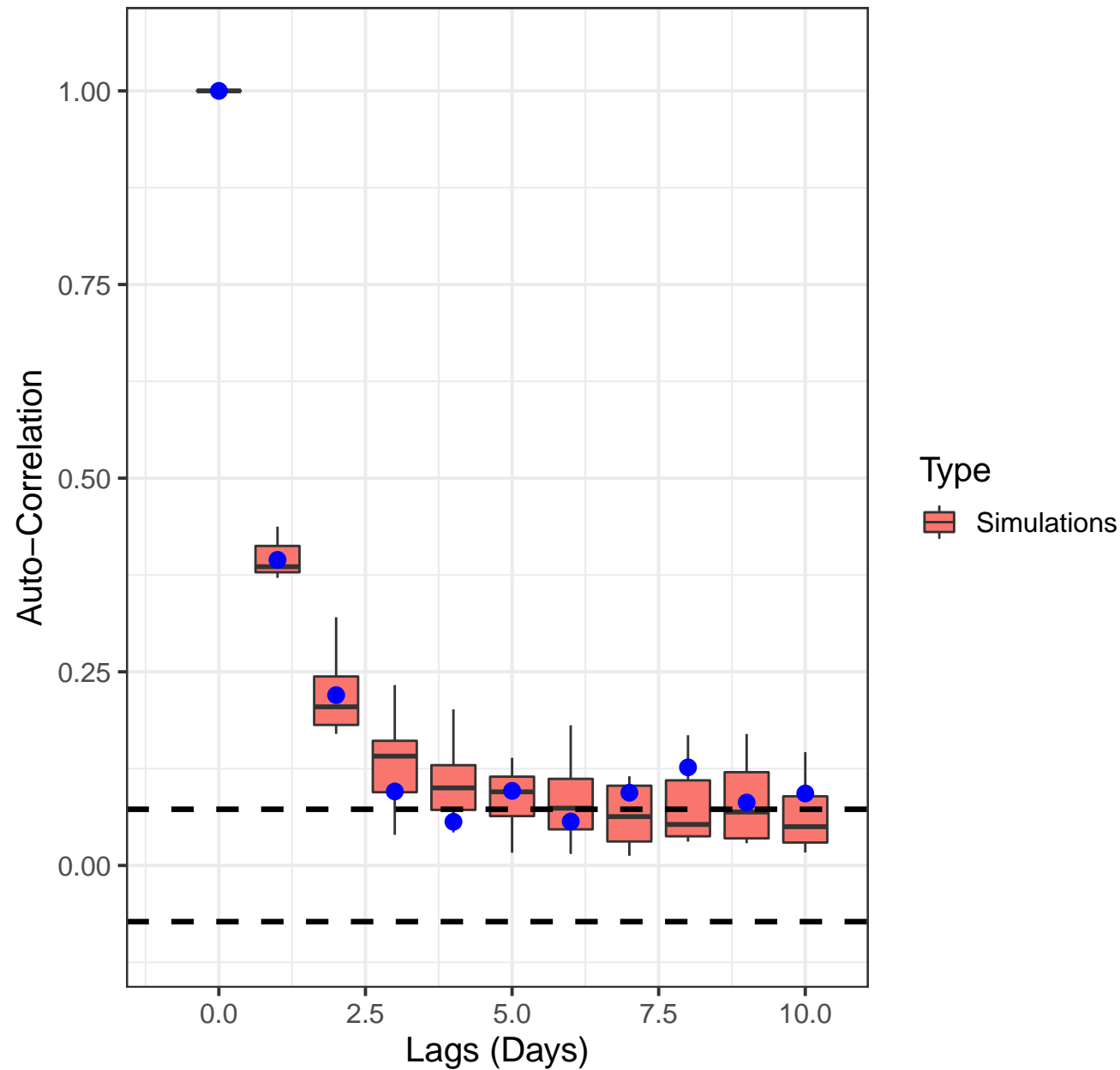
Cross Site Correlations – Wind



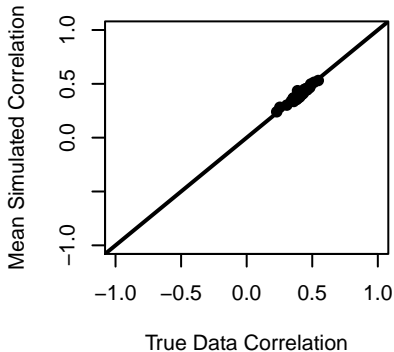
Cross Site Correlations – Wind



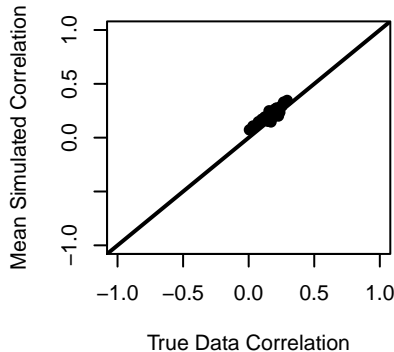
ACF – Single Random Site – Wind



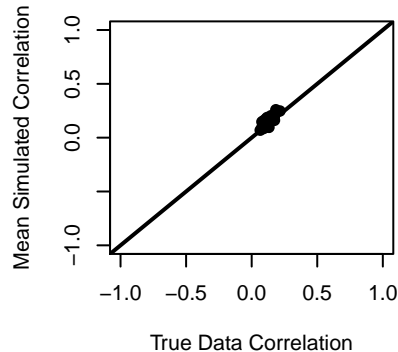
Lag-1 Correlations – Wind



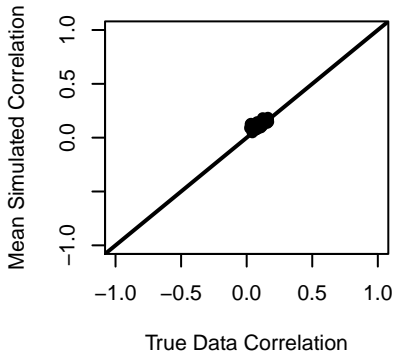
Lag-2 Correlations – Wind



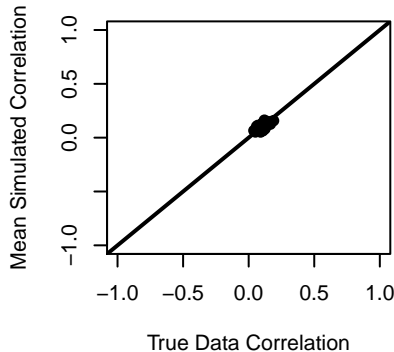
Lag-3 Correlations – Wind



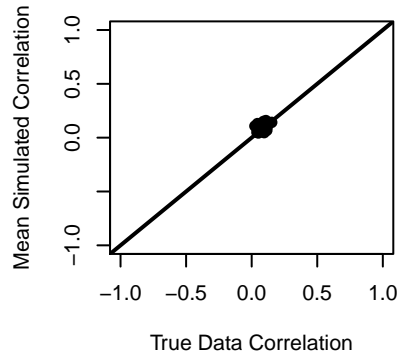
Lag-4 Correlations – Wind



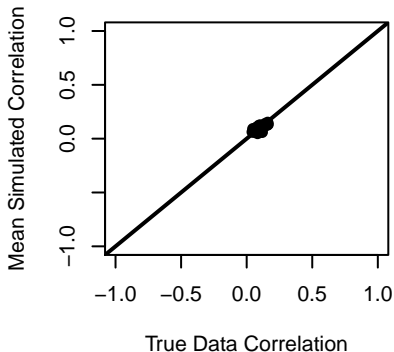
Lag-5 Correlations – Wind



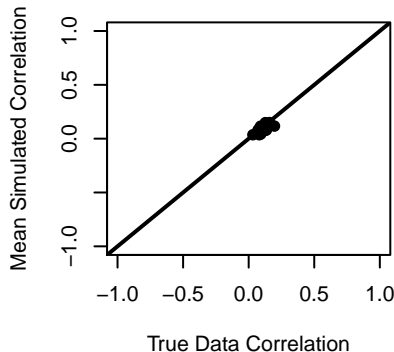
Lag-6 Correlations – Wind



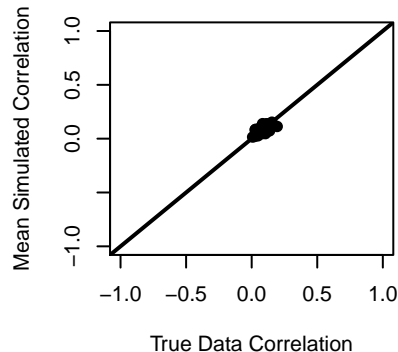
Lag-7 Correlations – Wind



Lag-8 Correlations – Wind

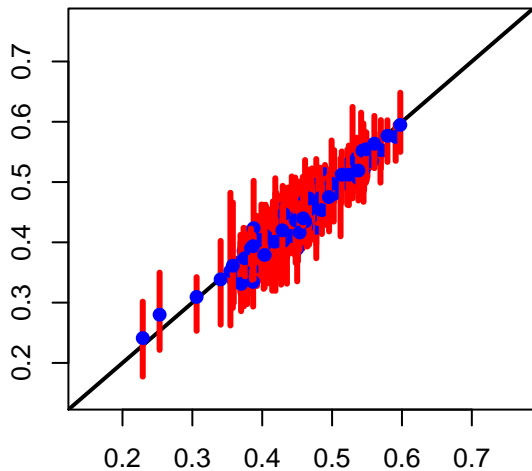


Lag-9 Correlations – Wind



Lag-1 - Wind

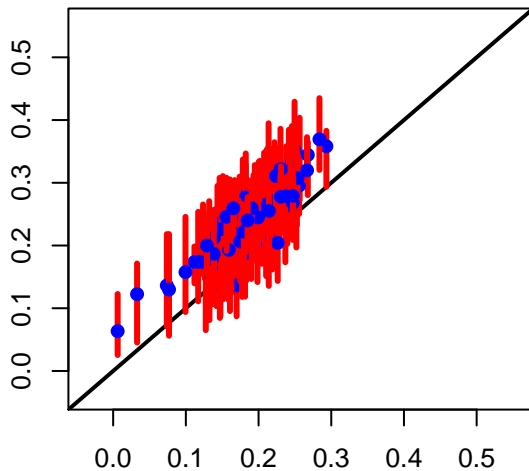
Simulation Correlation



Reanalysis Correlation

Lag-2 - Wind

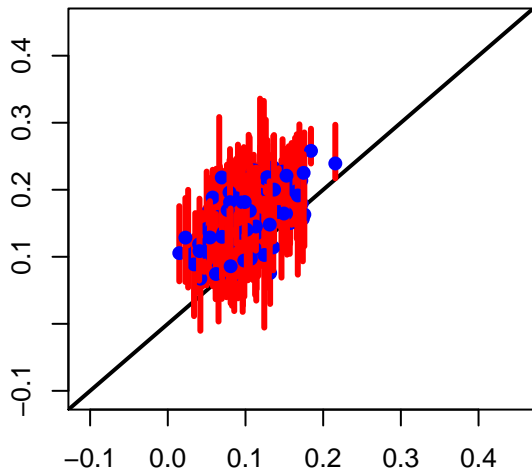
Simulation Correlation



Reanalysis Correlation

Lag-3 - Wind

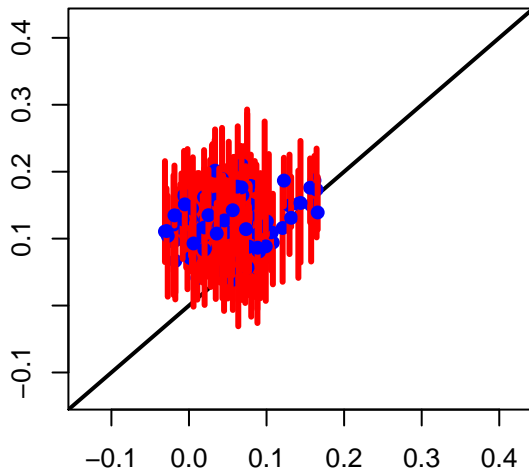
Simulation Correlation



Reanalysis Correlation

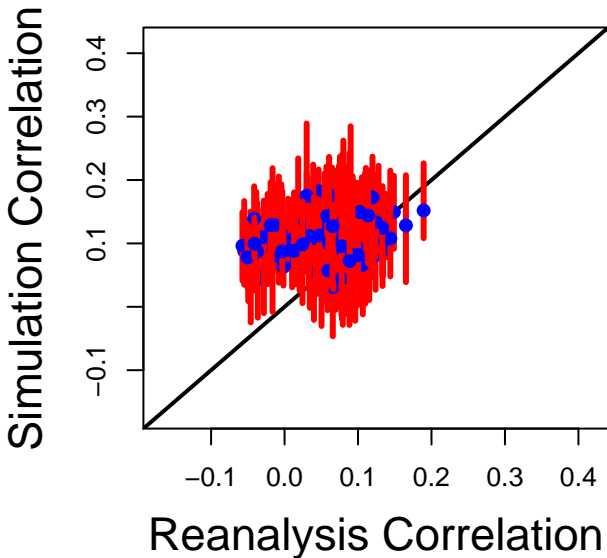
Lag-4 - Wind

Simulation Correlation

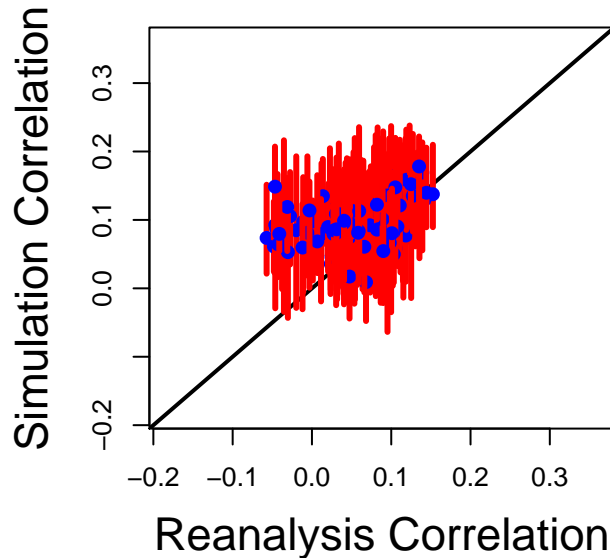


Reanalysis Correlation

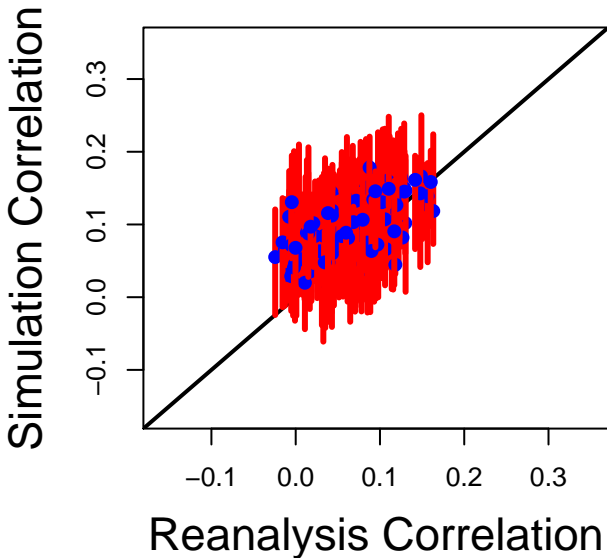
Lag-5 – Wind



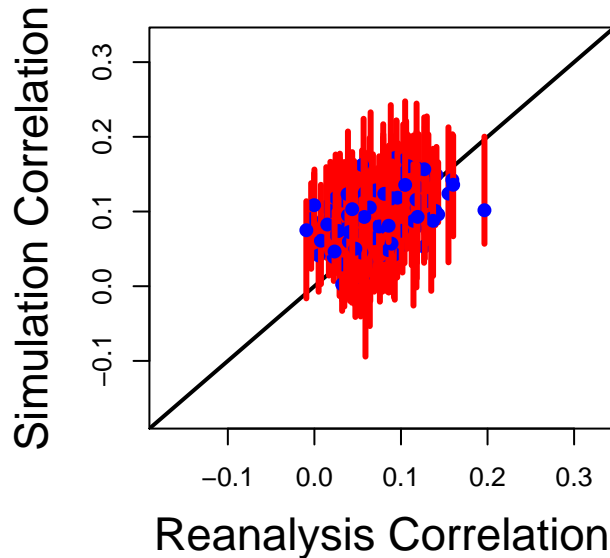
Lag-6 – Wind



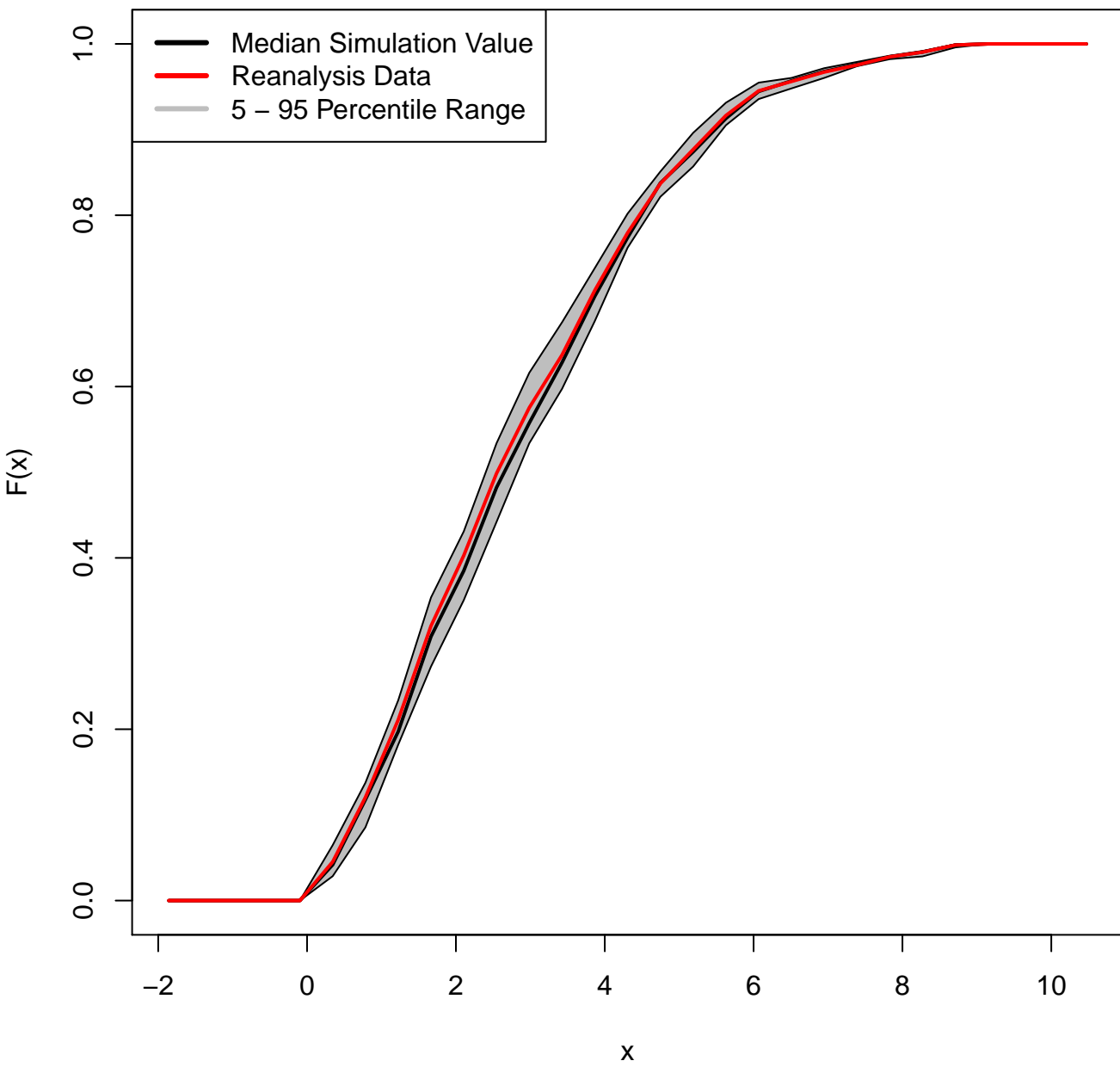
Lag-7 – Wind



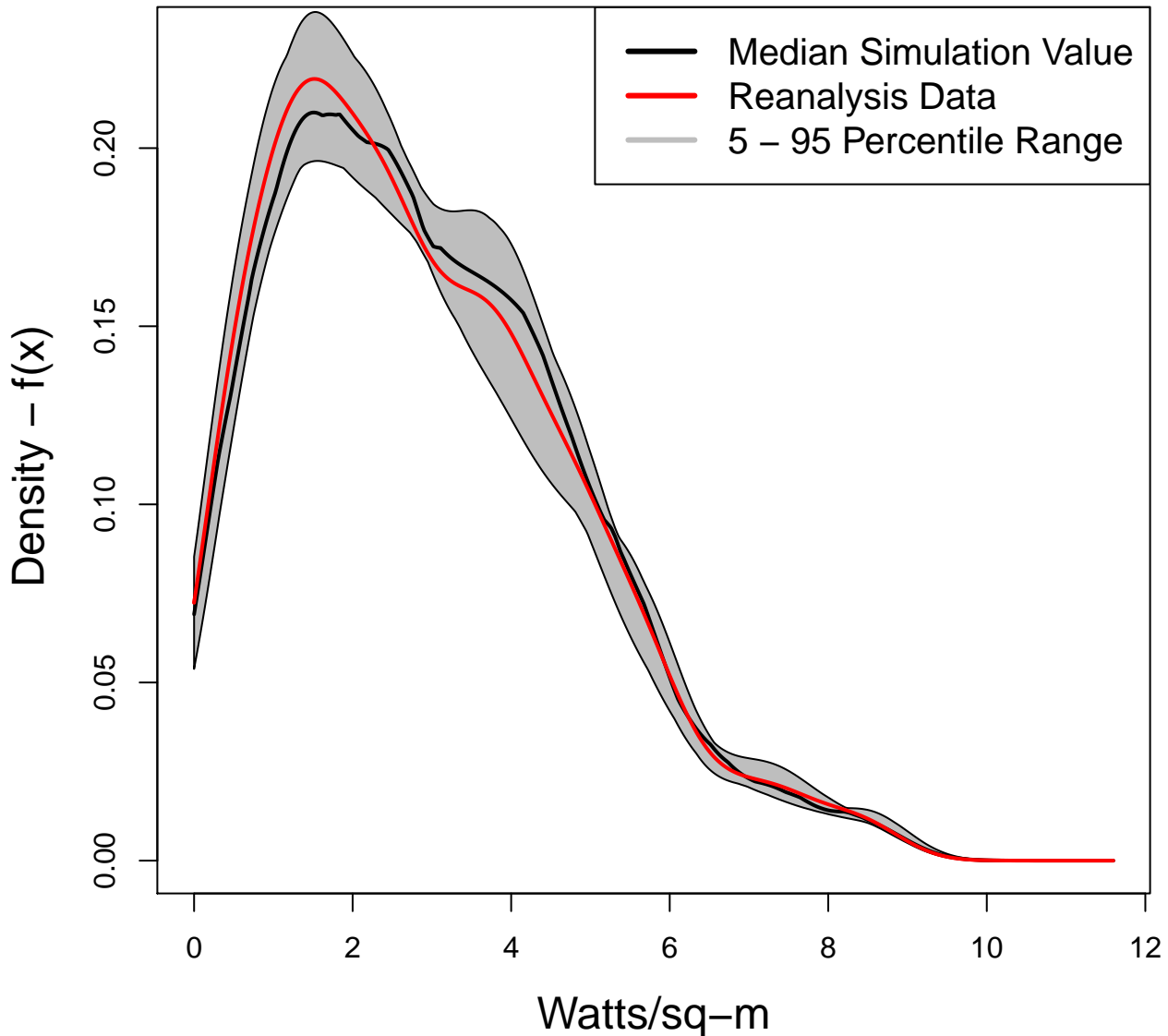
Lag-8 – Wind



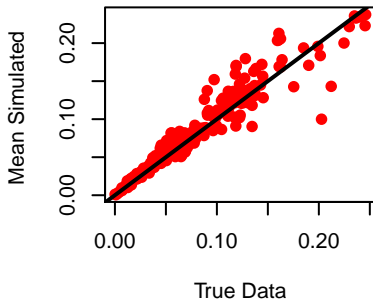
True vs Simulated CDF for Single Site – Wind



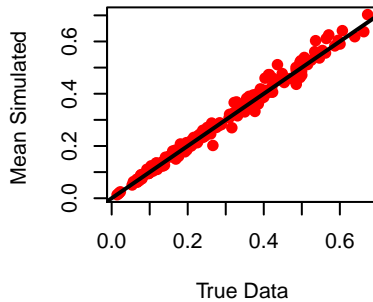
PDF at a single site – Wind



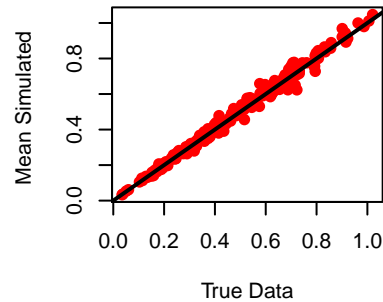
Quantile – 1th – Wind



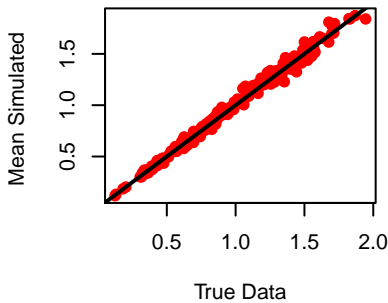
Quantile – 5th – Wind



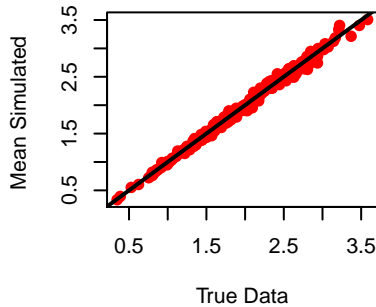
Quantile – 10th – Wind



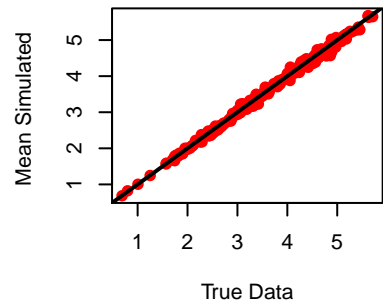
Quantile – 25th – Wind



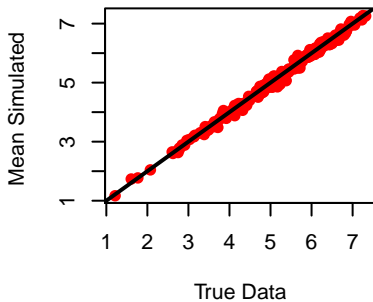
Quantile – 50th – Wind



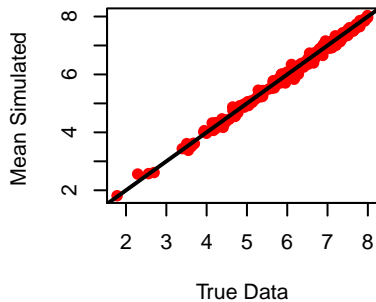
Quantile – 75th – Wind



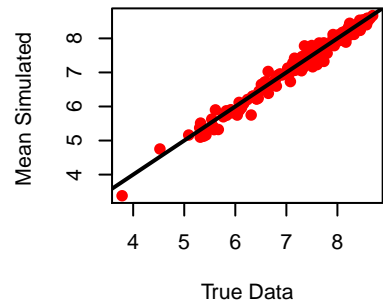
Quantile – 90th – Wind



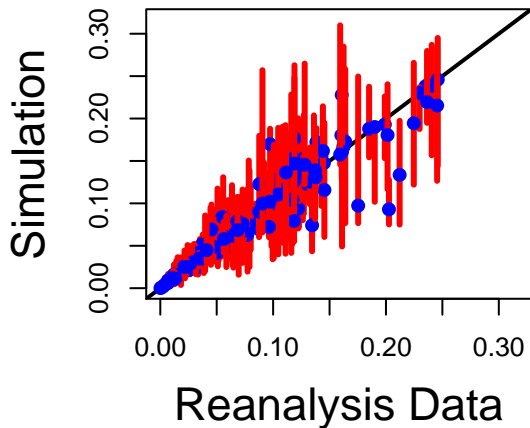
Quantile – 95th – Wind



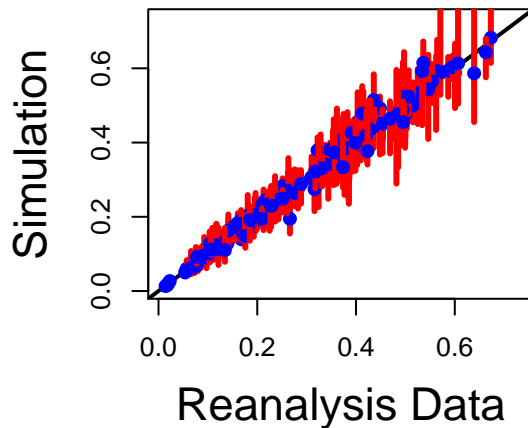
Quantile – 99th – Wind



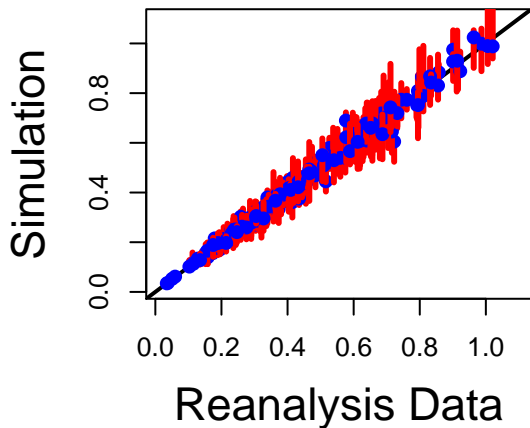
1th Quantile – Wind



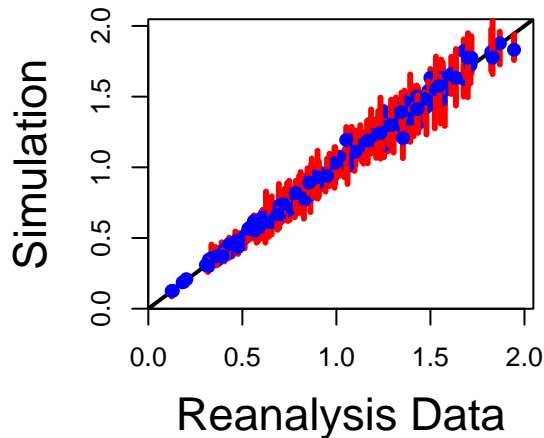
5th Quantile – Wind



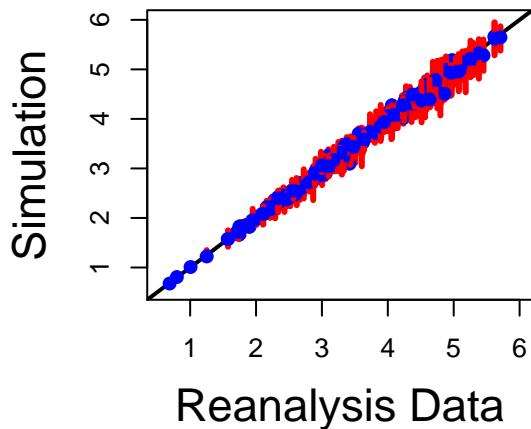
10th Quantile – Wind



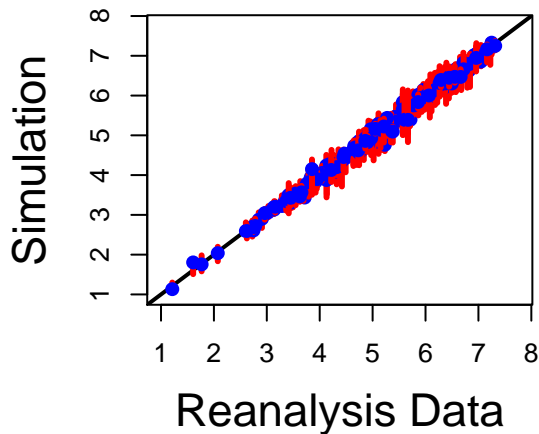
25th Quantile – Wind



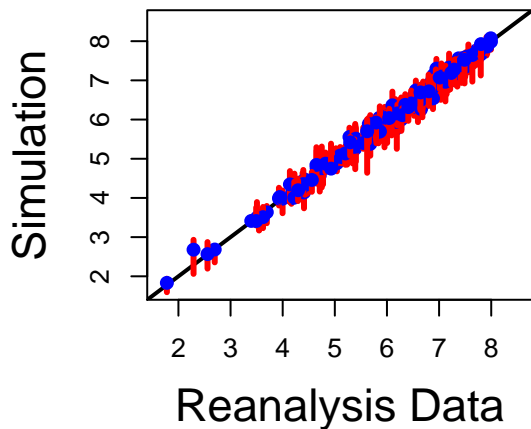
75th Quantile – Wind



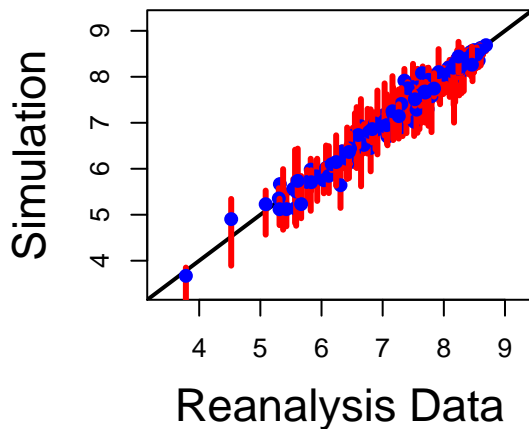
90th Quantile – Wind



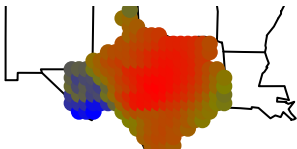
95th Quantile – Wind



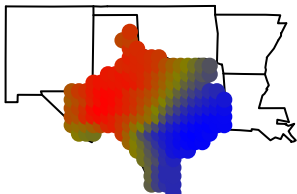
99th Quantile – Wind



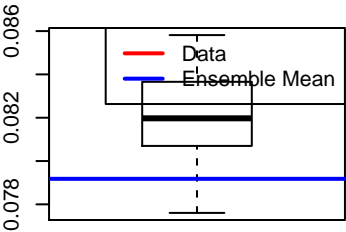
PC-1 – Wind-61%



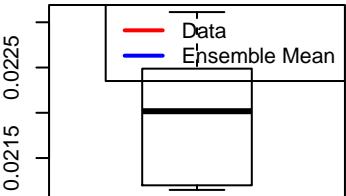
PC-2 – Wind-14%



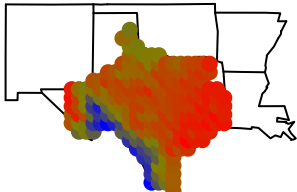
Simulated PC-1 Variance Wind



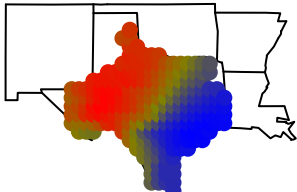
Simulated PC-2 Variance Wind



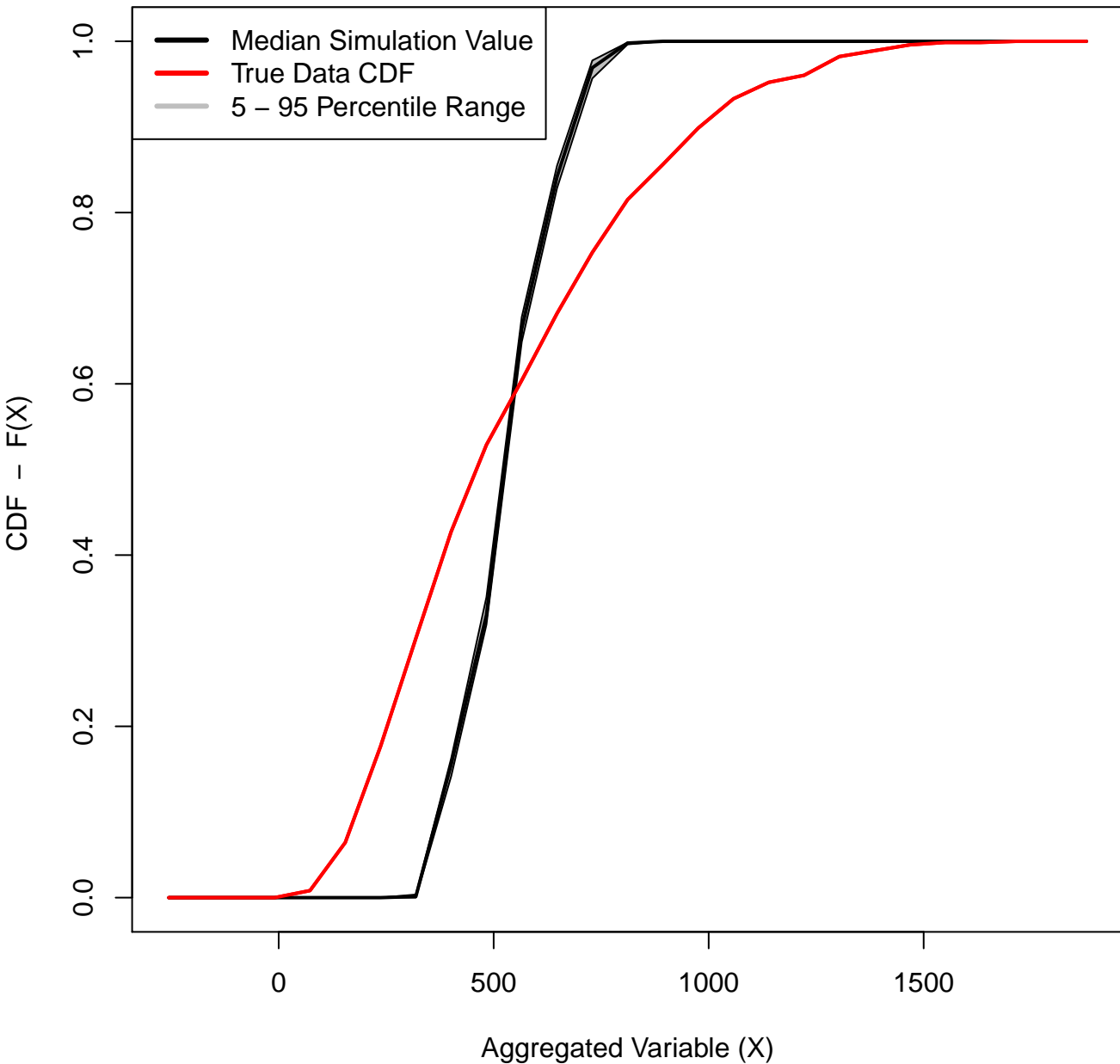
Ensemble Mean PC-1 – Wind-8%



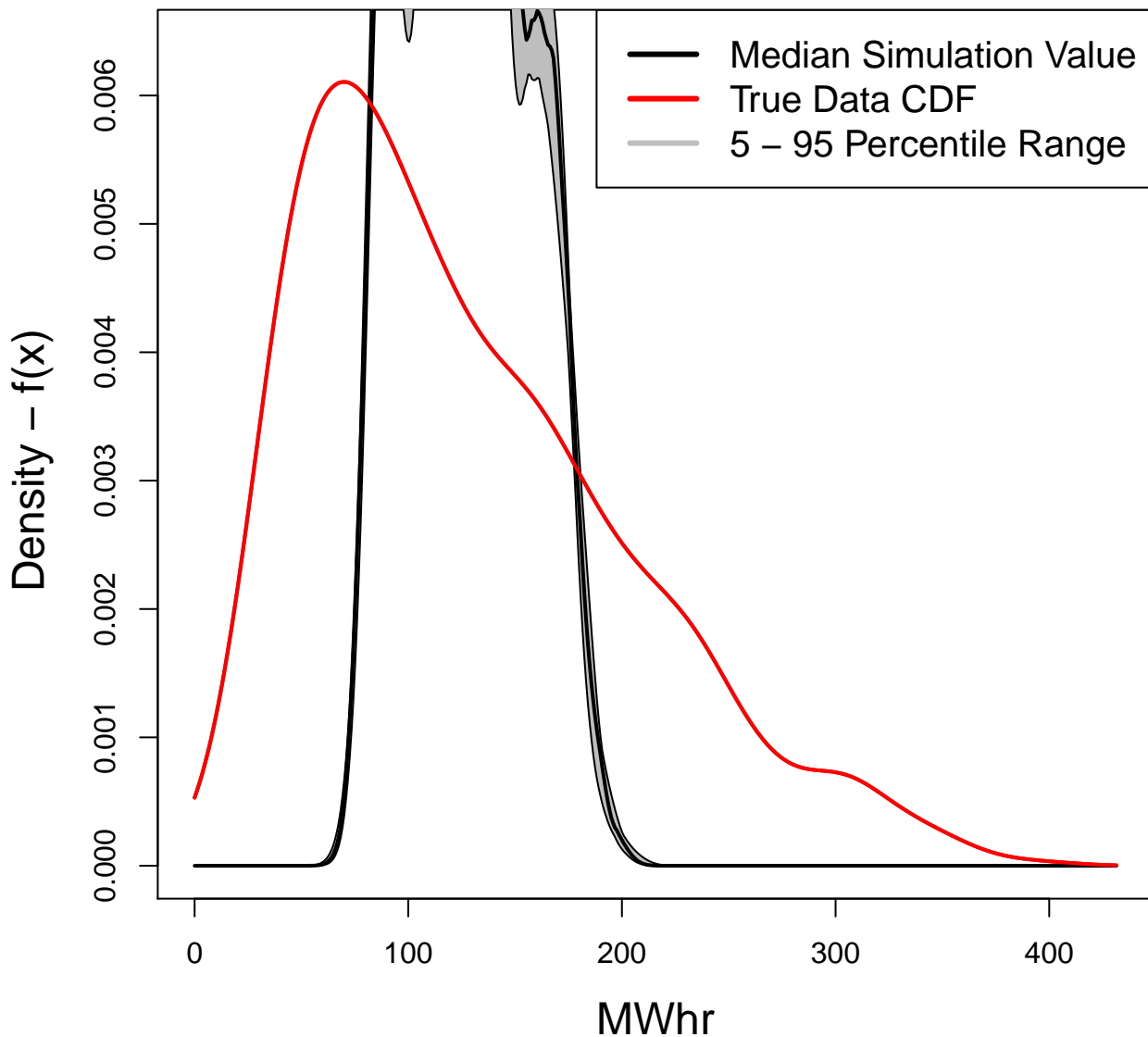
Ensemble Mean PC-2 – Wind-2%

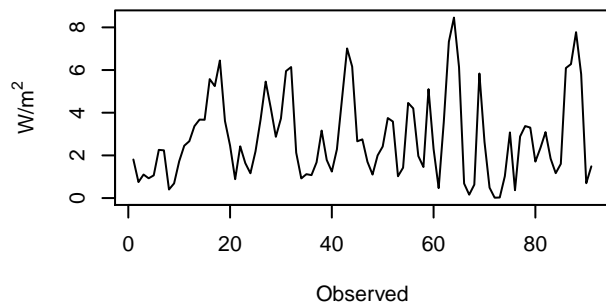
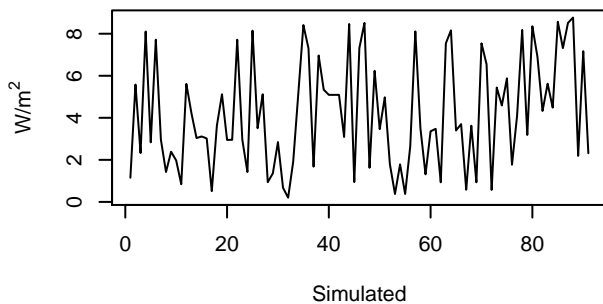
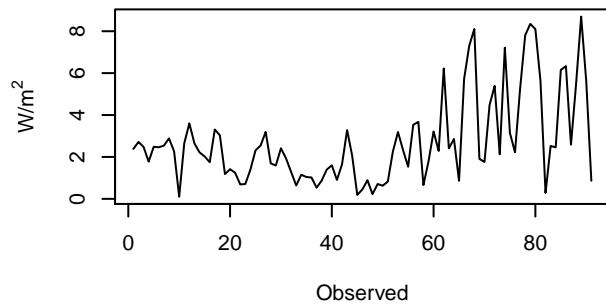
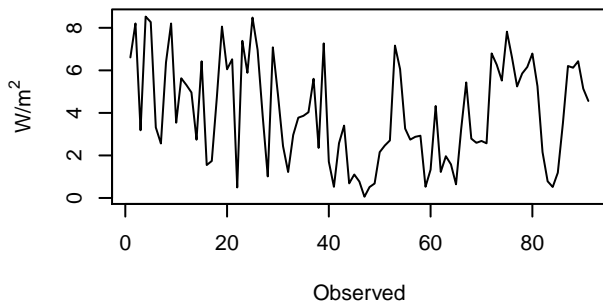
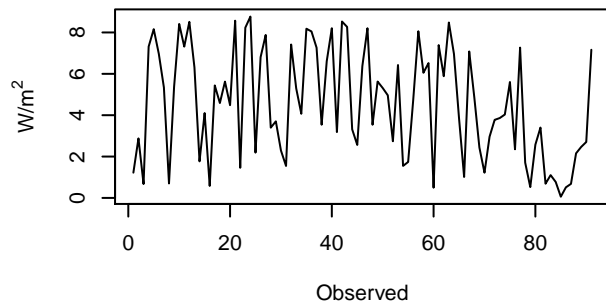
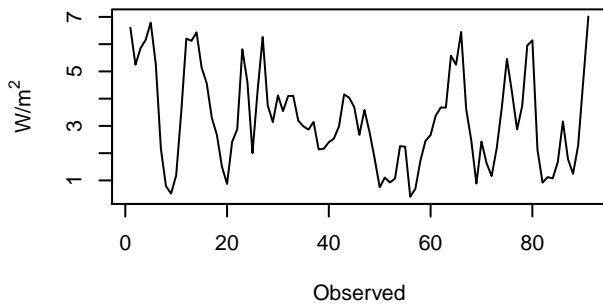


Simulated CDF for Entire Field – Wind

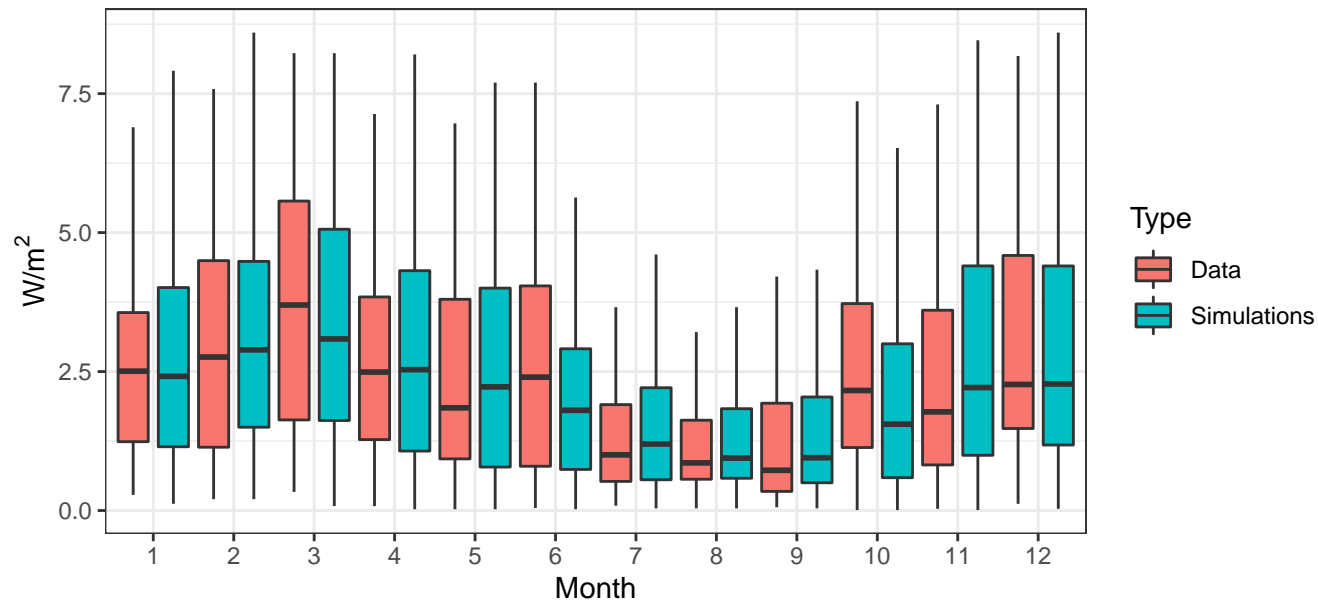


Daily Generation Potential across ERCOT – Wind

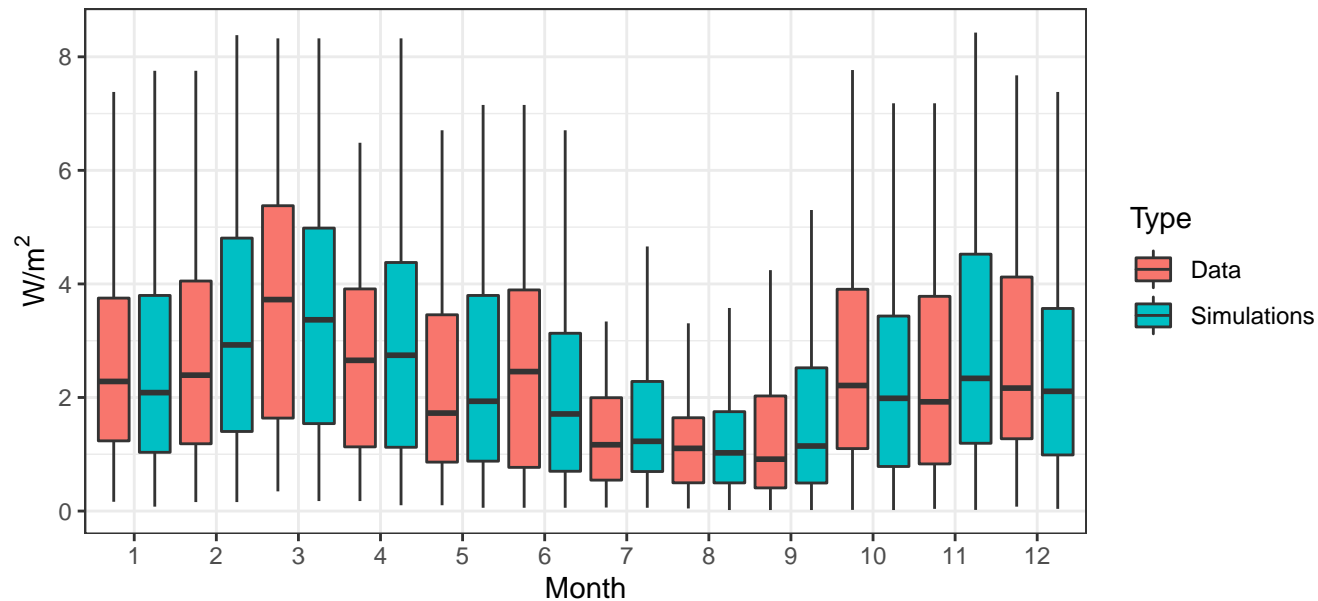




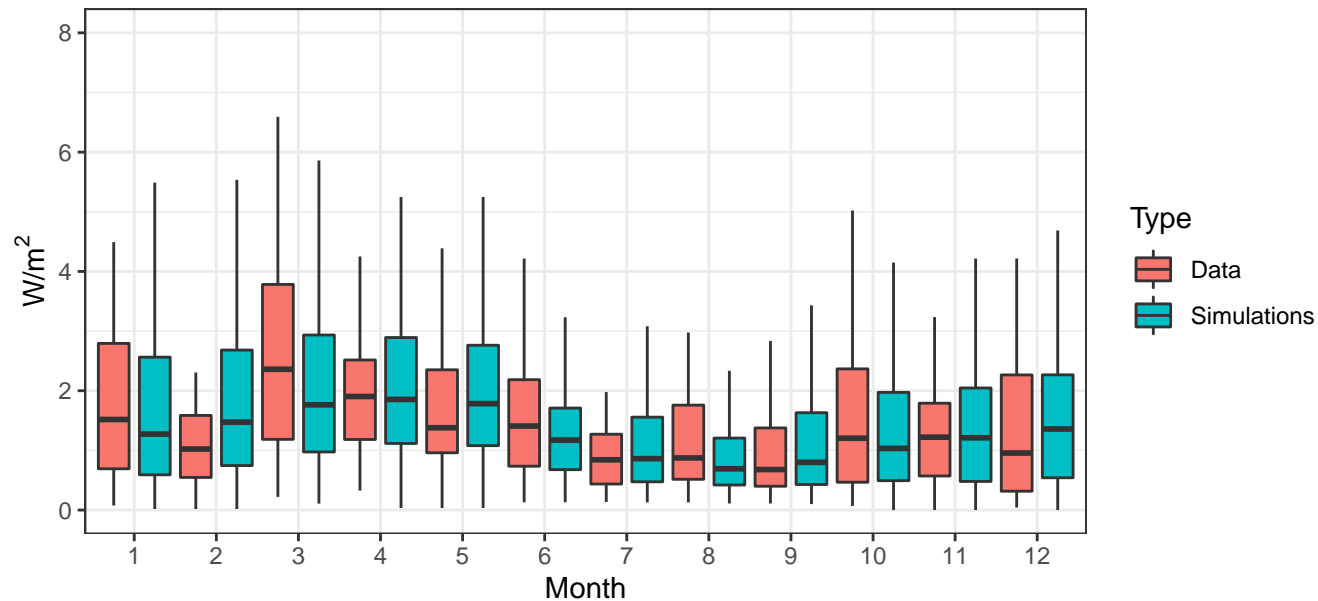
Wind Distribution for Site/Grid – 177



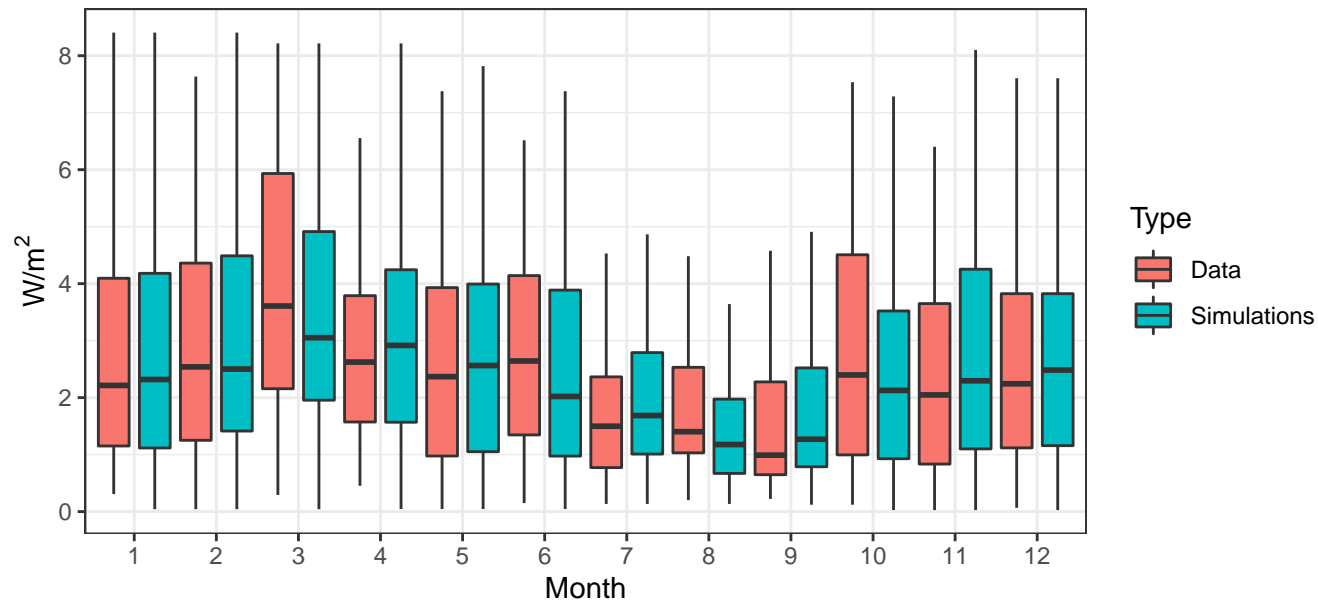
Wind Distribution for Site/Grid – 164



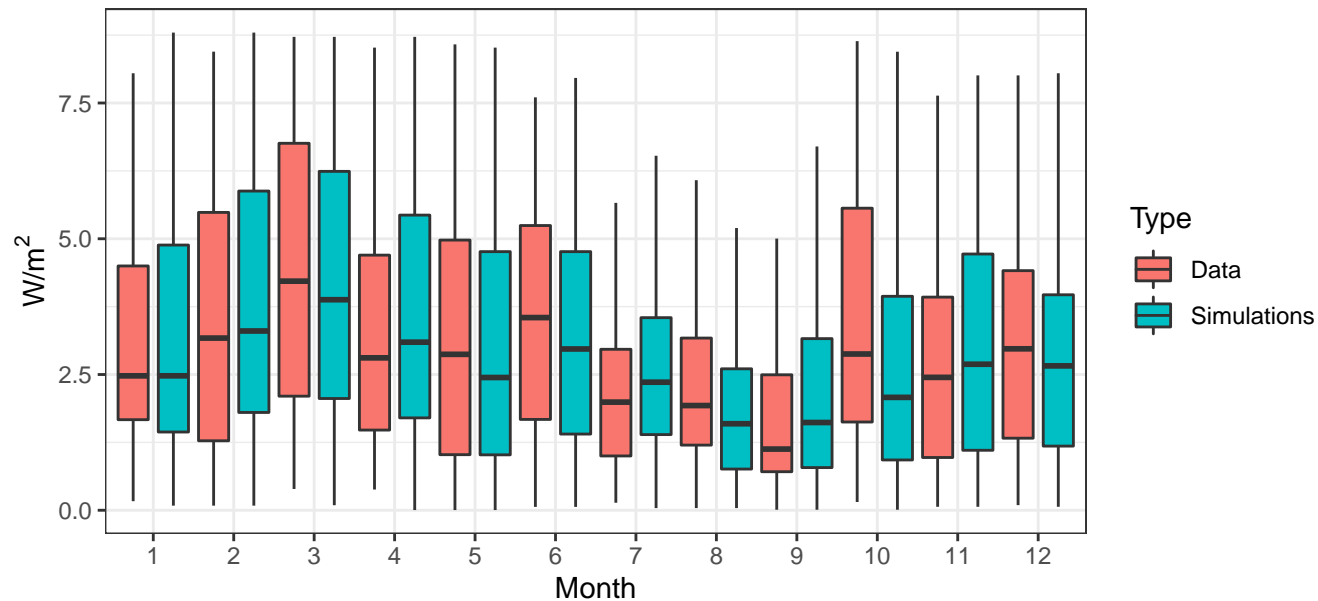
Wind Distribution for Site/Grid – 101



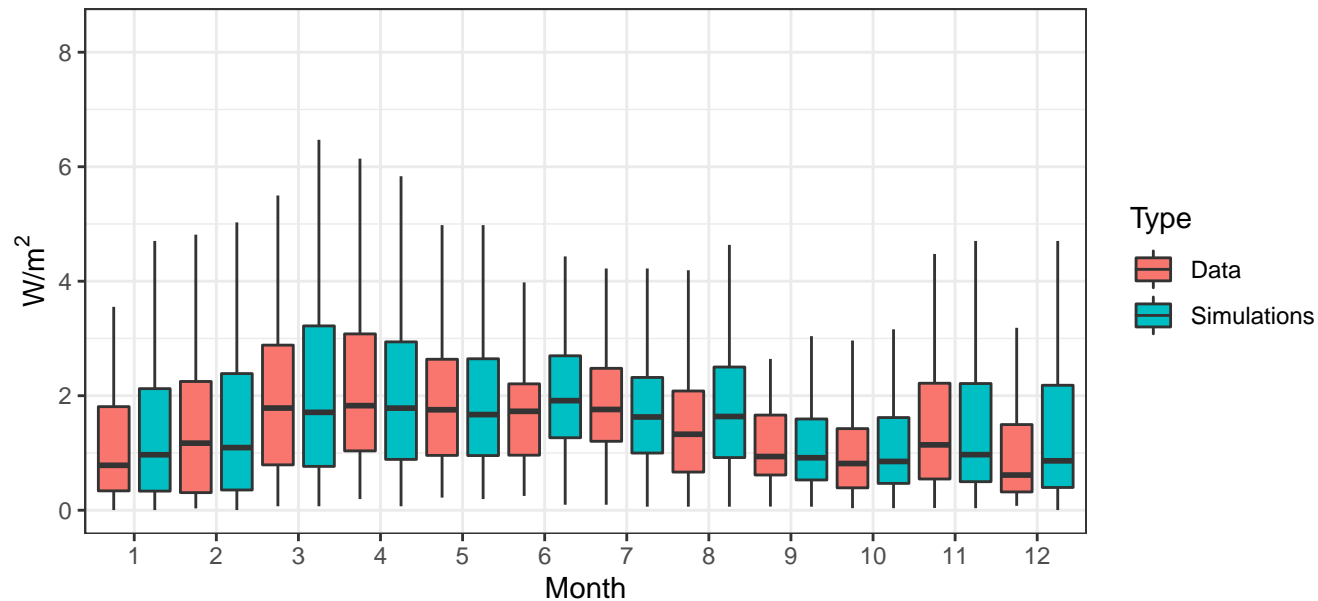
Wind Distribution for Site/Grid – 104



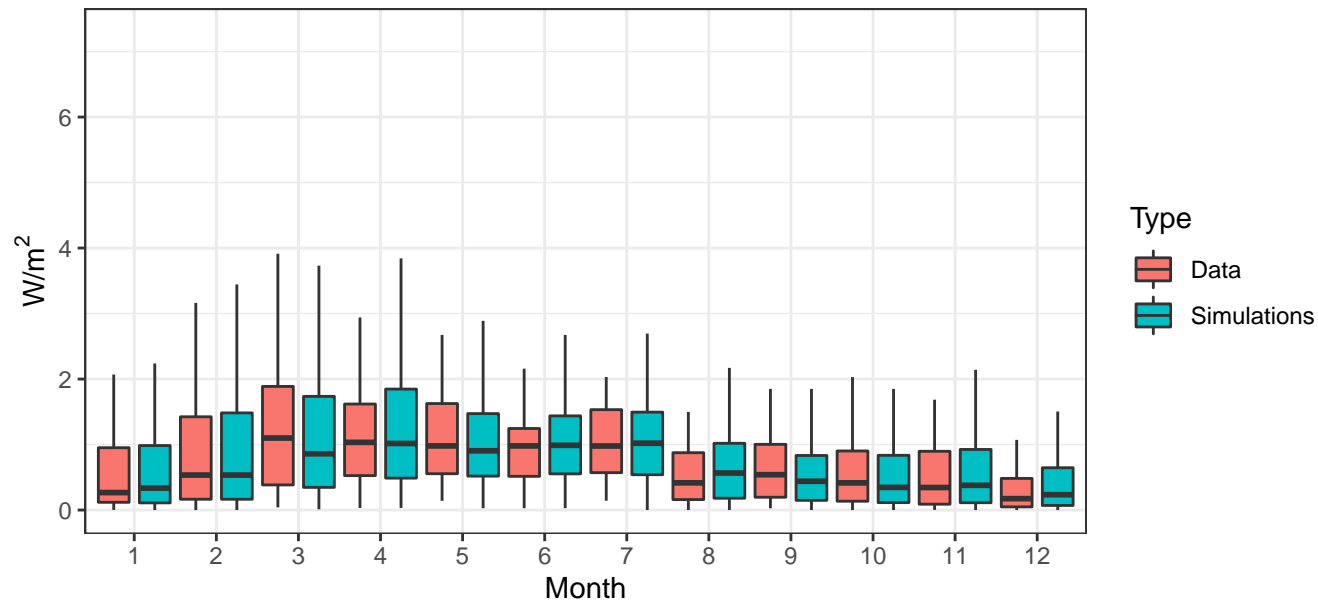
Wind Distribution for Site/Grid – 125



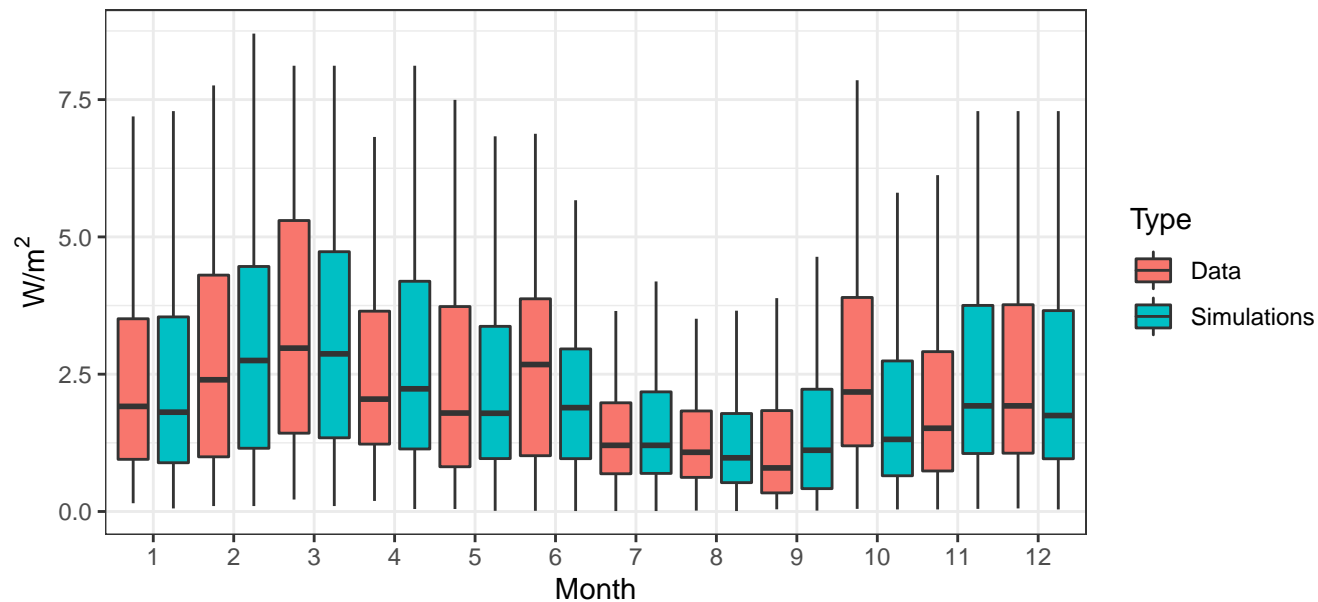
Wind Distribution for Site/Grid – 19



Wind Distribution for Site/Grid – 6

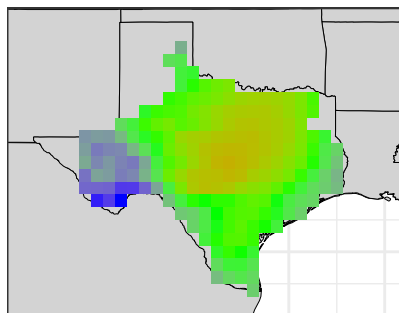


Wind Distribution for Site/Grid – 156

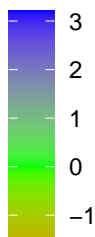


Data PC-1 Wind

Fractional Variance – 61%

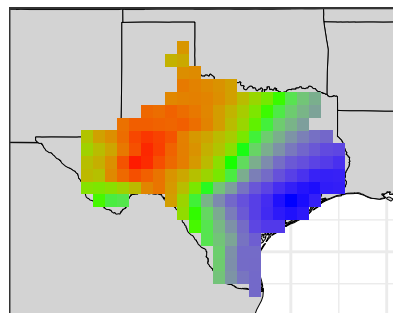


Eigenvectors

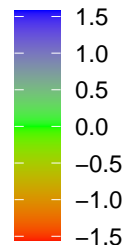


Data PC-1 Wind

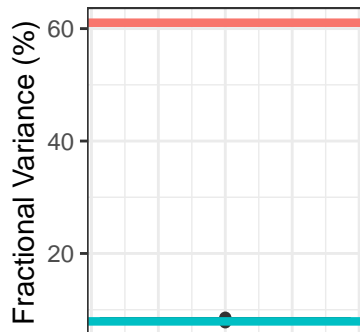
Fractional Variance – 14%



Eigenvectors



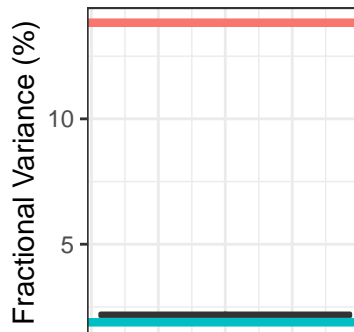
Simulated PC-1 Variance Wind



Type

- Data
- Ensemble Mean

Simulated PC-2 Variance Wind

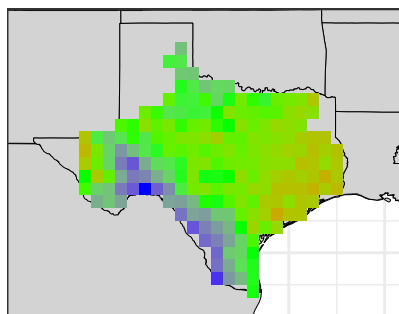


Type

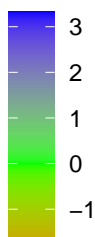
- Data
- Ensemble Mean

Ensemble Mean PC-1 Wind

Fractional Variance – 8%

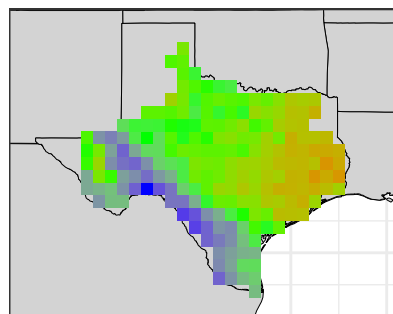


Eigenvectors

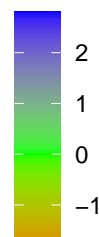


Ensemble Mean PC-2 Wind

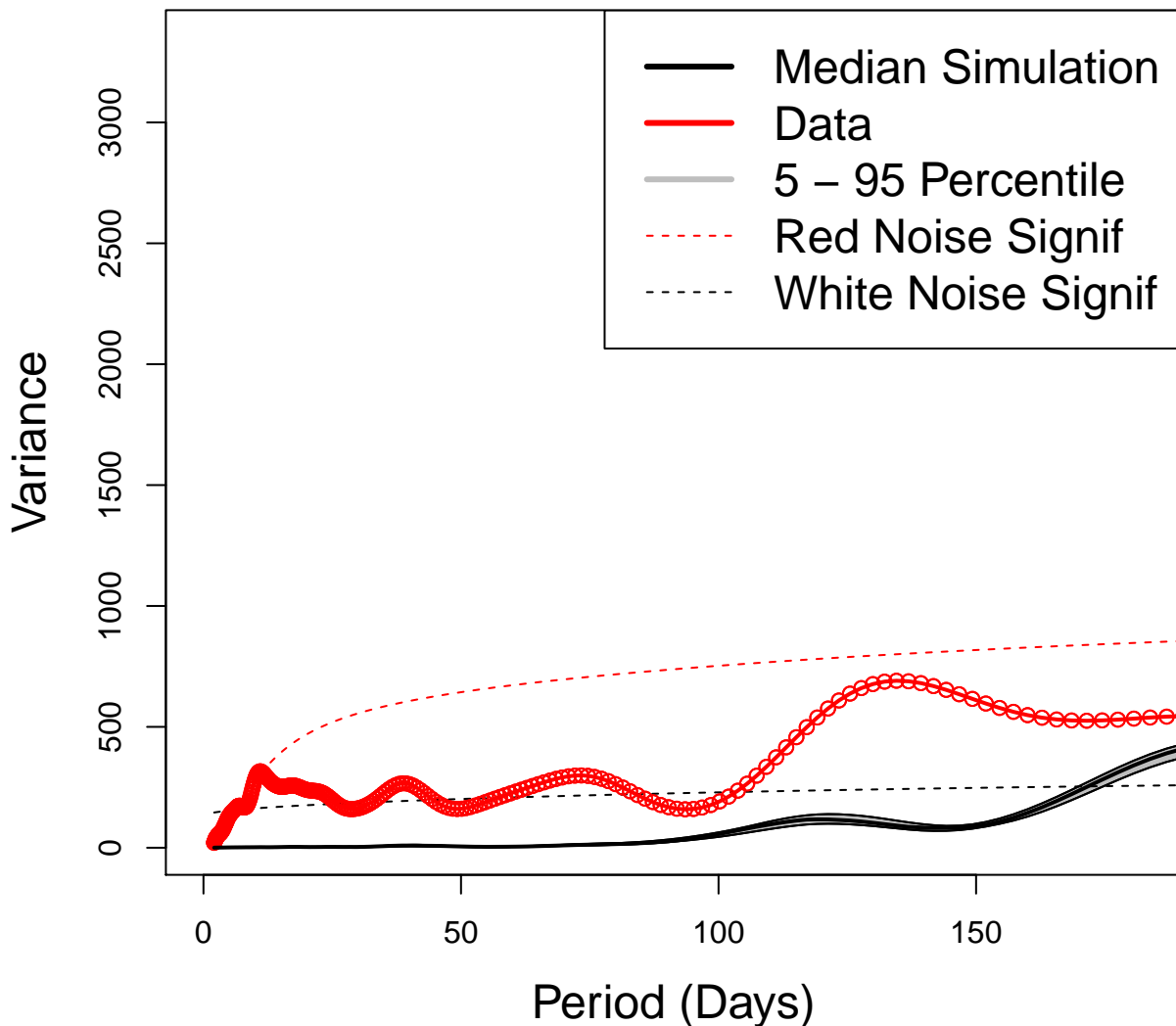
Fractional Variance – 2%



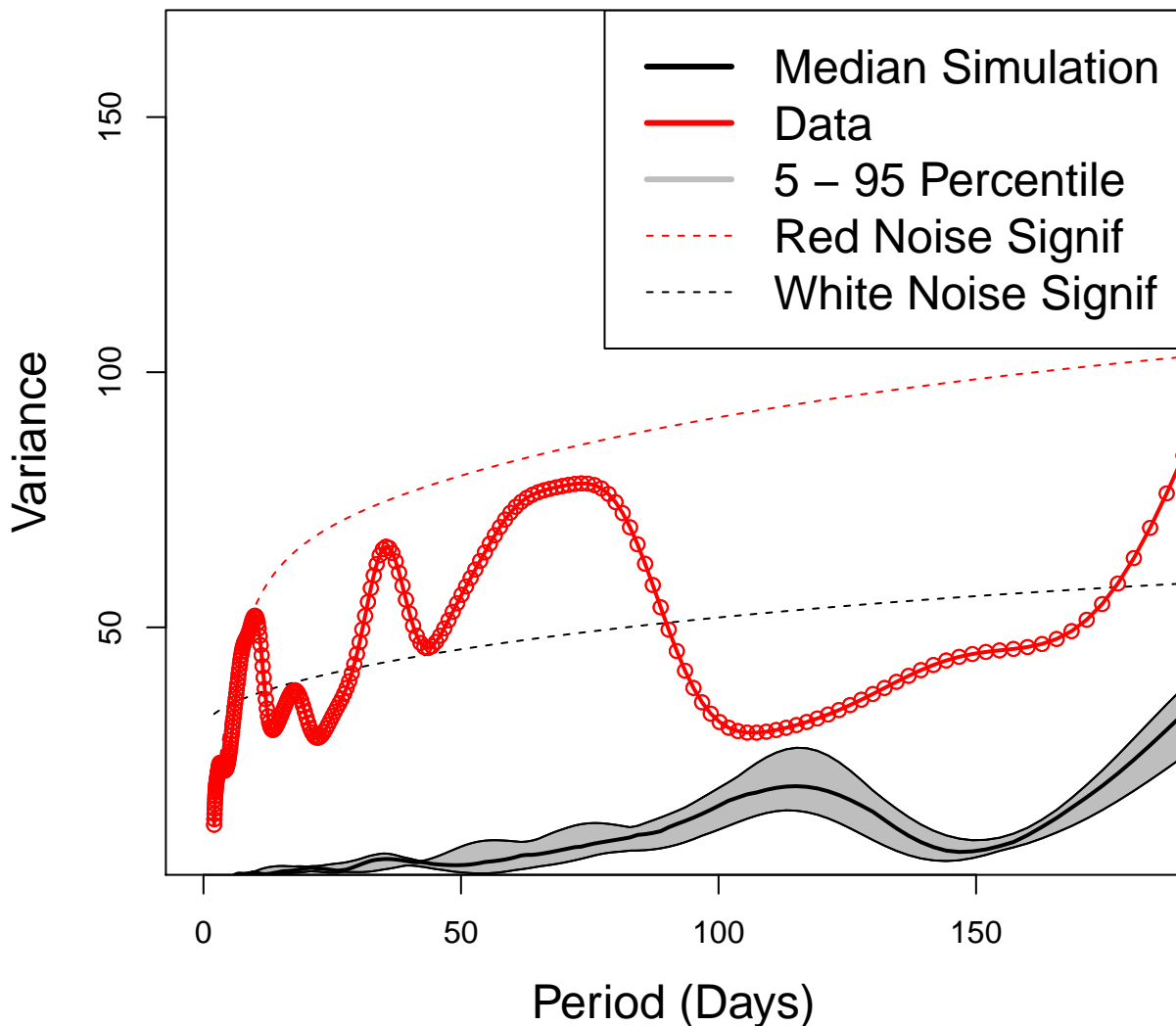
Eigenvectors



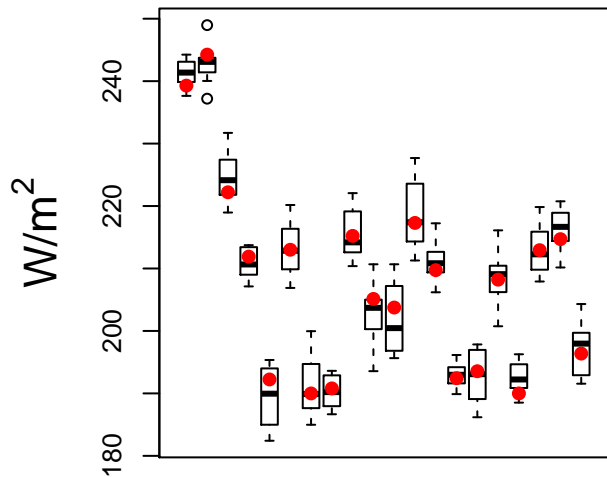
Global Wavelet Spectrum PC – 1 Wind



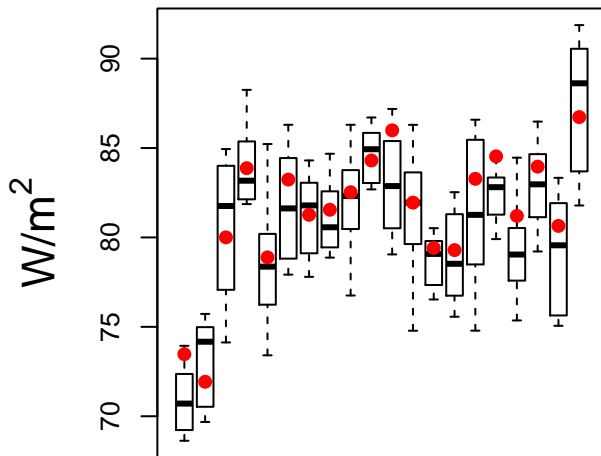
Global Wavelet Spectrum PC – 2 Wind



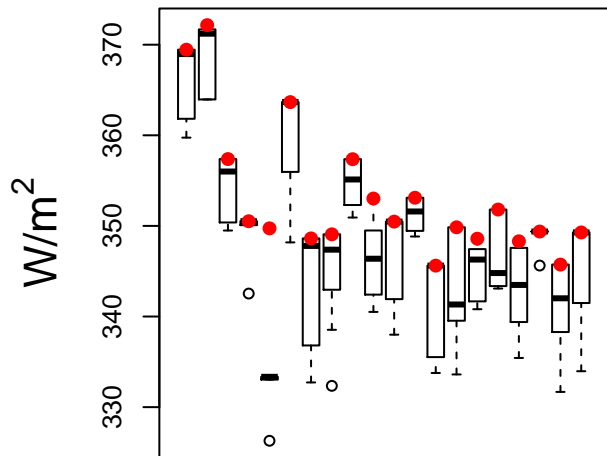
Mean – Solar



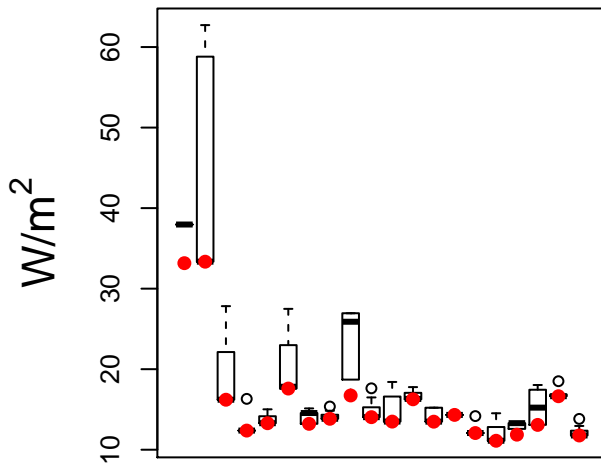
Stan Dev – Solar



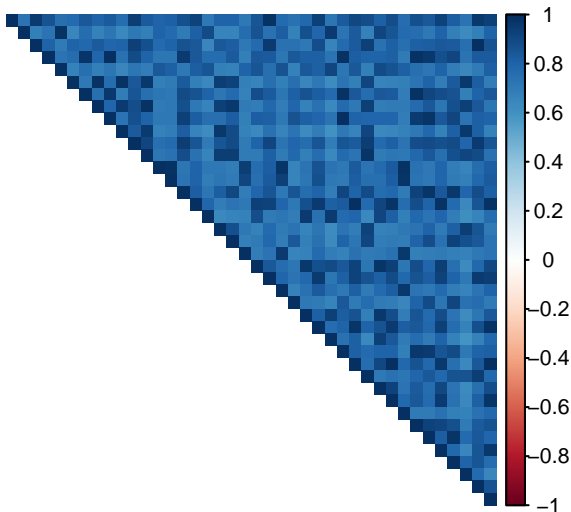
Maximum – Solar



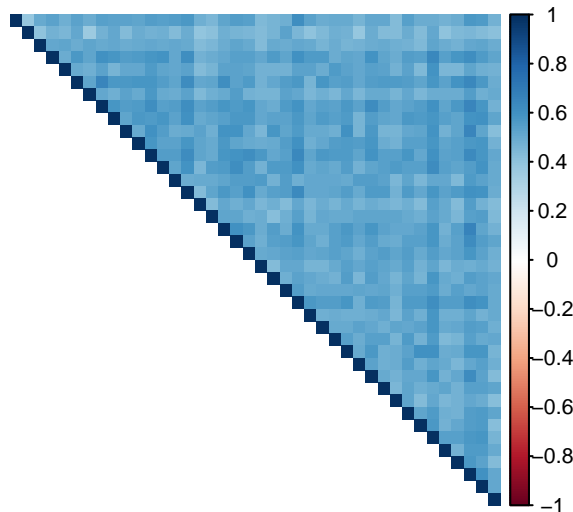
Minimum – Solar



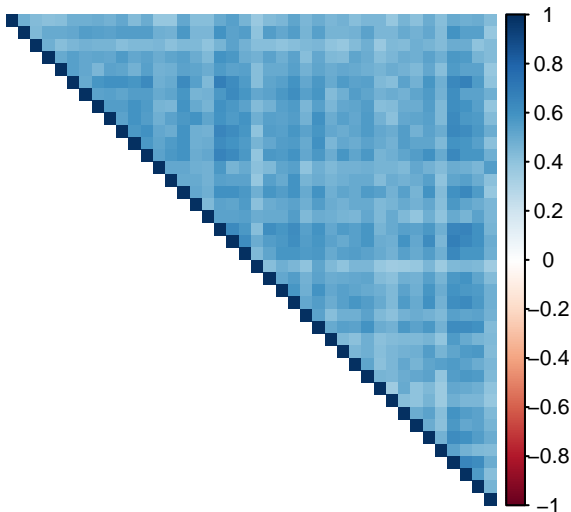
**Cross Correlation
Data**



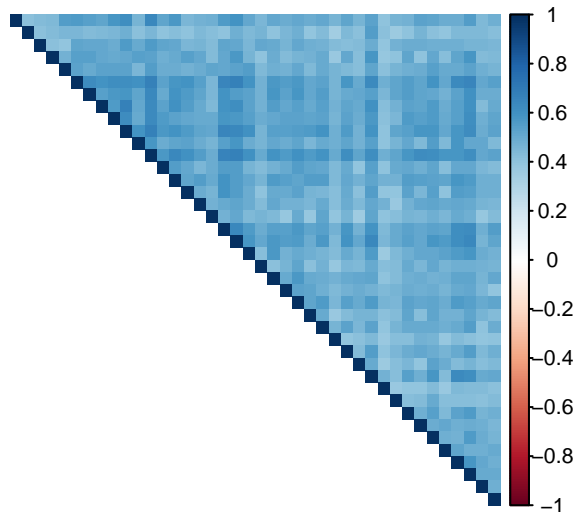
**Cross Correlation
Simulation Run – 6**



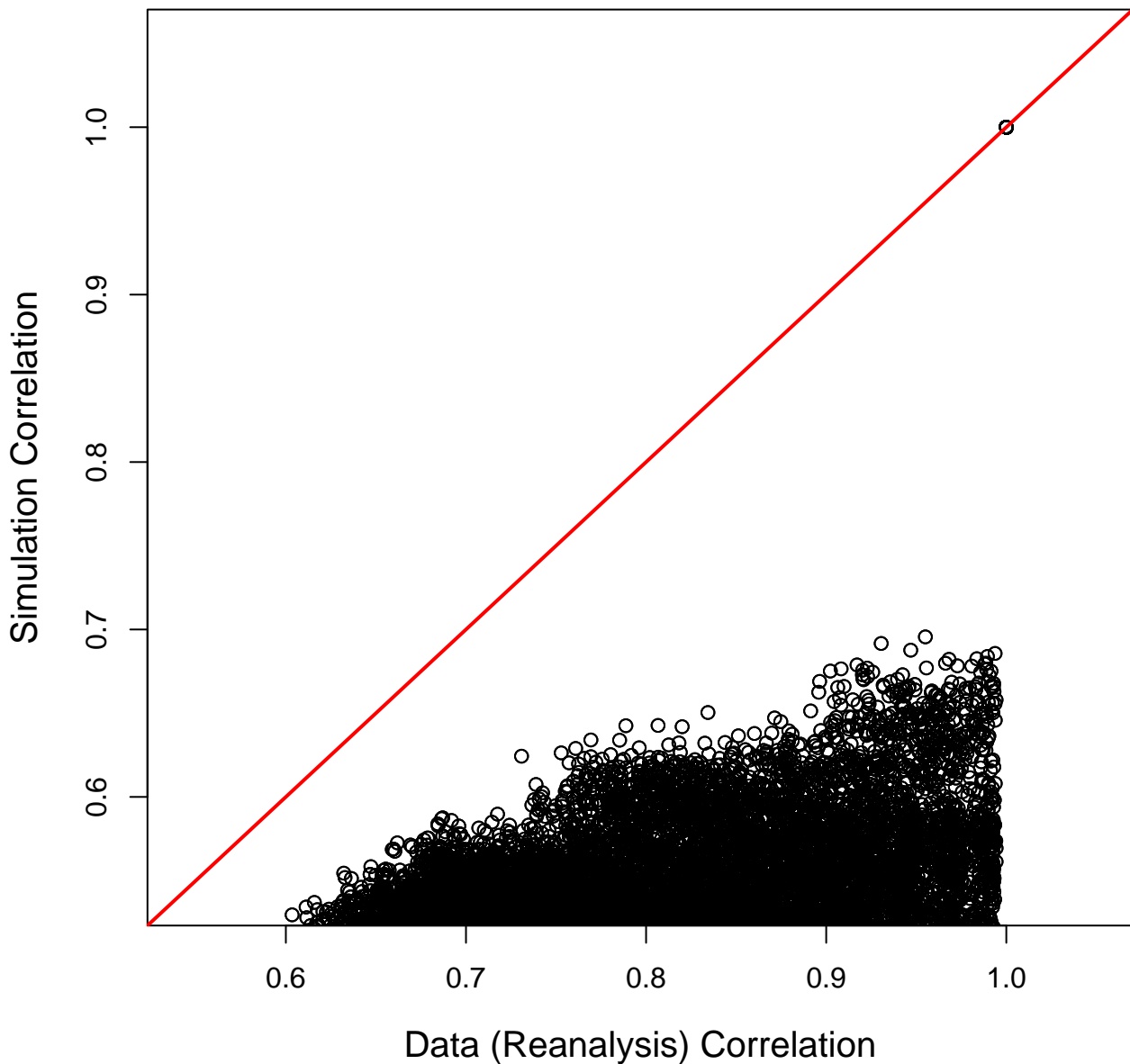
**Cross Correlation
Simulation Run – 8**



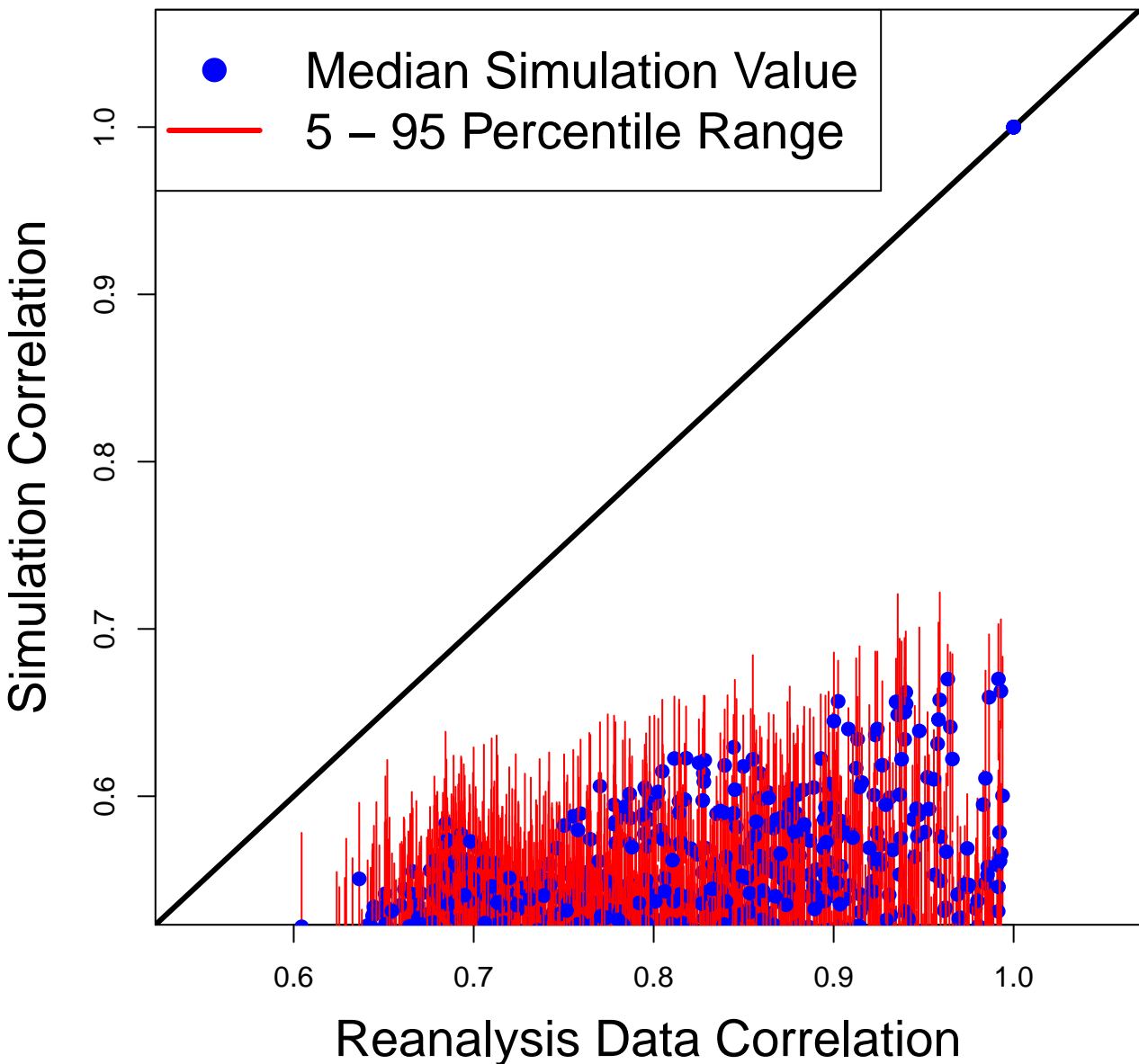
**Cross Correlation
Simulation Run – 7**



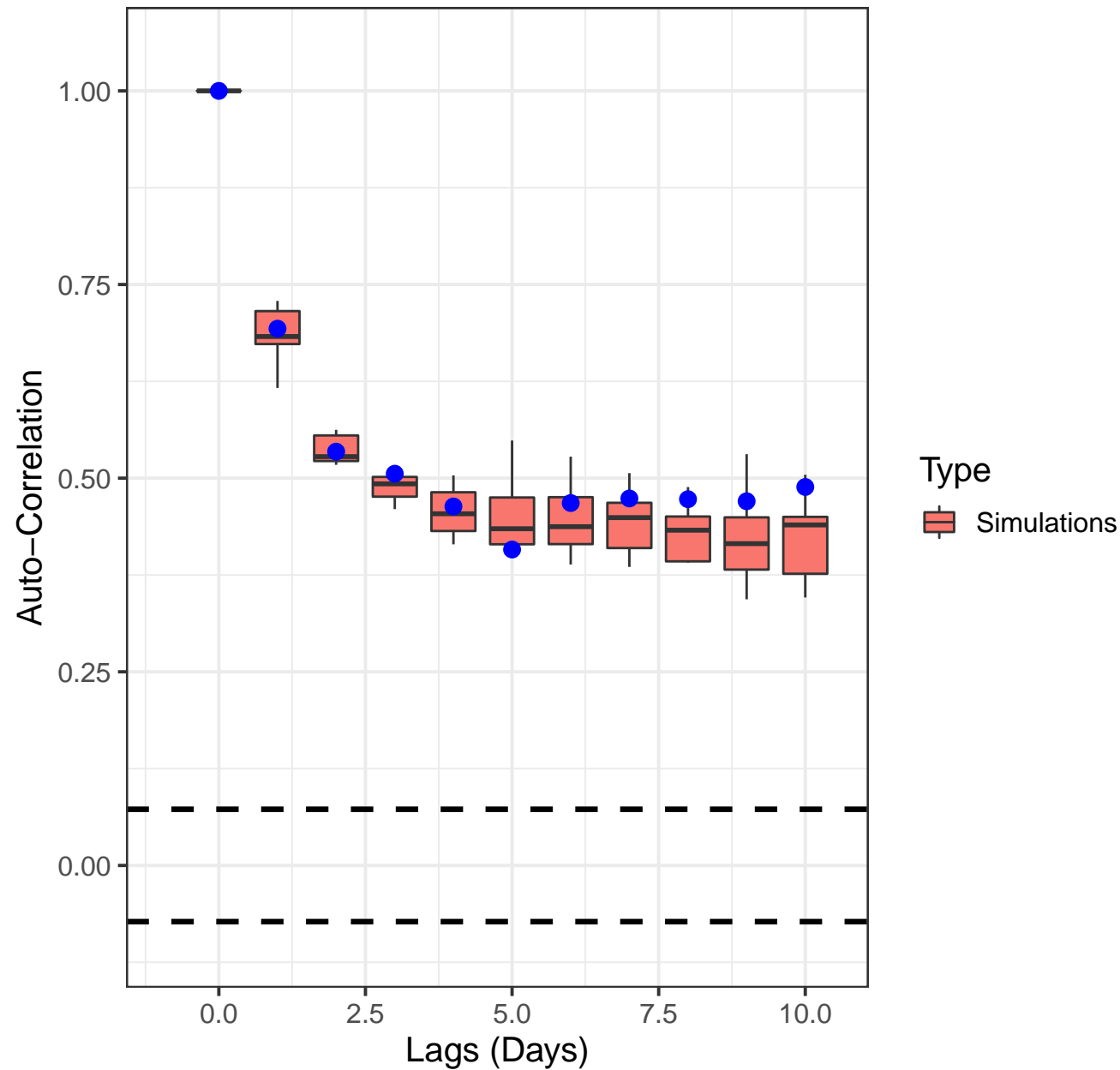
Cross Site Correlations – Solar



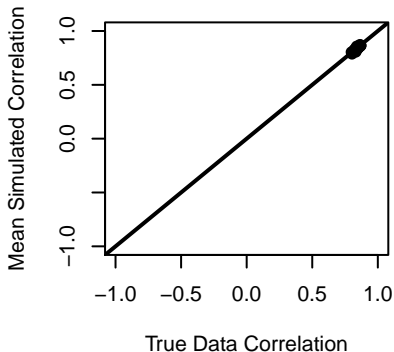
Cross Site Correlations – Solar



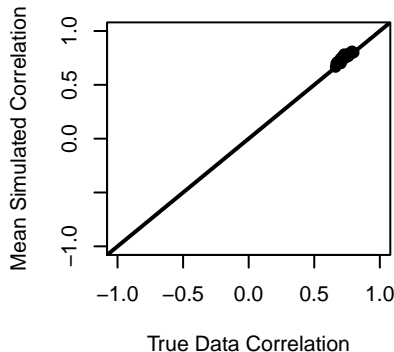
ACF – Single Random Site – Solar



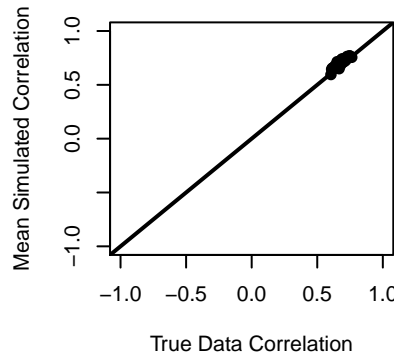
Lag-1 Correlations – Solar



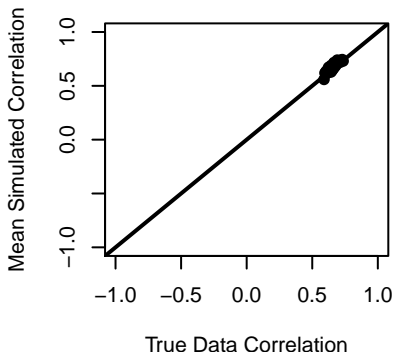
Lag-2 Correlations – Solar



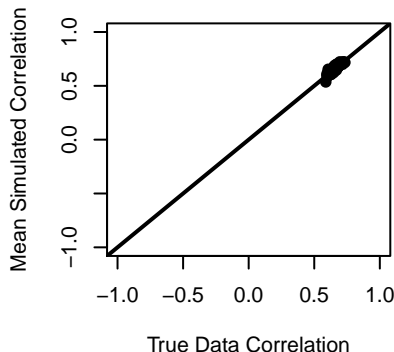
Lag-3 Correlations – Solar



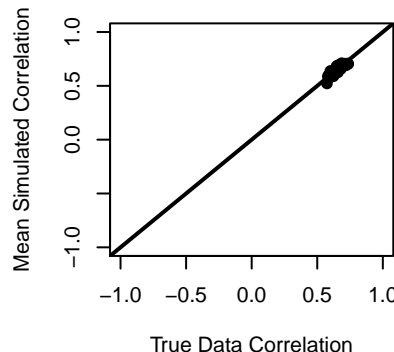
Lag-4 Correlations – Solar



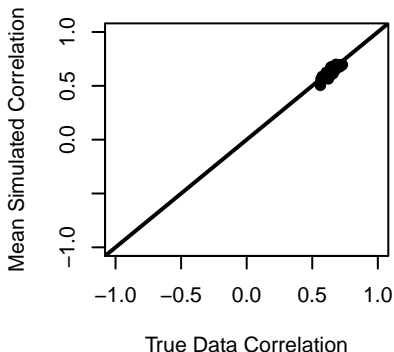
Lag-5 Correlations – Solar



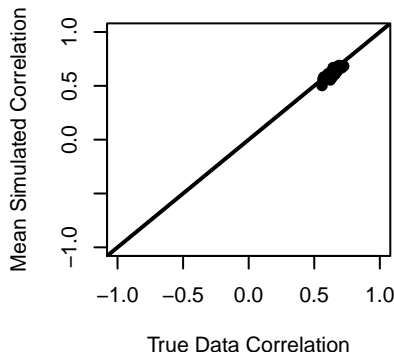
Lag-6 Correlations – Solar



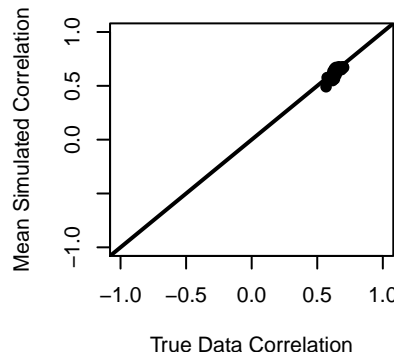
Lag-7 Correlations – Solar



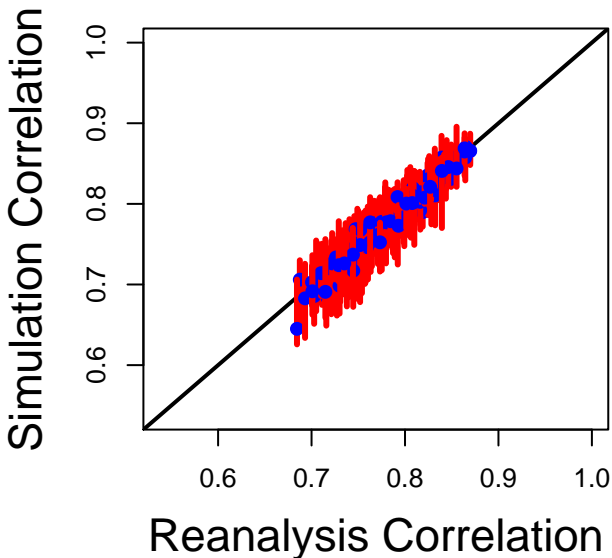
Lag-8 Correlations – Solar



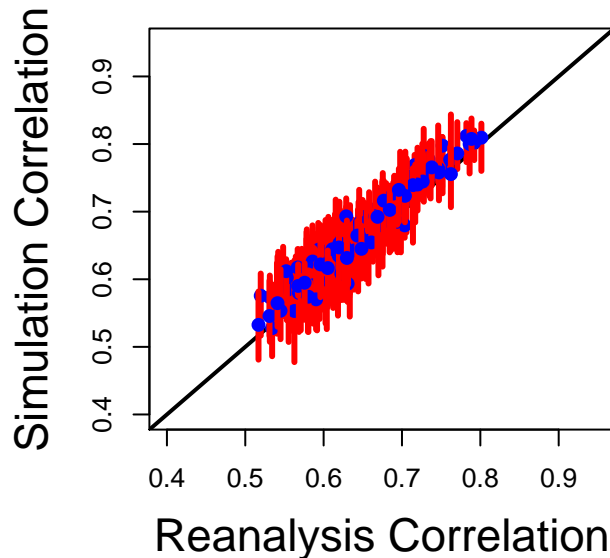
Lag-9 Correlations – Solar



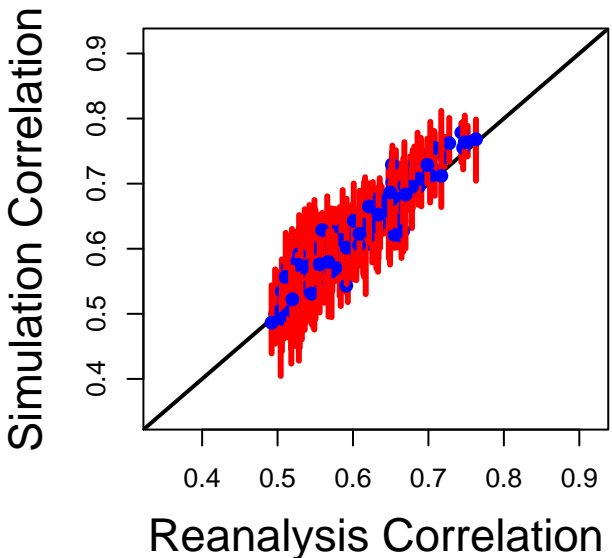
Lag-1 - Solar



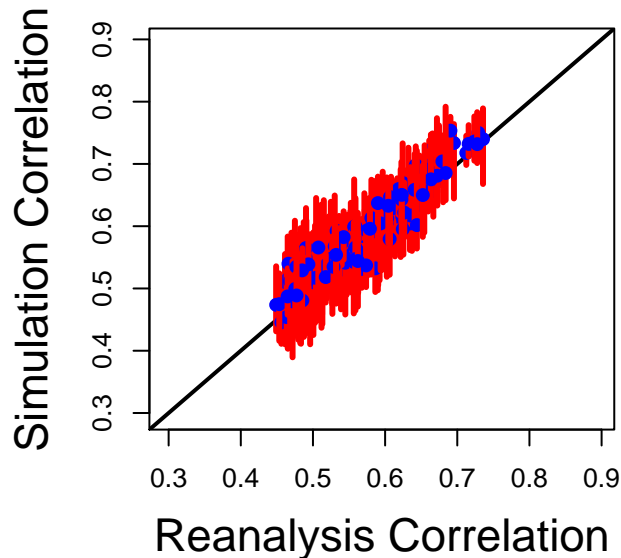
Lag-2 - Solar



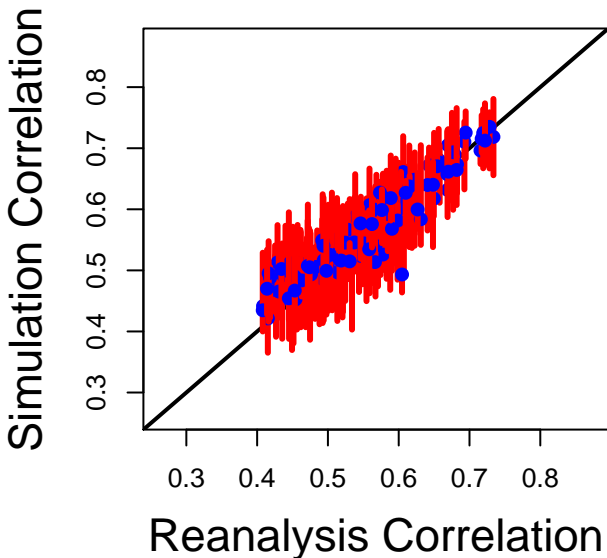
Lag-3 - Solar



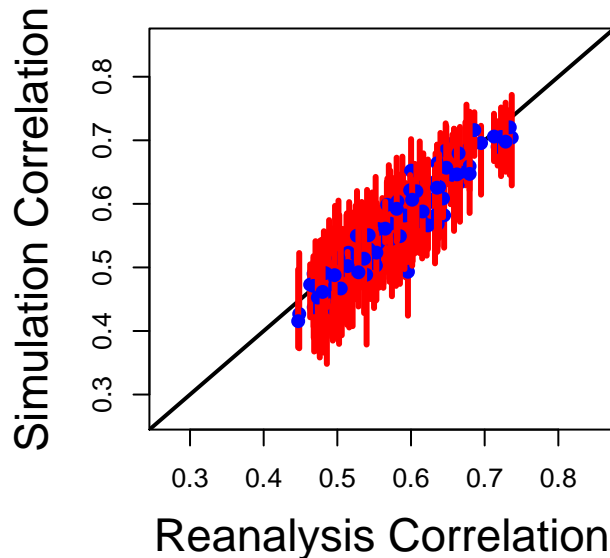
Lag-4 - Solar



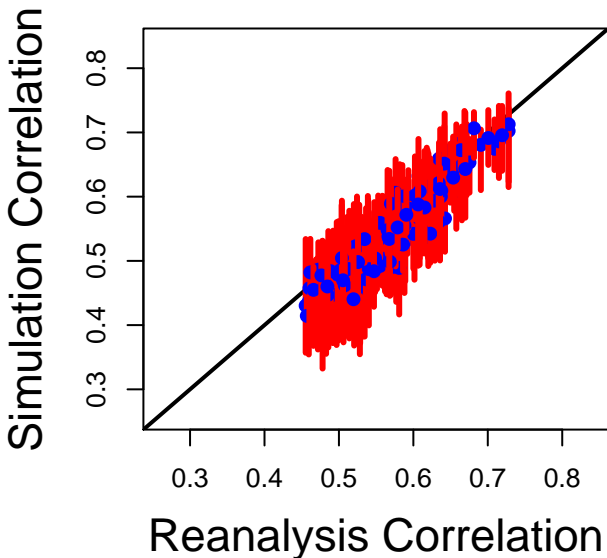
Lag-5 - Solar



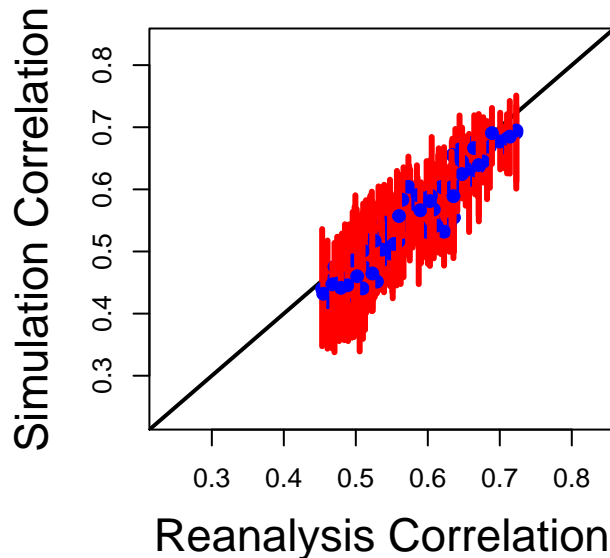
Lag-6 - Solar



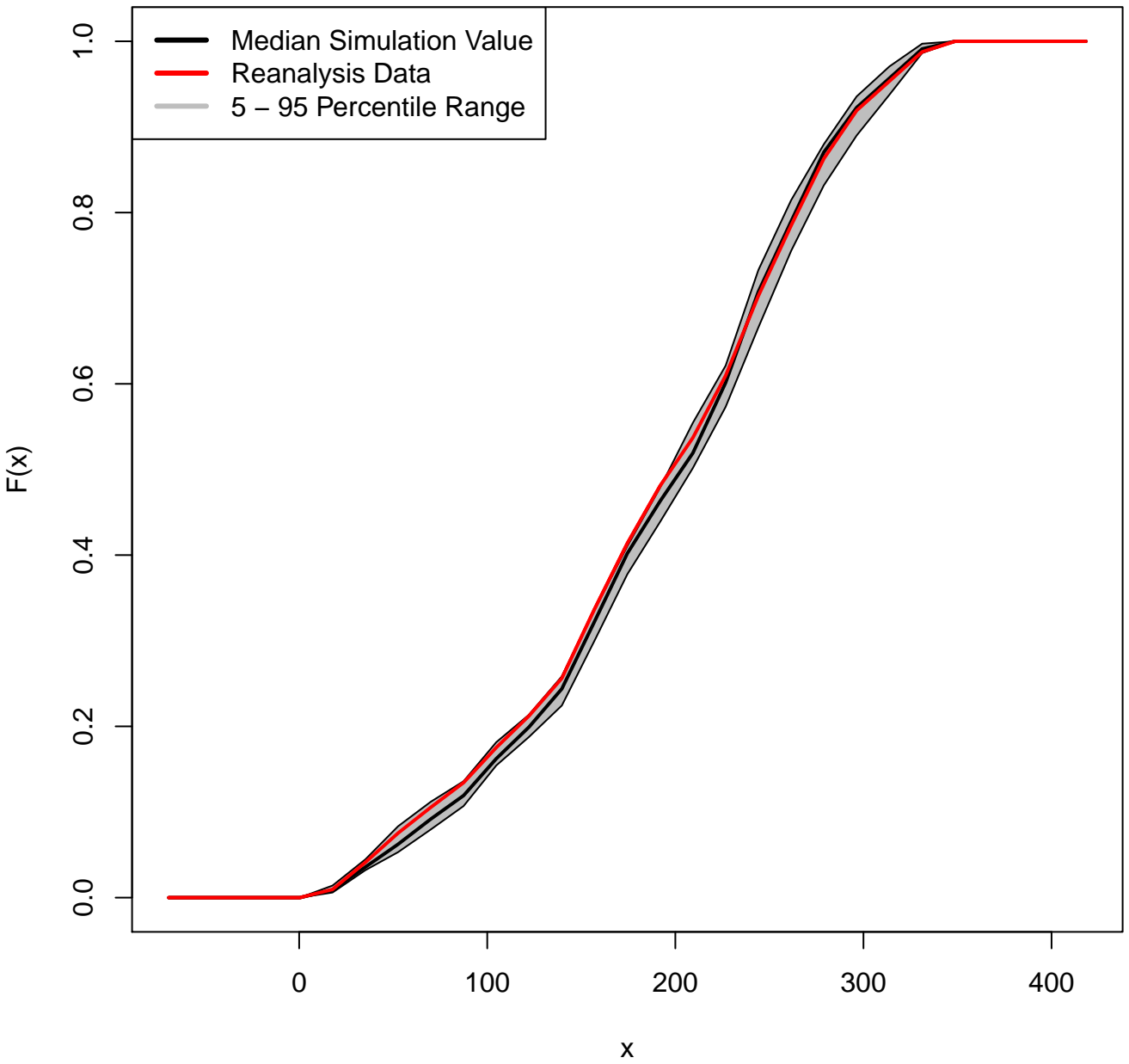
Lag-7 - Solar



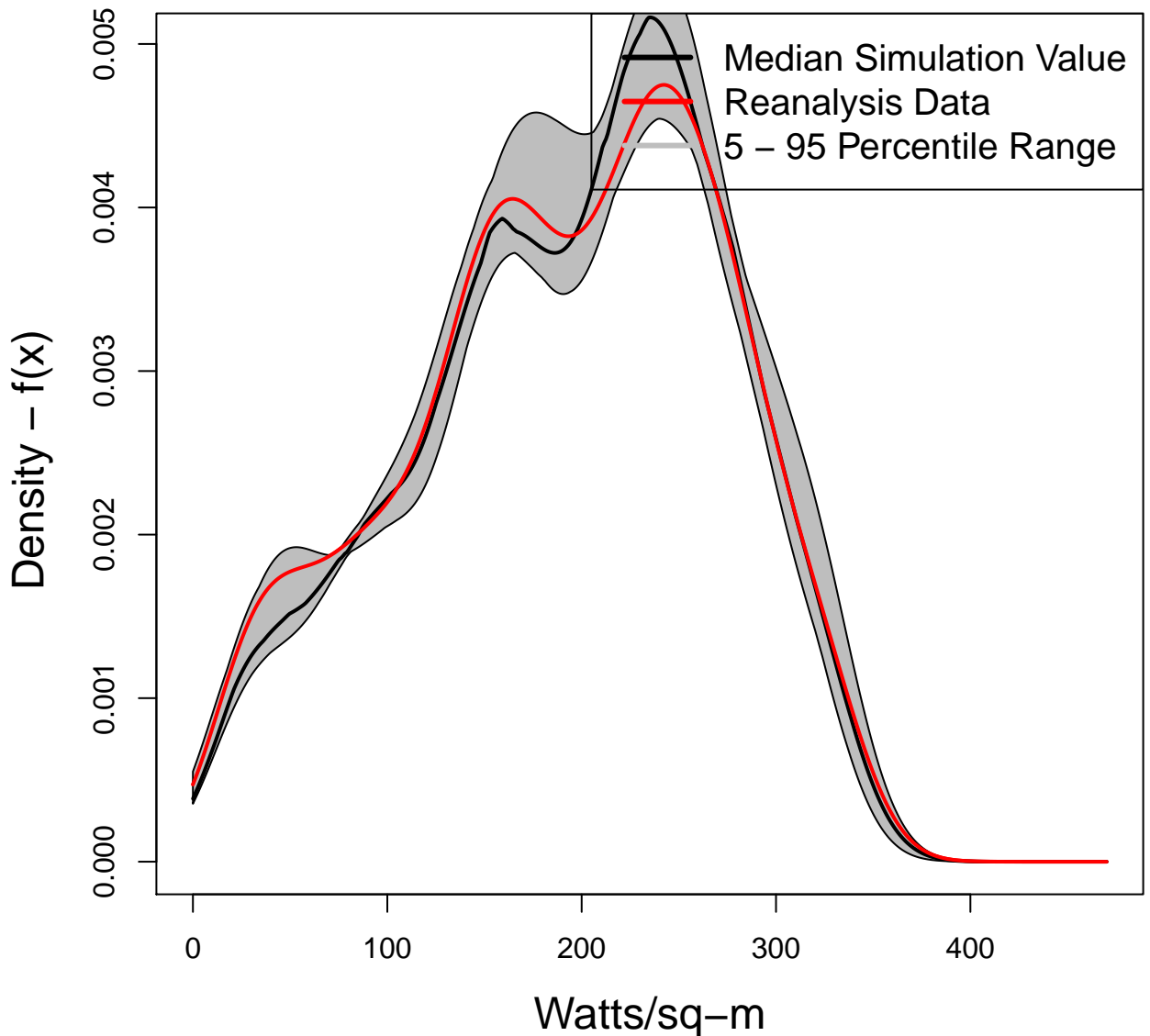
Lag-8 - Solar



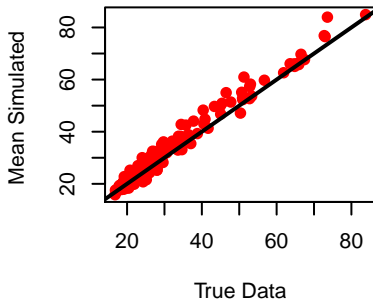
True vs Simulated CDF for Single Site – Solar



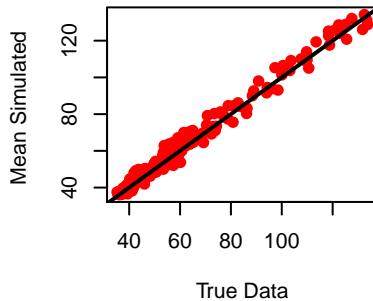
PDF at a single site – Solar



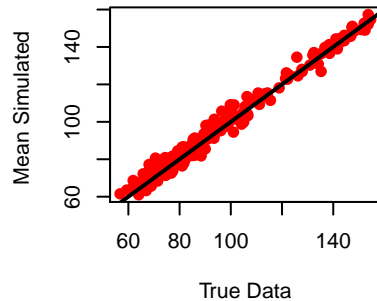
Quantile - 1th - Solar



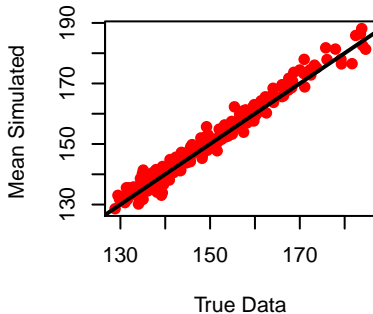
Quantile - 5th - Solar



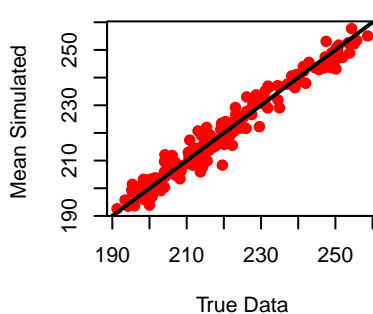
Quantile - 10th - Solar



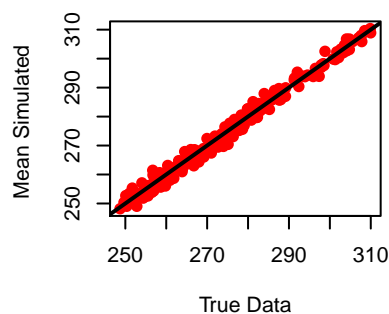
Quantile - 25th - Solar



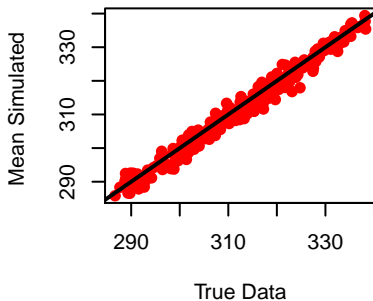
Quantile - 50th - Solar



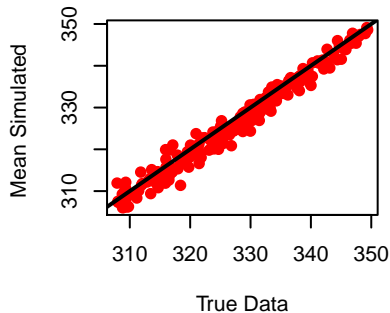
Quantile - 75th - Solar



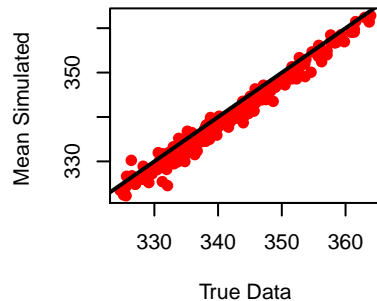
Quantile - 90th - Solar



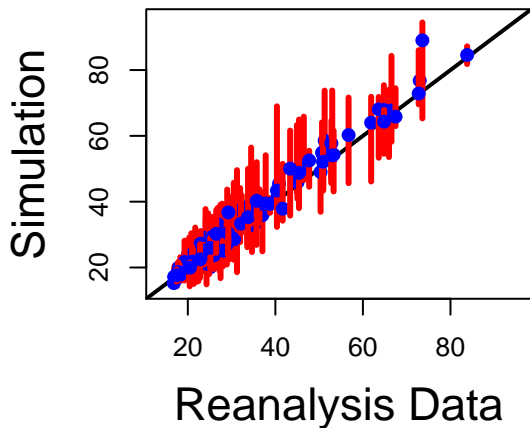
Quantile - 95th - Solar



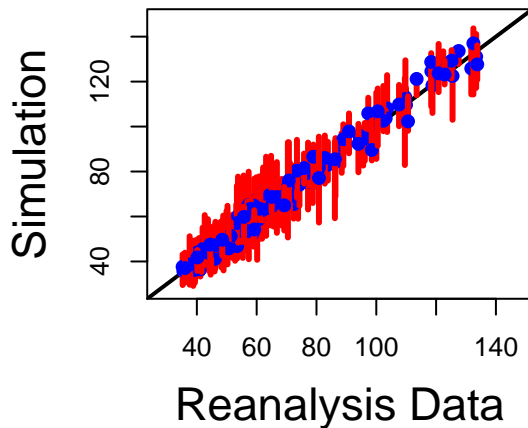
Quantile - 99th - Solar



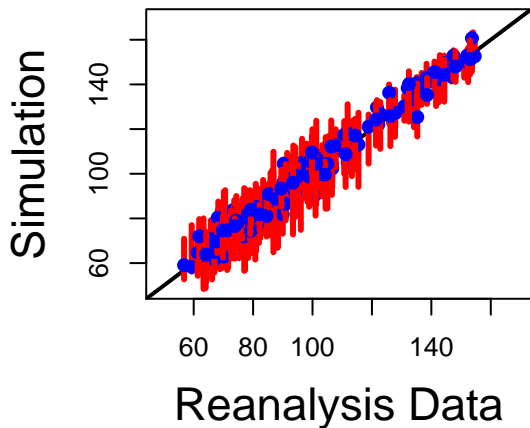
1th Quantile – Solar



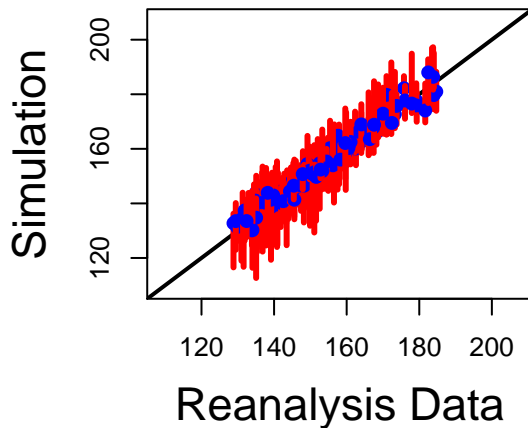
5th Quantile – Solar



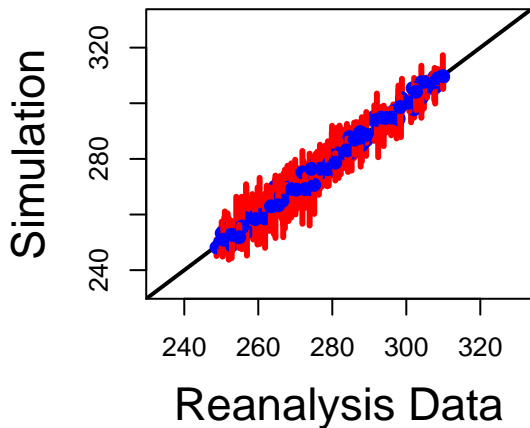
10th Quantile – Solar



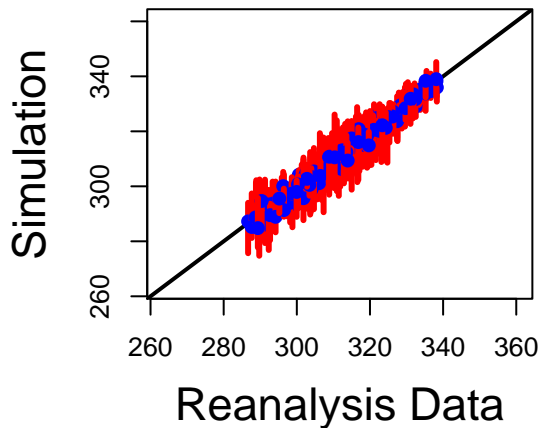
25th Quantile – Solar



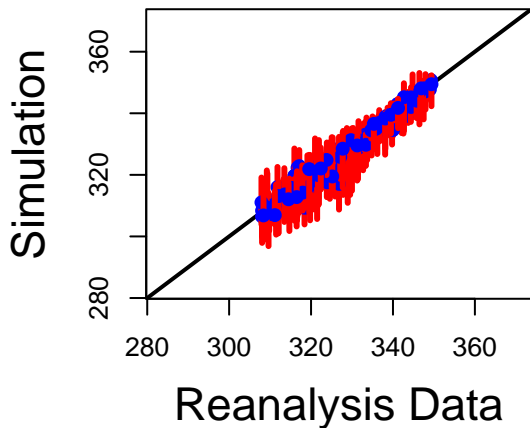
75th Quantile – Solar



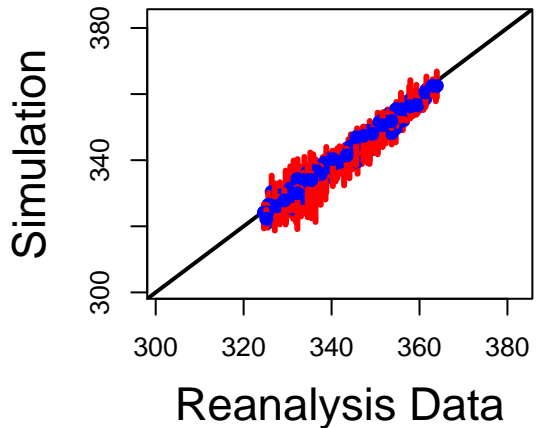
90th Quantile – Solar



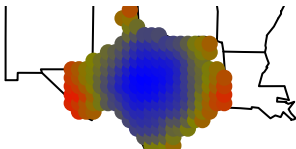
95th Quantile – Solar



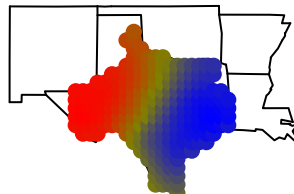
99th Quantile – Solar



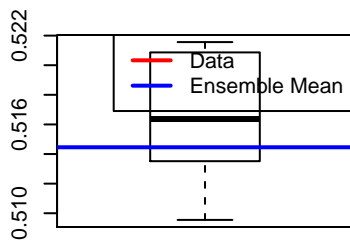
PC-1 – Solar-81%



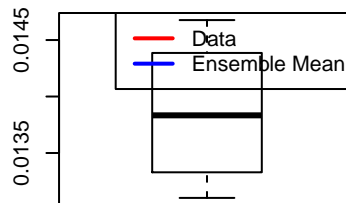
PC-2 – Solar-7%



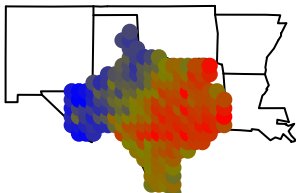
Simulated PC-1 Variance Solar



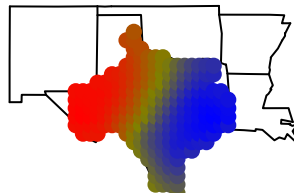
Simulated PC-2 Variance Solar



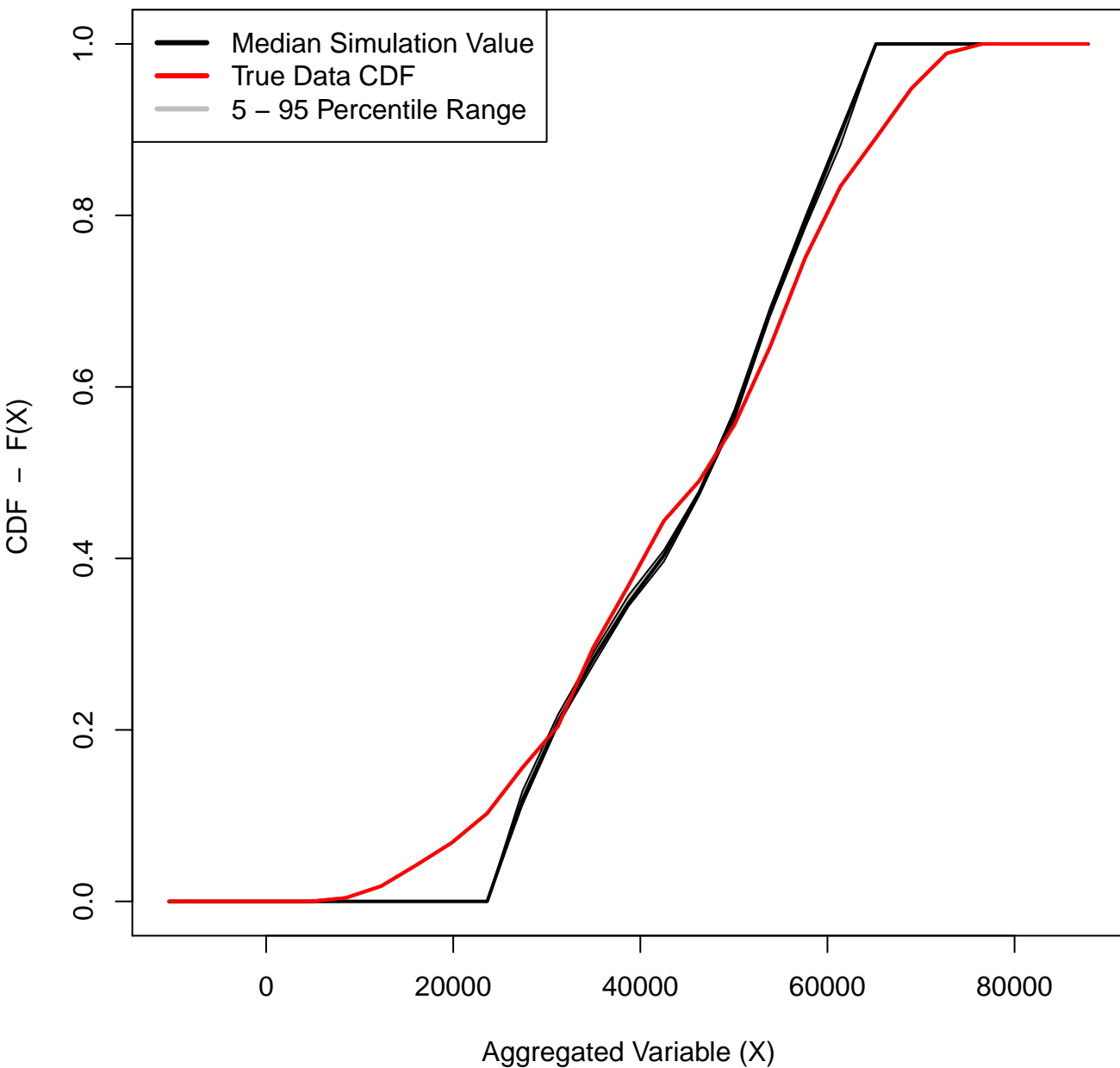
Ensemble Mean PC-1 – Solar-51%



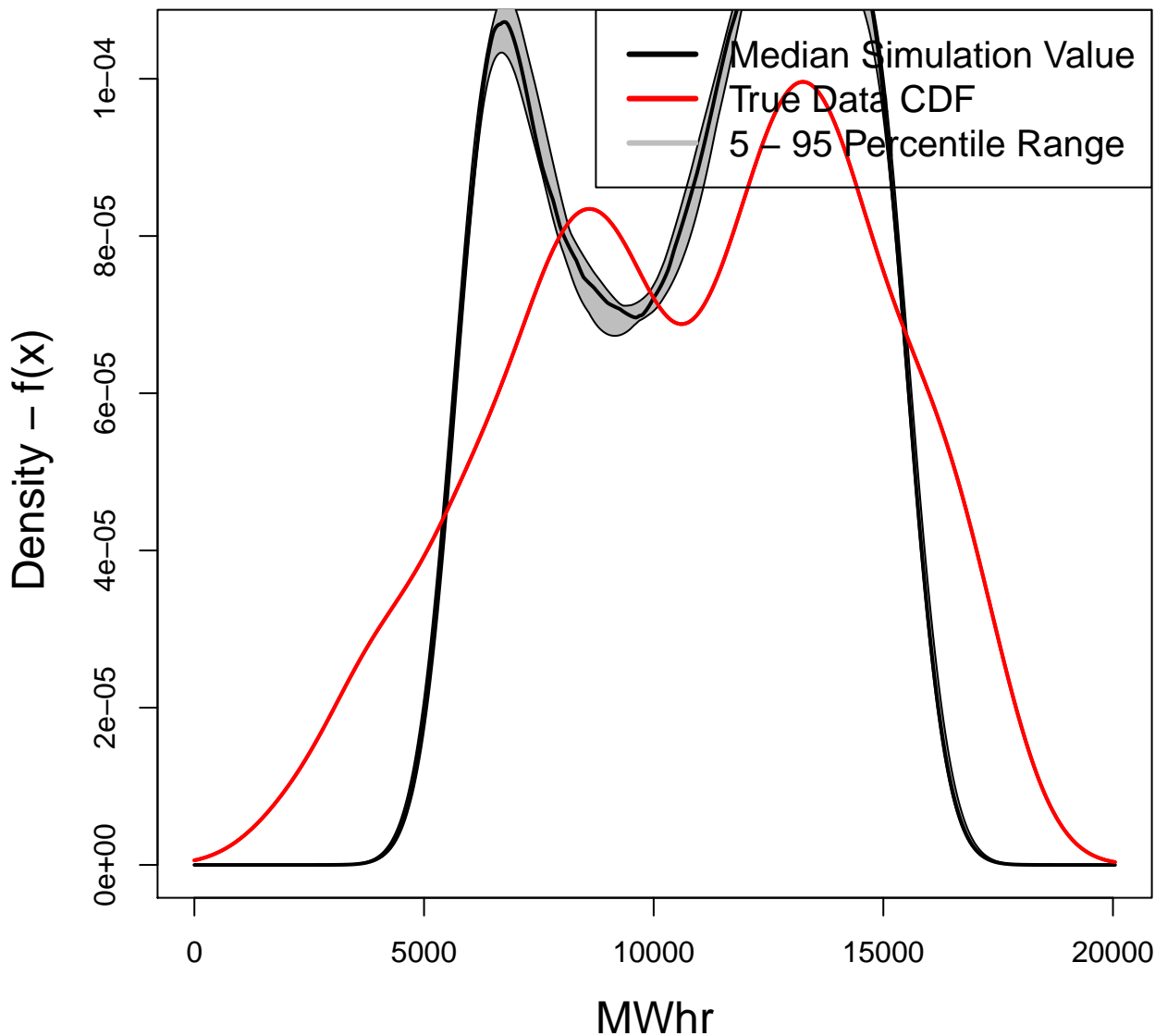
Ensemble Mean PC-2 – Solar-1%

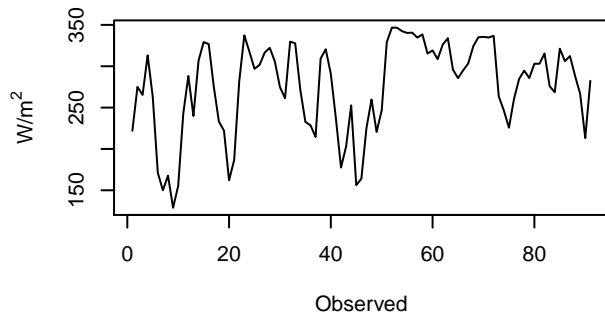
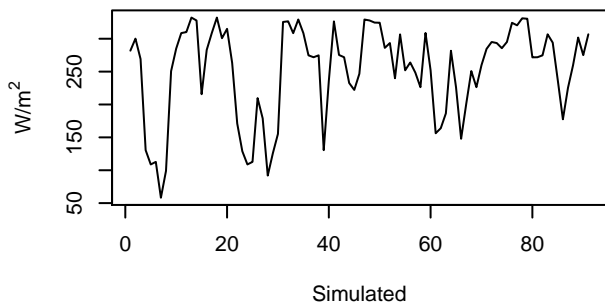
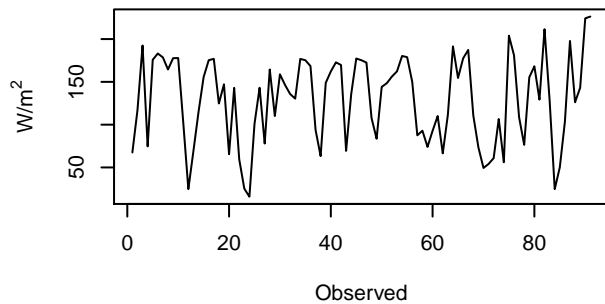
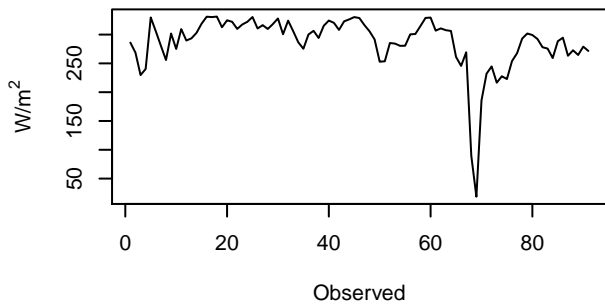
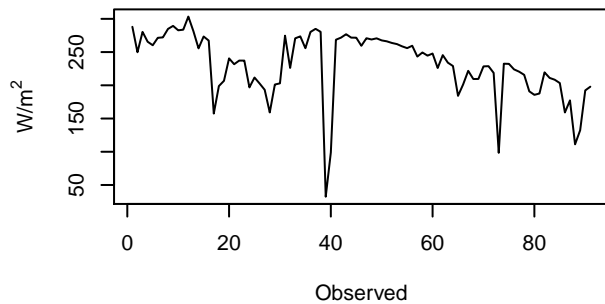
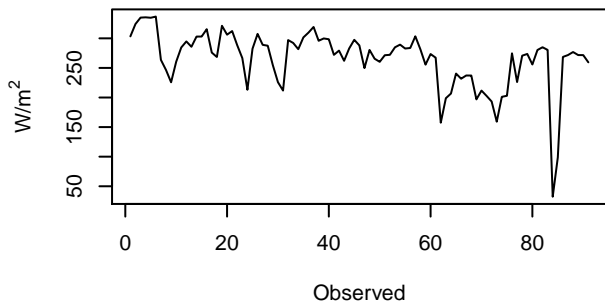


Simulated CDF for Entire Field – Solar

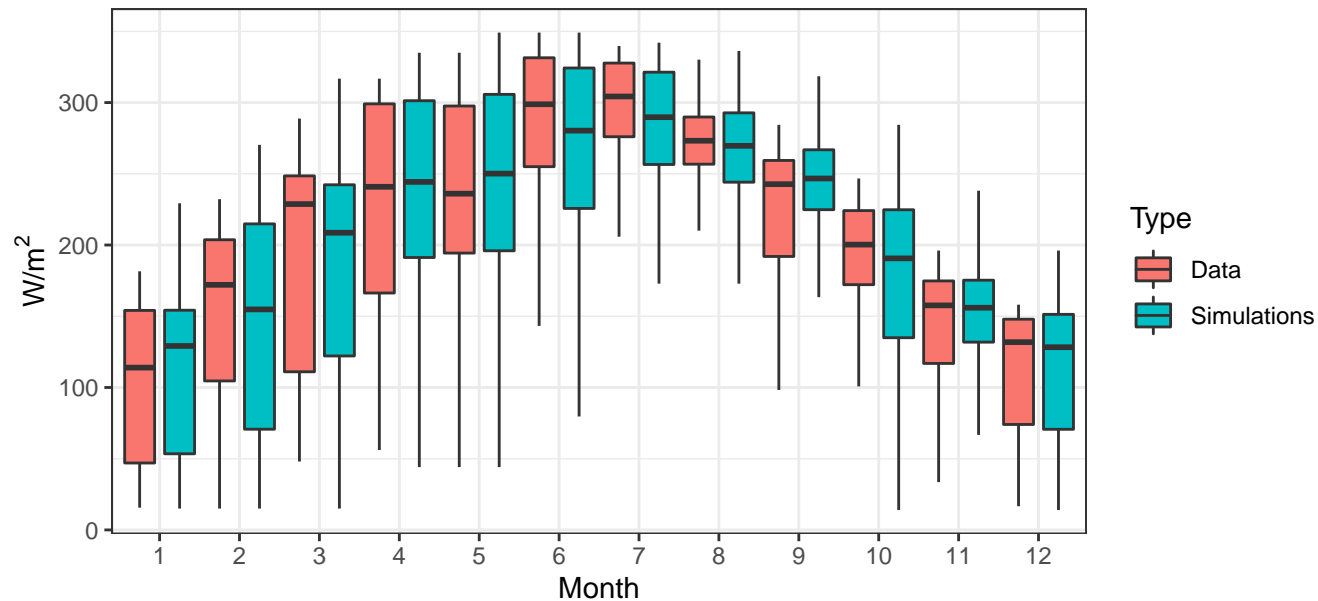


Daily Generation Potential across ERCOT – Solar

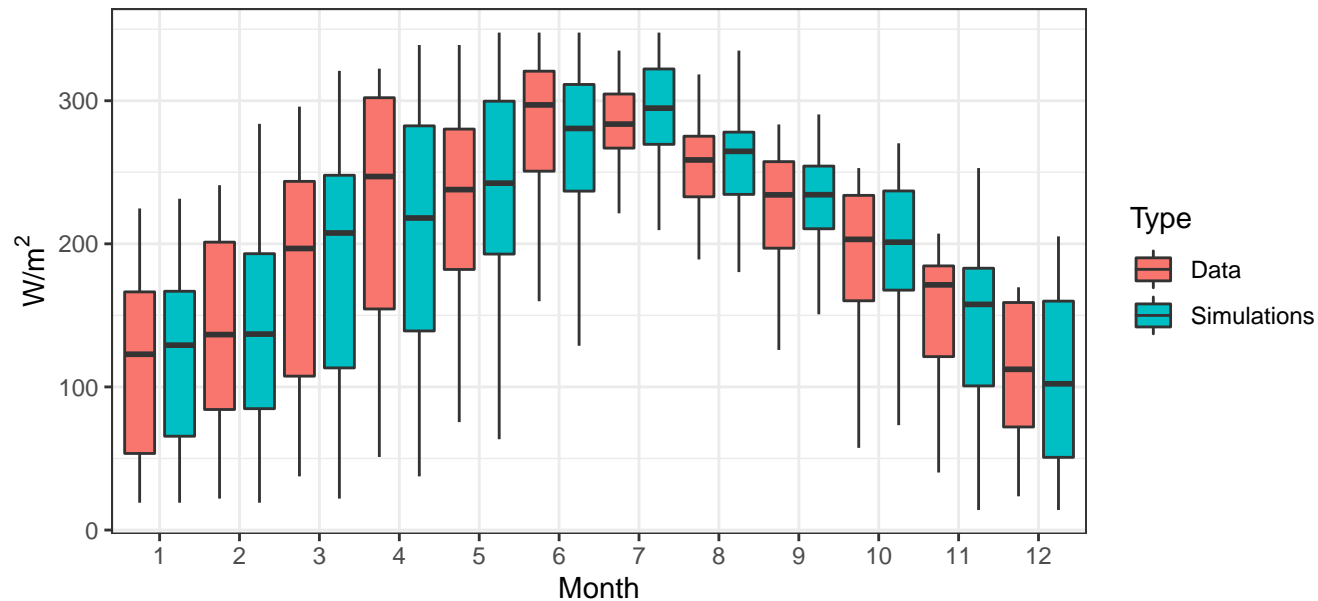




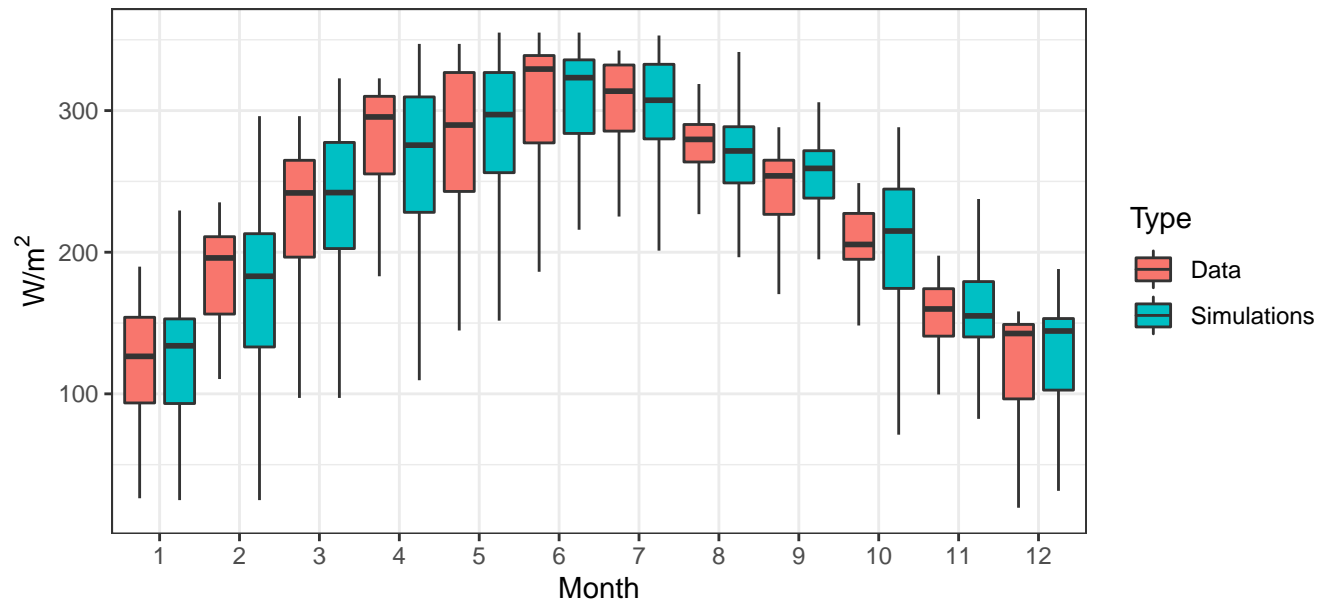
Solar Distribution for Site/Grid – 154



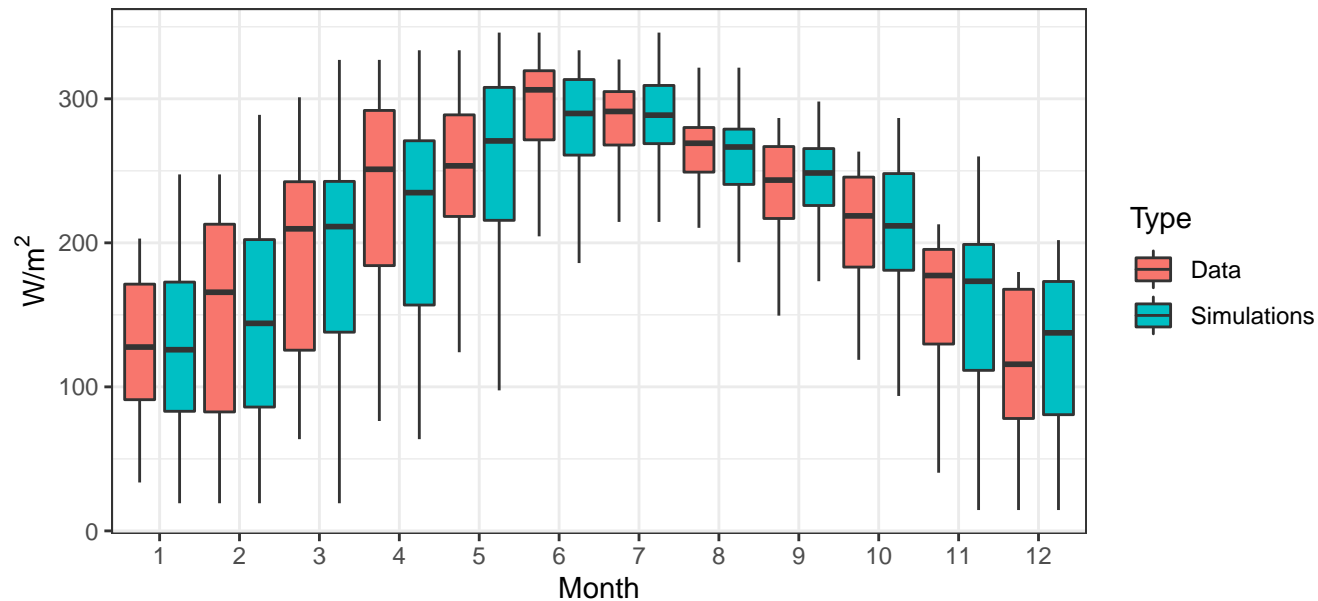
Solar Distribution for Site/Grid – 132



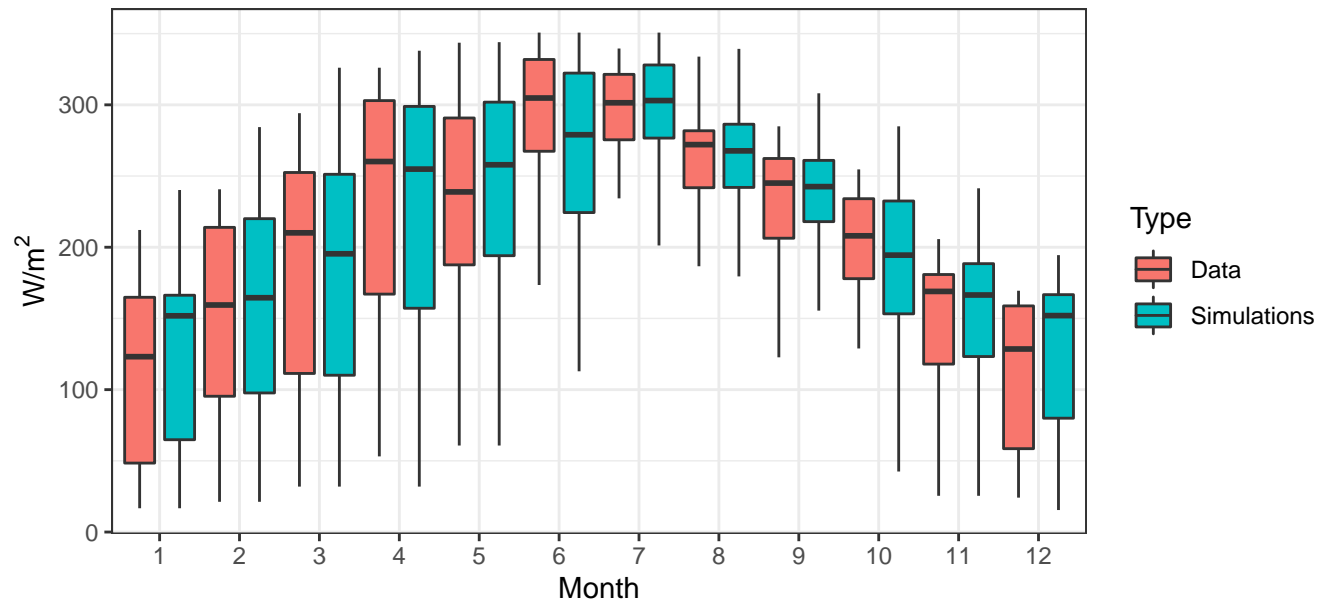
Solar Distribution for Site/Grid – 51



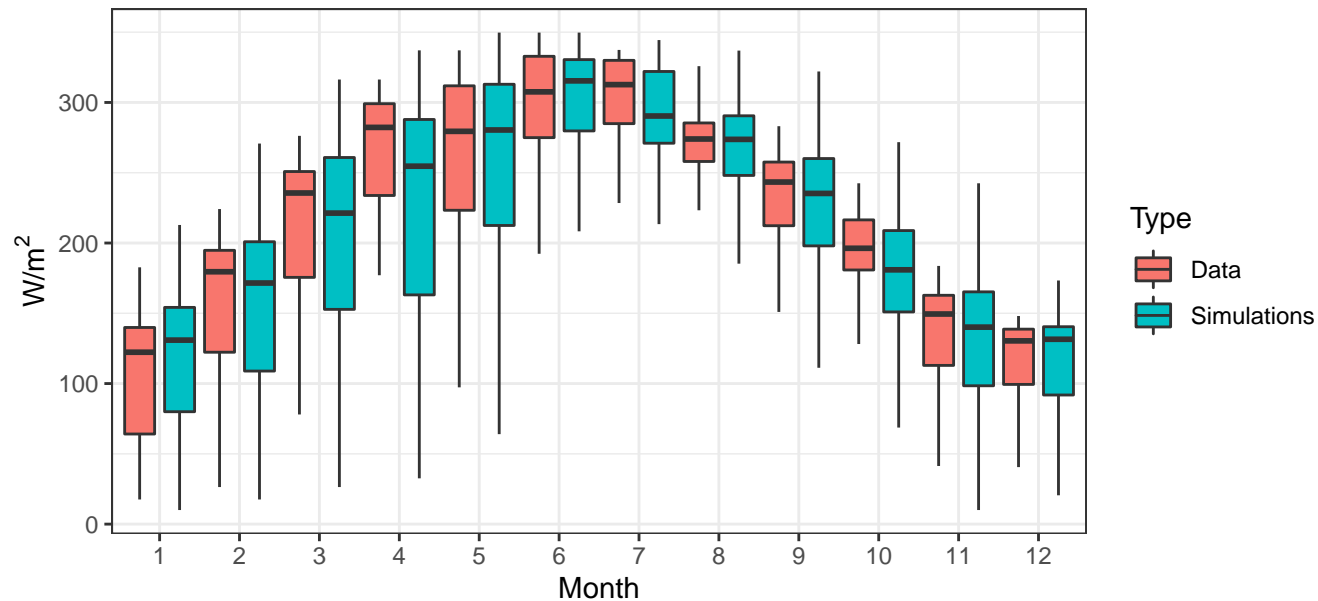
Solar Distribution for Site/Grid – 112



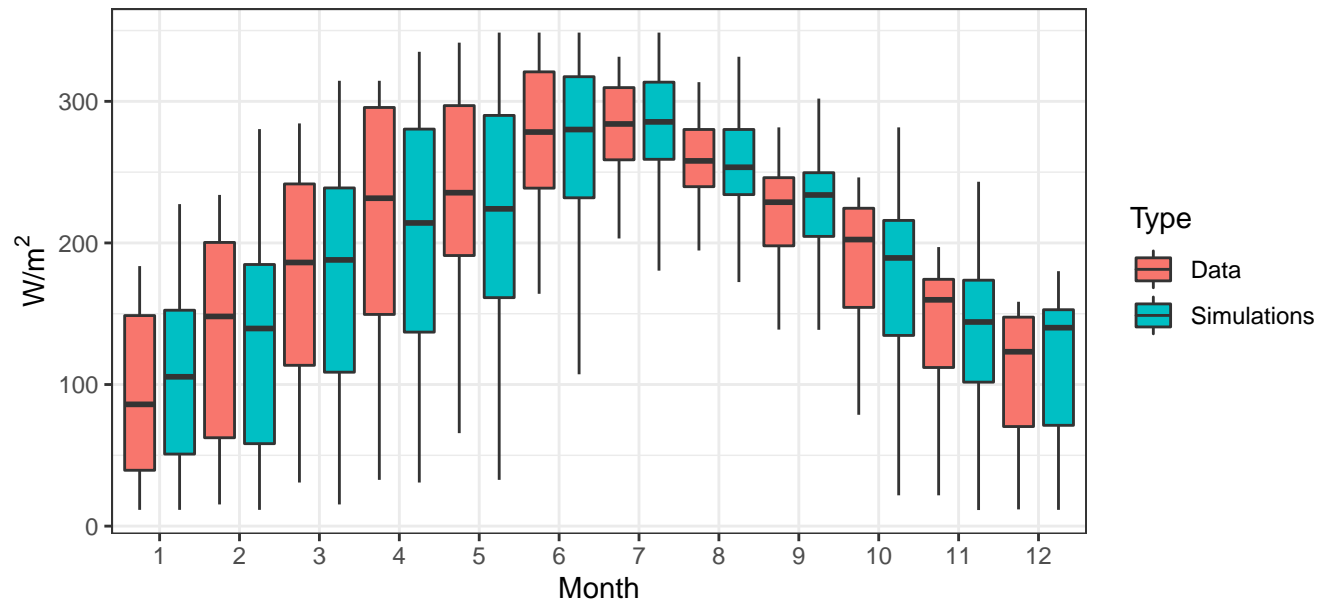
Solar Distribution for Site/Grid – 85



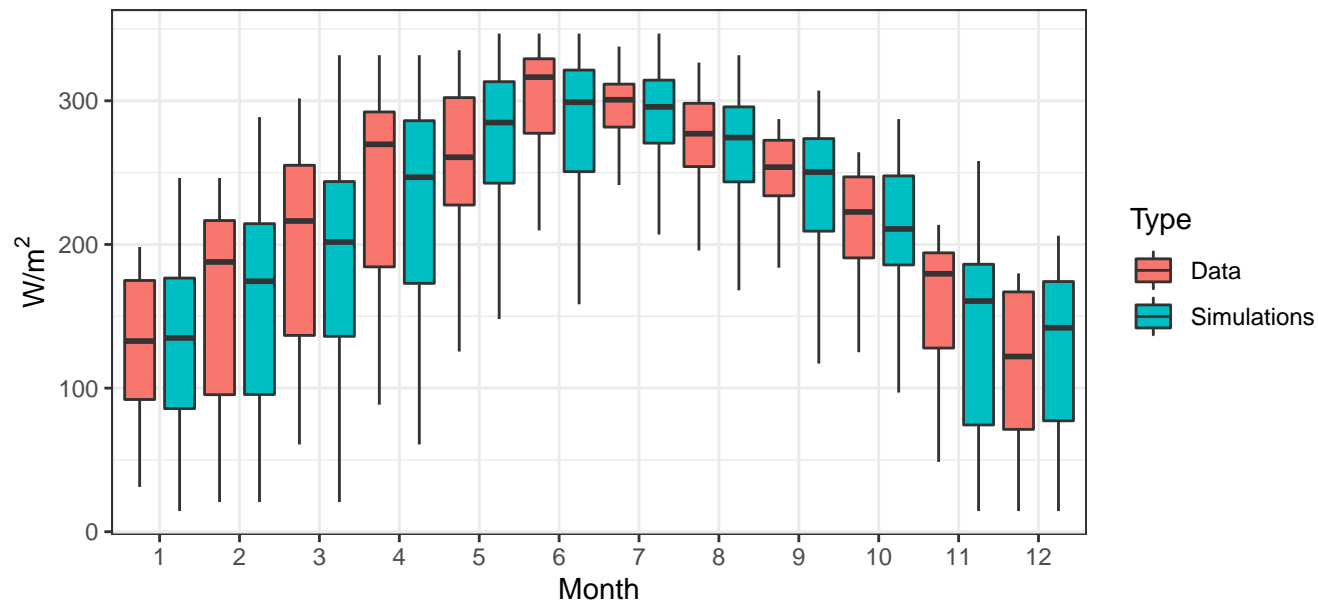
Solar Distribution for Site/Grid – 126



Solar Distribution for Site/Grid – 205

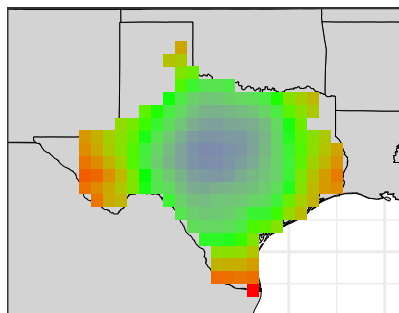


Solar Distribution for Site/Grid – 96

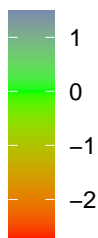


Data PC-1 Solar

Fractional Variance – 81%

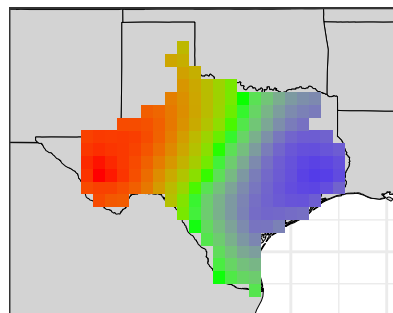


Eigenvectors

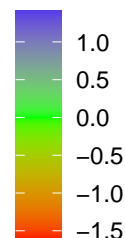


Data PC-1 Solar

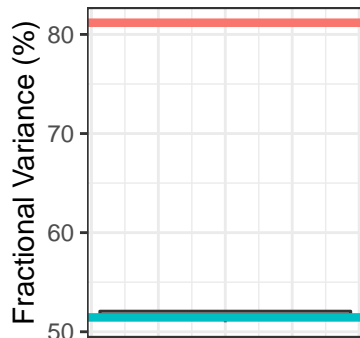
Fractional Variance – 7%



Eigenvectors



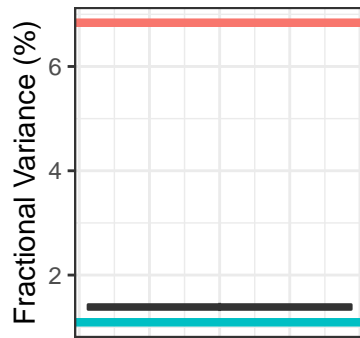
Simulated PC-1 Variance Solar



Type

- Data
- Ensemble Mean

Simulated PC-2 Variance Solar

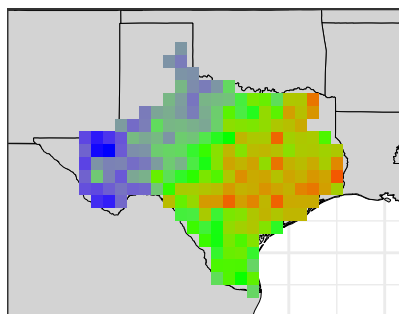


Type

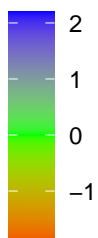
- Data
- Ensemble Mean

Ensemble Mean PC-1 Solar

Fractional Variance – 51%

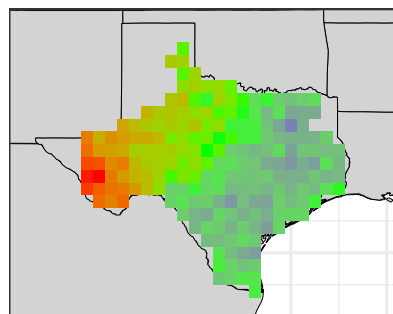


Eigenvectors

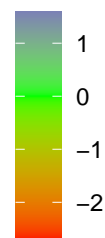


Ensemble Mean PC-2 Solar

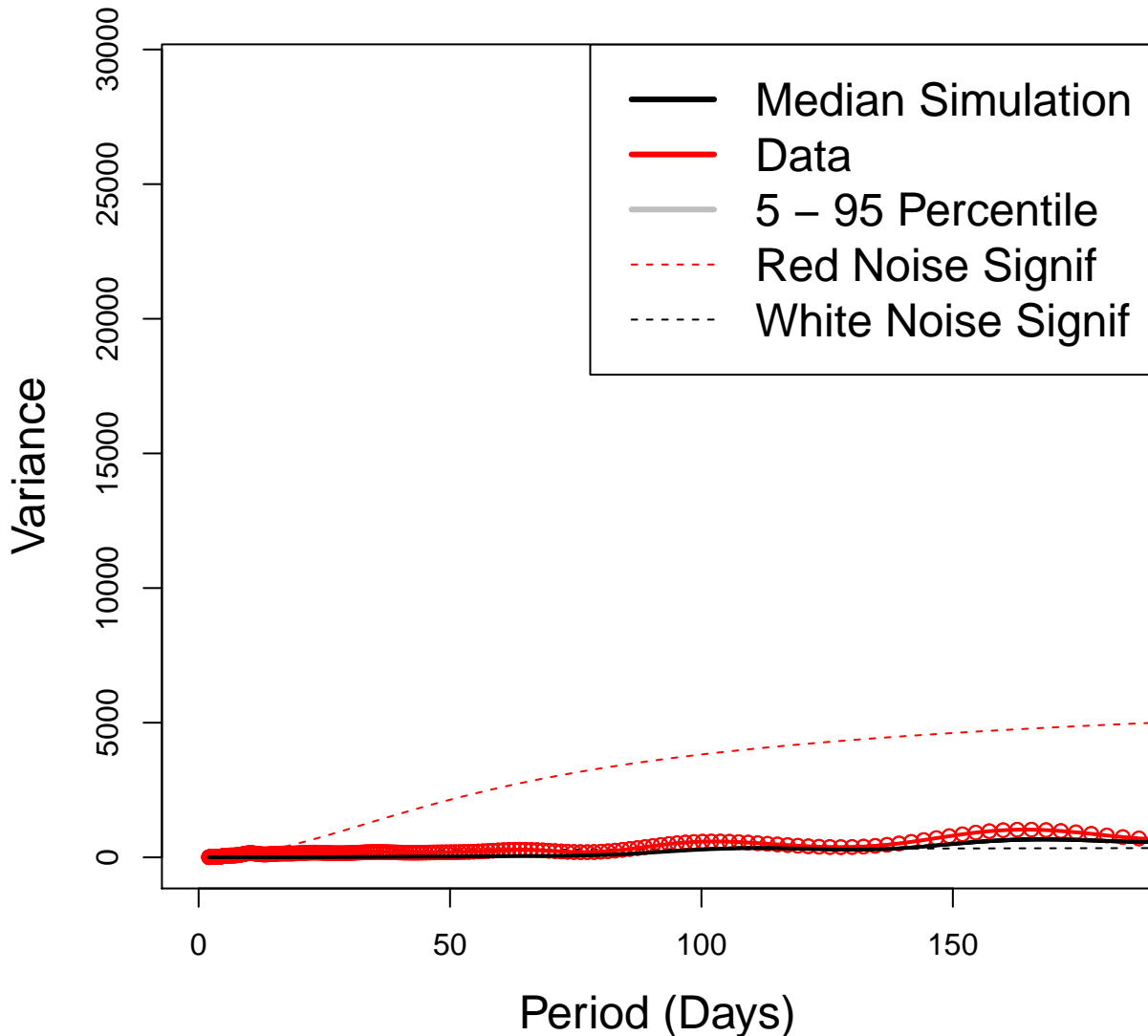
Fractional Variance – 1%



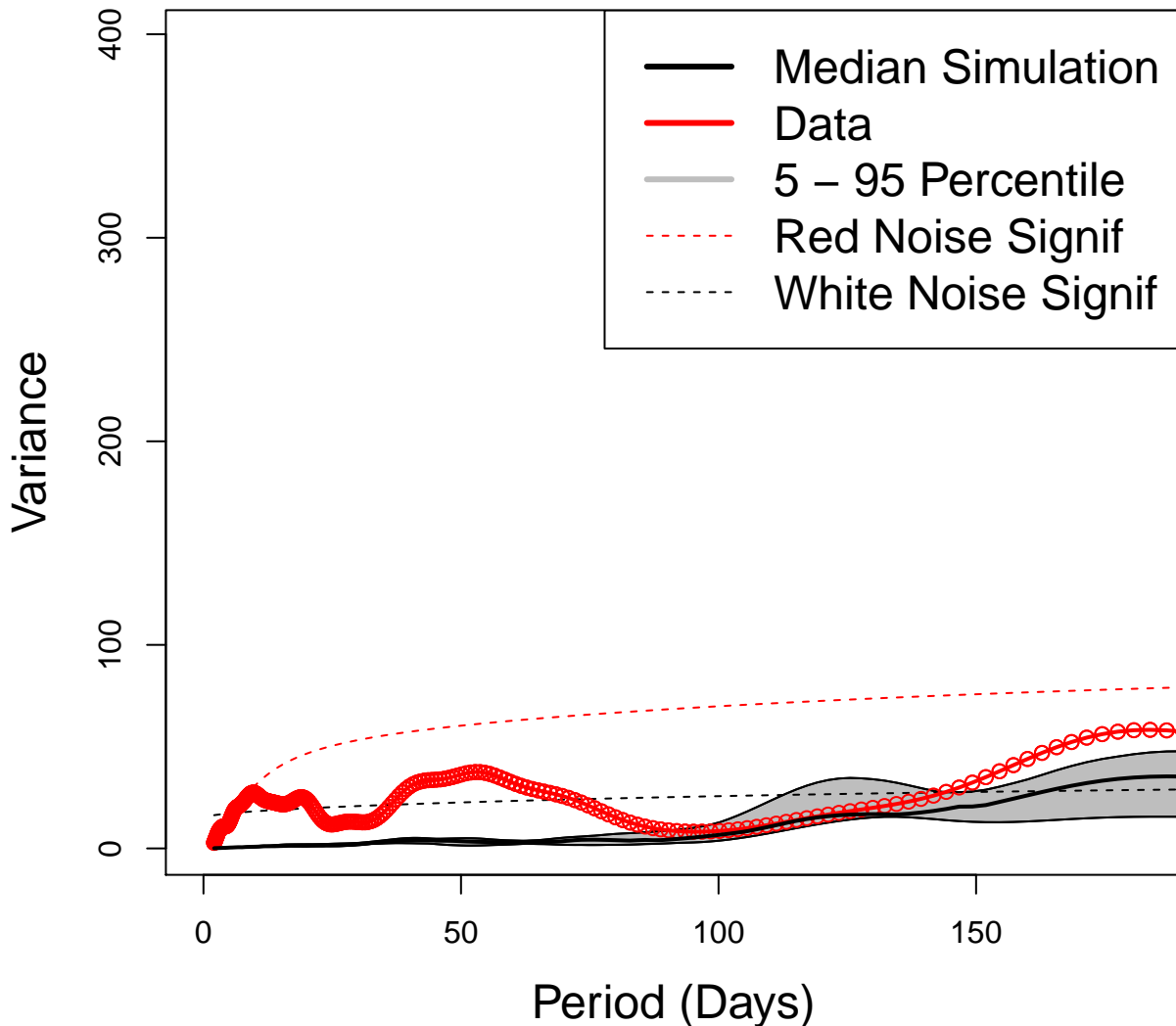
Eigenvectors



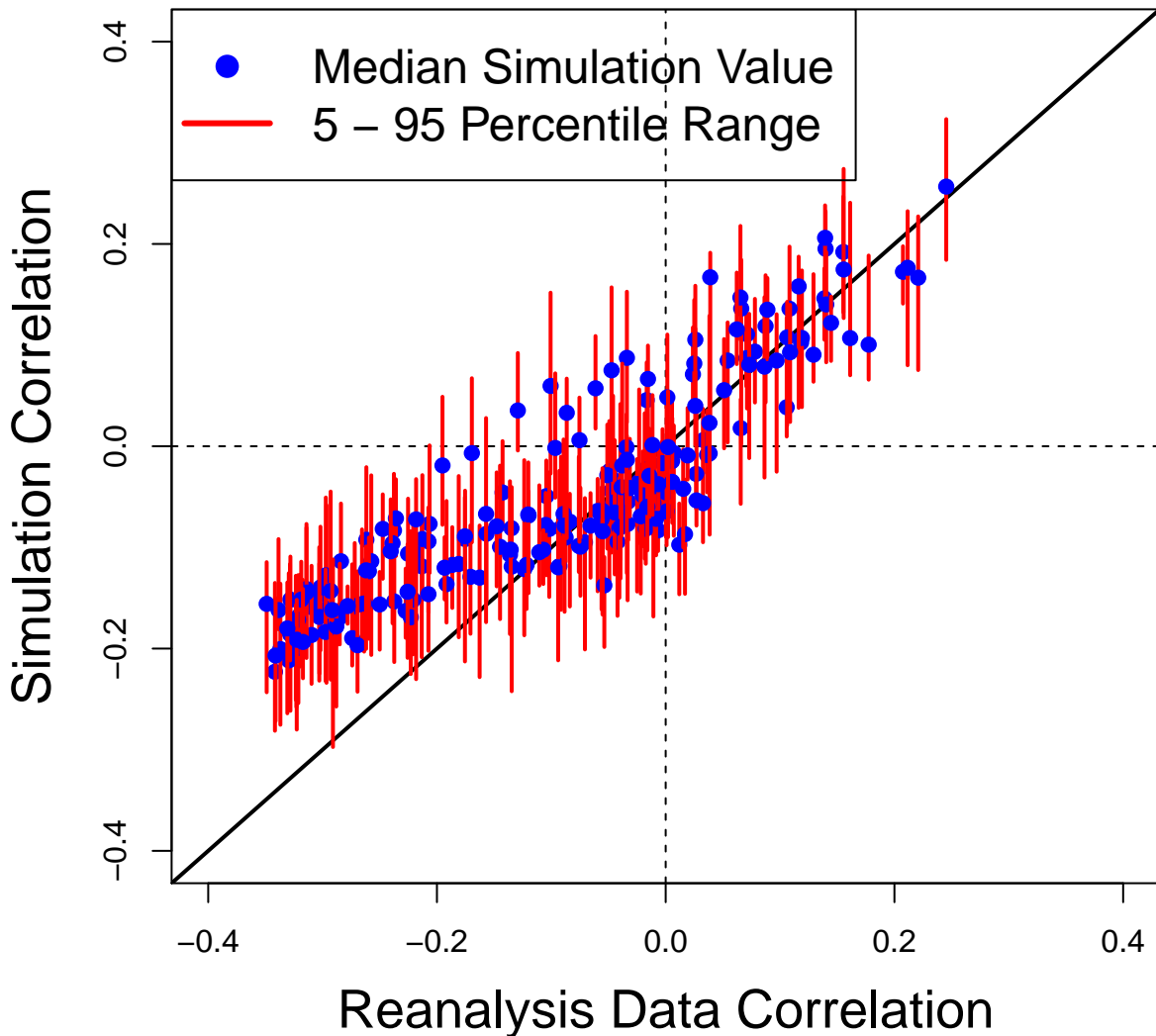
Global Wavelet Spectrum PC – 1 Solar



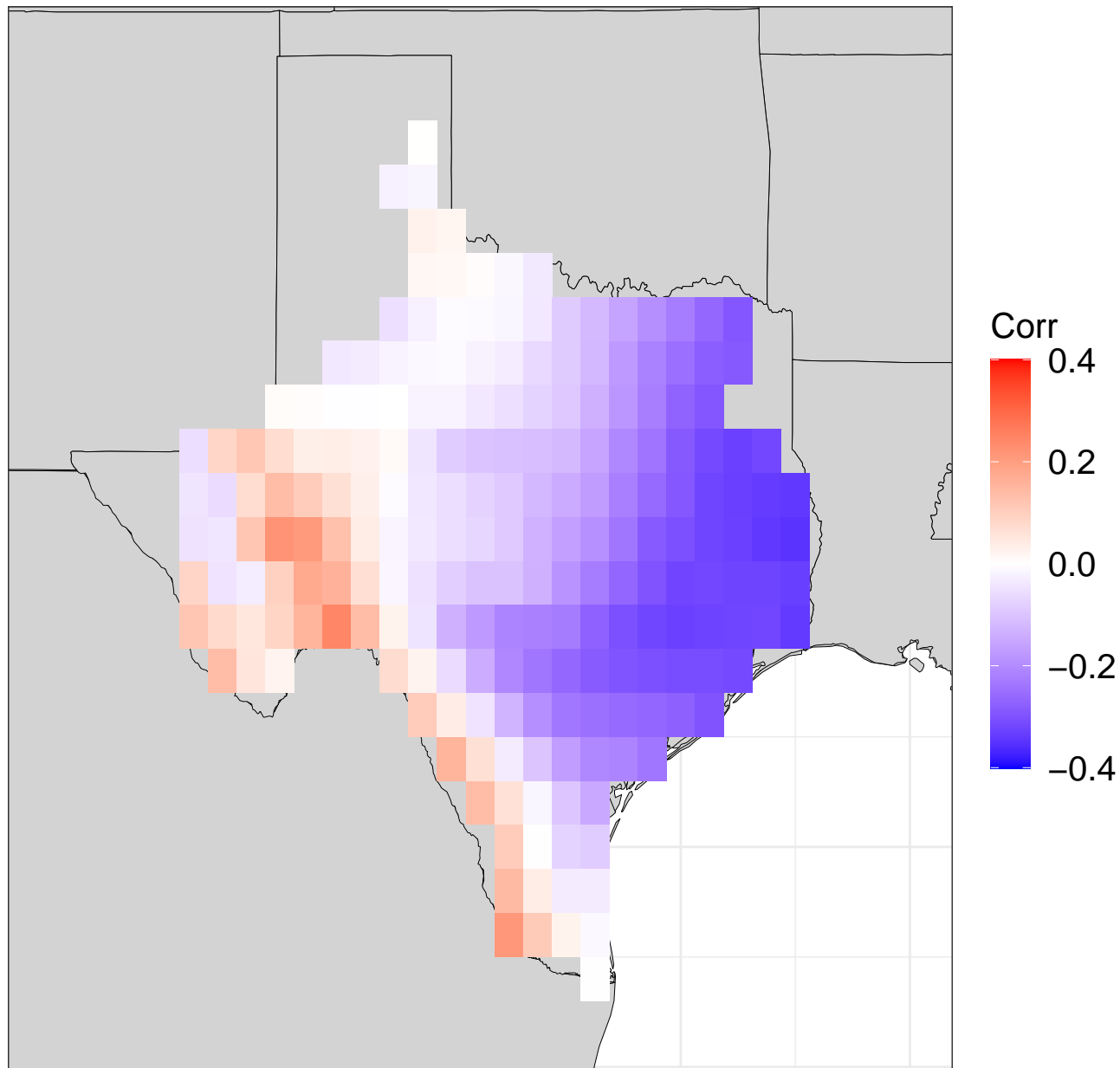
Global Wavelet Spectrum PC – 2 Solar



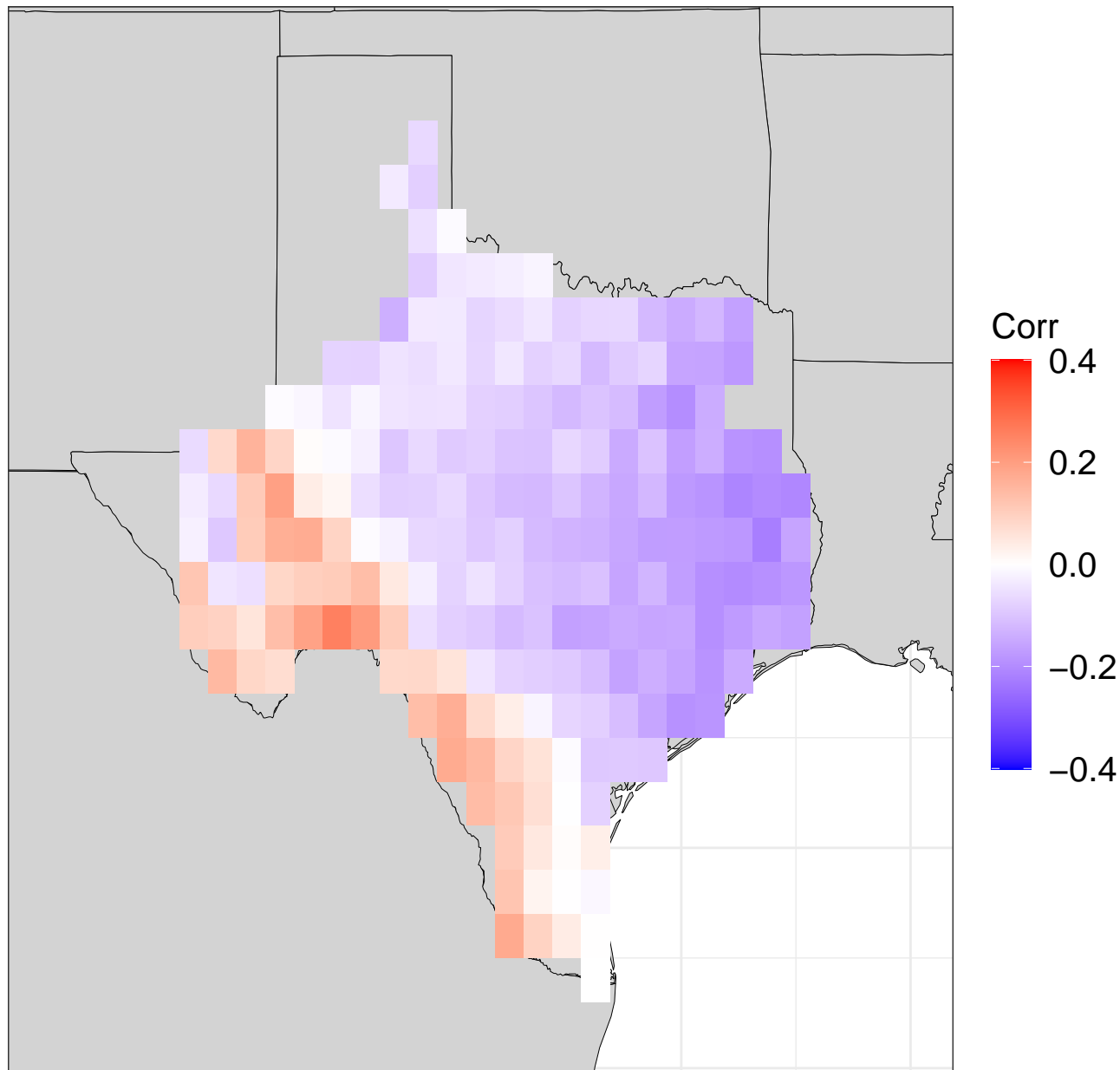
Simulation vs Data Correlation



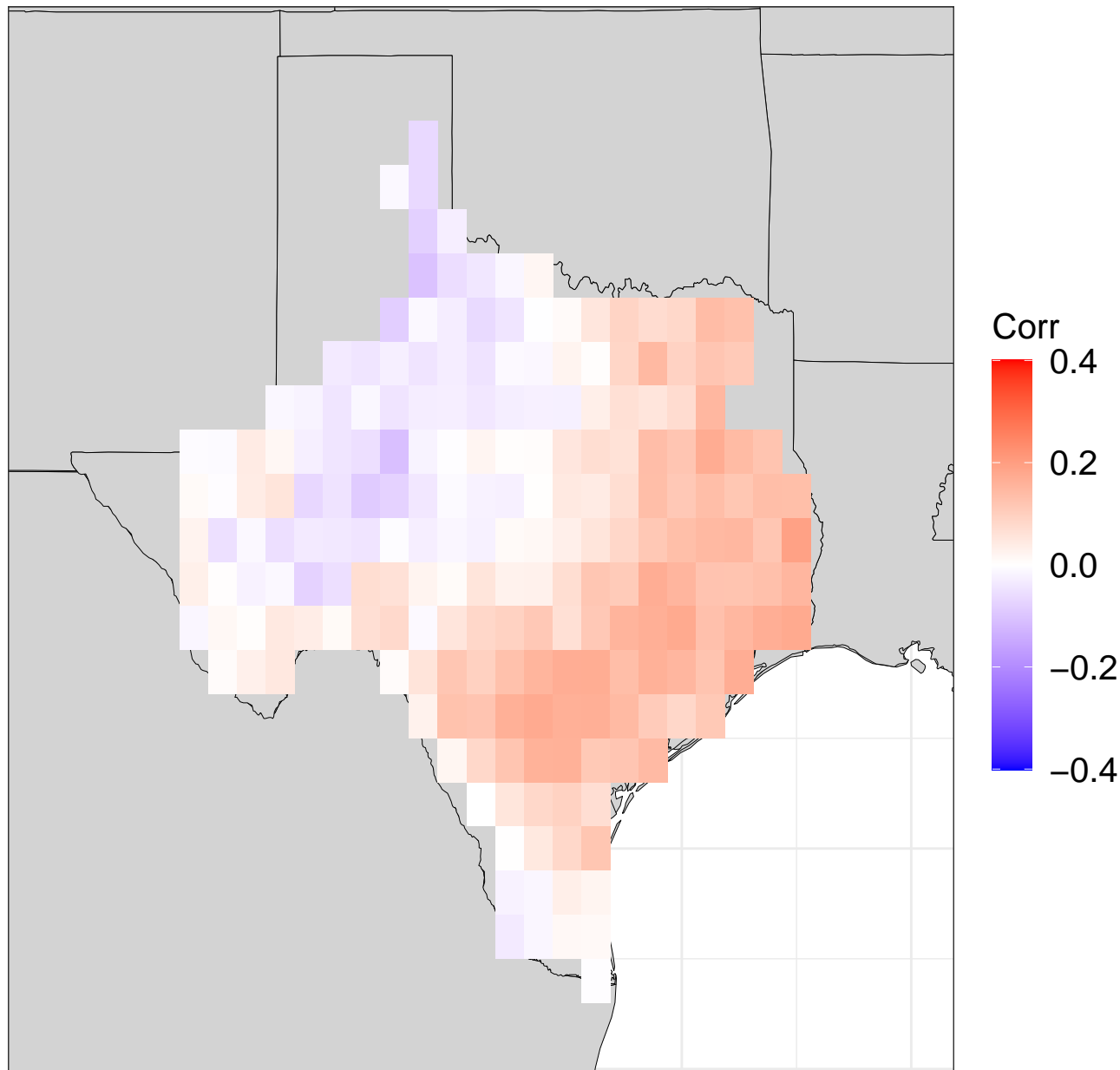
Reanalysis Data Correlation

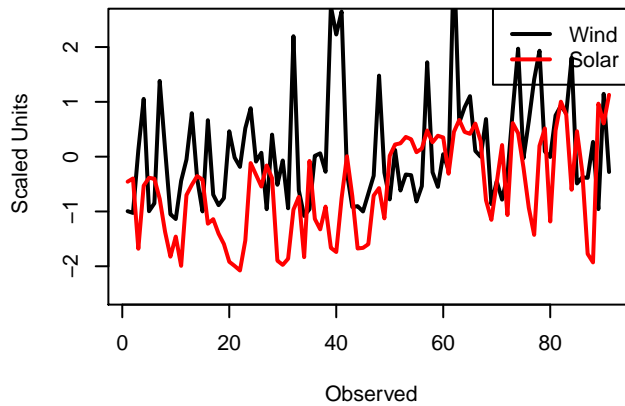
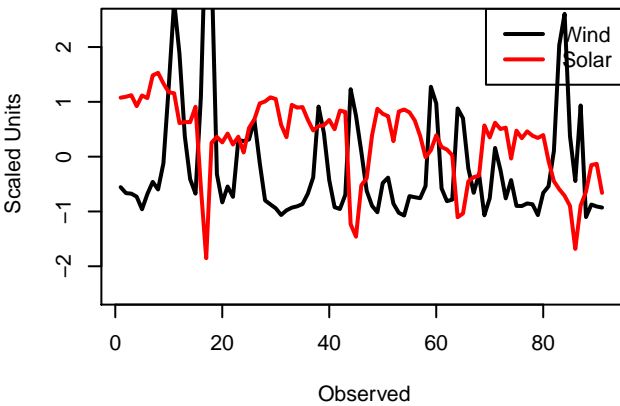
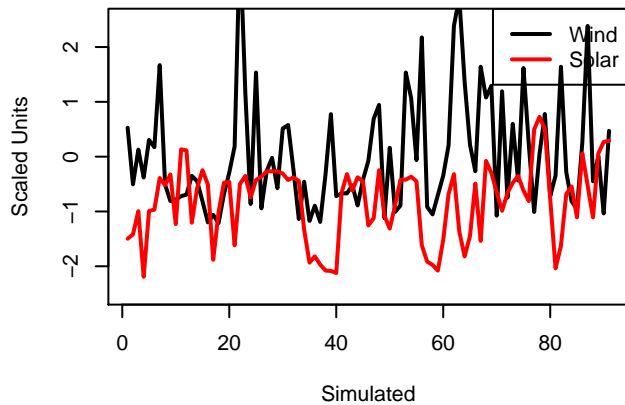
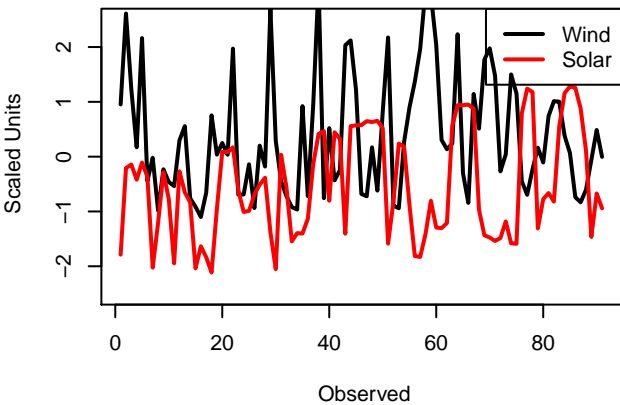
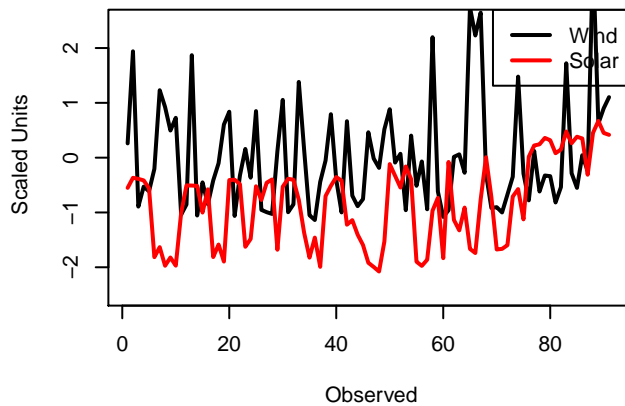
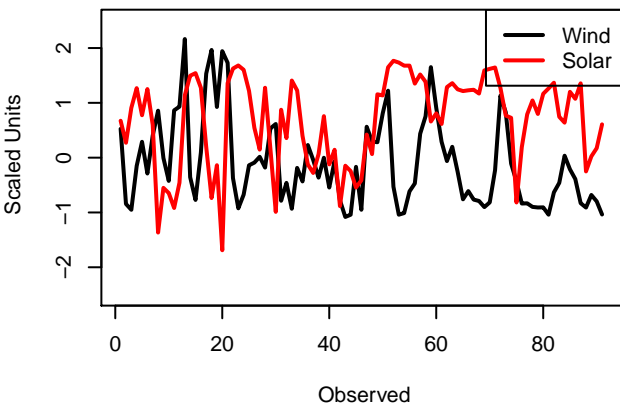


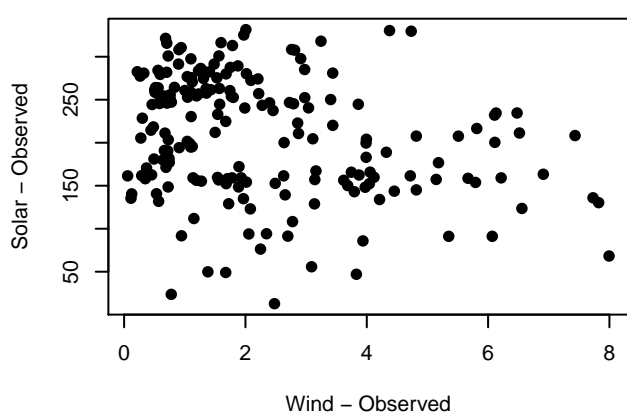
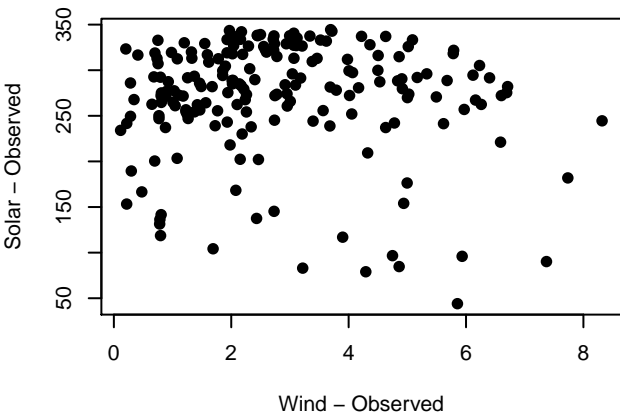
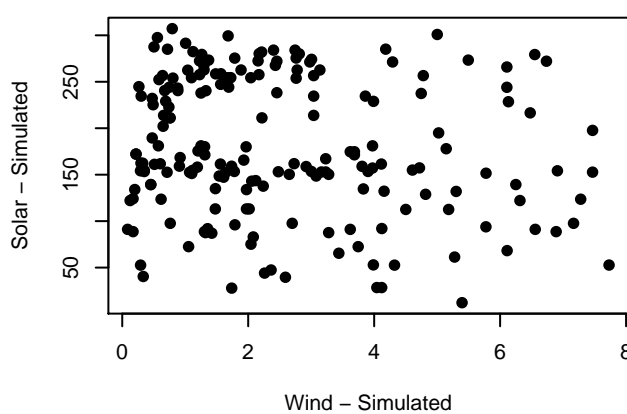
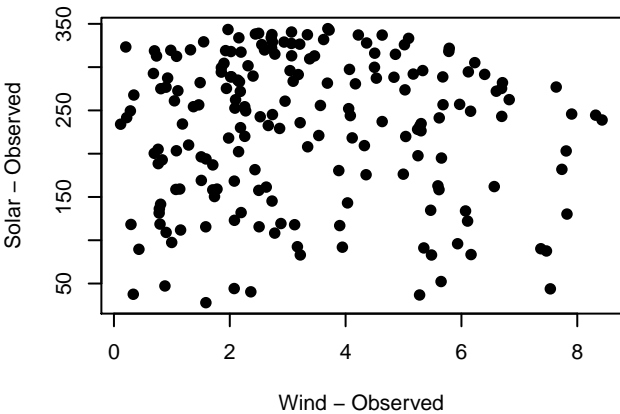
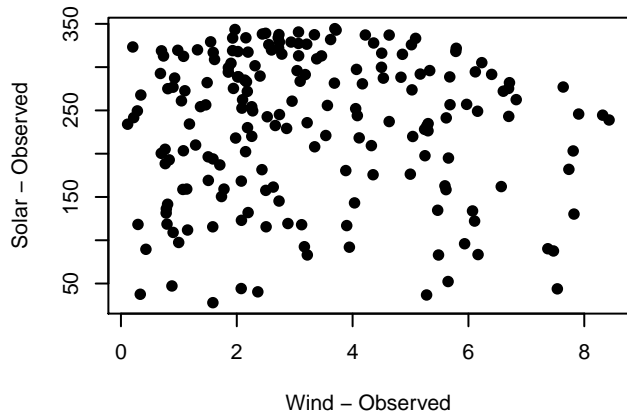
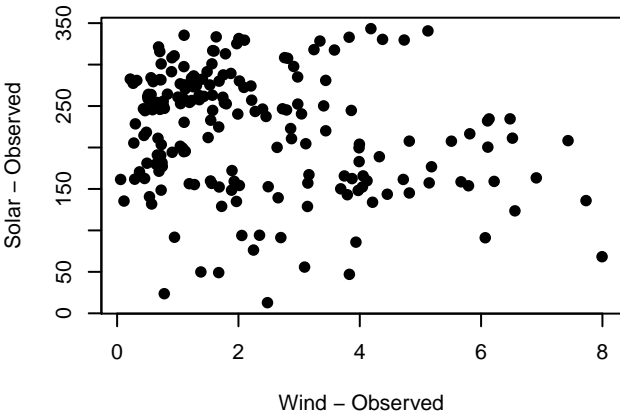
Median Simulation Correlation



Difference between Renalysis Data and Simulations

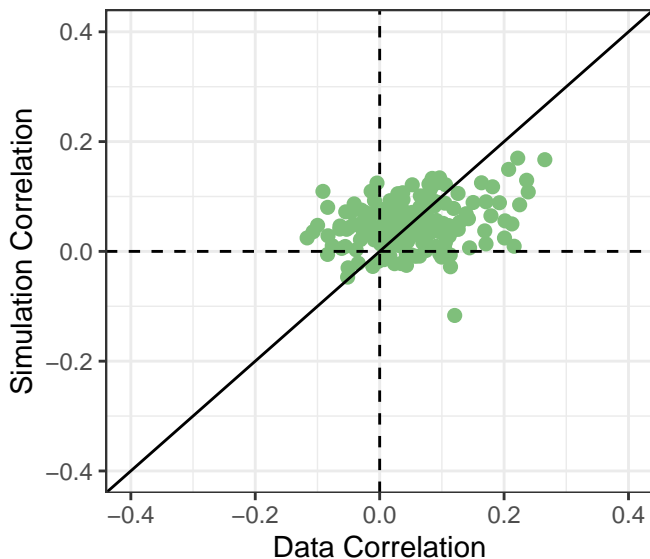






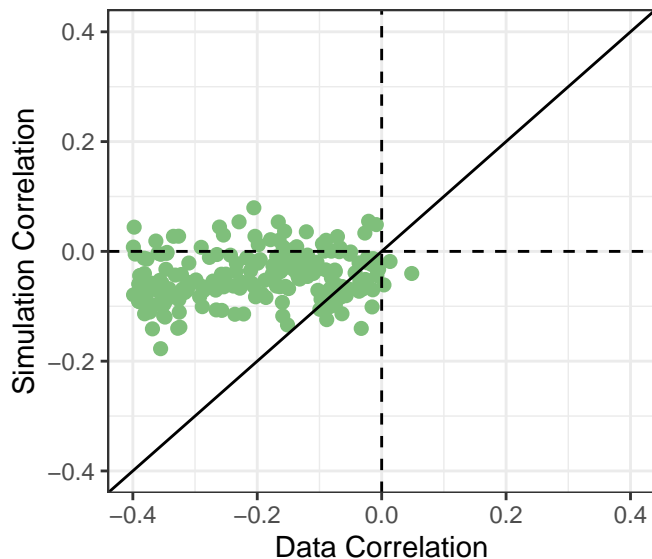
Simulation vs Data Correlation

Dec-Jan-Feb



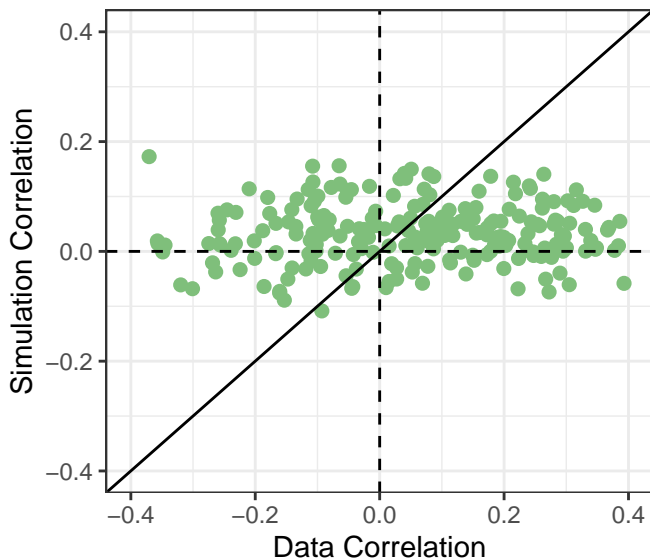
Simulation vs Data Correlation

Mar-April-May



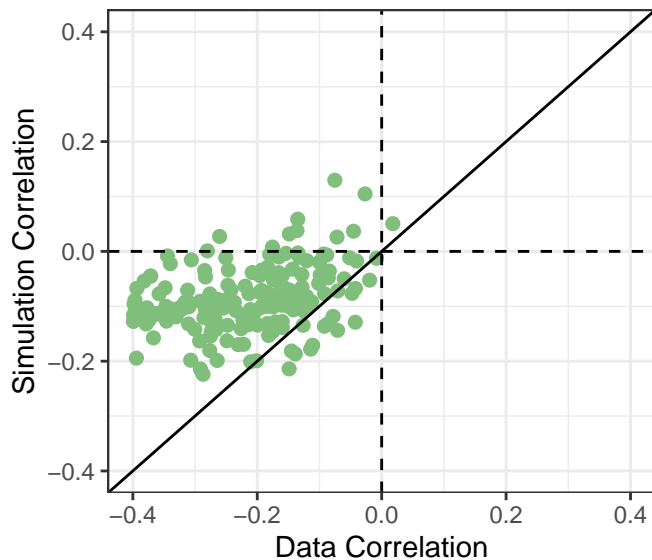
Simulation vs Data Correlation

Jun-July-Aug



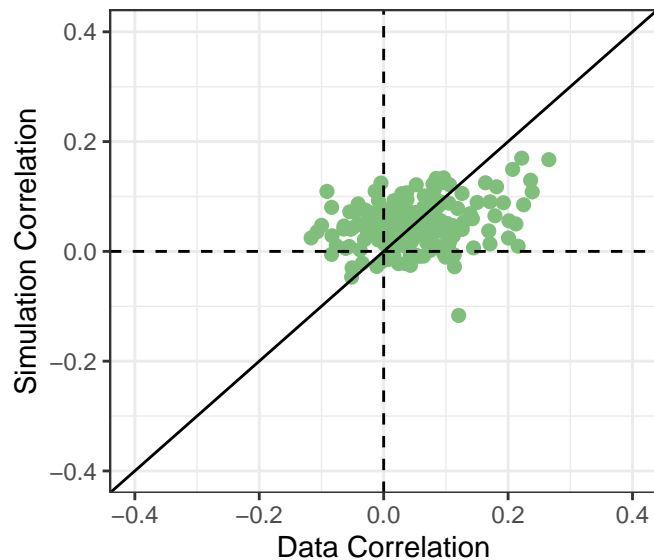
Simulation vs Data Correlation

Sept-Oct-Nov

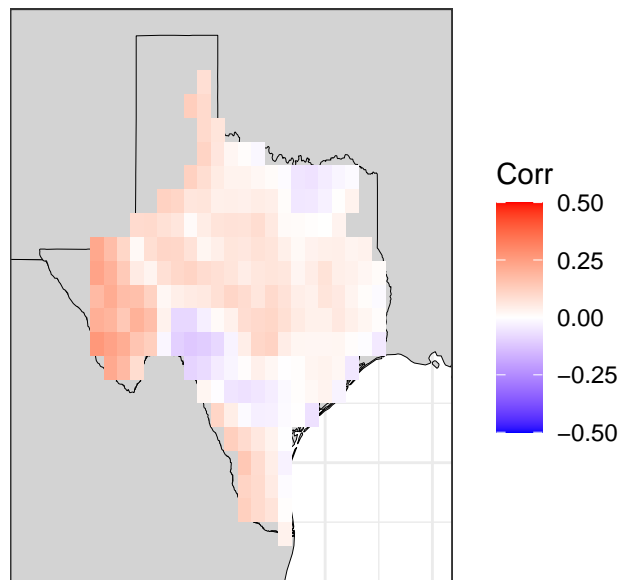


Simulation vs Data Correlation

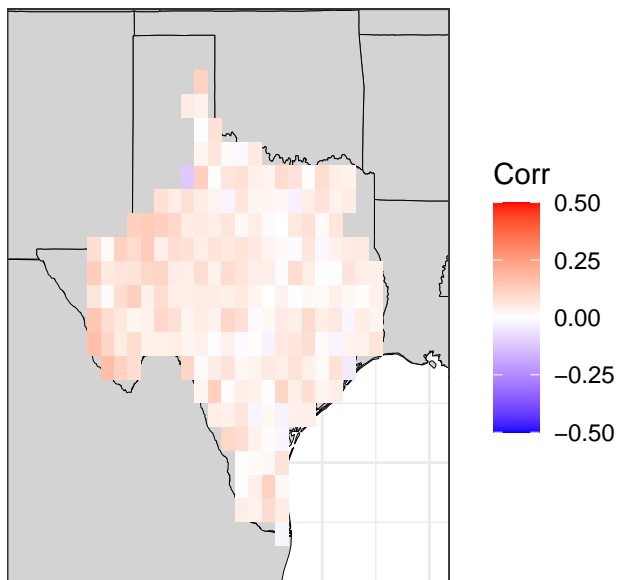
Dec-Jan-Feb



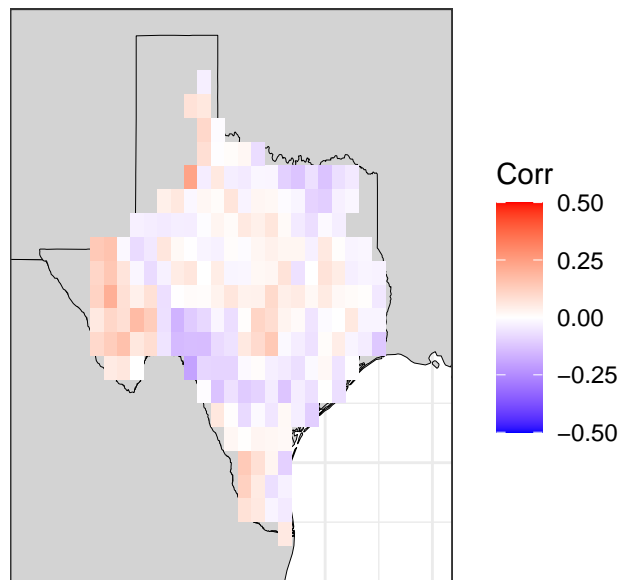
Reanalysis Data Correlation – DJF



Median Simulation Correlation – DJF

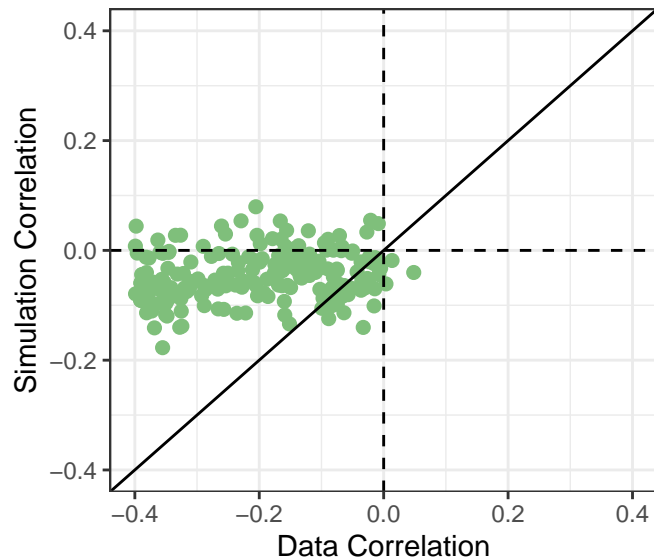


Difference between Data and Simulations

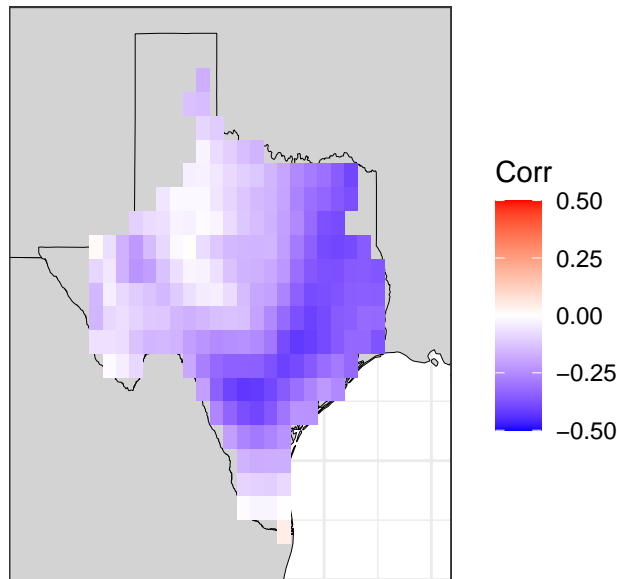


Simulation vs Data Correlation

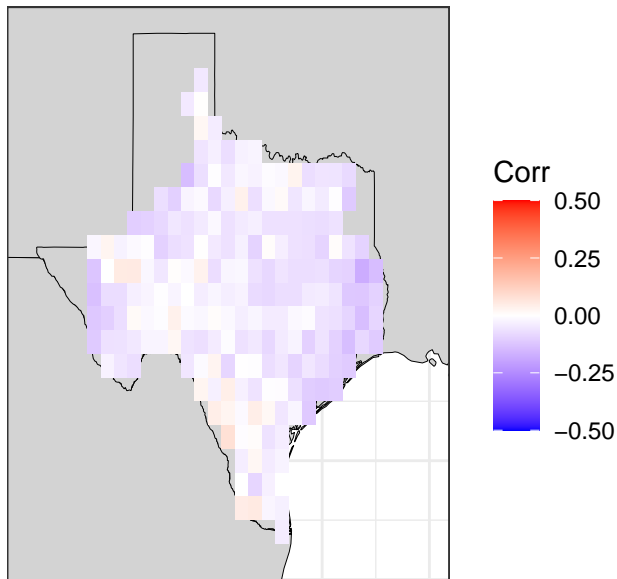
Mar–April–May



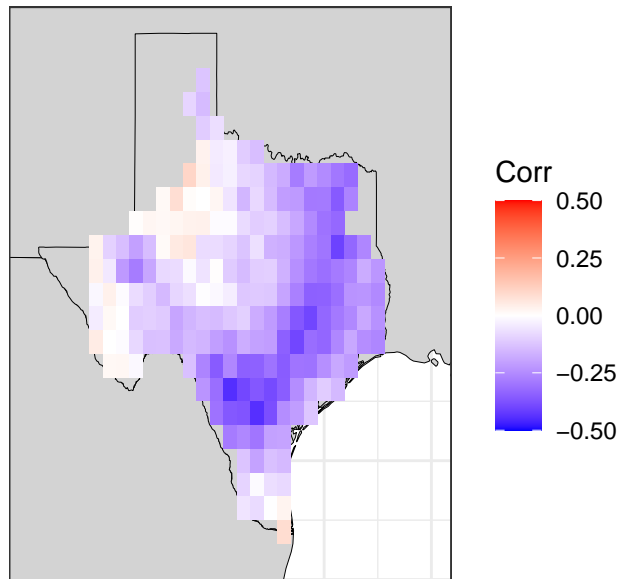
Reanalysis Data Correlation – MAM



Median Simulation Correlation – MAM

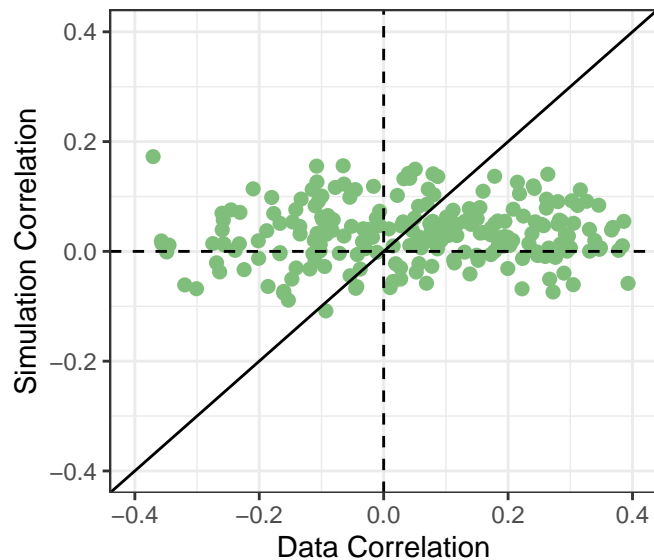


Difference between Data and Simulations

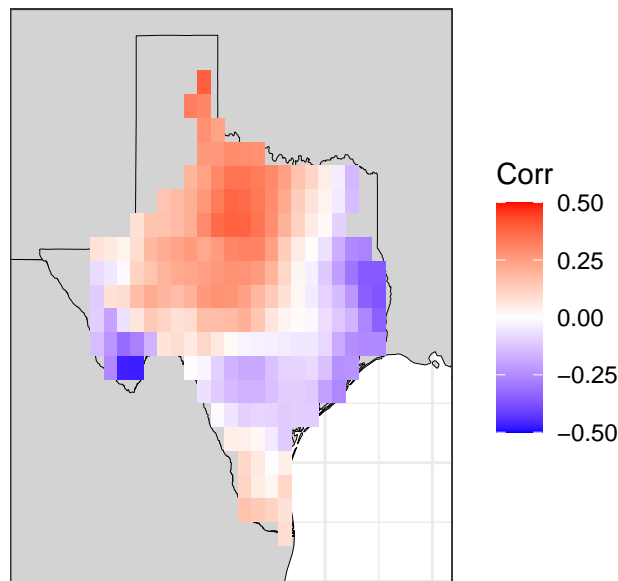


Simulation vs Data Correlation

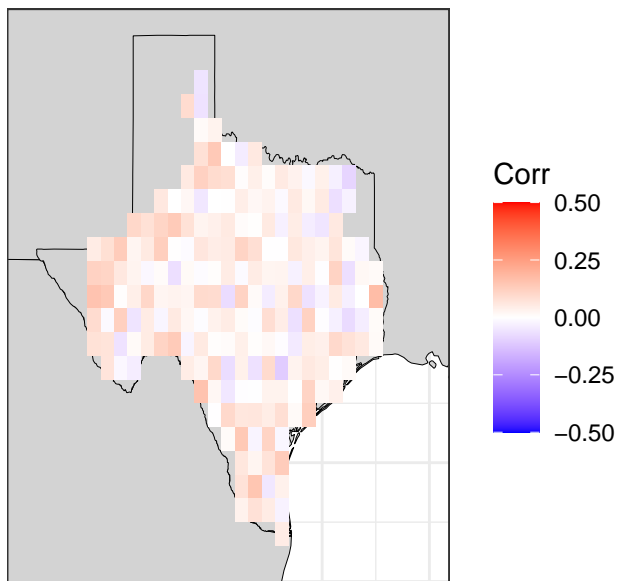
Jun–July–Aug



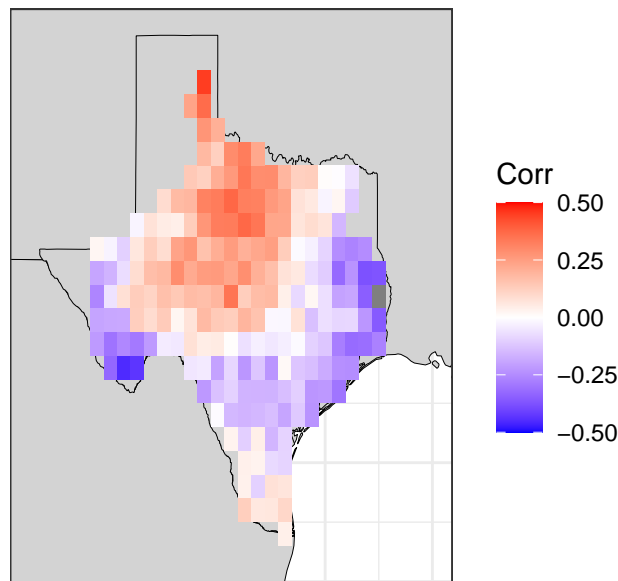
Reanalysis Data Correlation – JJA



Median Simulation Correlation – JJA

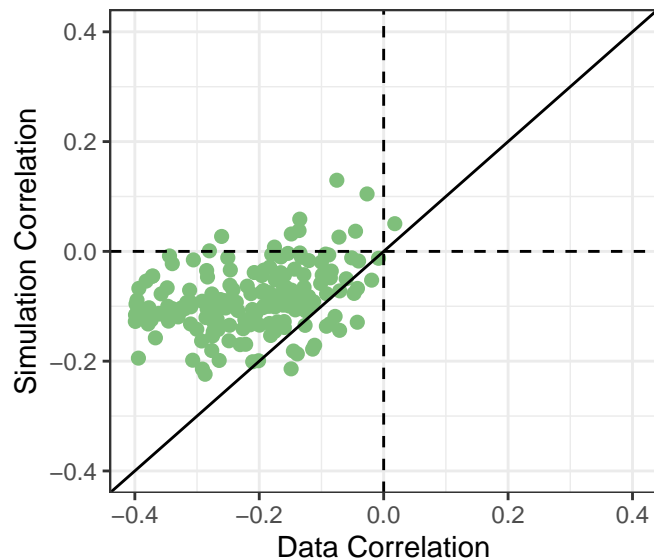


Difference between Data and Simulations

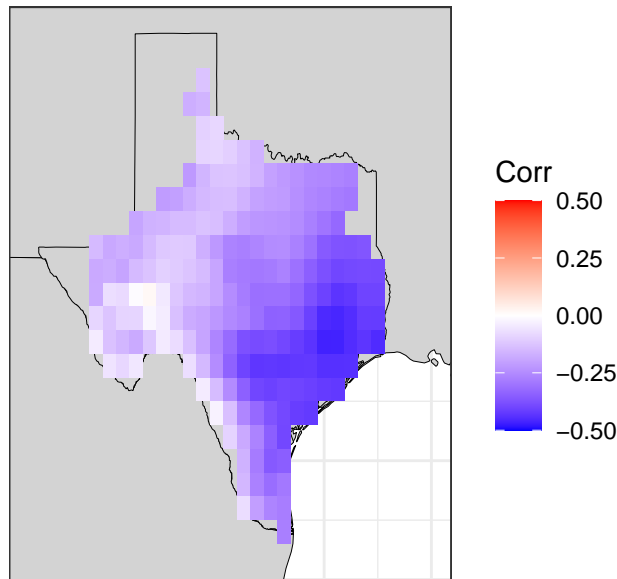


Simulation vs Data Correlation

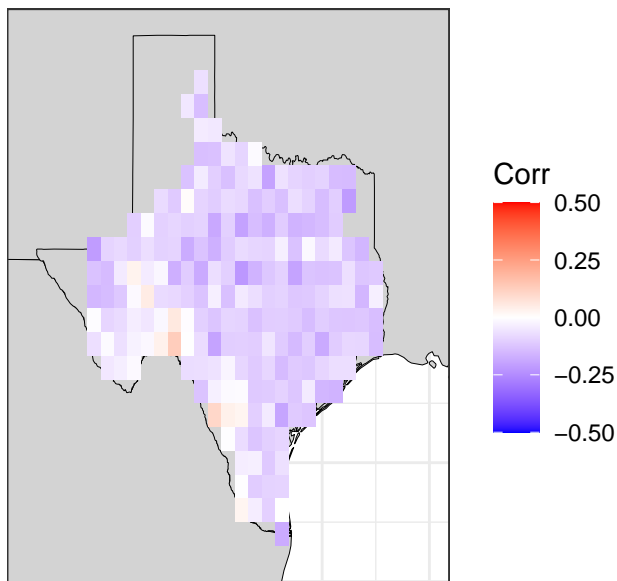
Sept–Oct–Nov



Reanalysis Data Correlation – SON



Median Simulation Correlation – SON



Difference between Data and Simulations

