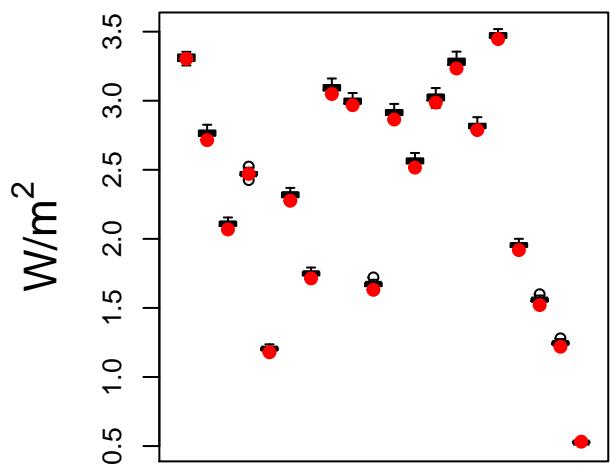
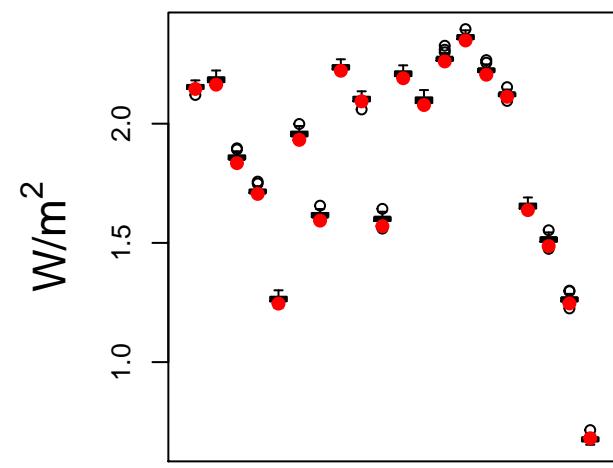
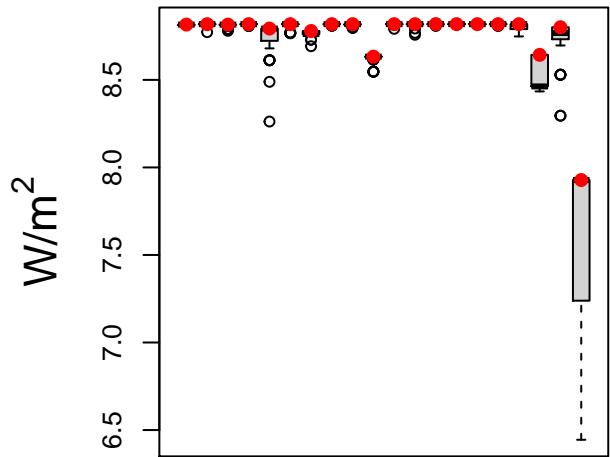
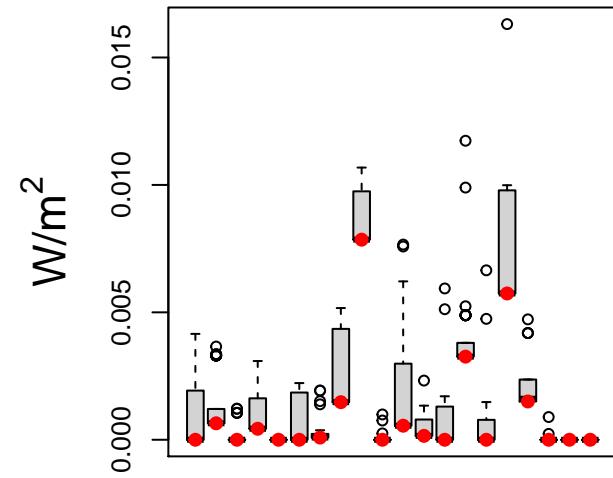
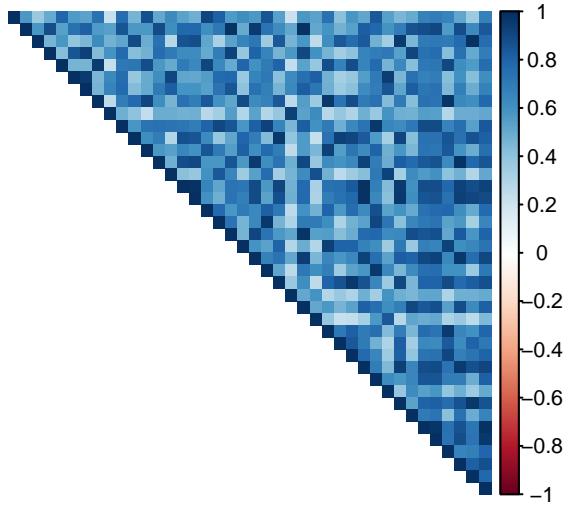
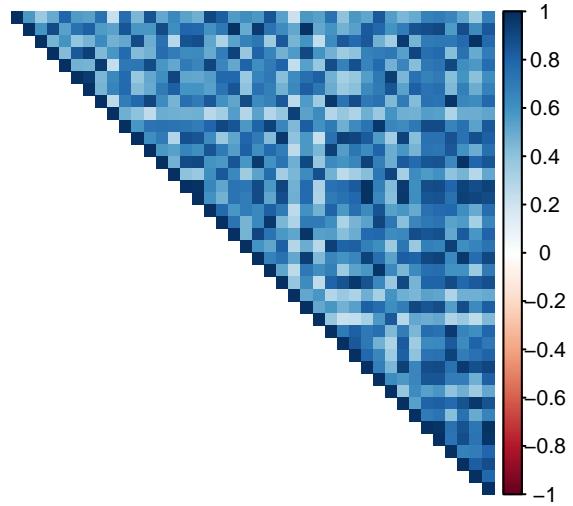


Mean – Wind**Stan Dev – Wind****Maximum – Wind****Minimum – Wind**

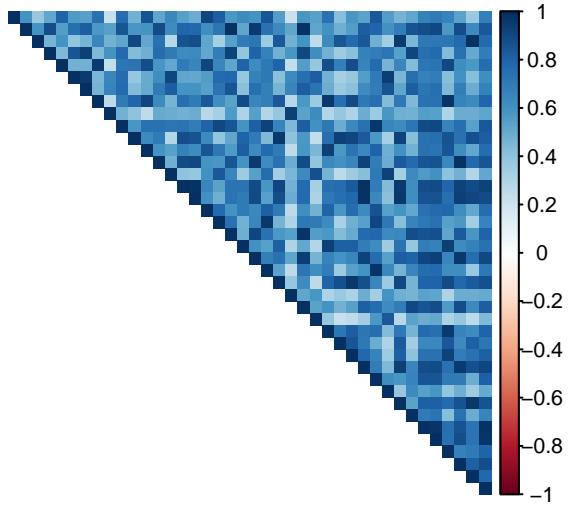
**Cross Correlation
Data**



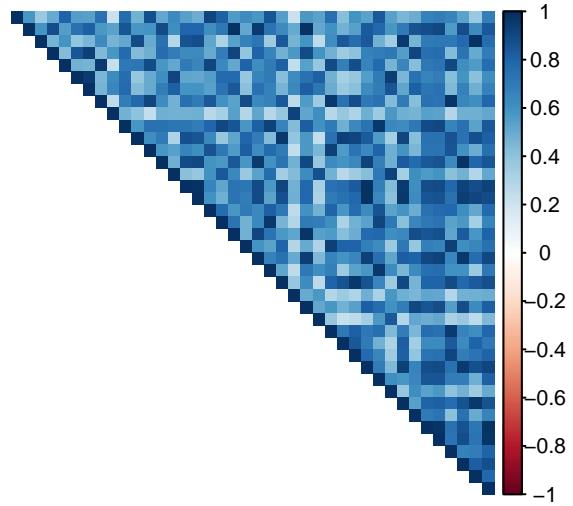
**Cross Correlation
Simulation Run – 8**



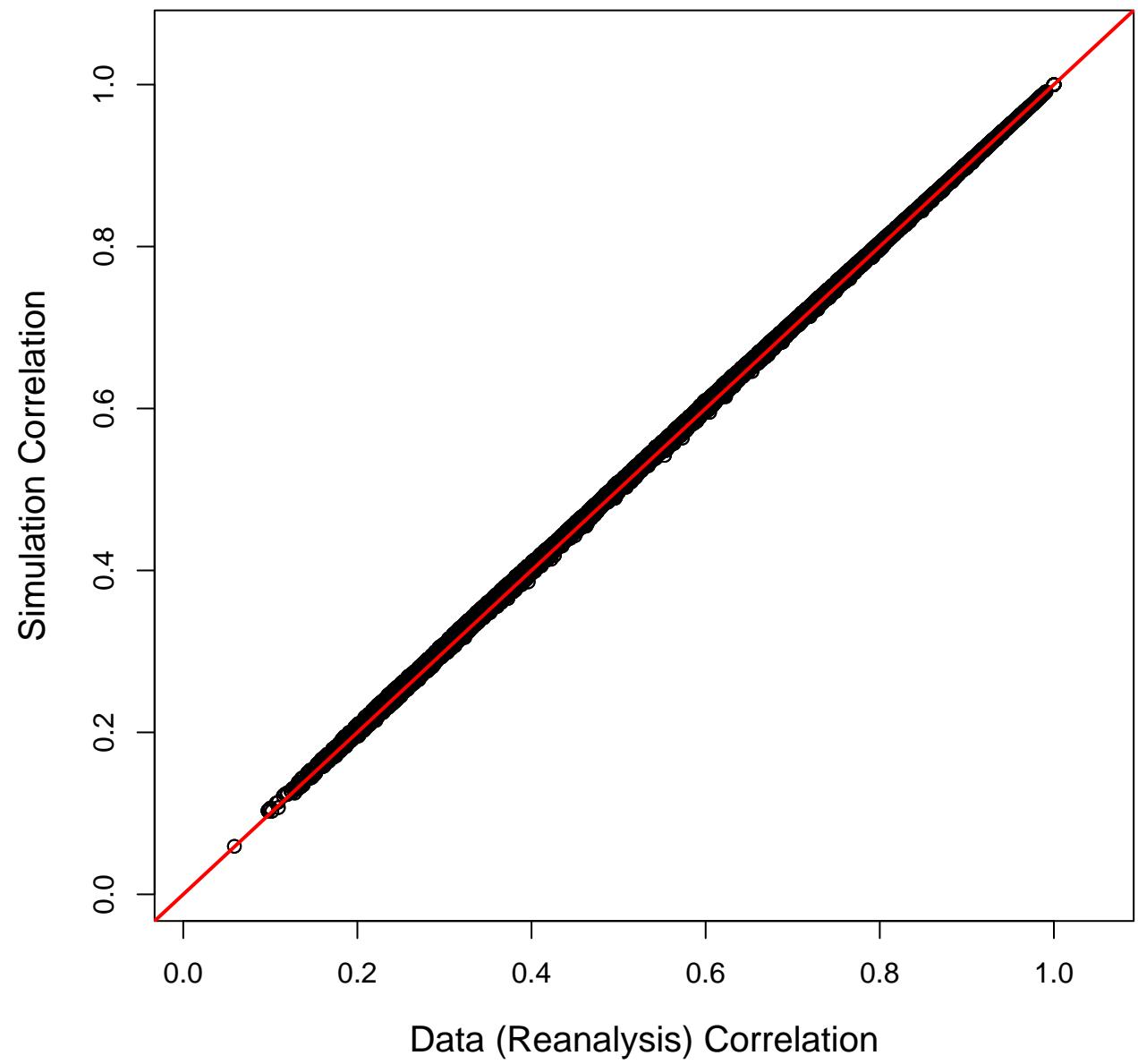
**Cross Correlation
Simulation Run – 13**



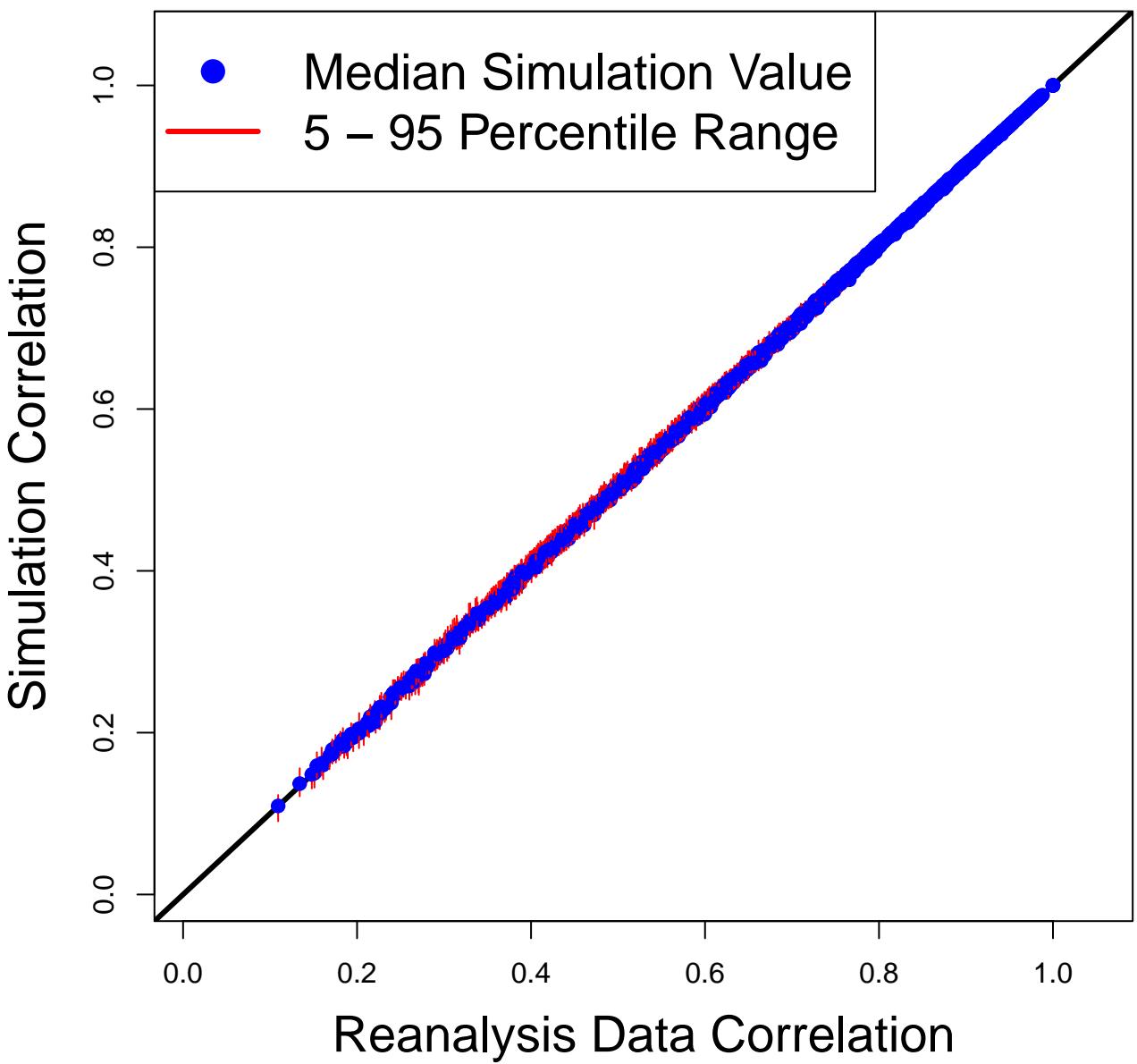
**Cross Correlation
Simulation Run – 22**



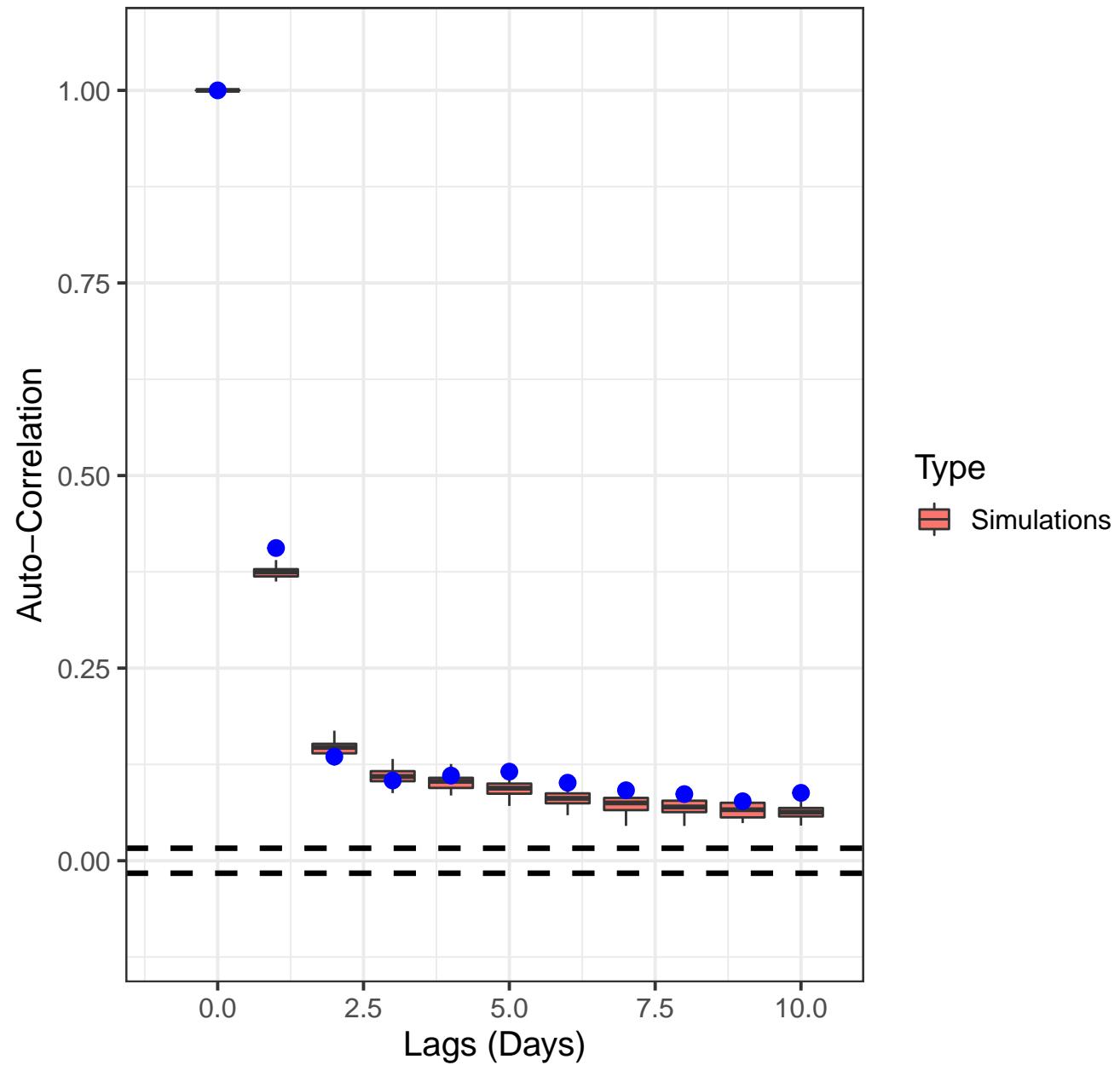
Cross Site Correlations – Wind

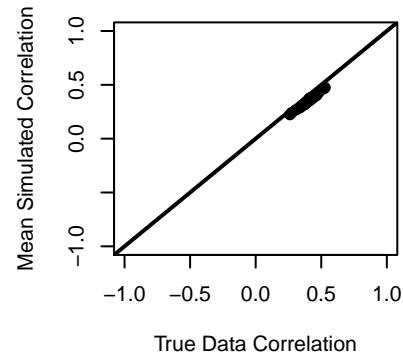
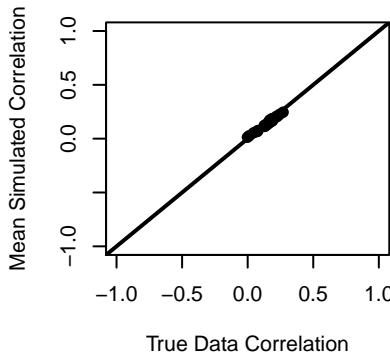
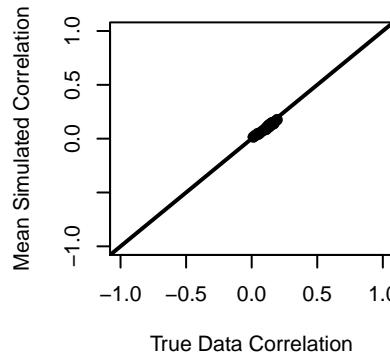
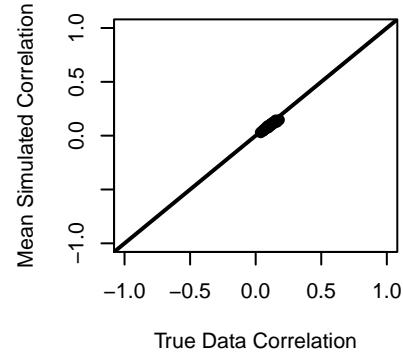
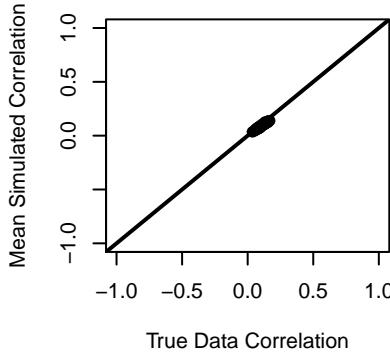
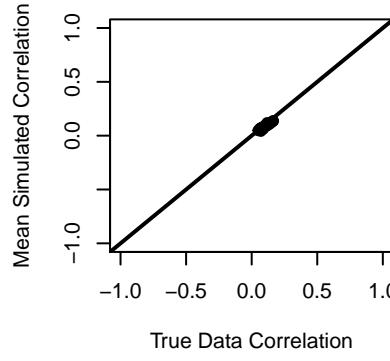
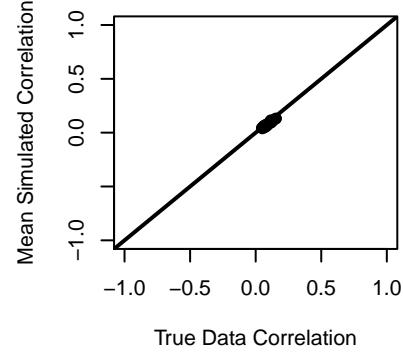
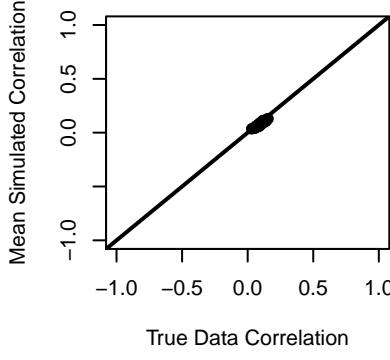
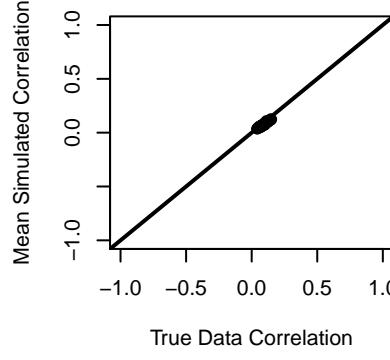


Cross Site Correlations – Wind

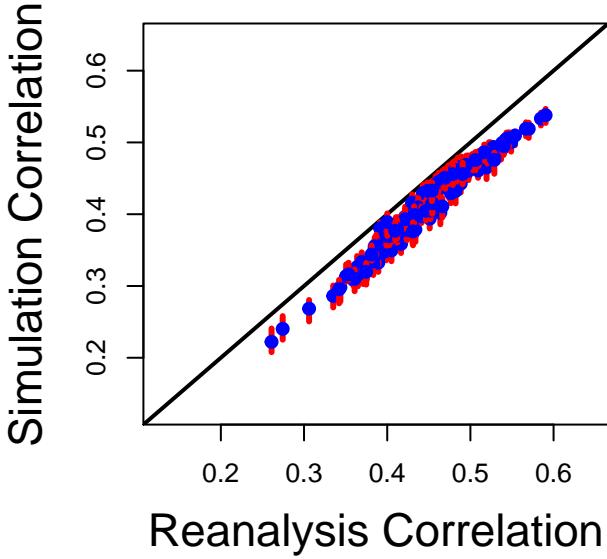


ACF – Single Random Site – Wind

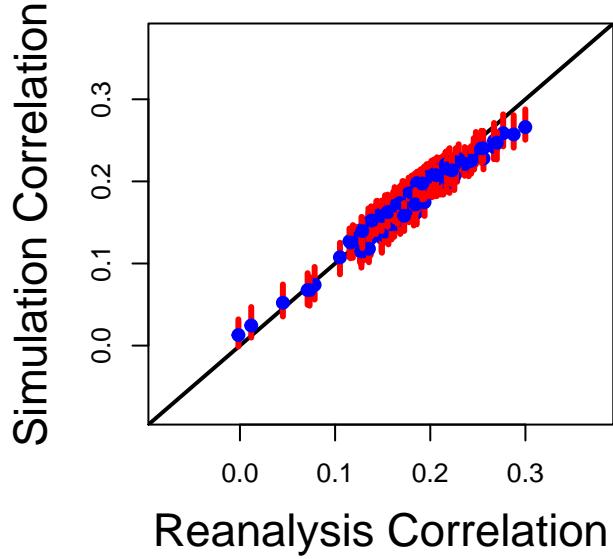


Lag-1 Correlations – Wind**Lag-2 Correlations – Wind****Lag-3 Correlations – Wind****Lag-4 Correlations – Wind****Lag-5 Correlations – Wind****Lag-6 Correlations – Wind****Lag-7 Correlations – Wind****Lag-8 Correlations – Wind****Lag-9 Correlations – Wind**

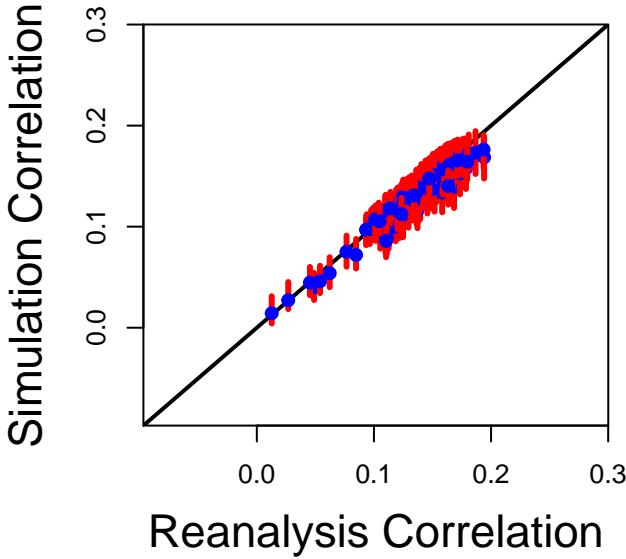
Lag-1 – Wind



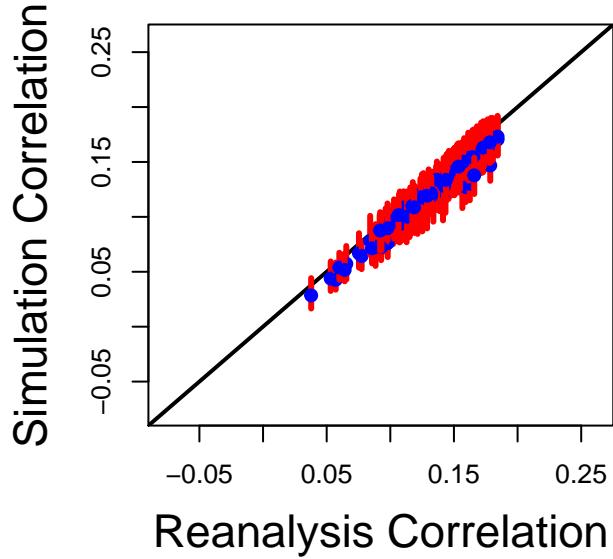
Lag-2 – Wind



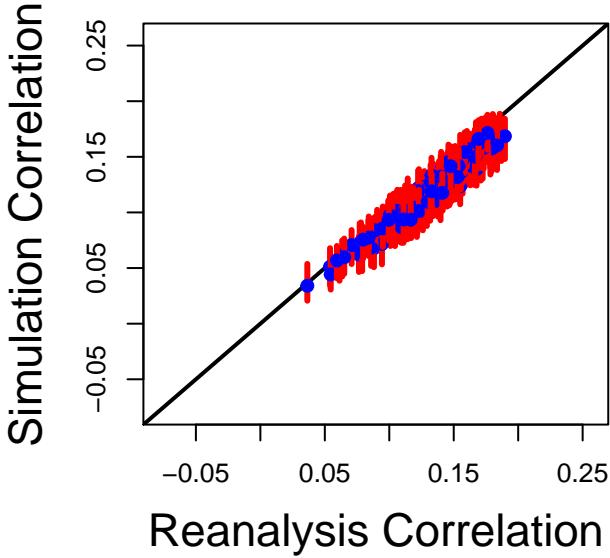
Lag-3 – Wind



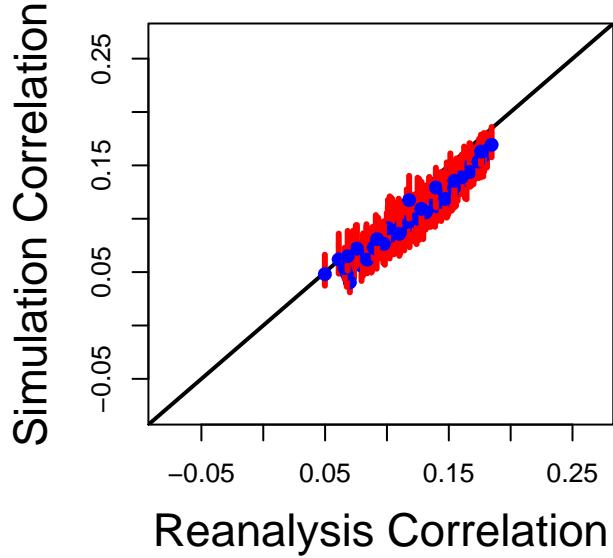
Lag-4 – Wind



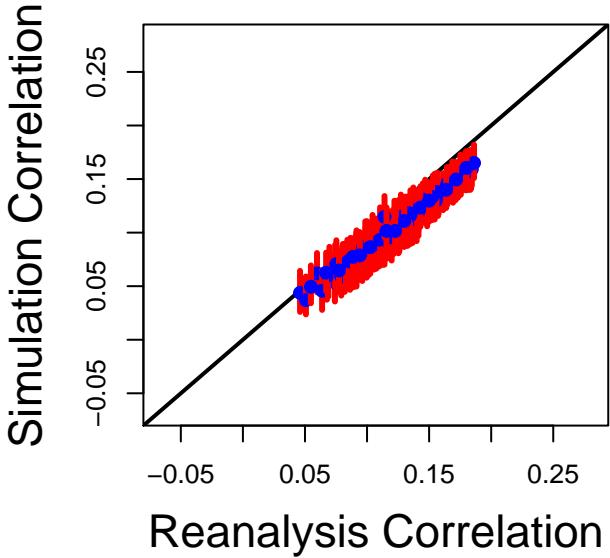
Lag-5 – Wind



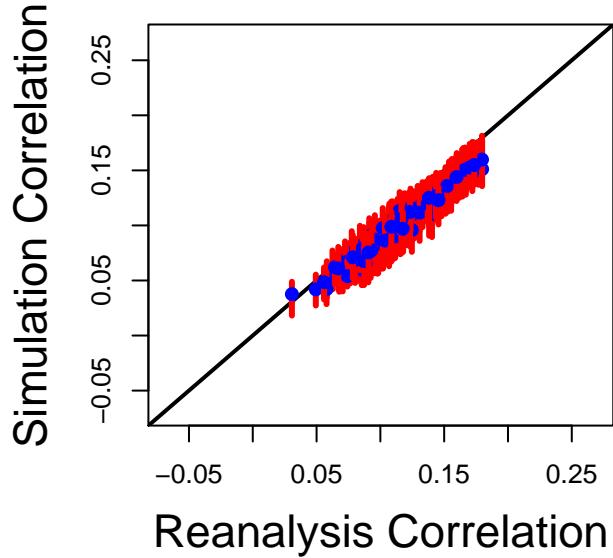
Lag-6 – Wind



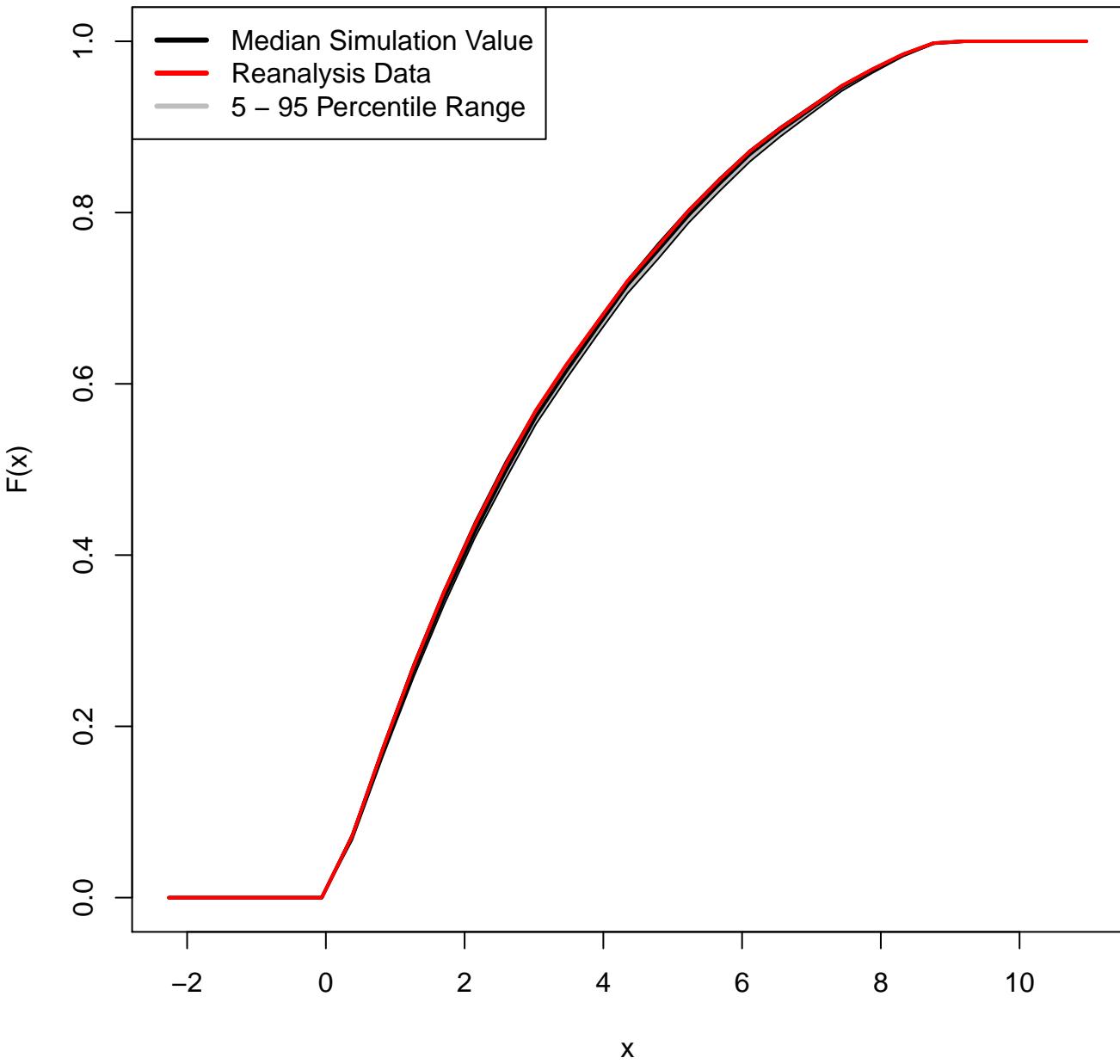
Lag-7 – Wind



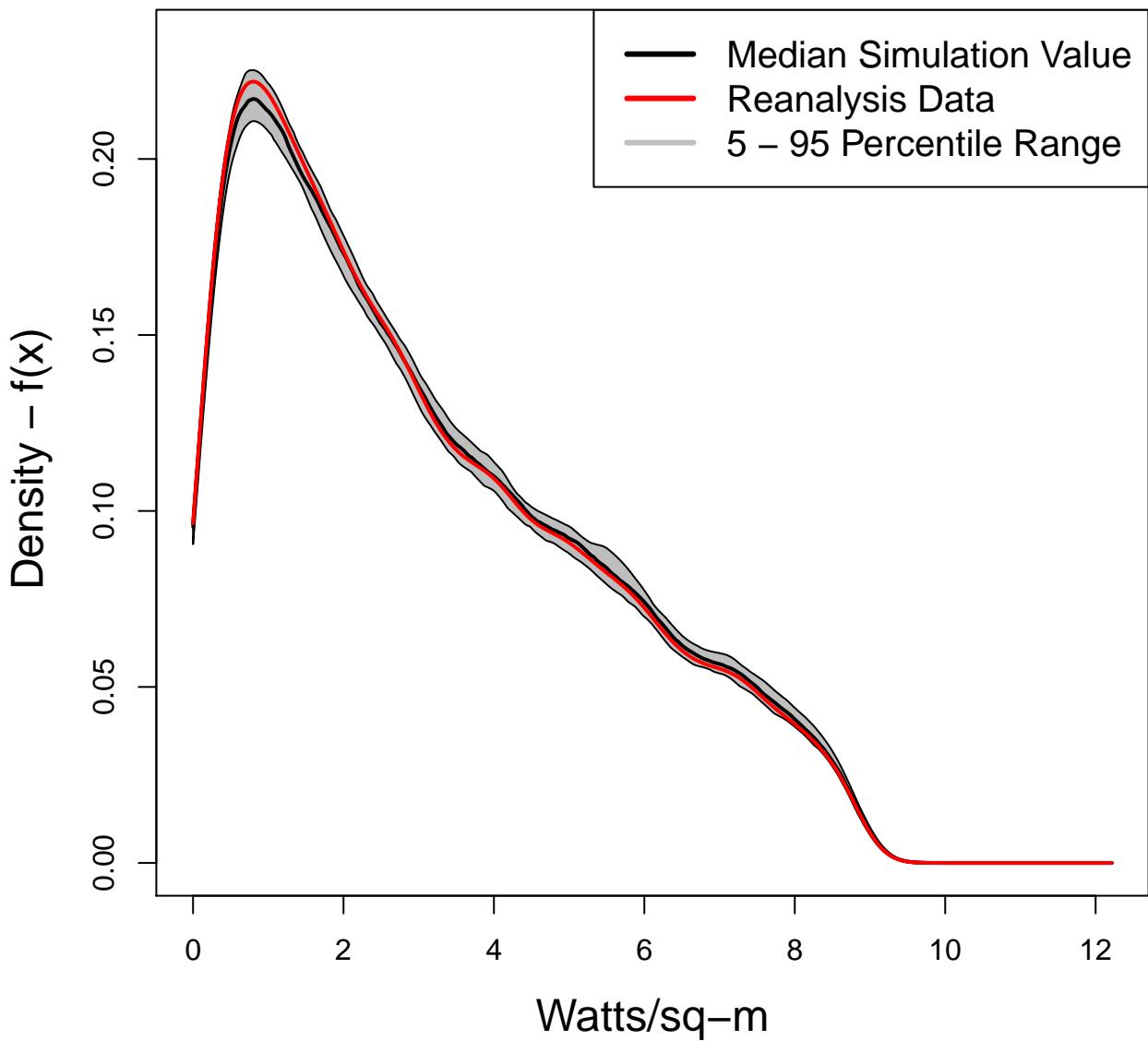
Lag-8 – Wind

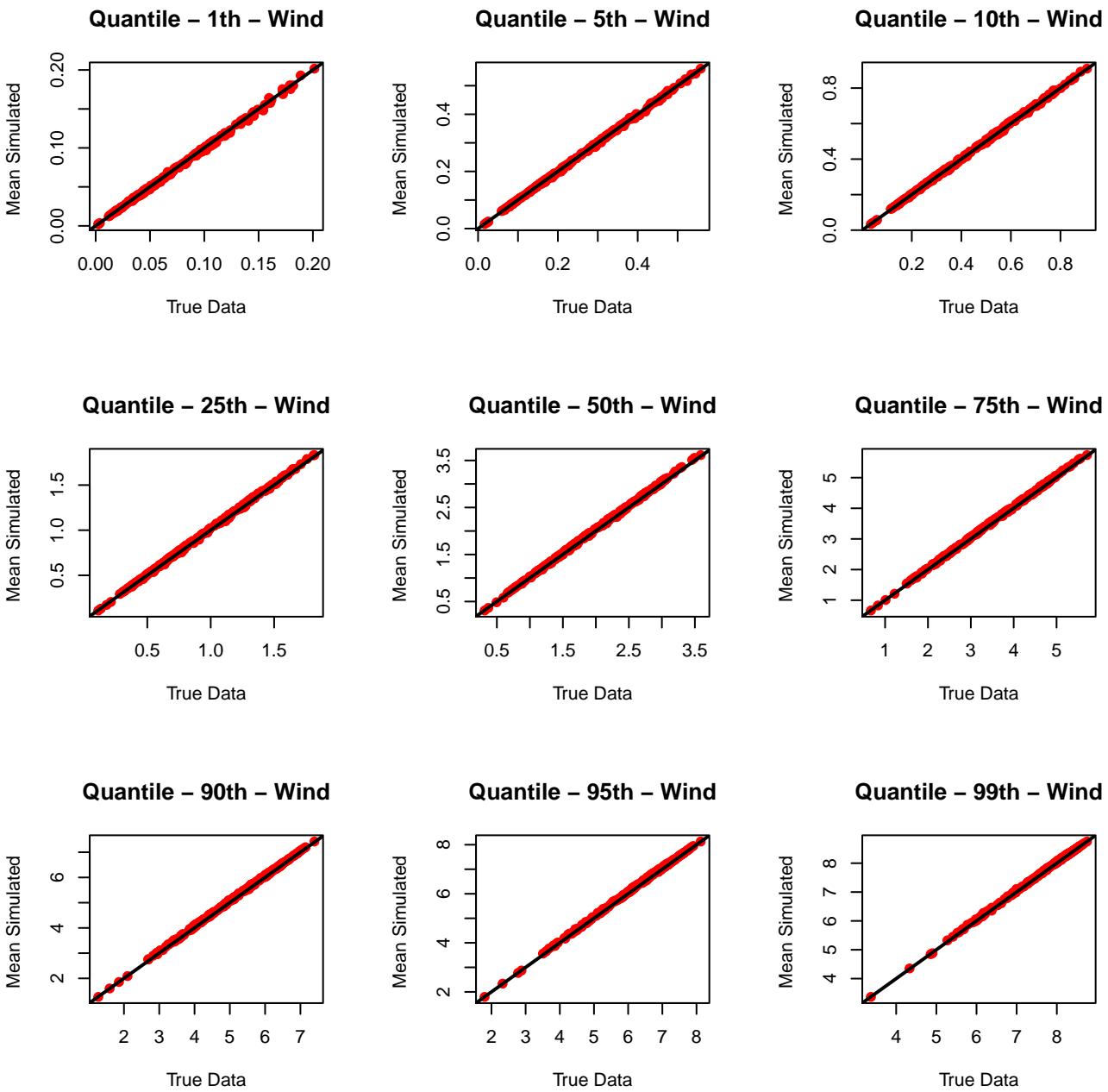


True vs Simulated CDF for Single Site – Wind

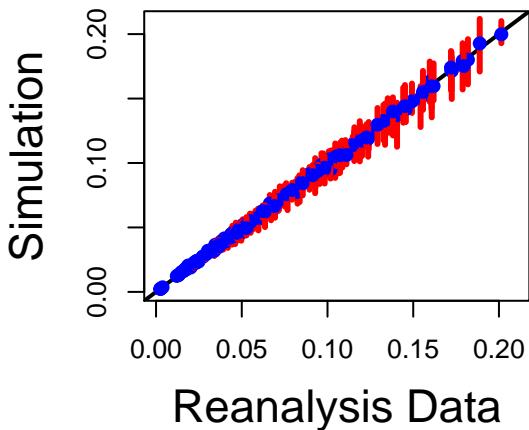


PDF at a single site – Wind

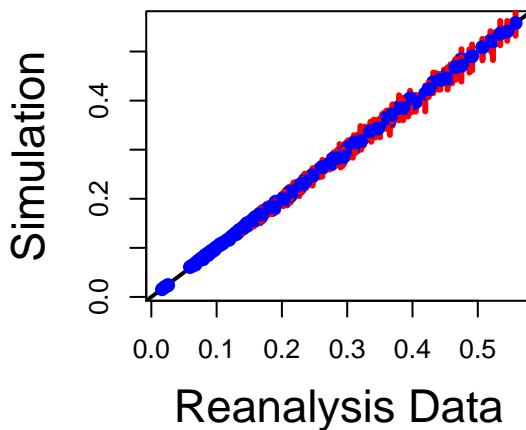




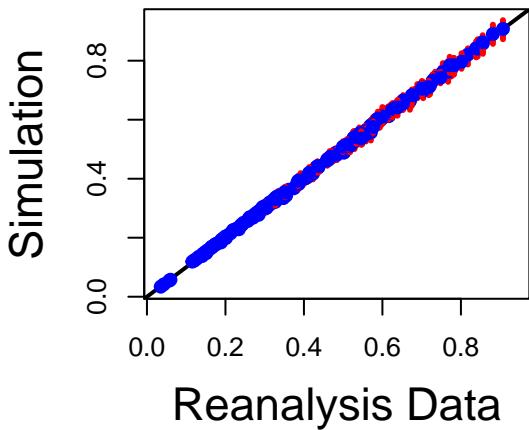
1th Quantile – Wind



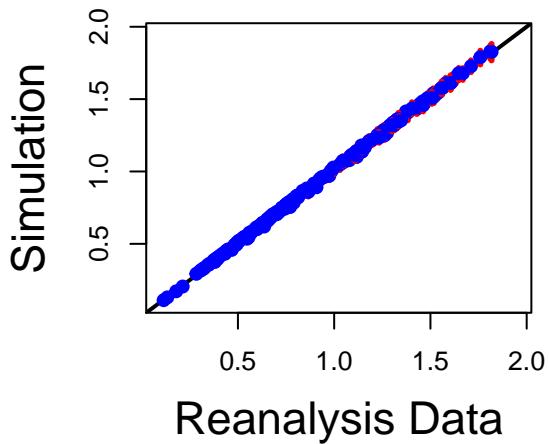
5th Quantile – Wind



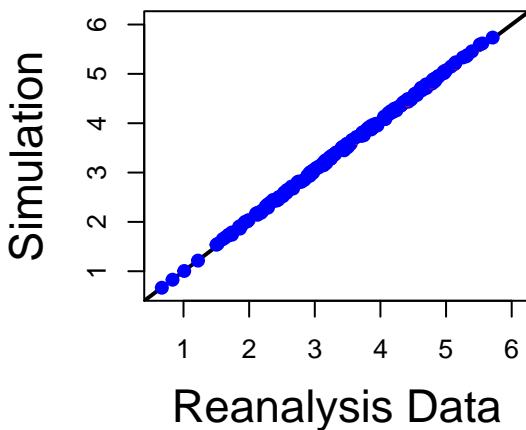
10th Quantile – Wind



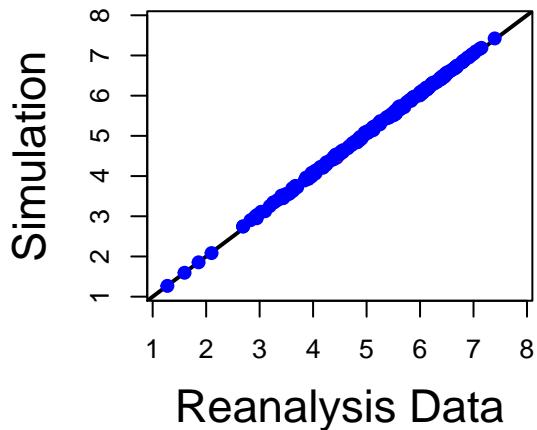
25th Quantile – Wind



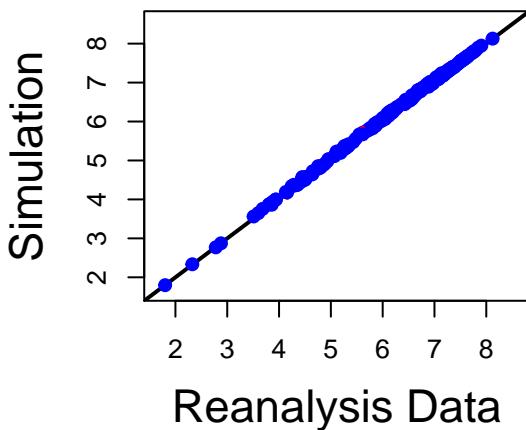
75th Quantile – Wind



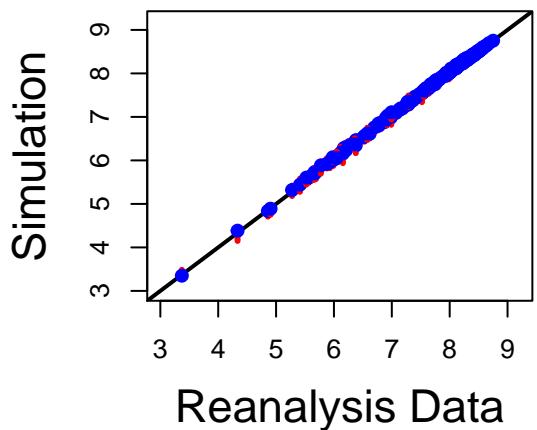
90th Quantile – Wind



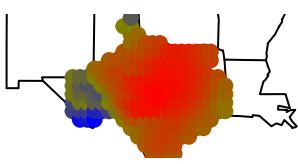
95th Quantile – Wind



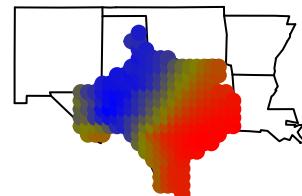
99th Quantile – Wind



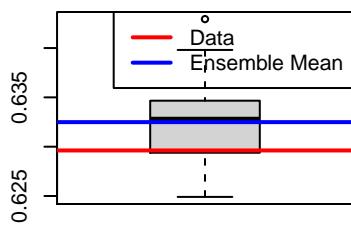
PC-1 – Wind–63%



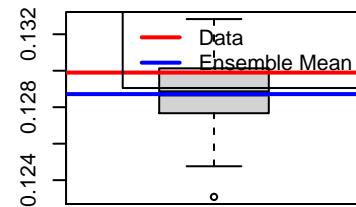
PC-2 – Wind–13%



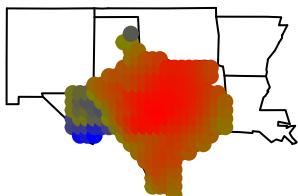
Simulated PC-1 Variance Wind



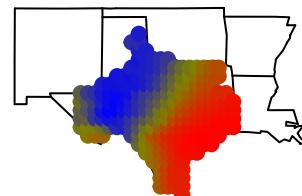
Simulated PC-2 Variance Wind



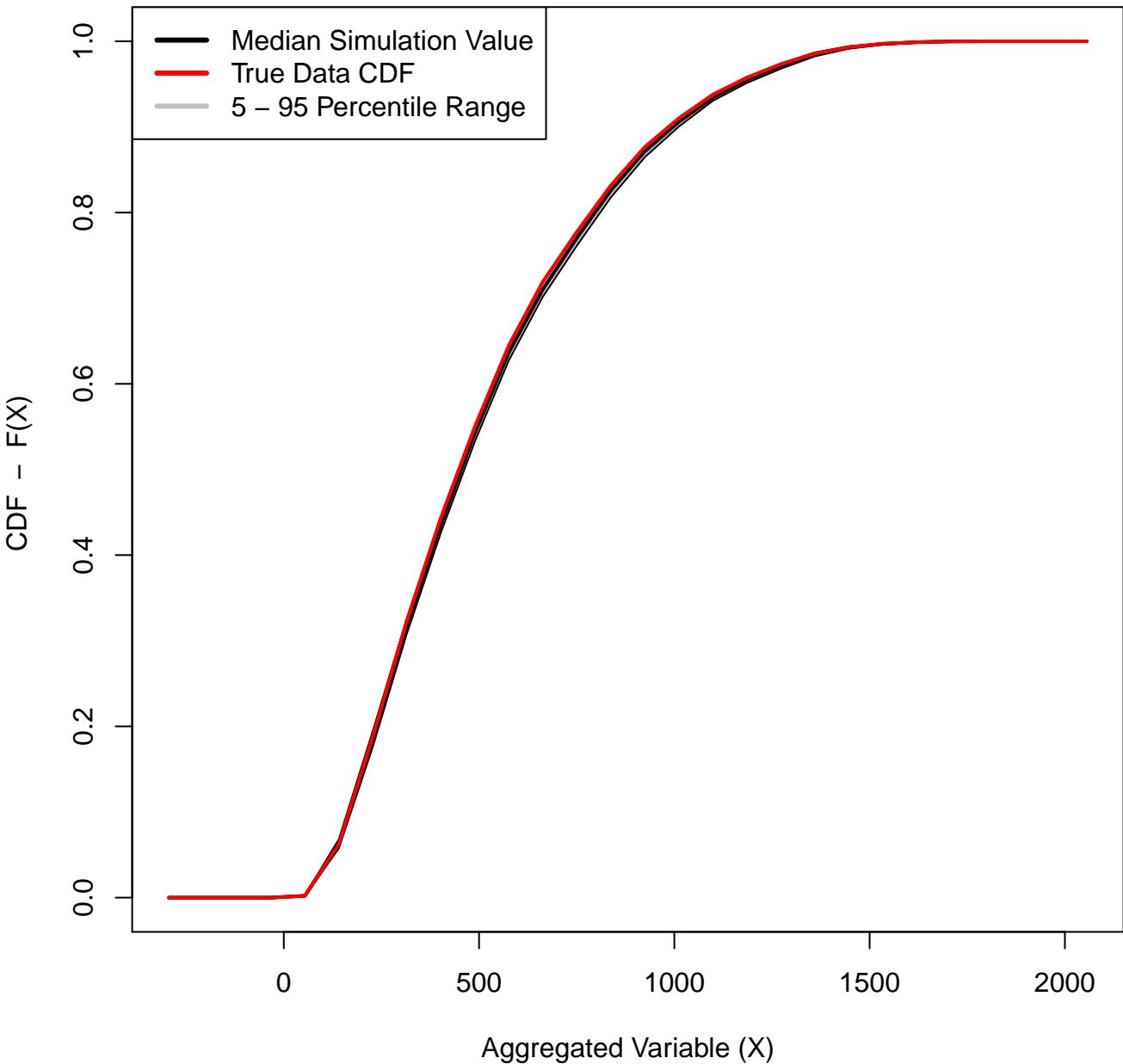
Ensemble Mean PC-1 – Wind–63%



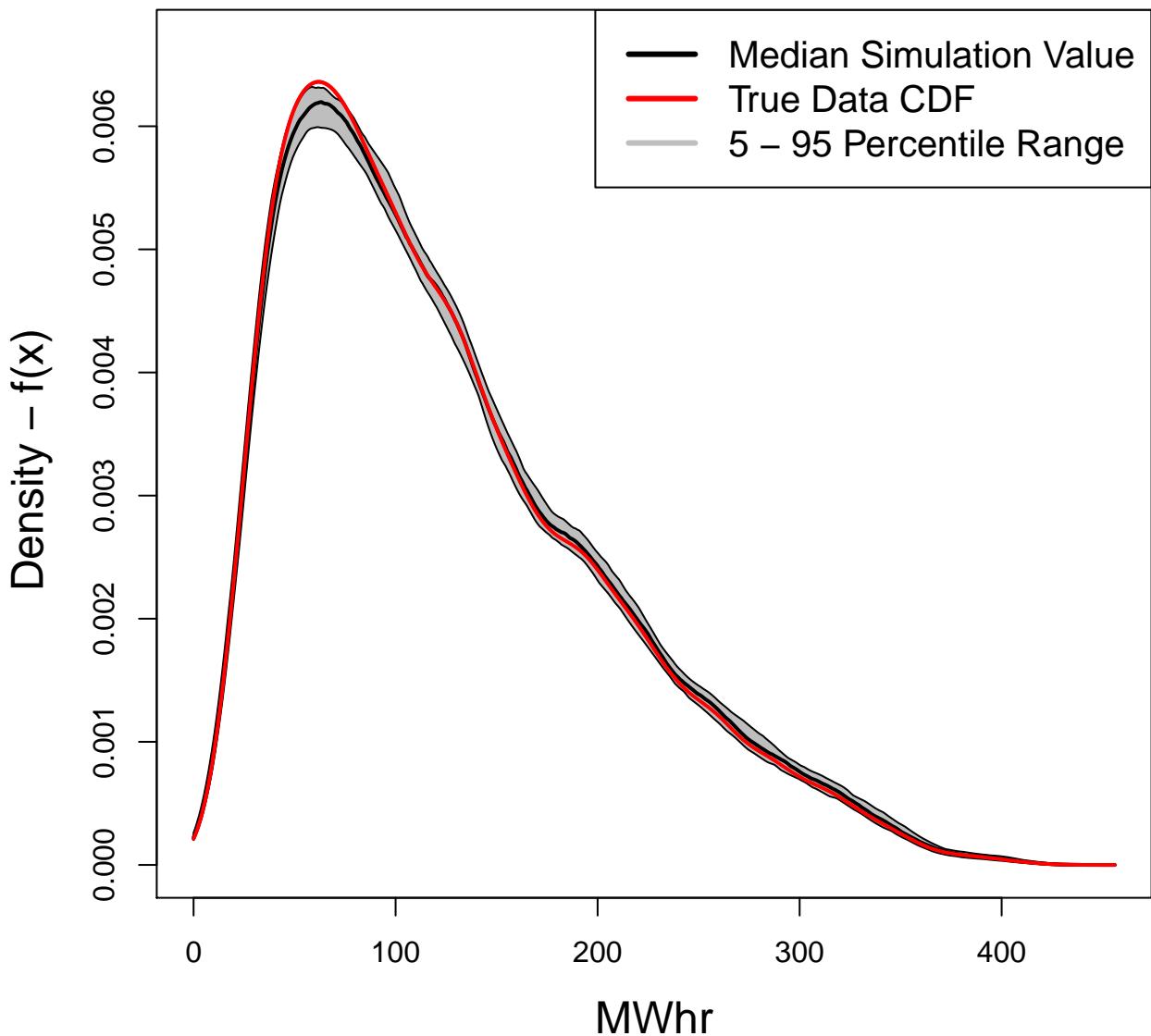
Ensemble Mean PC-2 – Wind–13%

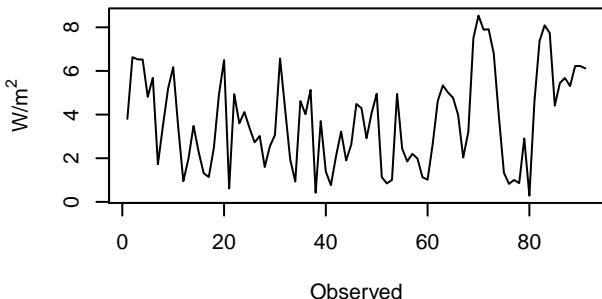
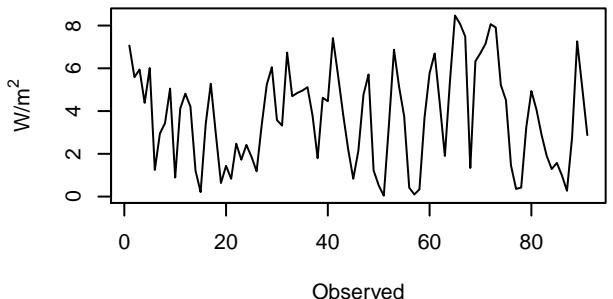
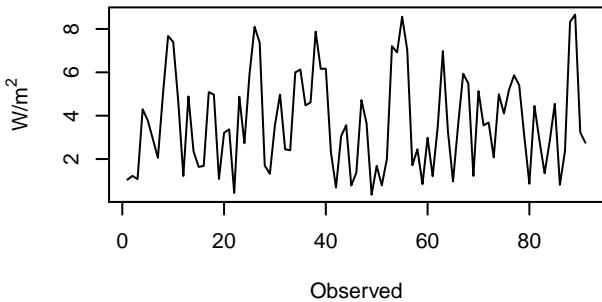
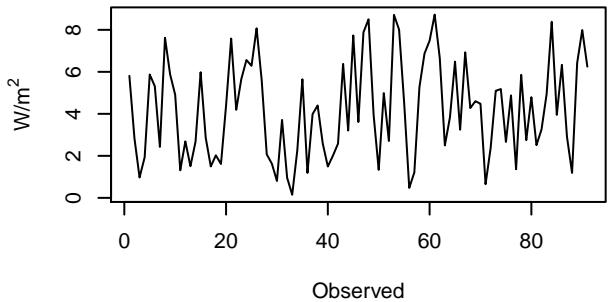
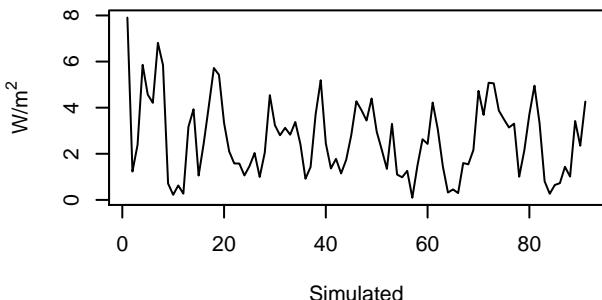
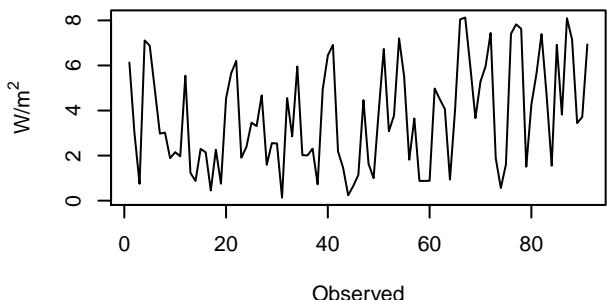


Simulated CDF for Entire Field – Wind

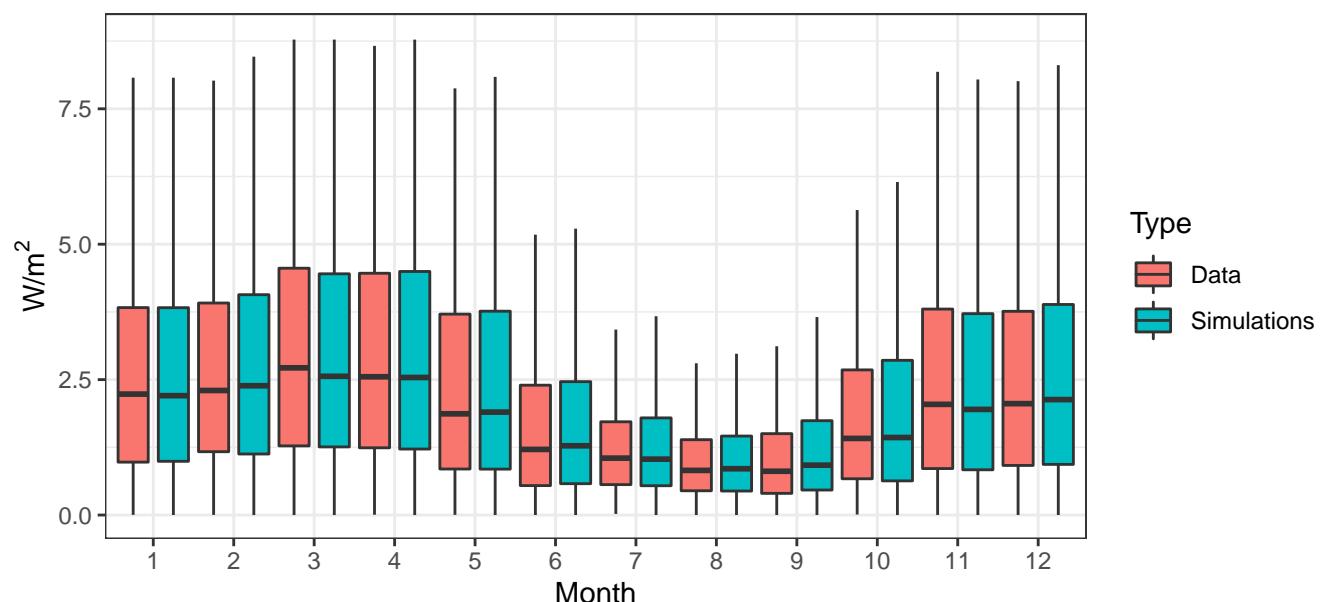


Daily Generation Potential across ERCOT – Wind

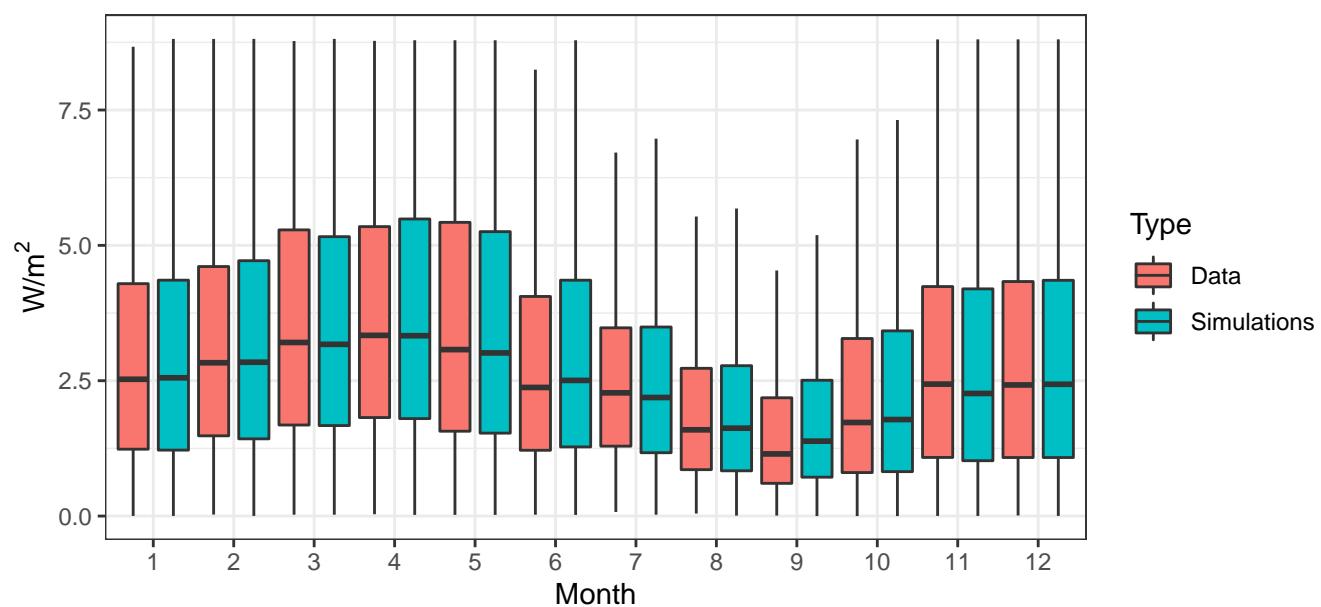




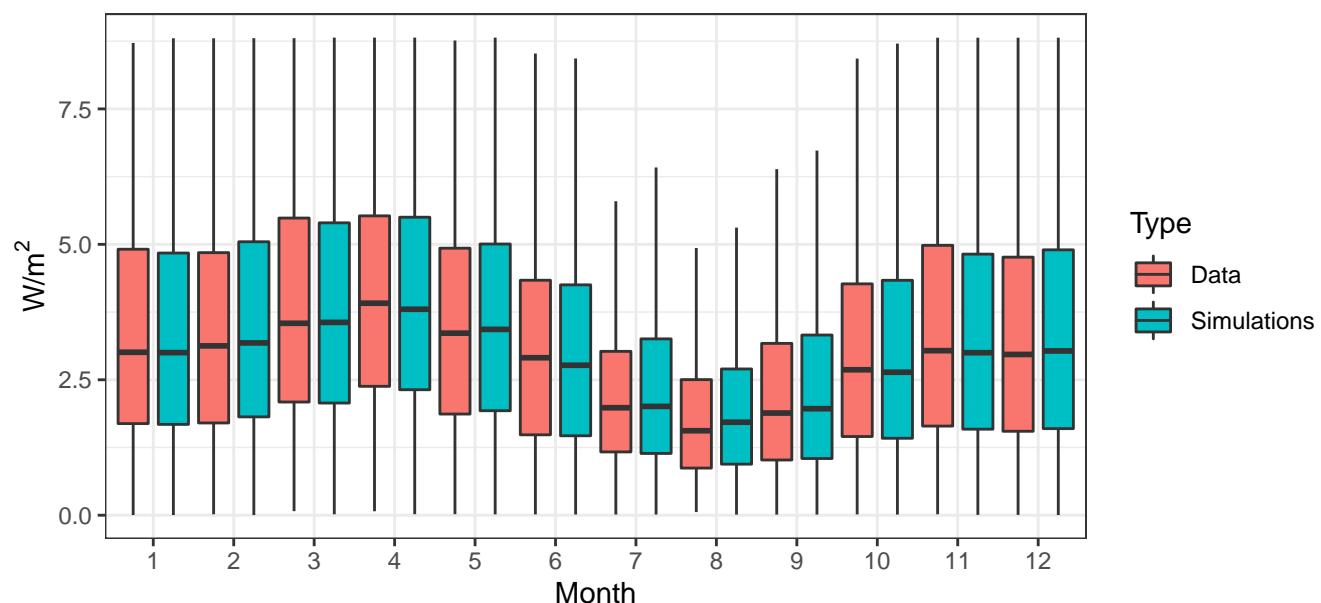
Wind Distribution for Site/Grid – 174



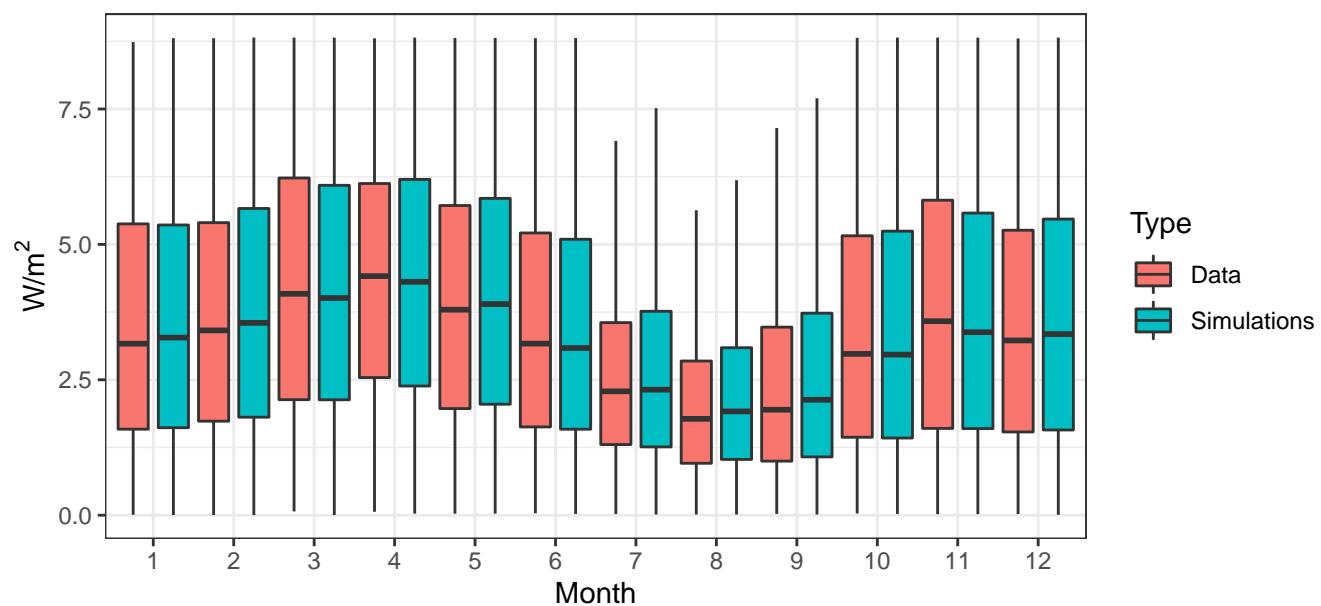
Wind Distribution for Site/Grid – 145



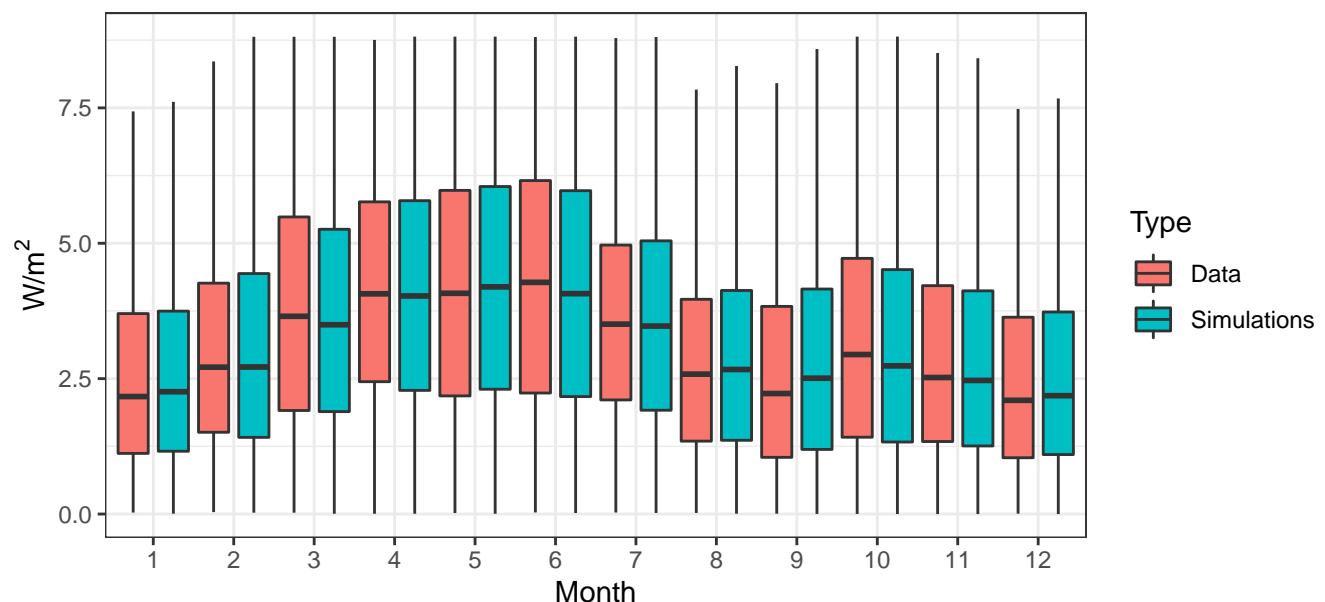
Wind Distribution for Site/Grid – 37



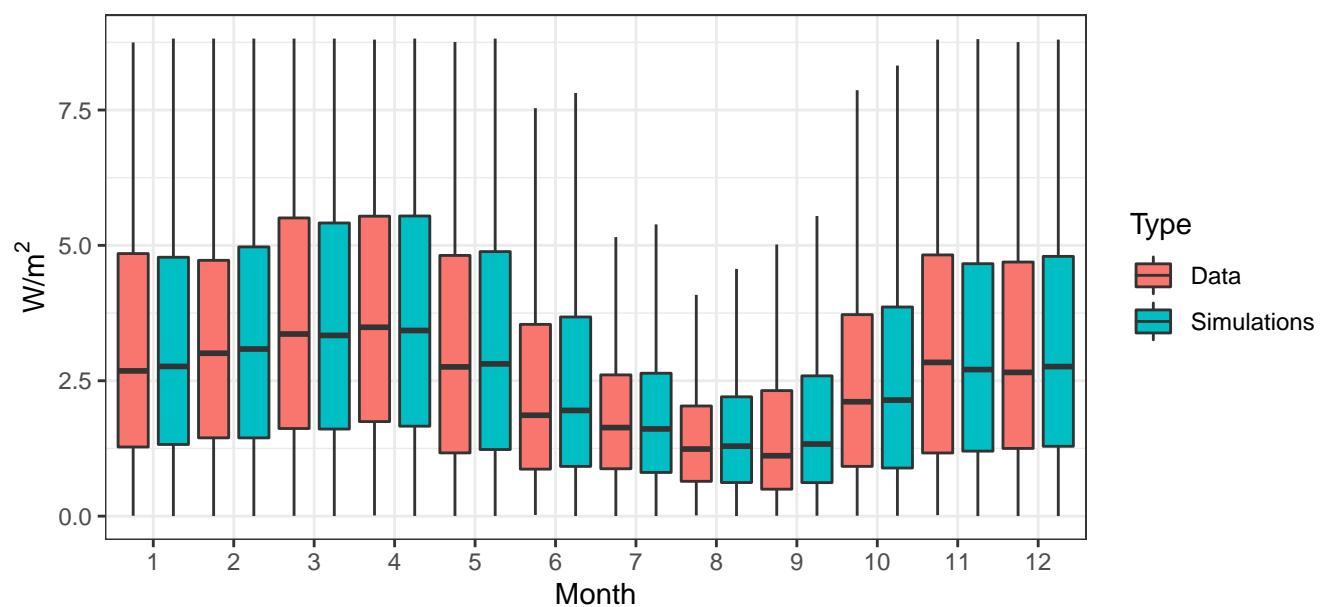
Wind Distribution for Site/Grid – 50



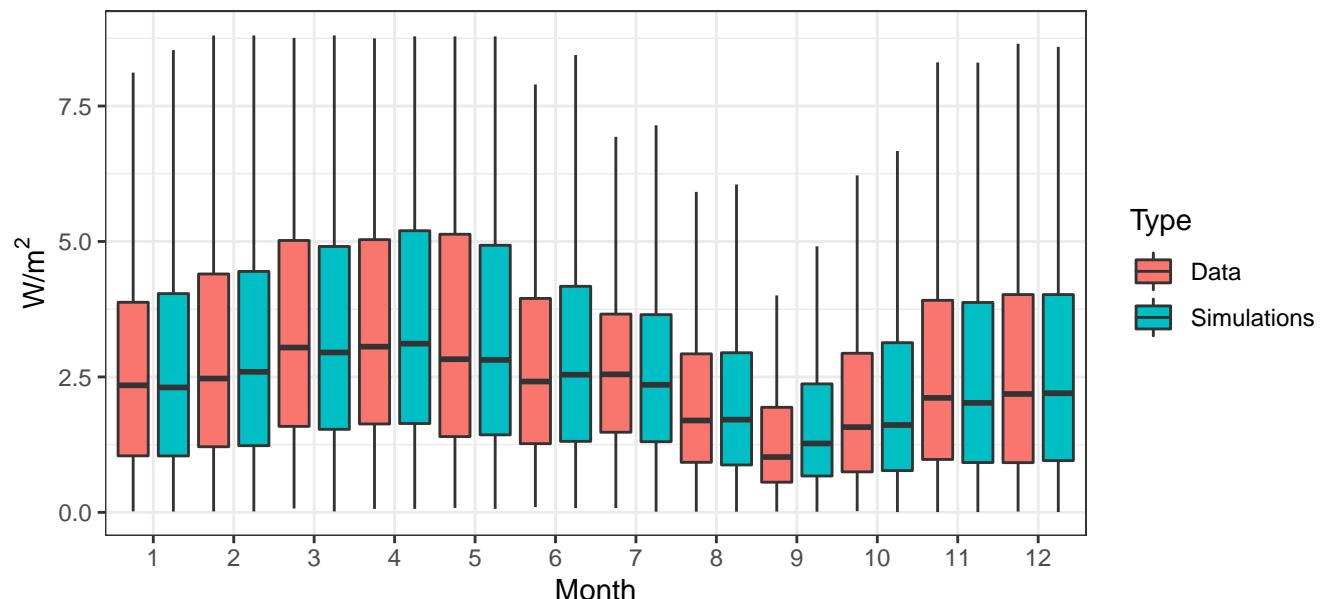
Wind Distribution for Site/Grid – 38



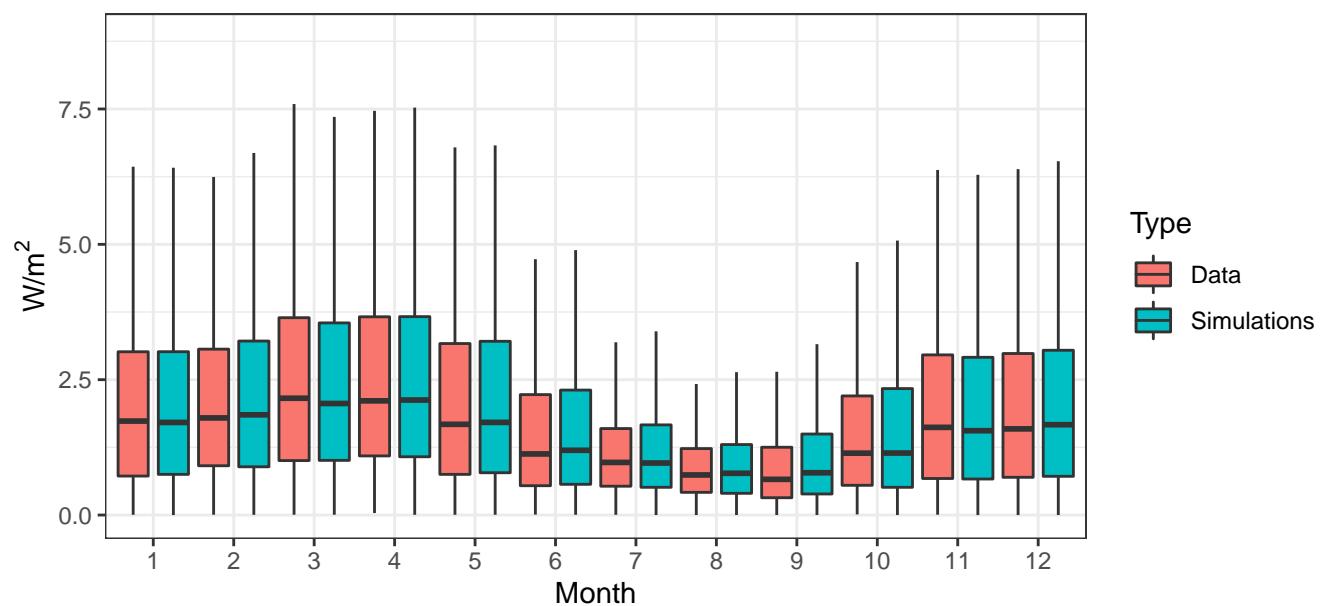
Wind Distribution for Site/Grid – 137



Wind Distribution for Site/Grid – 127

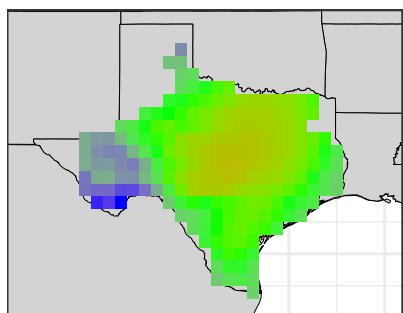


Wind Distribution for Site/Grid – 135

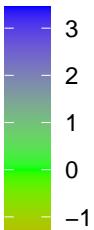


Data PC-1 Wind

Fractional Variance – 63%

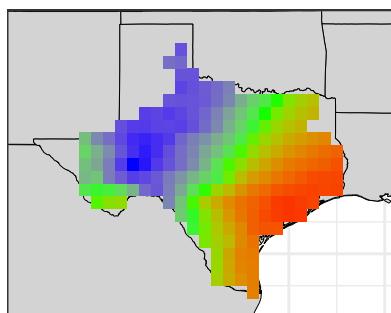


Eigenvectors

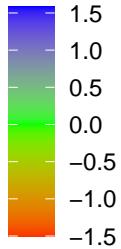


Data PC-1 Wind

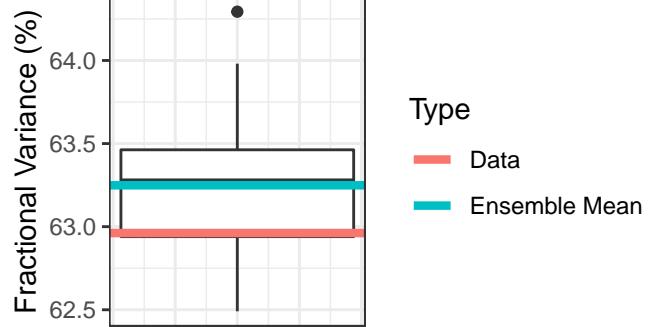
Fractional Variance – 13%



Eigenvectors



Simulated PC-1 Variance Wind

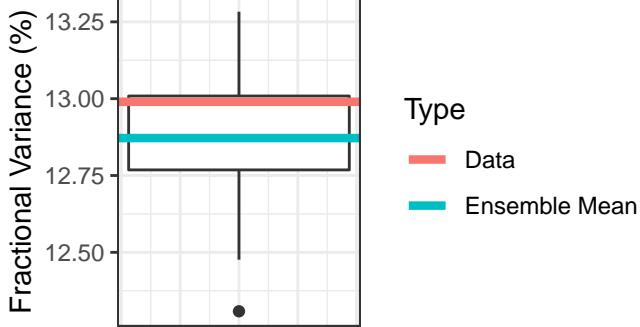


Type

Data

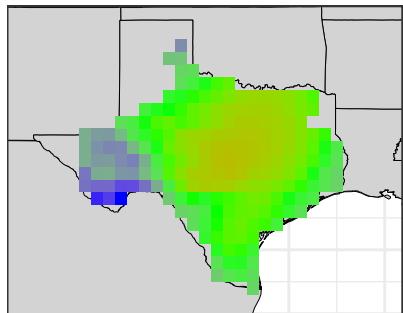
Ensemble Mean

Simulated PC-2 Variance Wind

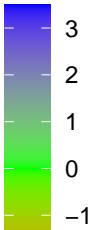


Ensemble Mean PC-1 Wind

Fractional Variance – 63%

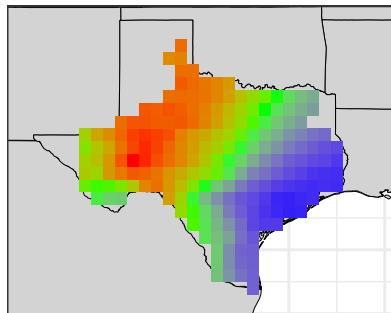


Eigenvectors

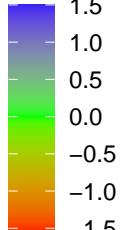


Ensemble Mean PC-2 Wind

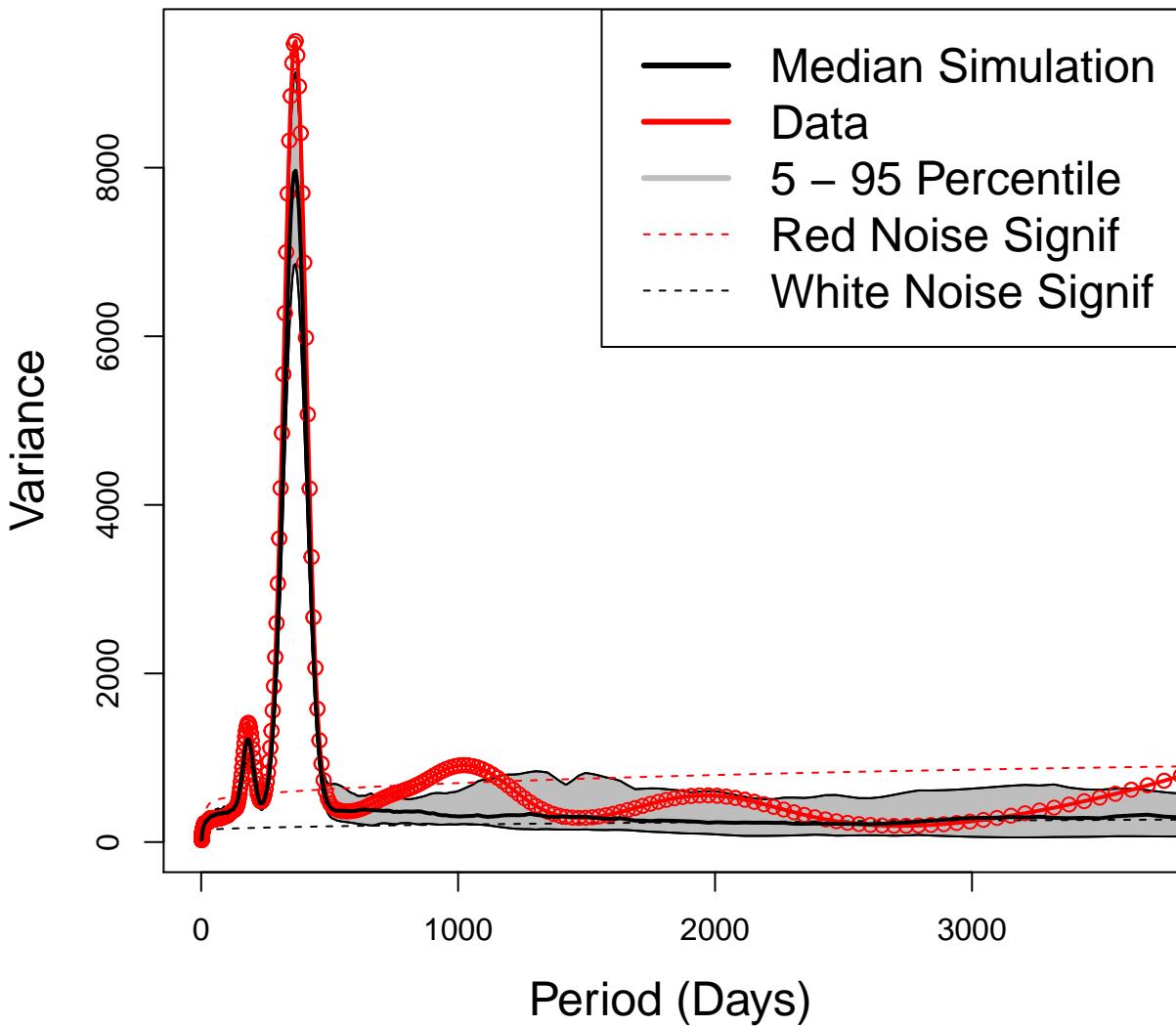
Fractional Variance – 13%



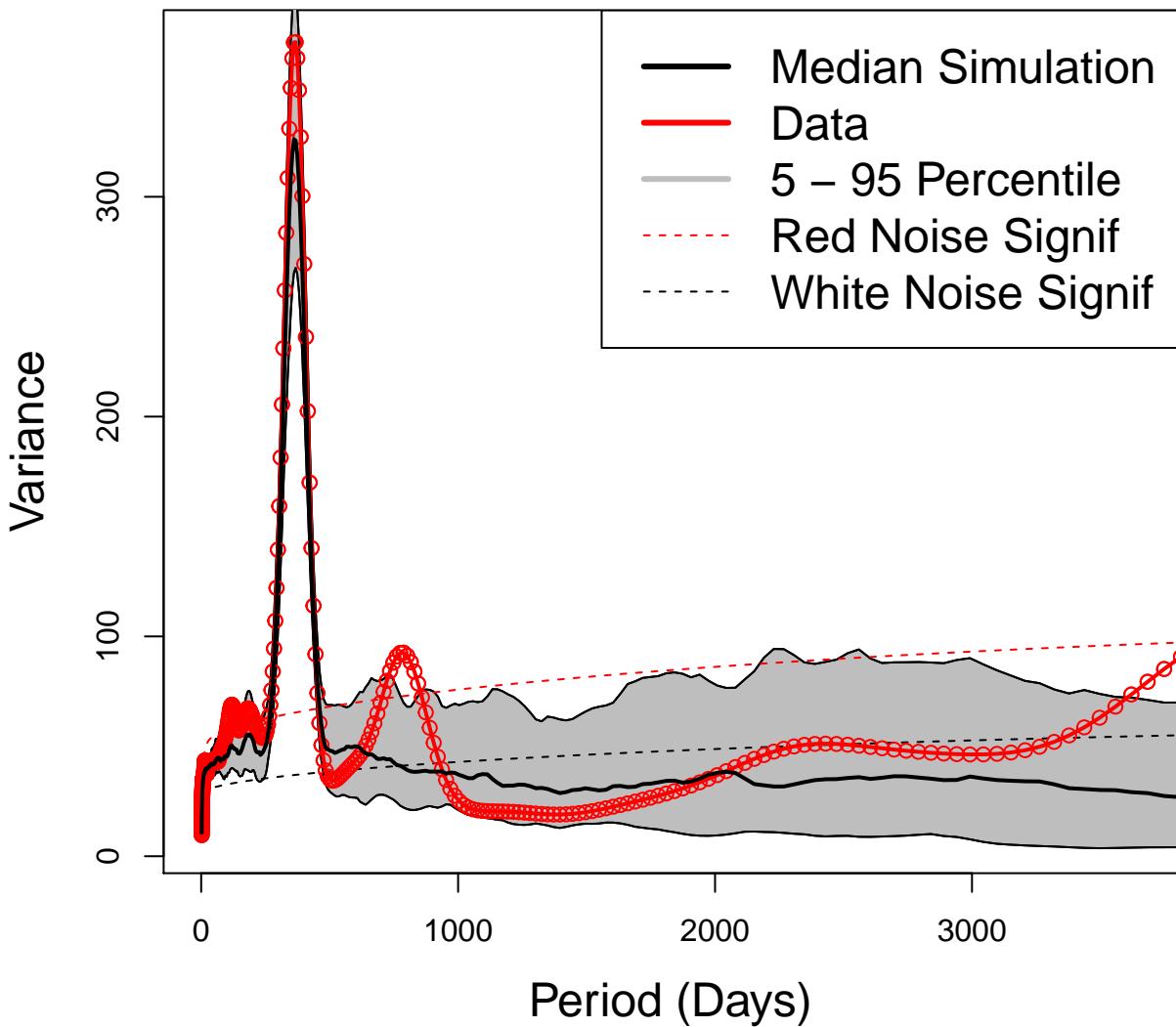
Eigenvectors

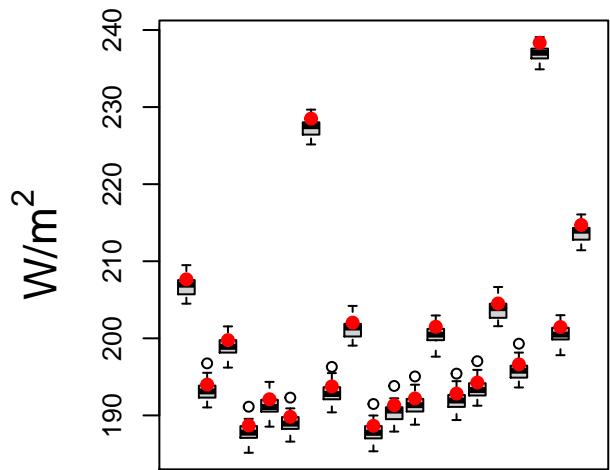
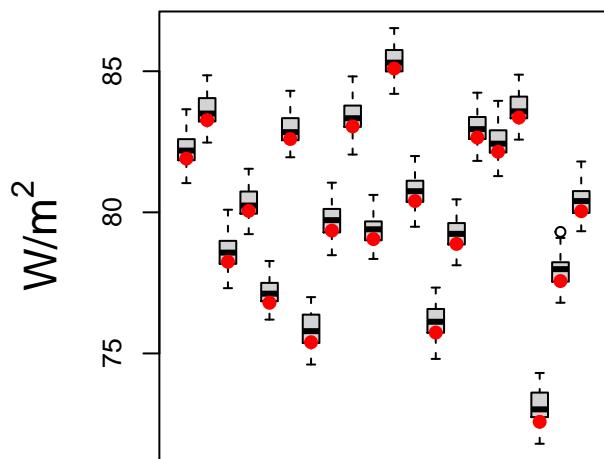
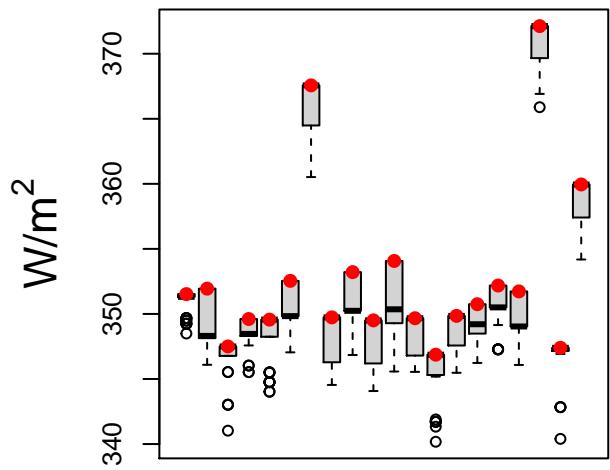
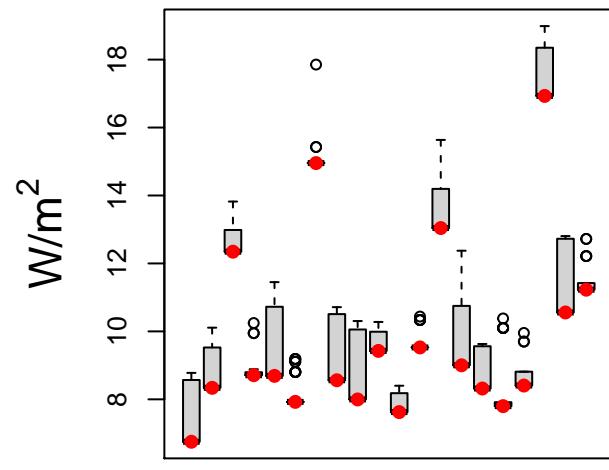


Global Wavelet Spectrum PC – 1 Wind

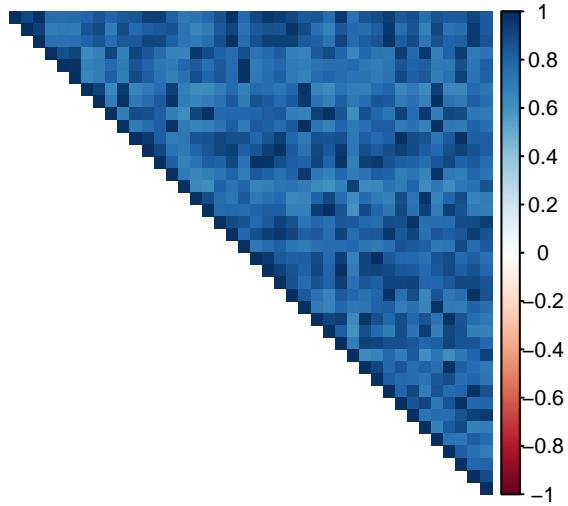


Global Wavelet Spectrum PC – 2 Wind

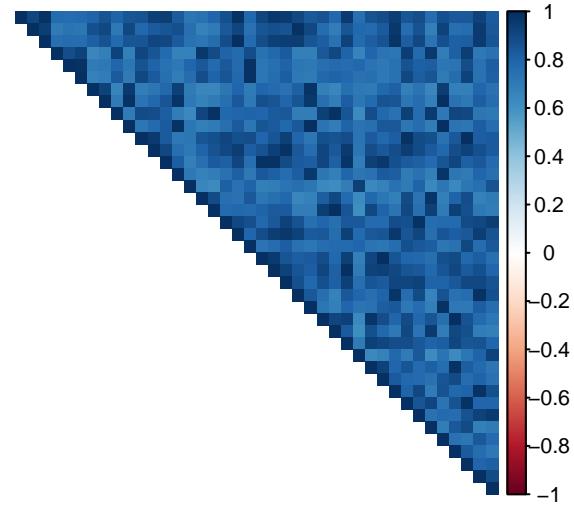


Mean – Solar**Stan Dev – Solar****Maximum – Solar****Minimum – Solar**

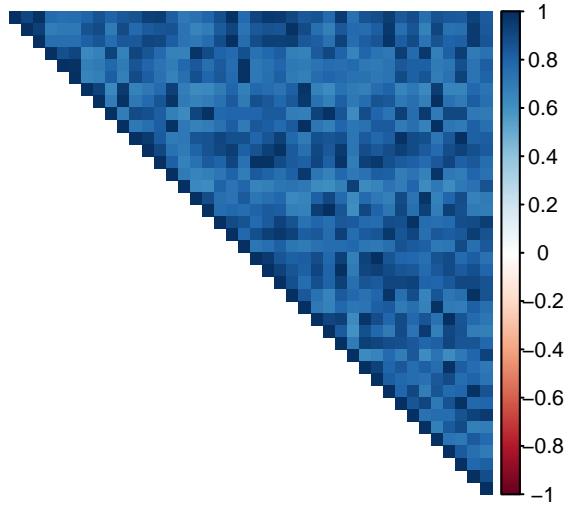
**Cross Correlation
Data**



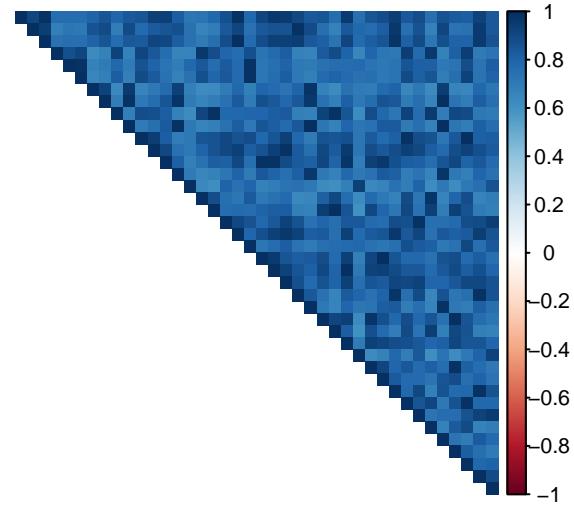
**Cross Correlation
Simulation Run – 20**



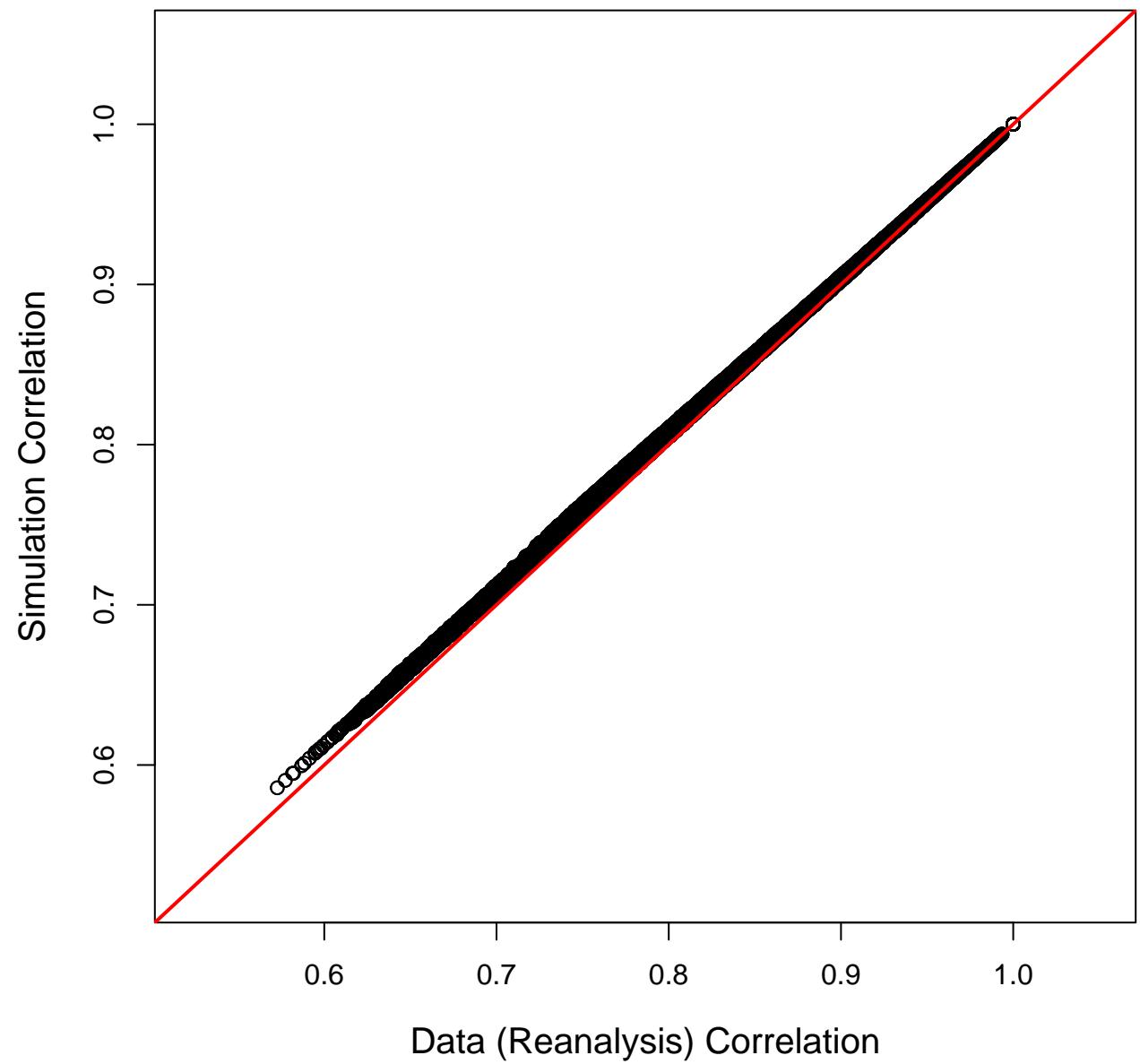
**Cross Correlation
Simulation Run – 7**



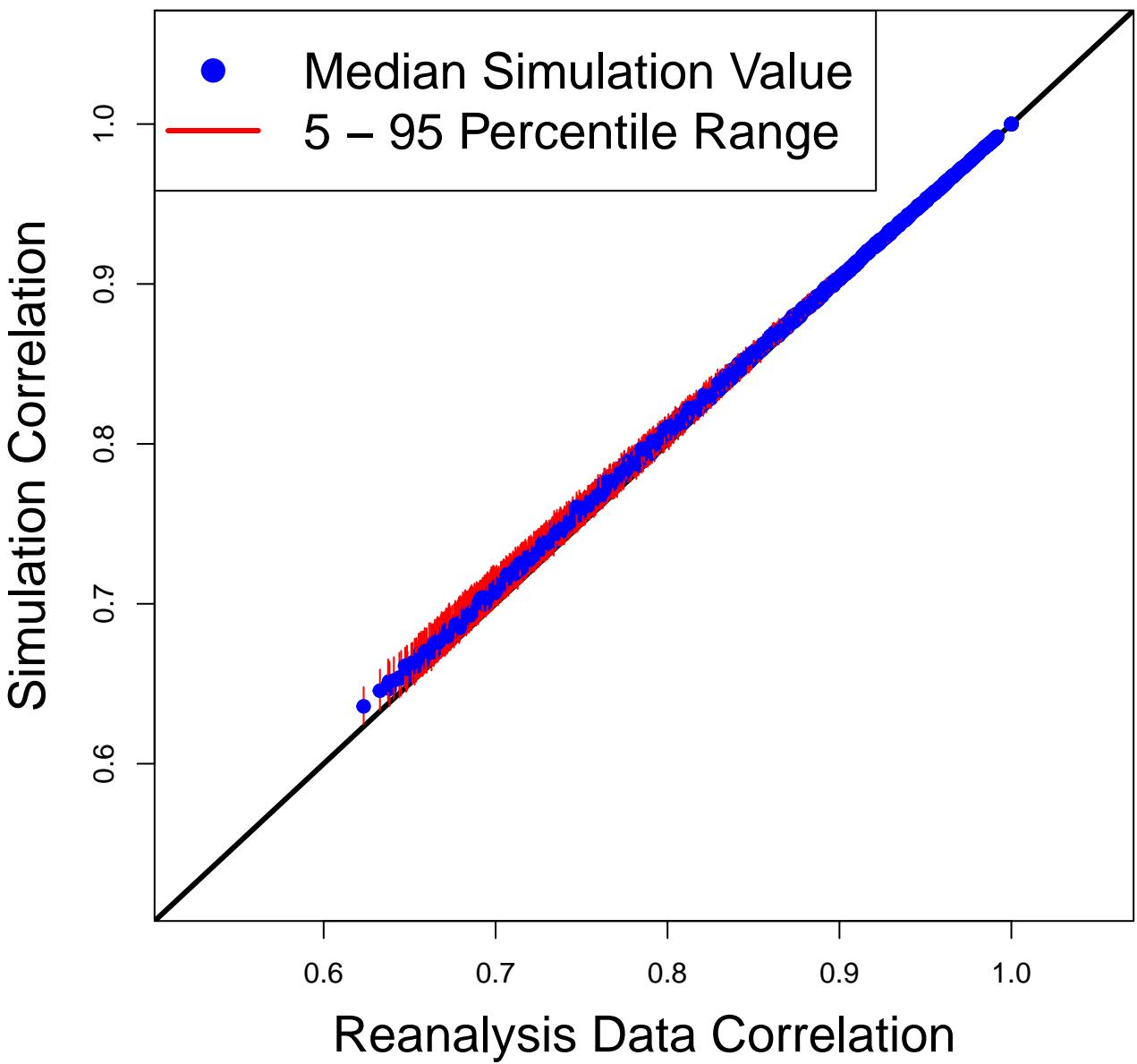
**Cross Correlation
Simulation Run – 12**



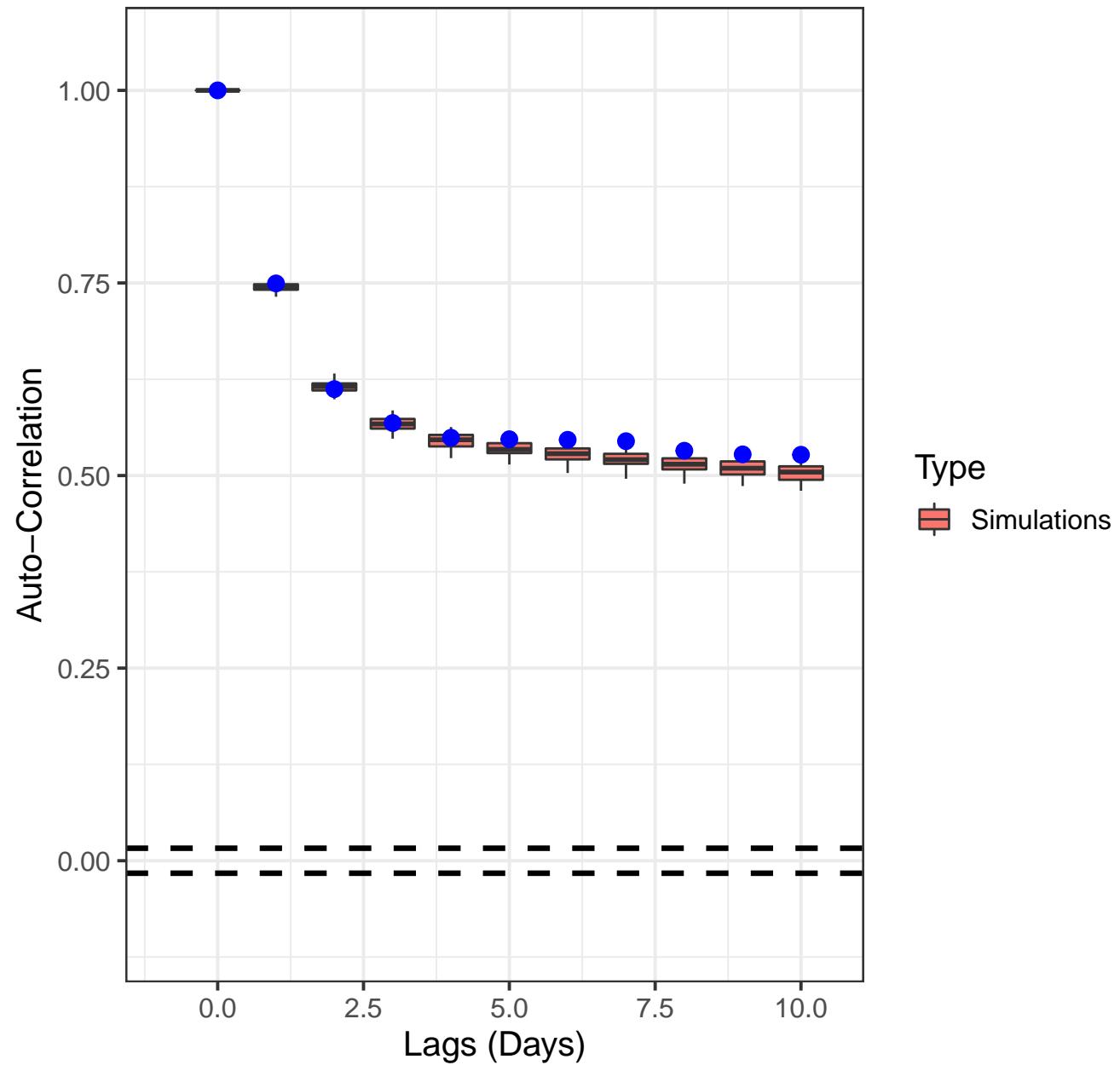
Cross Site Correlations – Solar



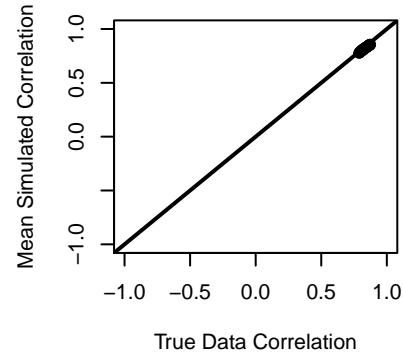
Cross Site Correlations – Solar



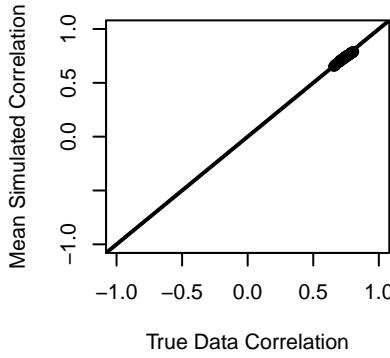
ACF – Single Random Site – Solar



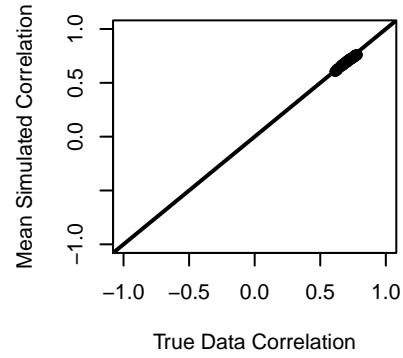
Lag-1 Correlations – Solar



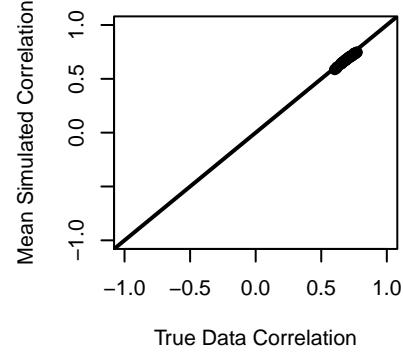
Lag-2 Correlations – Solar



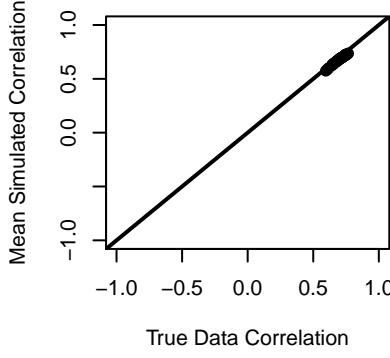
Lag-3 Correlations – Solar



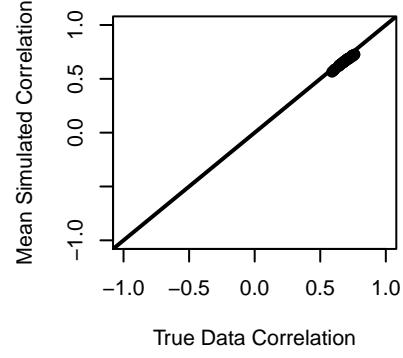
Lag-4 Correlations – Solar



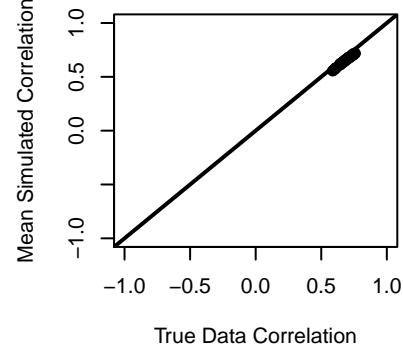
Lag-5 Correlations – Solar



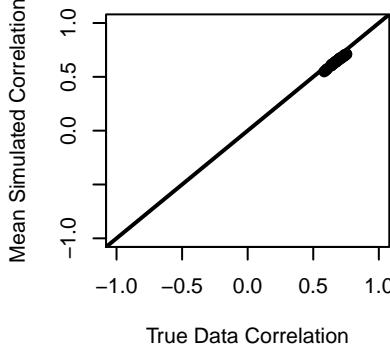
Lag-6 Correlations – Solar



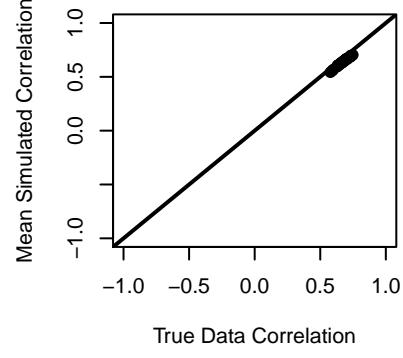
Lag-7 Correlations – Solar

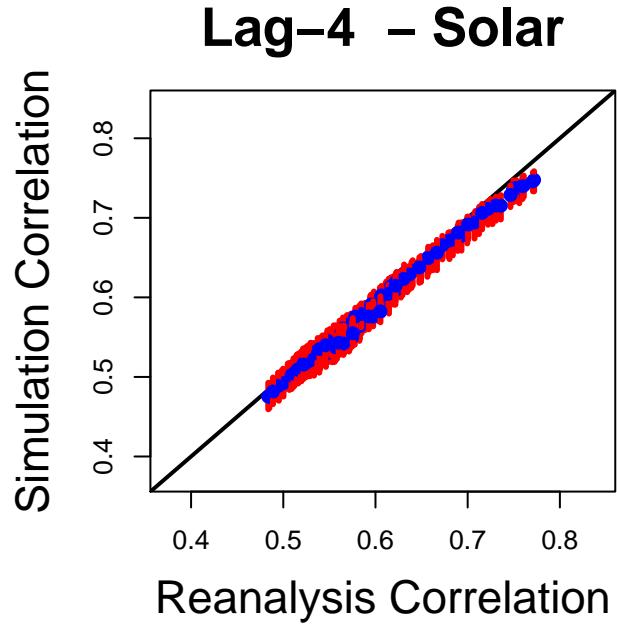
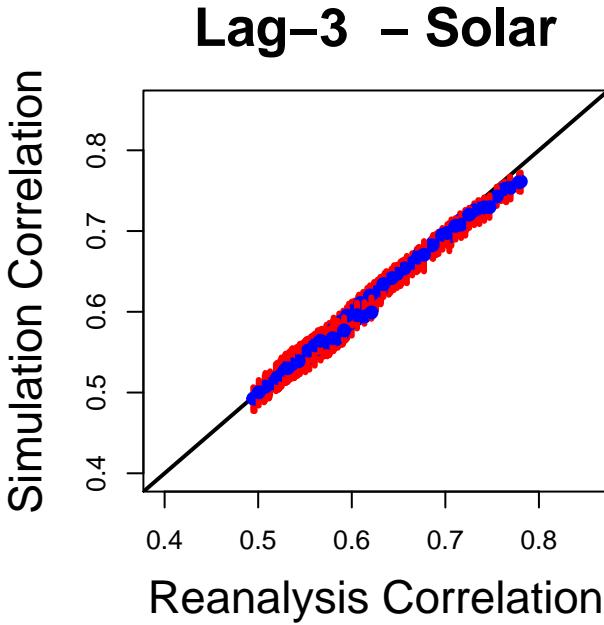
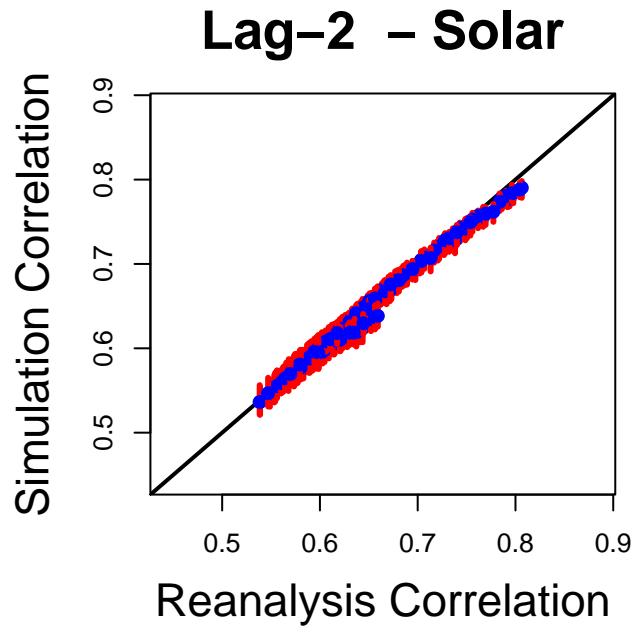
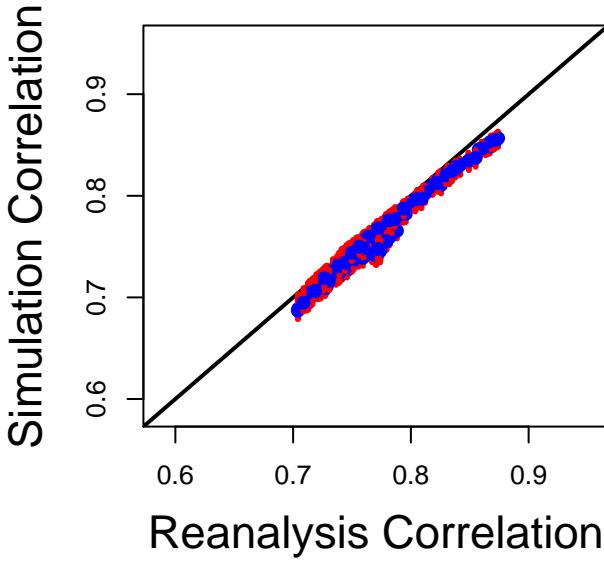


Lag-8 Correlations – Solar

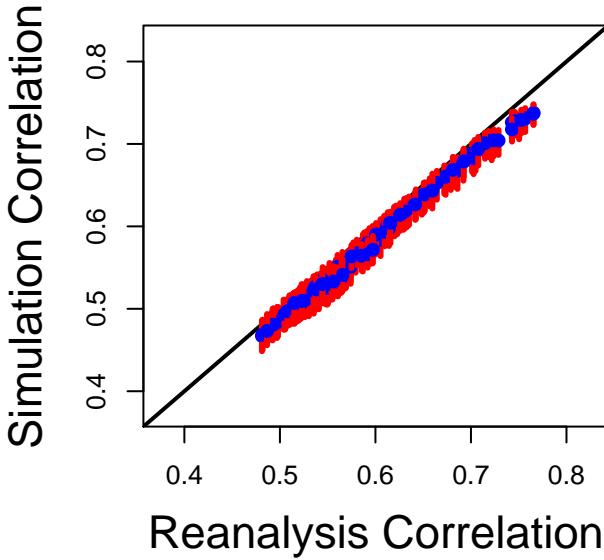


Lag-9 Correlations – Solar

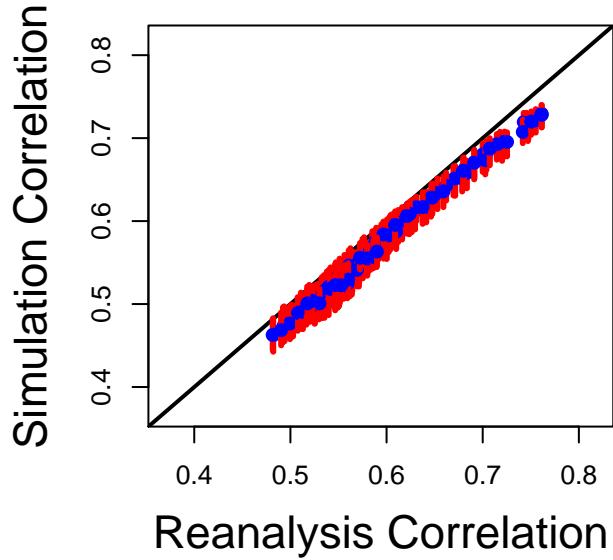




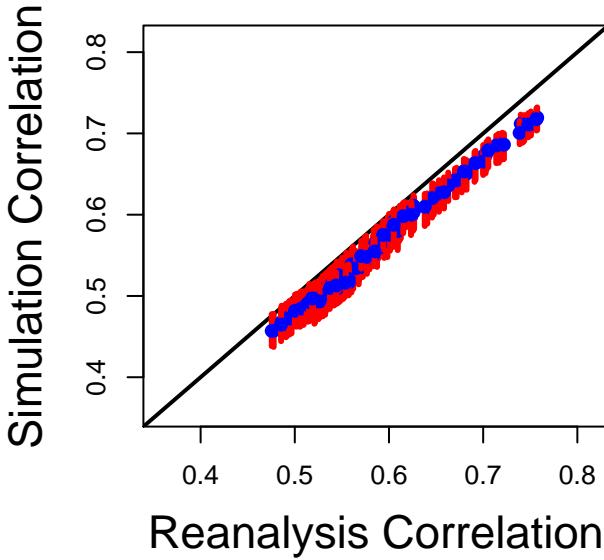
Lag-5 – Solar



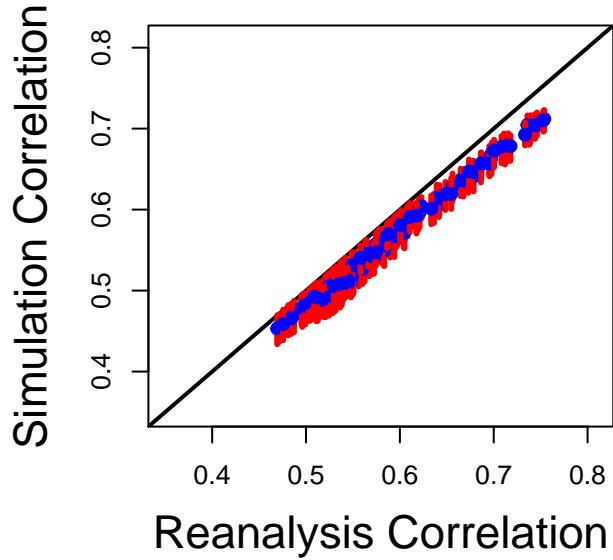
Lag-6 – Solar



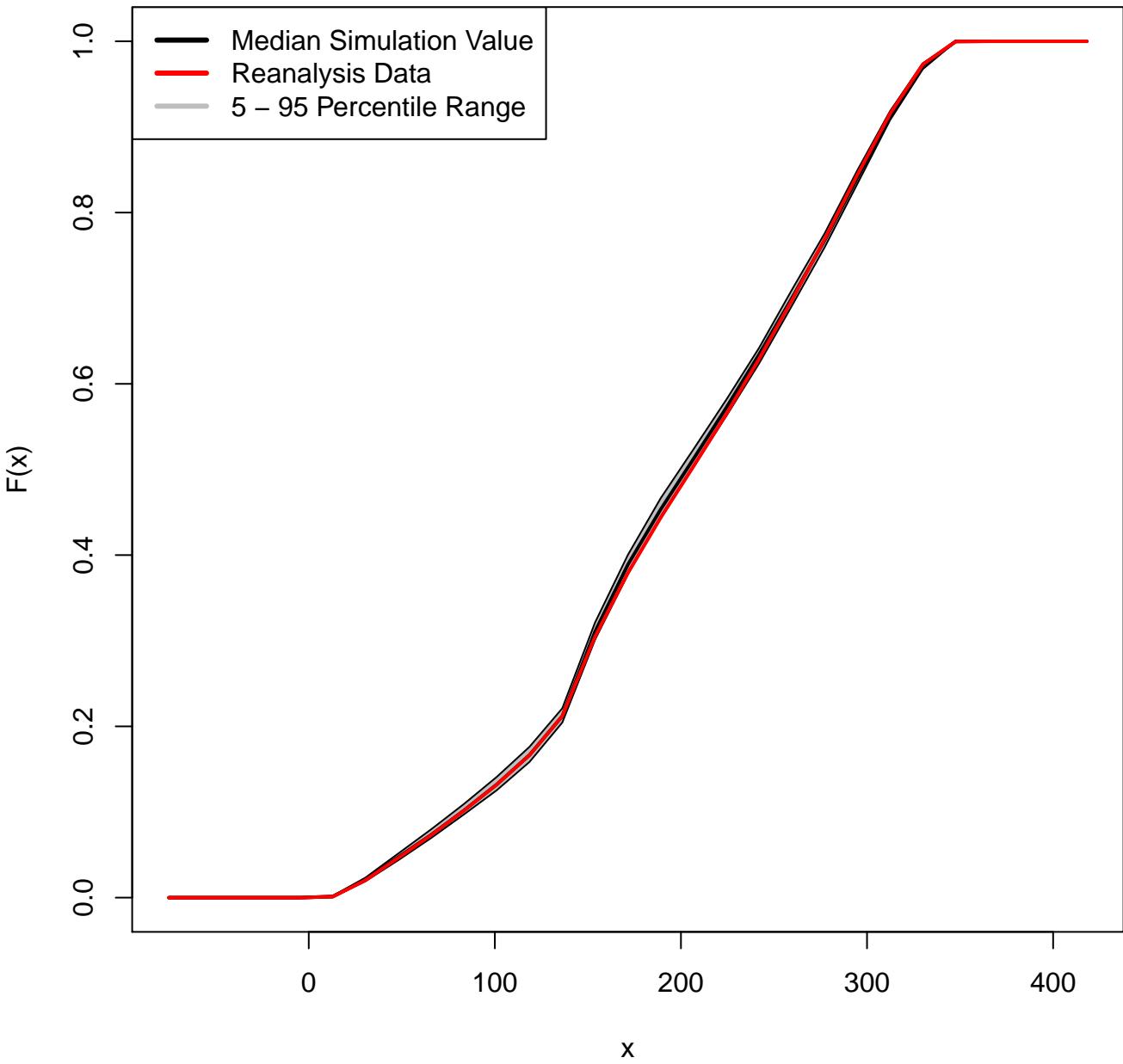
Lag-7 – Solar



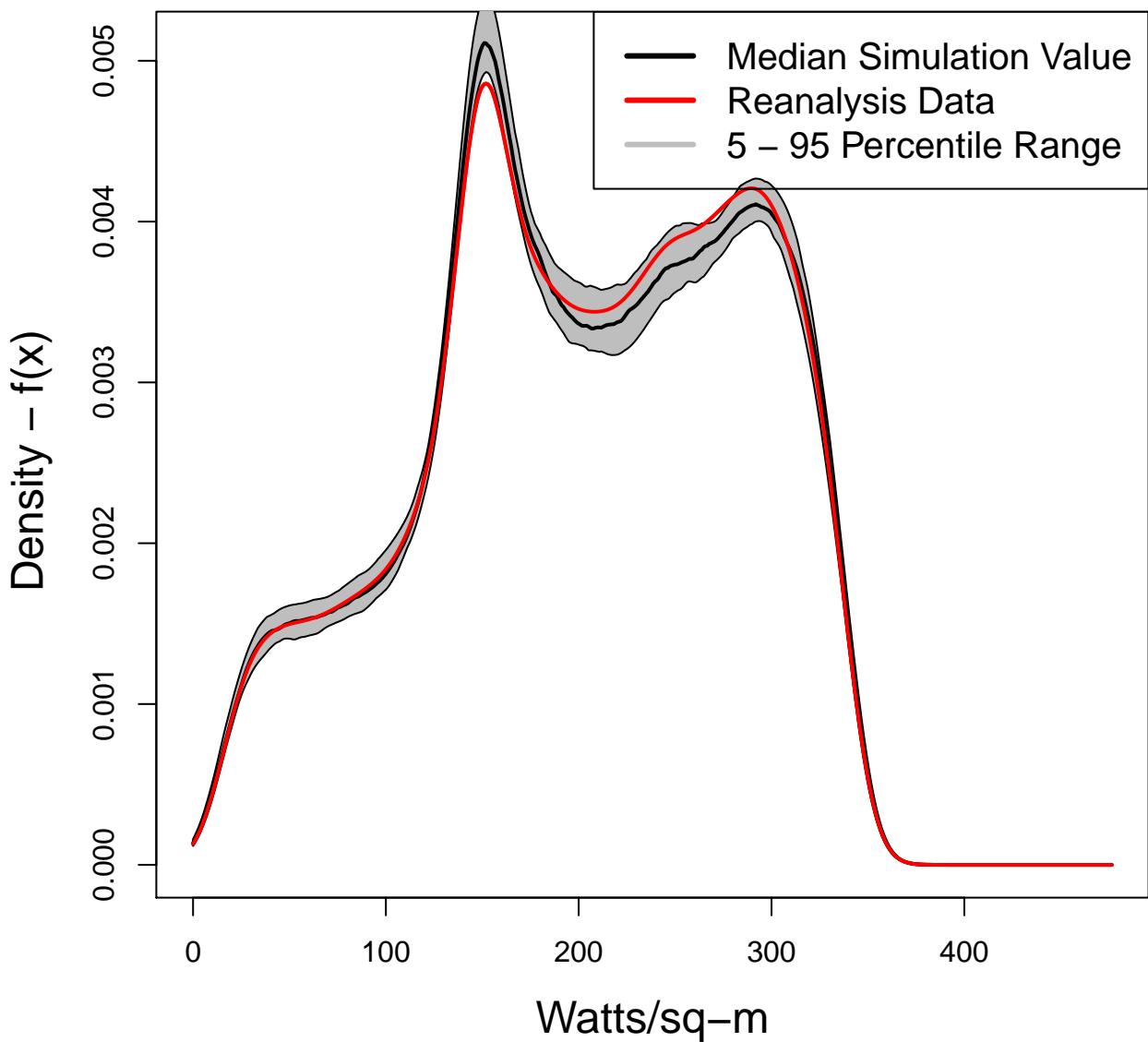
Lag-8 – Solar

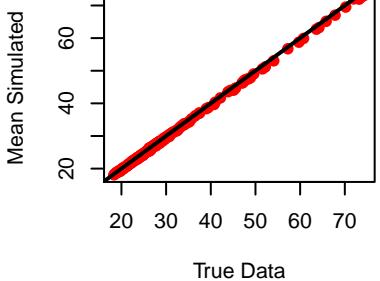
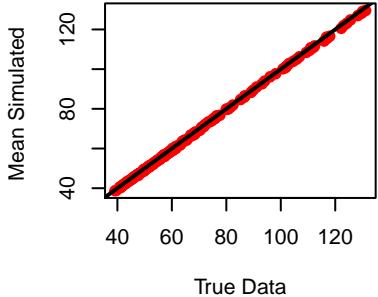
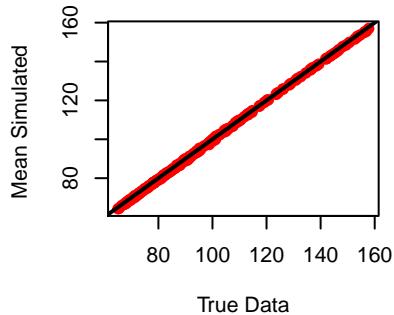
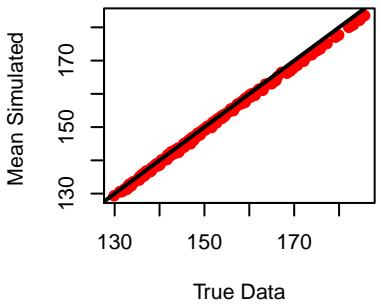
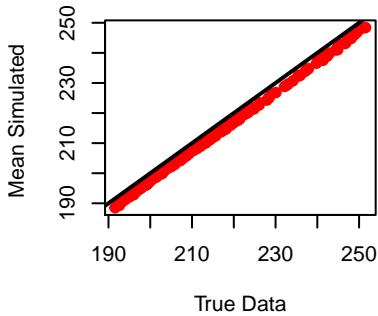
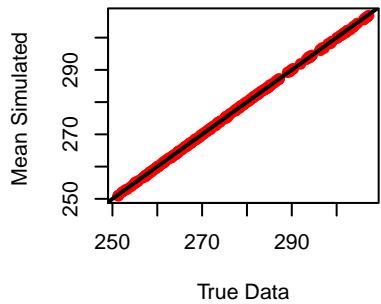
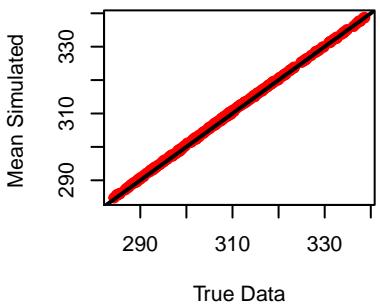
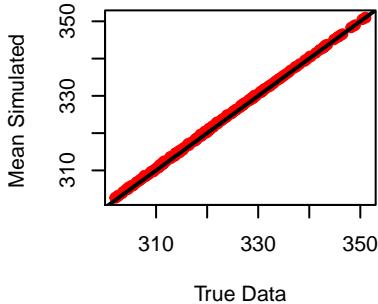
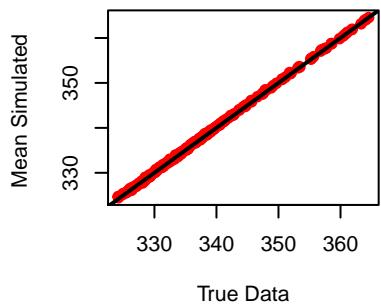


True vs Simulated CDF for Single Site – Solar

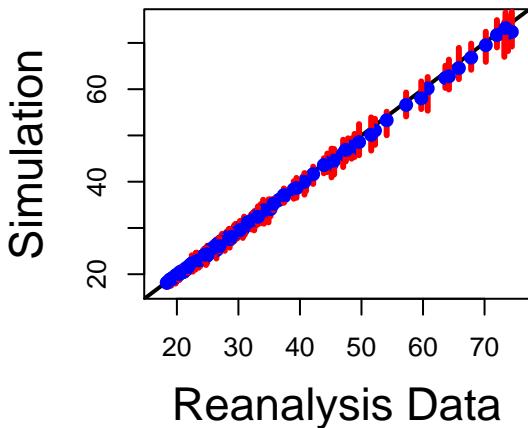


PDF at a single site – Solar

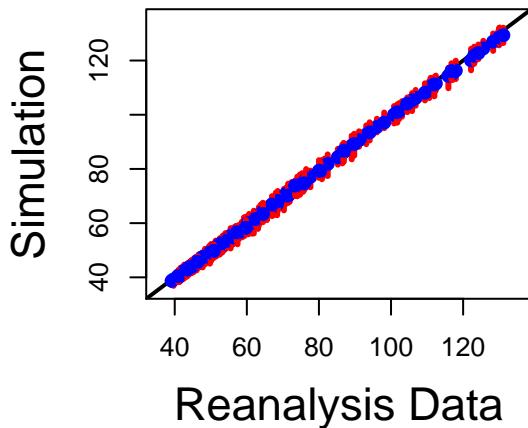


Quantile – 1th – Solar**Quantile – 5th – Solar****Quantile – 10th – Solar****Quantile – 25th – Solar****Quantile – 50th – Solar****Quantile – 75th – Solar****Quantile – 90th – Solar****Quantile – 95th – Solar****Quantile – 99th – Solar**

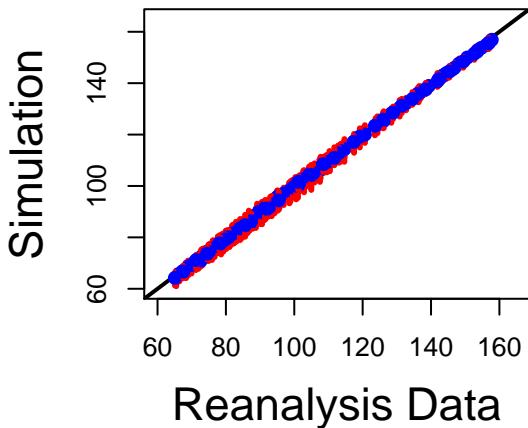
1th Quantile – Solar



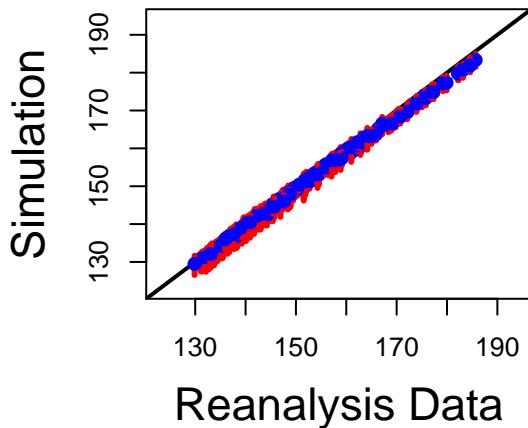
5th Quantile – Solar



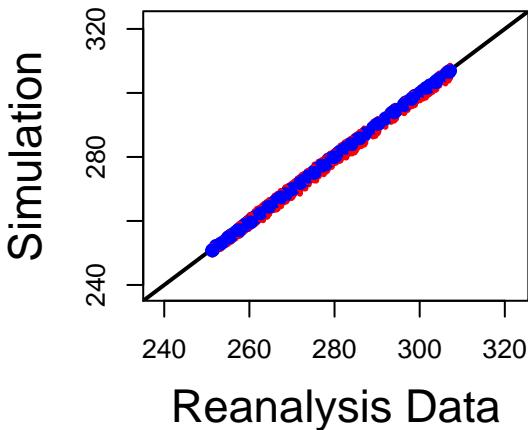
10th Quantile – Solar



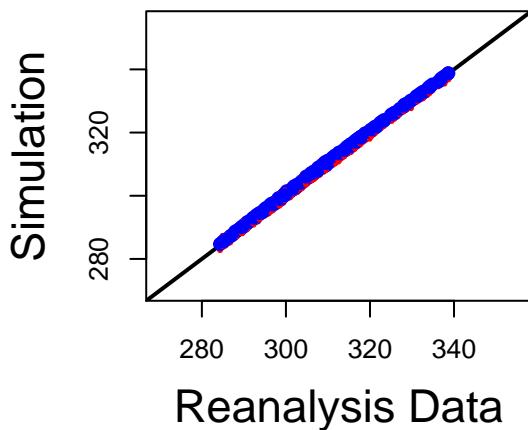
25th Quantile – Solar



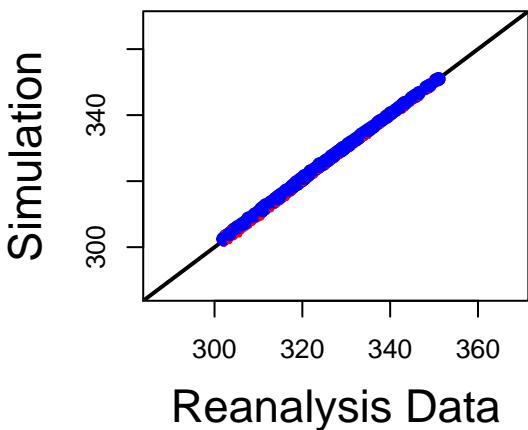
75th Quantile – Solar



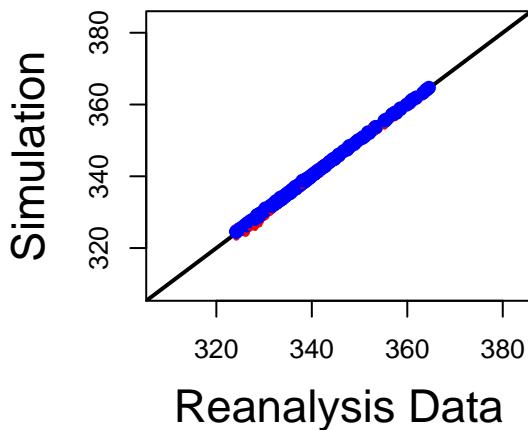
90th Quantile – Solar



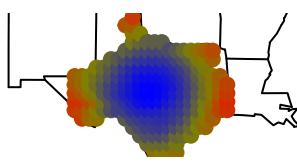
95th Quantile – Solar



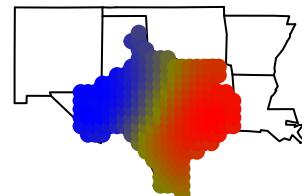
99th Quantile – Solar



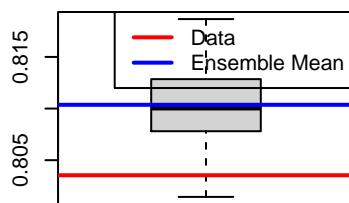
PC-1 – Solar–80%



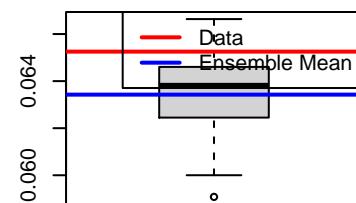
PC-2 – Solar–7%



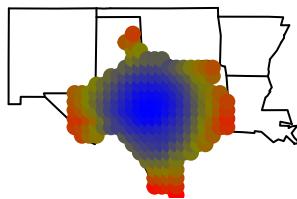
Simulated PC-1 Variance Solar



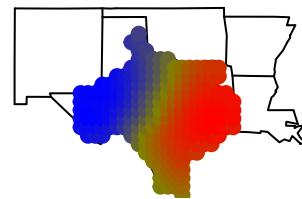
Simulated PC-2 Variance Solar



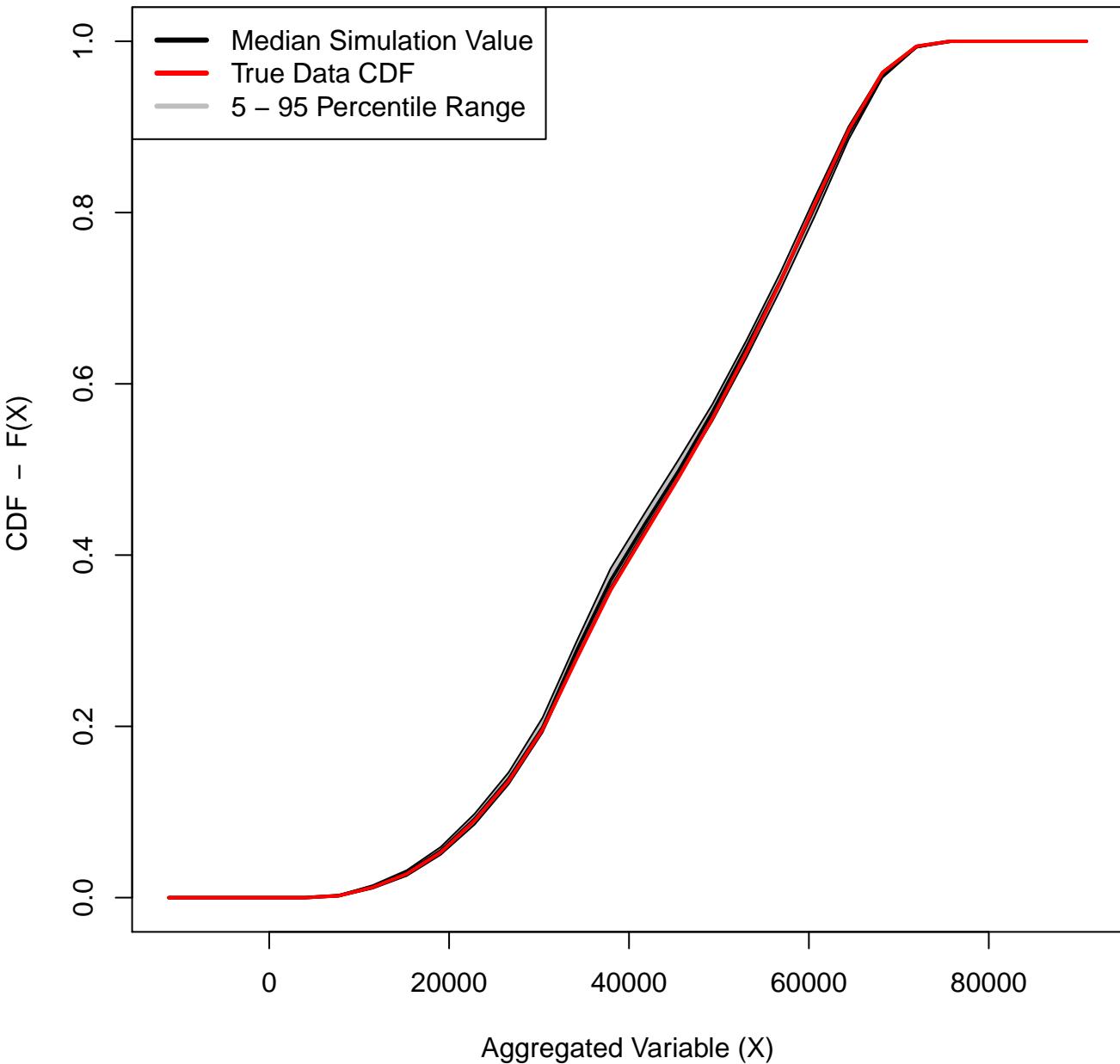
Ensemble Mean PC-1 – Solar–81%



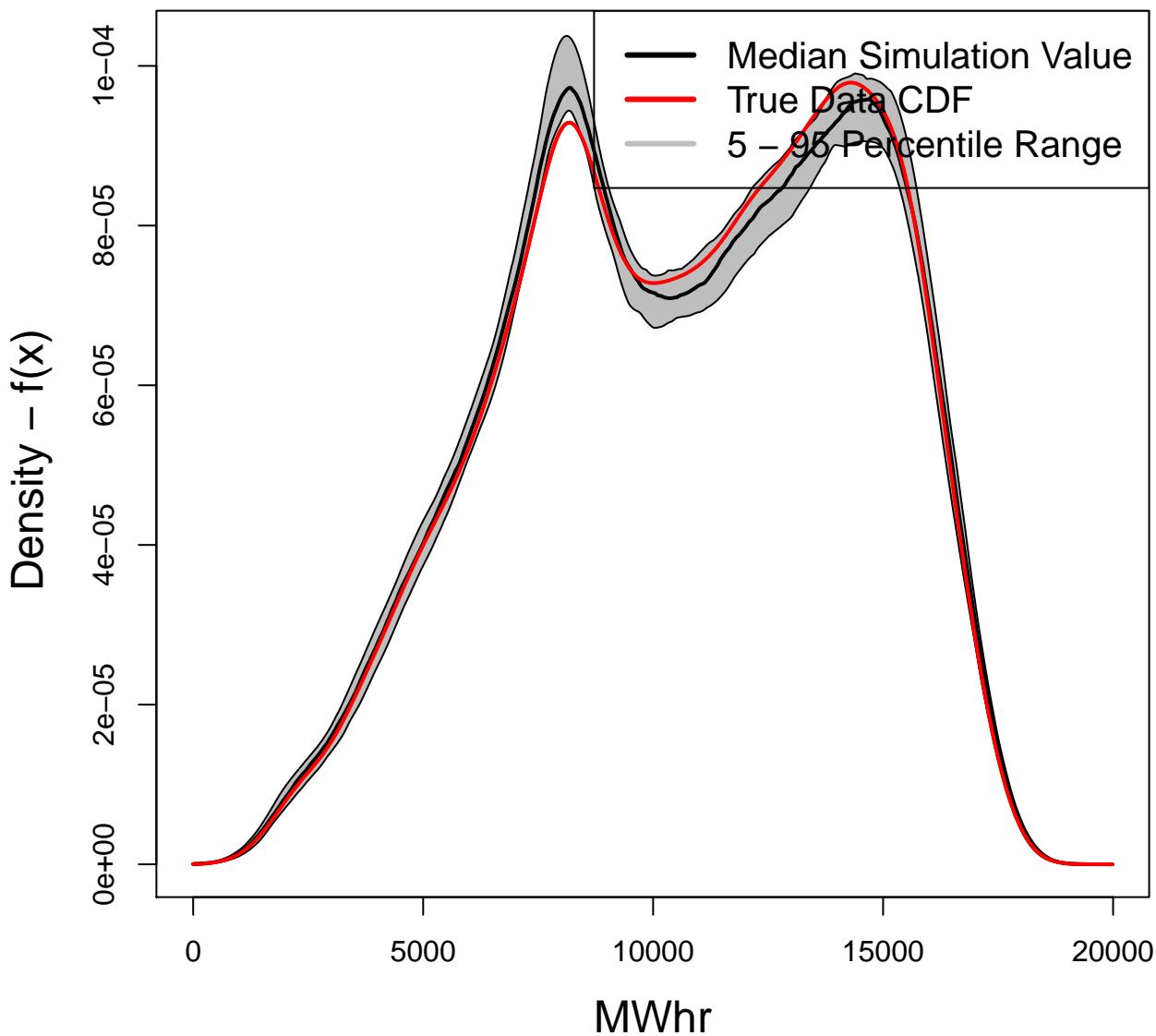
Ensemble Mean PC-2 – Solar–6%

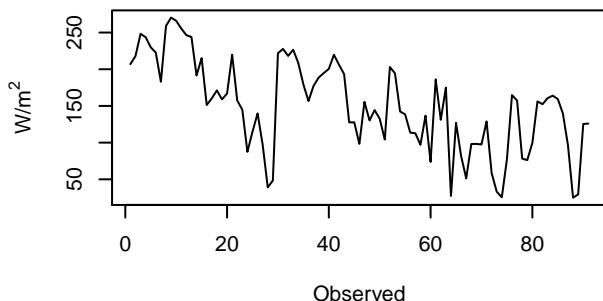
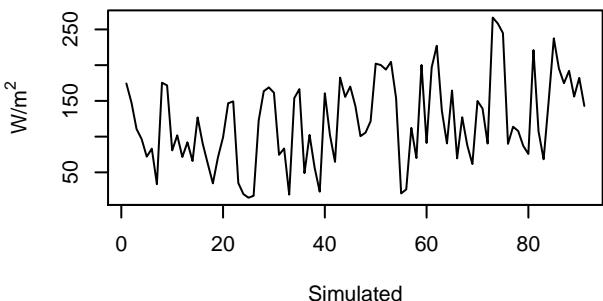
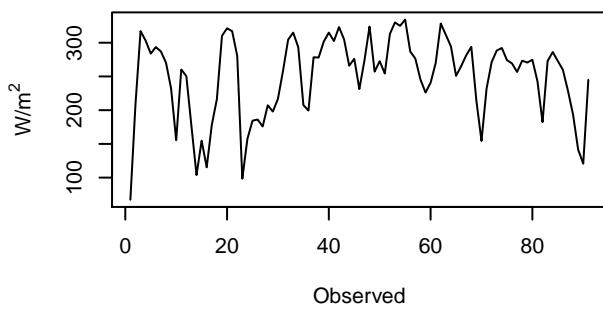
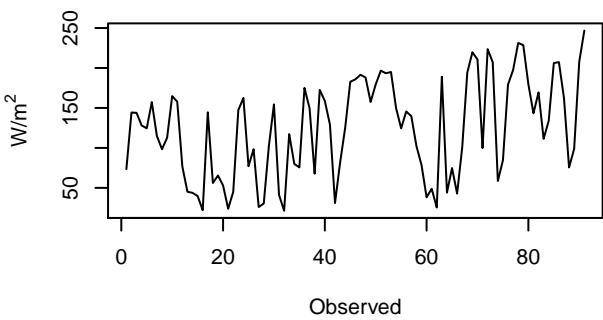
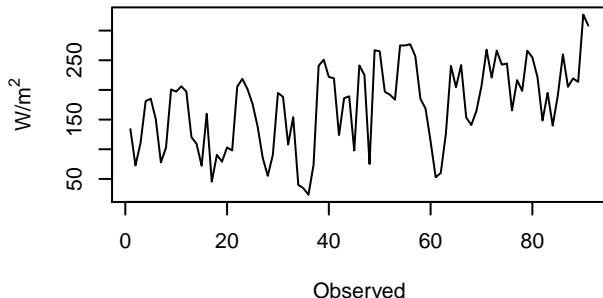
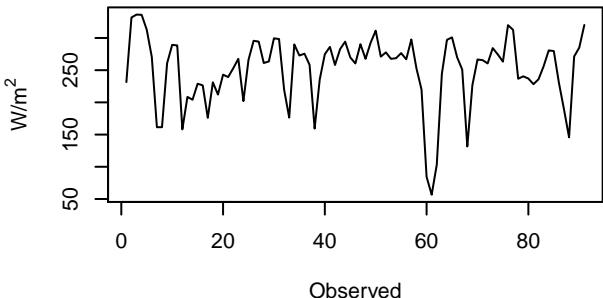


Simulated CDF for Entire Field – Solar

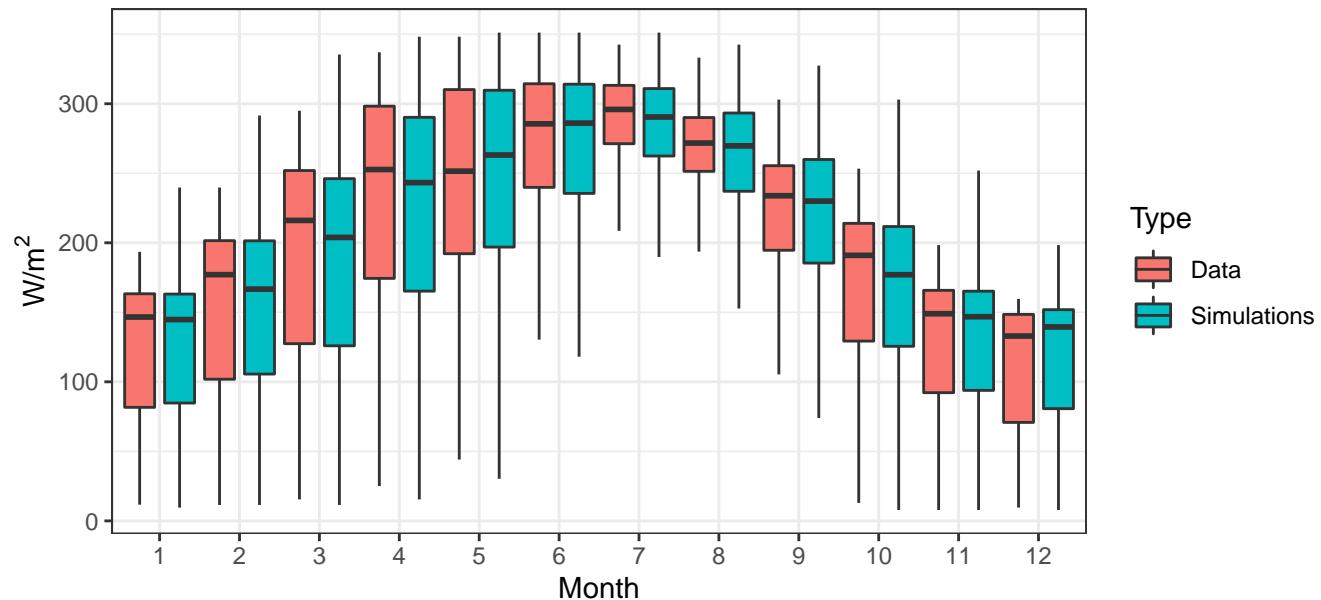


Daily Generation Potential across ERCOT – Solar

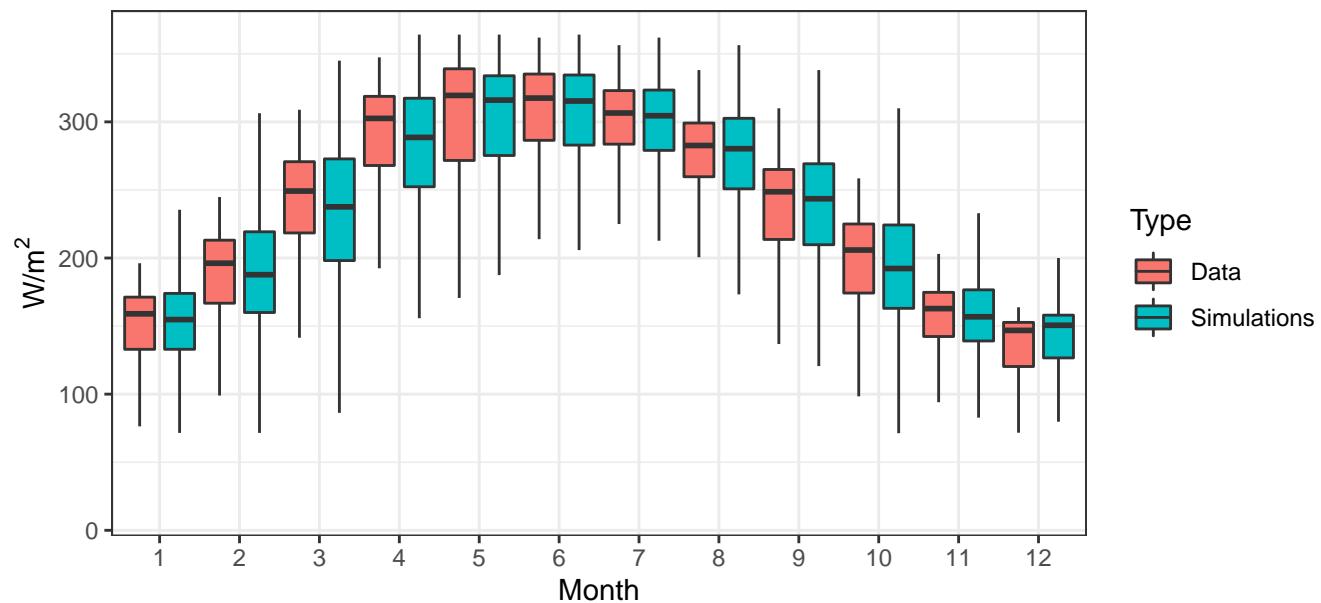




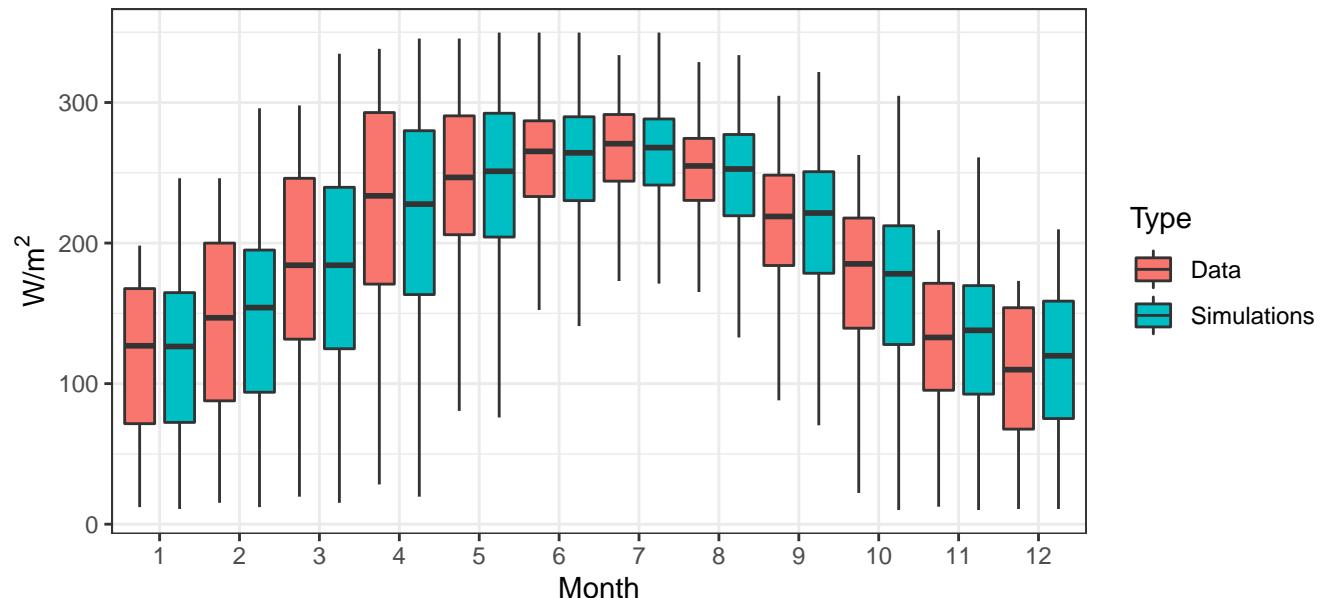
Solar Distribution for Site/Grid – 154



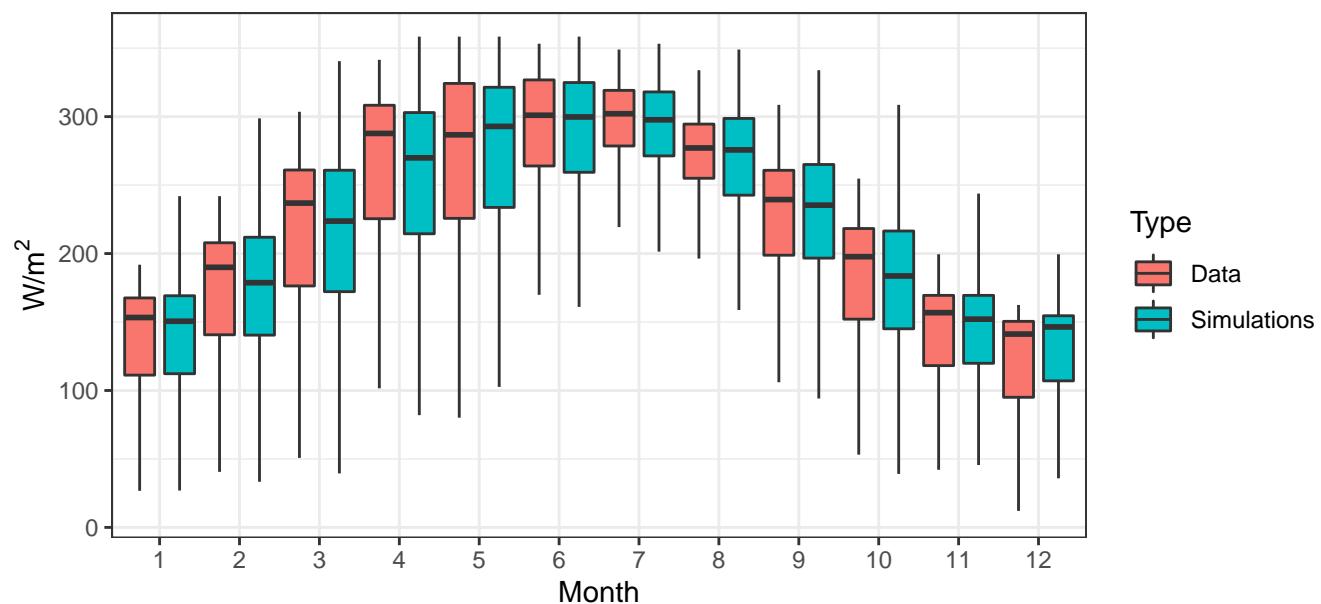
Solar Distribution for Site/Grid – 35



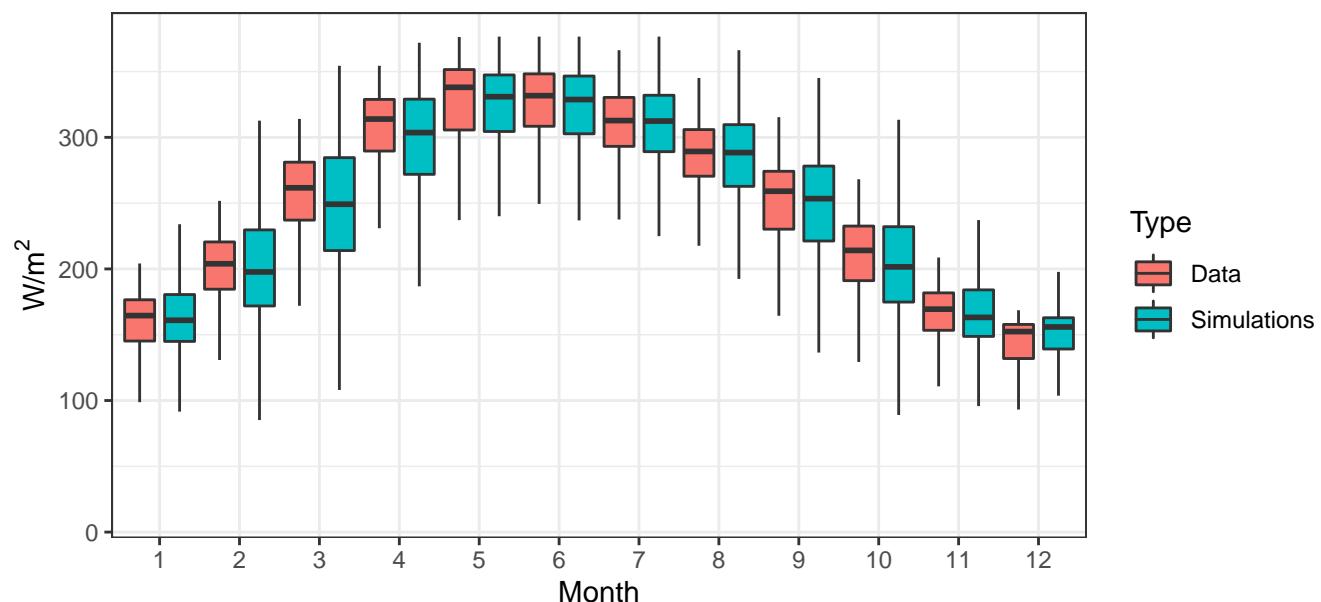
Solar Distribution for Site/Grid – 192



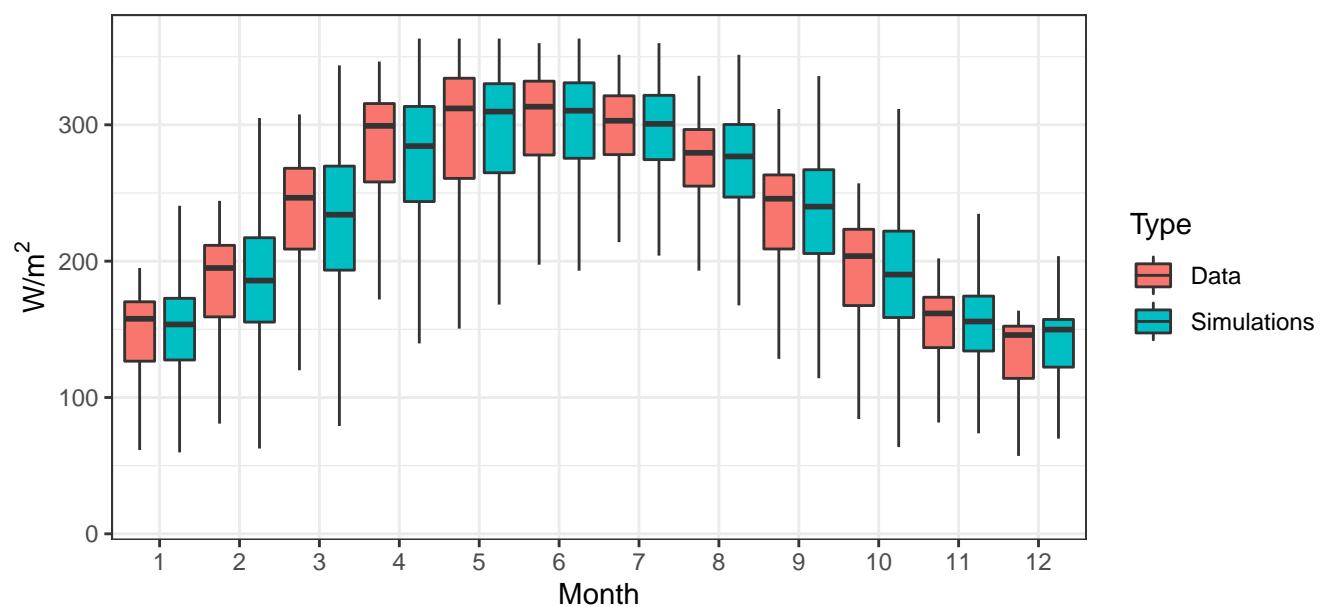
Solar Distribution for Site/Grid – 76



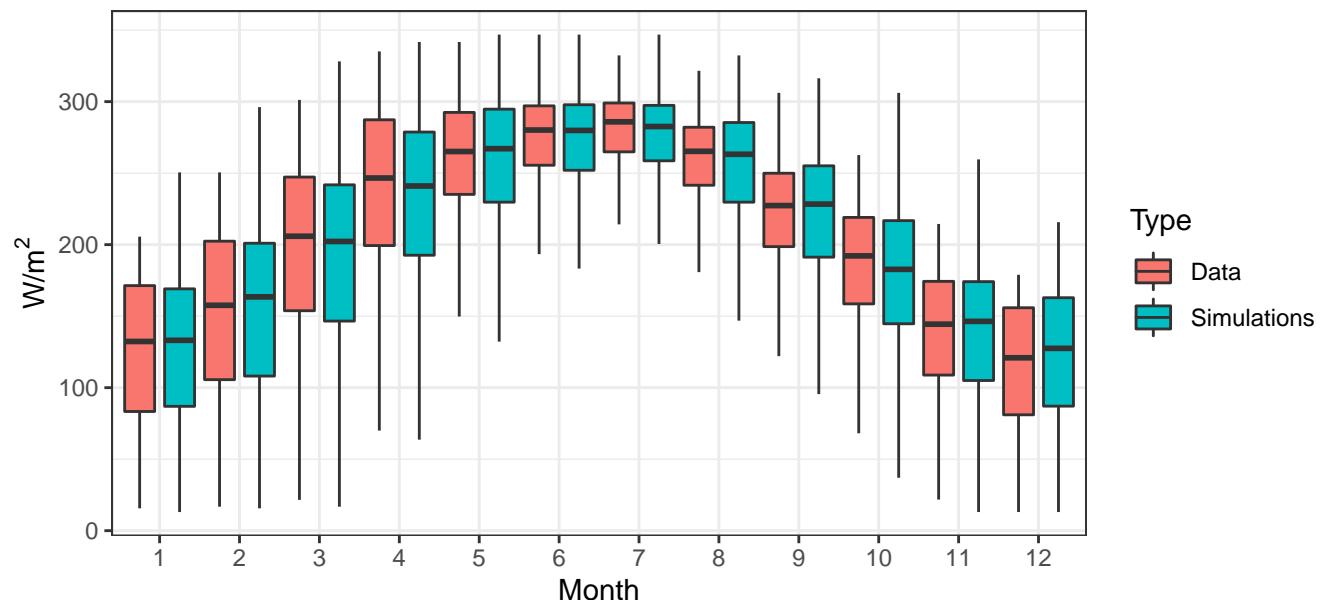
Solar Distribution for Site/Grid – 10



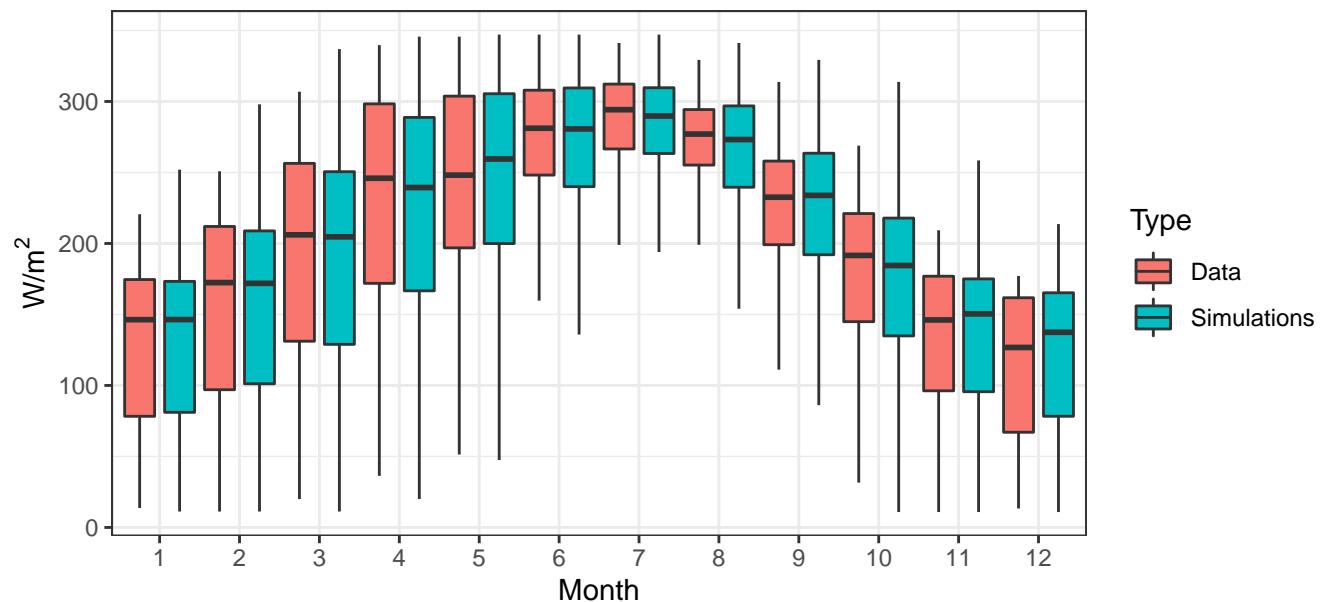
Solar Distribution for Site/Grid – 42



Solar Distribution for Site/Grid – 169

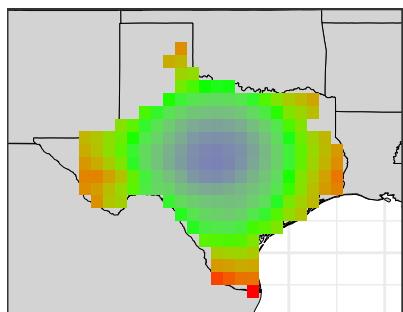


Solar Distribution for Site/Grid – 100



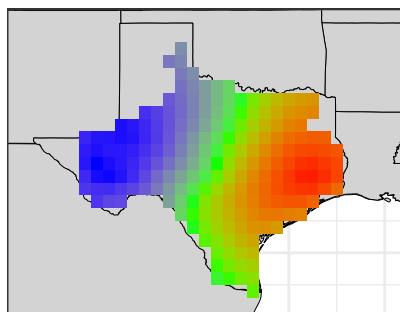
Data PC-1 Solar

Fractional Variance – 80%

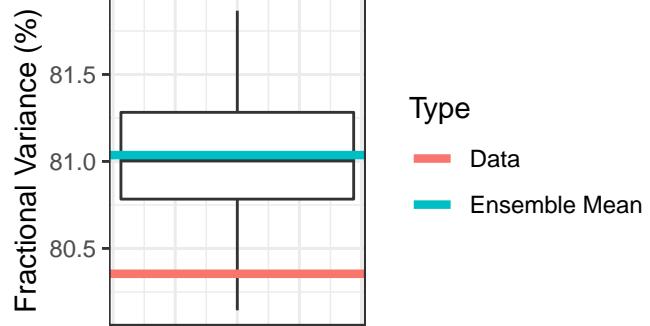


Data PC-1 Solar

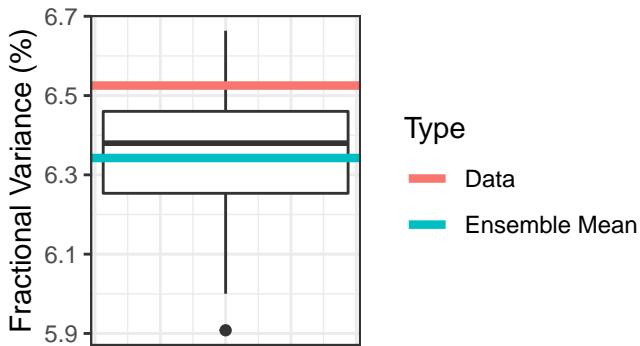
Fractional Variance – 7%



Simulated PC-1 Variance Solar

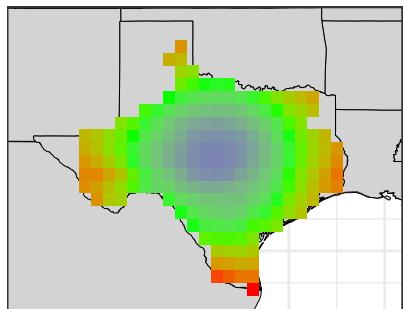


Simulated PC-2 Variance Solar



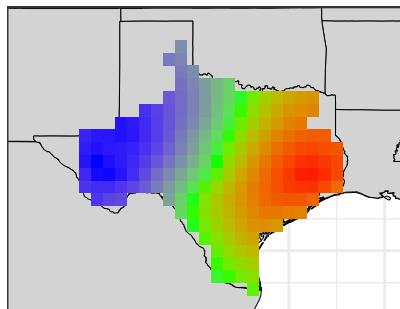
Ensemble Mean PC-1 Solar

Fractional Variance – 81%

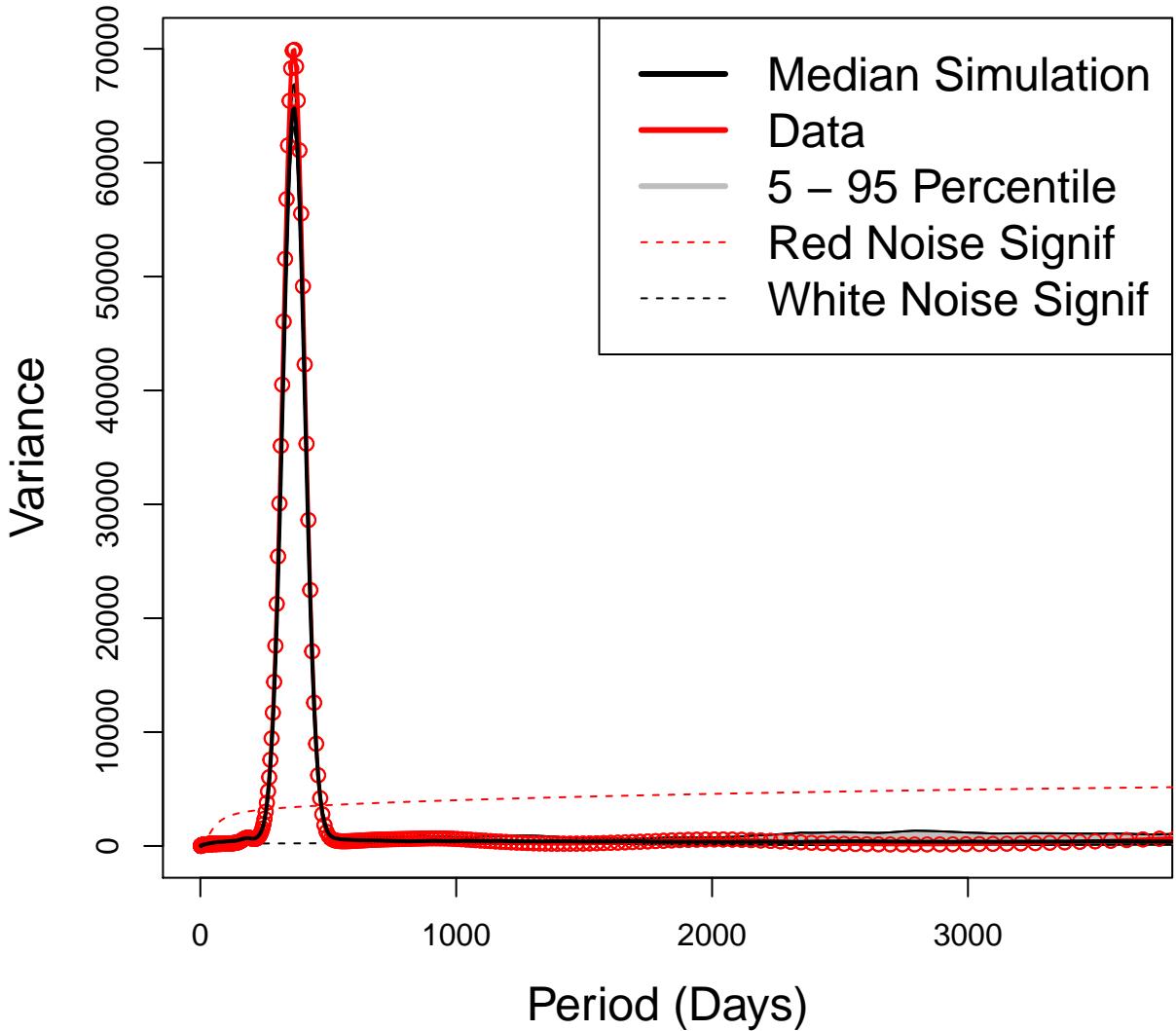


Ensemble Mean PC-2 Solar

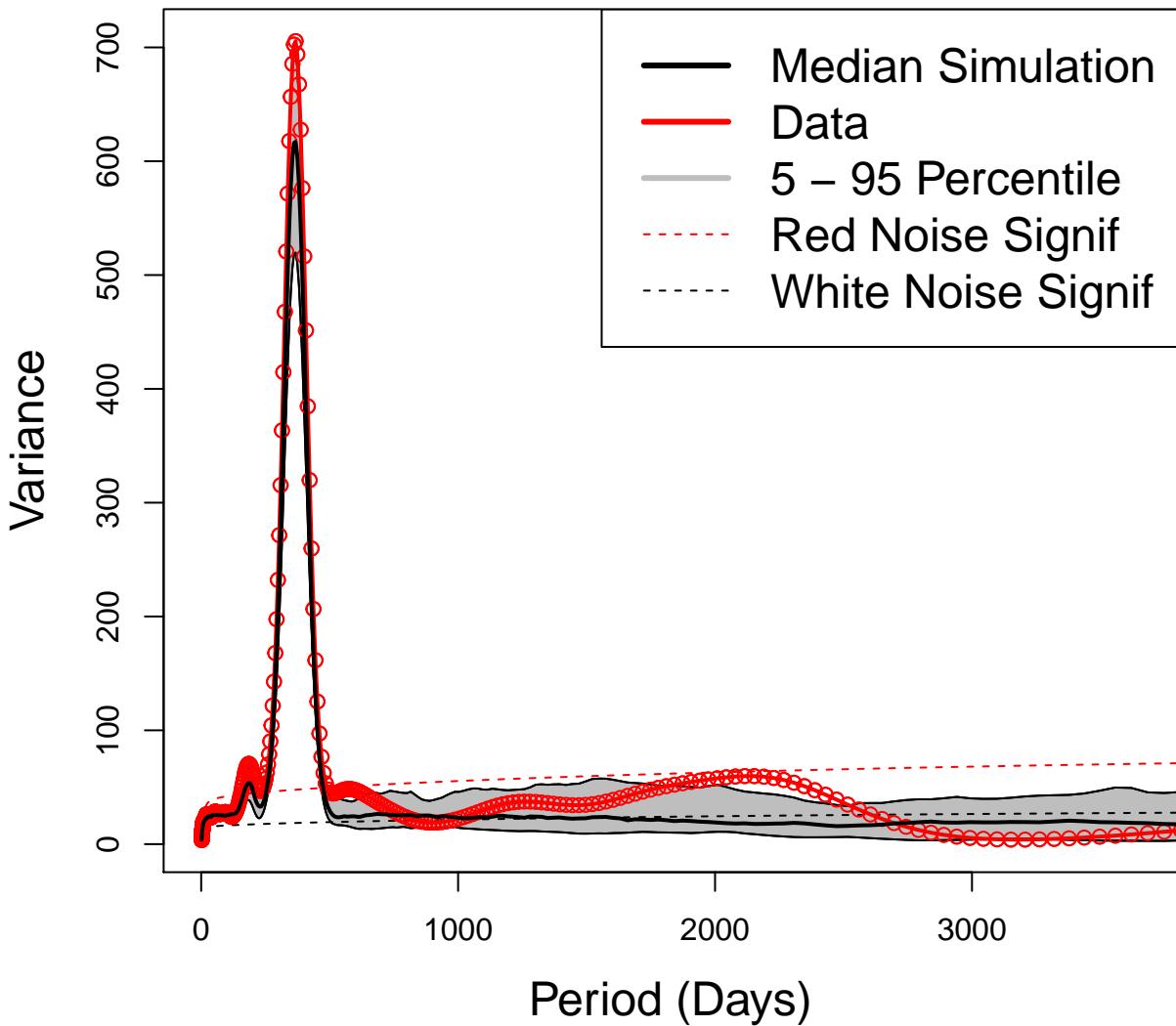
Fractional Variance – 6%



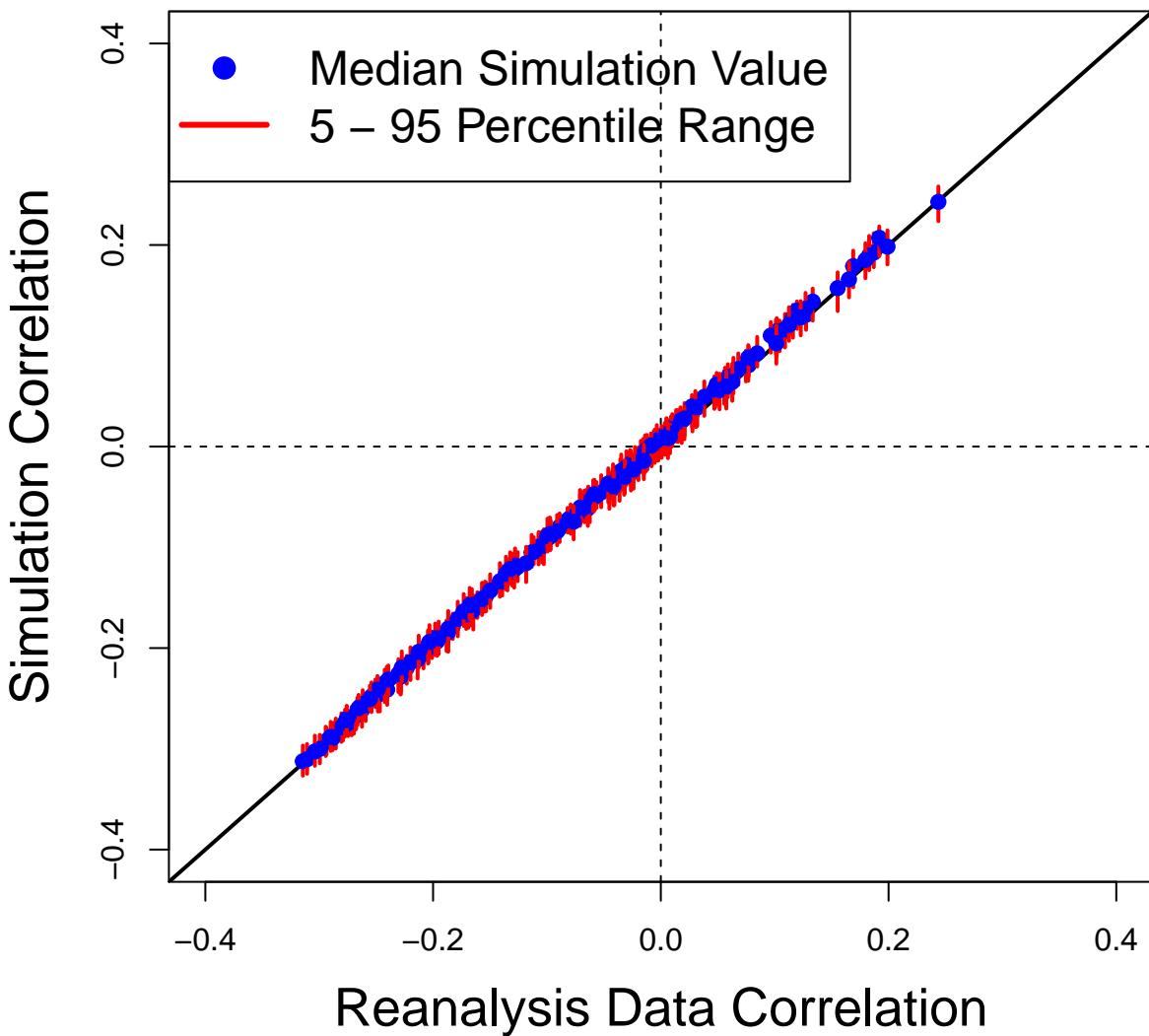
Global Wavelet Spectrum PC – 1 Solar



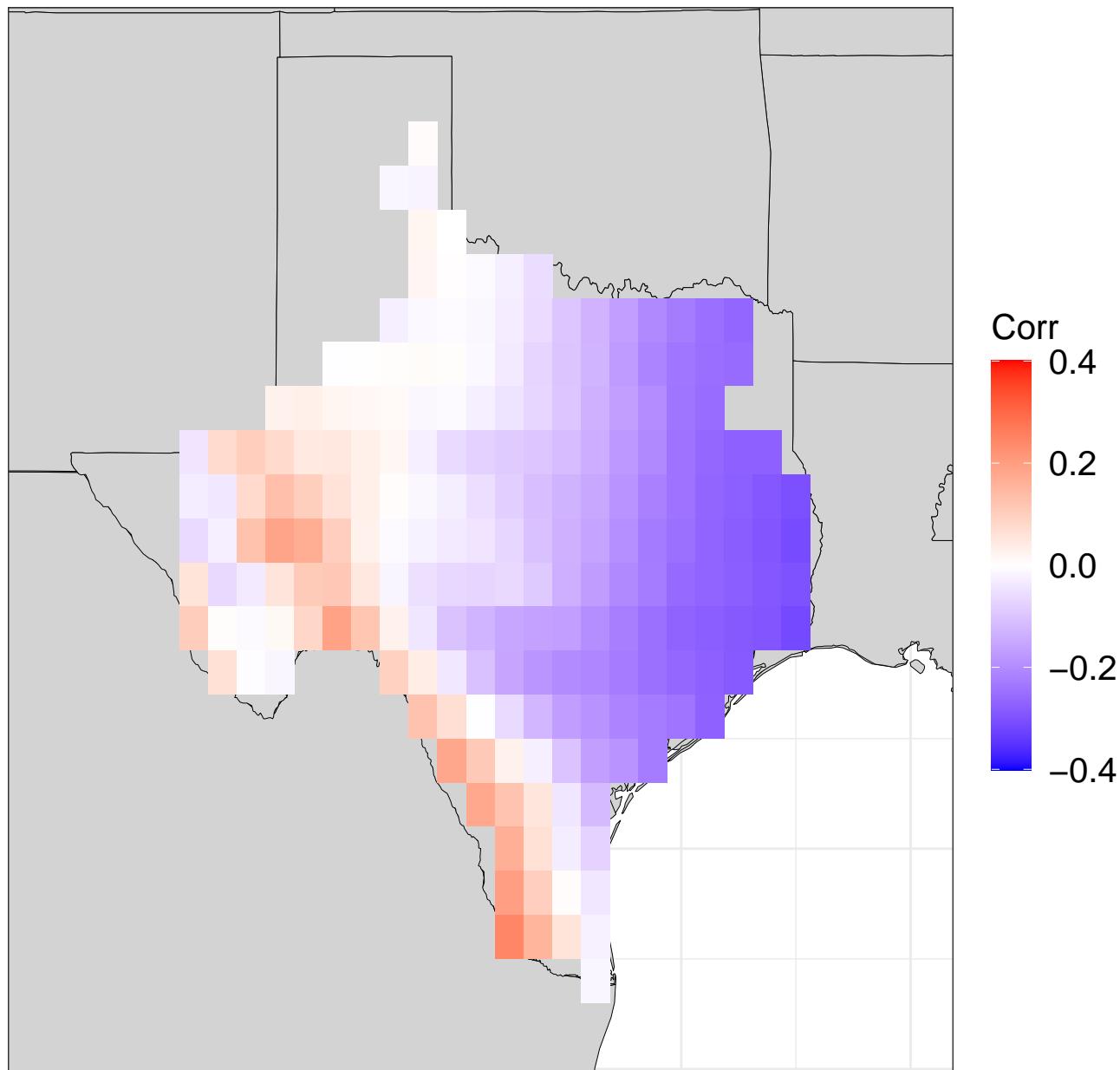
Global Wavelet Spectrum PC – 2 Solar



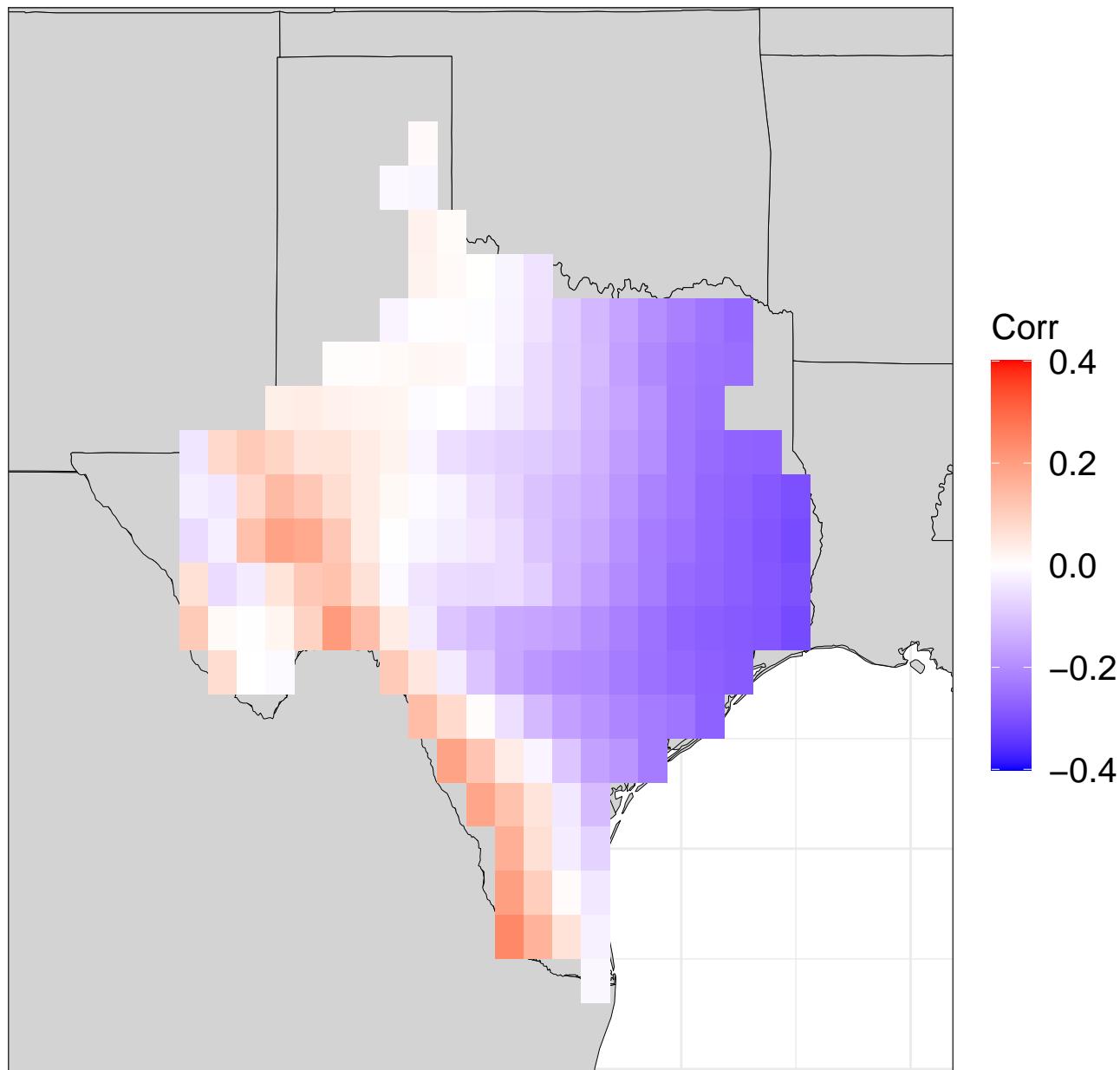
Simulation vs Data Correlation



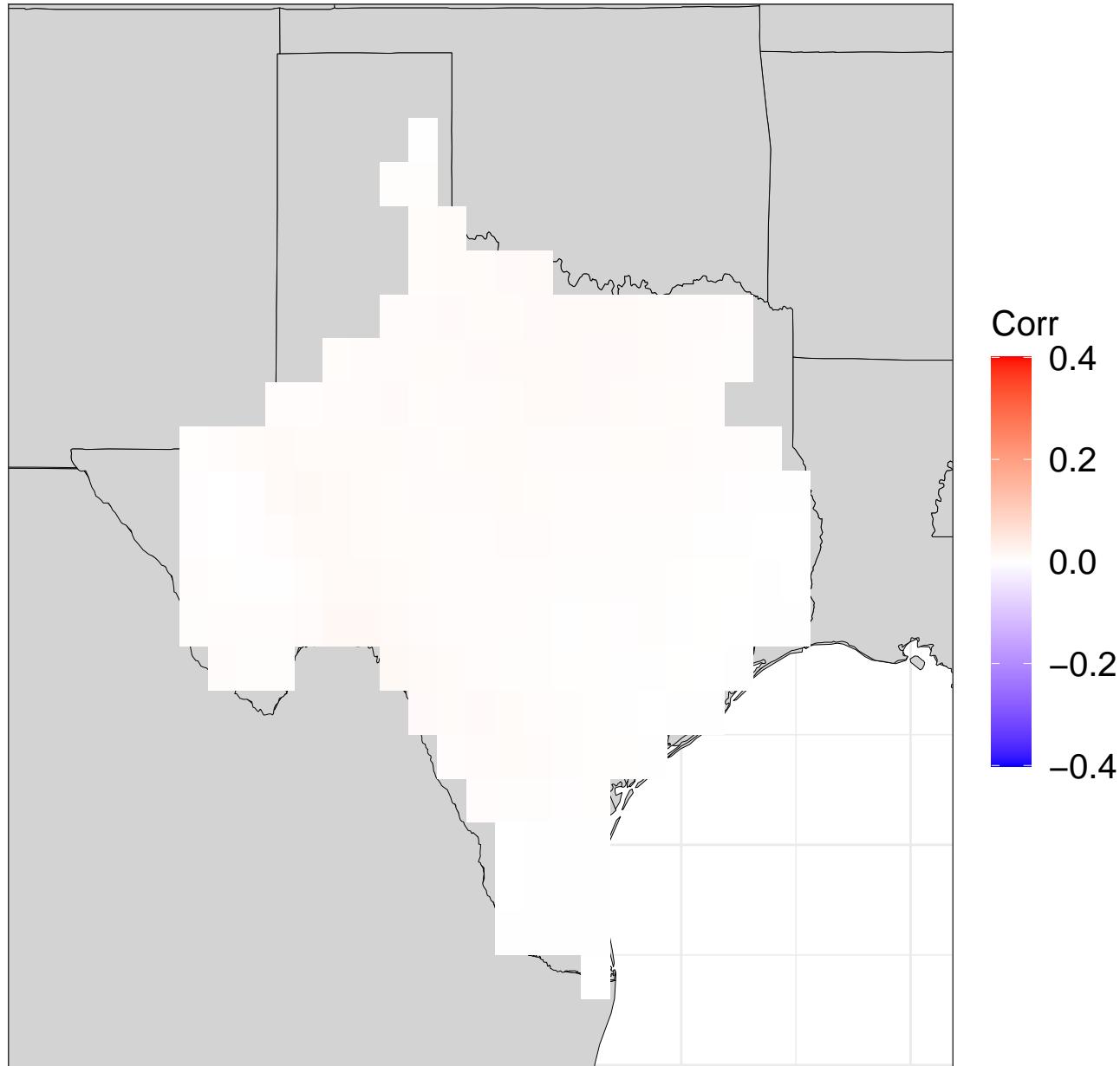
Reanalysis Data Correlation

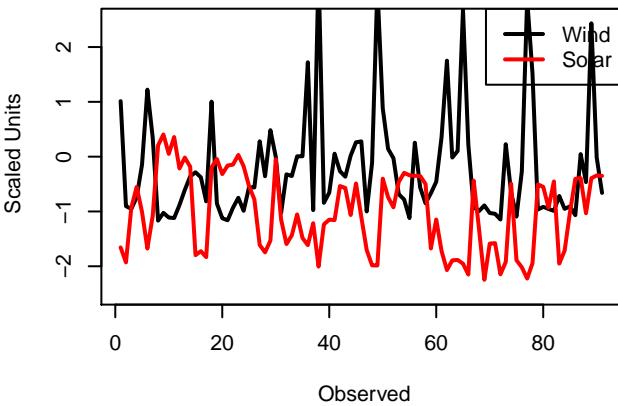
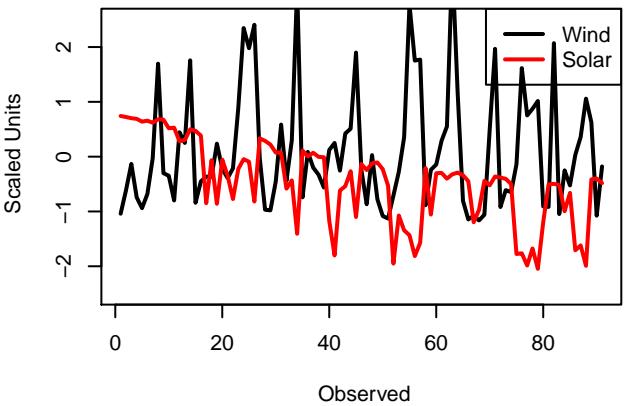
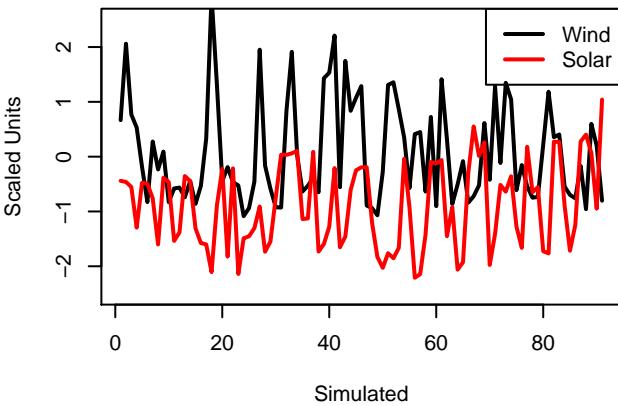
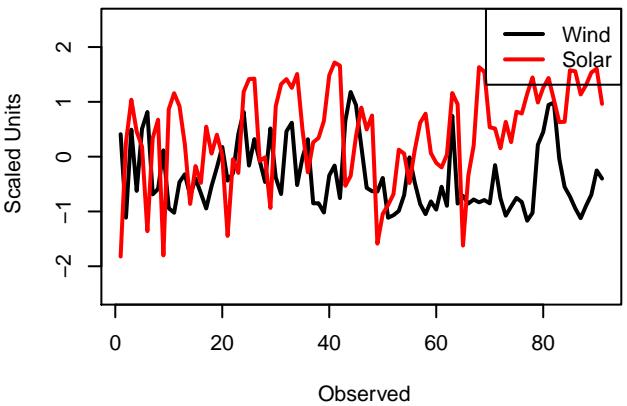
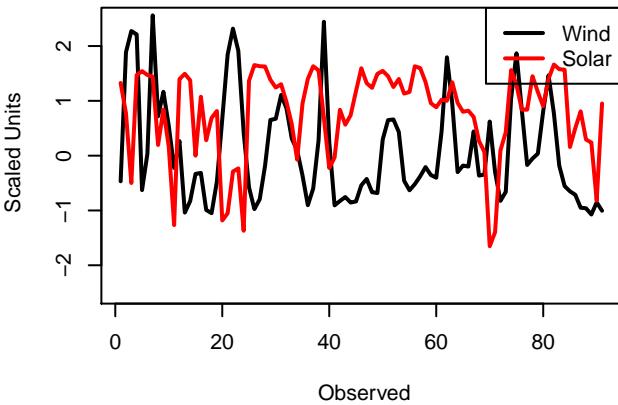
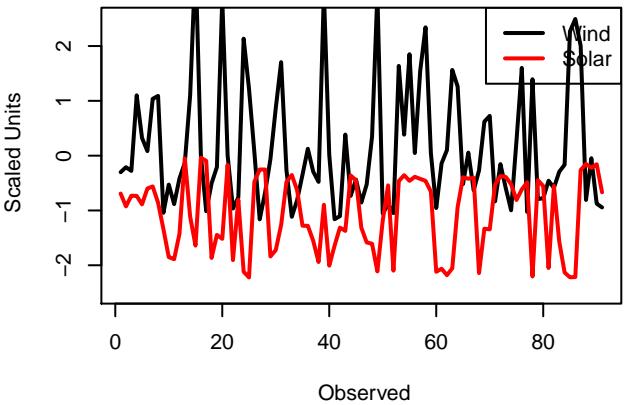


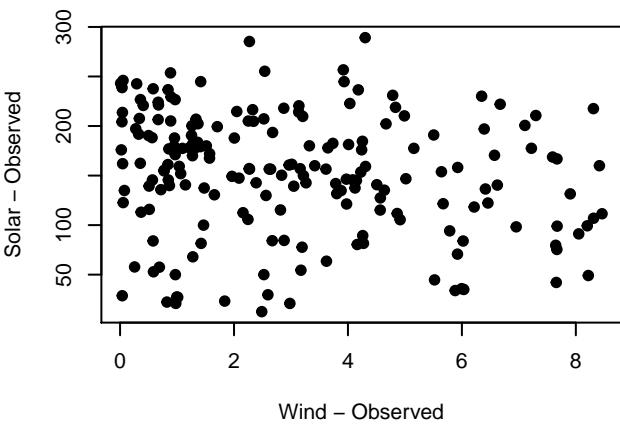
Median Simulation Correlation



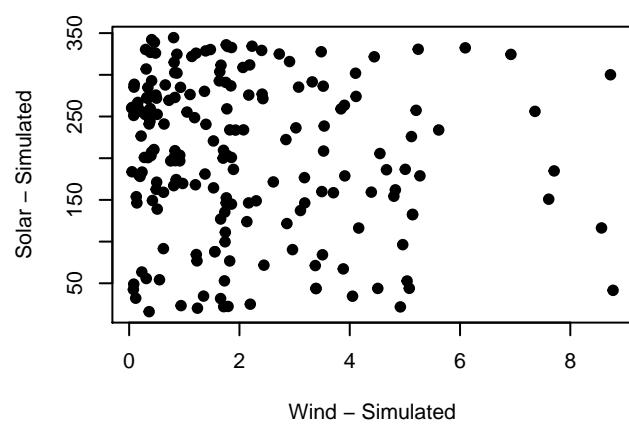
Difference between Renalysis Data and Simulations



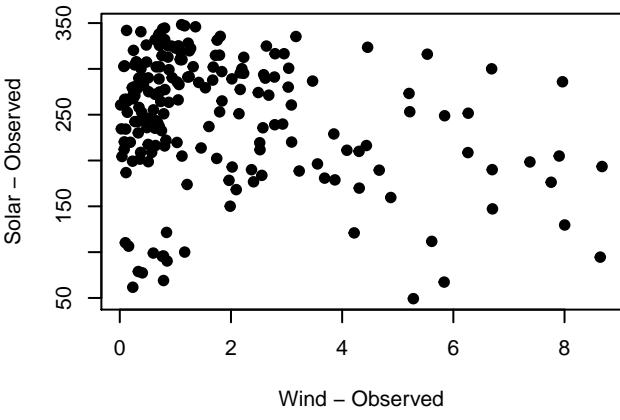




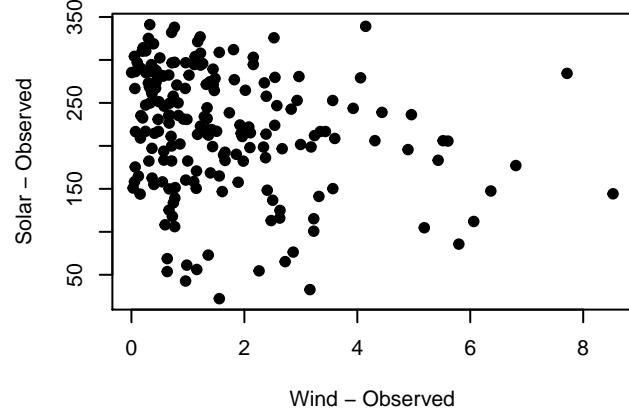
Wind – Observed



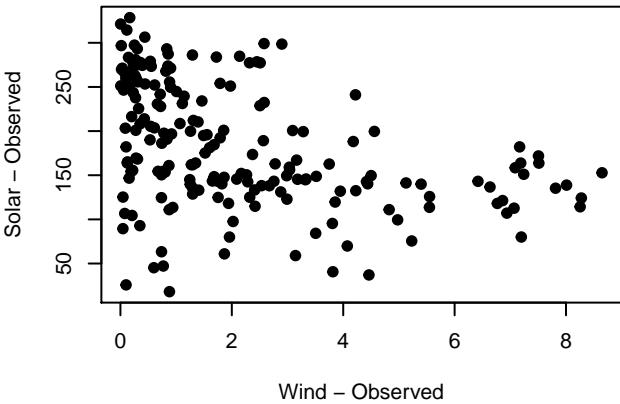
Wind – Simulated



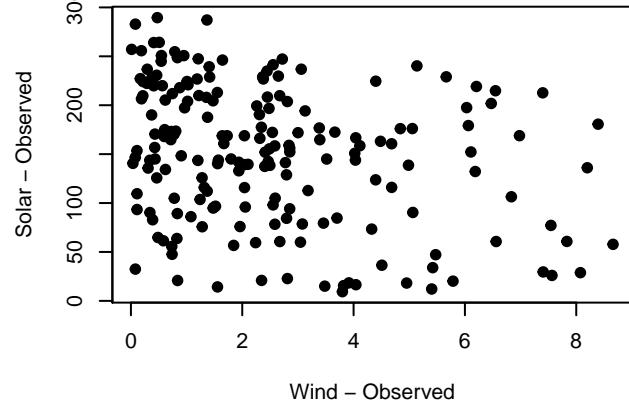
Wind – Observed



Wind – Observed



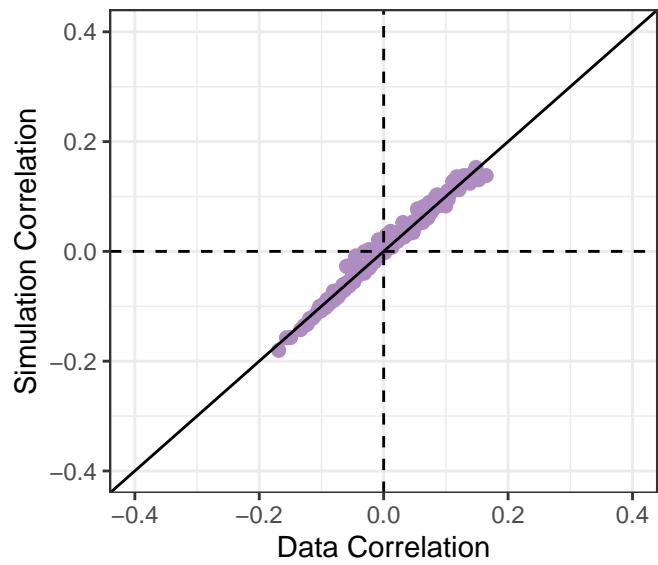
Wind – Observed



Wind – Observed

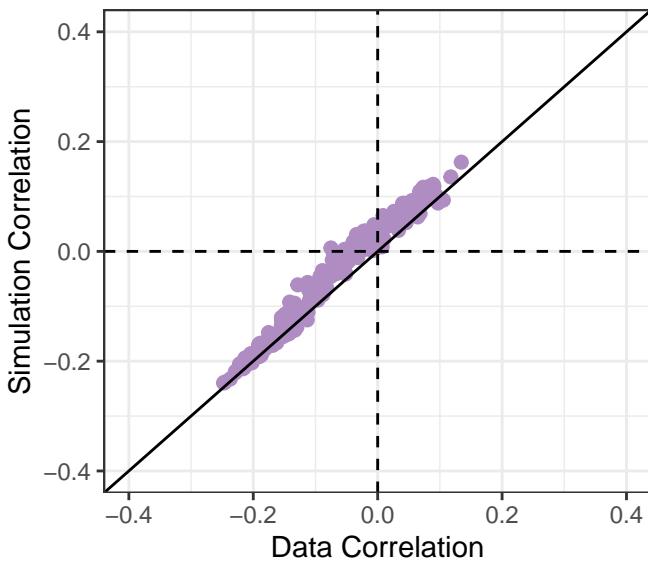
Simulation vs Data Correlation

Dec–Jan–Feb



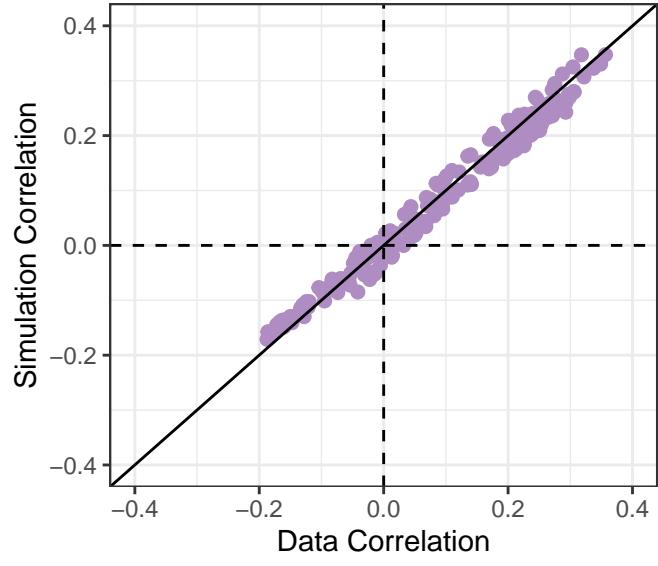
Simulation vs Data Correlation

Mar–April–May



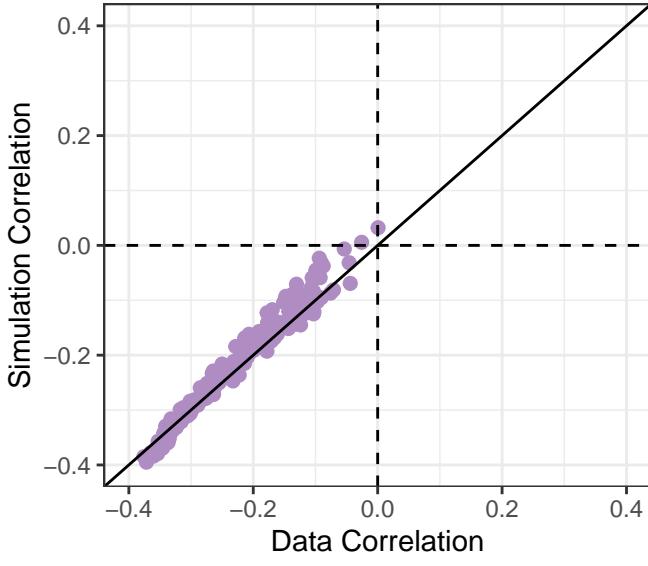
Simulation vs Data Correlation

Jun–July–Aug



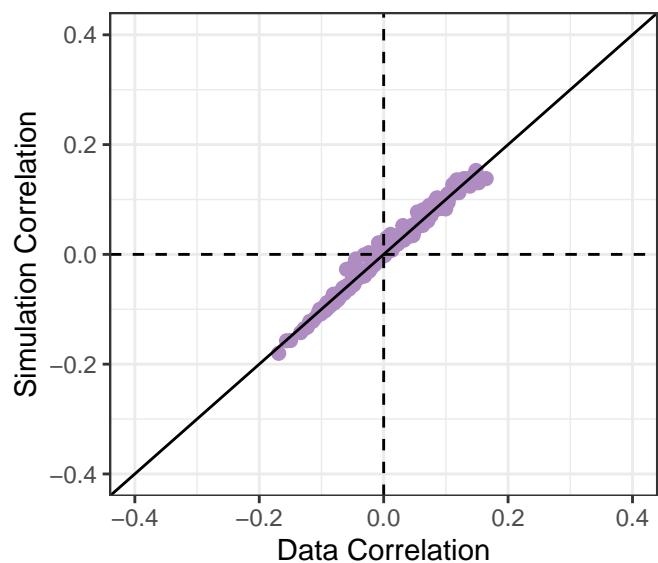
Simulation vs Data Correlation

Sept–Oct–Nov

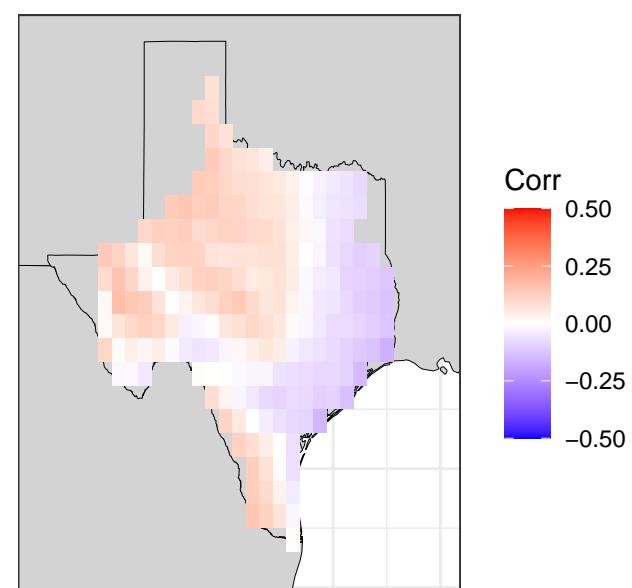


Simulation vs Data Correlation

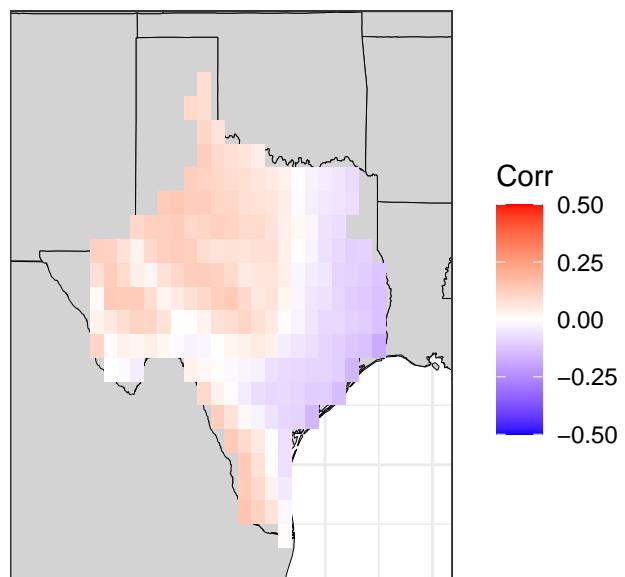
Dec–Jan–Feb



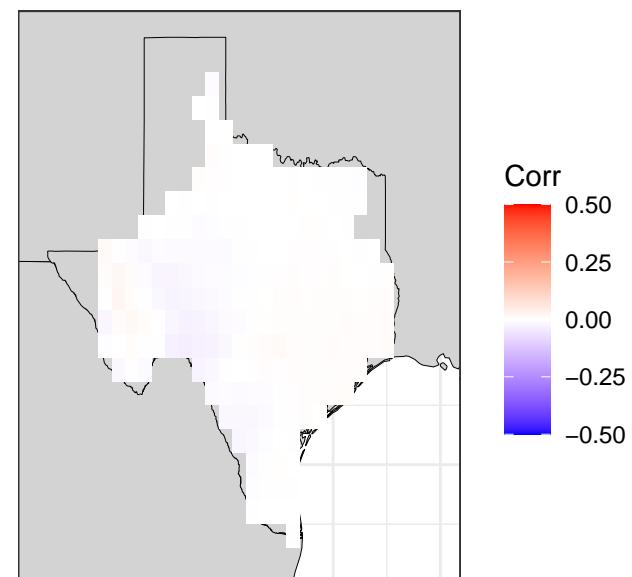
Reanalysis Data Correlation – DJF



Median Simulation Correlation – DJF

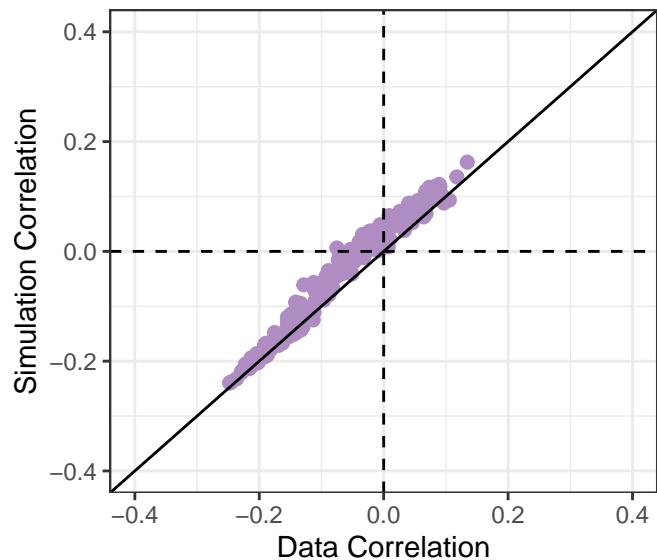


Difference between Data and Simulations

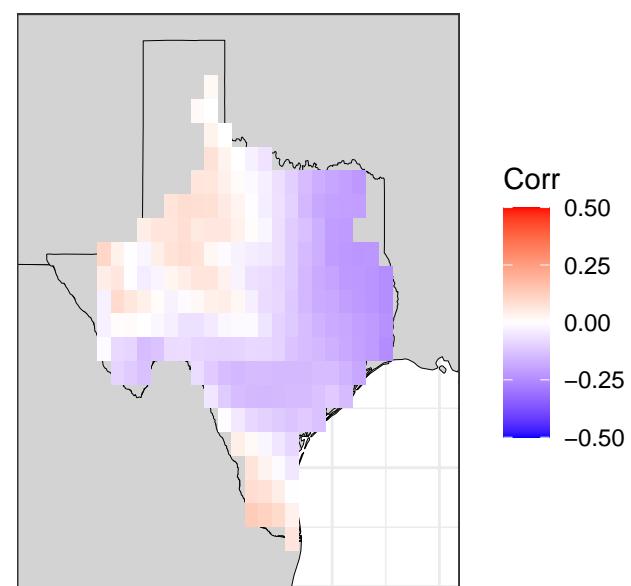


Simulation vs Data Correlation

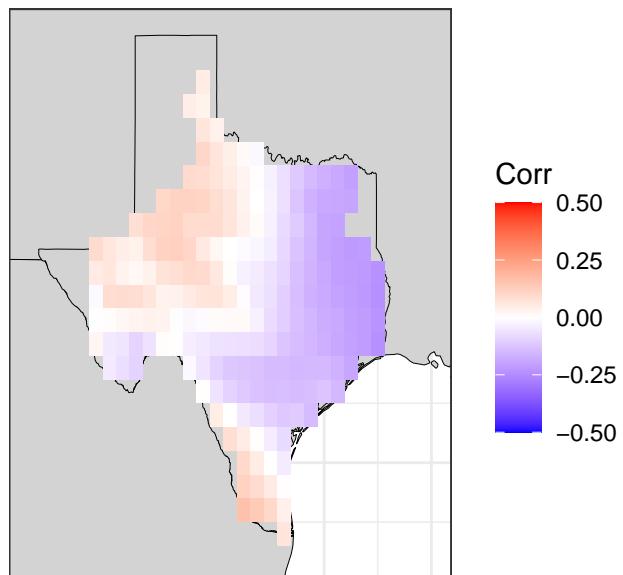
Mar–April–May



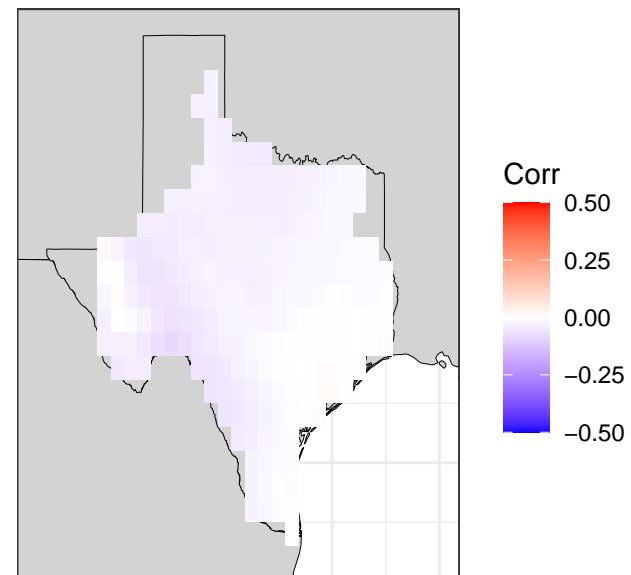
Reanalysis Data Correlation – MAM



Median Simulation Correlation – MAM

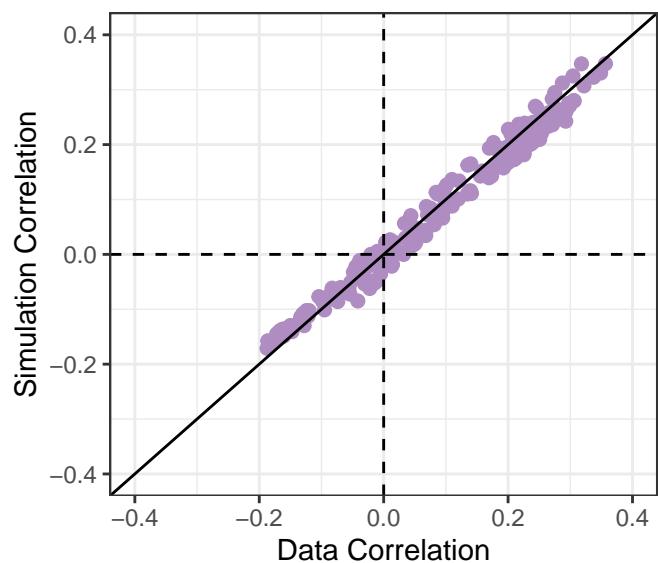


Difference between Data and Simulations

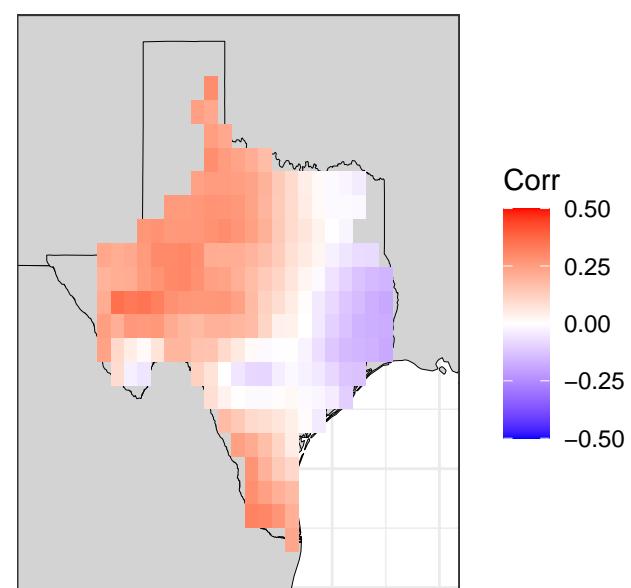


Simulation vs Data Correlation

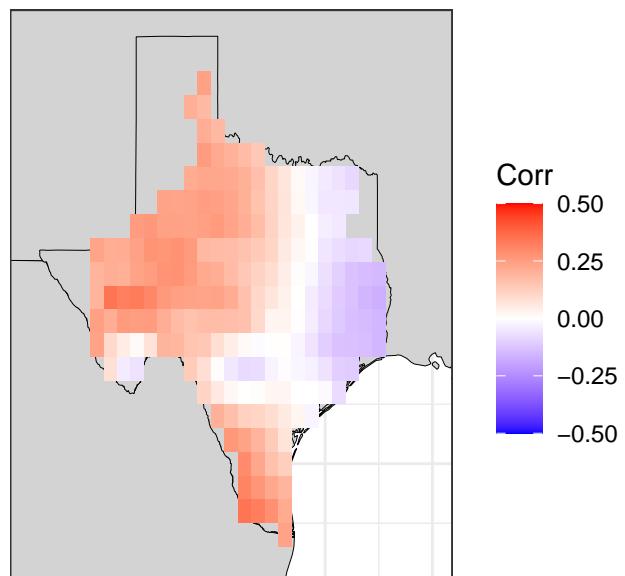
Jun–July–Aug



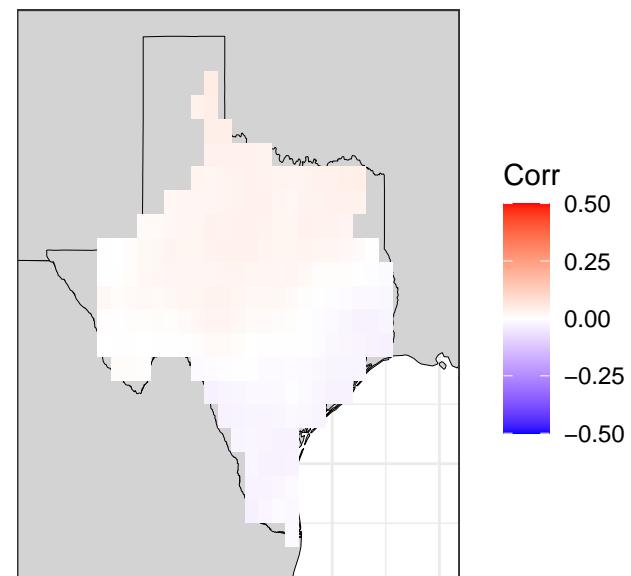
Reanalysis Data Correlation – JJA



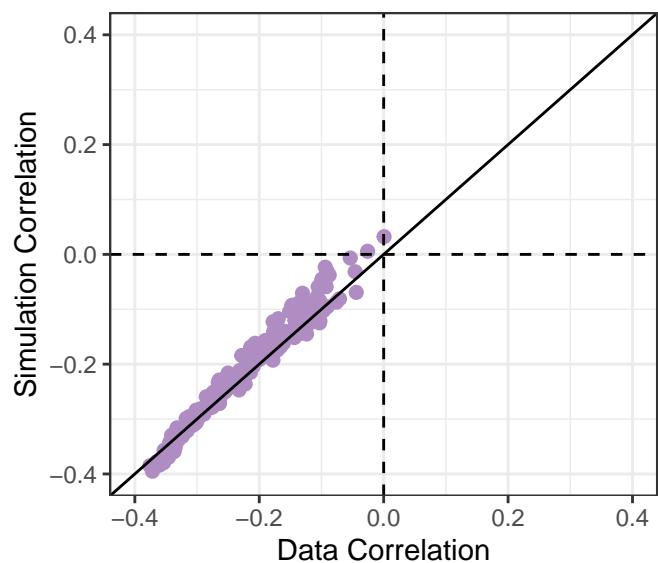
Median Simulation Correlation – JJA



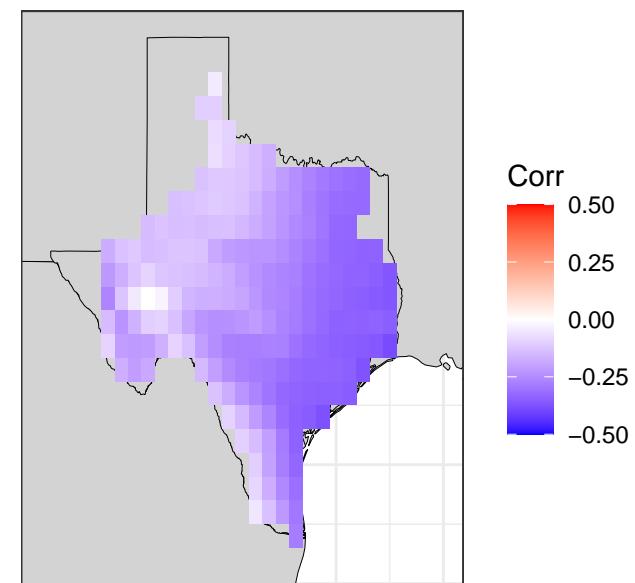
Difference between Data and Simulations



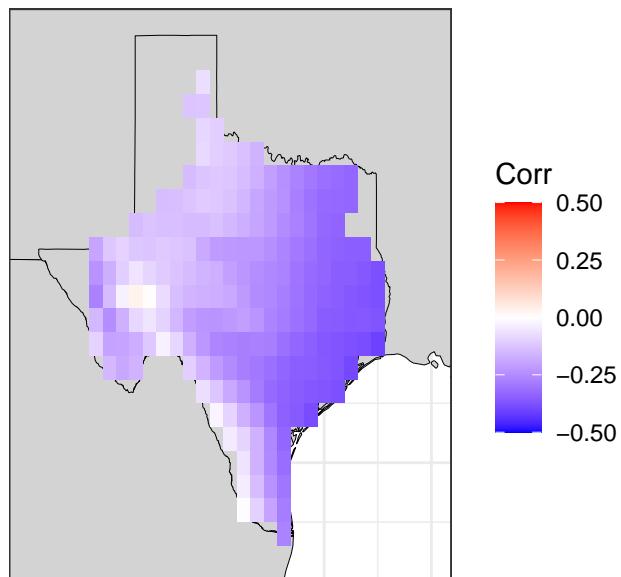
Simulation vs Data Correlation
Sept–Oct–Nov



Reanalysis Data Correlation – SON



Median Simulation Correlation – SON



Difference between Data and Simulations

