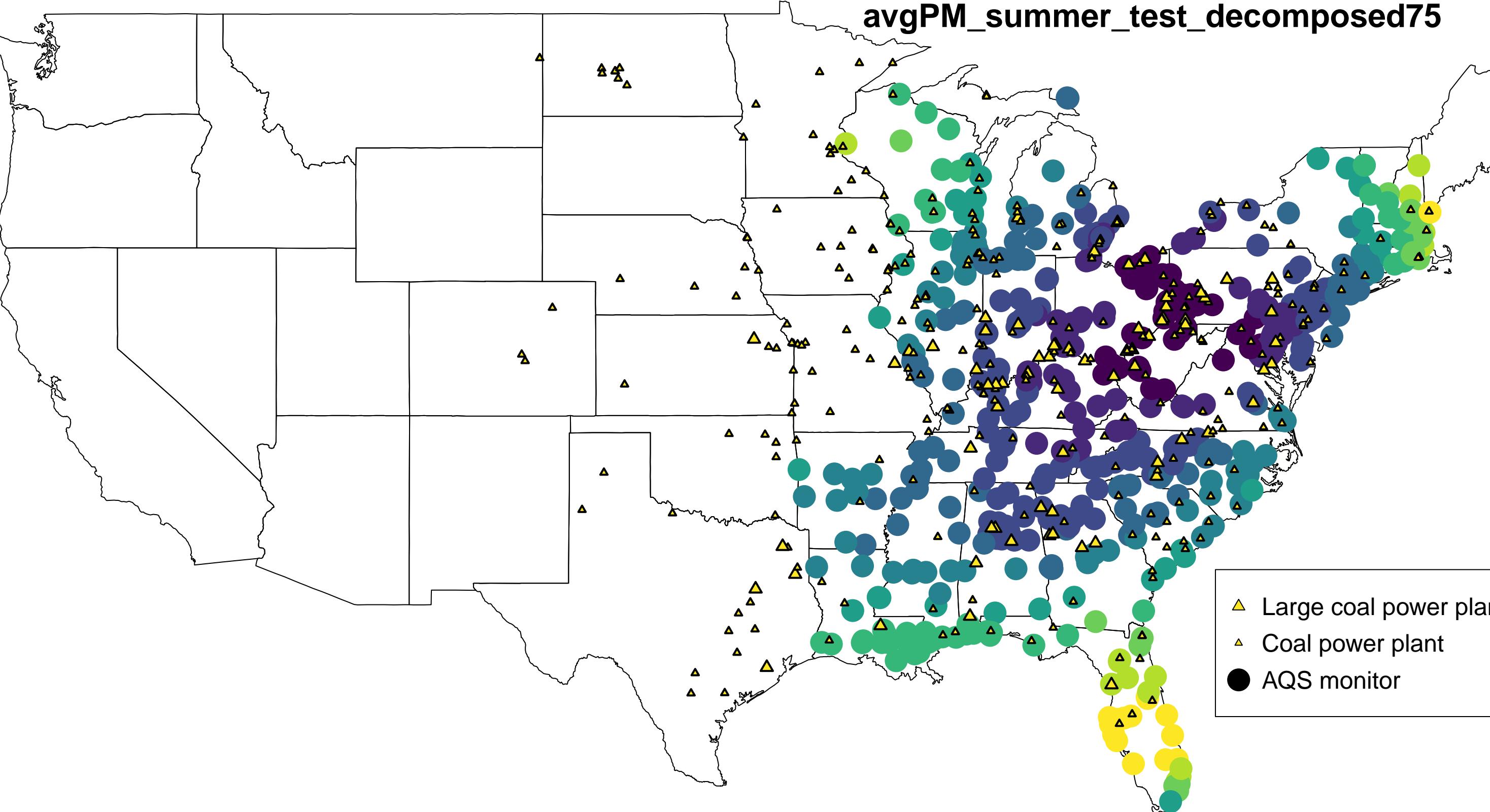


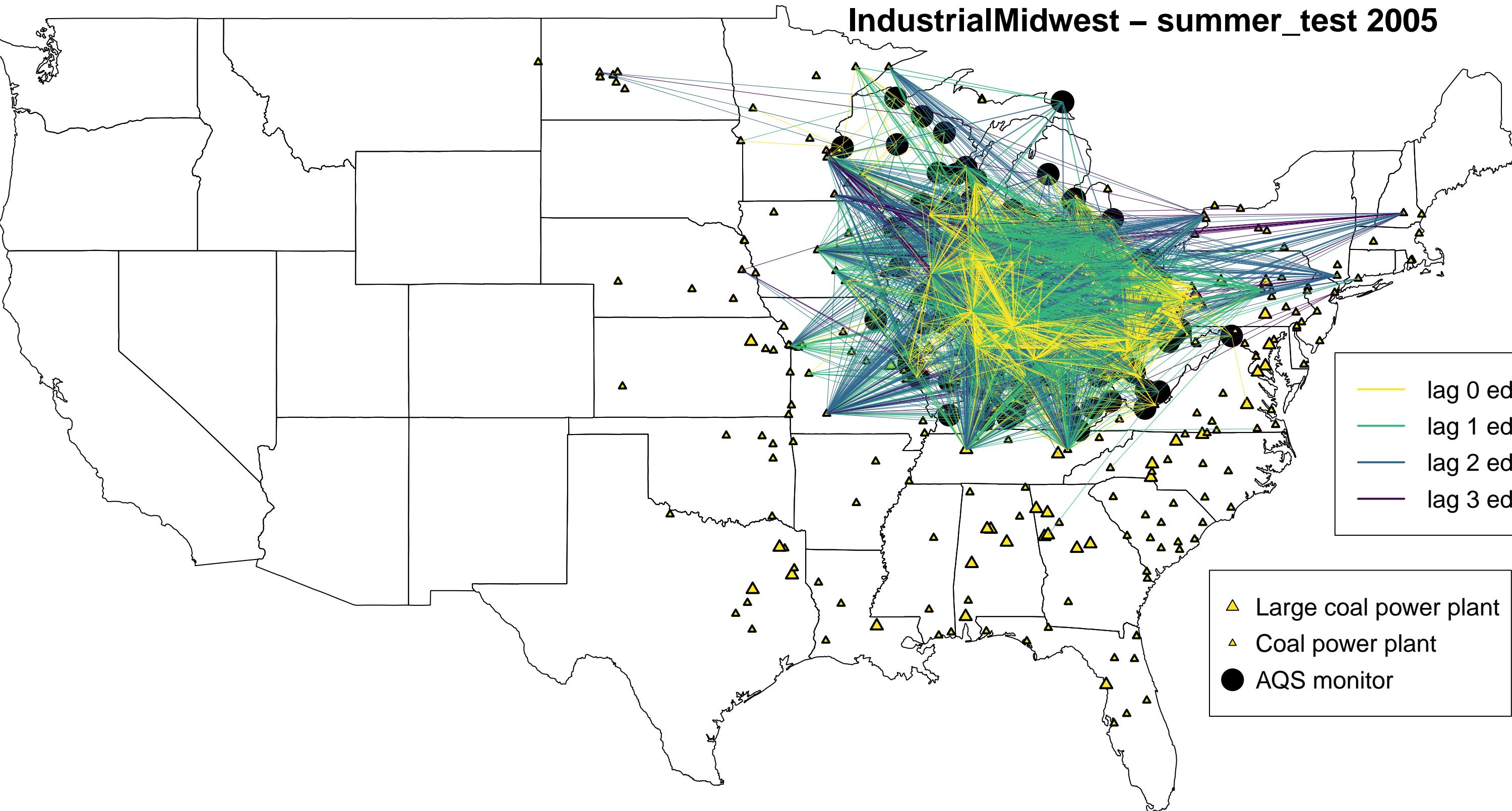
Coal power plants and AQS monitors



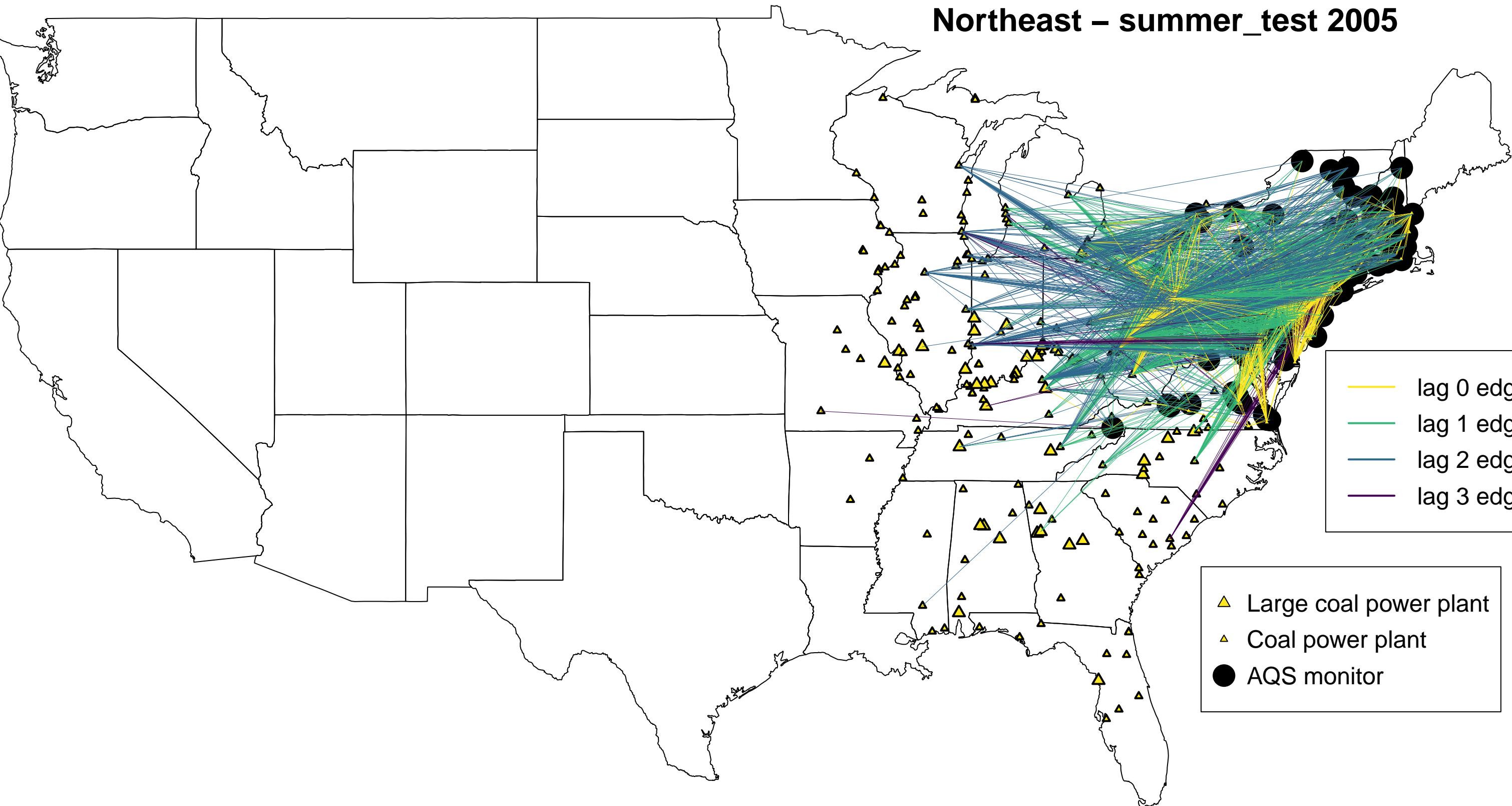
avgPM_summer_test_decomposed75



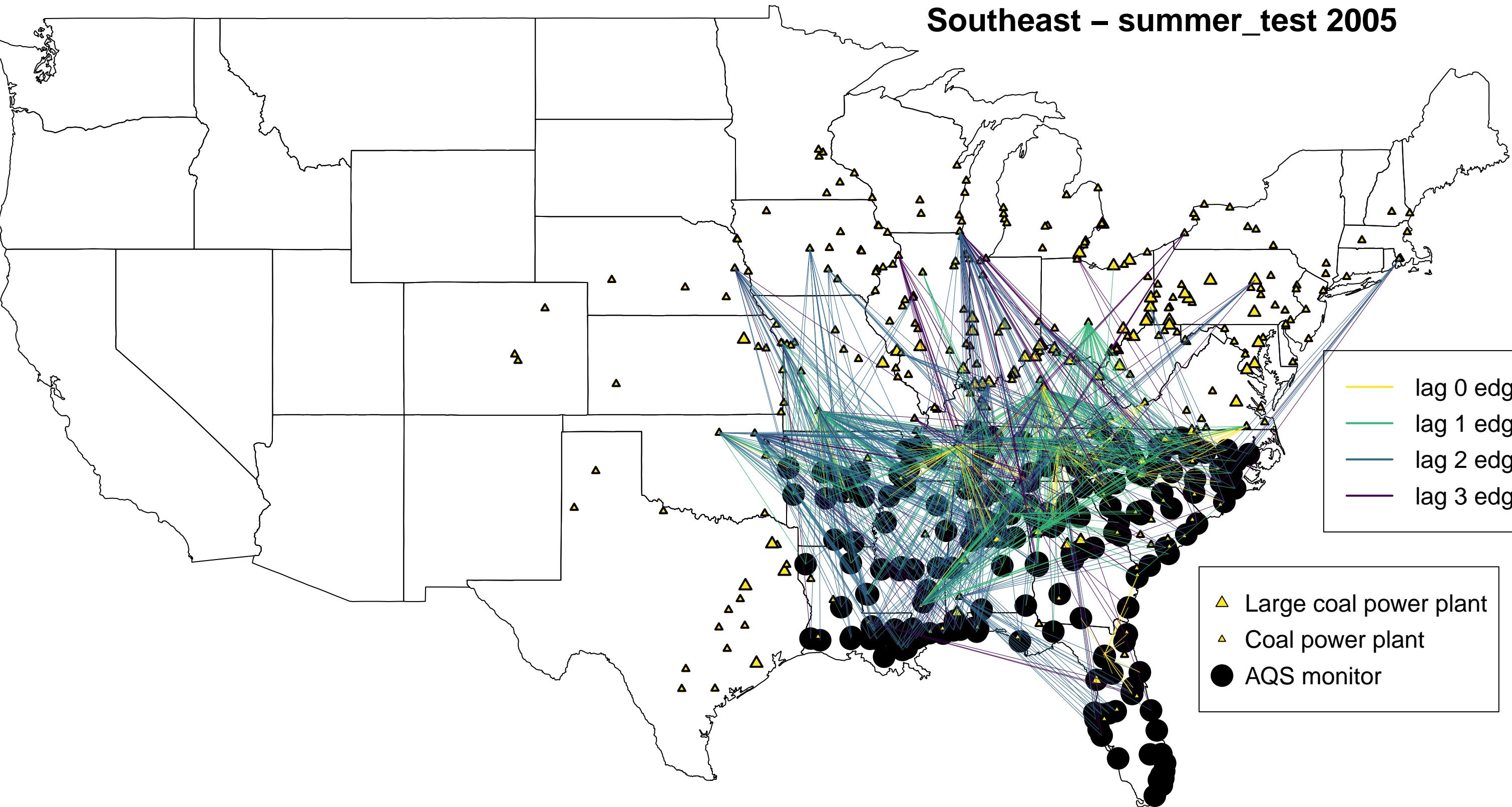
IndustrialMidwest – summer_test 2005



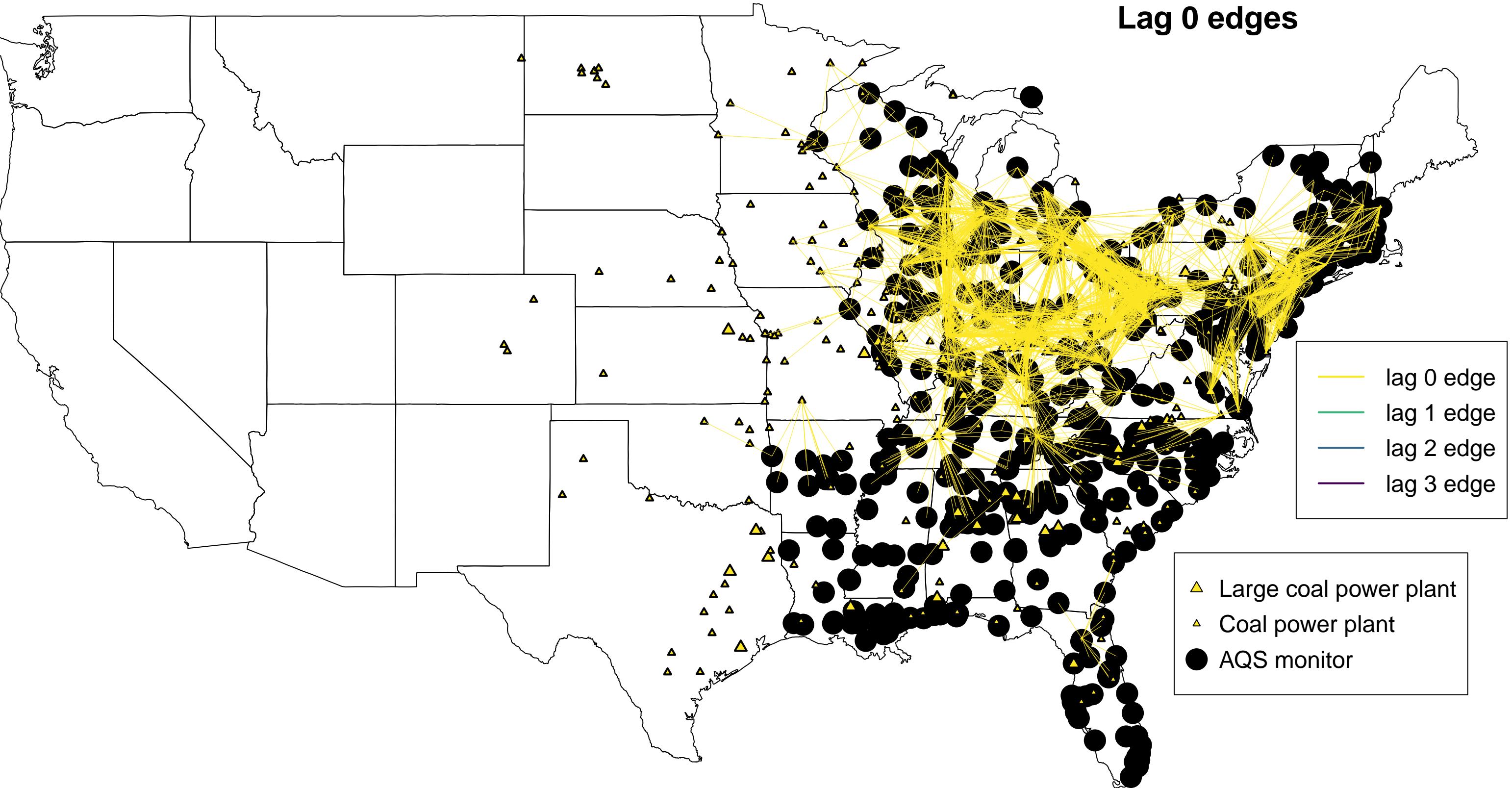
Northeast – summer_test 2005



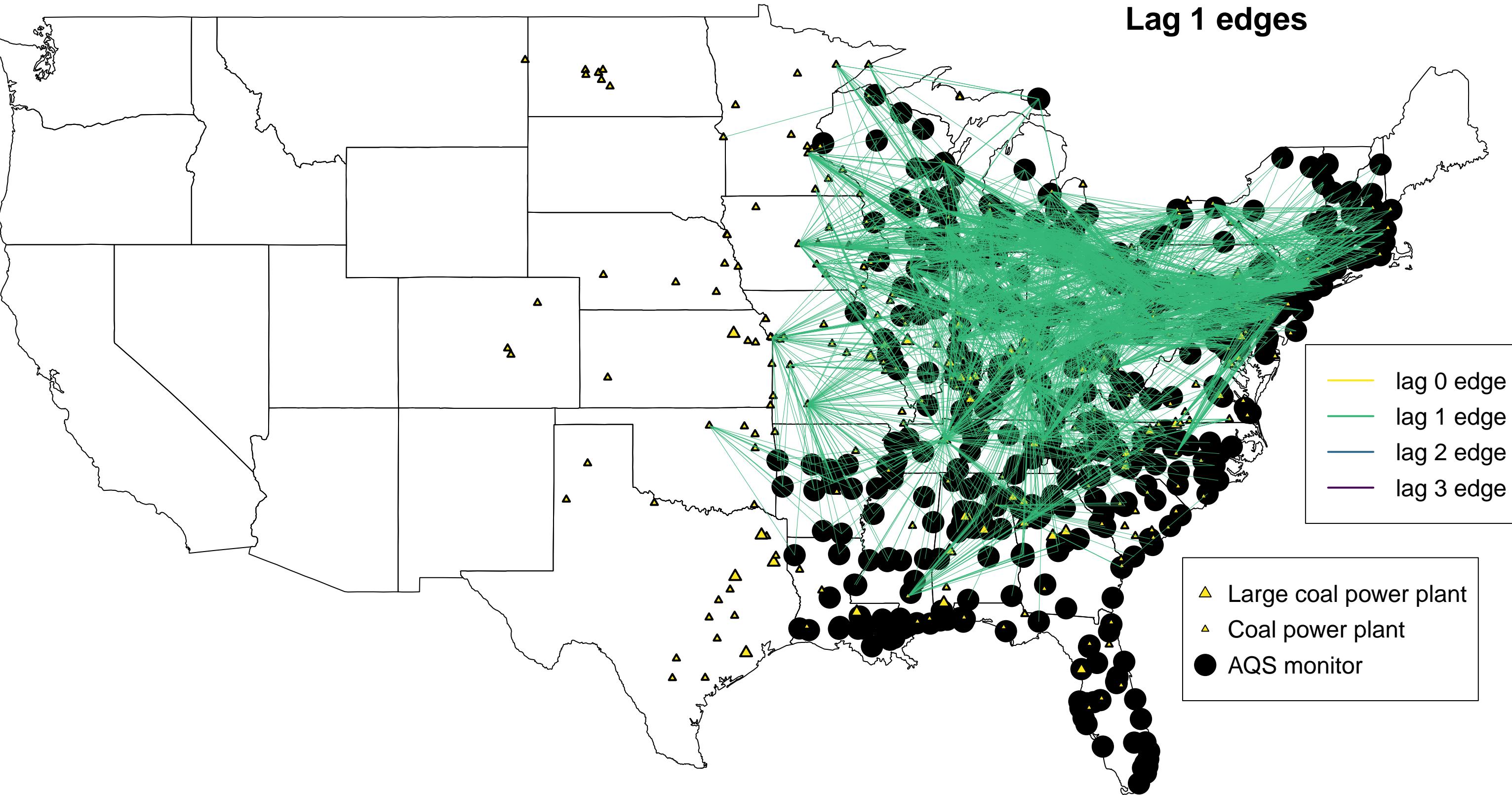
Southeast – summer_test 2005



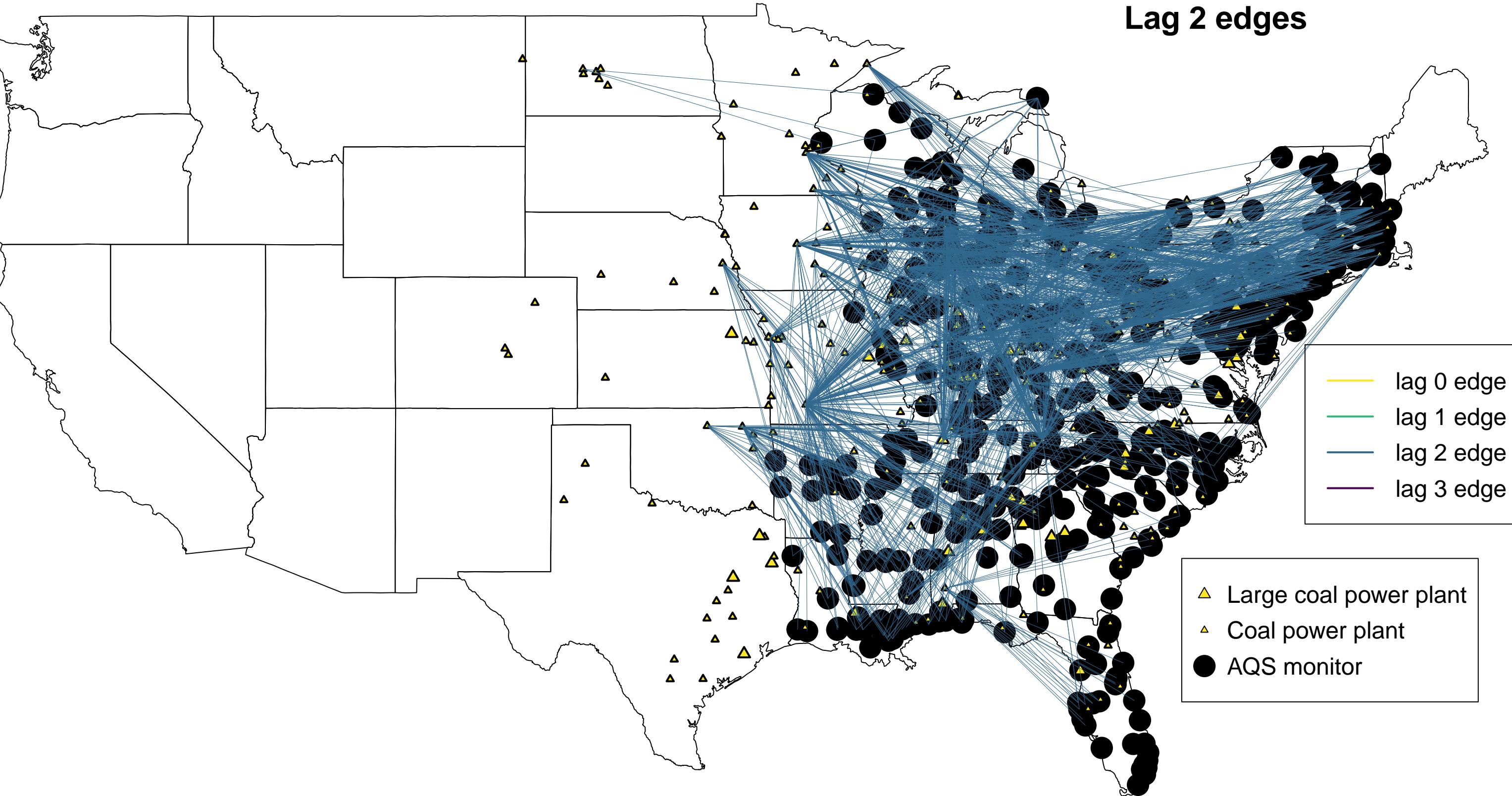
Lag 0 edges



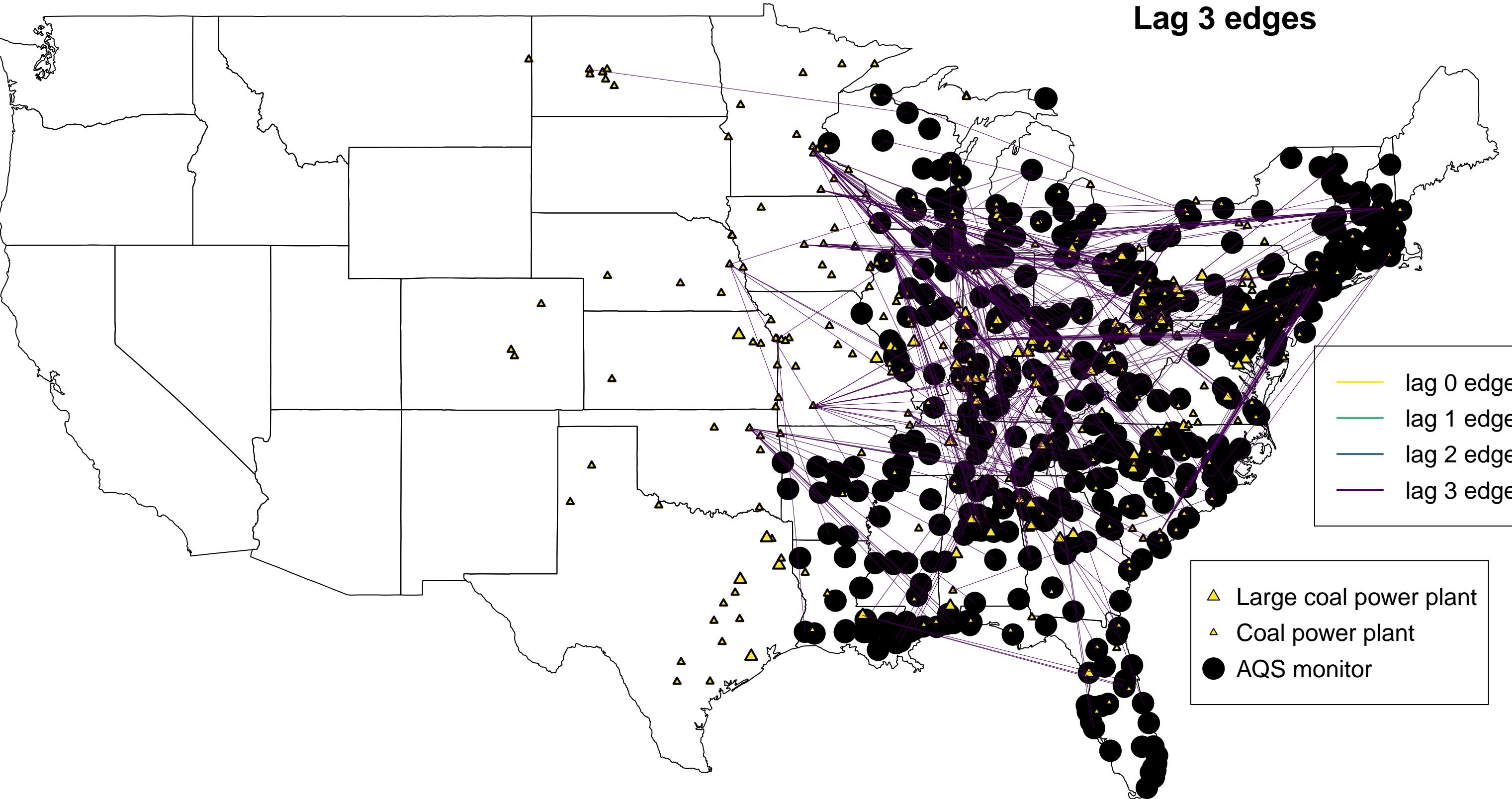
Lag 1 edges

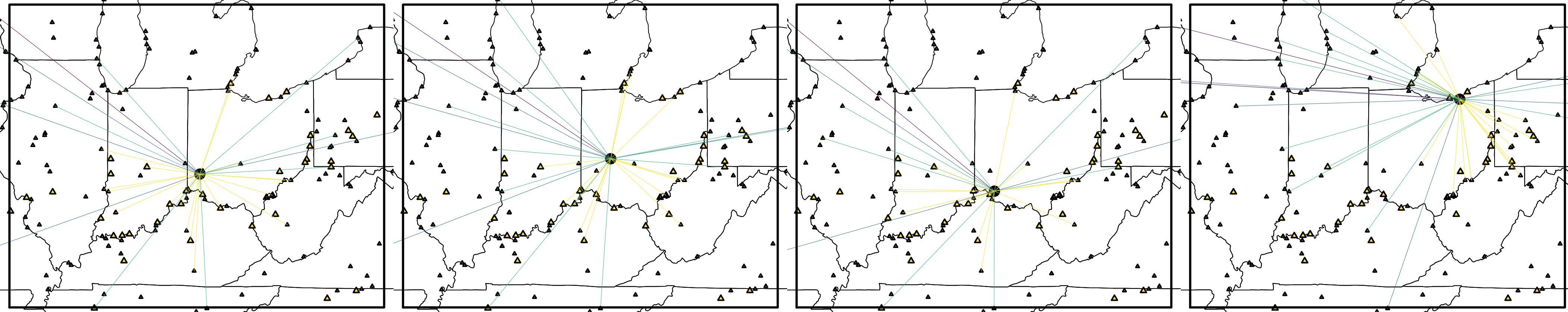
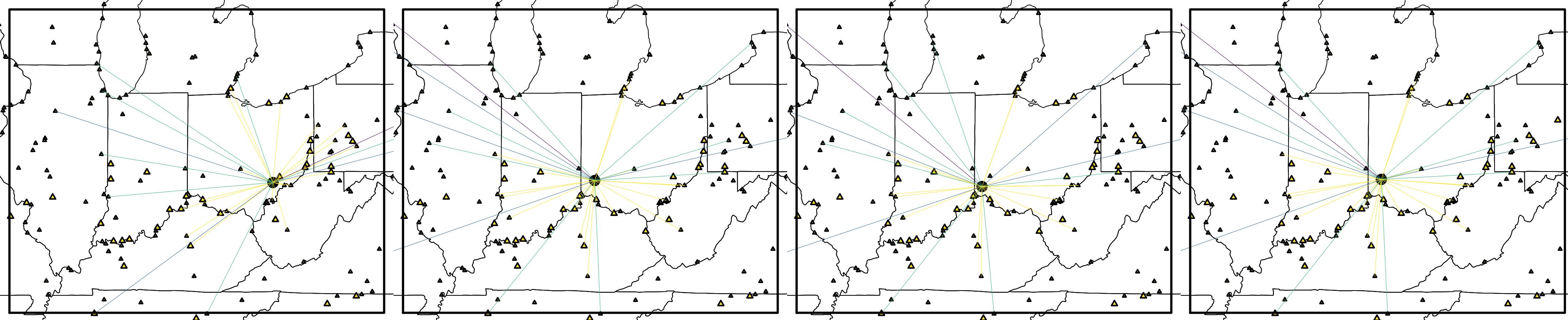


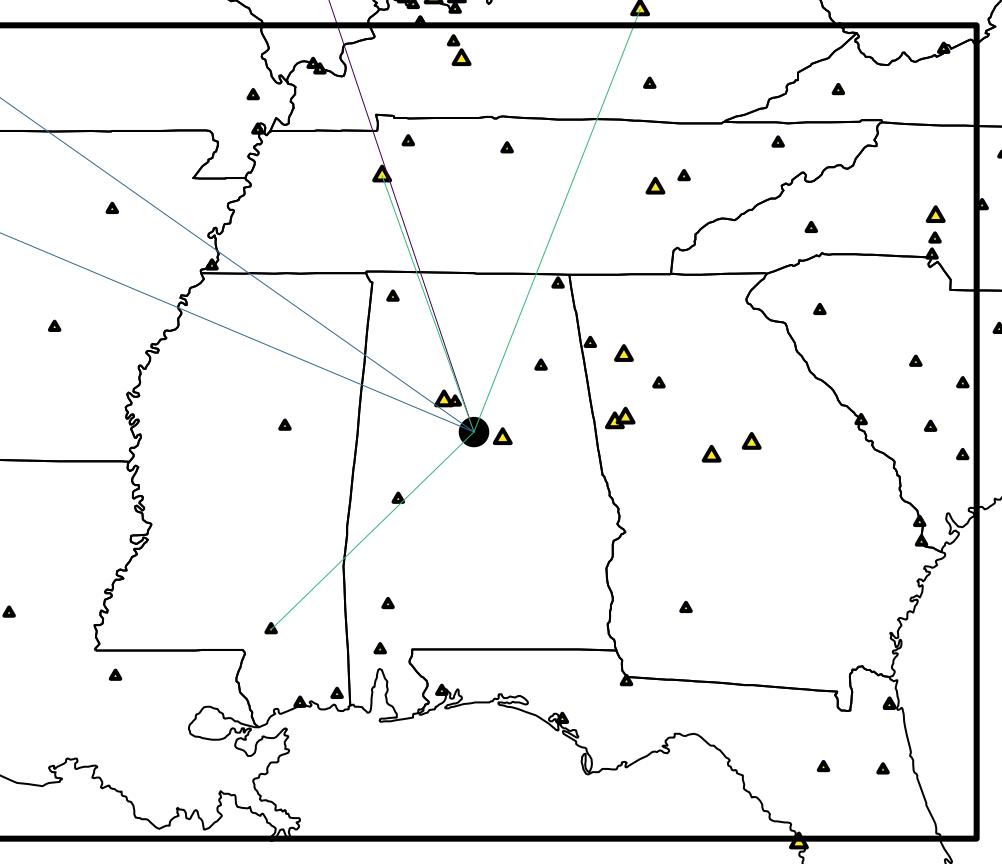
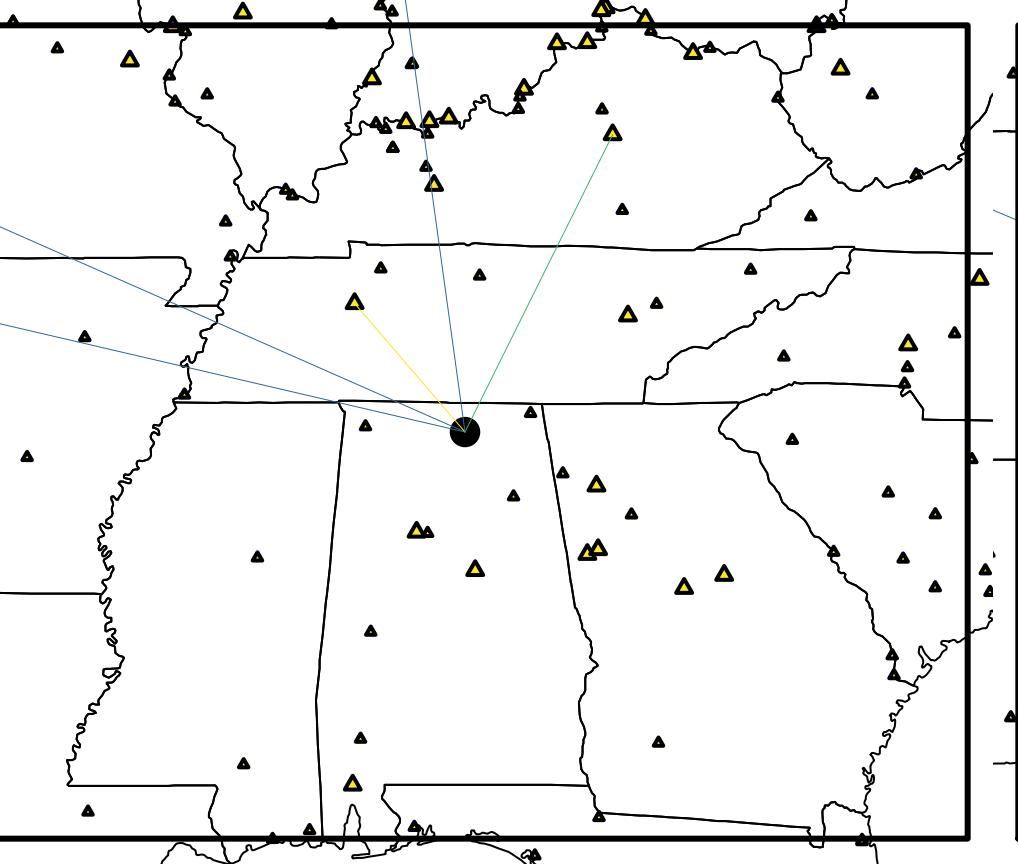
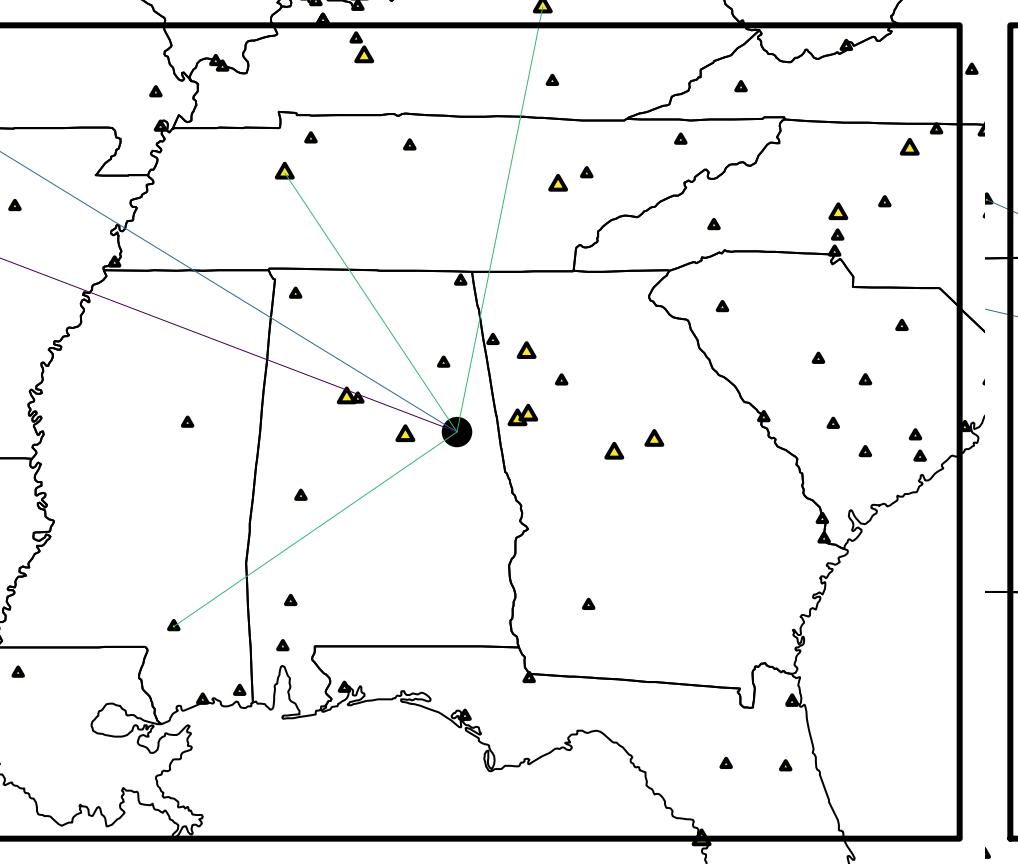
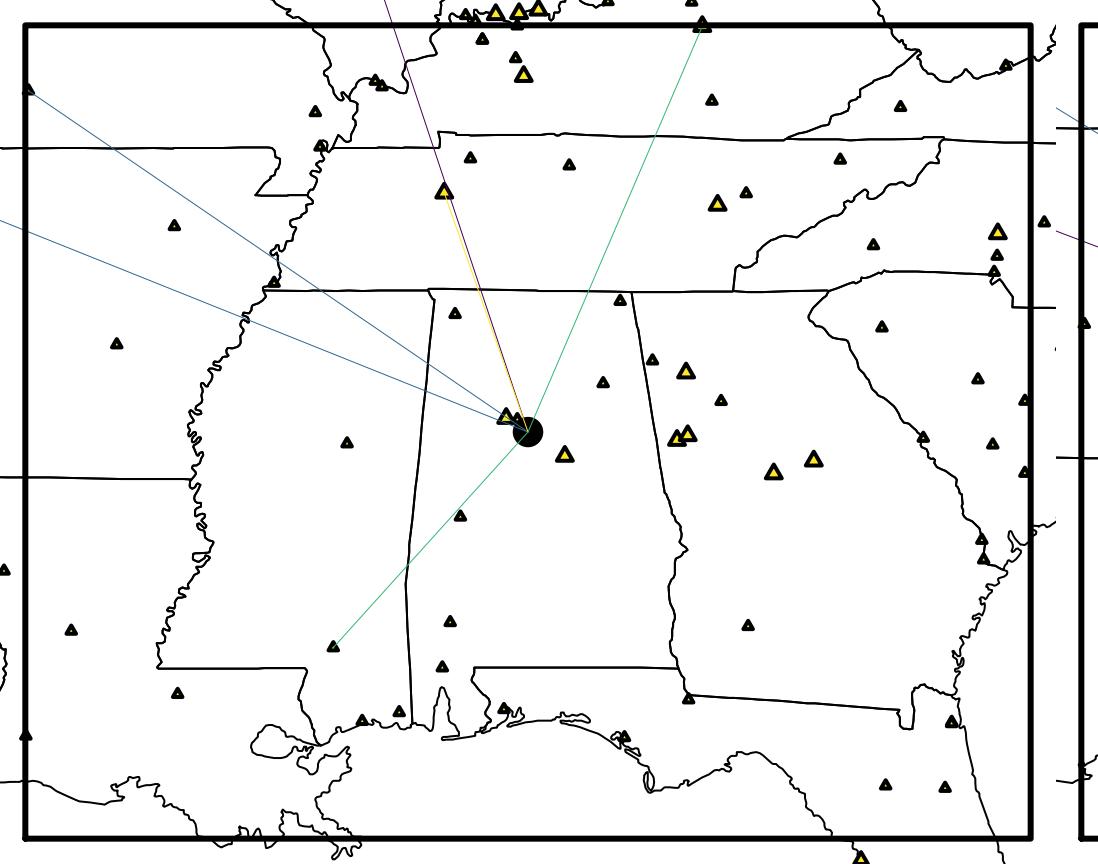
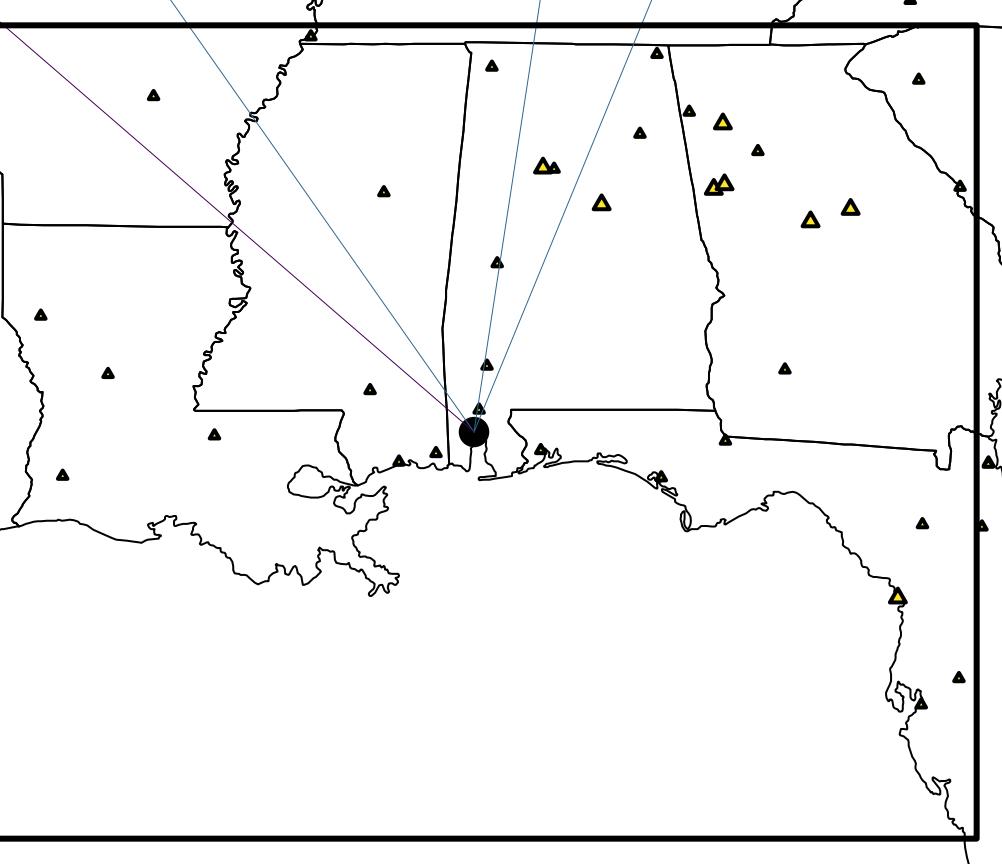
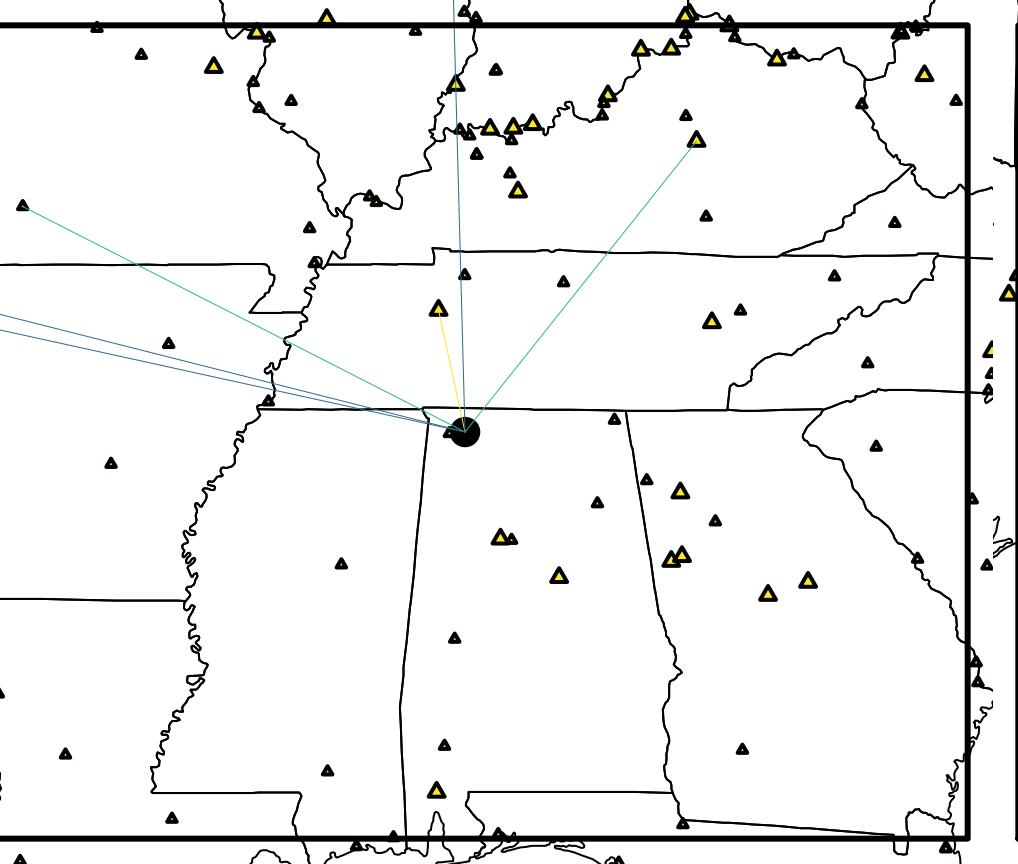
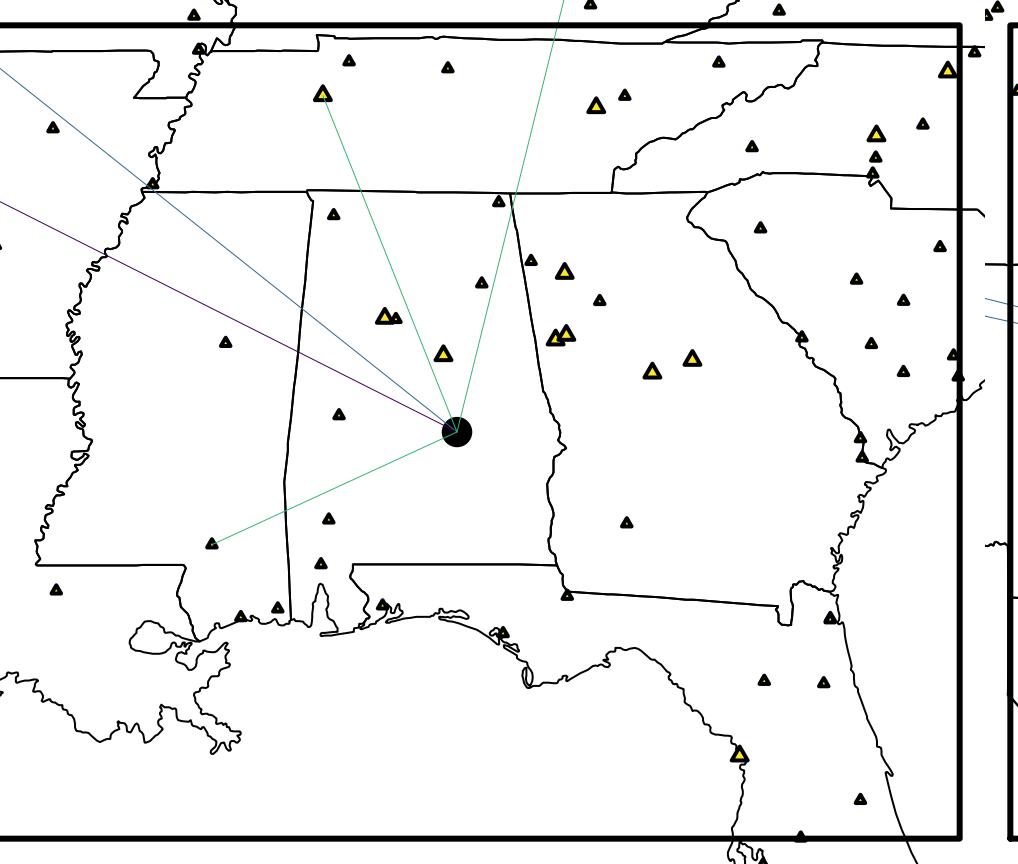
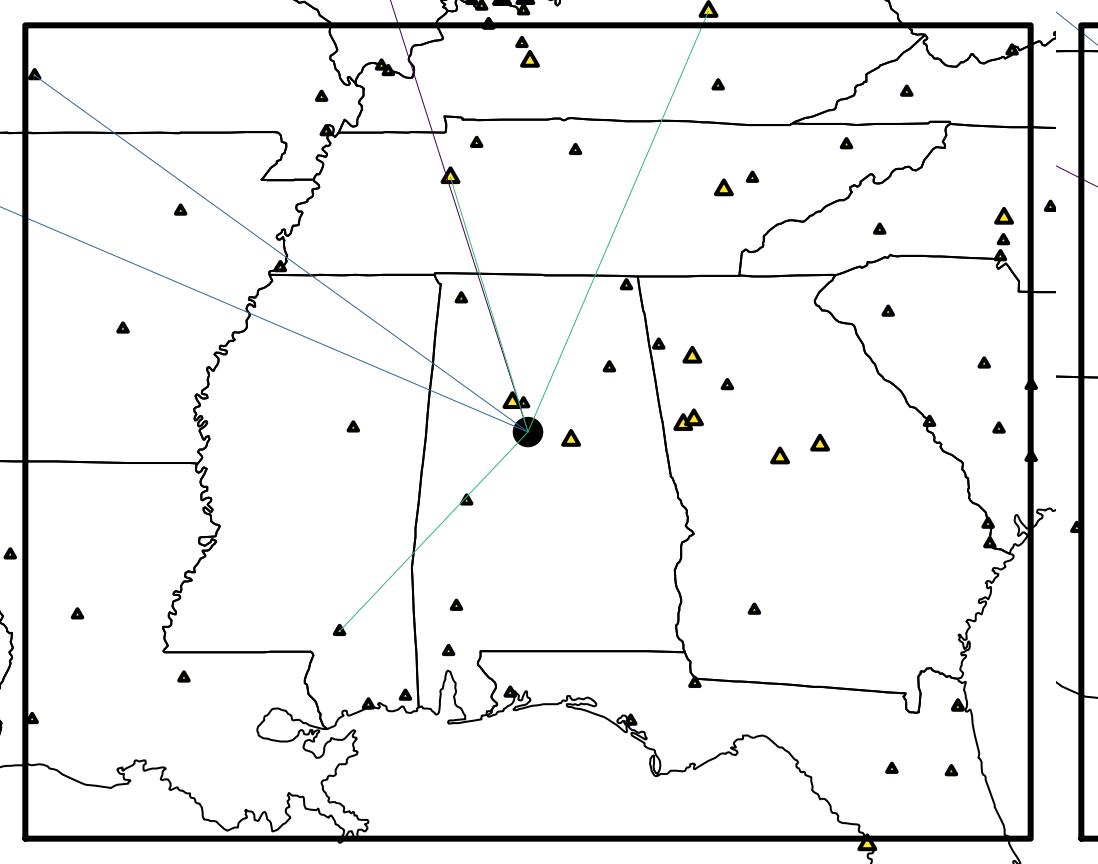
Lag 2 edges

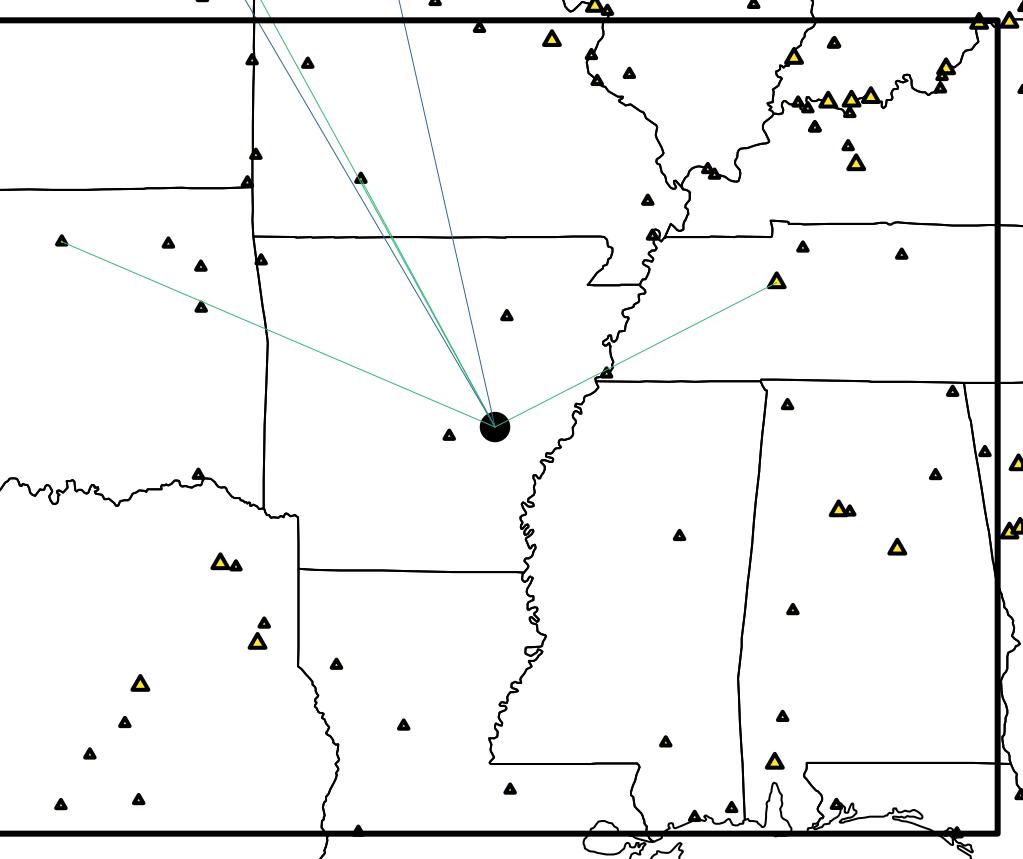
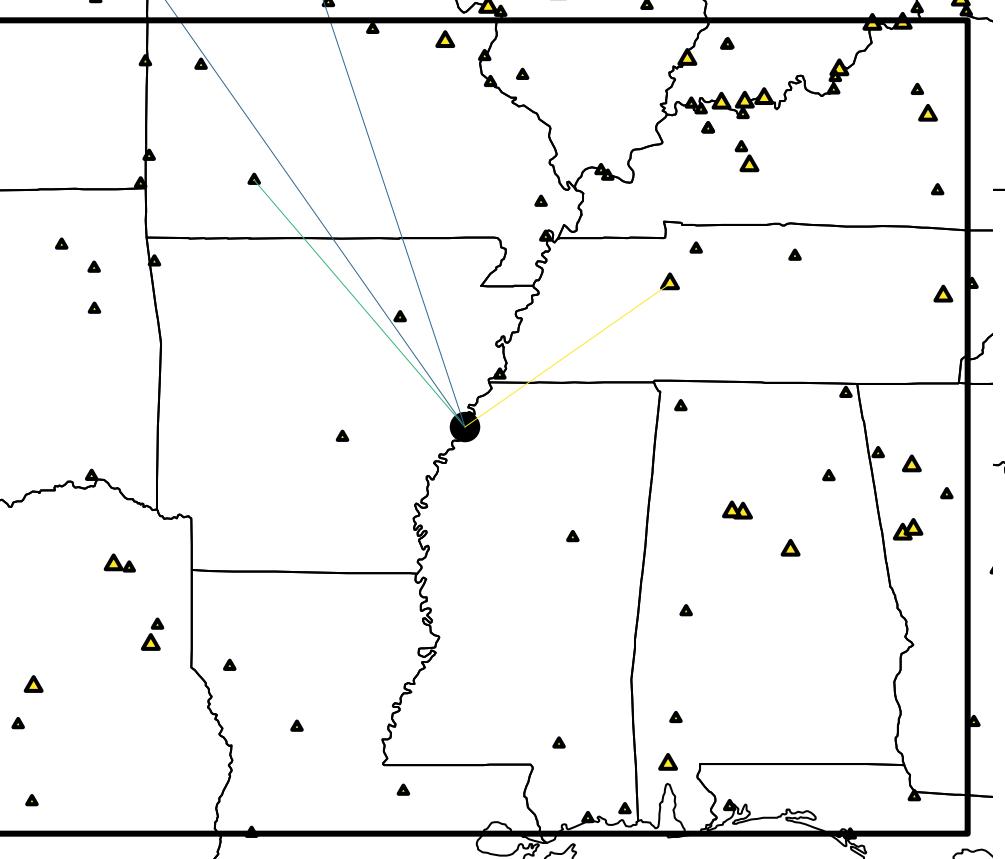
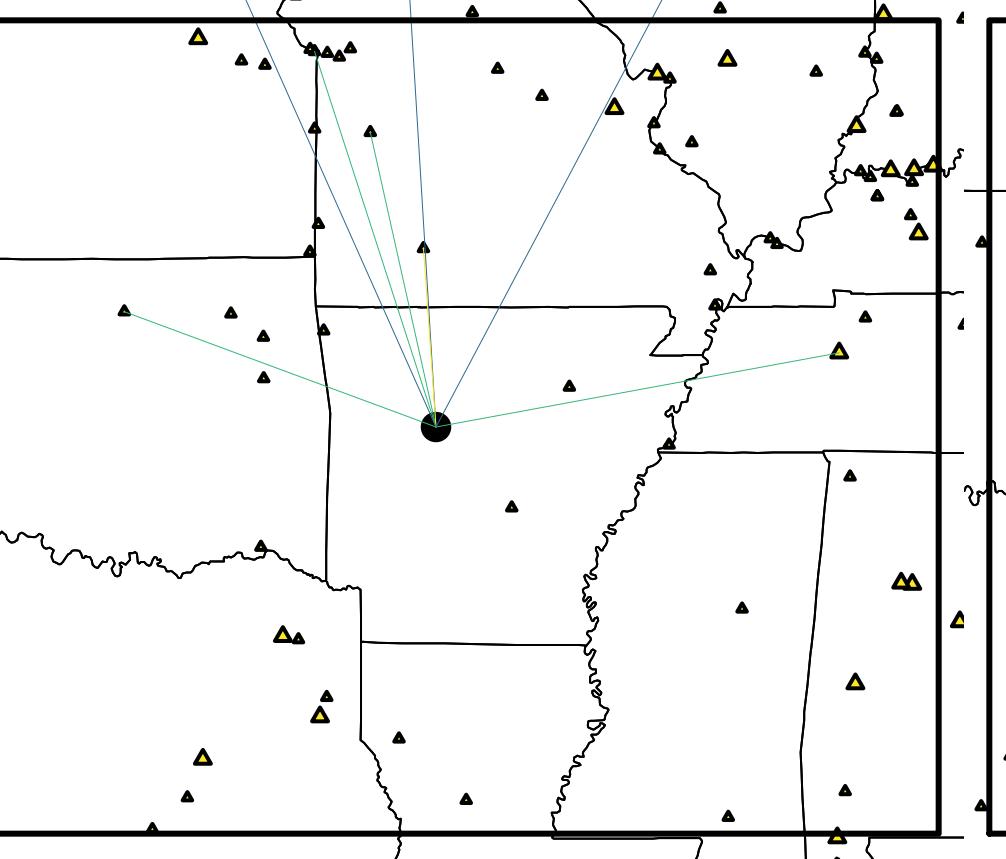
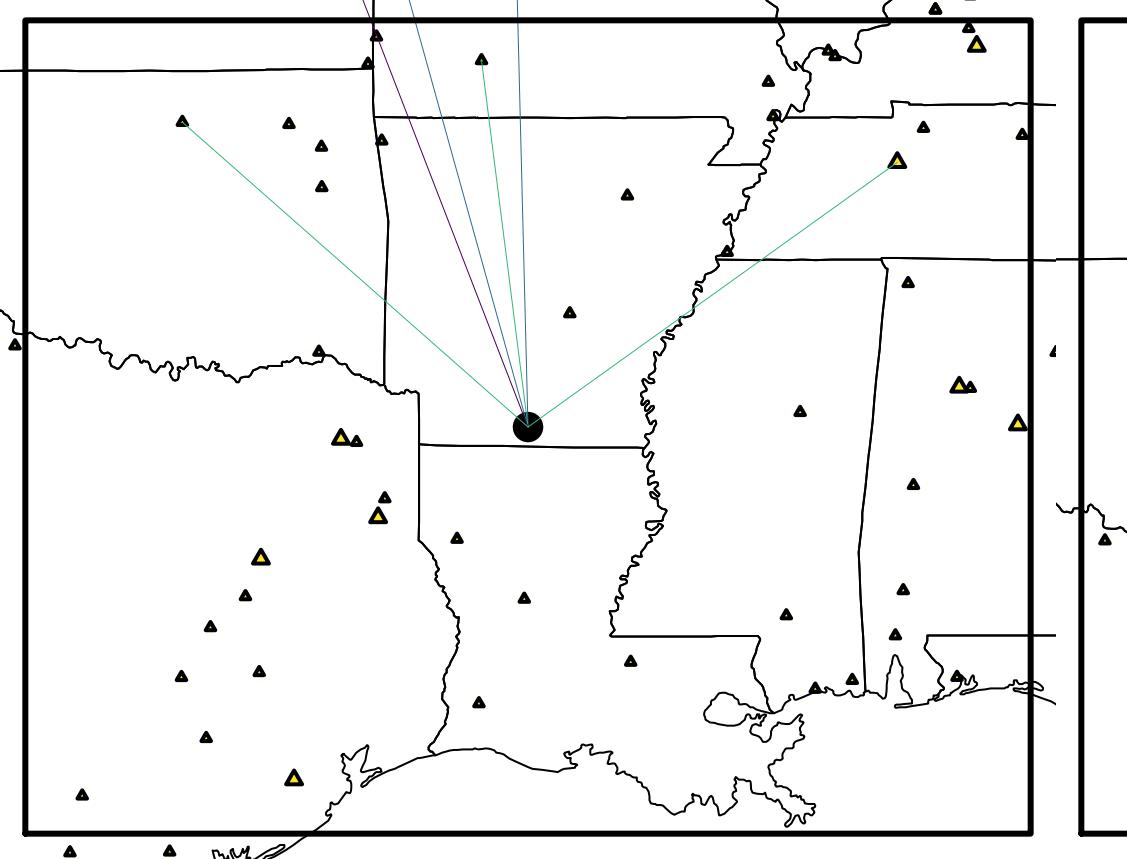
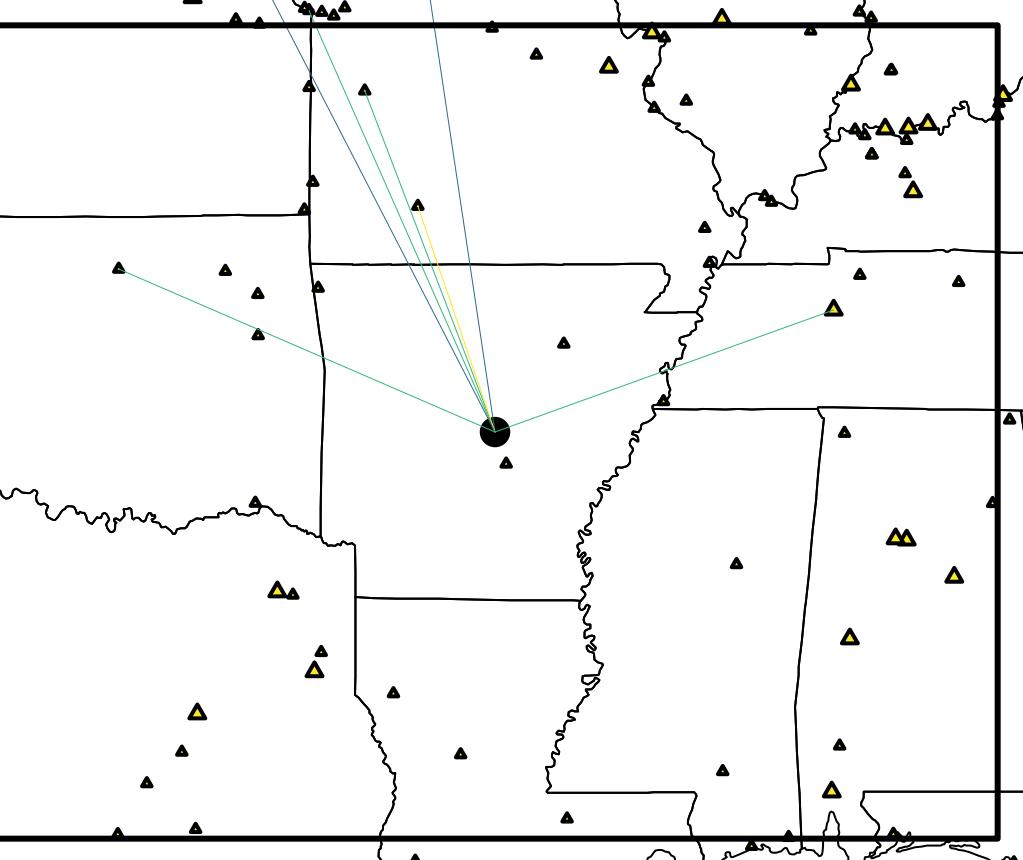
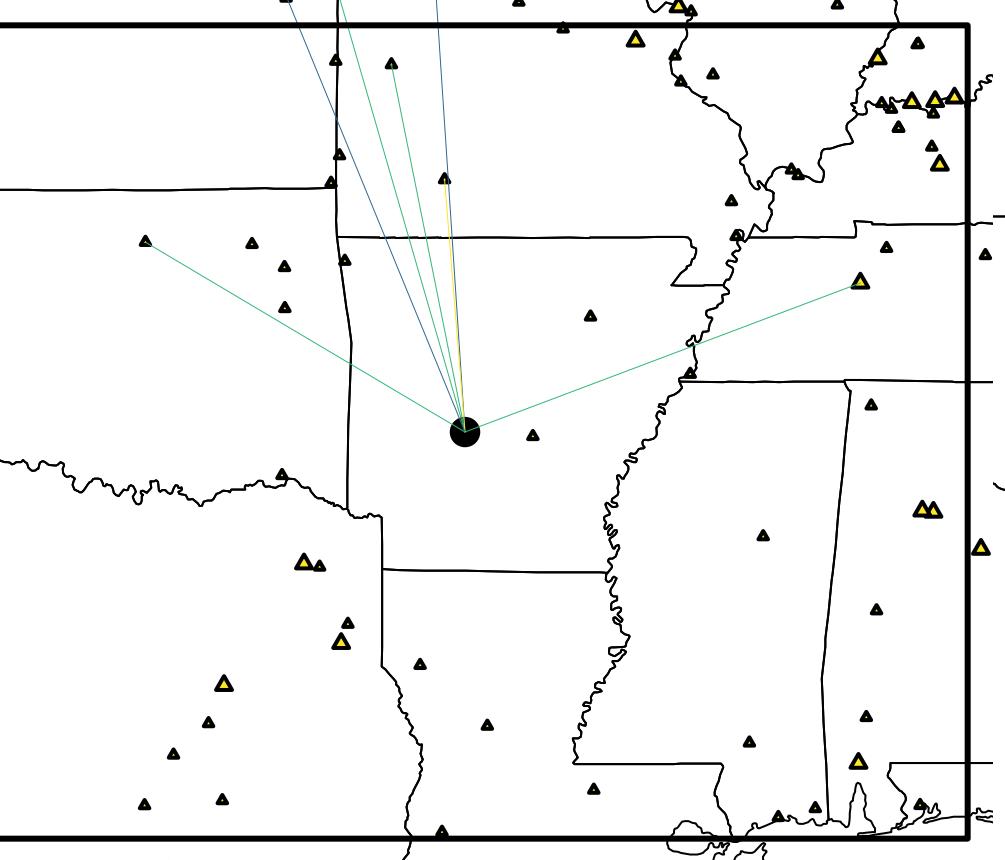
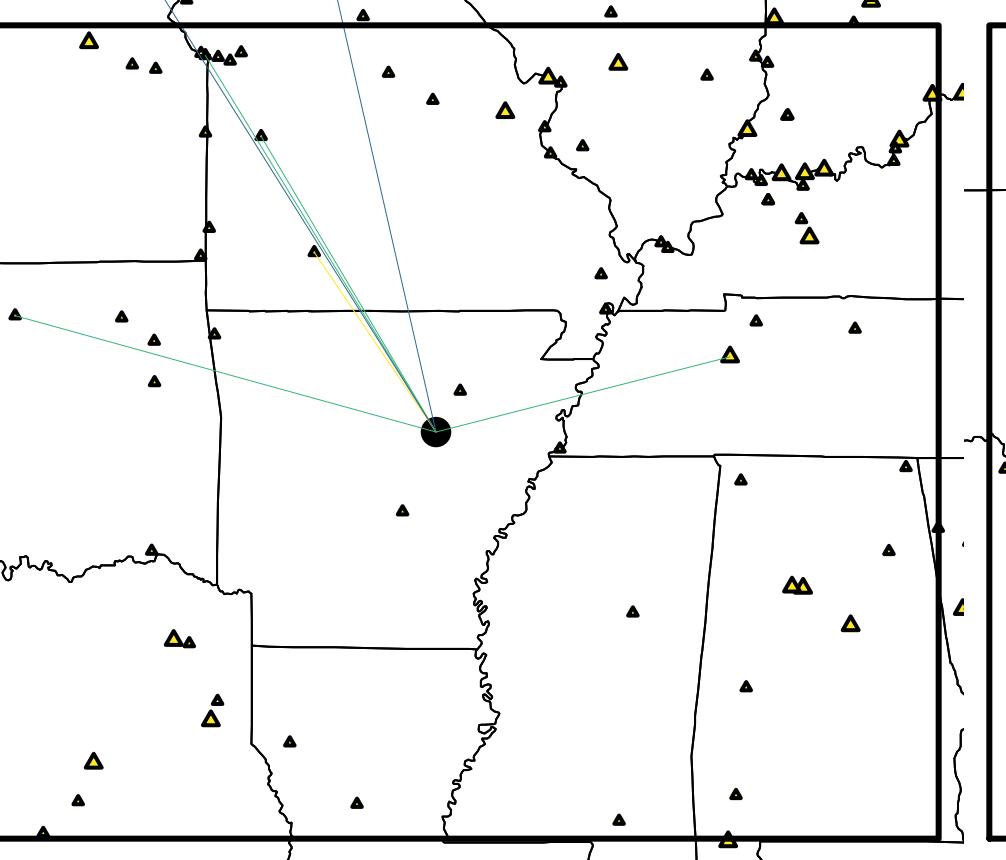
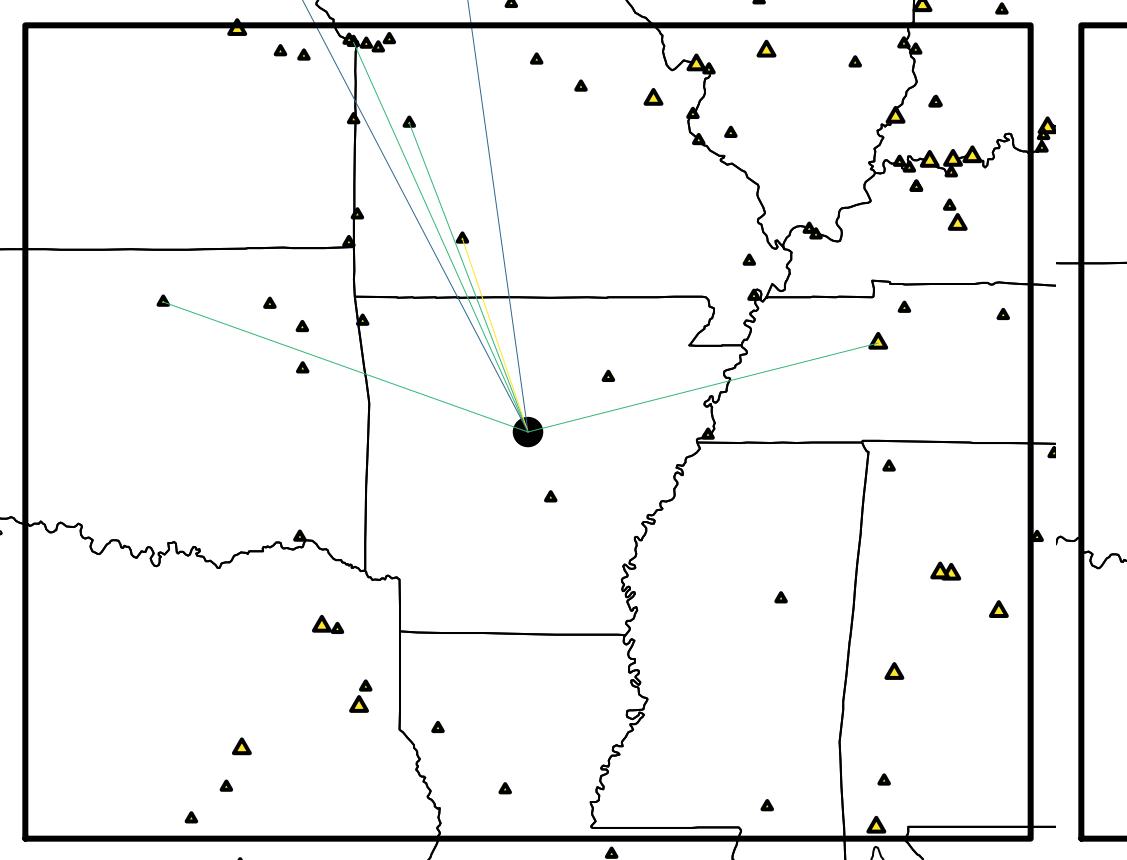


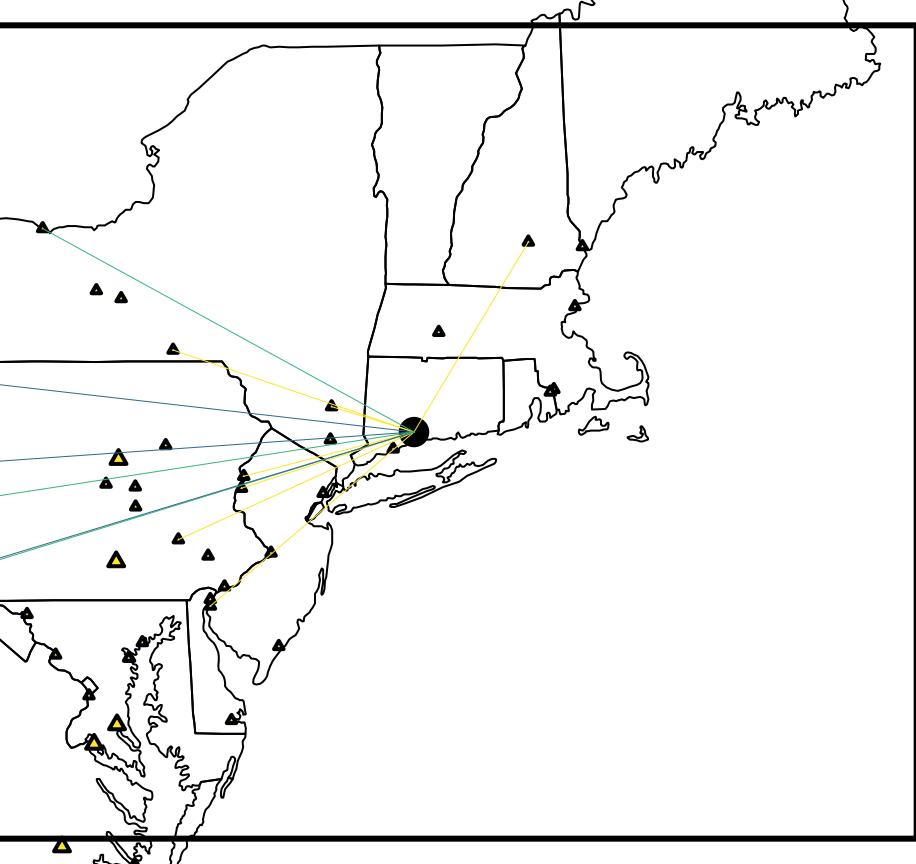
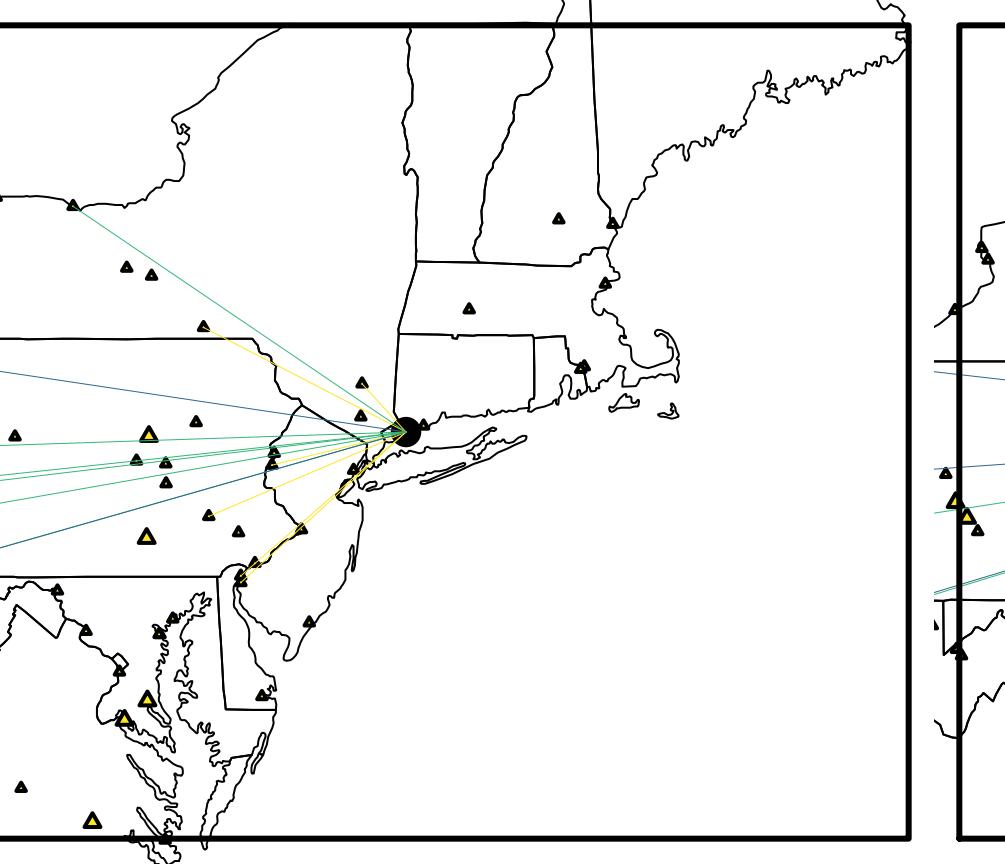
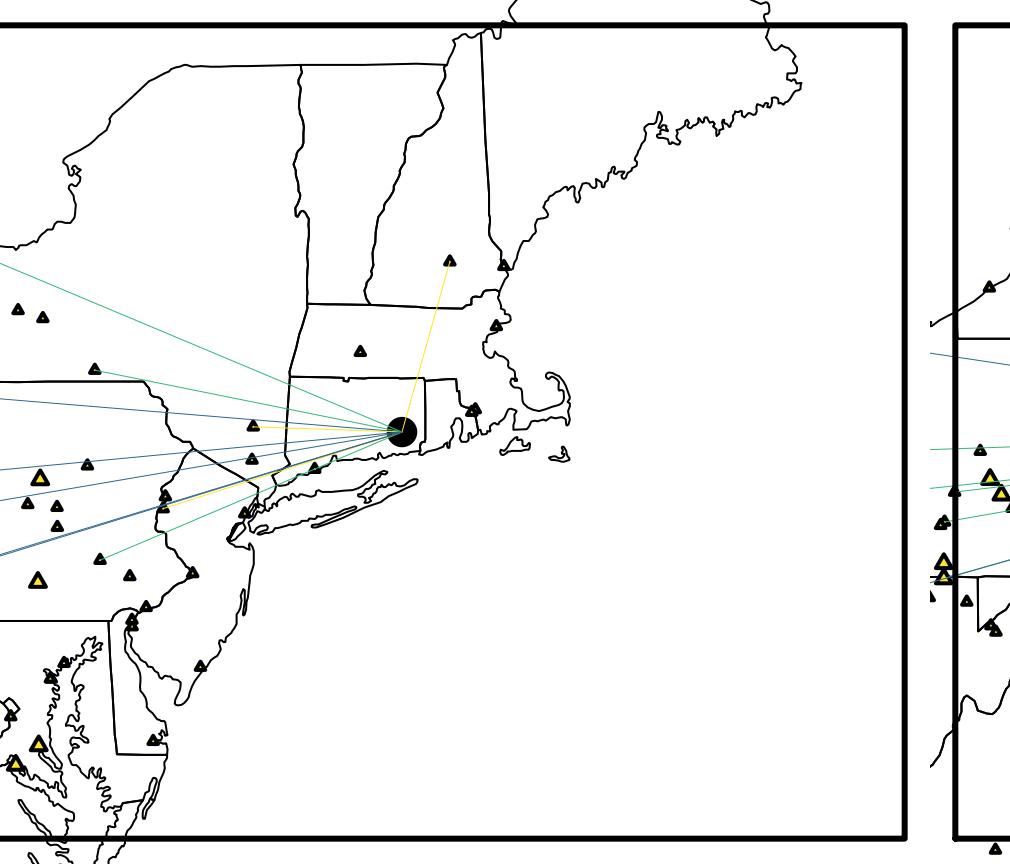
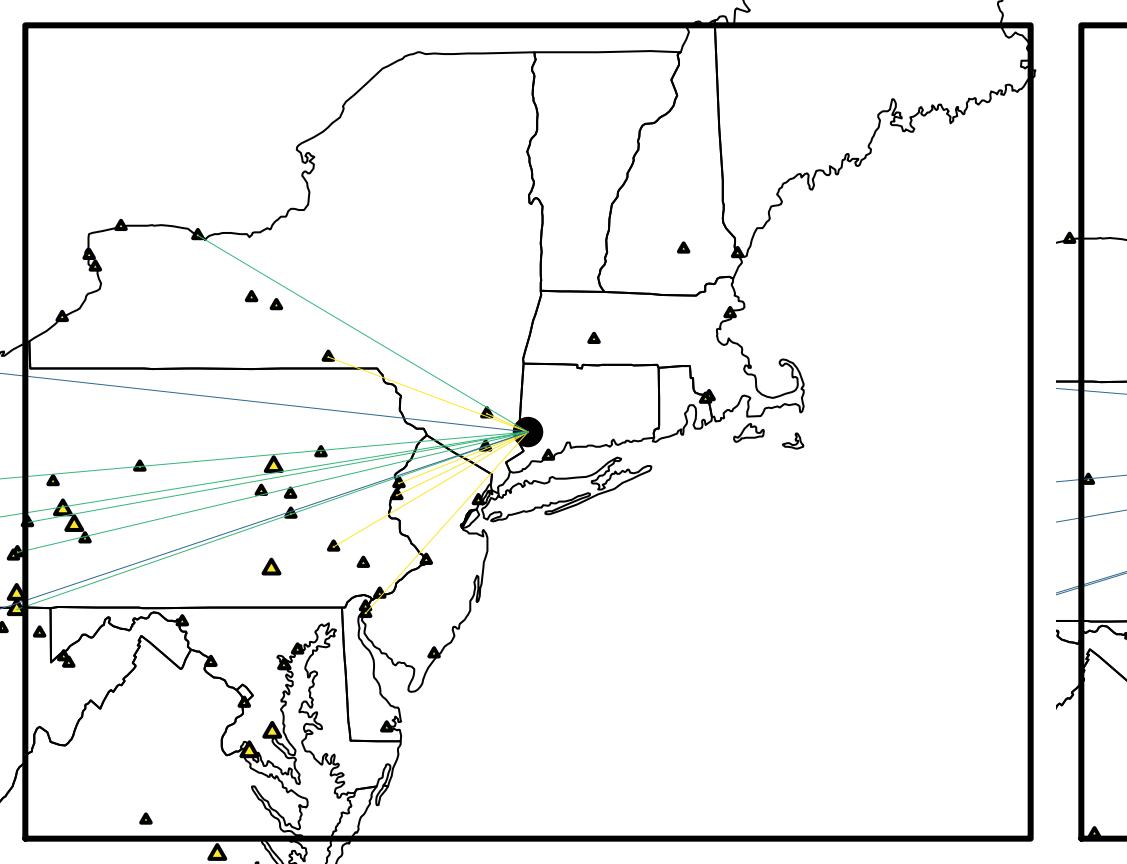
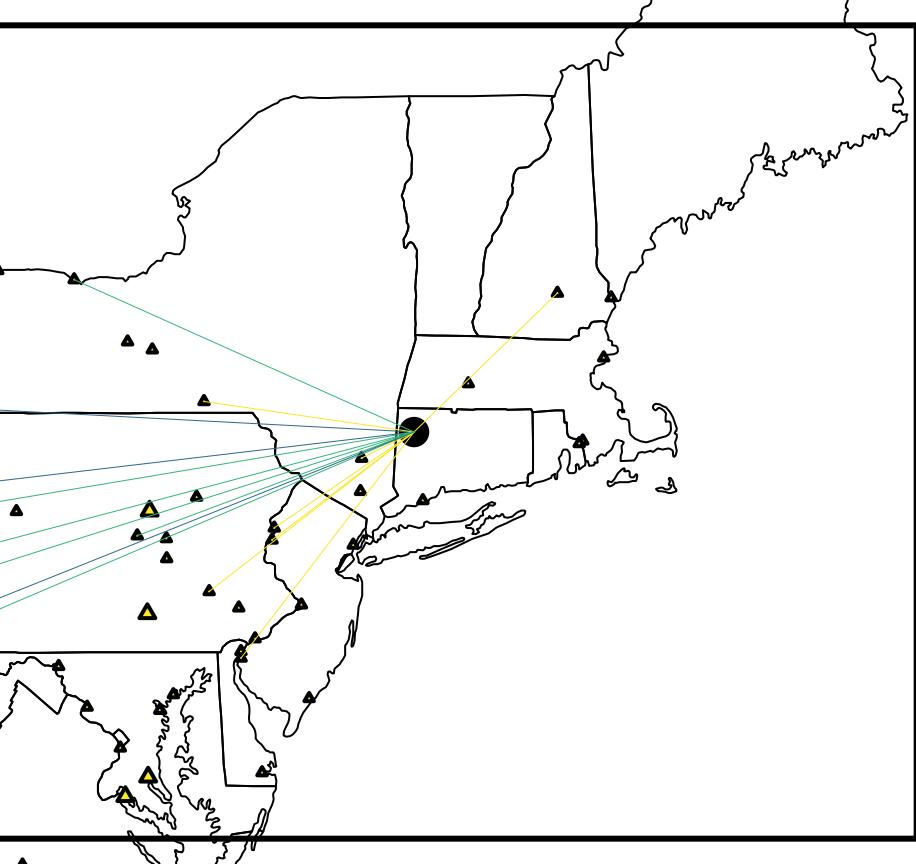
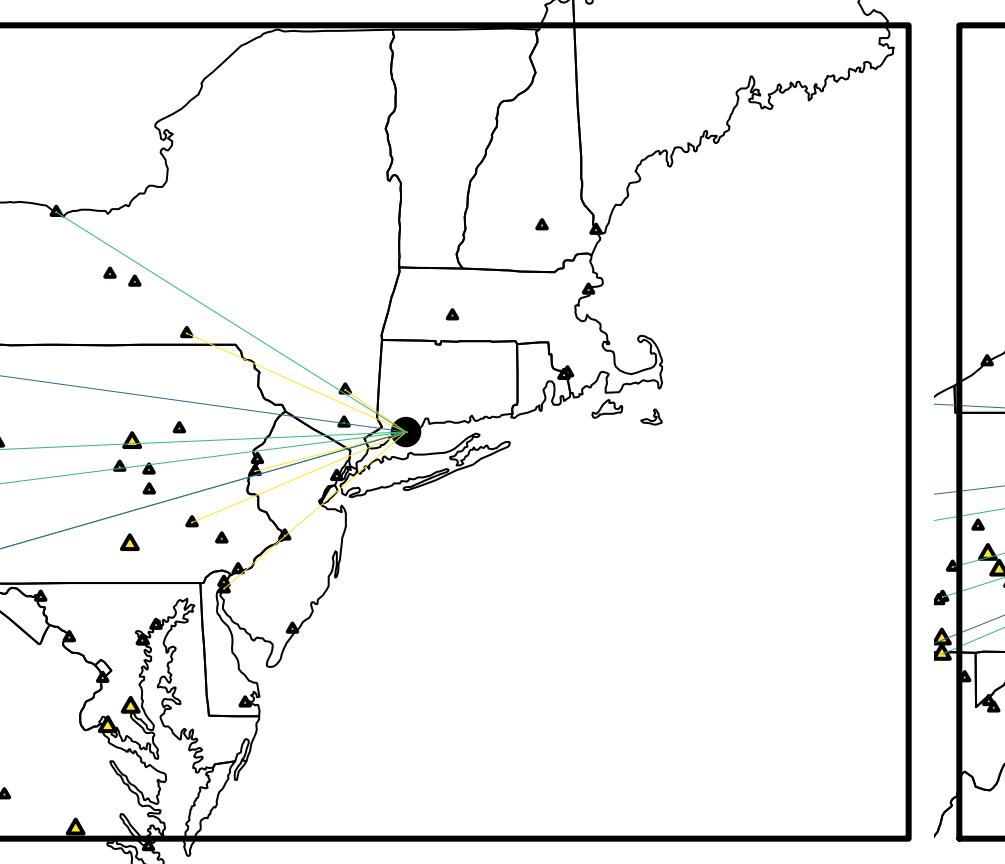
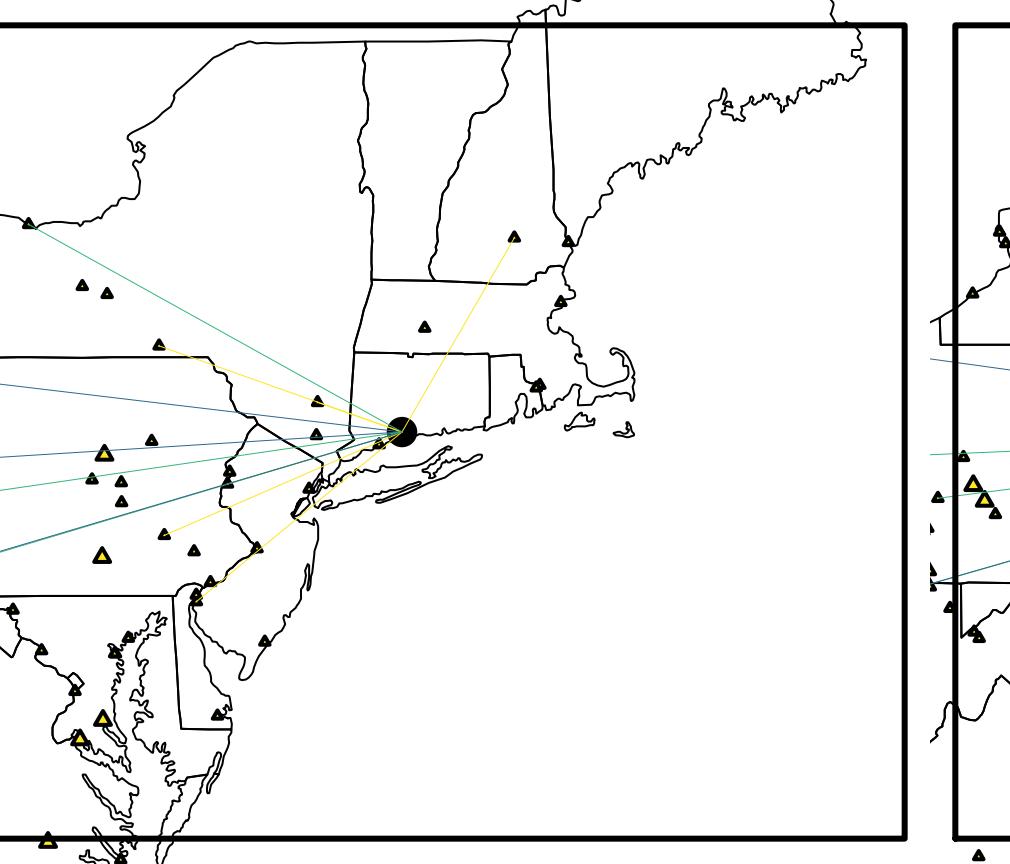
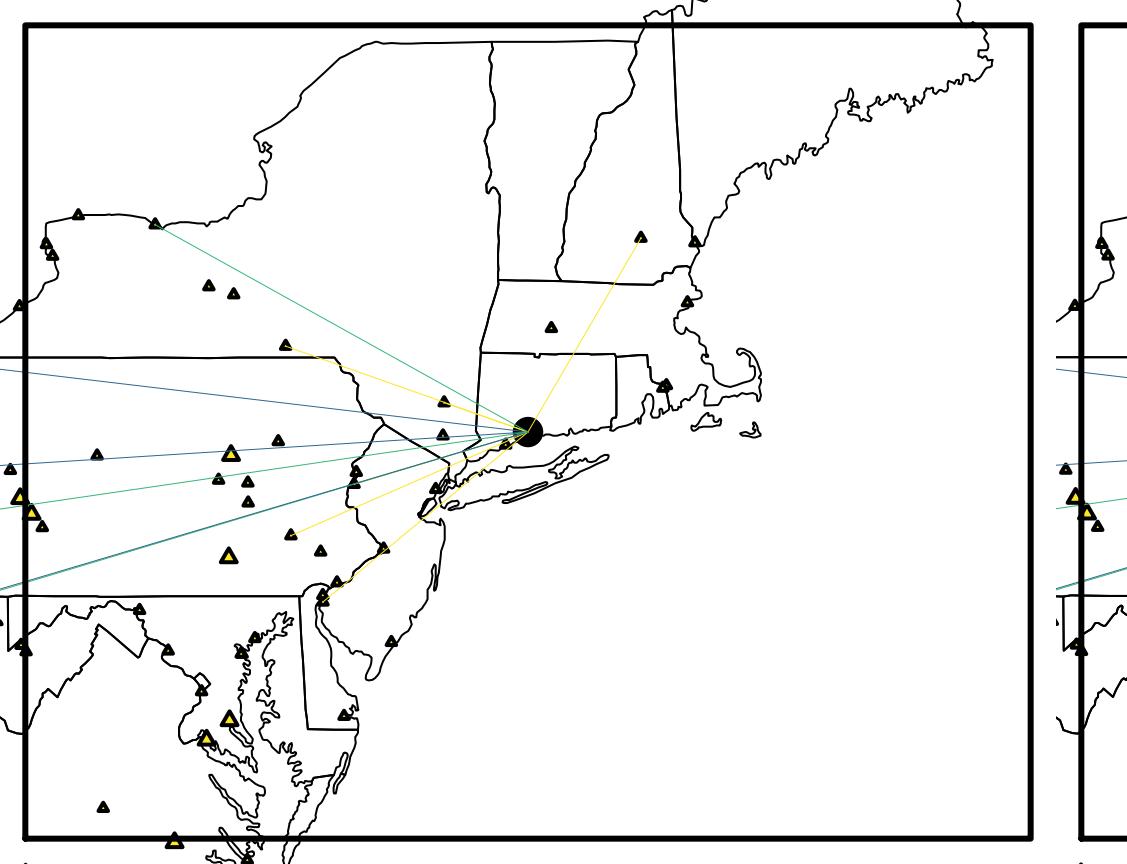
Lag 3 edges

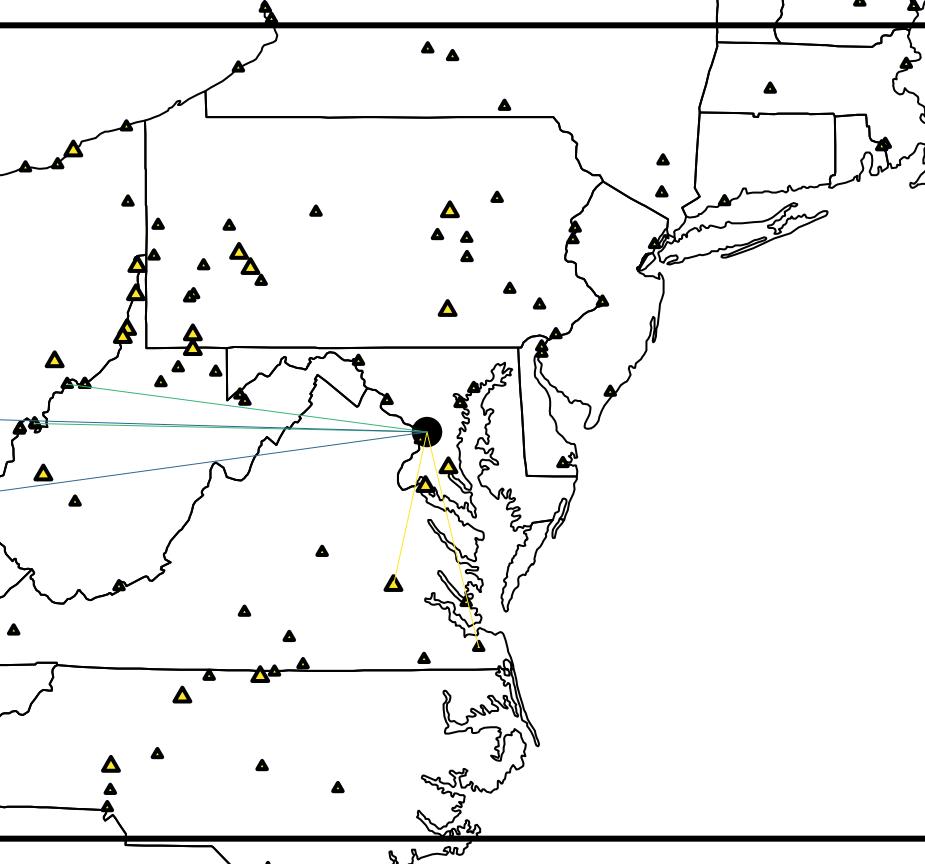
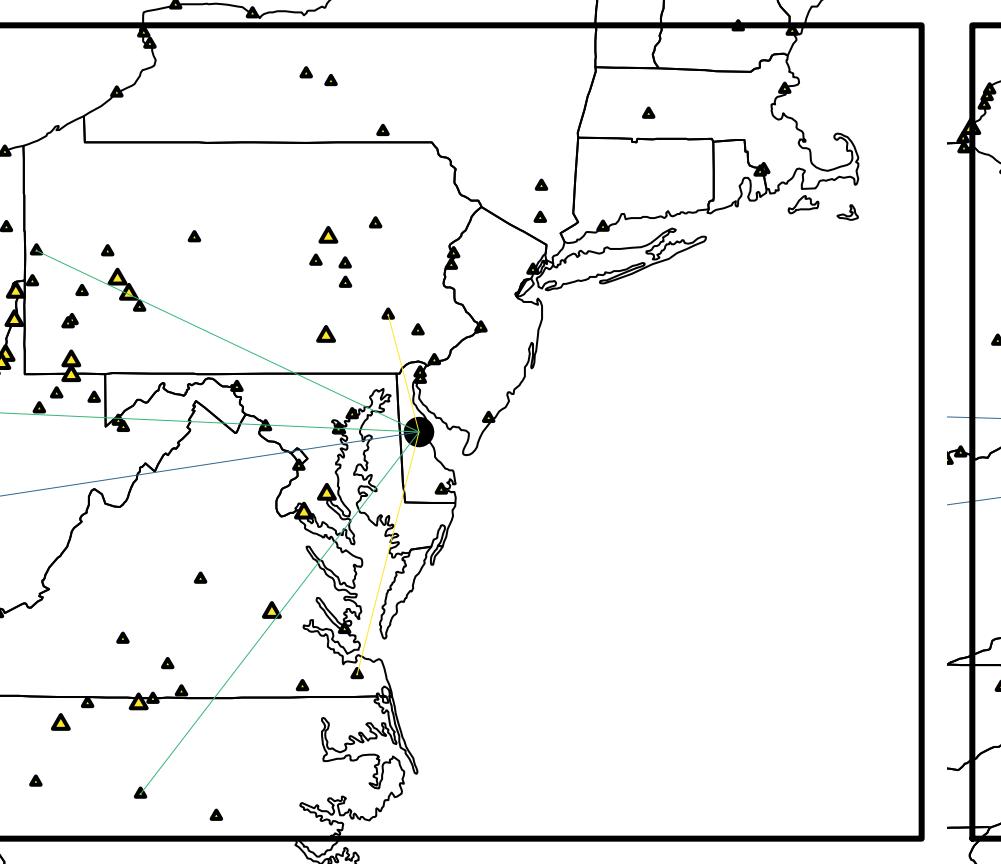
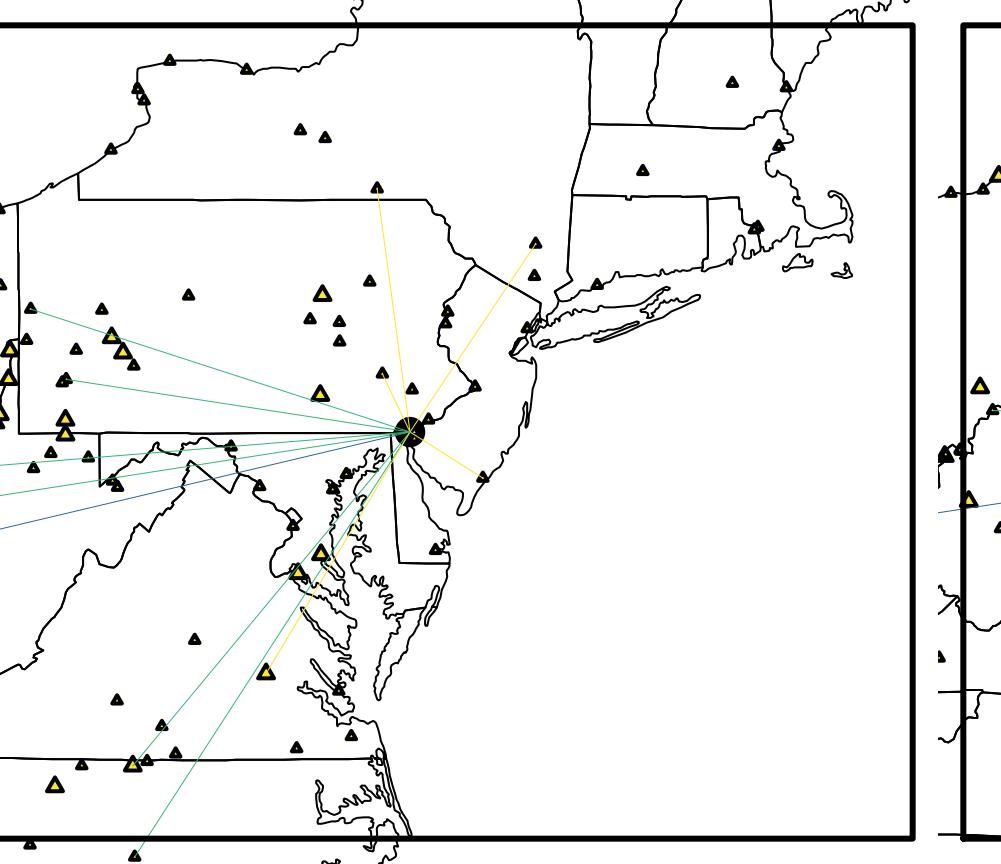
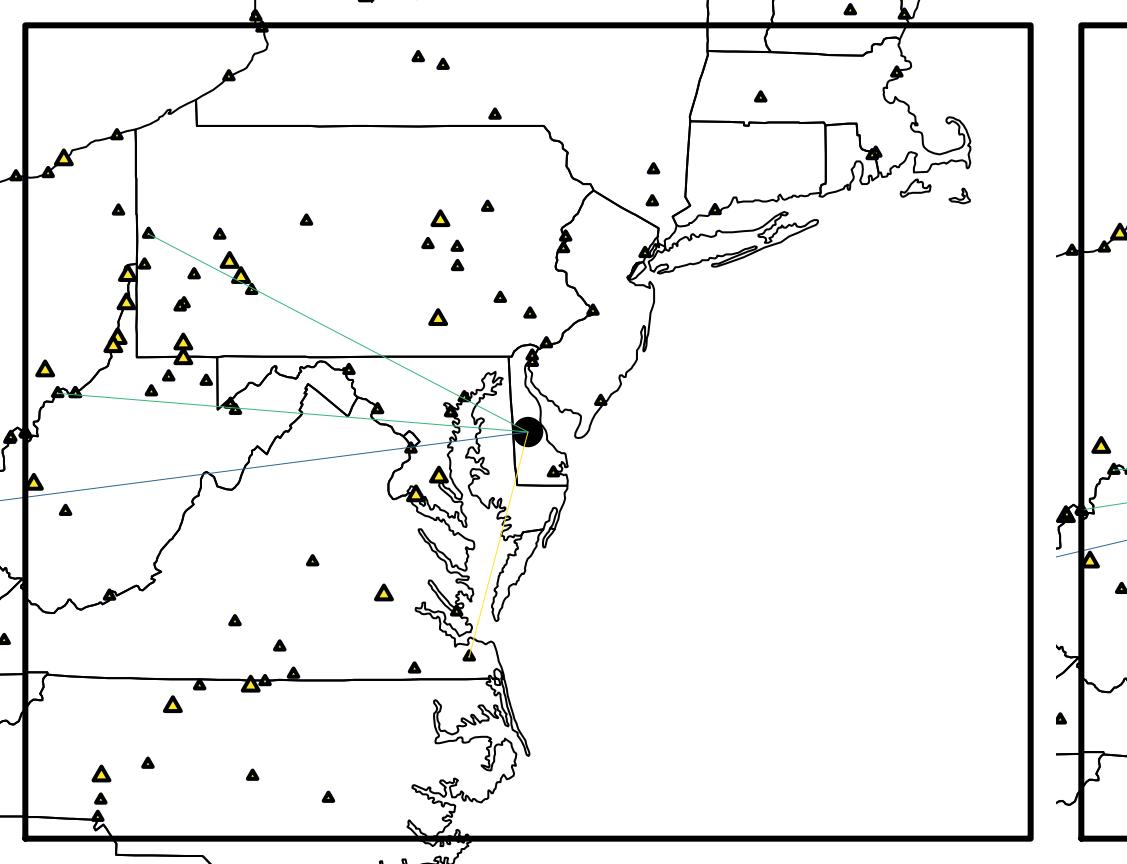
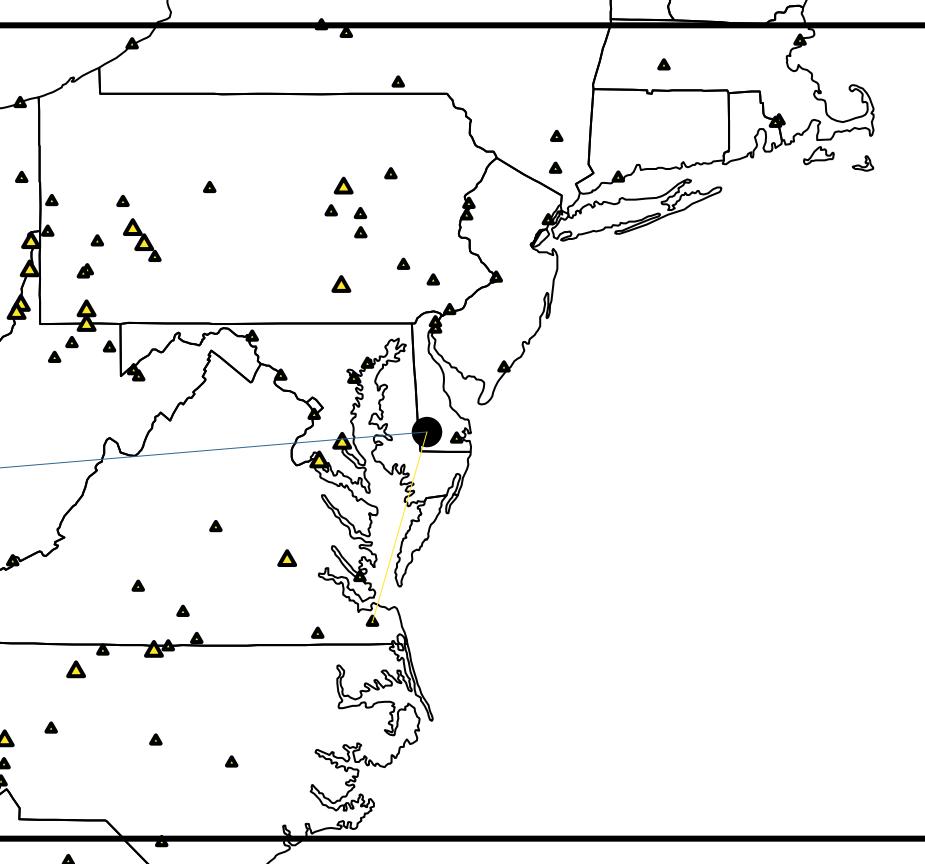
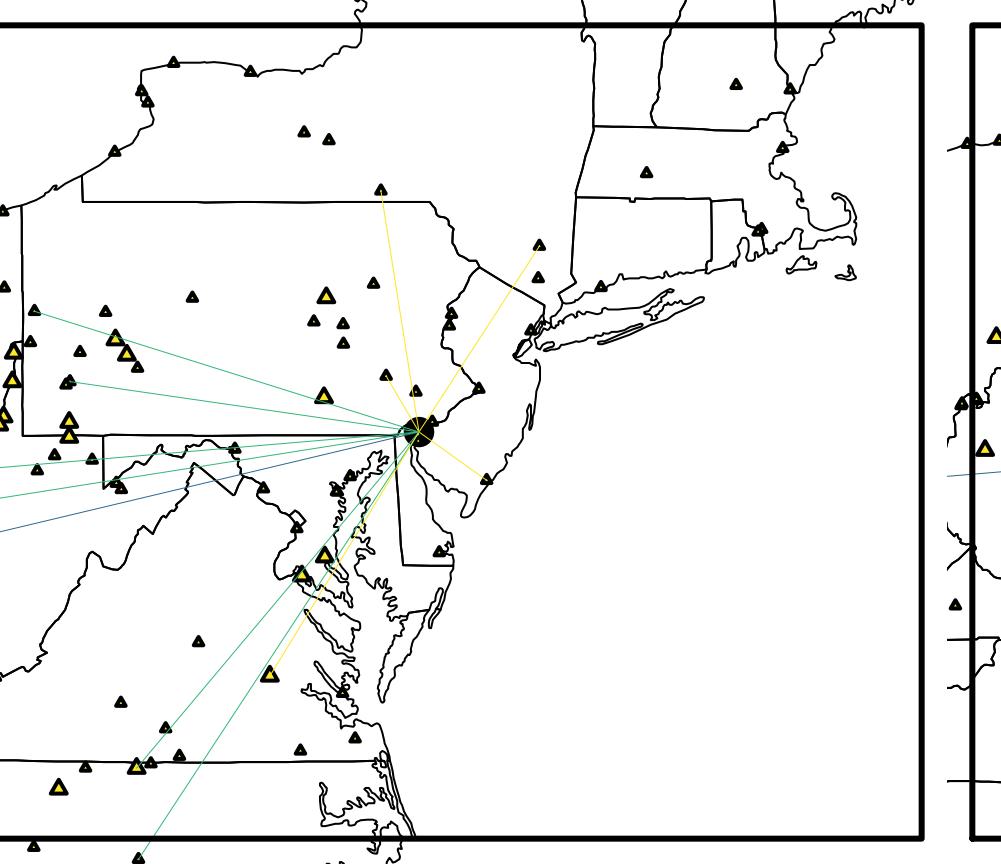
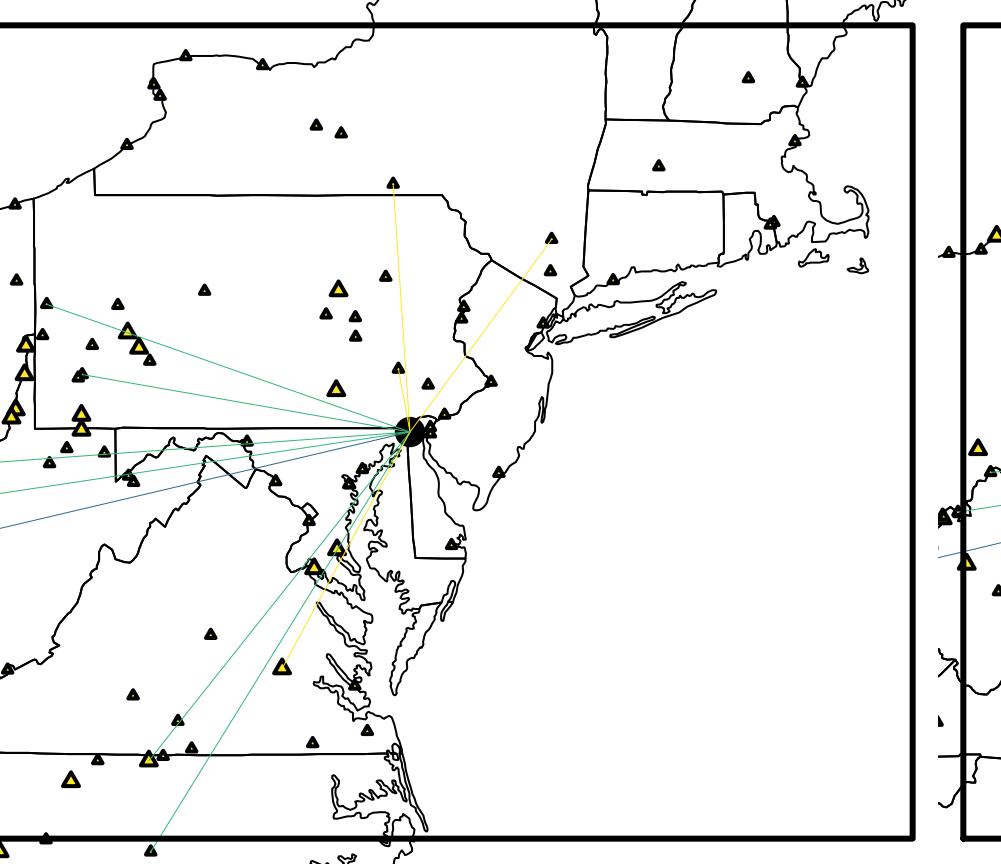
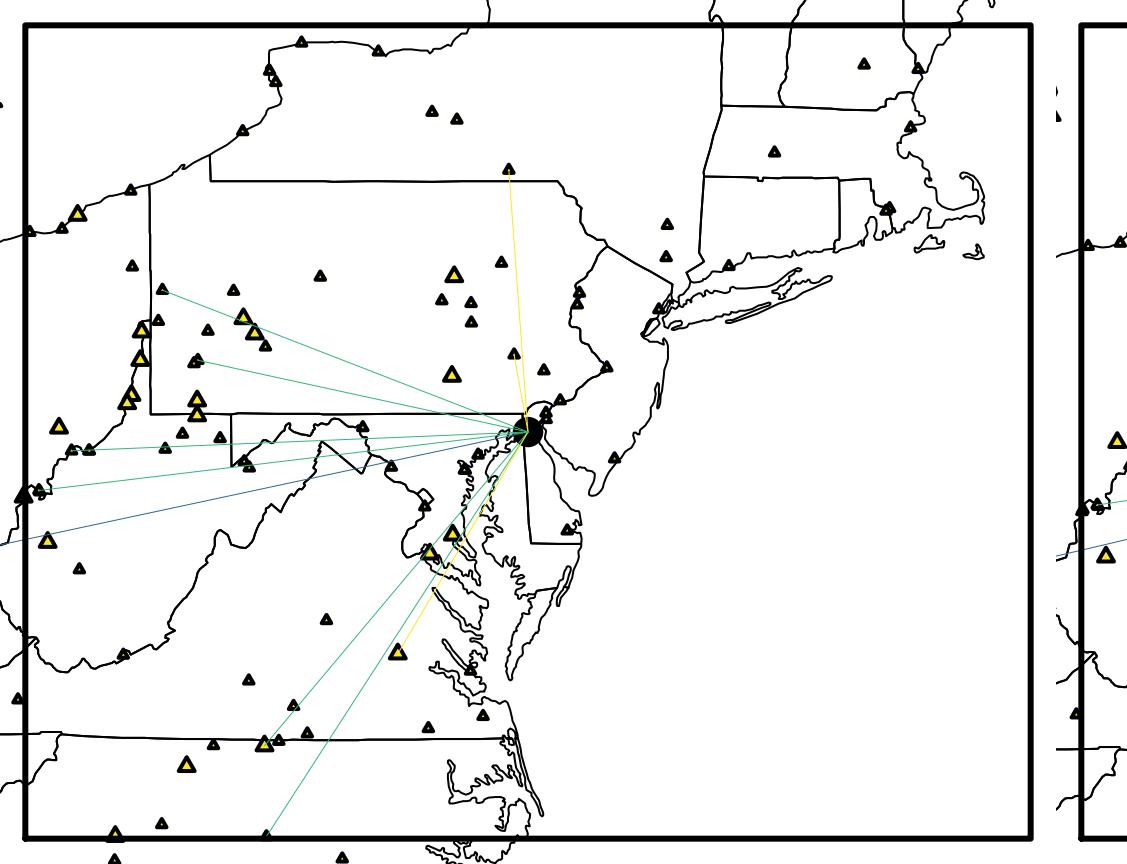


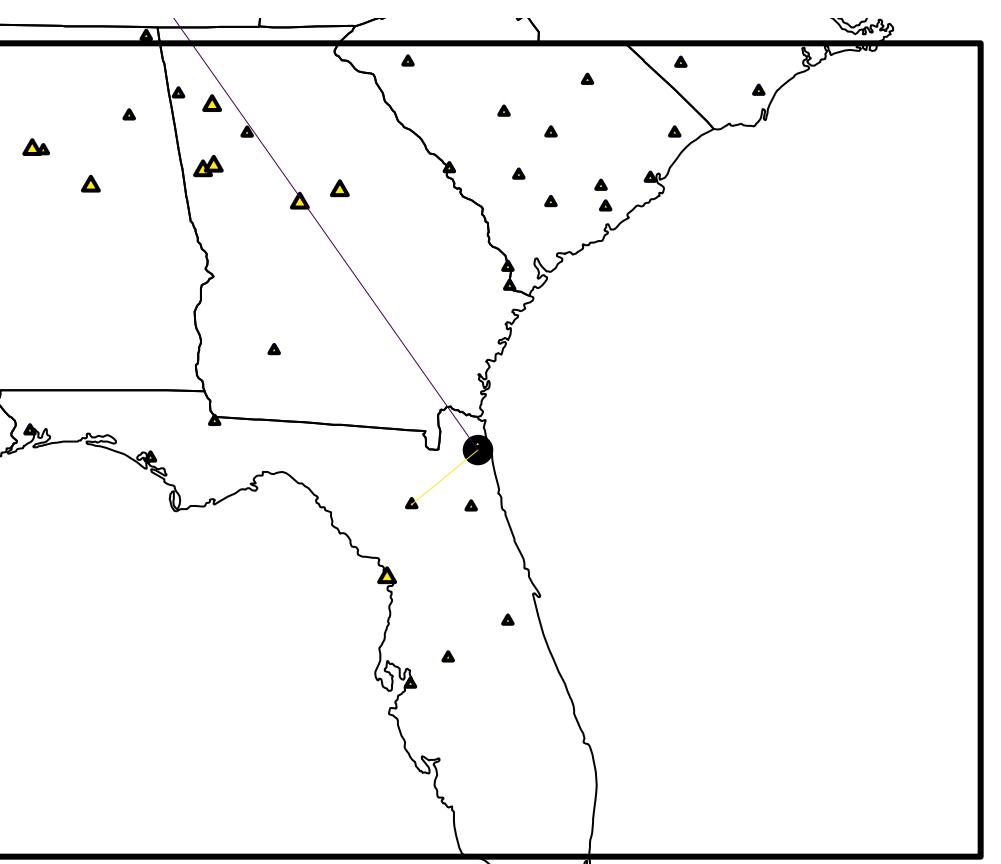
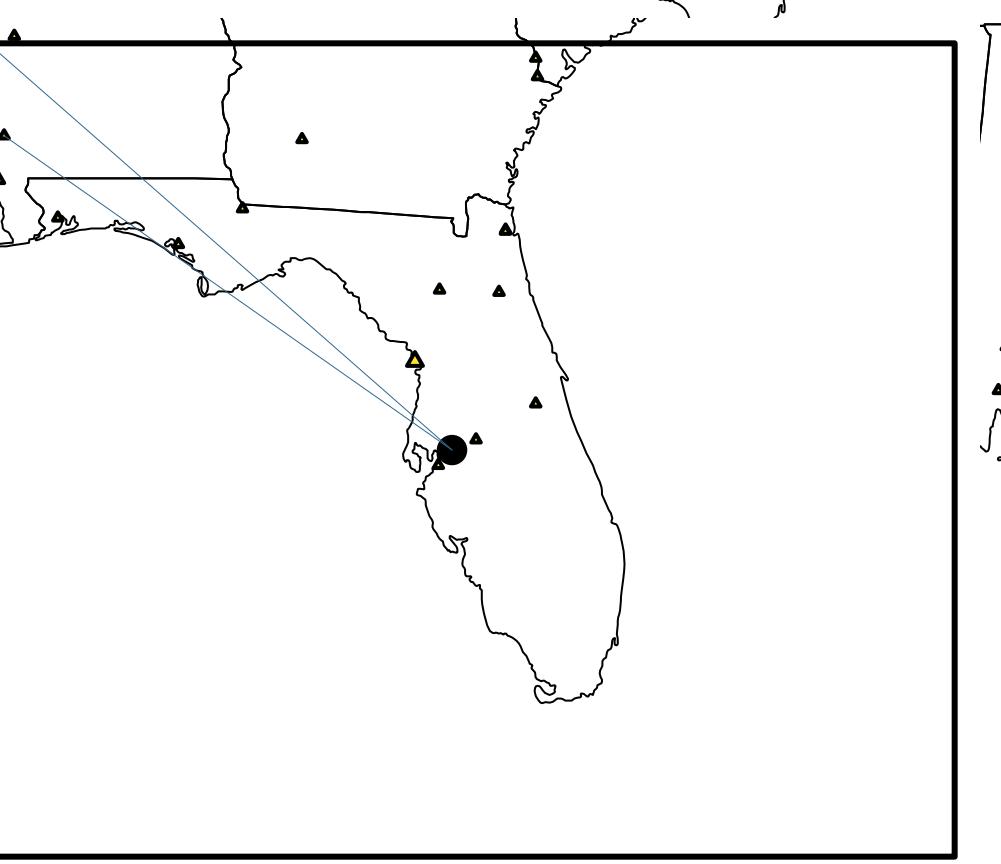
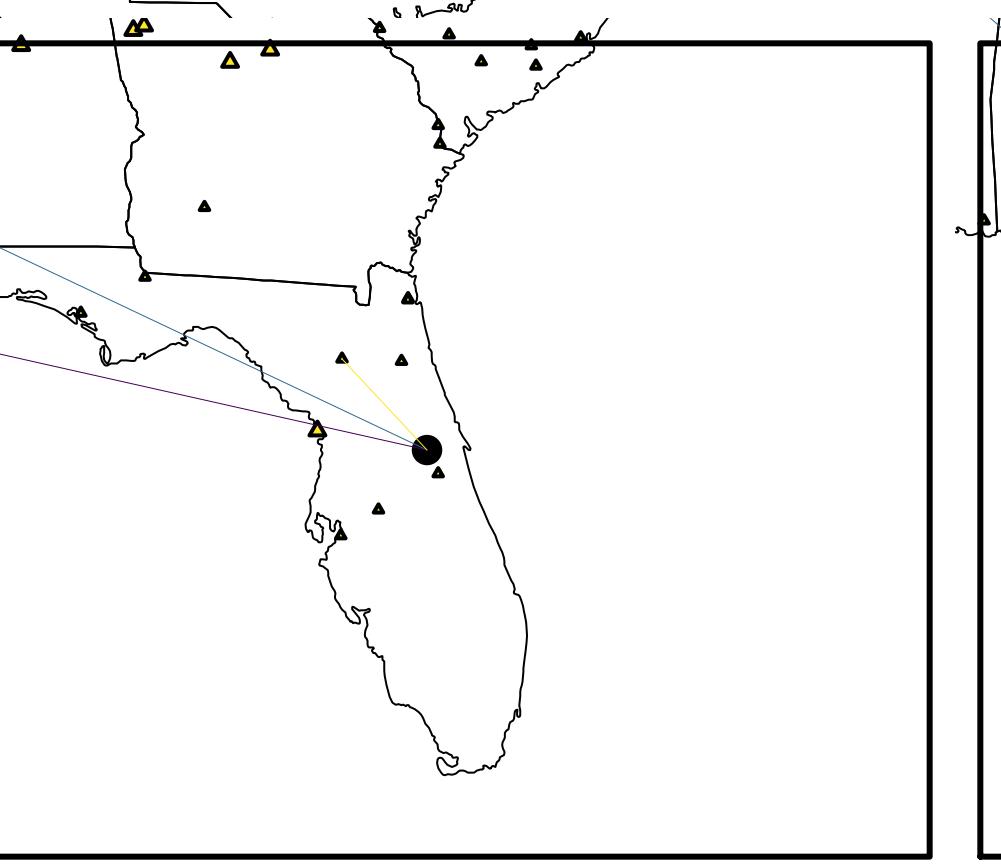
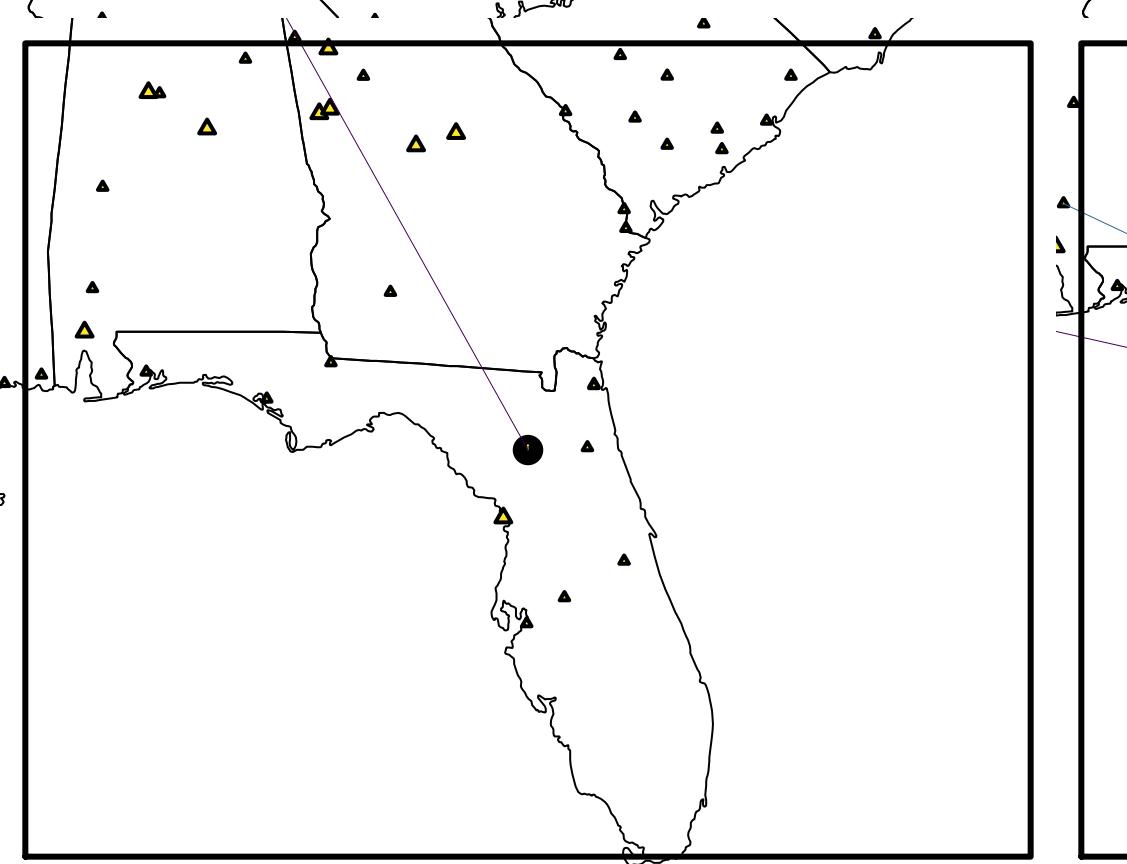
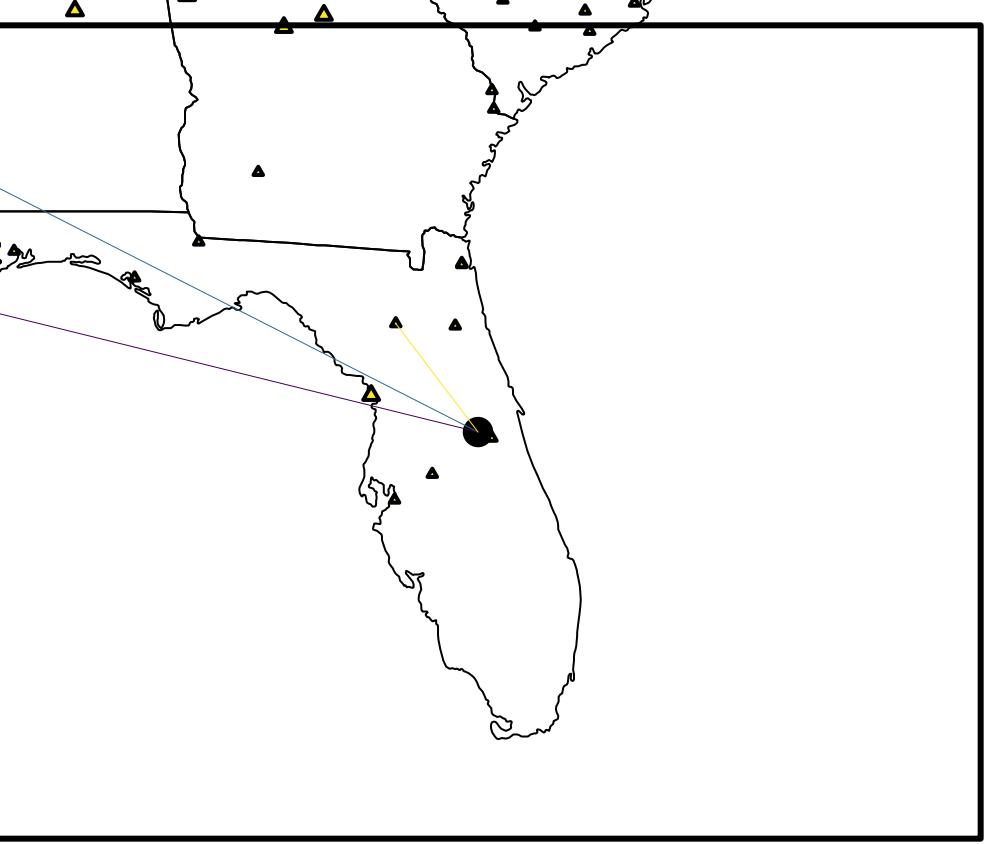
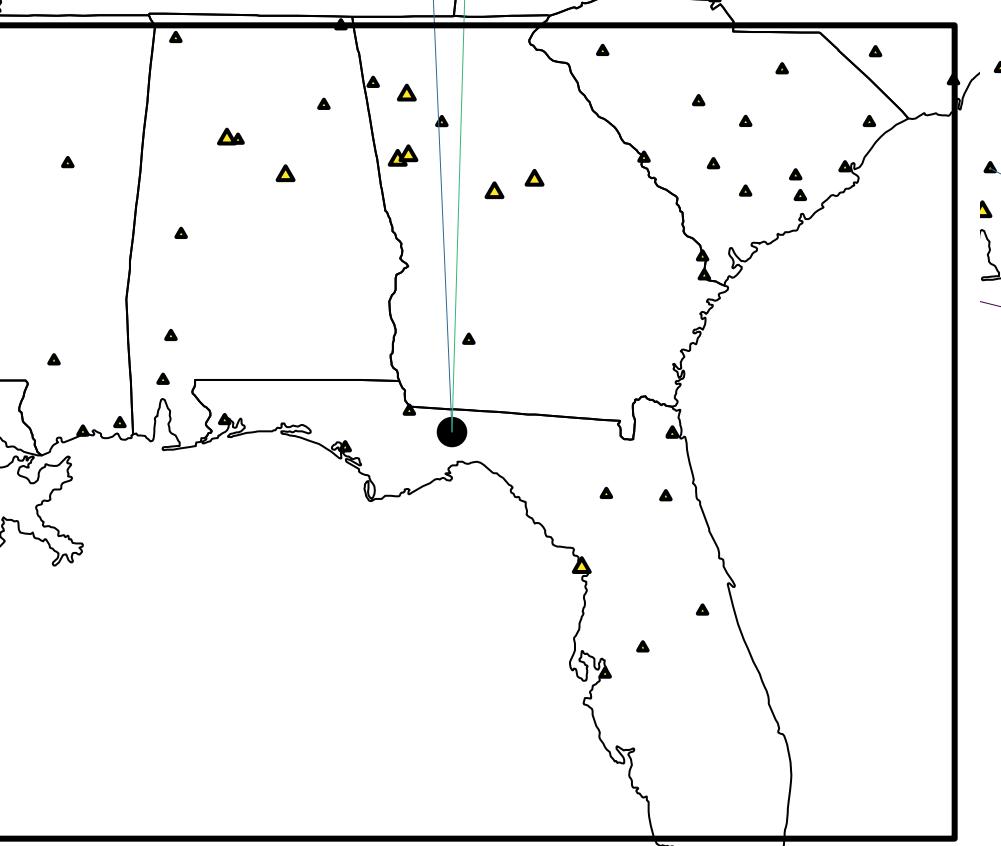
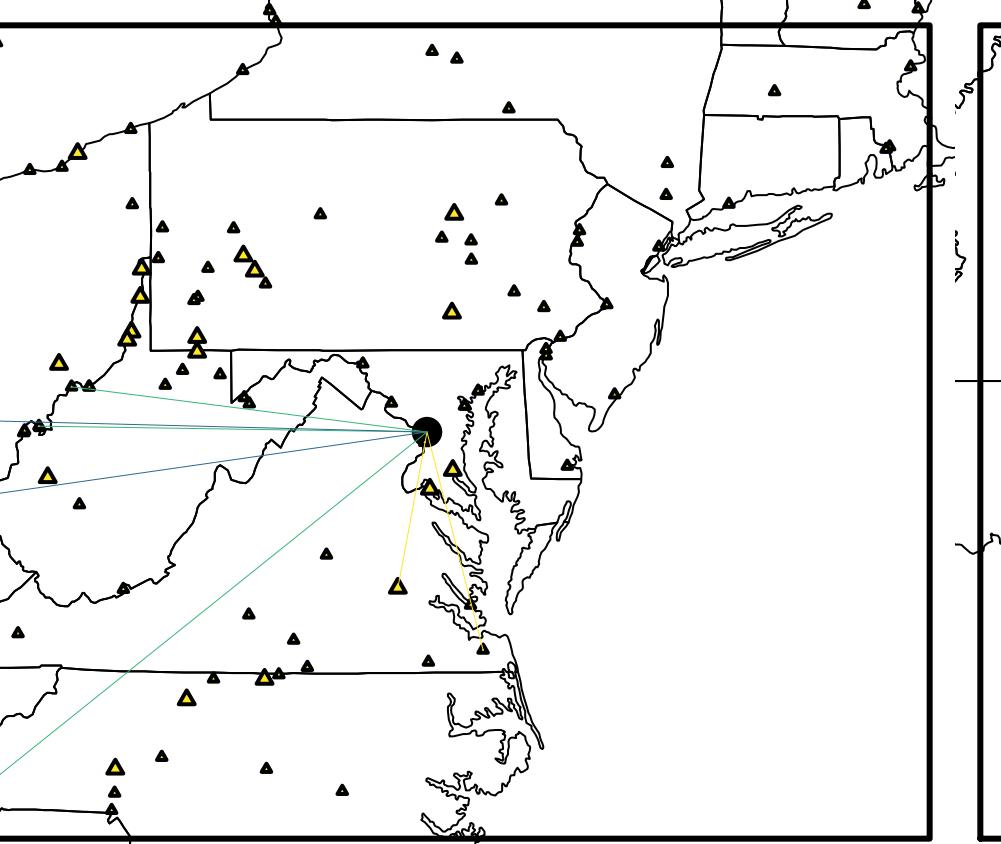
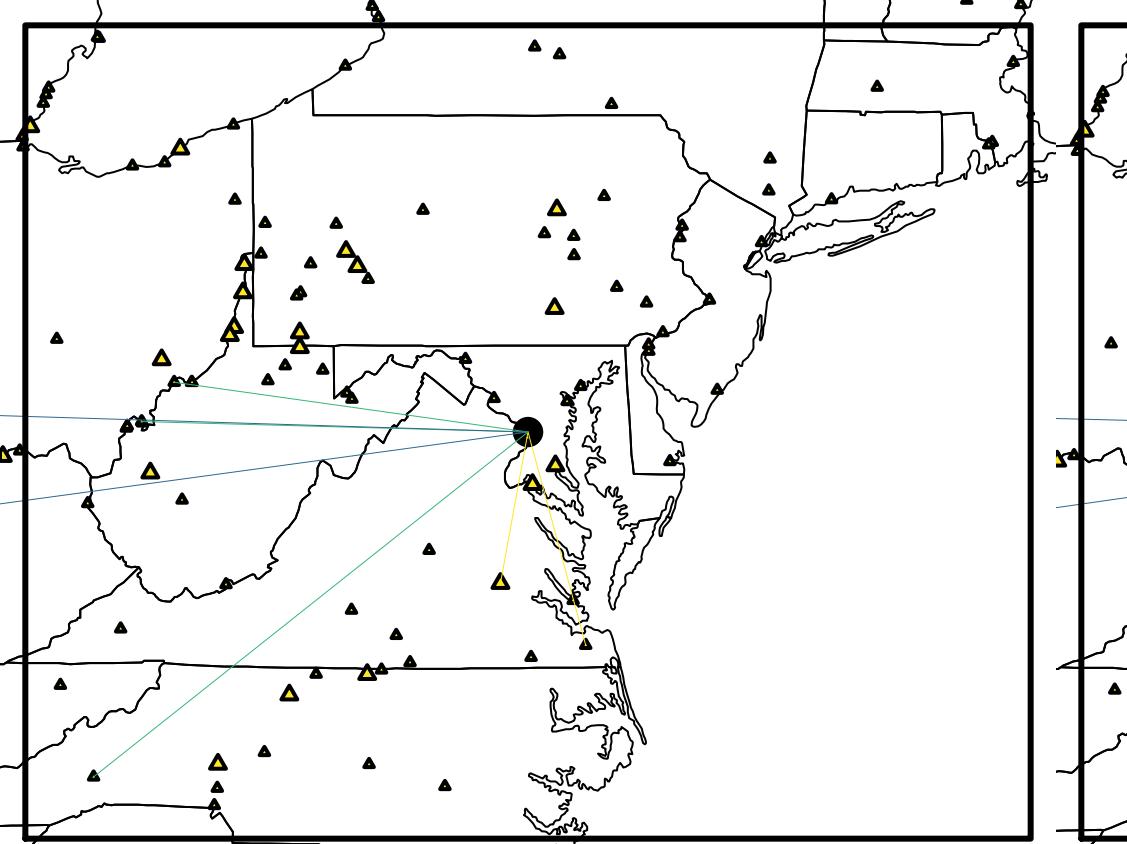


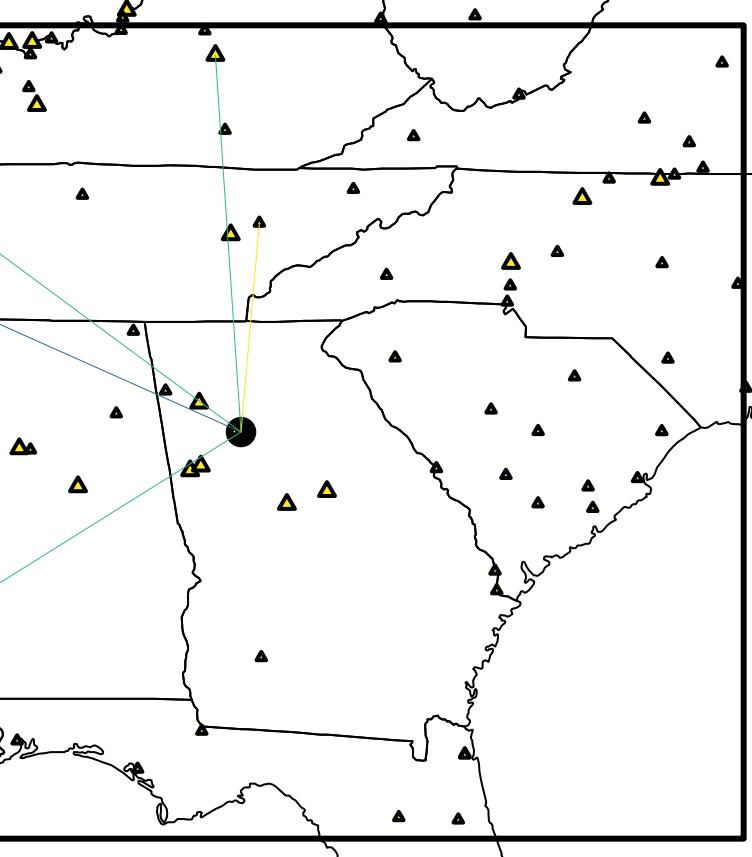
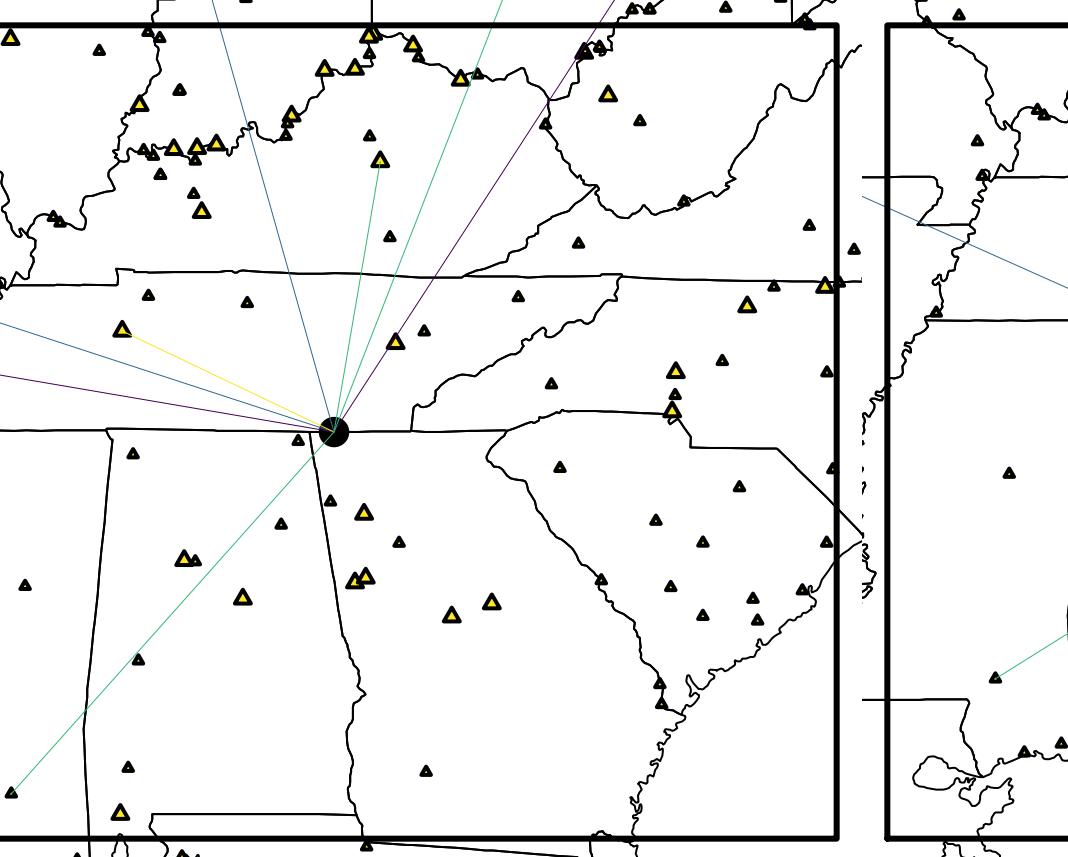
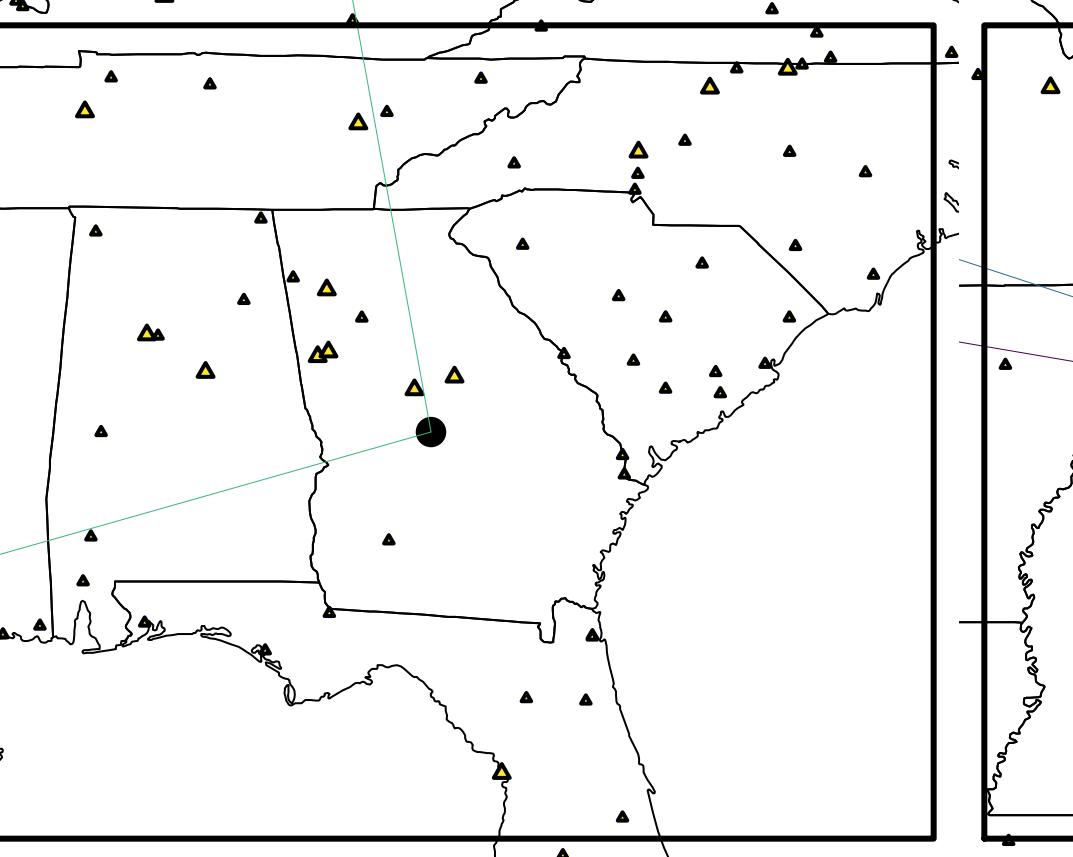
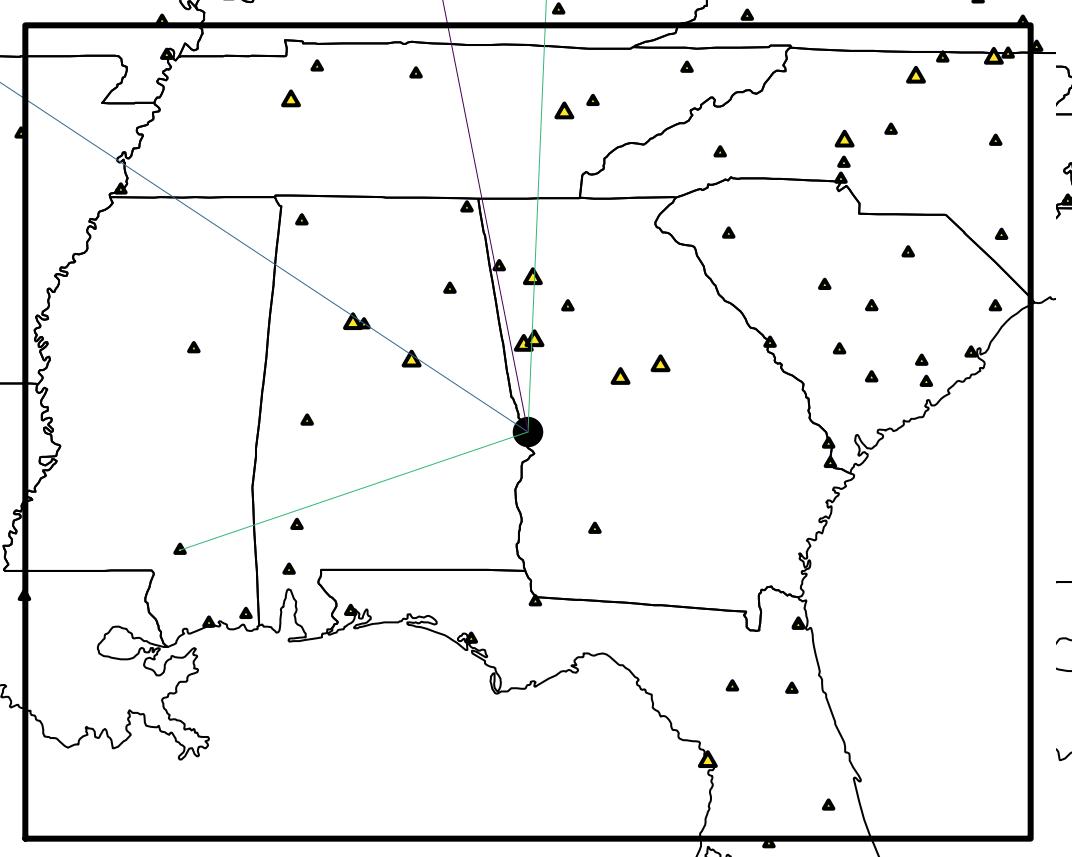
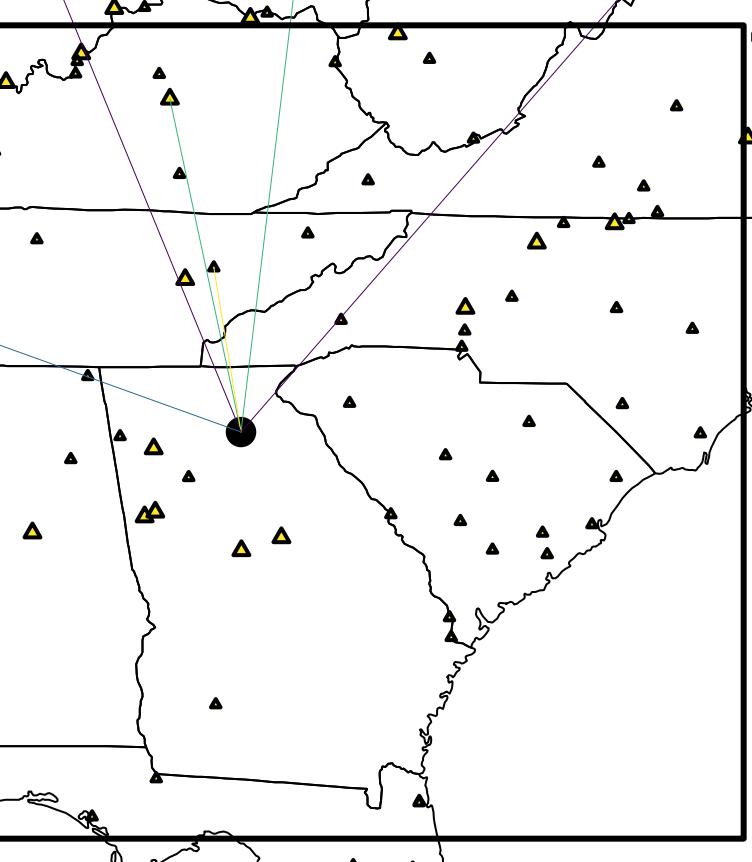
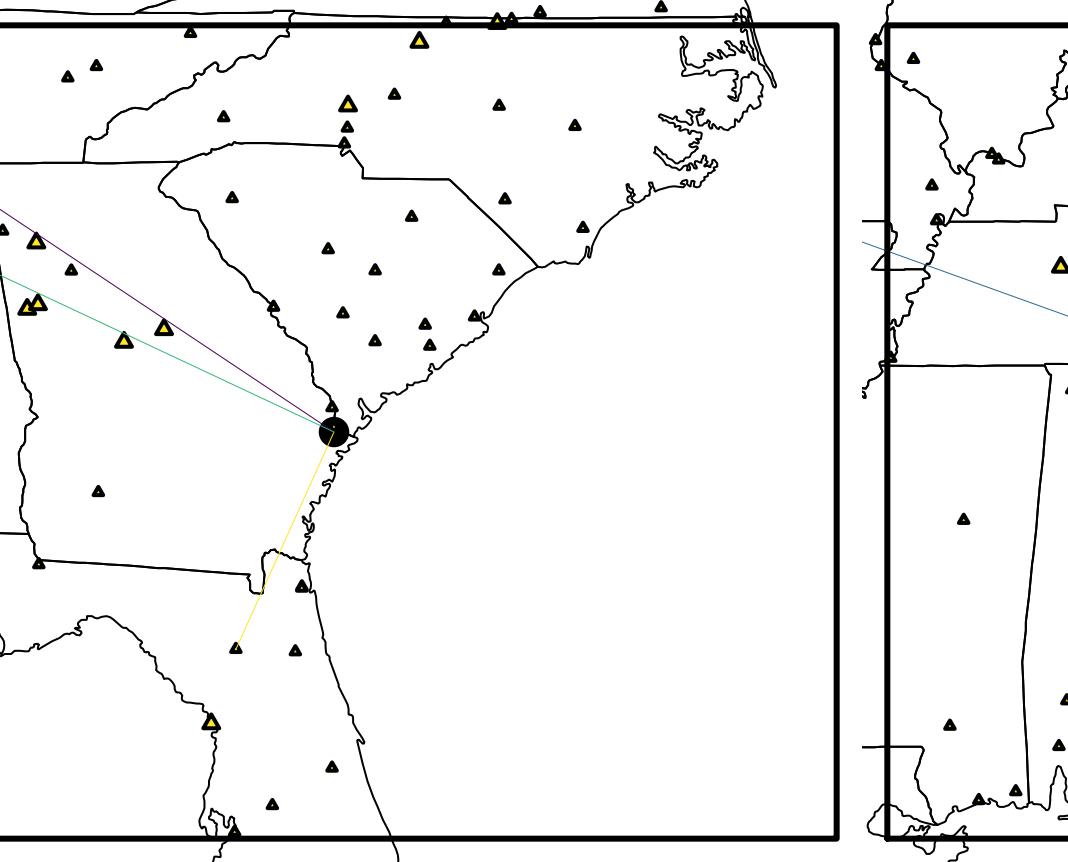
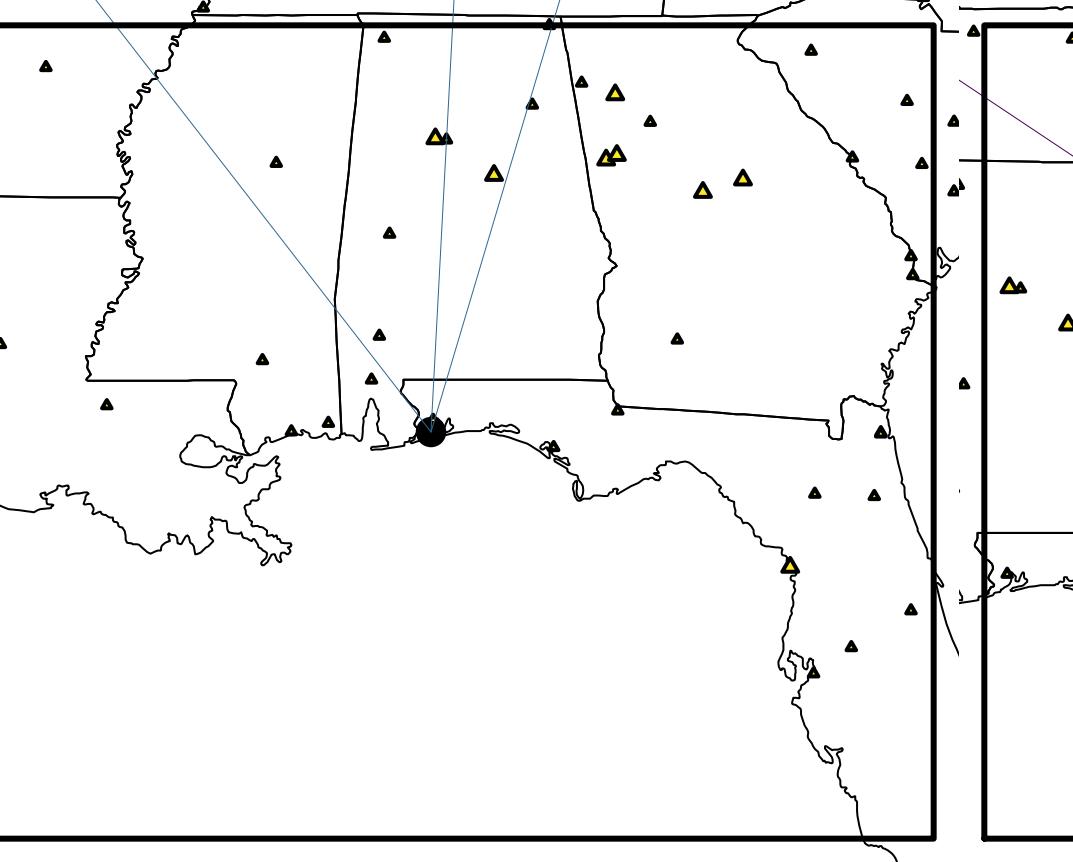
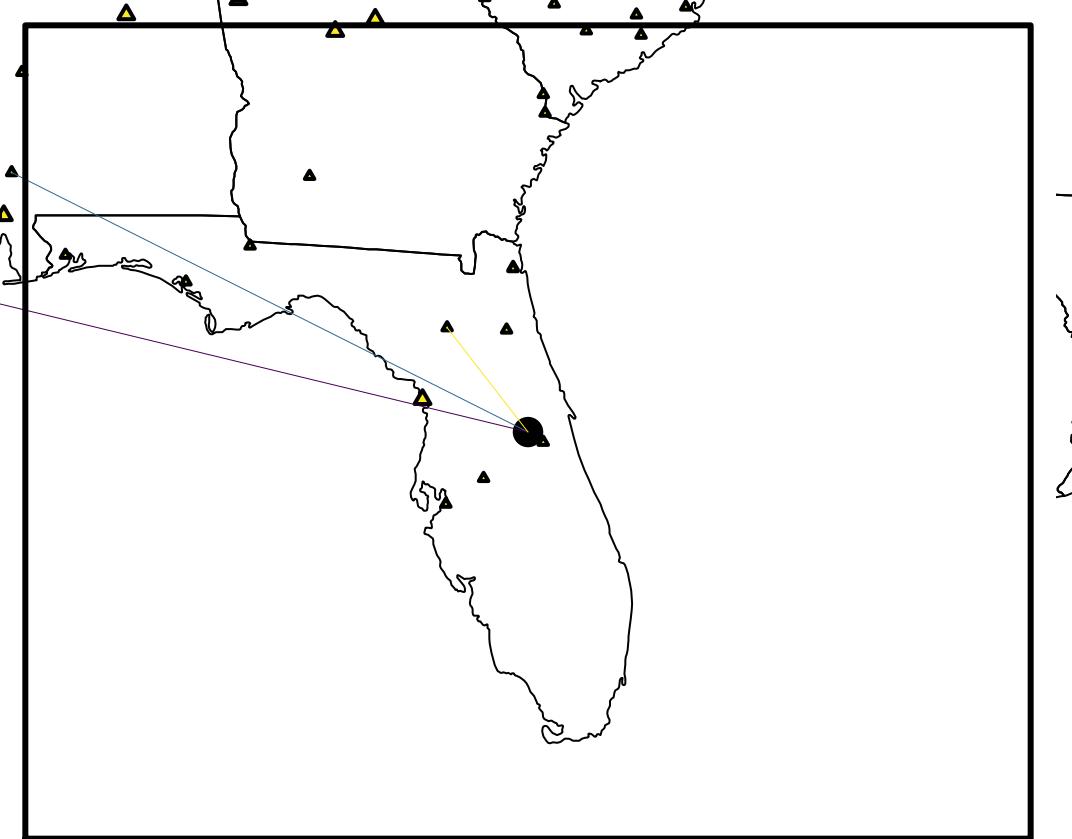


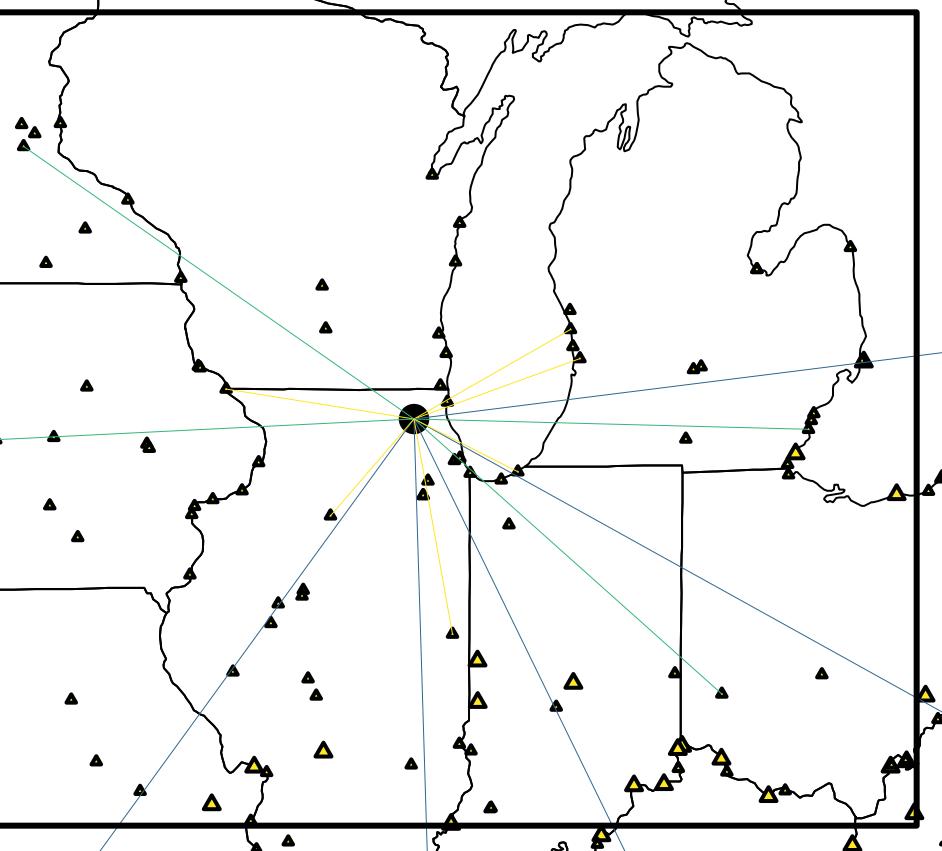
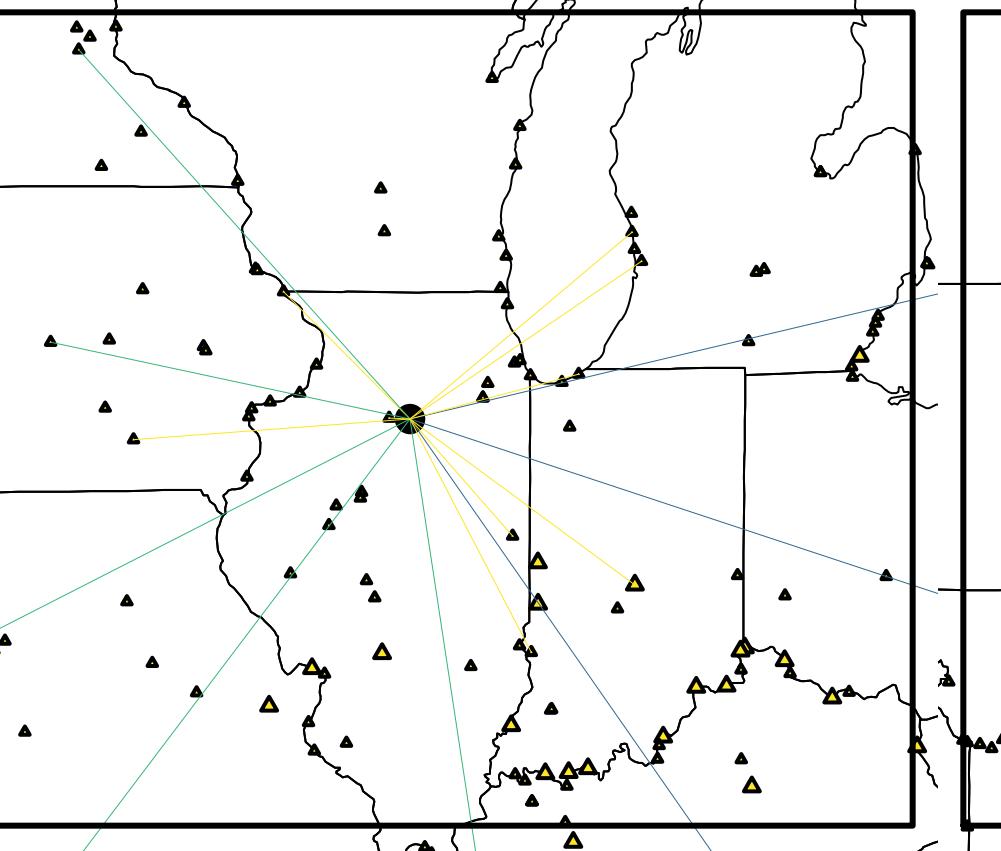
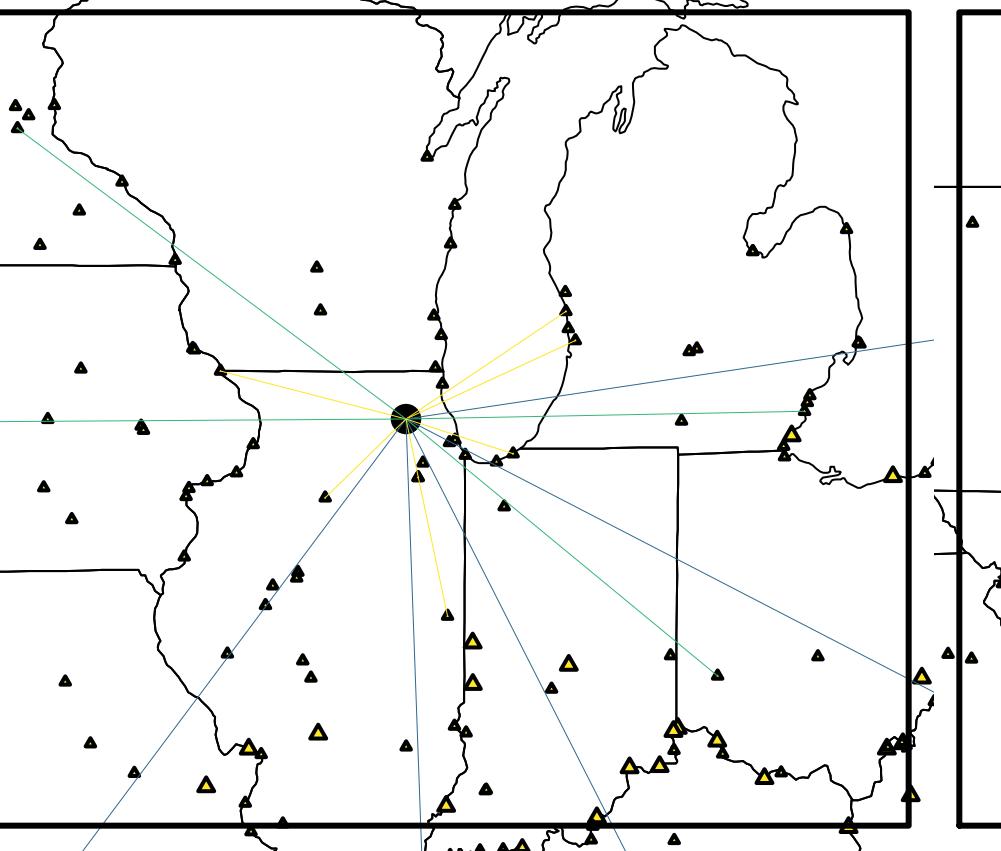
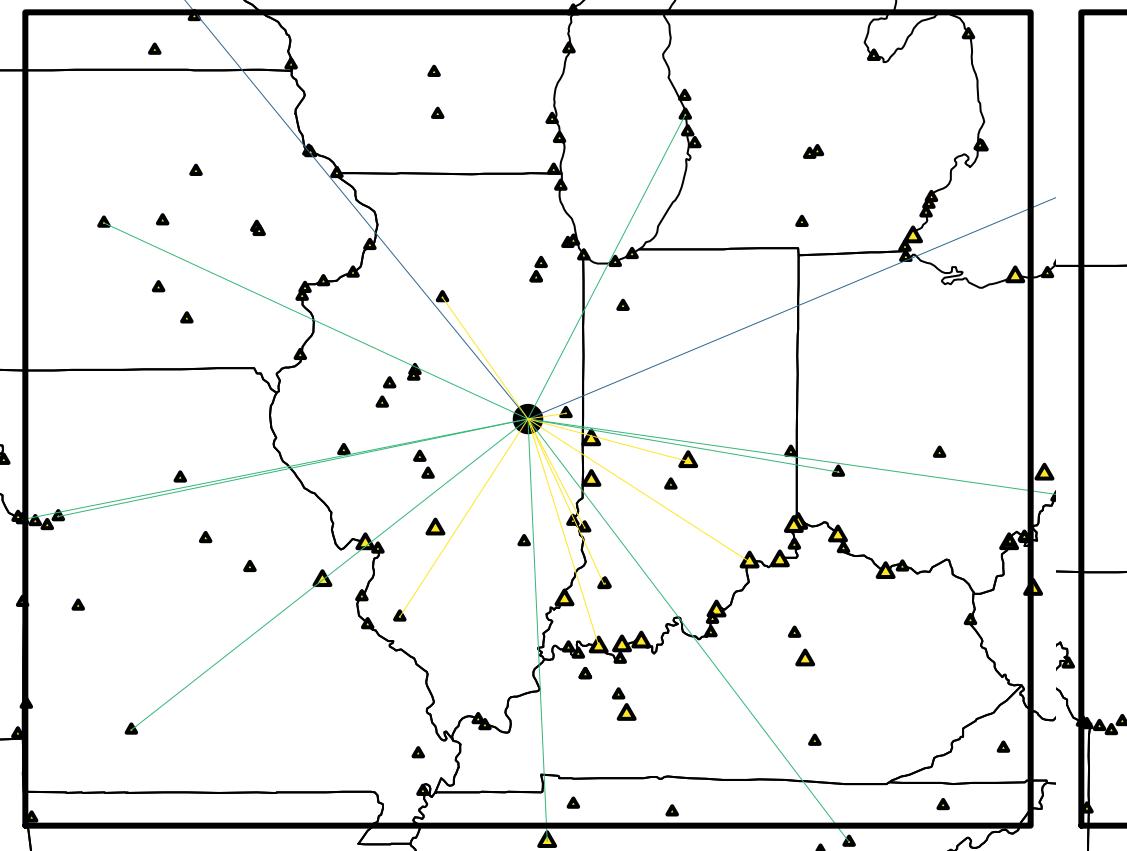
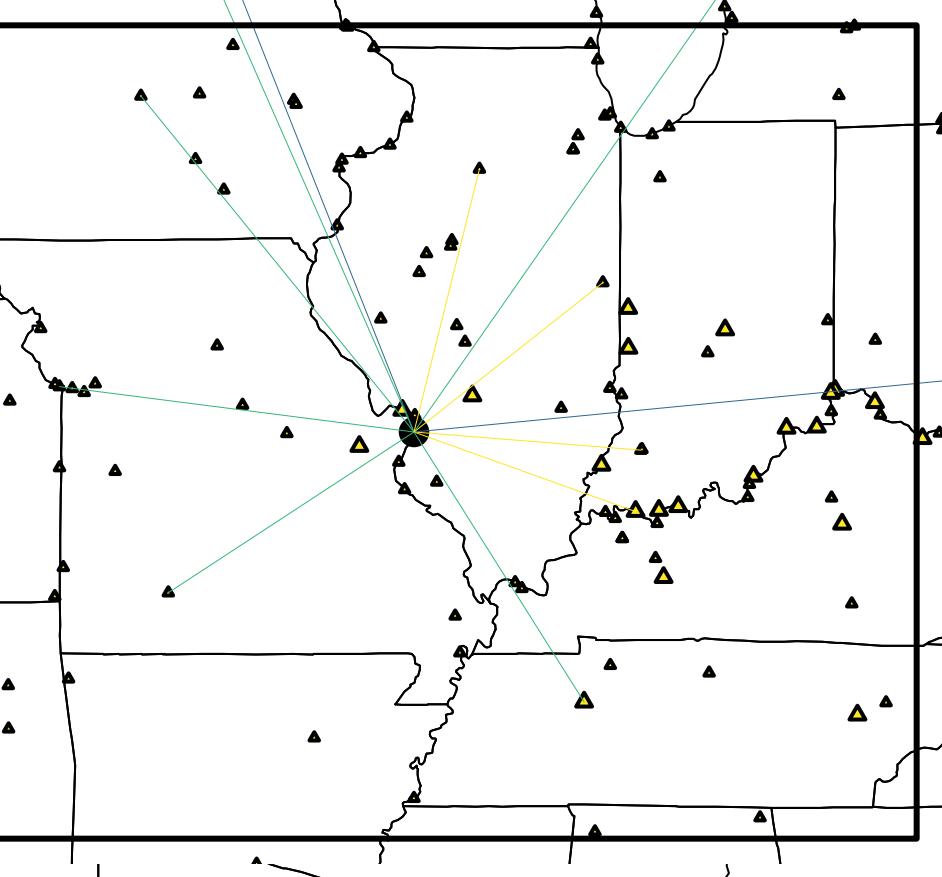
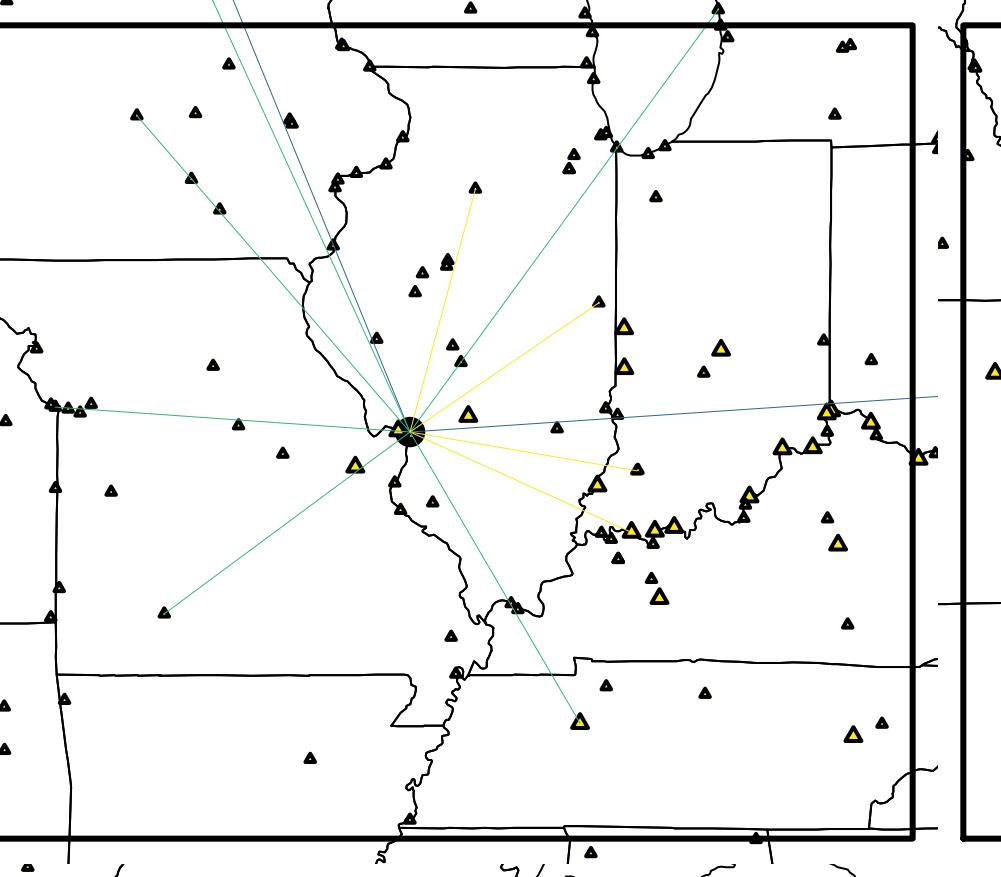
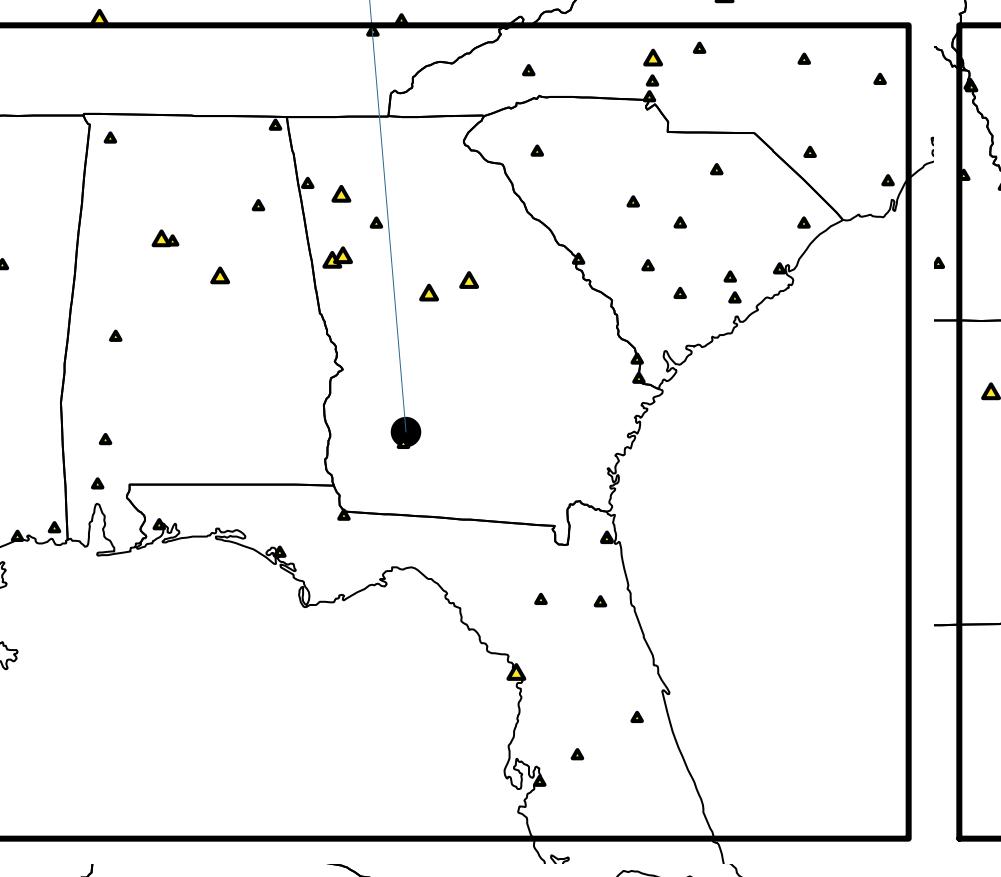
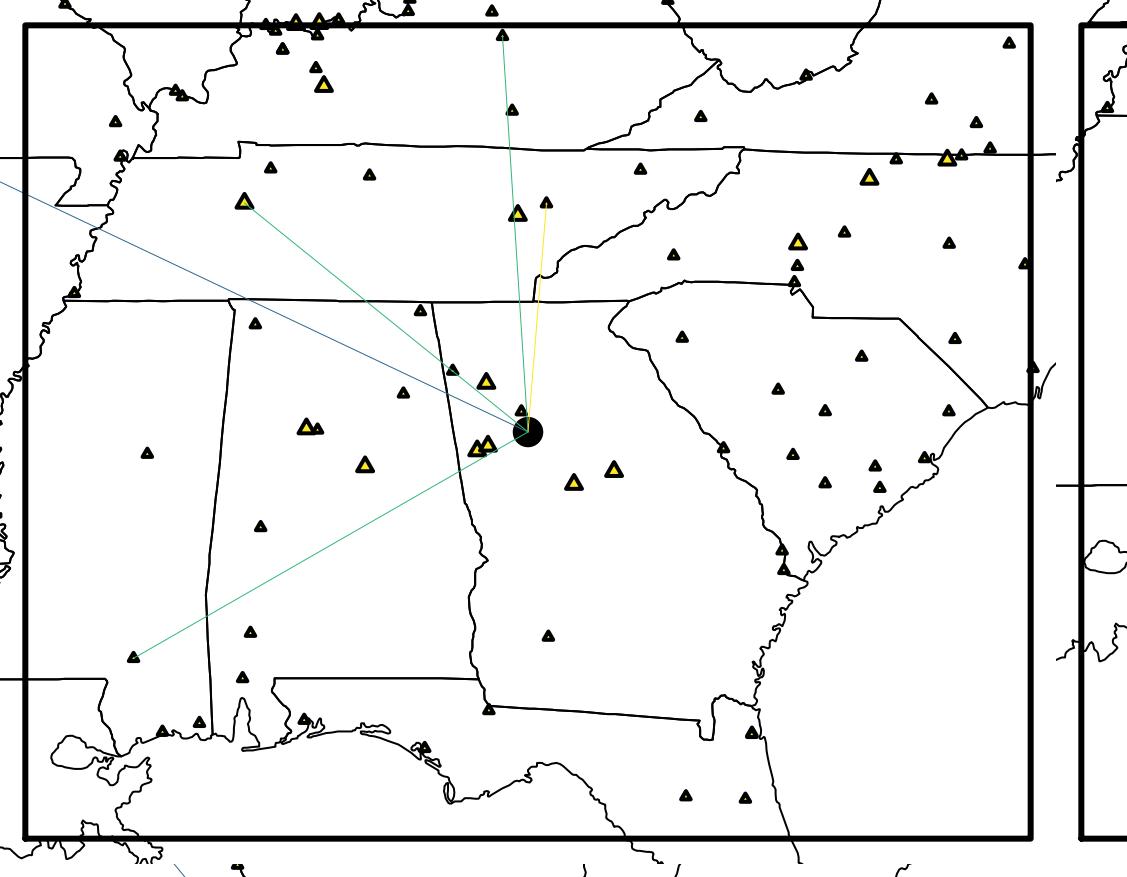


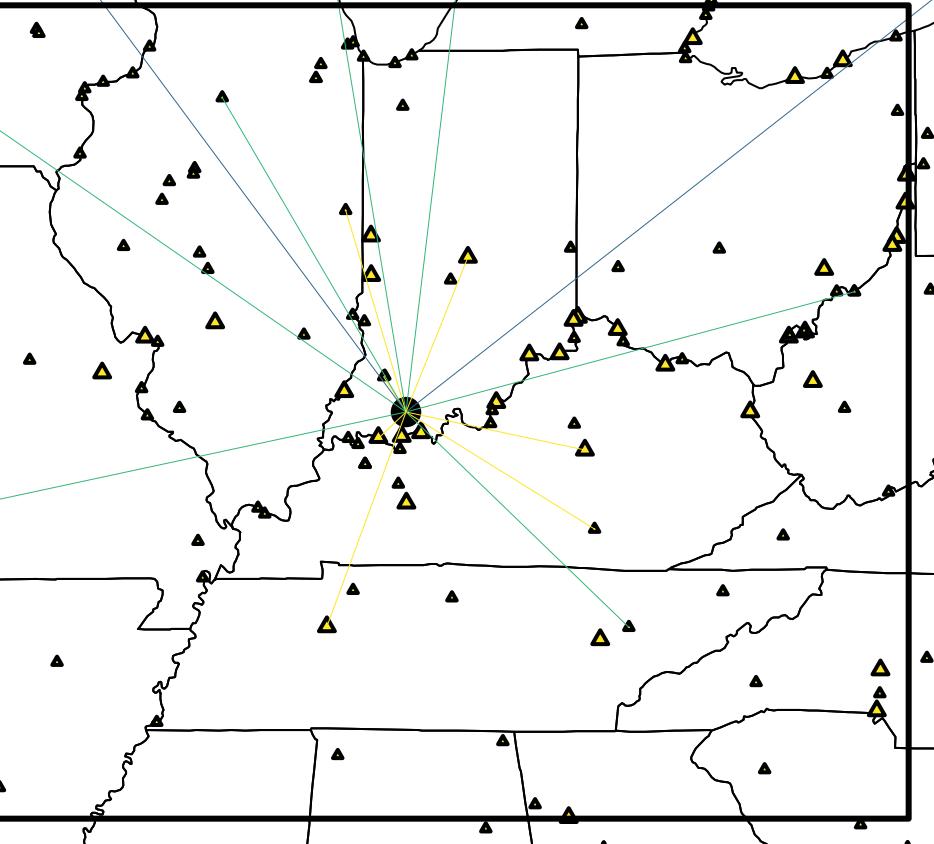
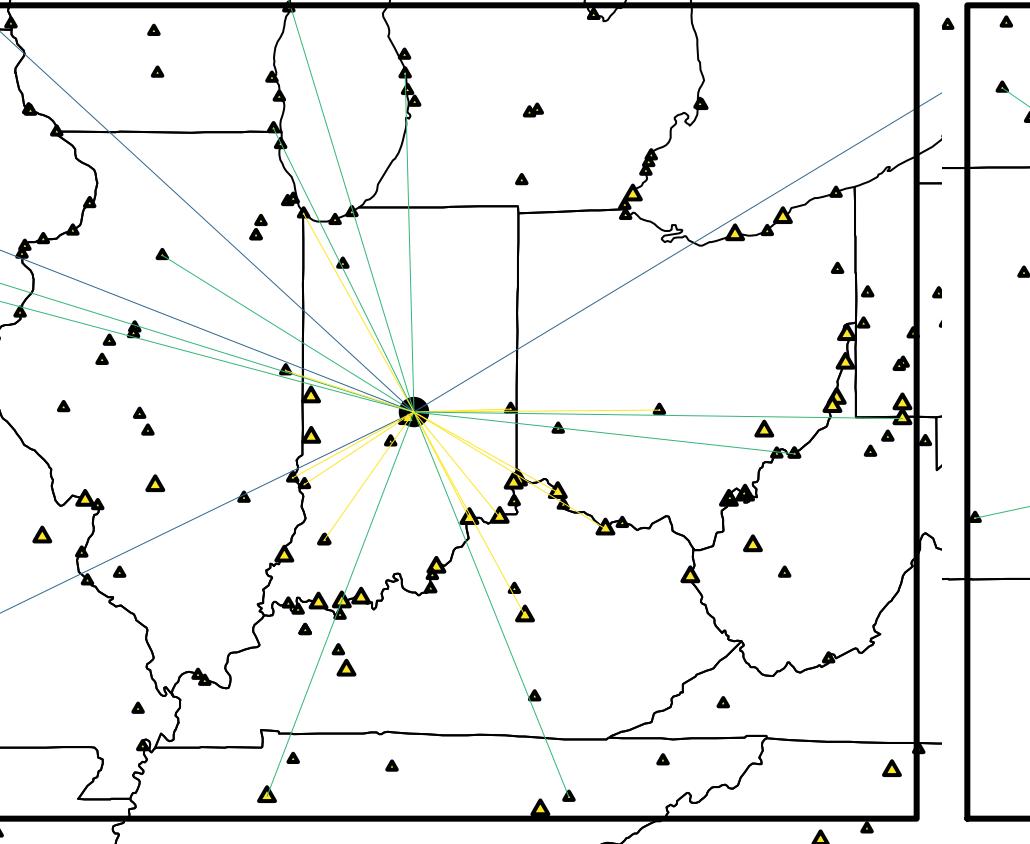
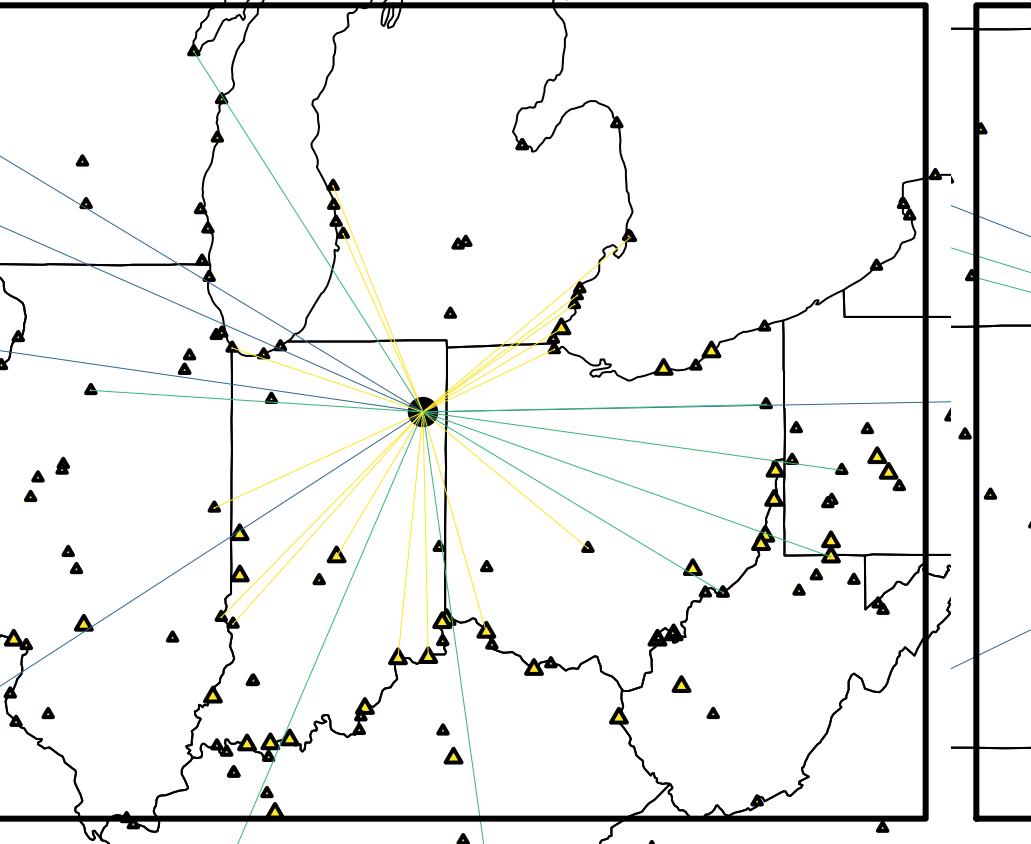
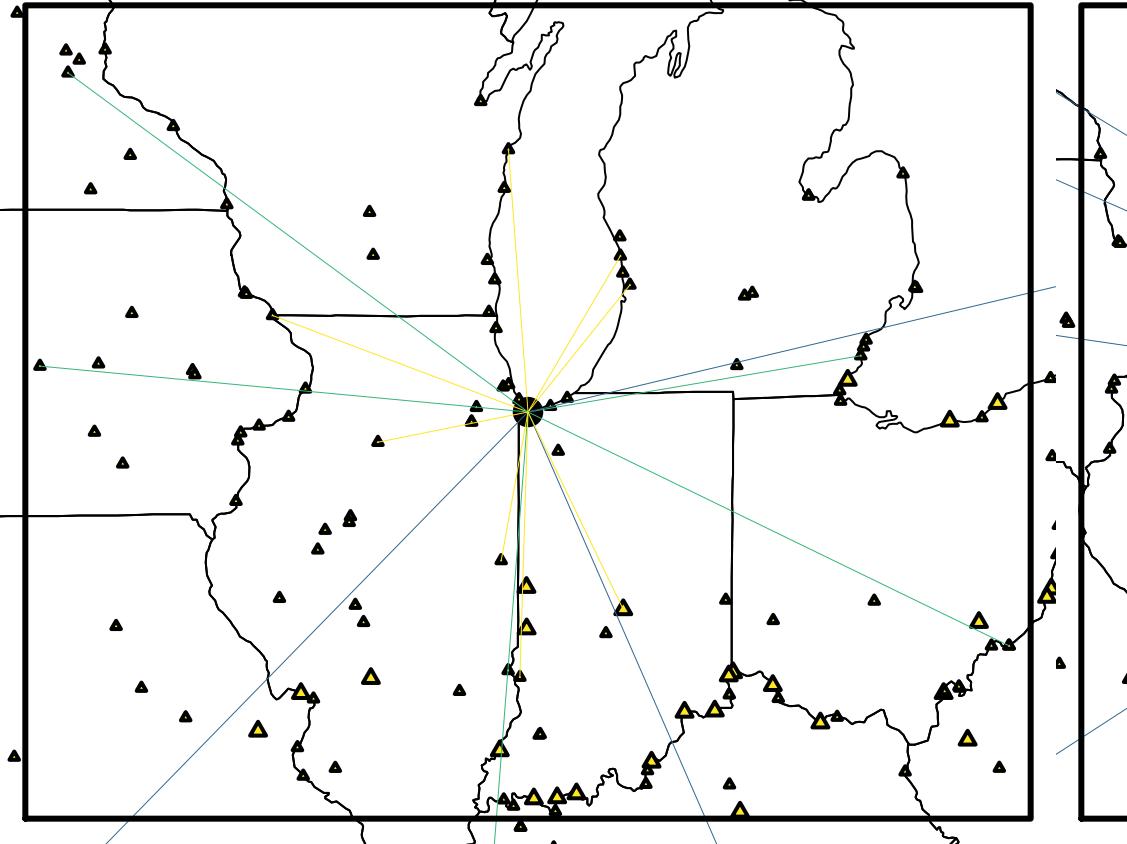
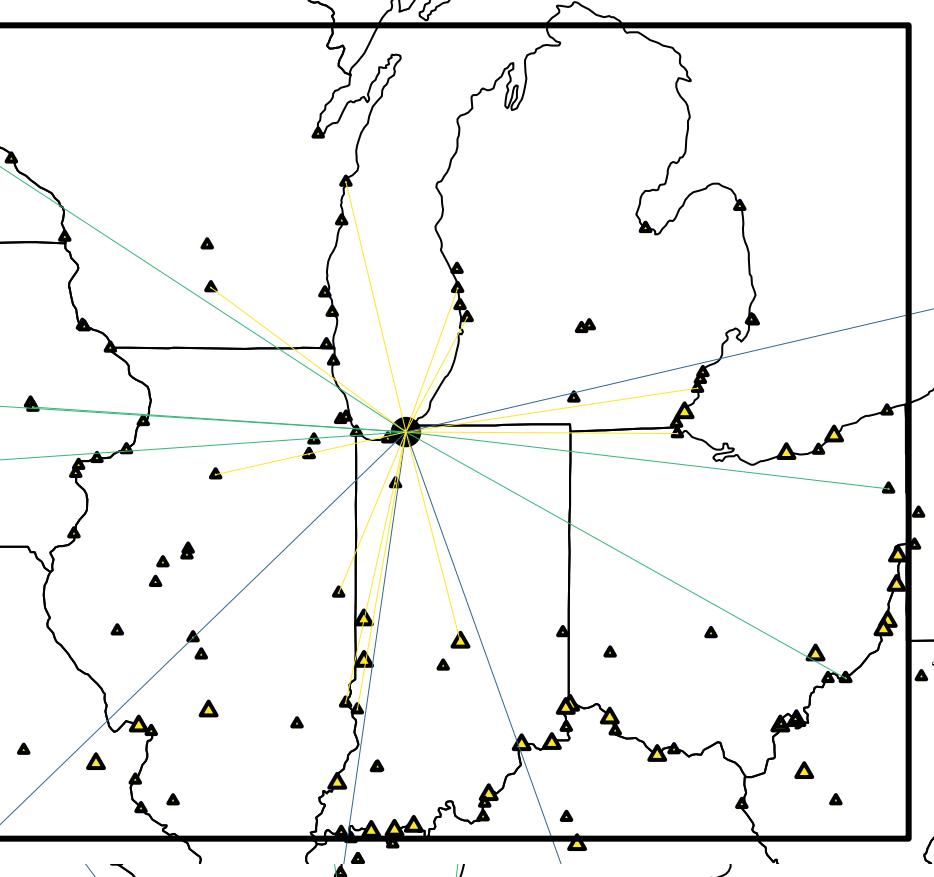
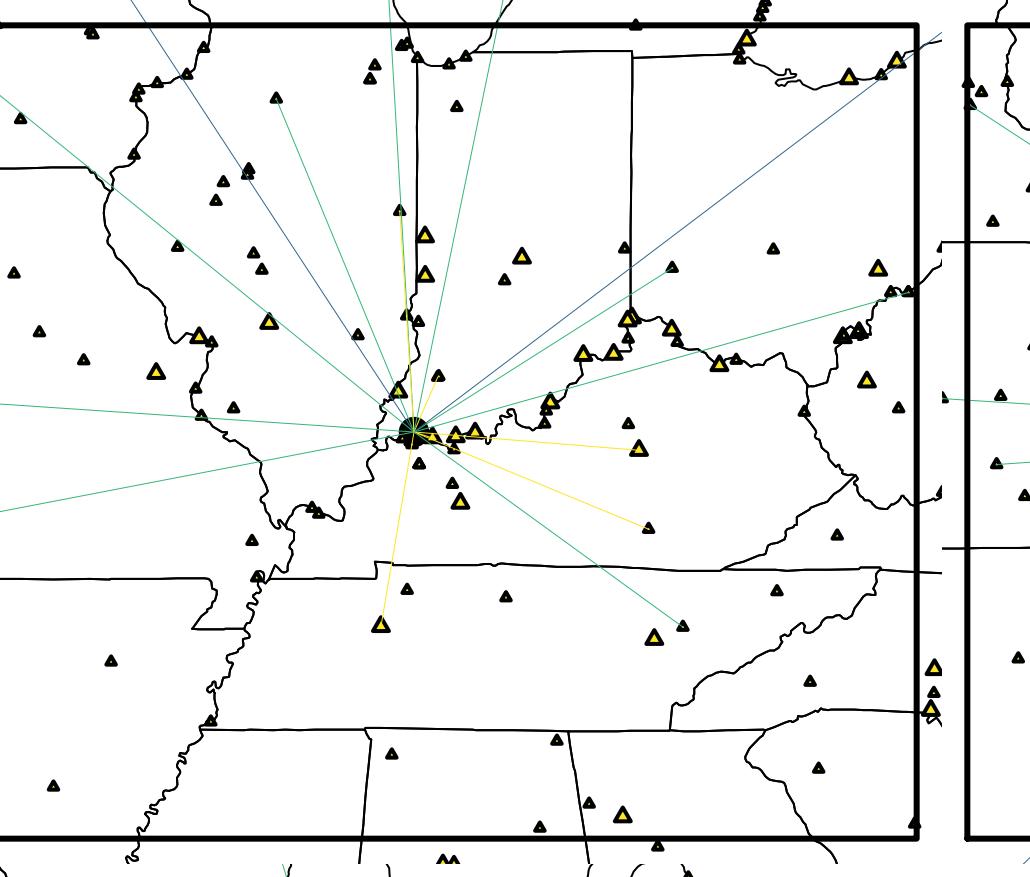
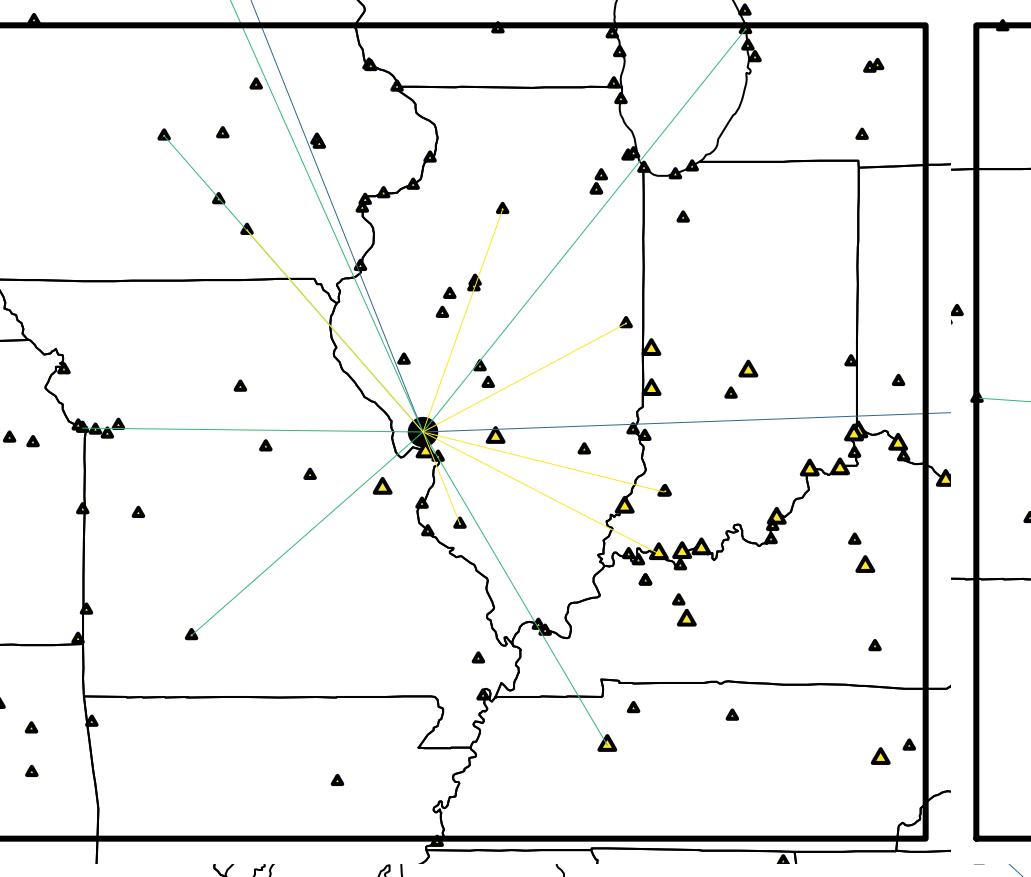
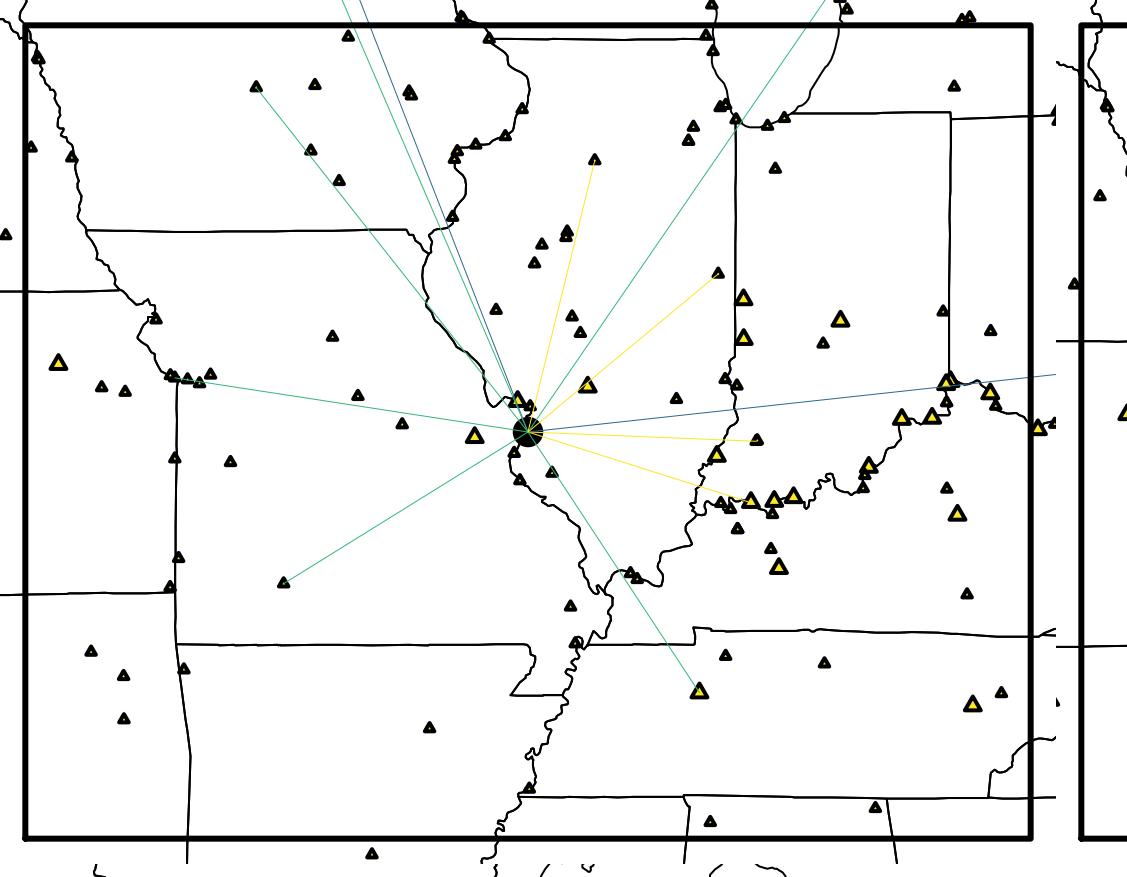


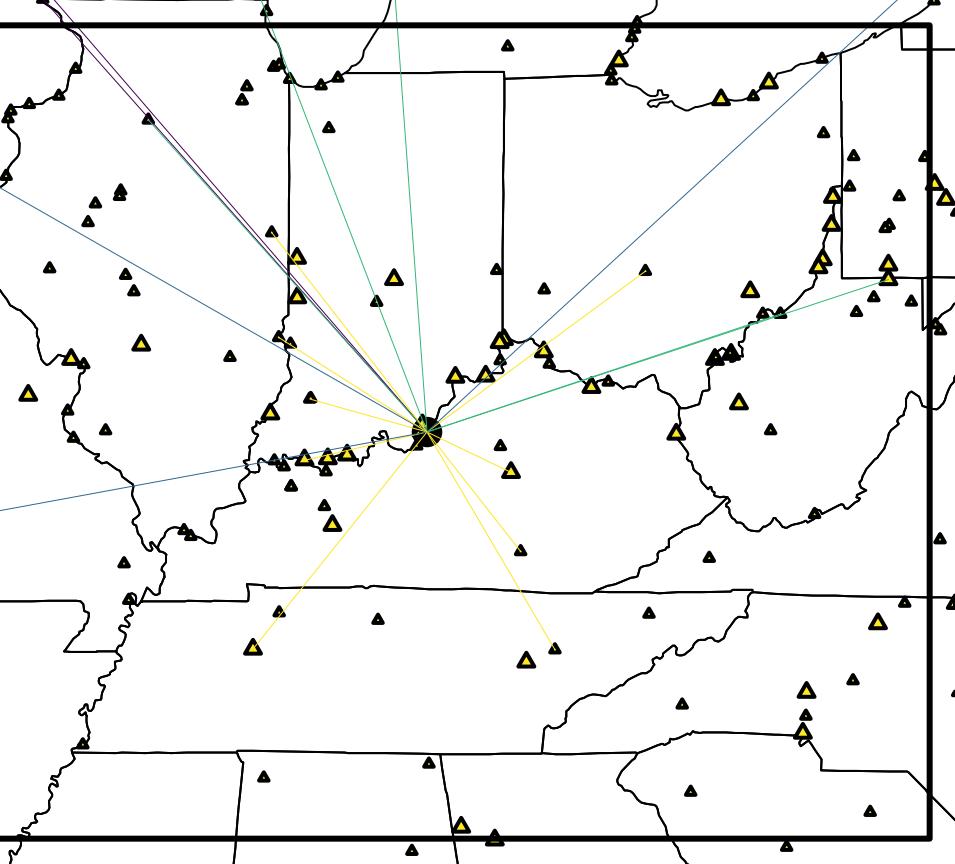
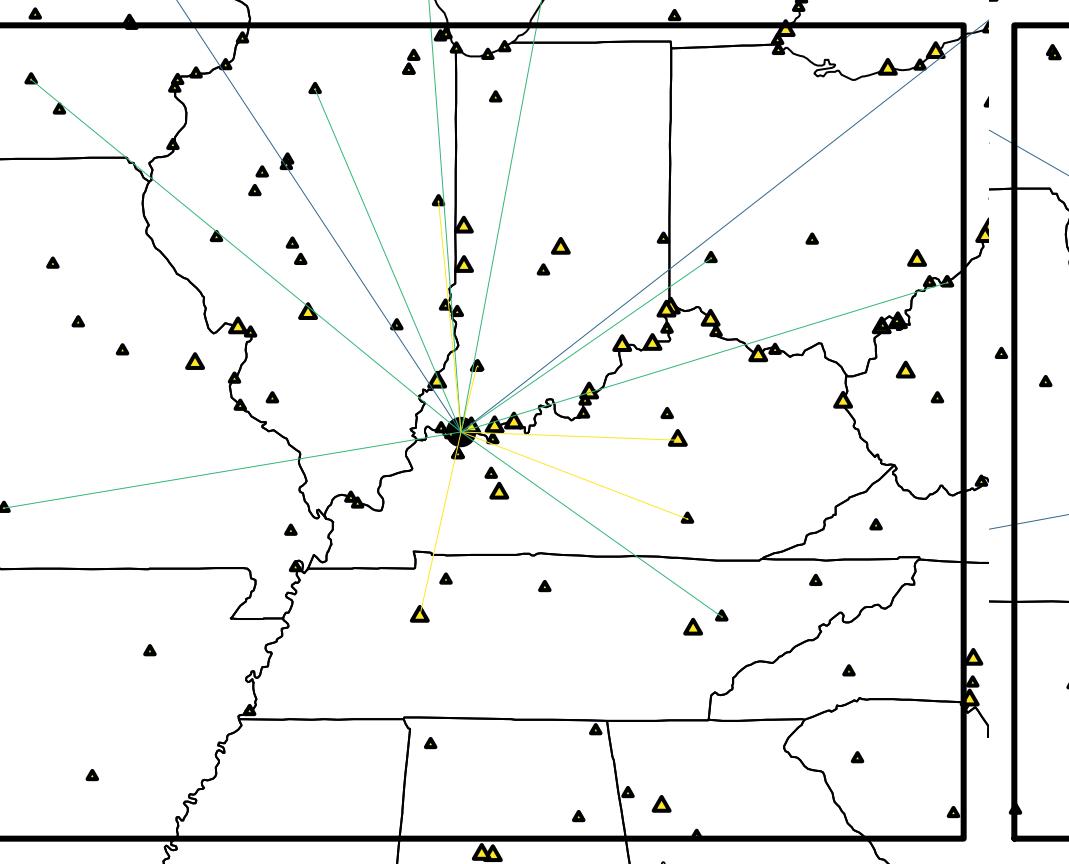
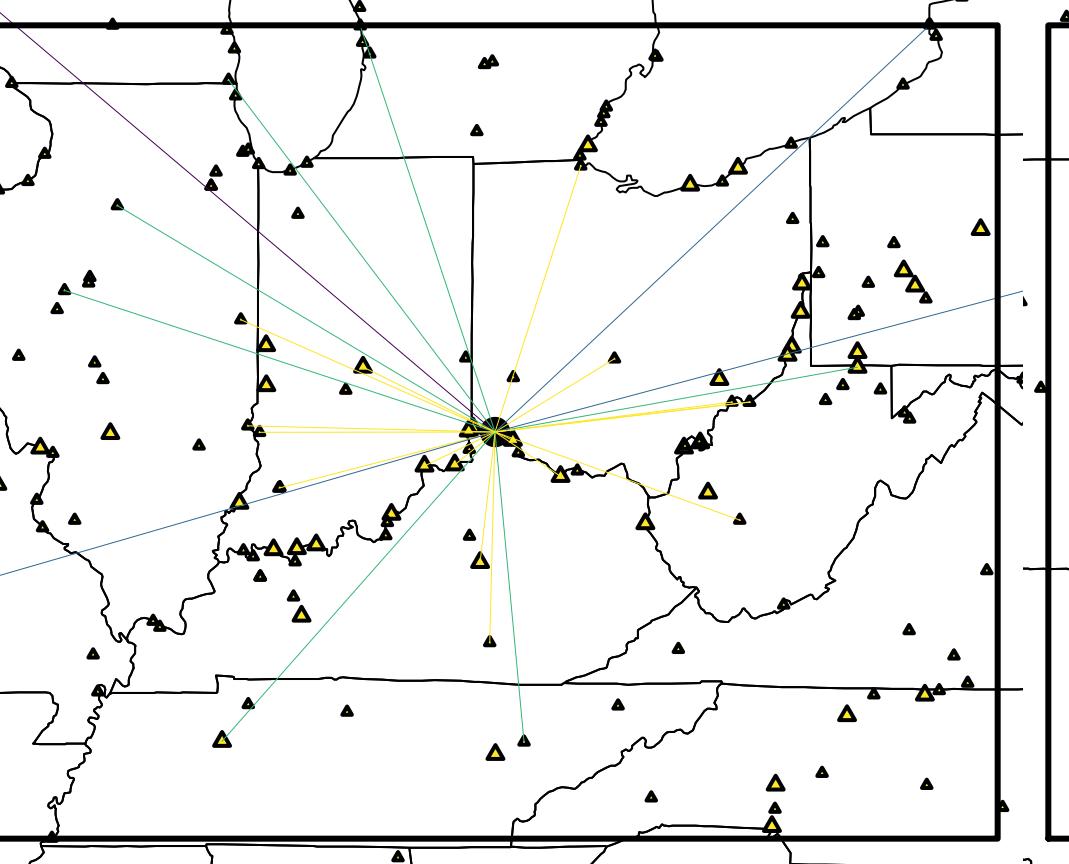
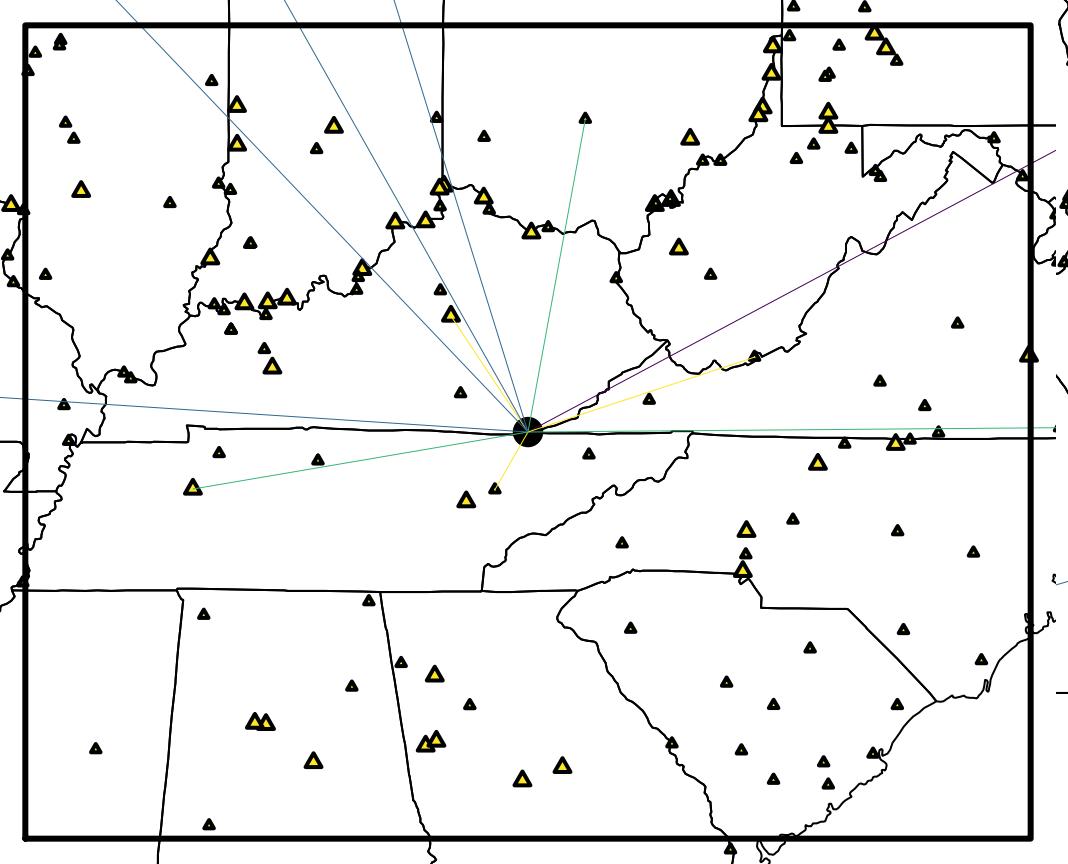
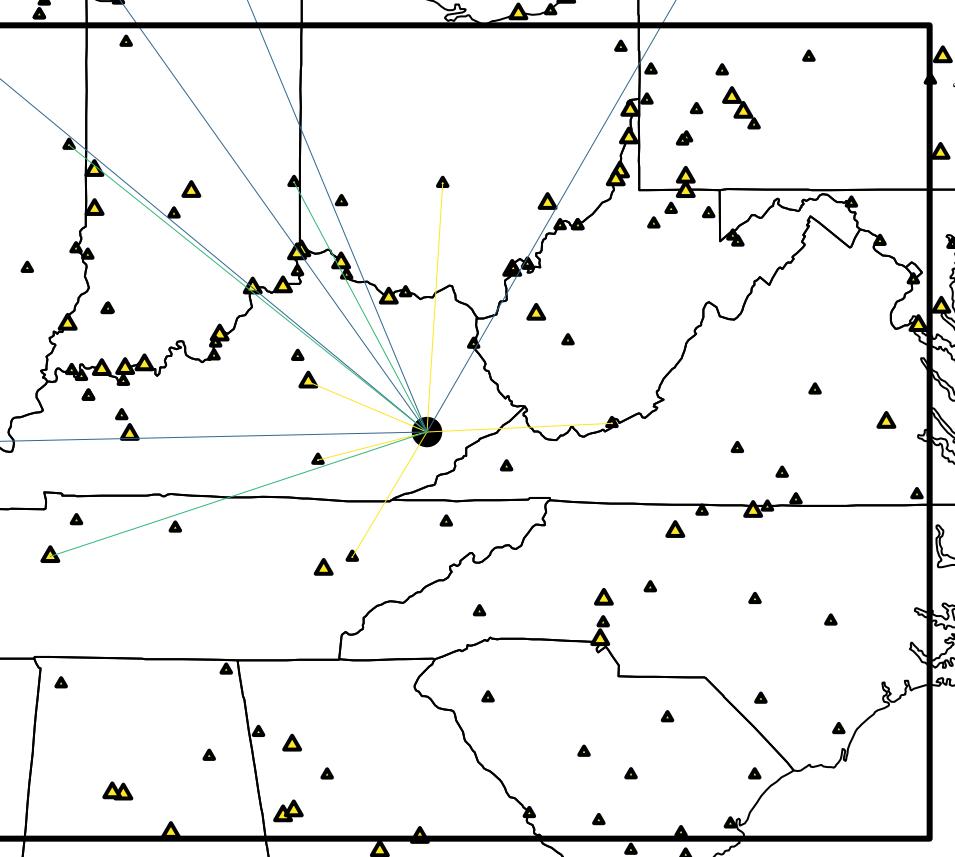
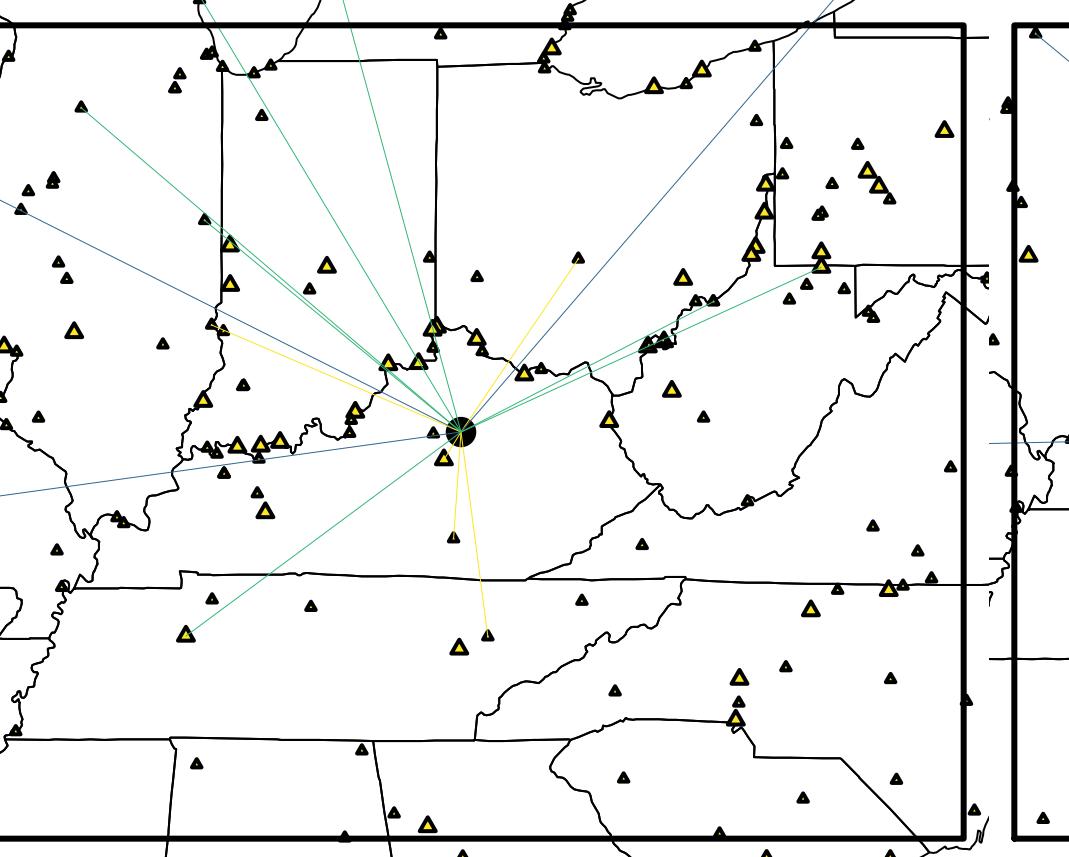
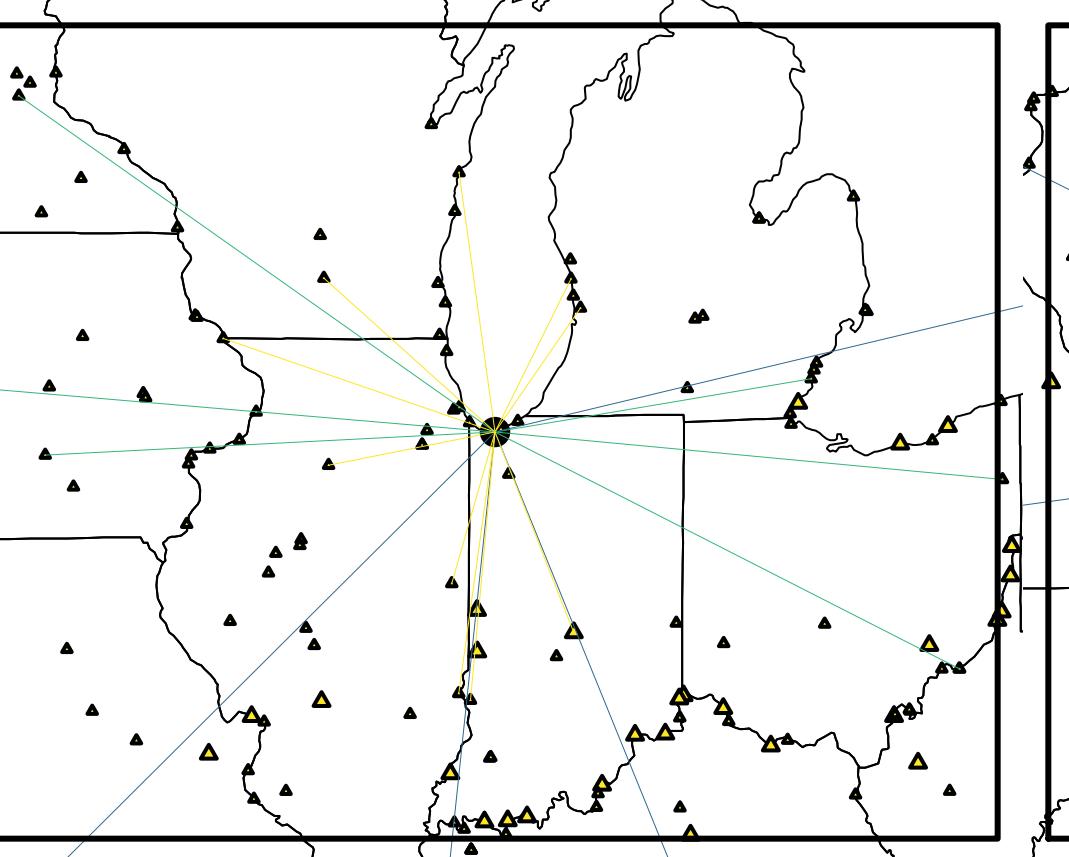
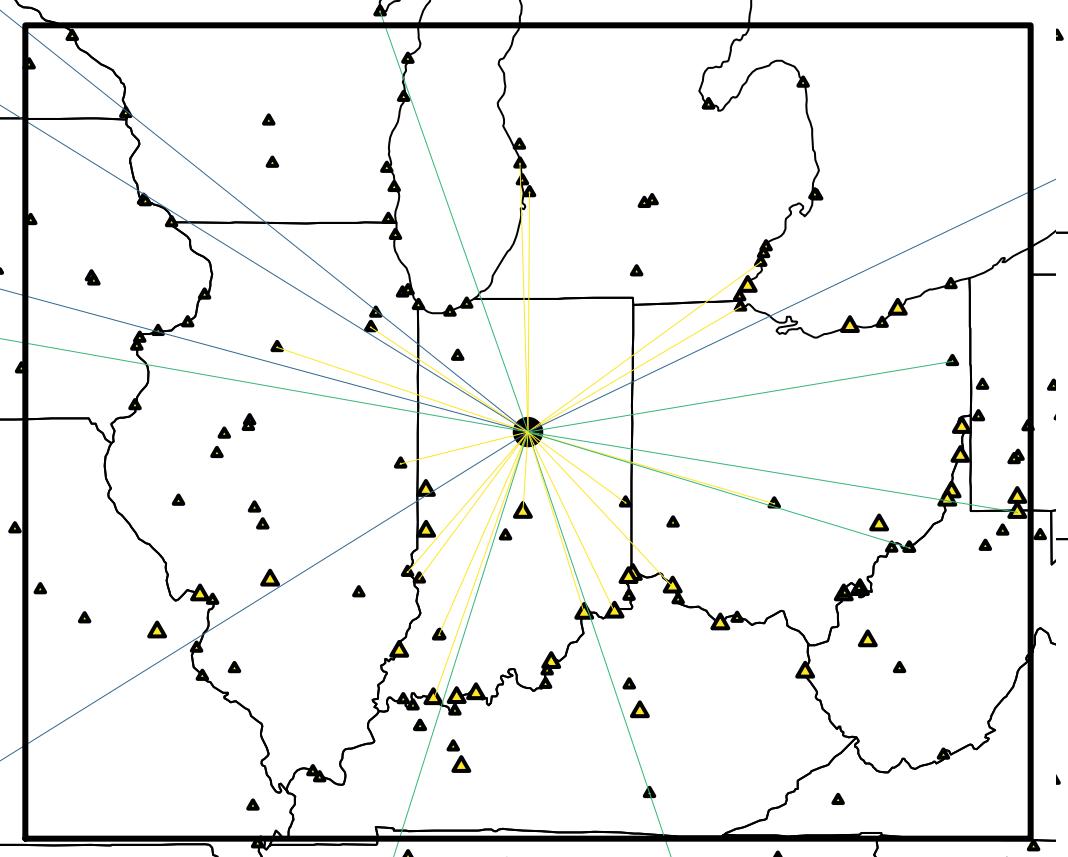


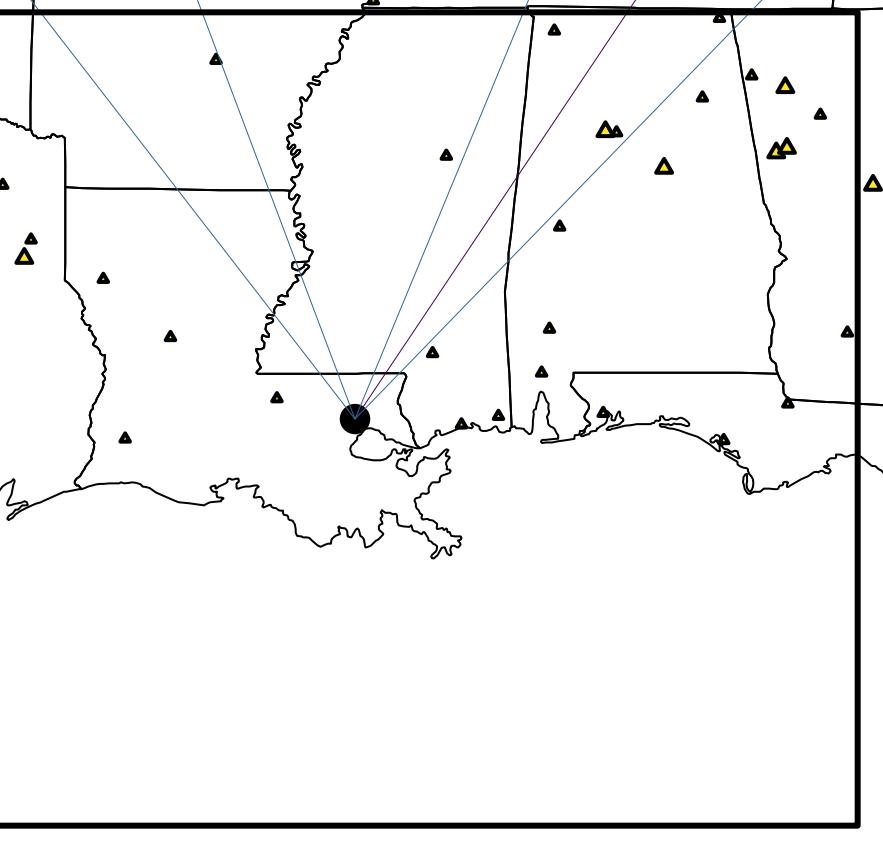
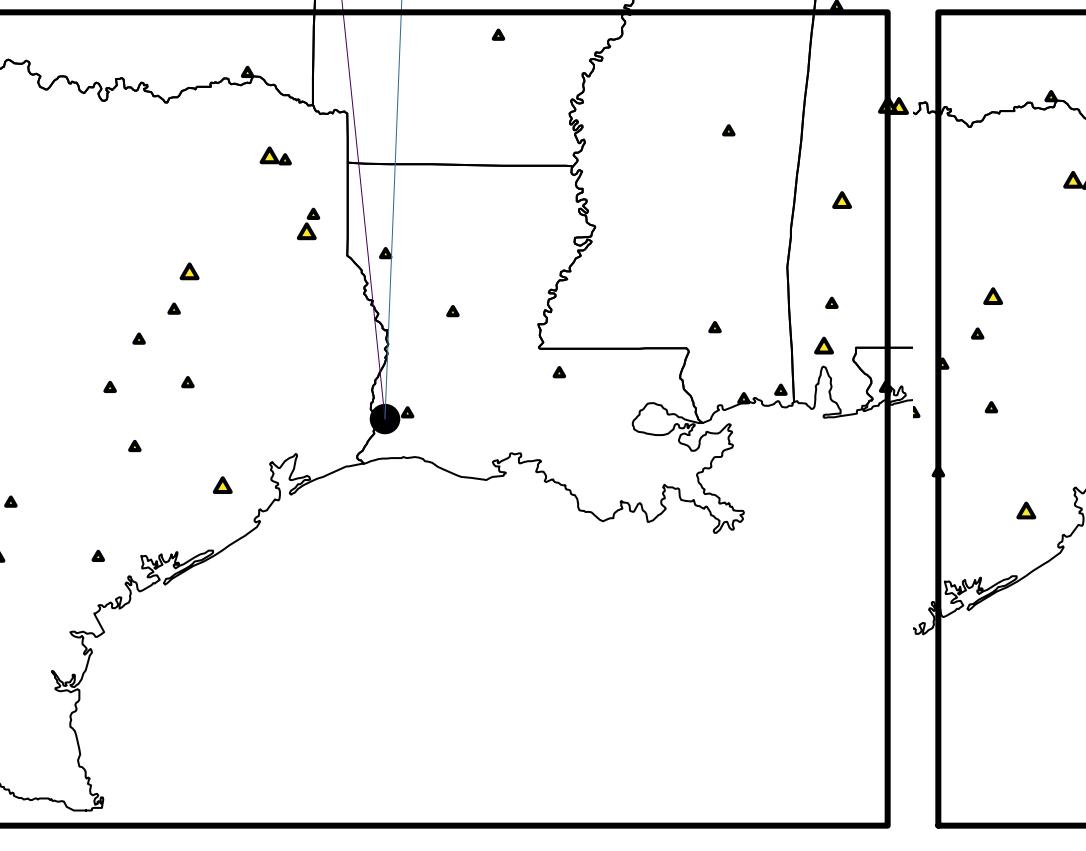
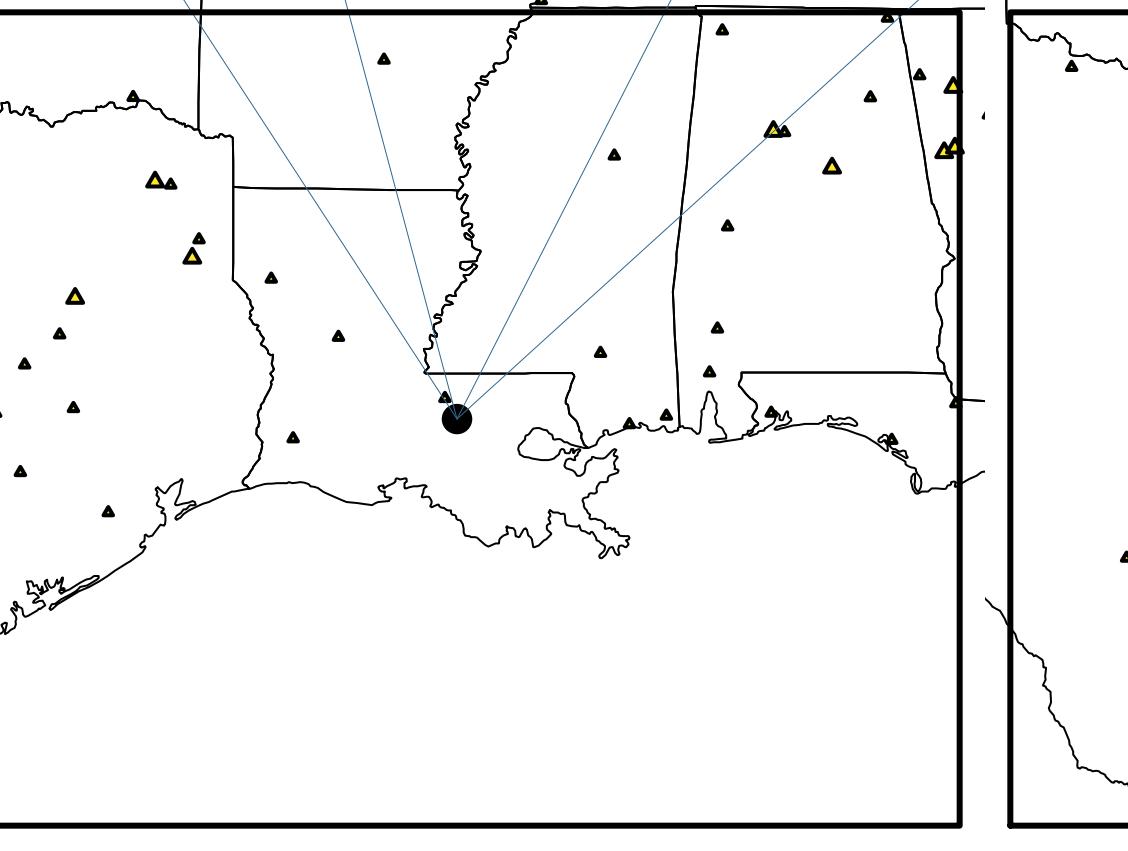
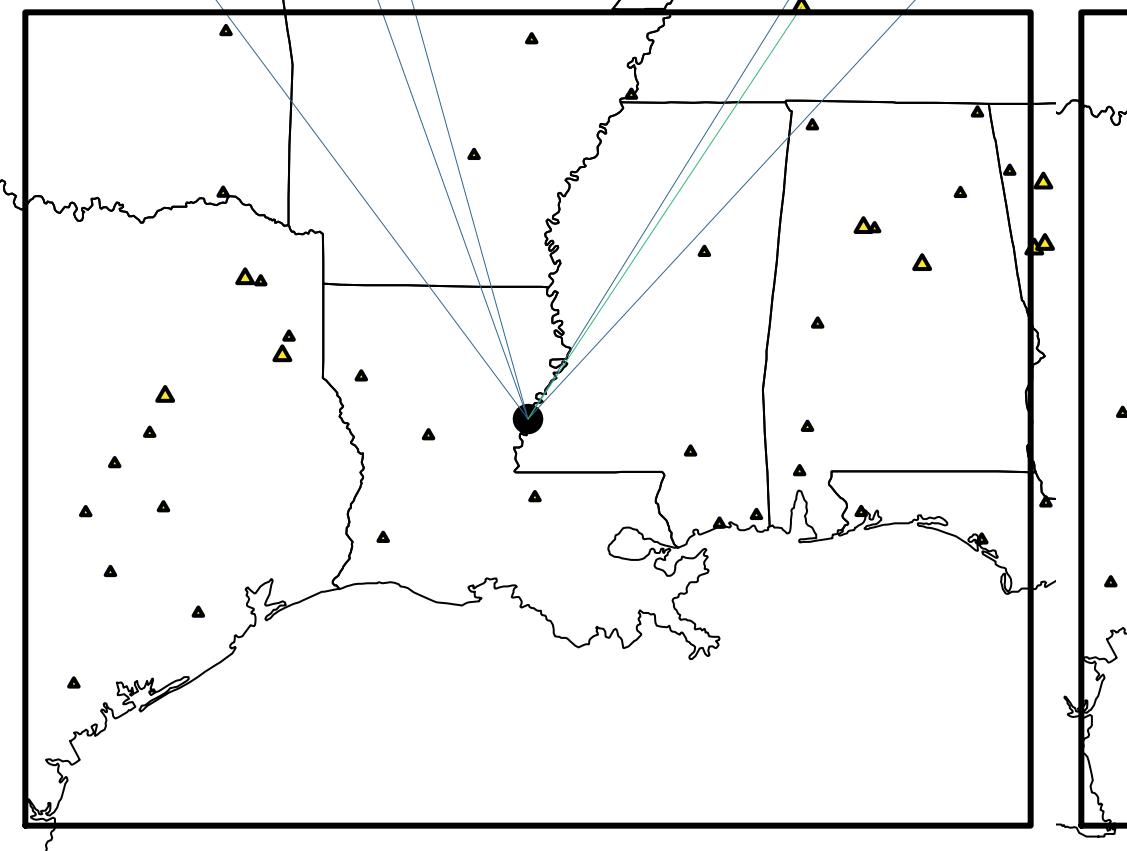
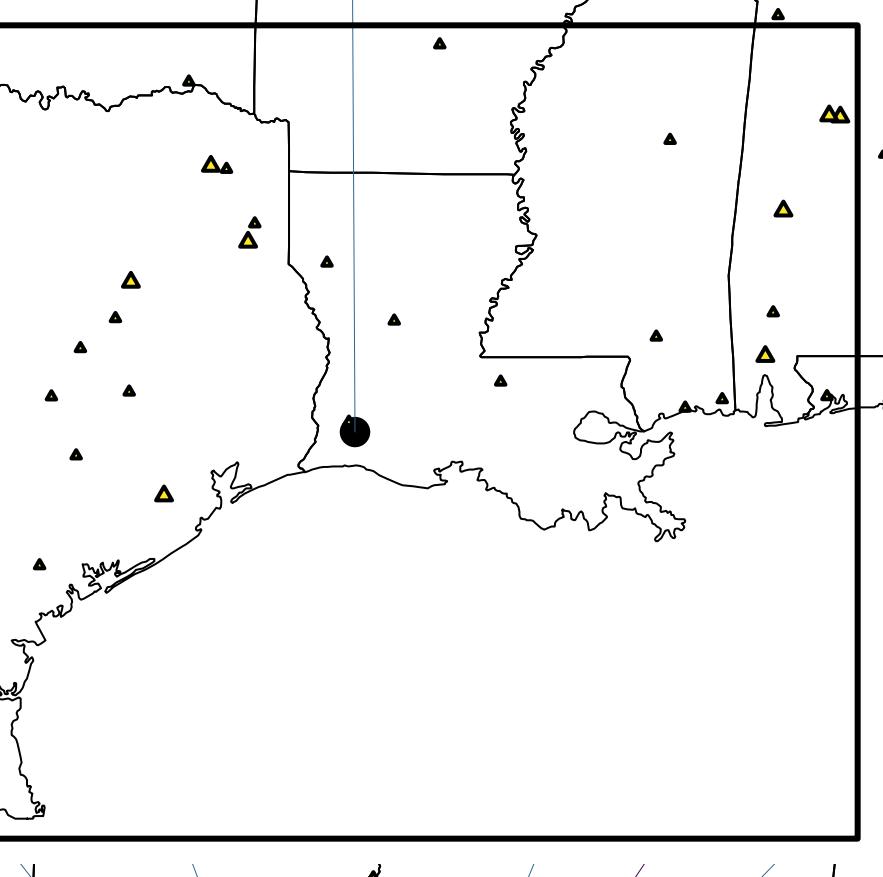
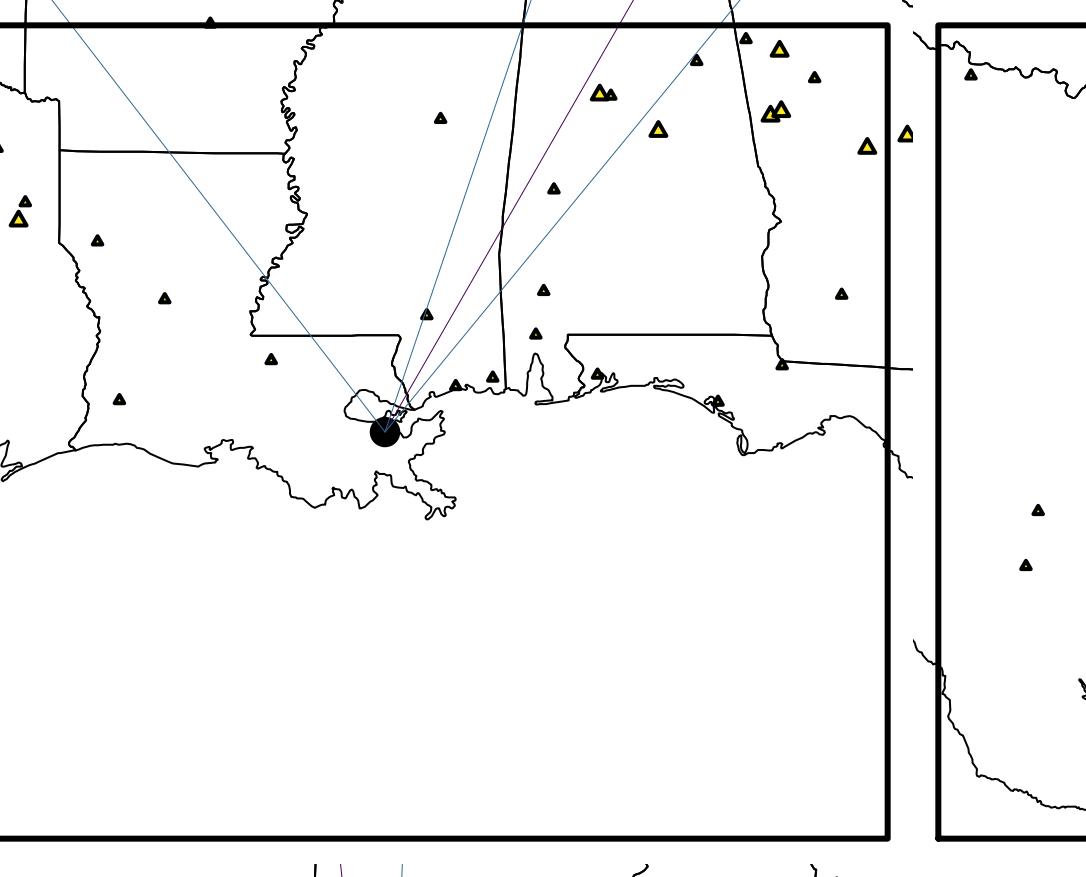
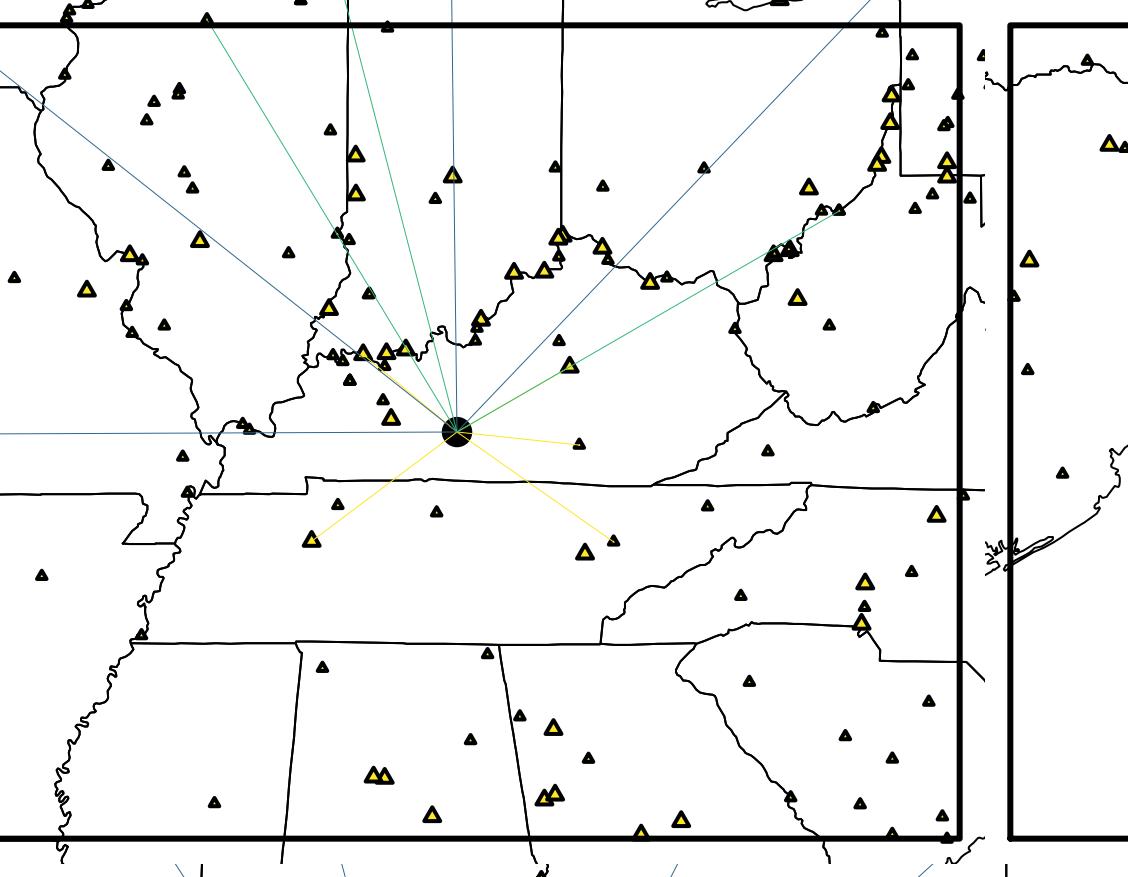
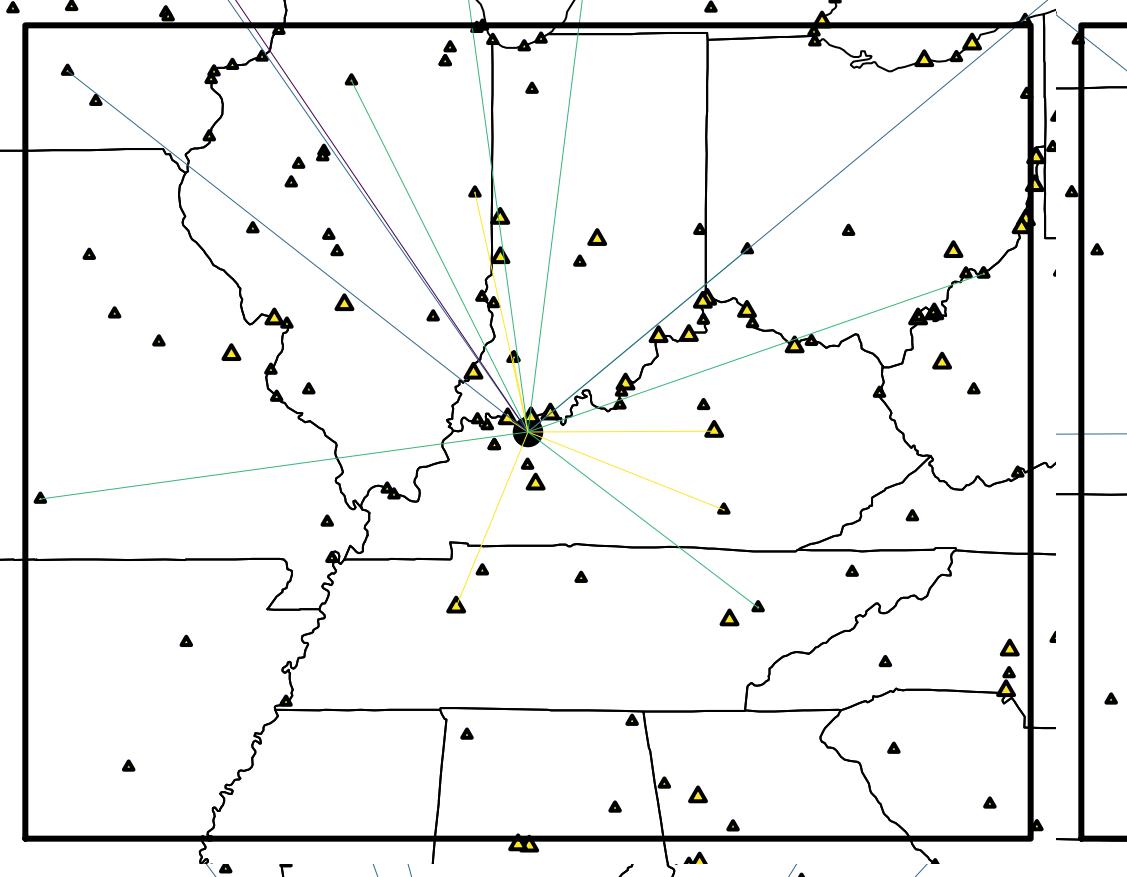


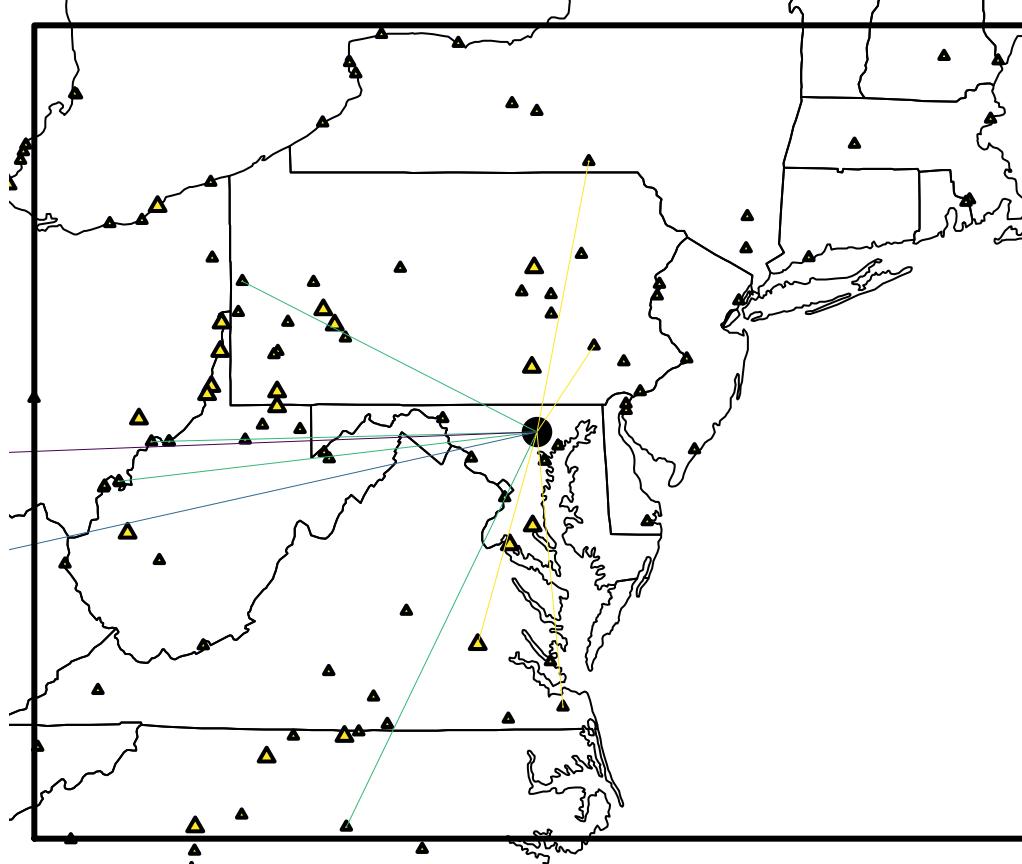
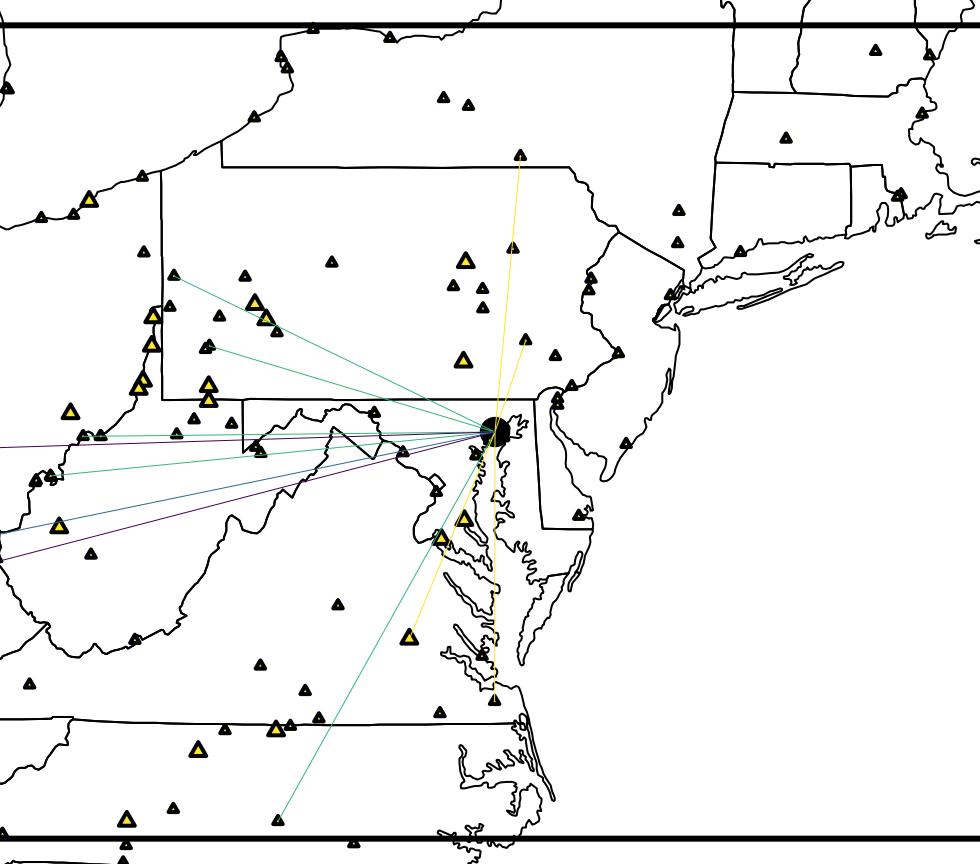
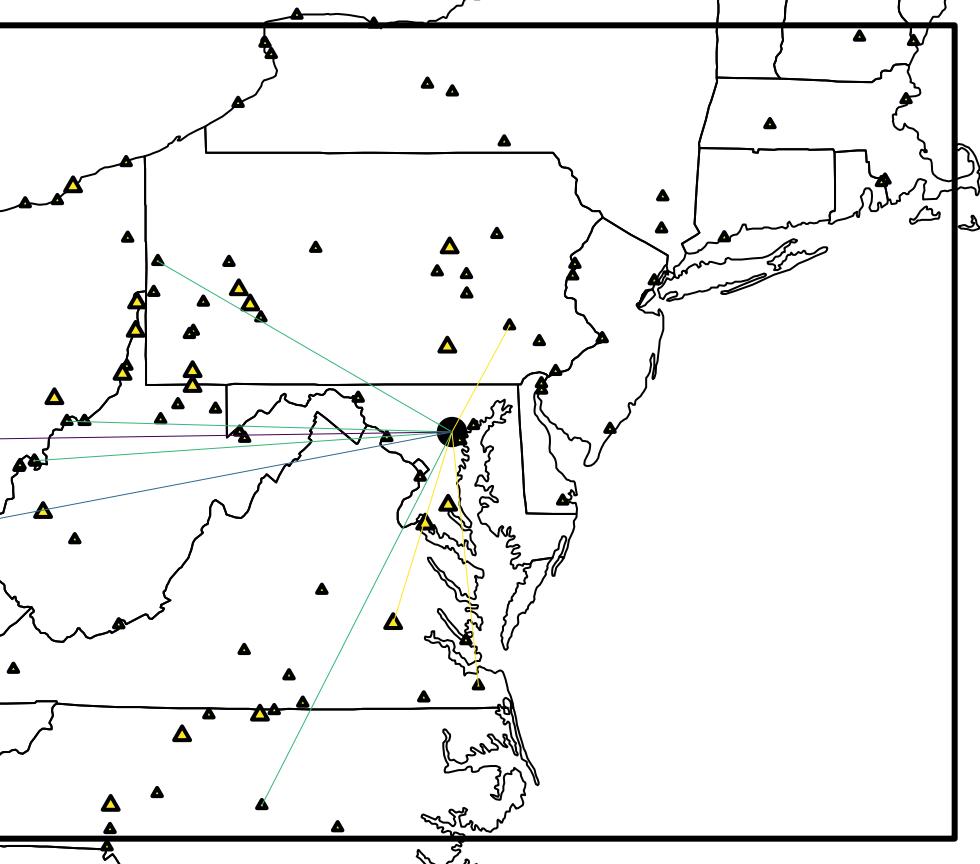
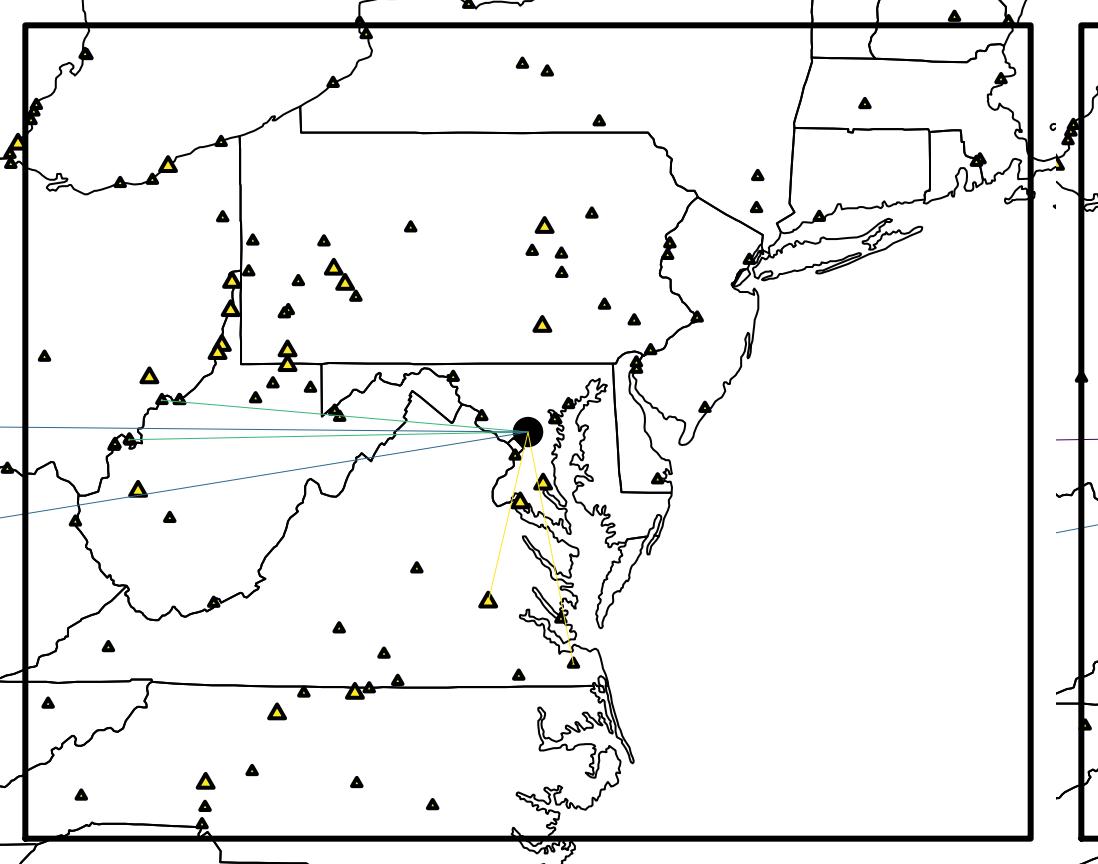
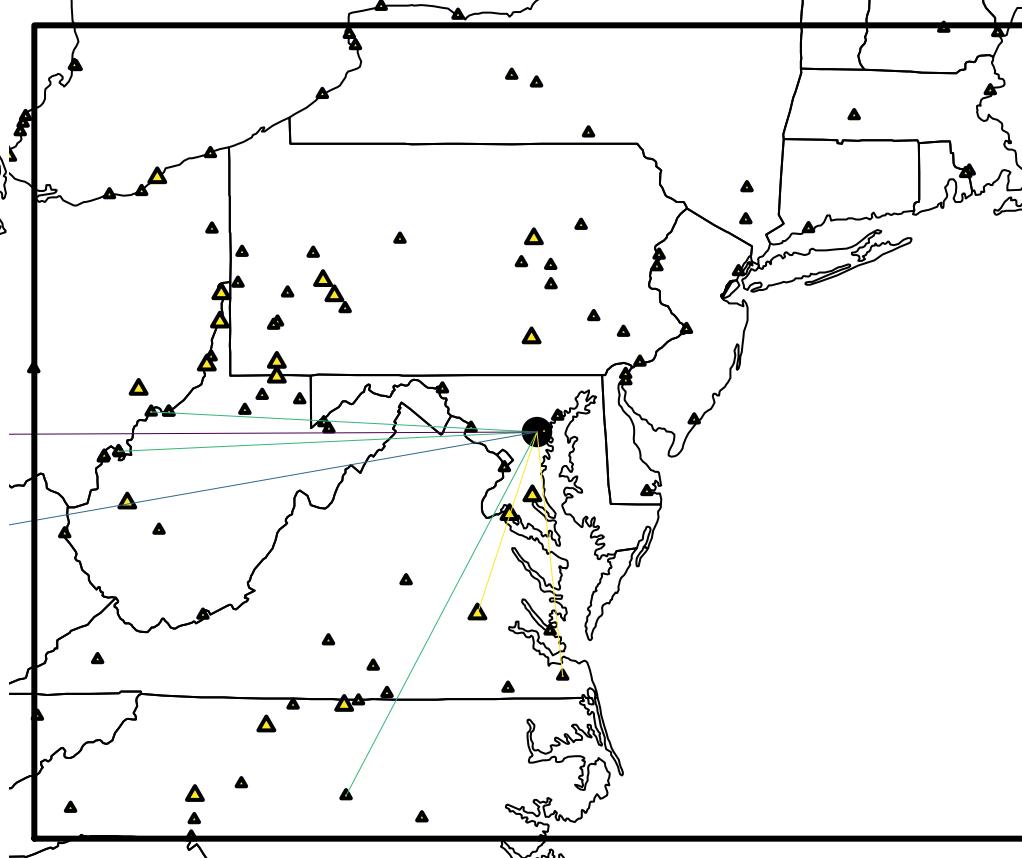
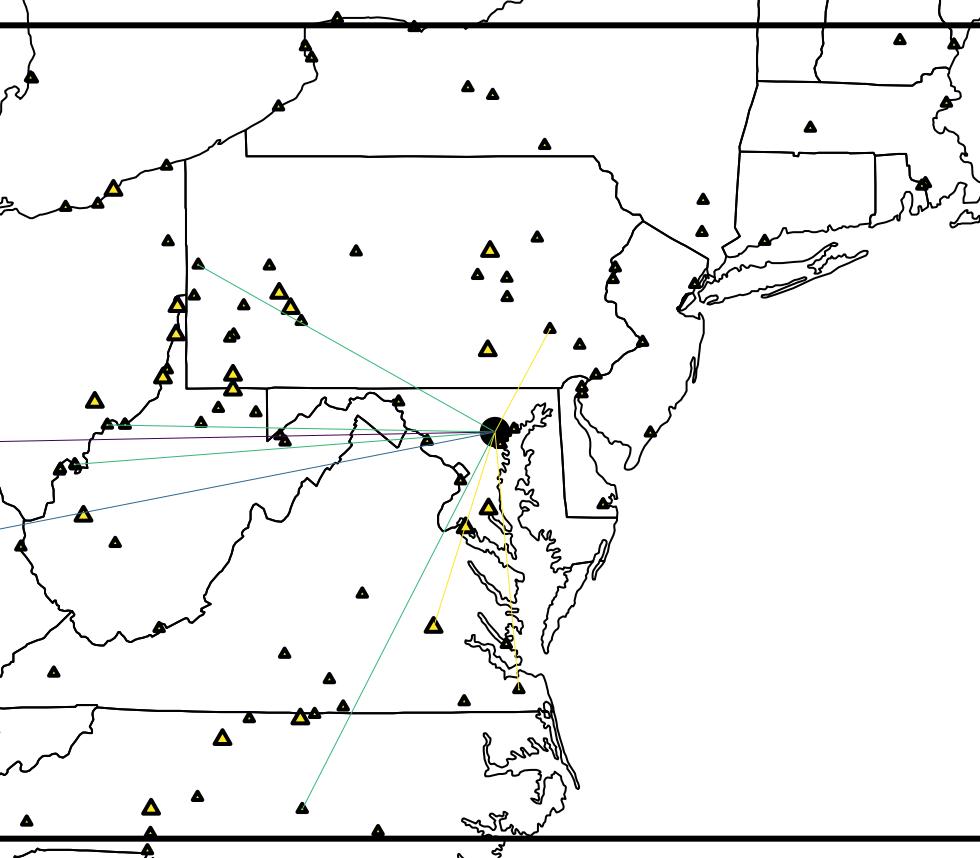
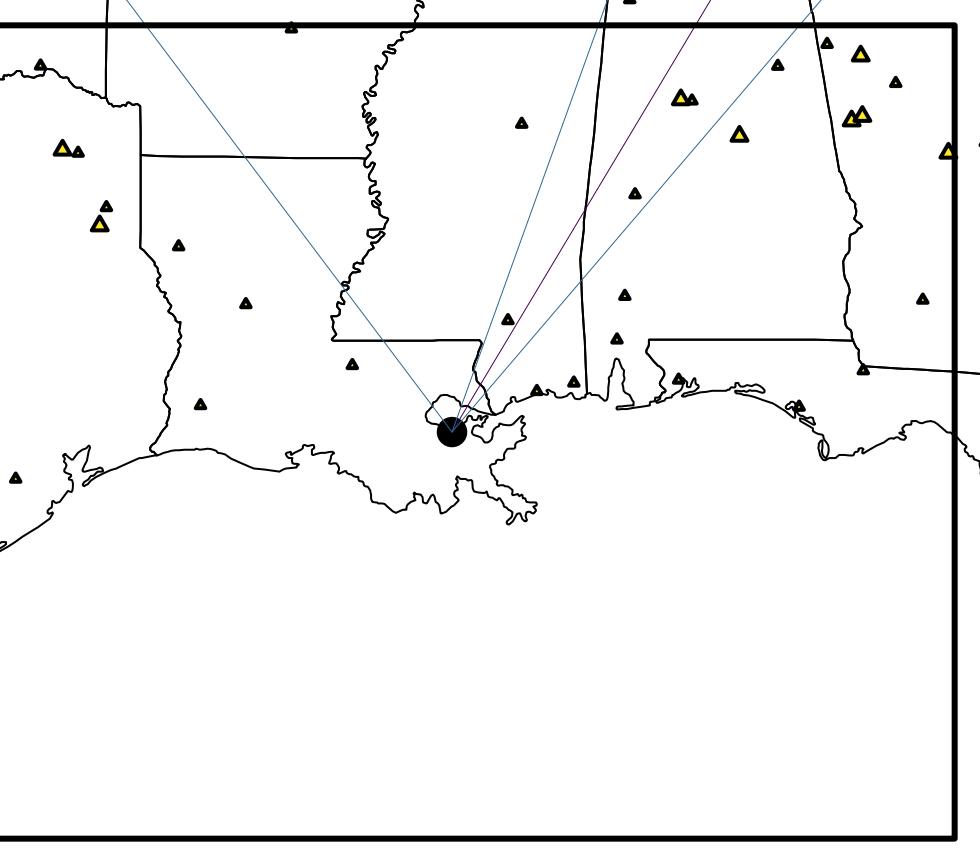
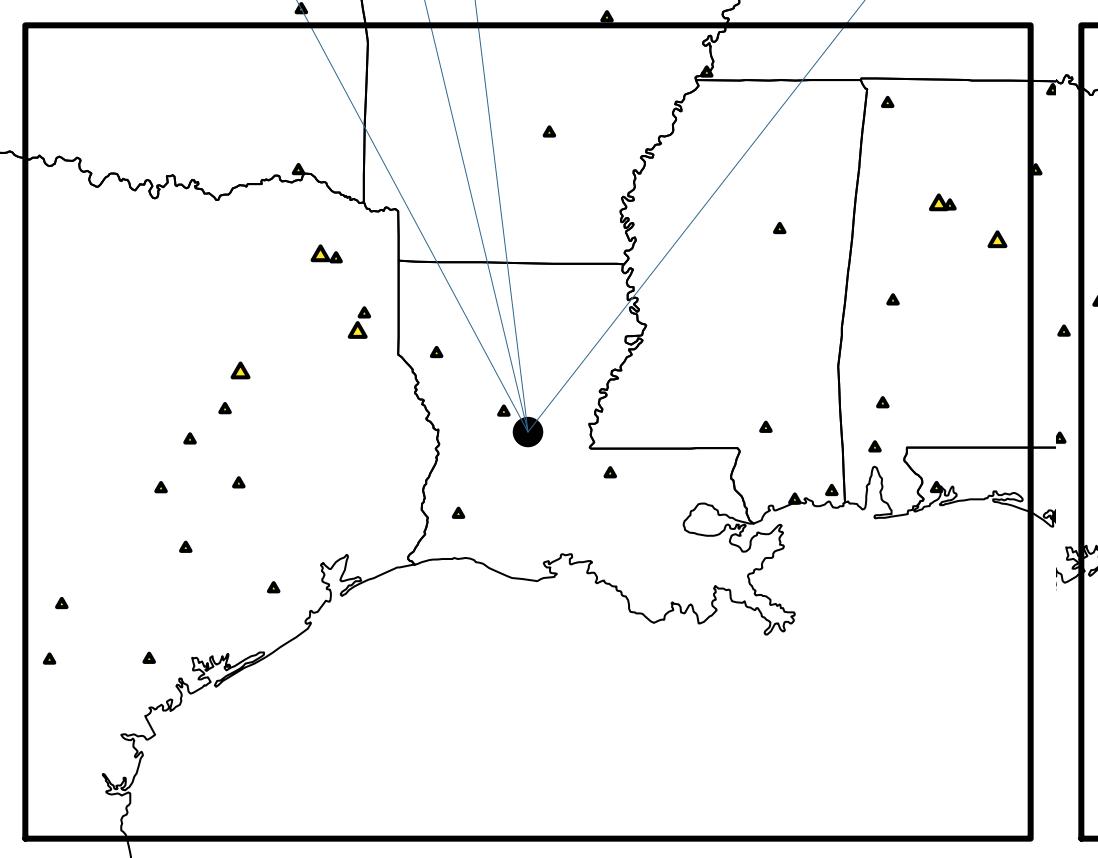


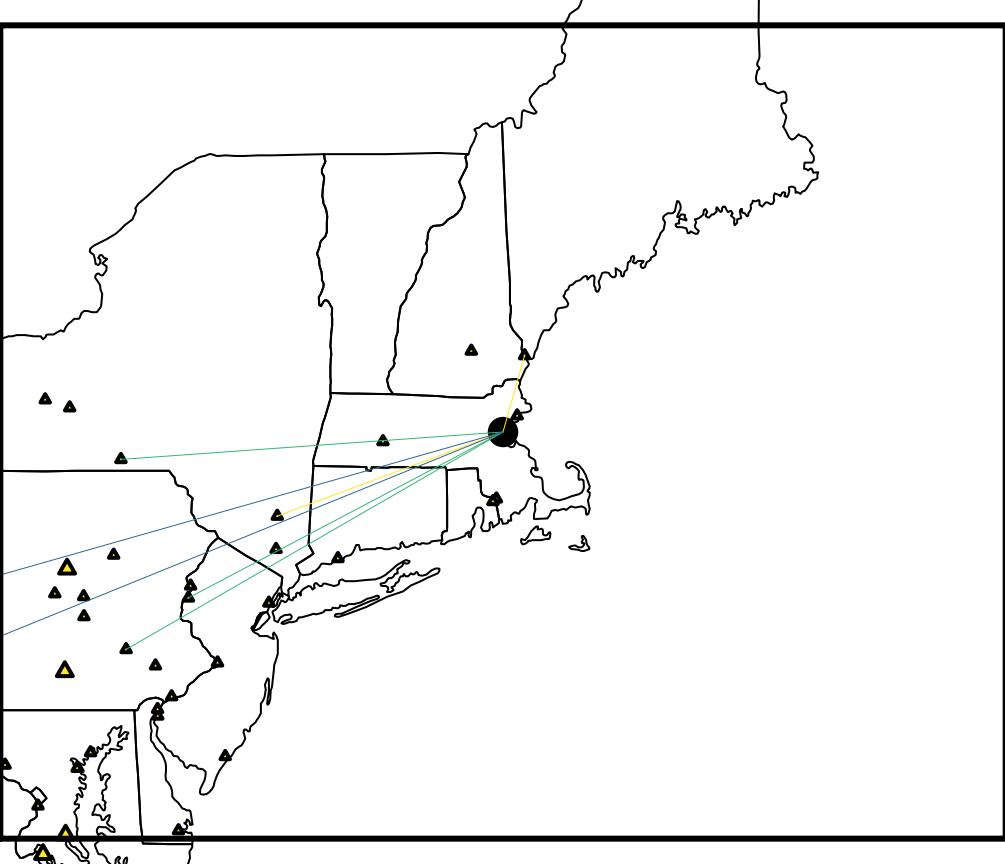
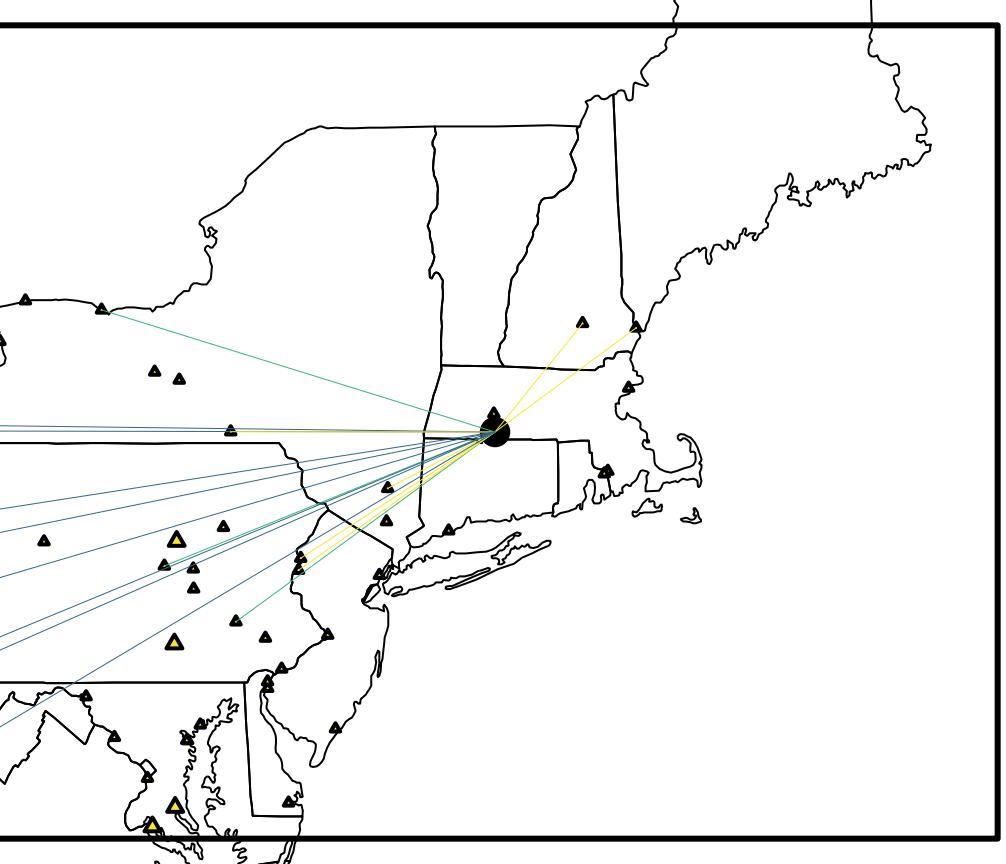
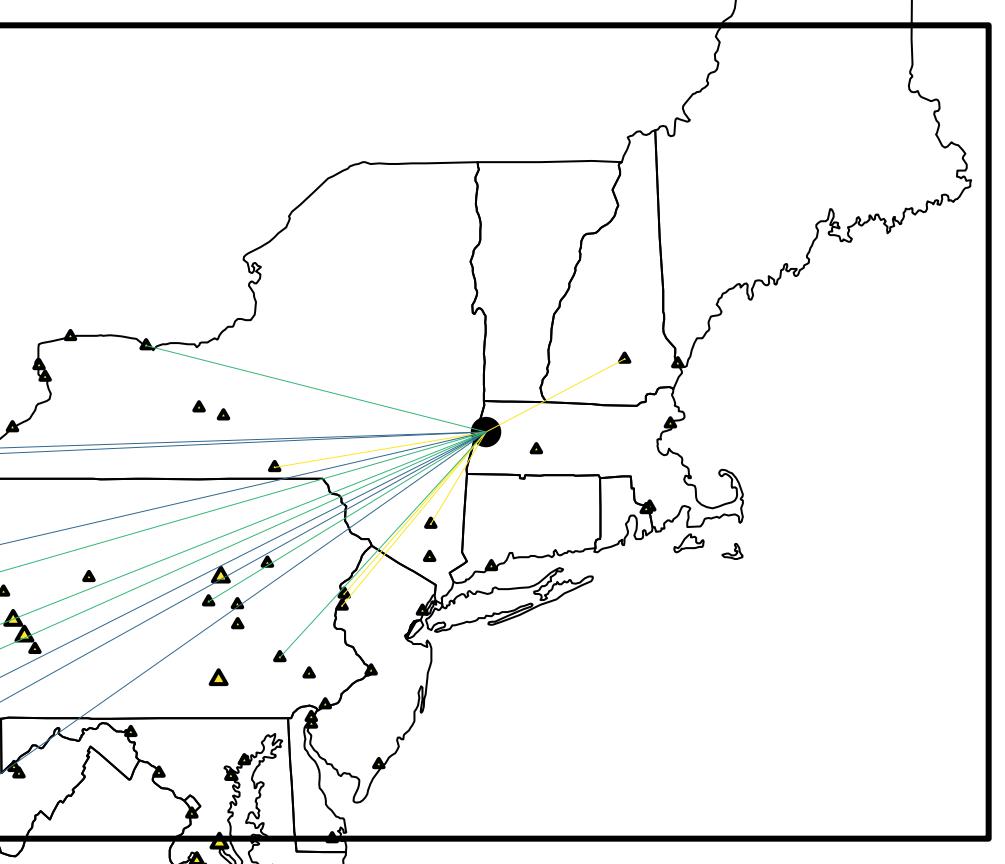
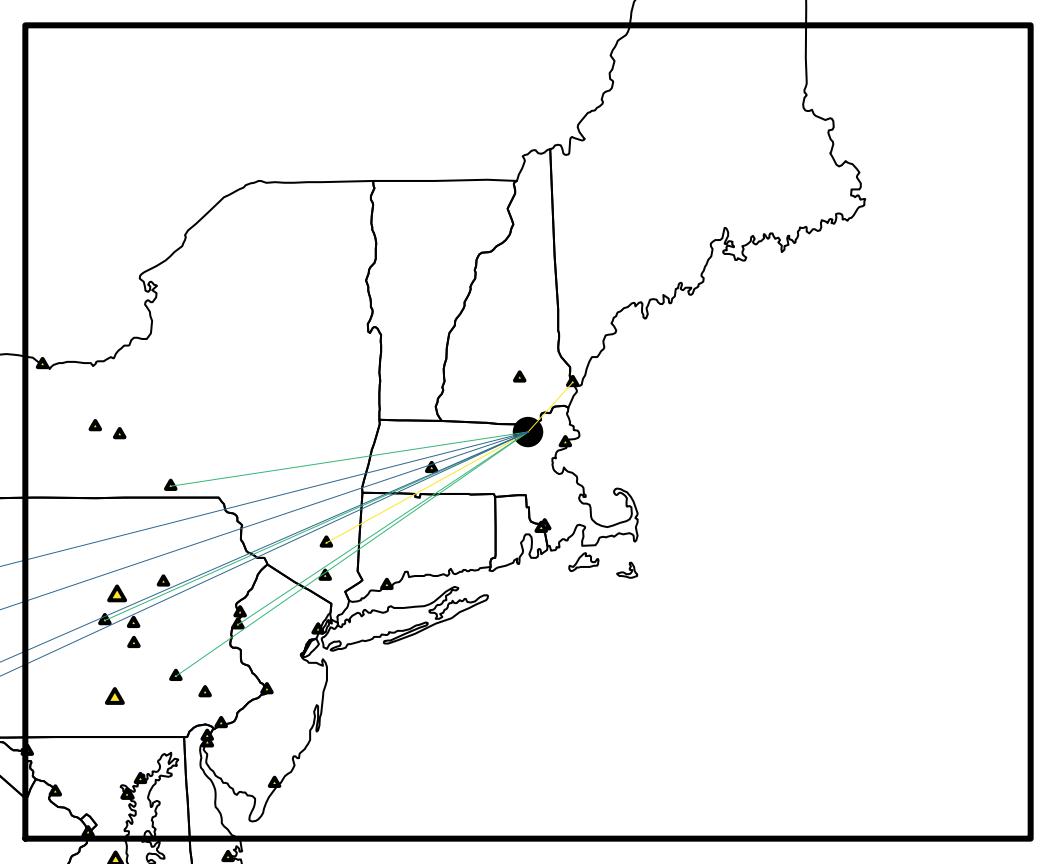
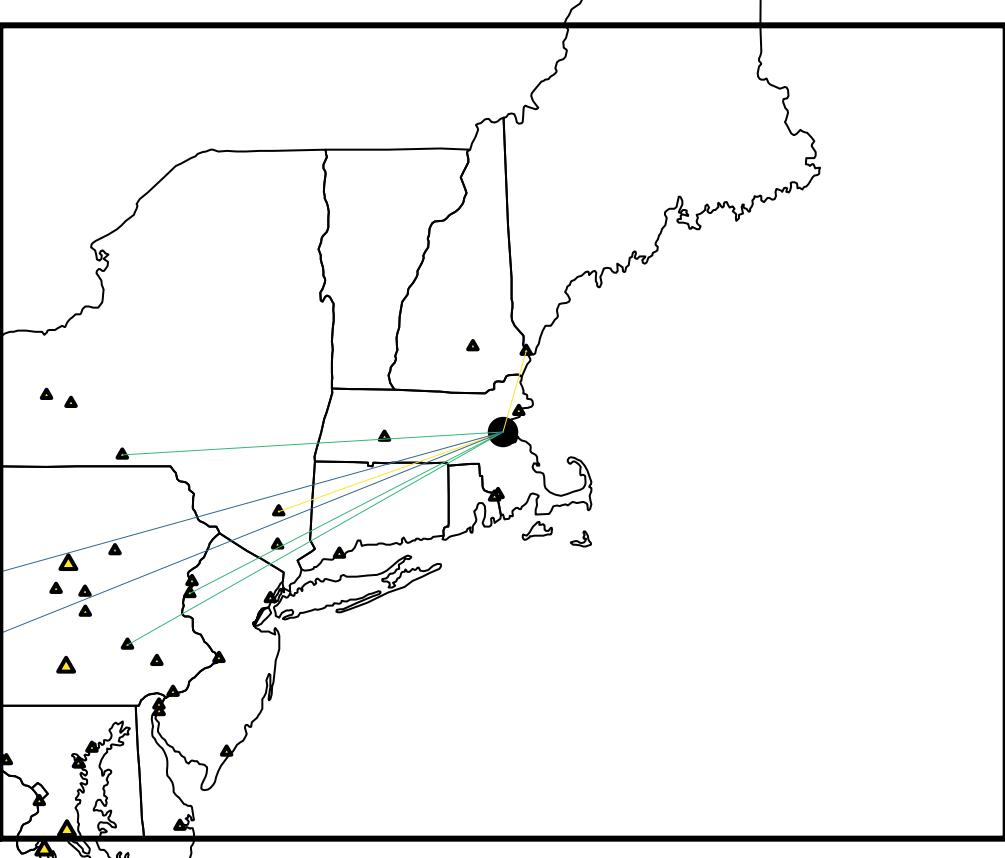
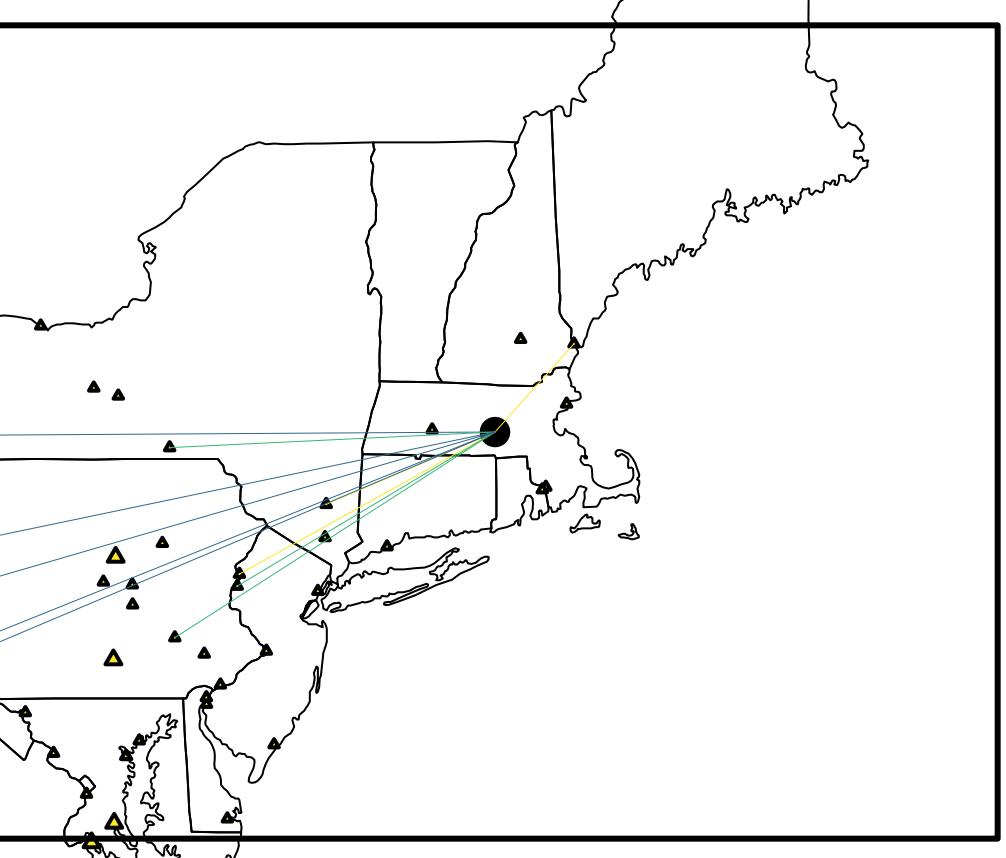
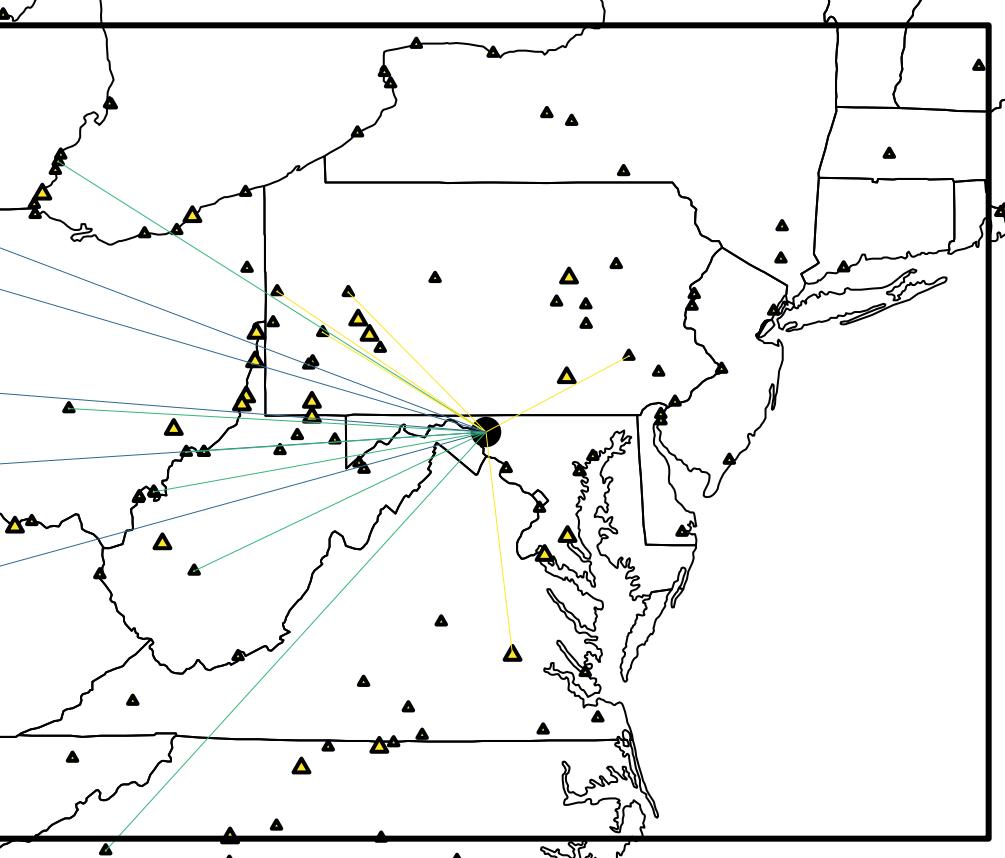
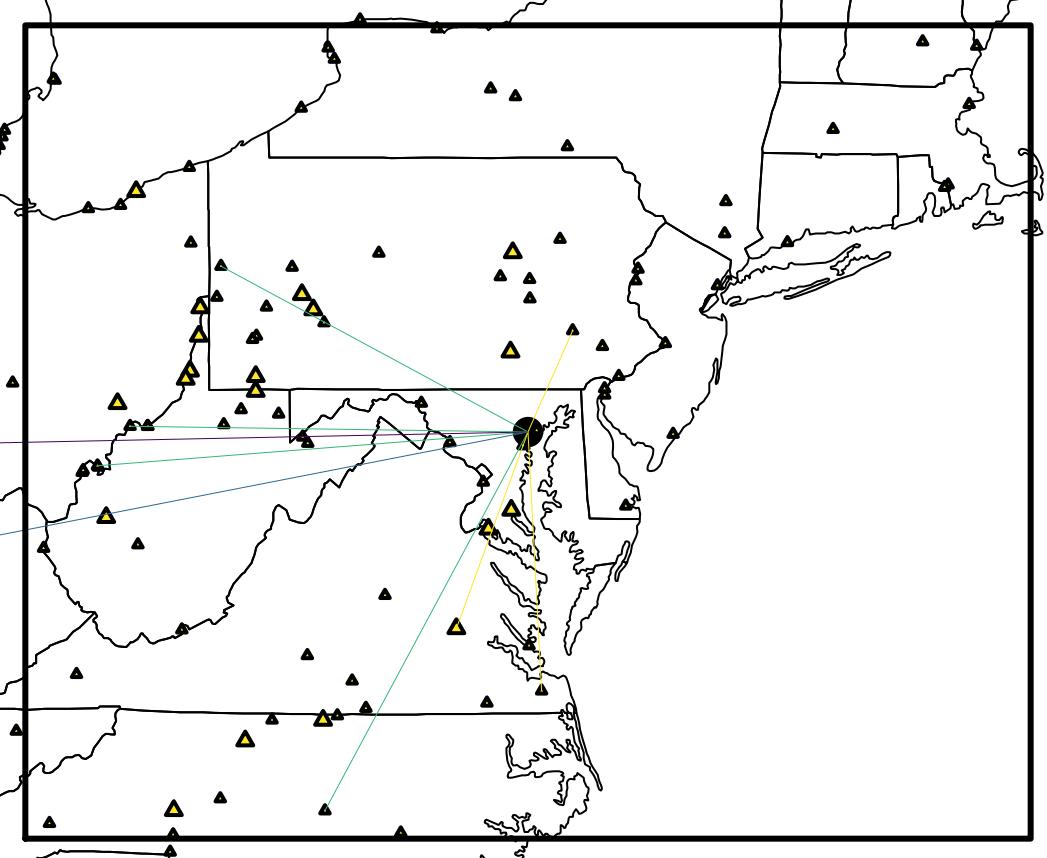


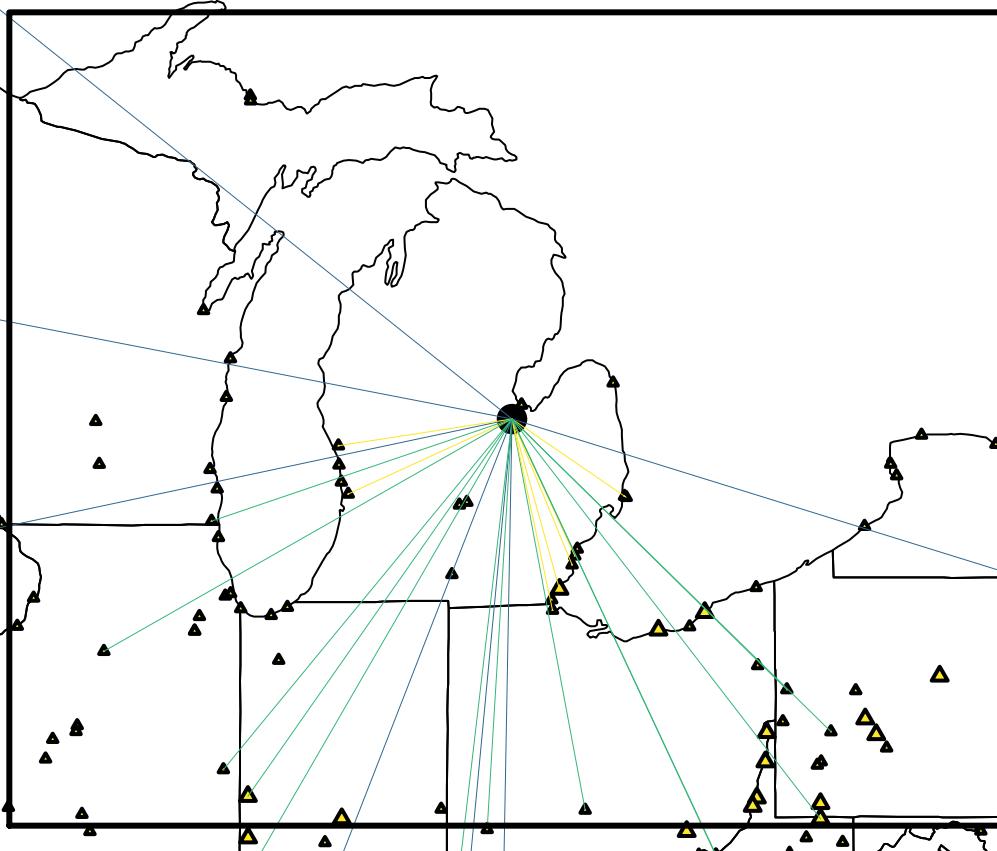
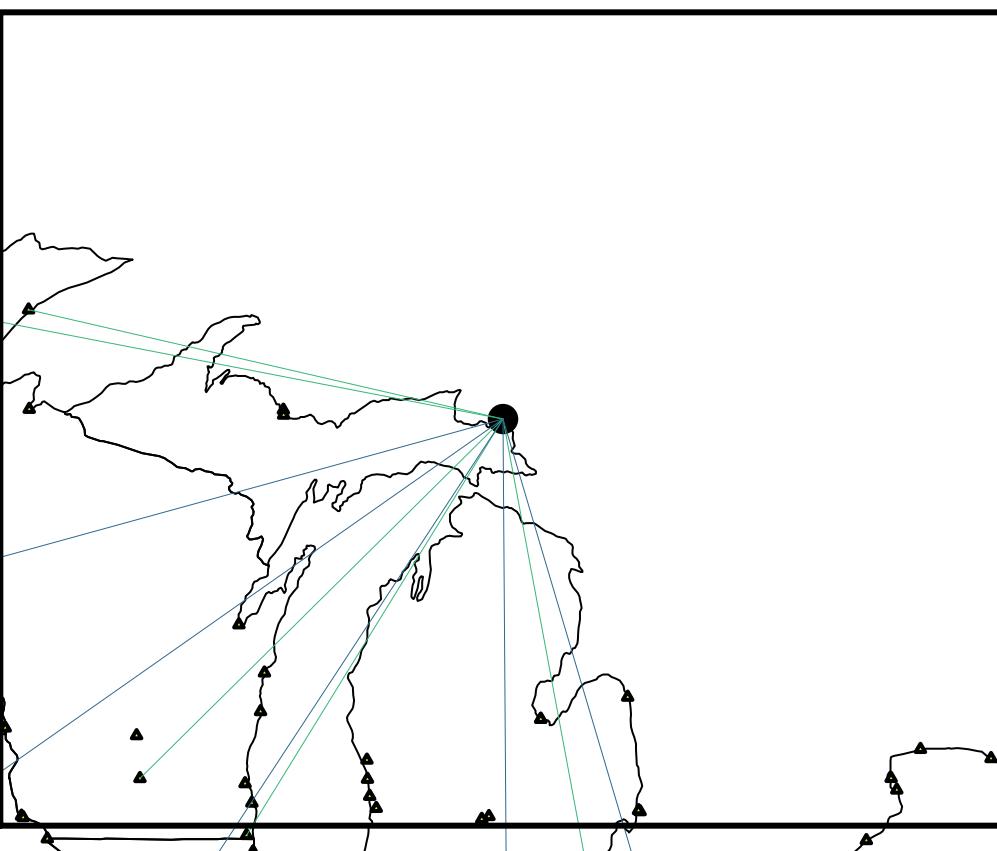
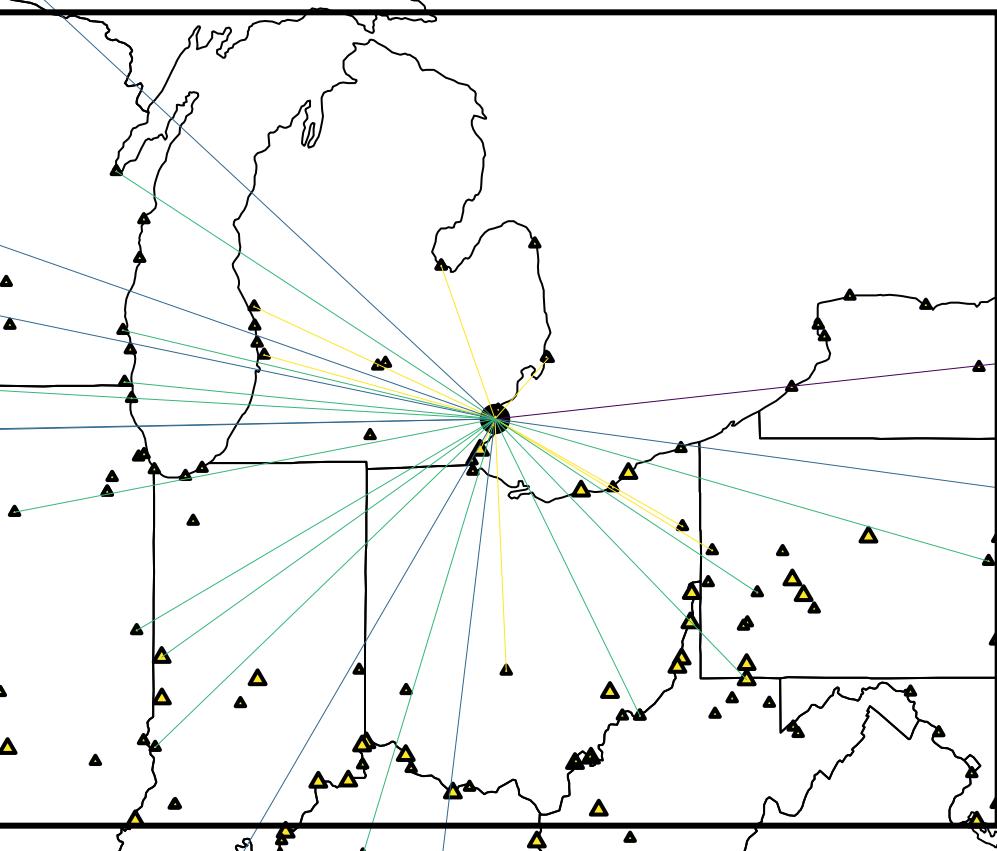
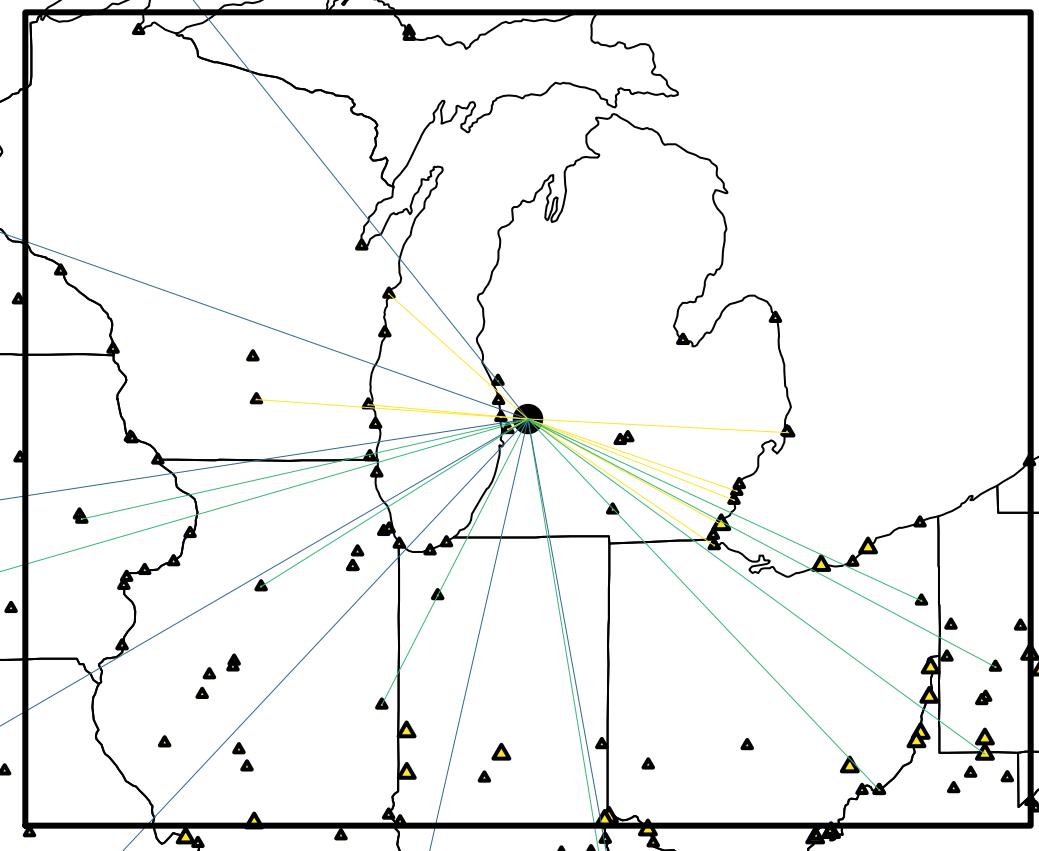
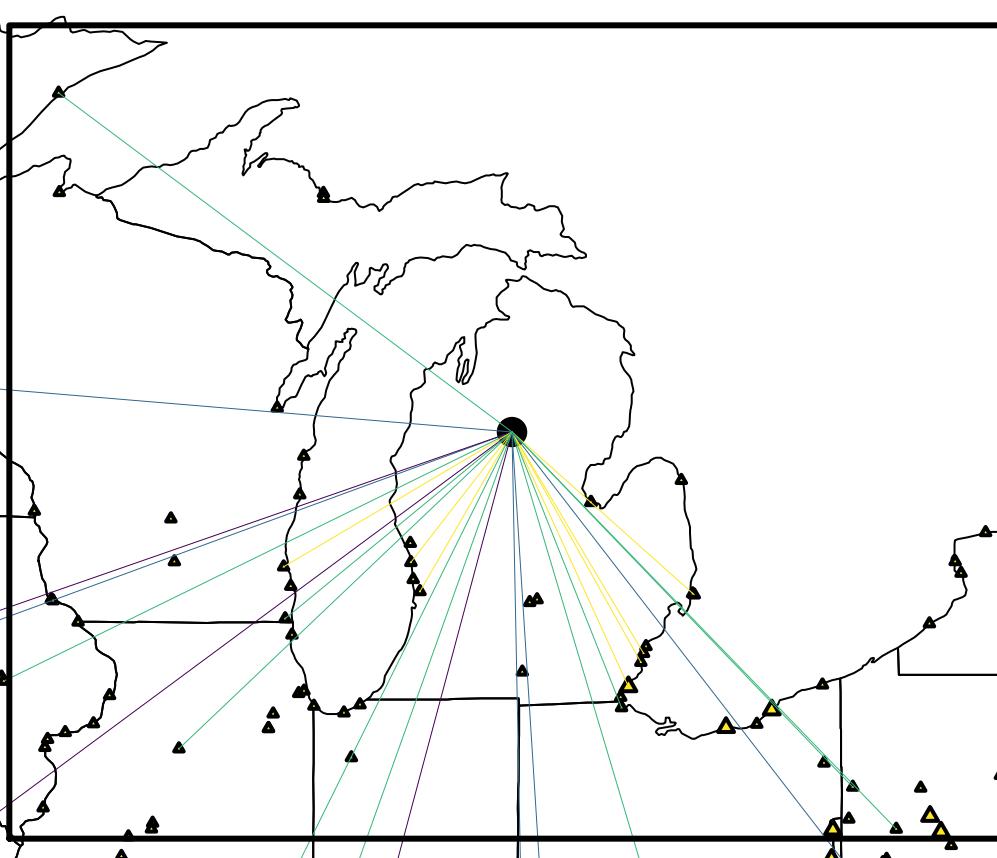
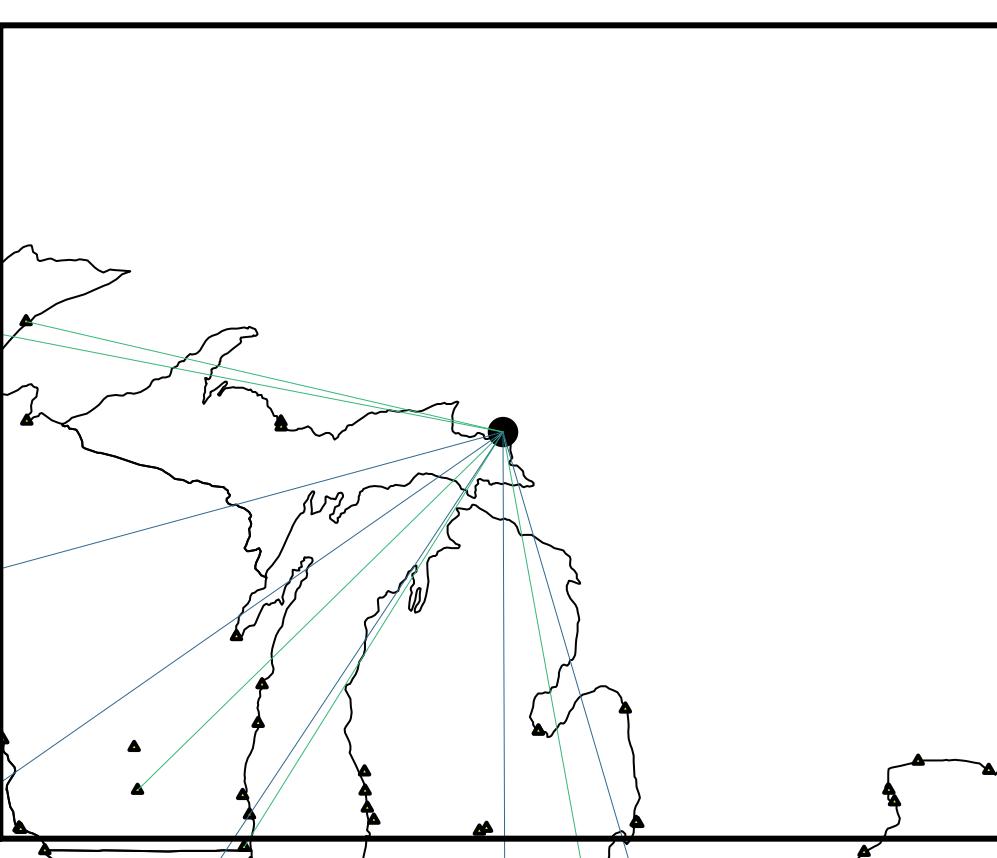
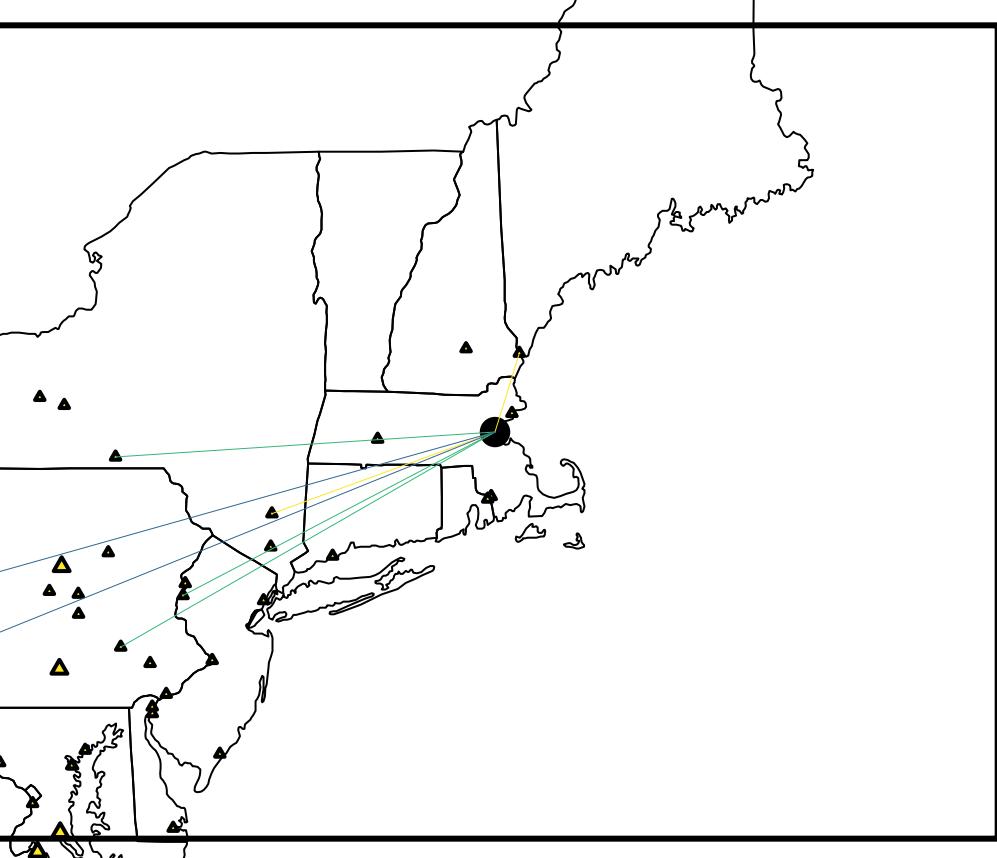
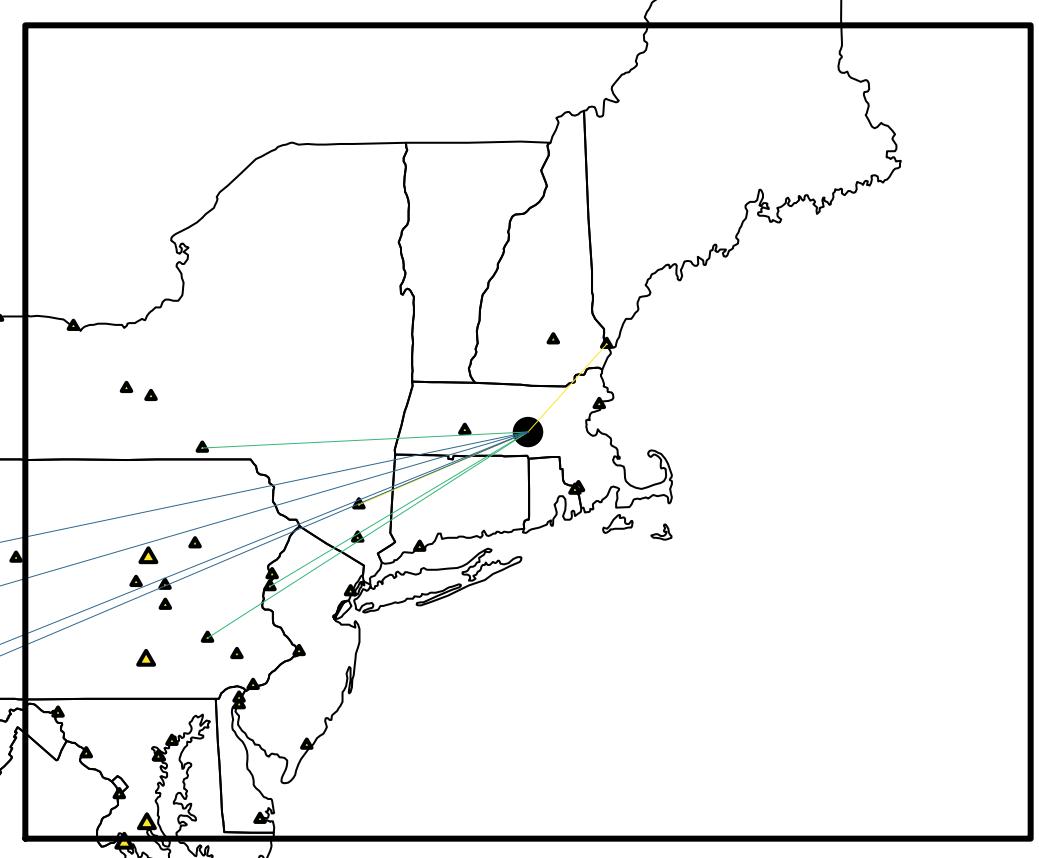


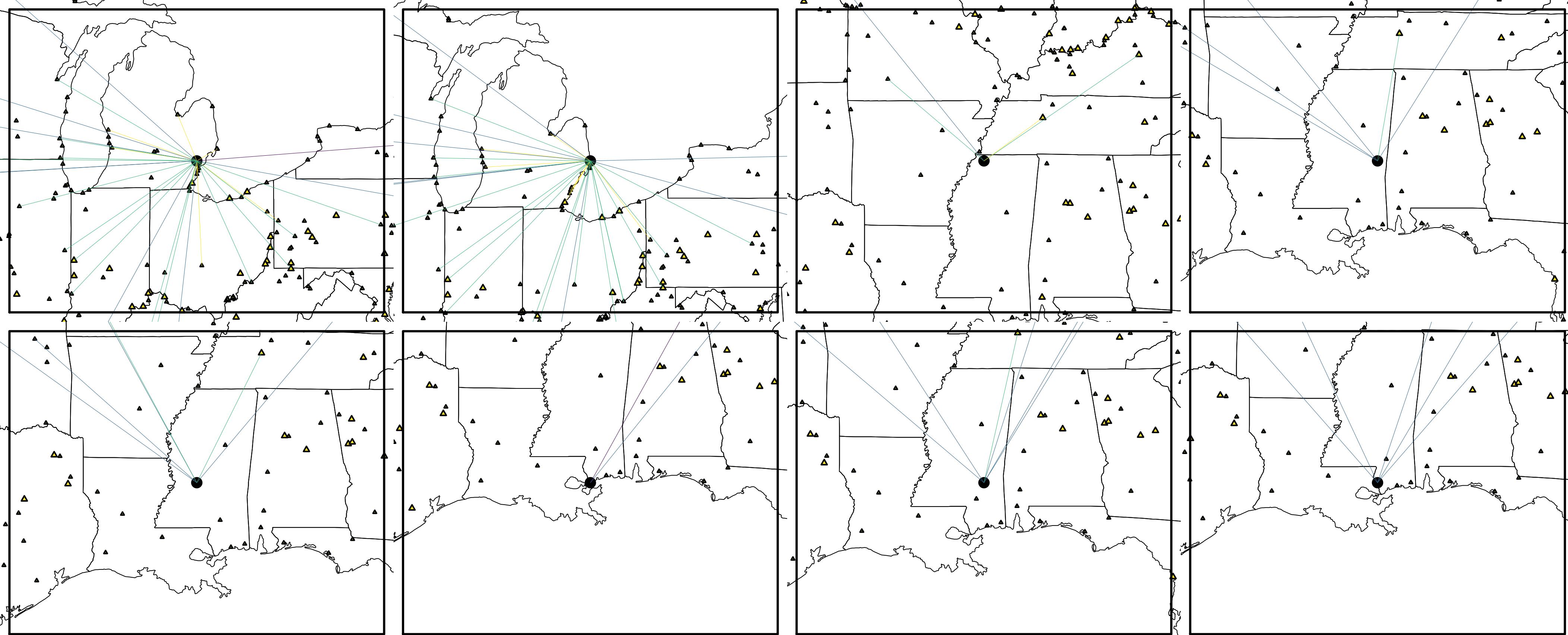


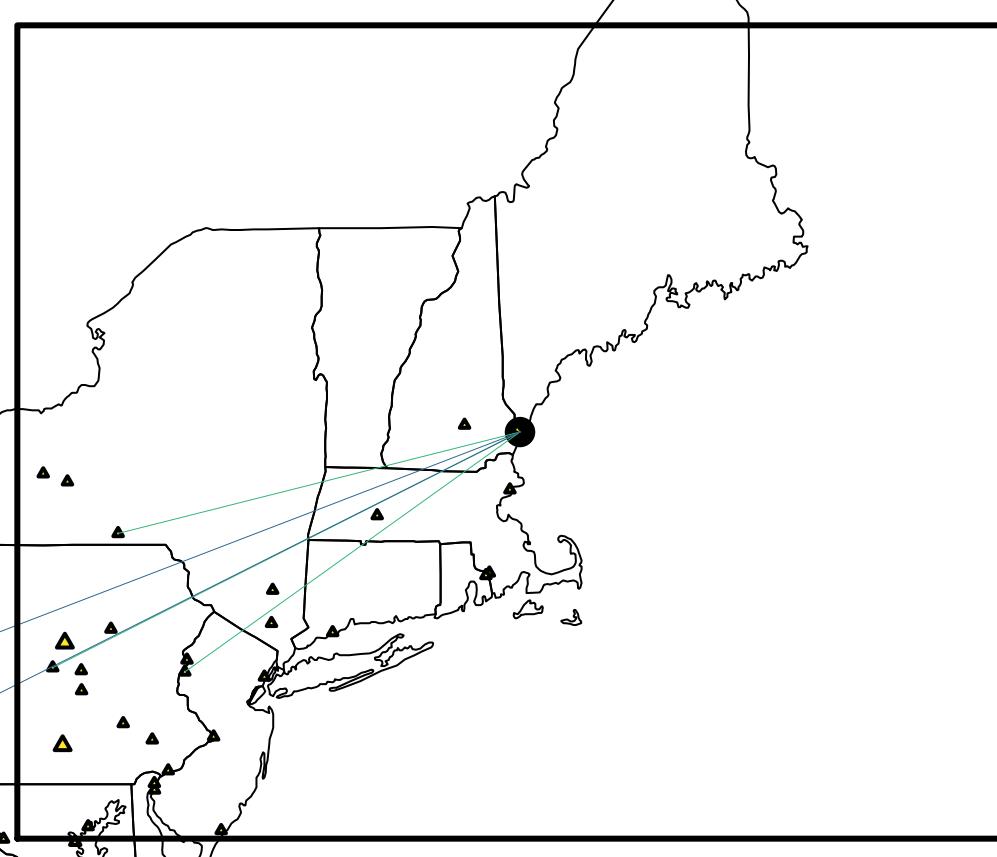
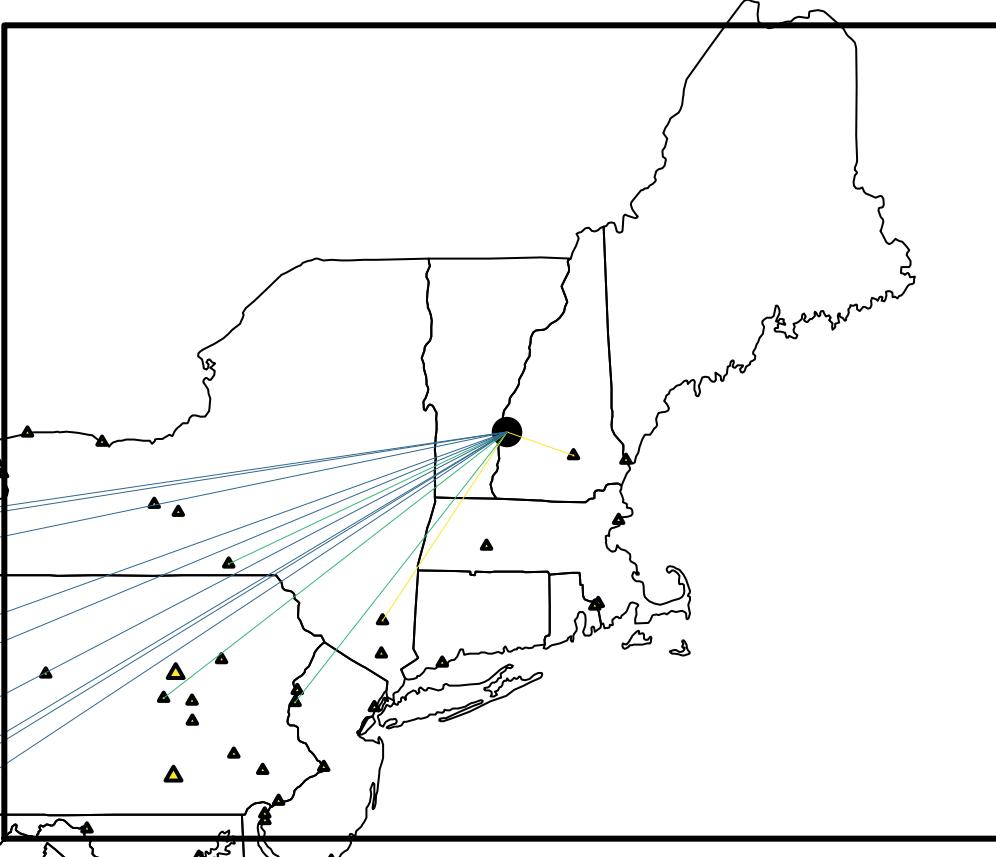
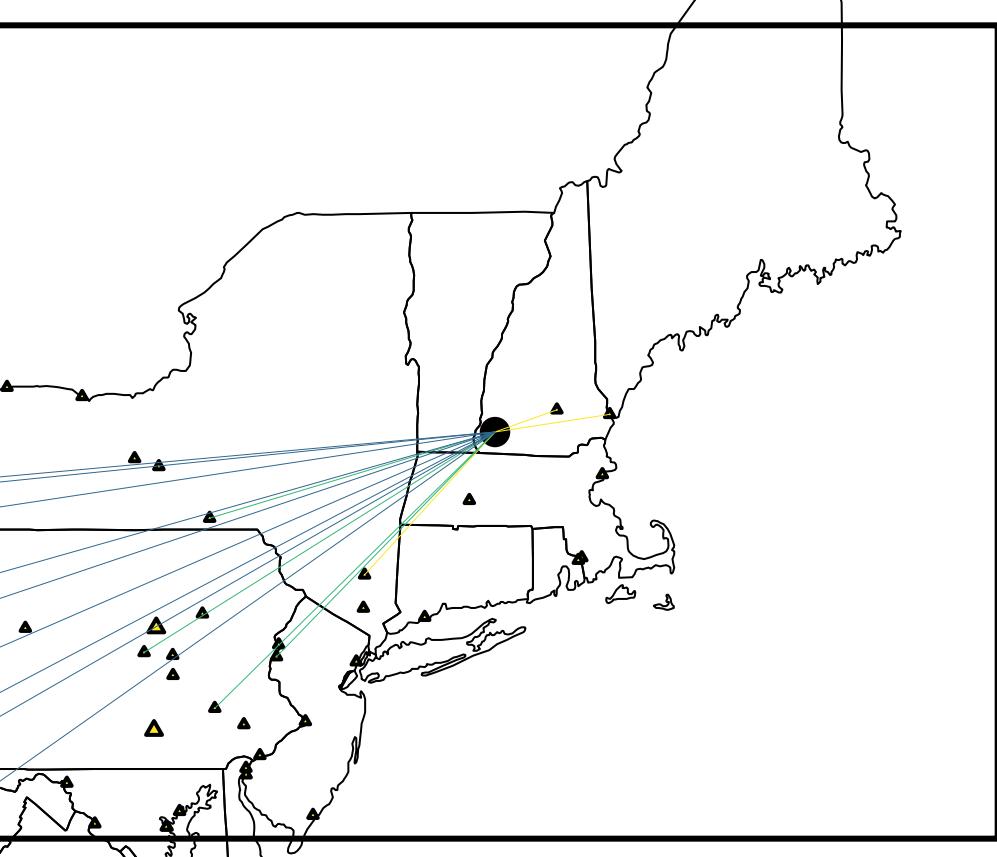
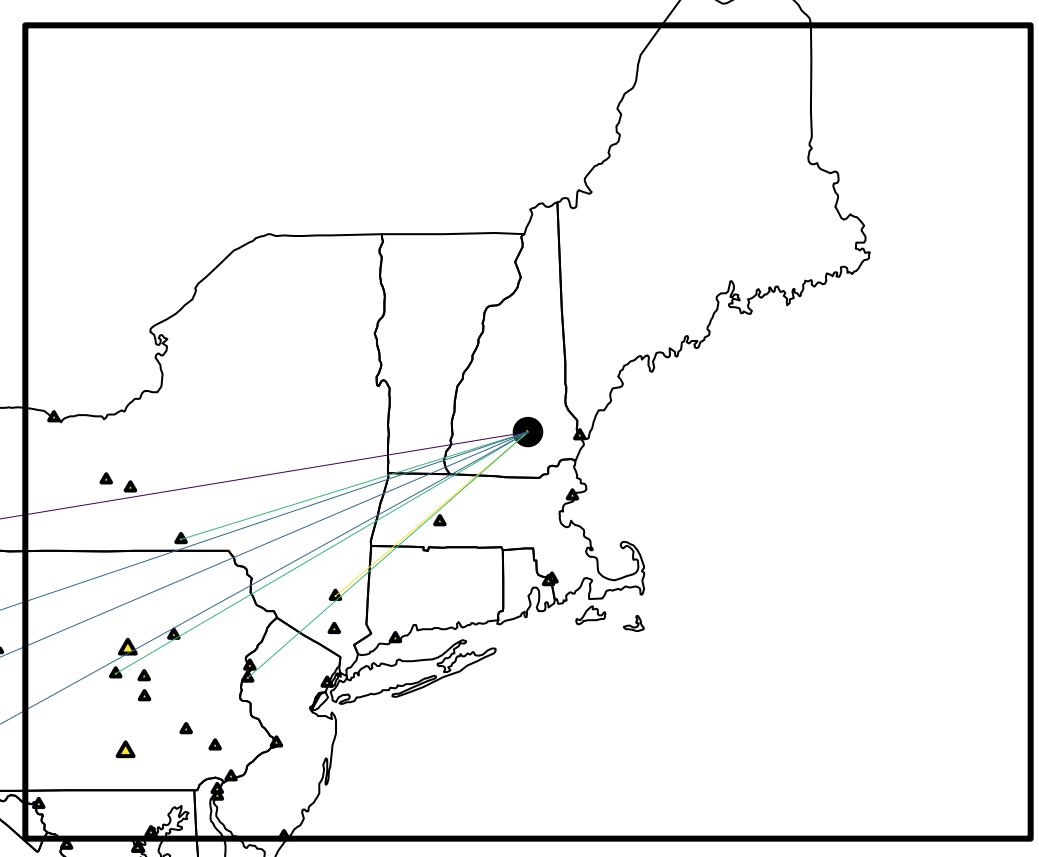
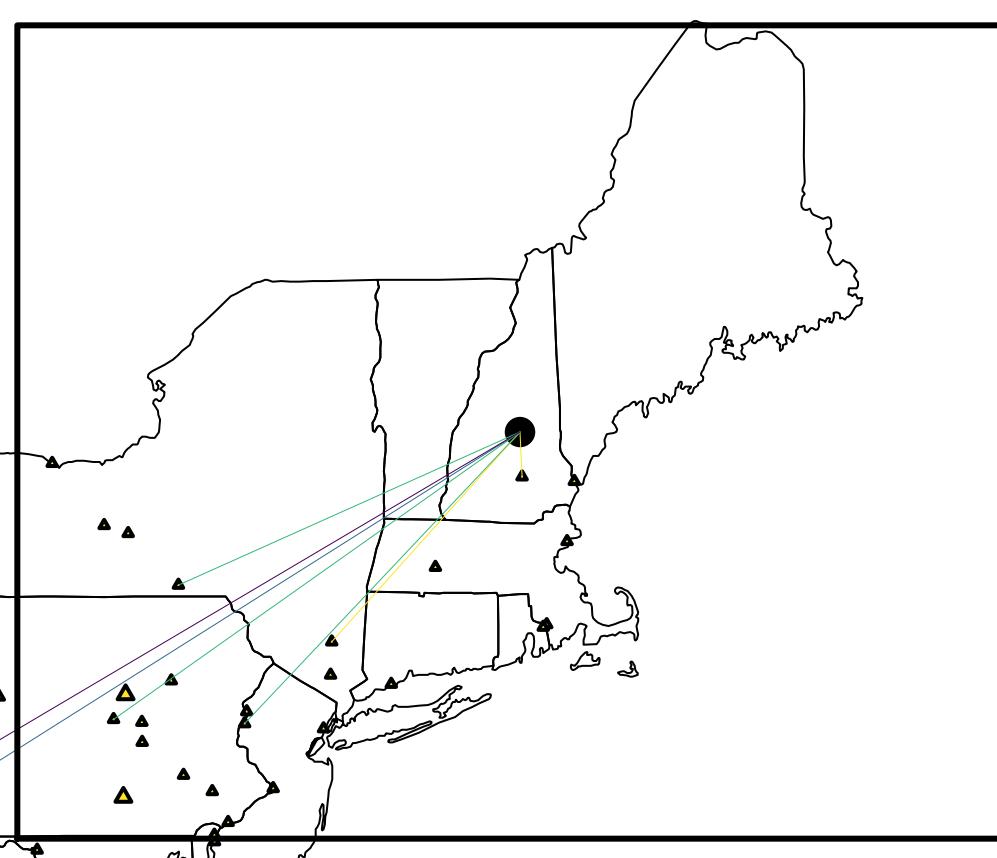
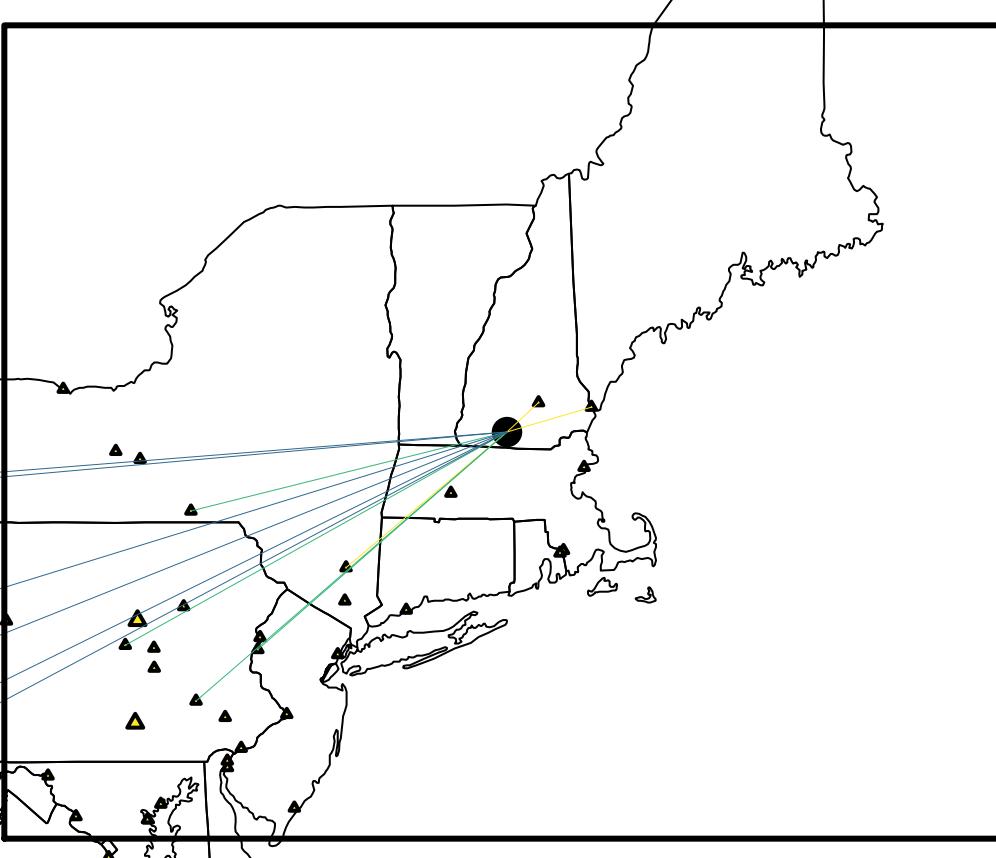
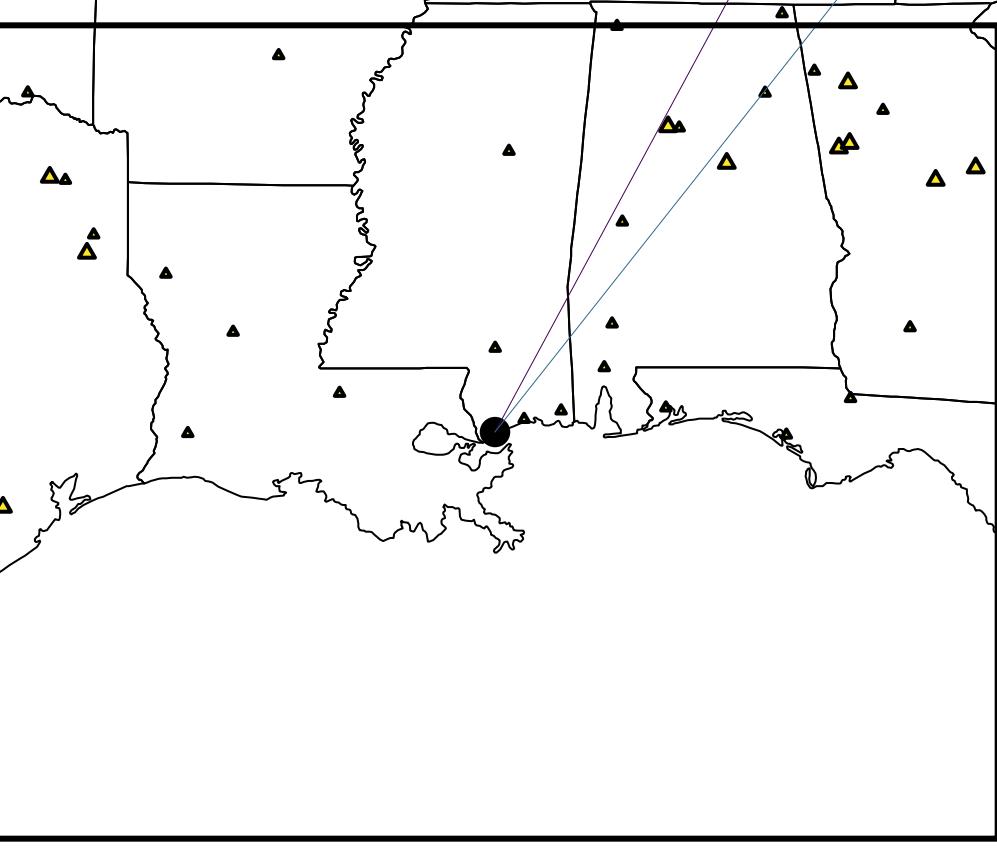
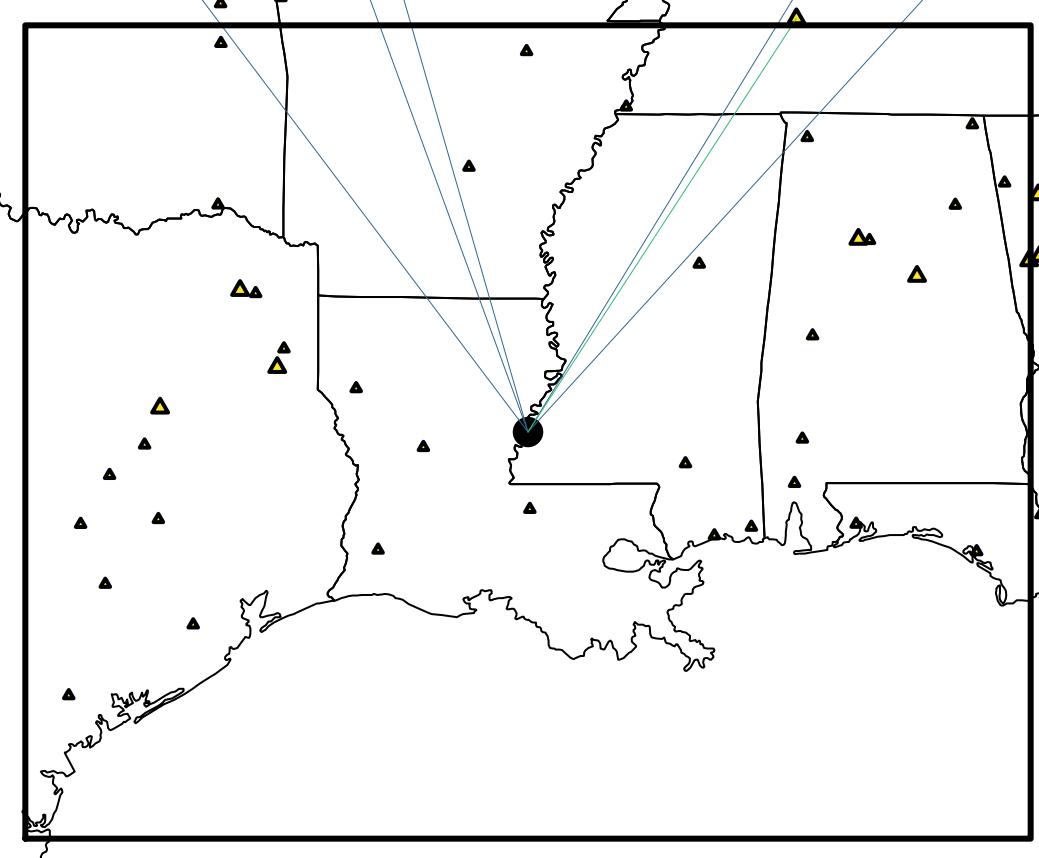


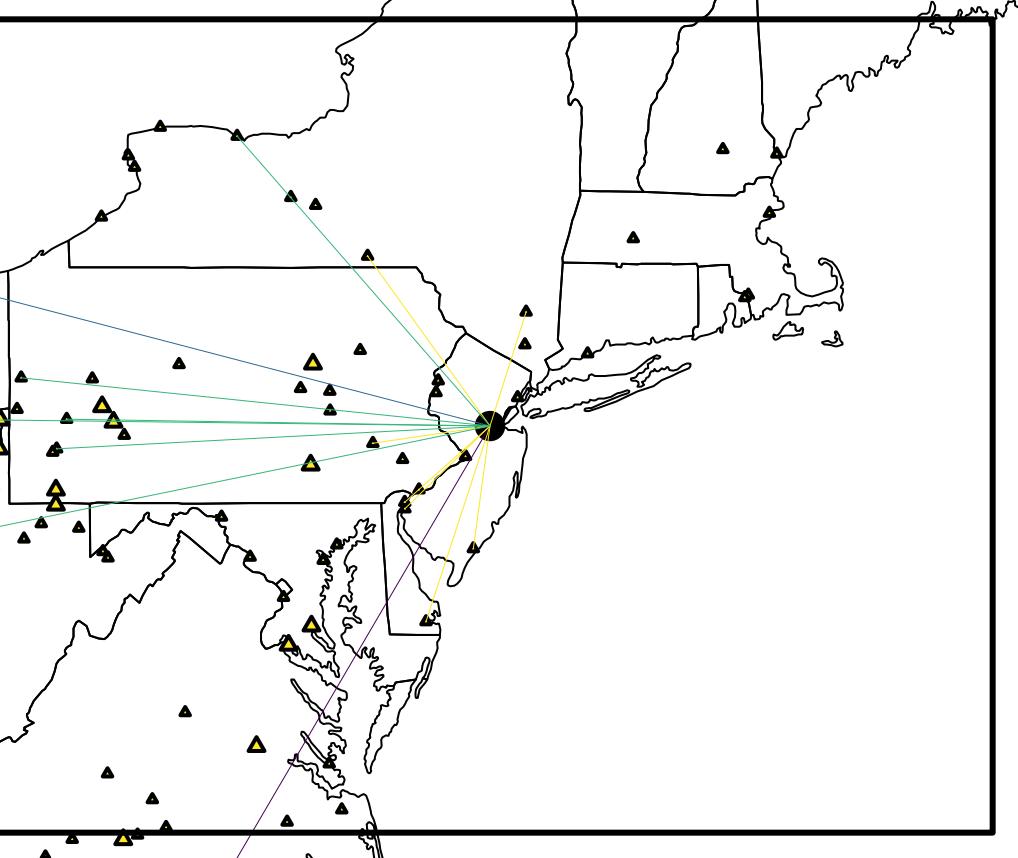
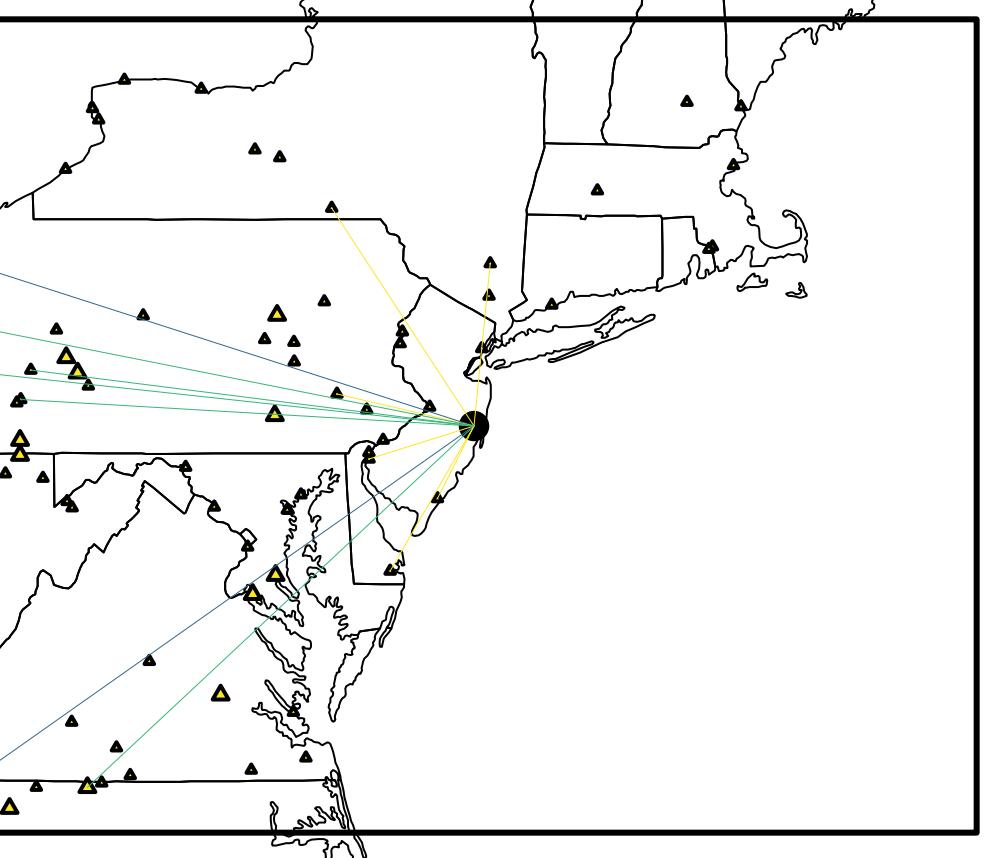
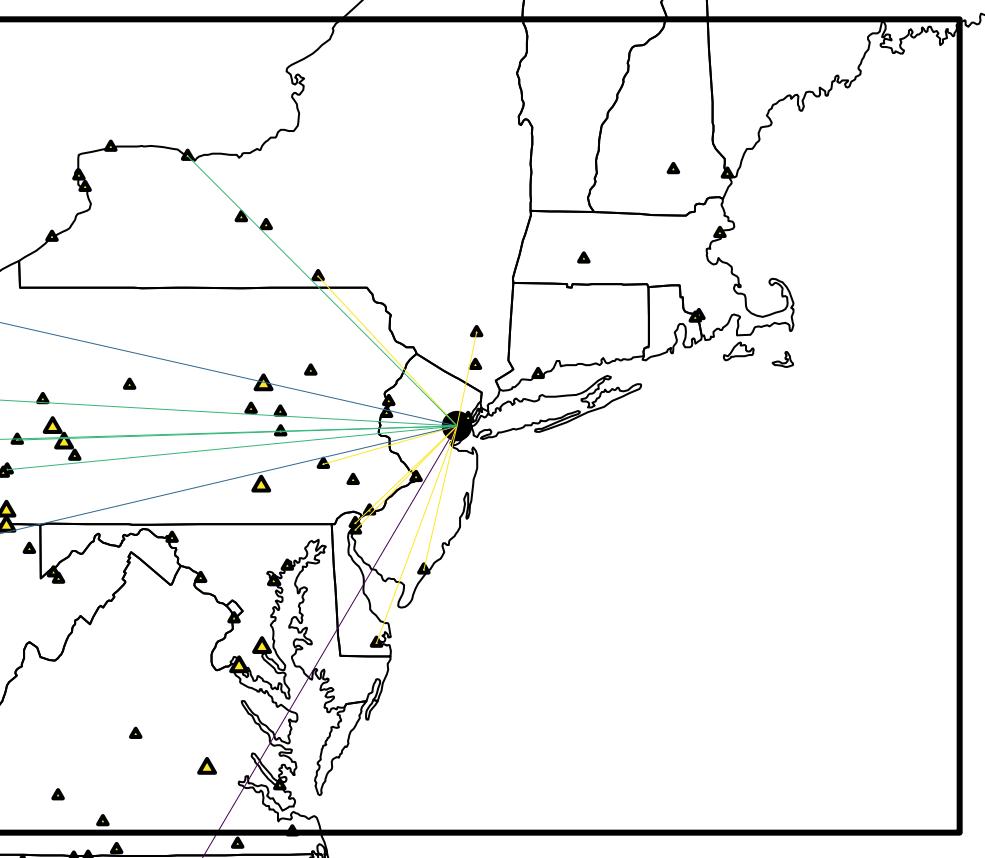
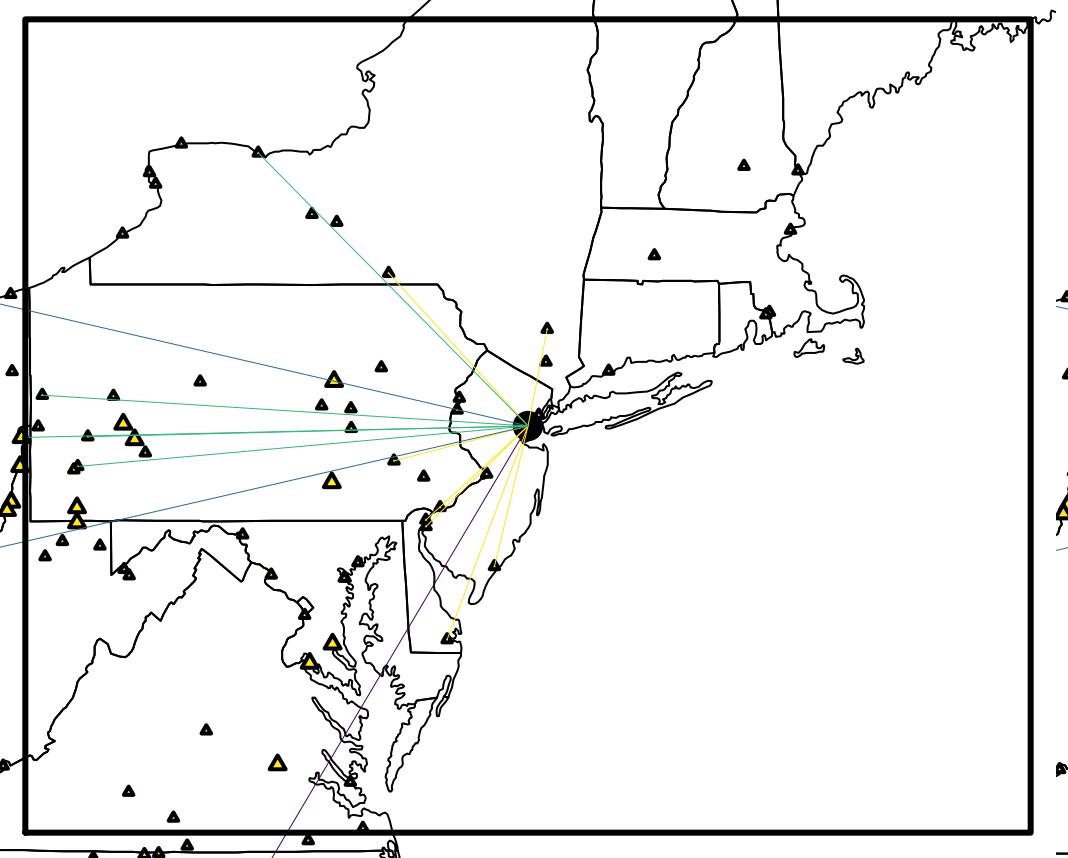
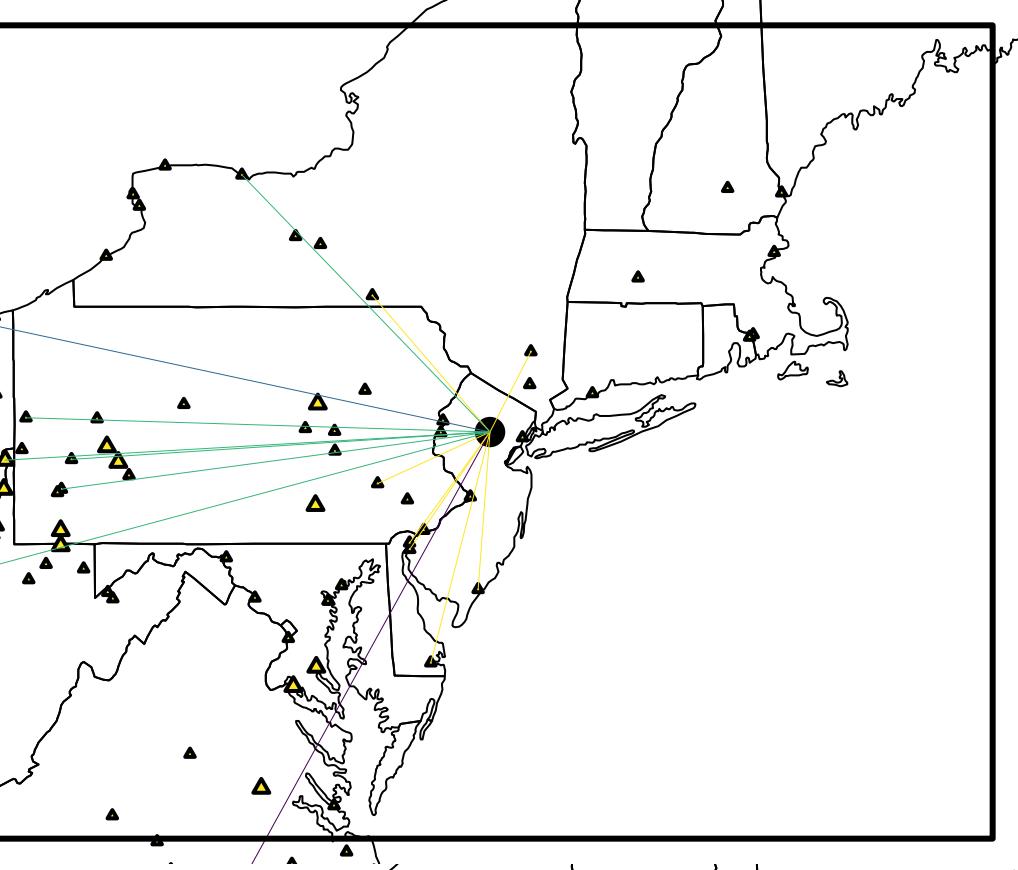
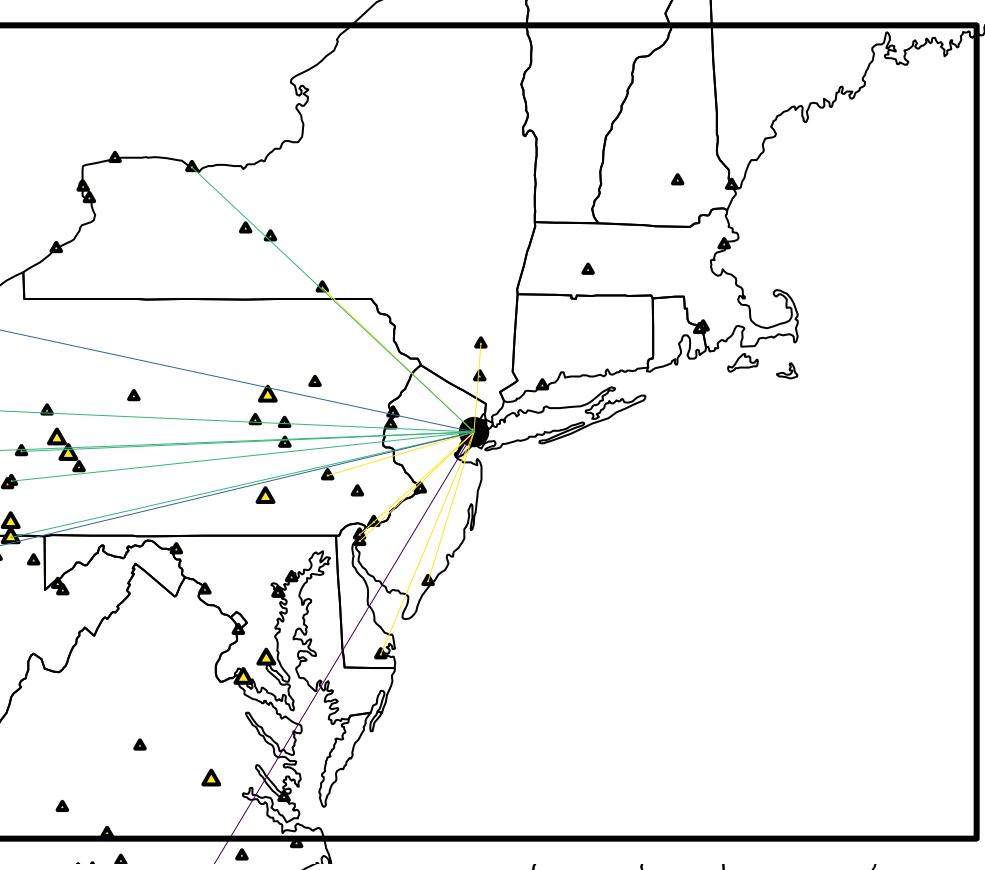
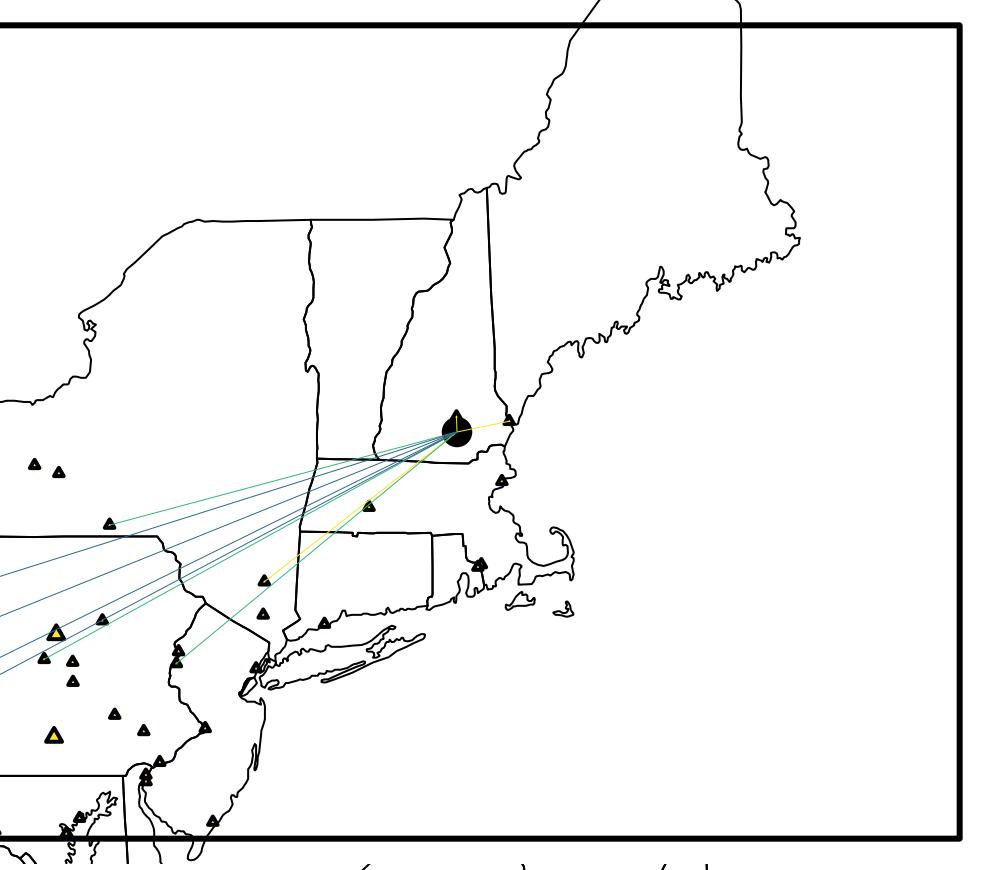
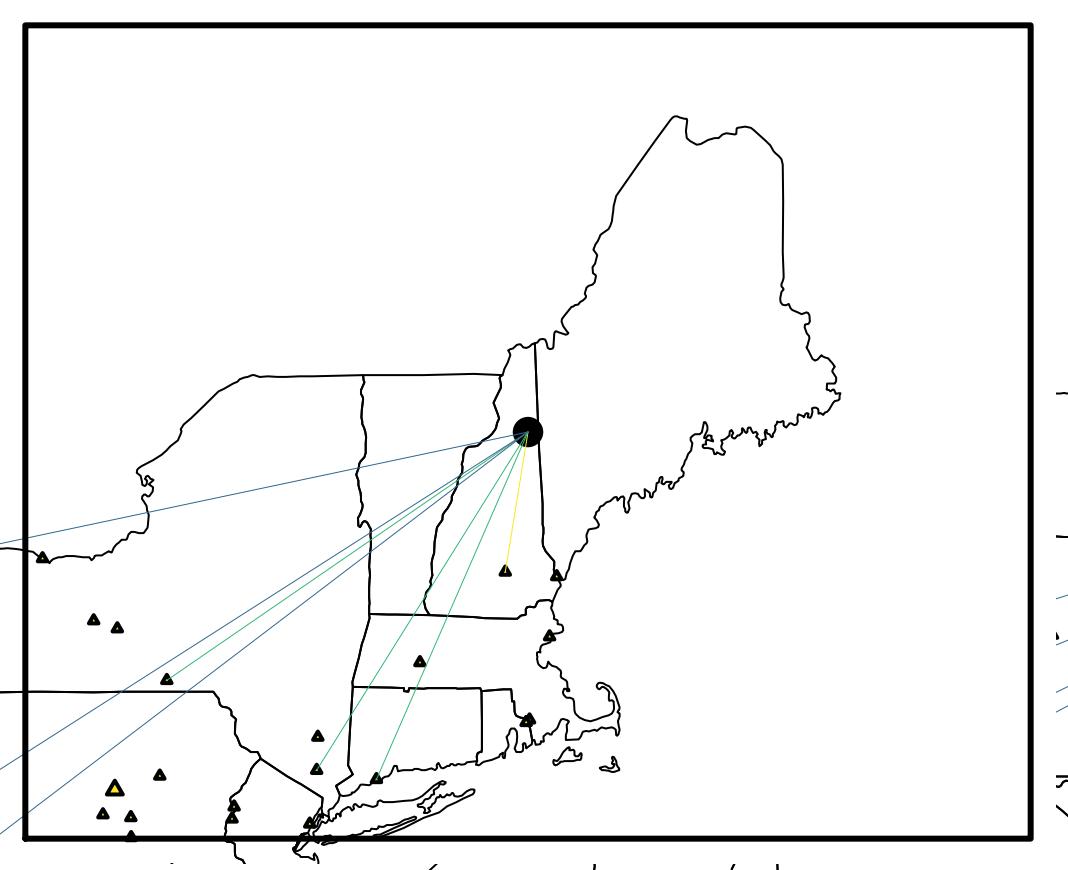


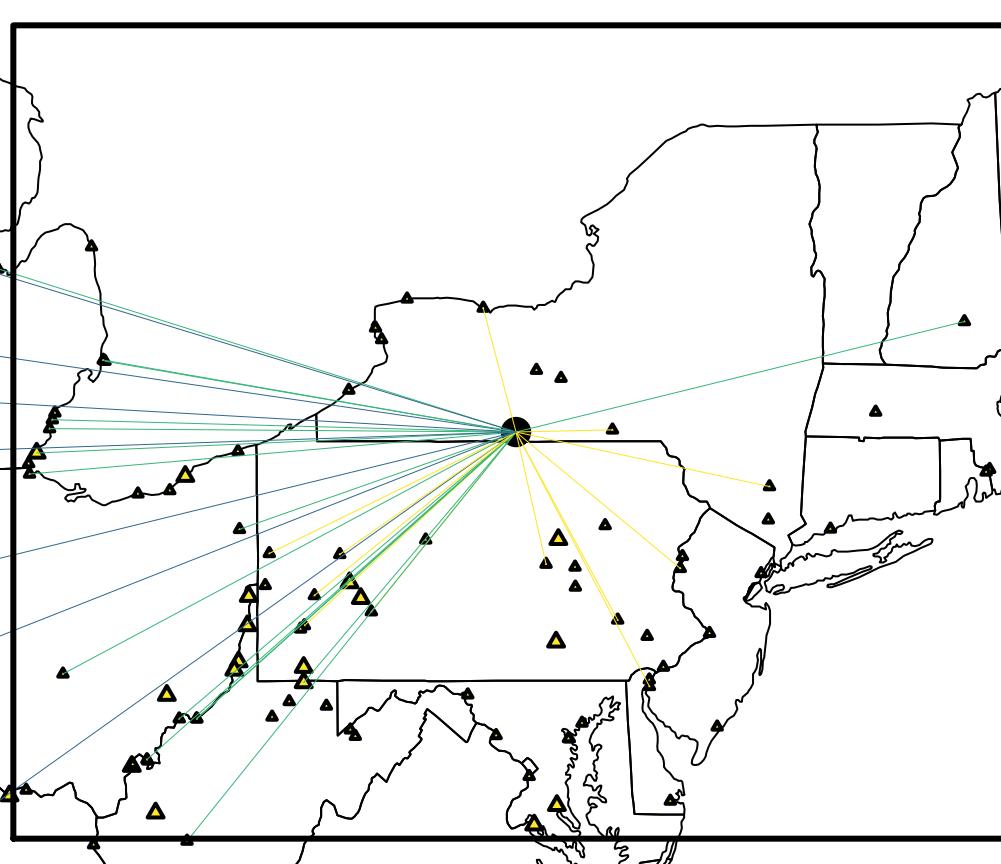
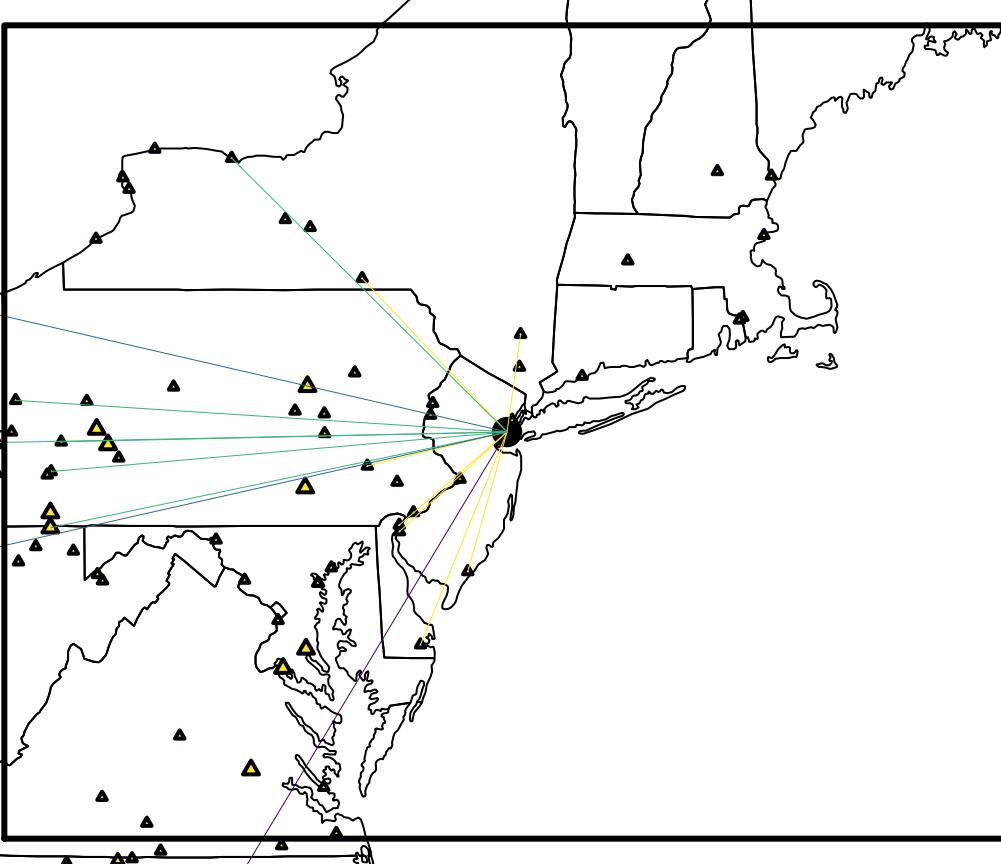
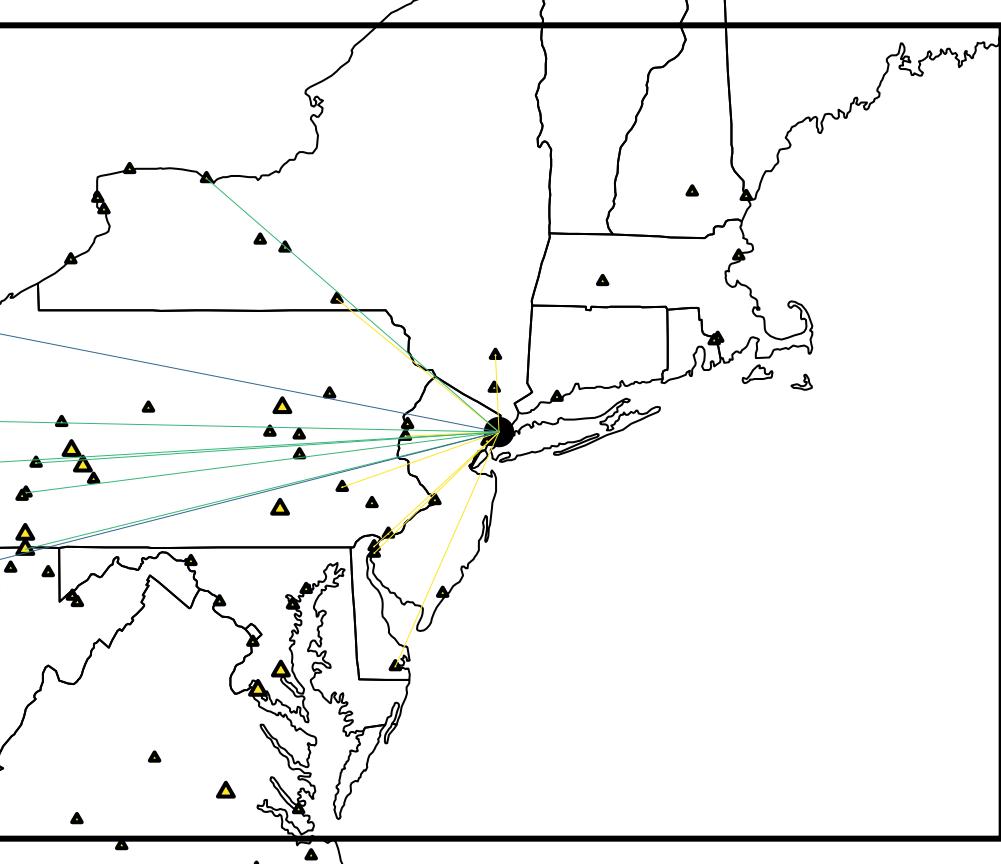
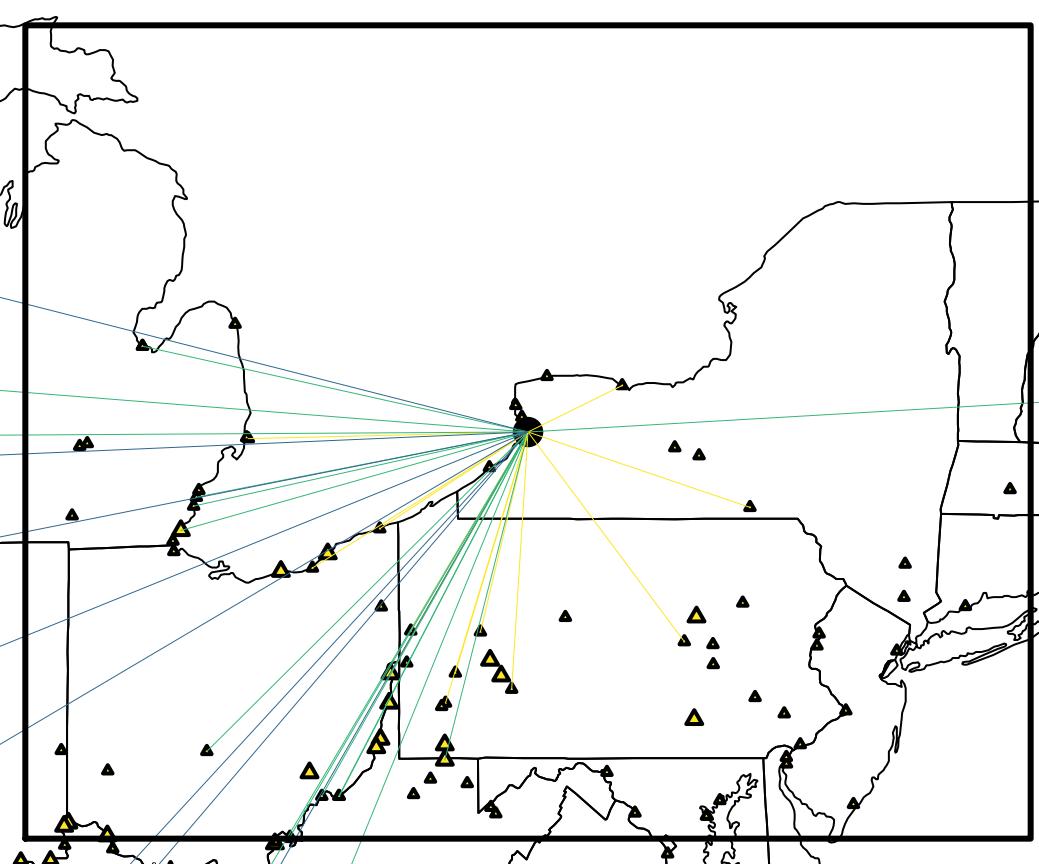
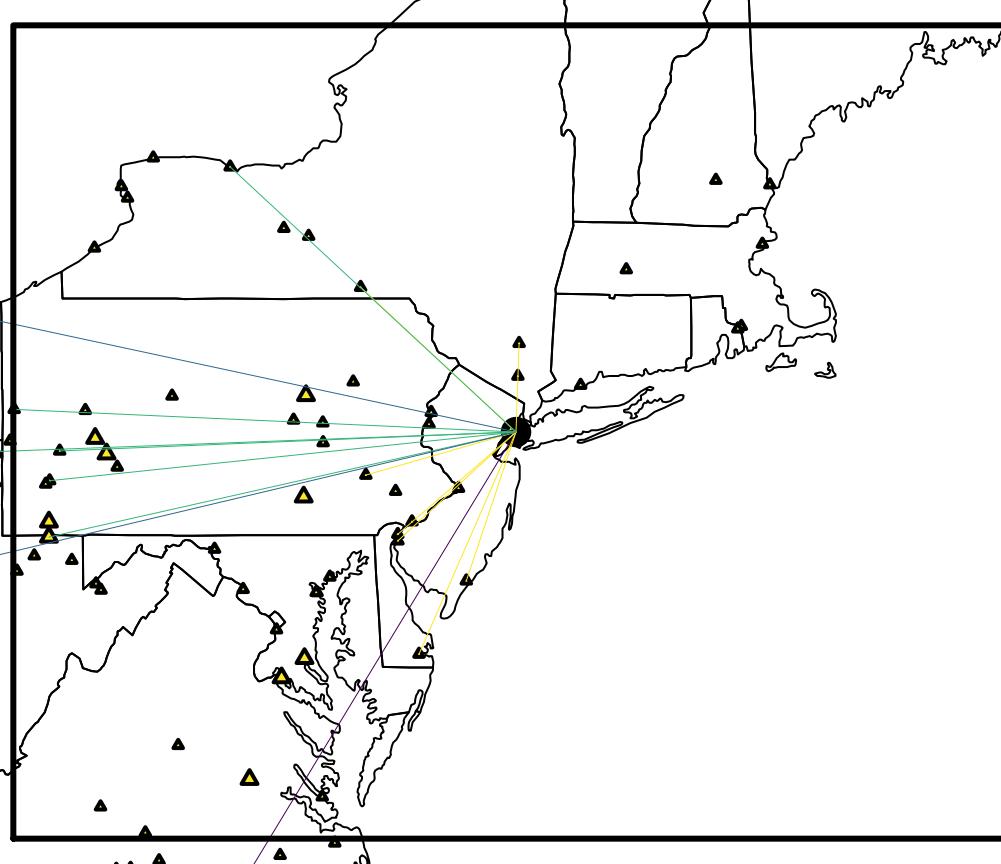
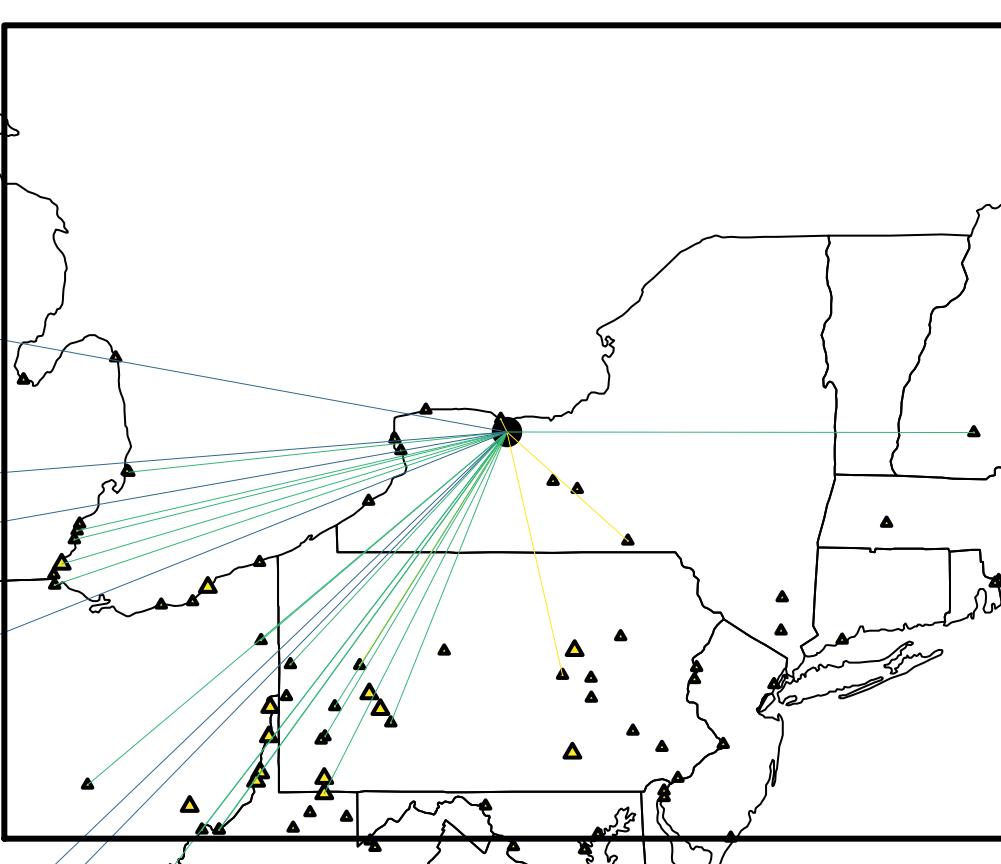
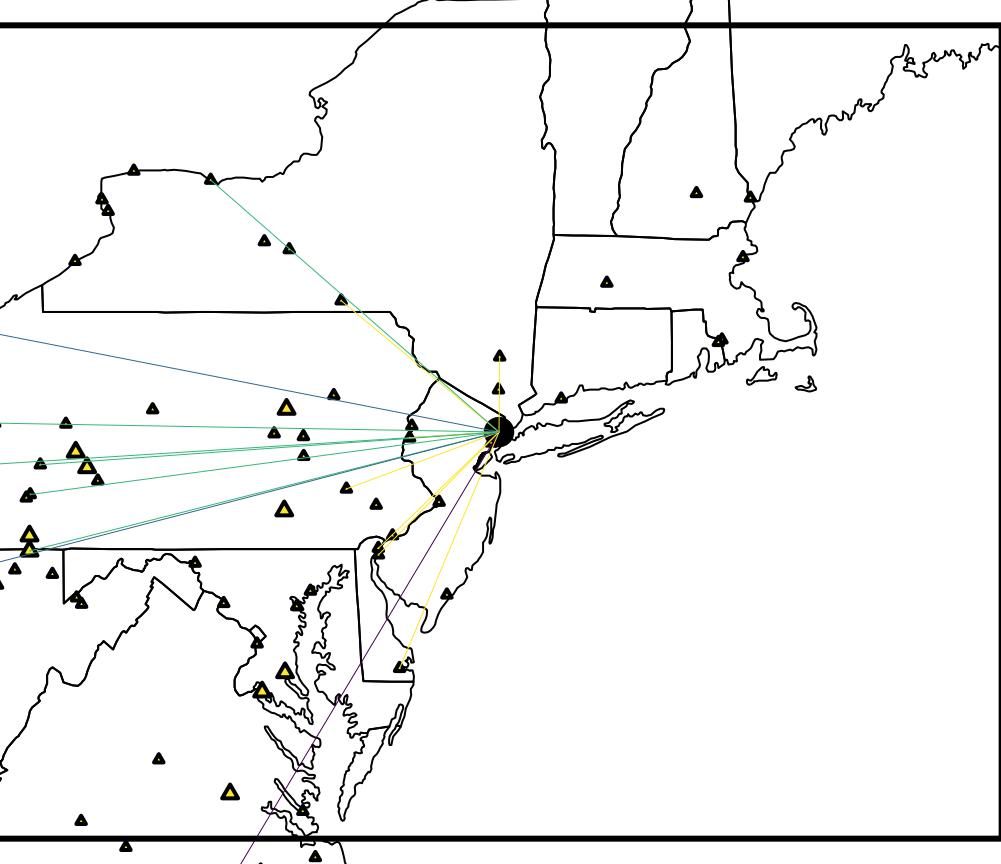
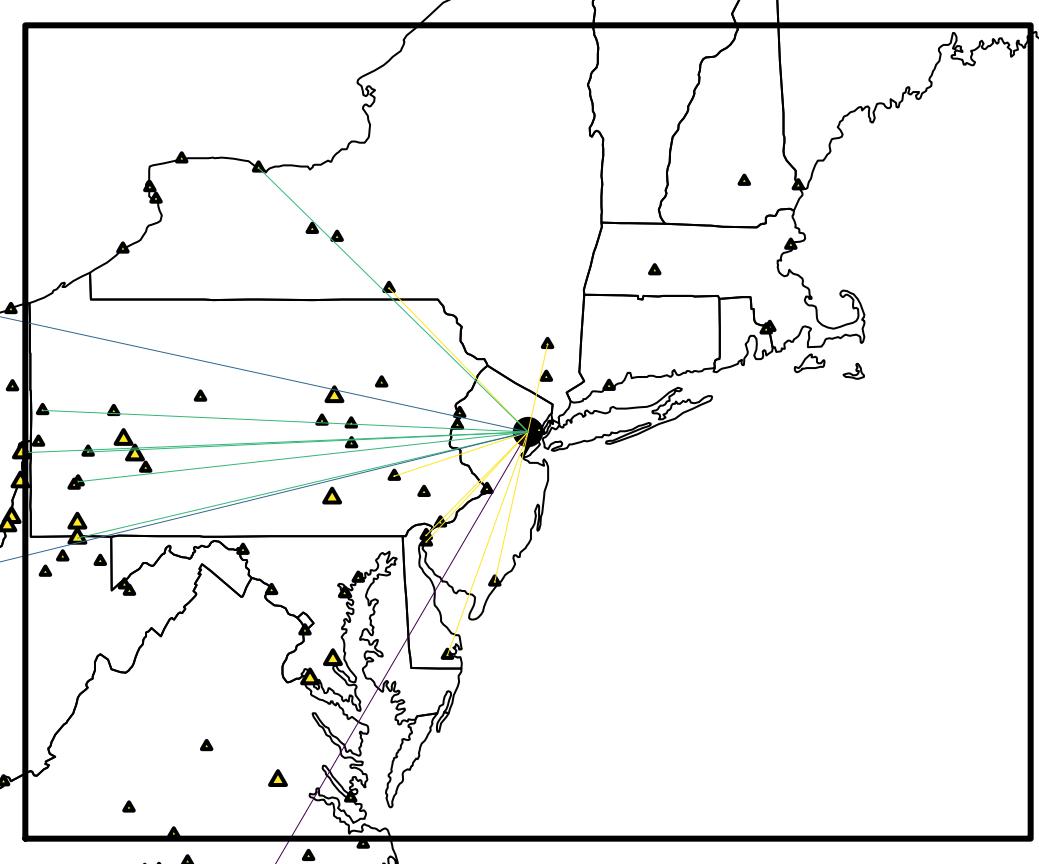


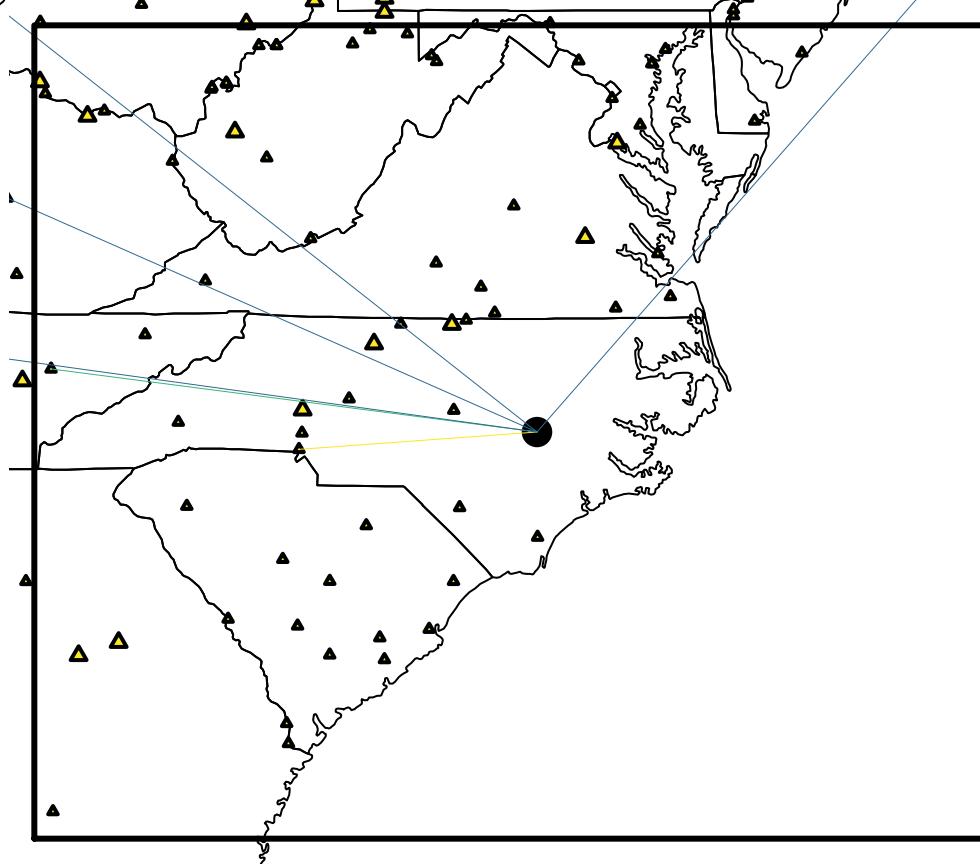
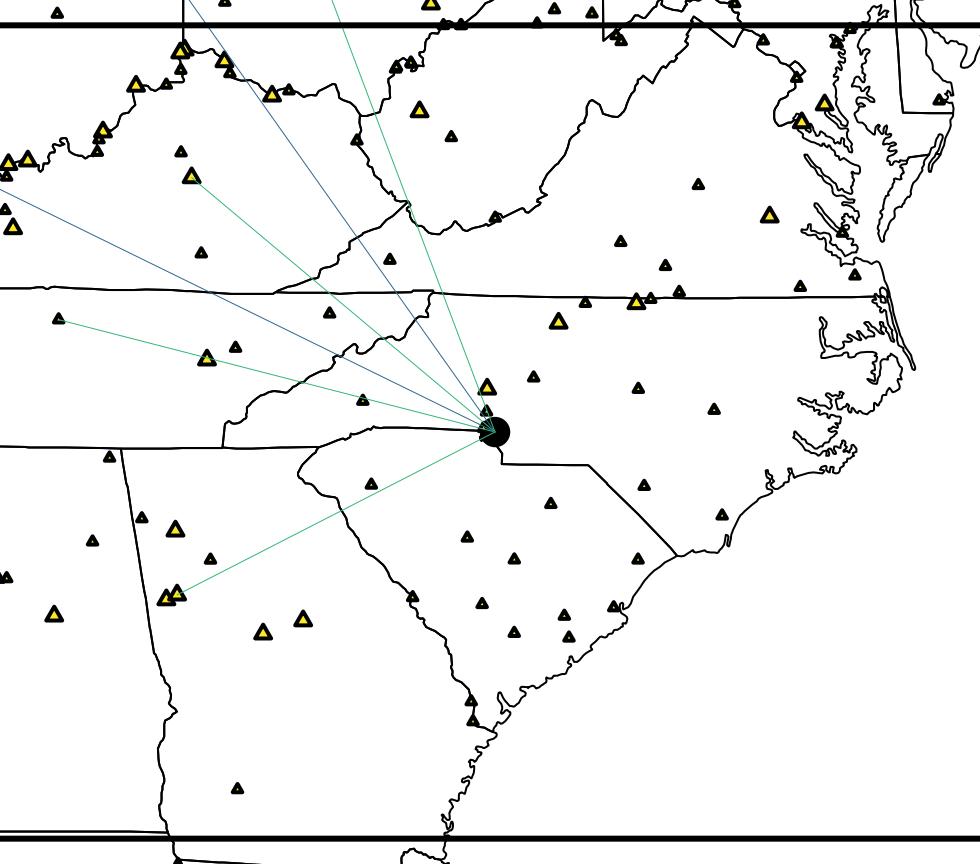
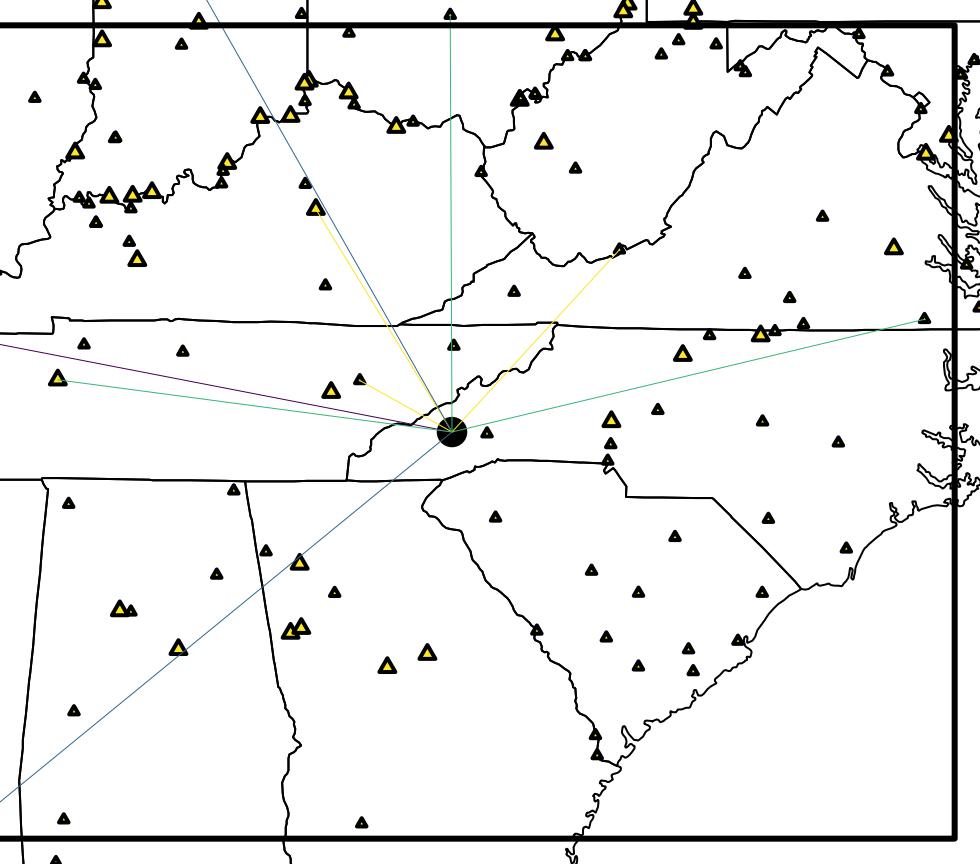
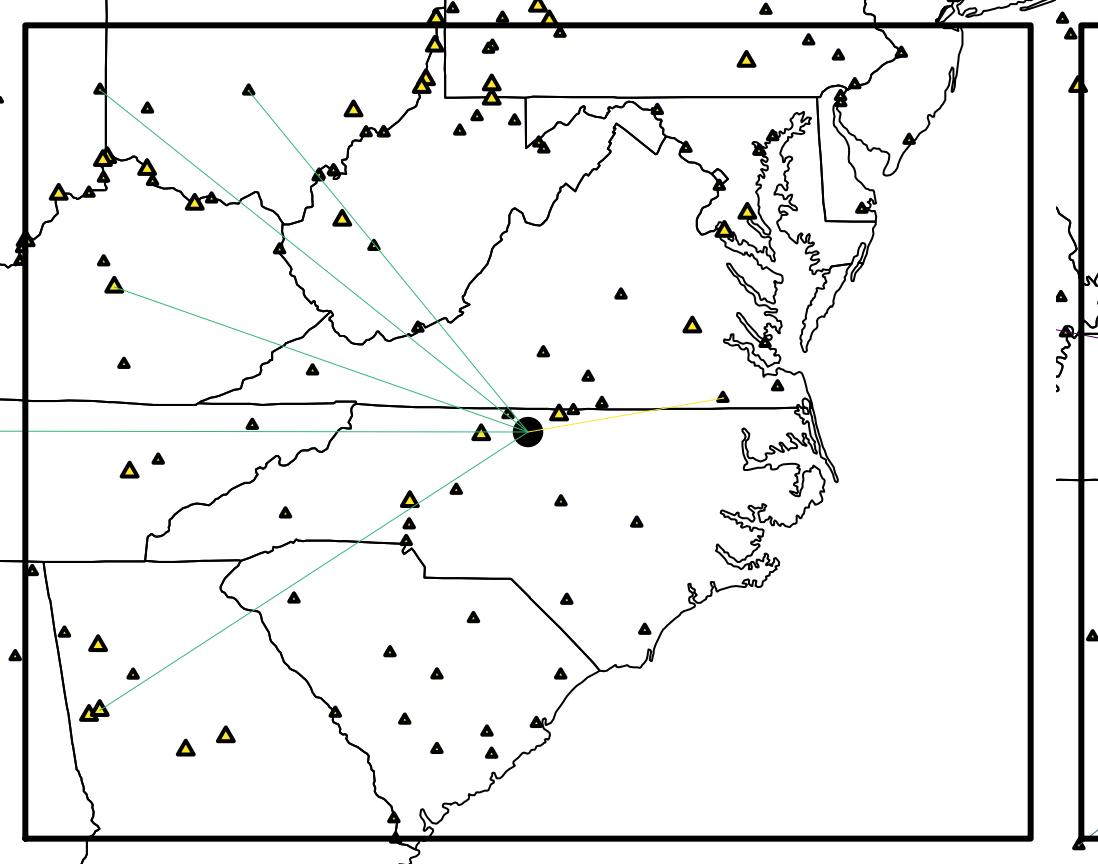
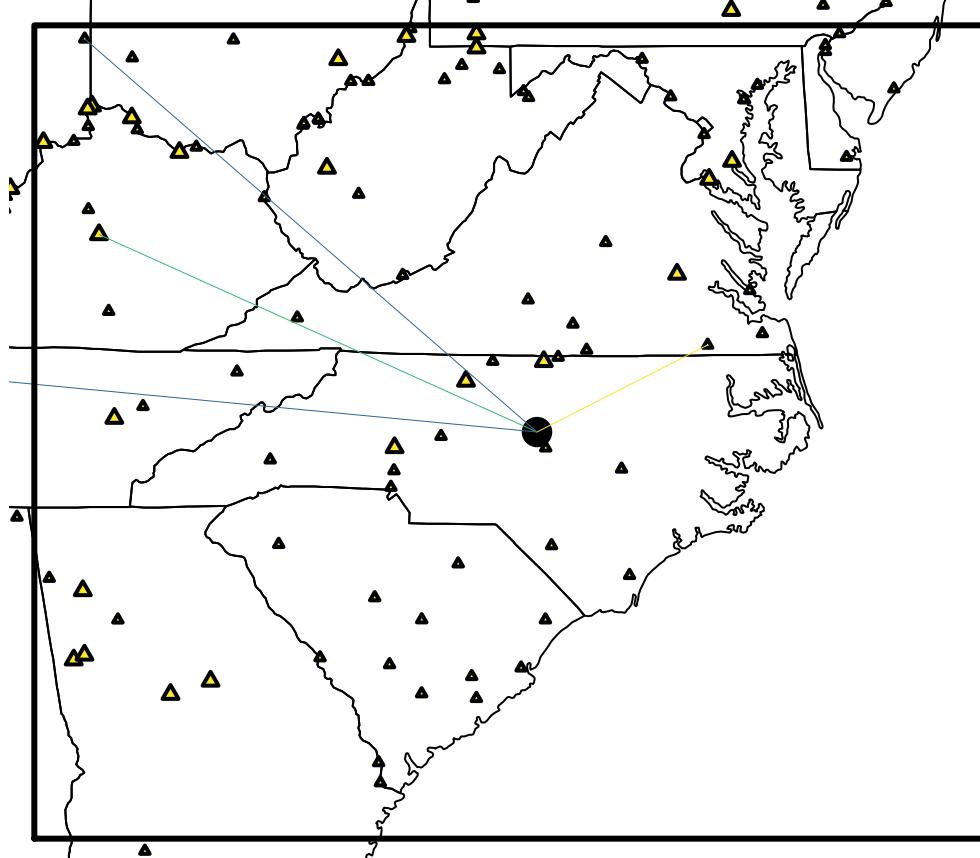
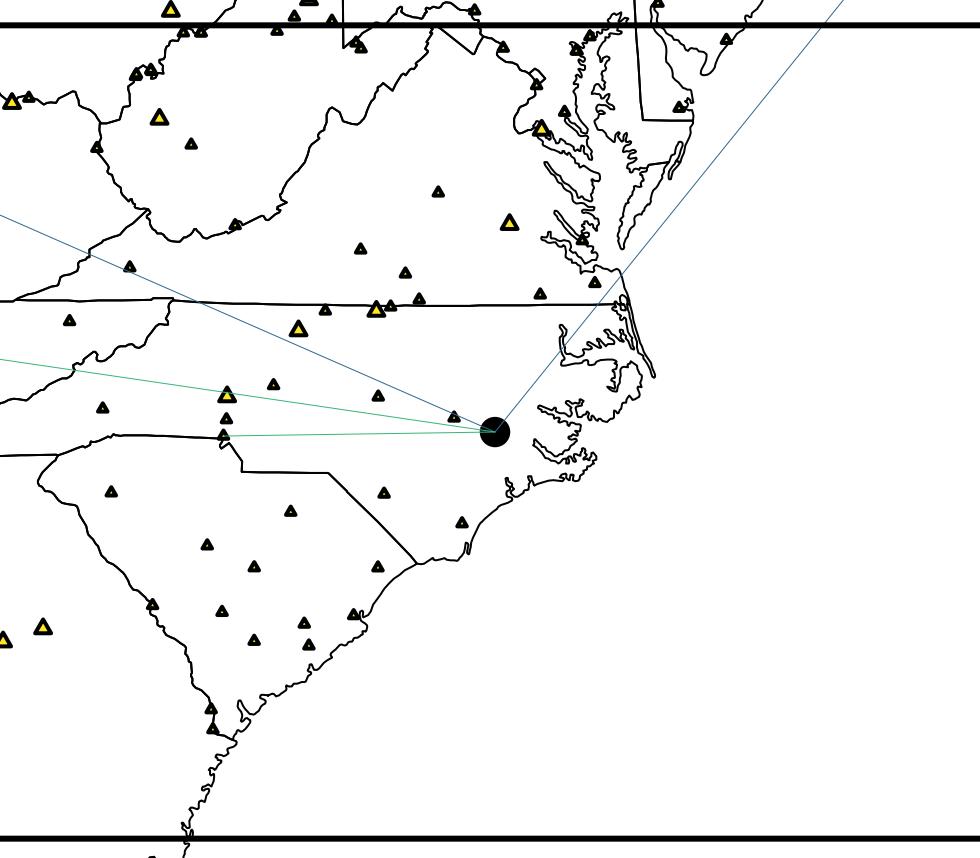
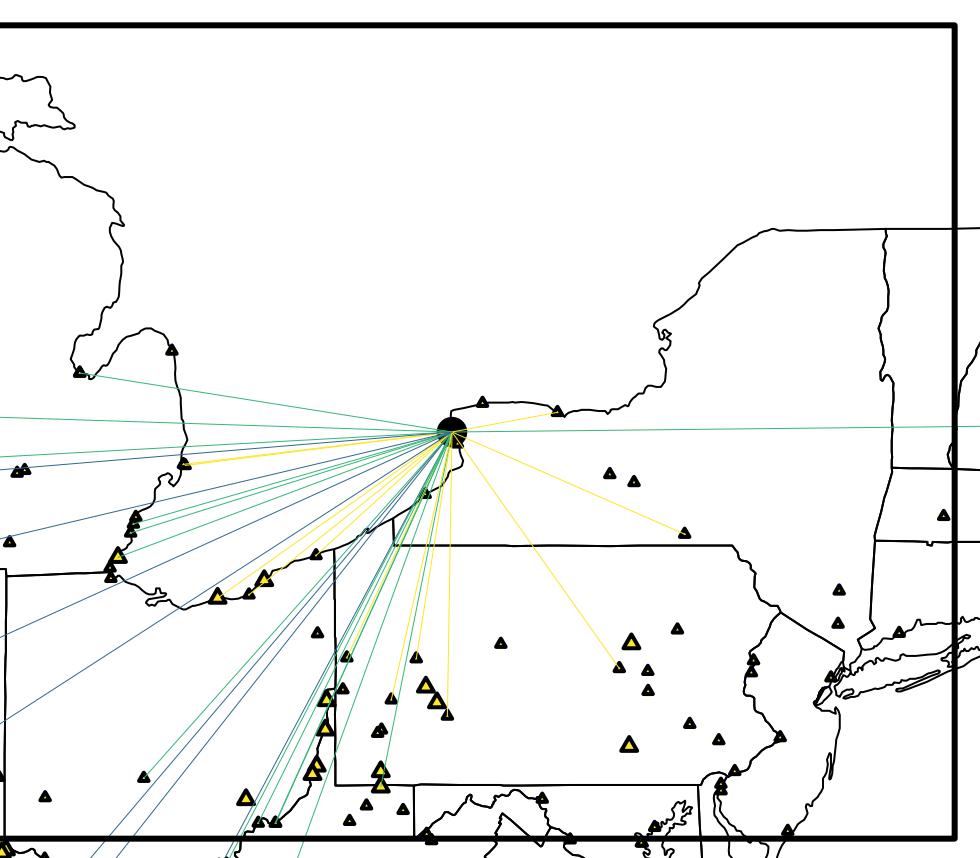
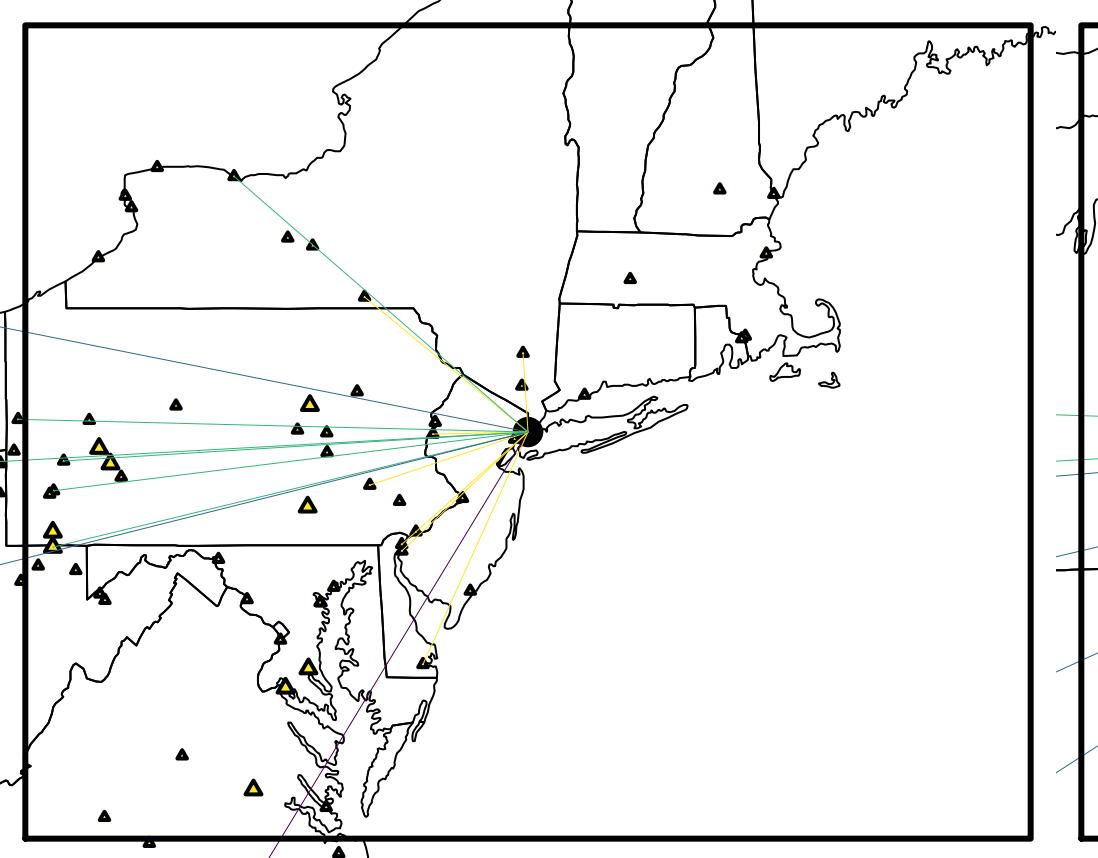


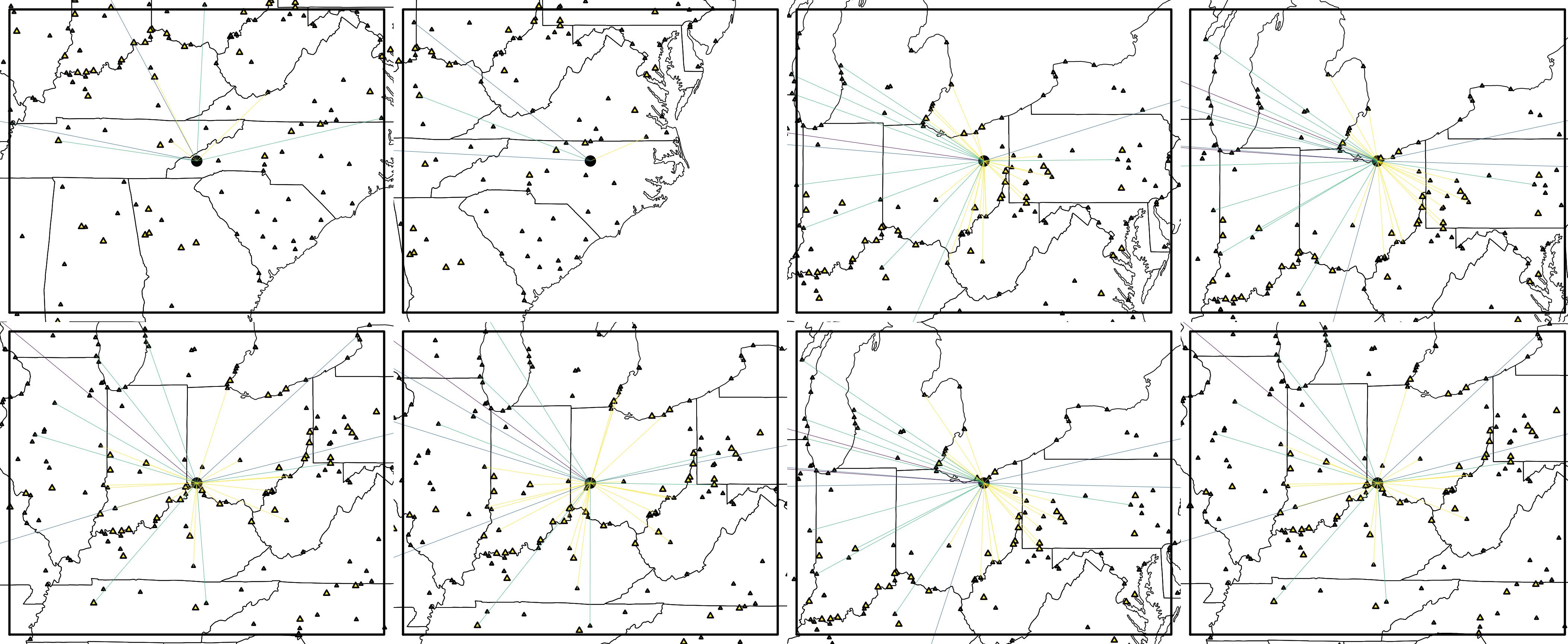


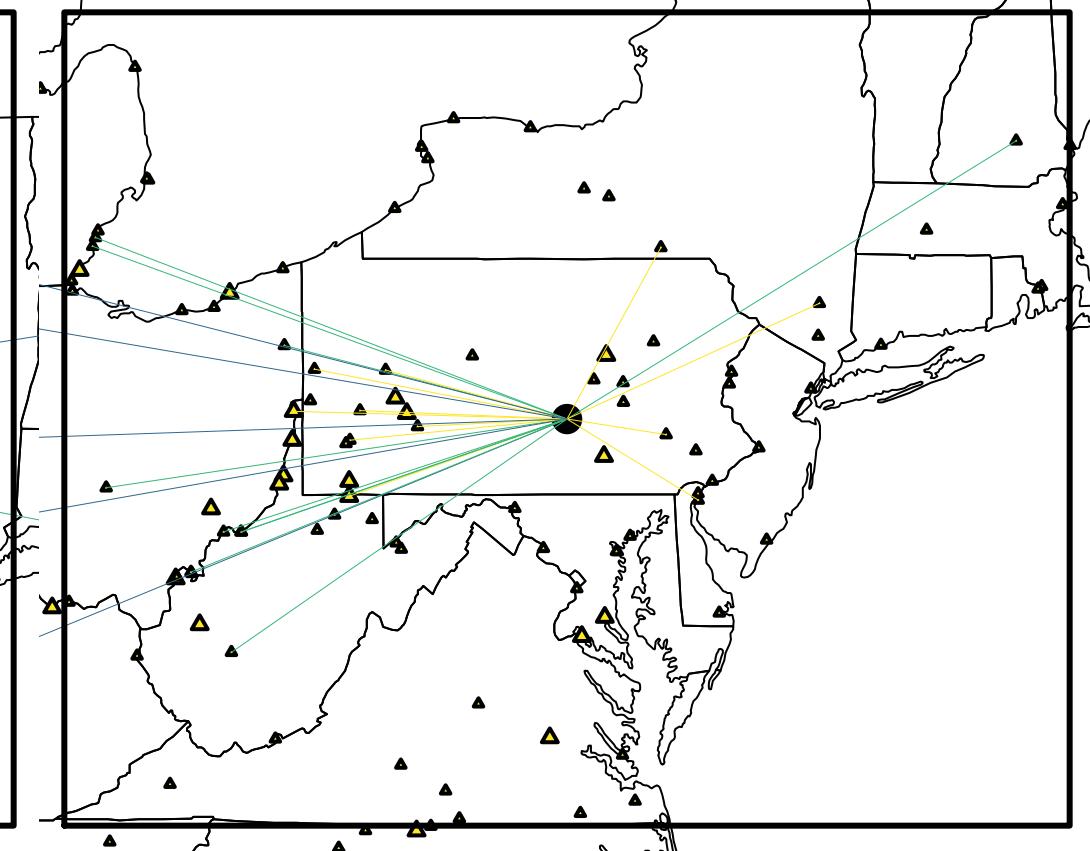
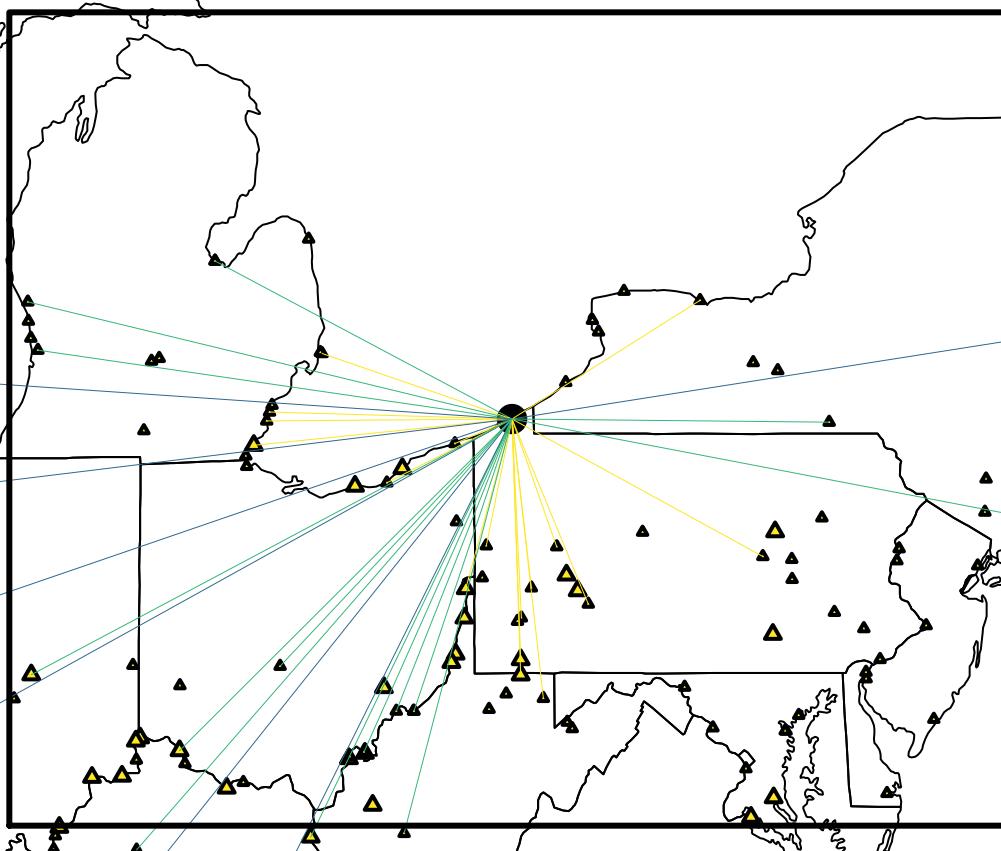
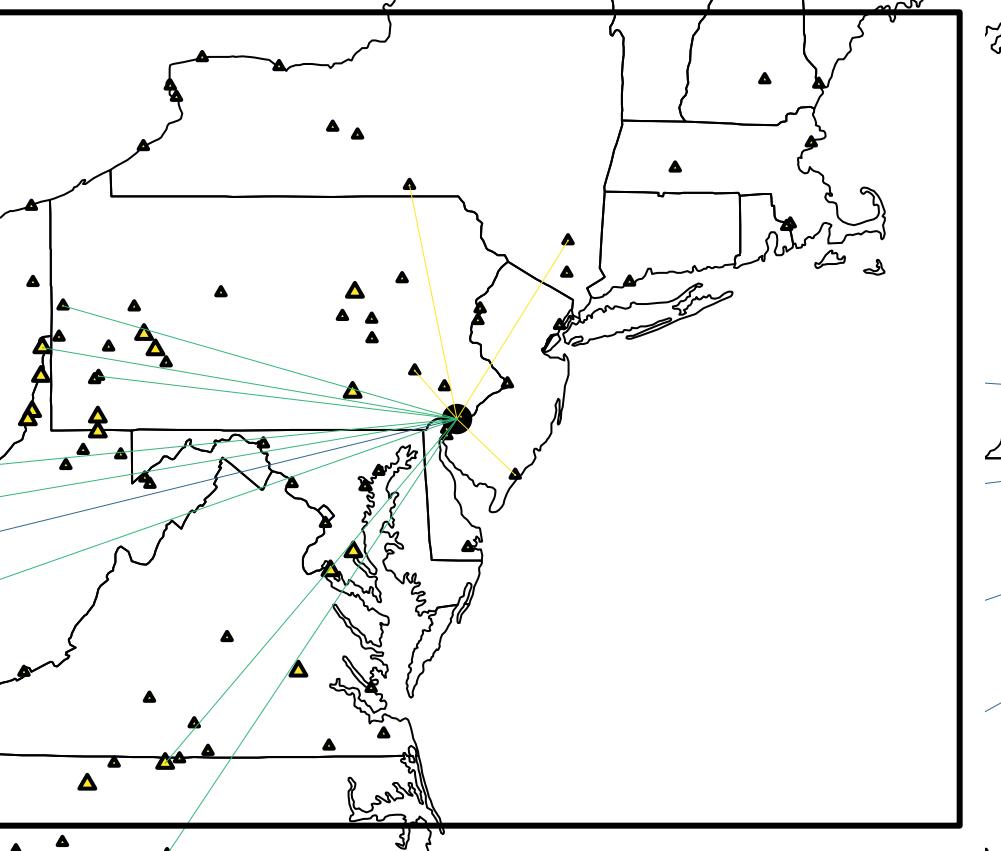
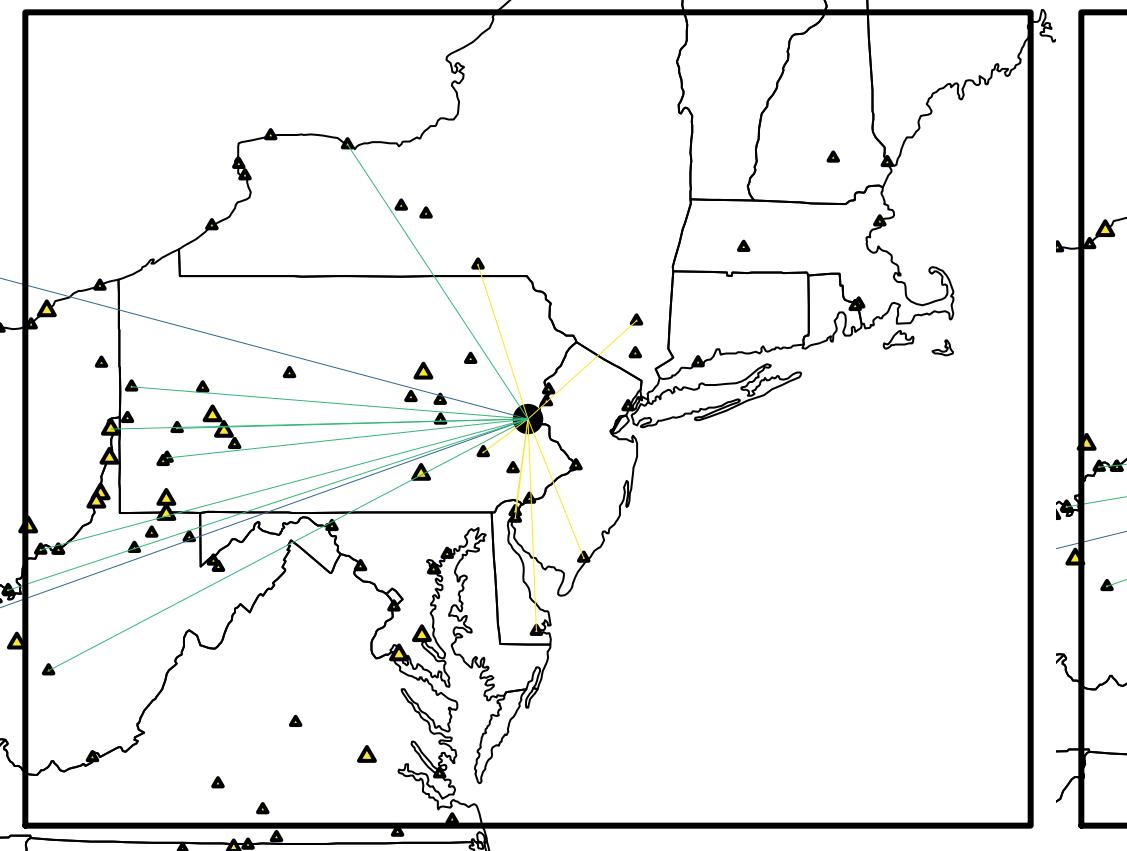
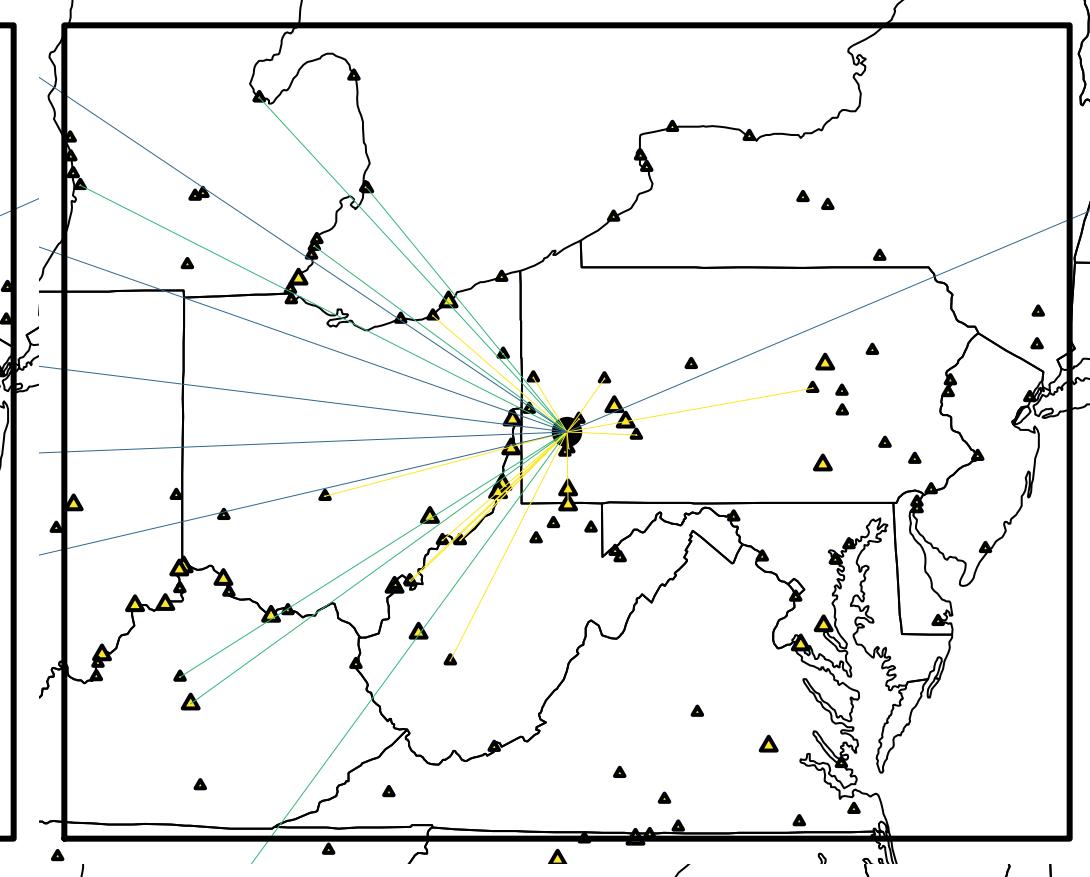
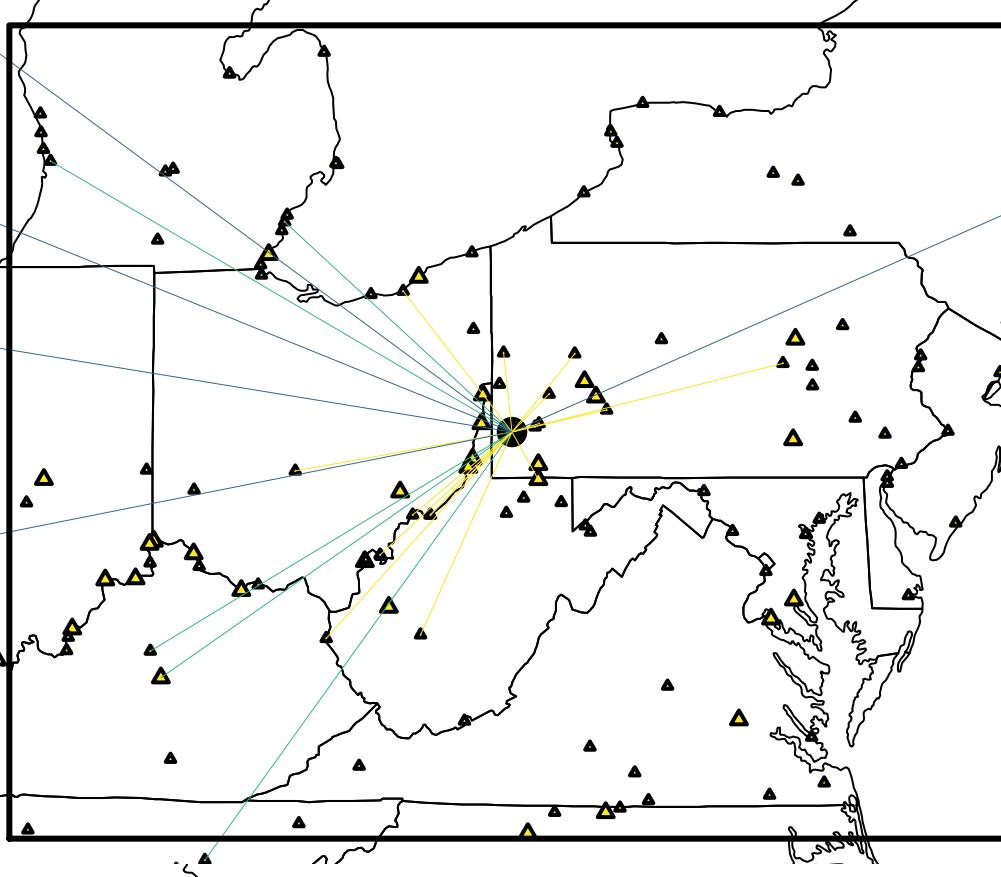
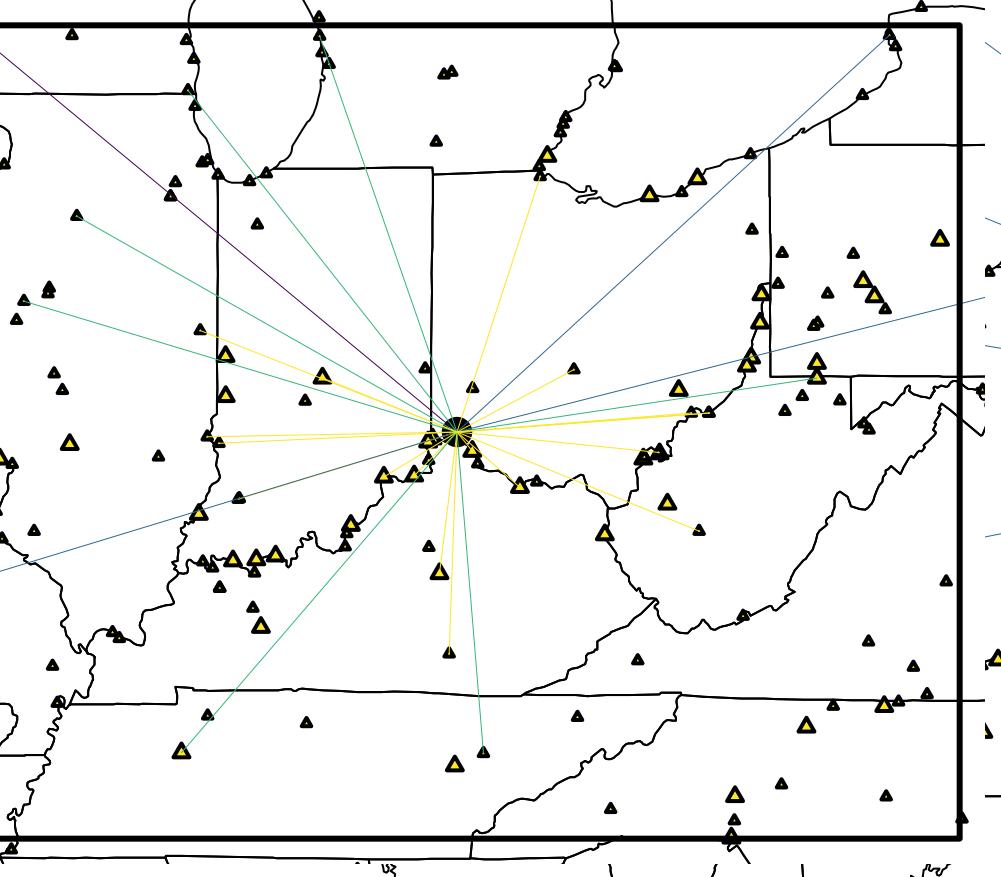
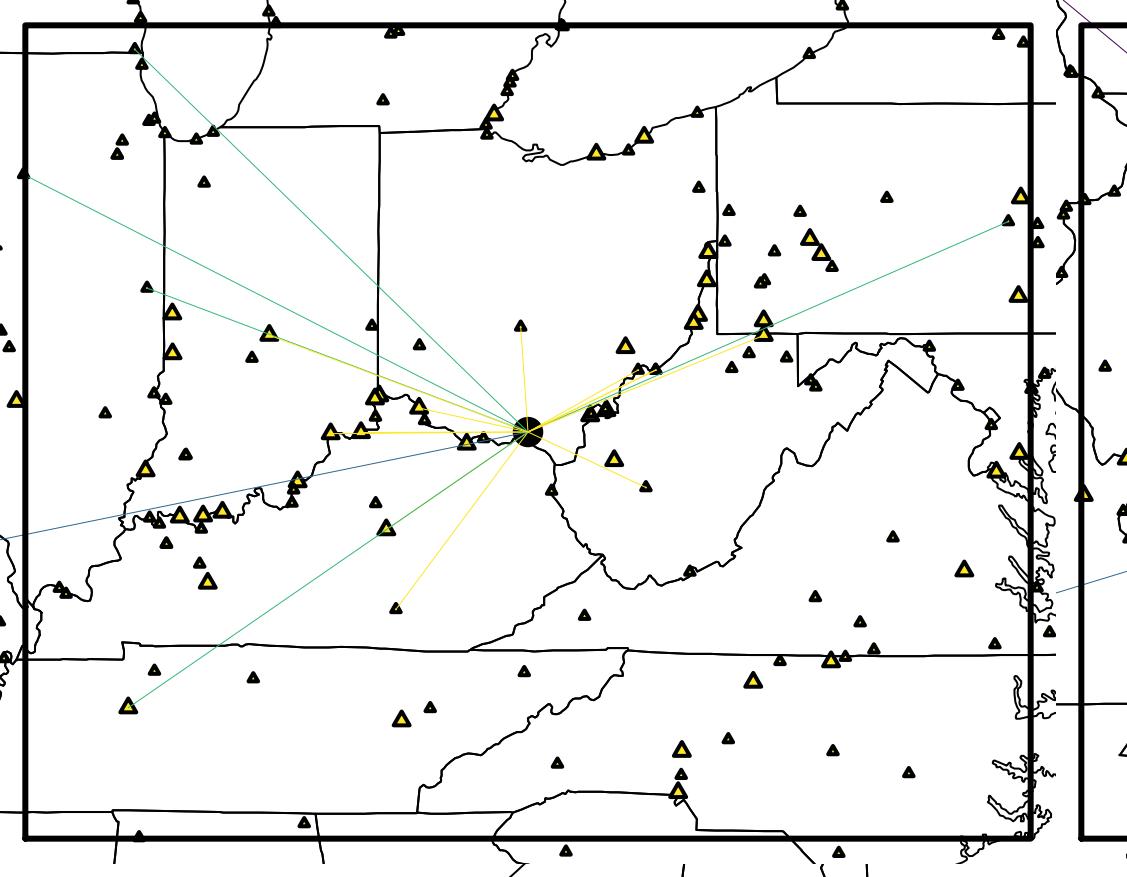


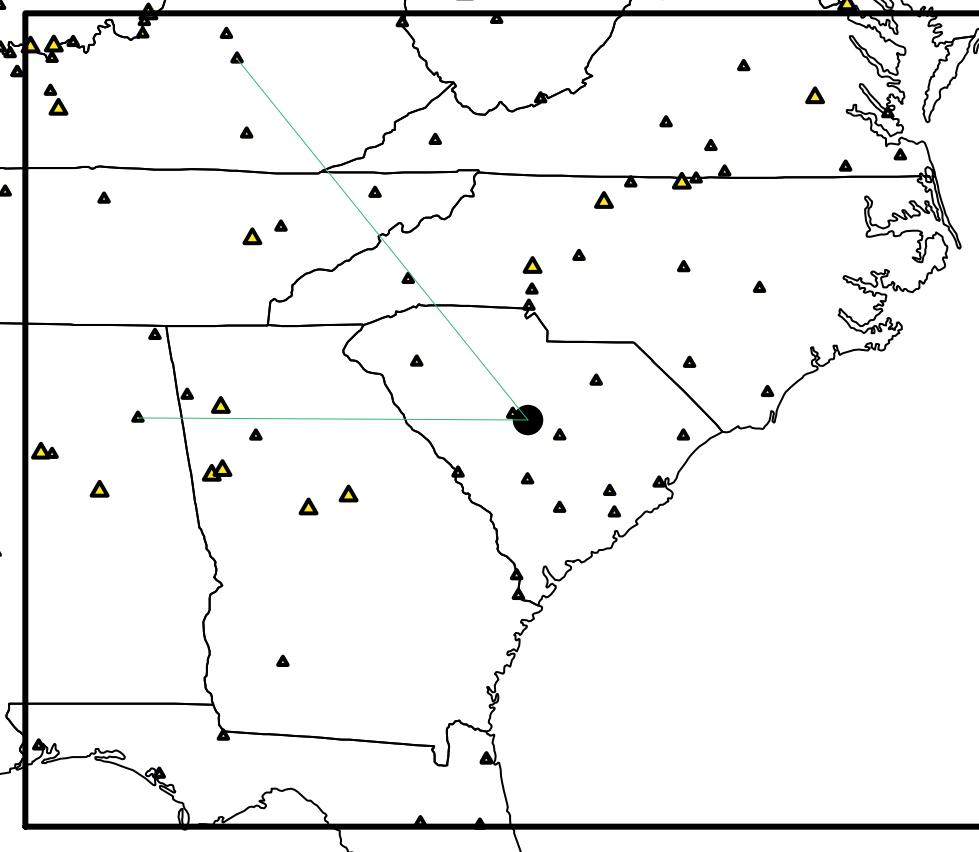
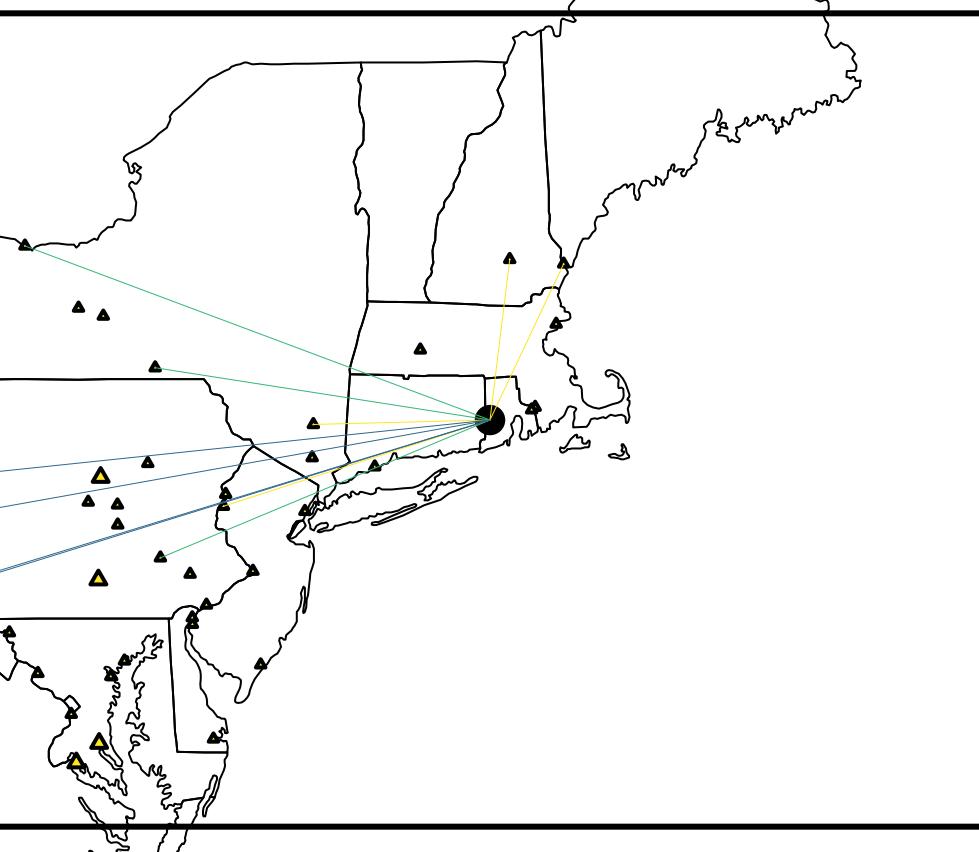
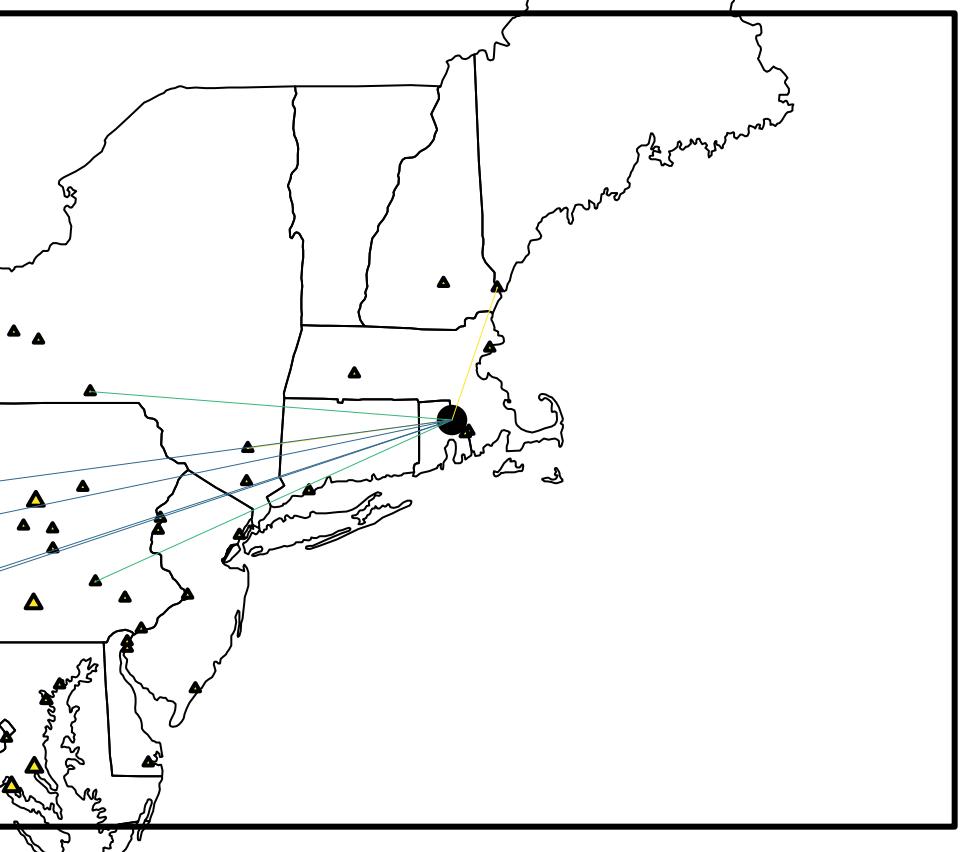
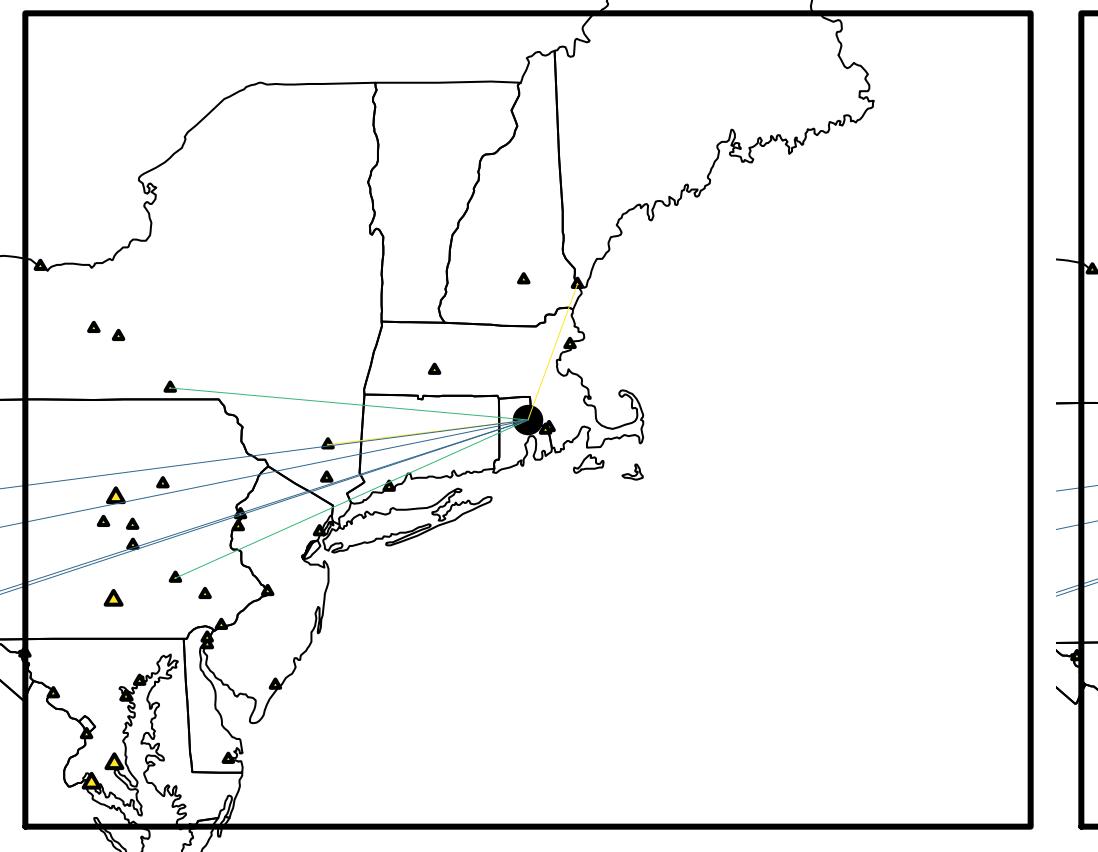
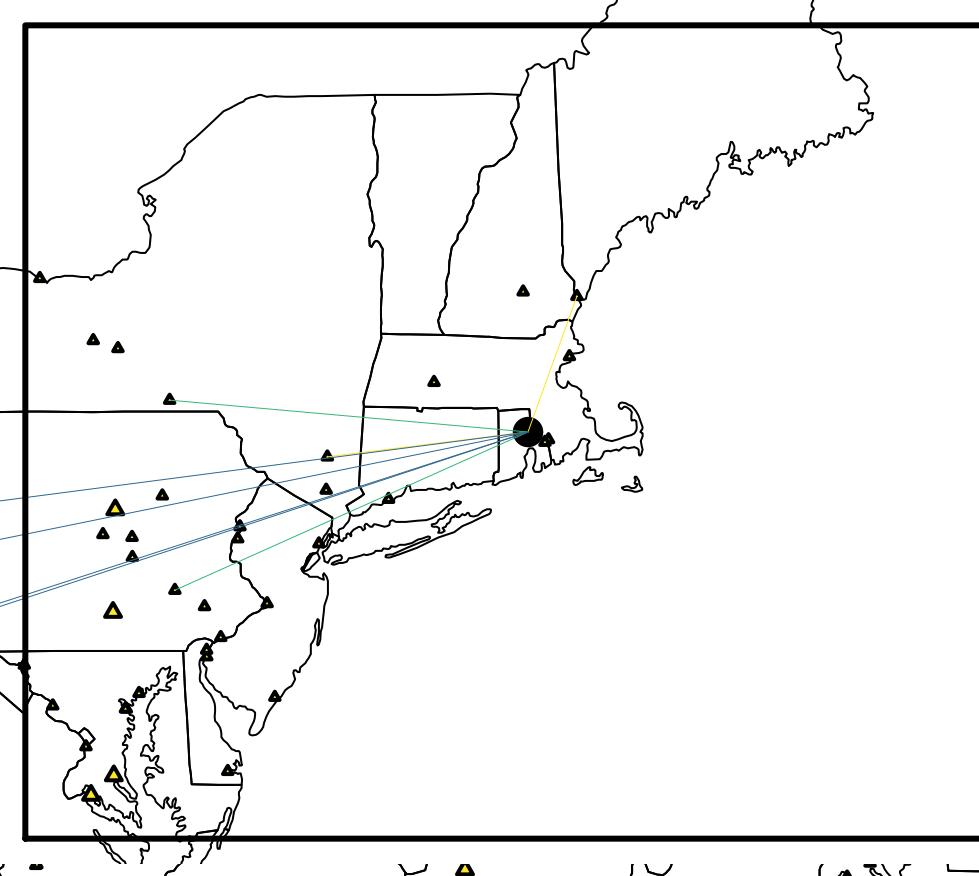
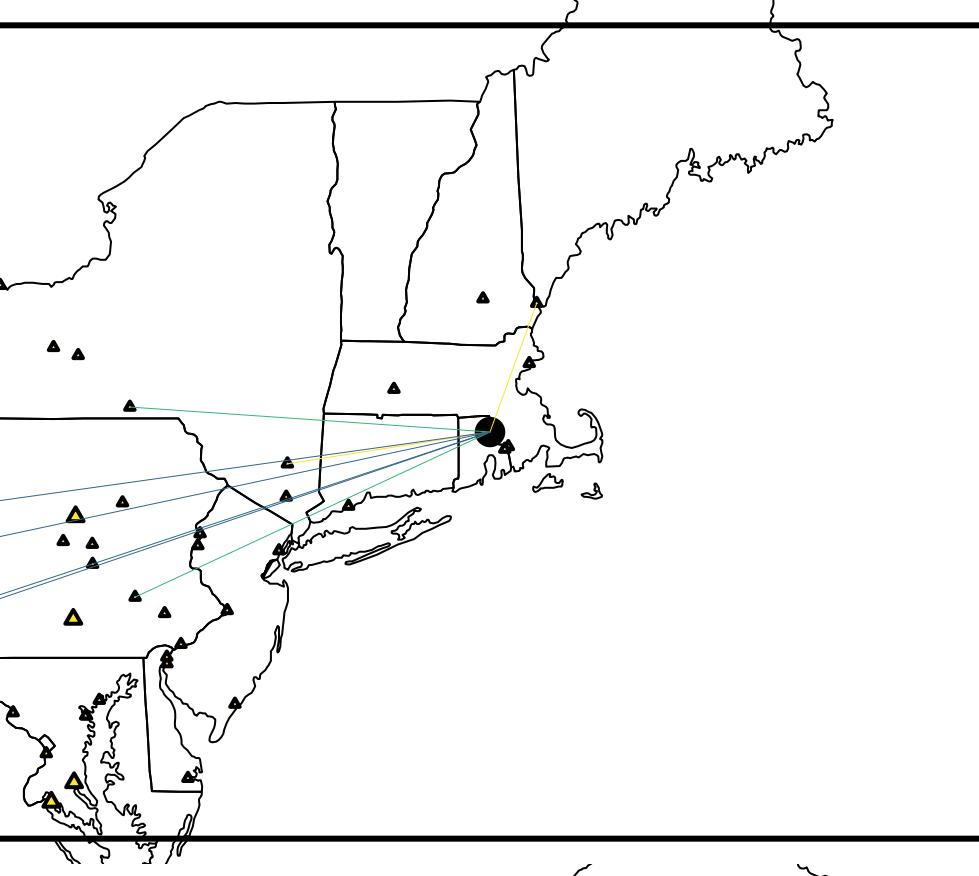
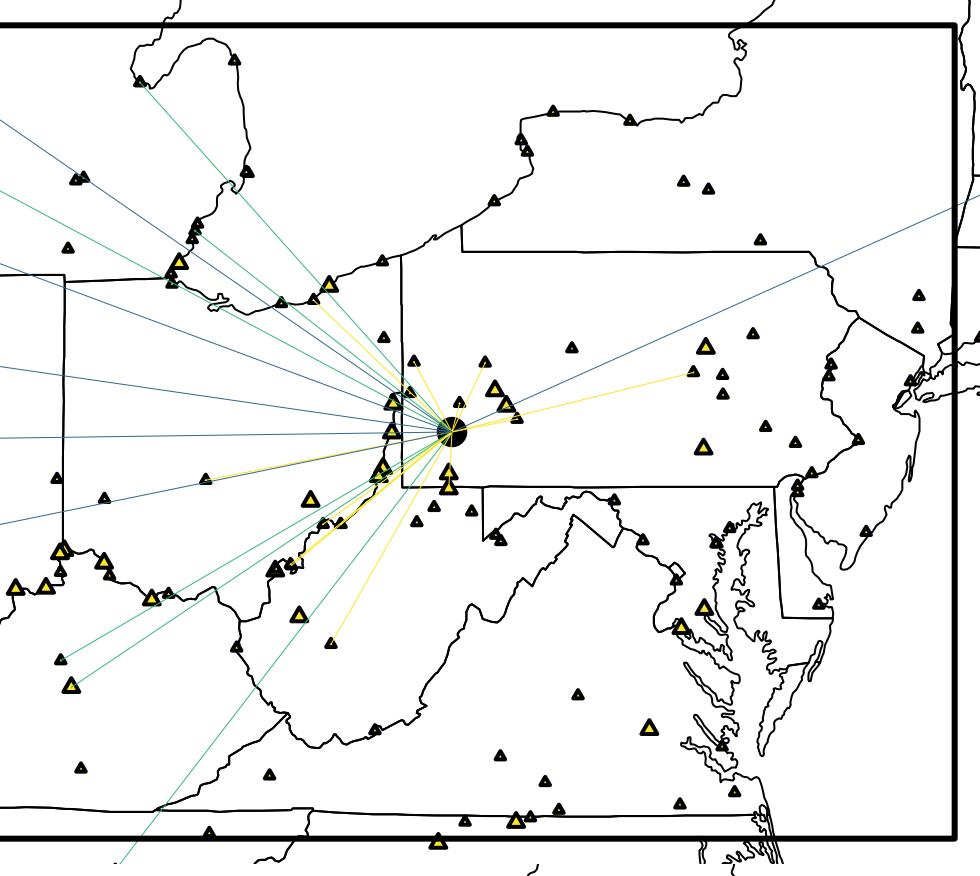
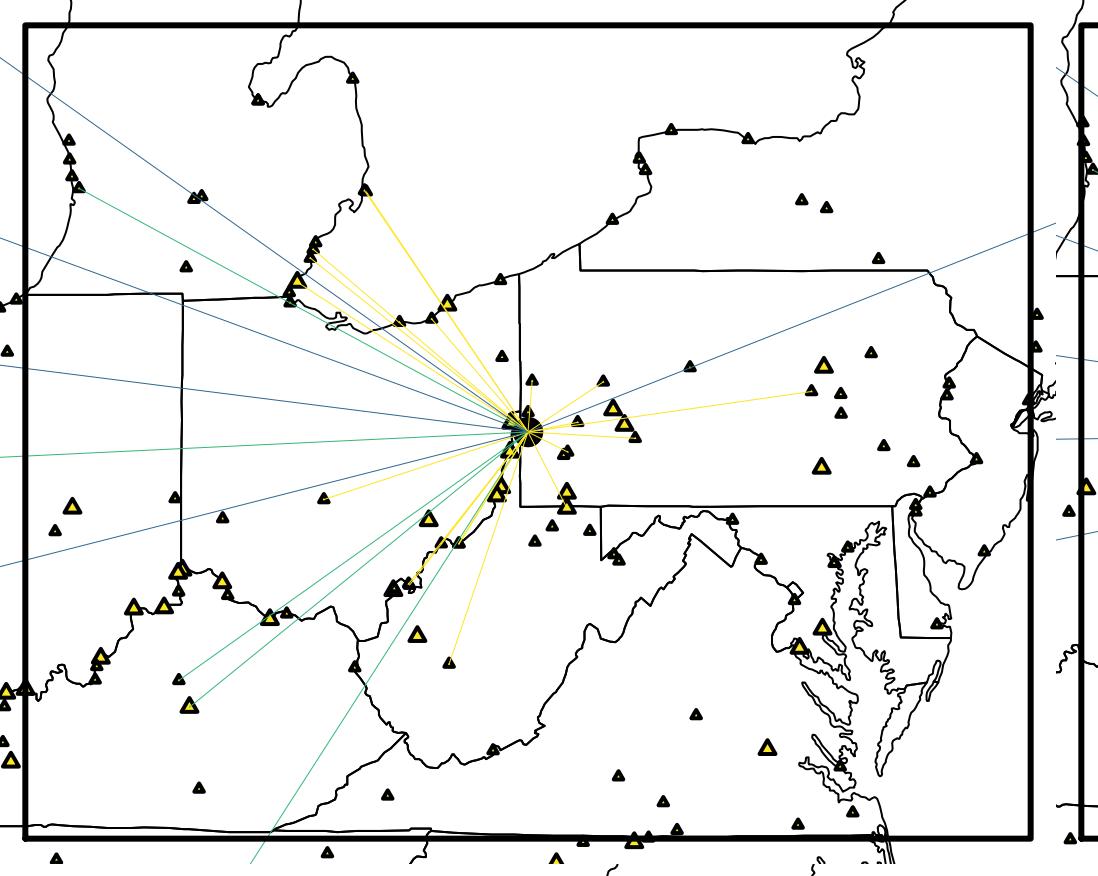


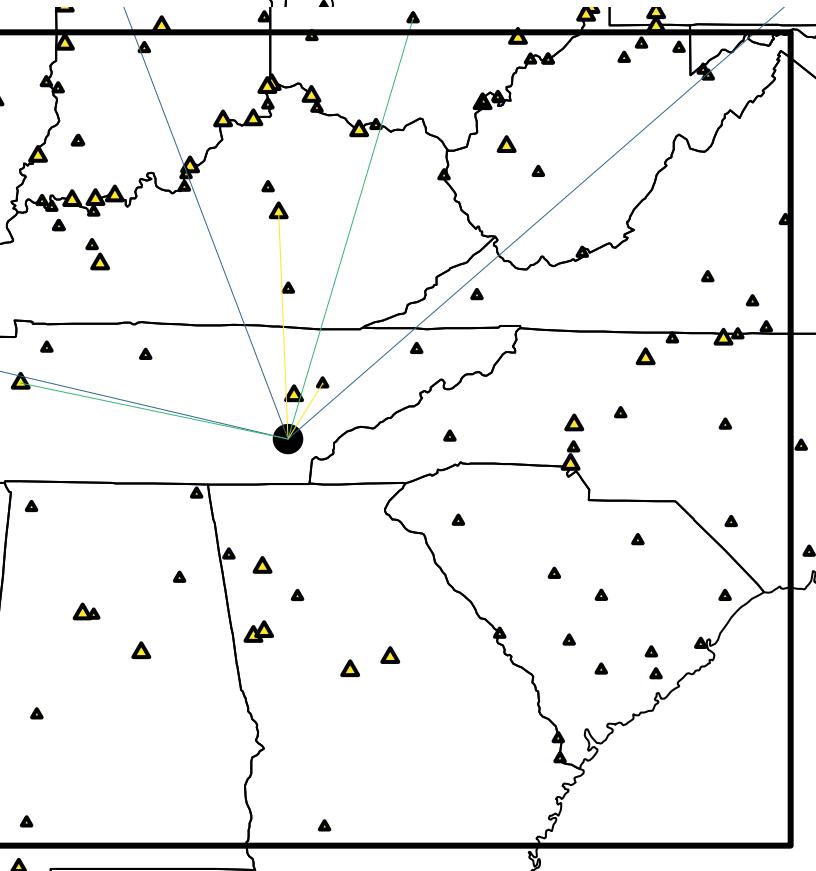
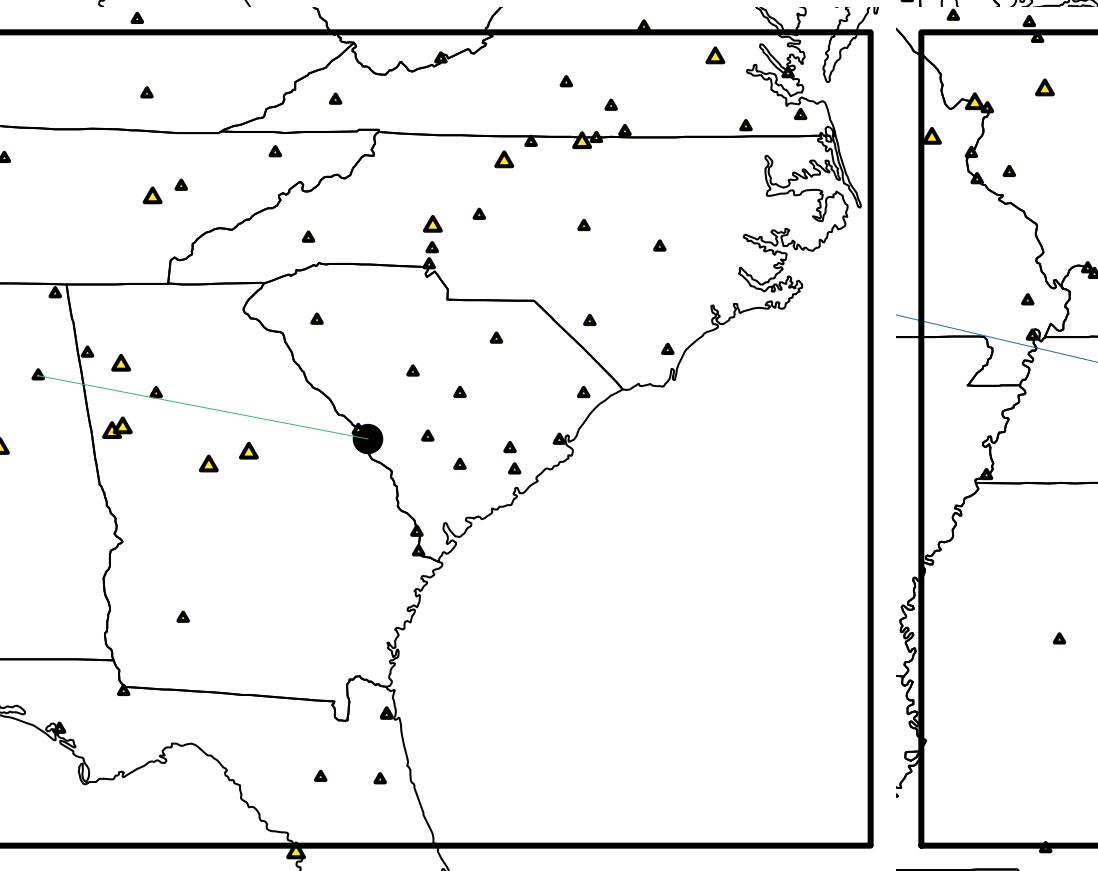
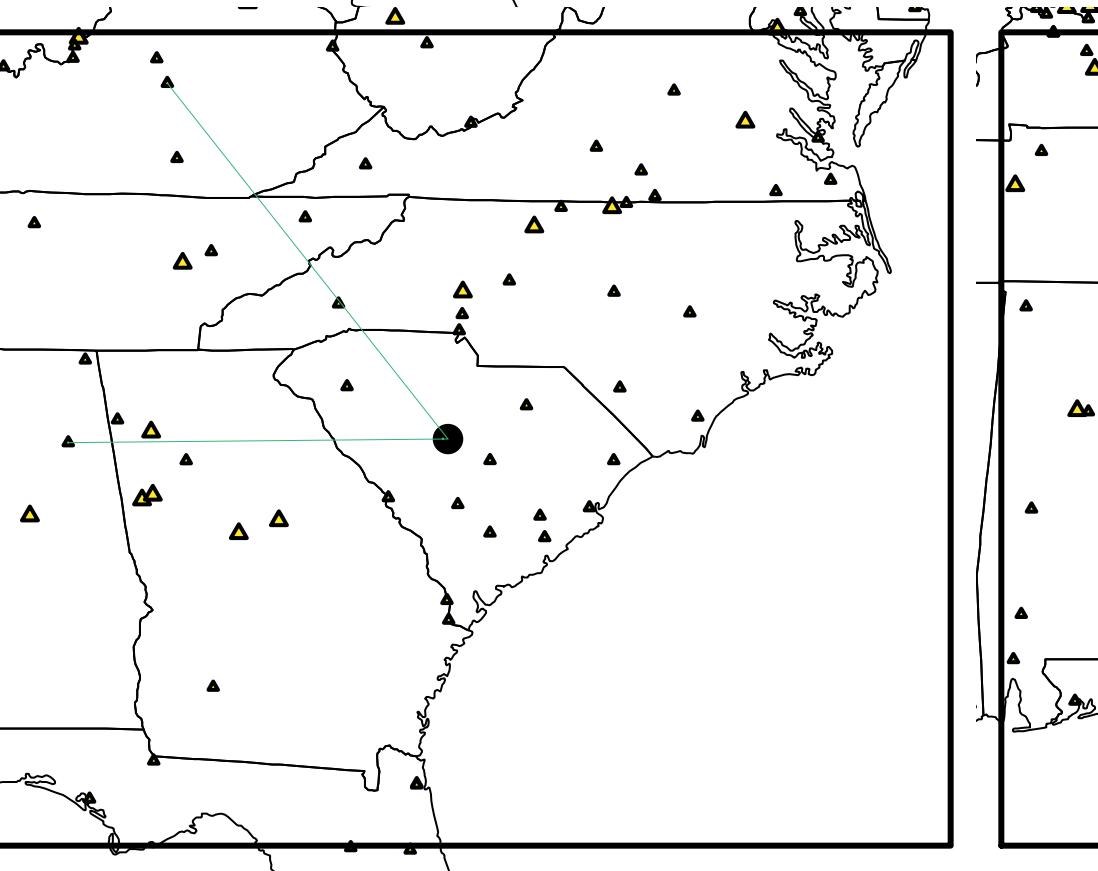
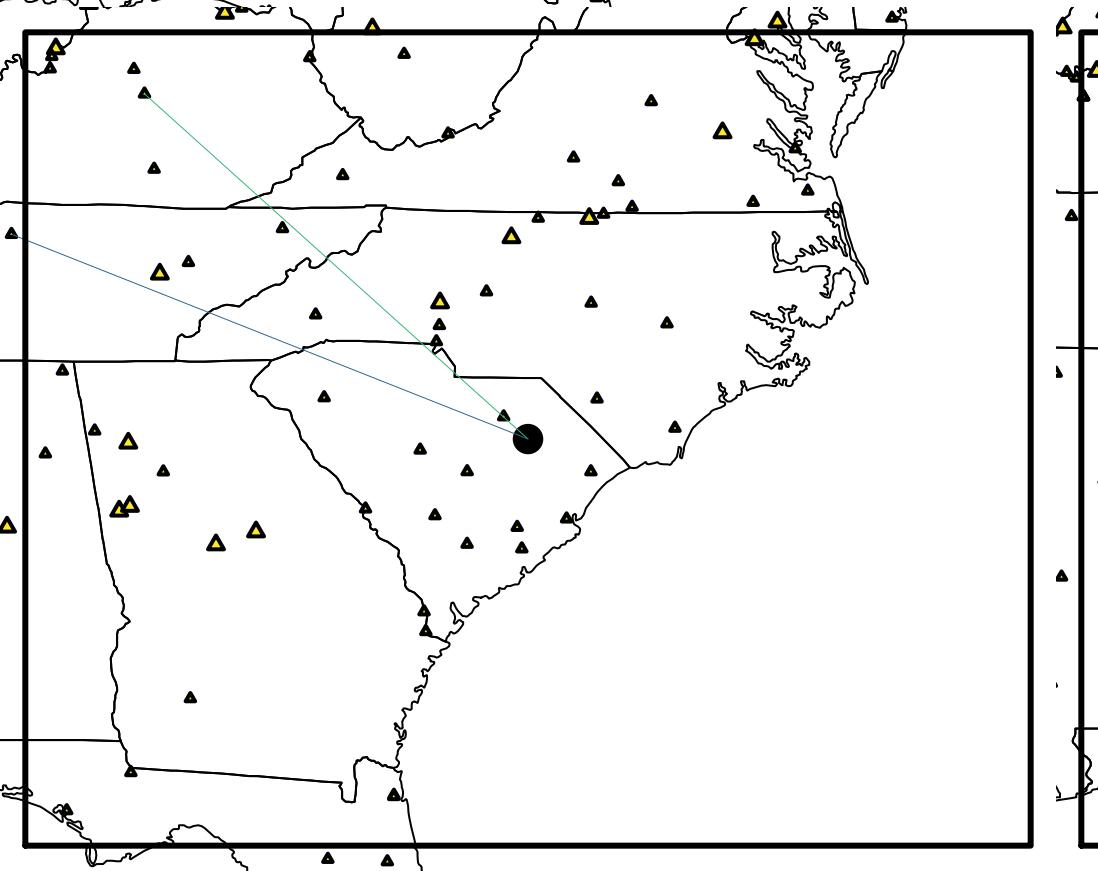
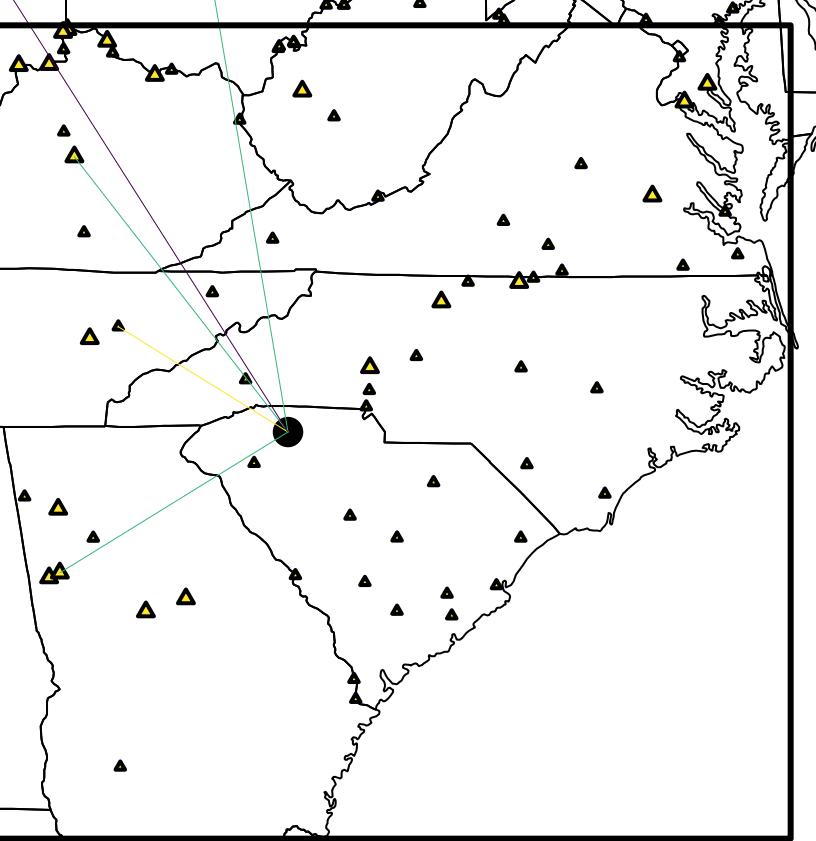
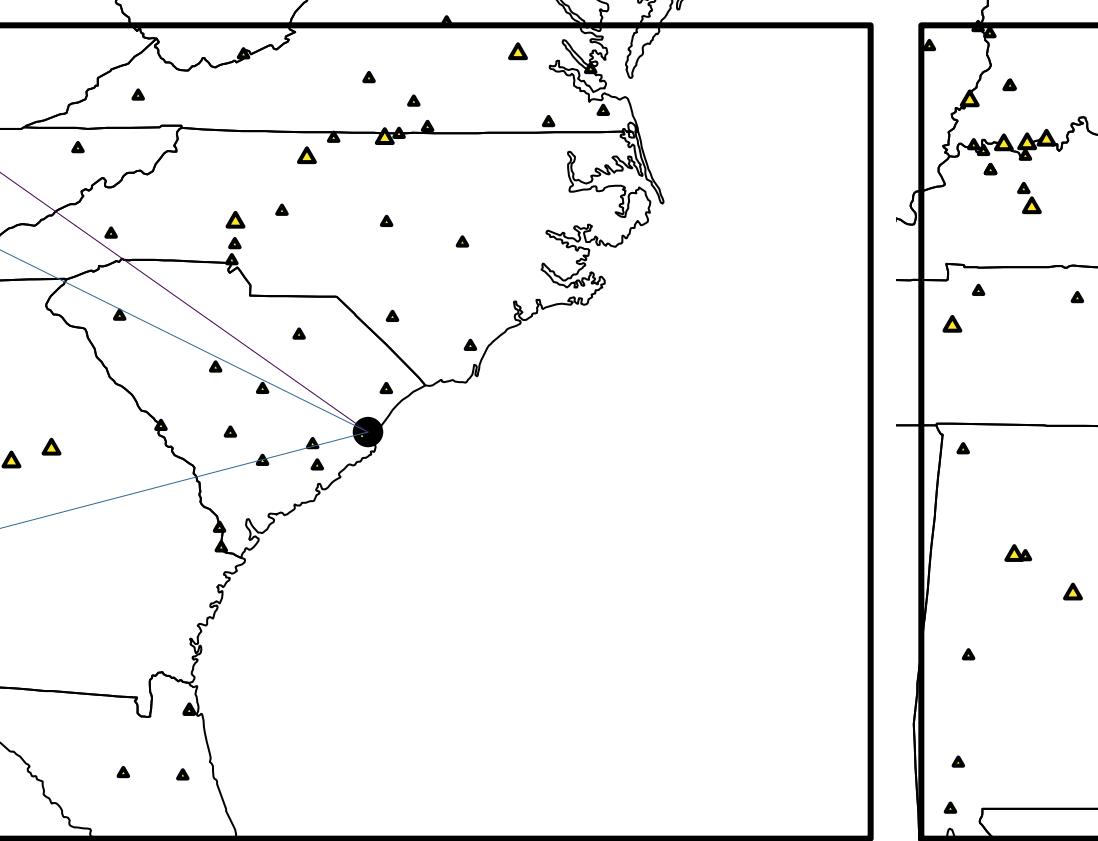
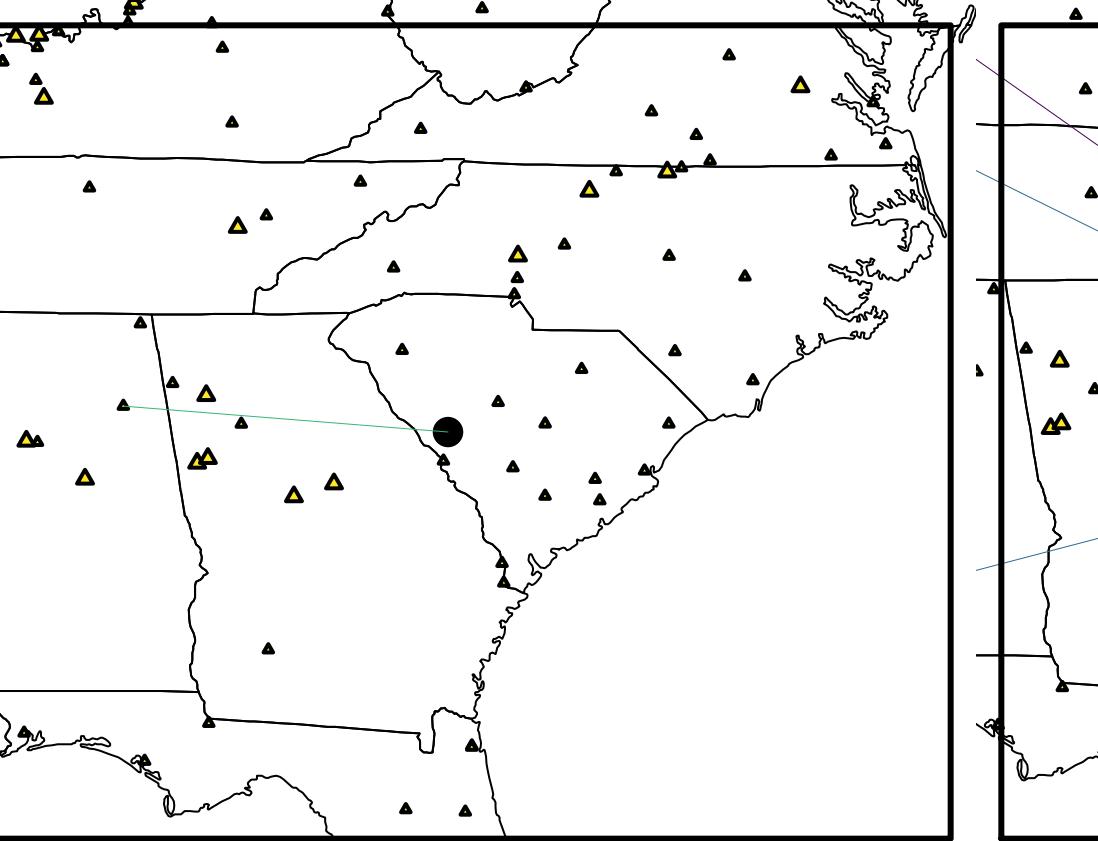
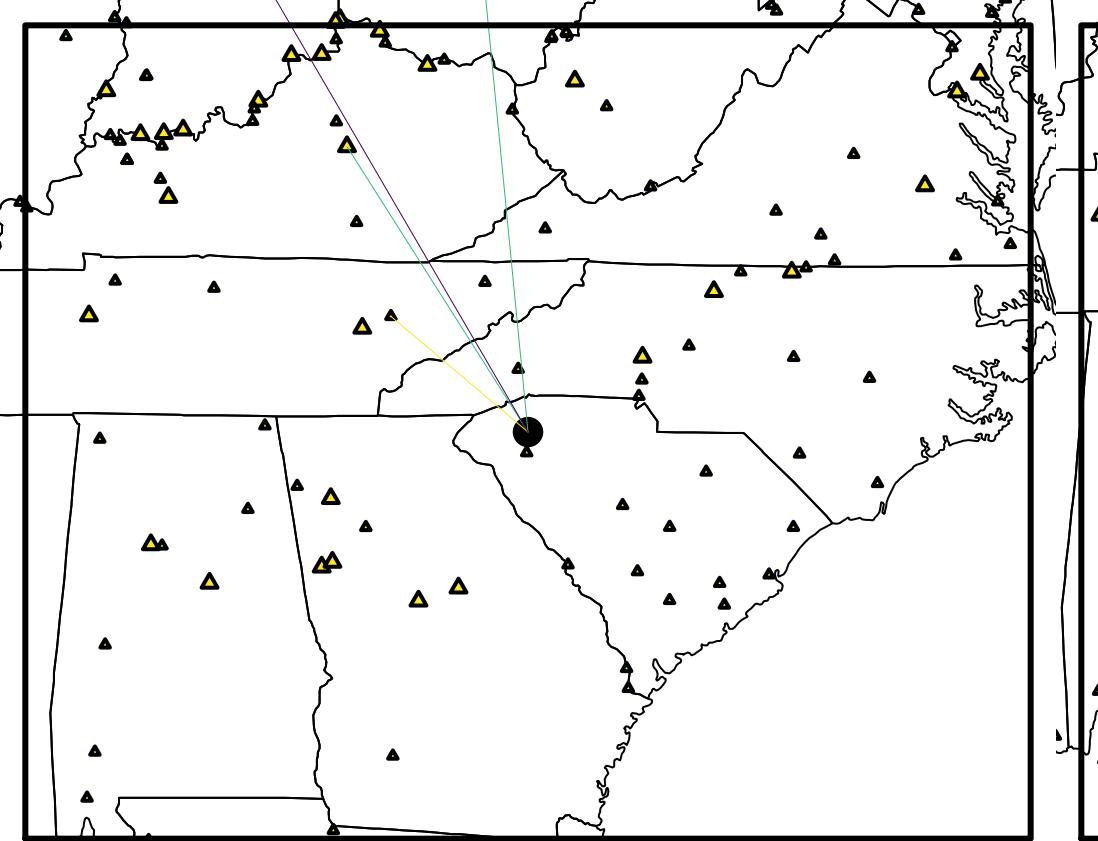


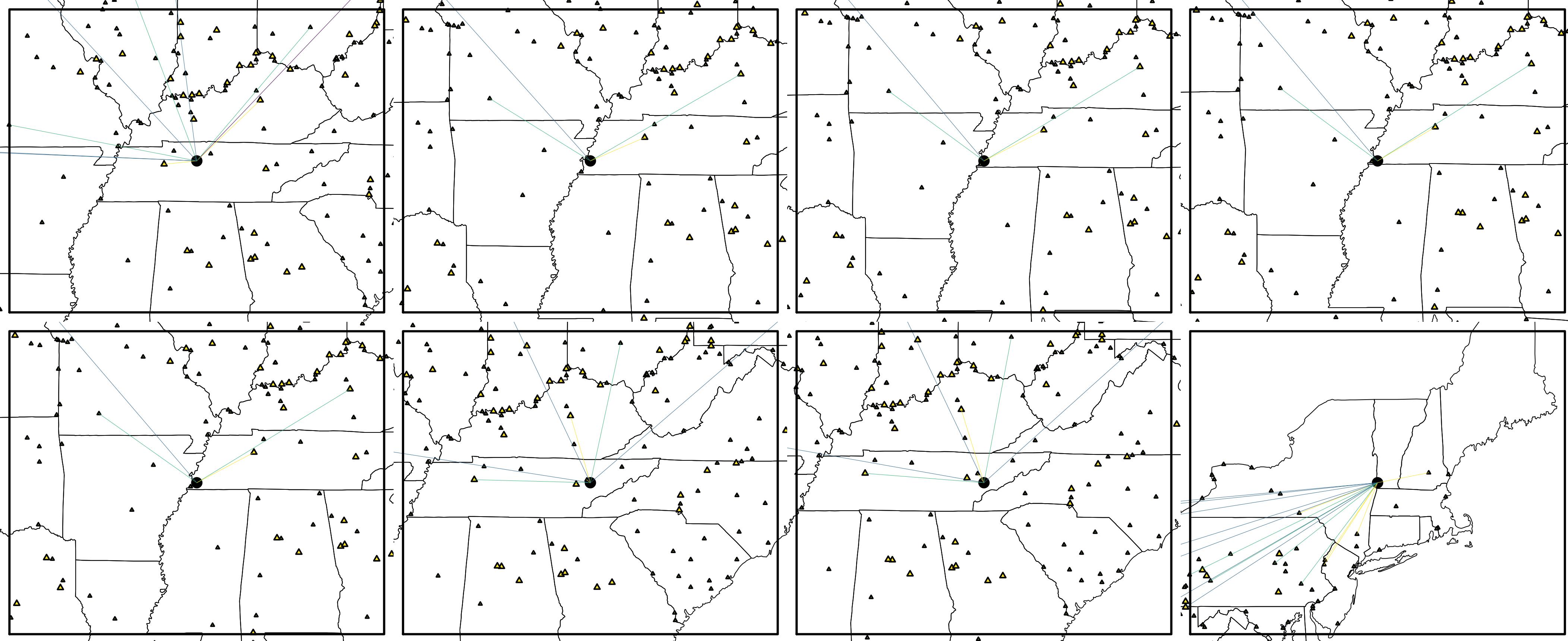


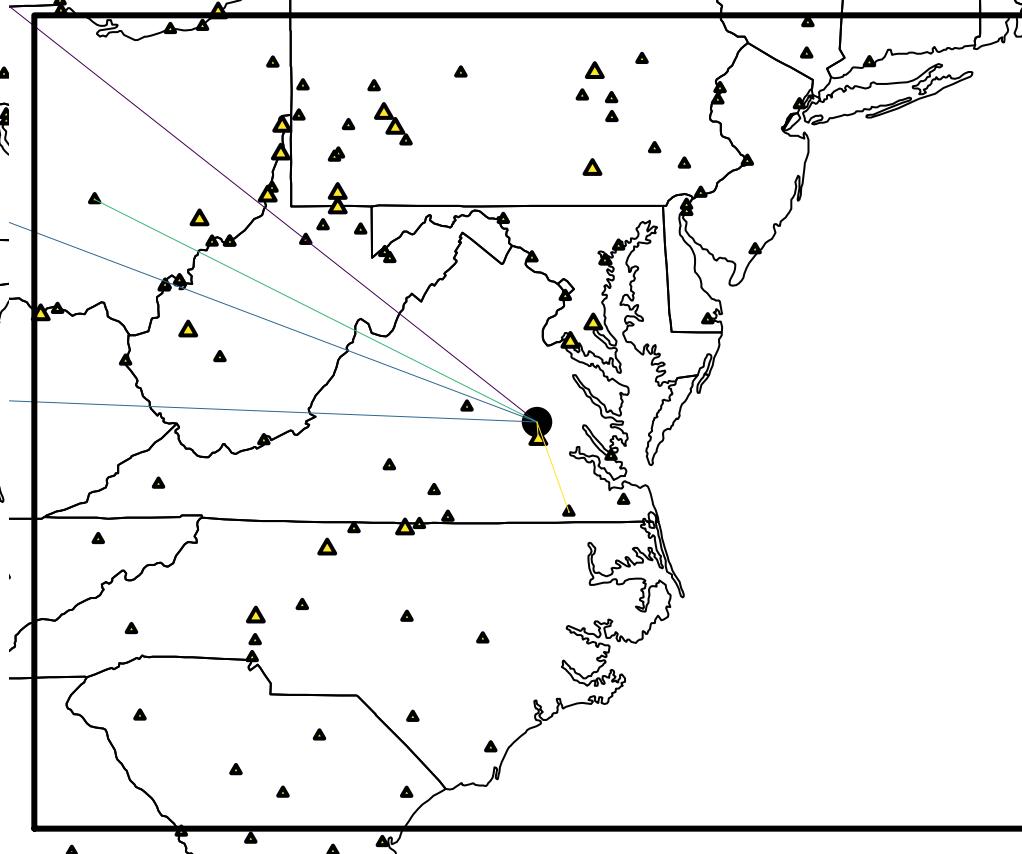
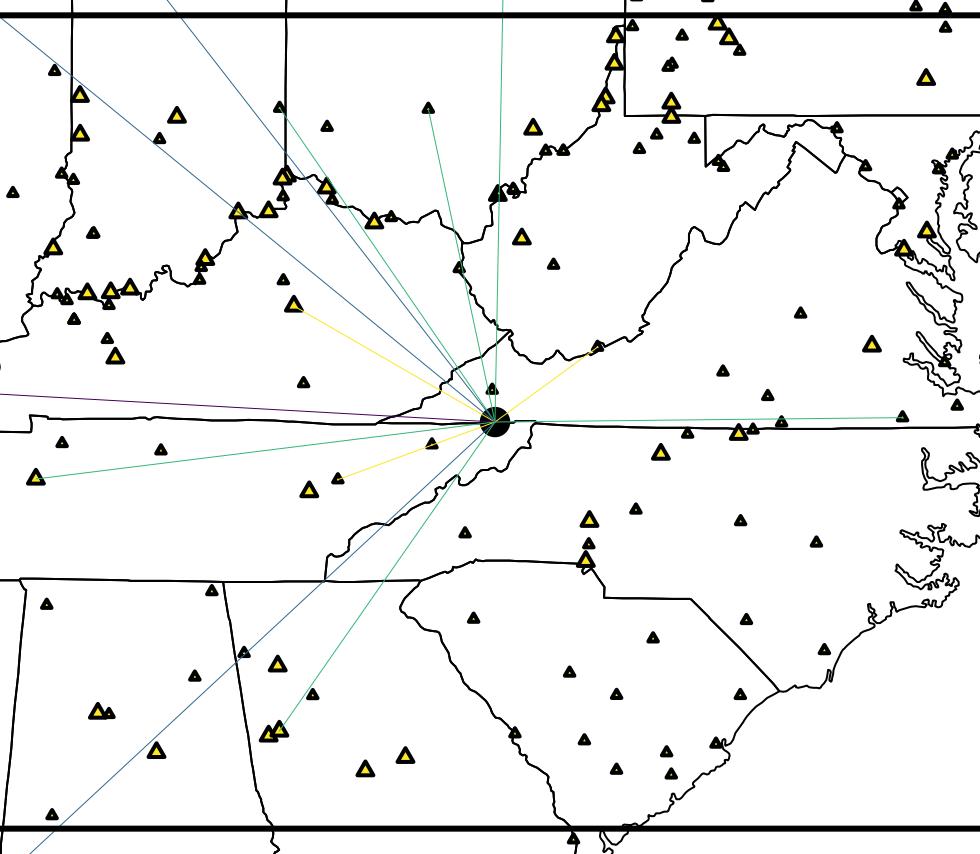
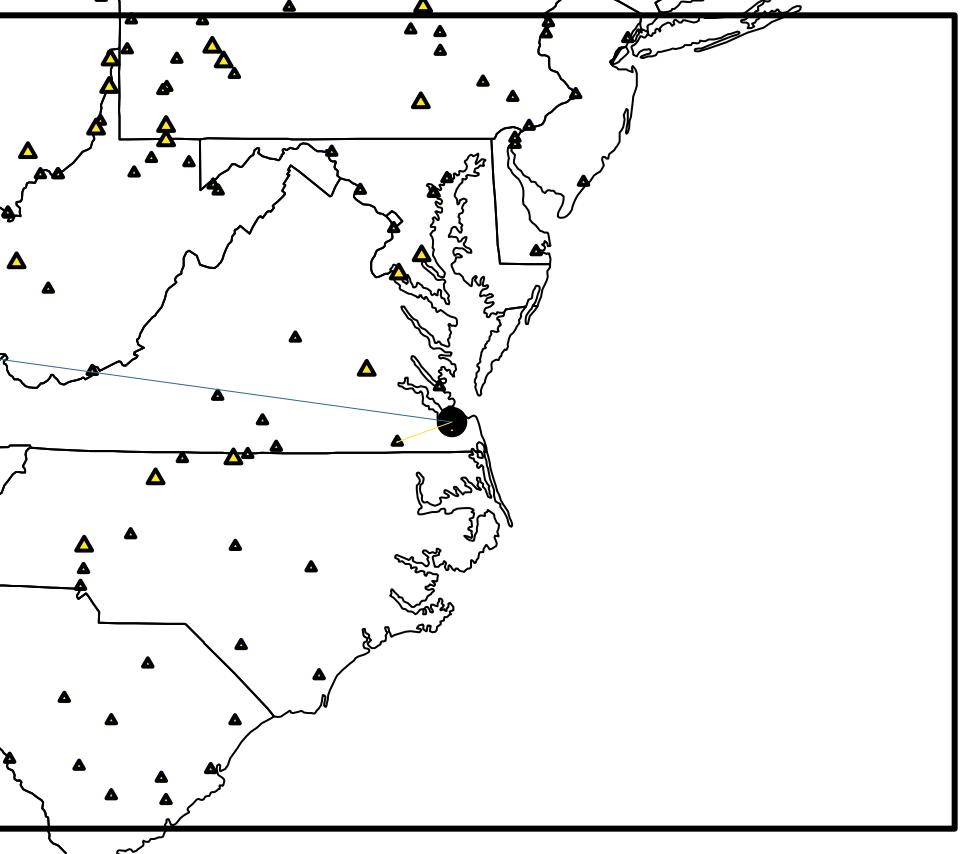
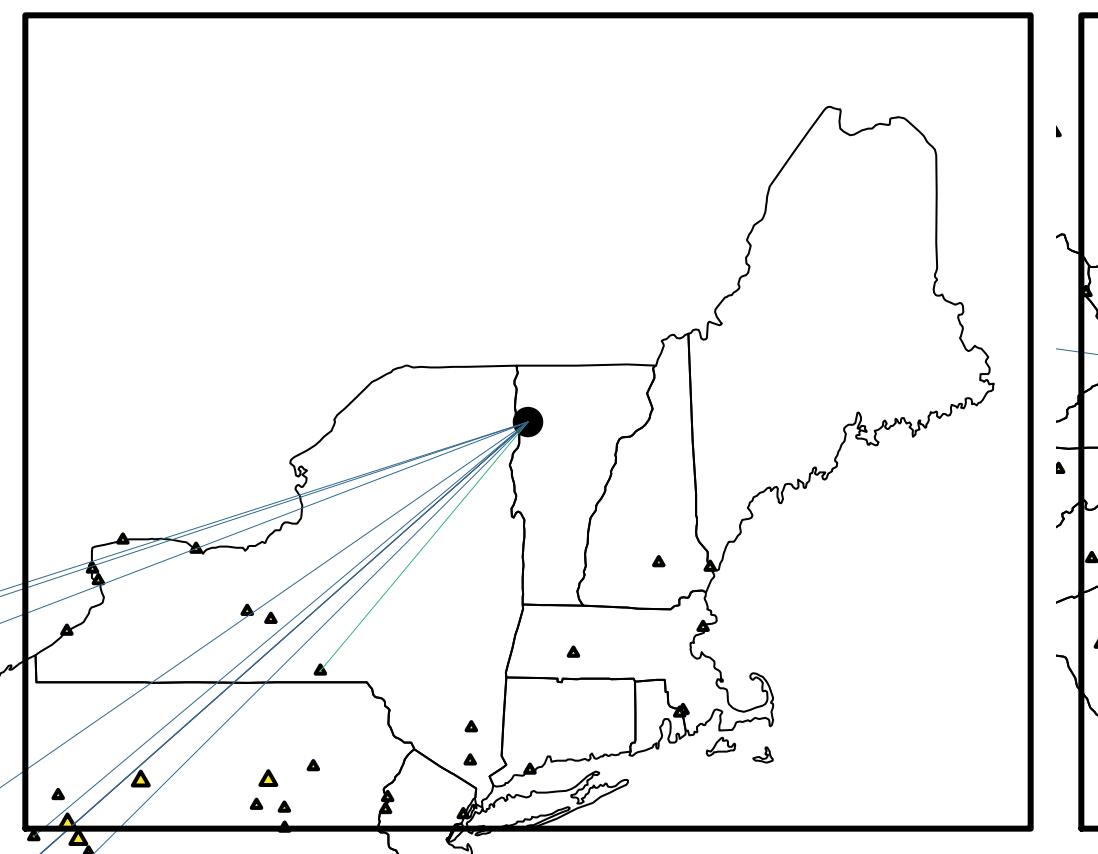
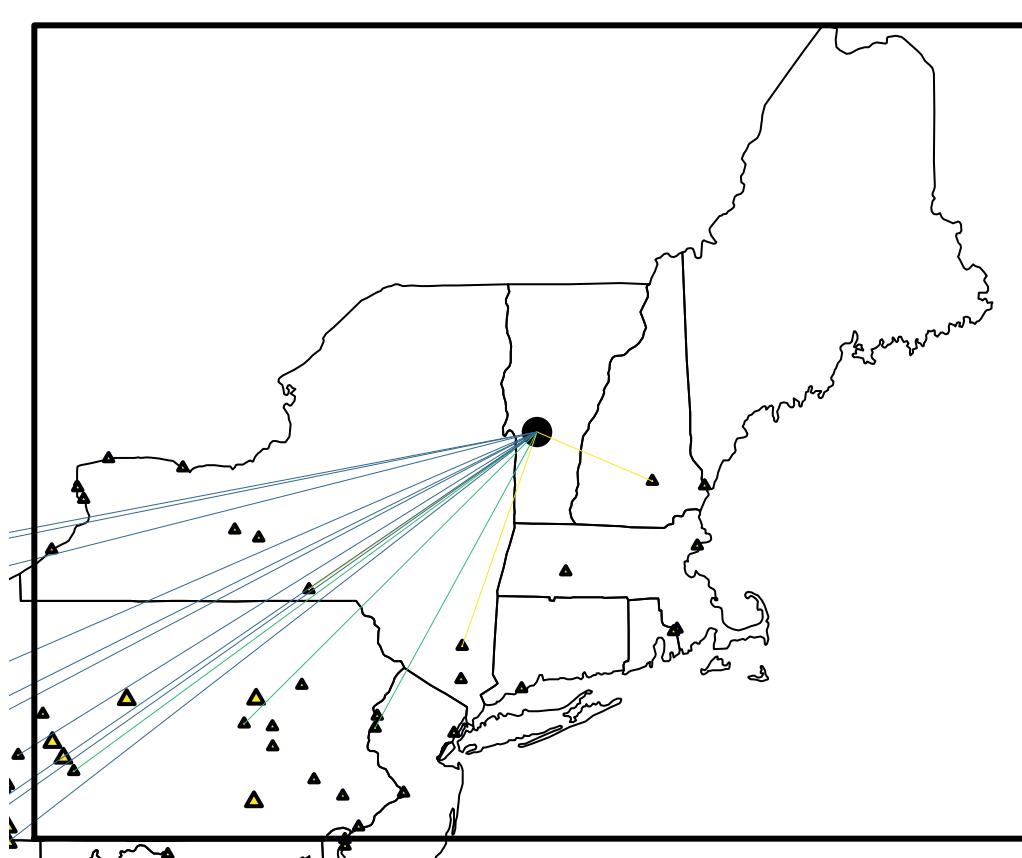
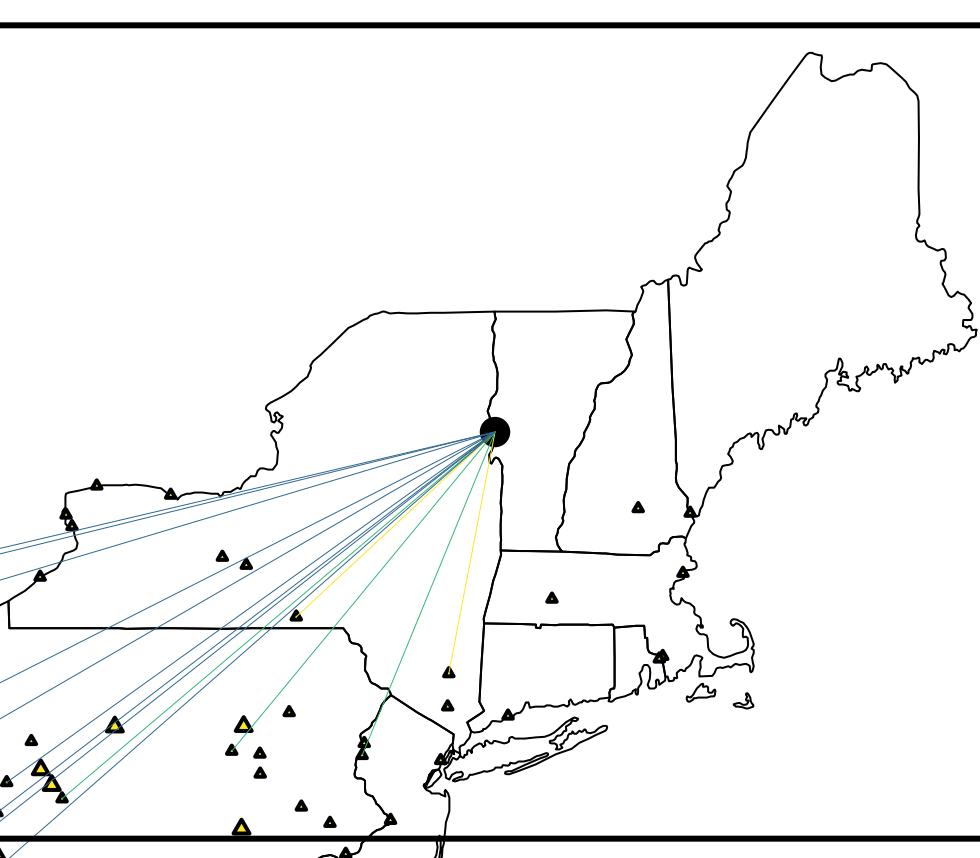
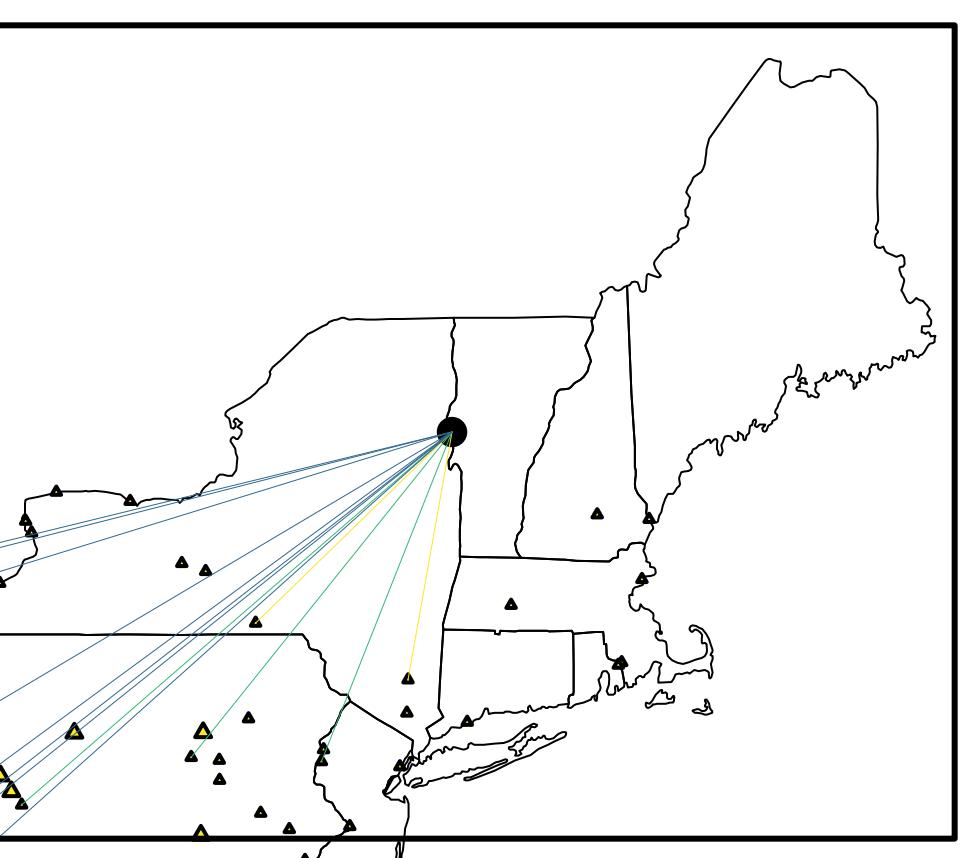
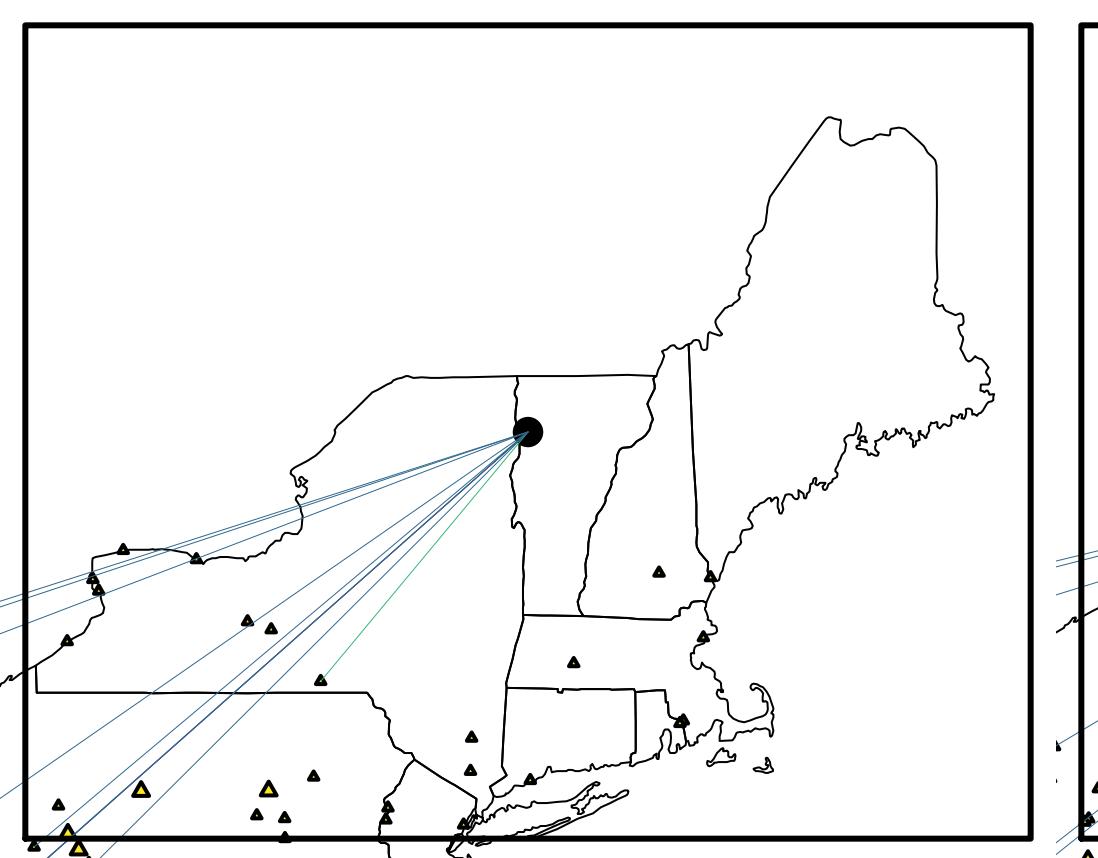


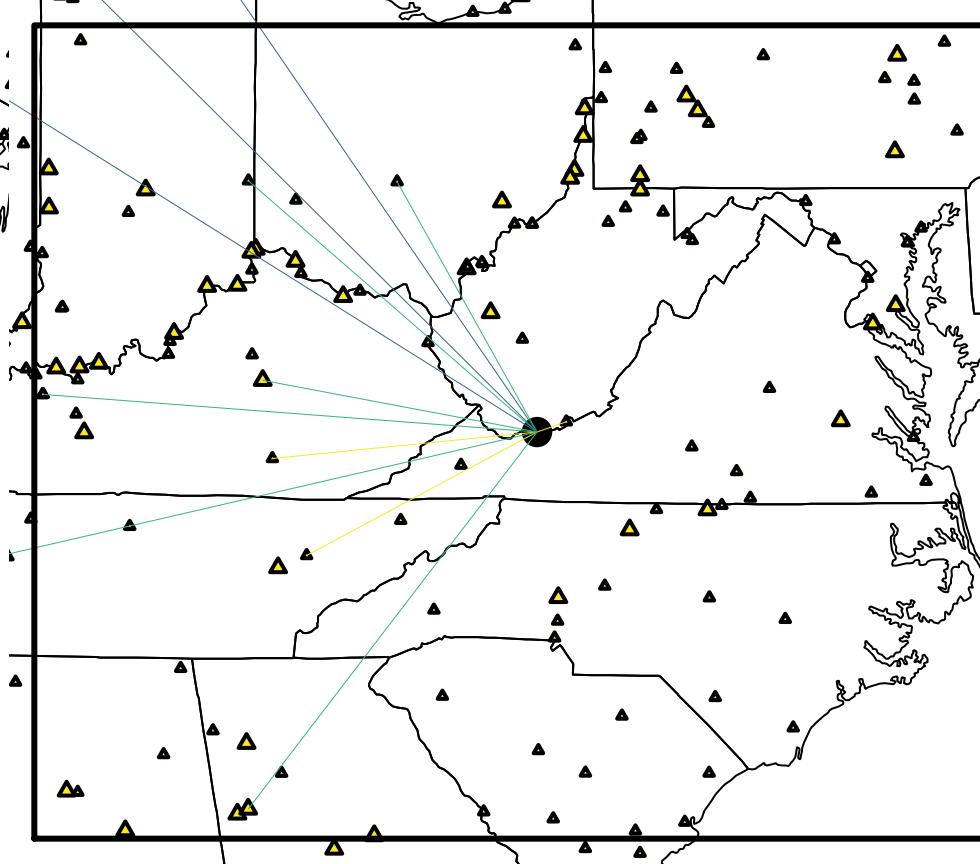
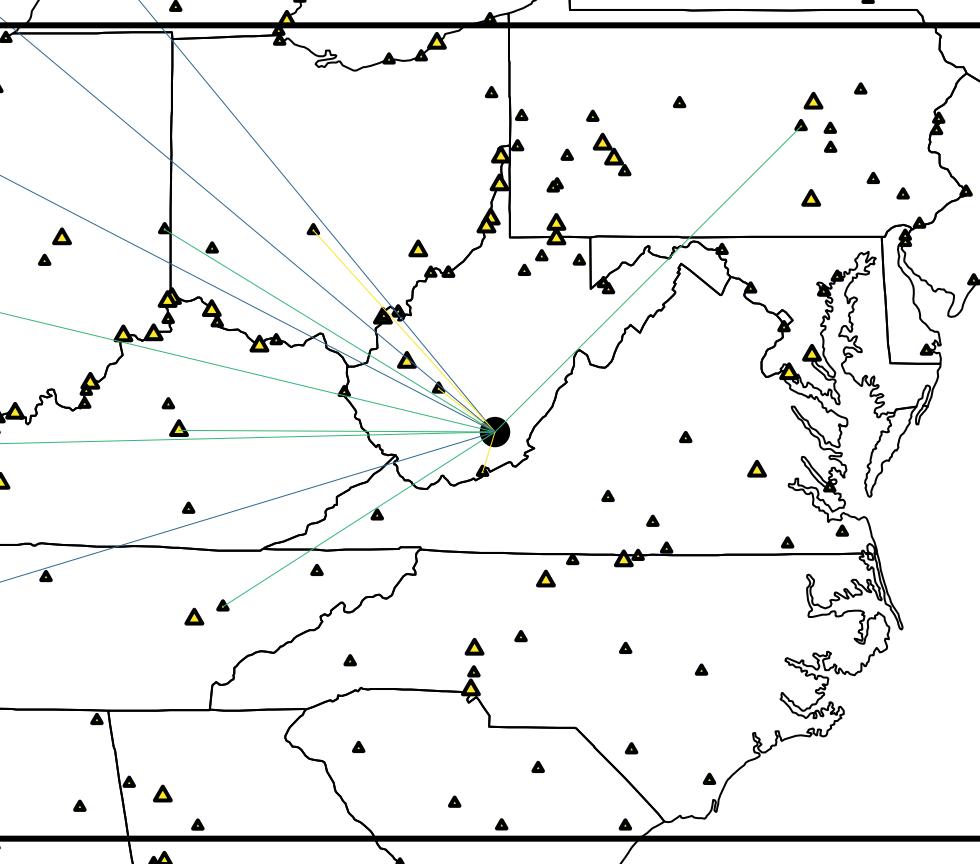
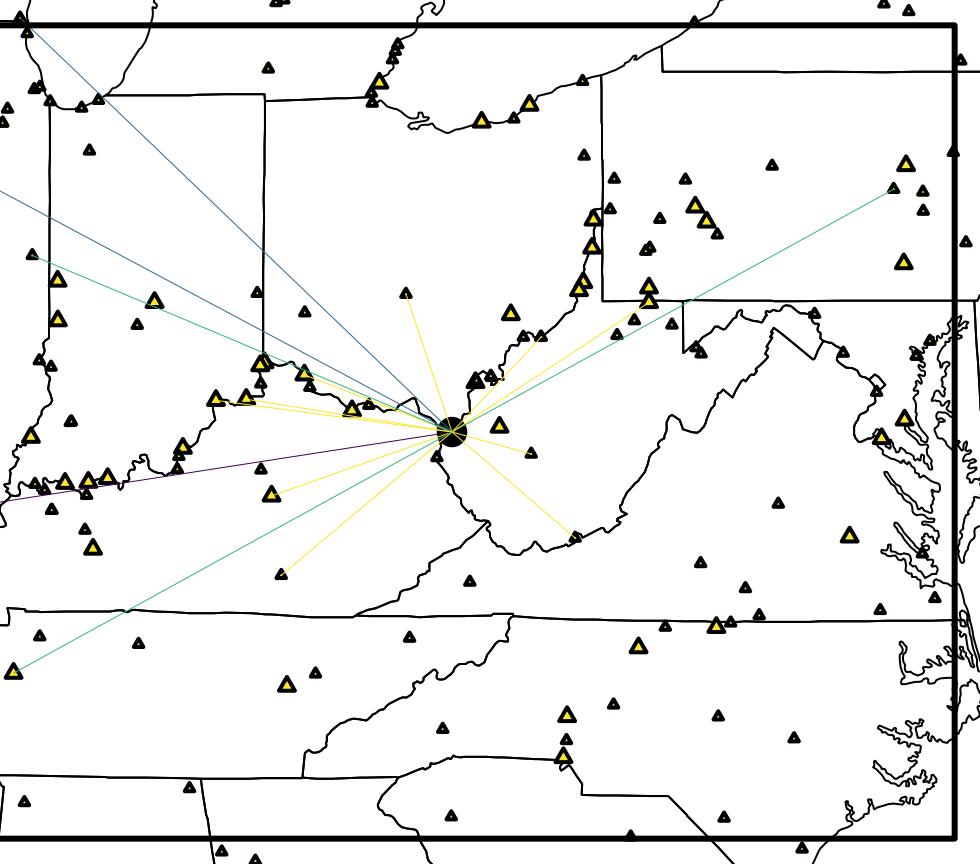
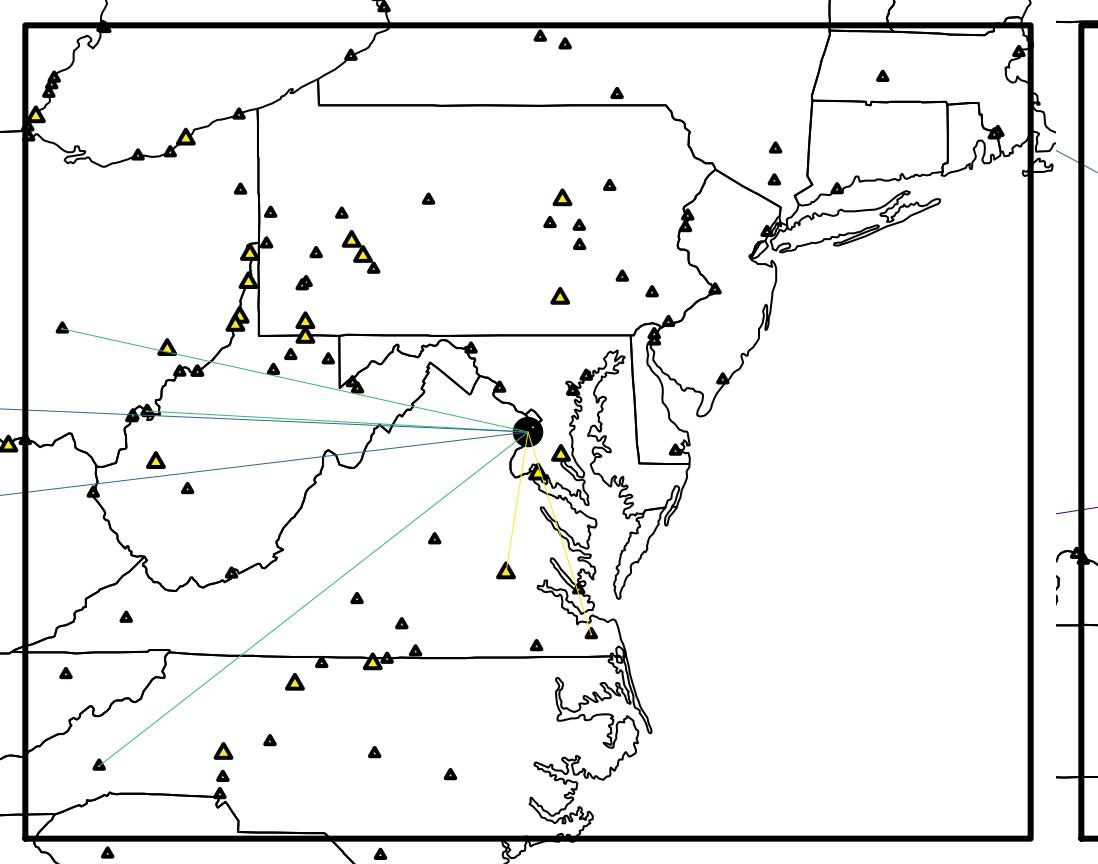
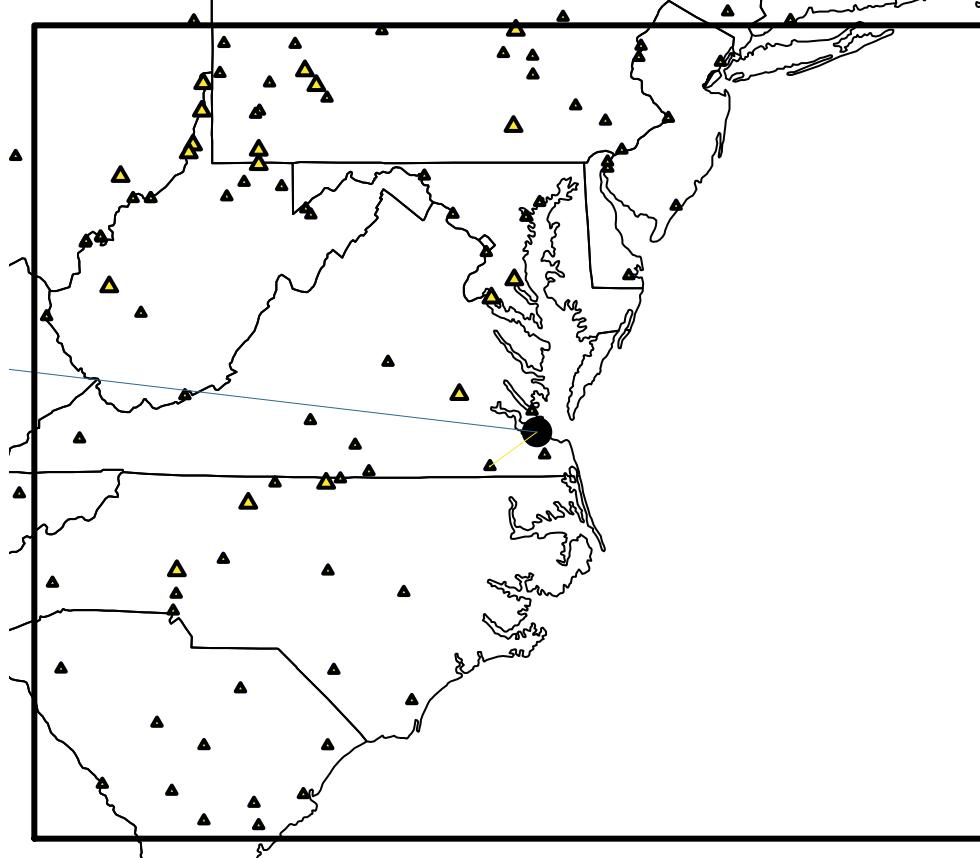
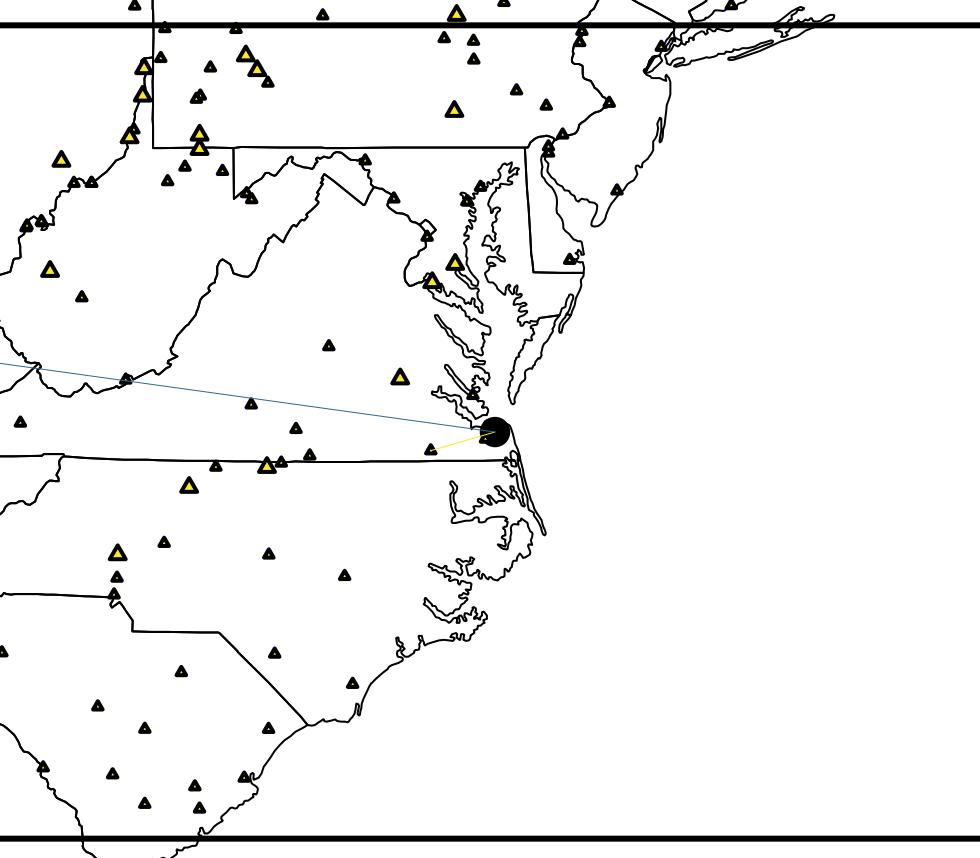
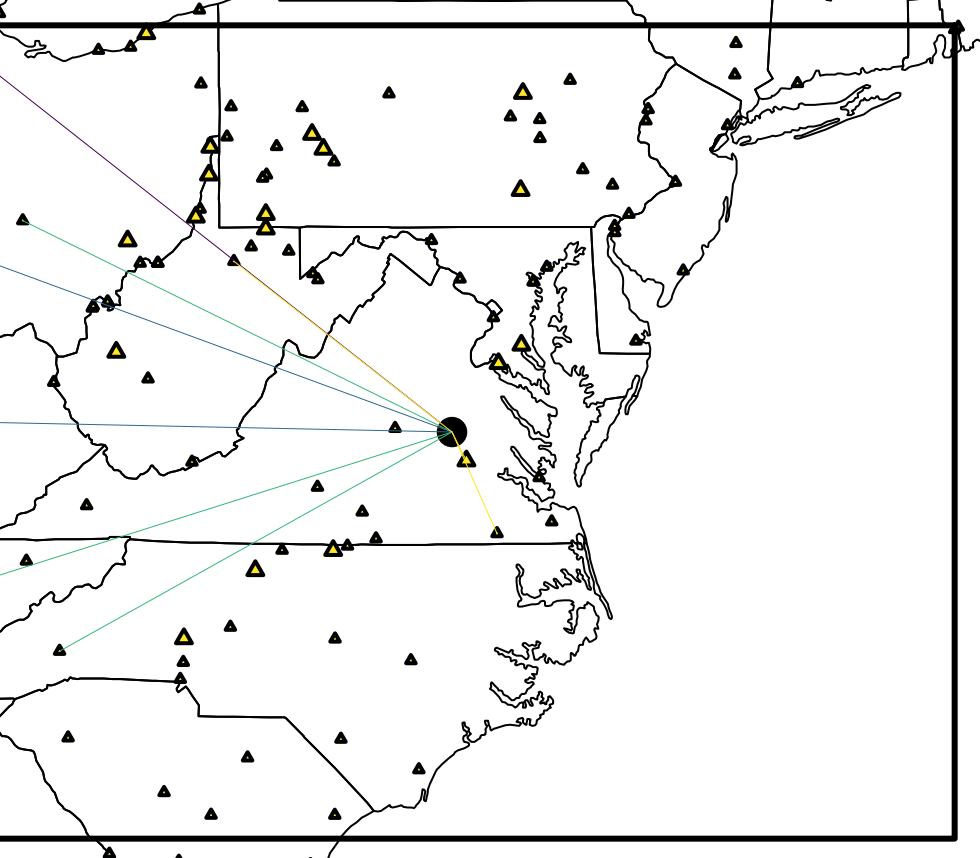
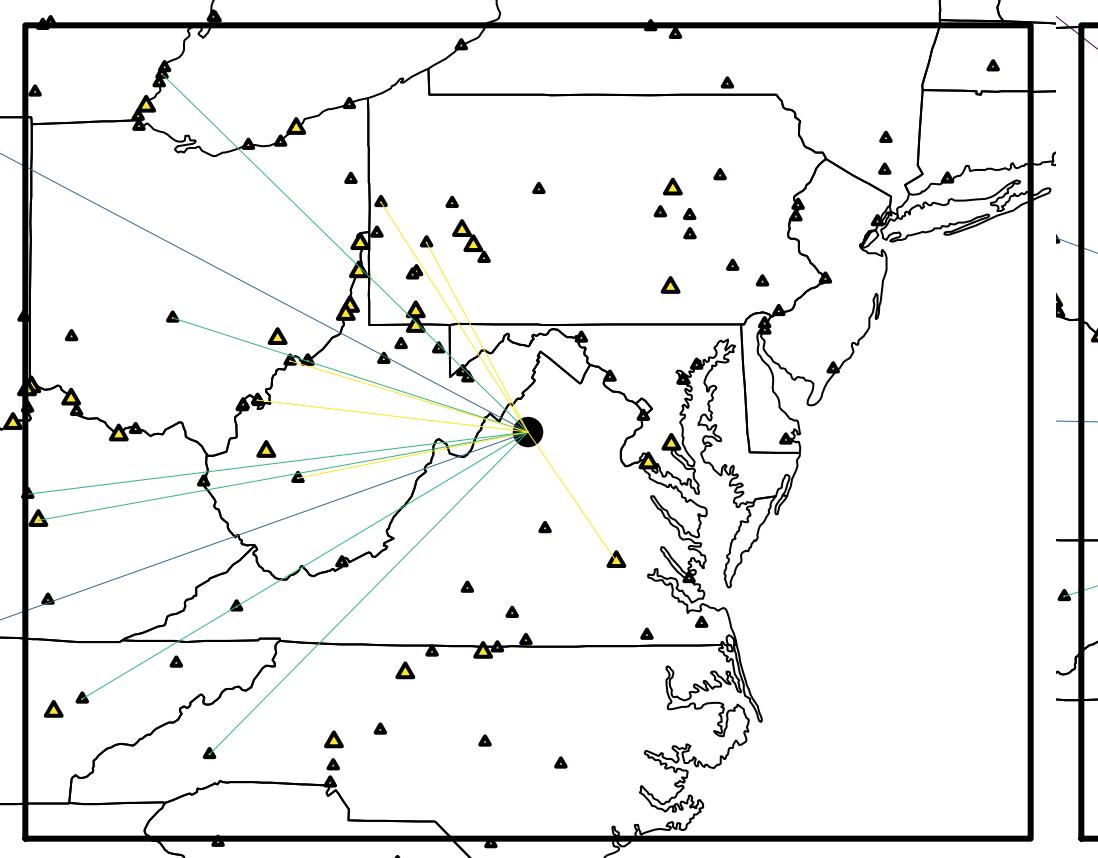


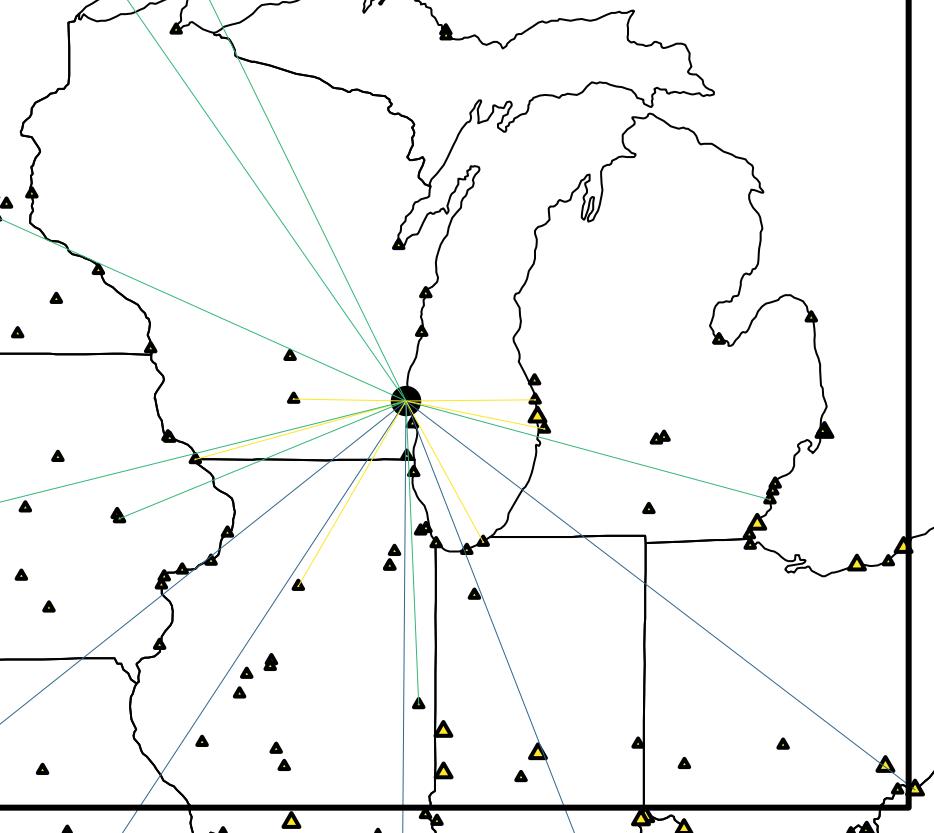
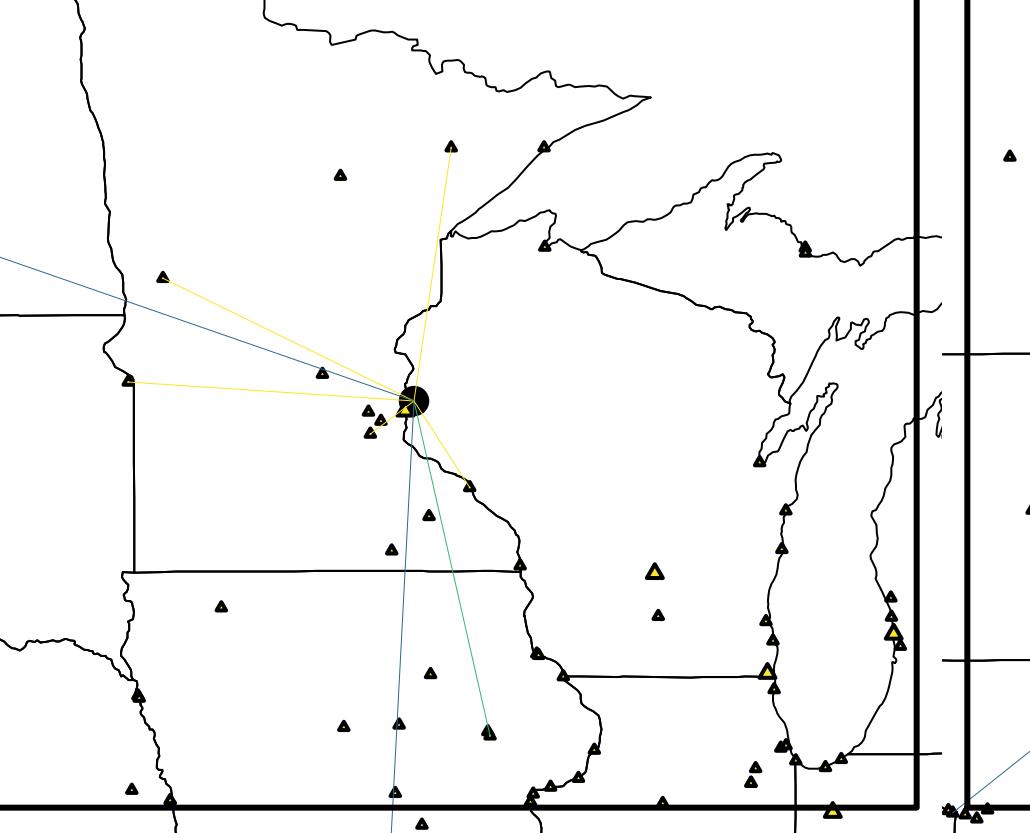
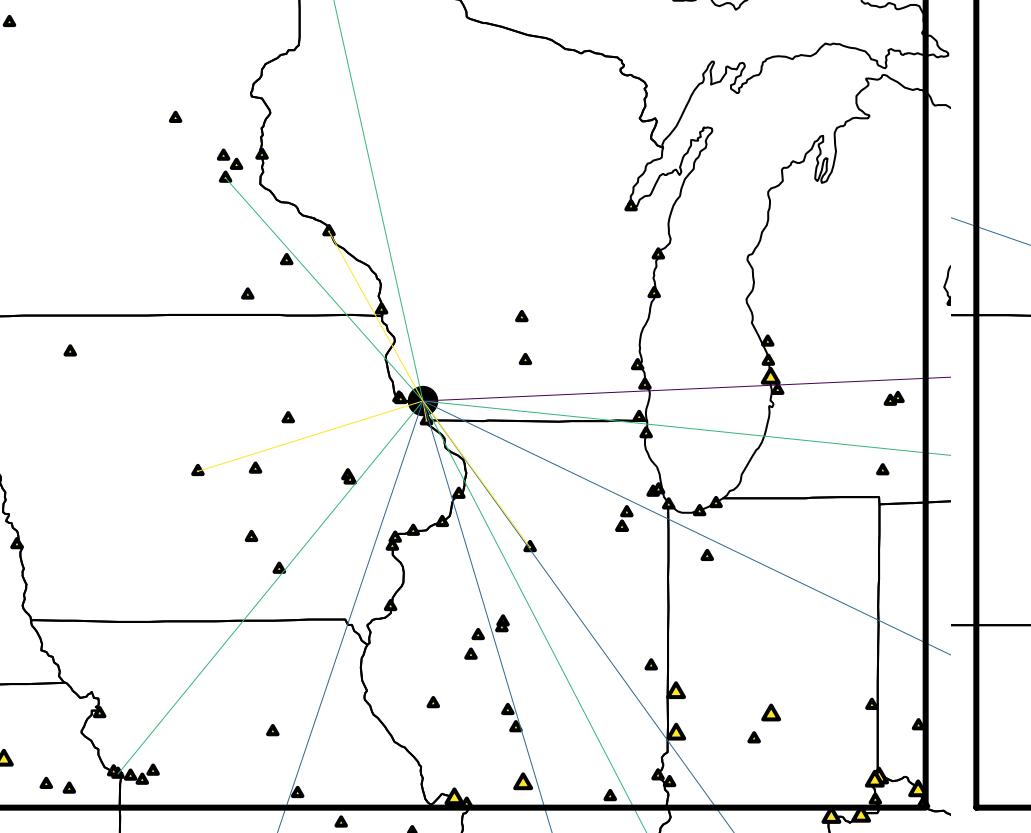
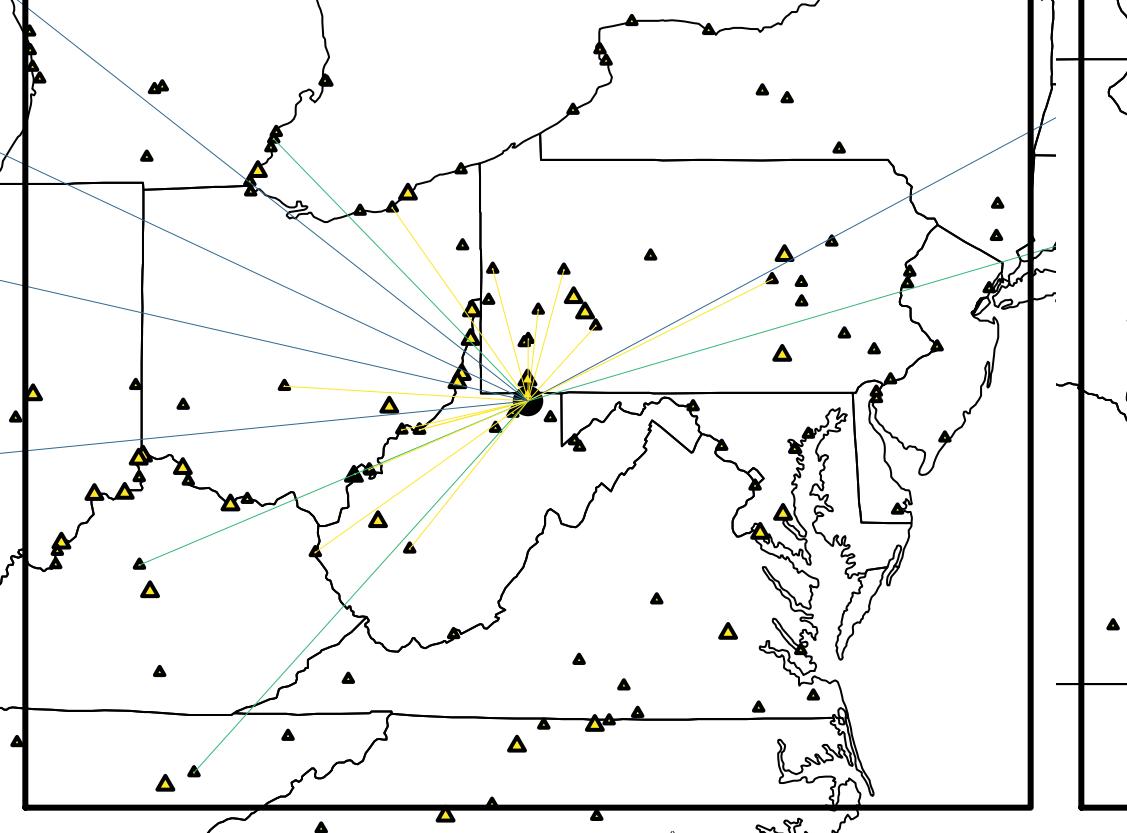
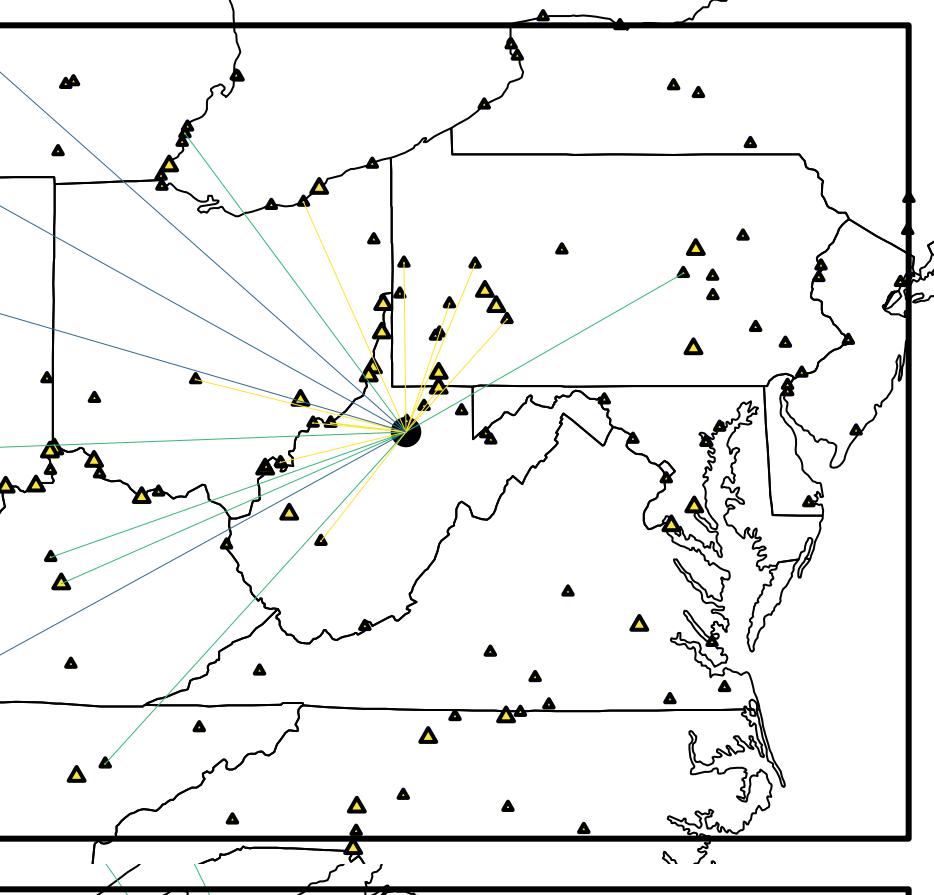
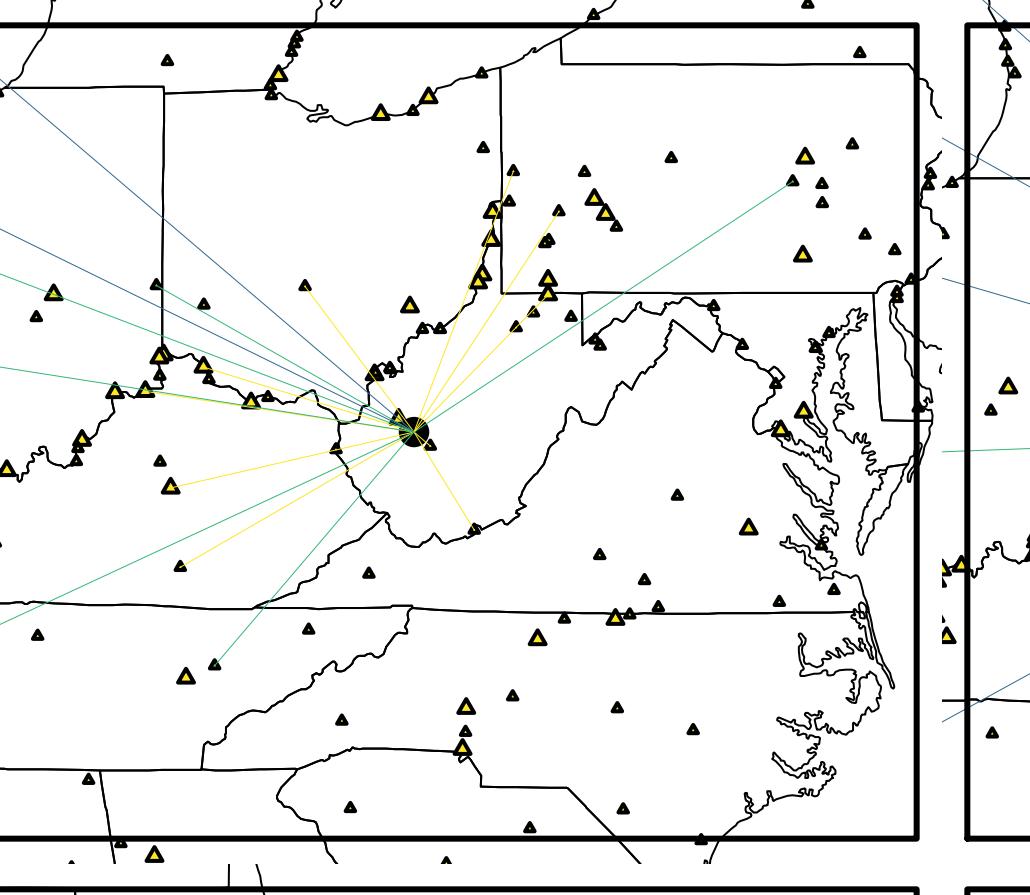
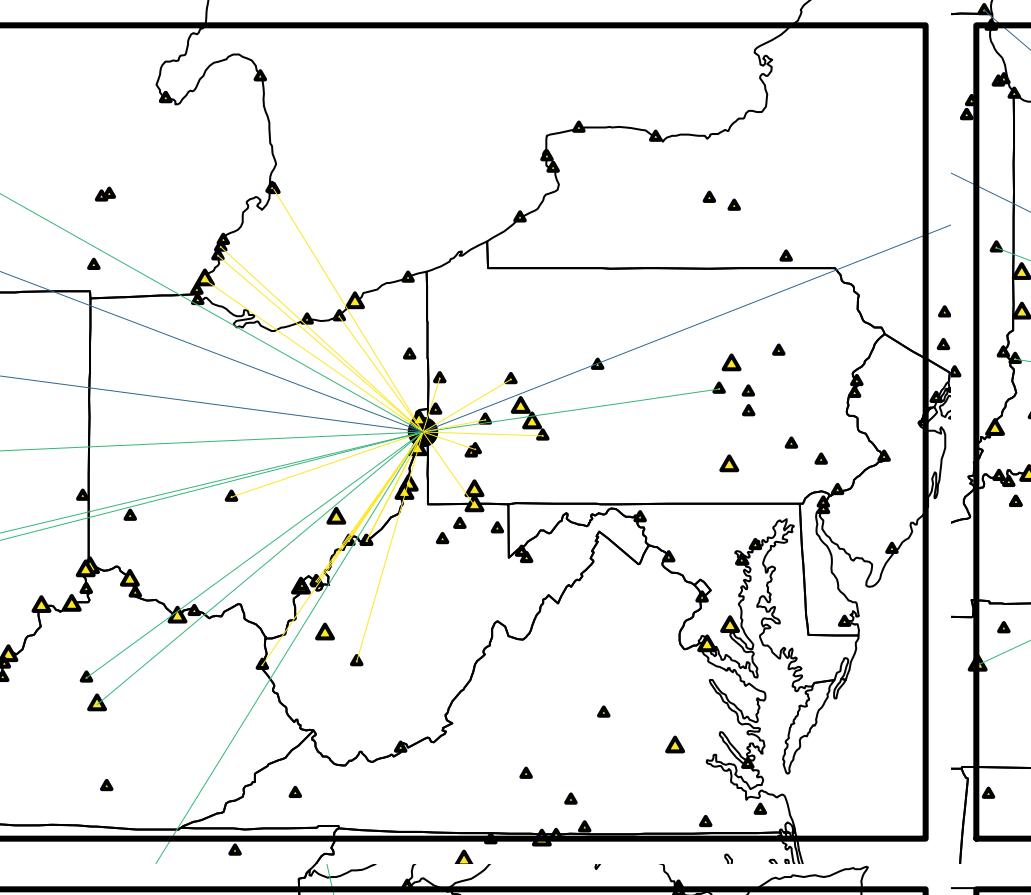
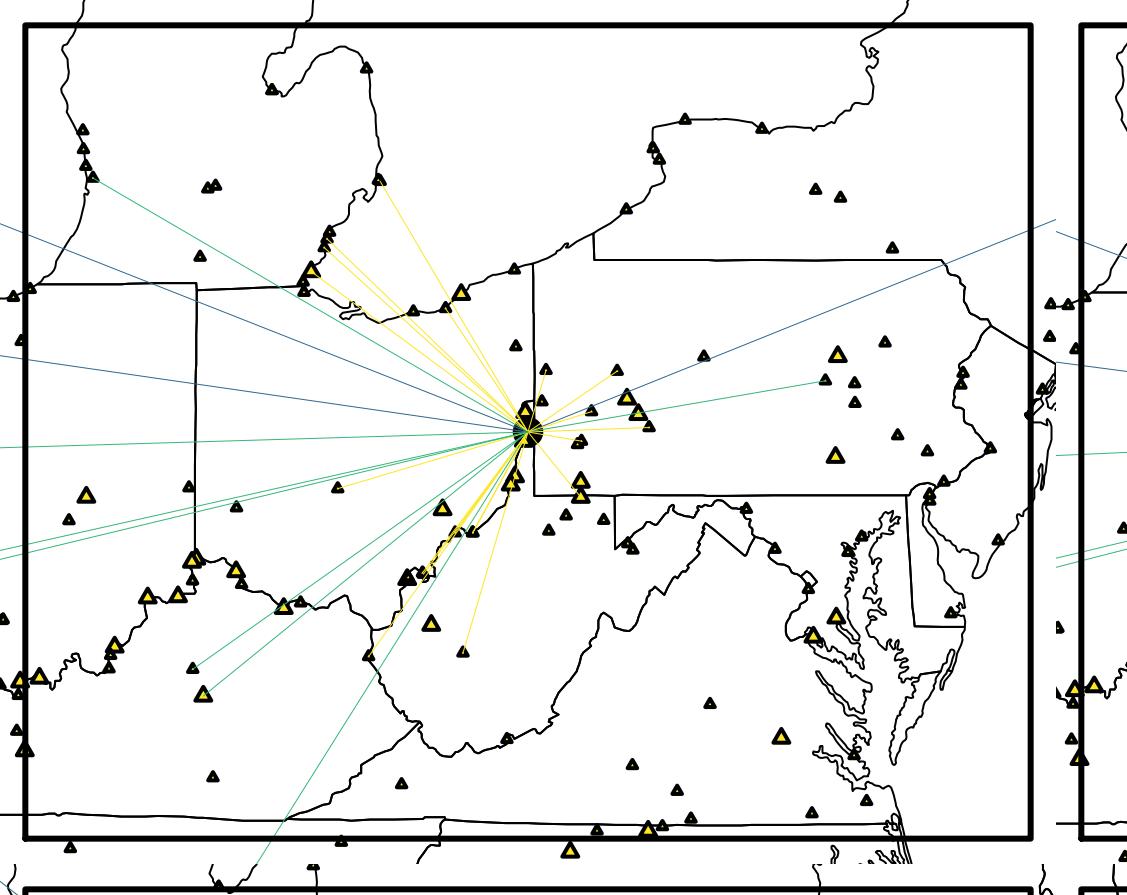


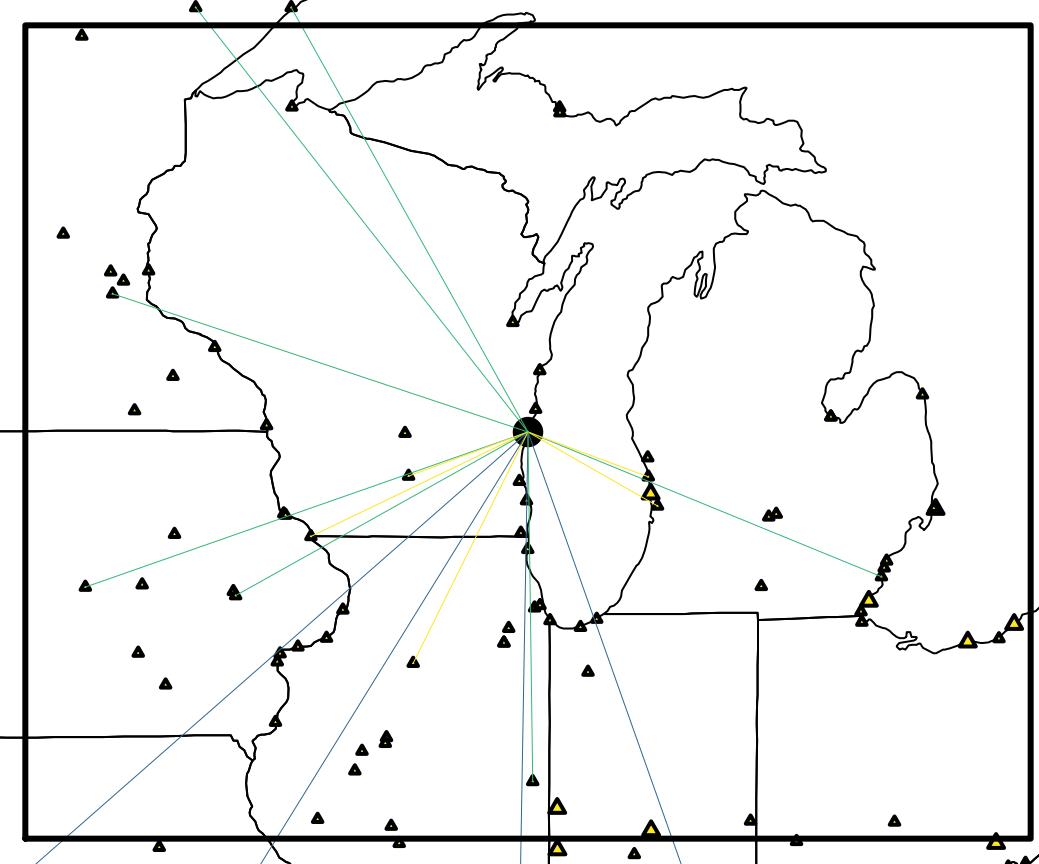
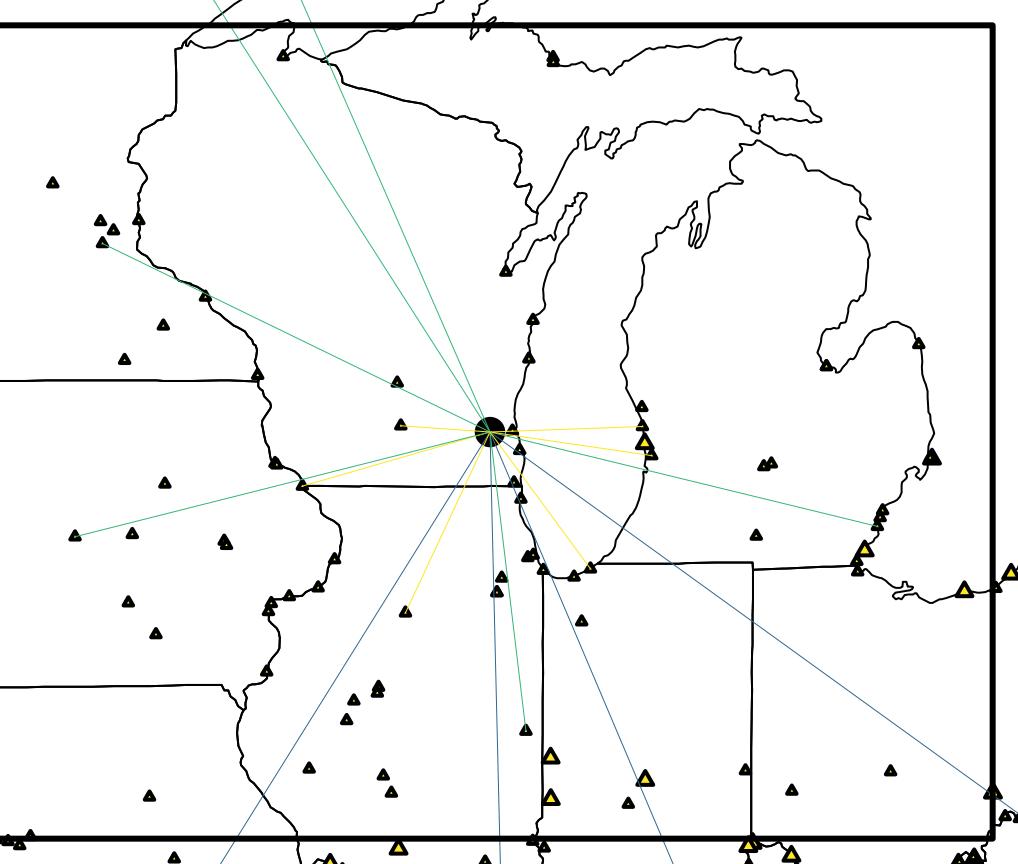
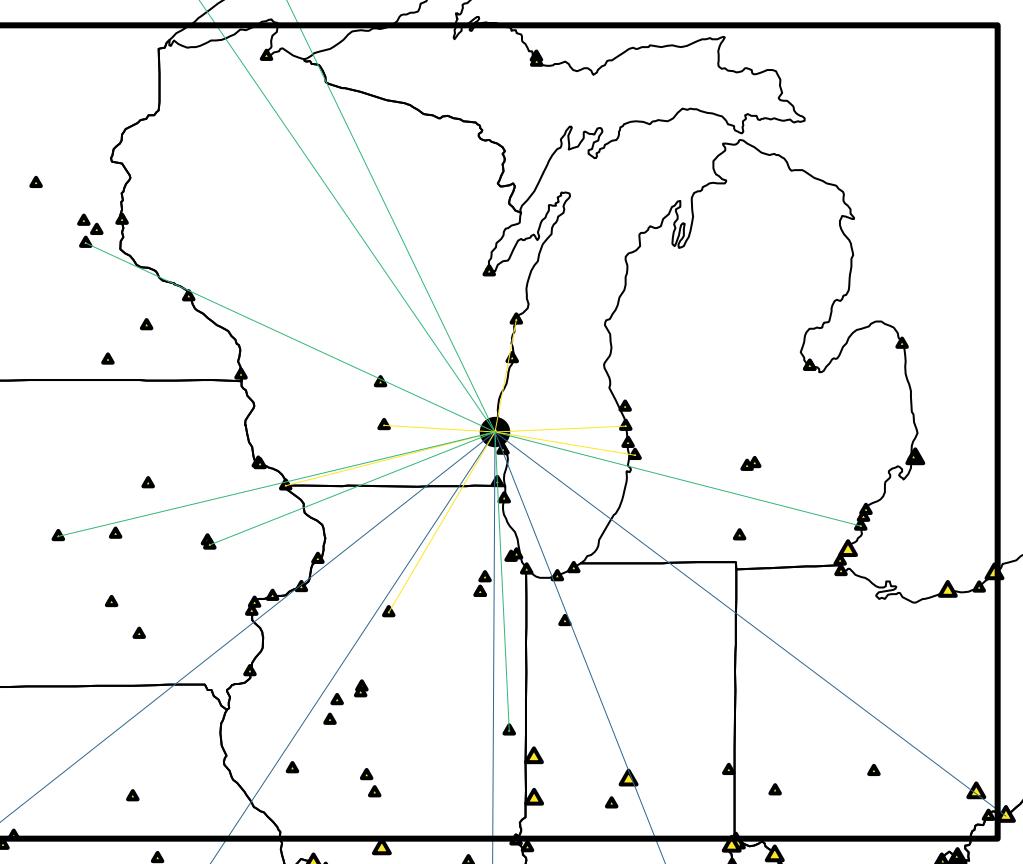
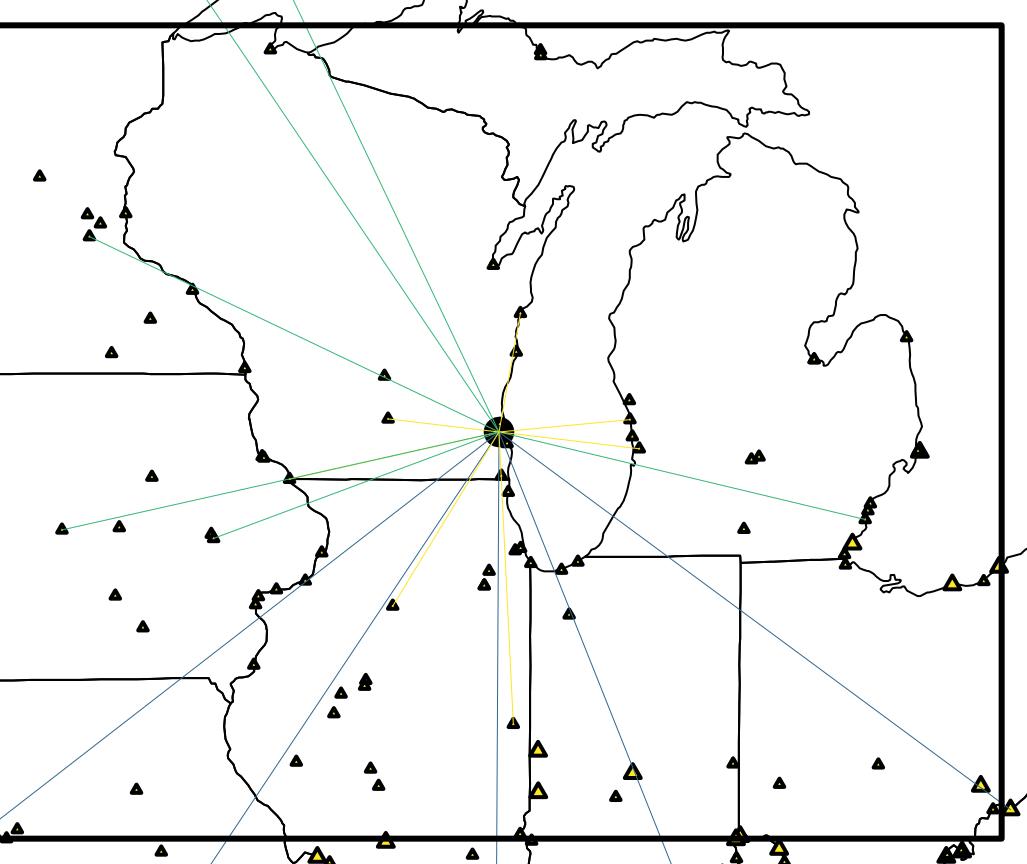
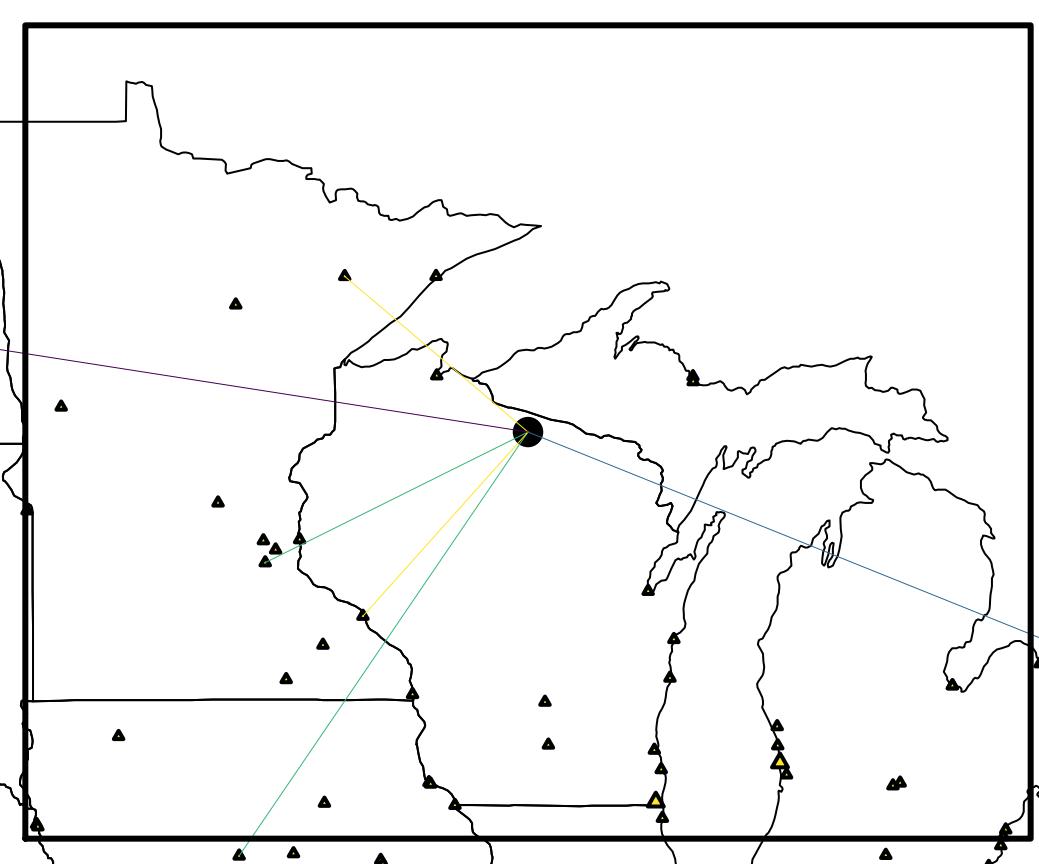




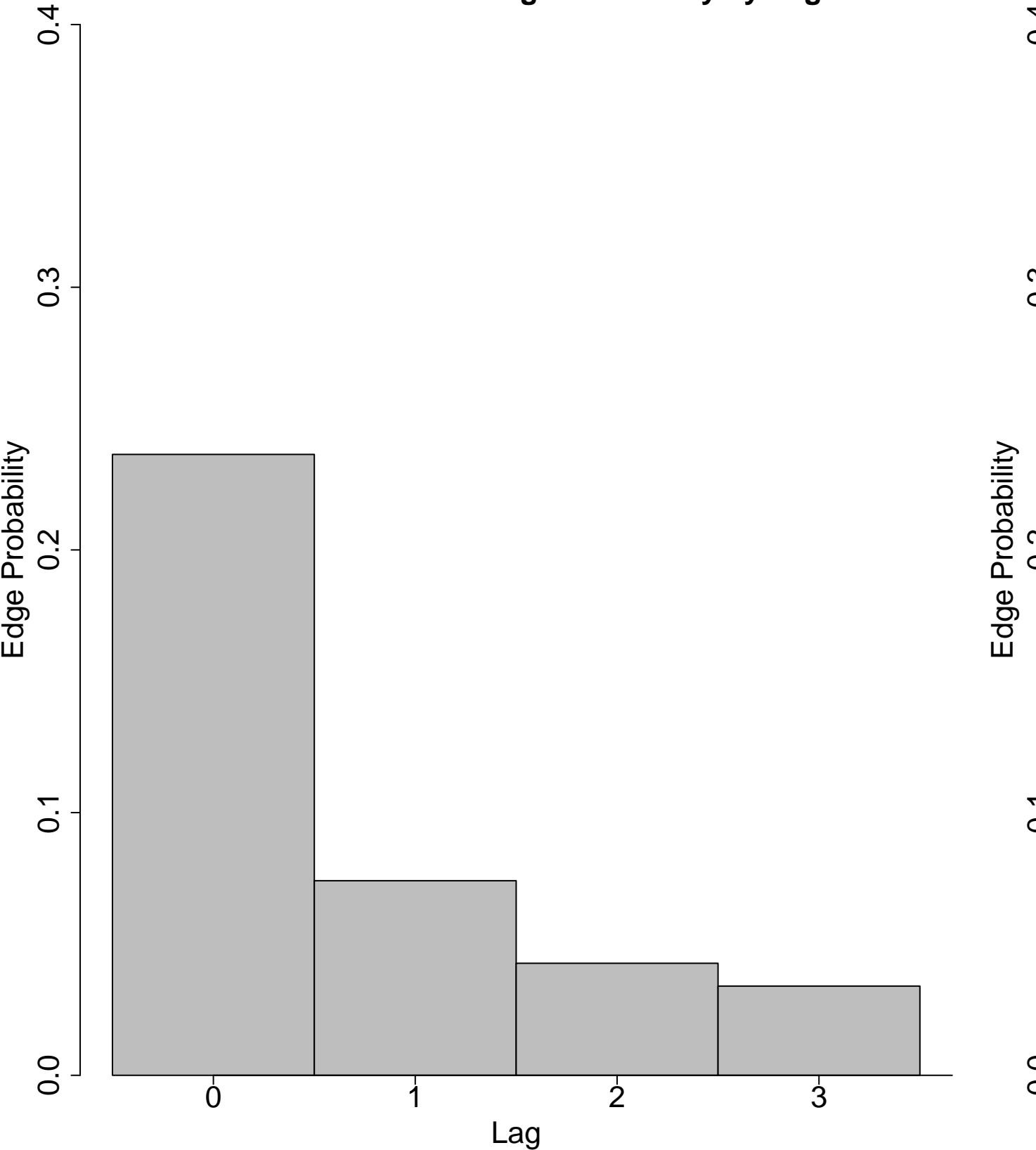




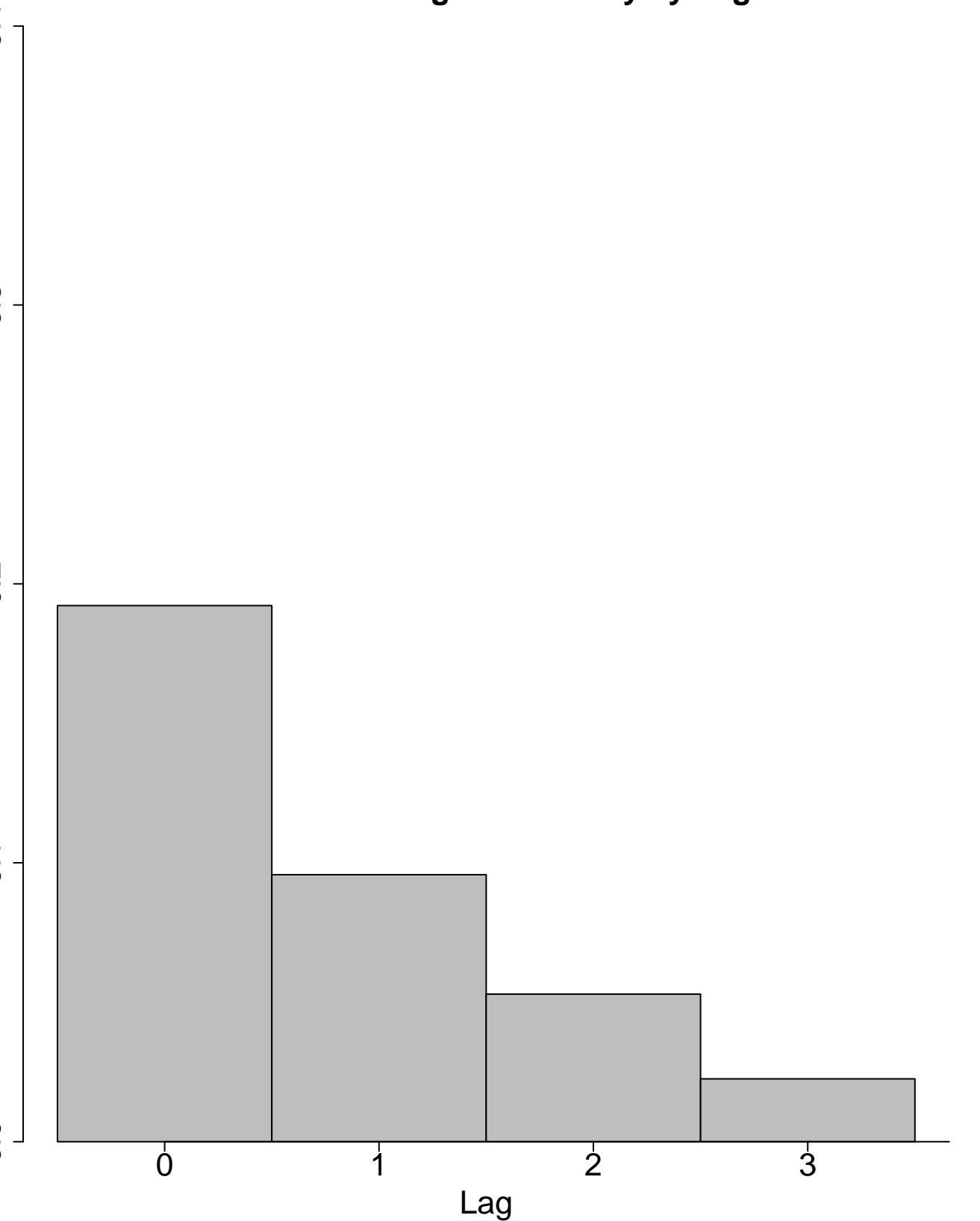




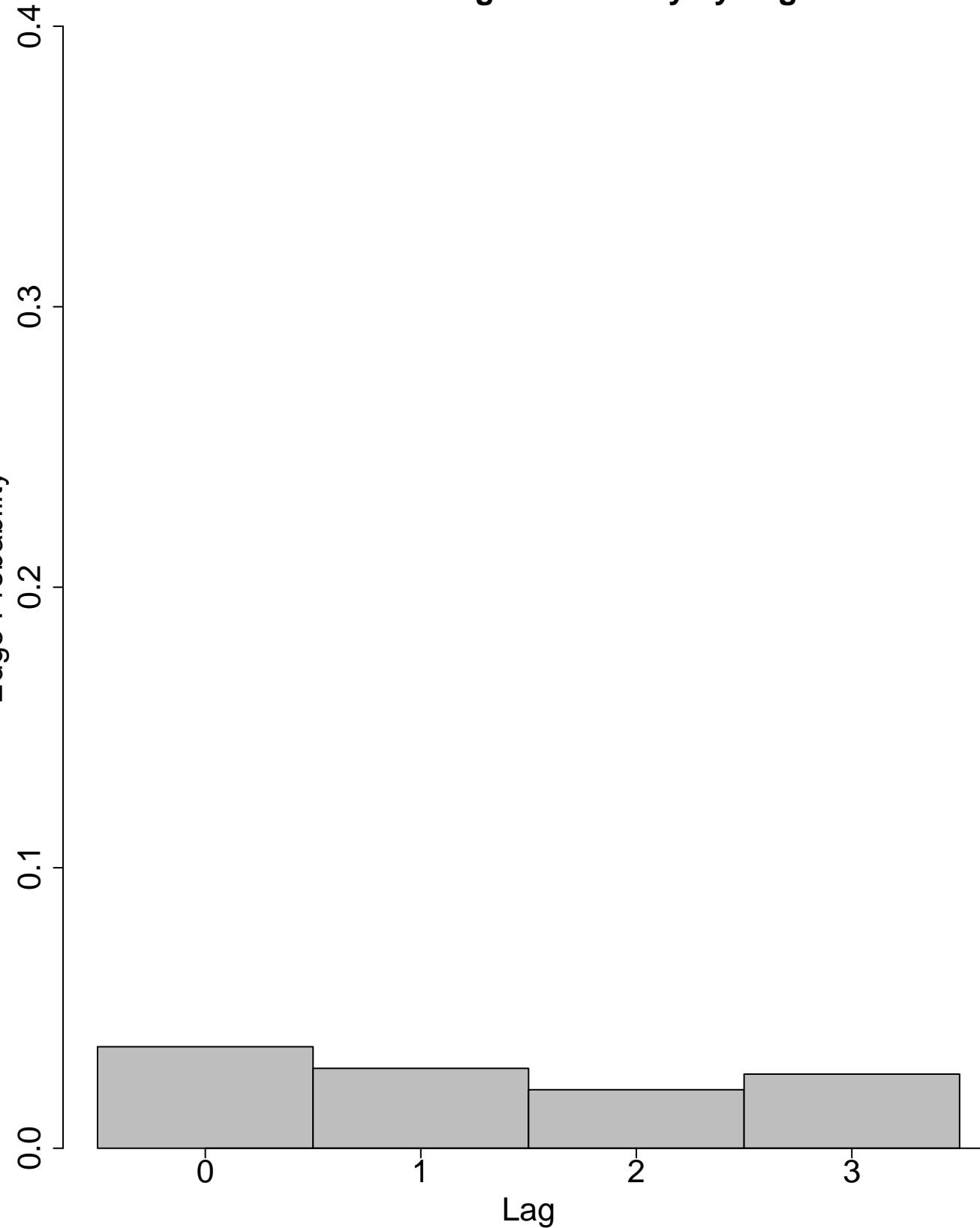
IndustrialMidwest: Edge Probability by Lag



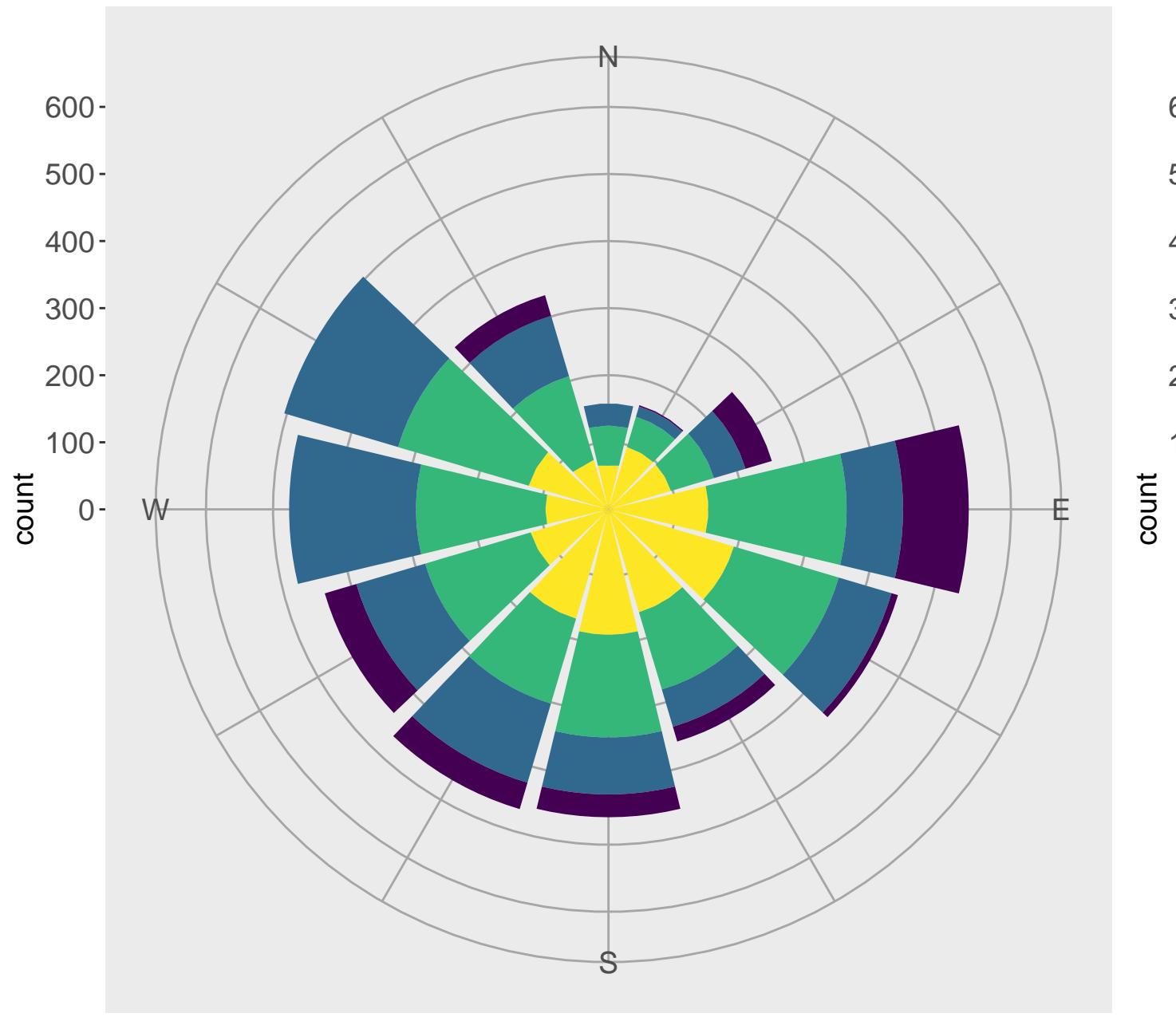
Northeast: Edge Probability by Lag



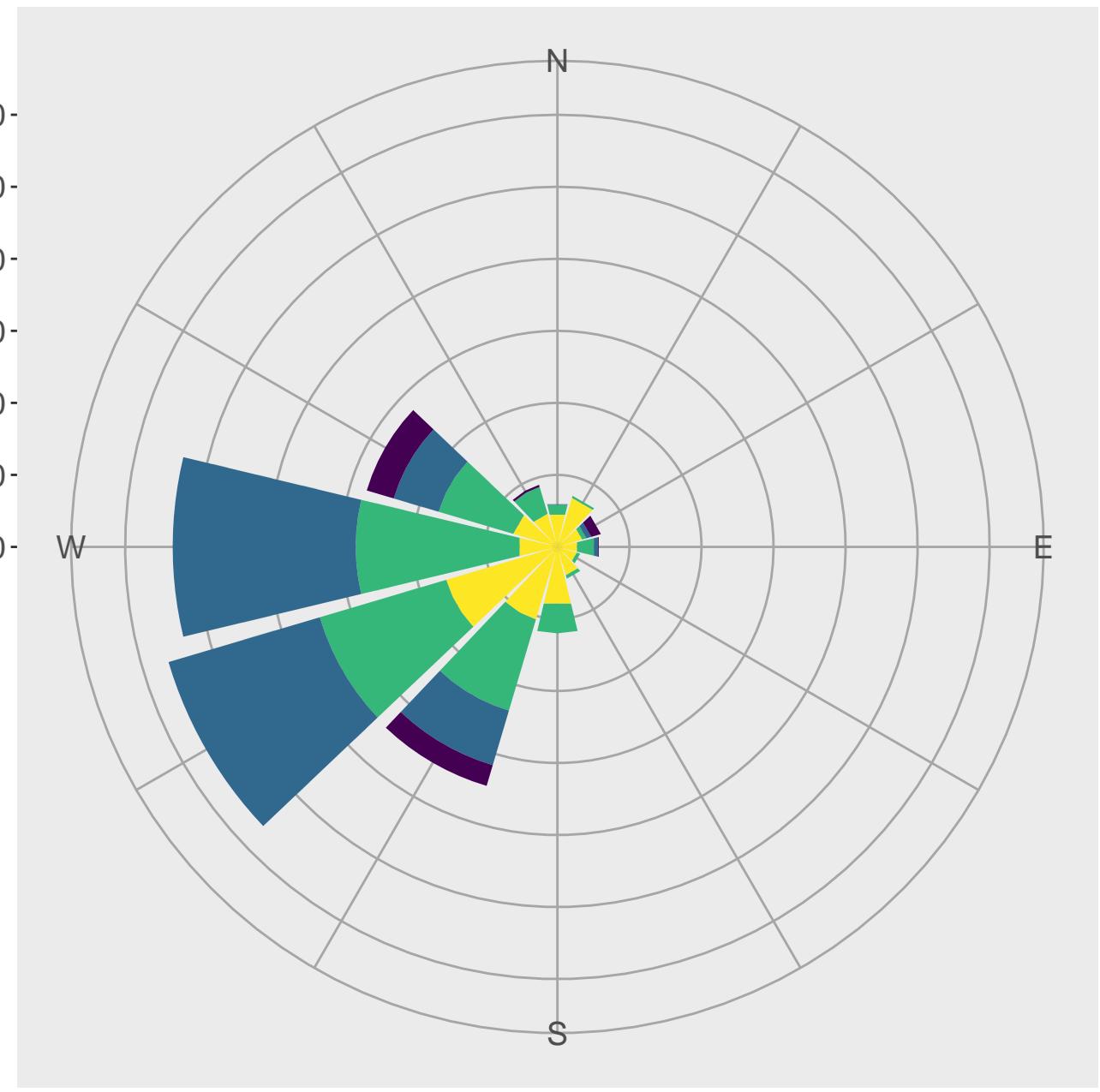
Southeast: Edge Probability by Lag



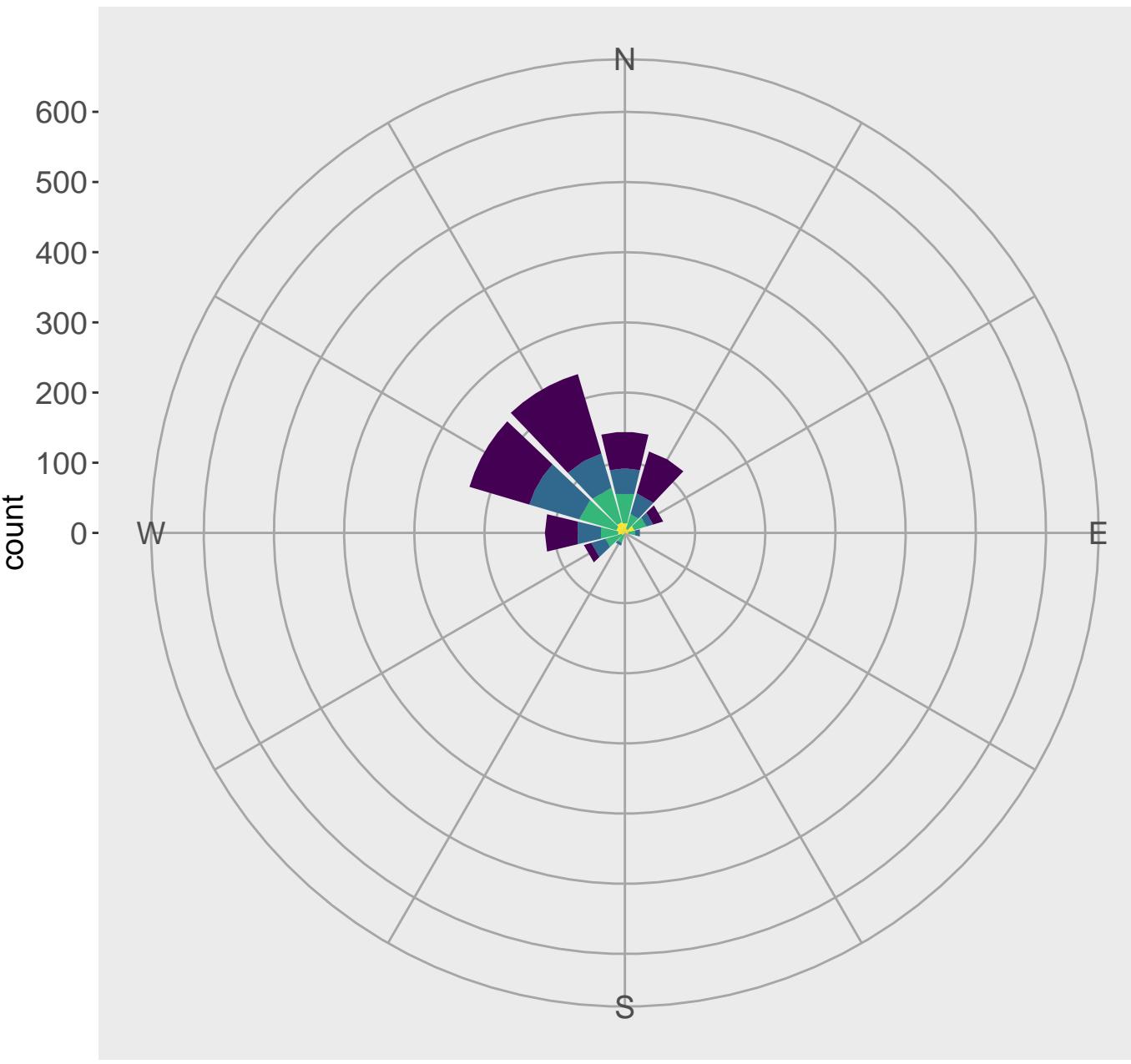
**Edge counts by distance/direction to source
Industrial Midwest receptors**



**Edge counts by distance/direction to source
Northeast receptors**



**Edge counts by distance/direction to source
Southeast receptors**

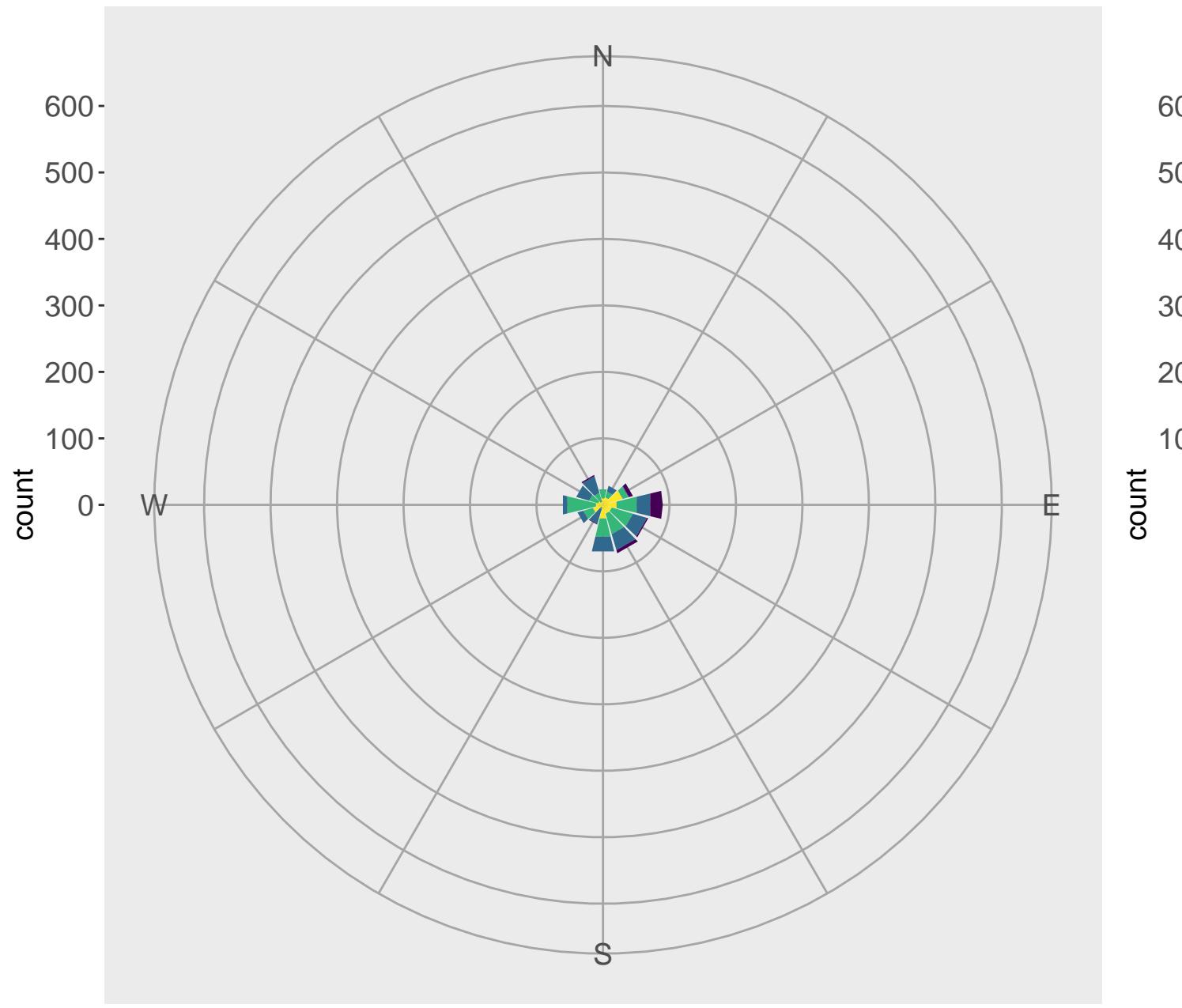


Distance to Source (km) 750–1000 500–750 250–500 0–250

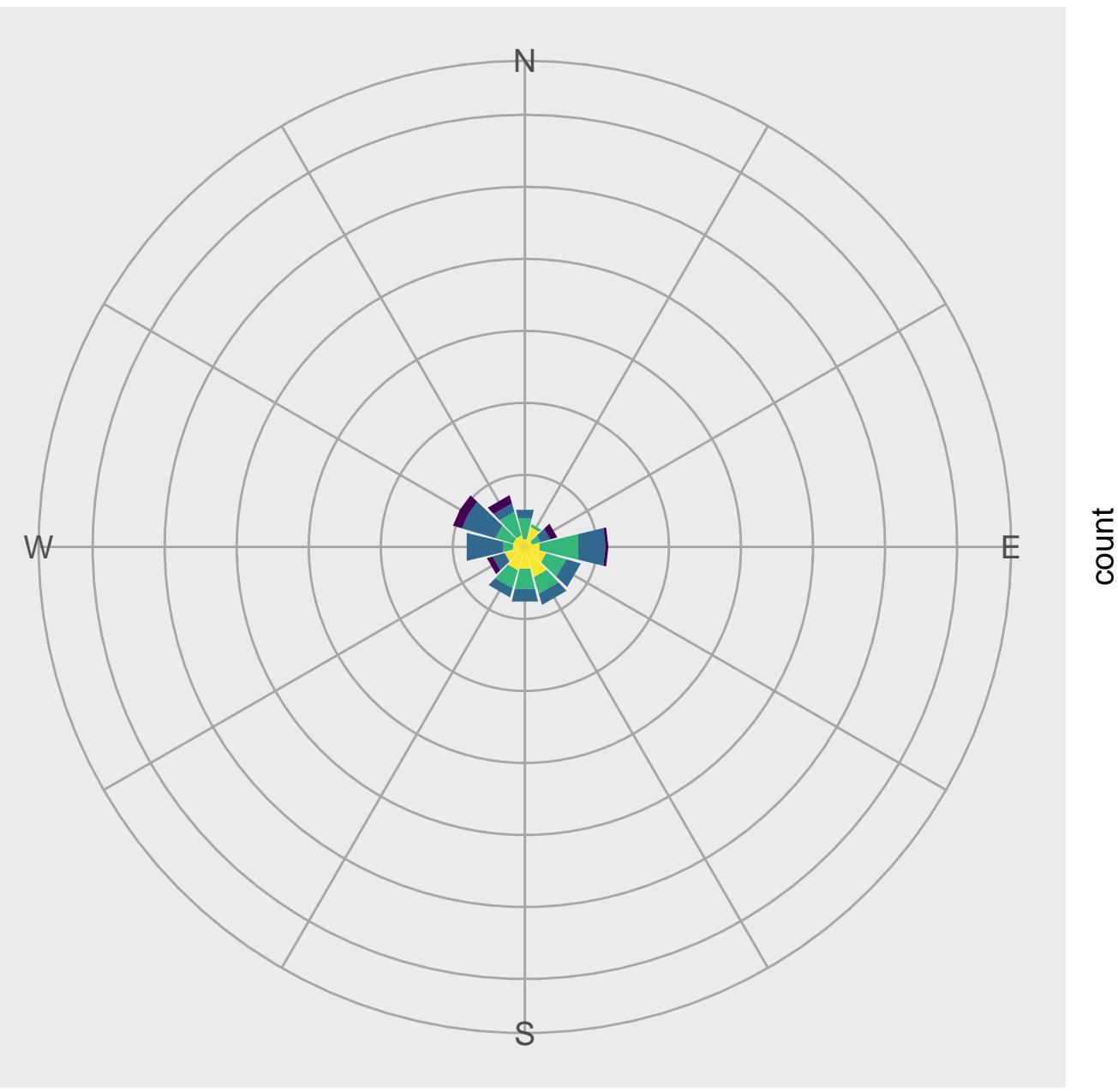
Distance to Source (km) 750–1000 500–750 250–500 0–250

Distance to Source (km) 750–1000 500–750 250–500 0–250

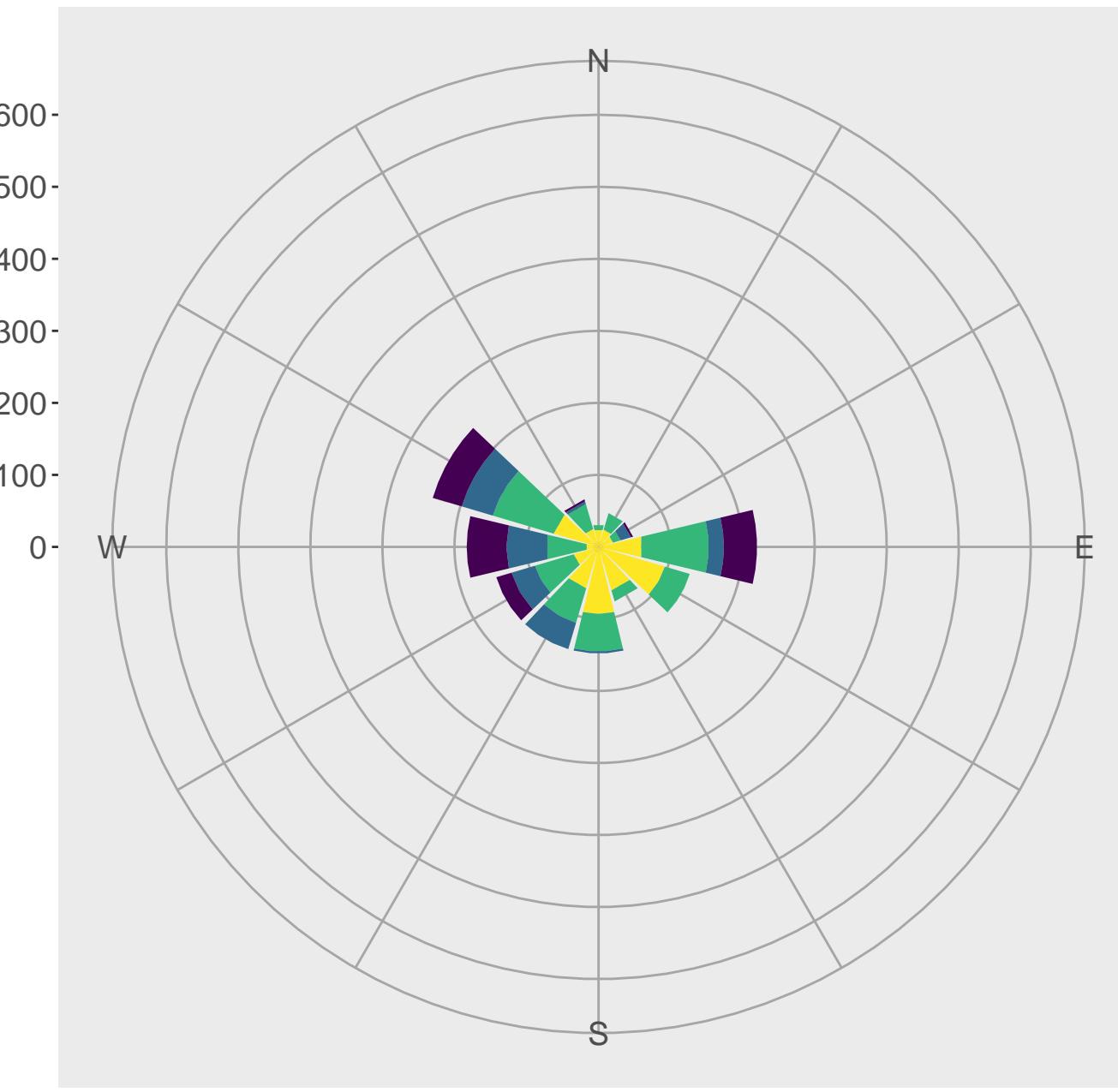
**Edge counts by distance/direction to source
Illinois receptors**



**Edge counts by distance/direction to source
Indiana receptors**



**Edge counts by distance/direction to source
Ohio receptors**

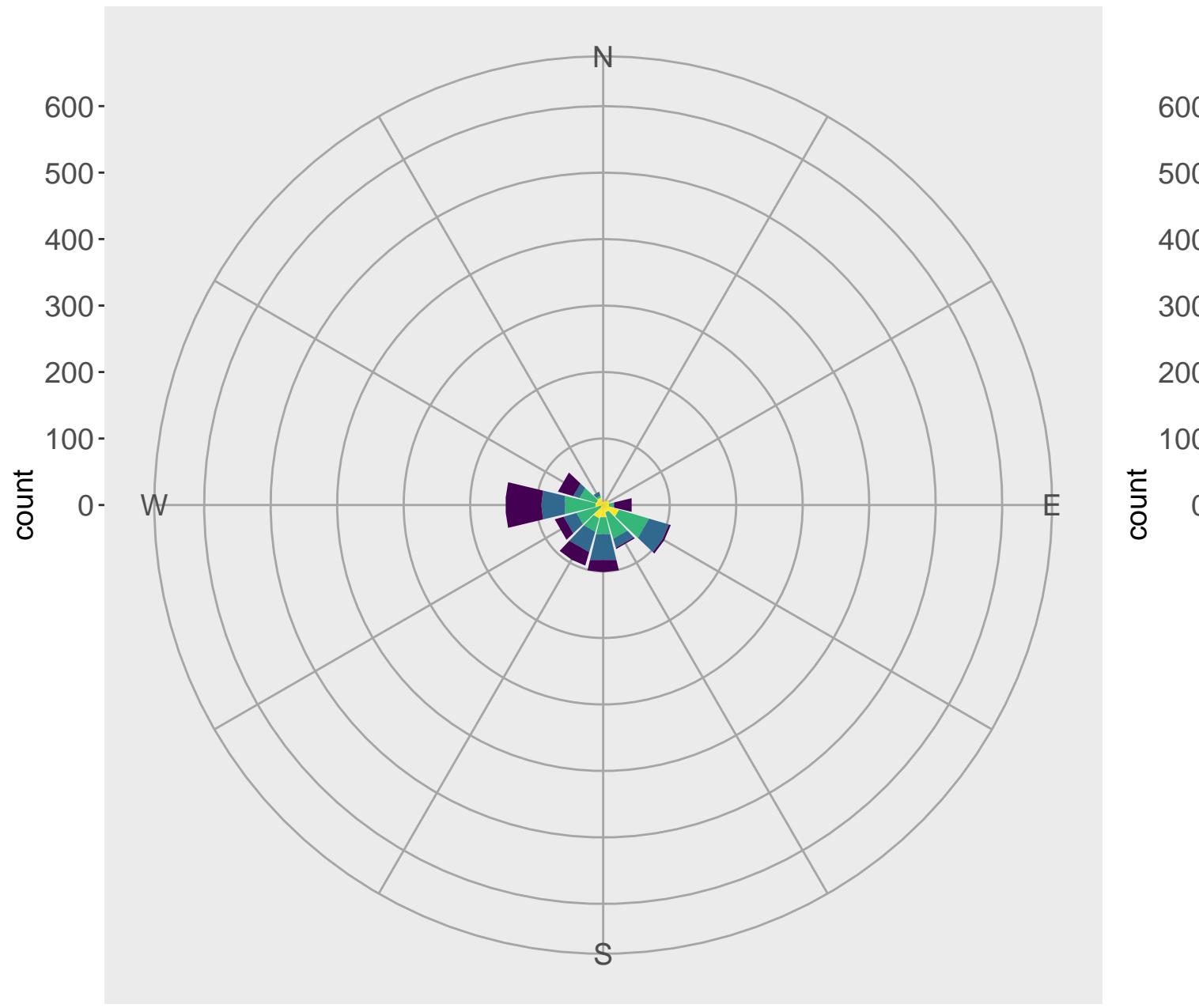


Distance to Source (km) 750–1000 500–750 250–500 0–250

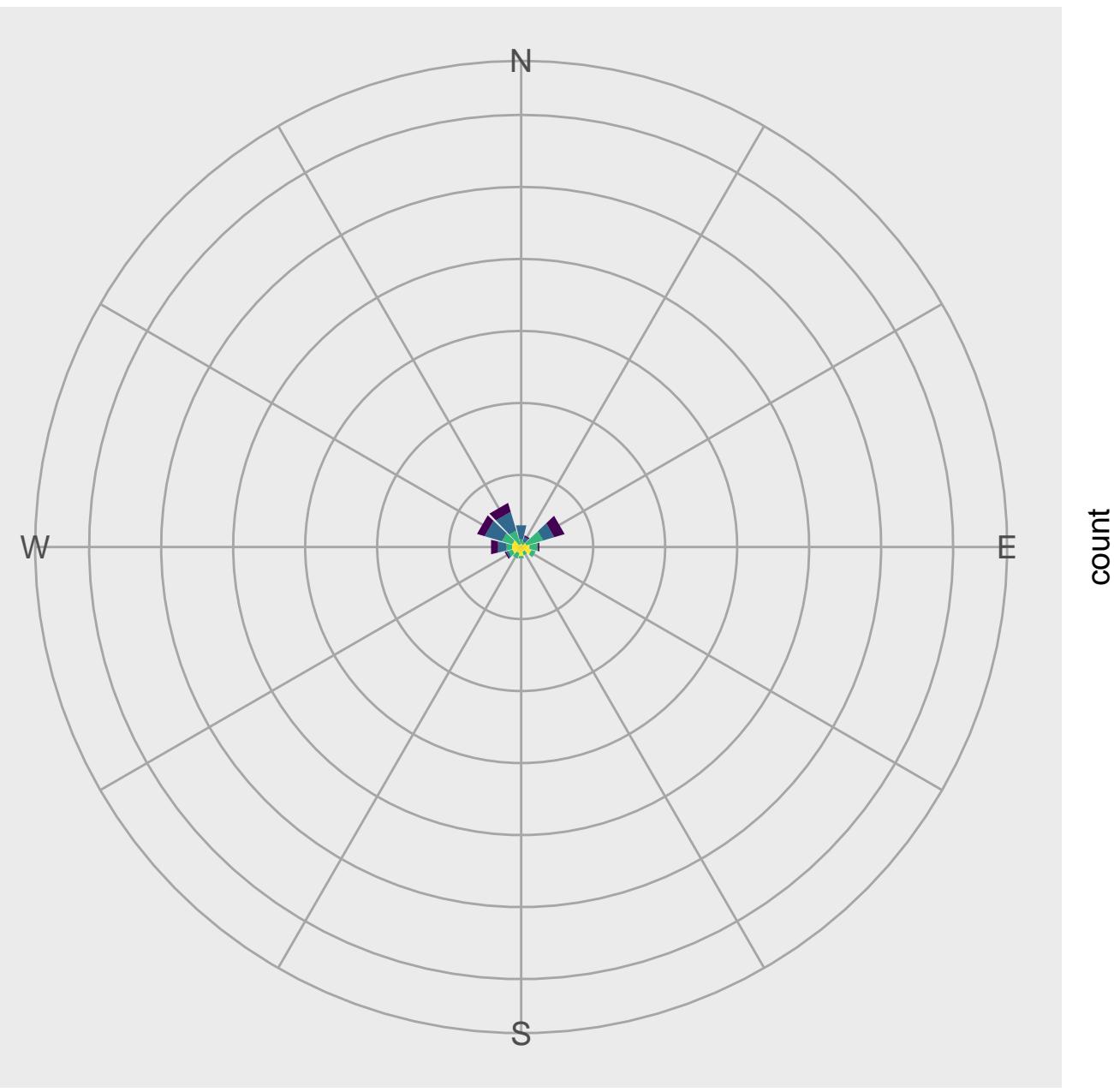
Distance to Source (km) 750–1000 500–750 250–500 0–250

Distance to Source (km) 750–1000 500–750 250–500 0–250

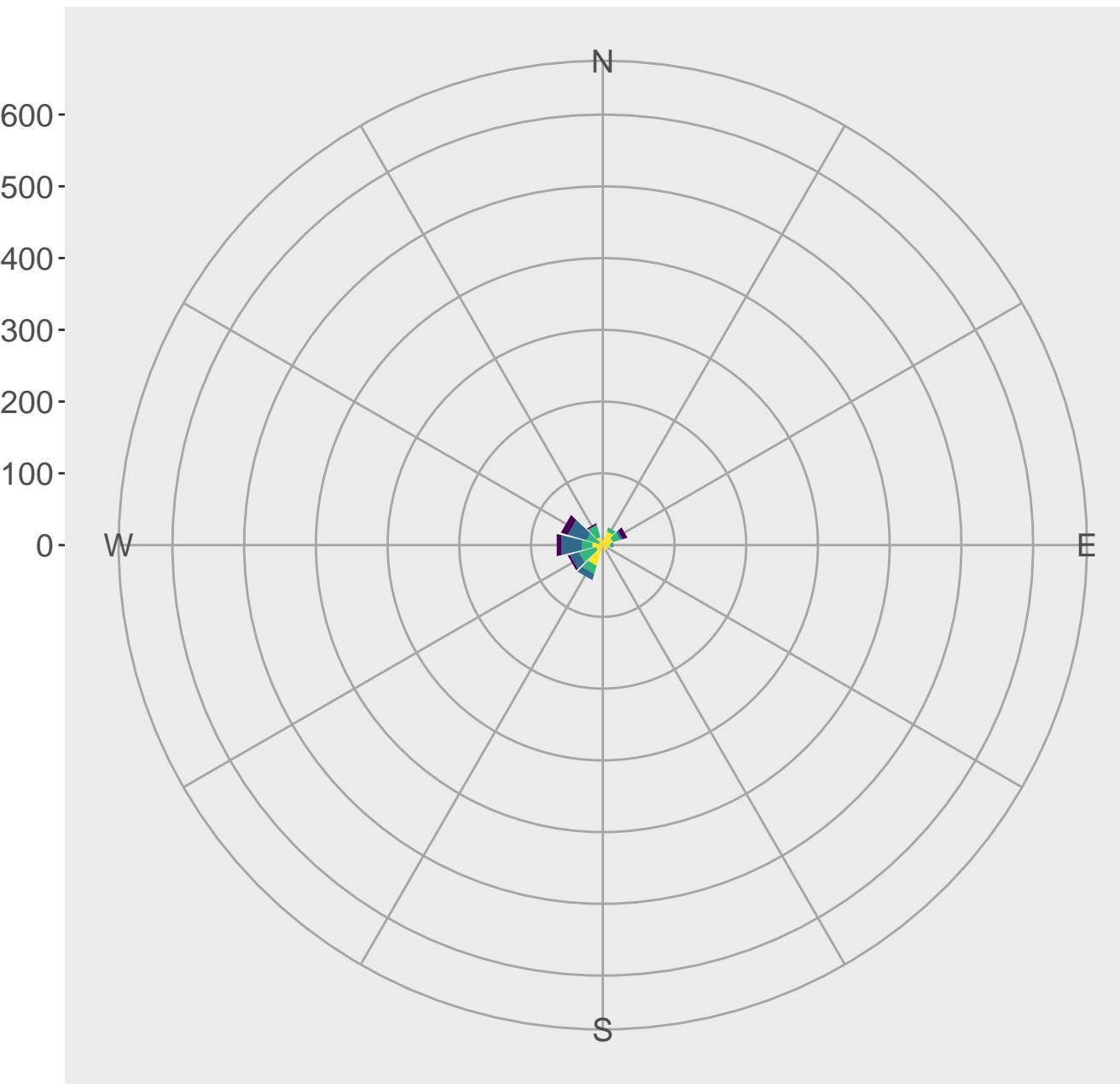
Edge counts by distance/direction to source
Michigan receptors



Edge counts by distance/direction to source
Kentucky receptors



Edge counts by distance/direction to source
West Virginia receptors

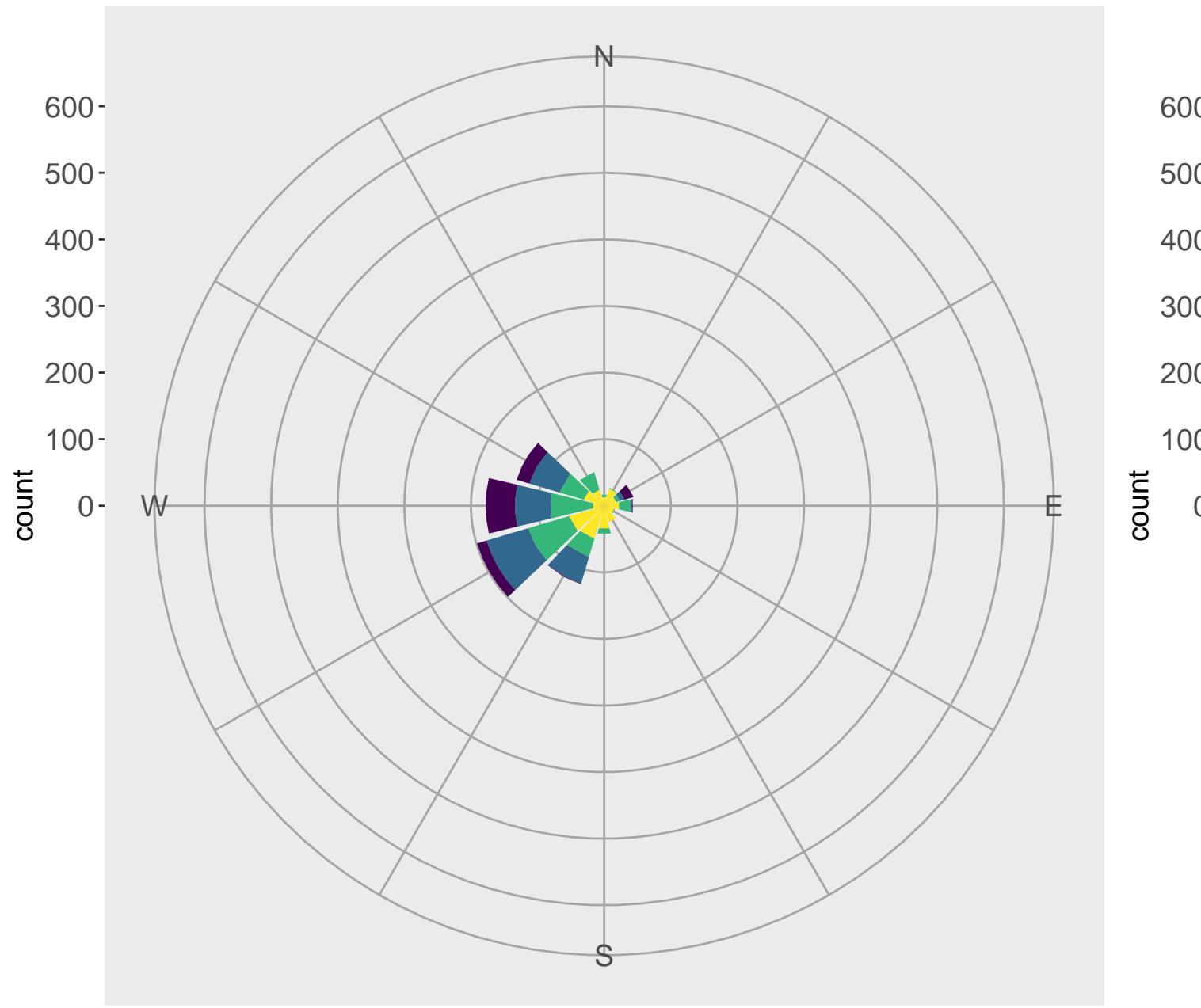


Distance to Source (km) 750–1000 500–750 250–500 0–250

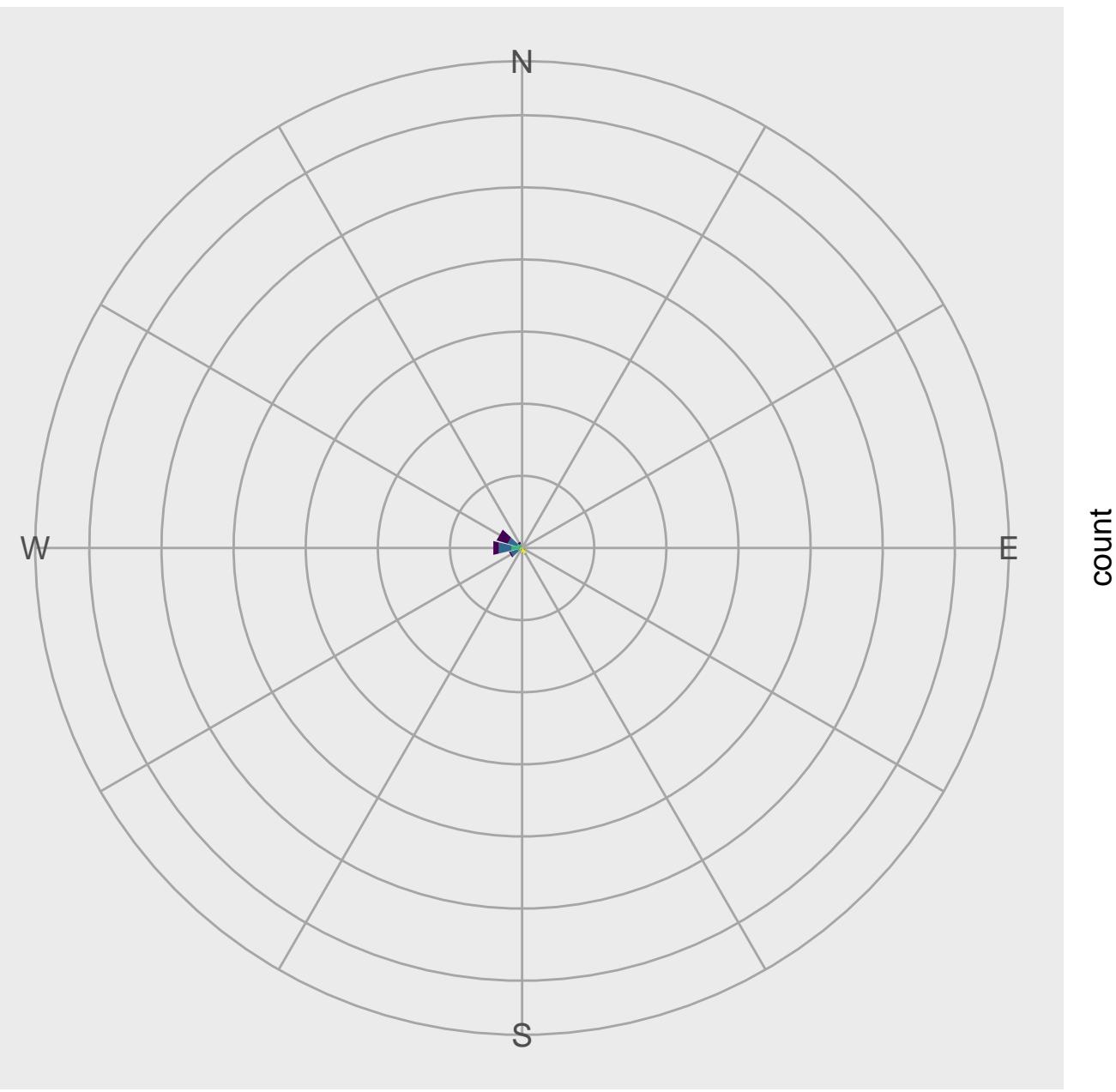
Distance to Source (km) 750–1000 500–750 250–500 0–250

Distance to Source (km) 750–1000 500–750 250–500 0–250

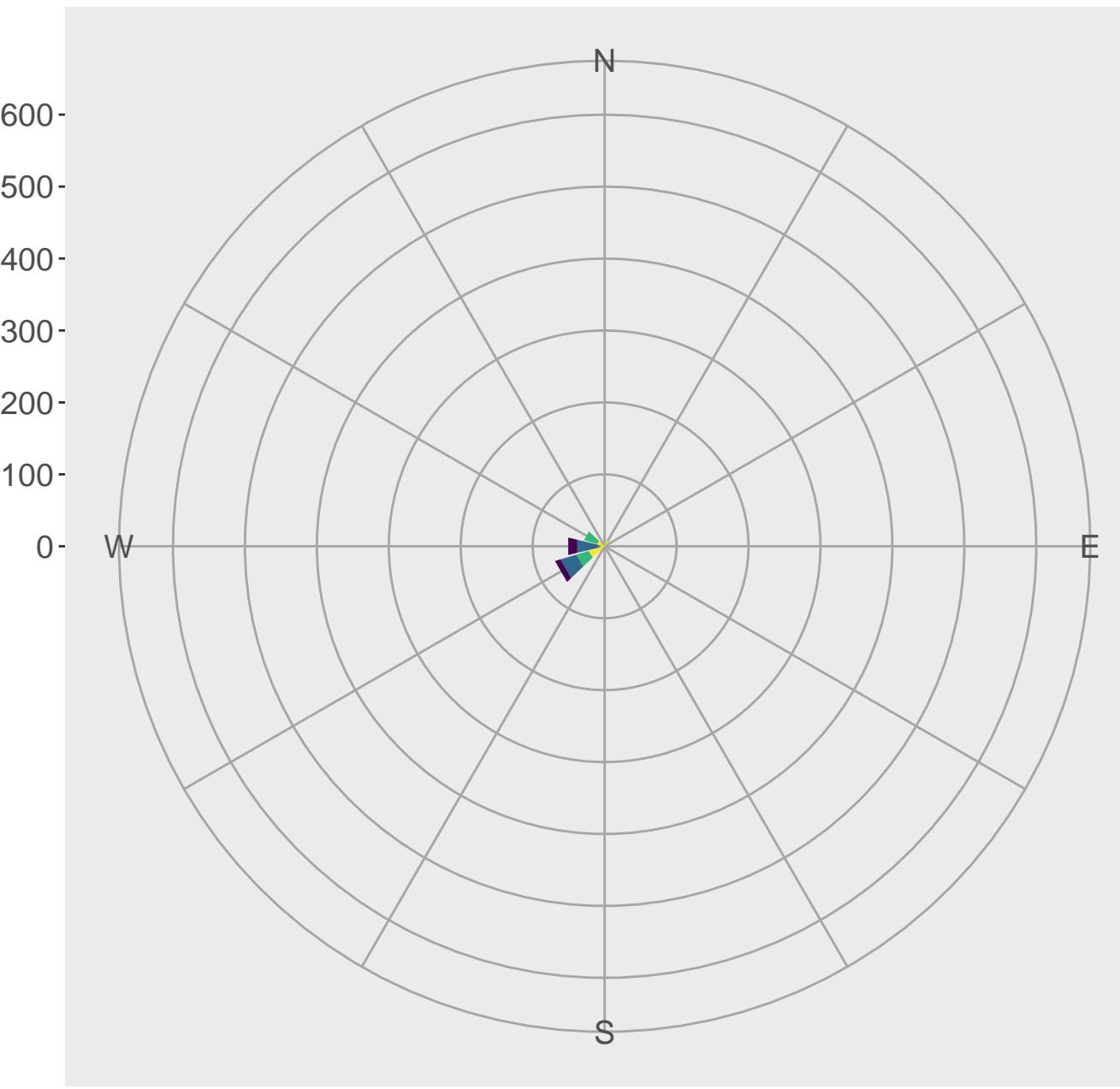
Edge counts by distance/direction to source
Pennsylvania receptors



Edge counts by distance/direction to source
Virginia receptors



Edge counts by distance/direction to source
Connecticut receptors

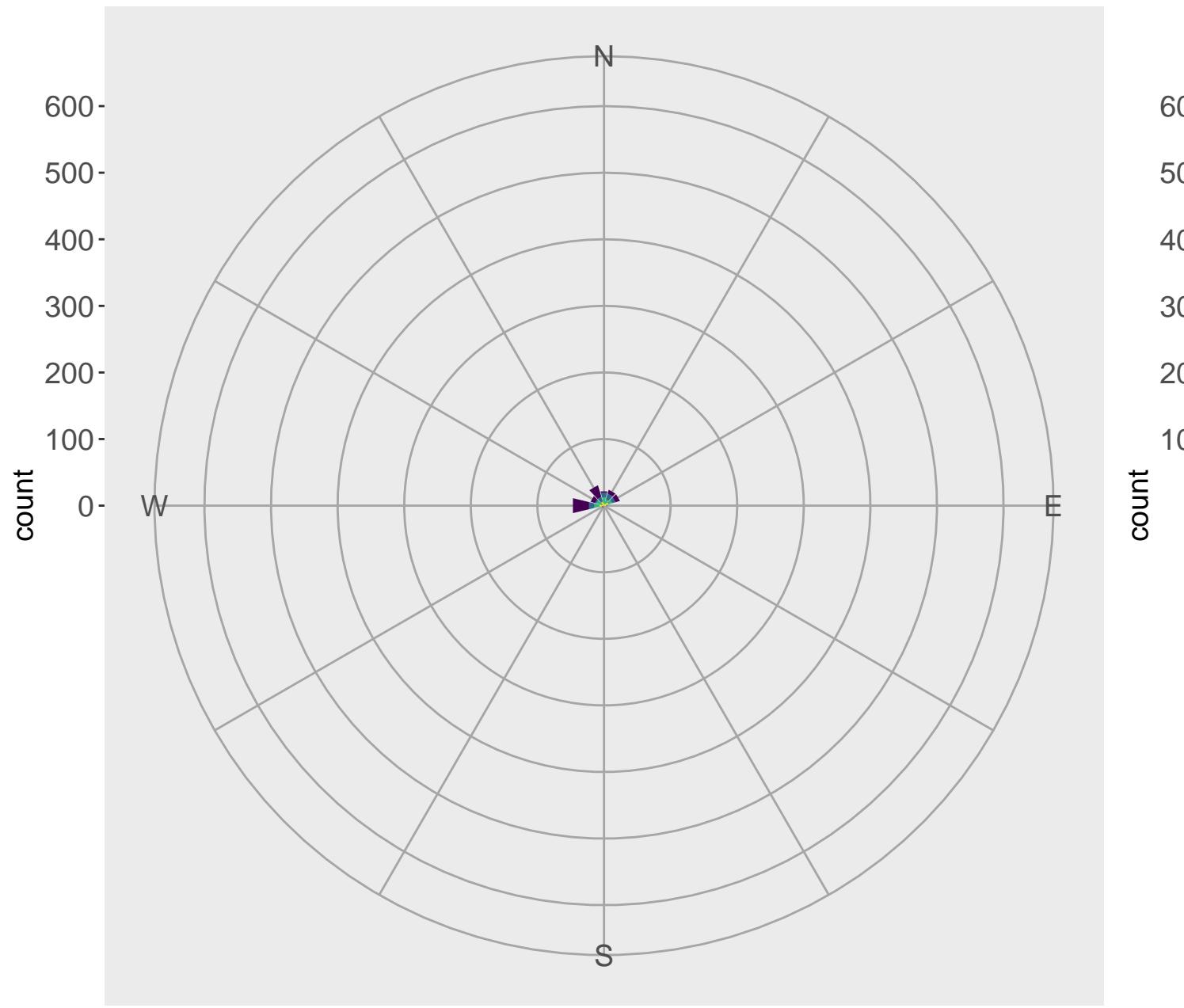


Distance to Source (km) 750–1000 500–750 250–500 0–250

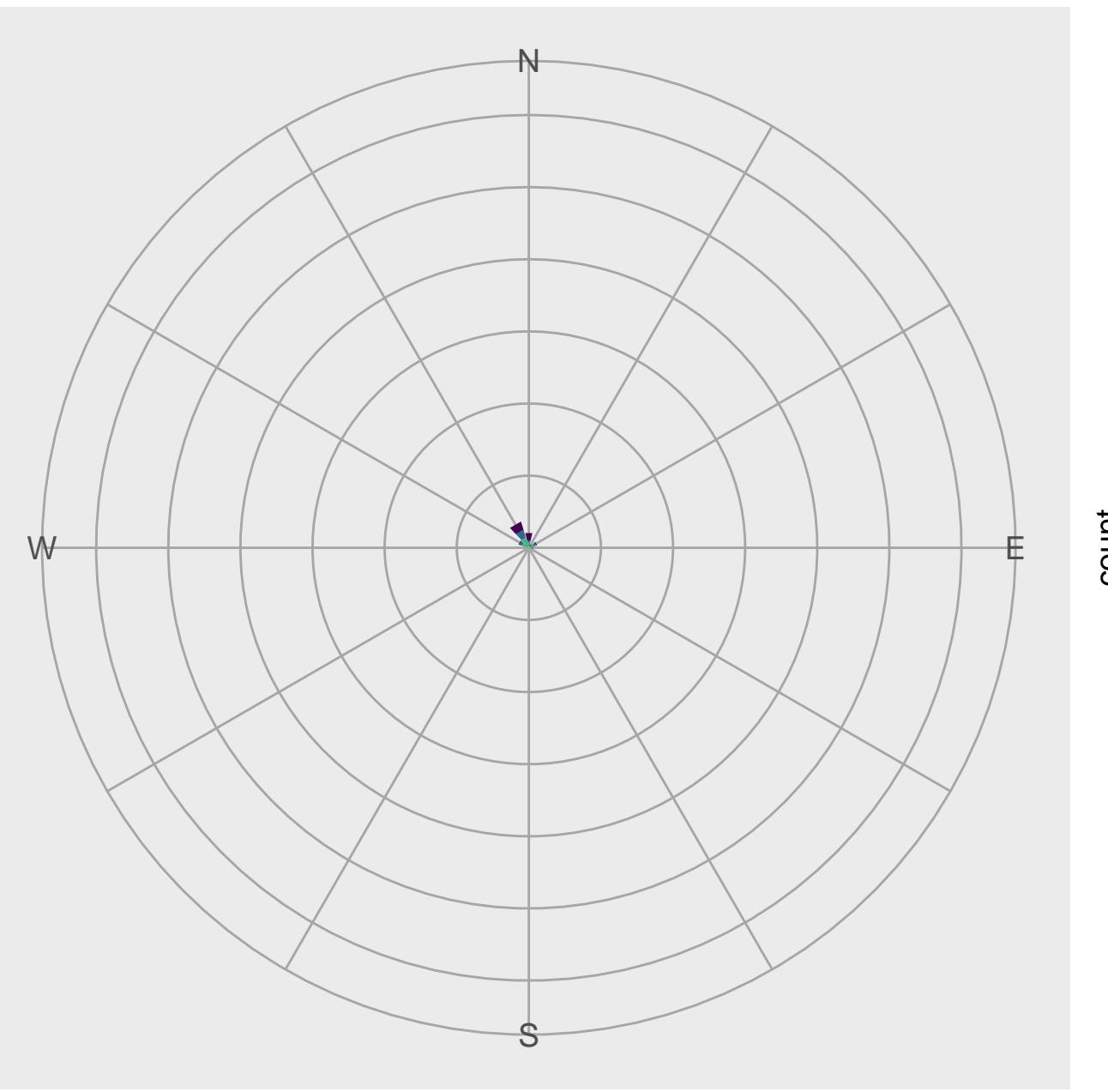
Distance to Source (km) 750–1000 500–750 250–500 0–250

Distance to Source (km) 750–1000 500–750 250–500 0–250

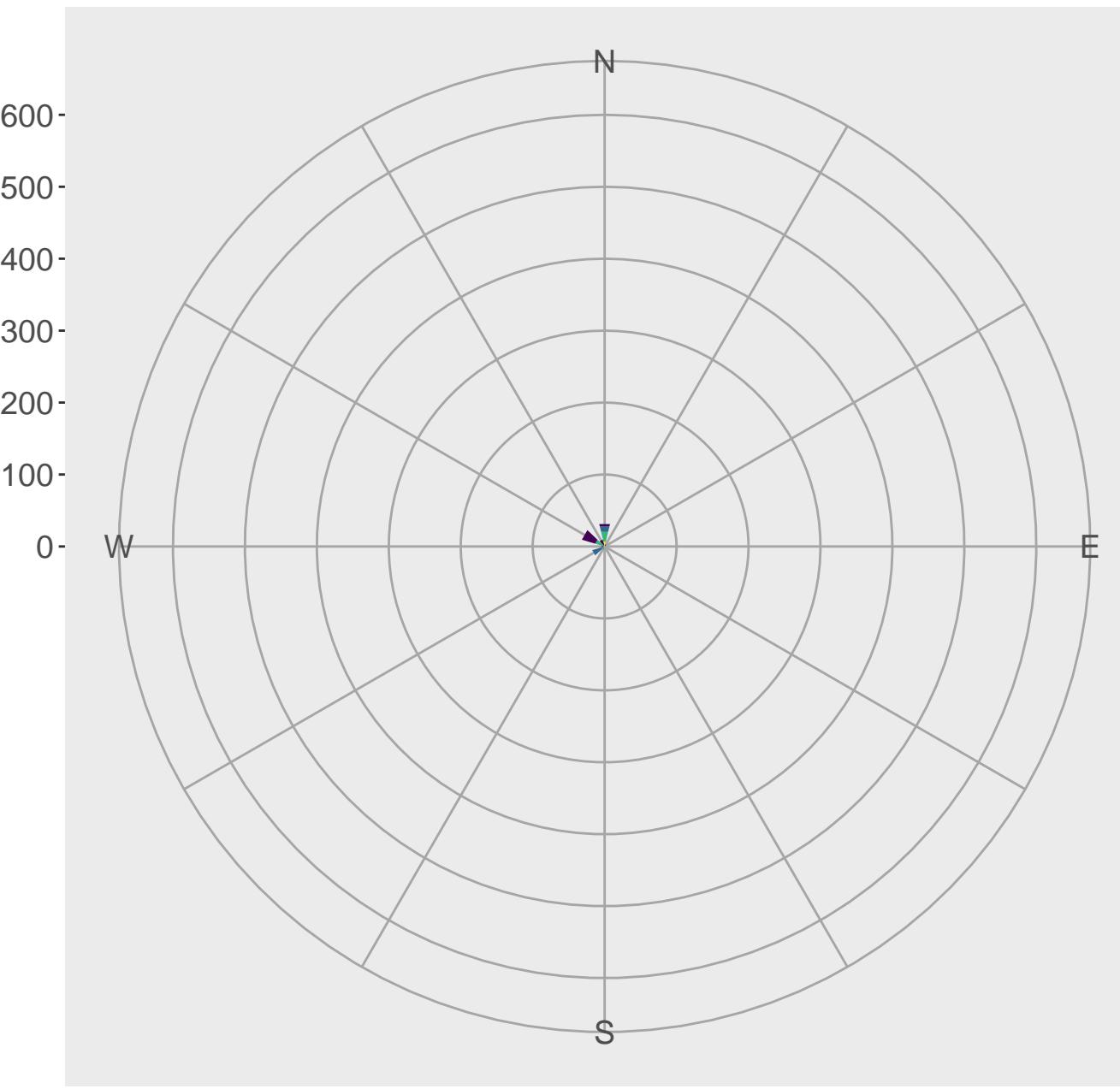
Edge counts by distance/direction to source
Tennessee receptors



Edge counts by distance/direction to source
Arkansas receptors



Edge counts by distance/direction to source
Georgia receptors



Distance to Source (km)

- 750–1000
- 500–750
- 250–500
- 0–250

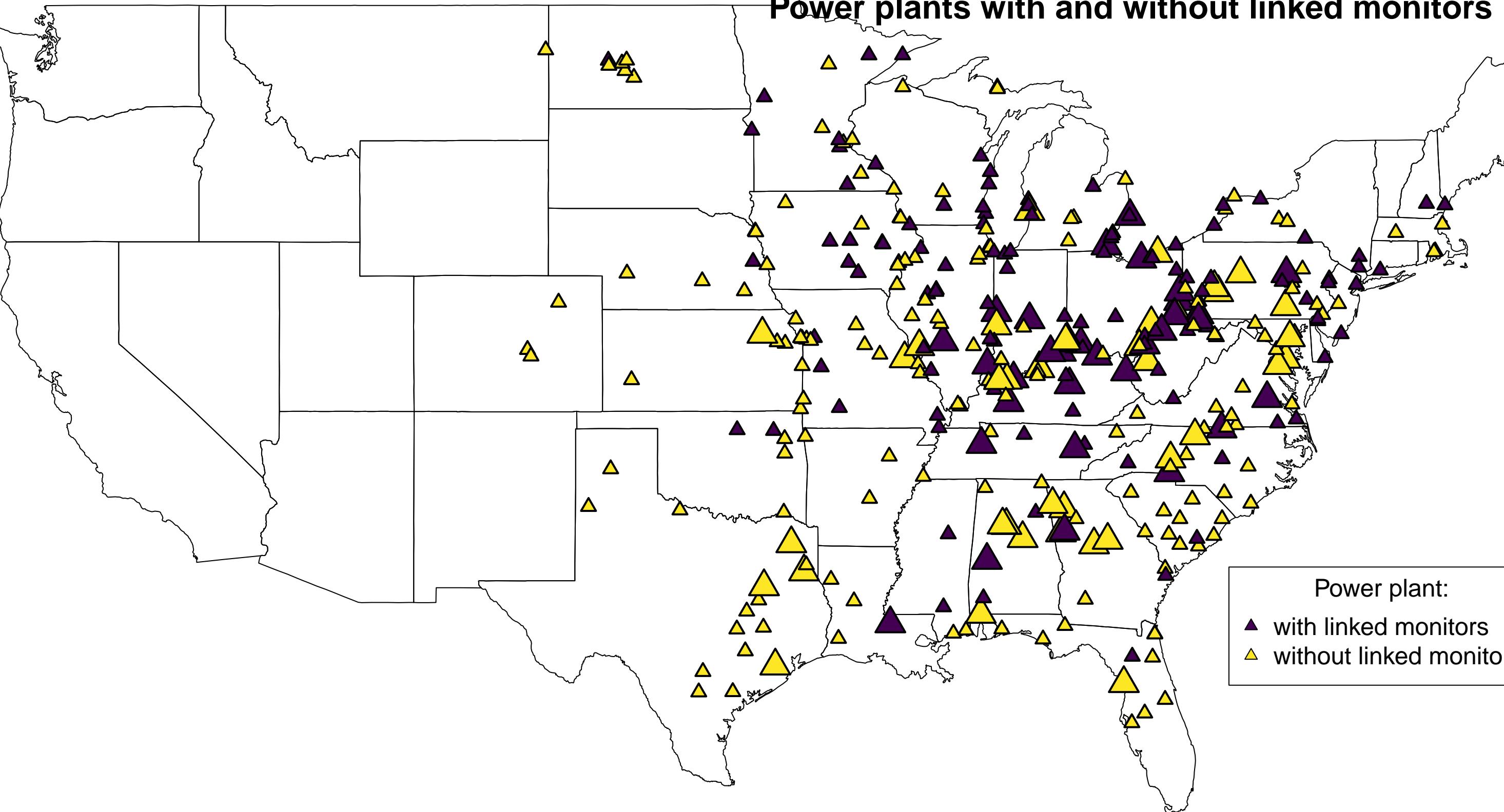
Distance to Source (km)

- 750–1000
- 500–750
- 250–500
- 0–250

Distance to Source (km)

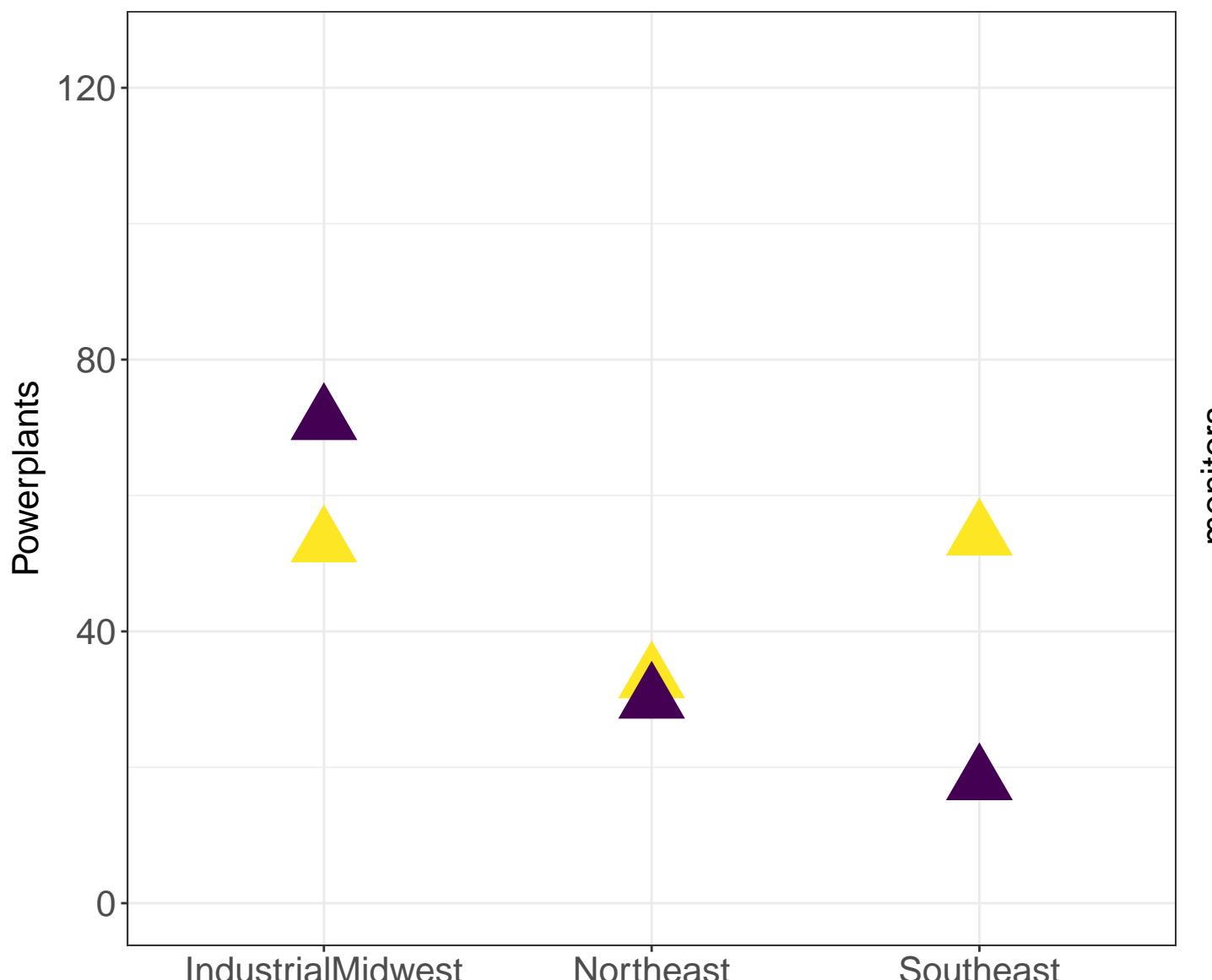
- 750–1000
- 500–750
- 250–500
- 0–250

Power plants with and without linked monitors

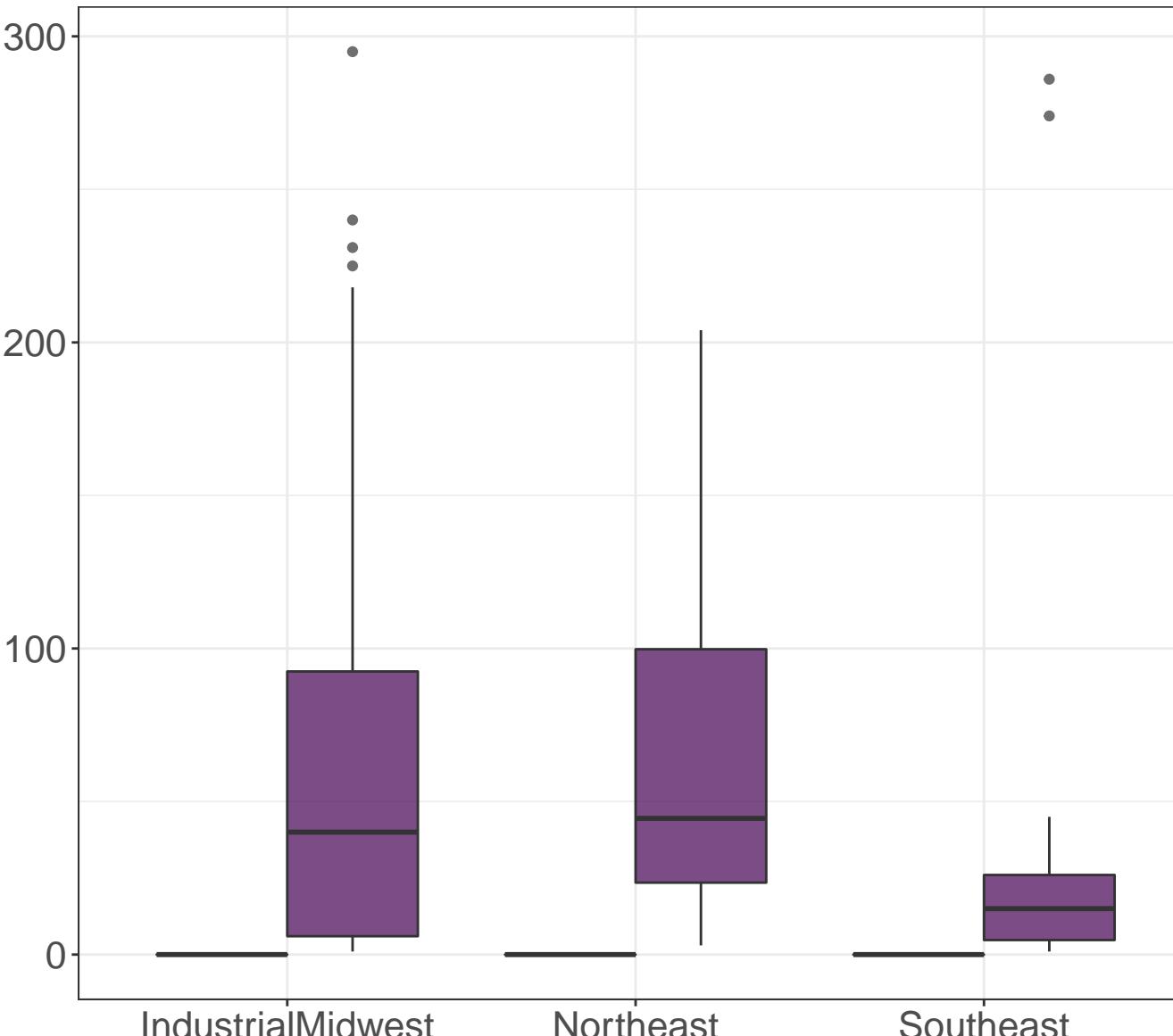


Why do some power plants have linked monitors and others do not?

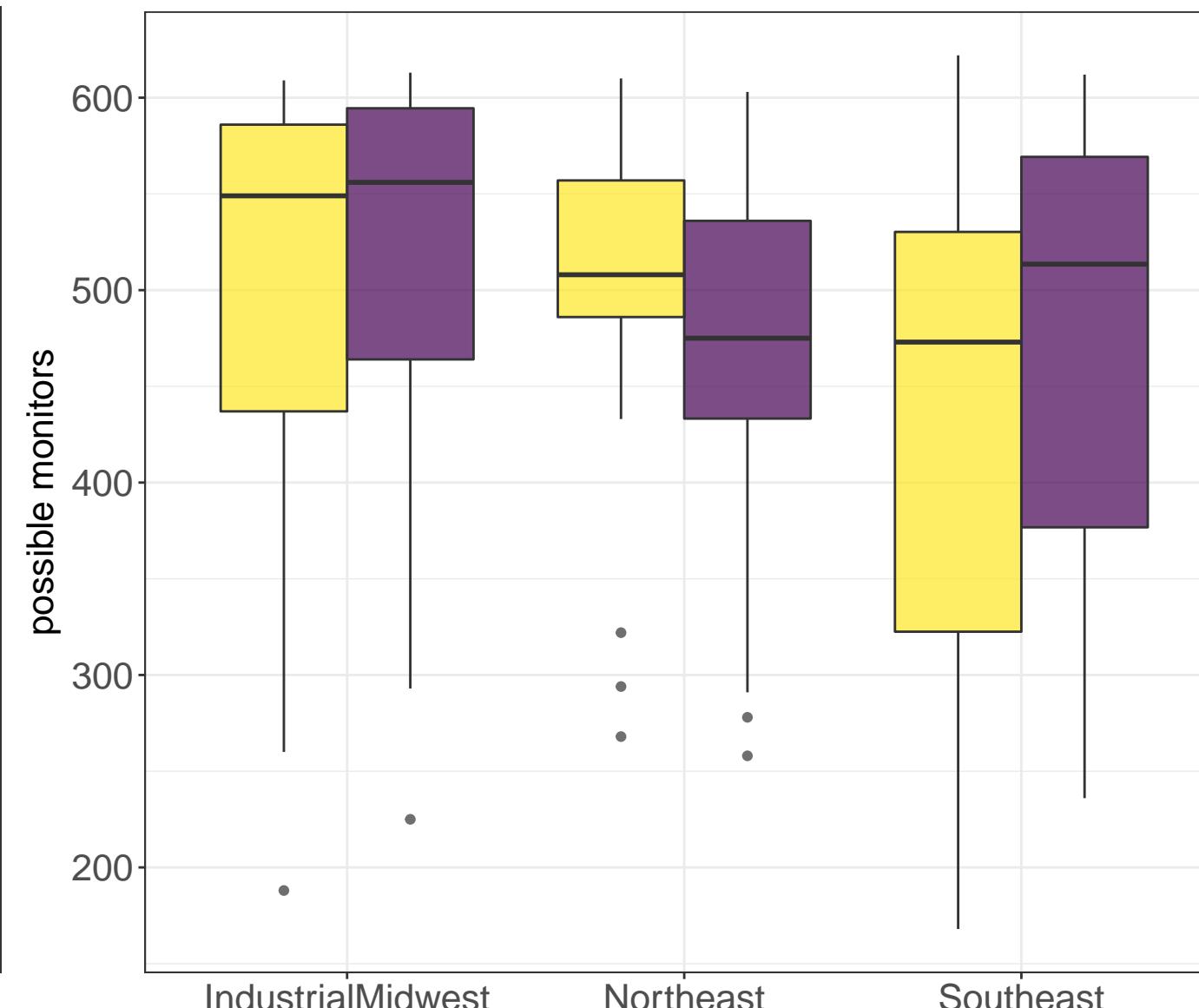
Number of powerplants



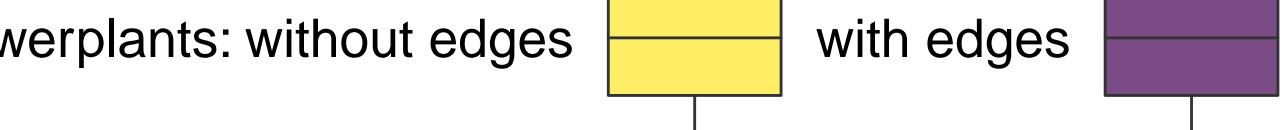
Number of linked monitors



Number of possible linked monitors



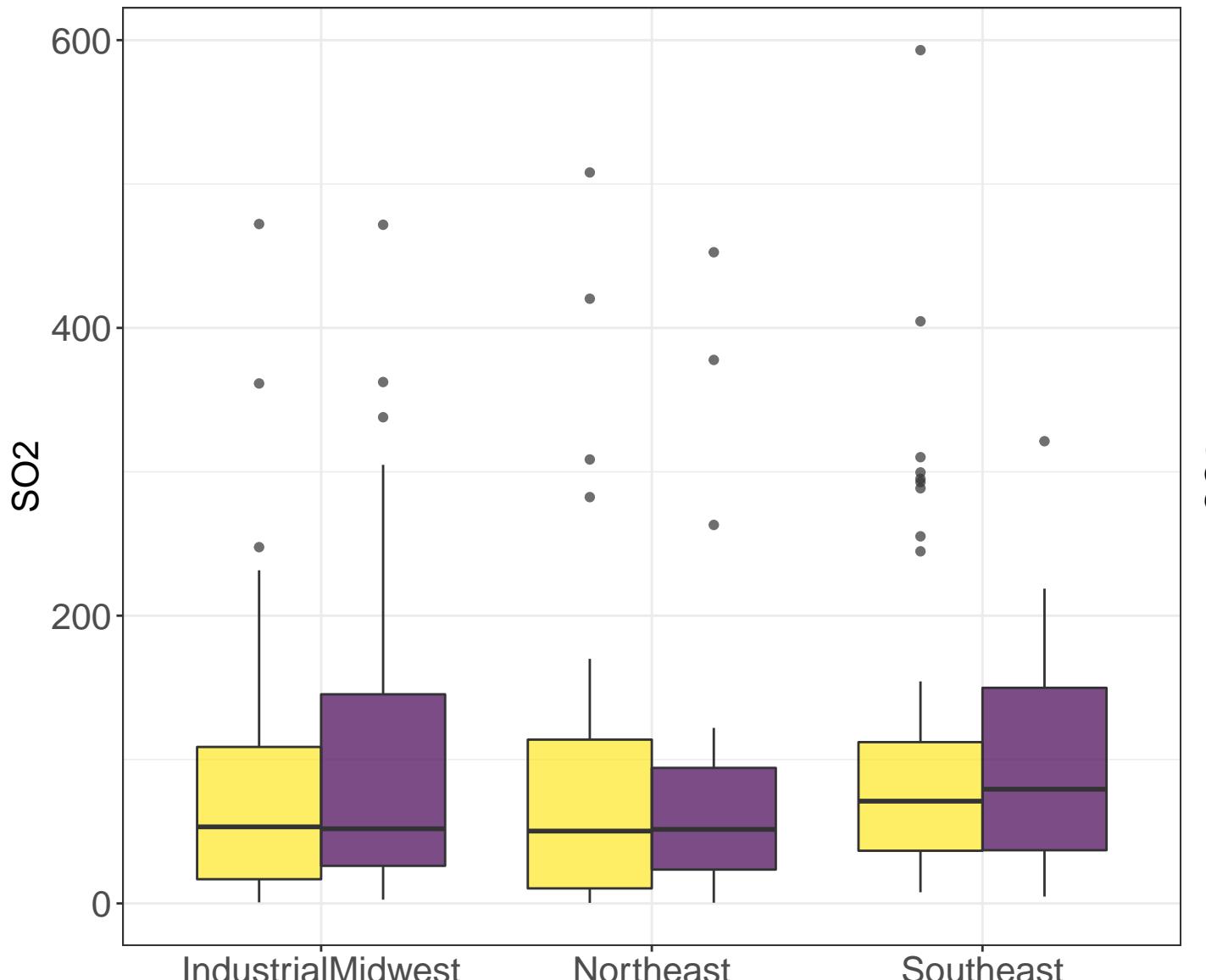
Powerplants: without edges



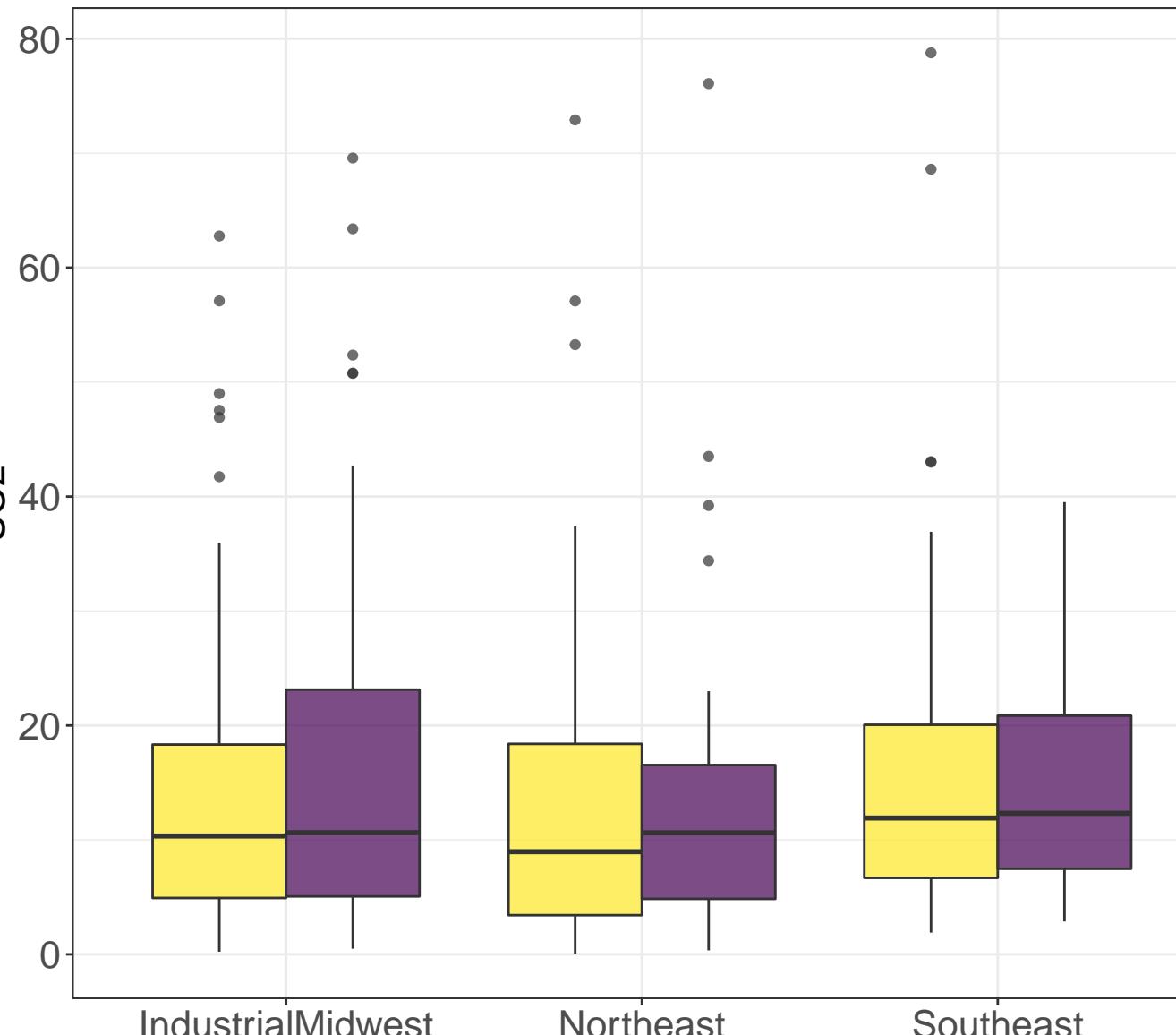
with edges

Why do some power plants have linked monitors and others do not?

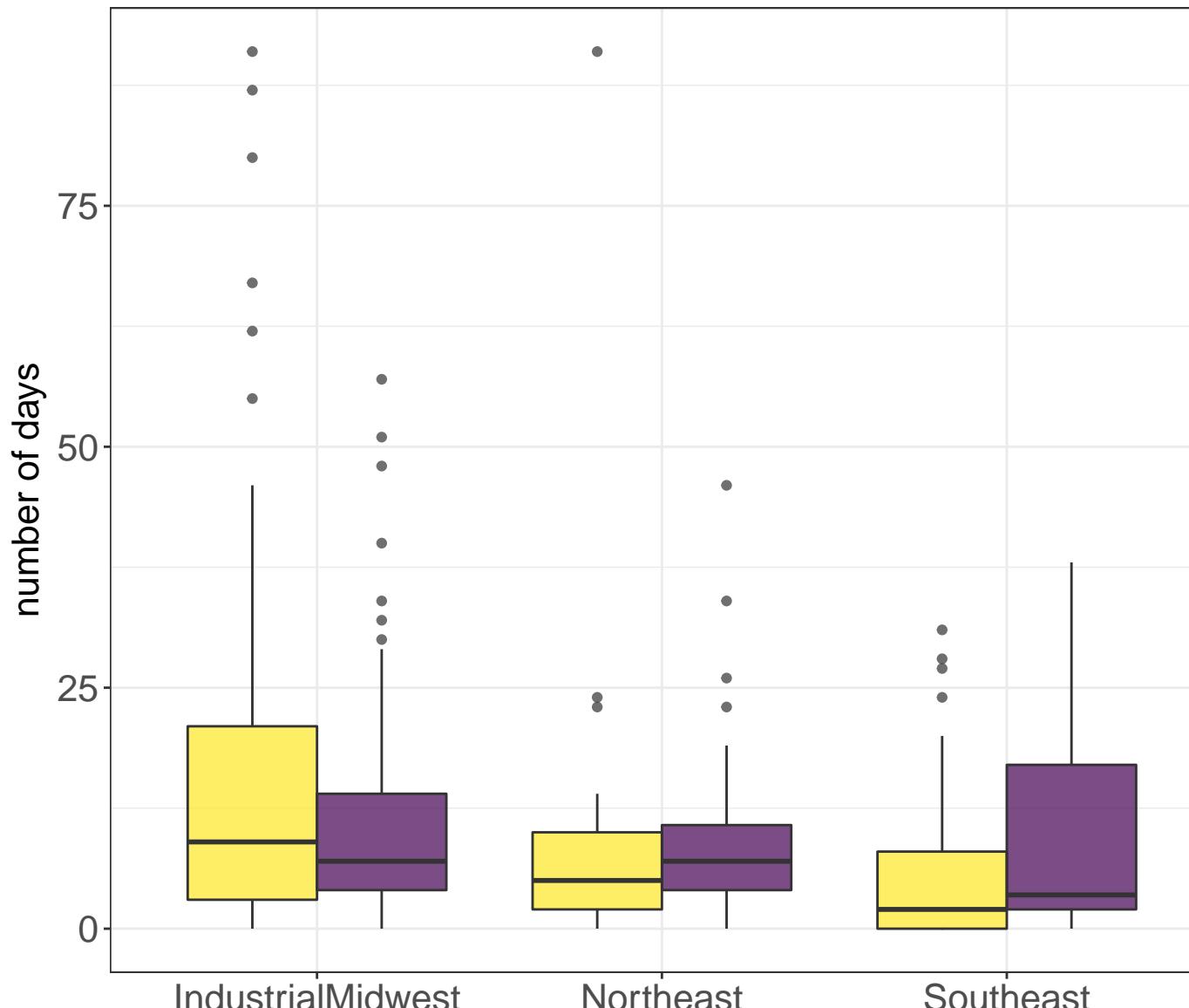
Average daily emissions



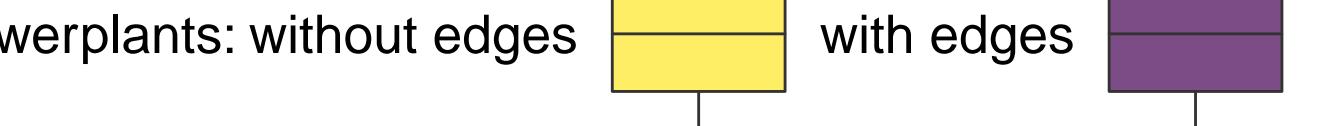
Standard deviation in daily emissions



Number of days (out of 91 total) with missing emissions data

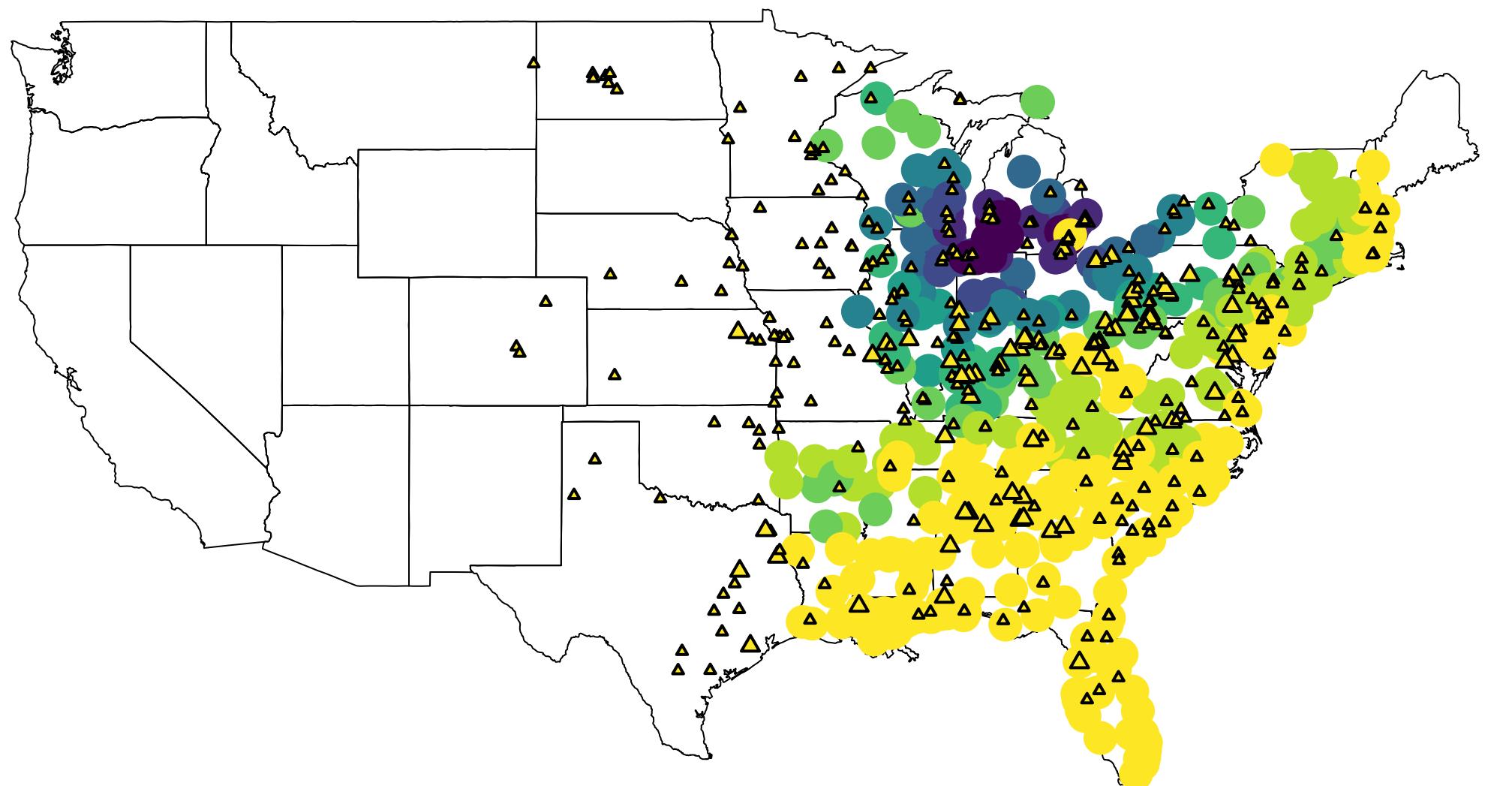


Powerplants: without edges

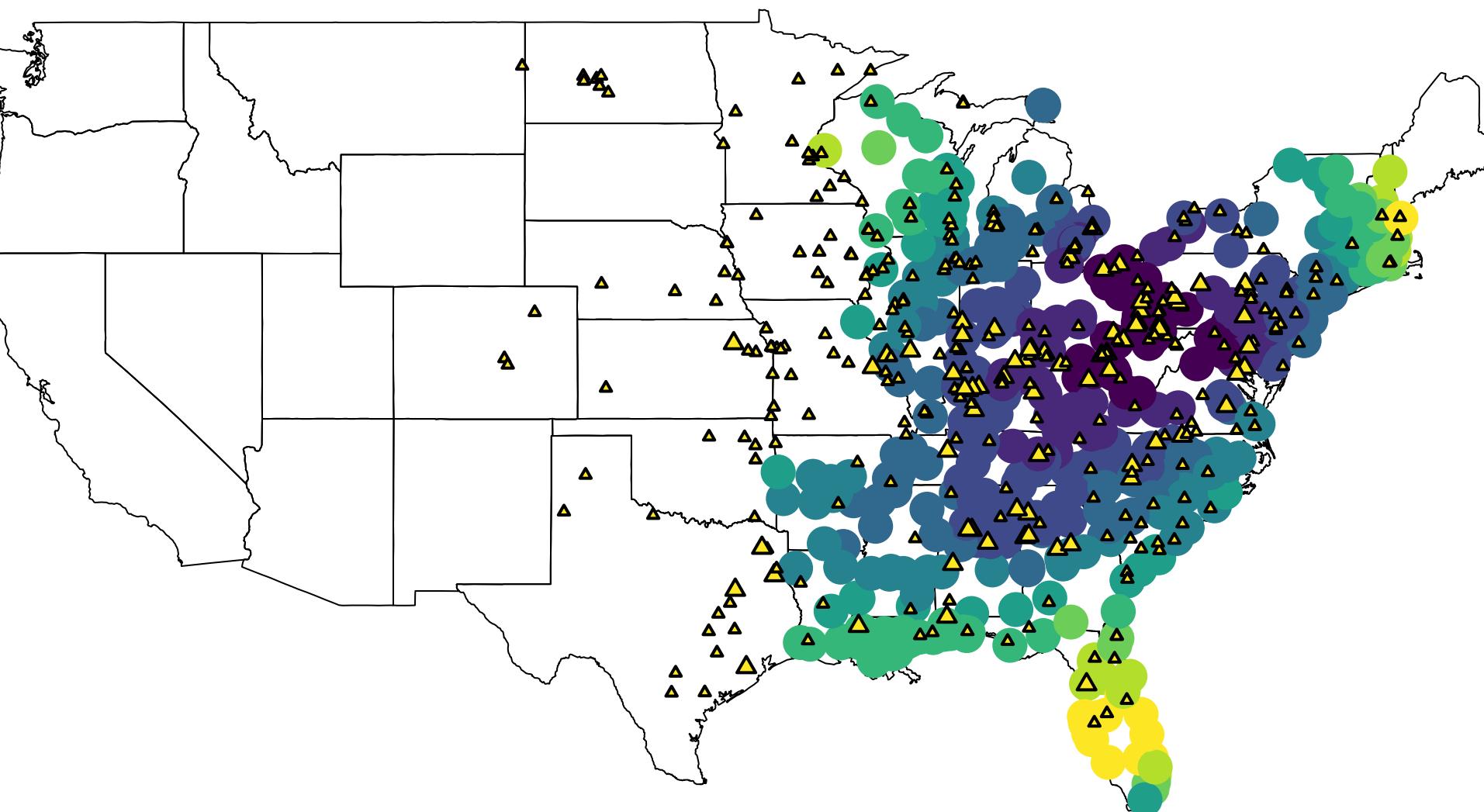


with edges

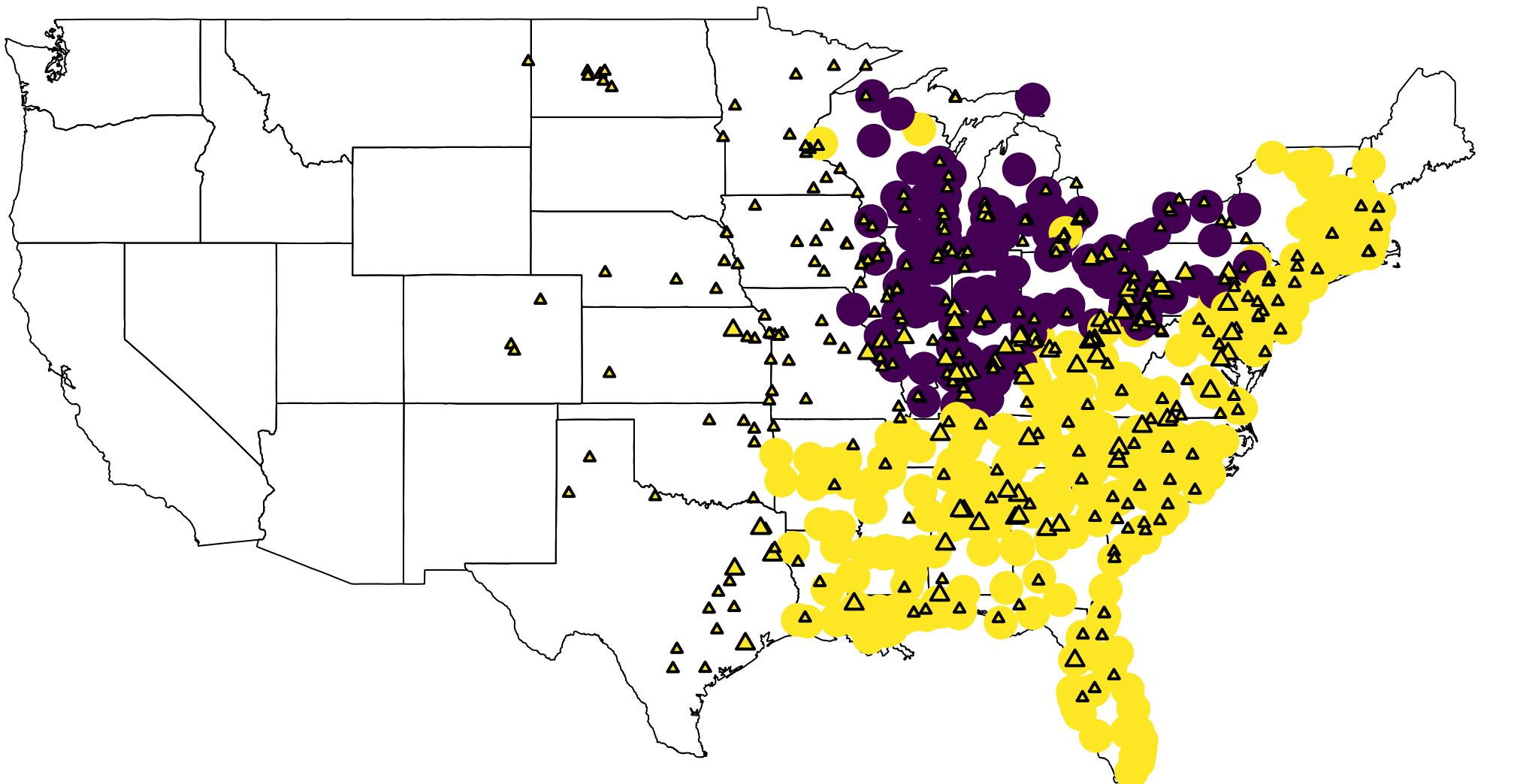
Monitor exposure: sum of gams.coeff, summer_test 2005



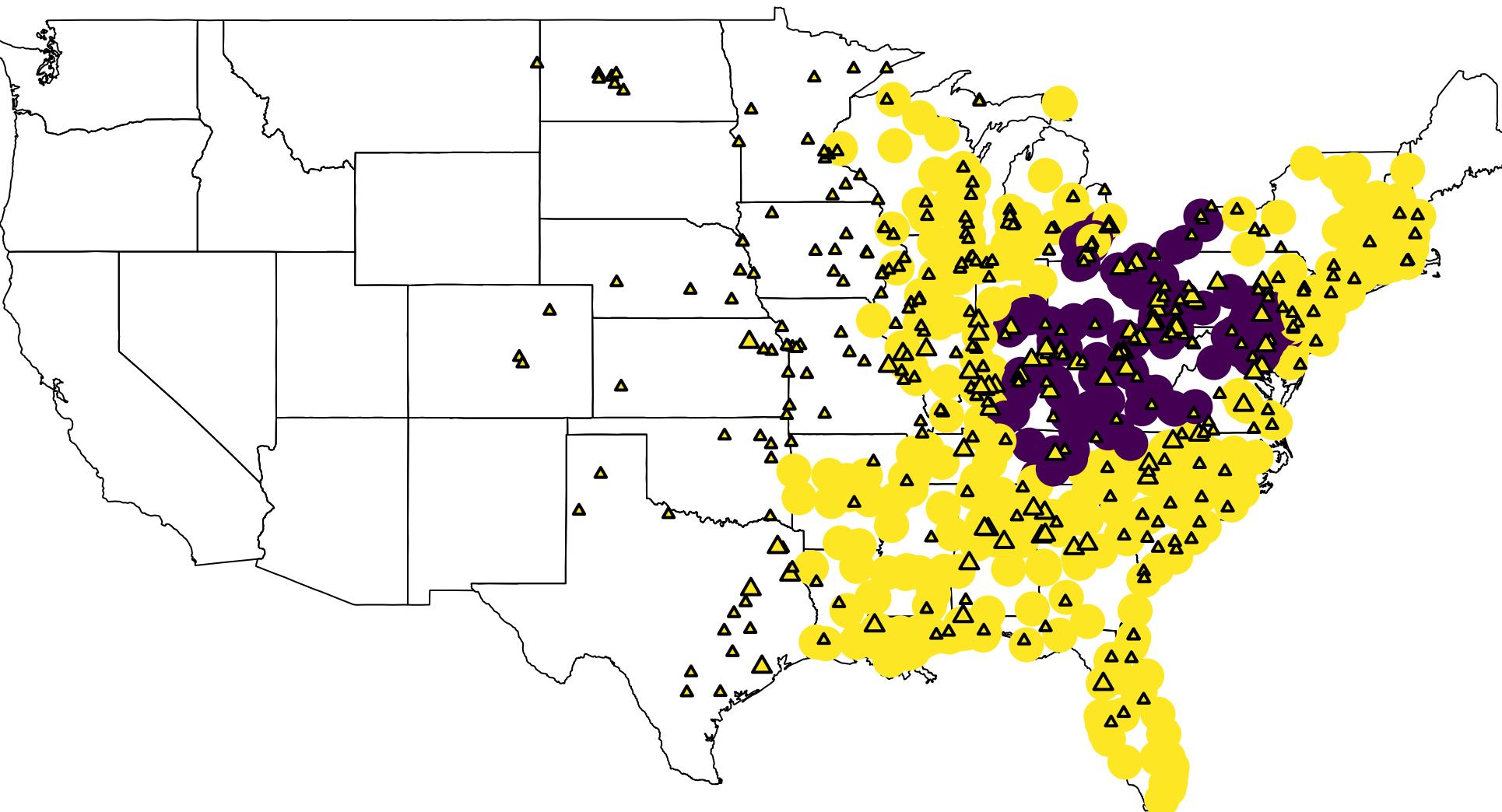
Monitor exposure: avgPM, decomposed75 summer_test 2005



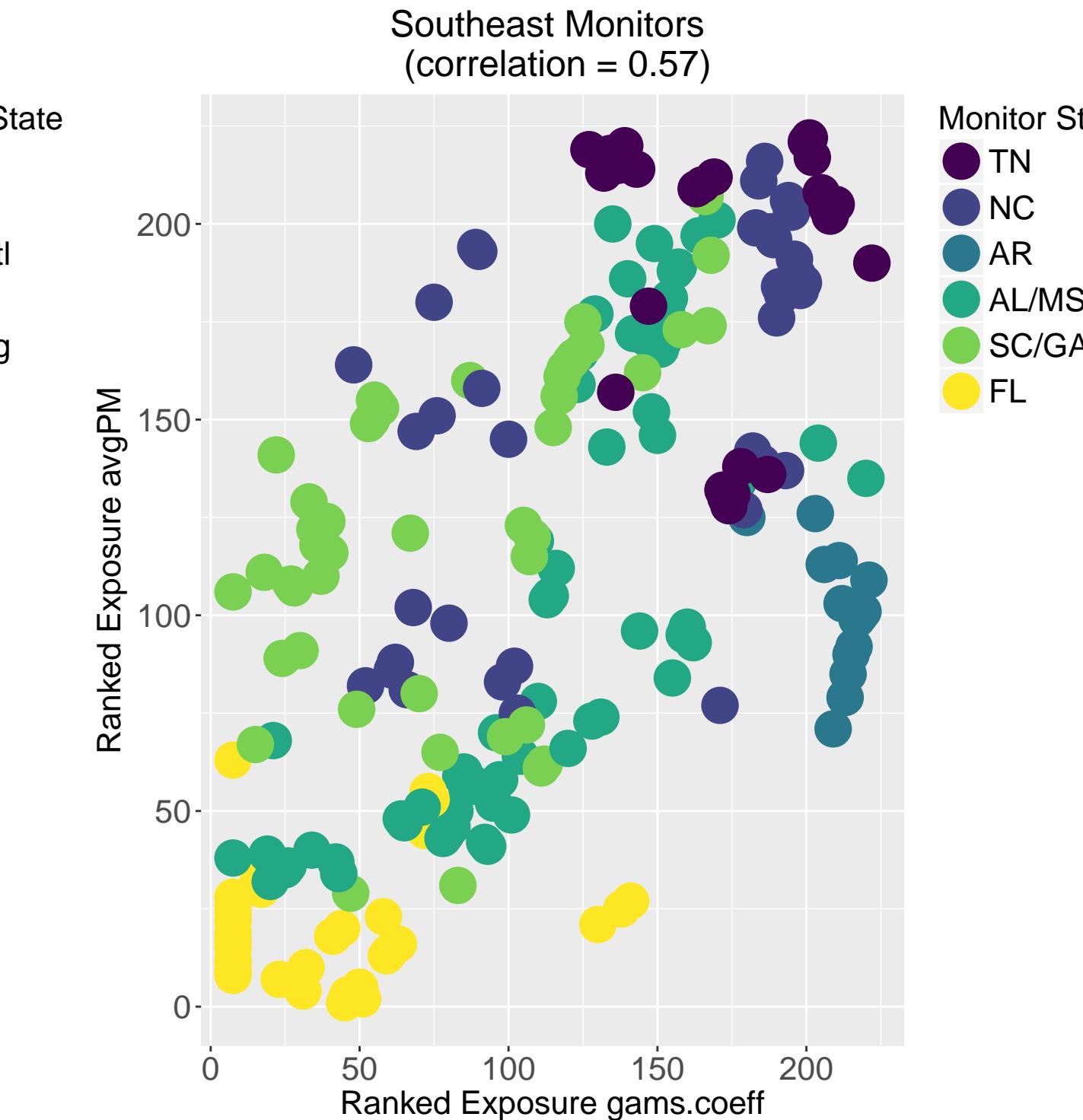
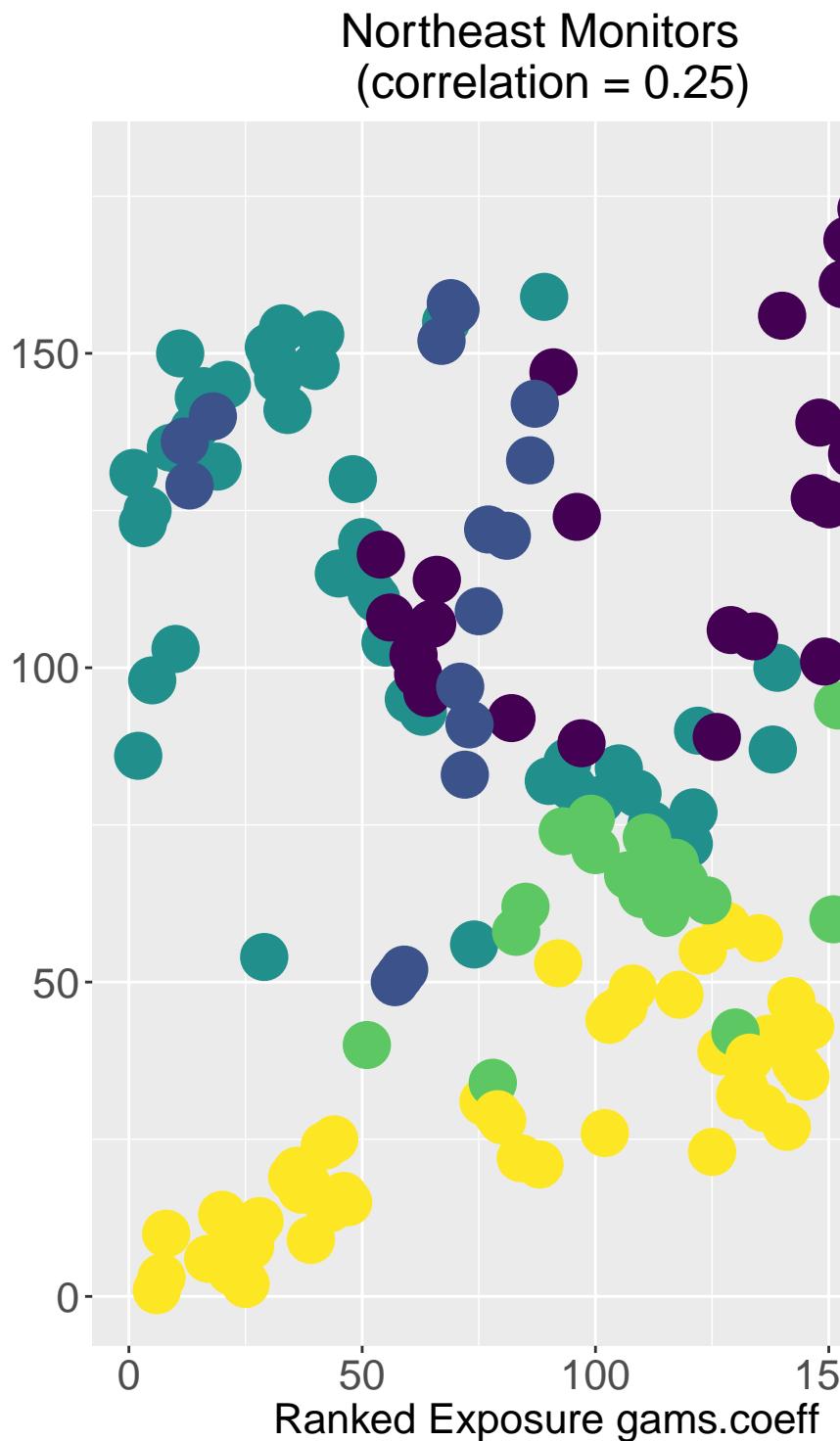
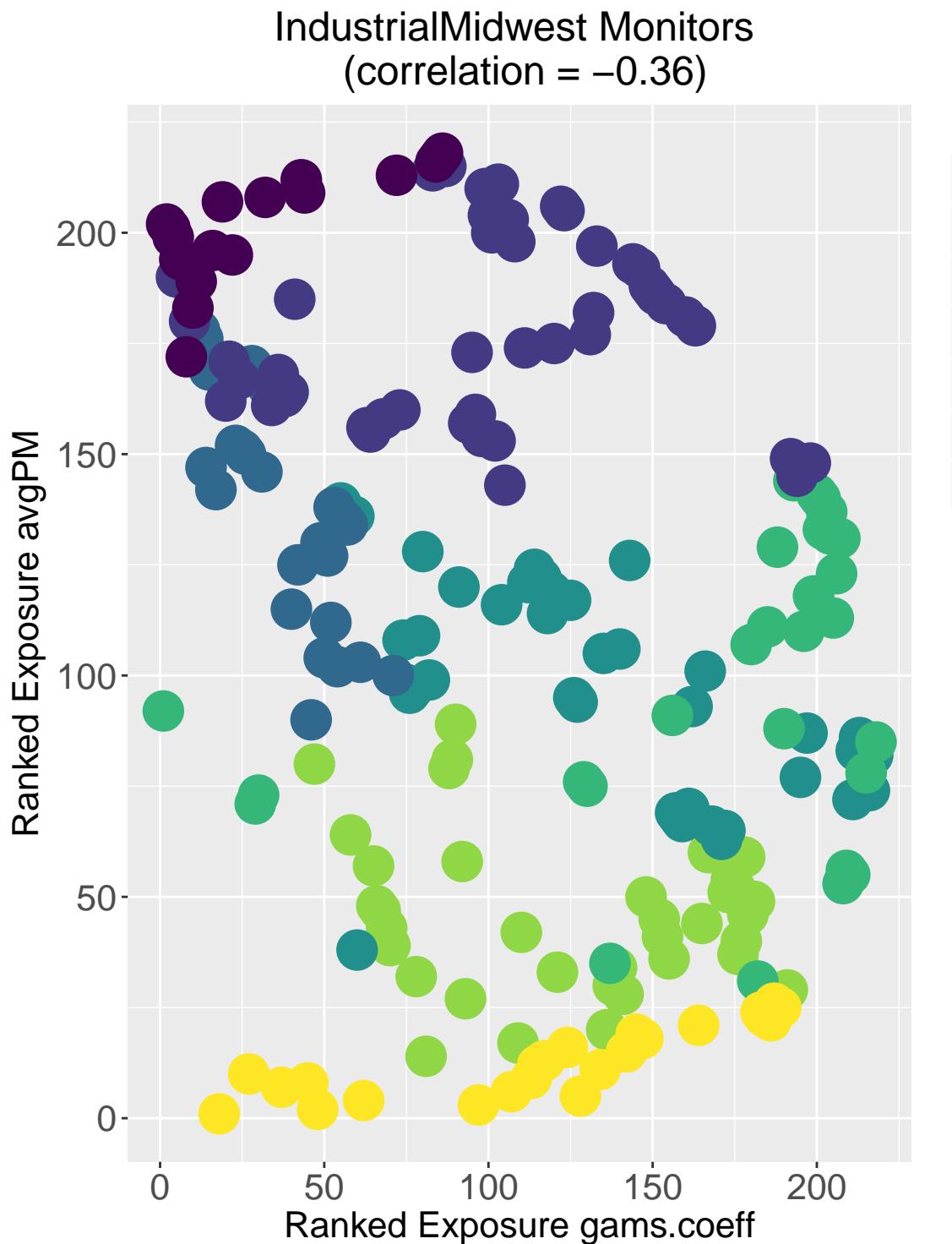
Highest exposed: sum of gams.coeff, summer_test 2005



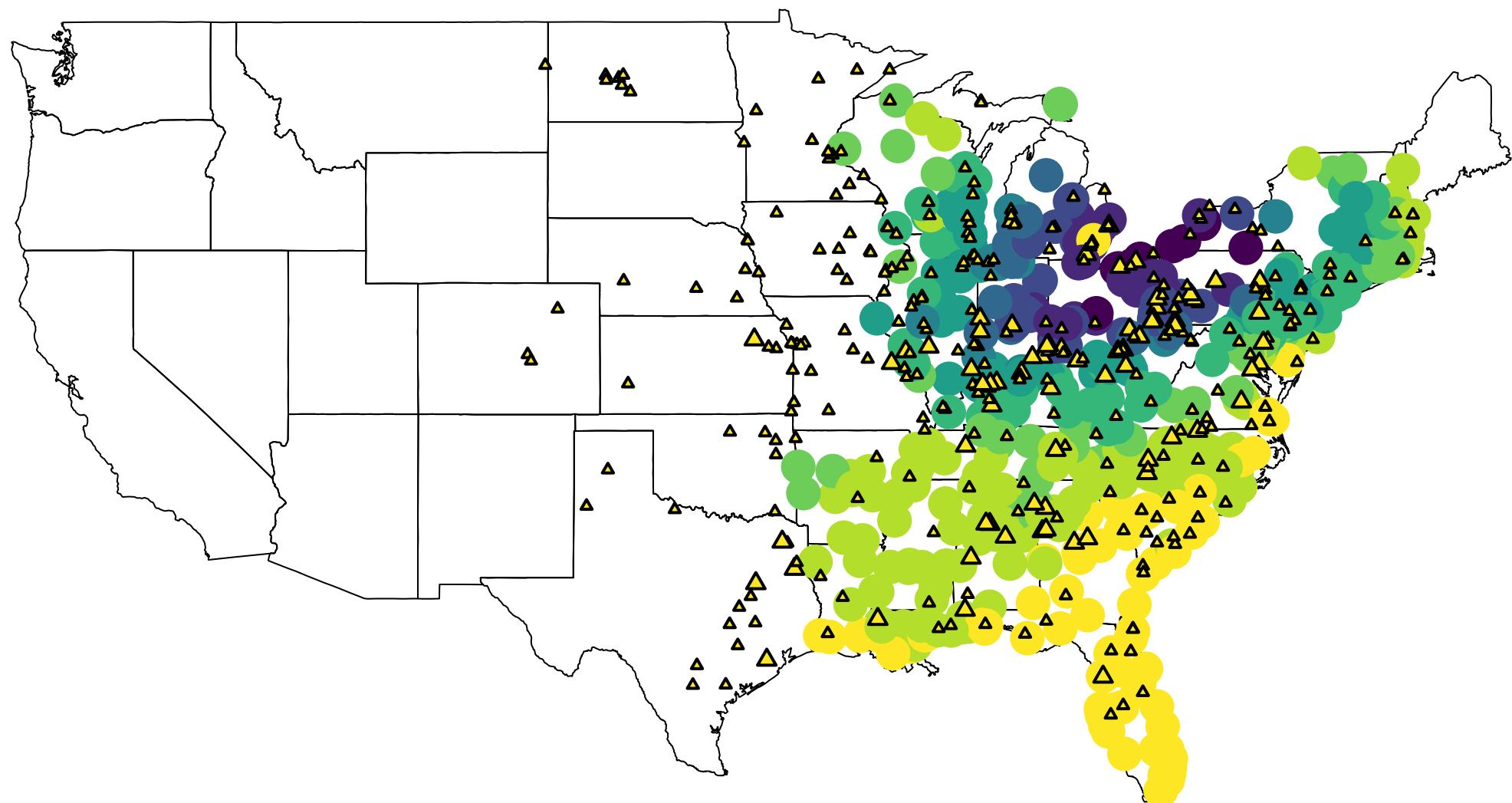
Highest exposed: avgPM, decomposed75 summer_test 2005



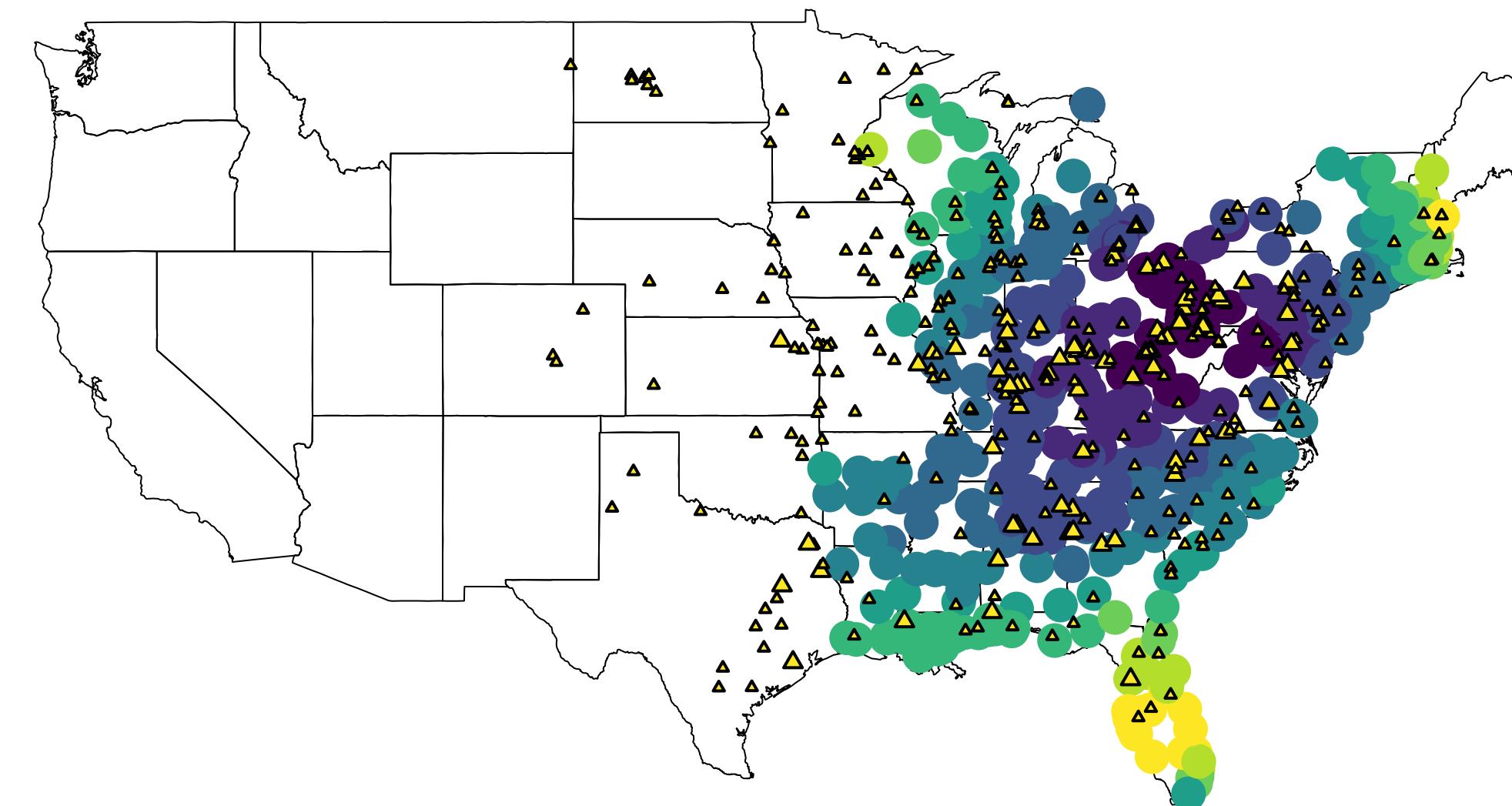
Comparison of coal emissions exposure (sum of gams.coeff vs. low freq PM)



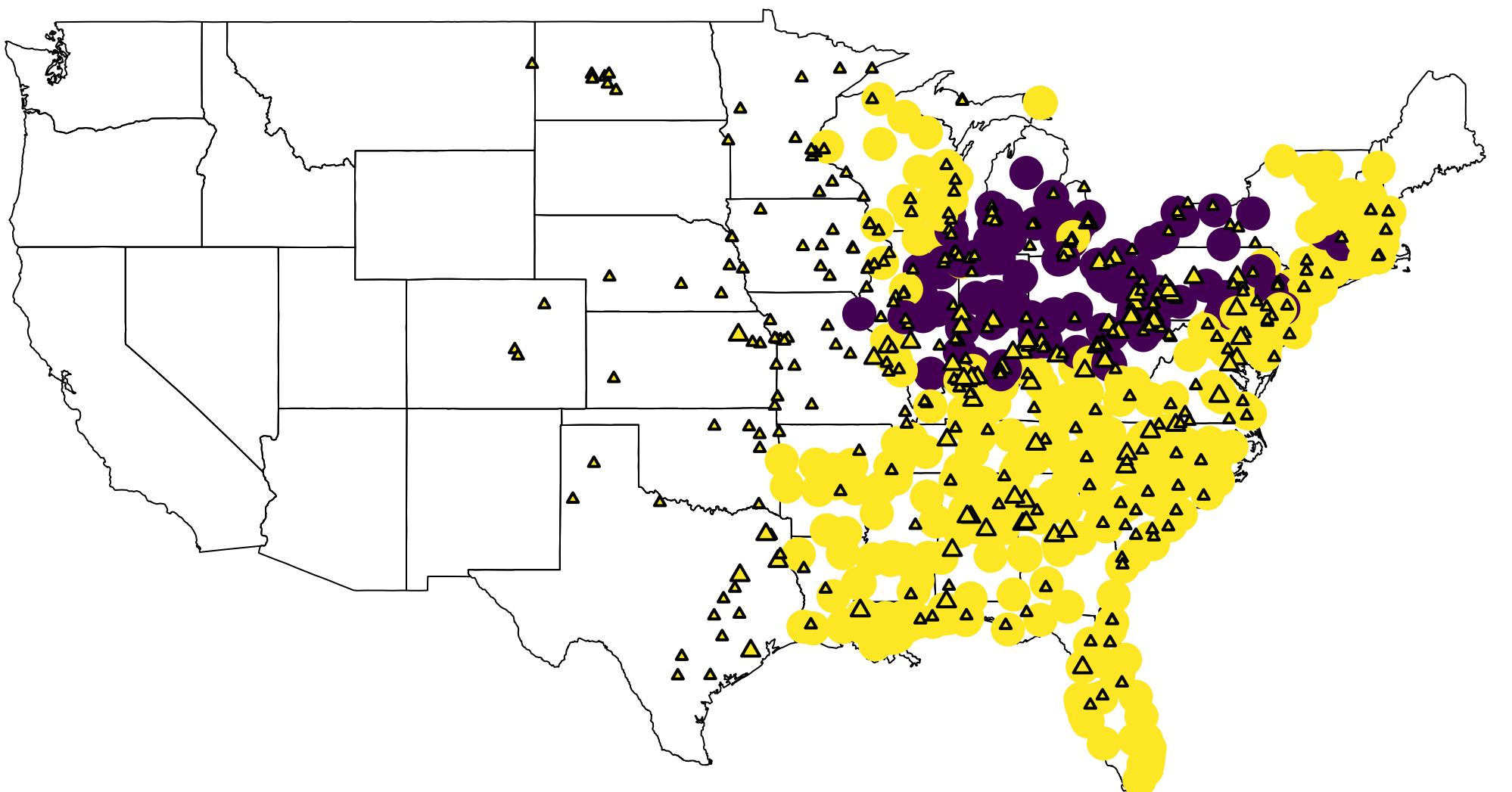
Monitor exposure: num_edges, summer_test 2005



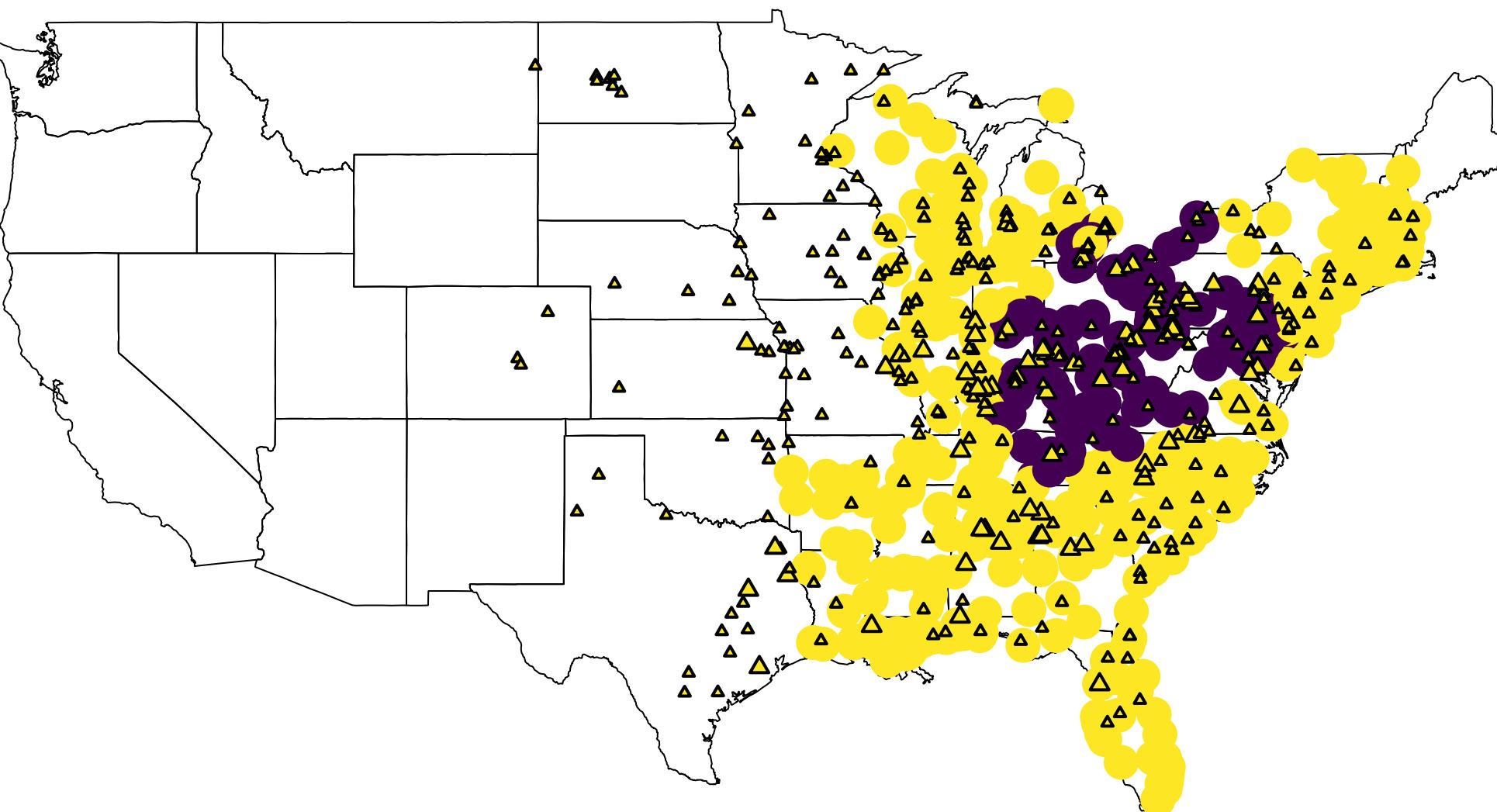
Monitor exposure: avgPM, decomposed75 summer_test 2005



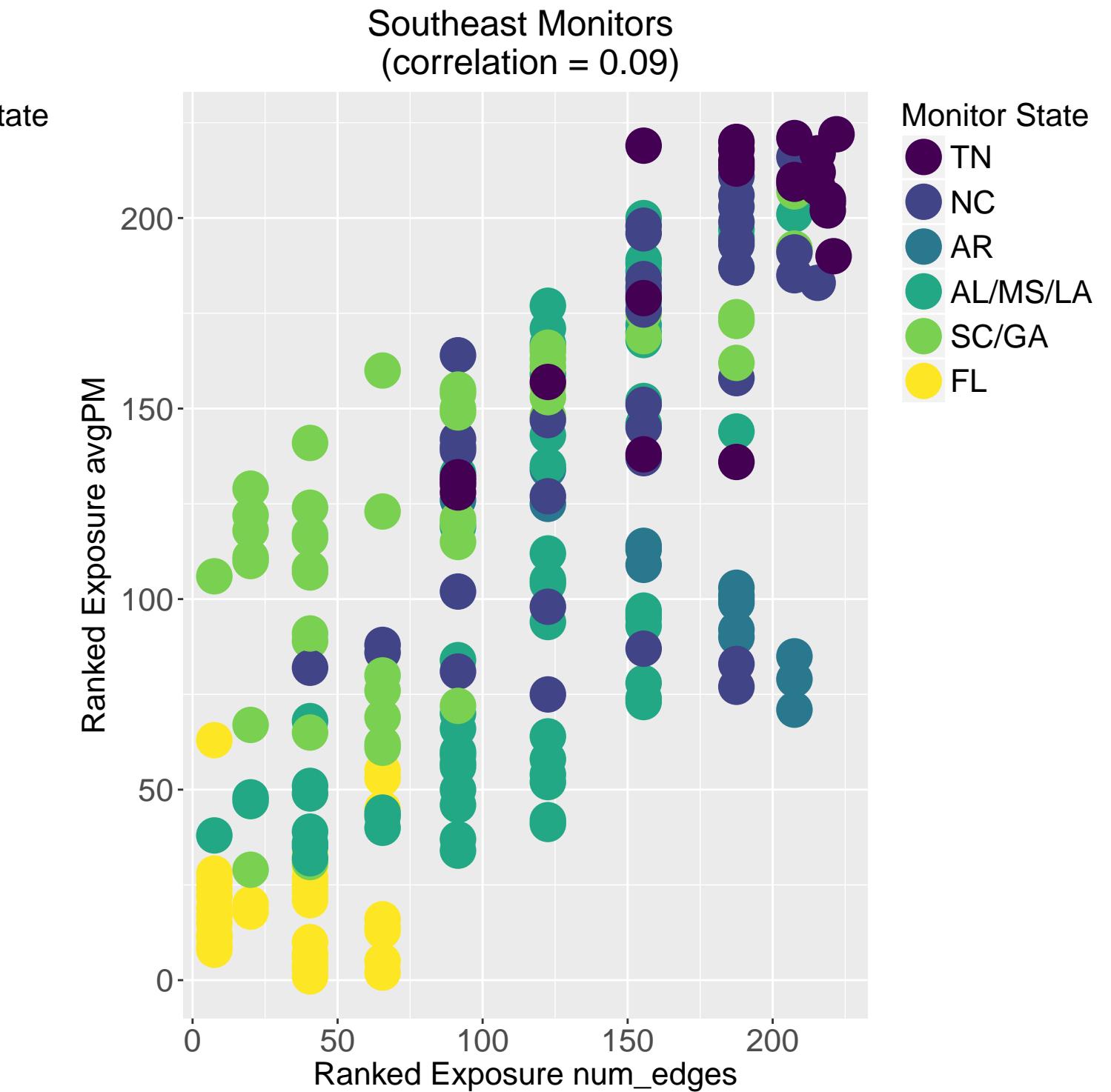
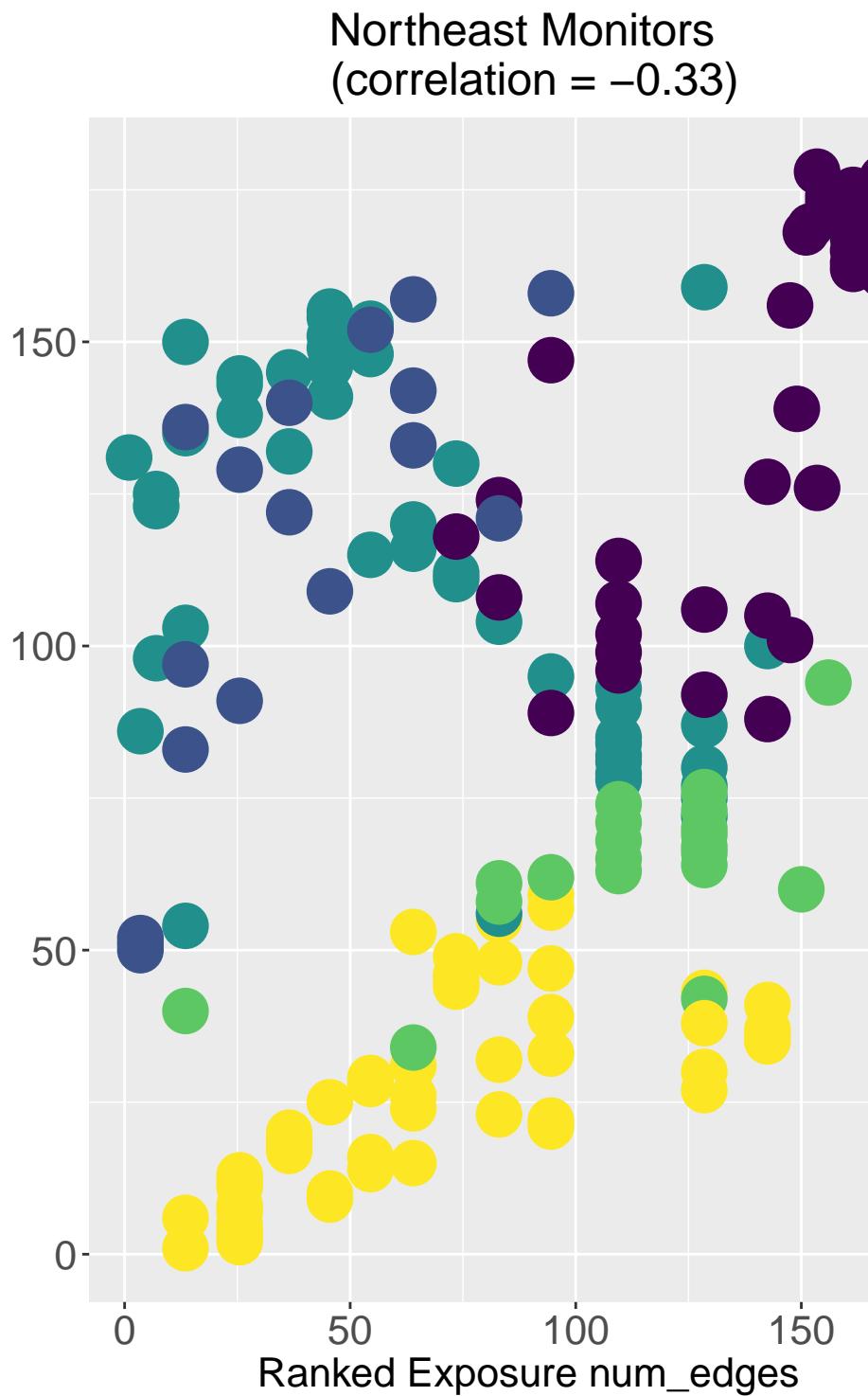
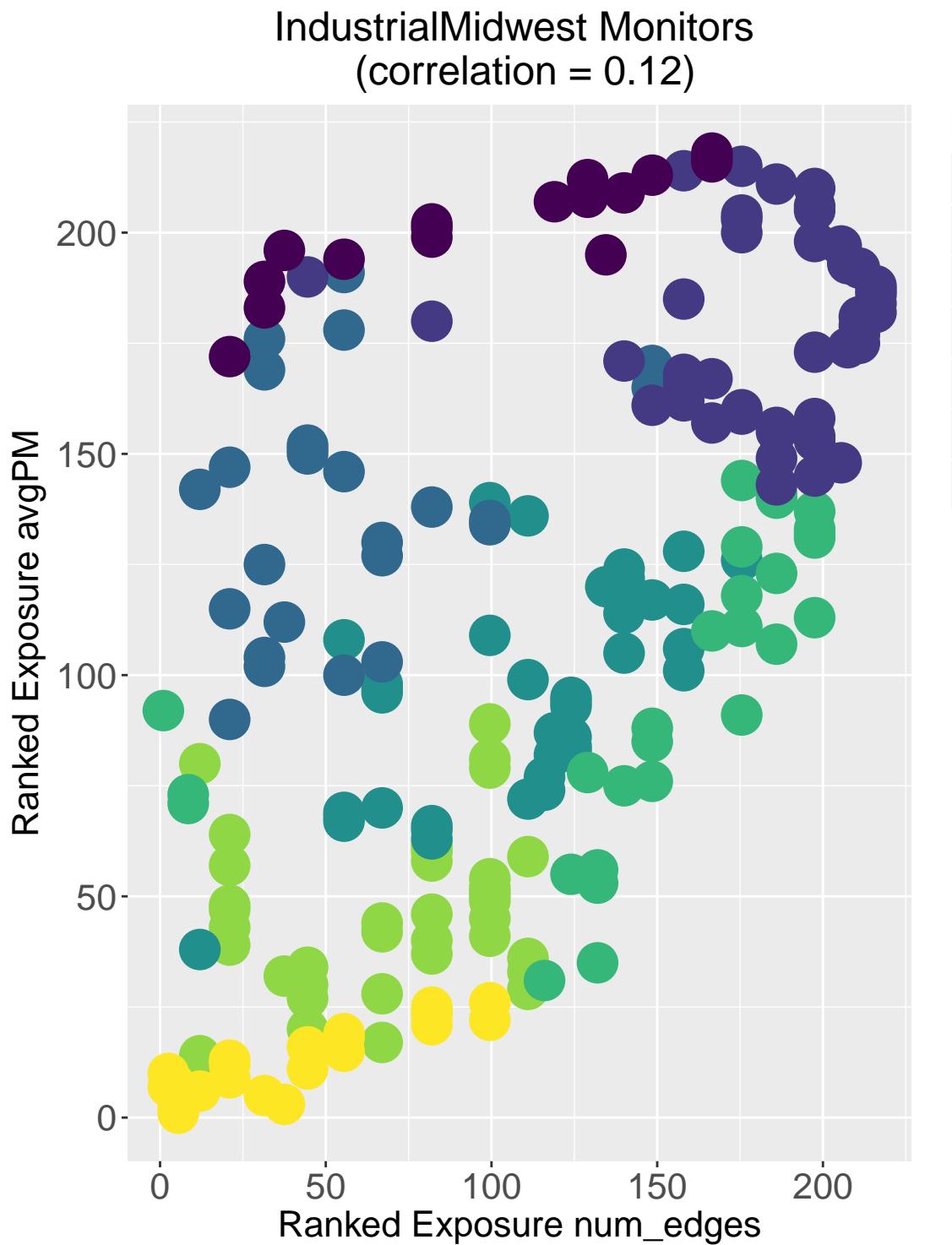
Highest exposed: num_edges, summer_test 2005



Highest exposed: avgPM, decomposed75 summer_test 2005

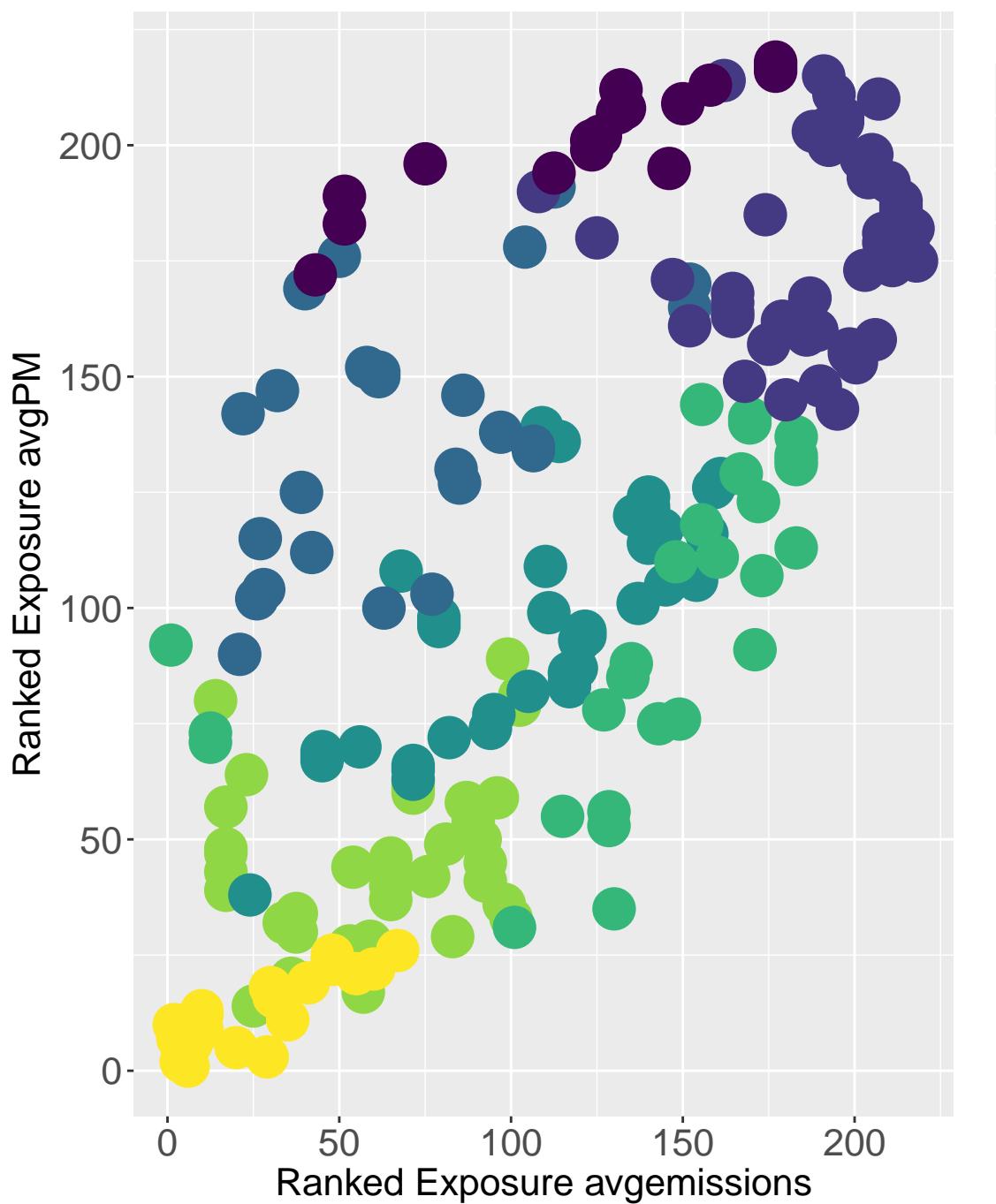


Comparison of coal emissions exposure (num_edges vs. low freq PM)

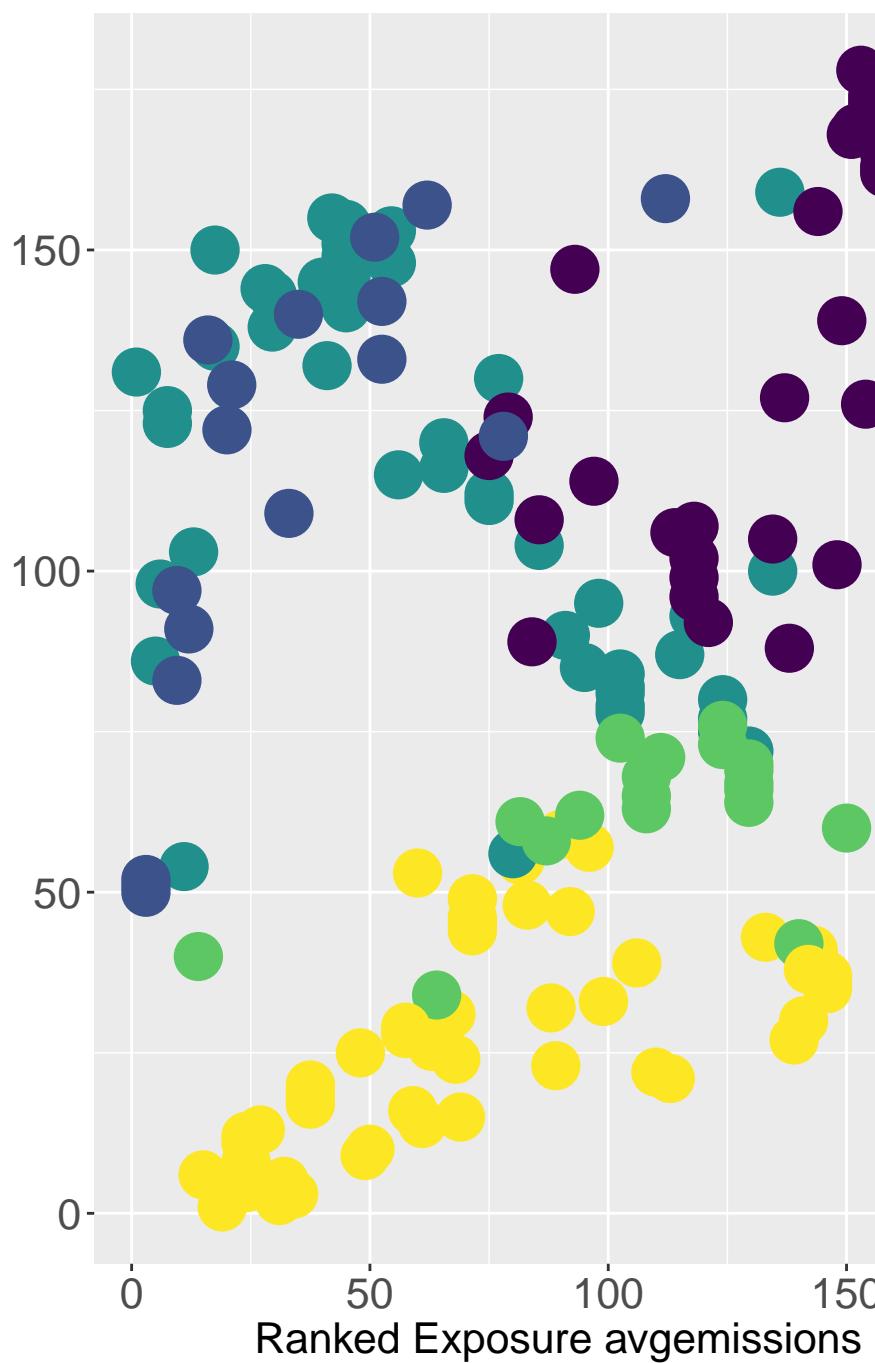


Comparison of coal emissions exposure (avgemissions vs. low freq PM)

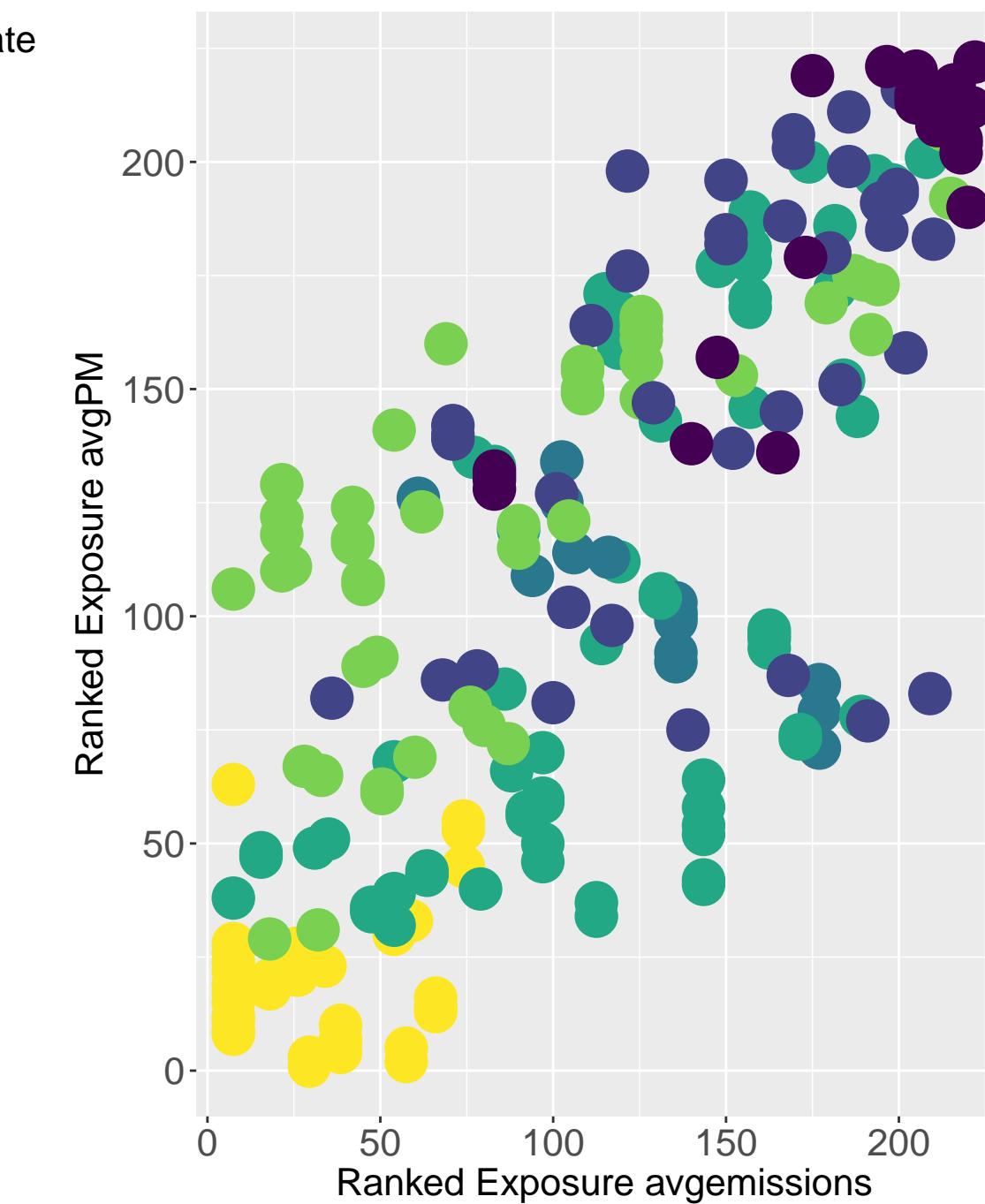
Industrial Midwest Monitors
(correlation = 0.23)



Northeast Monitors
(correlation = -0.34)



Southeast Monitors
(correlation = 0.1)

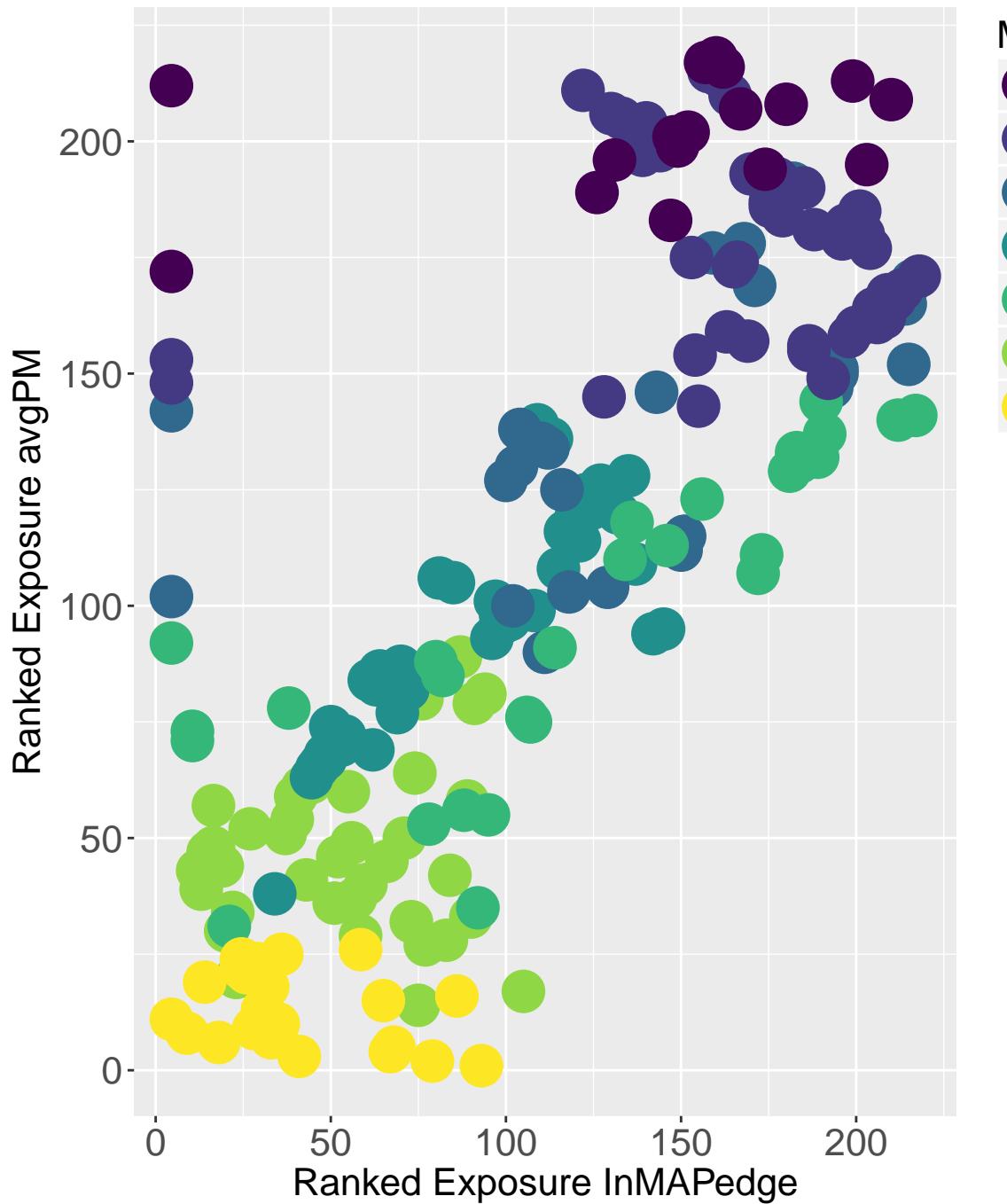


Monitor State

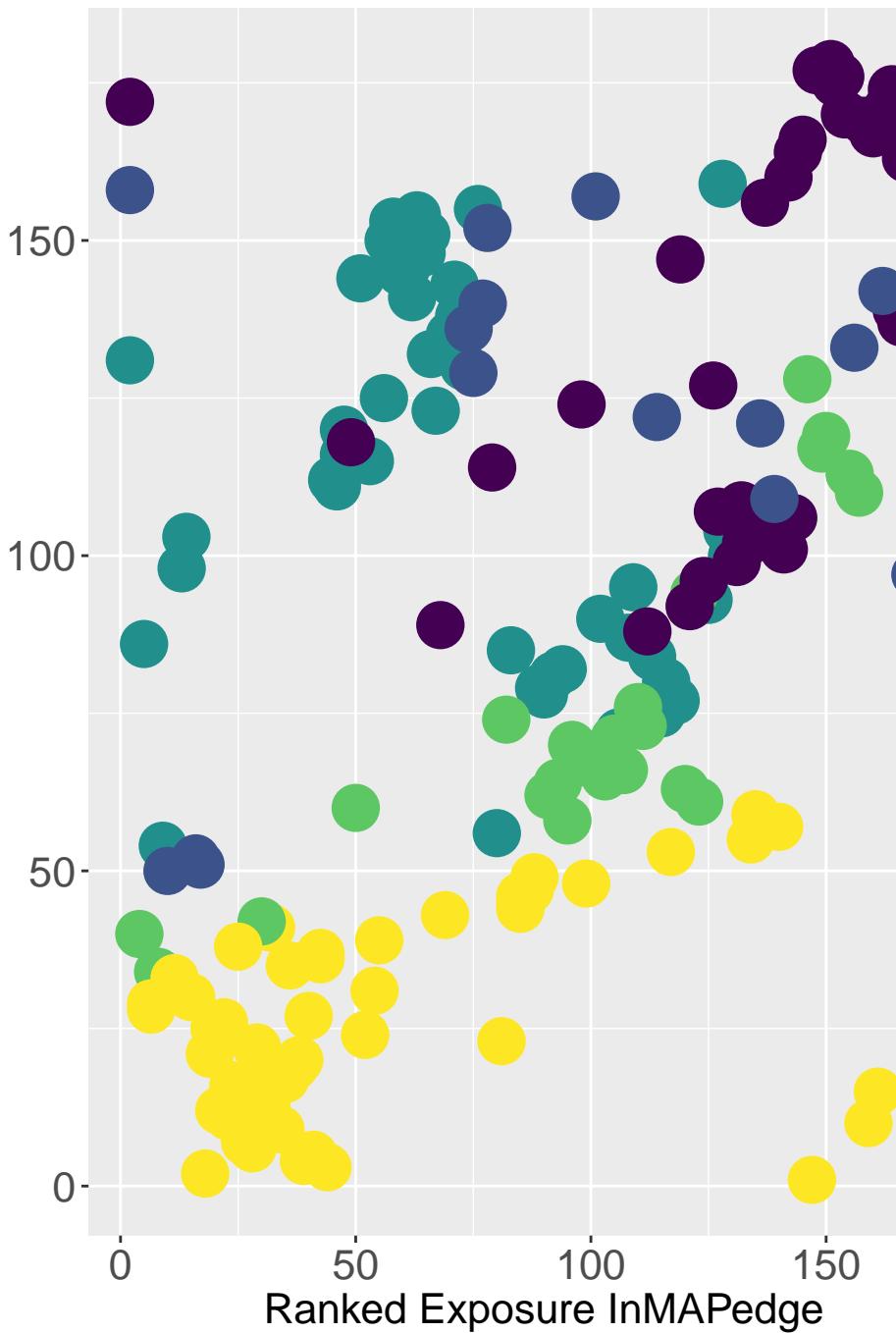
- TN
- NC
- AR
- AL/MS/LA
- SC/GA
- FL

Comparison of coal emissions exposure (avgemissions vs. low freq PM)

Industrial Midwest Monitors
(correlation = 0.26)



Northeast Monitors
(correlation = -0.25)



Southeast Monitors
(correlation = 0.12)

