APPENDIX D

**Air Quality Model
Performance Evaluation:**

**Spatial Maps of Model Performance
on the Best and Worst 20 Percent Days
at VISTAS and Nearby Class I Areas**

D.   SPATIAL PLOTS

The 12km domain spatial plots of model-simulated daily concentration of the constituents of particle pollution most responsible for light extinction for 2002, with the actual observed concentrations overlaid are presented in this section. These plots are presented for the entire 12km domain. Only the 20% best and 20% worst days used in calculating light extinction for the IMPROVE monitoring sites representative of North Carolina's Class I Areas are presented here.

There are three pages of overlays for each date identified as a 20% best or 20% worst day for any of the Class I Area. The first page for each date contains the spatial plots for sulfate (SO4), nitrate (NO3), ammonium (NH4), and organic carbon (OC). The second page contains plots for elemental carbon (EC), coarse matter (CM), sea salt, and the soil constituent of fine particulate matter. The third page in the series is a plot of total fine particulate matter (PM2.5). A table immediately follows the plot of total reconstructed particulate matter, which details whether that particular date was a 20% best or 20% worst day in each of the Class I Areas The color scale for all the plots moves from lower concentrations in shade of blue to warmer colors for higher ozone concentrations.

Across the 12km modeling domain, the general spatial pattern of peaks and valleys of sulfate concentrations were well represented. Gradients across North Carolina were generally well captured. There was some tendency for under-prediction or displacement of peaks especially on days with complex gradient. There was a tendency for the model to perform better on days with wide spread high sulfate concentrations.

For nitrates, there were some issues with capturing the exact magnitude of peaks and minimum concentrations in the modeling. However, the spatial pattern was captured reasonably well, even with the typically low concentration seen across the southeast. Ammonium model performance was similar, as there were issues capturing the exact magnitudes of minimums and maximums, but with generally good spatial pattern capture. Performance seems to be especially good when the bulk of the domain experienced low concentrations. With the ammonium, the model typically showed elevated values over eastern NC, which would suggest the modeling captured emission from concentrated livestock operations in the area.

Organic carbon had well captured spatial patterns with only a slight issue in capturing peak values, which were usually just slightly displaced from observed values. The model also seemed to have a weaker concentration gradient than suggested by observations. Elemental carbon generally had low values, with some isolated high values likely due to large sources (or large urban areas) with minimal plume dispersion, which were not captured with the IMPROVE monitoring observations. Looking at the general pattern, concentrations are captured reasonable well compared to the IMPROVE monitors.

Coarse matter pattern is not handled as well as other species, especially with respect to capturing finer concentration gradients. The observations along the Appalachian Mountains from late spring through summer are not captured well, as peak values are often missed. However, at this same time, concentrations to the northwest are captured well. By the fall, concentrations lower,

and are better represented. Sea salt model performance is a little hard to quantify, as there are few observation throughout 2002 to base an analysis. Generally concentrations are low, with most peaks occurring near the coast, which at least follow natural logic. The model predicted peaks near the shore usually do not reach as high as the available observations, but further support the model produced pattern.

The soil component of particulate matter is generally over predicted, especially peaks through the Midwestern states. The model shows some grasp of the pattern of soil concentrations, but with actual magnitudes of peak values over predicted. The model seems to do better with lower concentrations through the coastal states.

For reconstructed fine particulate matter, the overall pattern is generally predicted well, with a slight under-prediction of peak values. Widespread events are generally captured well (especially June 4th, 10th, and 19th). Performance during the summer seems especially well captured as well.

D.1   January 5, 2002

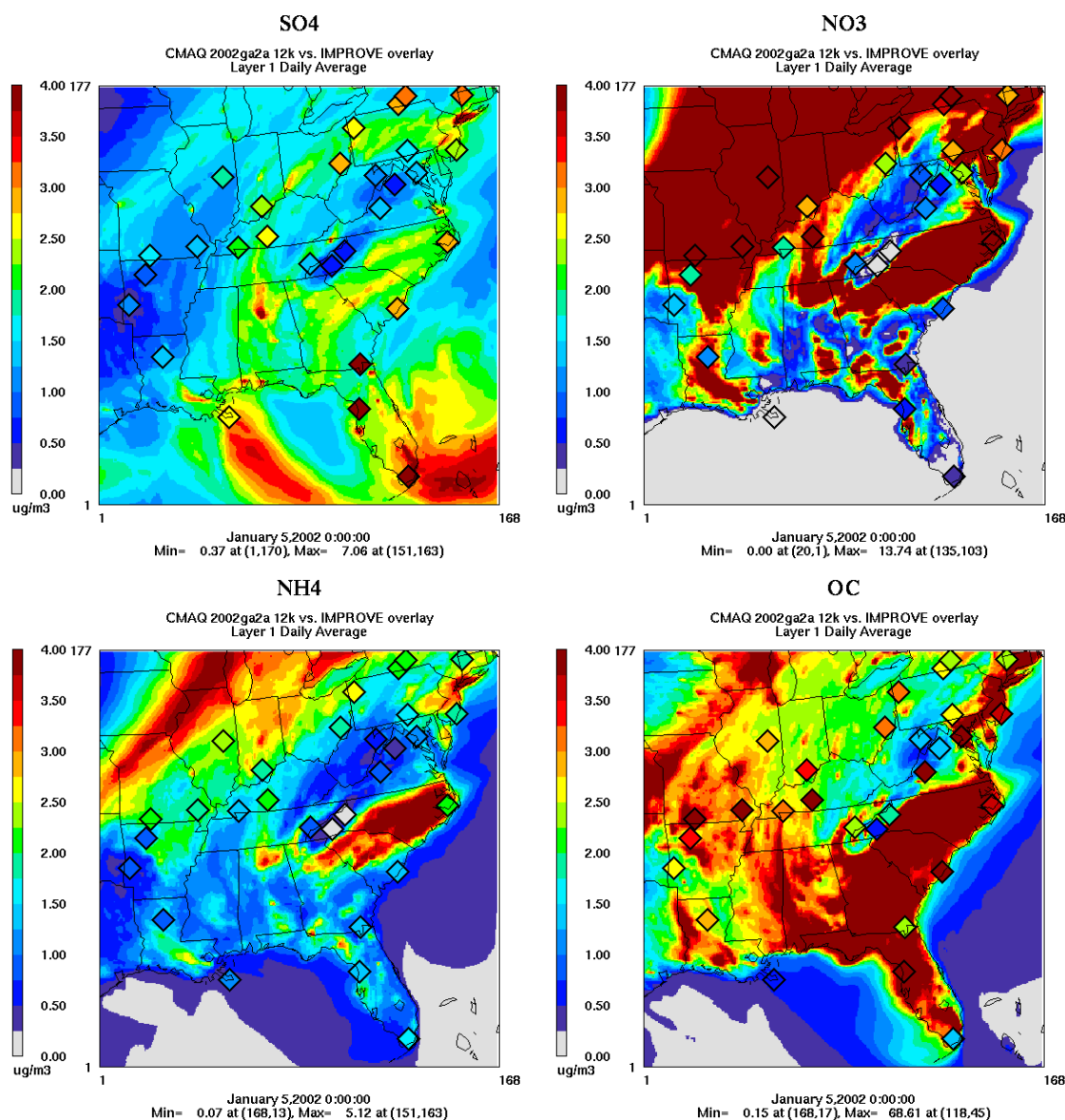| Date	Julian Day	Type	Class I Areas Affected
01/05/02	5	W20%	CHAS, EVER, SWAN, HEGL
01/05/02	5	B20%	LIGO, SHRO, SHEN, DOSO

Figure D-1:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right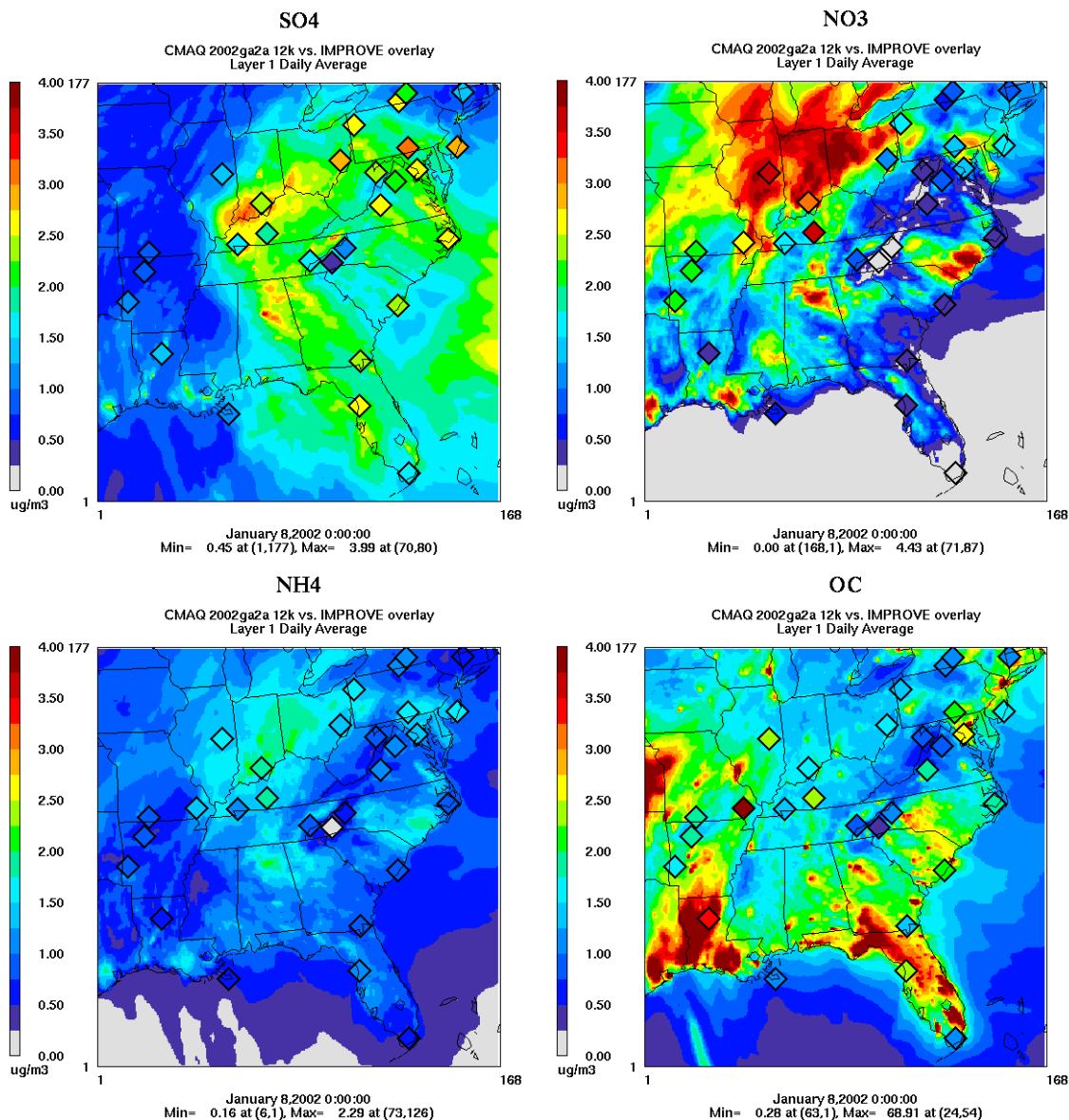), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 5, 2002
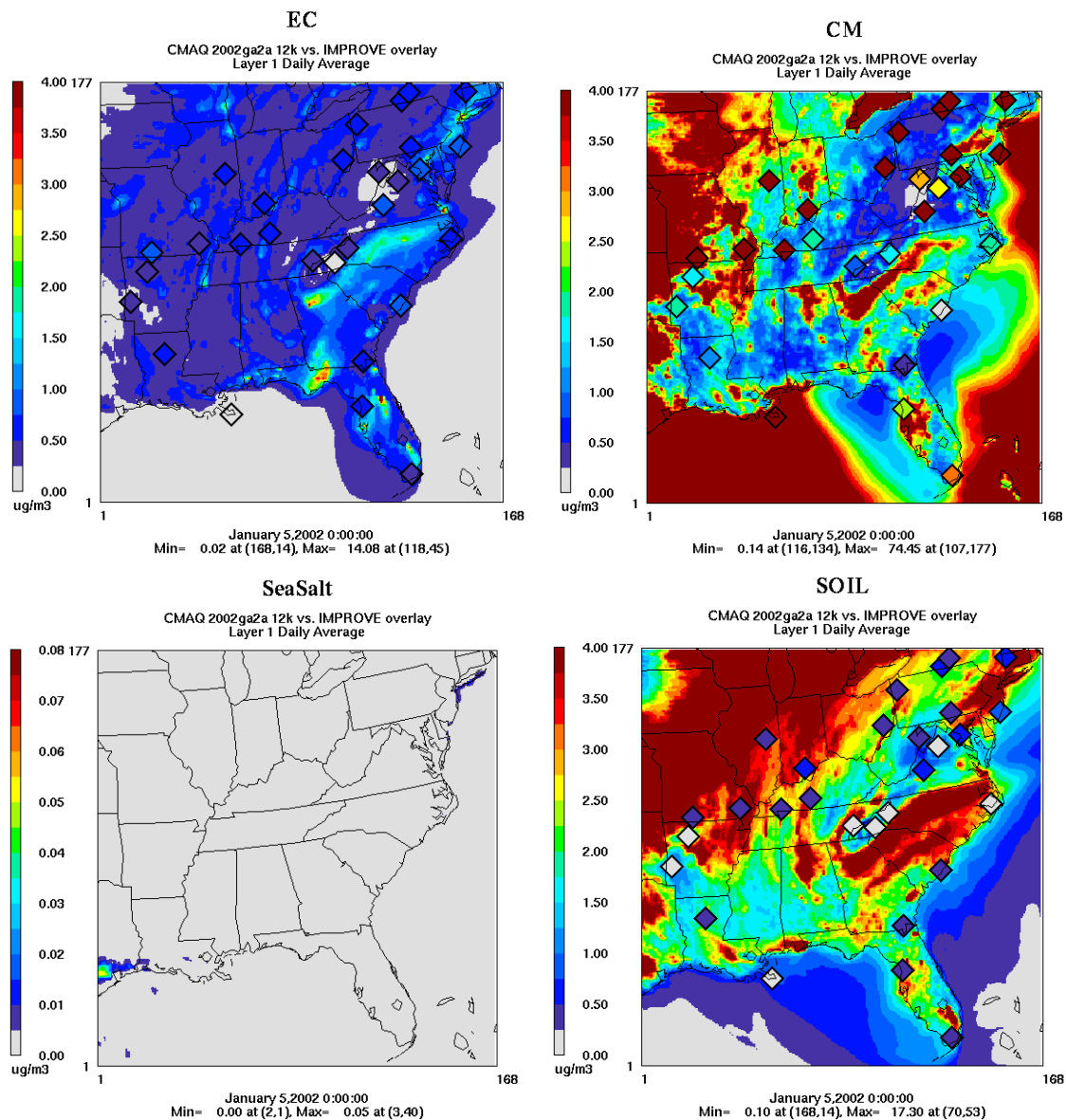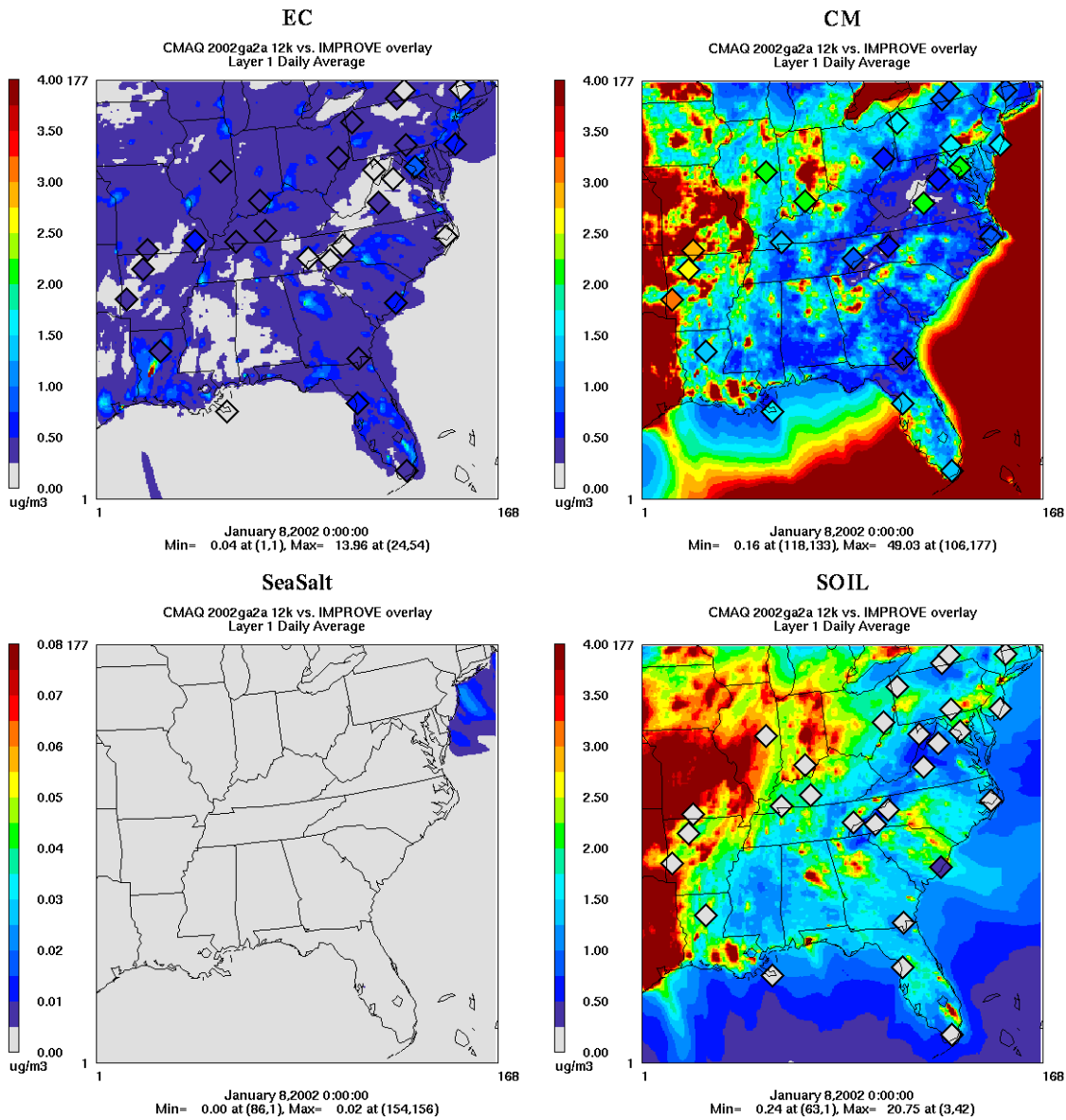
Figure D-2: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 5, 2002
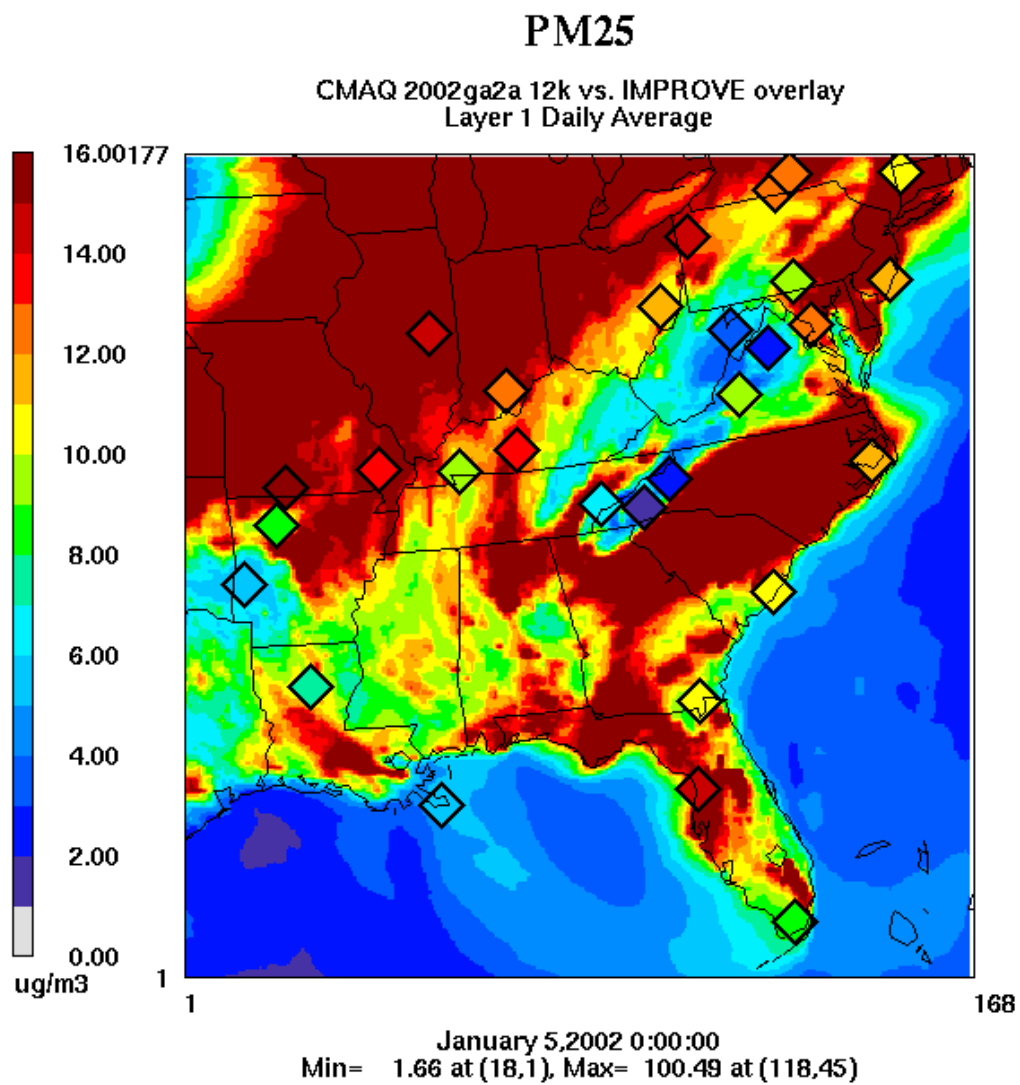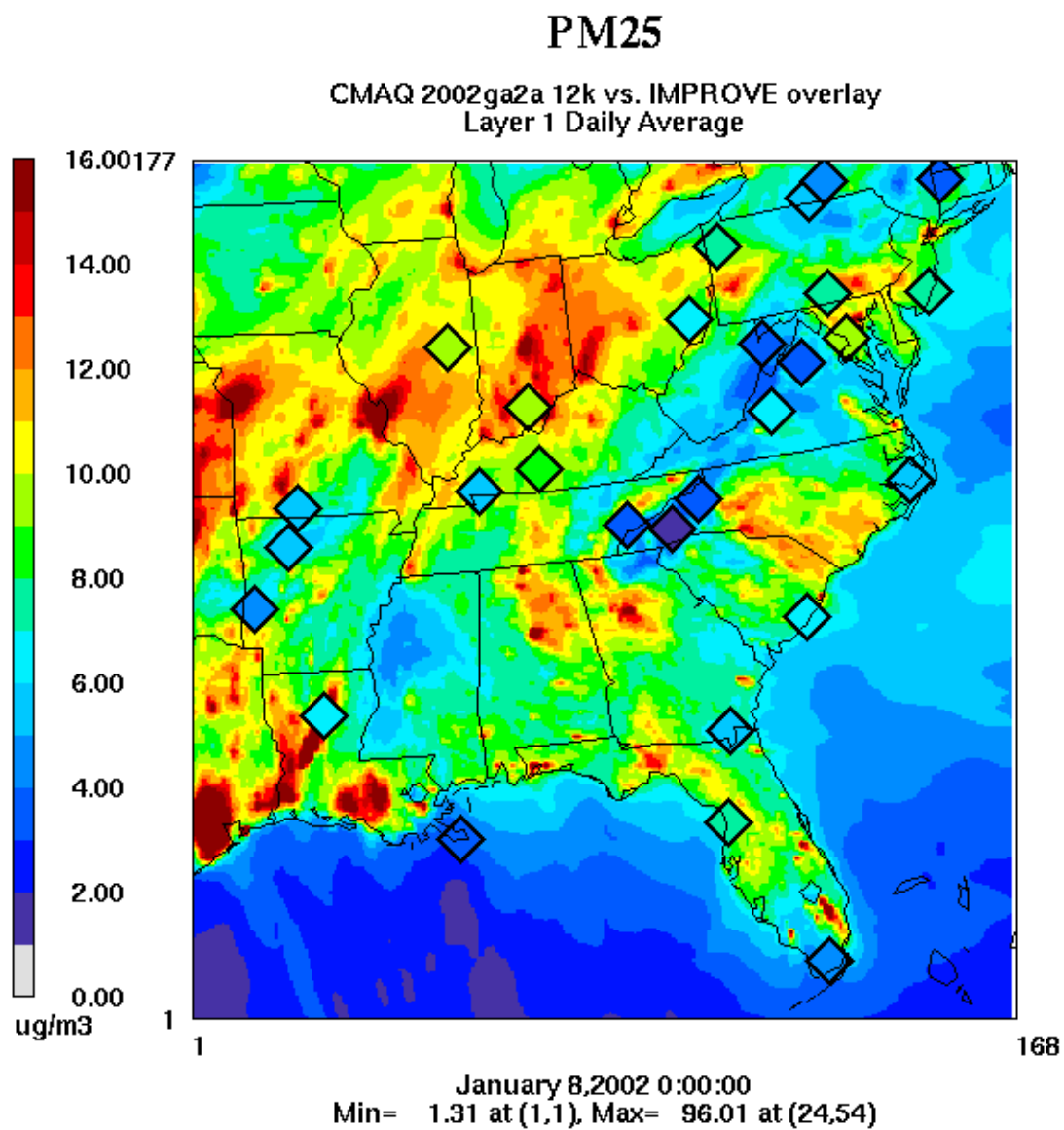
Figure D-3: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 5, 2002

D.2 January 8, 2002

| Date	Julian Day	Type	Class I Areas Affected
01/08/02	8	W20%	
01/08/02	8	B20%	LIGO, SHRO, GRSM, JARI, BRET

Figure D-4: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 8, 2002
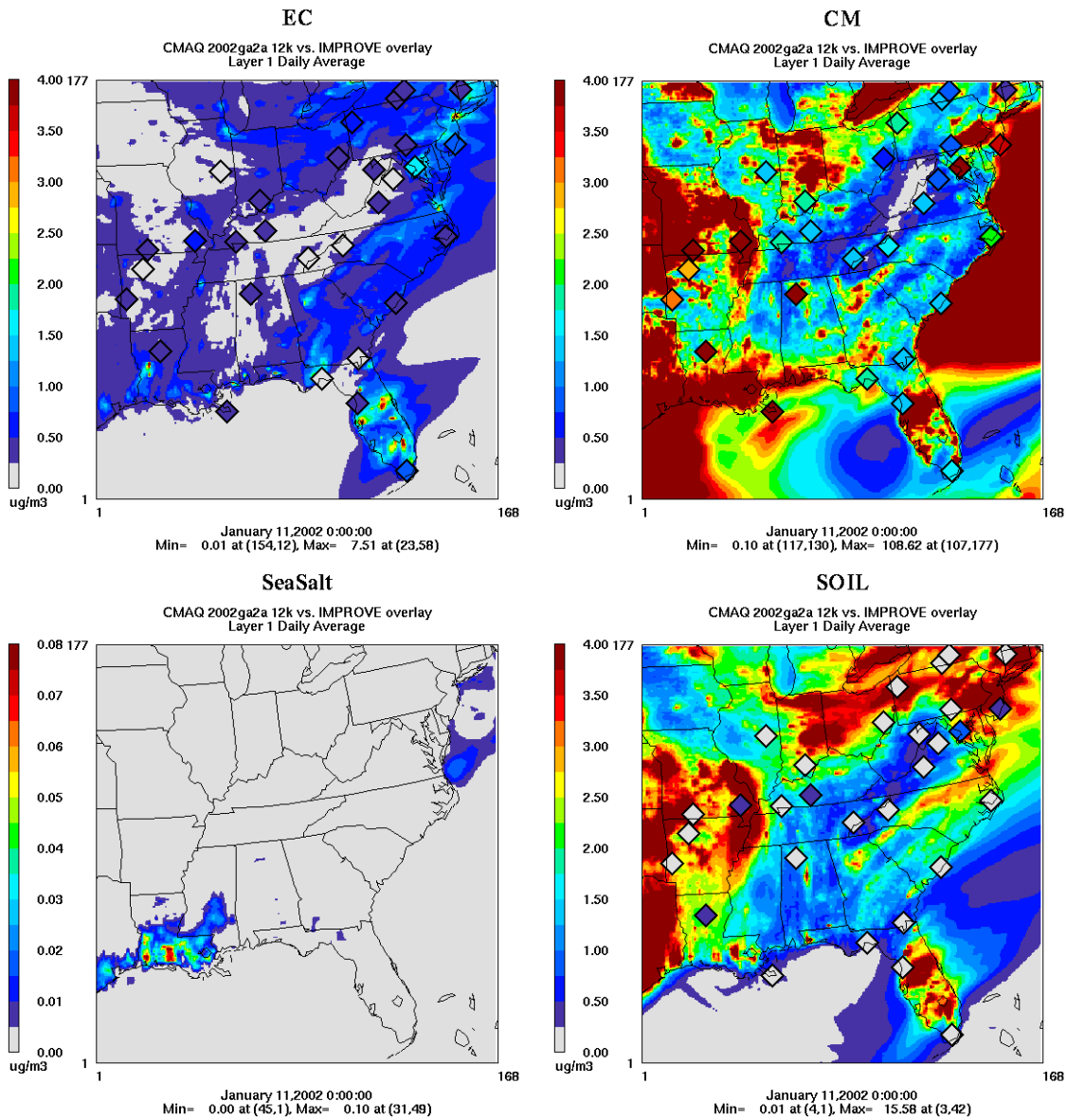
Figure D-5: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 8, 2002
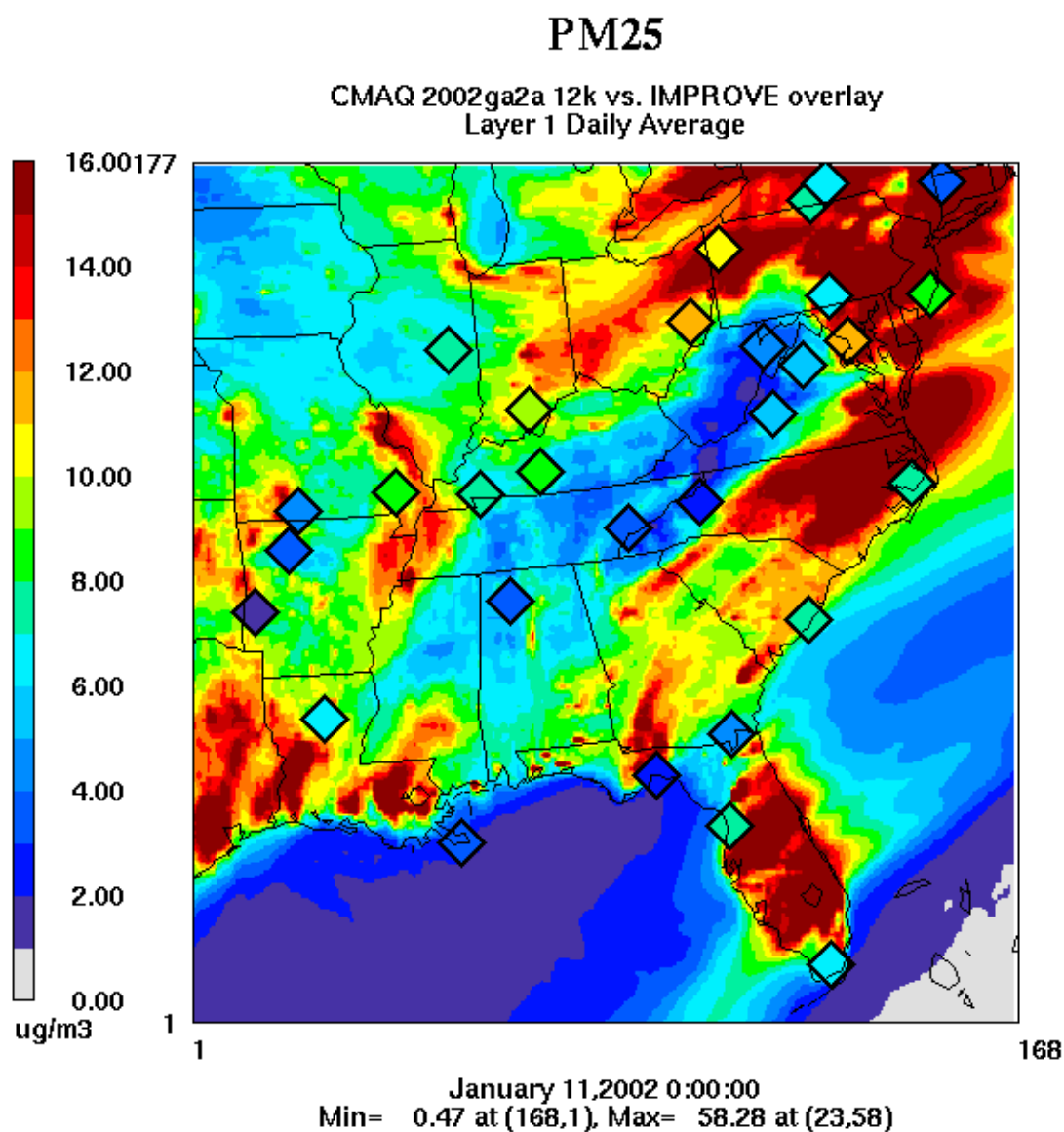
Figure D-6: **Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 8, 2002**

D.3 January 11, 2002

| Date	Julian Day	Type	Class I Areas Affected
01/11/02	11	W20%	
01/11/02	11	B20%	LIGO, SHRO, GRSM, JARI, SIPS, SAMA, OKEF, CACR
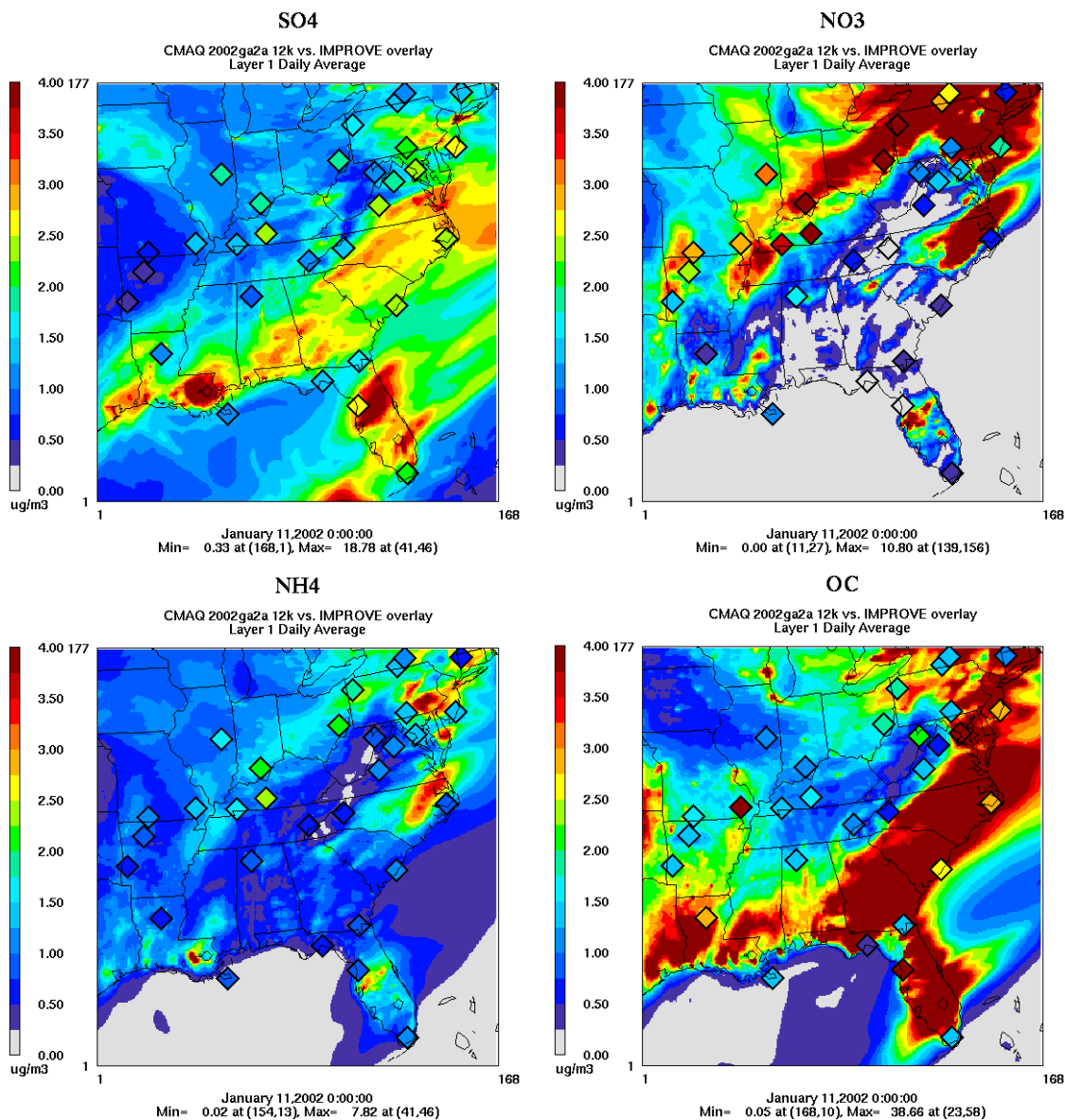
Figure D-7: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 11, 2002**
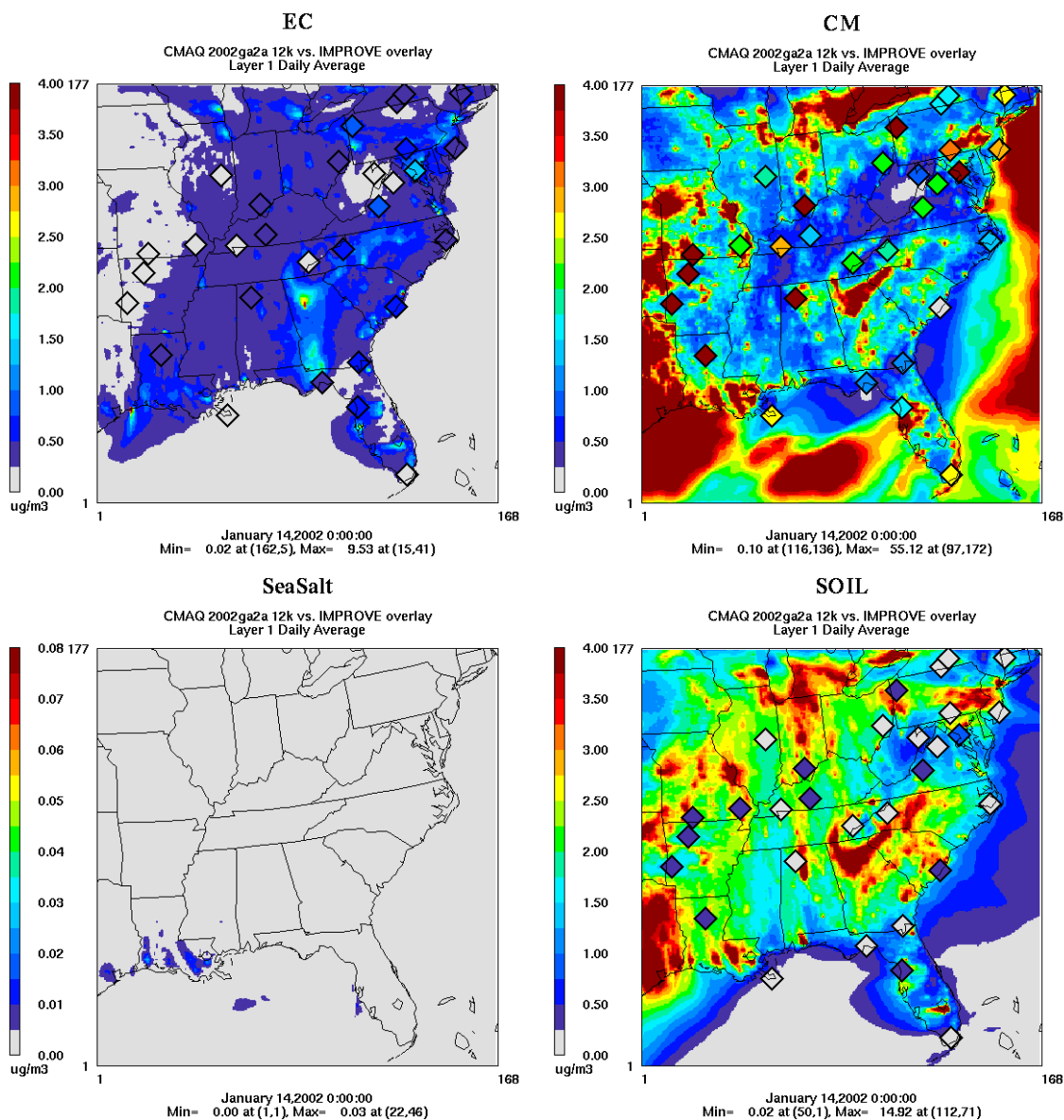
Figure D-8: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 11, 2002
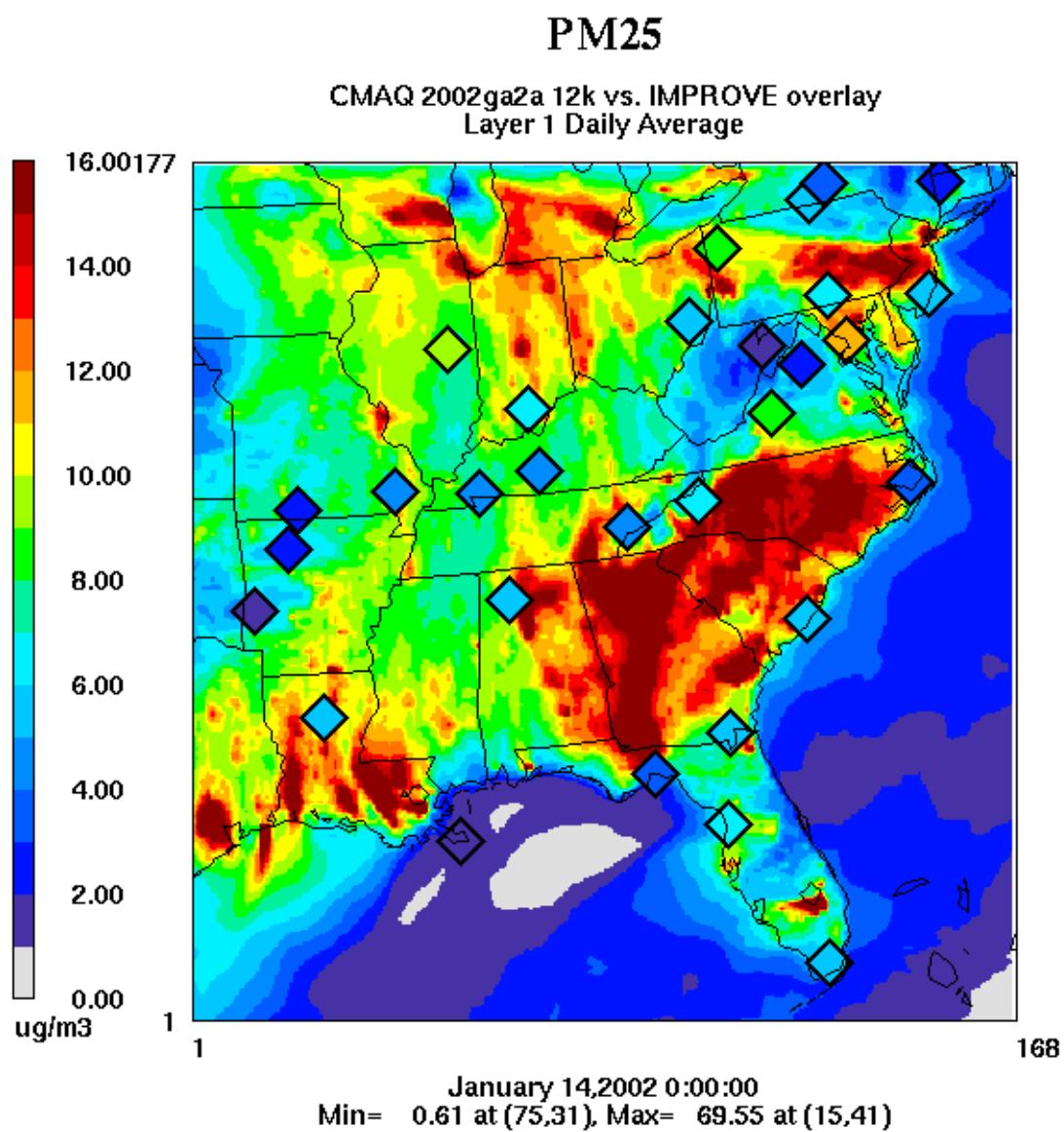
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

January 11, 2002 0:00:00
Min= 0.47 at (168,1), Max= 58.28 at (23,58)

Figure D-9: **Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 11, 2002**

D.4   January 14, 2002

| Date	Julian Day	Type	Class I Areas Affected
01/14/02	14	W20%	
01/14/02	14	B20%	GRSM, SIPS, SAMA, CACR, BRET, SHEN, DOSO, SWAN, HEGL, MACA, ROMA, UPBU, MING
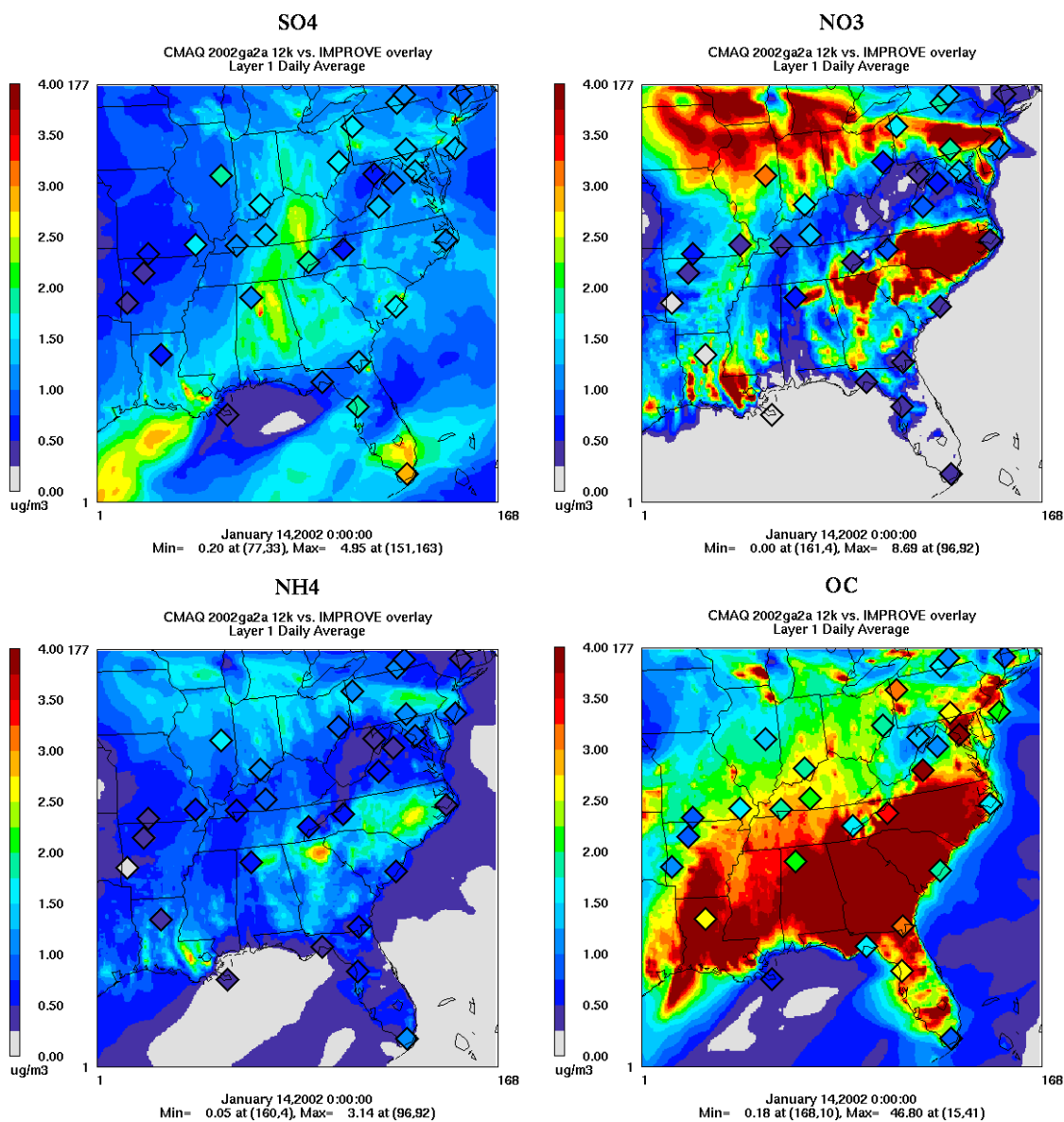
Figure D-10:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component

Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 14, 2002


EC

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

January 14,2002 0:00:00
Min= 0.02 at (162,5), Max= 9.53 at (15,41)

CM

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

January 14,2002 0:00:00
Min= 0.10 at (116,136), Max= 55.12 at (97,172)

SeaSalt

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

January 14,2002 0:00:00
Min= 0.00 at (1,1), Max= 0.03 at (22,46)

SOIL

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

January 14,2002 0:00:00
Min= 0.02 at (50,1), Max= 14.92 at (112,71)

Figure D-11: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 14, 2002**
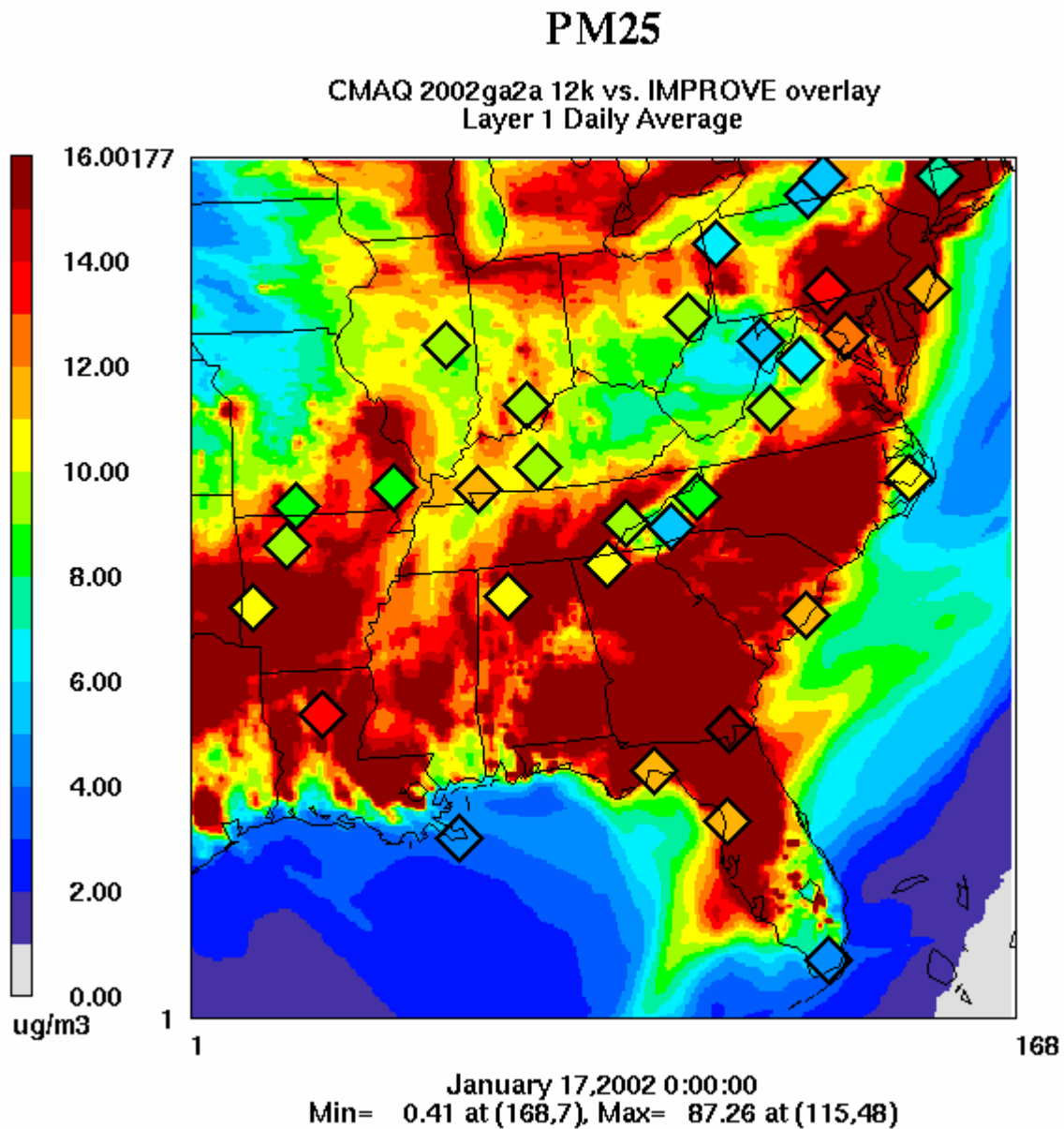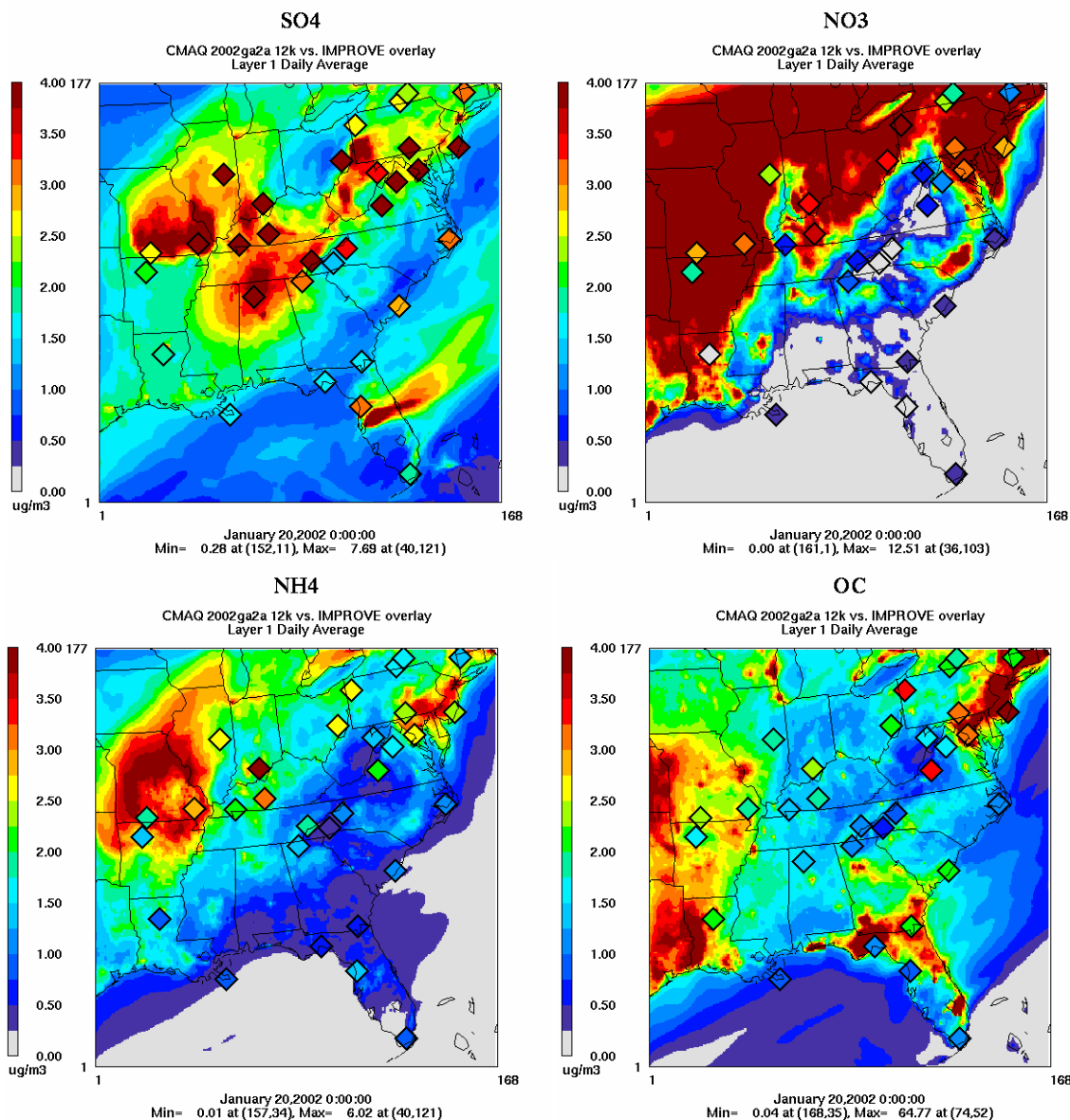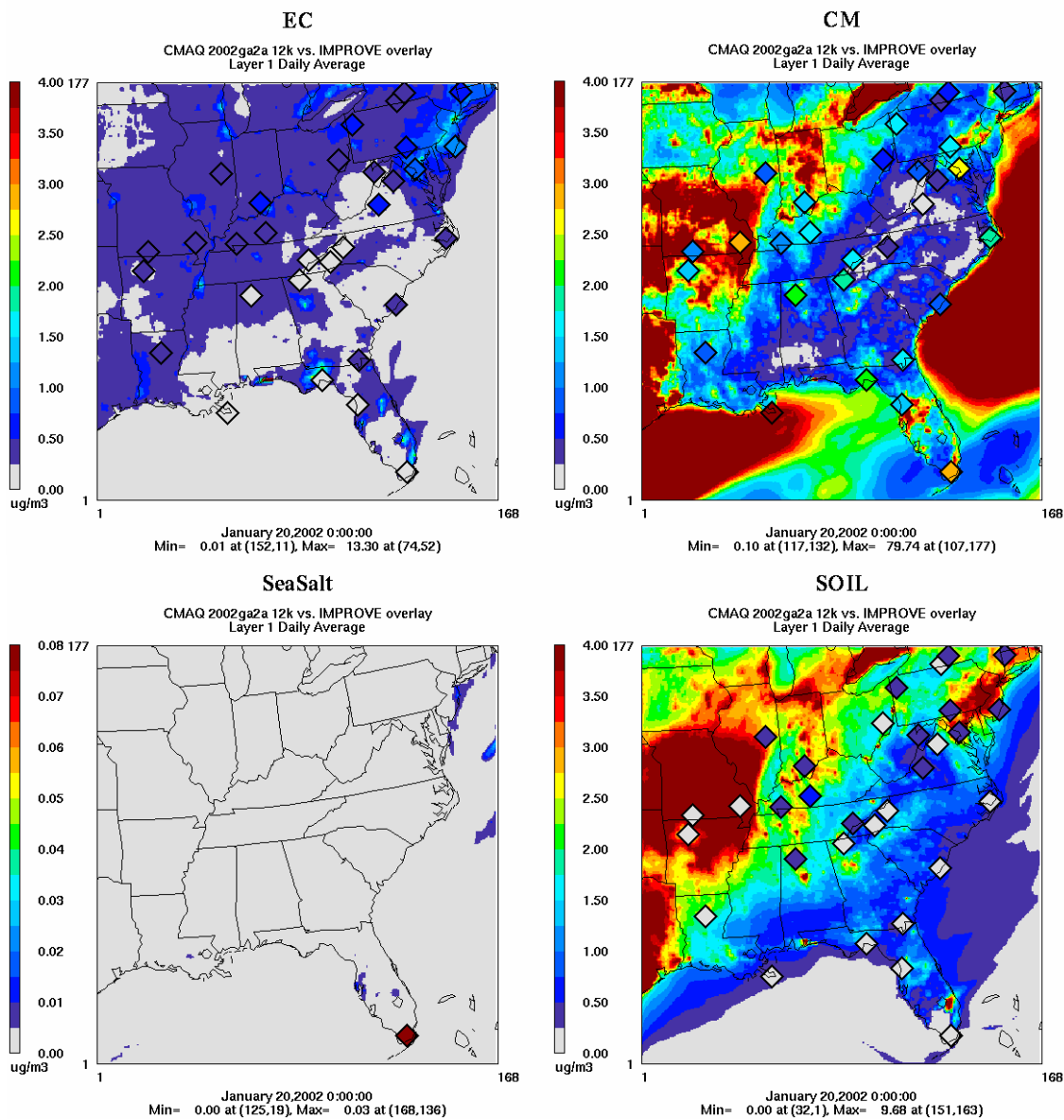
Figure D-12: **Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 14, 2002**

D.5　January 17, 2002

Date	Julian Day	Type	Class I Areas Affected
01/17/02	17	W20%	OKEF, CHAS, ROMA
01/17/02	17	B20%	
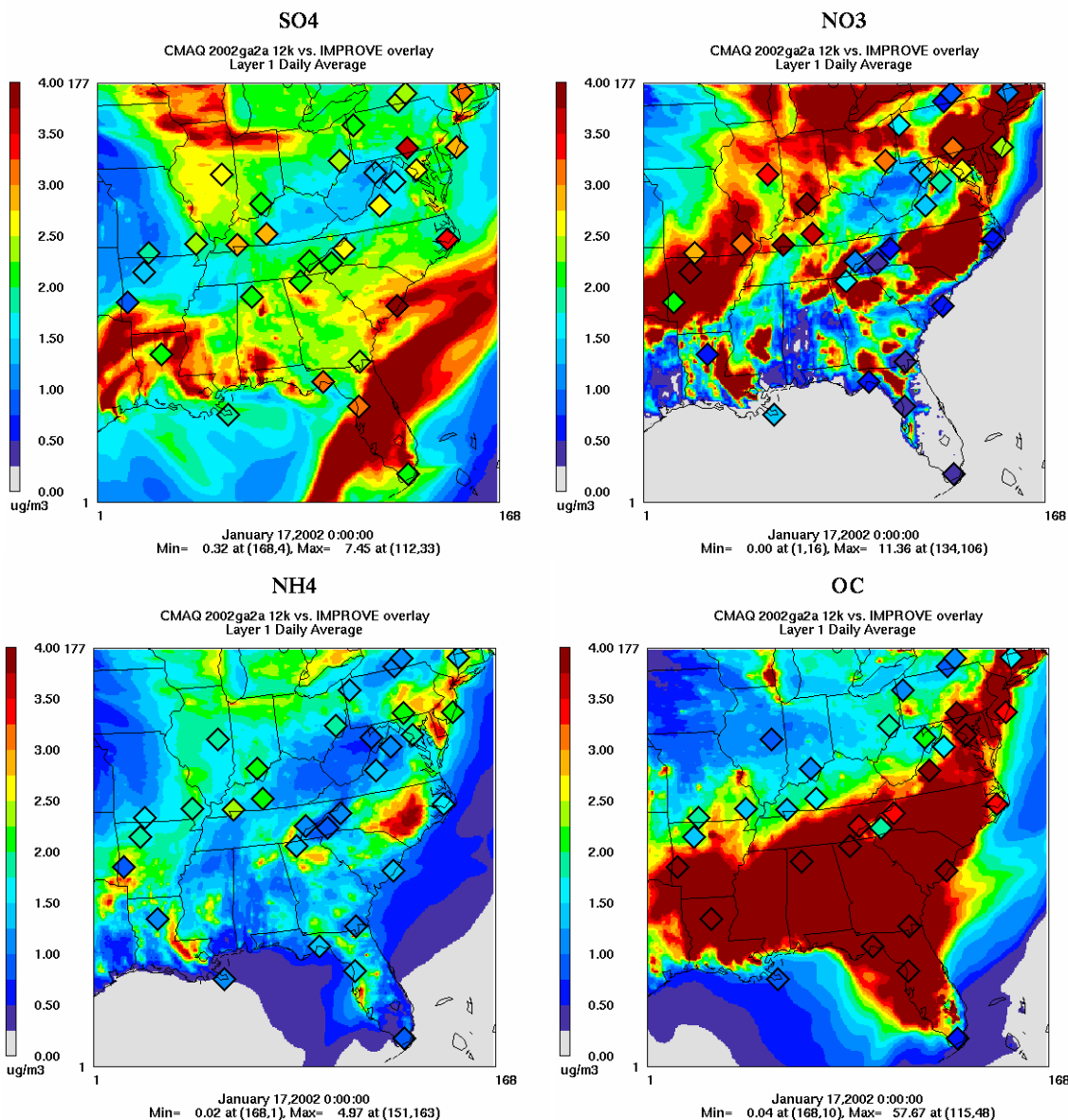
Figure D-13:　Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 17, 2002
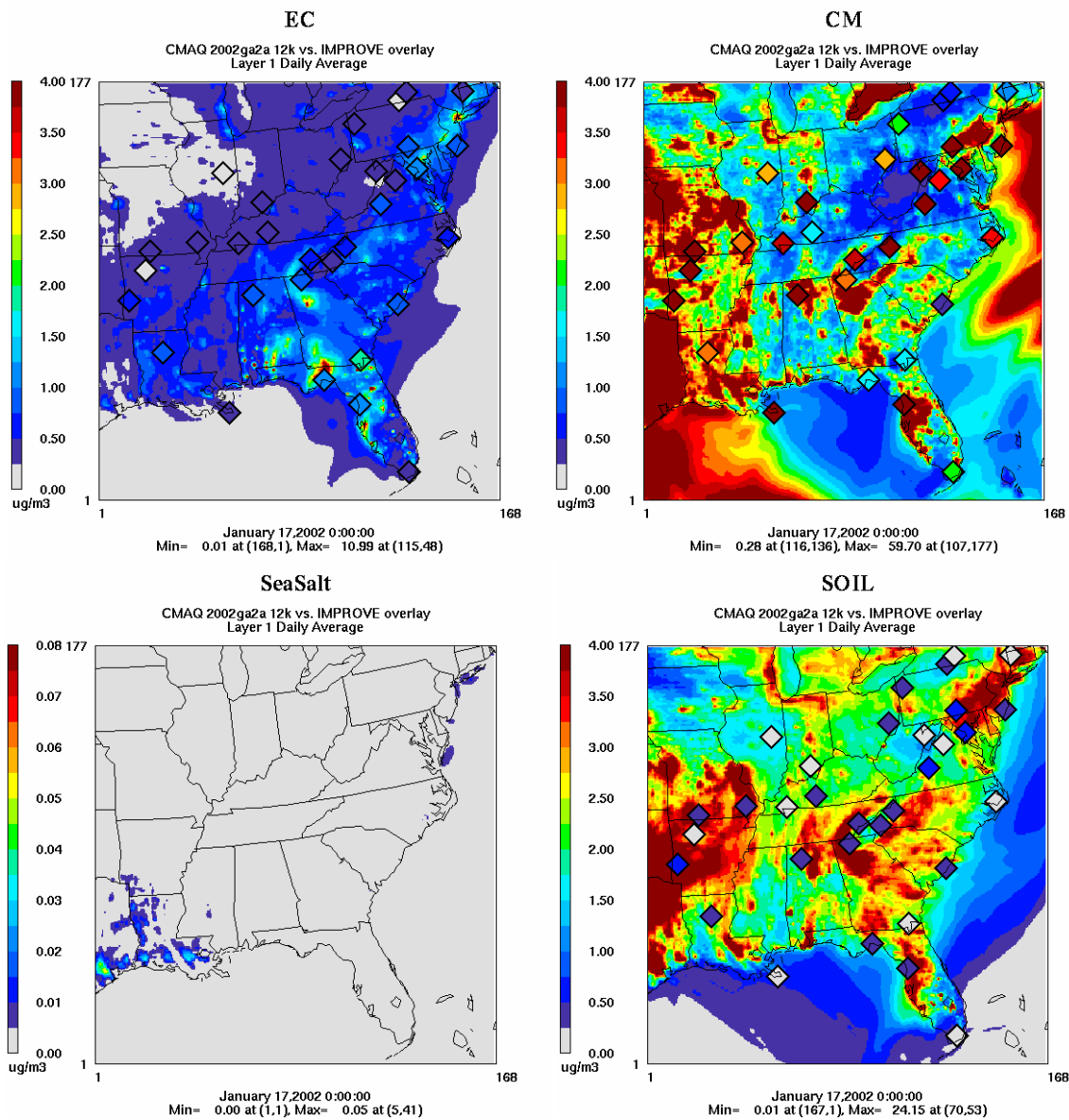
Figure D-14:   Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 17, 2002
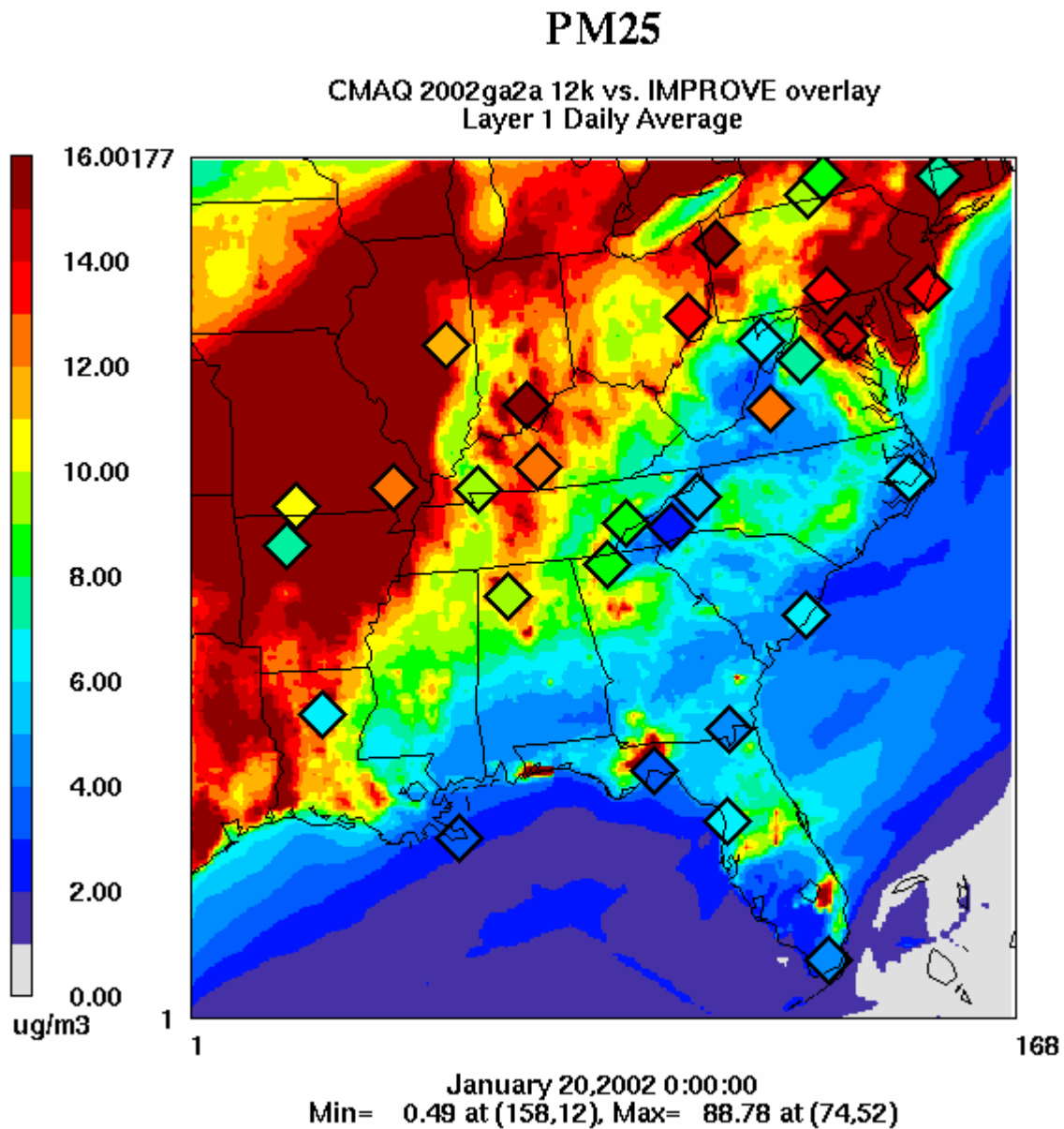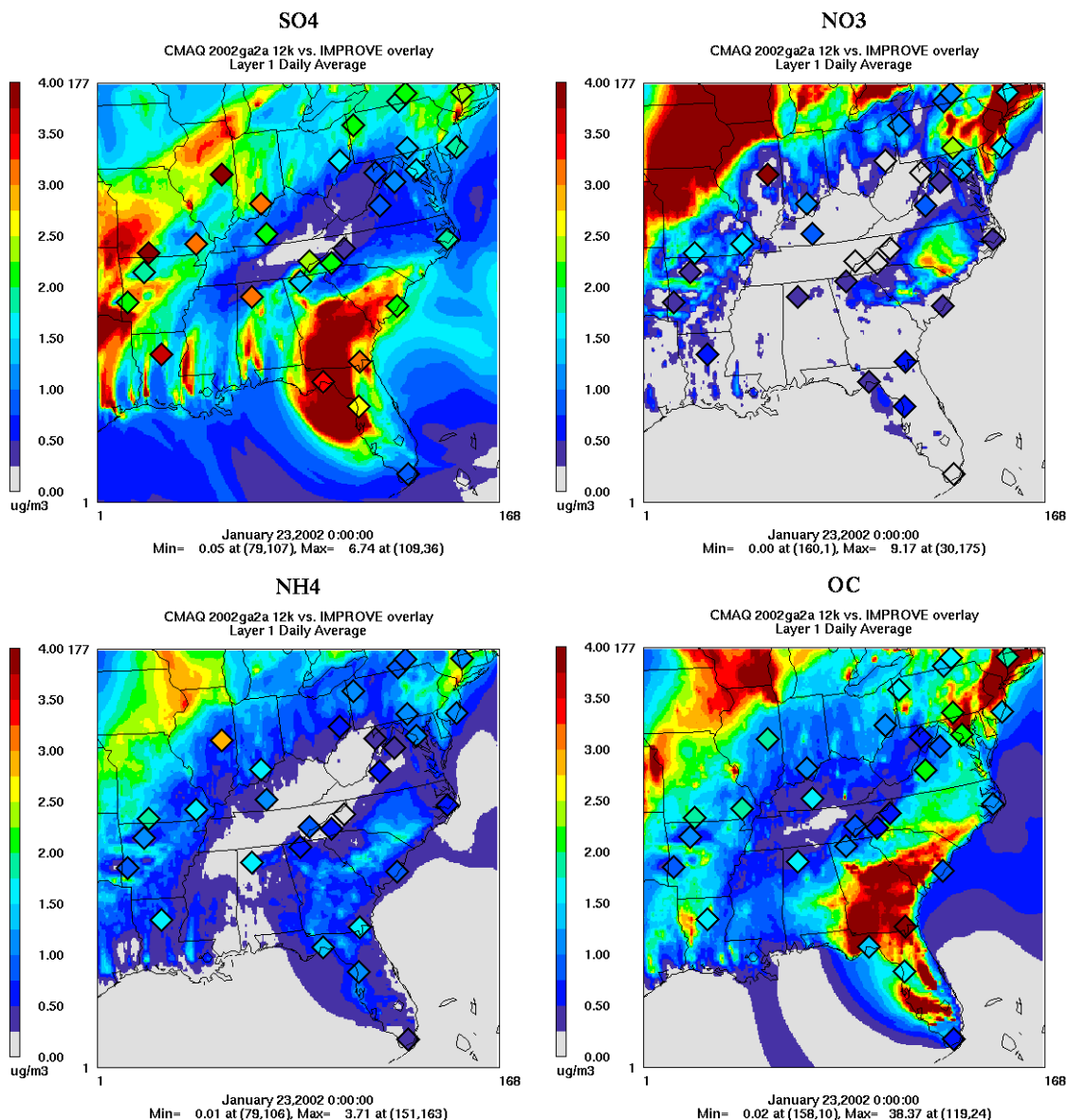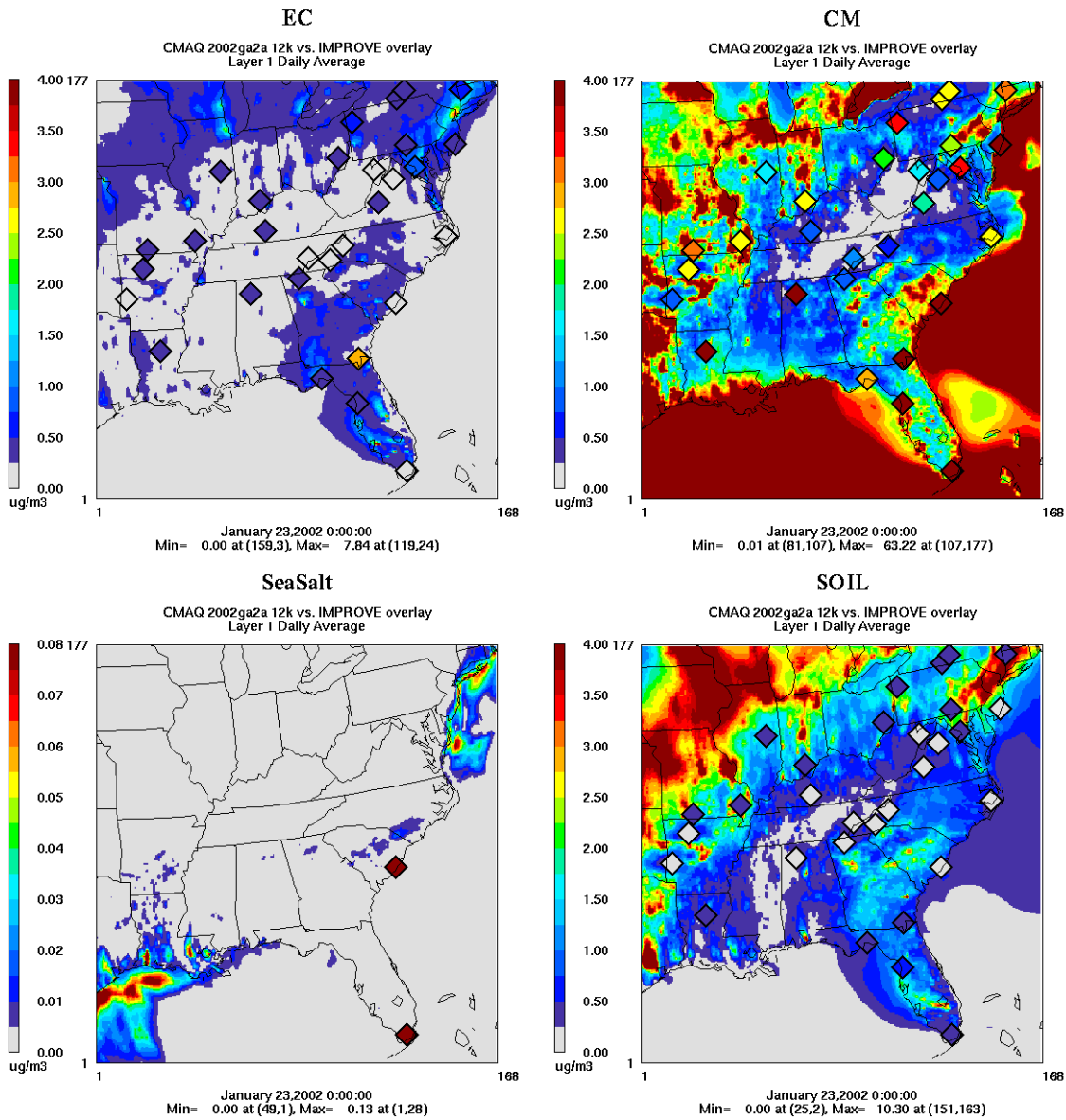
Figure D-15: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 17, 2002

D.6   January 20, 2002

Date	Julian Day	Type	Class I Areas Affected
01/20/02	20	W20%	MING, BRIG
01/20/02	20	B20%	SAMA, OKEF, BRET

Figure D-16:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 20, 2002

Figure D-17: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 20, 2002**
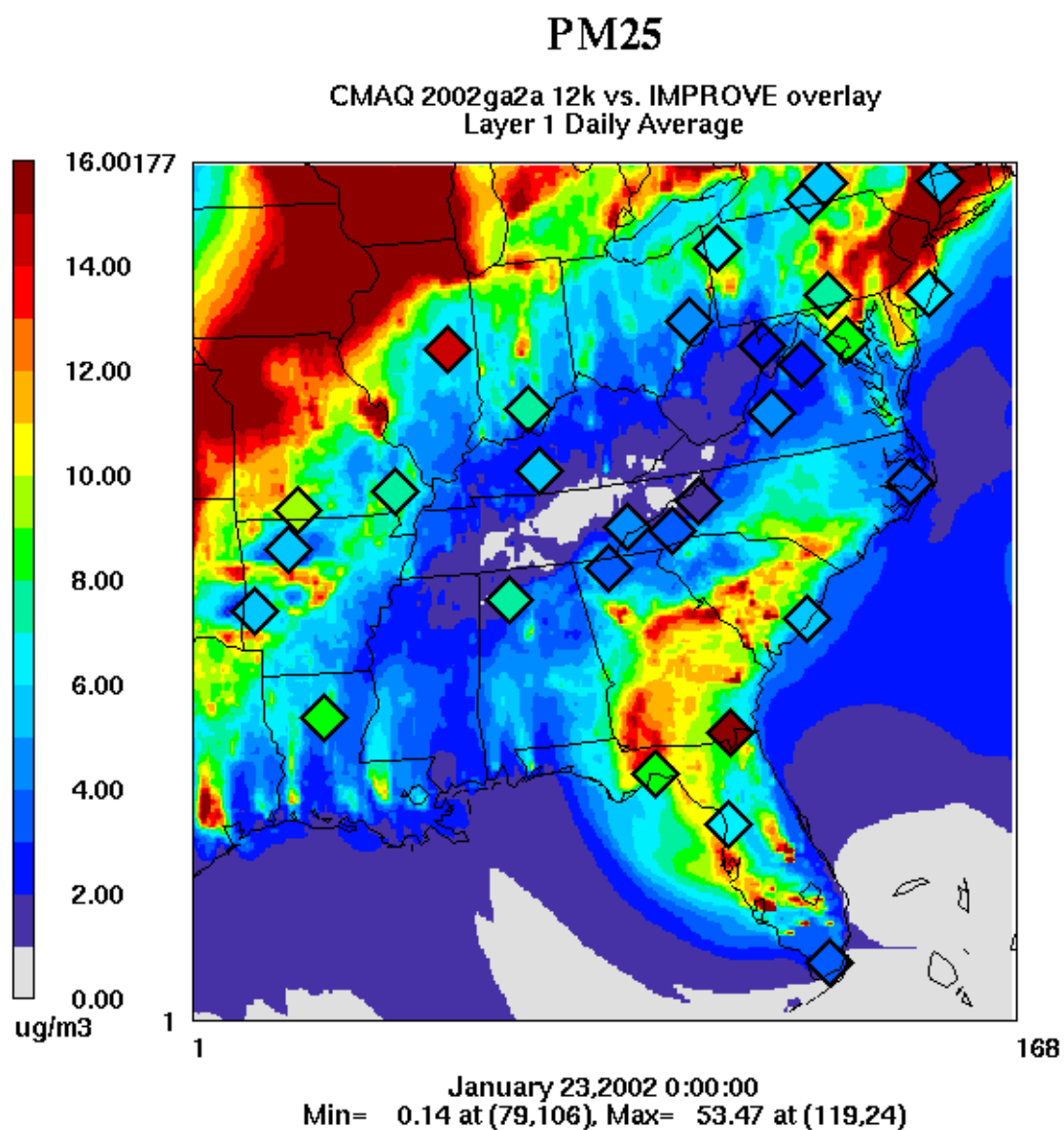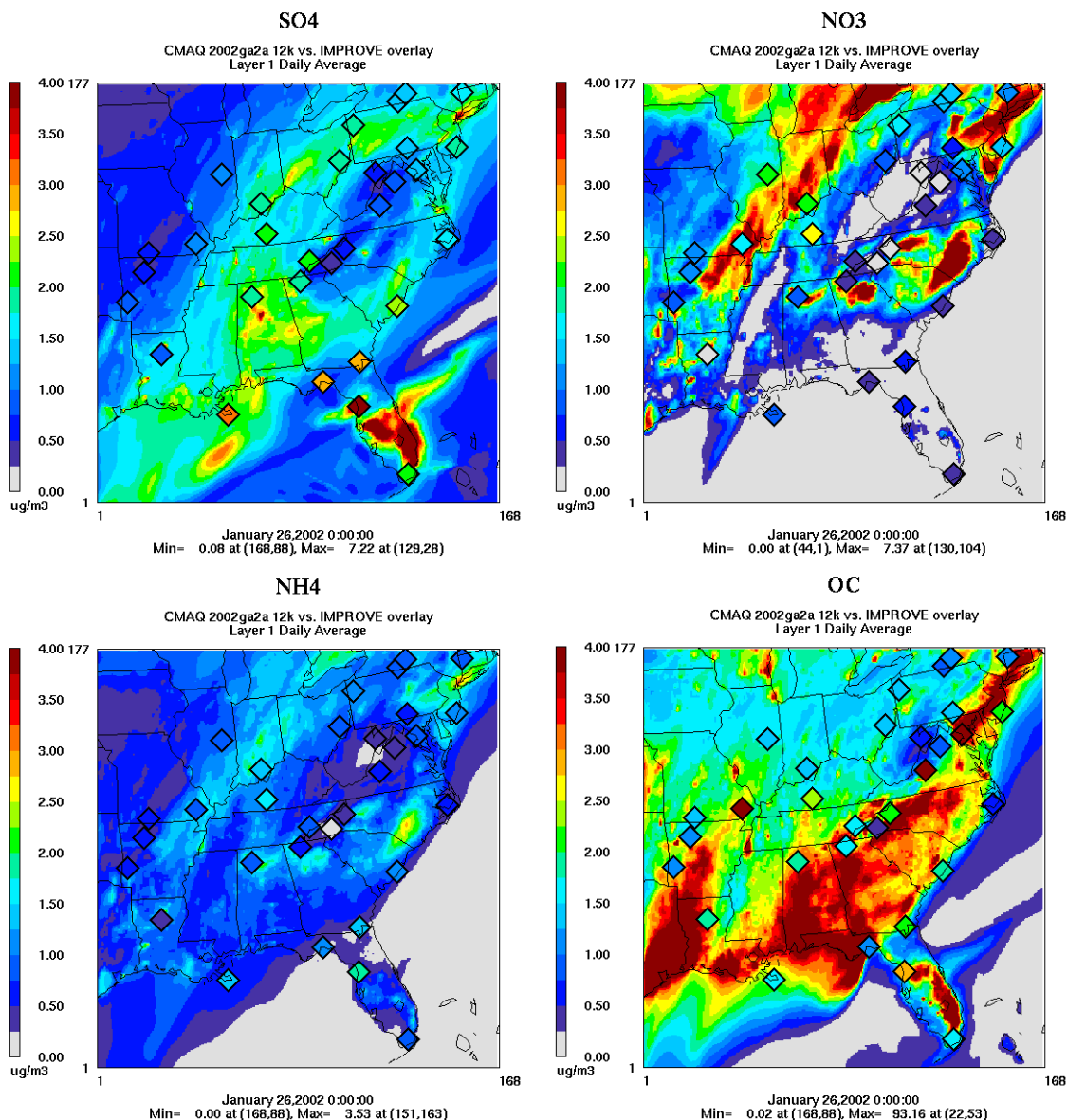
Figure D-18: **Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 20, 2002**

D.7   January 23, 2002

Date	Julian Day	Type	Class I Areas Affected
01/23/02	23	W20%	OKEF
01/23/02	23	B20%	LIGO, GRSM, JARI, SHEN, DOSO, EVER, COHU, MACA, ROMA

Figure D-19: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 23, 2002
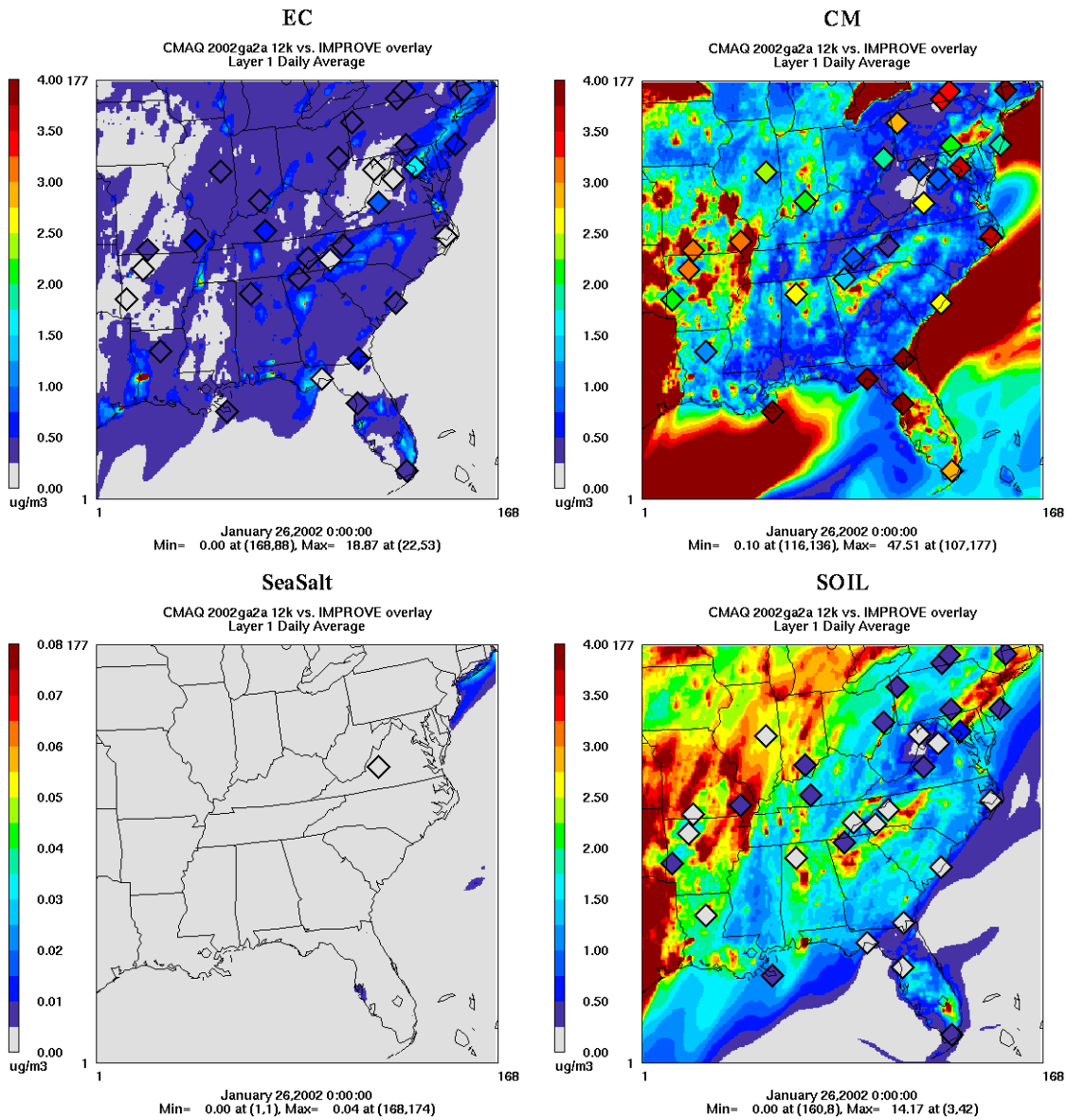
Figure D-20: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 23, 2002
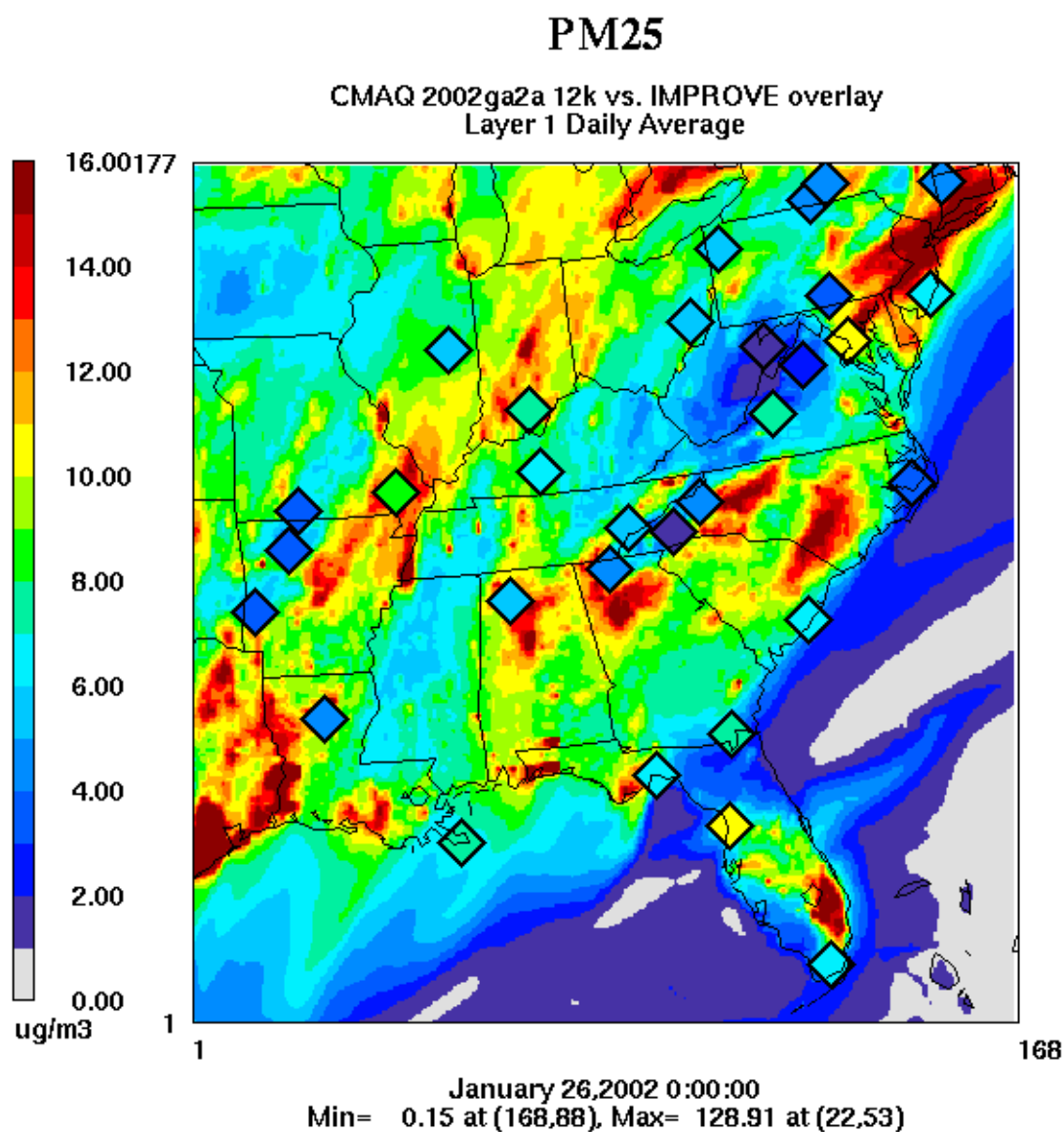
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

January 23,2002 0:00:00
Min=   0.14 at (79,106), Max=   53.47 at (119,24)

**Figure D-21: Modeled Predicted And Observed Daily Average Total Fine Particulate
Matter (PM25) Concentration Spatial Plots For January 23, 2002**

D.8   January 26, 2002

Date	Julian Day	Type	Class I Areas Affected
01/26/02	26	W20%	CHAS
01/26/02	26	B20%	LIGO, SHRO, JARI, SIPS, CACR, SHEN, DOSO, SWAN, HEGL, COHU, UPBU

Figure D-22:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 26, 2002

Figure D-23: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 26, 2002
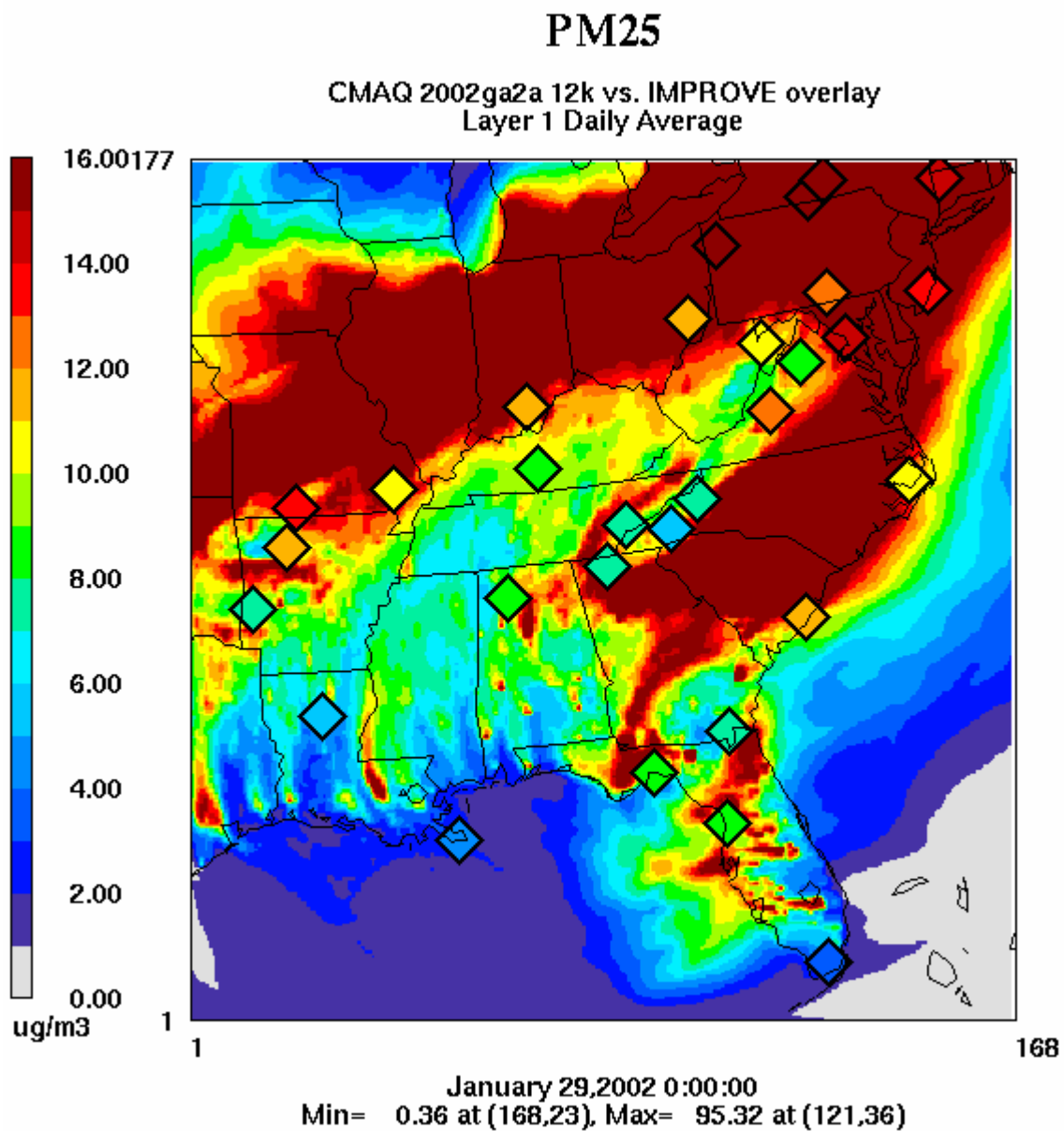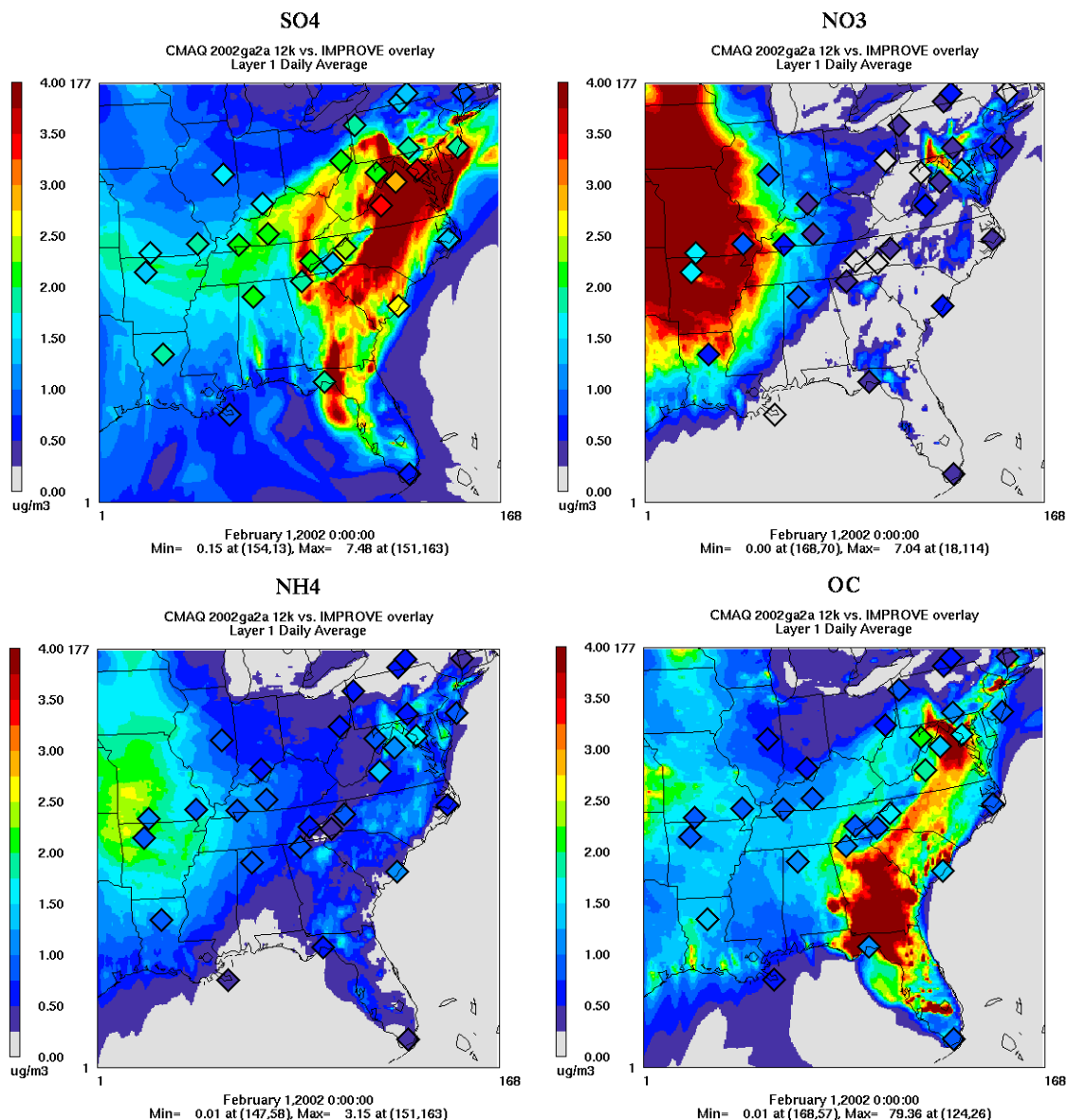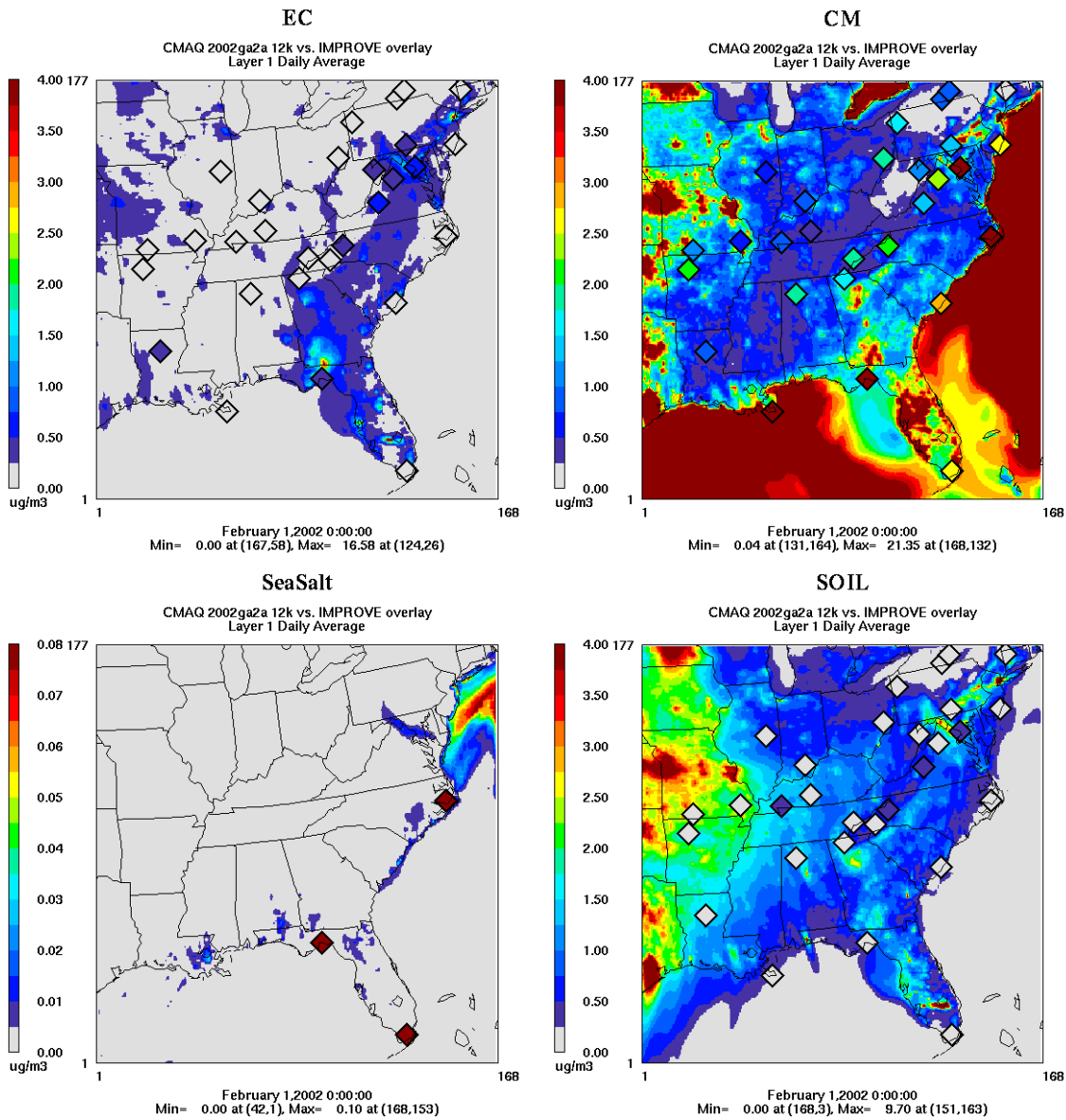
Figure D-24: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 26, 2002

D.9   January 29, 2002

Date	Julian Day	Type	Class I Areas Affected
01/29/02	29	W20%	ROMA
01/29/02	29	B20%	EVER
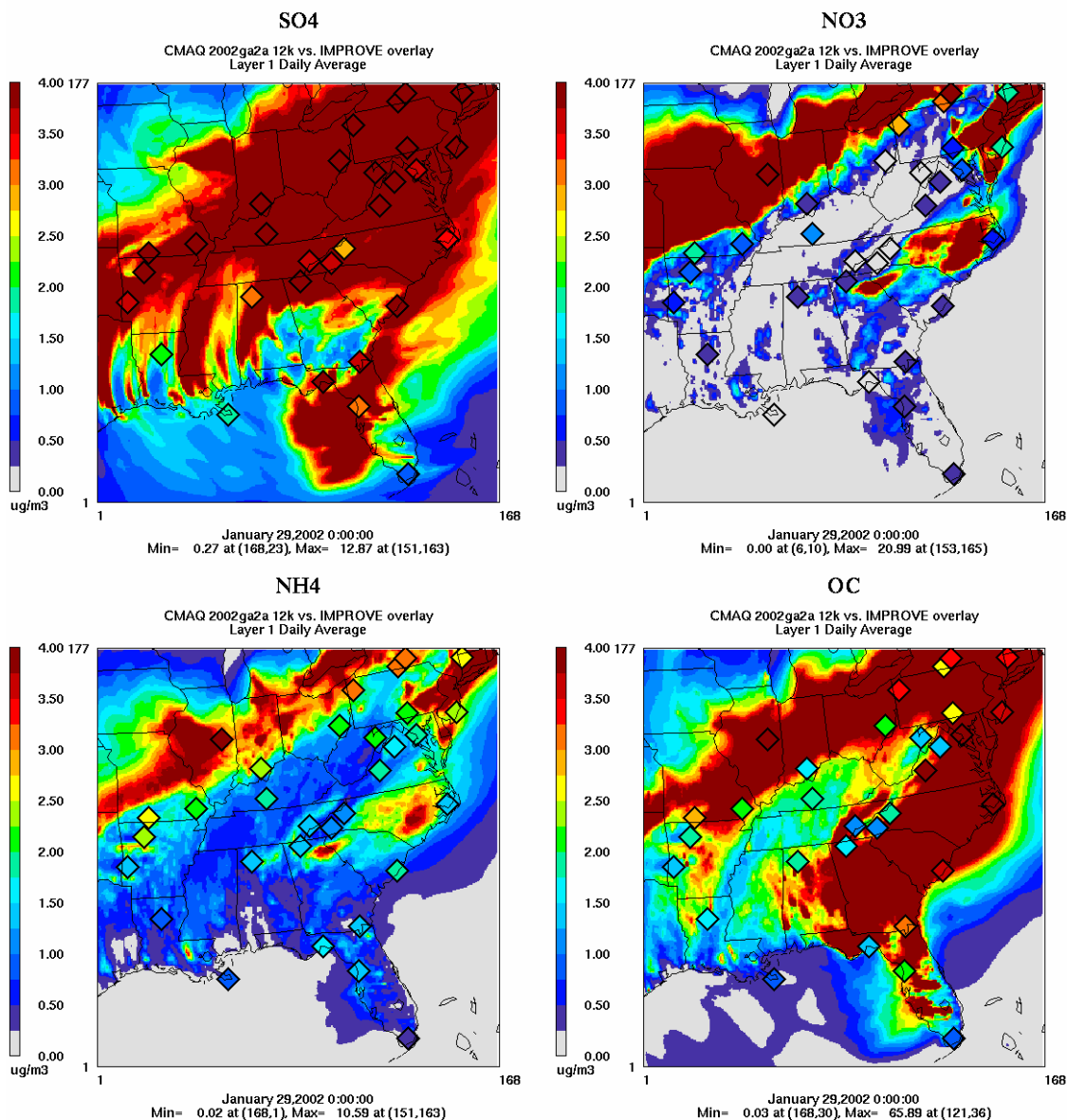
Figure D-25: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For January 29, 2002
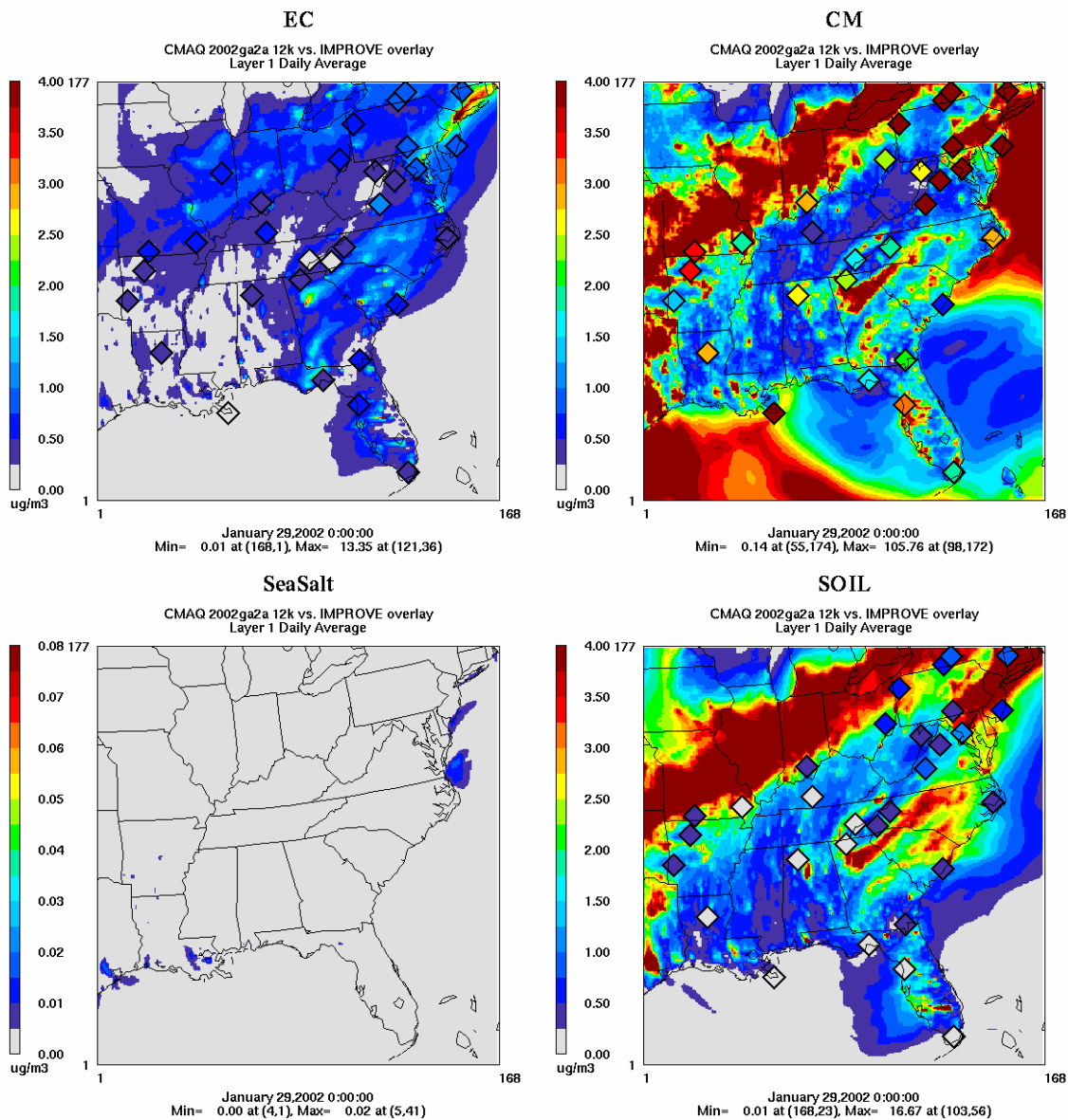
Figure D-26: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For January 29, 2002**
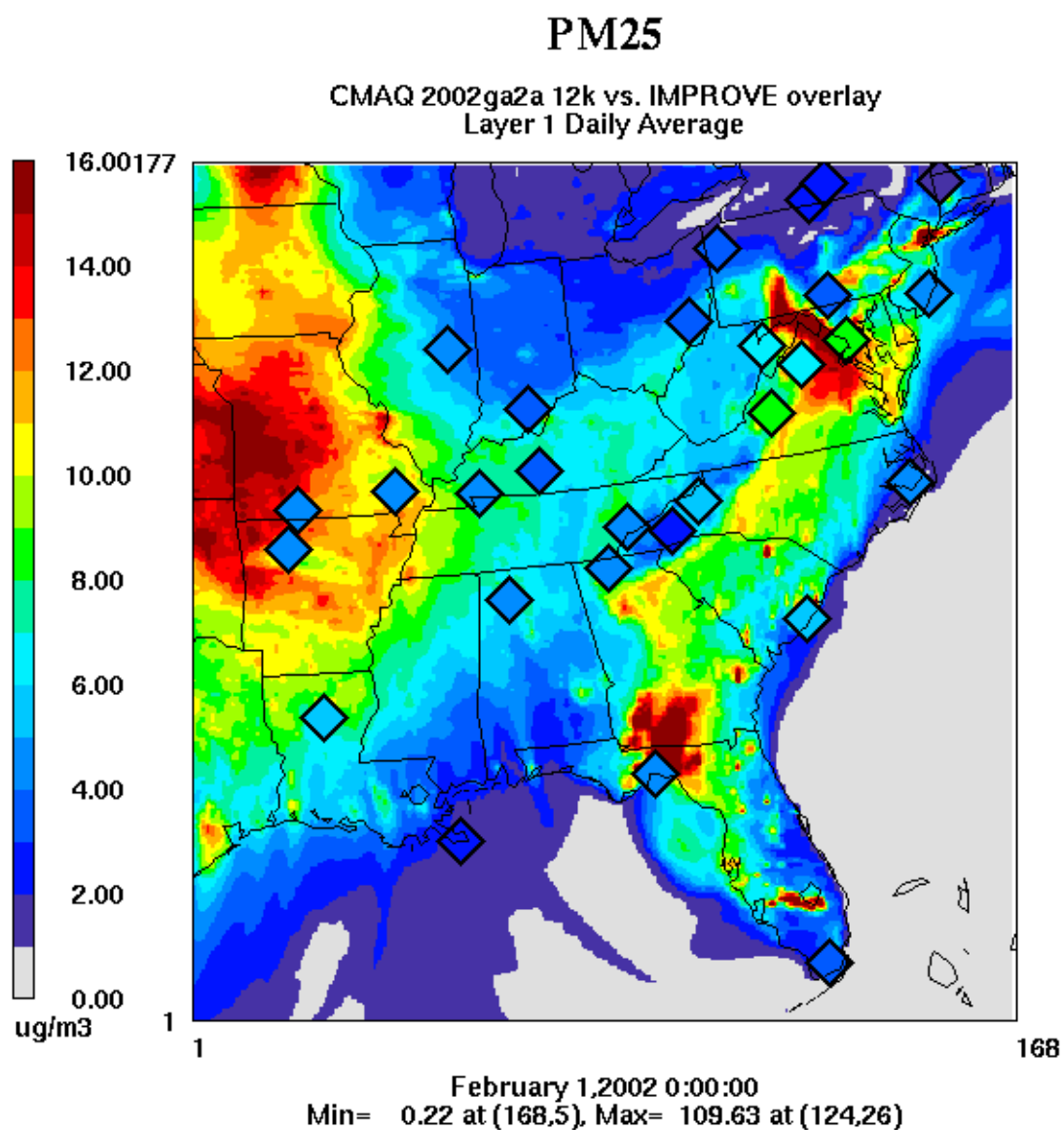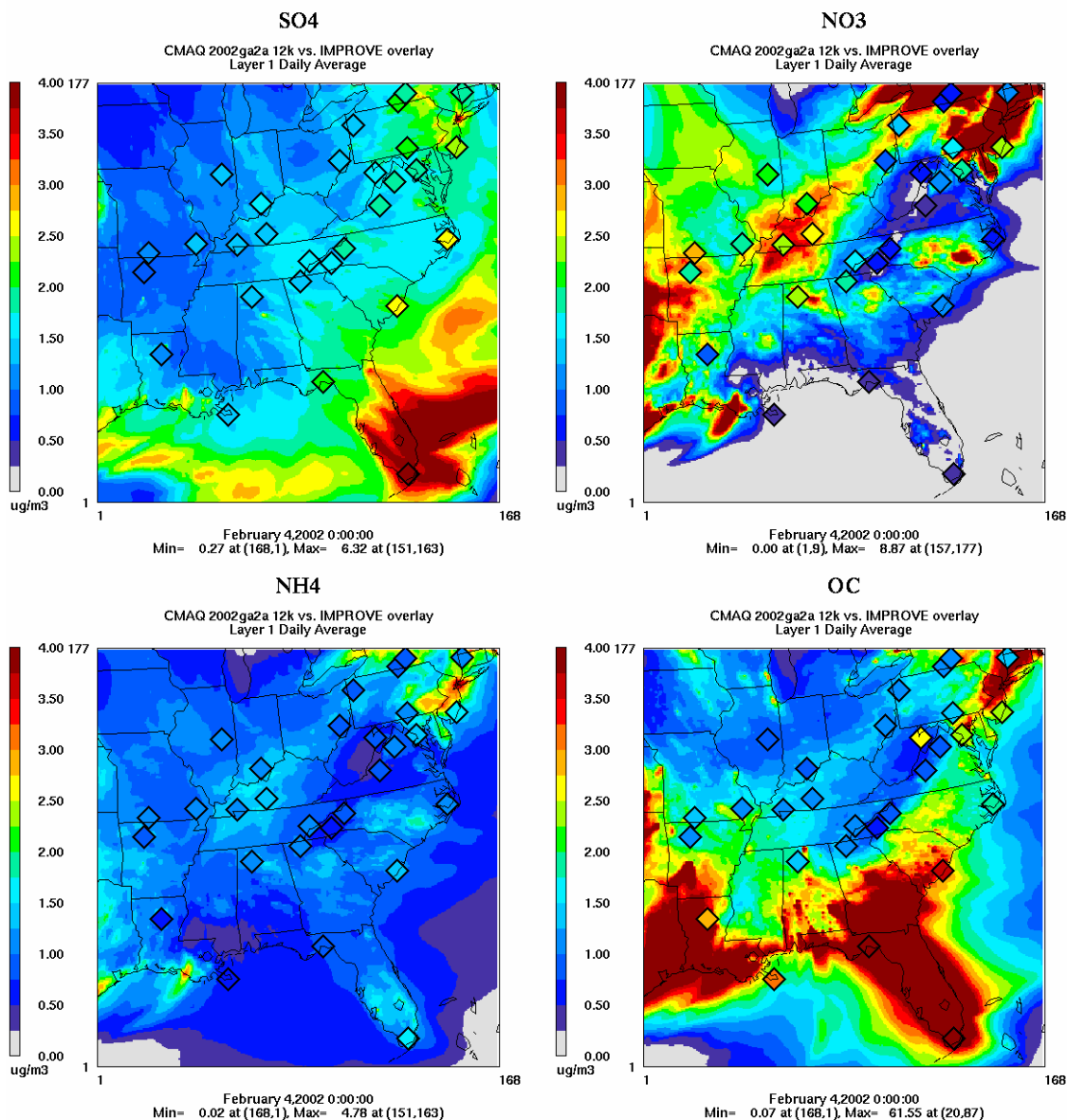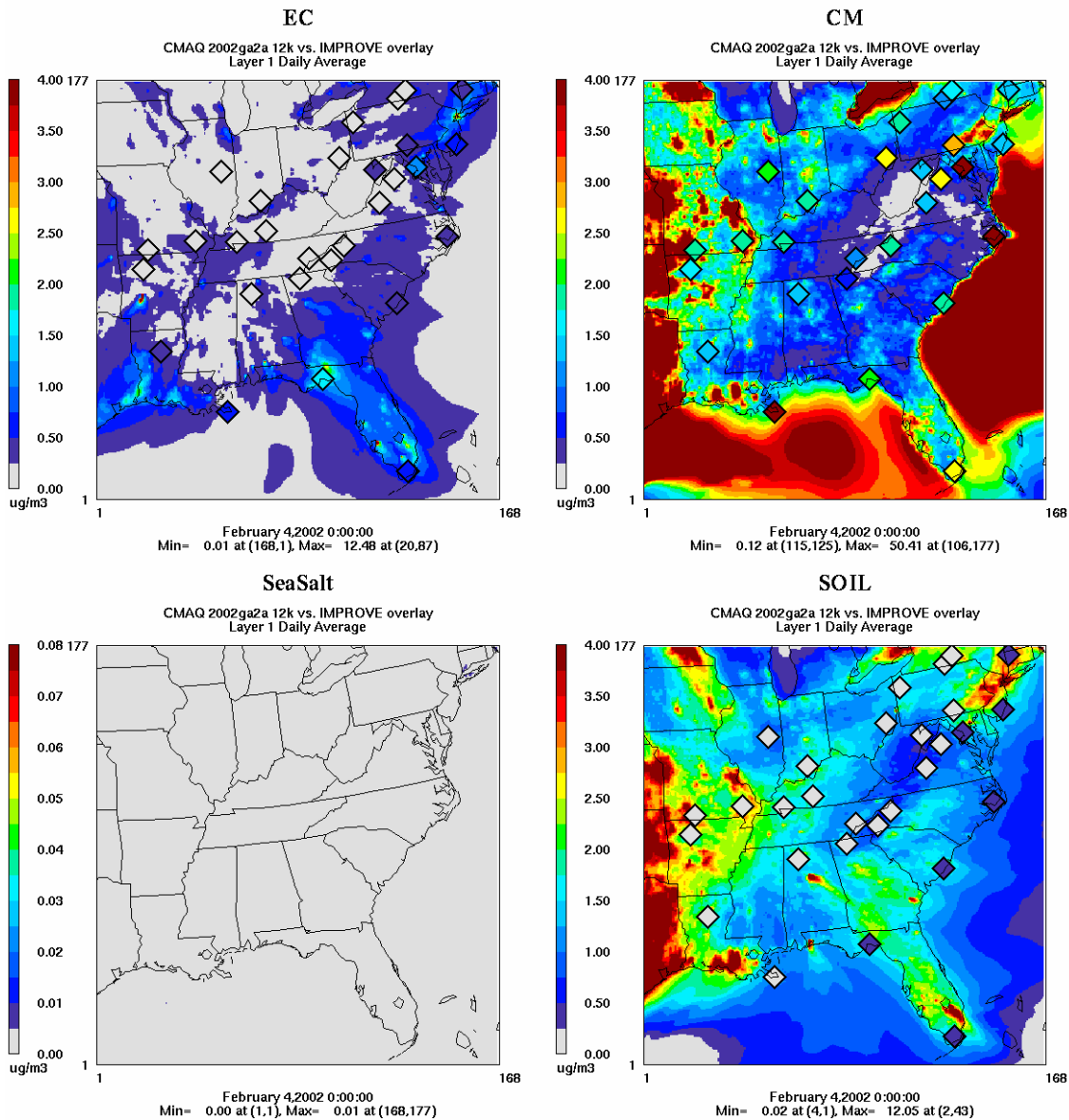
Figure D-27: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For January 29, 2002

D.10 February 1, 2002

Date	Julian Day	Type	Class I Areas Affected
02/01/02	32	W20%	
02/01/02	32	B20%	GRSM, SIPS, SAMA, BRET, EVER, COHU, MACA, MING, BRIG

Figure D-28: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentr:ations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 1, 2002

Figure D-29: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 1, 2002
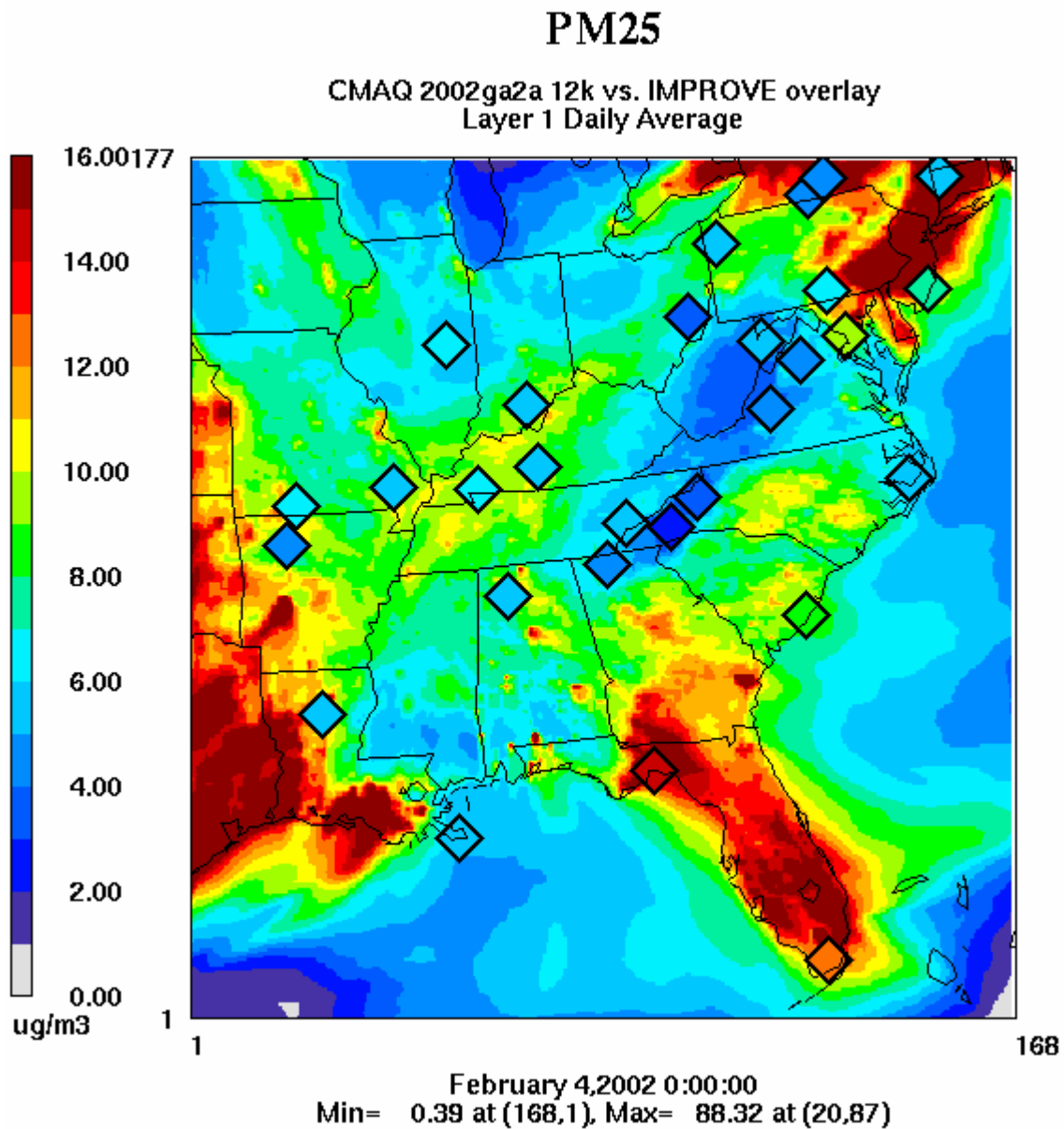
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

February 1,2002 0:00:00
Min= 0.22 at (168,5), Max= 109.63 at (124,26)

Figure D-30: **Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 1, 2002**

D.11 February 4, 2002

Date	Julian Day	Type	Class I Areas Affected
02/04/02	35	W20%	SAMA, EVER
02/04/02	35	B20%	JARI, MACA

Figure D-31: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 4, 2002

Figure D-32: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 4, 2002
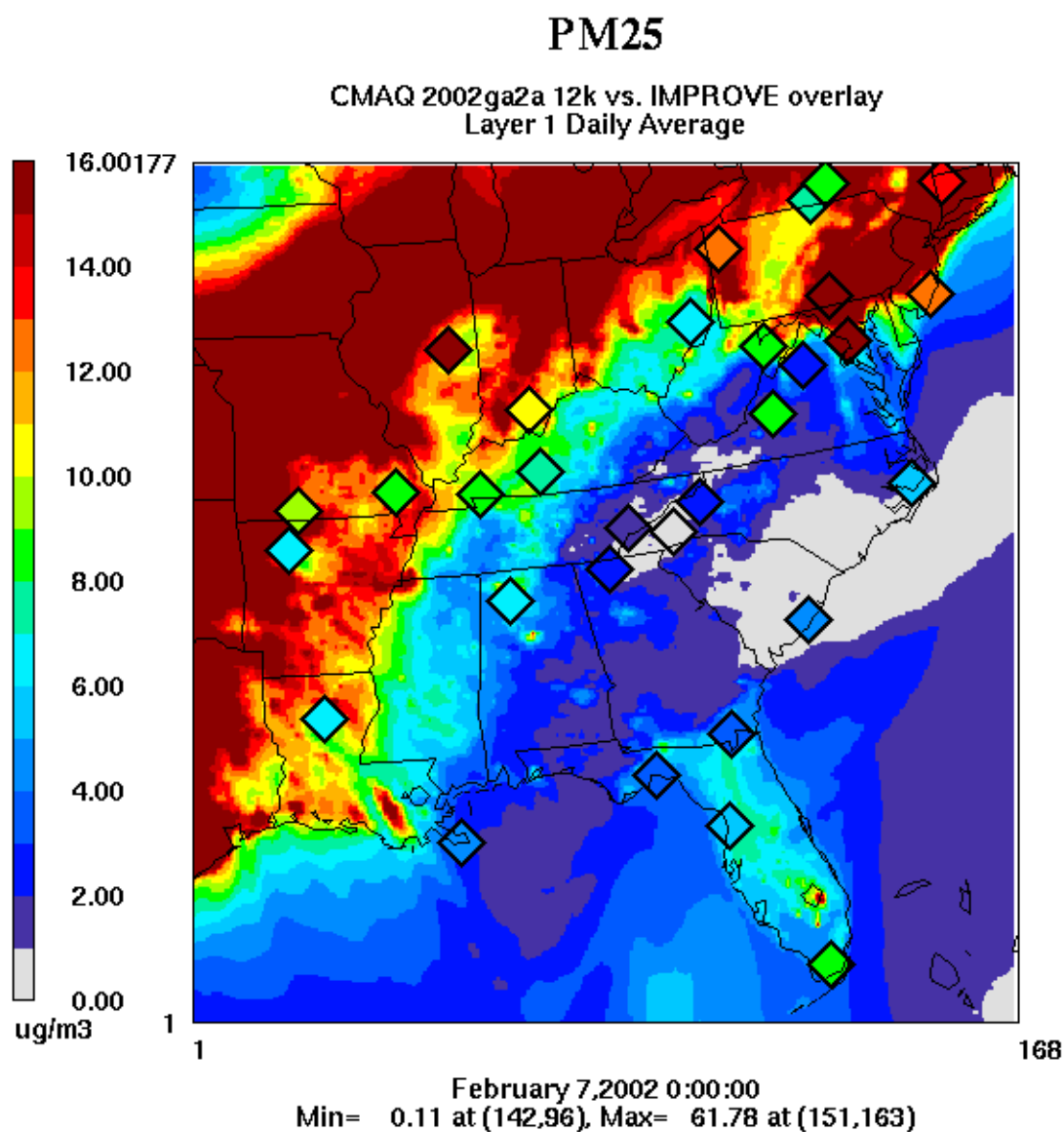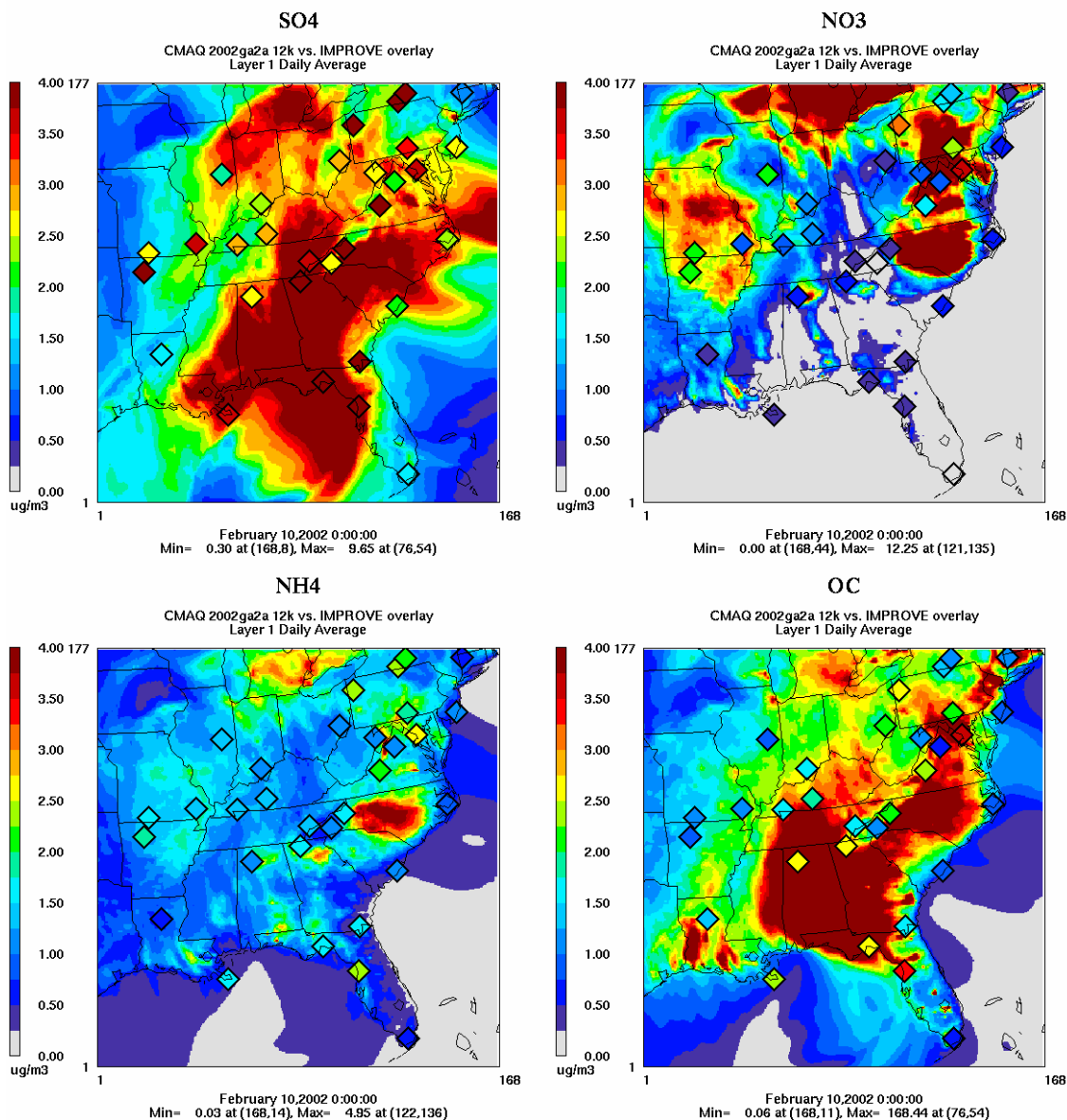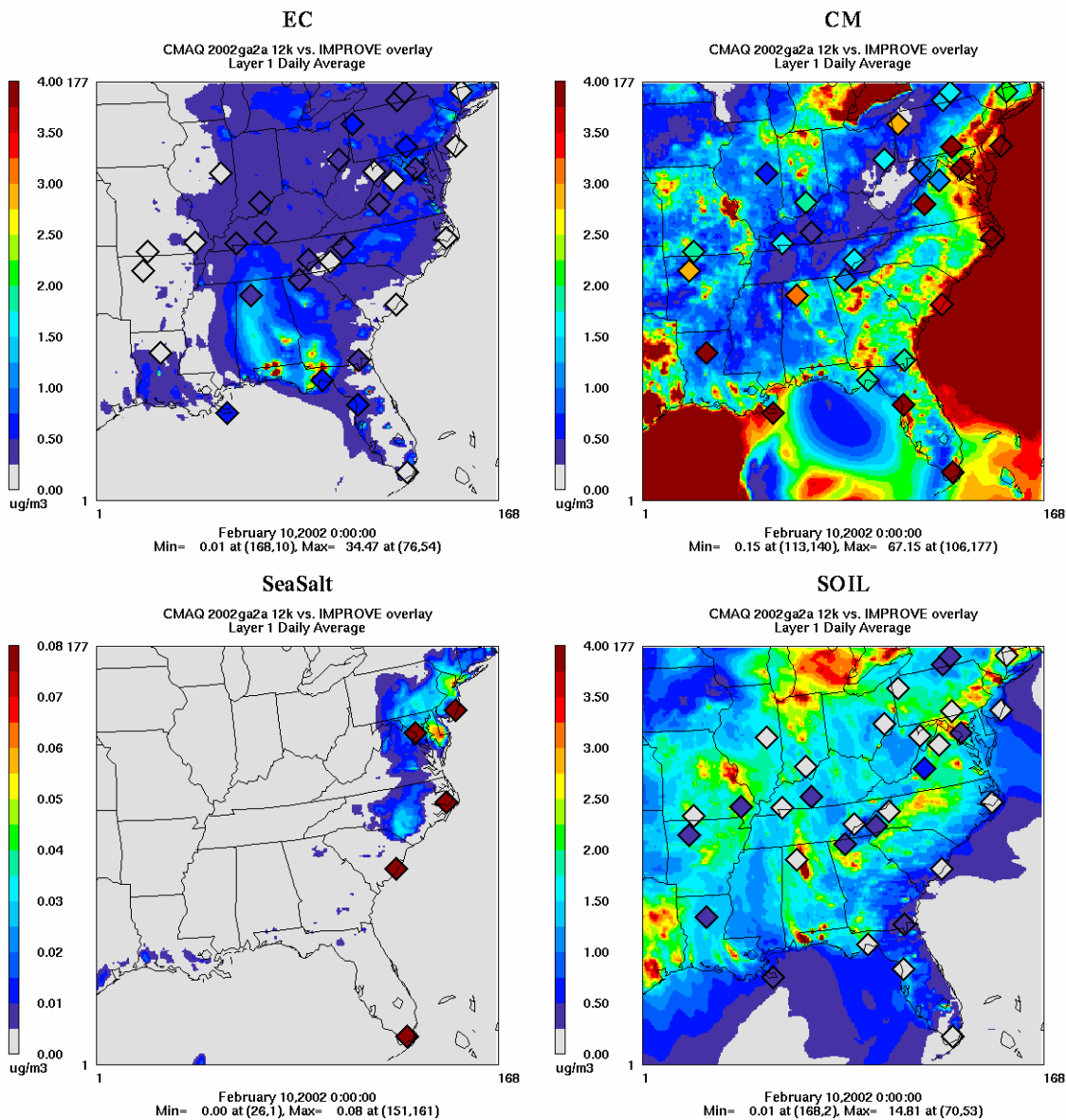
Figure D-33: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 4, 2002

D.12   February 7, 2002

Date	Julian Day	Type	Class I Areas Affected
02/07/02	38	W20%	
02/07/02	38	B20%	LIGO, SHRO, GRSM, SAMA, OKEF, BRET, SHEN, CHAS, COHU
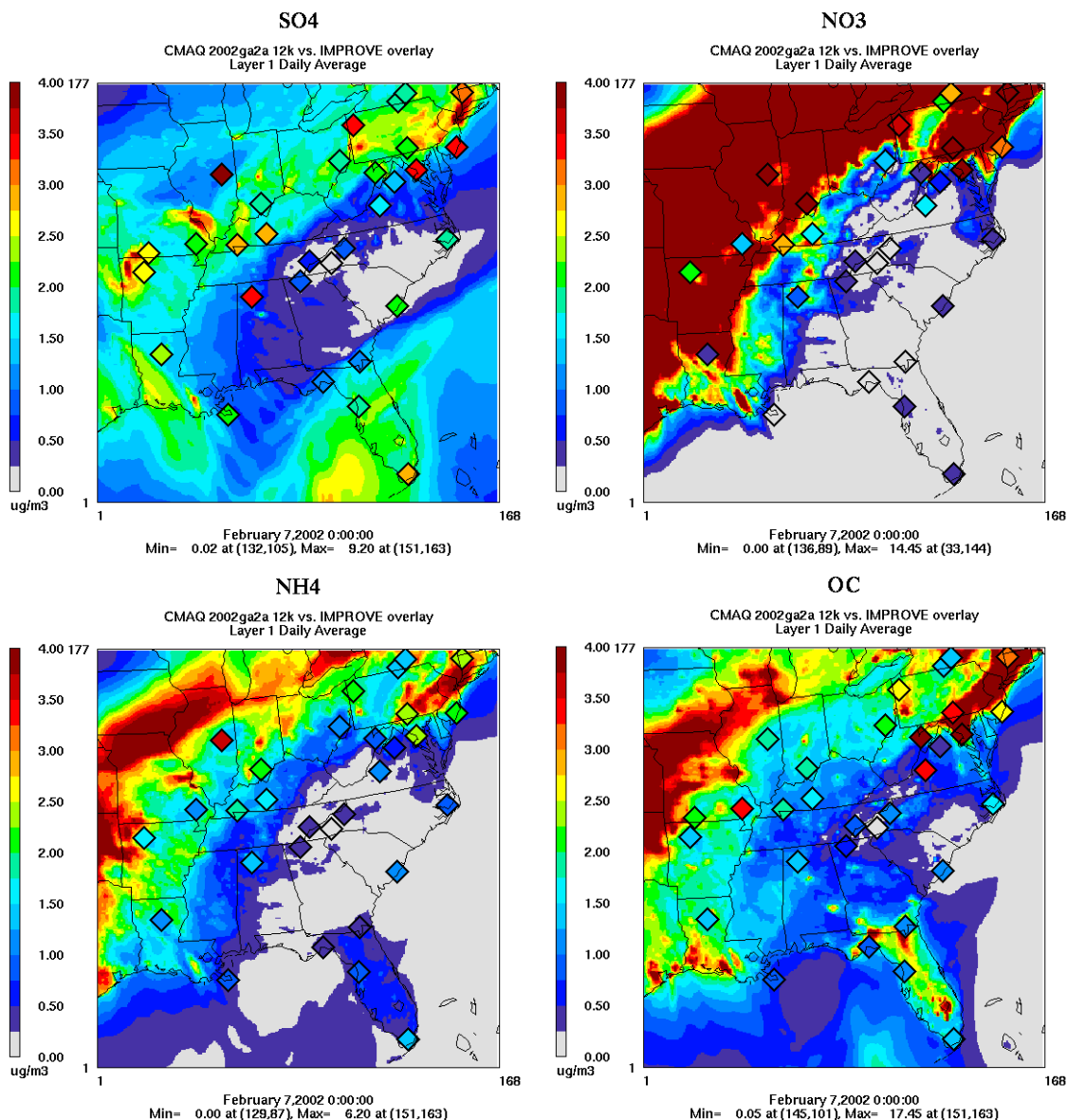
Figure D-34: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 7, 2002**
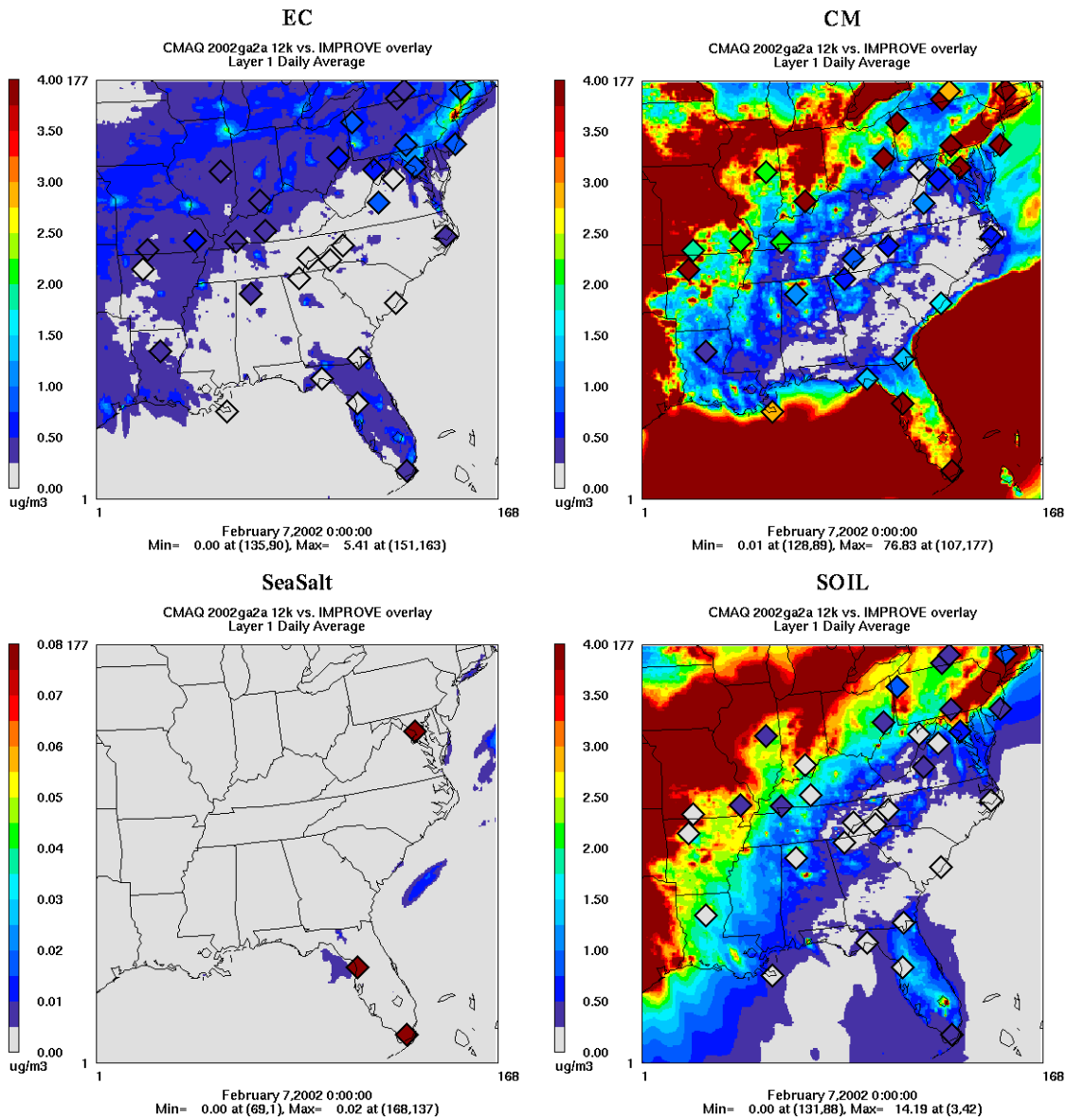
Figure D-35: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 7, 2002**
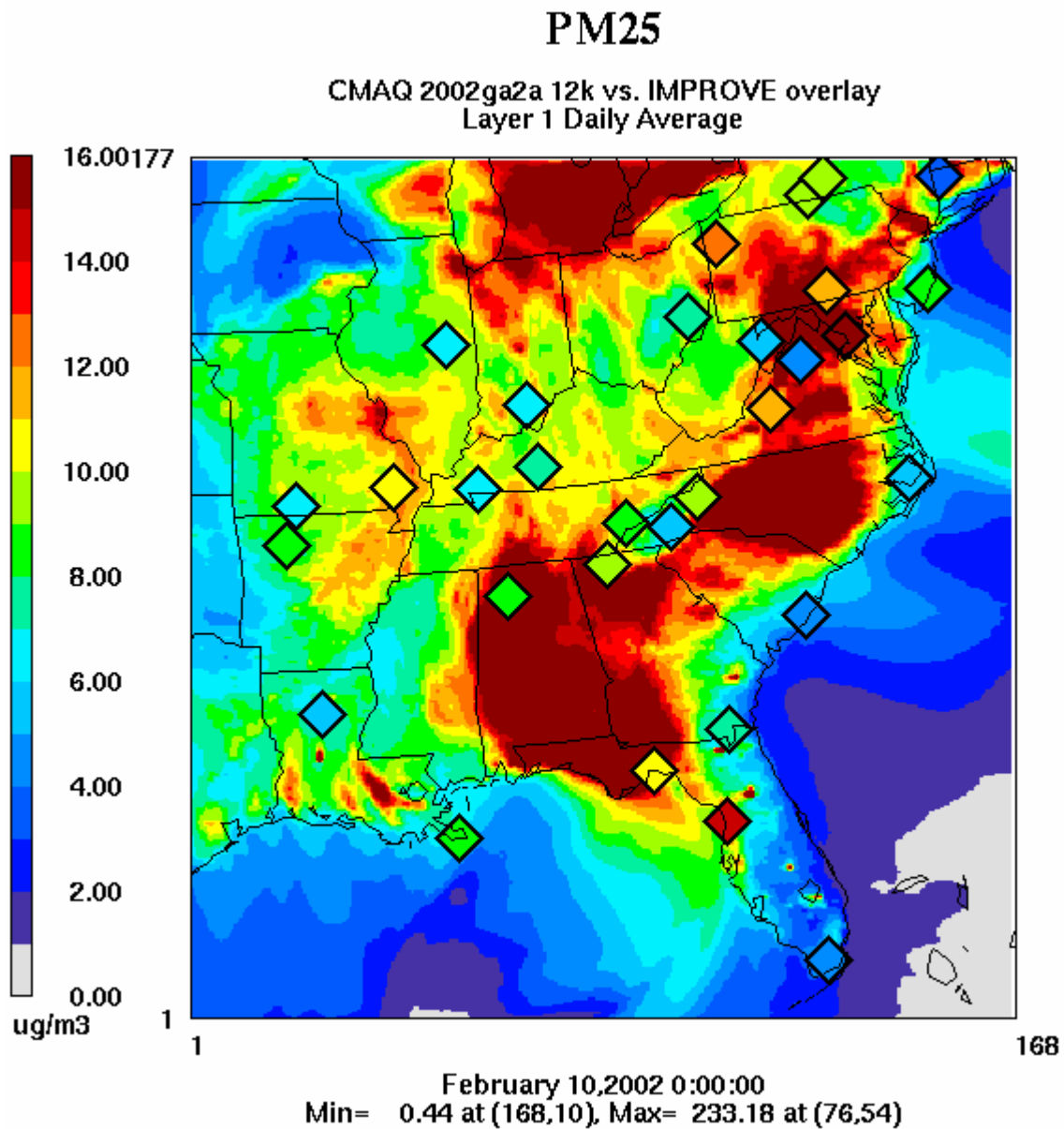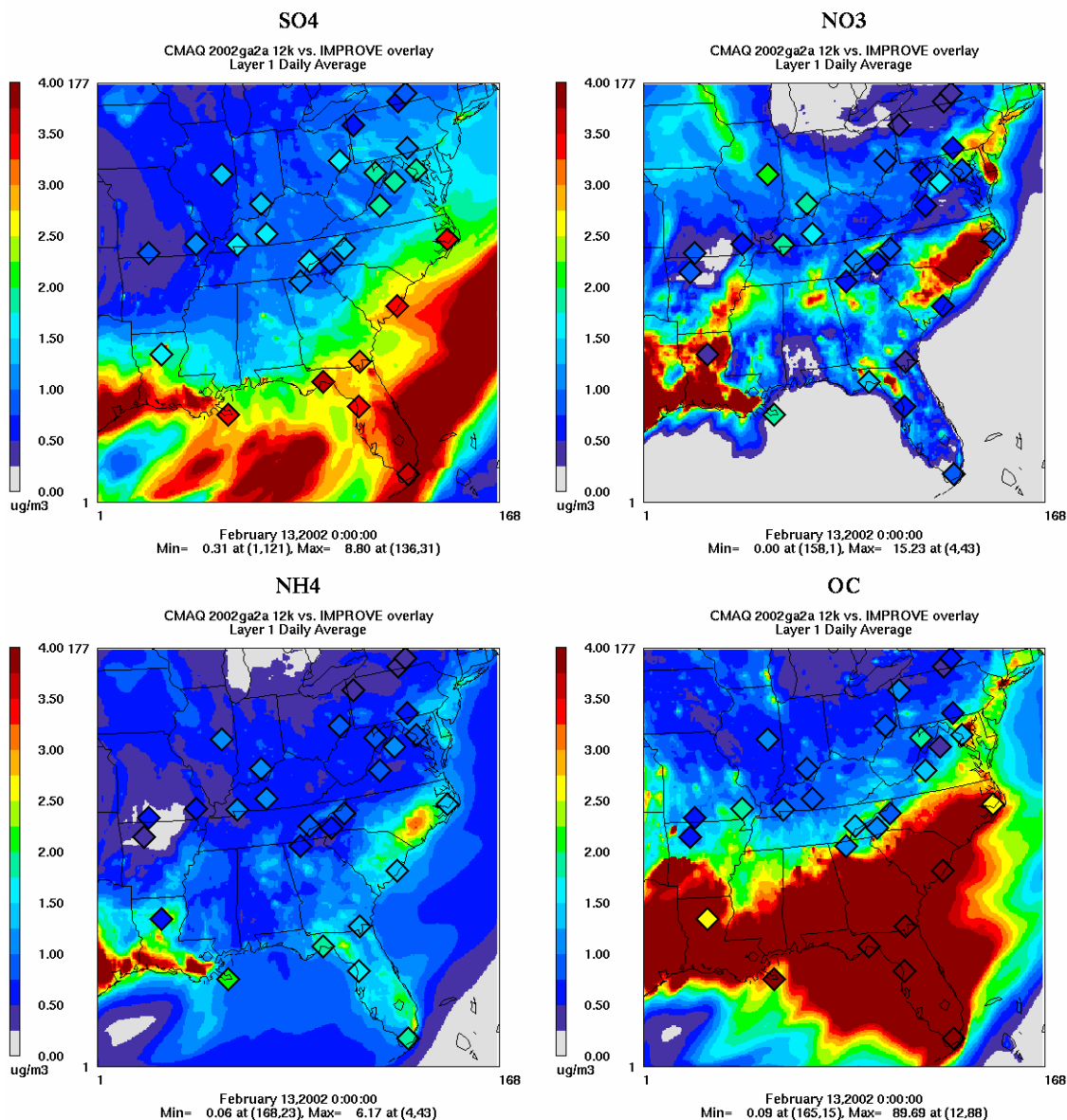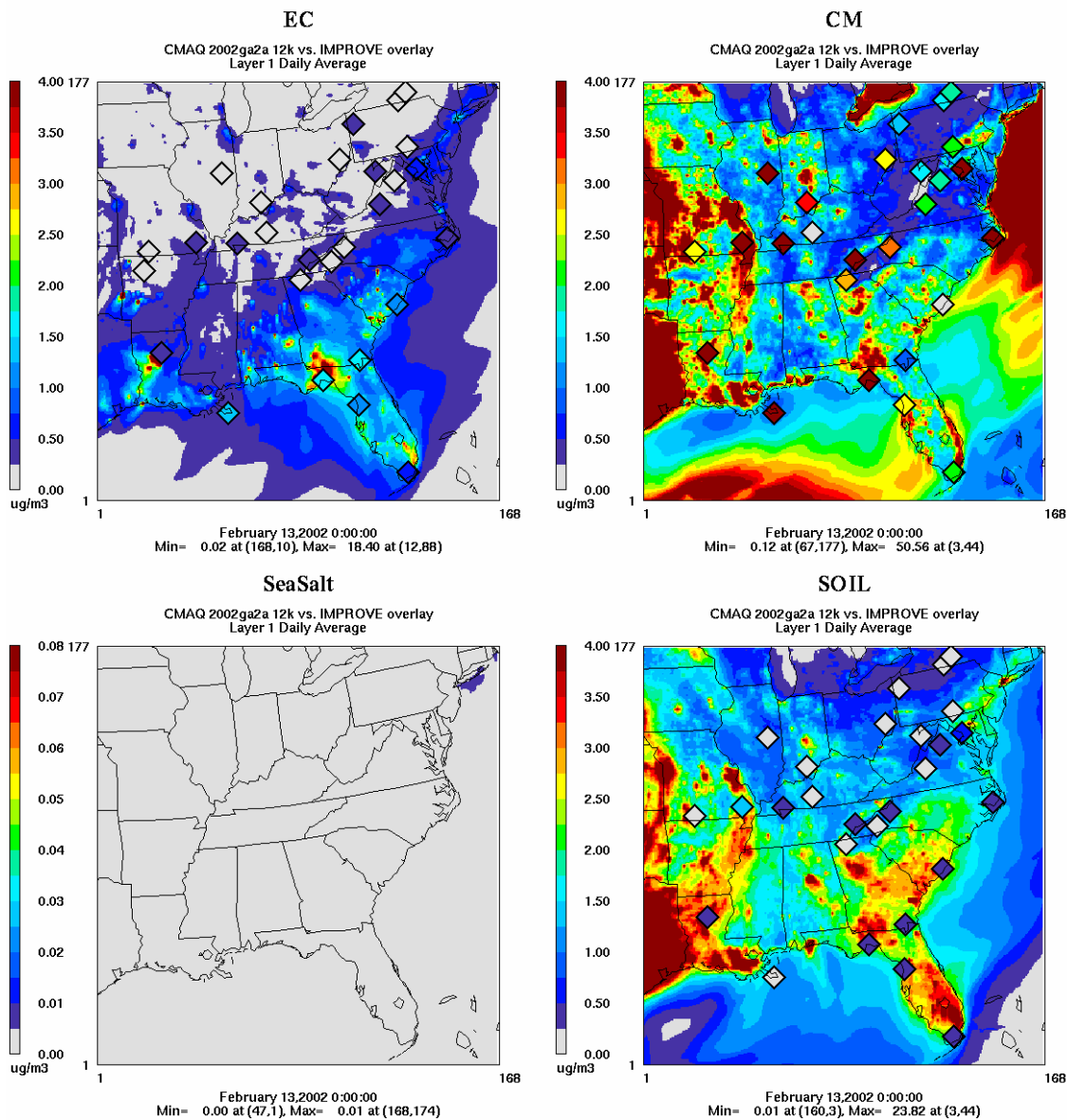
Figure D-36: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 7, 2002

D.13 February 10, 2002

Date	Julian Day	Type	Class I Areas Affected
02/10/02	41	W20%	CHAS
02/10/02	41	B20%	

Figure D-37: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 10, 2002

Figure D-38: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 10, 2002**
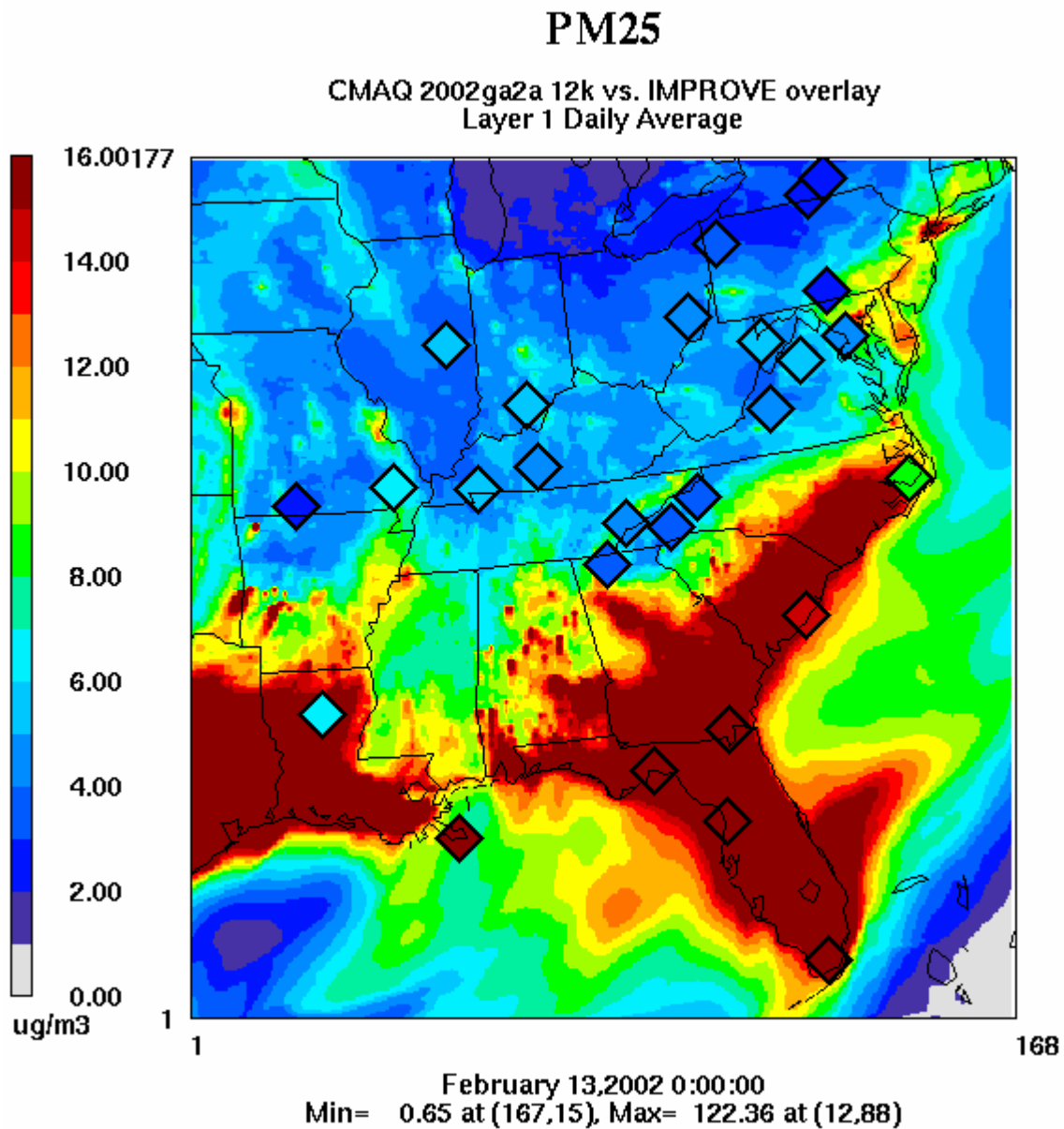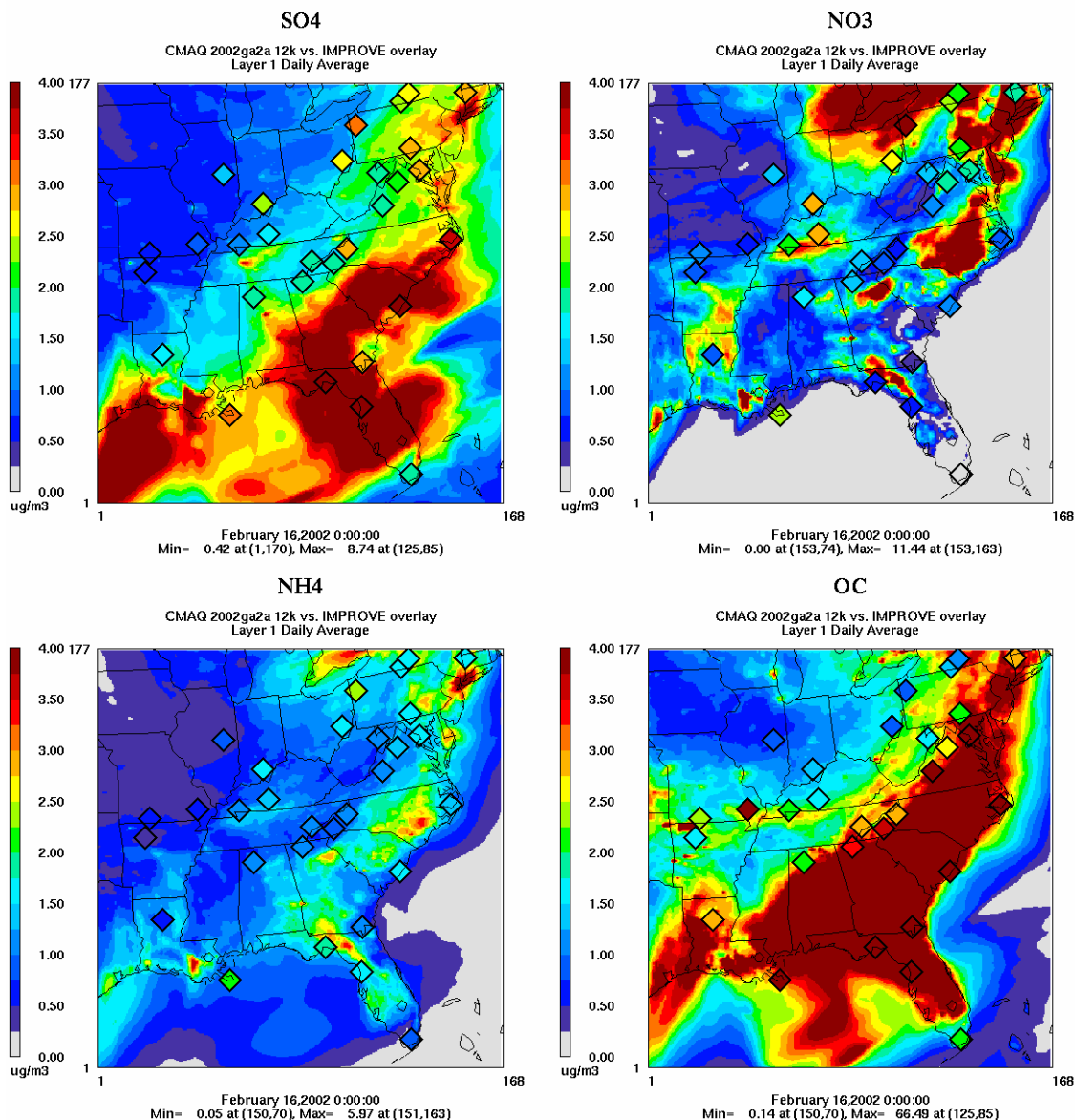
Figure D-39: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 10, 2002

D.14 February 13, 2002

Date	Julian Day	Type	Class I Areas Affected
02/13/02	44	W20%	SAMA, OKEF, BRET, CHAS, EVER, ROMA
02/13/02	44	B20%	JARI, HEGL, COHU, MACA, MING

Figure D-40: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 13, 2002
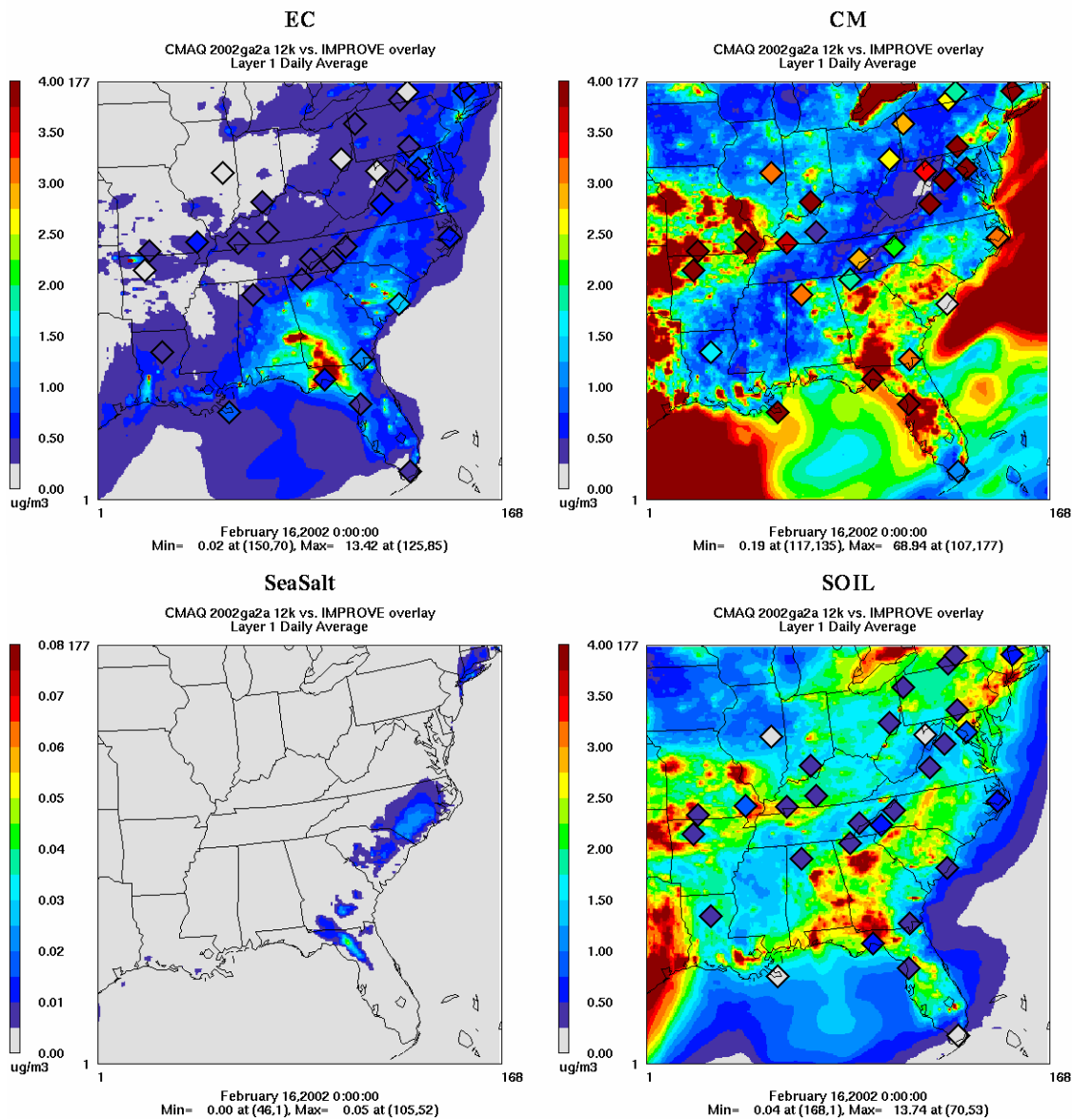
Figure D-41:   Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 13, 2002
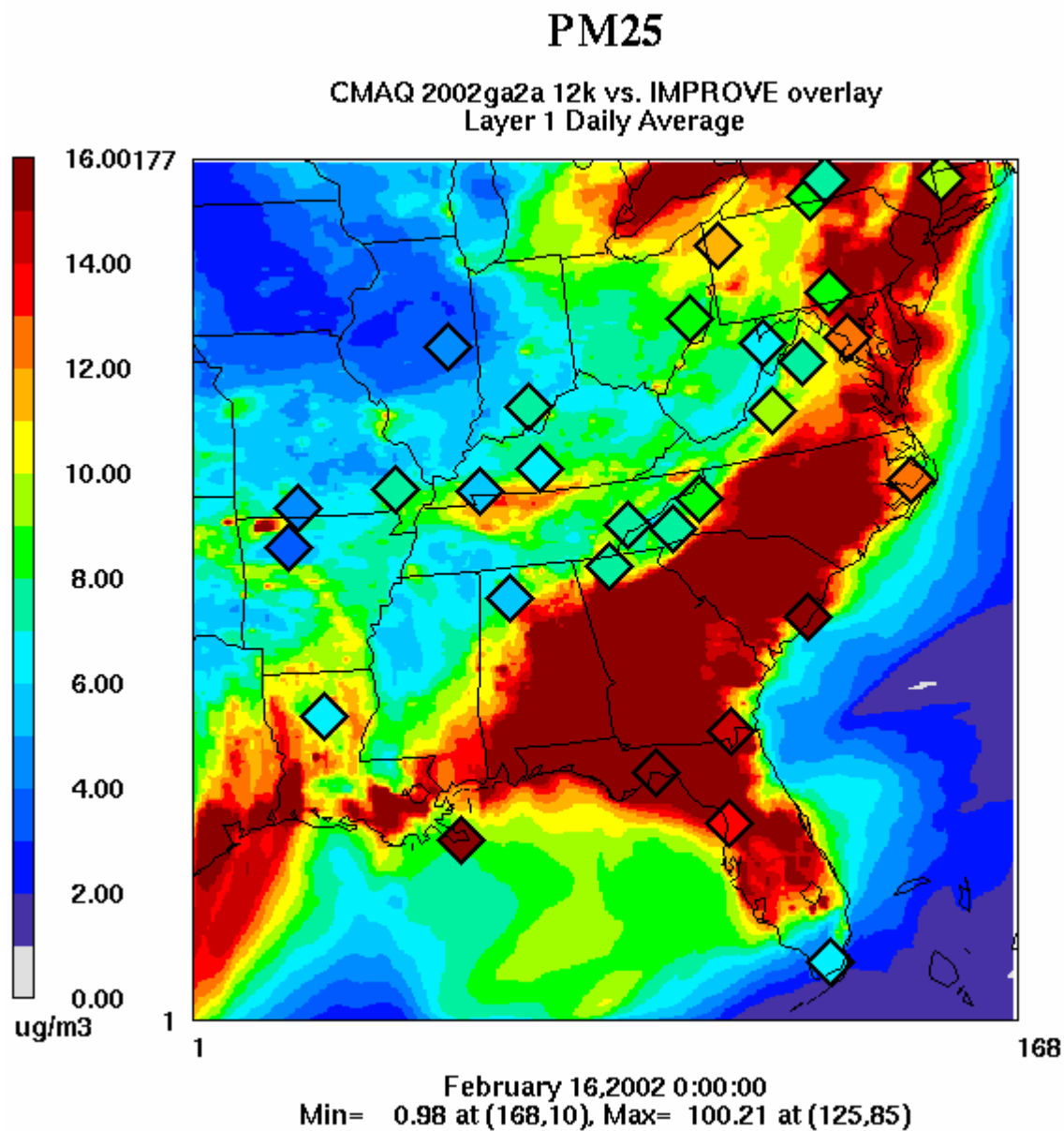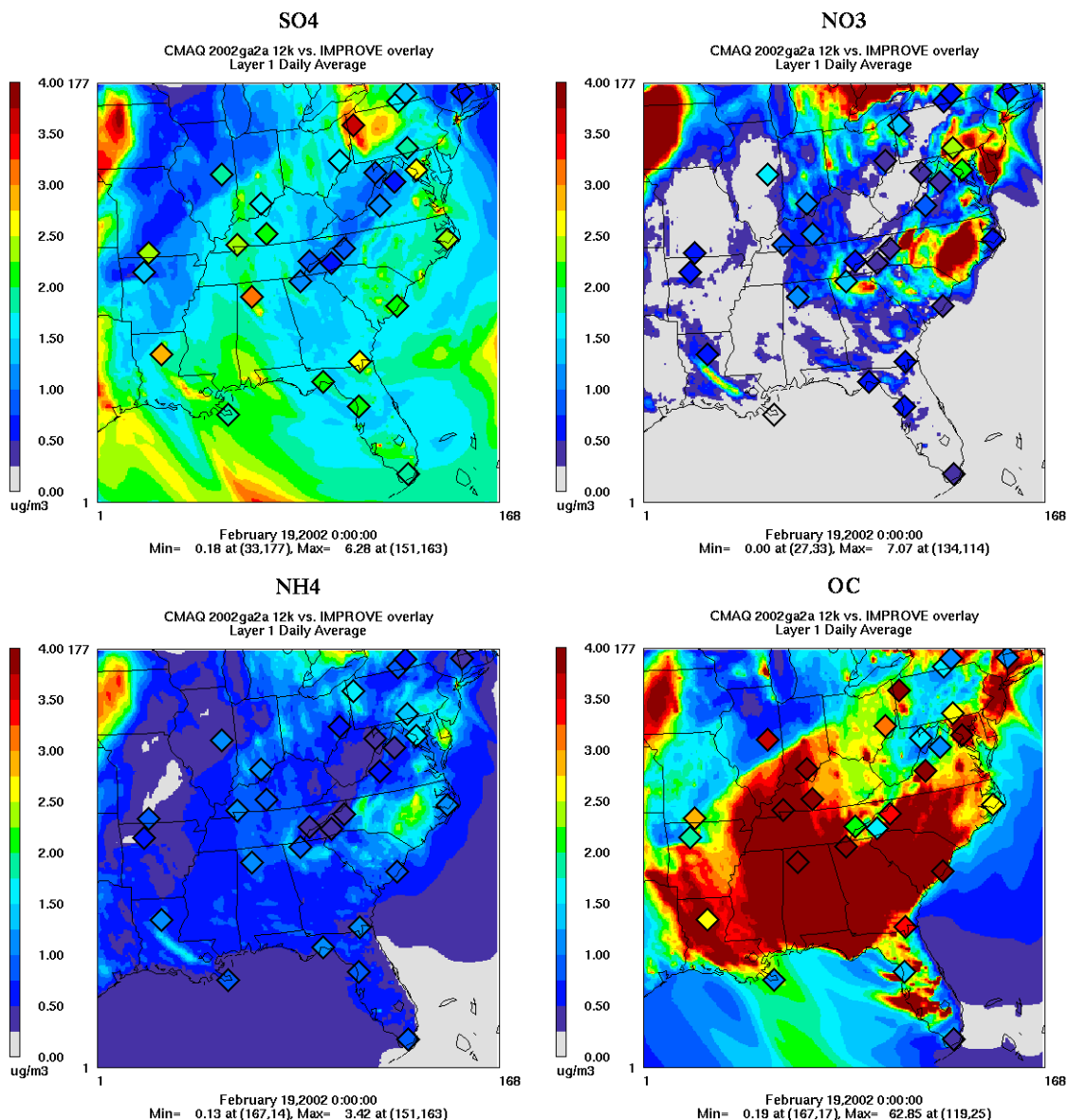
Figure D-42: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 13, 2002

D.15 February 16, 2002

Date	Julian Day	Type	Class I Areas Affected
02/16/02	47	W20%	SAMA, BRET, CHAS, ROMA
02/16/02	47	B20%	UPBU

Figure D-43: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 16, 2002
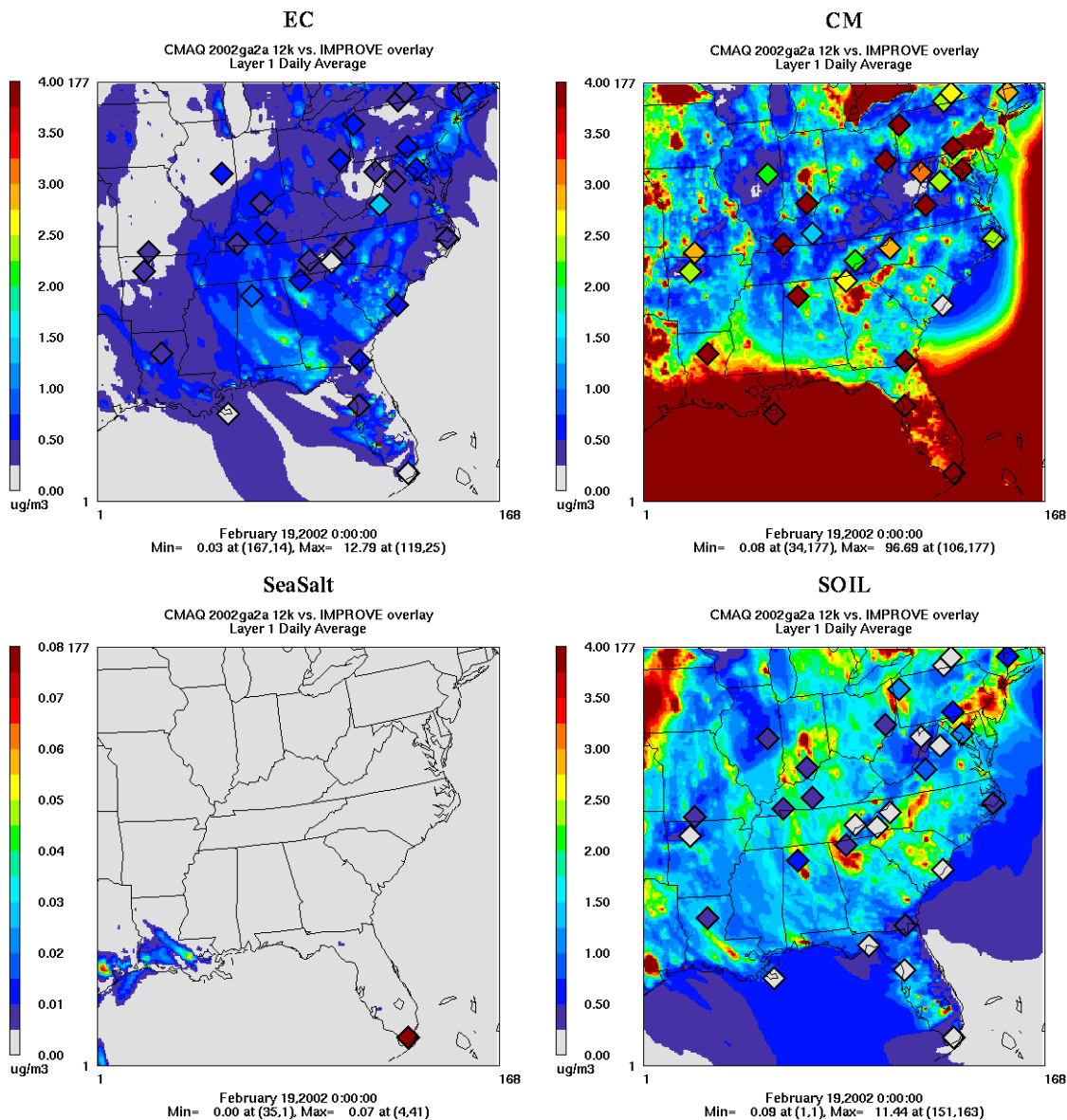
Figure D-44: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 16, 2002
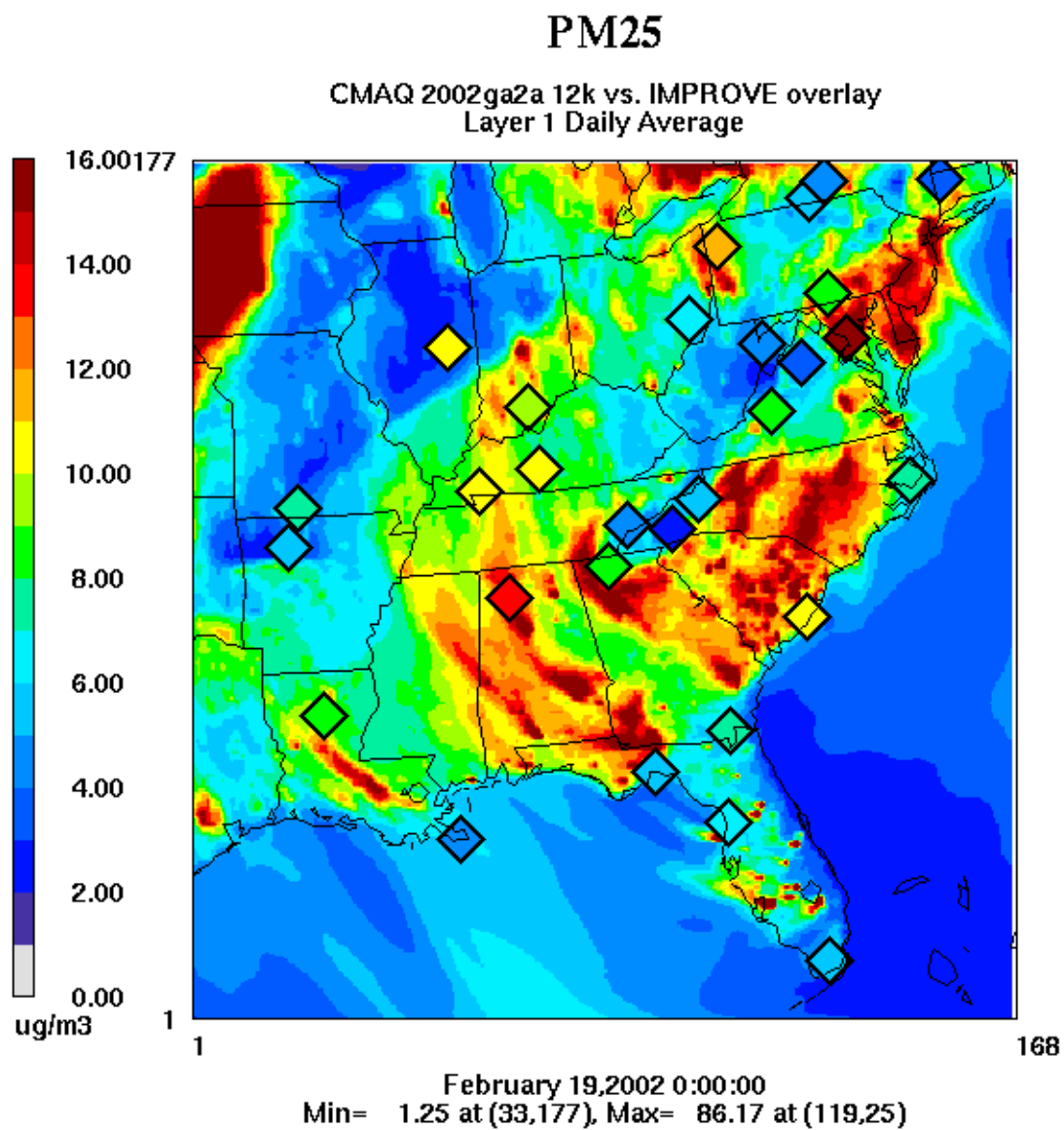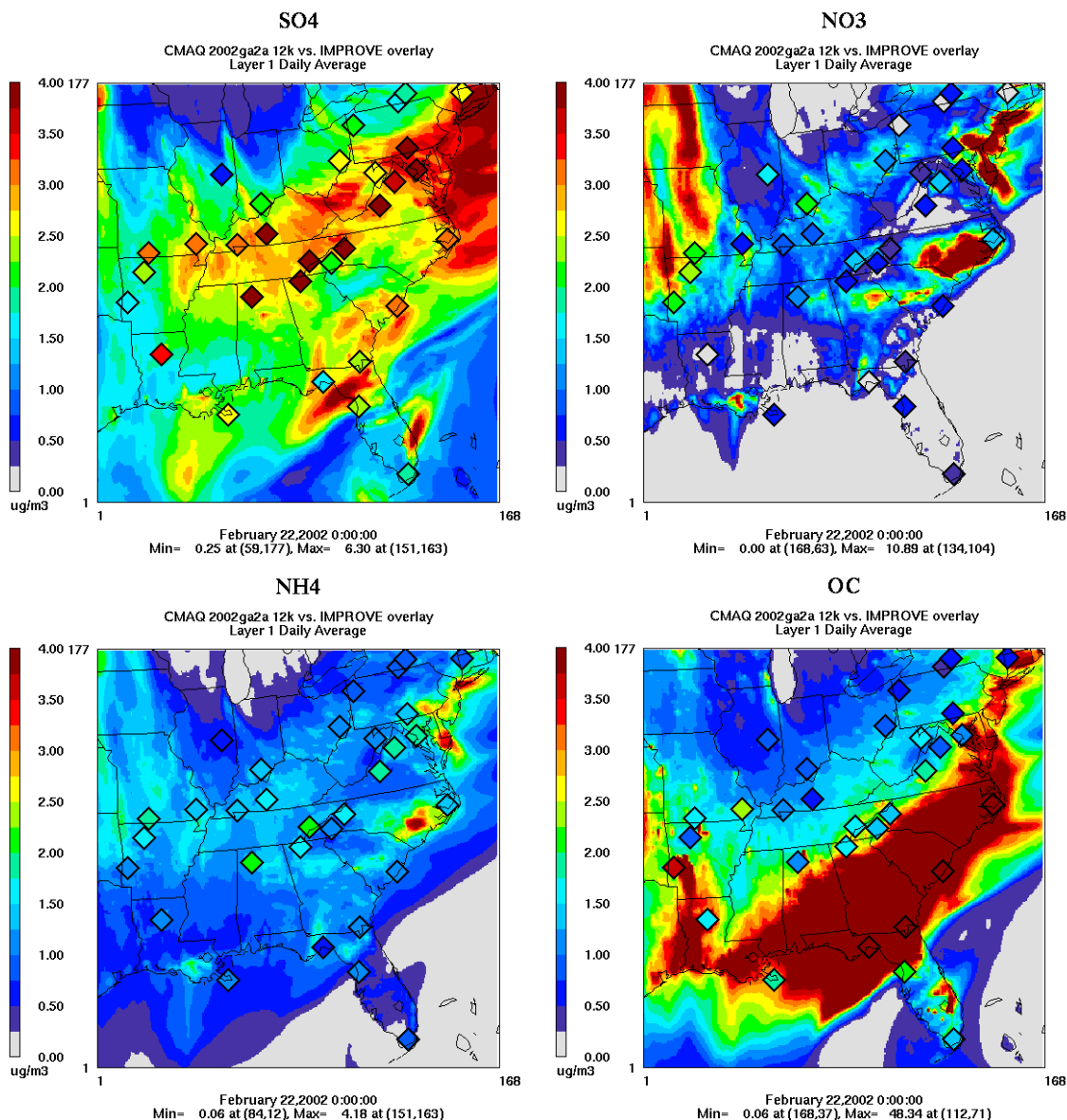
Figure D-45: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 16, 2002

D.16 February 19, 2002

Date	Julian Day	Type	Class I Areas Affected
02/19/02	50	W20%	
02/19/02	50	B20%	SHRO, GRSM, SHEN, DOSO

Figure D-46: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 19, 2002**
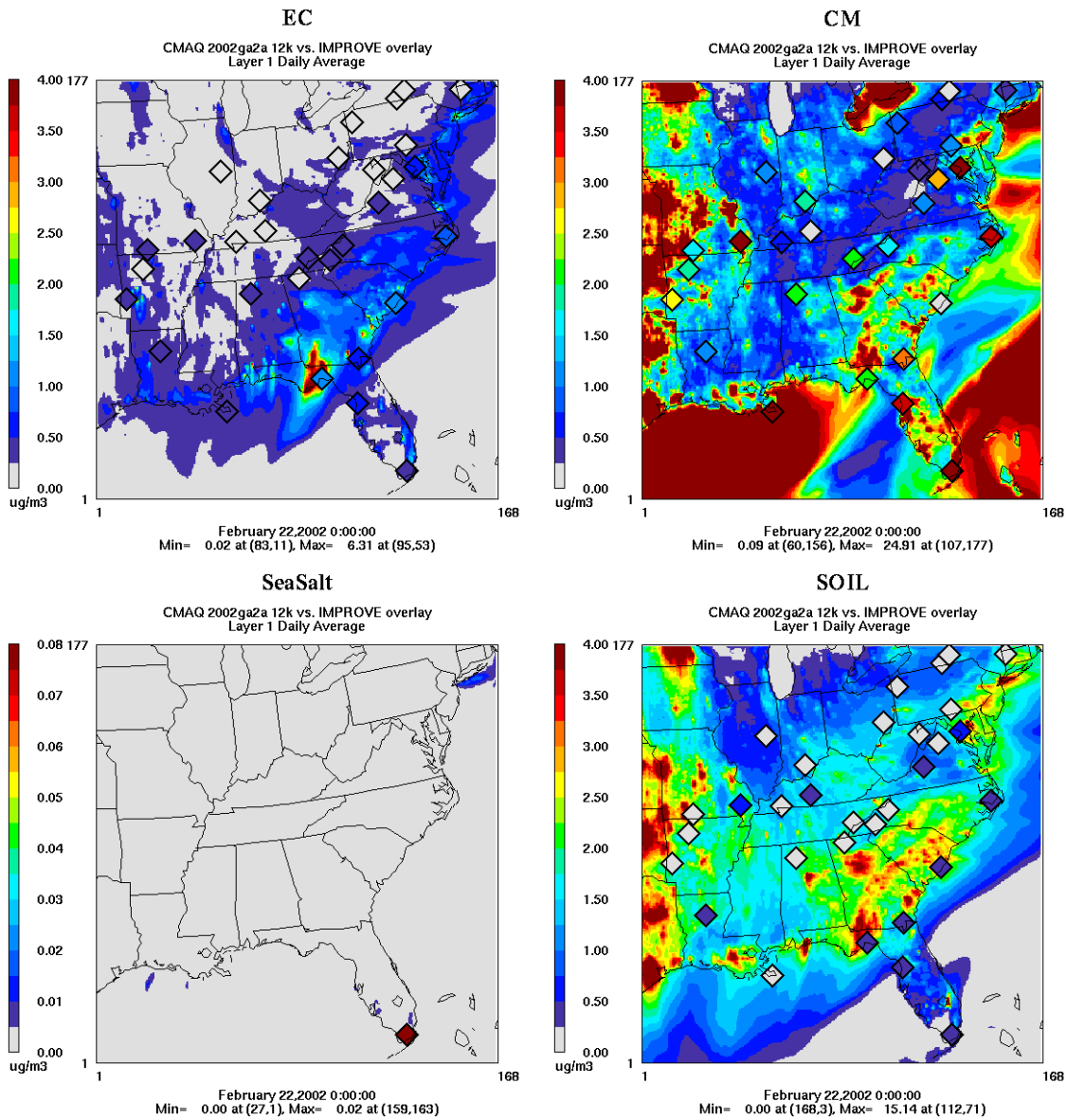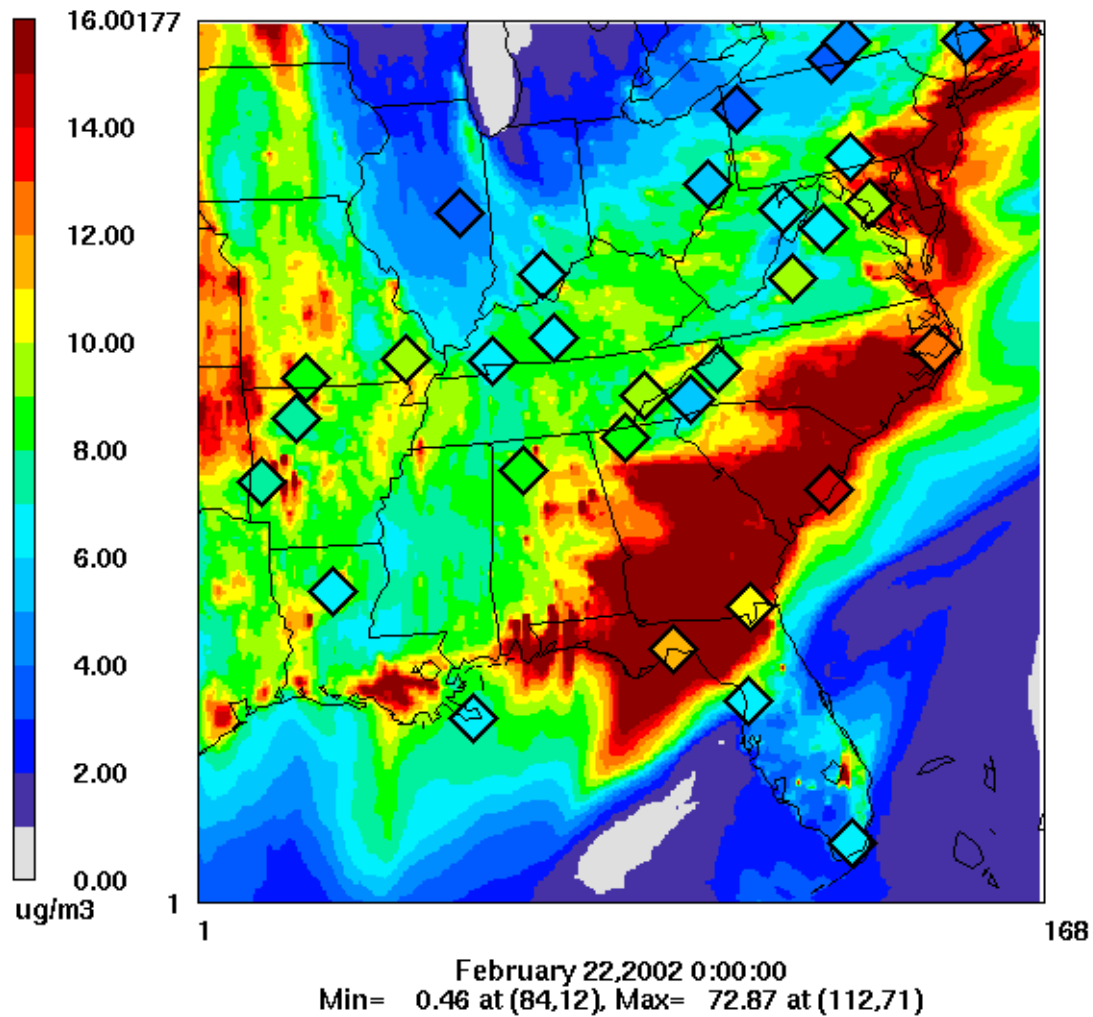
Figure D-47: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 19, 2002

Figure D-48: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 19, 2002

D.17   February 22, 2002

| Date	Julian Day	Type	Class I Areas Affected
02/22/02	53	W20%	SWAN, ROMA
02/22/02	53	B20%	

Figure D-49: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 22, 2002
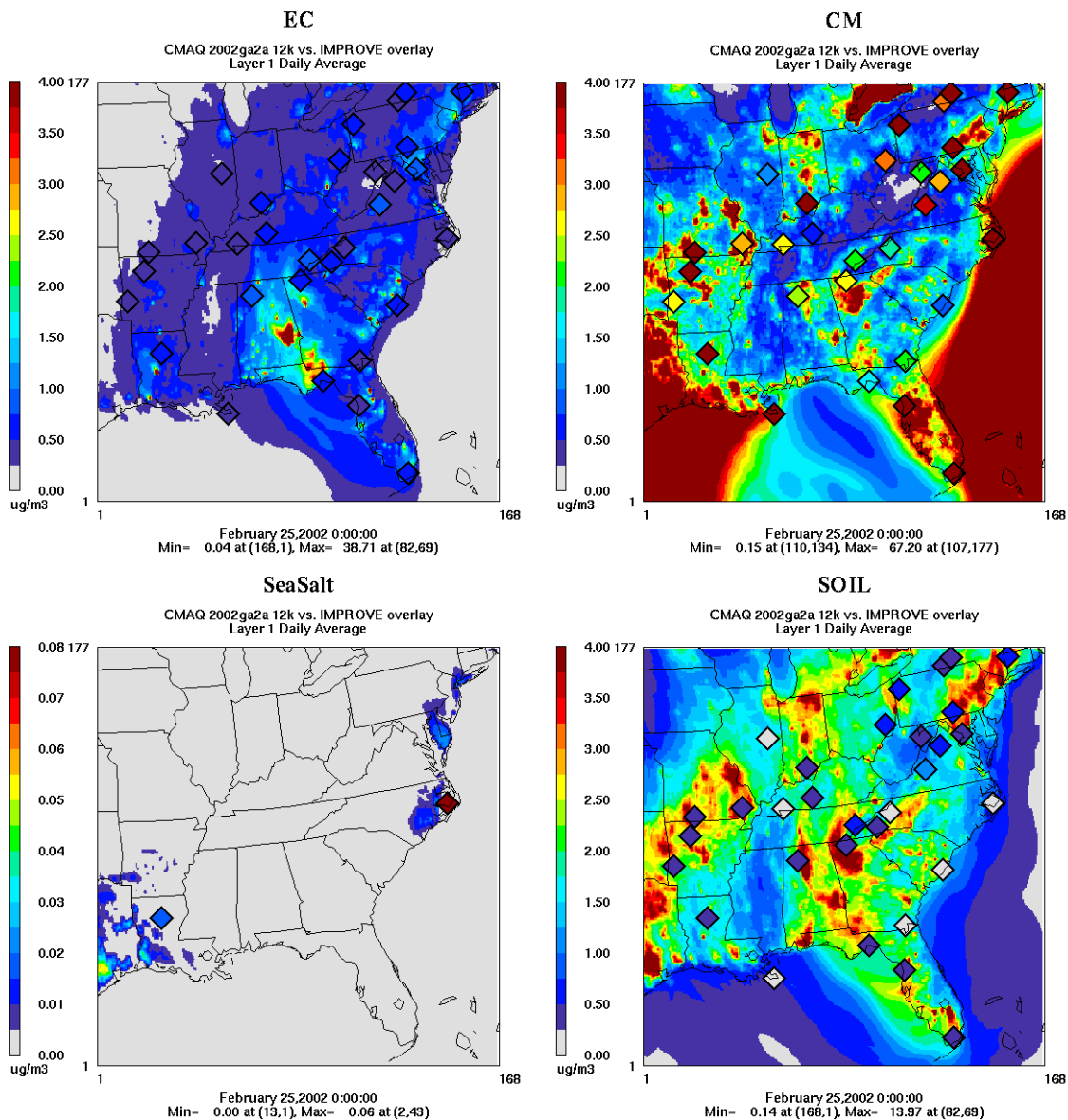
Figure D-50: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 22, 2002**
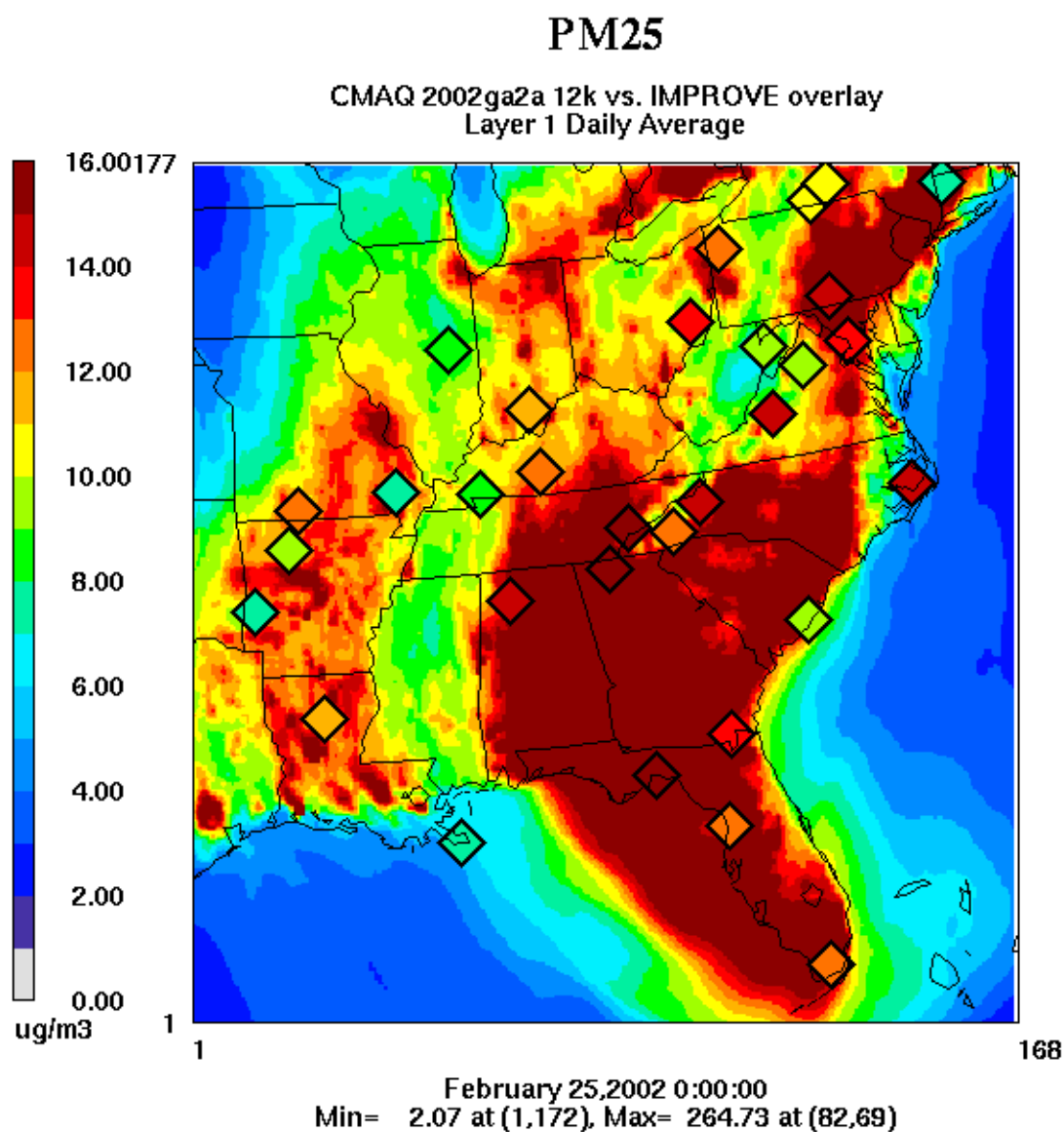
Figure D-51: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 22, 2002

D.18   February 25, 2002

| Date	Julian Day	Type	Class I Areas Affected
02/25/02	56	W20%	GRSM, SAMA, OKEF, CHAS, EVER, SWAN, COHU
02/25/02	56	B20%	
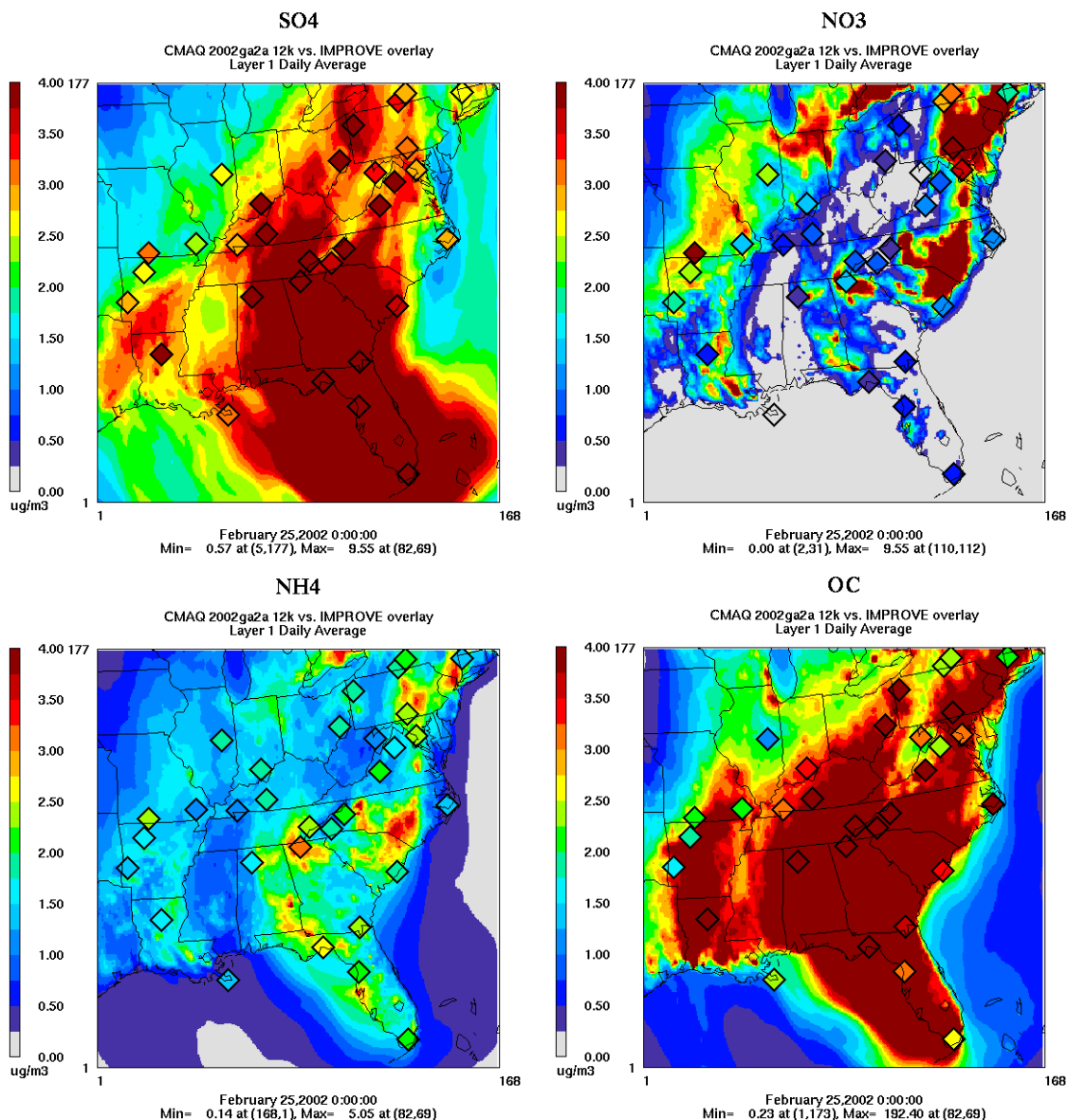
Figure D-52:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 25, 2002
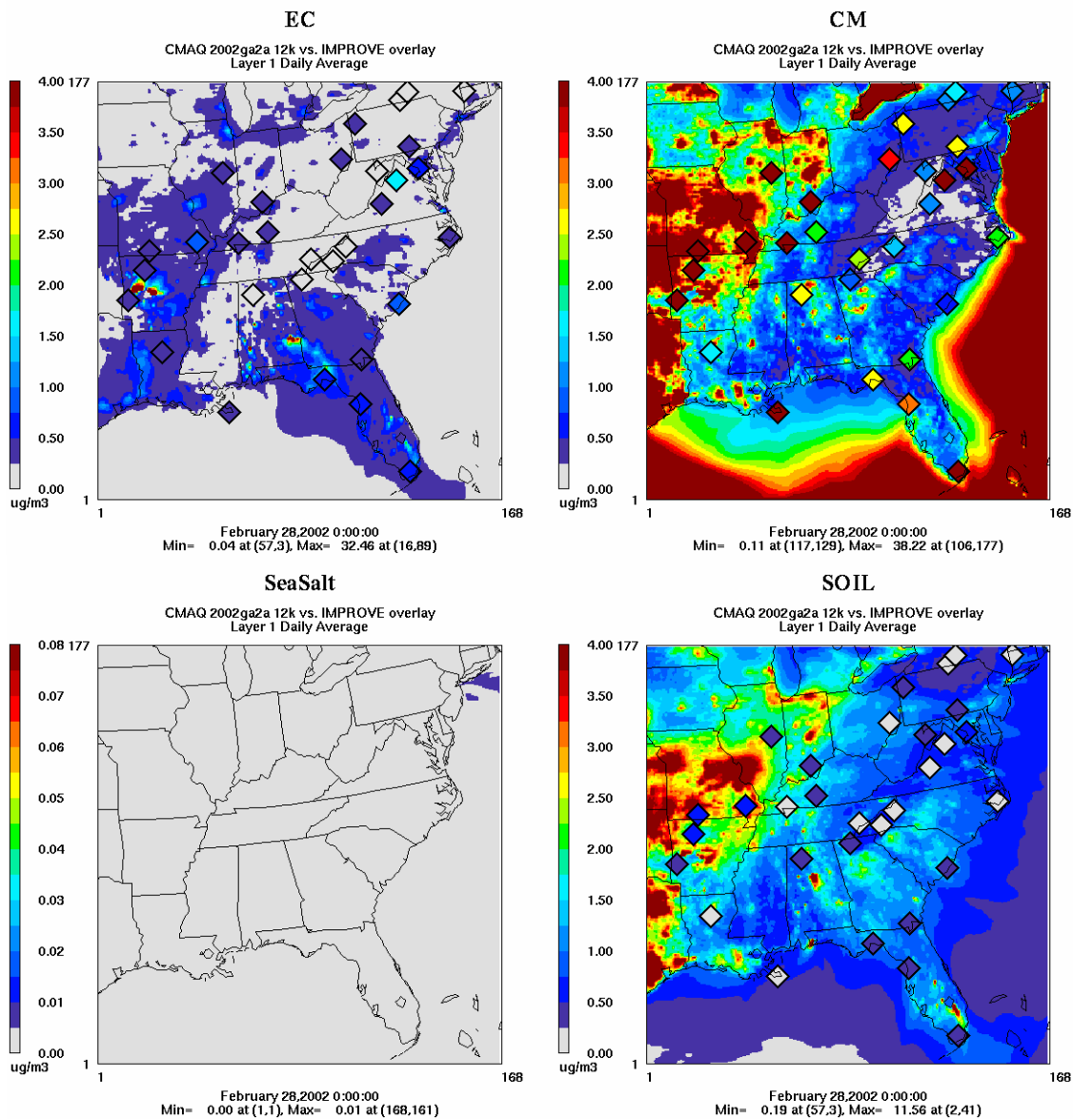
Figure D-53: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 25, 2002**
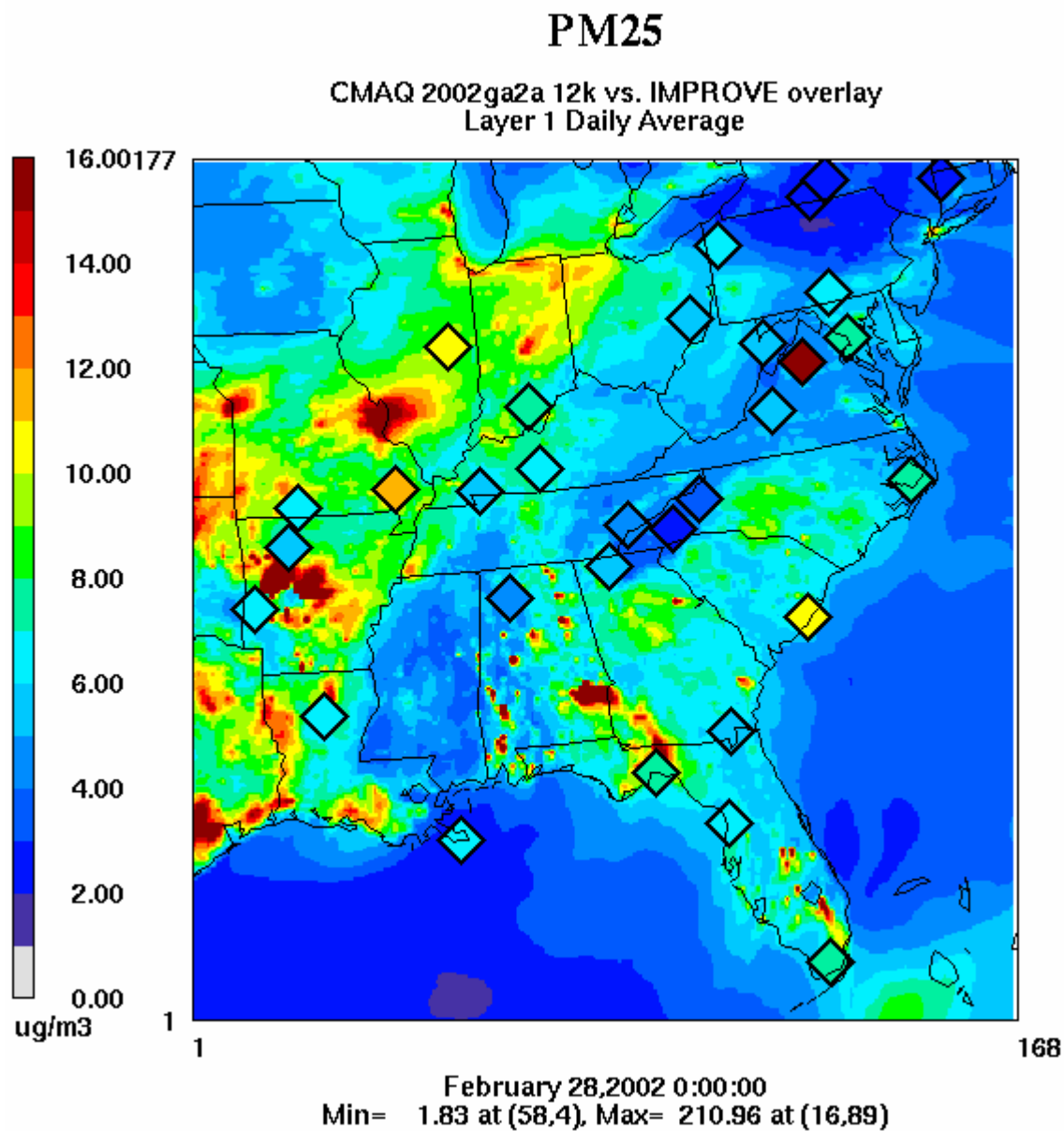
Figure D-54: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 25, 2002

D.19   February 28, 2002

| Date	Julian Day	Type	Class I Areas Affected
02/28/02	59	W20%	SHEN
02/28/02	59	B20%	GRSM, JARI, SIPS, OKEF
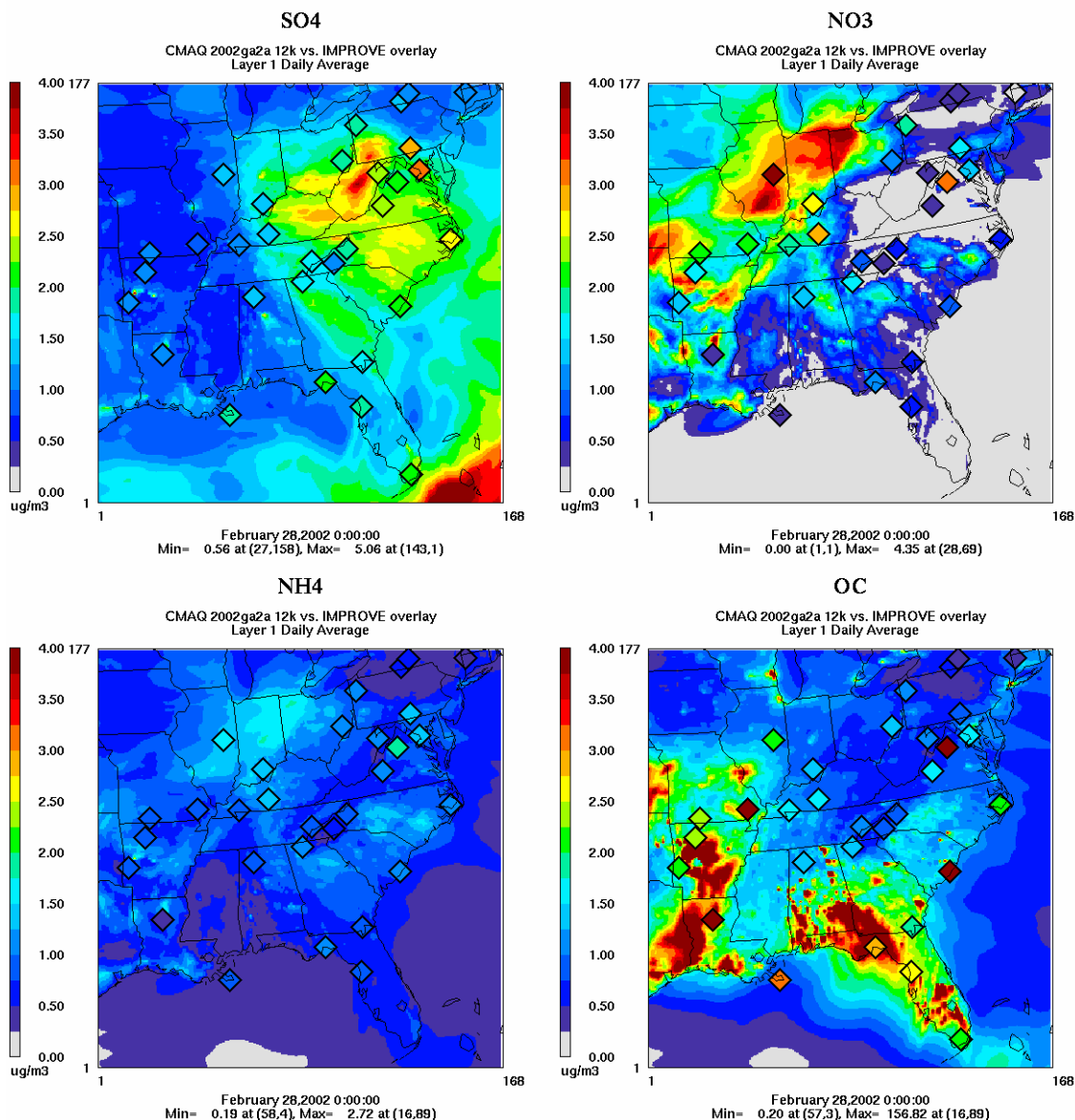
Figure D-55:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For February 28, 2002
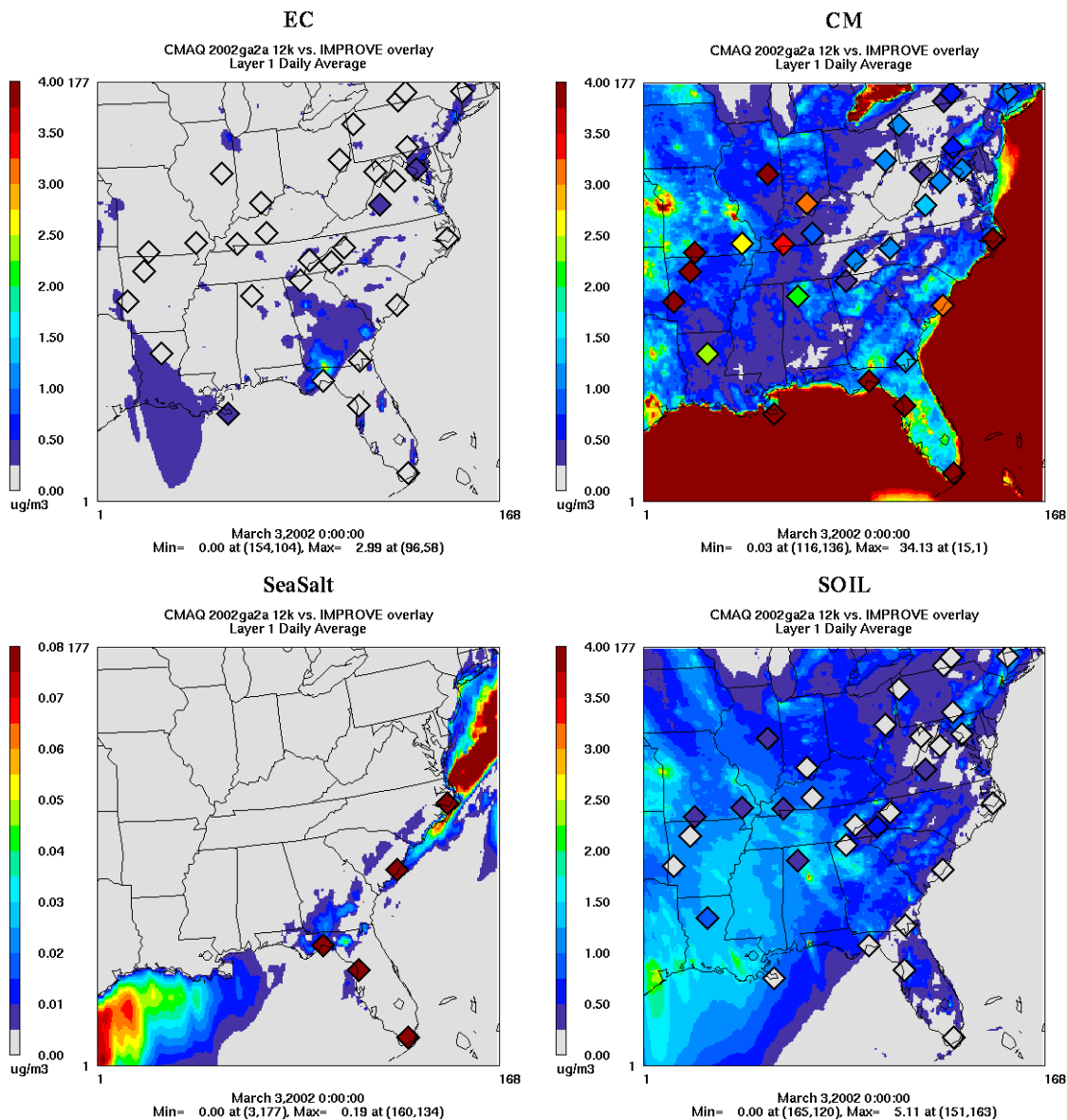
Figure D-56: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For February 28, 2002**
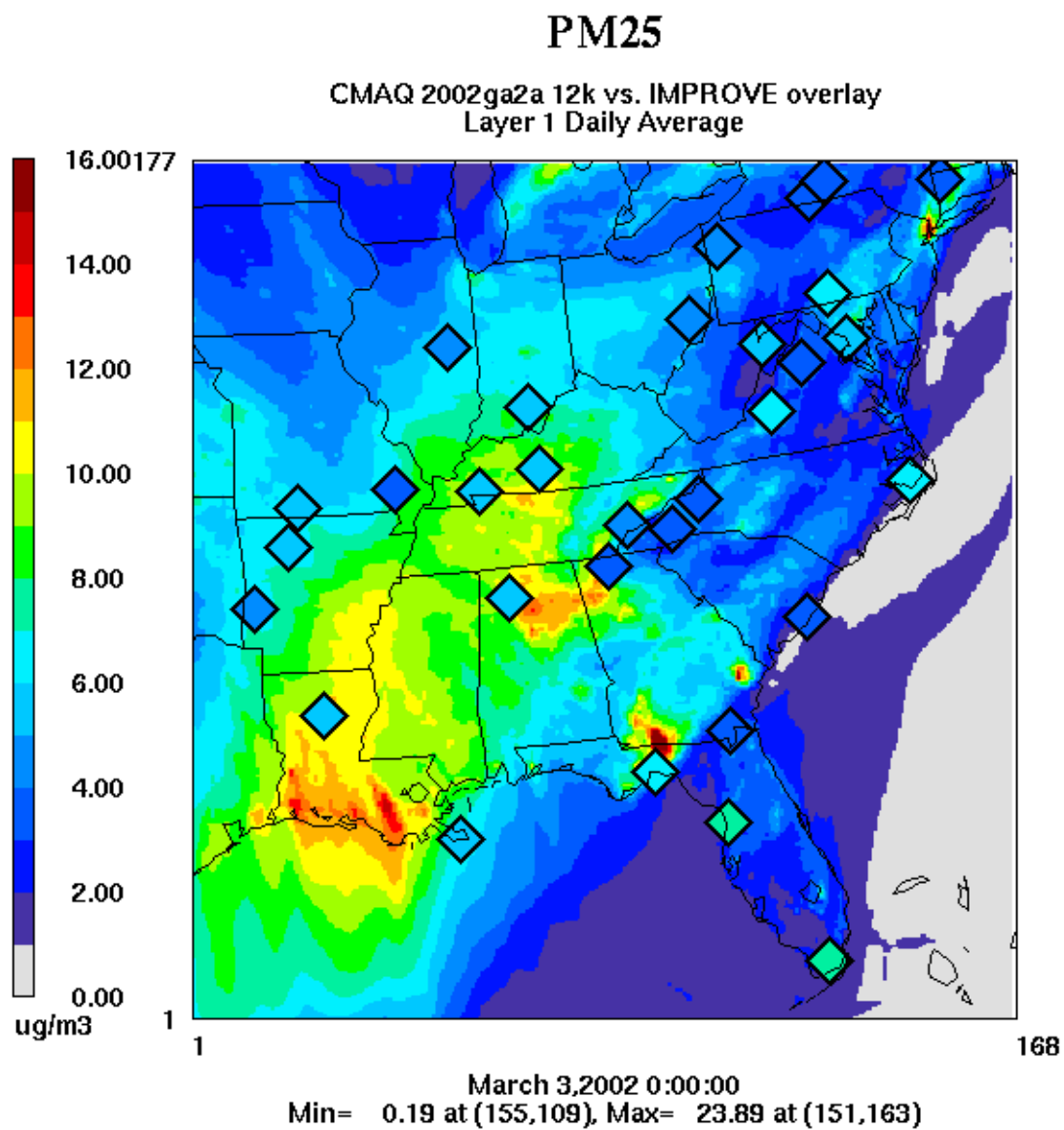
Figure D-57: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For February 28, 2002

D.20   March 3, 2002

| Date	Julian Day	Type	Class I Areas Affected
03/03/02	62	W20%	EVER
03/03/02	62	B20%	LIGO, GRSM, OKEF, SHEN, COHU, MACA, ROMA, MING
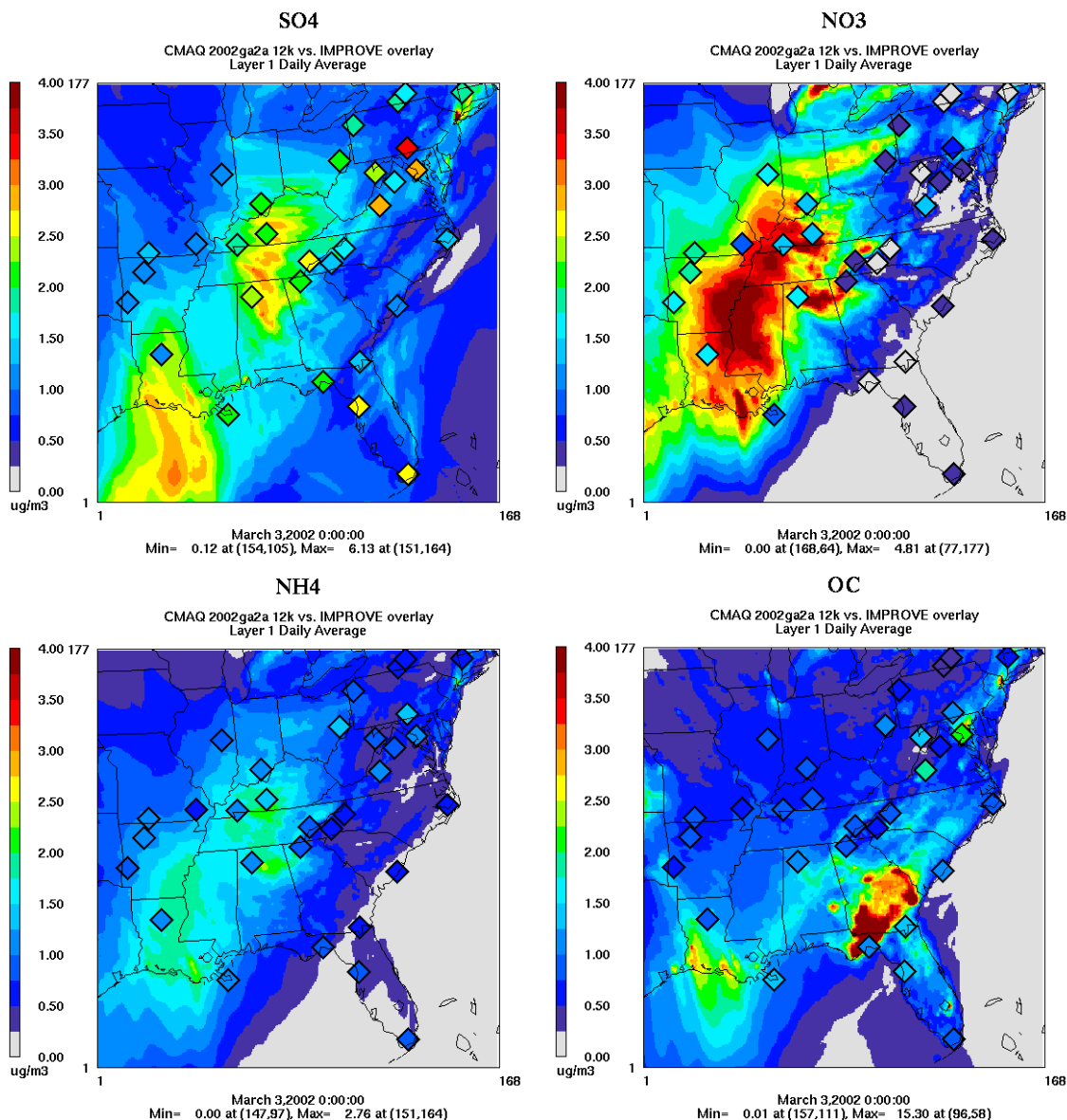
Figure D-58:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 3, 2002
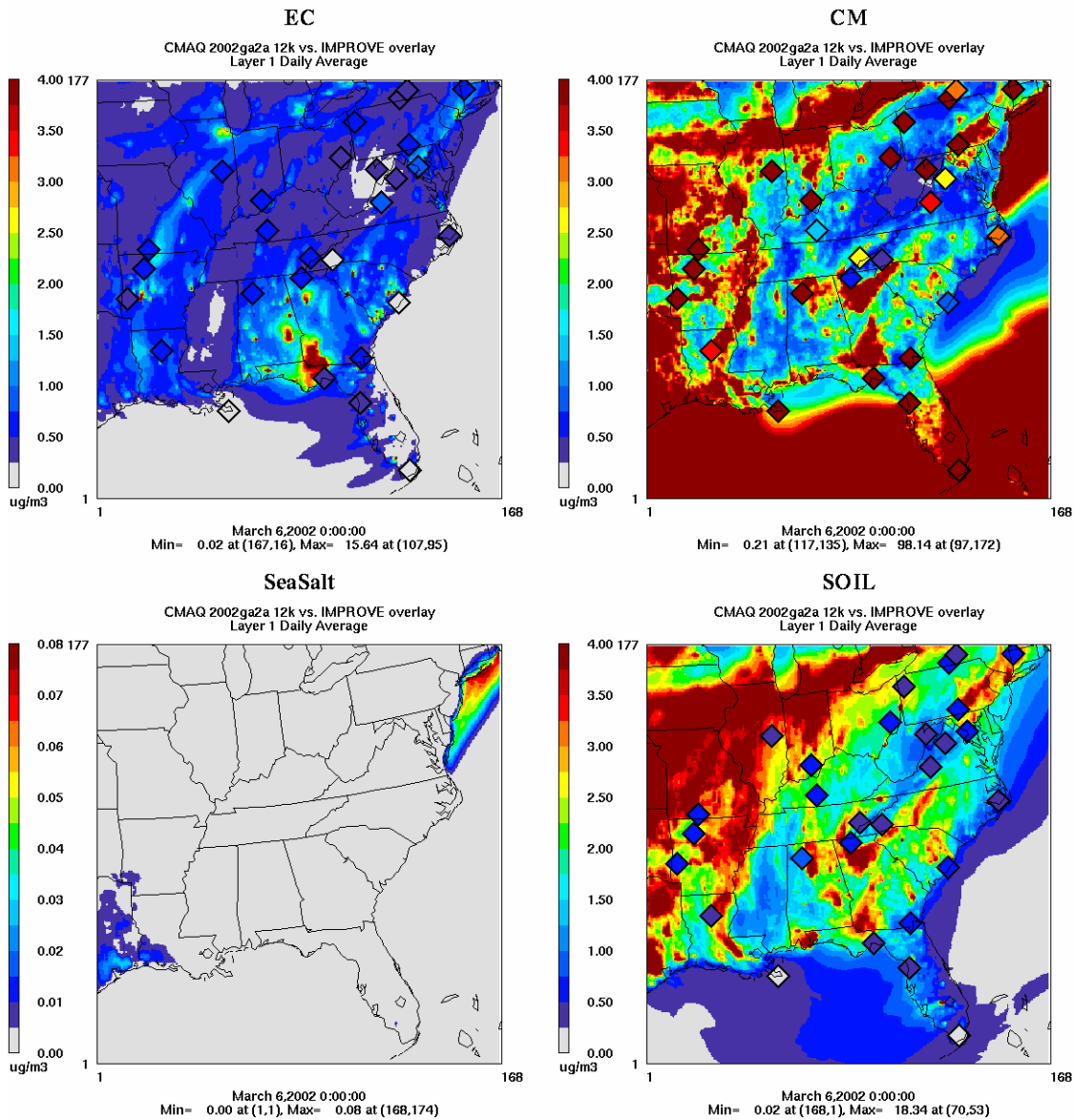
Figure D-59: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 3, 2002
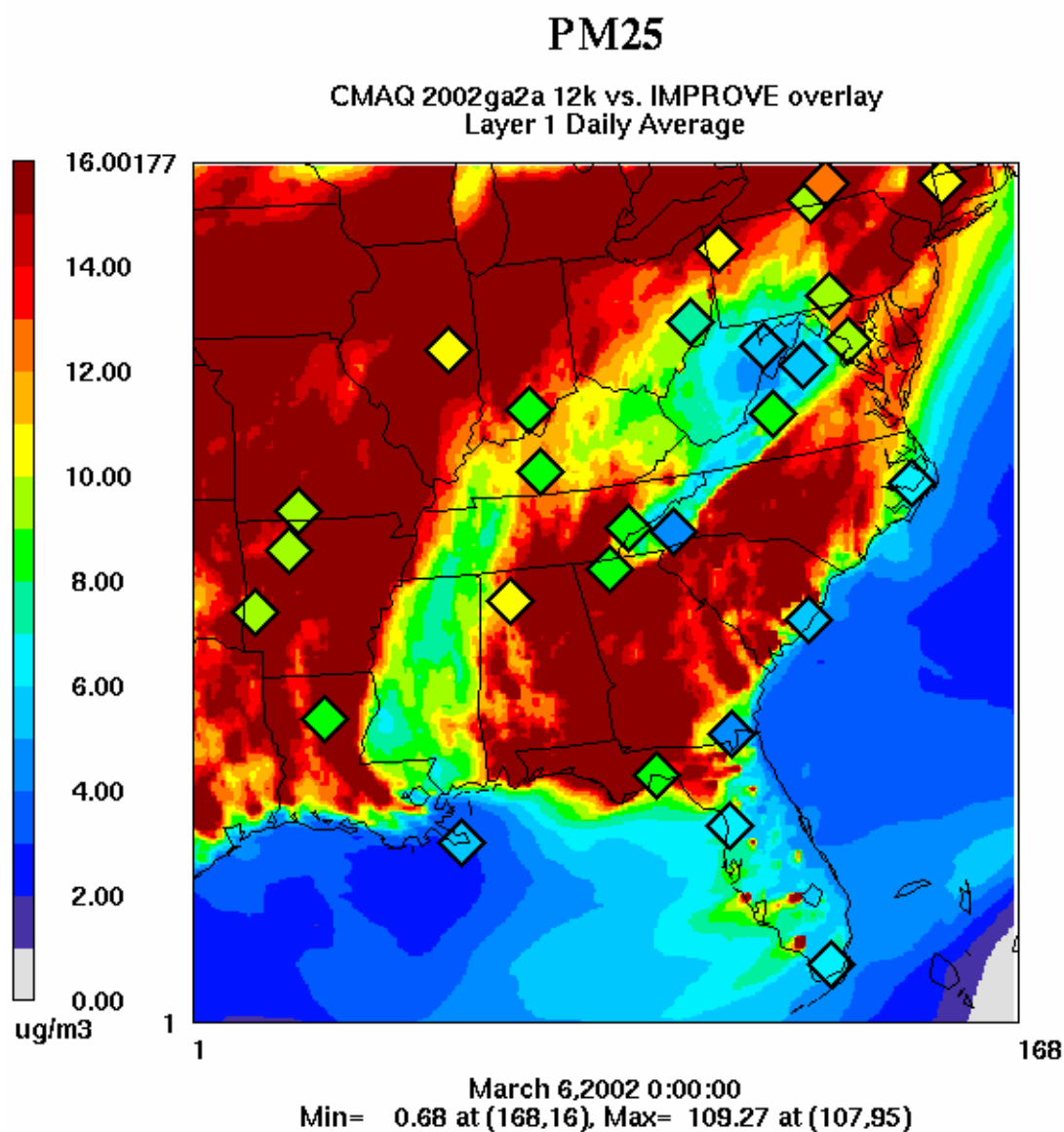
Figure D-60: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 3, 2002

D.21 March 6, 2002

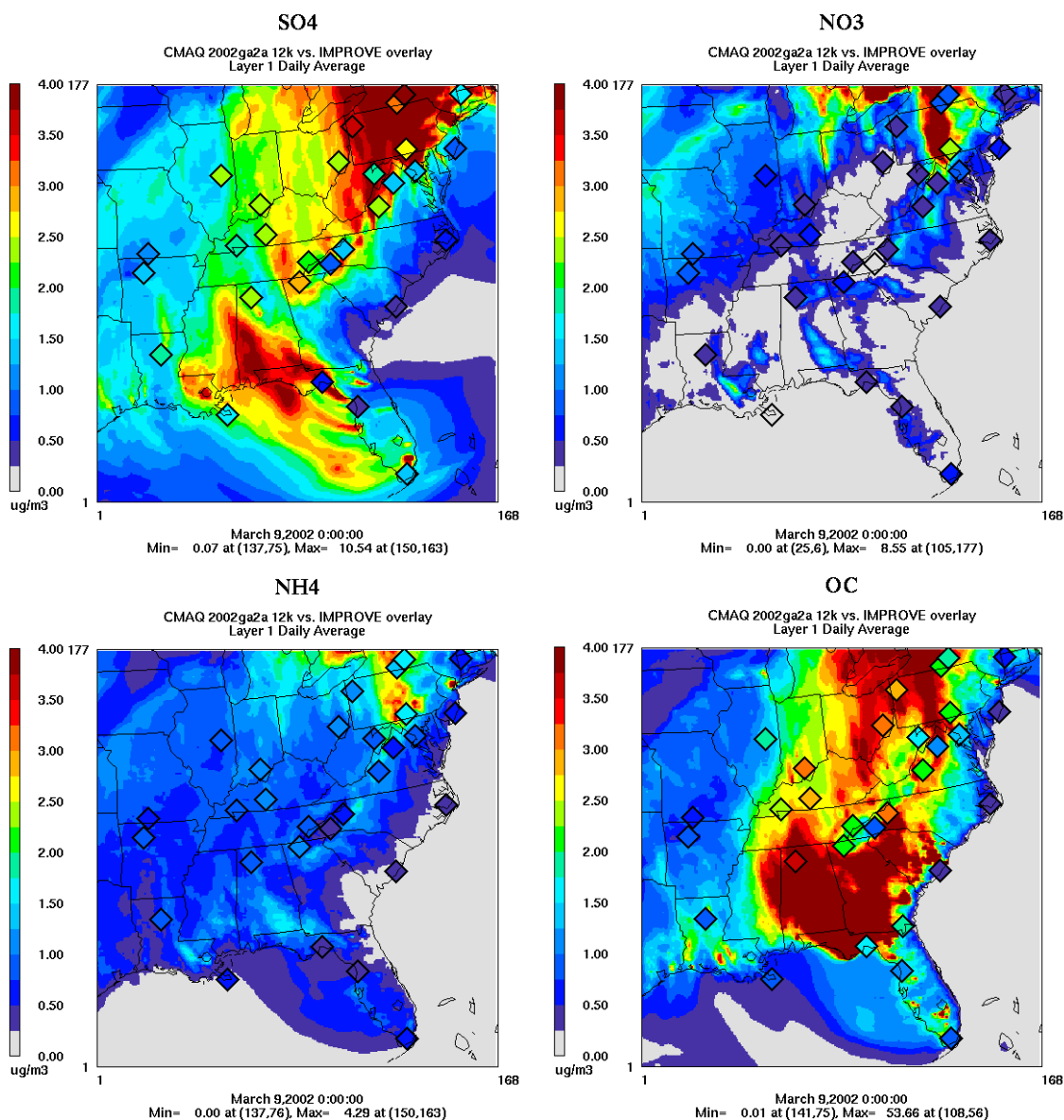| Date	Julian Day	Type	Class I Areas Affected
03/06/02	65	W20%	
03/06/02	65	B20%	ROMA
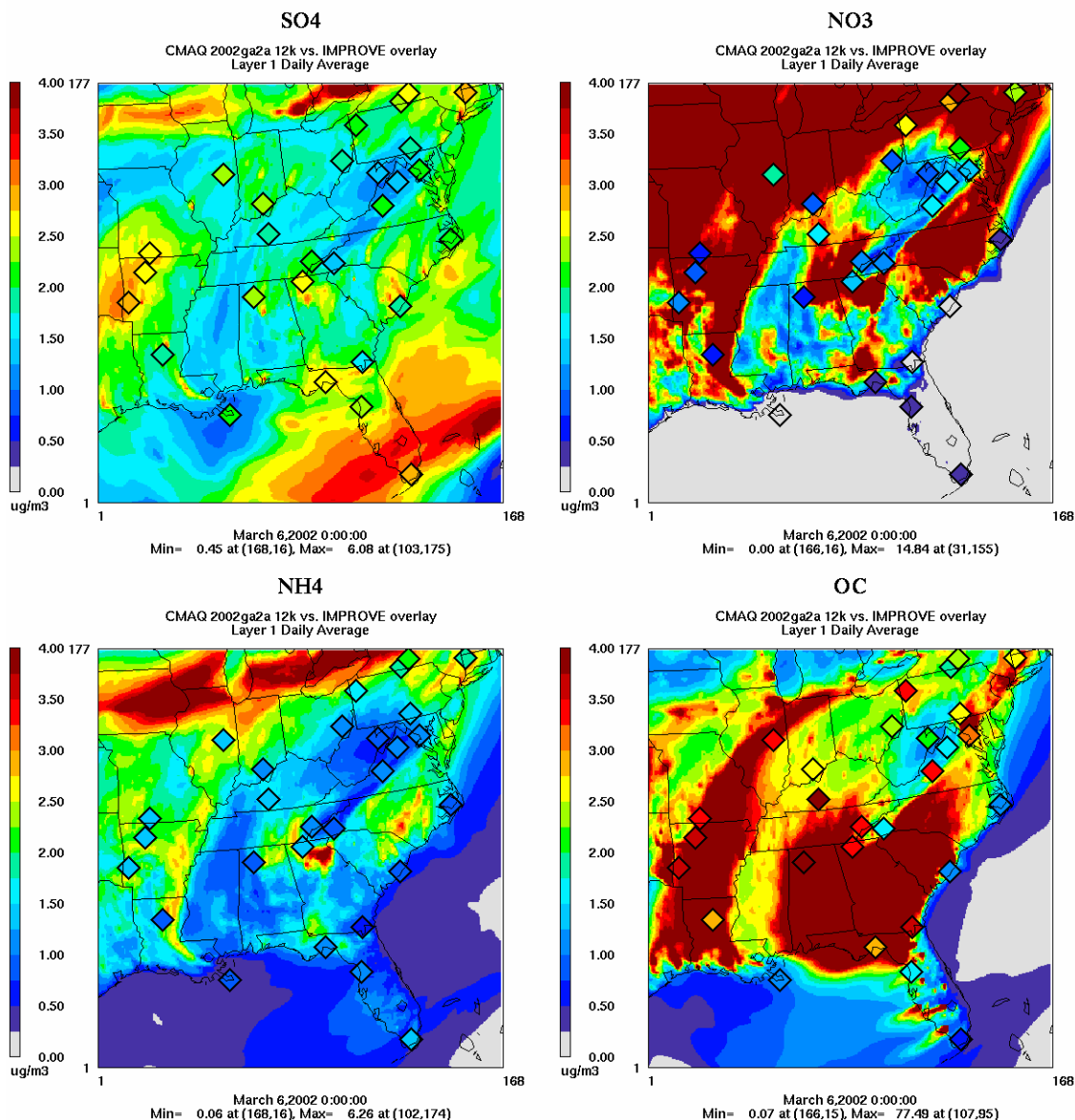
Figure D-61: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 6, 2002
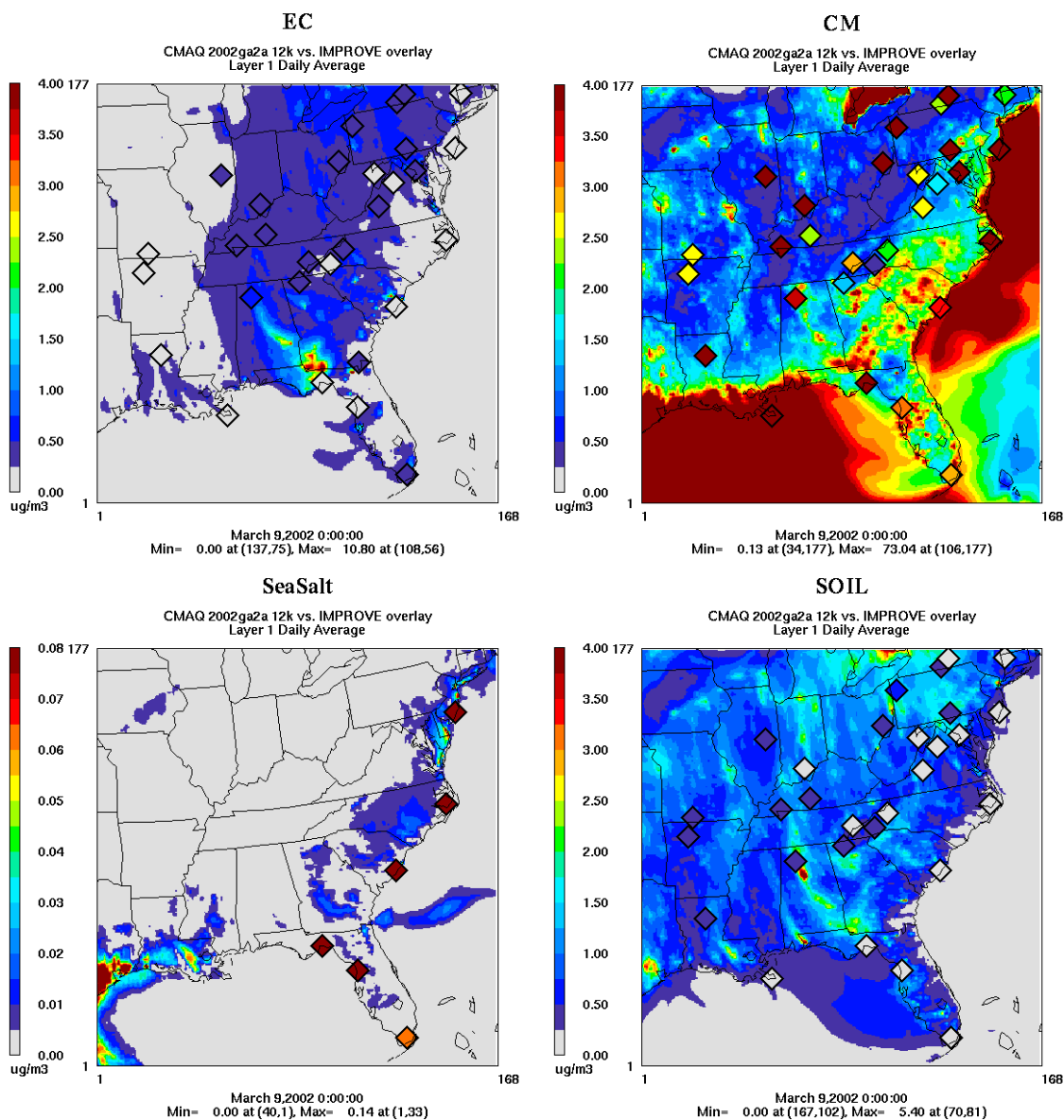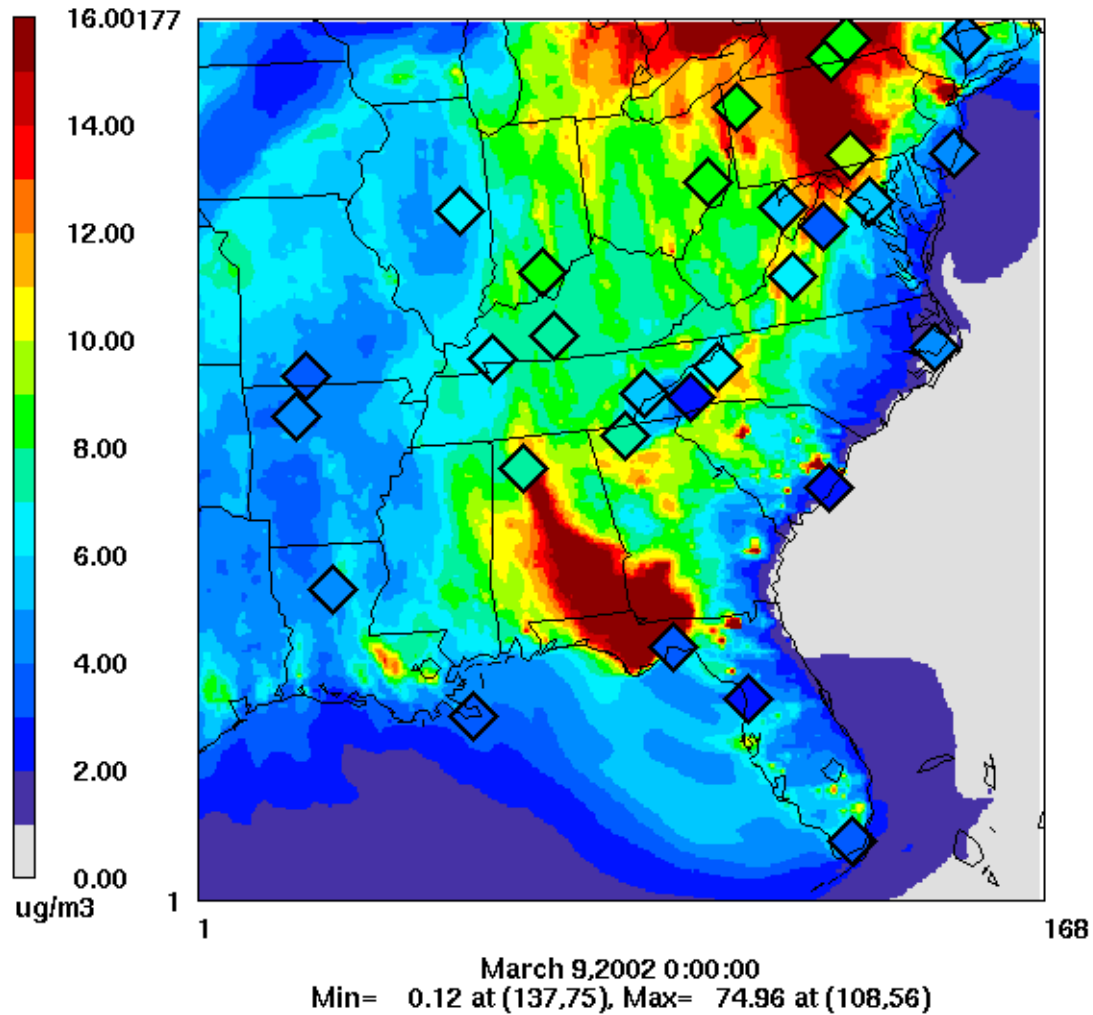
Figure D-62: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 6, 2002

Figure D-63: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 6, 2002

D.22   March 9, 2002

Date	Julian Day	Type	Class I Areas Affected
03/09/02	68	W20%	
03/09/02	68	B20%	SHRO, GRSM, JARI, SAMA, BRET, SHEN, DOSO, CHAS, SWAN, HEGL, MACA, ROMA, UPBU, BRIG

Figure D-64:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component

Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 9, 2002
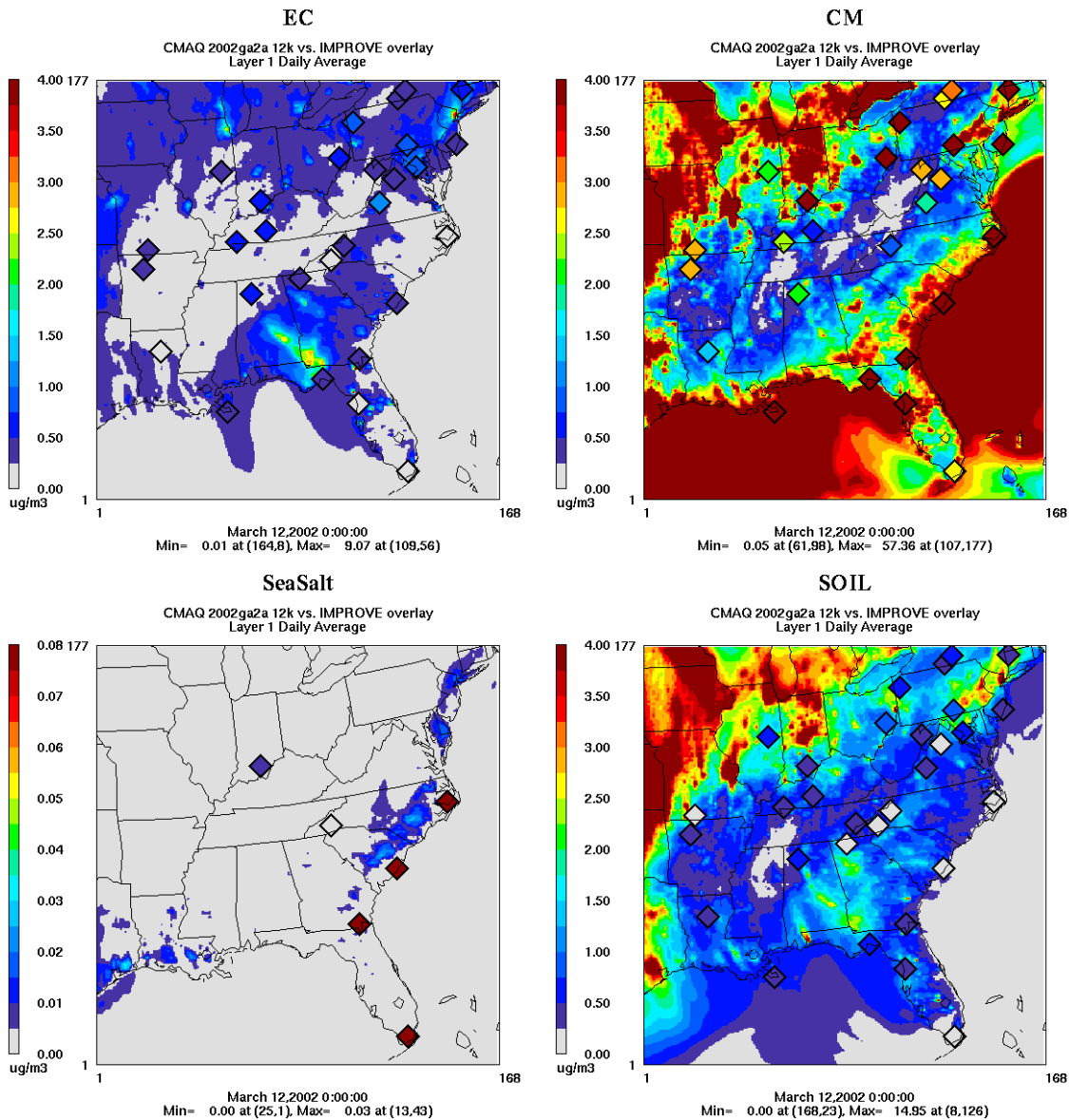

Figure D-65: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 9, 2002
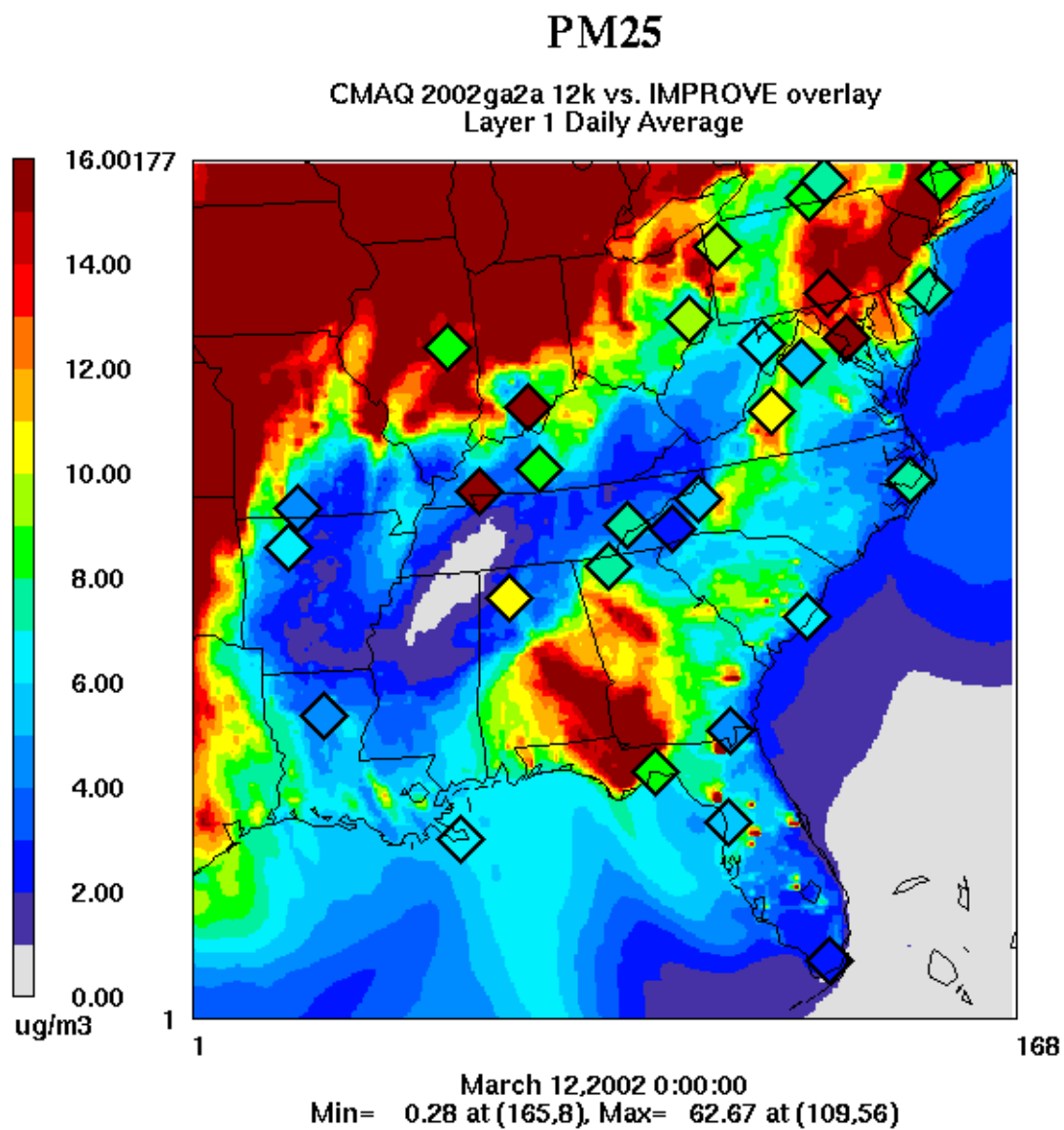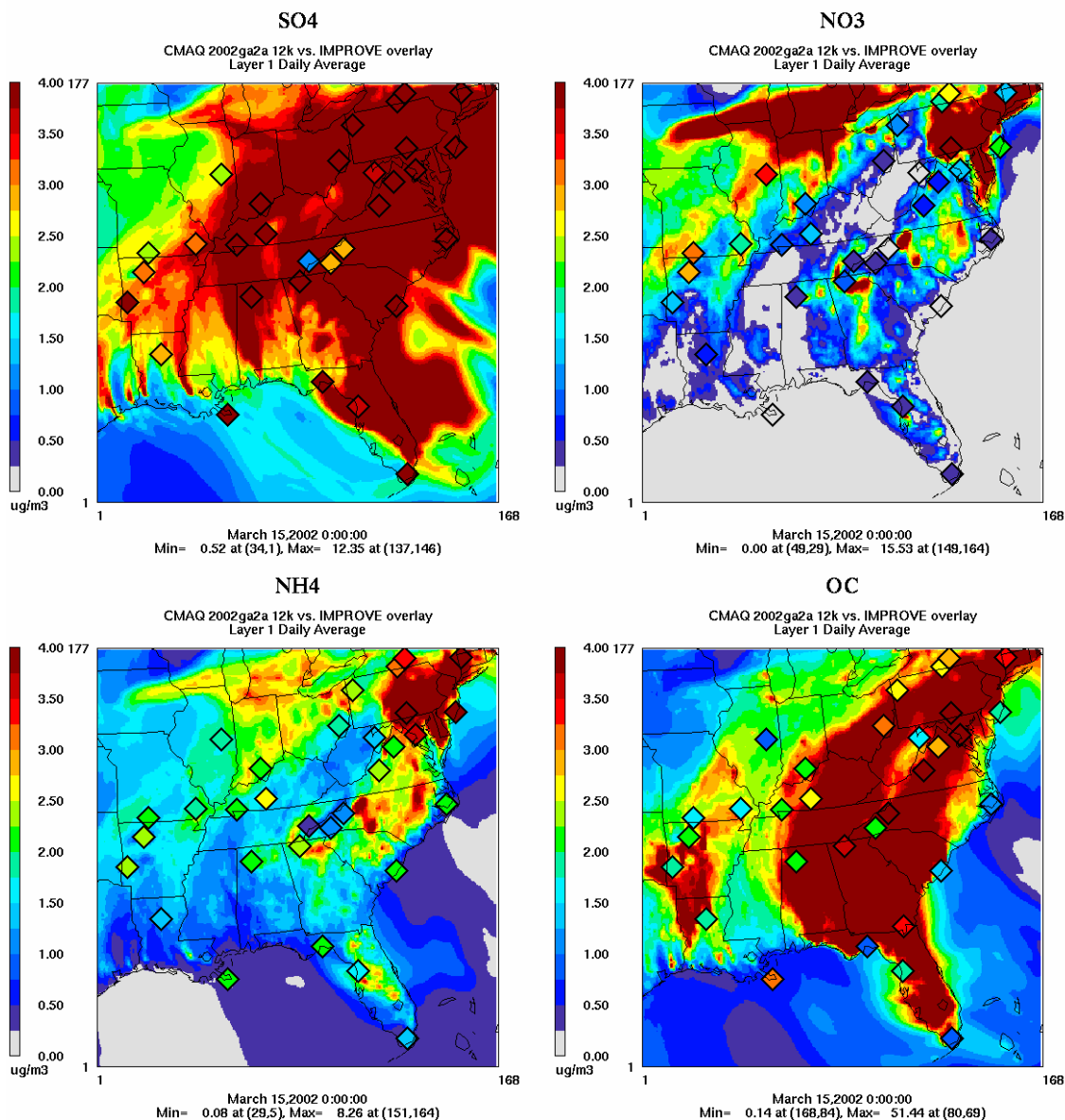
Figure D-66: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 12, 2002
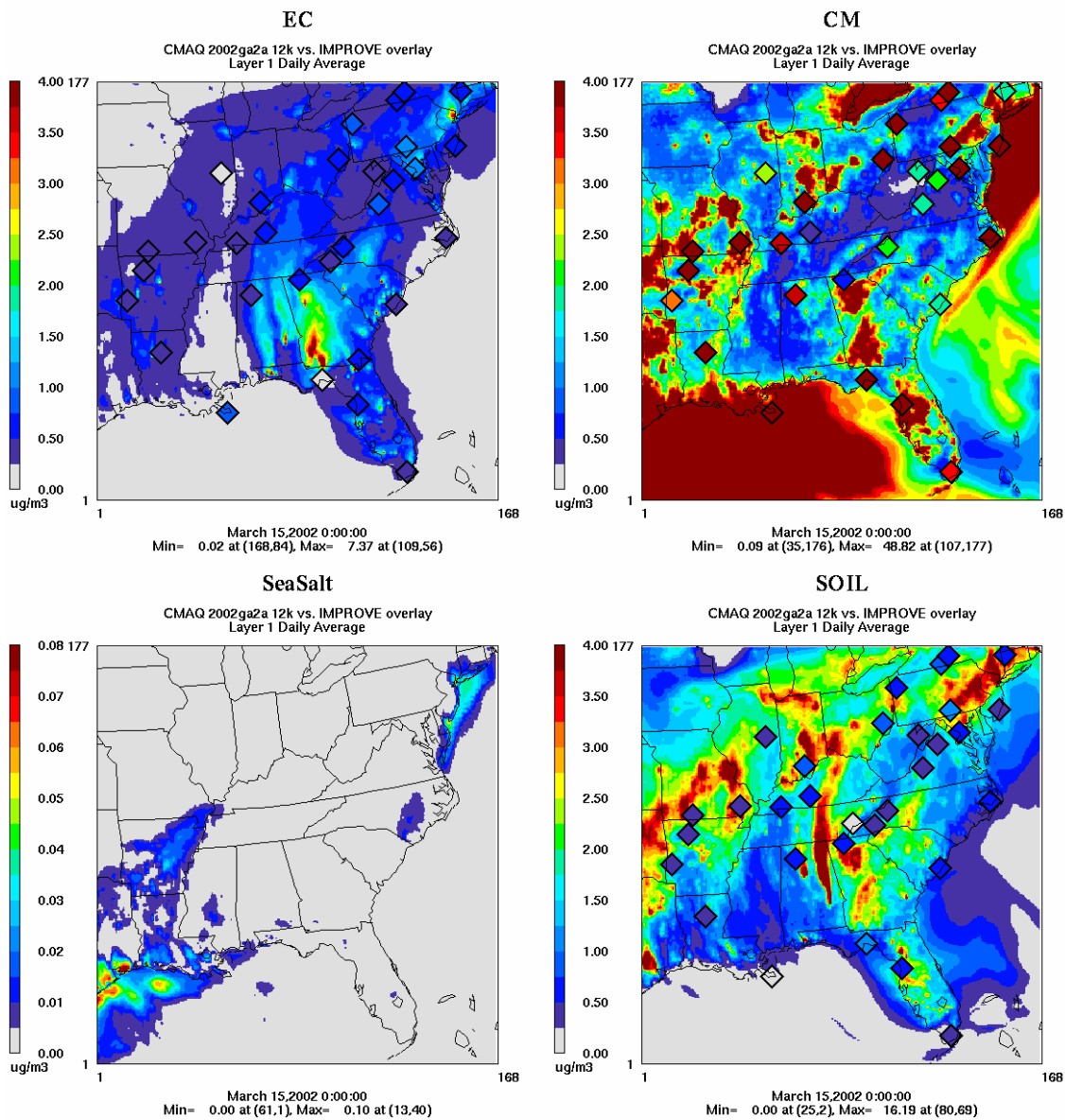
Figure D-67: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 12, 2002
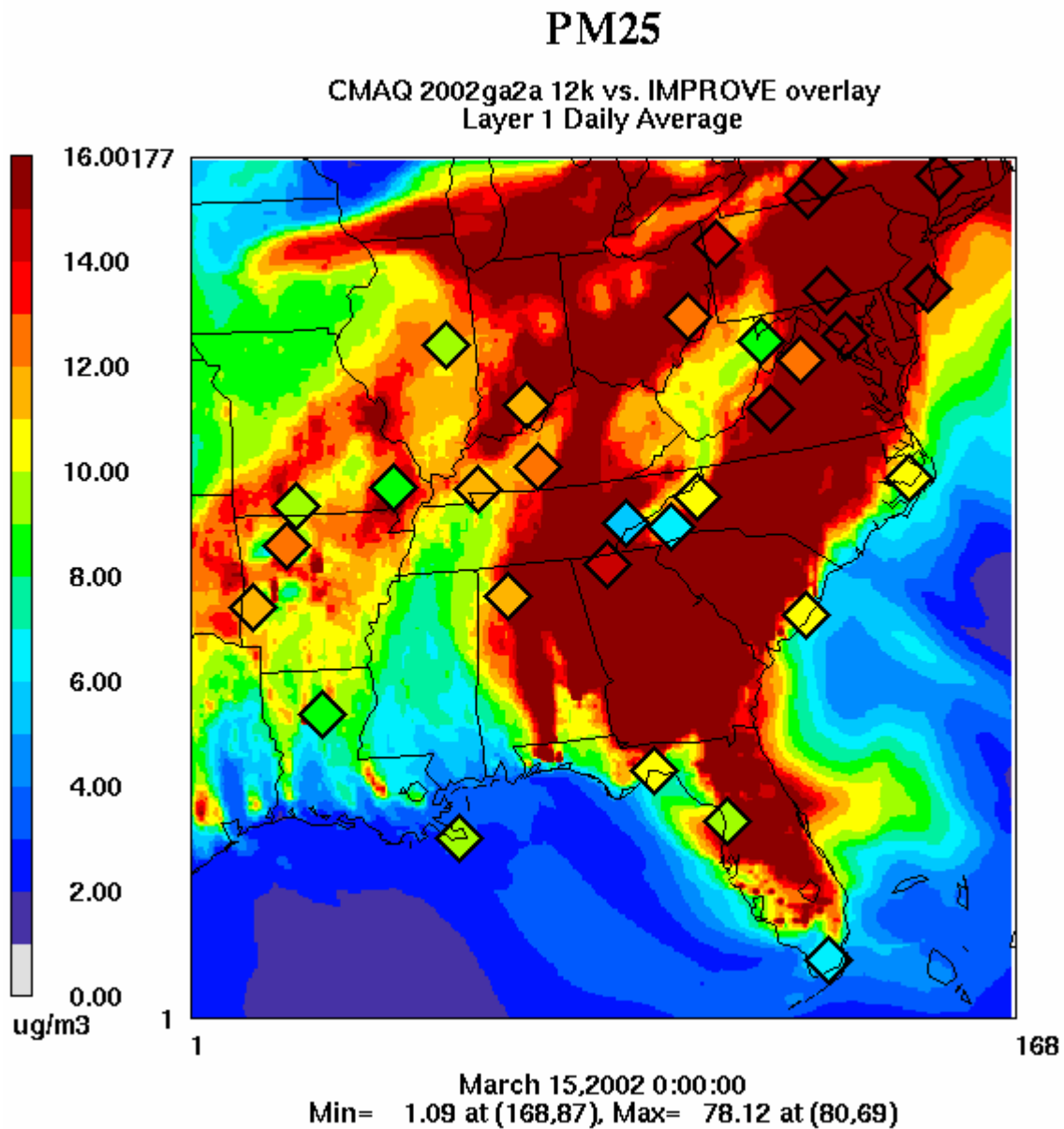
Figure D-68: **Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 12, 2002**

D.23 March 15, 2002

| Date	Julian Day	Type	Class I Areas Affected
03/15/02	74	W20%	BRET, EVER, BRIG
03/15/02	74	B20%	

Figure D-69: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 15, 2002
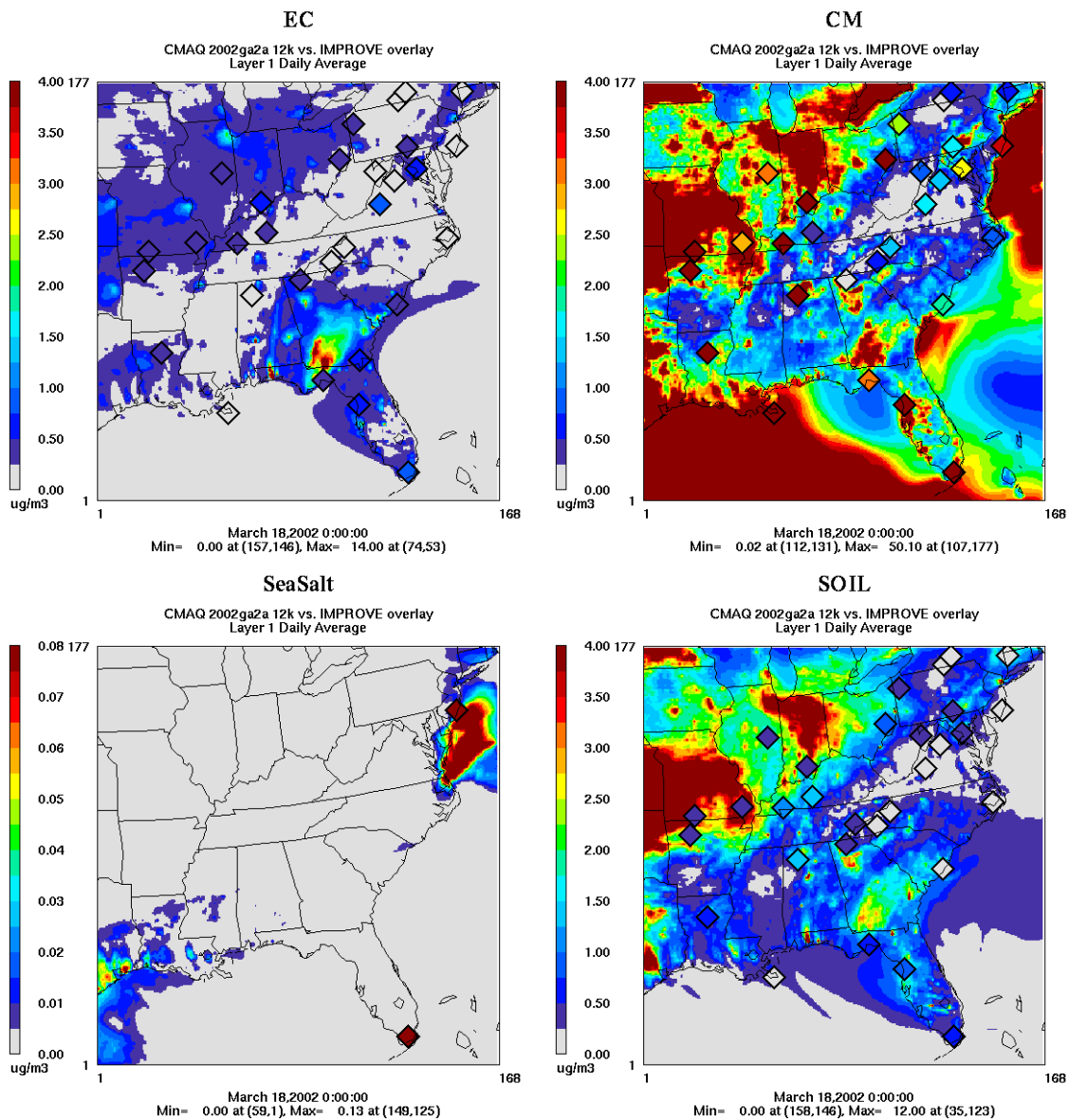
Figure D-70: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 15, 2002
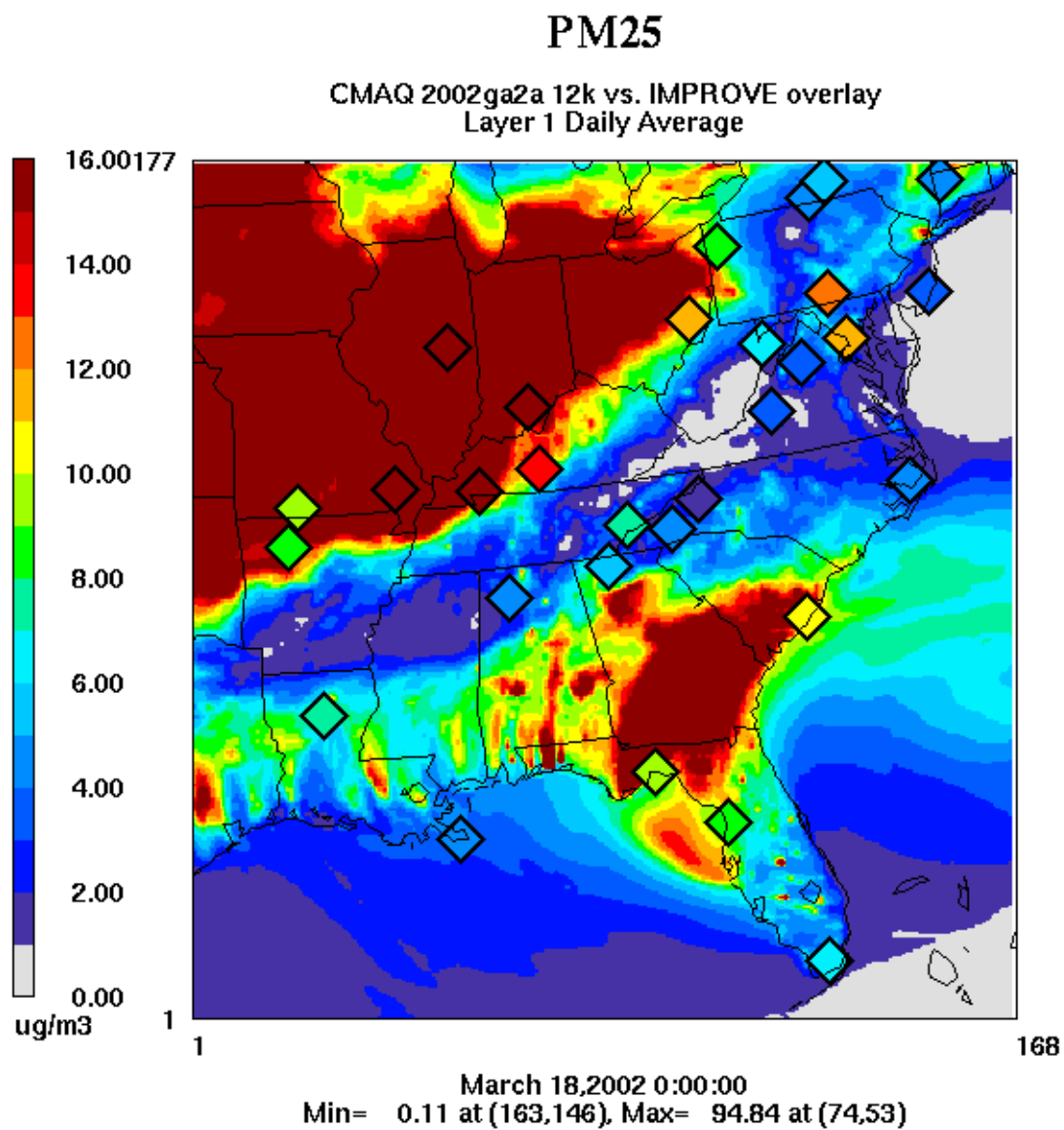
Figure D-71: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 15, 2002

D.24   March 18, 2002

| Date	Julian Day	Type	Class I Areas Affected
03/18/02	77	W20%	MING
03/18/02	77	B20%	LIGO, JARI, SIPS, SHEN, COHU, BRIG
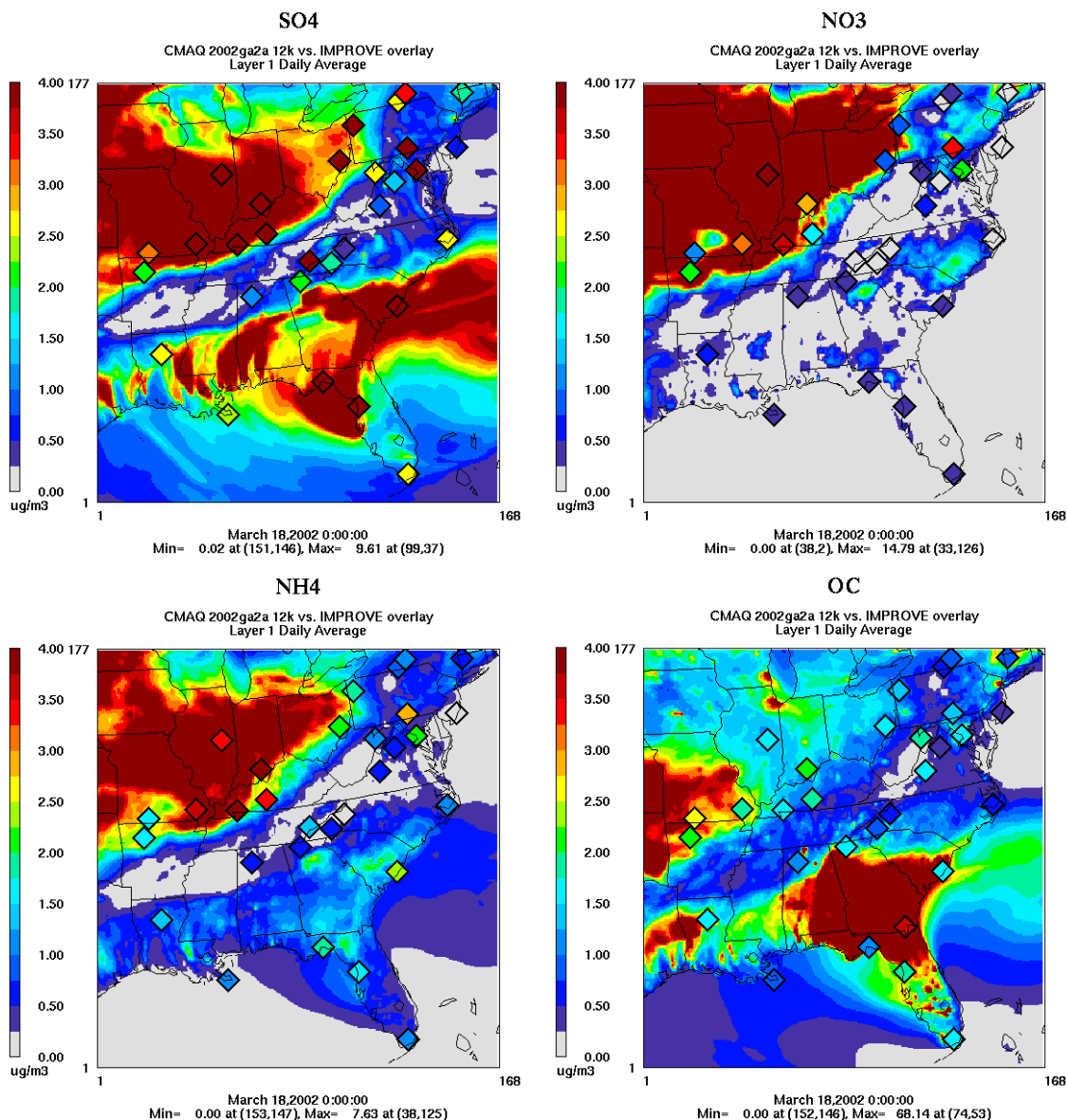
Figure D-72: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 18, 2002**
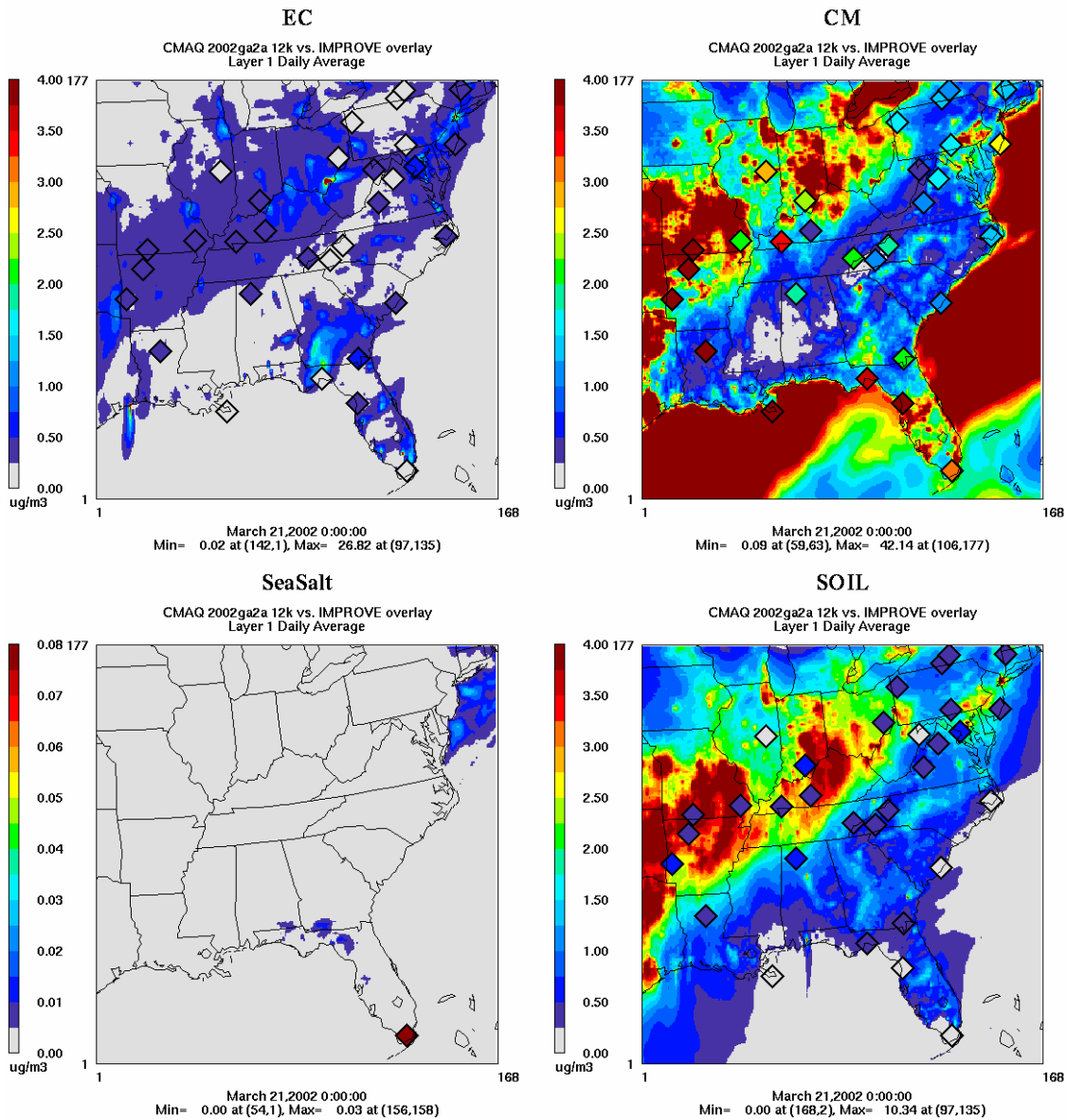
Figure D-73: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 18, 2002
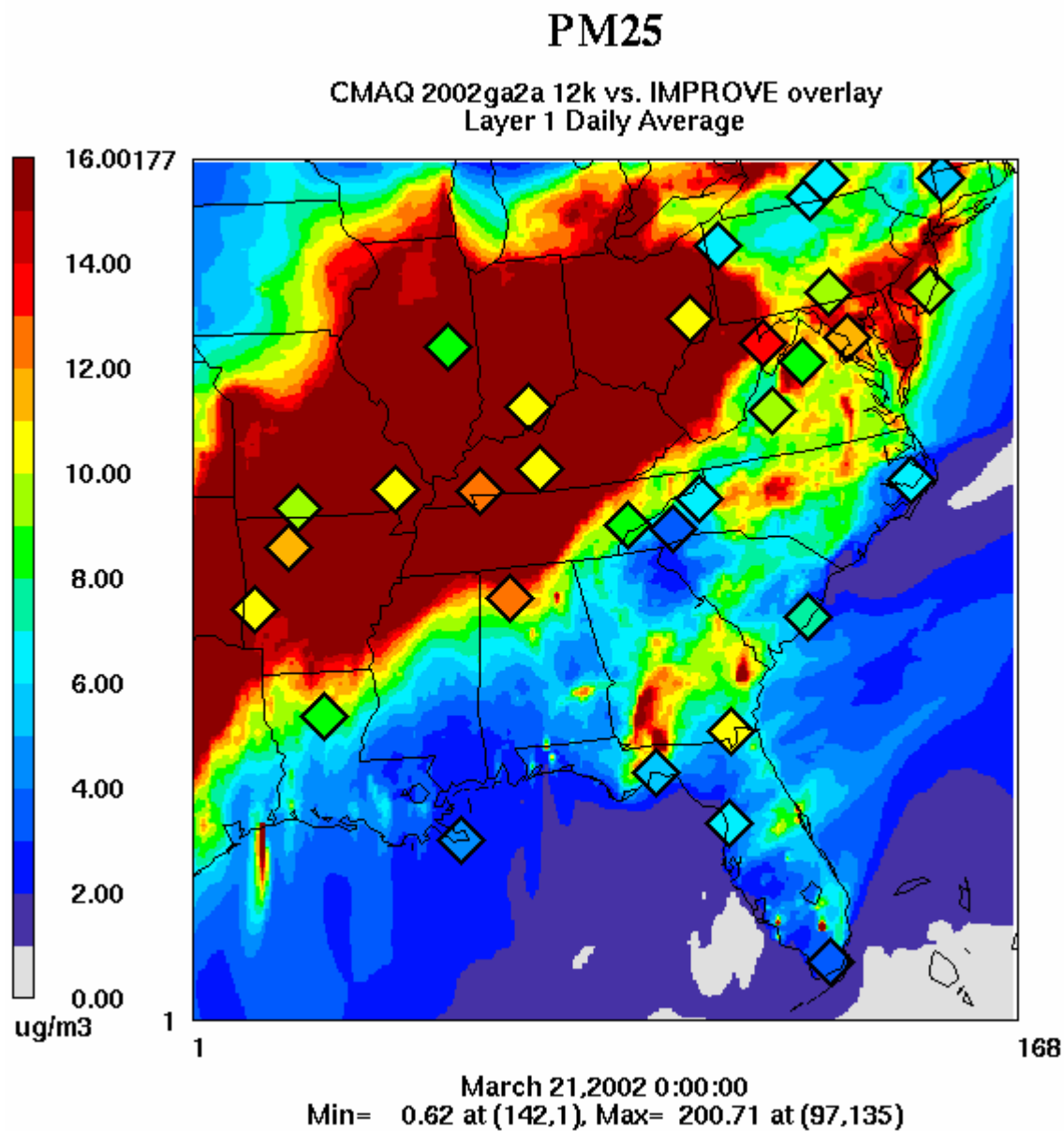
Figure D-74: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 18, 2002

D.25   March 21, 2002

| Date	Julian Day	Type	Class I Areas Affected
03/21/02	80	W20%	SIPS, CACR
03/21/02	80	B20%	SAMA, BRET, EVER
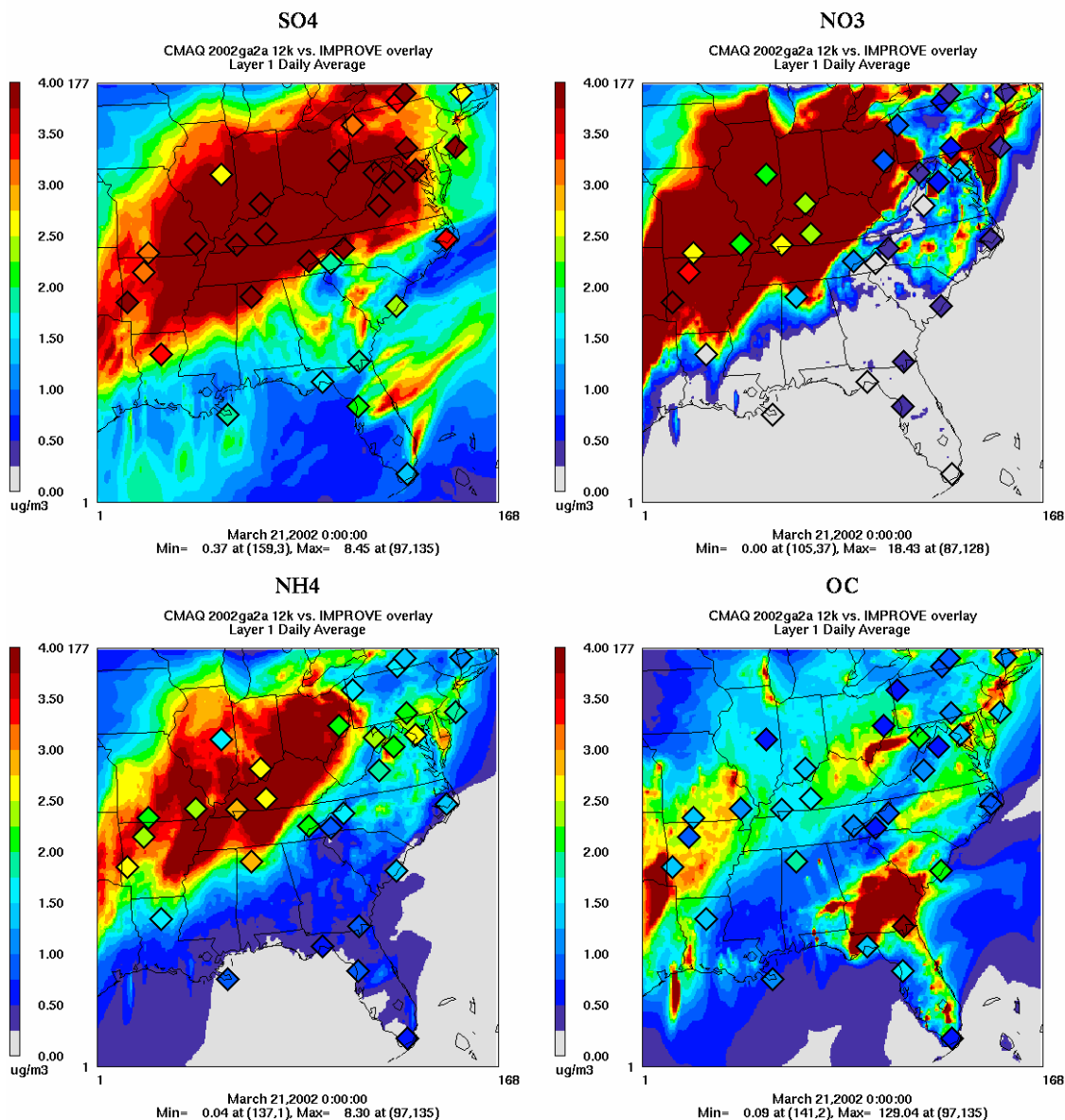
Figure D-75: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 21, 2002
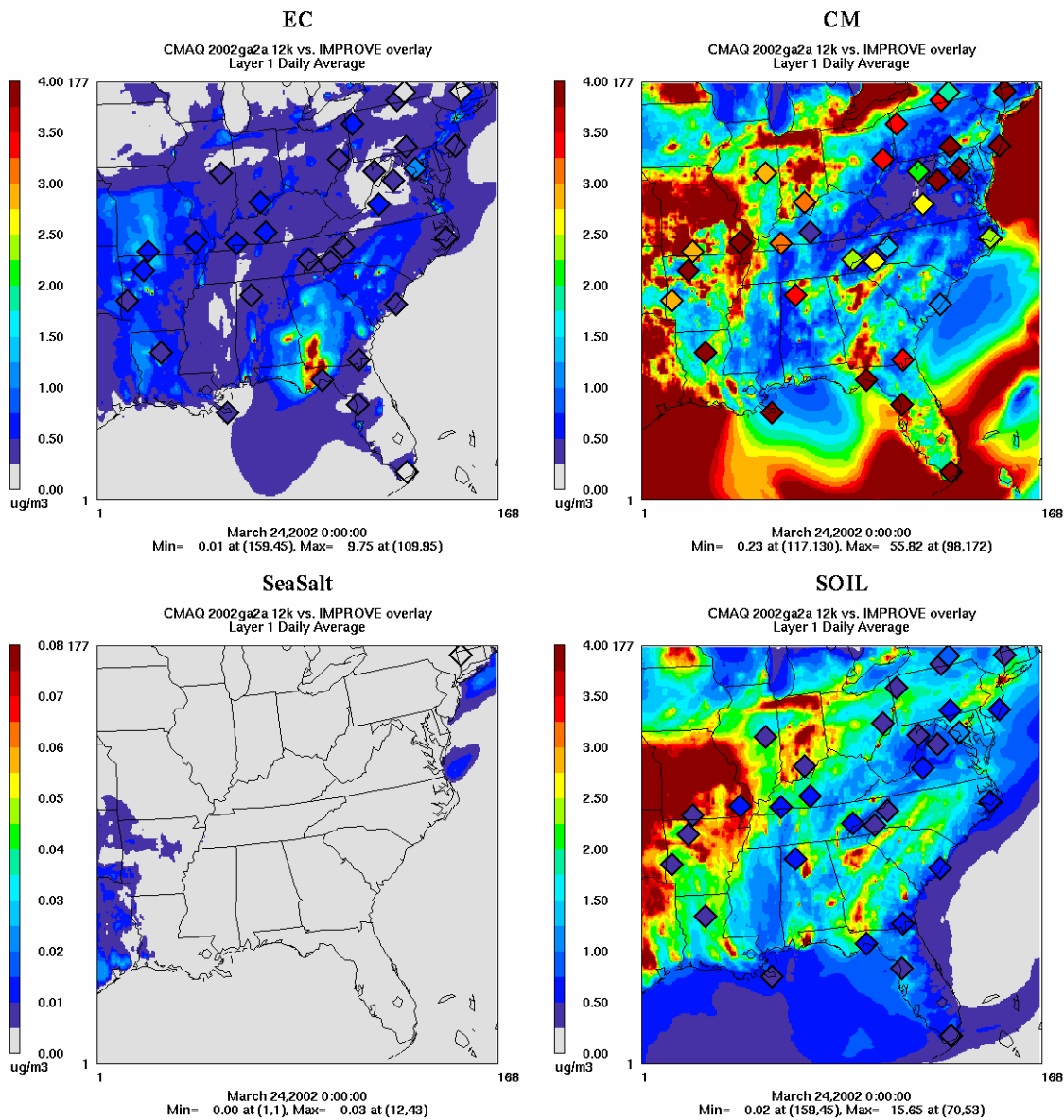
Figure D-76: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 21, 2002
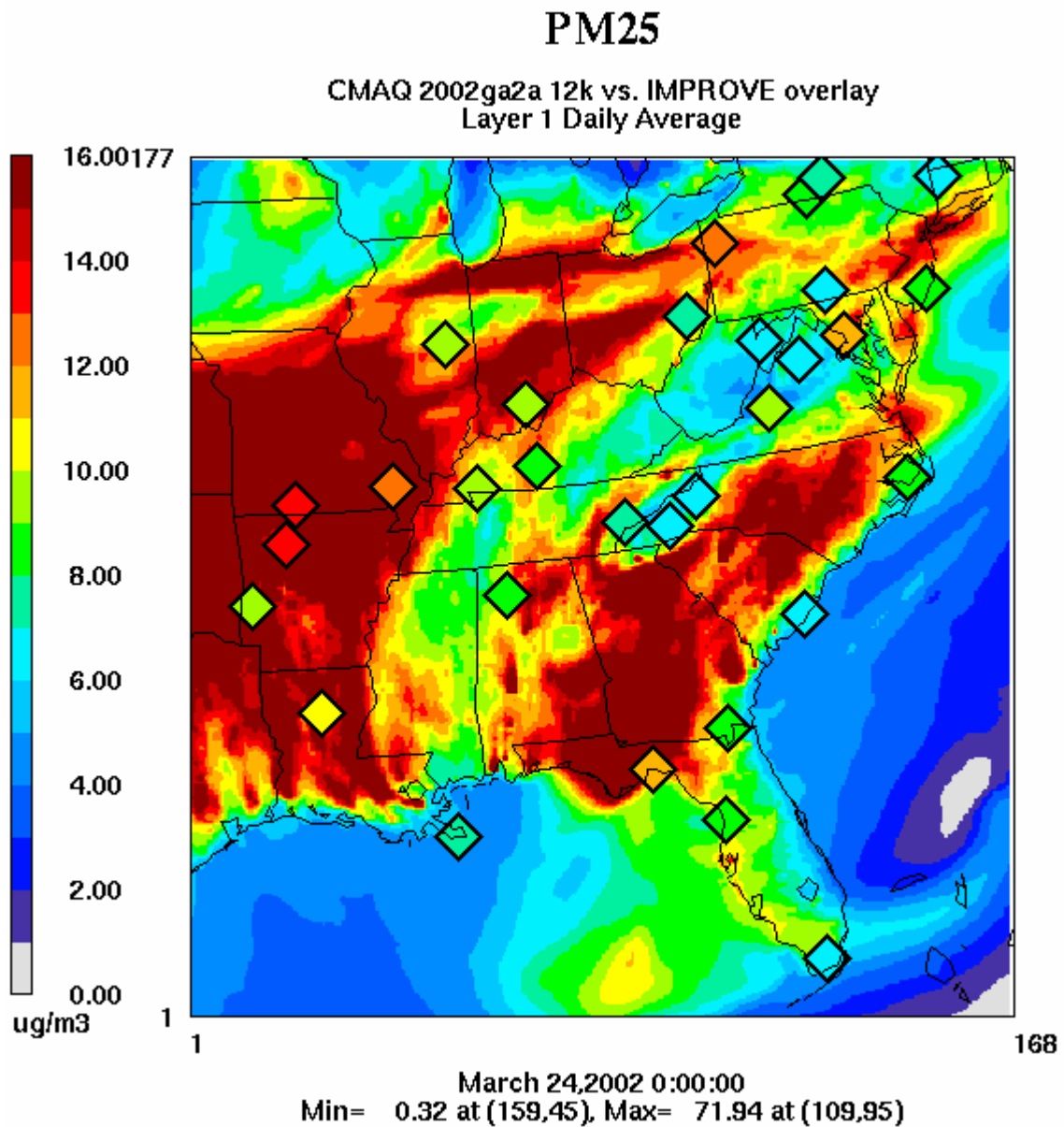
Figure D-77: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 21, 2002

D.26   March 24, 2002

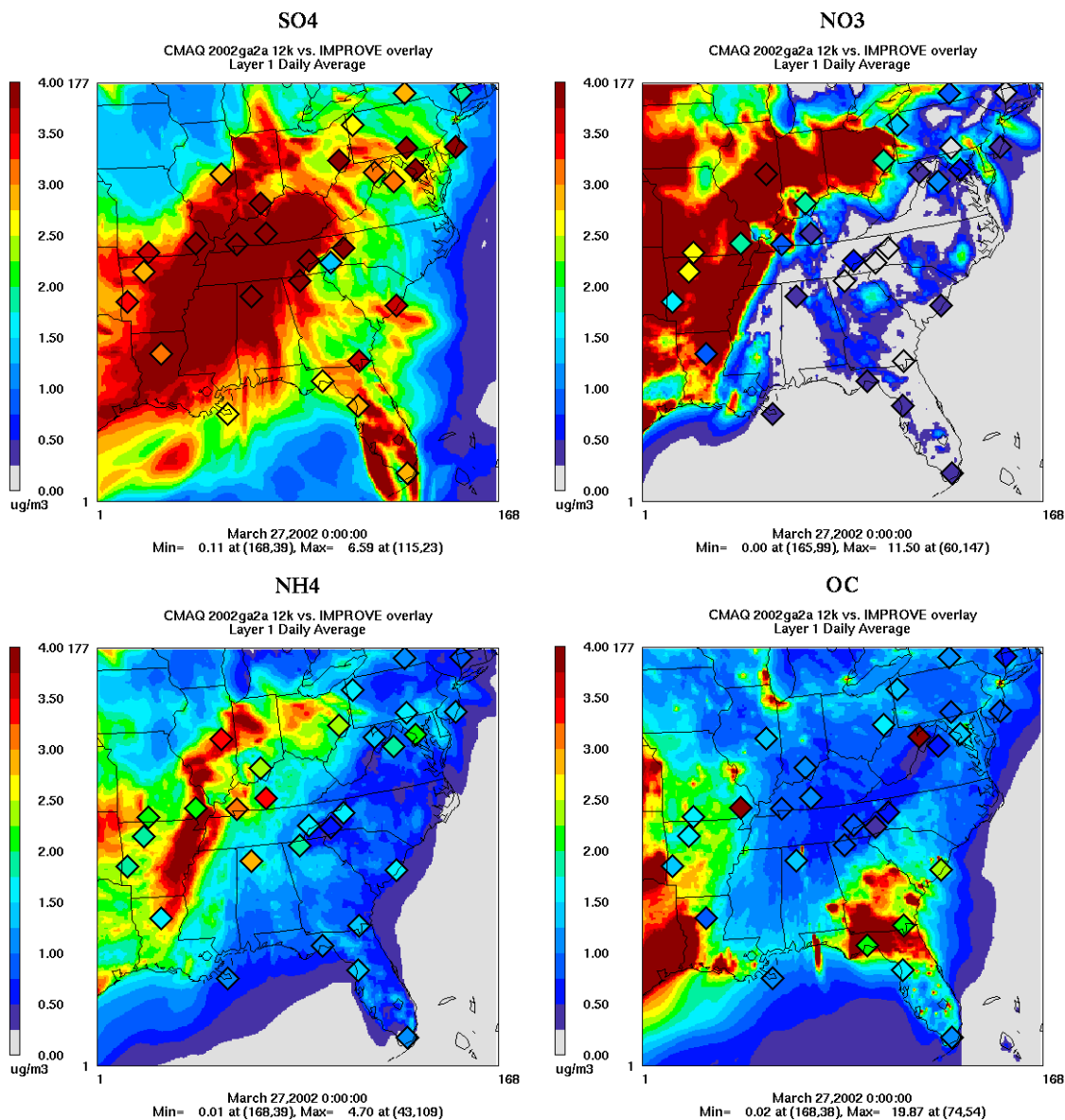| Date	Julian Day	Type	Class I Areas Affected
03/24/02	83	W20%	
03/24/02	83	B20%	MACA
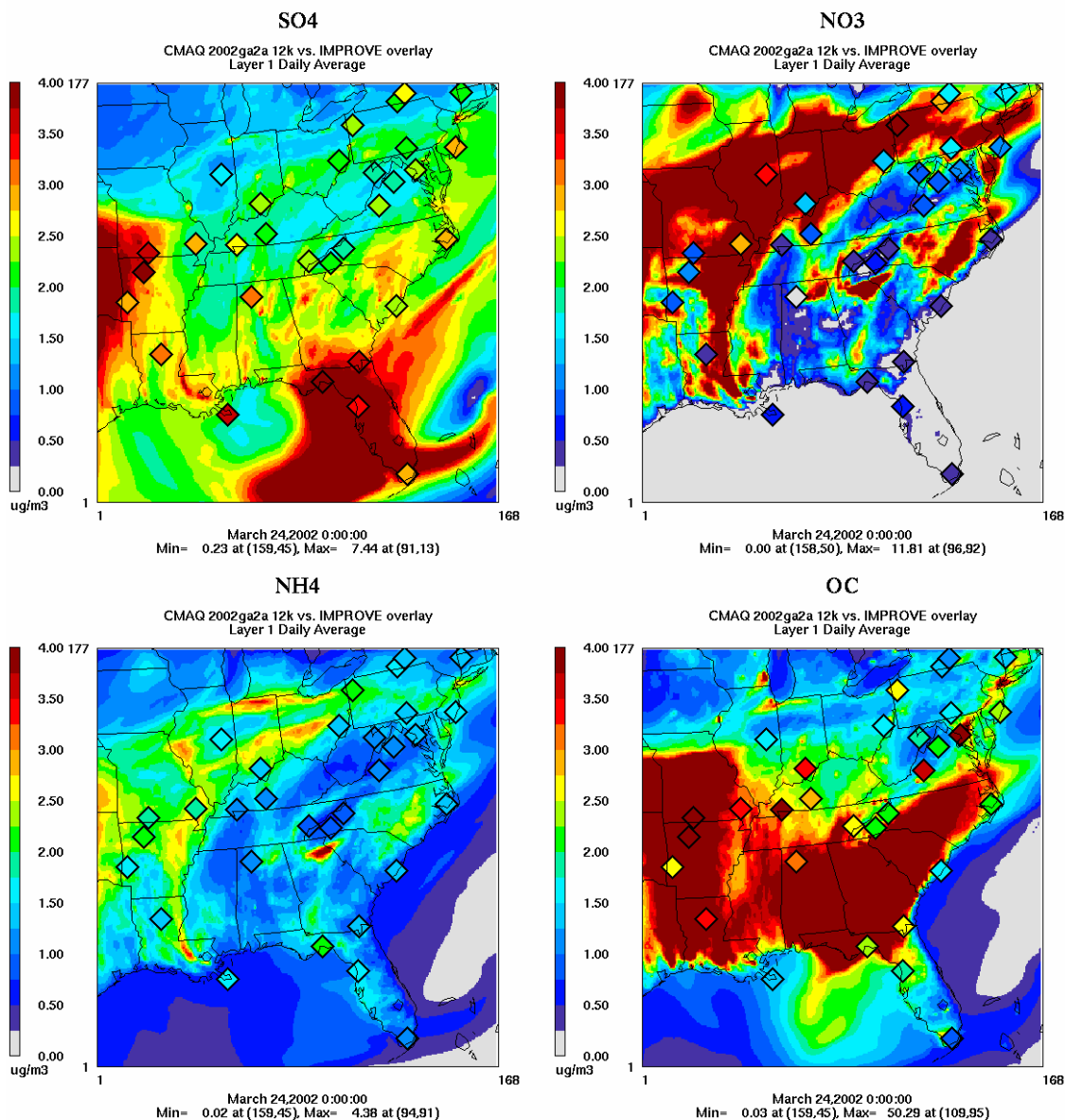
Figure D-78: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 24, 2002
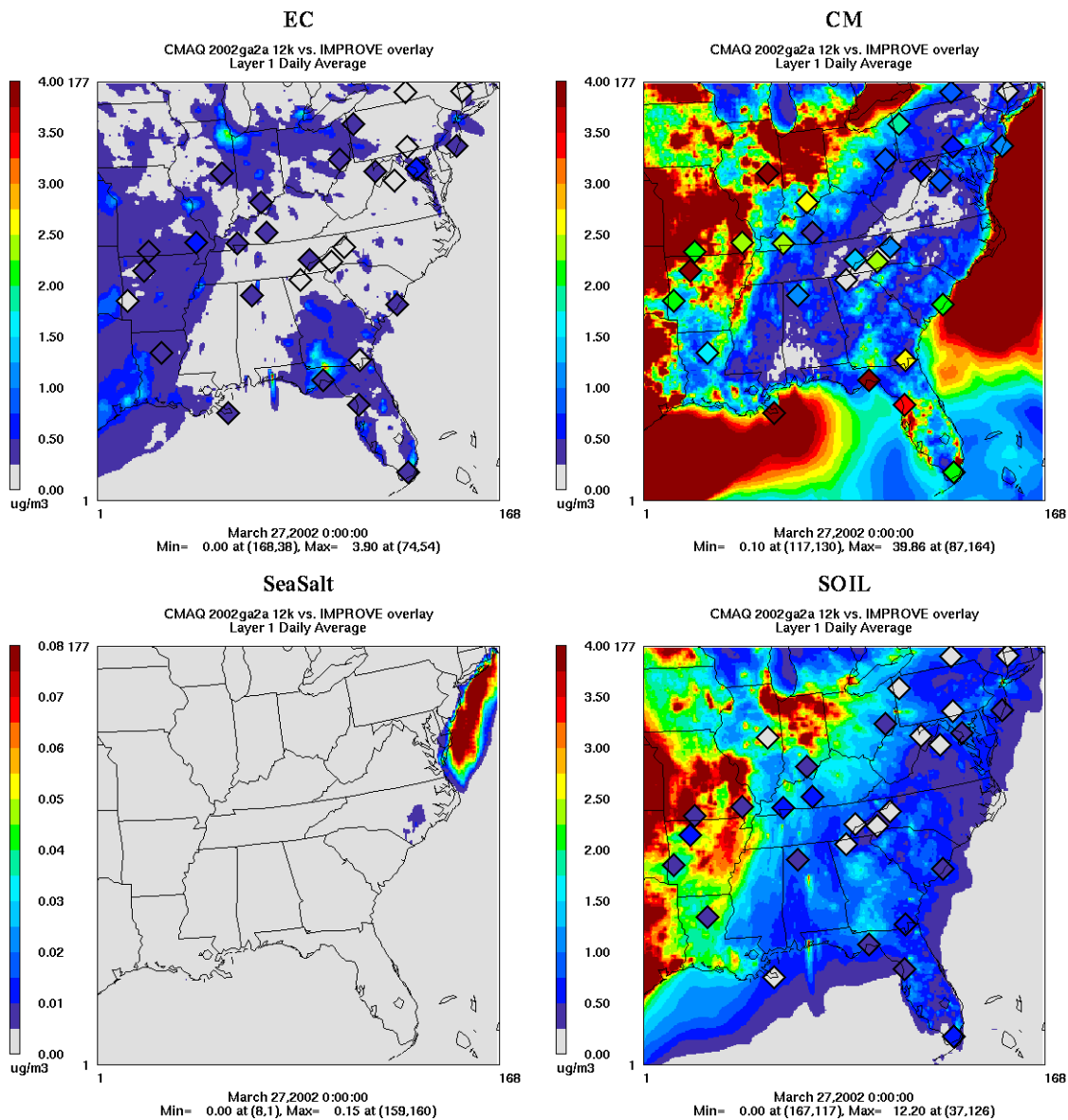
Figure D-79: **Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 24, 2002**
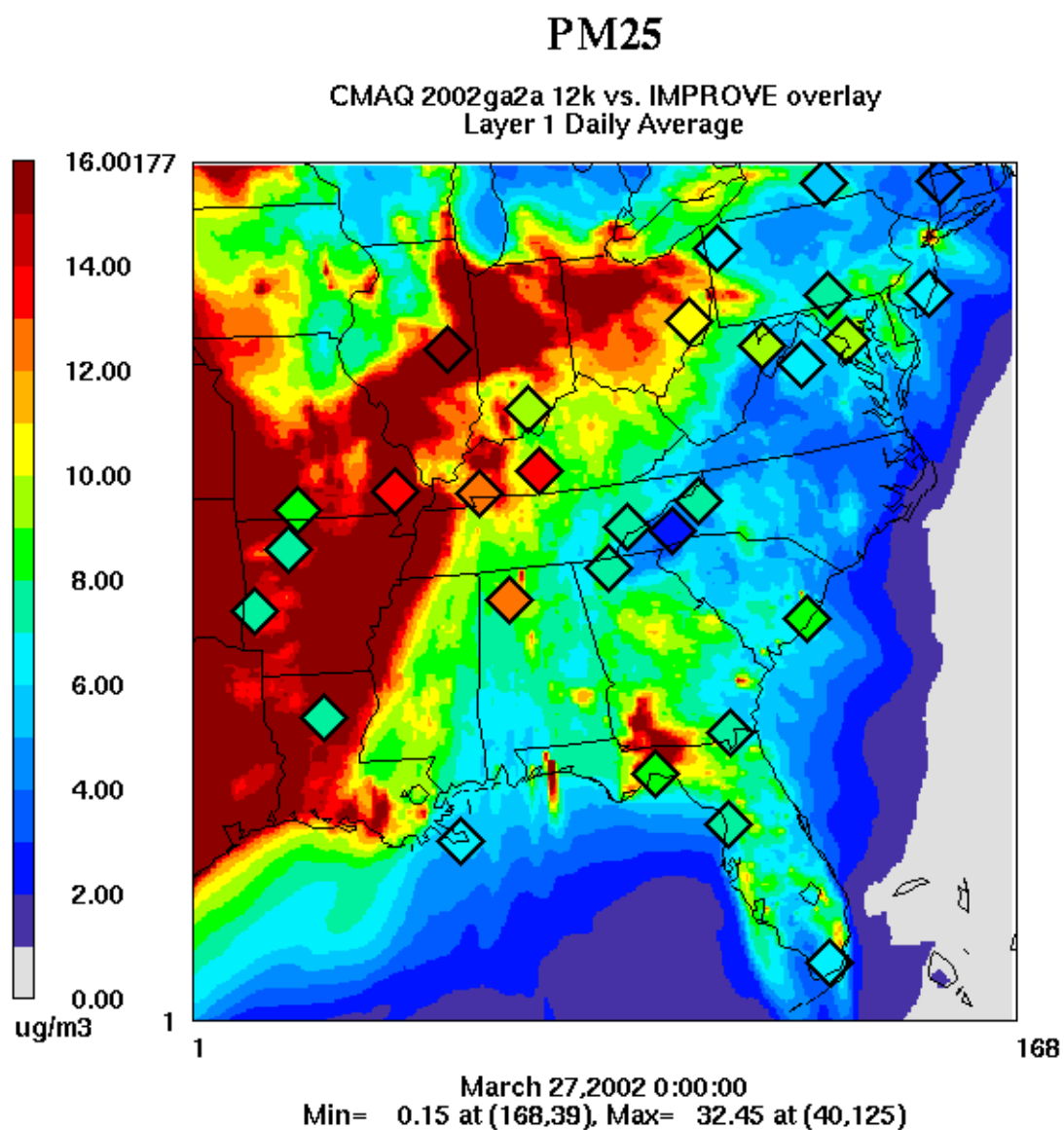
Figure D-80: **Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 24, 2002**

D.27   March 27, 2002

| Date	Julian Day	Type	Class I Areas Affected
03/27/02	86	W20%	MACA
03/27/02	86	B20%	SHRO

Figure D-81: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 27, 2002
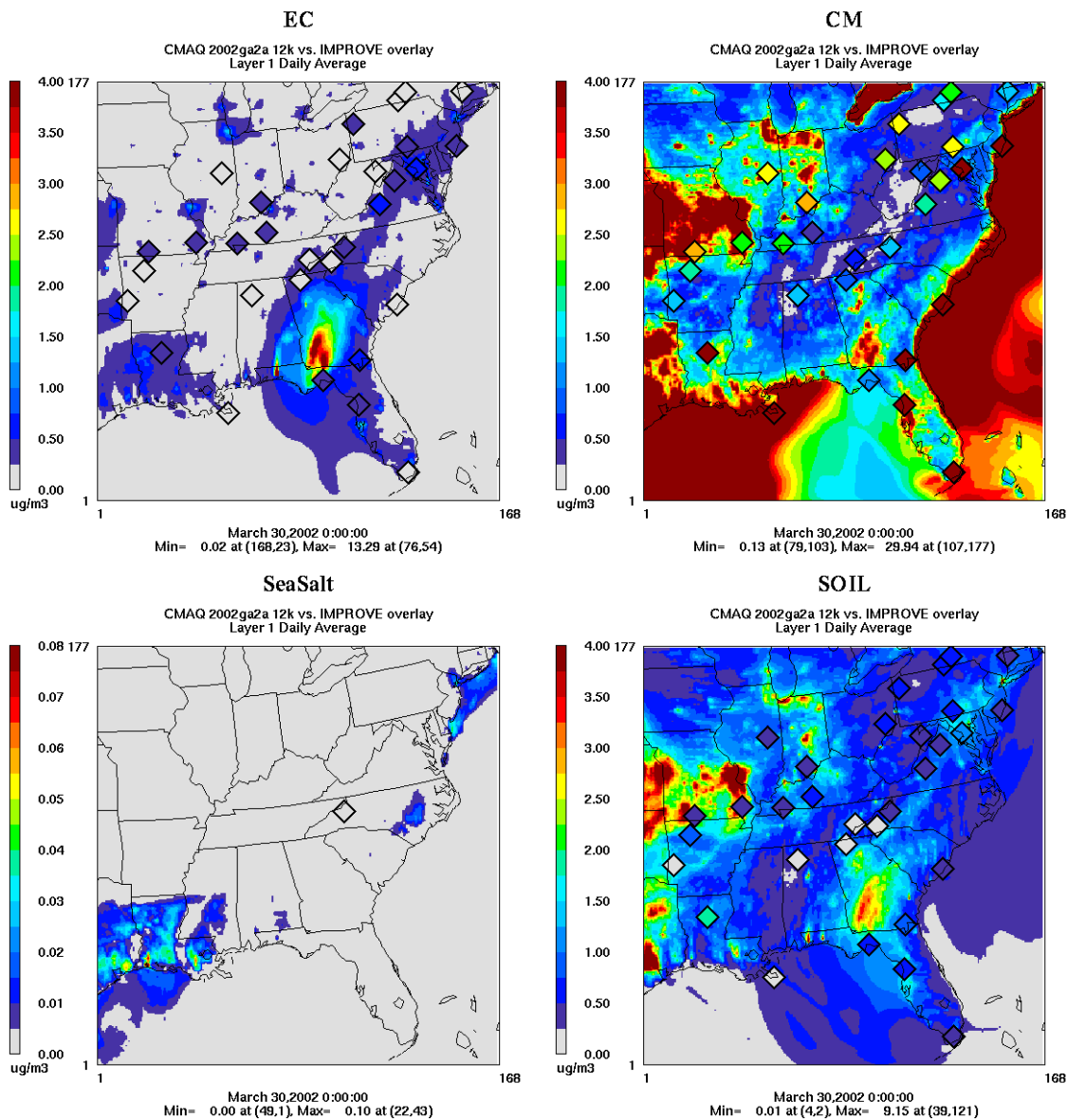
Figure D-82: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 27, 2002

Figure D-83: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 27, 2002

D.28   March 30, 2002

Date	Julian Day	Type	Class I Areas Affected
03/30/02	89	W20%	SAMA, OKEF, CHAS
03/30/02	89	B20%	LIGO, SHRO, GRSM, SIPS, CACR, DOSO, HEGL, COHU, MACA, UPBU
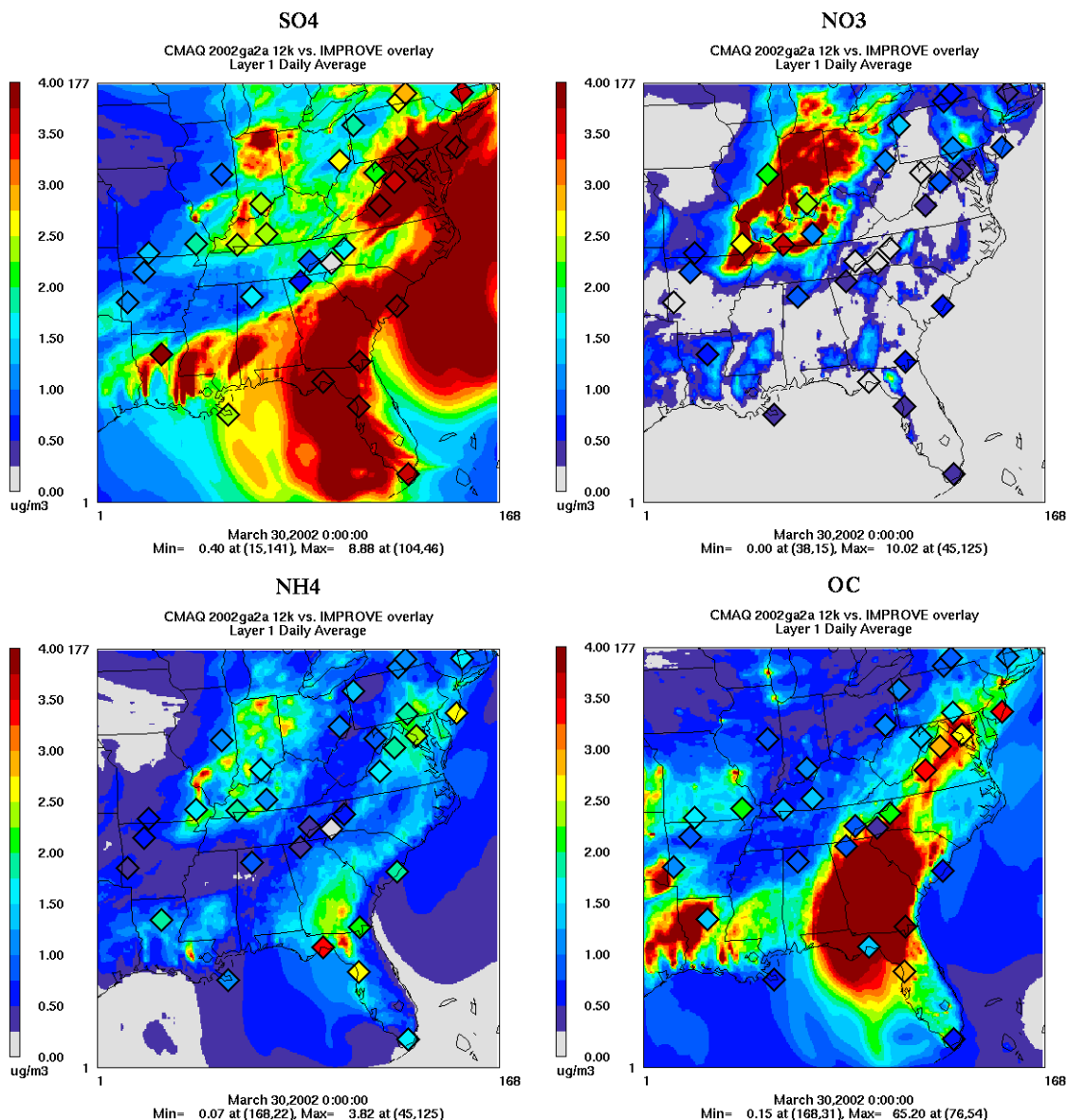
Figure D-84:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For March 30, 2002

Figure D-85: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For March 30, 2002
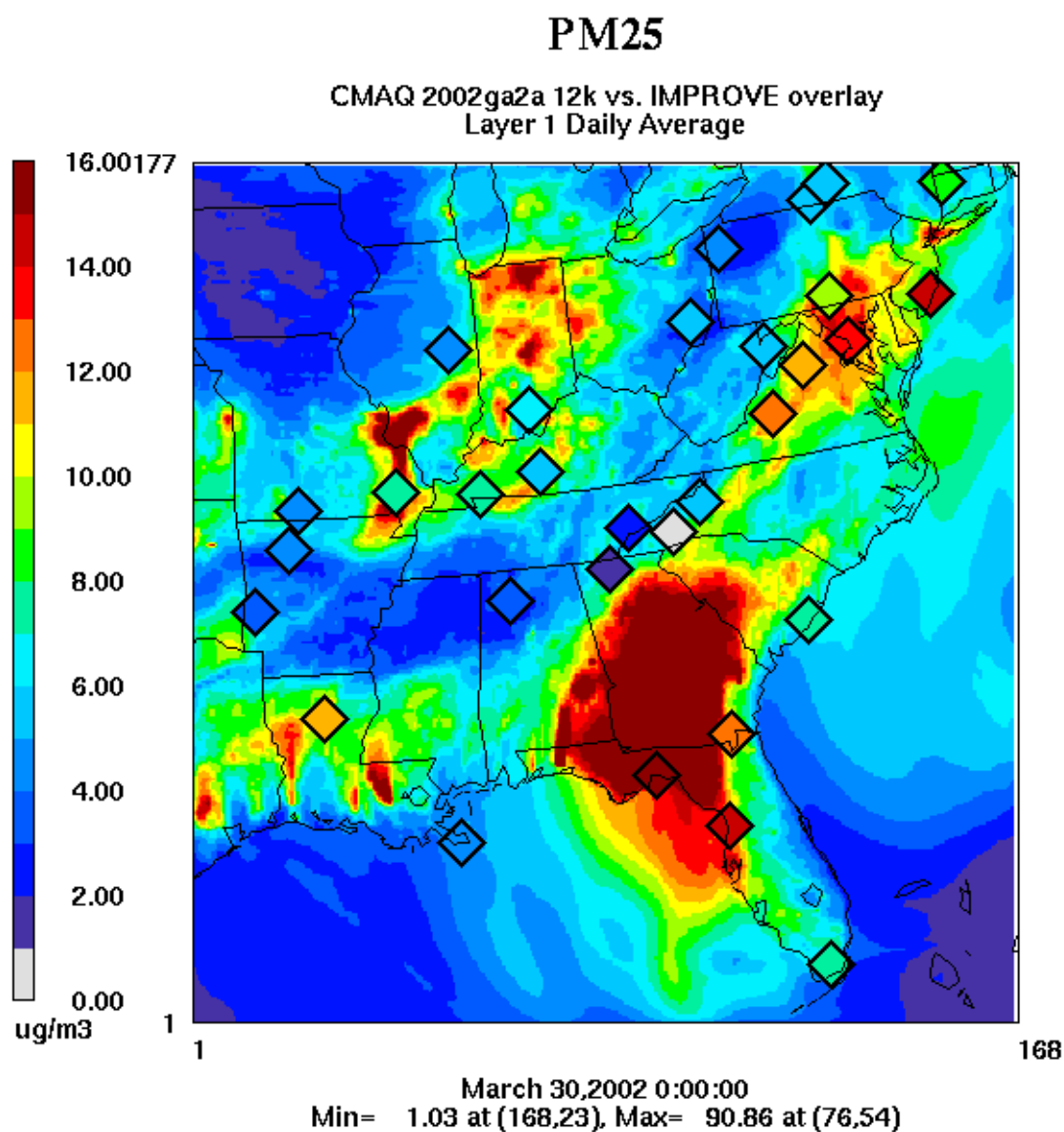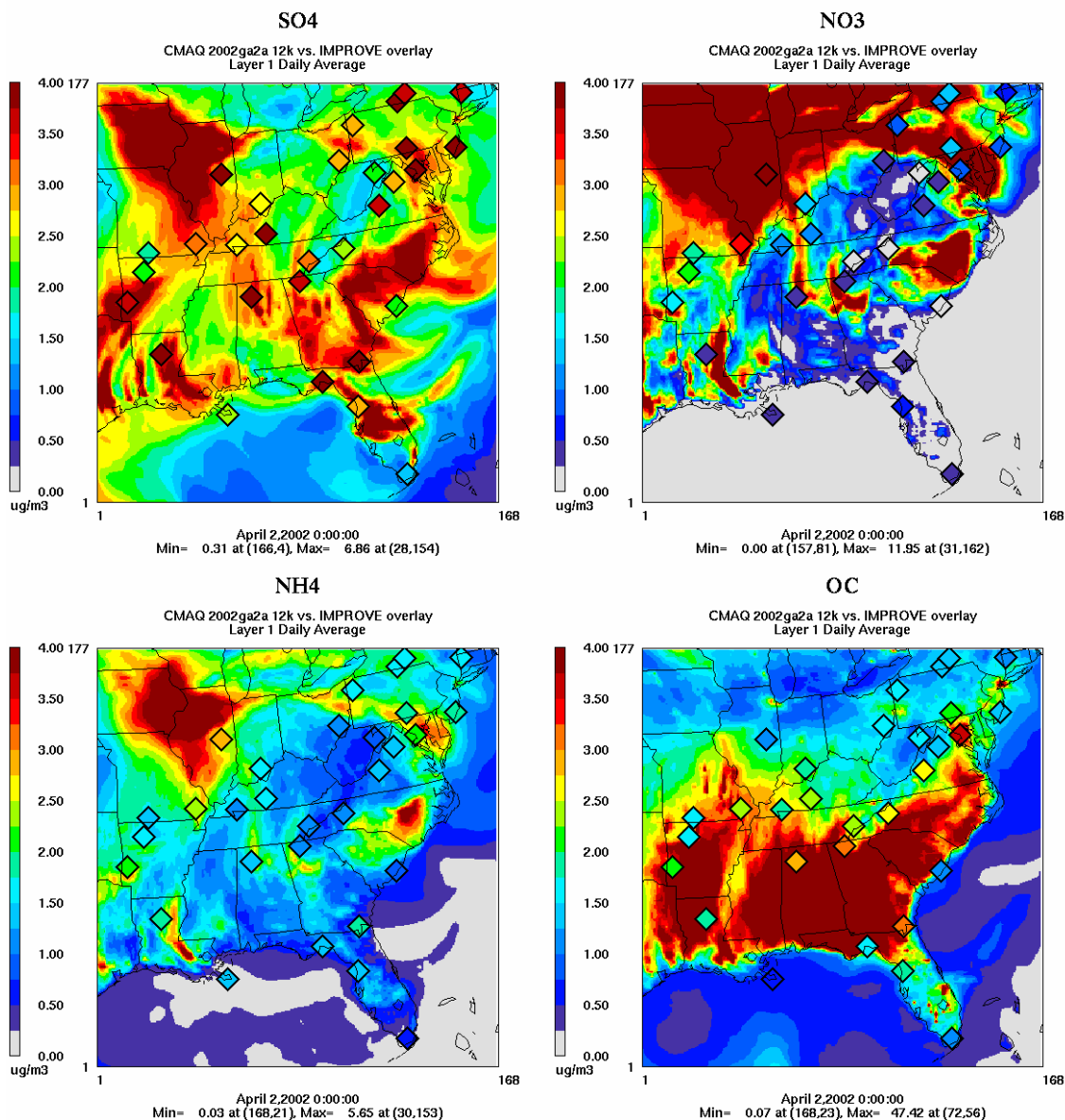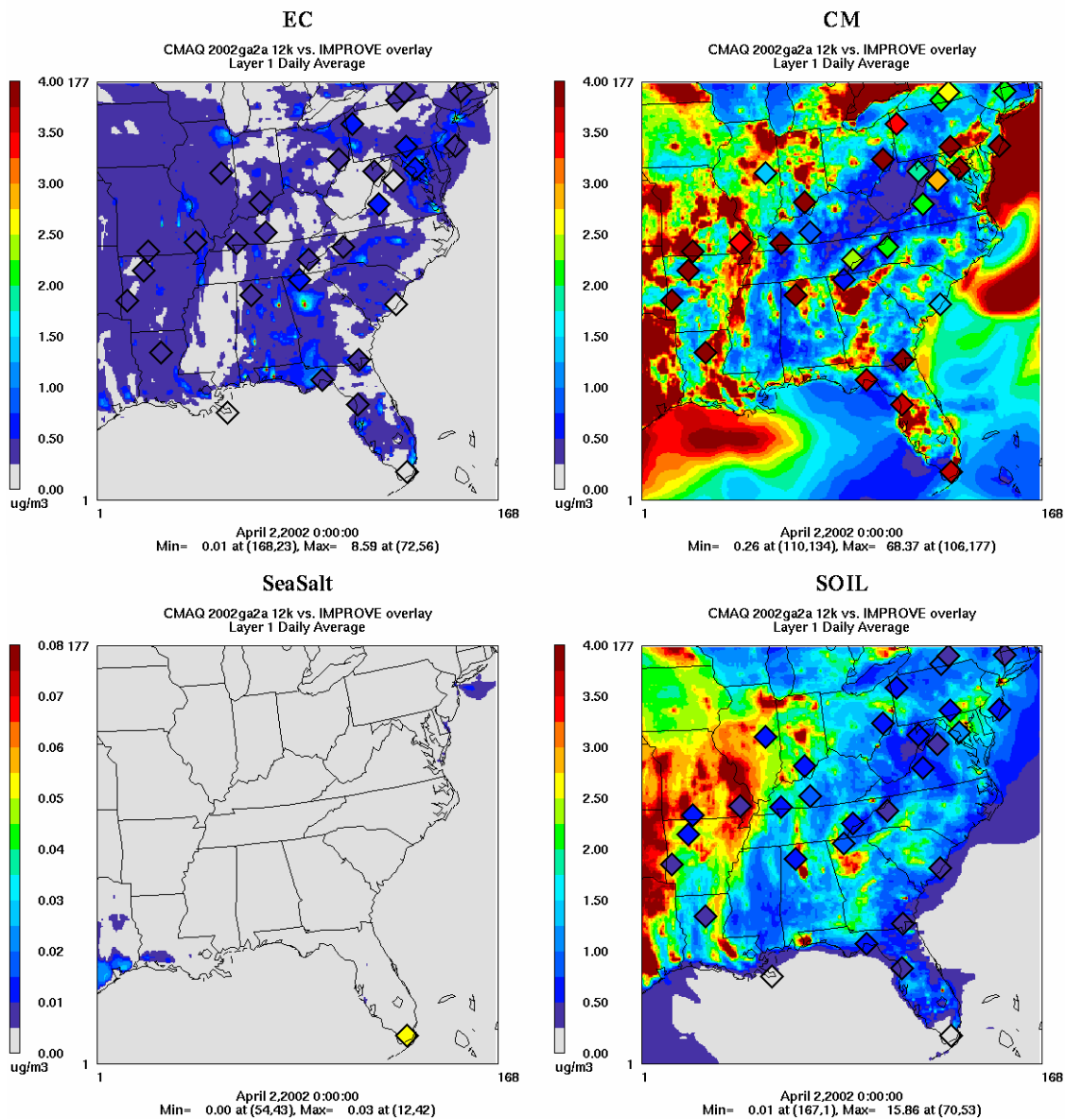
Figure D-86: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For March 30, 2002

D.29   April 2, 2002

Date	Julian Day	Type	Class I Areas Affected
04/02/02	92	W20%	
04/02/02	92	B20%	ROMA

Figure D-87:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 2, 2002

Figure D-88: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 2, 2002
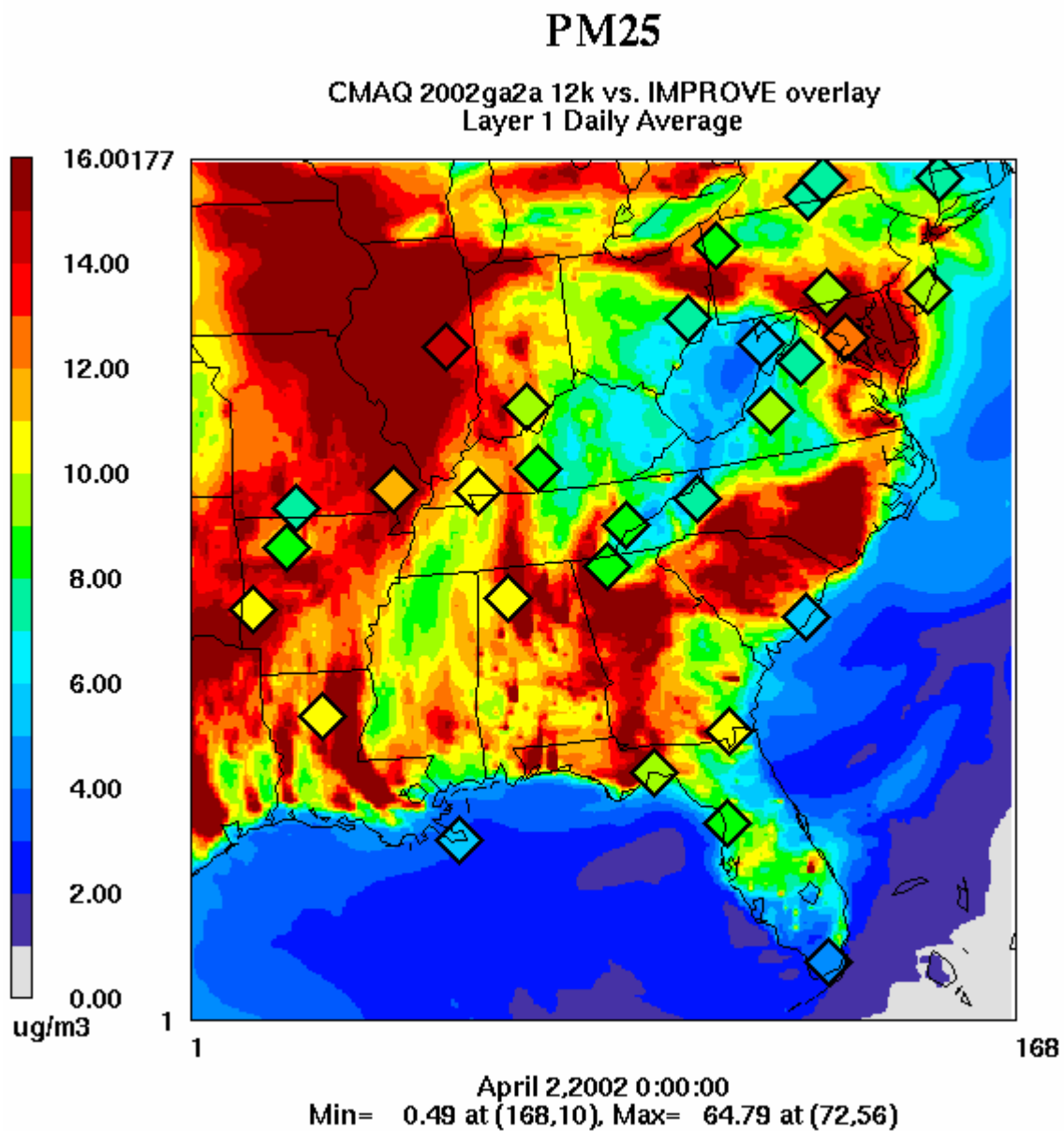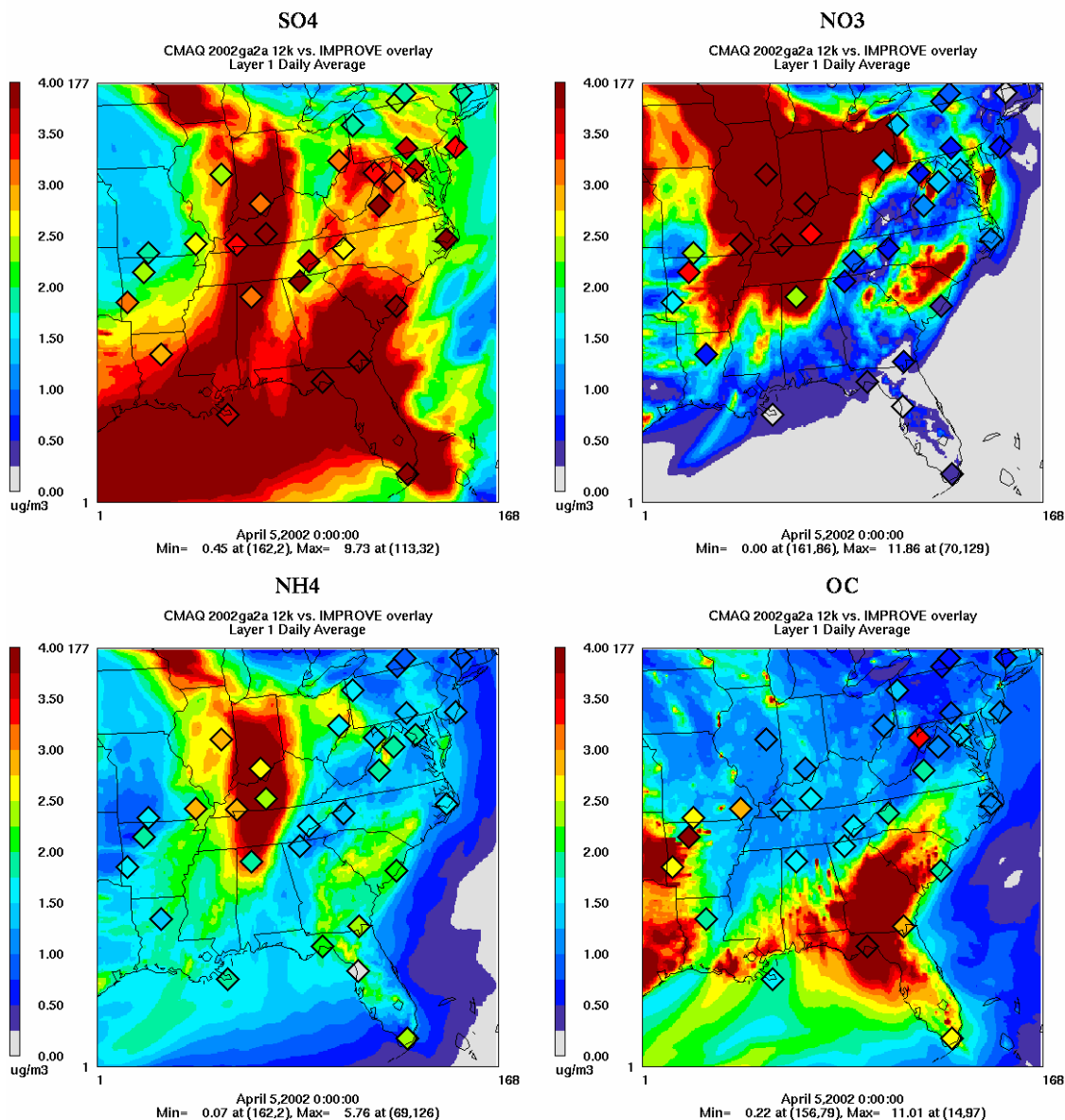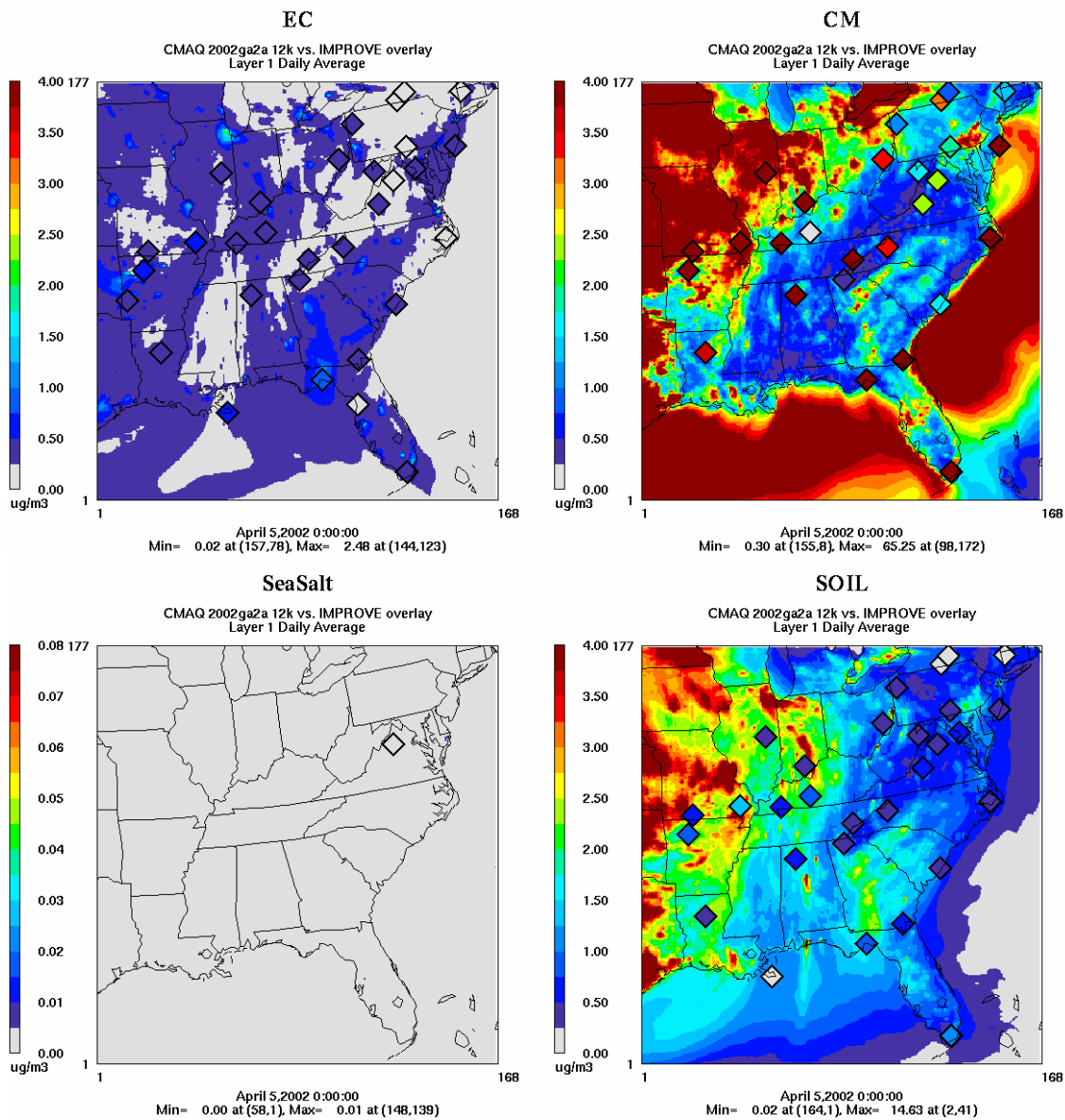
Figure D-89: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 2, 2002

D.30   April 5, 2002

Date	Julian Day	Type	Class I Areas Affected
04/05/02	95	W20%	SAMA, OKEF, EVER, MING
04/05/02	95	B20%	

Figure D-90:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 5, 2002

Figure D-91: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 5, 2002
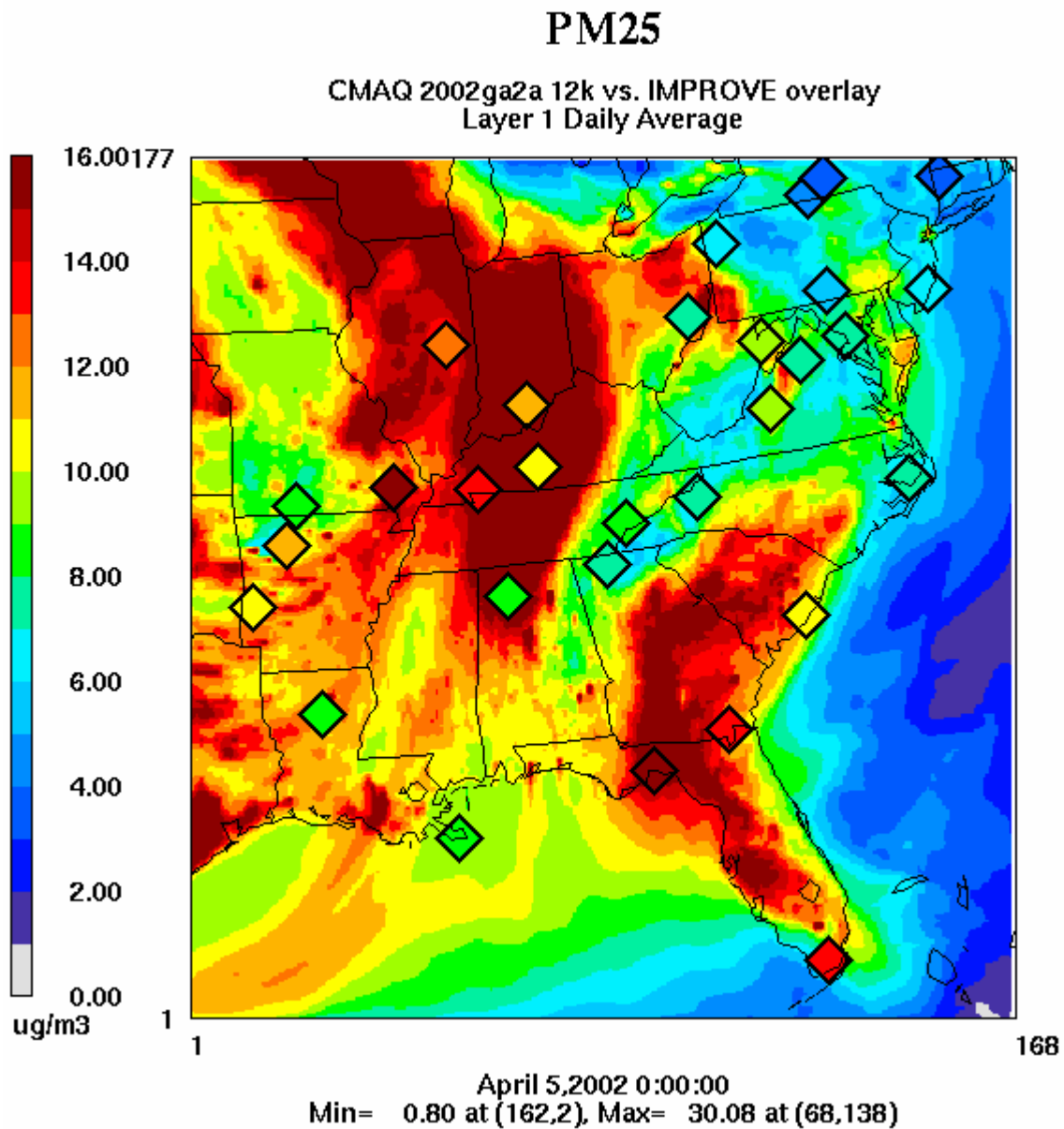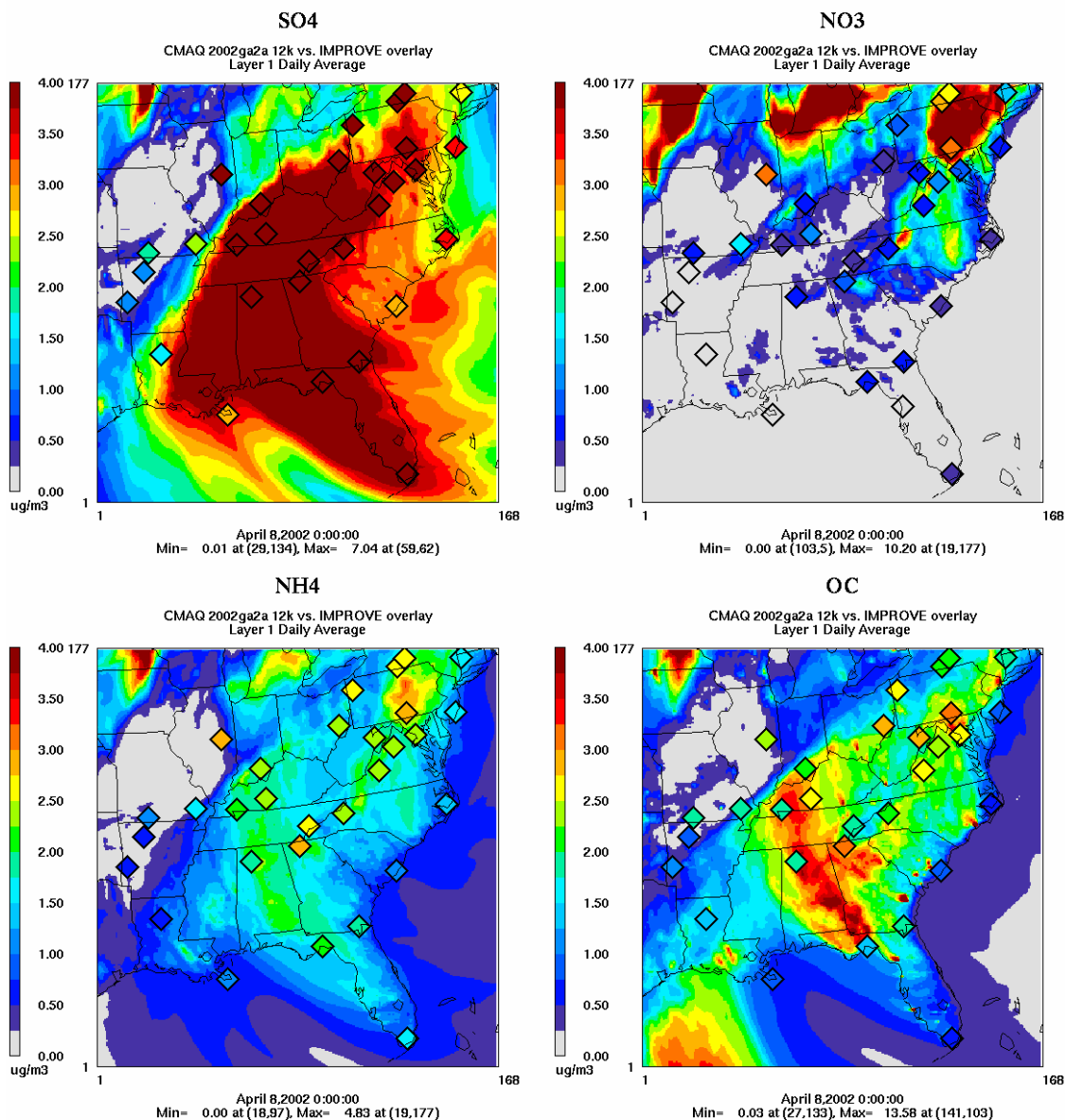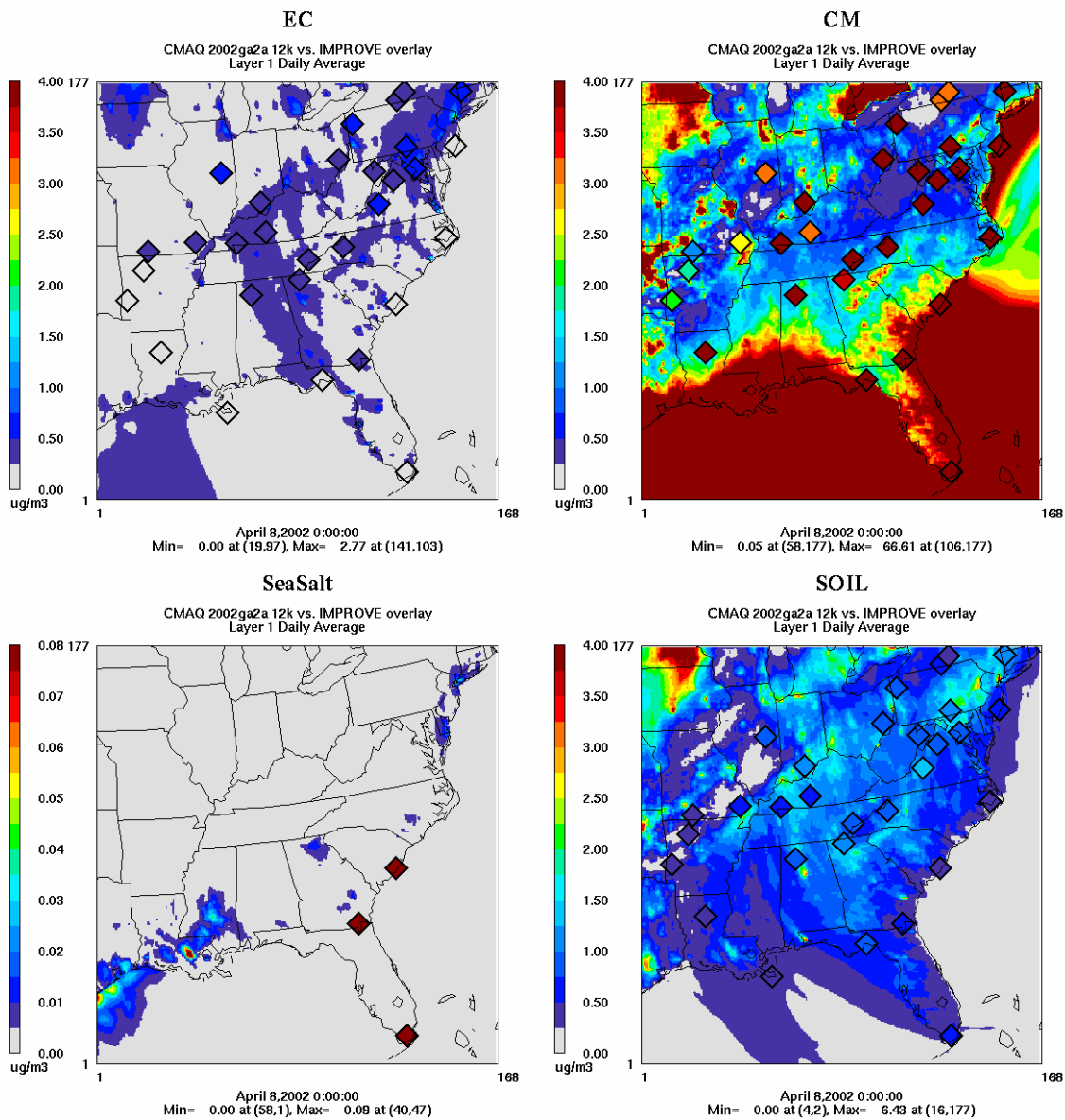
Figure D-92: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 5, 2002

D.31   April 8, 2002

Date	Julian Day	Type	Class I Areas Affected
04/08/02	98	W20%	SAMA, EVER
04/08/02	98	B20%	CACR, UPBU

Figure D-93:   Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 8, 2002

Figure D-94: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 8, 2002
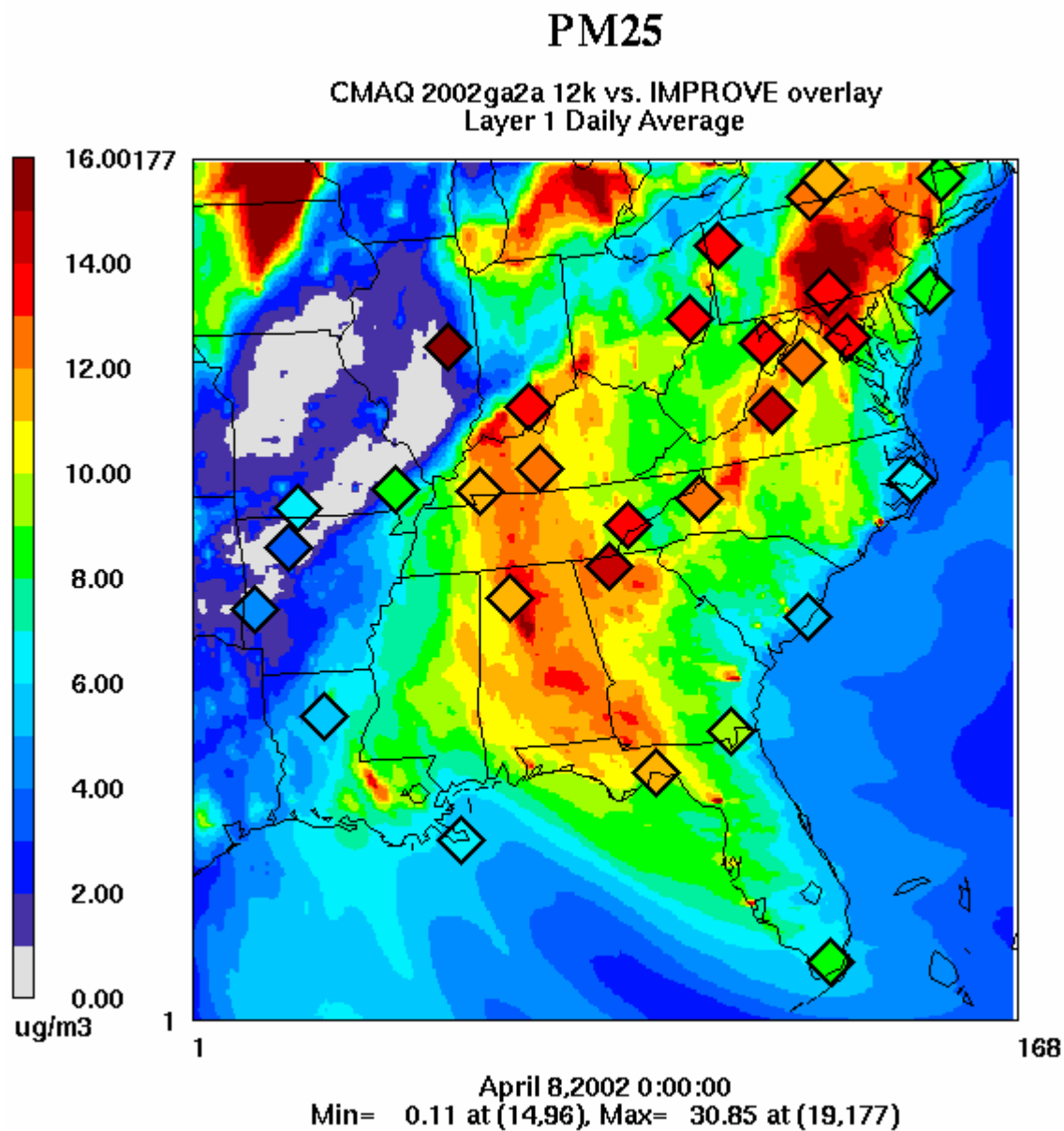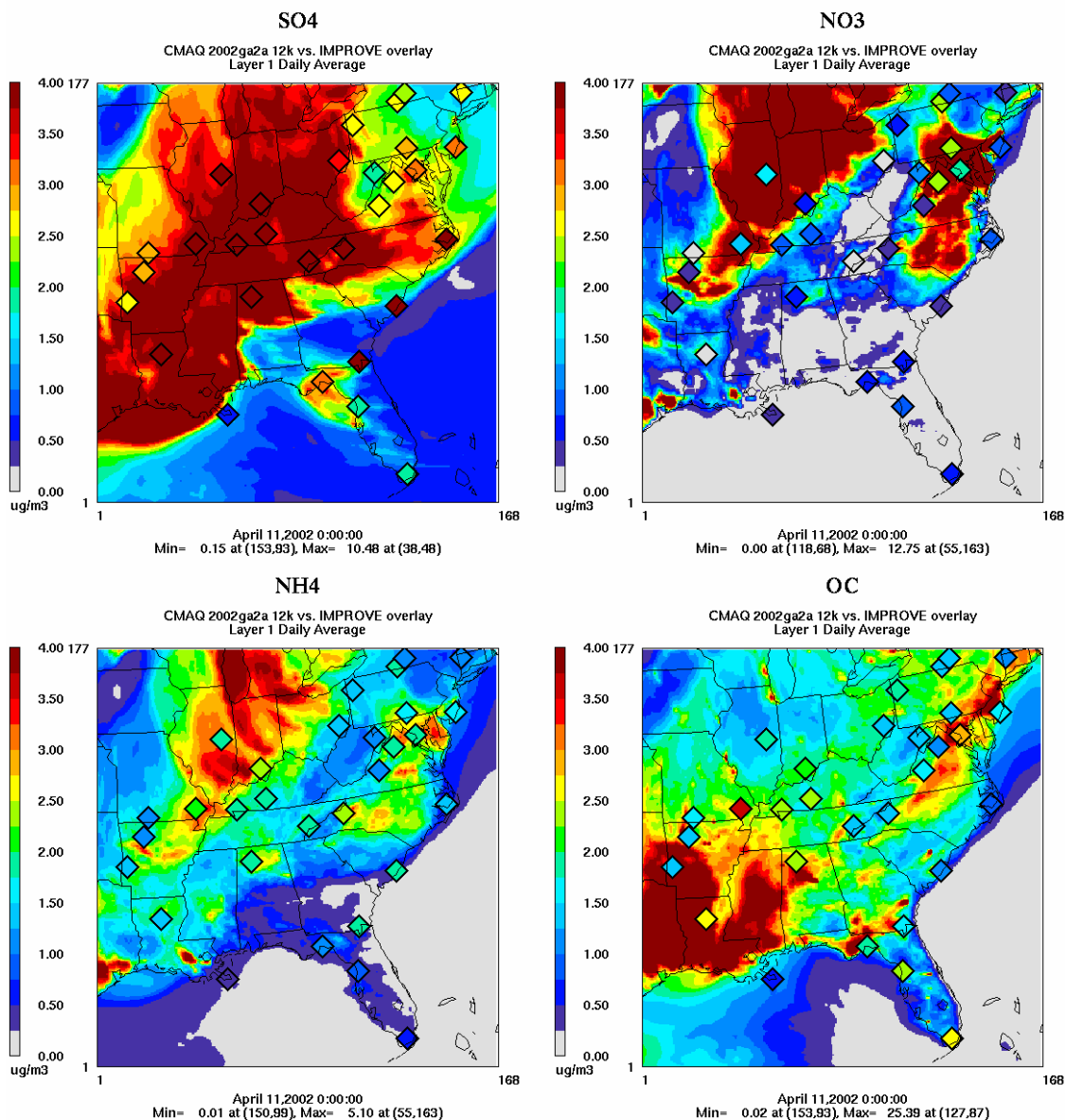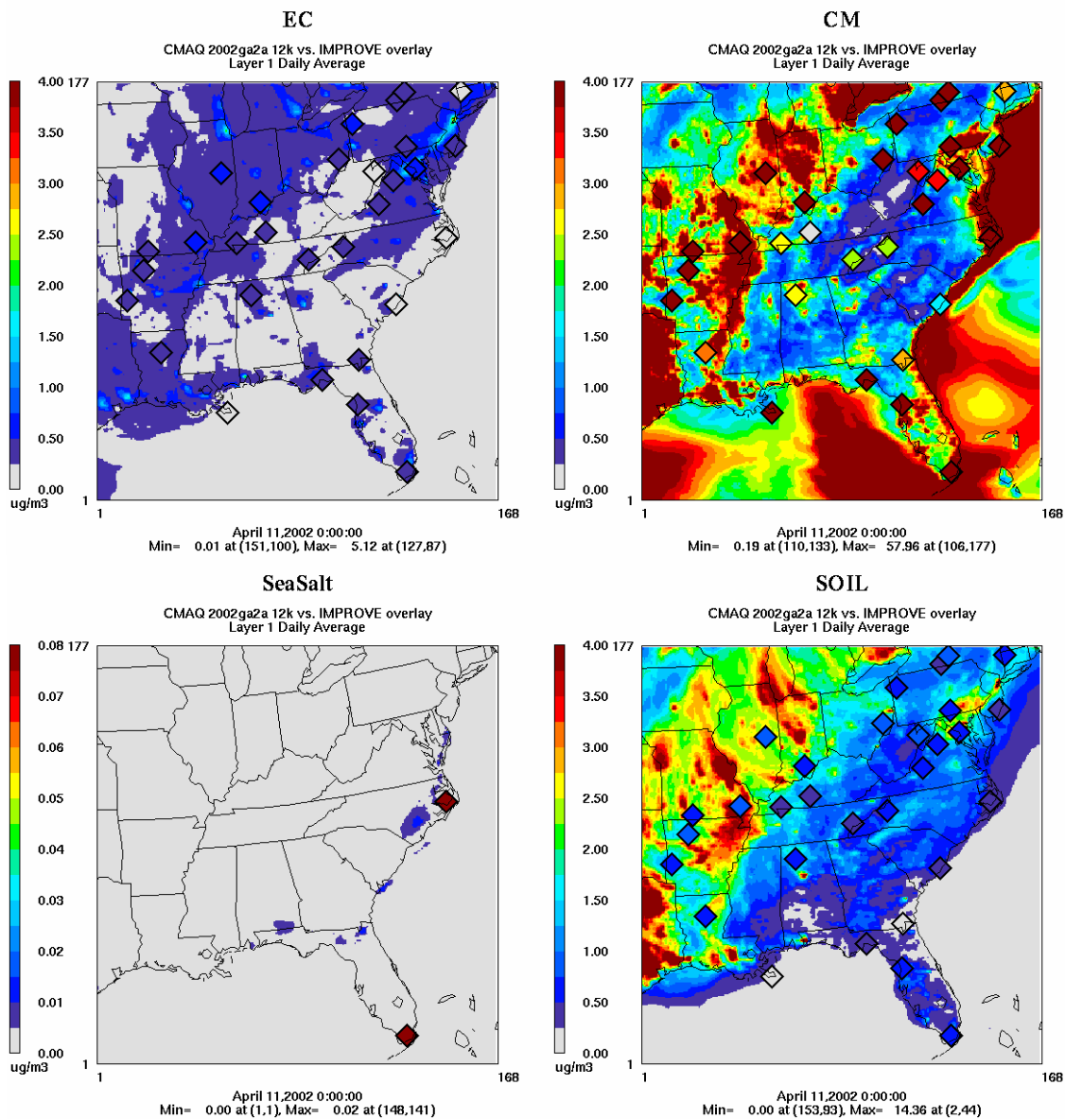
Figure D-95: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 8, 2002

D.32 April 11, 2002

Date	Julian Day	Type	Class I Areas Affected
04/11/02	101	W20%	
04/11/02	101	B20%	JARI, BRET

Figure D-96: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 11, 2002

Figure D-97: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 11, 2002
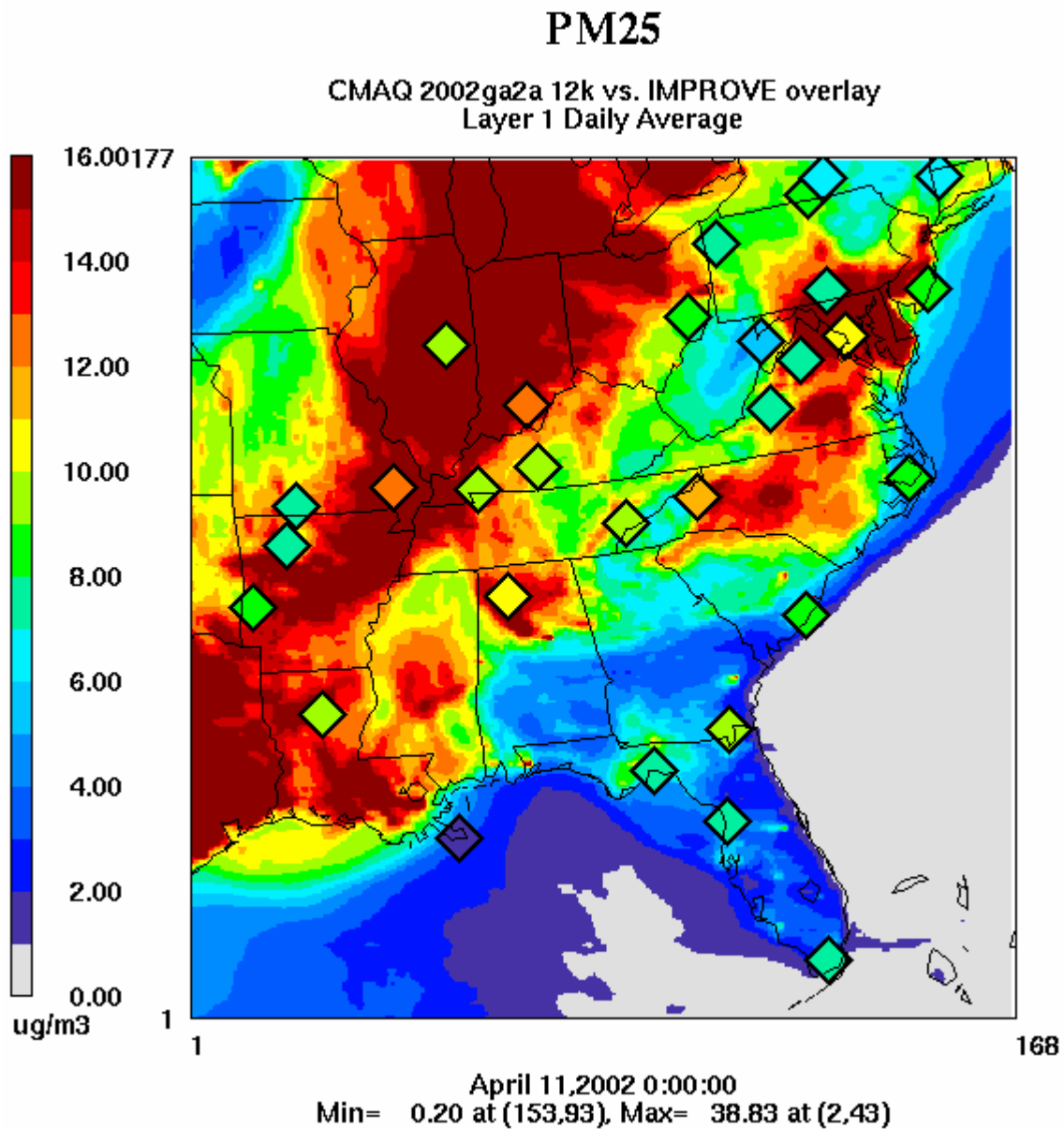
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

April 11, 2002 0:00:00
Min= 0.20 at (153,93), Max= 38.83 at (2,43)

Figure D-98: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 11, 2002

D.33 April 14, 2002

Date	Julian Day	Type	Class I Areas Affected
04/14/02	104	W20%	
04/14/02	104	B20%	LIGO, SHRO, JARI, OKEF, DOSO, CHAS, EVER, SWAN, ROMA
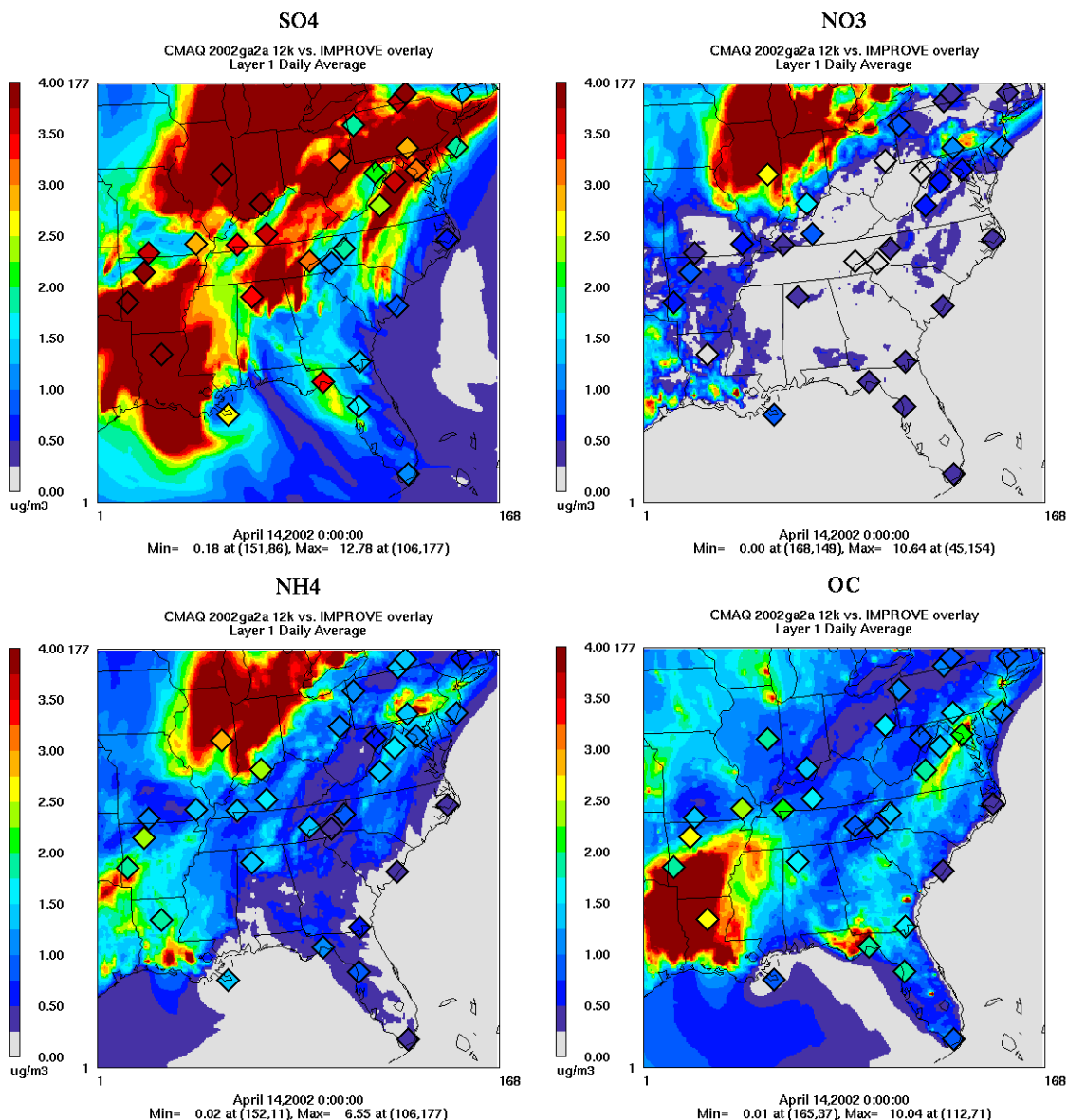
Figure D-99: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 14, 2002
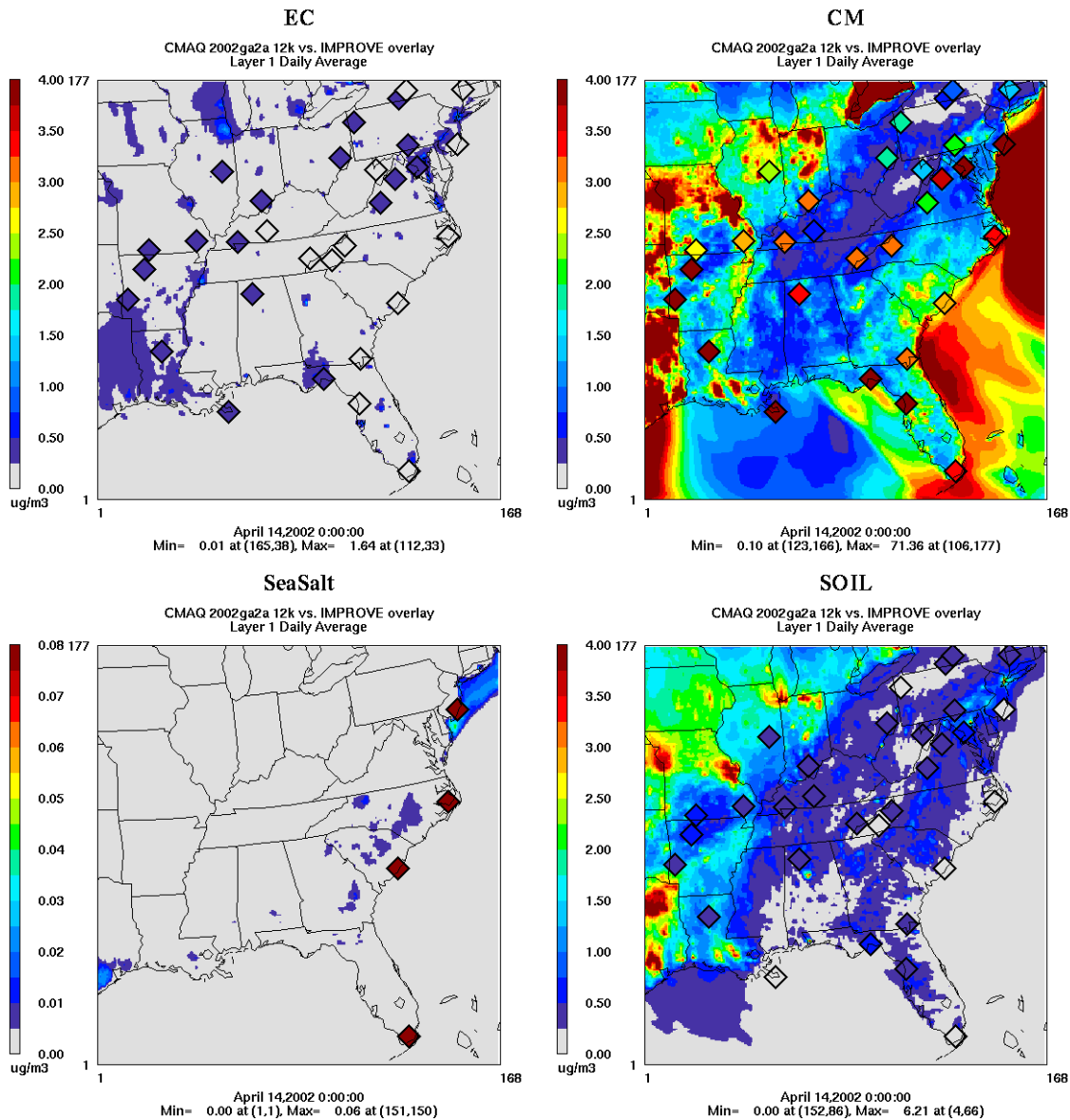
Figure D-100: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 14, 2002
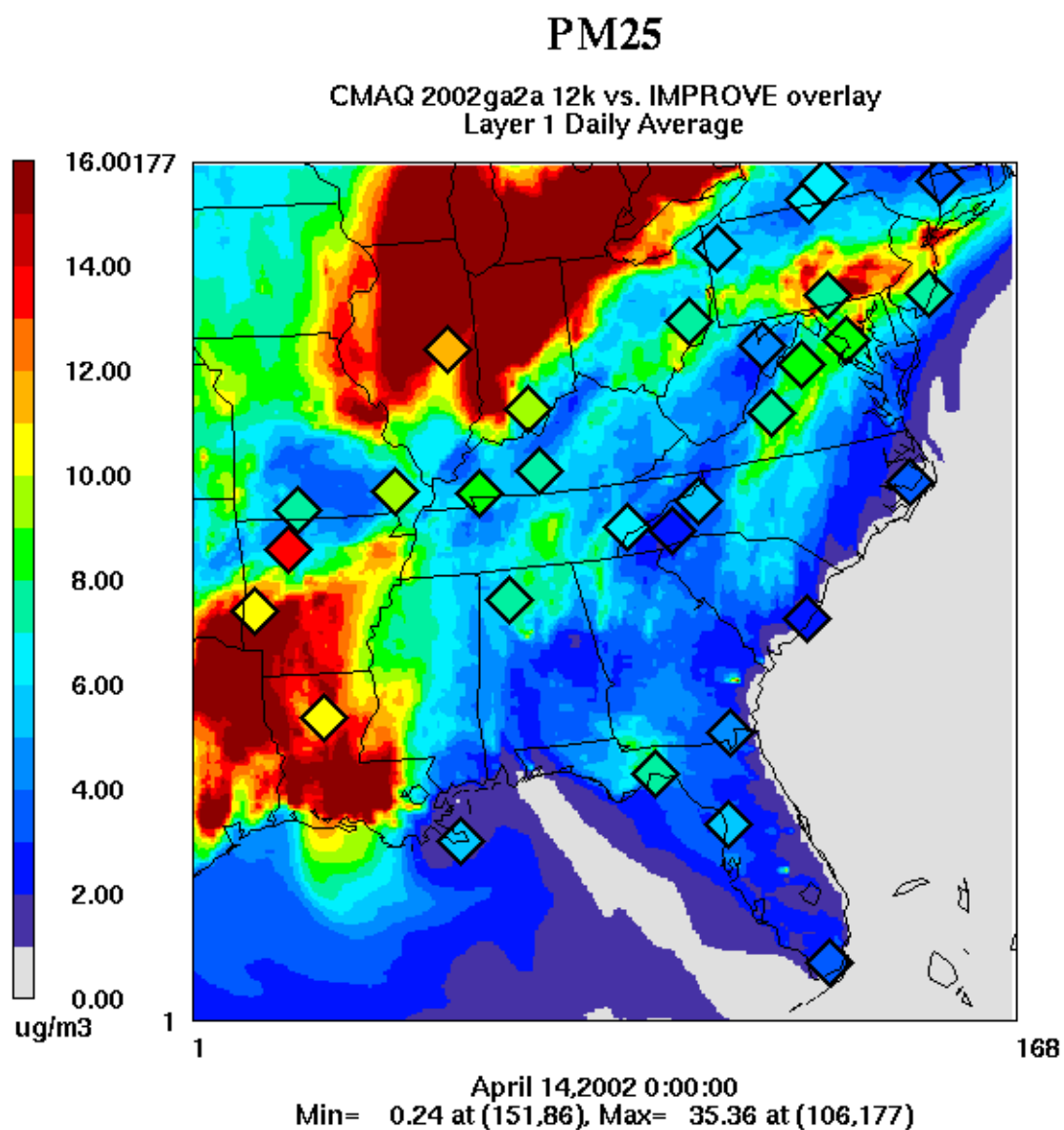
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

April 14,2002 0:00:00
Min=   0.24 at (151,86), Max=   35.36 at (106,177)

**Figure D-101:Modeled Predicted And Observed Daily Average Total Fine Particulate
Matter (PM25) Concentration Spatial Plots For April 14, 2002**

D.34   April 17, 2002

Date	Julian Day	Type	Class I Areas Affected
04/17/02	107	W20%	SAMA, BRIG
04/17/02	107	B20%	ROMA
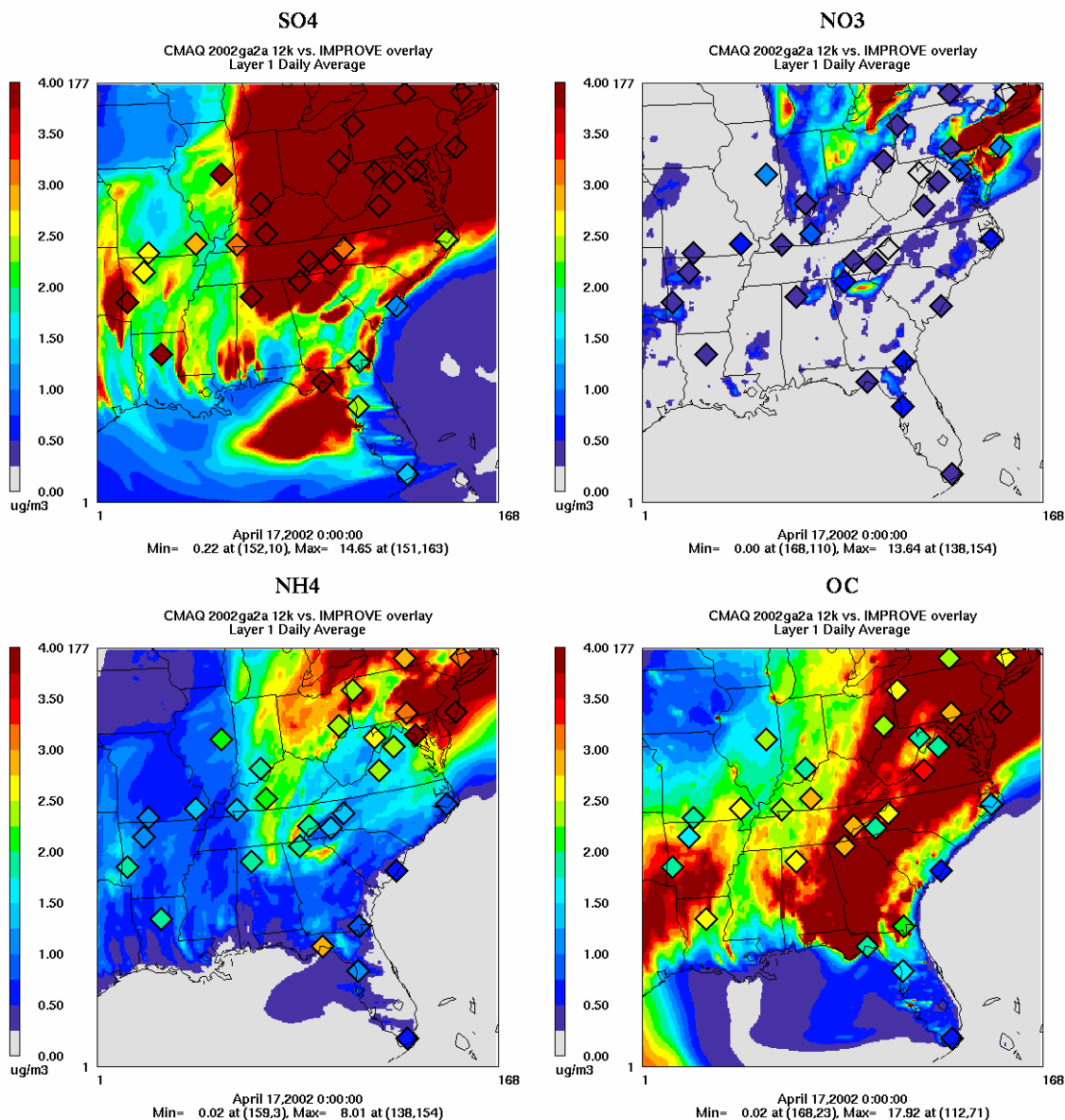
Figure D-102:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 17, 2002
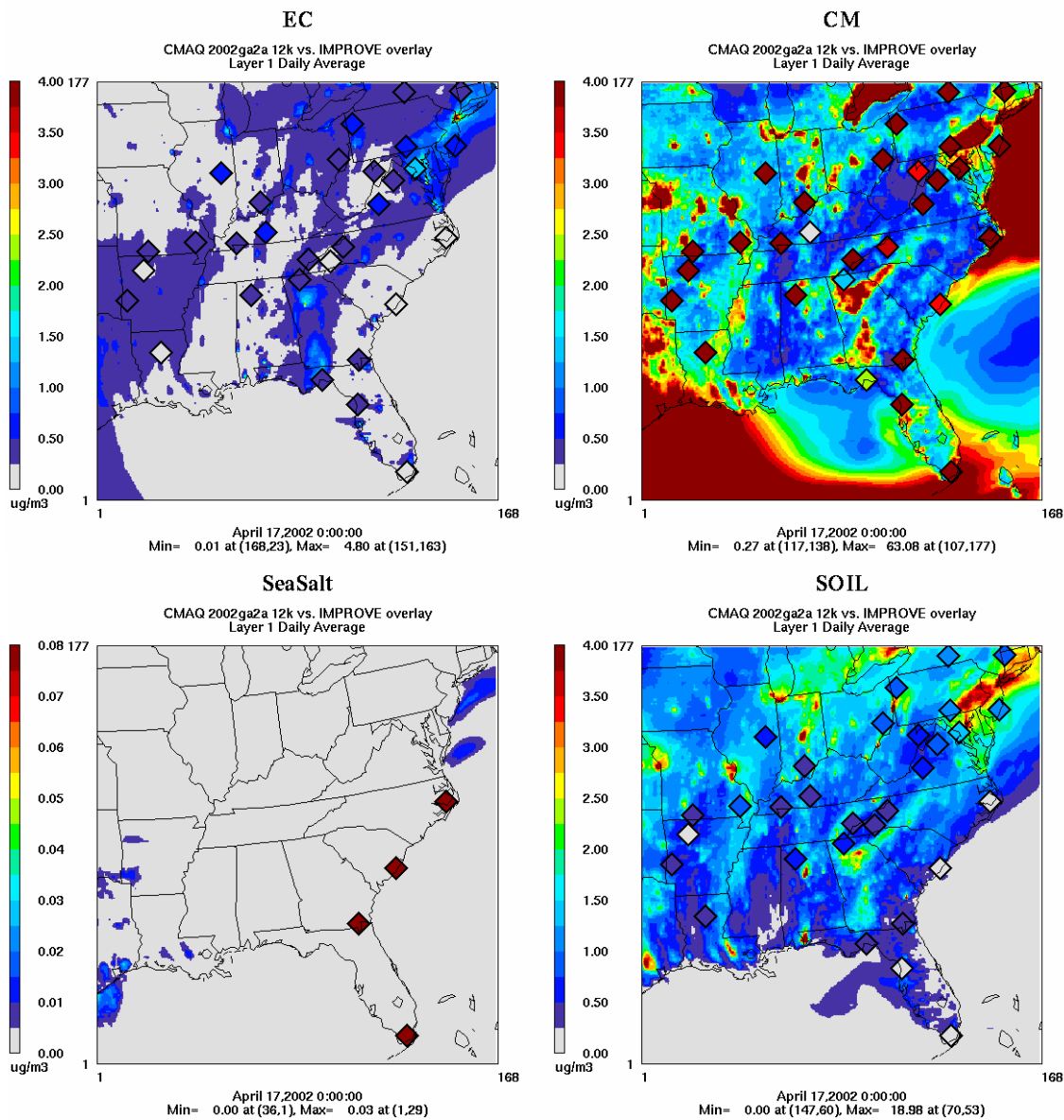
Figure D-103: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 17, 2002
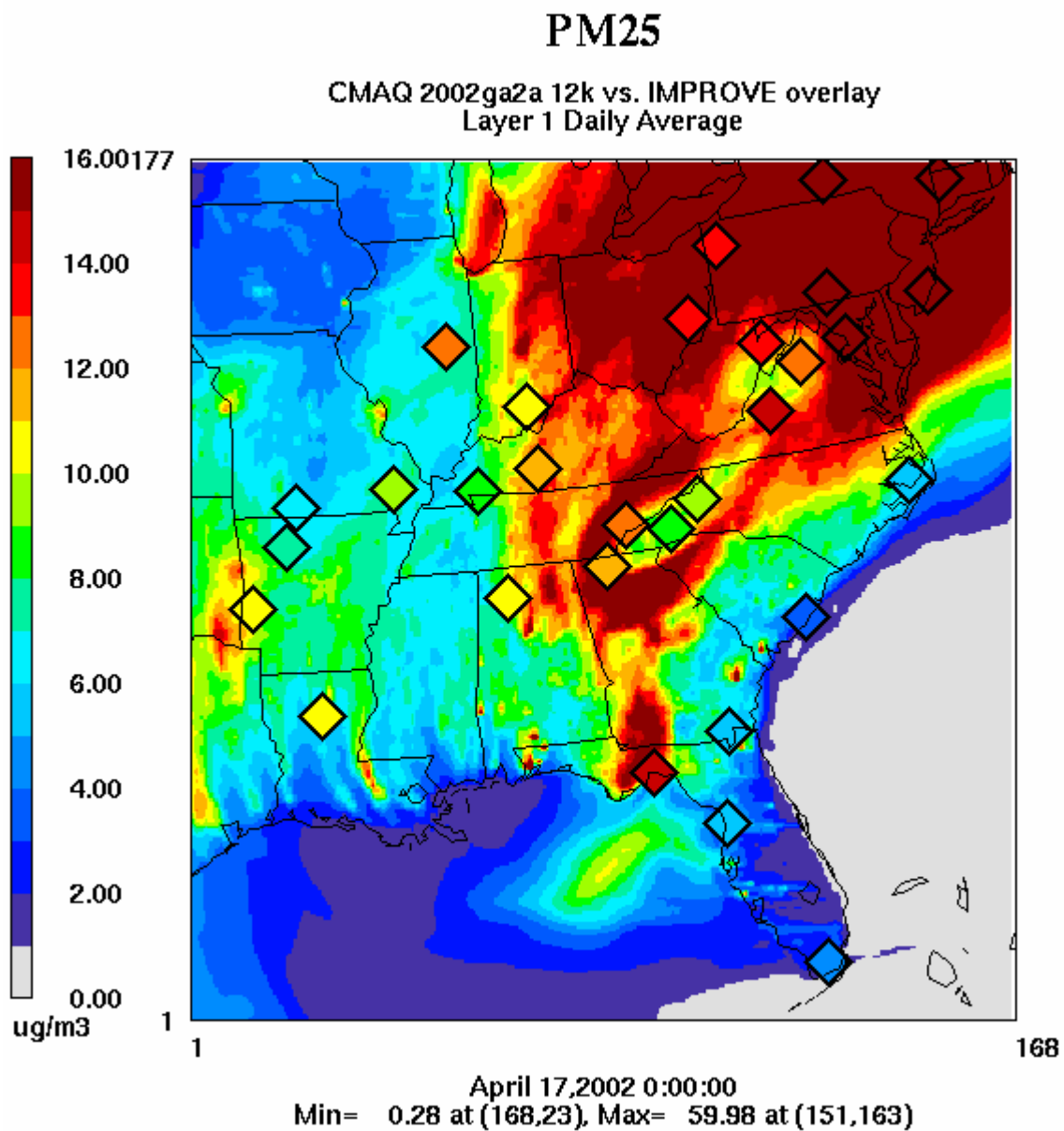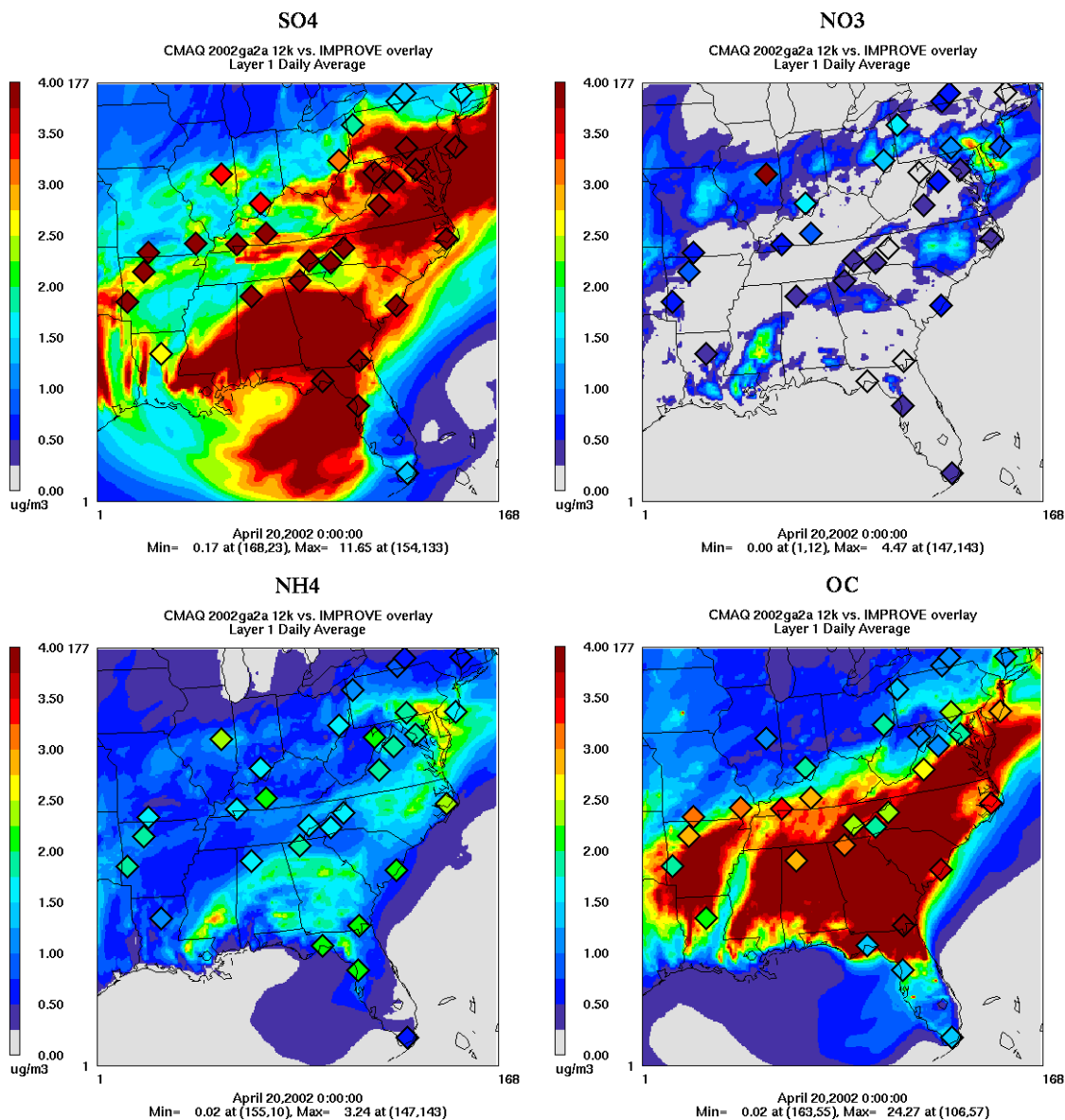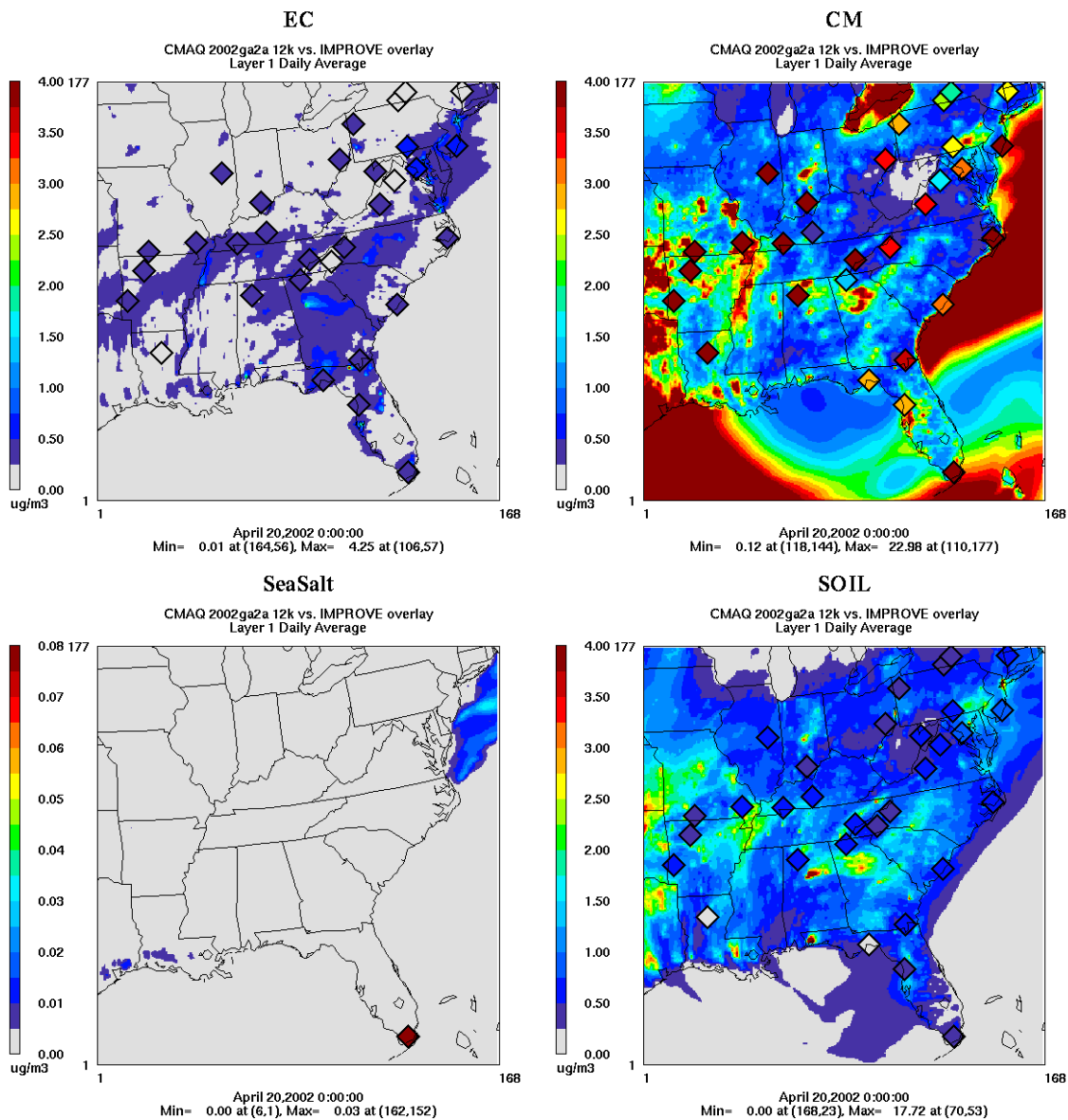
Figure D-104:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 17, 2002

D.35 April 20, 2002

Date	Julian Day	Type	Class I Areas Affected
04/20/02	110	W20%	SWAN, ROMA
04/20/02	110	B20%	

Figure D-105: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 20, 2002

Figure D-106: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 20, 2002
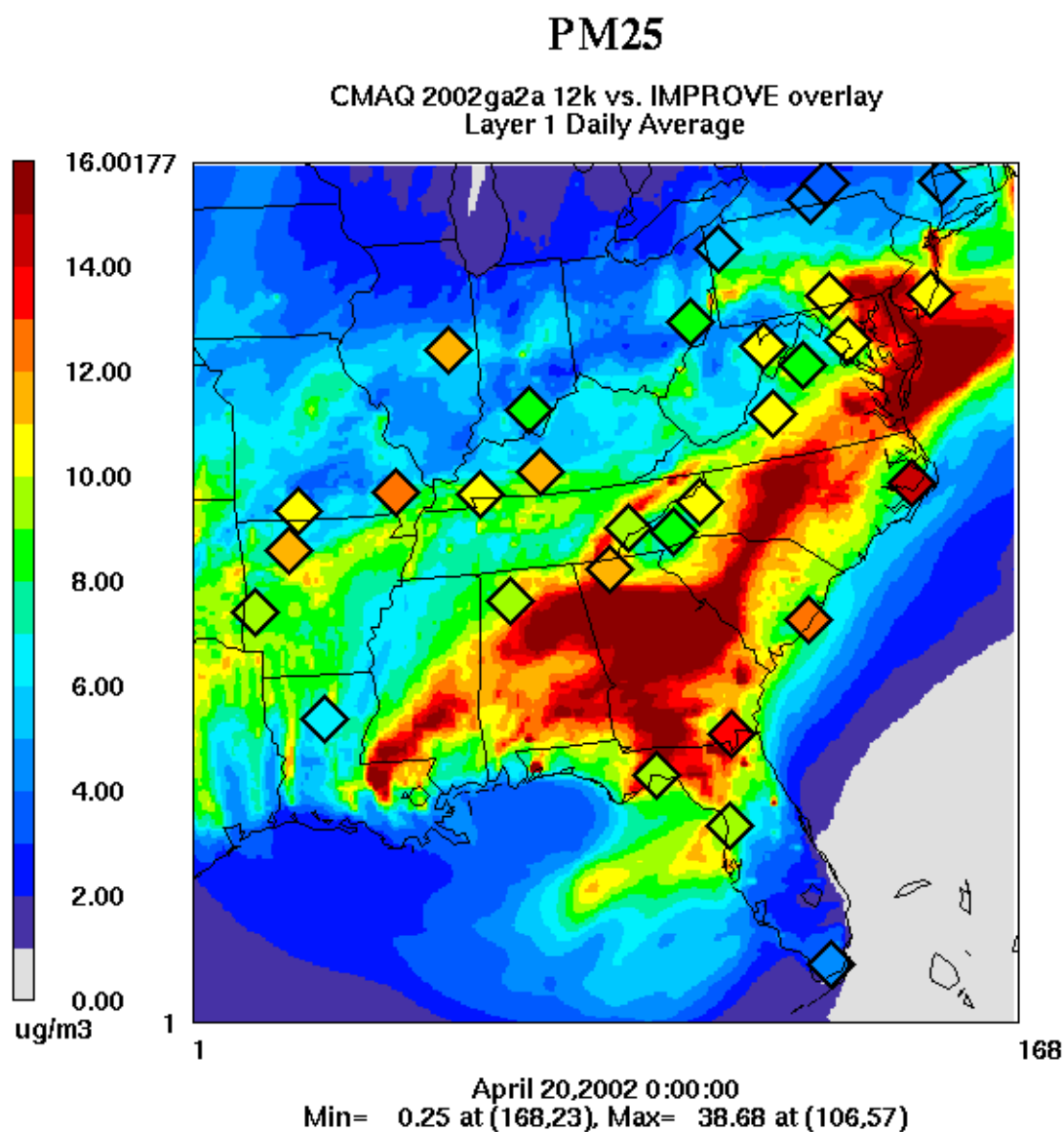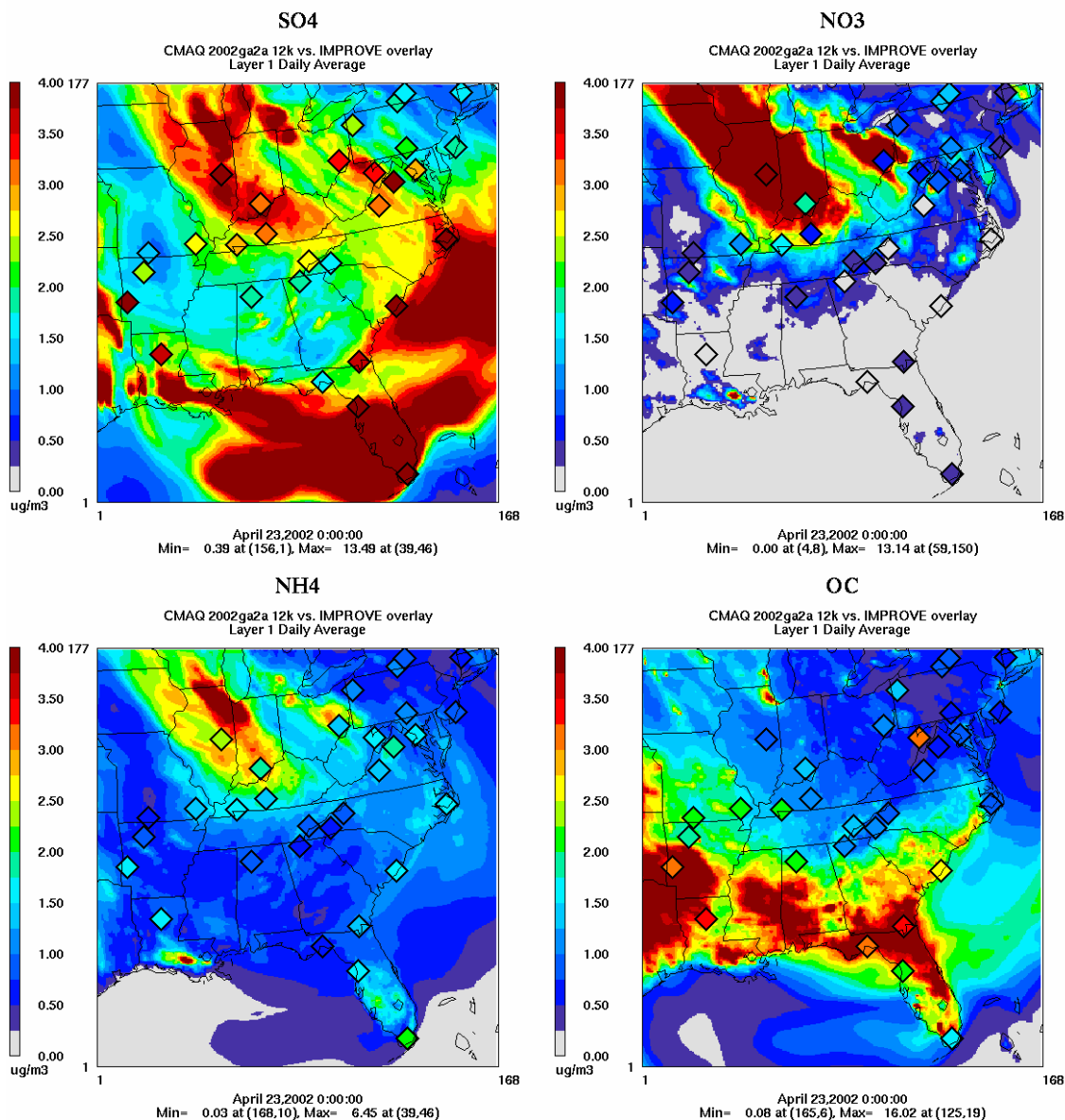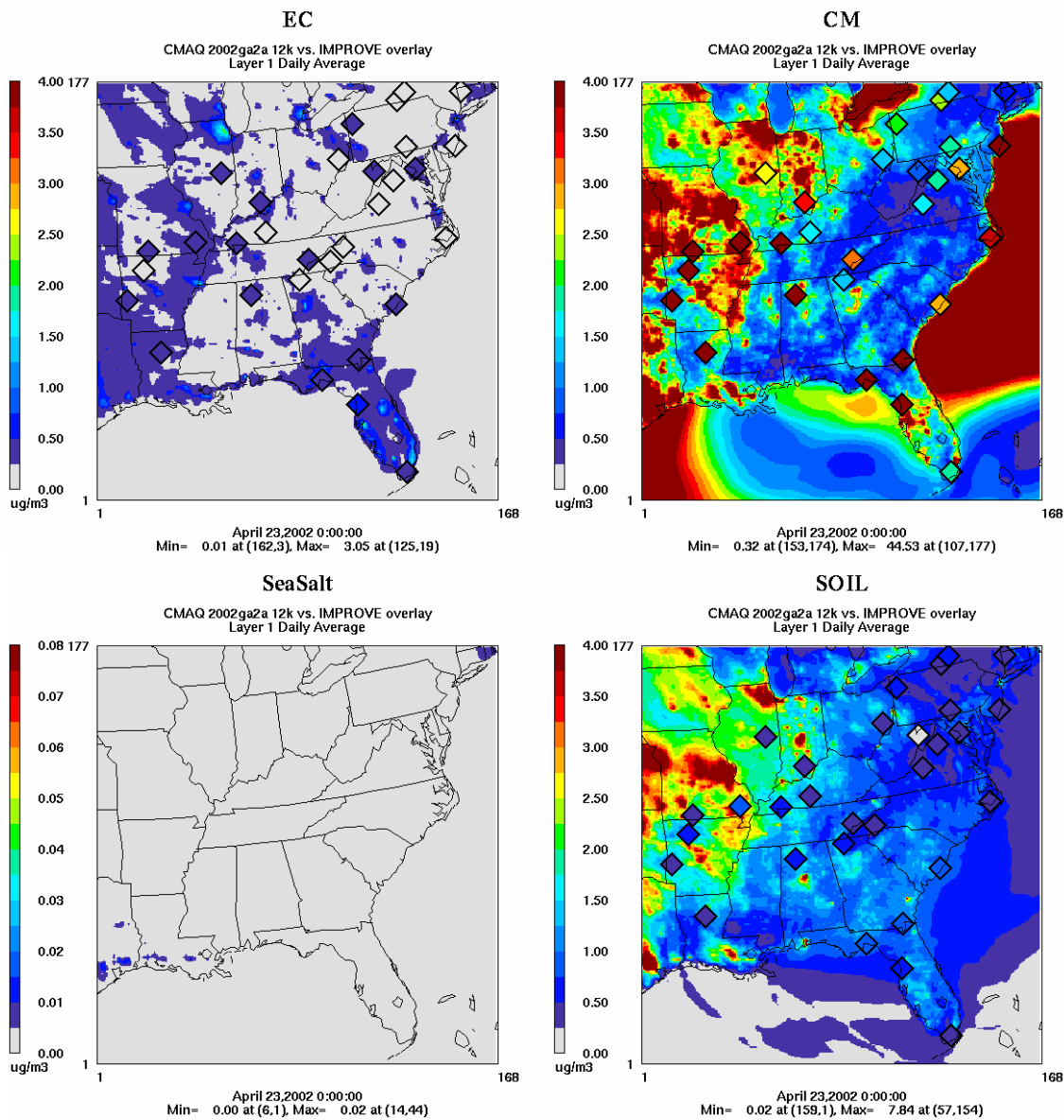
Figure D-107: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 20, 2002

D.36 April 23, 2002

Date	Julian Day	Type	Class I Areas Affected
04/23/02	113	W20%	EVER
04/23/02	113	B20%	JARI, SIPS, HEGL, COHU, MACA, BRIG

Figure D-108: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 23, 2002

Figure D-109: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 23, 2002

PM25

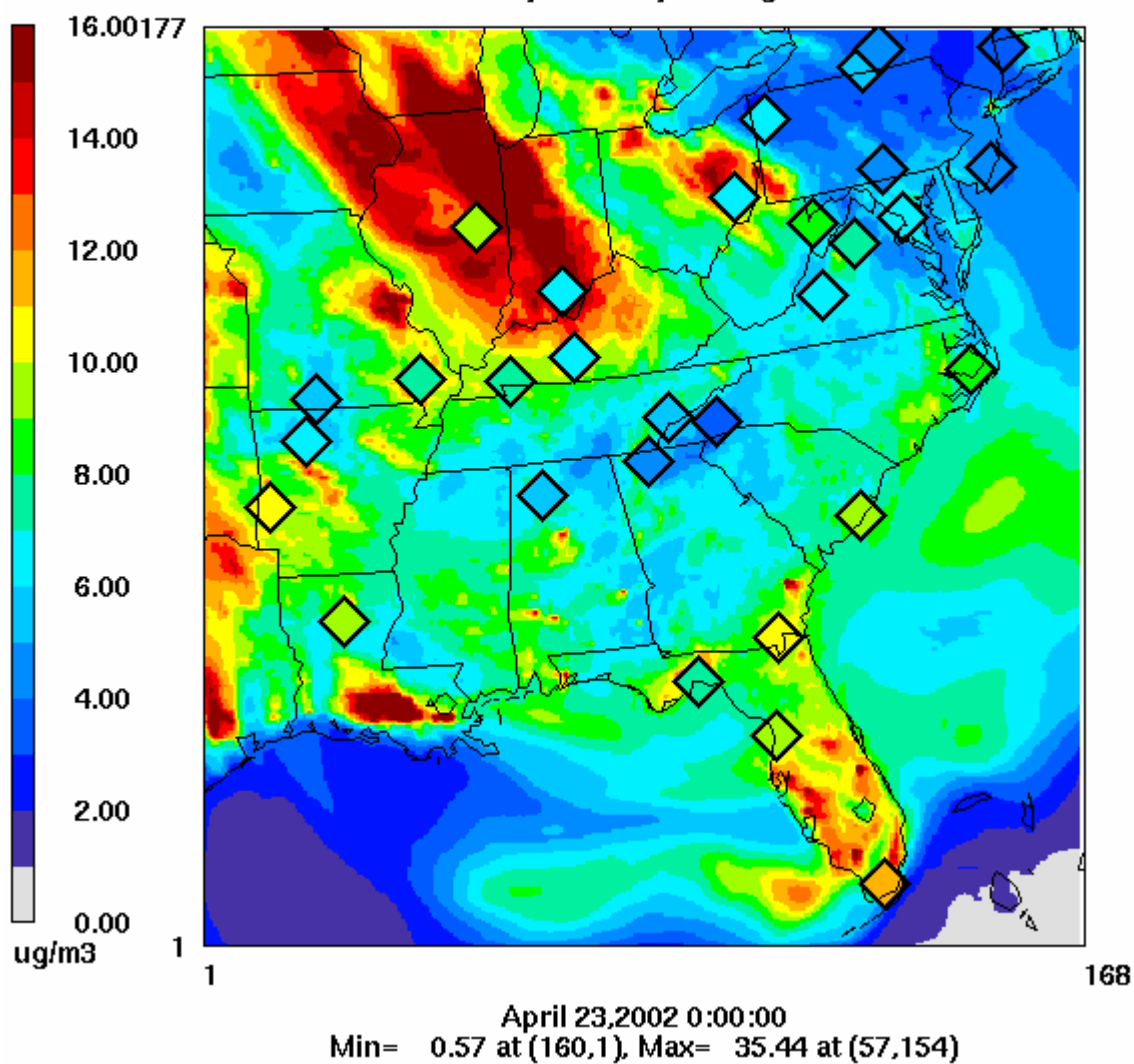CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

April 23, 2002 0:00:00
Min=   0.57 at (160,1), Max=   35.44 at (57,154)

Figure D-110:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 23, 2002

D.37 April 26, 2002

Date	Julian Day	Type	Class I Areas Affected
04/26/02	116	W20%	SAMA, CHAS
04/26/02	116	B20%	LIGO, GRSM, JARI, SIPS, CACR, HEGL, COHU, MACA, UPBU, MING
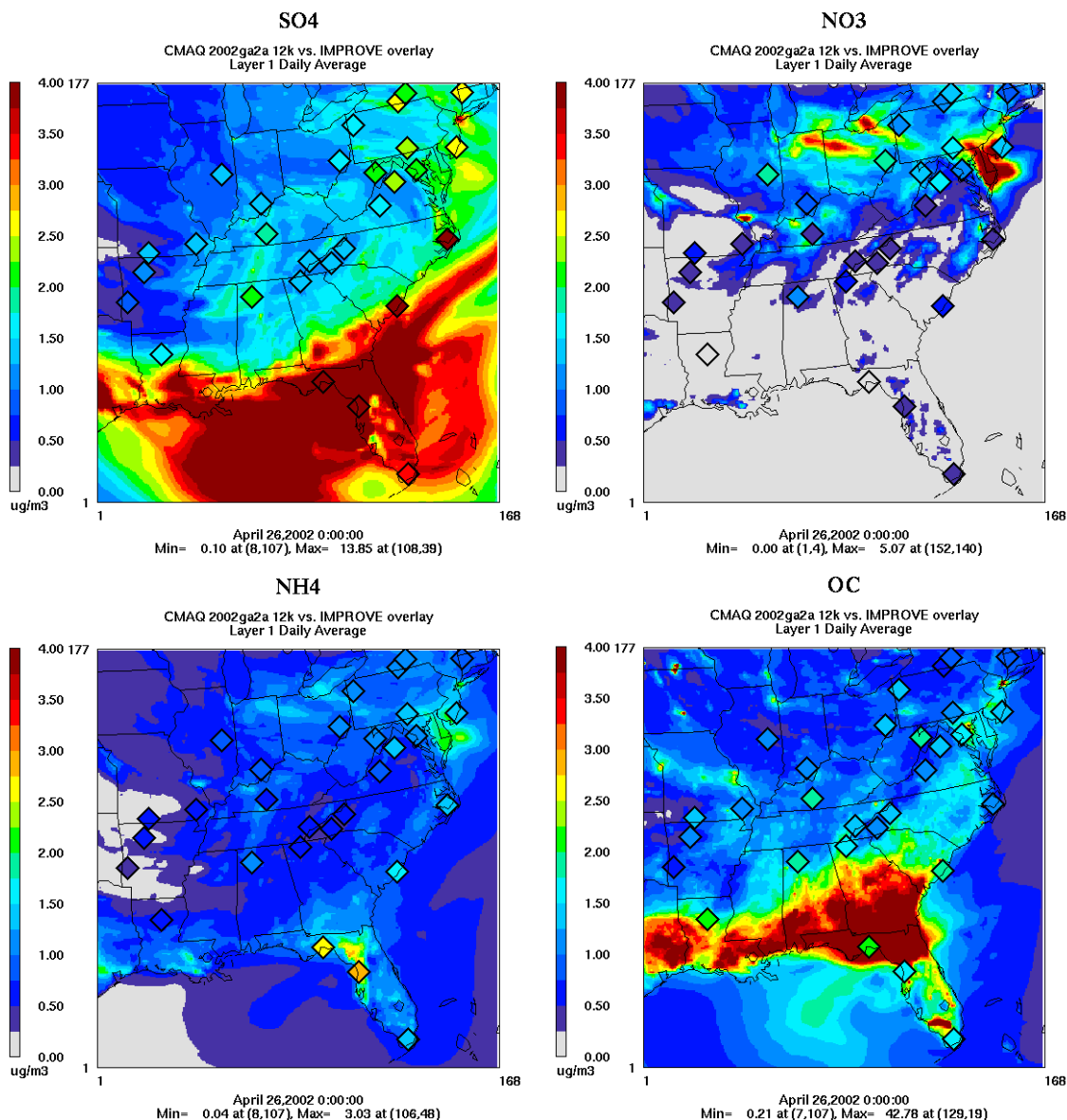
Figure D-111:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 20, 2002
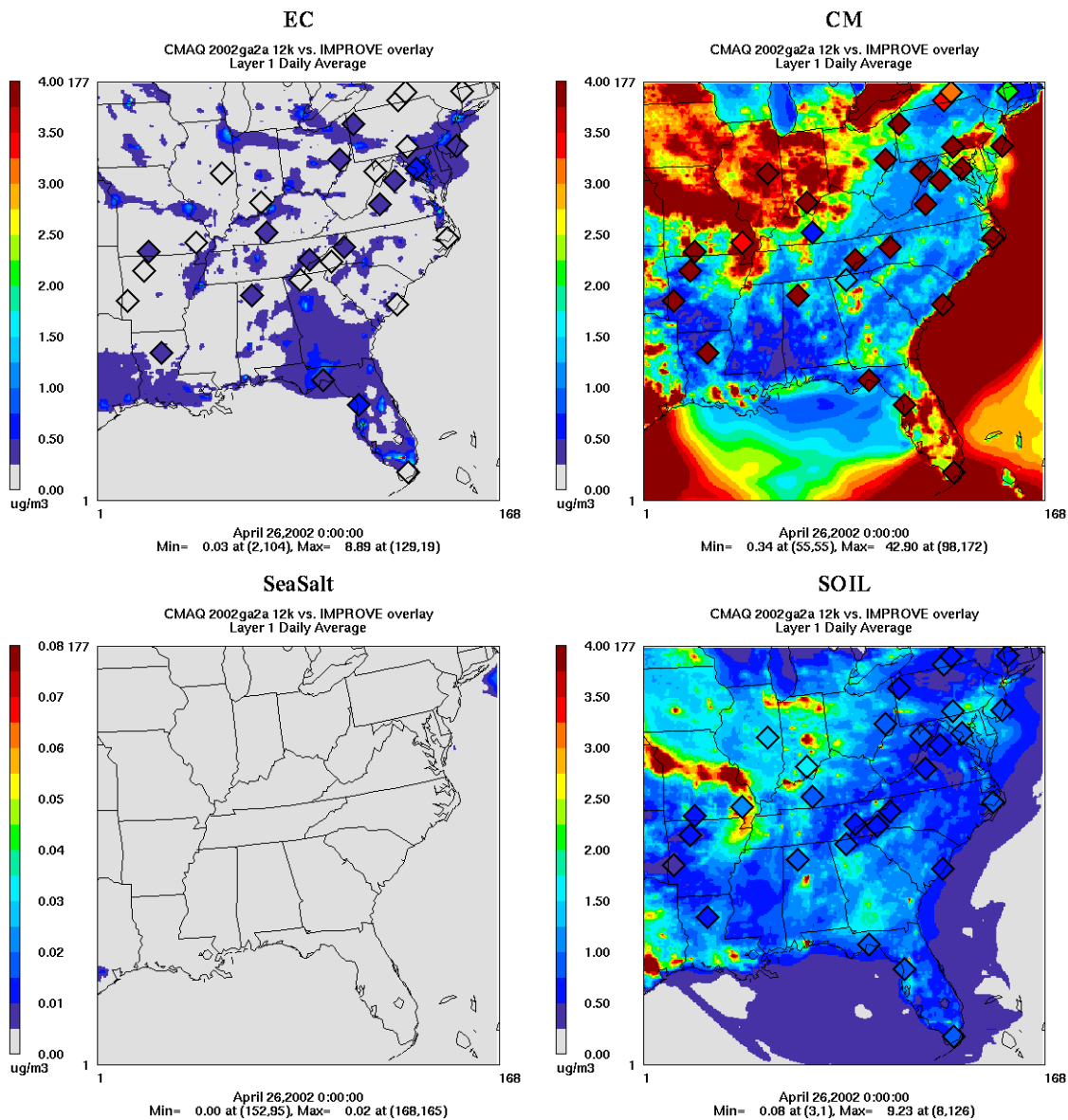
Figure D-112: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 20, 2002
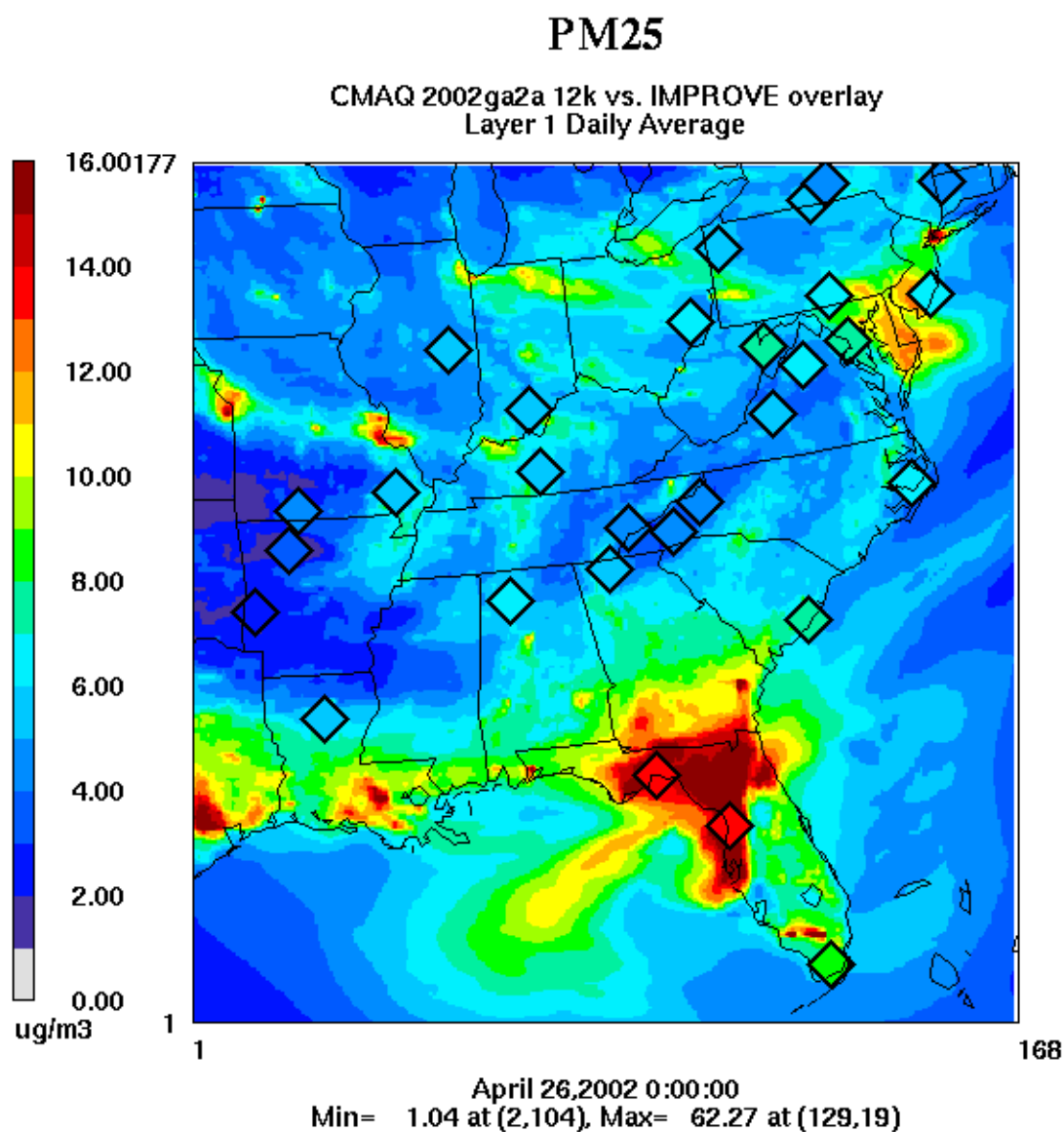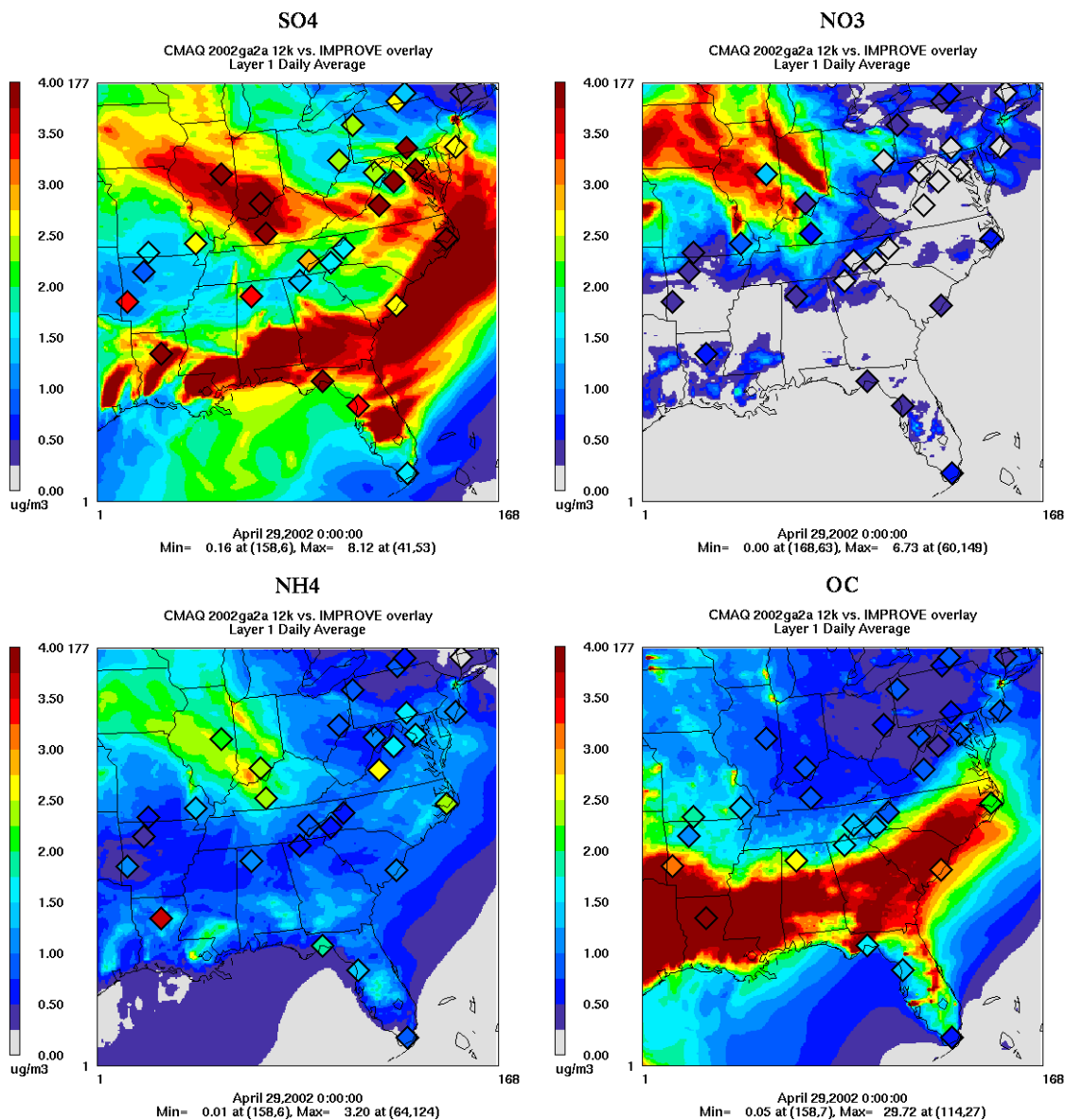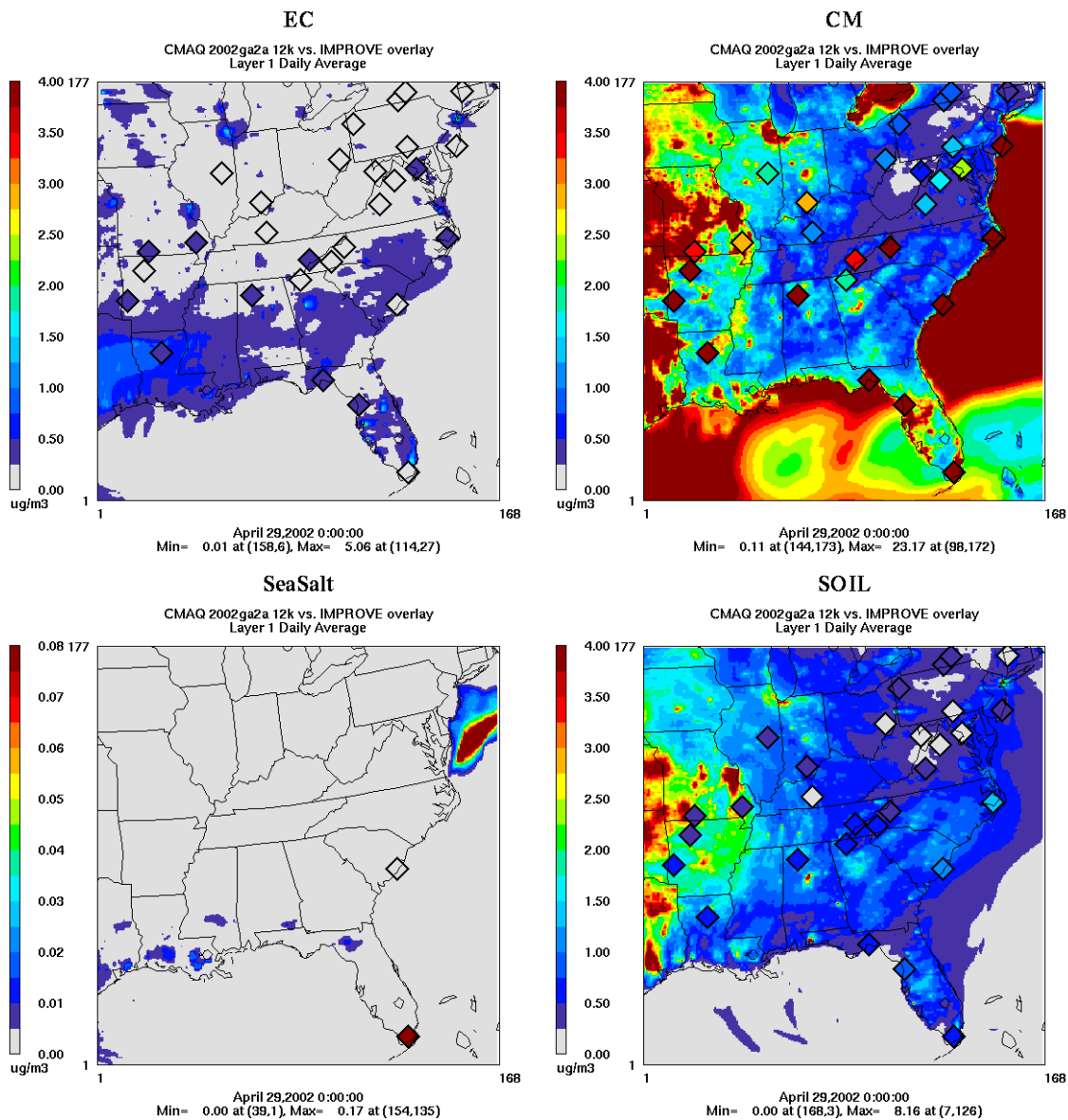
Figure D-113:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 20, 2002

D.38   April 29, 2002

Date	Julian Day	Type	Class I Areas Affected
04/29/02	119	W20%	SWAN
04/29/02	119	B20%	LIGO, DOSO, HEGL, COHU, UPBU, BRIG

Figure D-114:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For April 29, 2002

Figure D-115: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For April 29, 2002
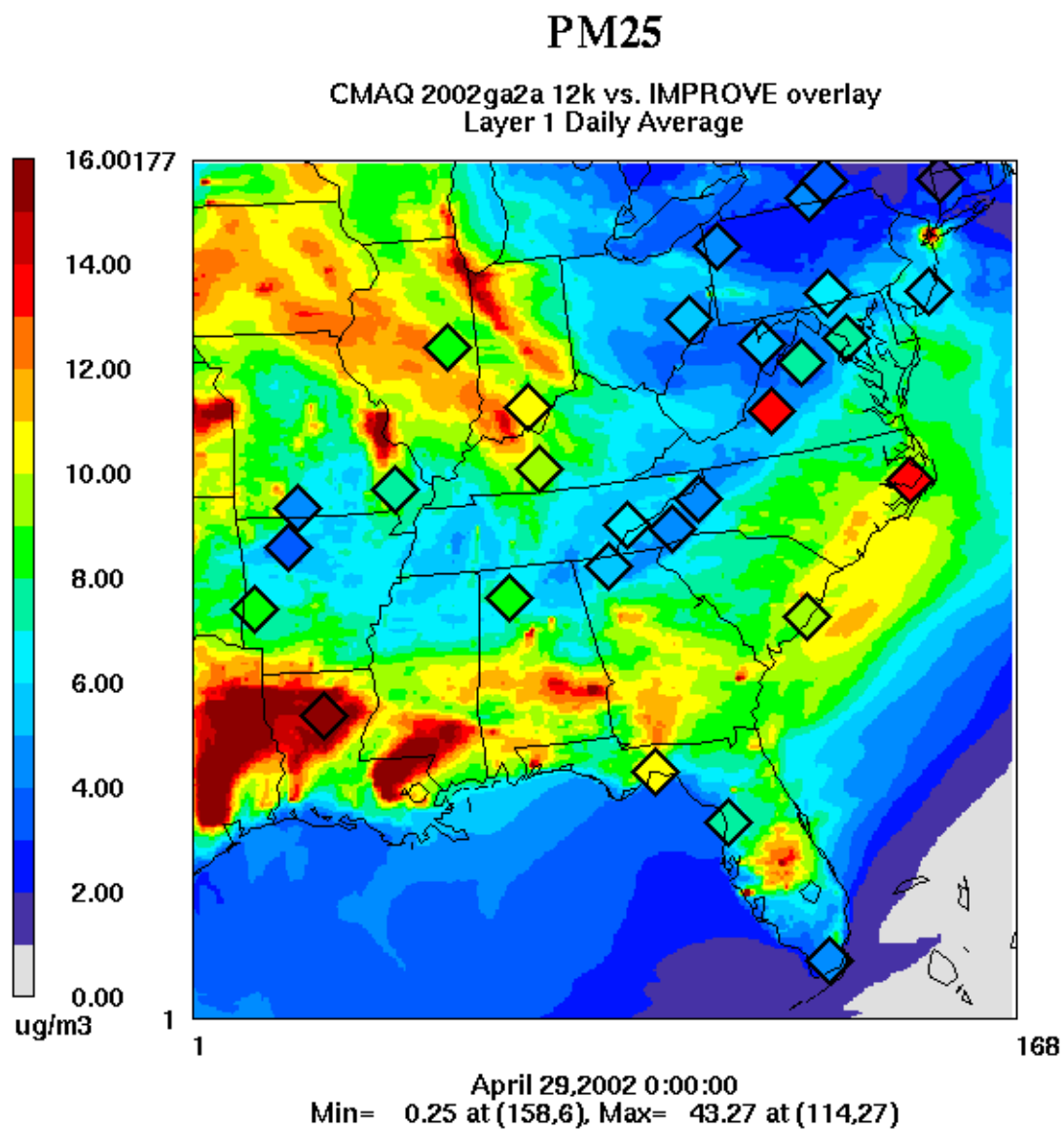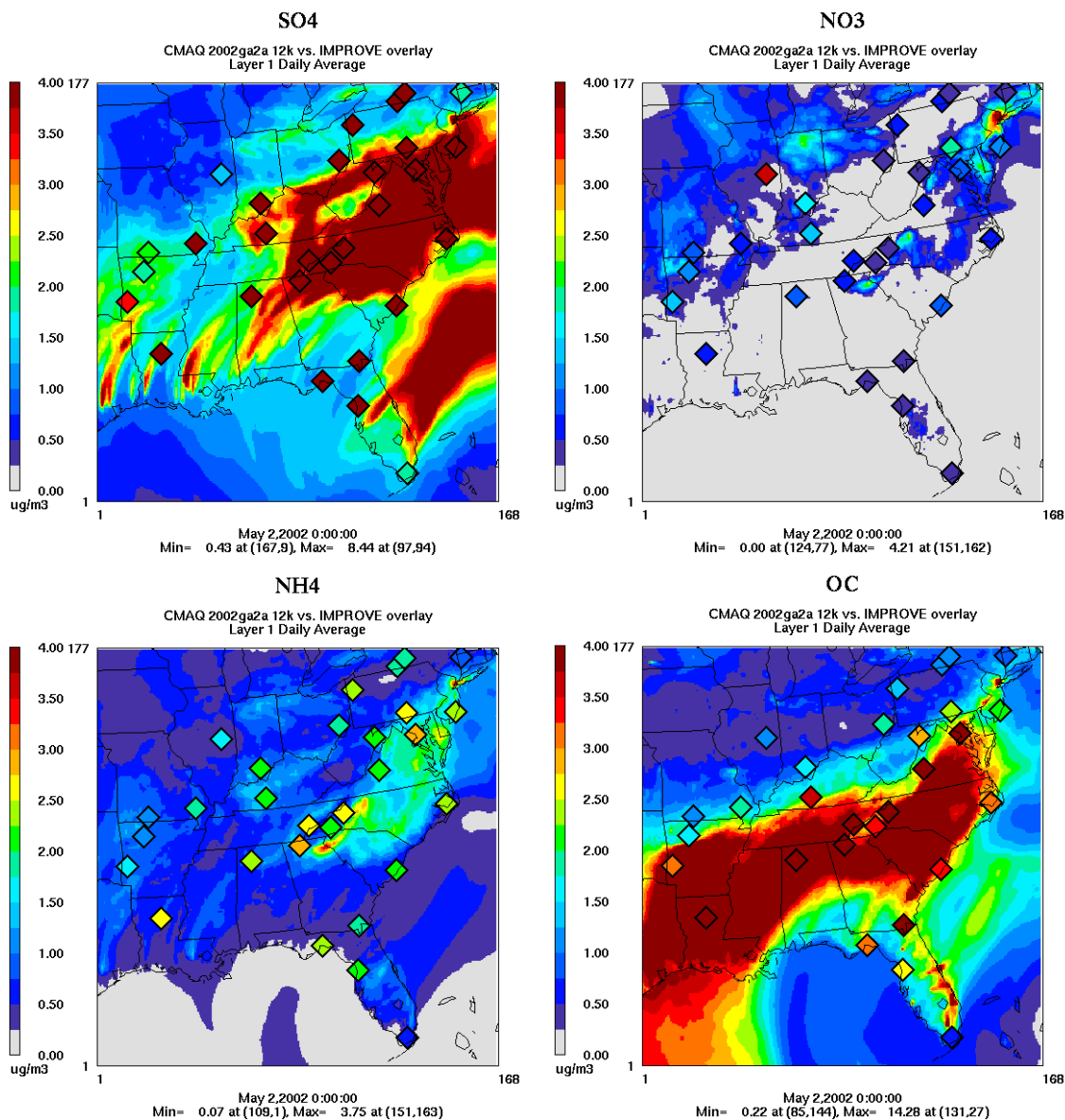
Figure D-116: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For April 29, 2002

D.39 May 2, 2002

Date	Julian Day	Type	Class I Areas Affected
05/02/02	122	W20%	LIGO, GRSM, SIPS, SAMA, OKEF, DOSO, SWAN, COHU, ROMA, BRIG
05/02/02	122	B20%	

Figure D-117: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 2, 2002
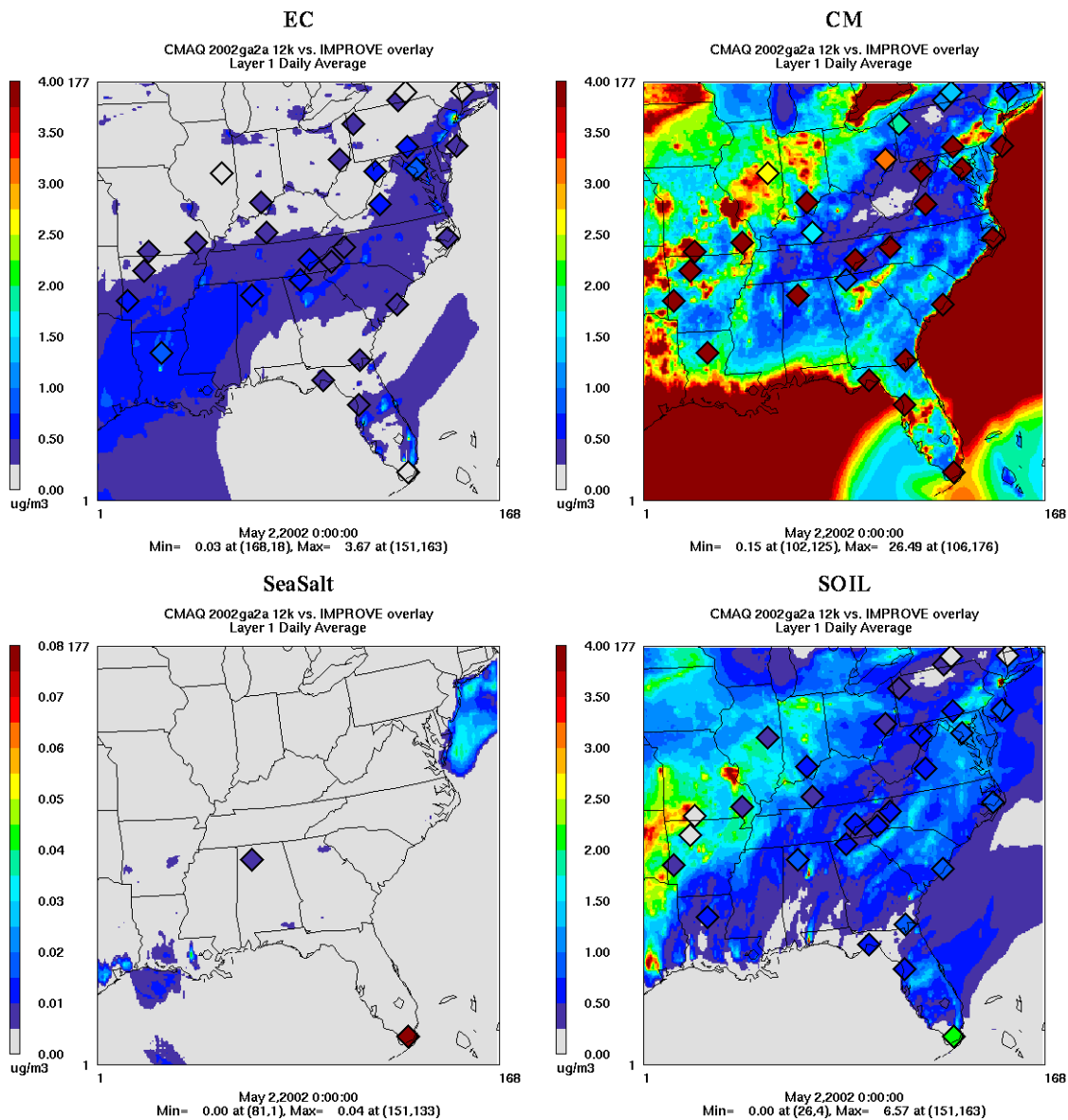
Figure D-118: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 2, 2002
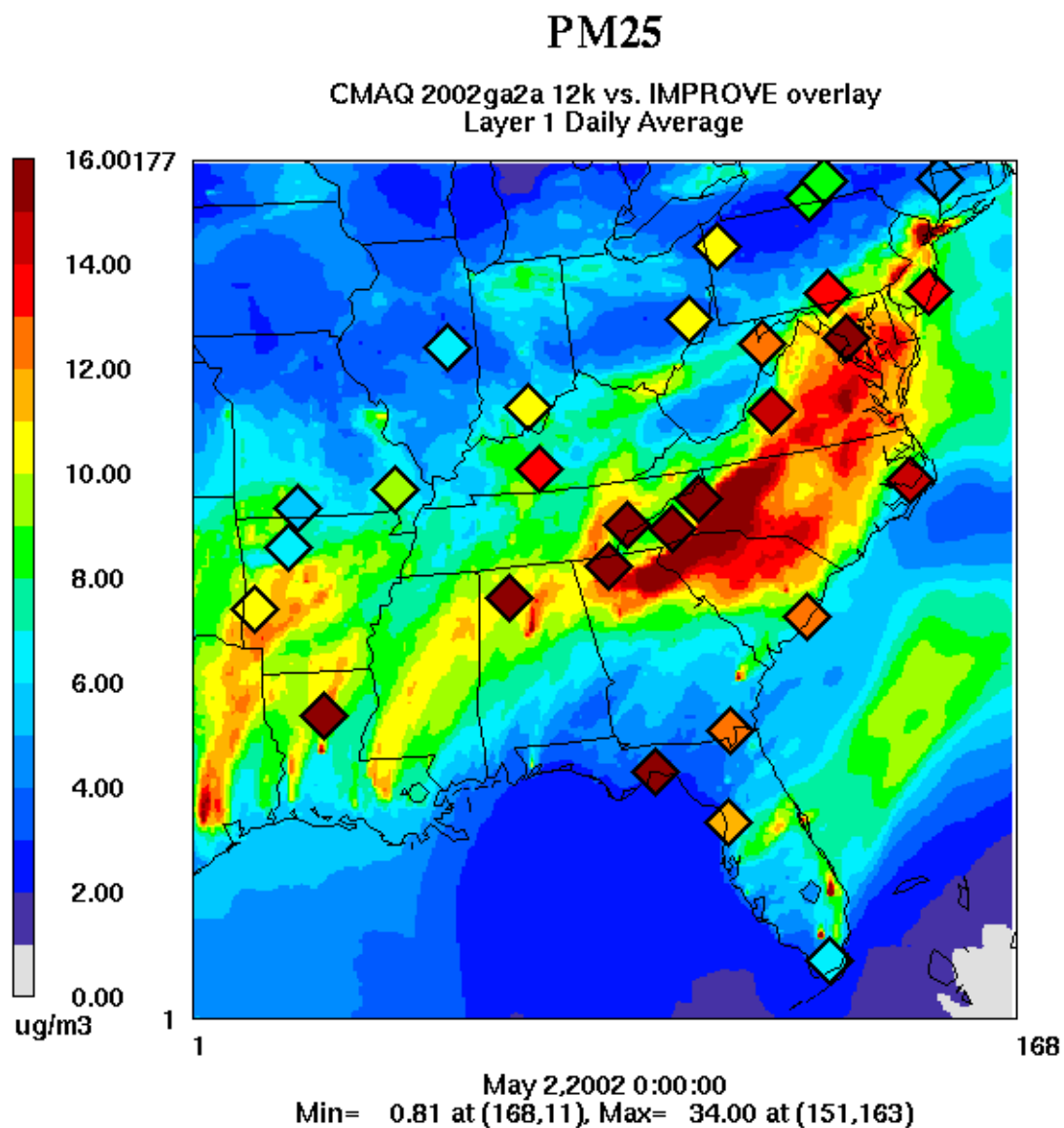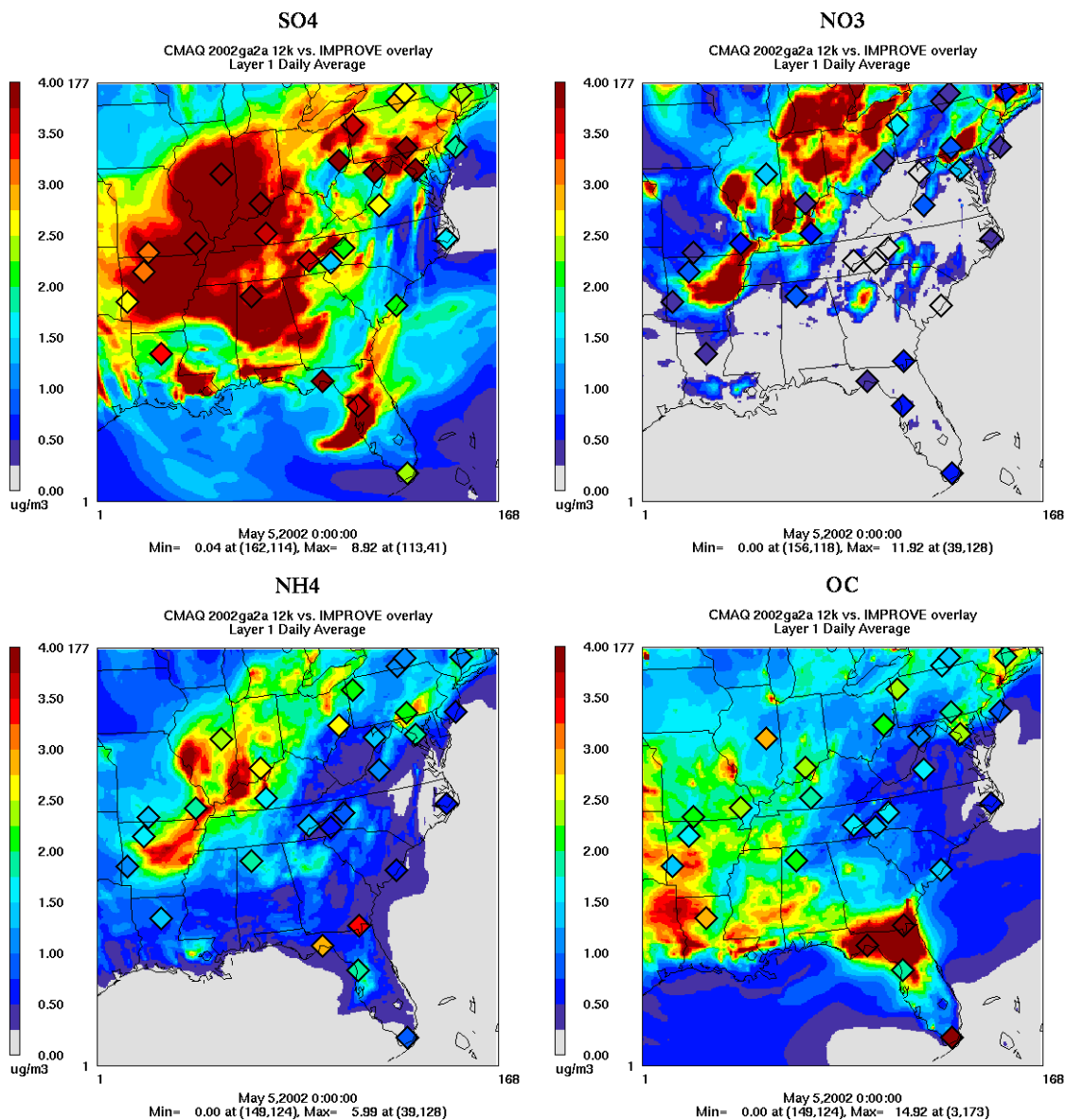
Figure D-119:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 2, 2002

D.40   May 5, 2002

Date	Julian Day	Type	Class I Areas Affected
05/05/02	125	W20%	SAMA, BRET, EVER
05/05/02	125	B20%	SWAN, ROMA, BRIG

Figure D-120: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 5, 2002
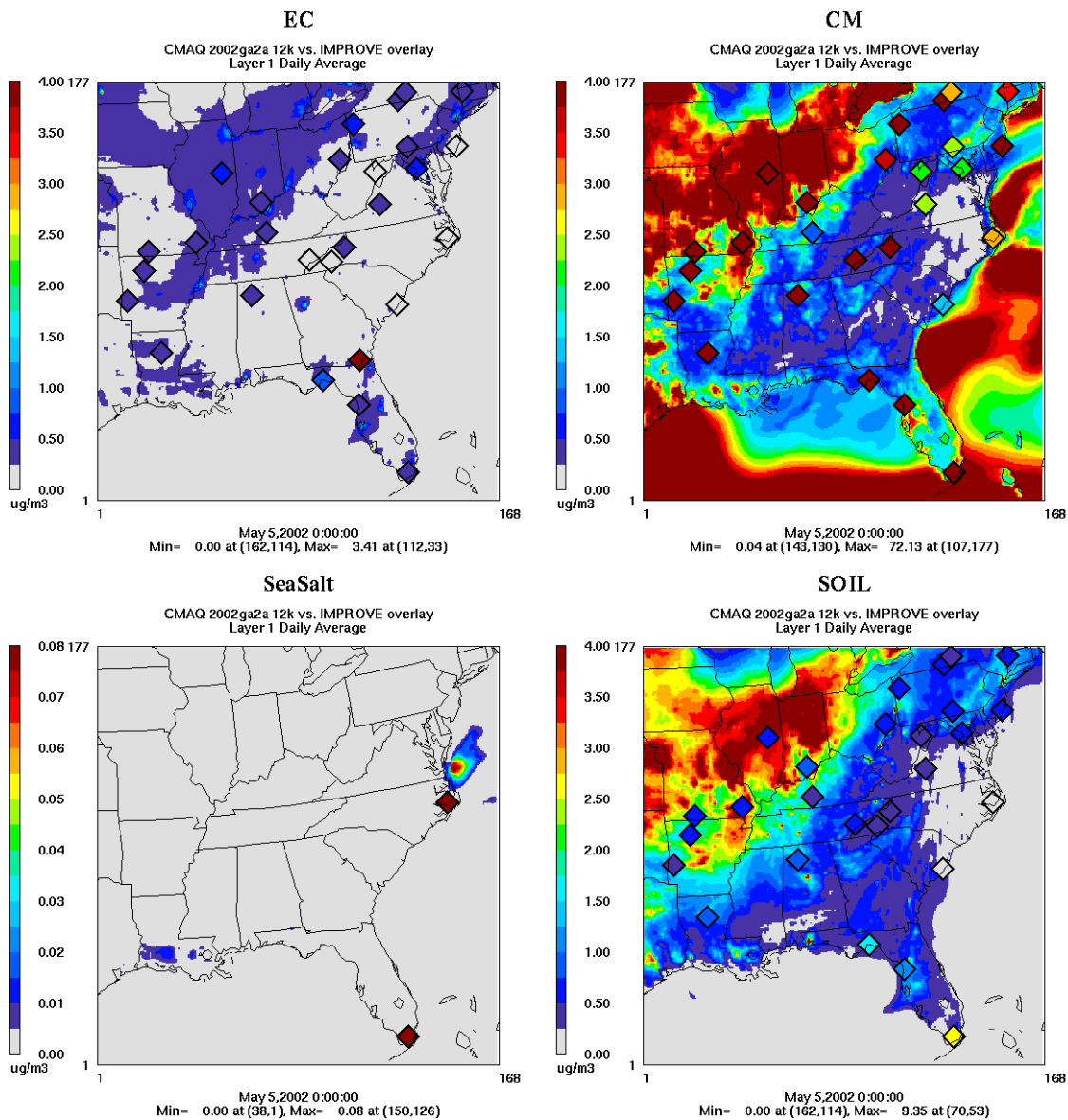
Figure D-121: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 5, 2002
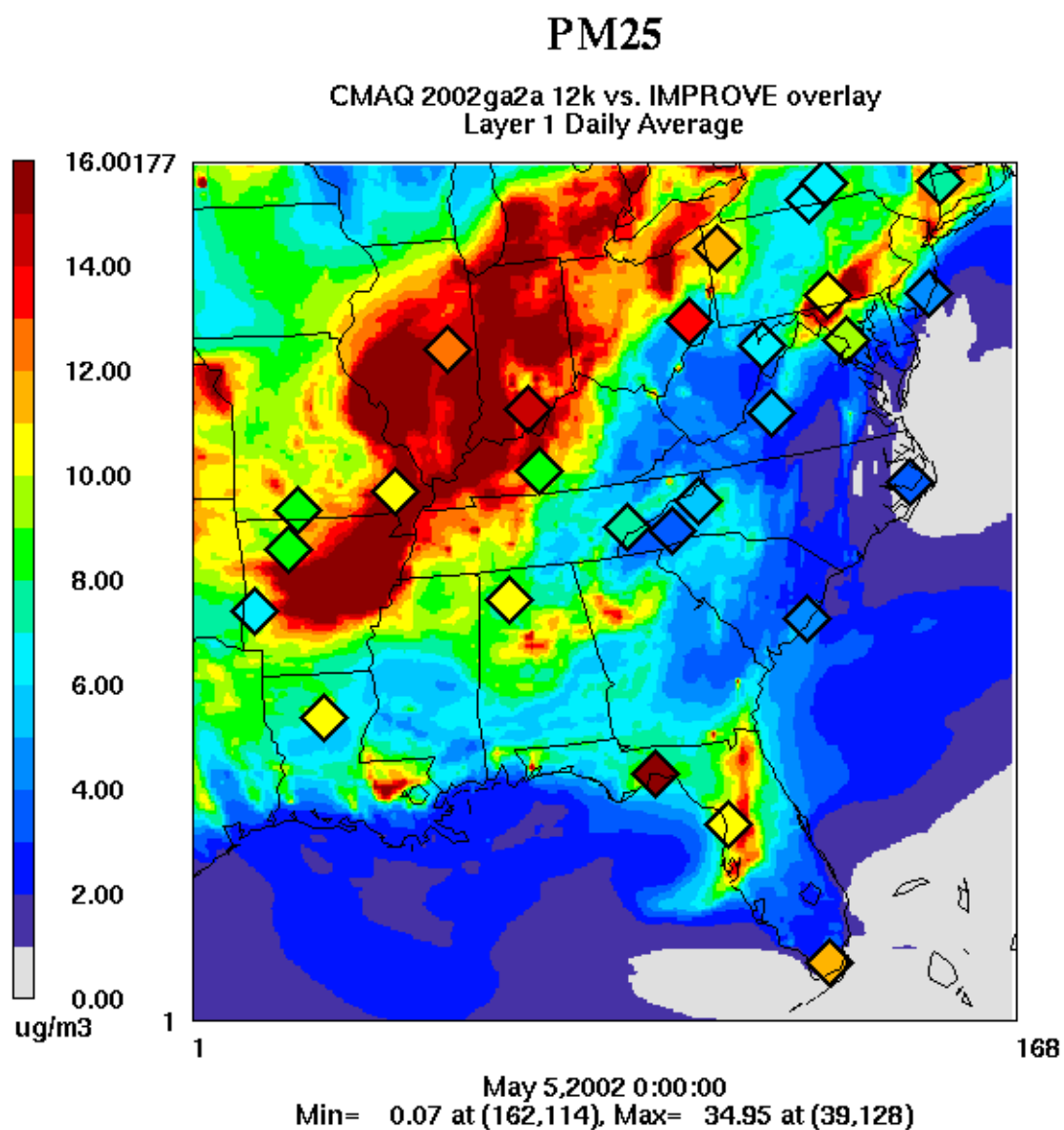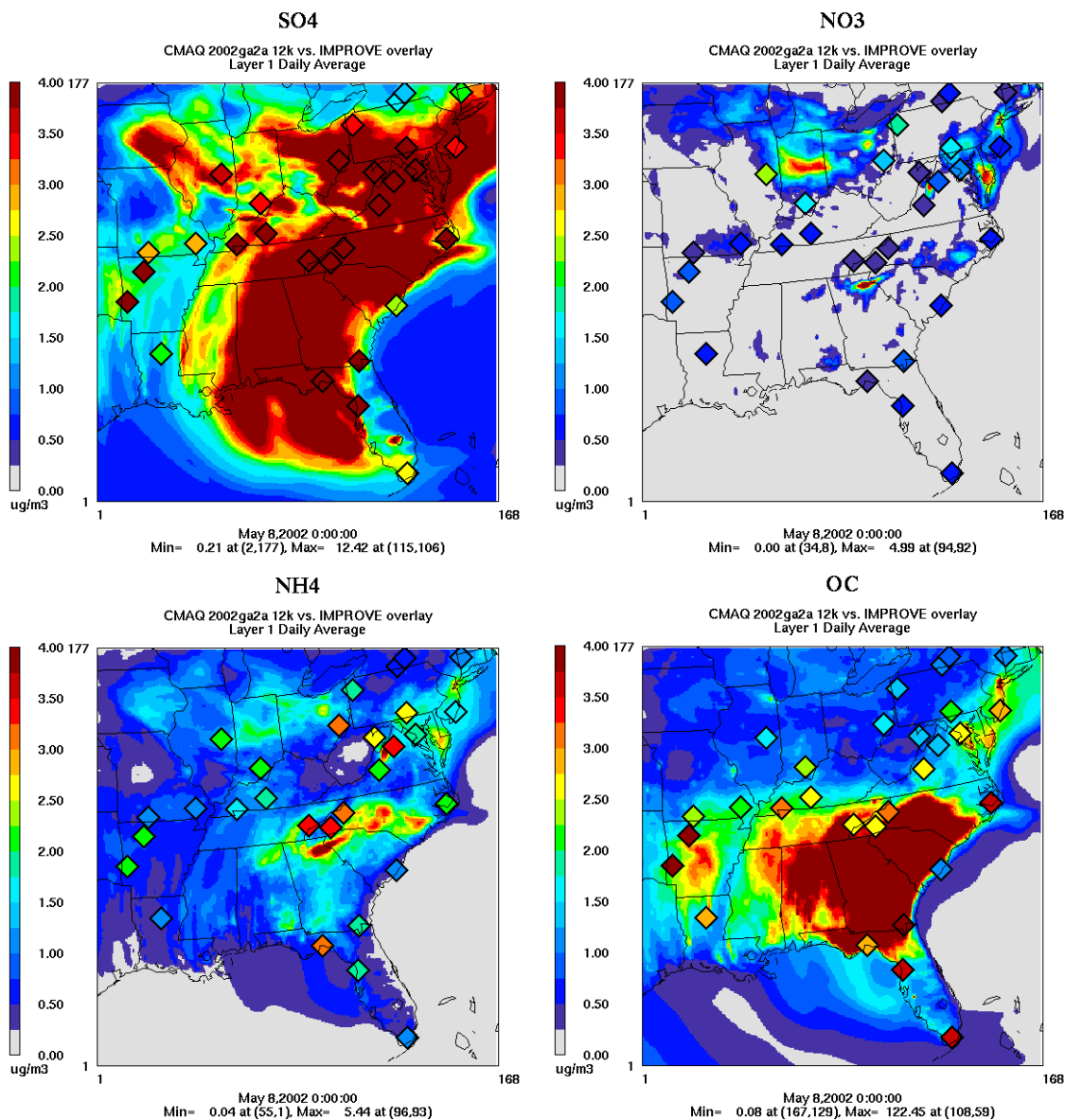
Figure D-122:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 5, 2002

D.41   May 8, 2002

Date	Julian Day	Type	Class I Areas Affected
05/08/02	128	W20%	LIGO, SHRO, GRSM, SAMA, OKEF, CACR, DOSO, CHAS, EVER, SWAN, UPBU
05/08/02	128	B20%	

Figure D-123: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 8, 2002
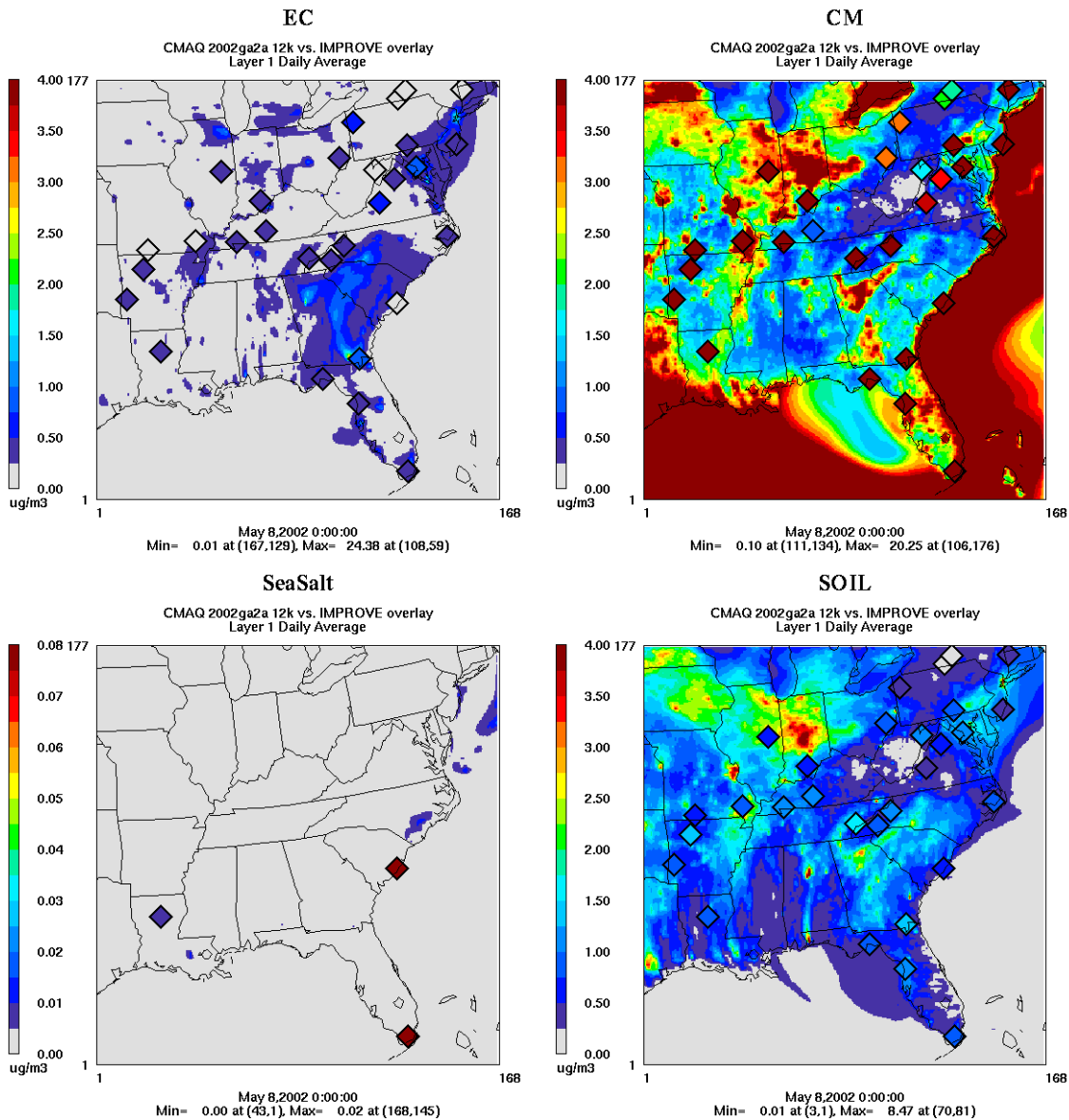
Figure D-124: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 8, 2002
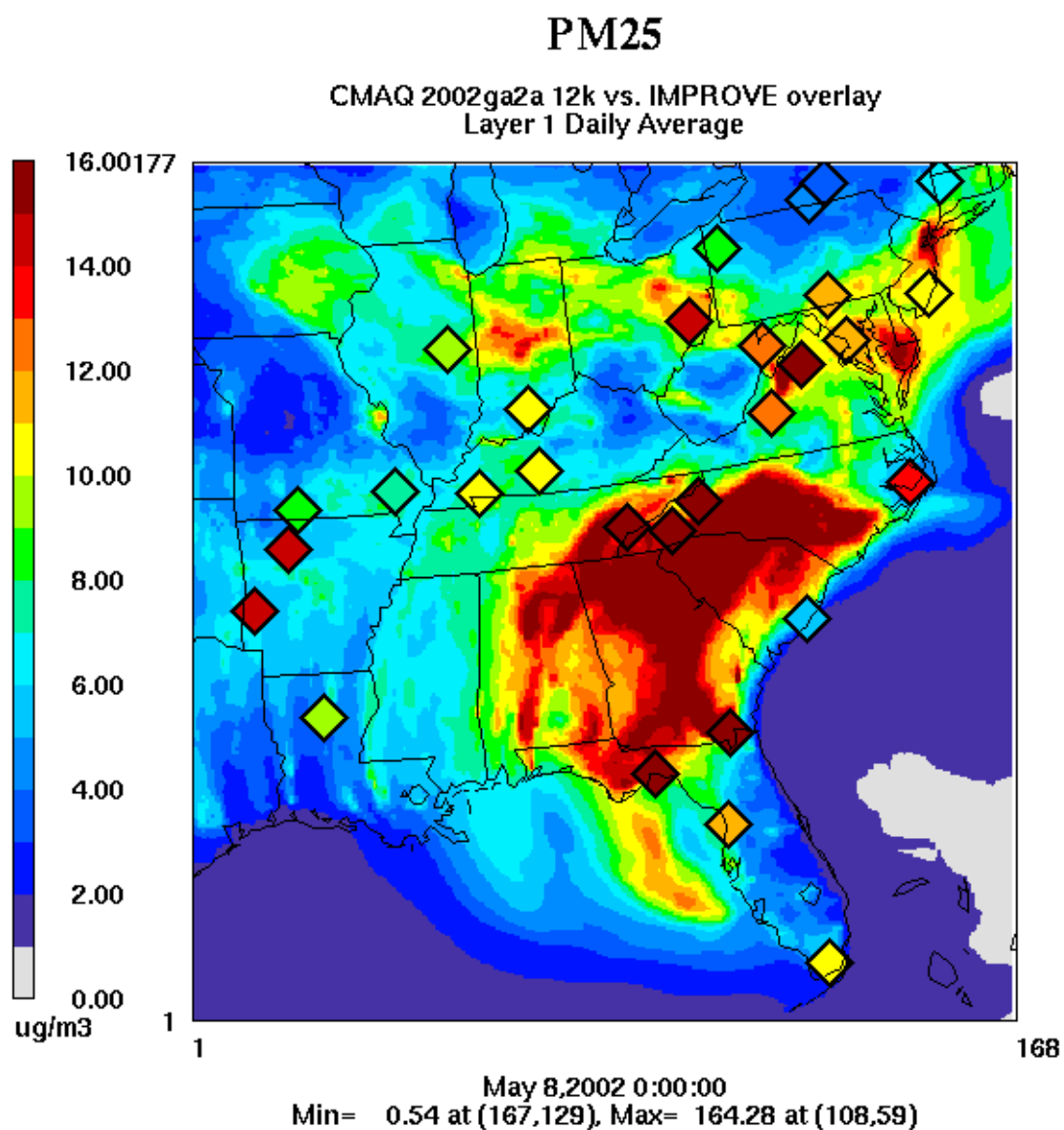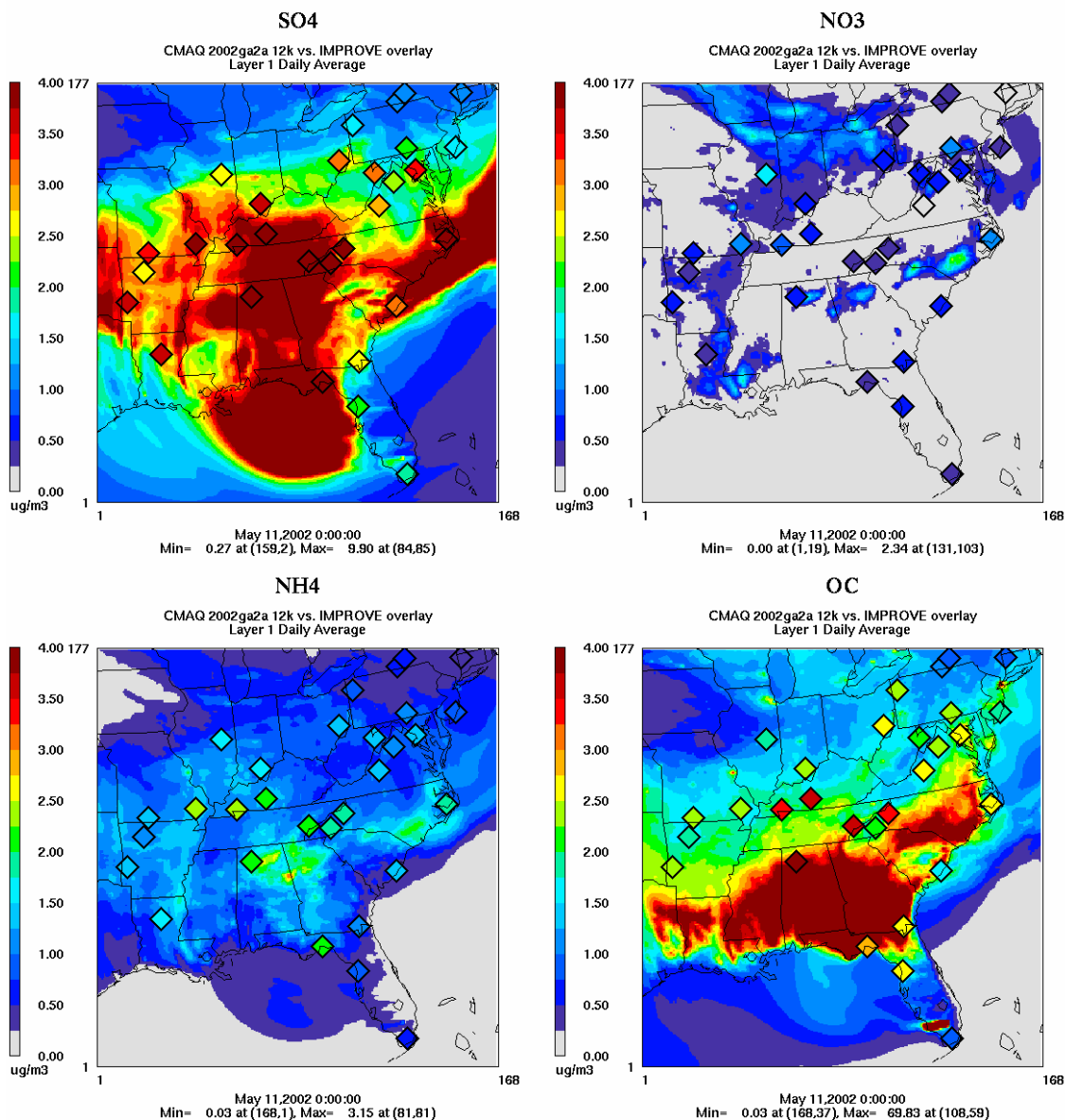
Figure D-125:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 8, 2002

D.42   May 11, 2002

Date	Julian Day	Type	Class I Areas Affected
05/11/02	131	W20%	SIPS, SAMA
05/11/02	131	B20%	

Figure D-126:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 11, 2002
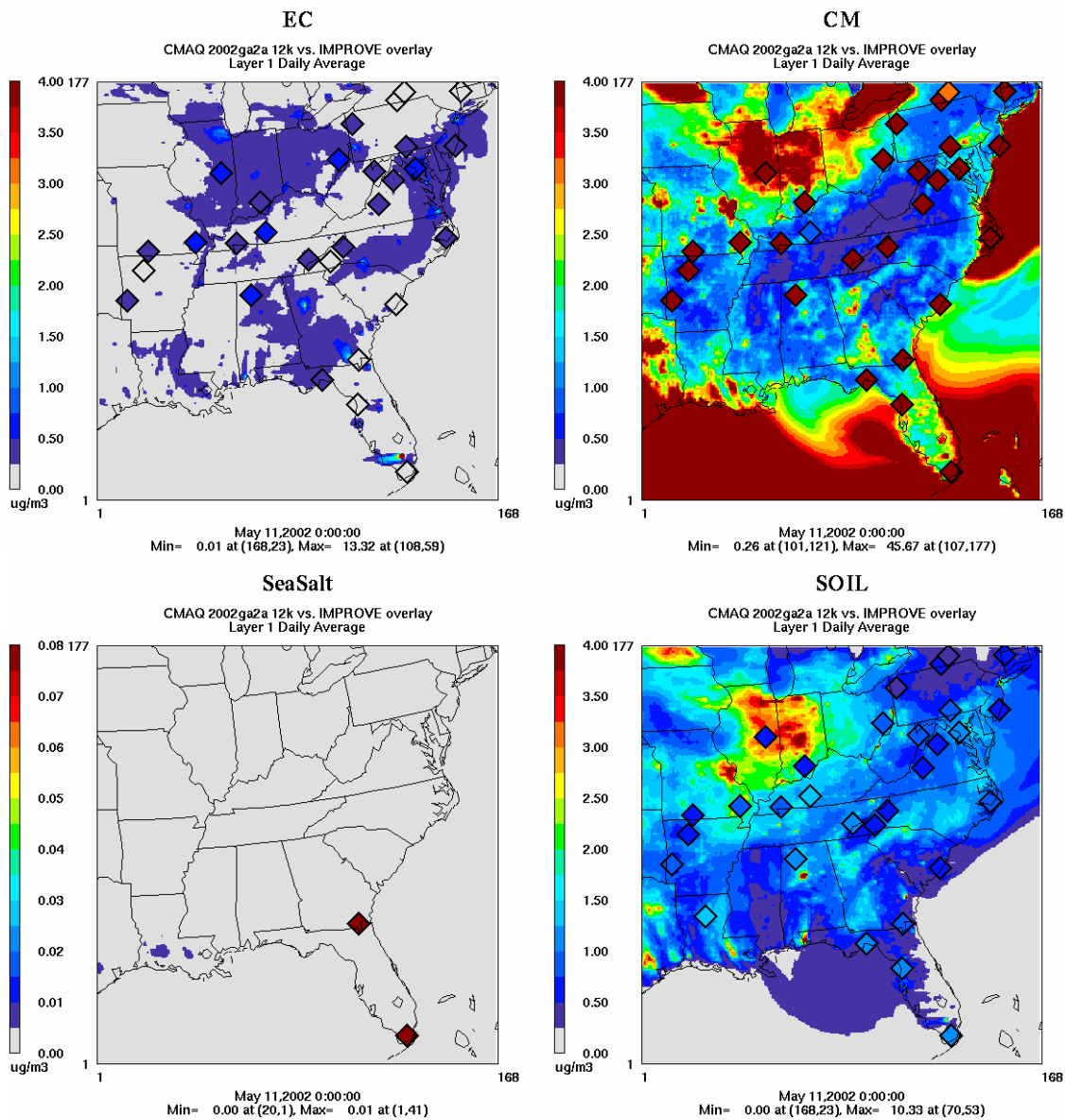
Figure D-127: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 11, 2002
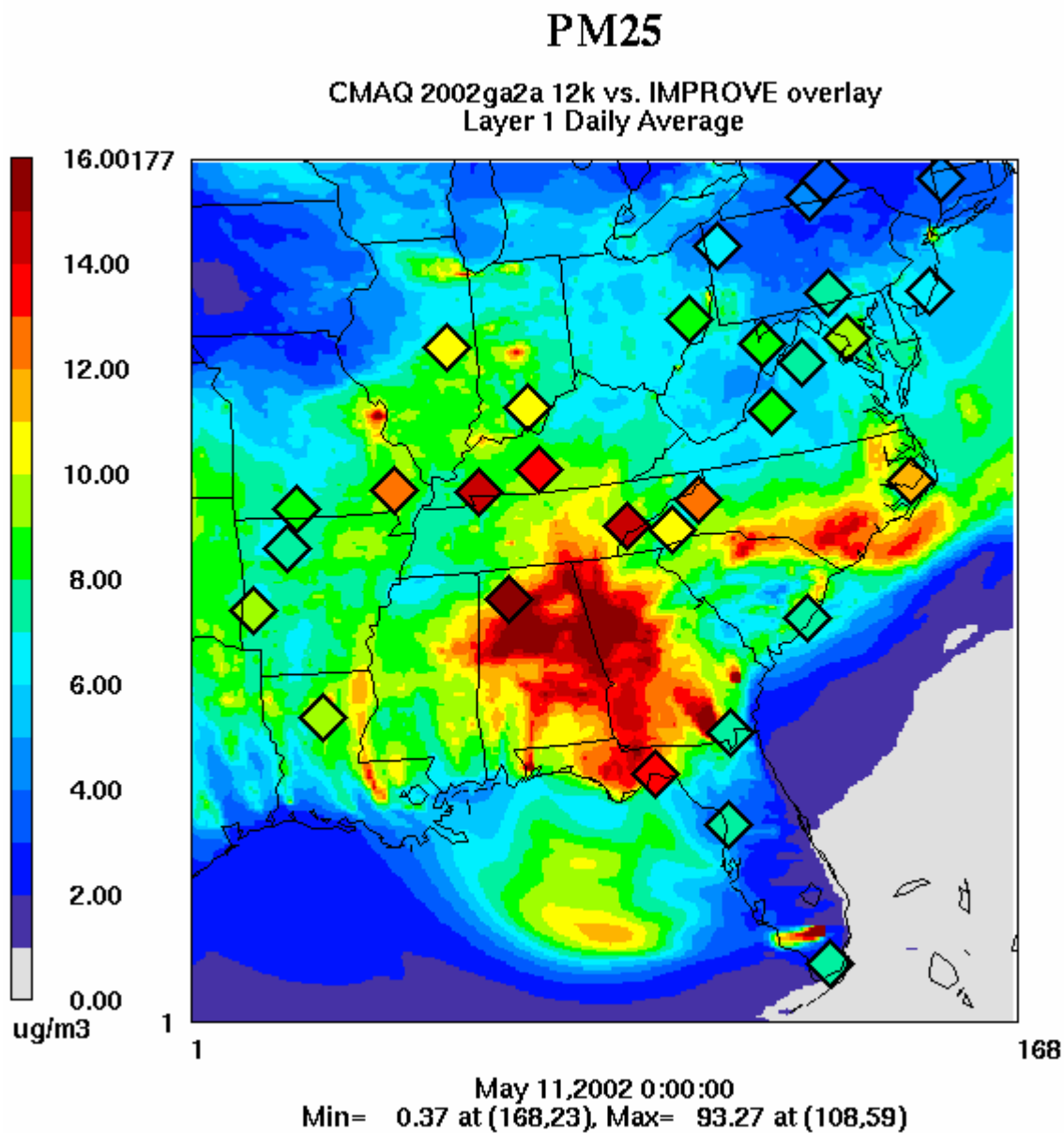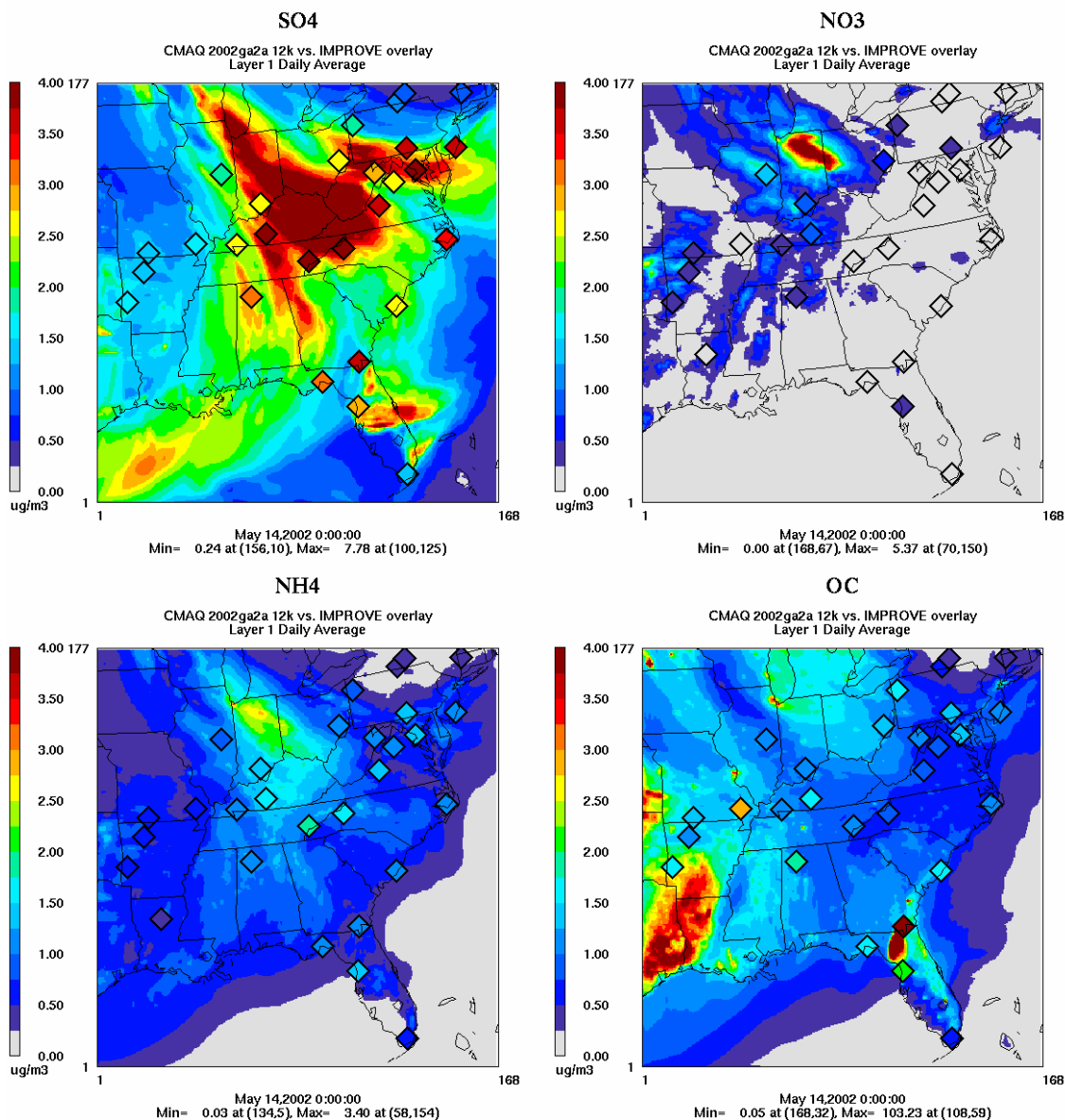
Figure D-128:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 11, 2002

D.43   May 14, 2002

Date	Julian Day	Type	Class I Areas Affected
05/14/02	134	W20%	
05/14/02	134	B20%	JARI, EVER, HEGL, MING

Figure D-129: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 14, 2002
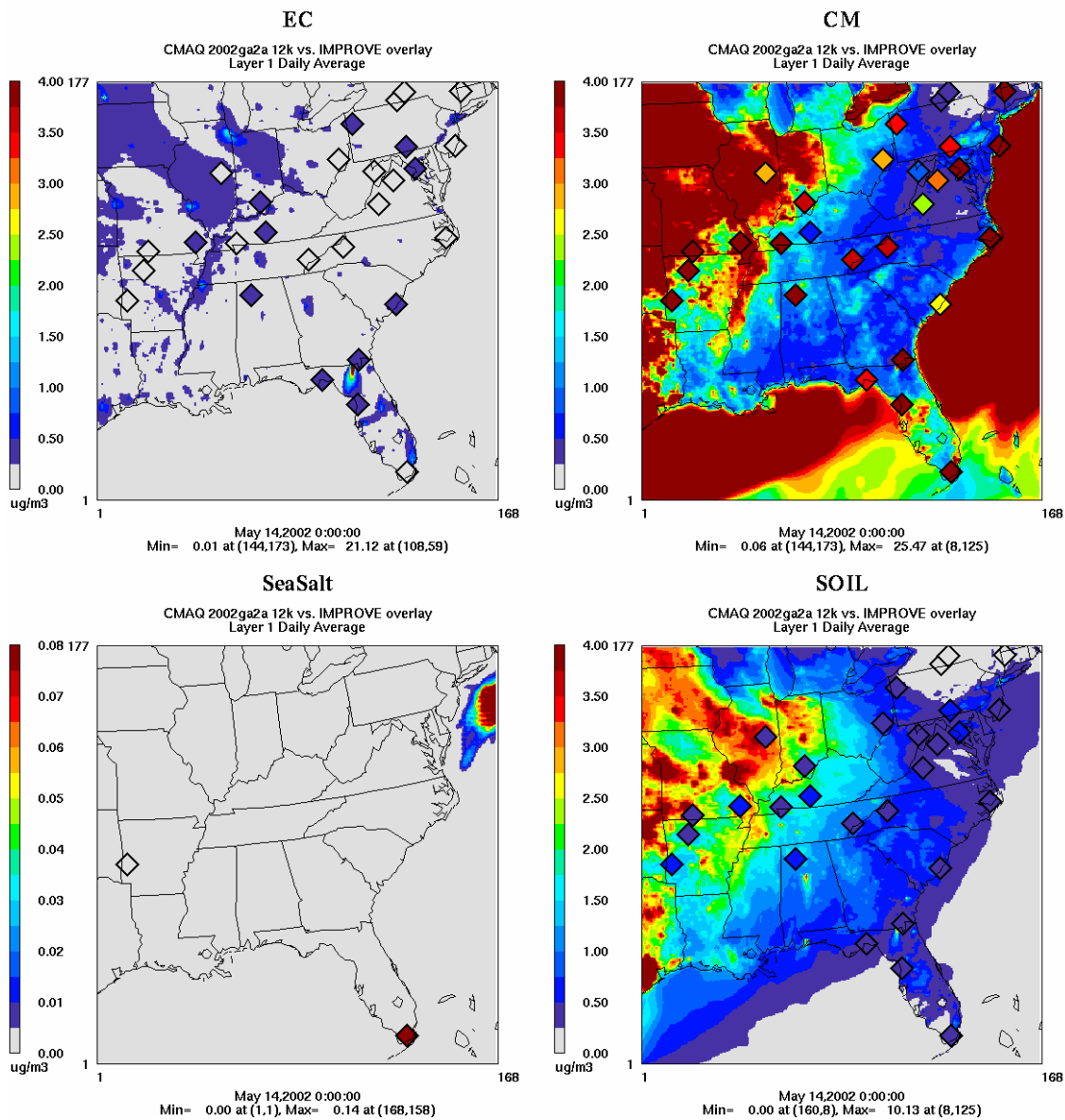
Figure D-130: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 14, 2002
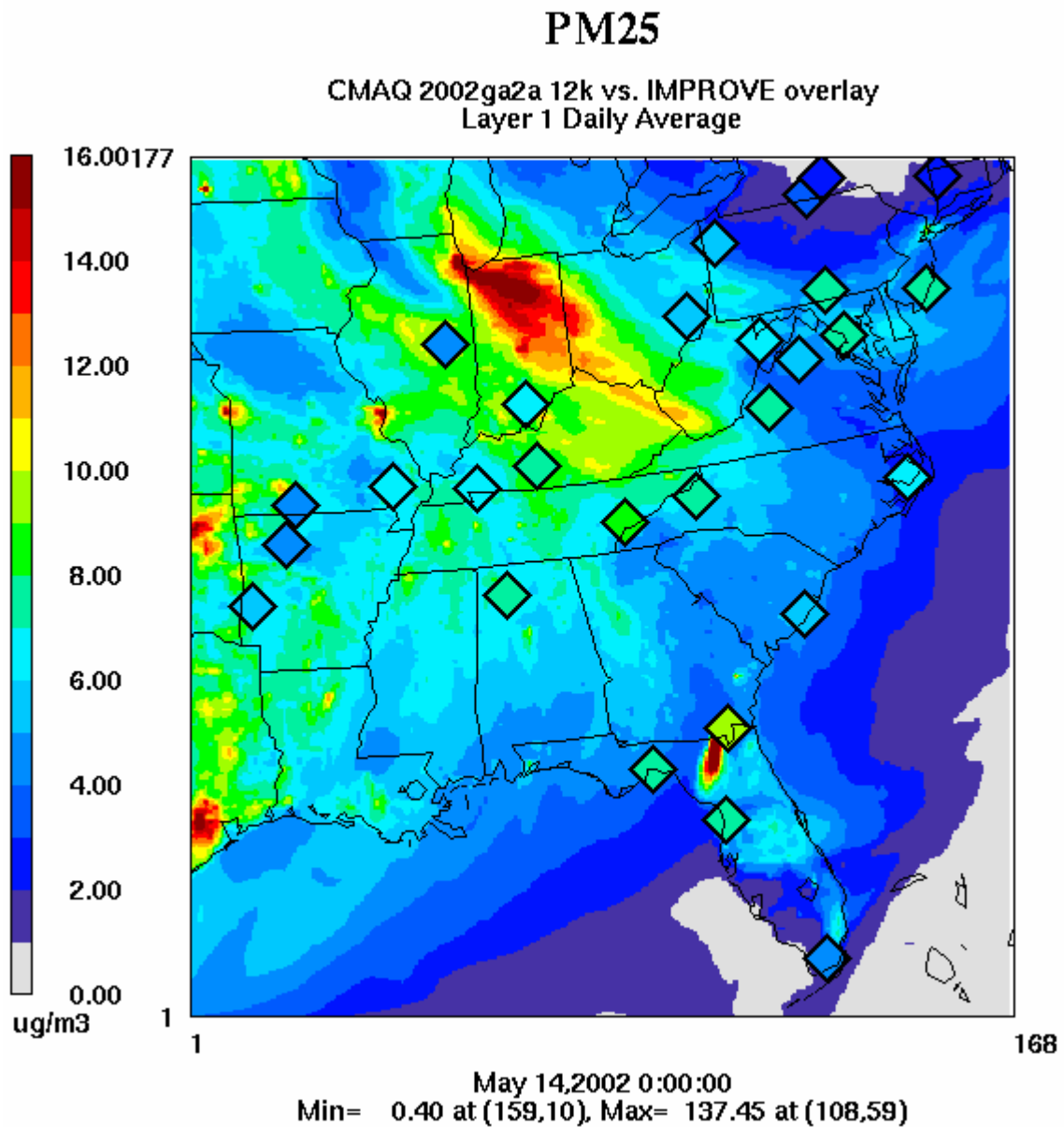
Figure D-131:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 14, 2002

D.44   May 17, 2002

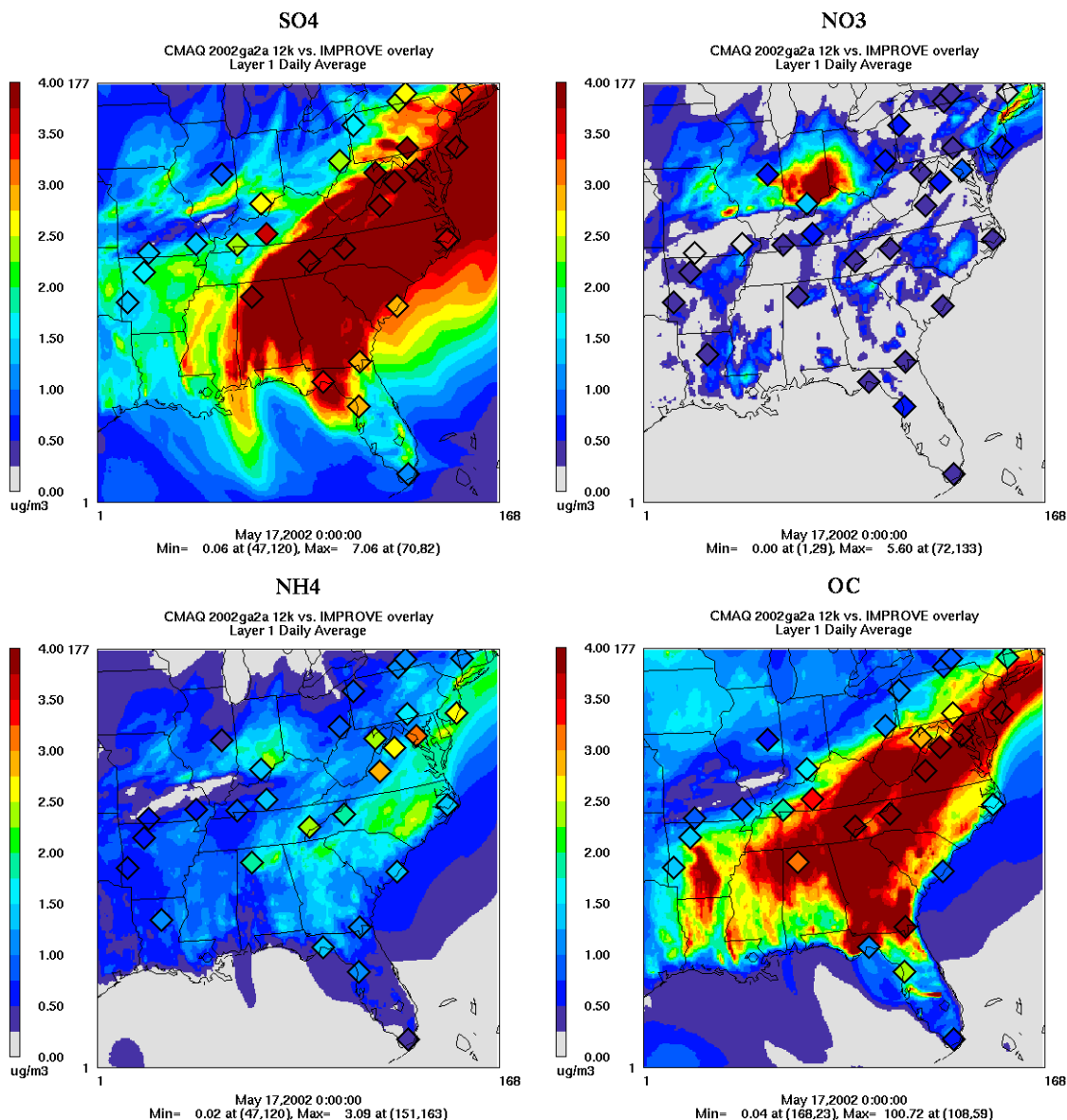| Date	Julian Day	Type	Class I Areas Affected
05/17/02	137	W20%	LIGO, SHRO, GRSM, JARI, DOSO, BRIG
05/17/02	137	B20%	EVER, HEGL, MING

Figure D-132:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 17, 2002
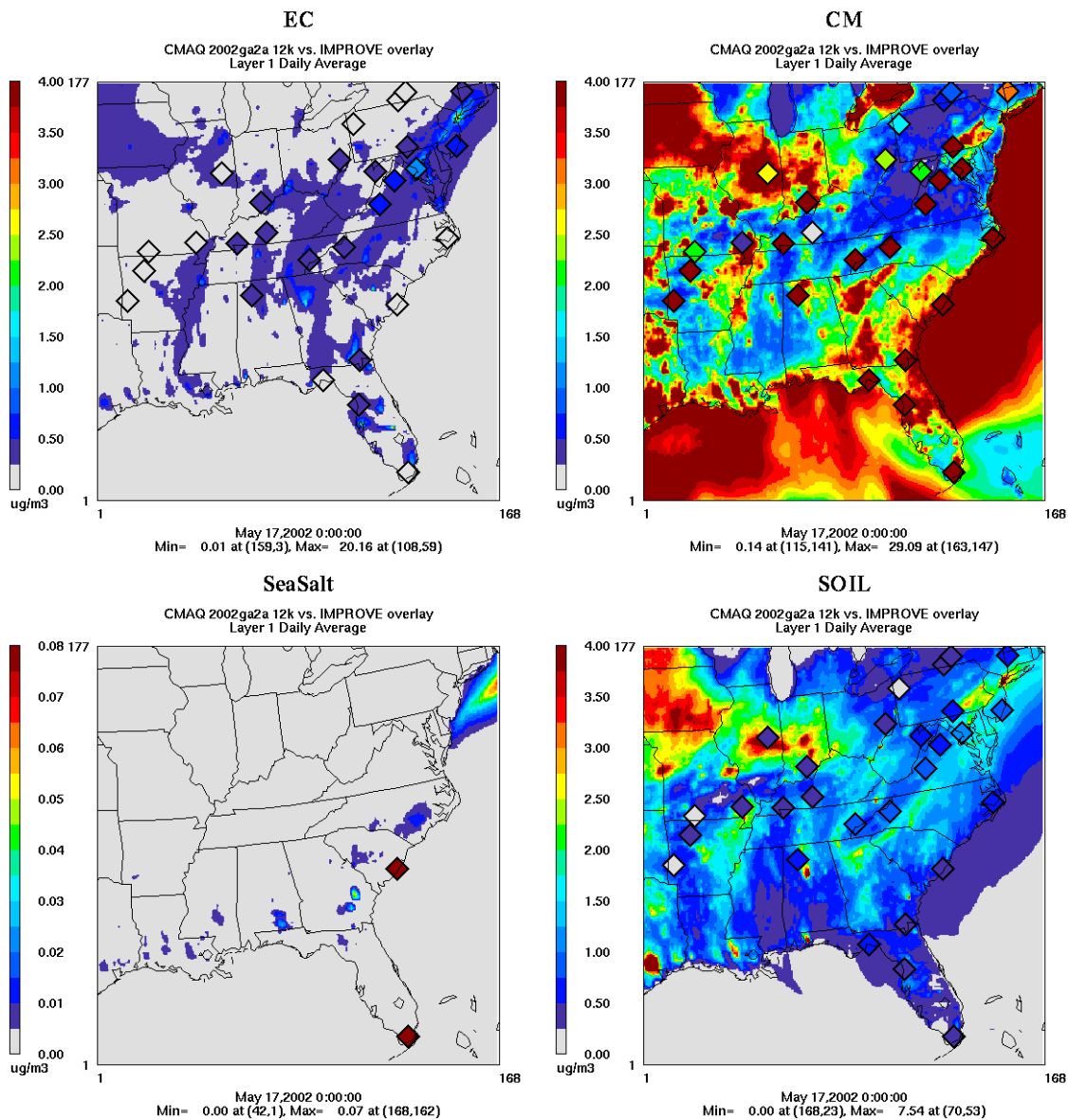
Figure D-133:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 17, 2002
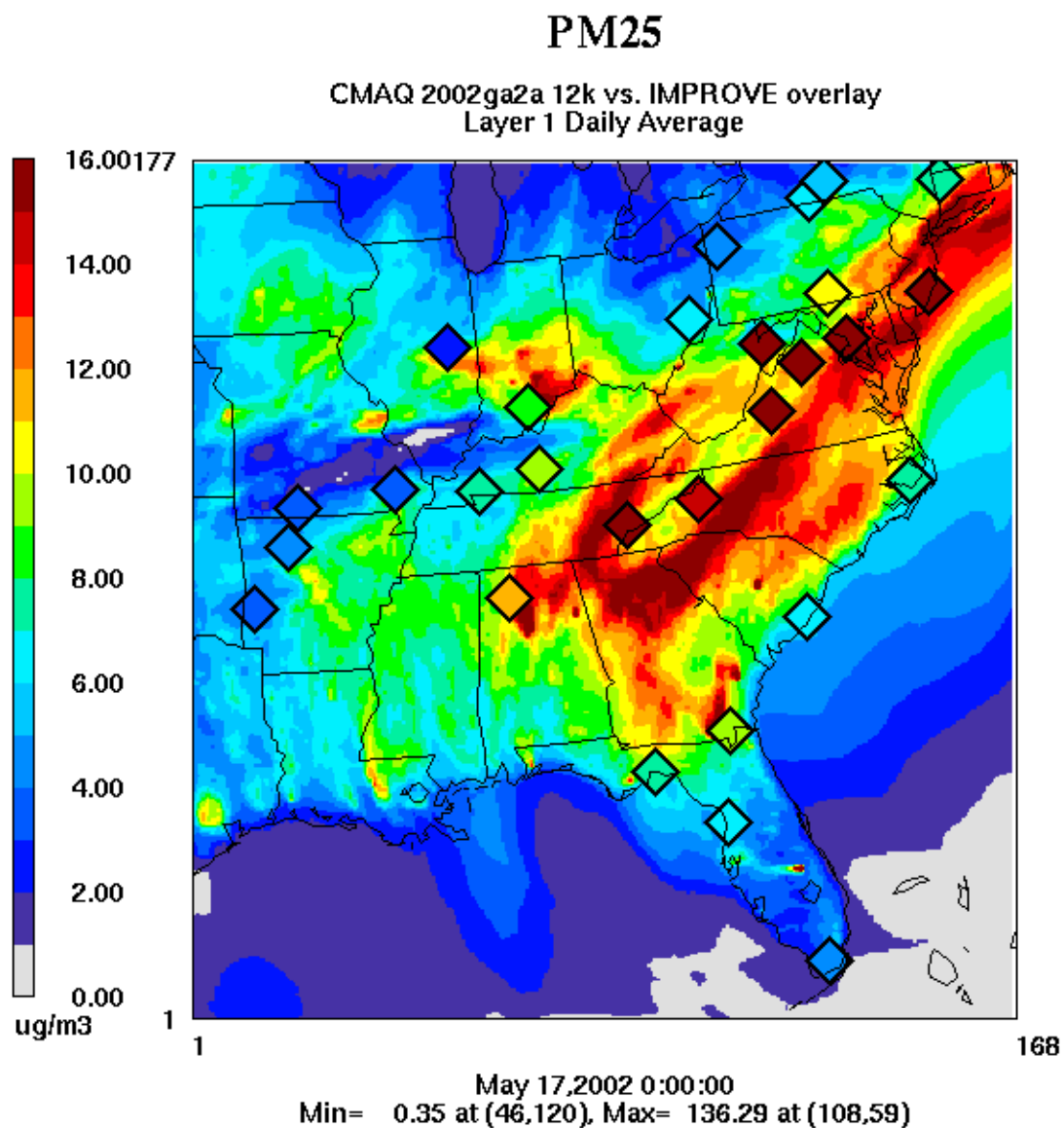
Figure D-134:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 17, 2002

D.45   May 20, 2002

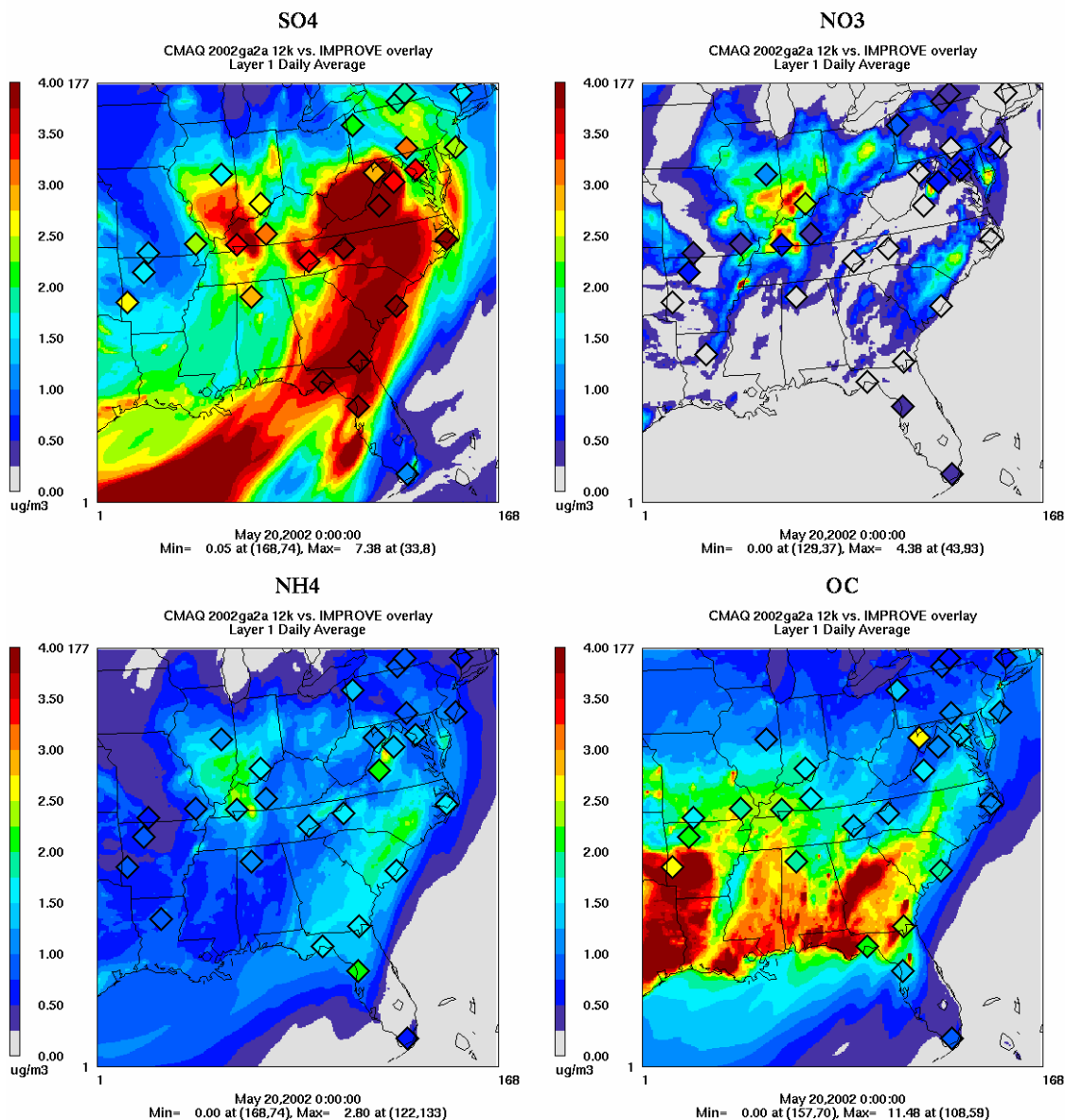| Date	Julian Day	Type	Class I Areas Affected
05/20/02	140	W20%	
05/20/02	140	B20%	EVER, MING

Figure D-135: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 20, 2002
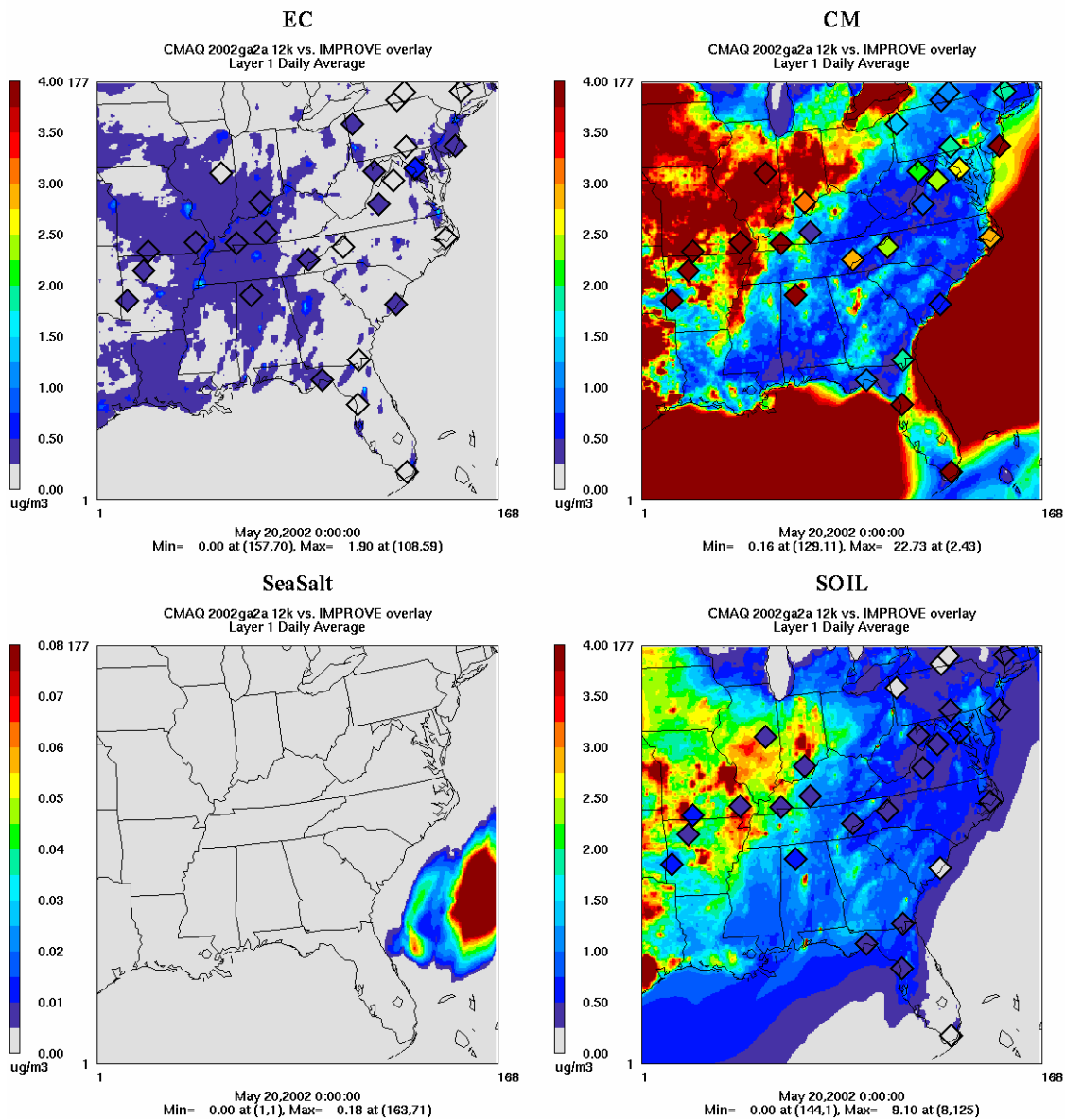
Figure D-136:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 20, 2002
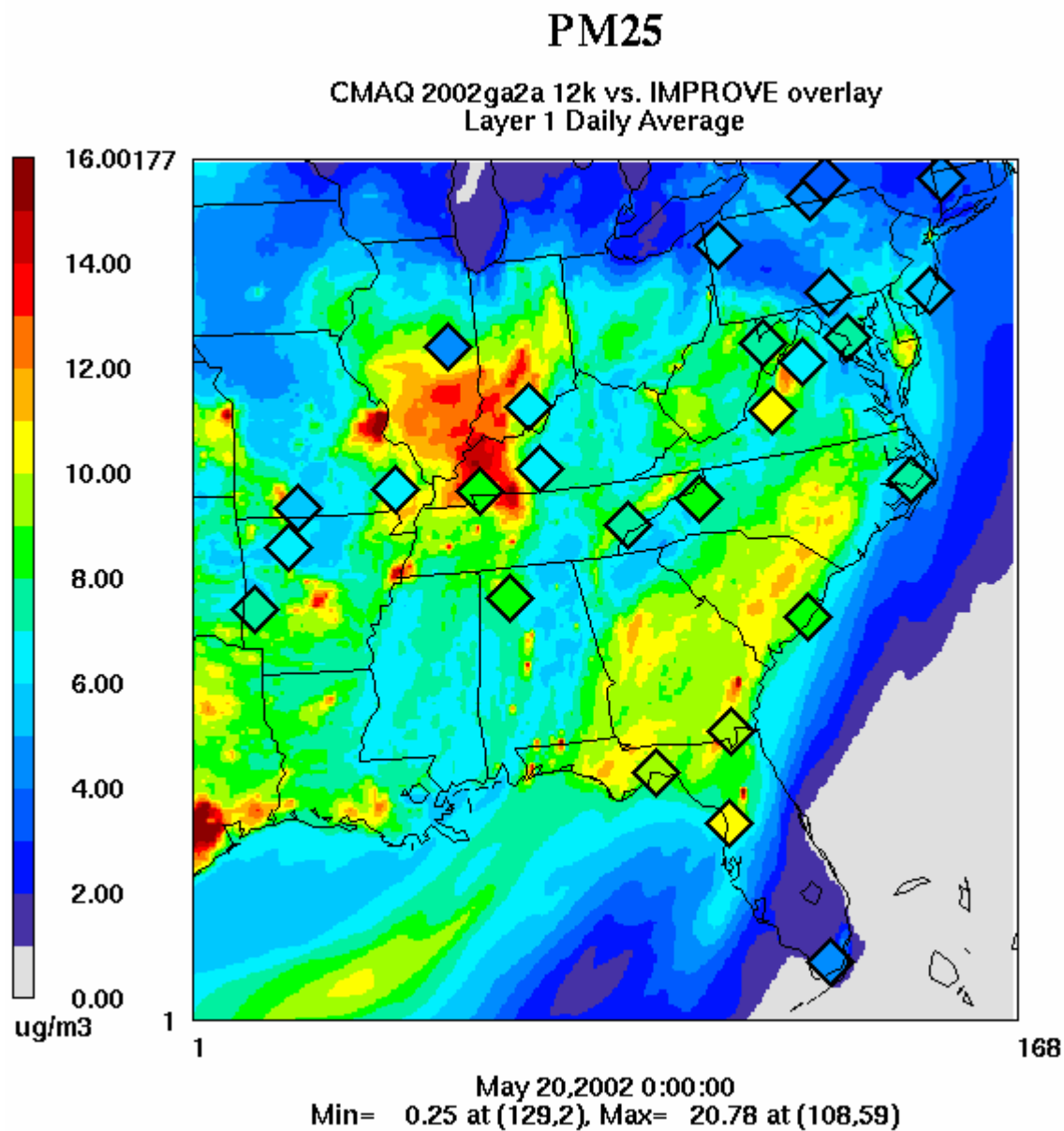
Figure D-137:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 20, 2002

D.46   May 23, 2002

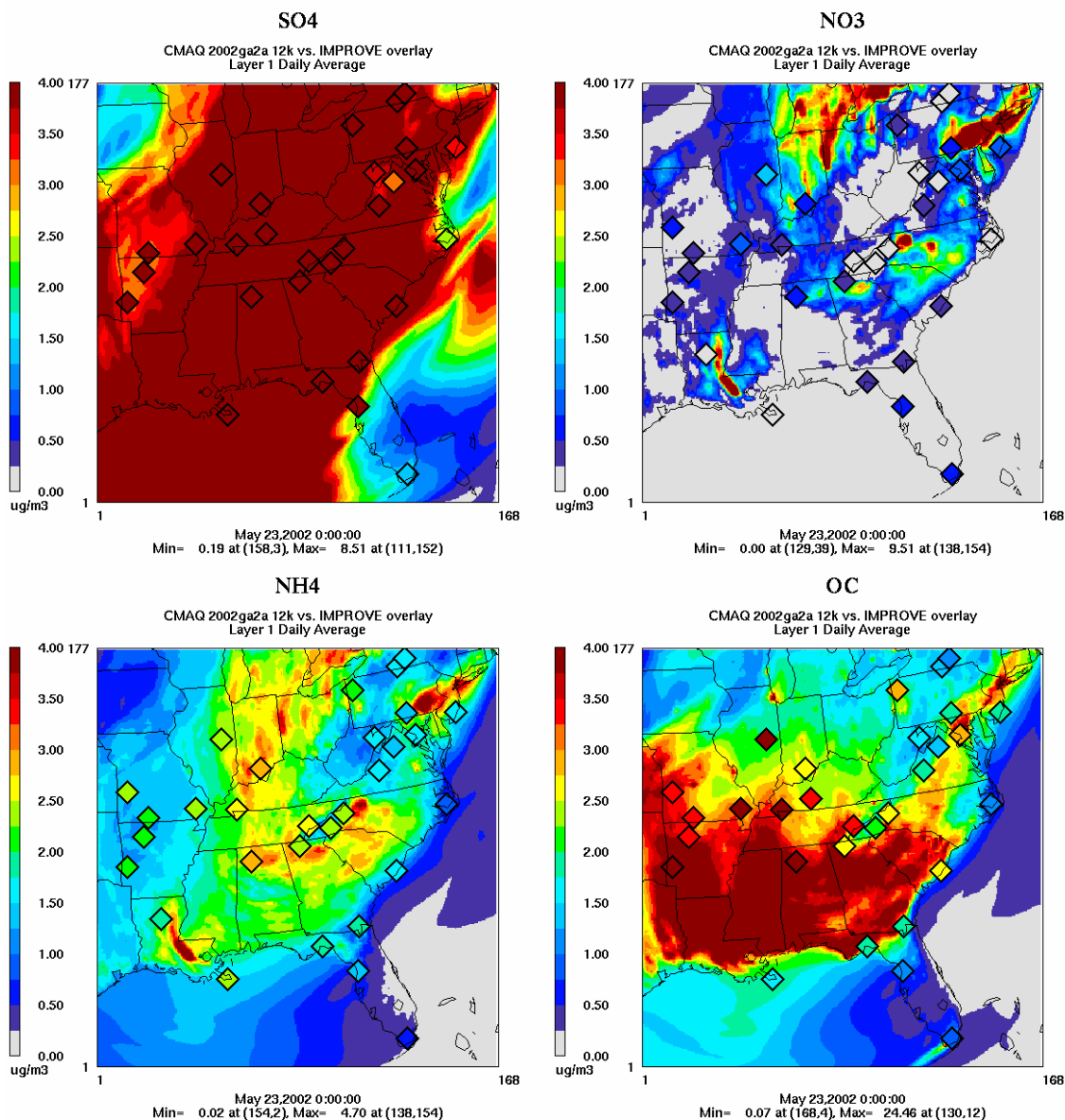| Date	Julian Day	Type	Class I Areas Affected
05/23/02	143	W20%	SIPS, CACR, BRET, UPBU
05/23/02	143	B20%	

Figure D-138: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 23, 2002**
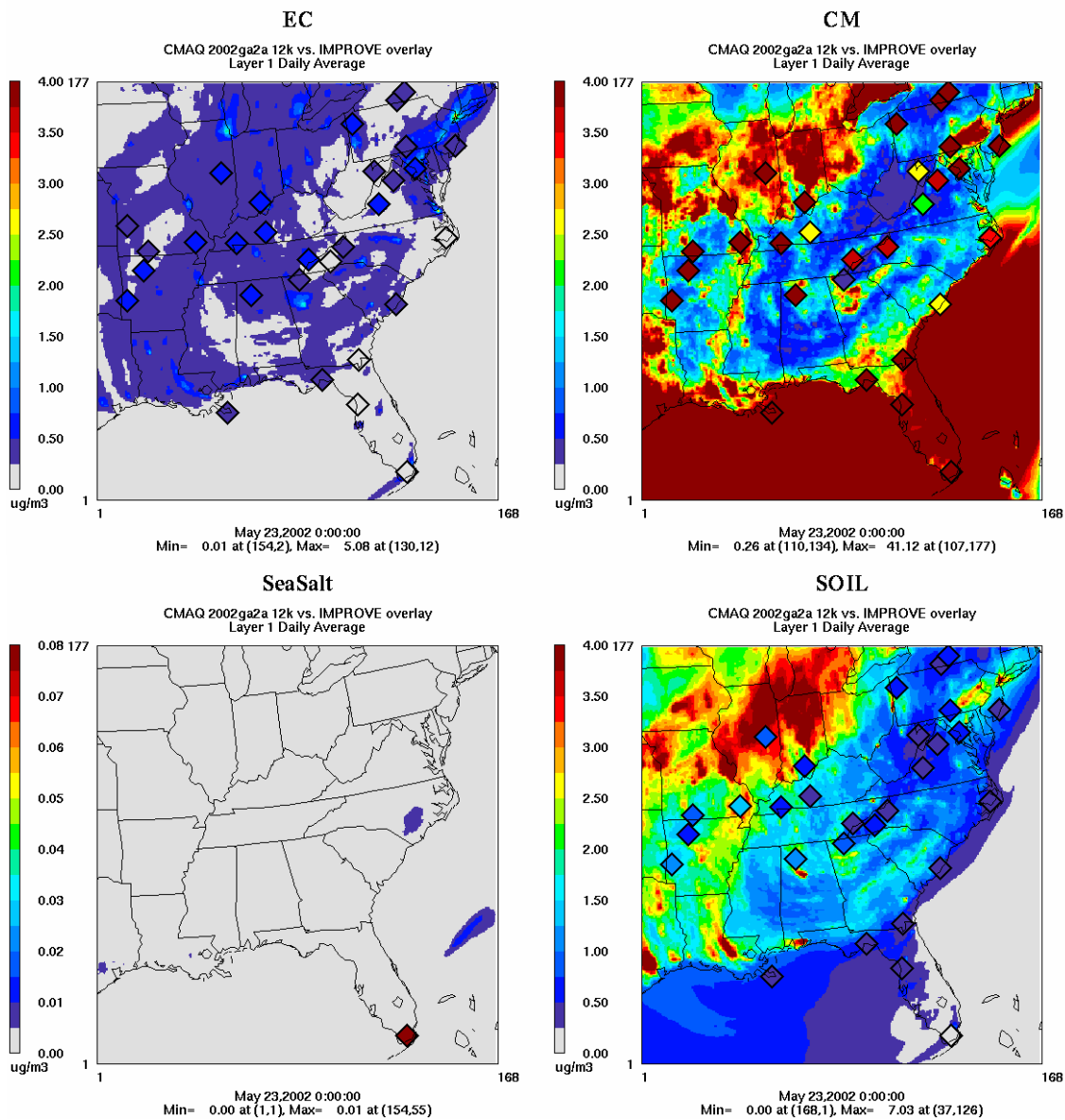
Figure D-139:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 23, 2002
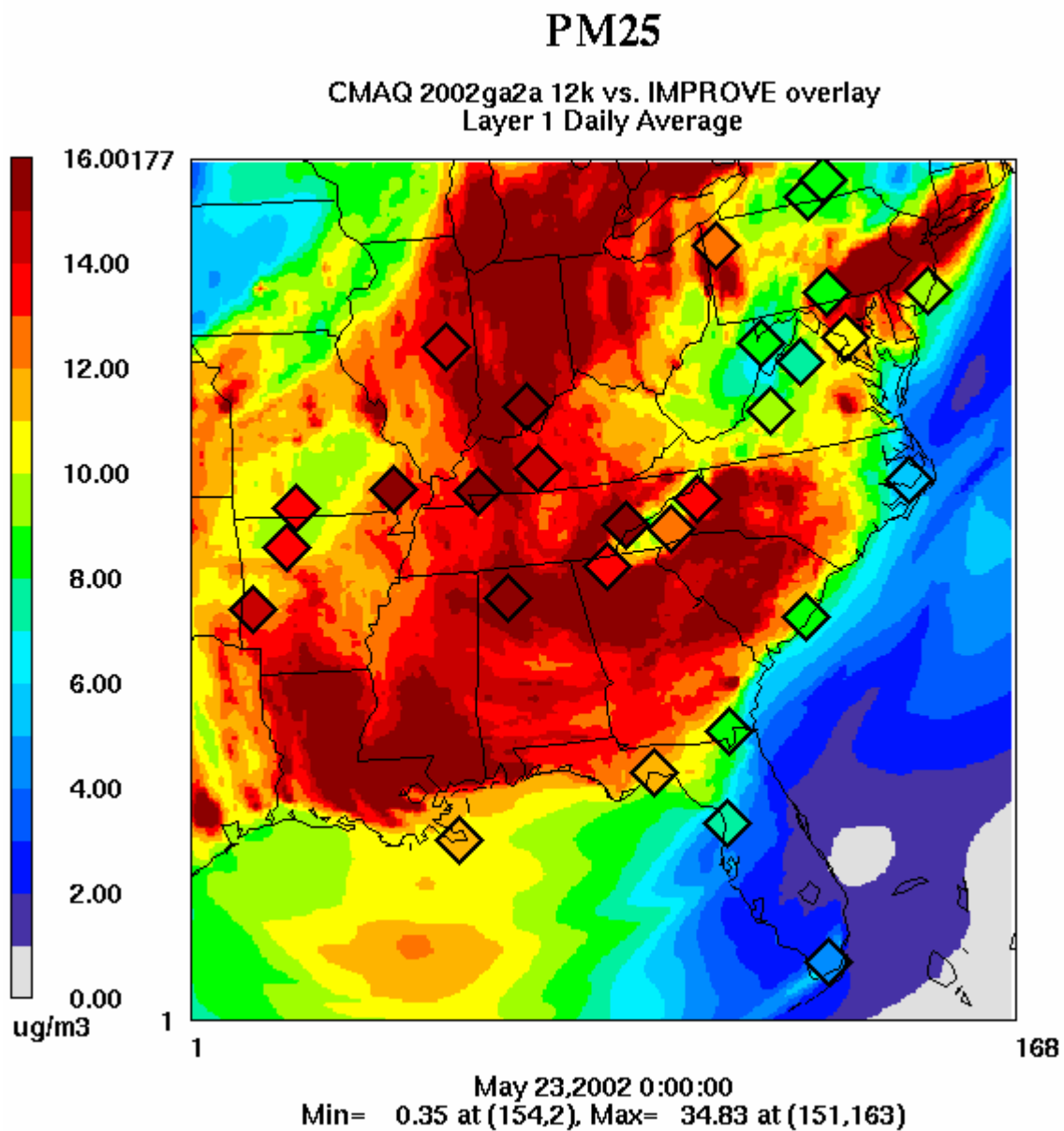
Figure D-140:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 23, 2002

D.47   May 26, 2002

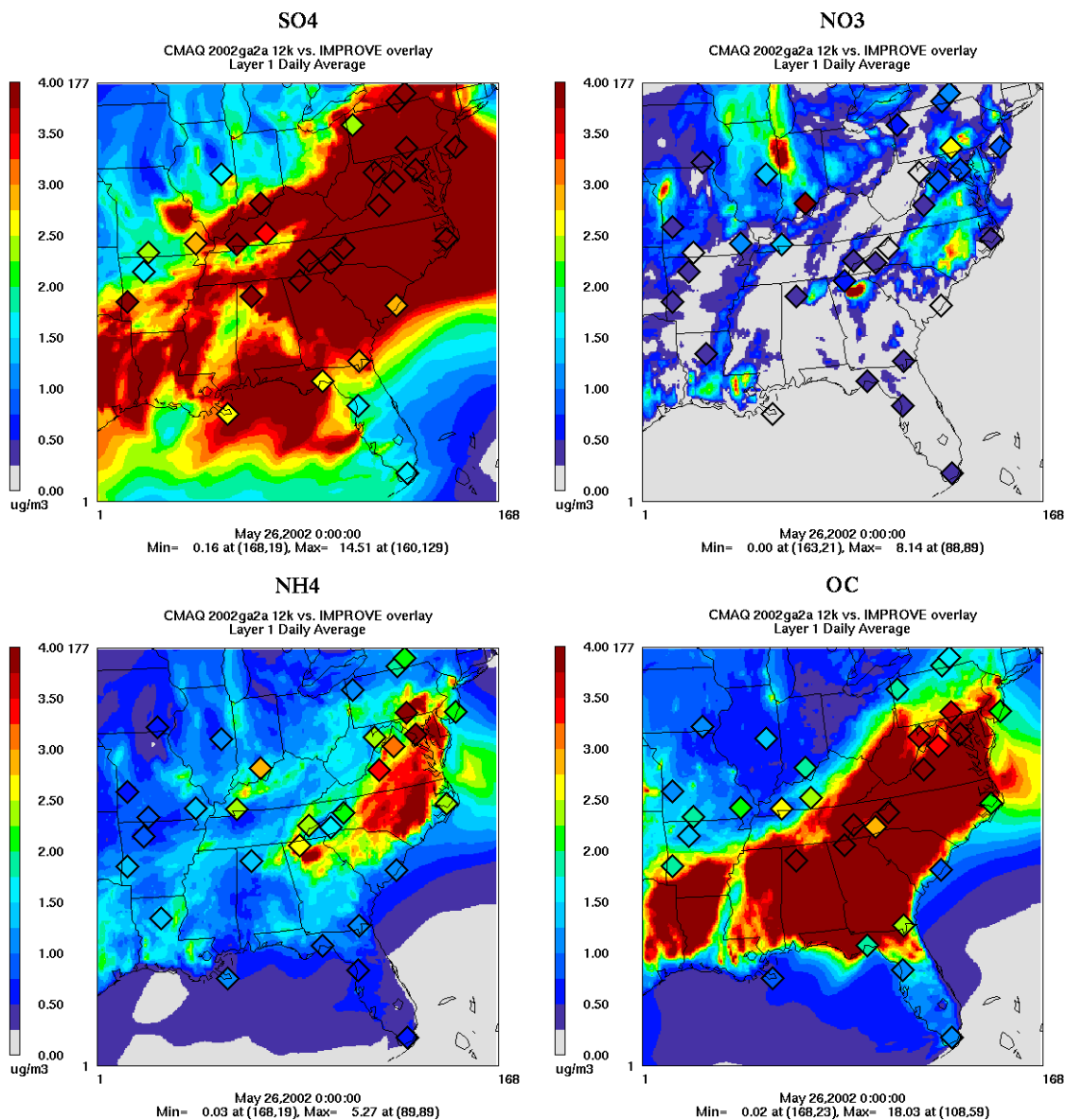| Date	Julian Day	Type	Class I Areas Affected
05/26/02	146	W20%	JARI, SHEN, DOSO, SWAN
05/26/02	146	B20%	CHAS

Figure D-141:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 26, 2002
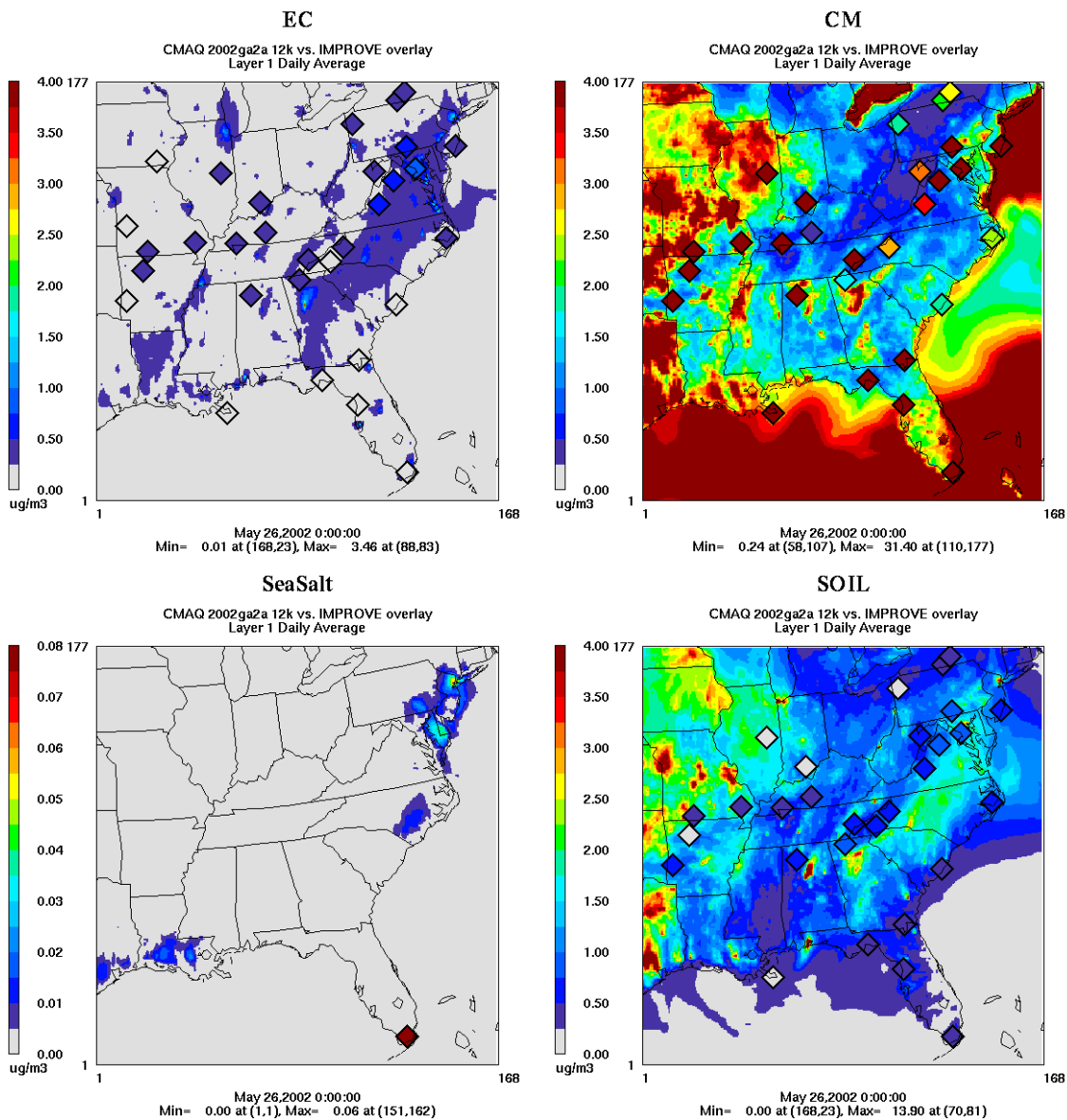
Figure D-142: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 26, 2002
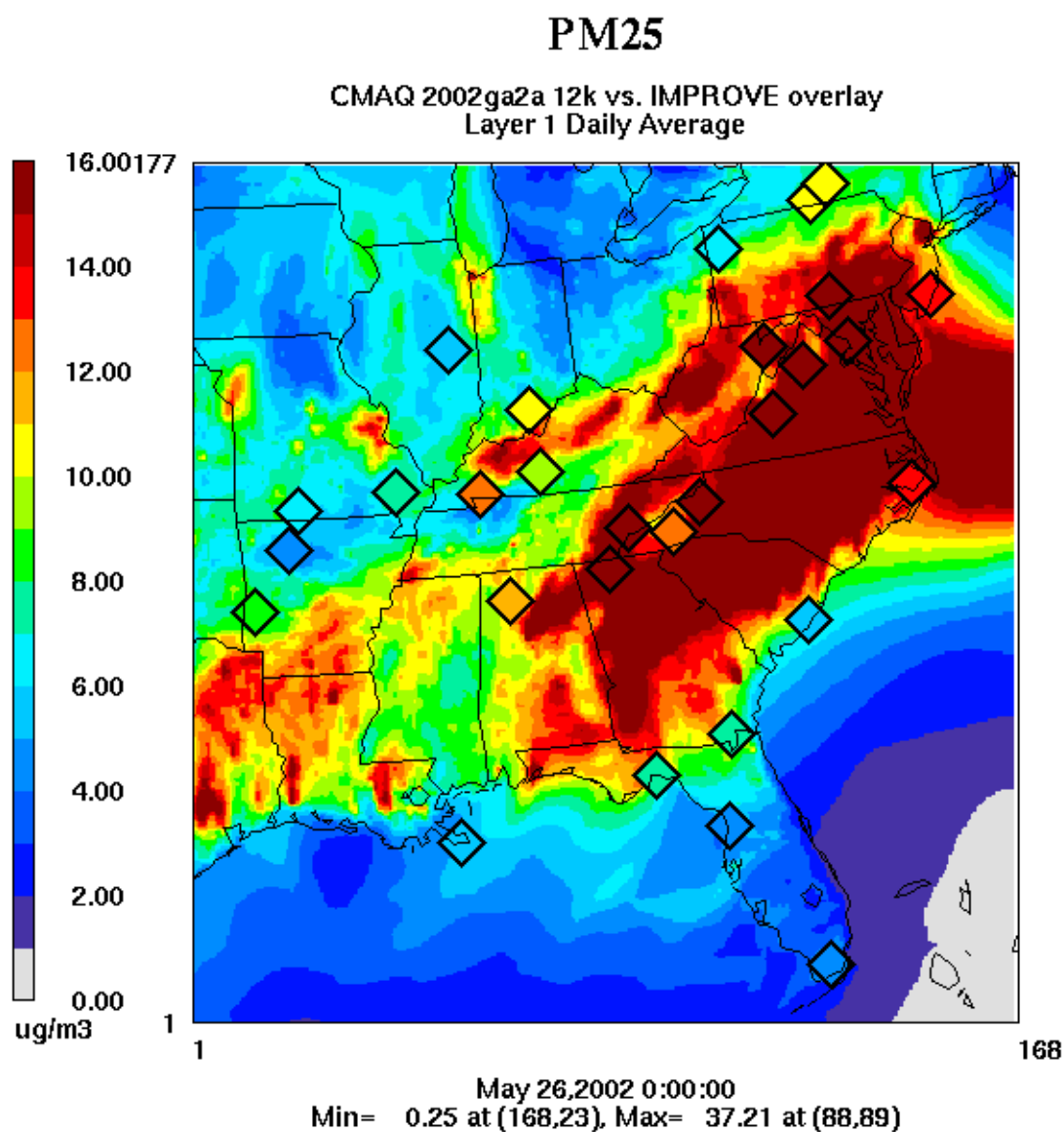
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

May 26,2002 0:00:00
Min=   0.25 at (168,23), Max=   37.21 at (88,89)

Figure D-143:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 26, 2002

D.48   May 29, 2002

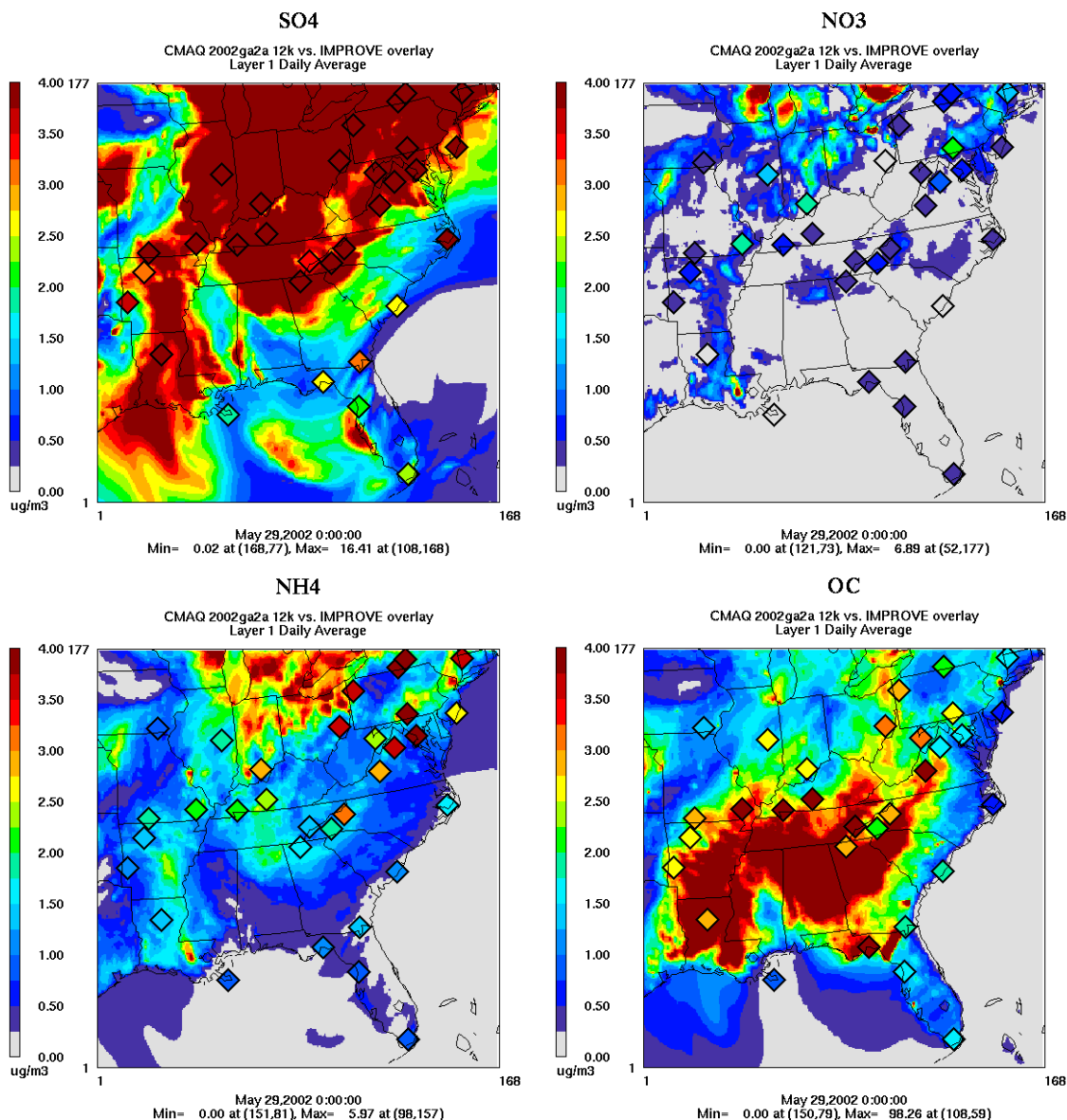| Date	Julian Day	Type	Class I Areas Affected
05/29/02	149	W20%	LIGO, SHEN, DOSO, HEGL, MACA, BRIG
05/29/02	149	B20%	BRET

Figure D-144: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For May 29, 2002
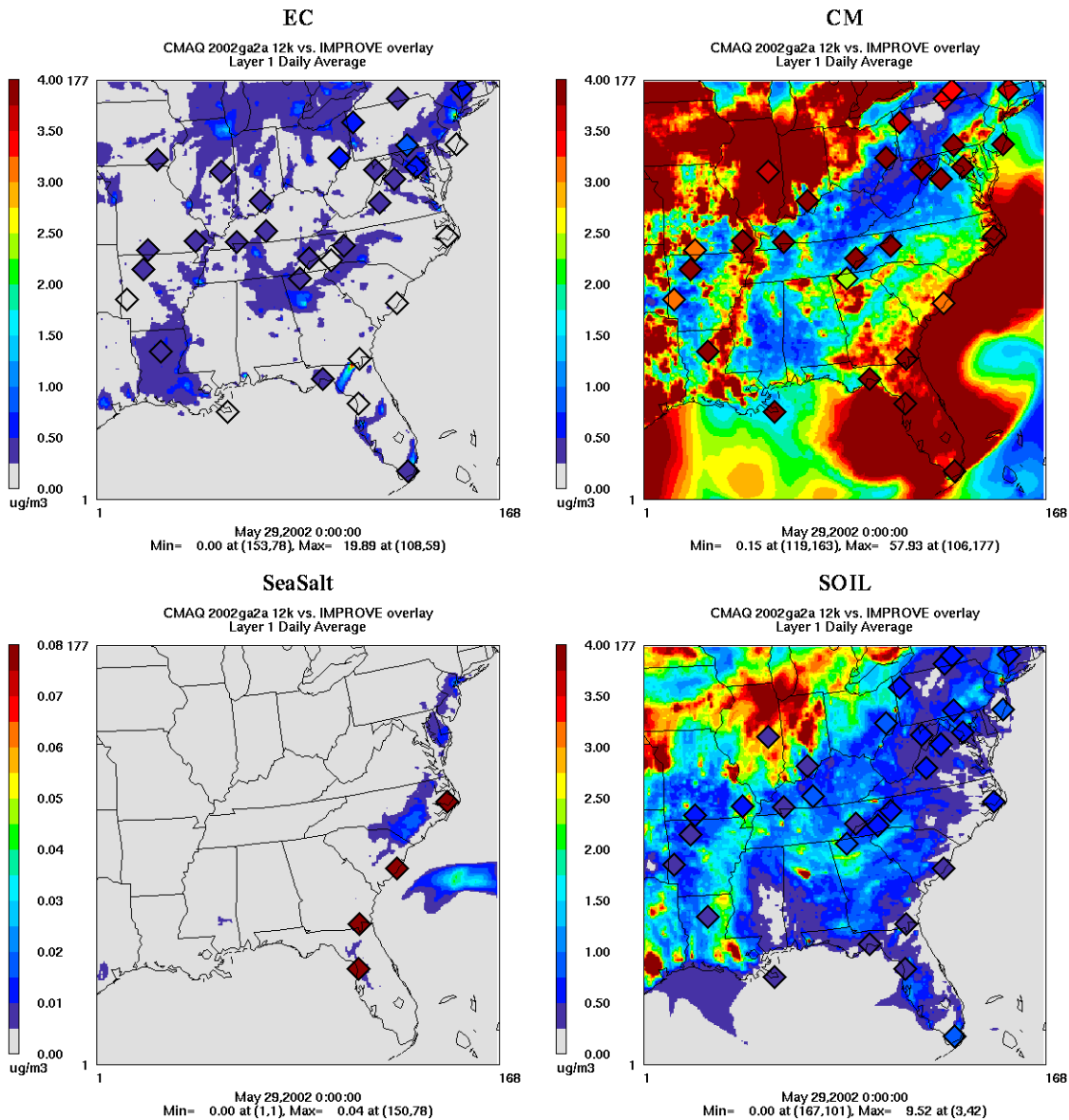
Figure D-145: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For May 29, 2002
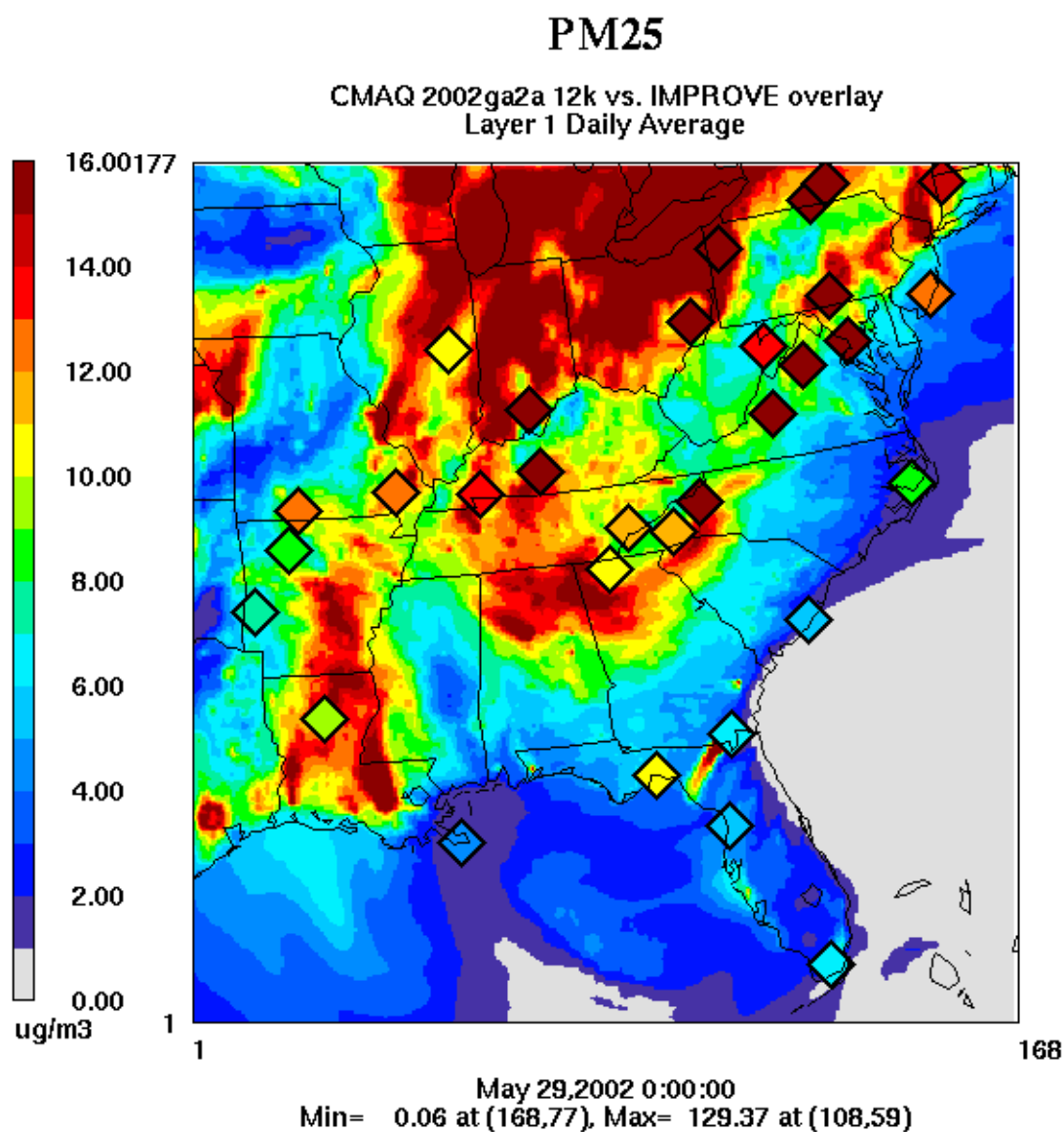
Figure D-146: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For May 29, 2002

D.49   June 1, 2002

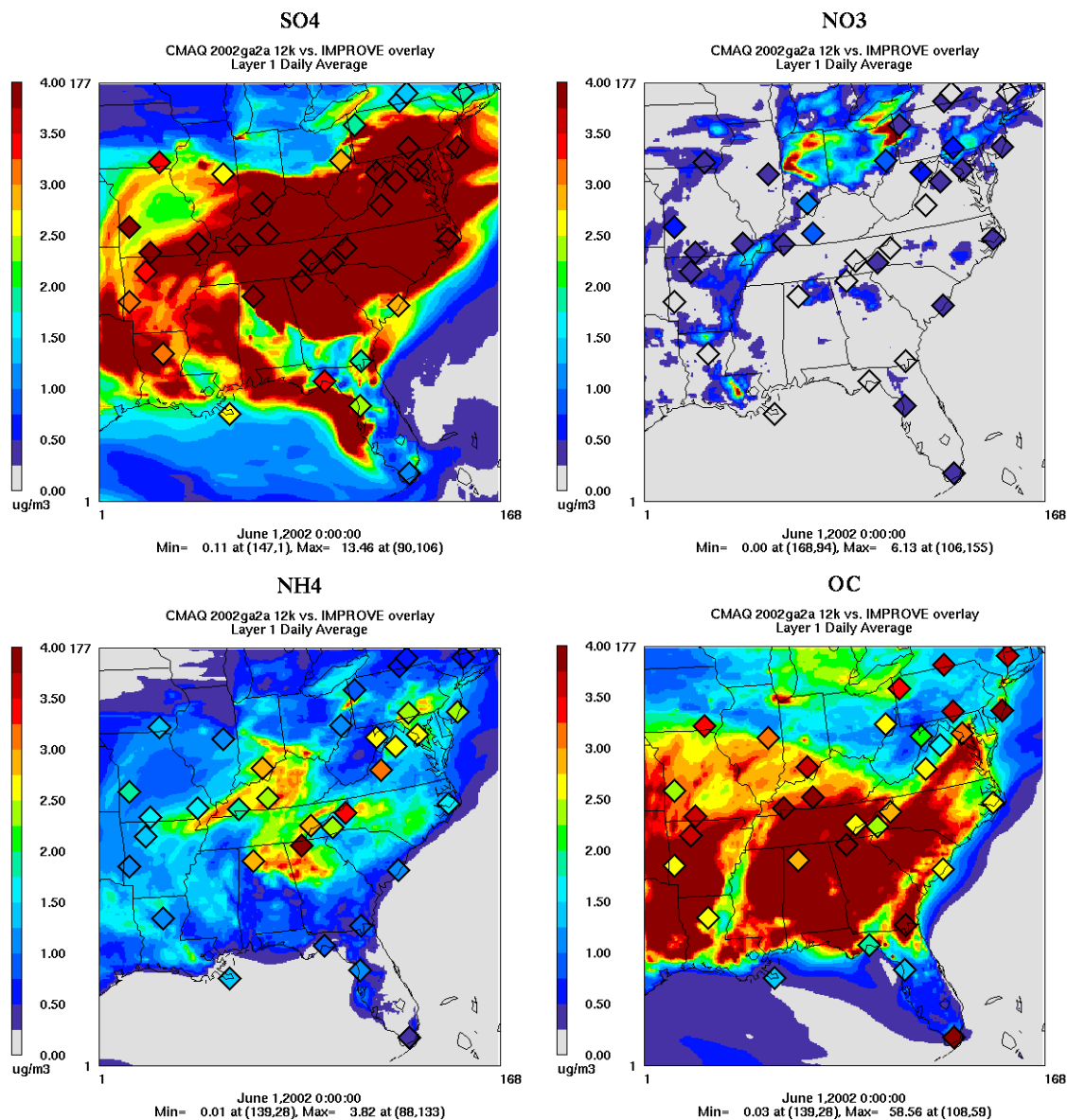| Date	Julian Day	Type	Class I Areas Affected
06/01/02	152	W20%	LIGO, SHRO, GRSM, JARI, SIPS, DOSO, EVER, HEGL, COHU, MACA, BRIG
06/01/02	152	B20%	

Figure D-147: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 1, 2002
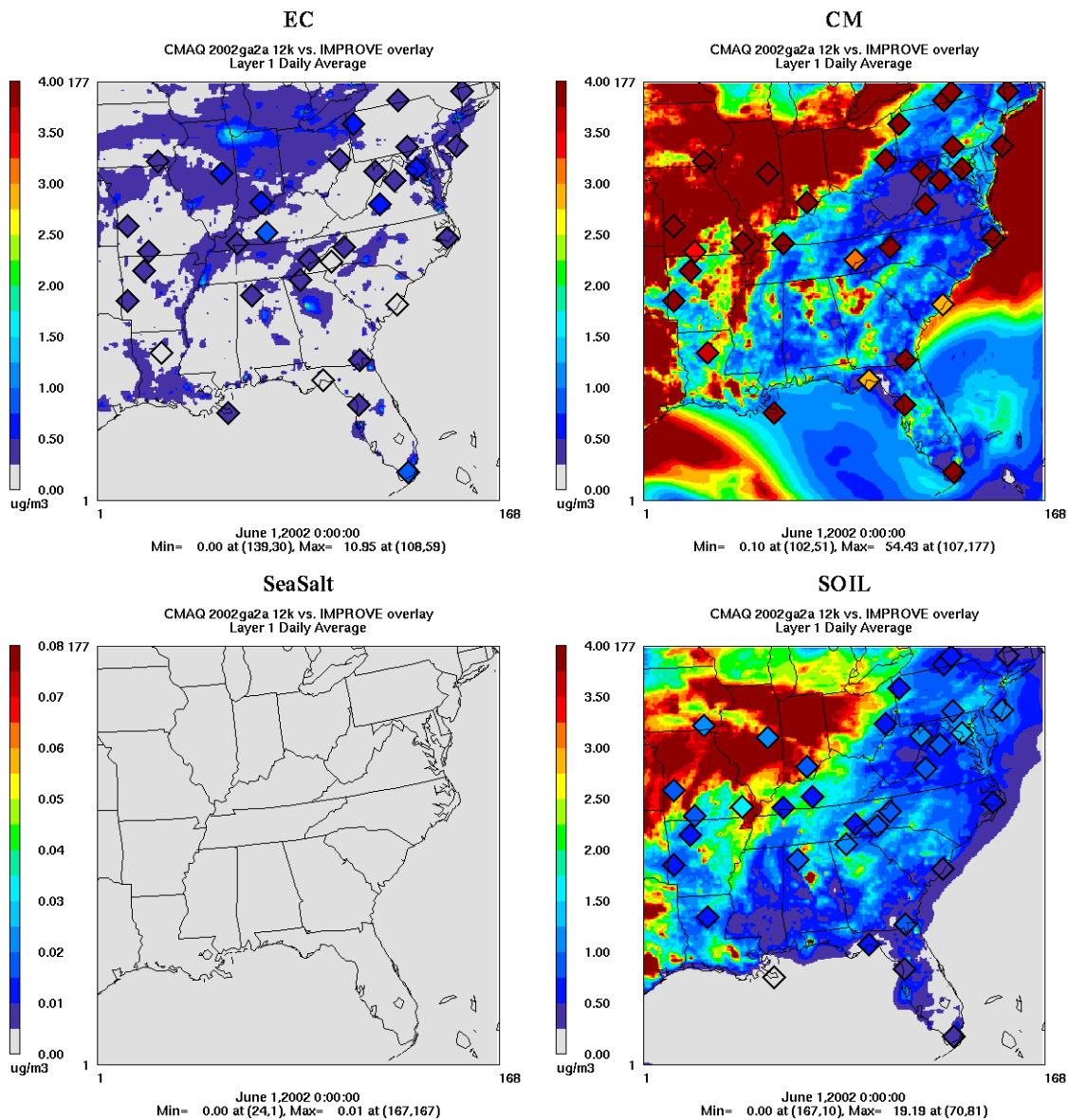
Figure D-148: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 1, 2002
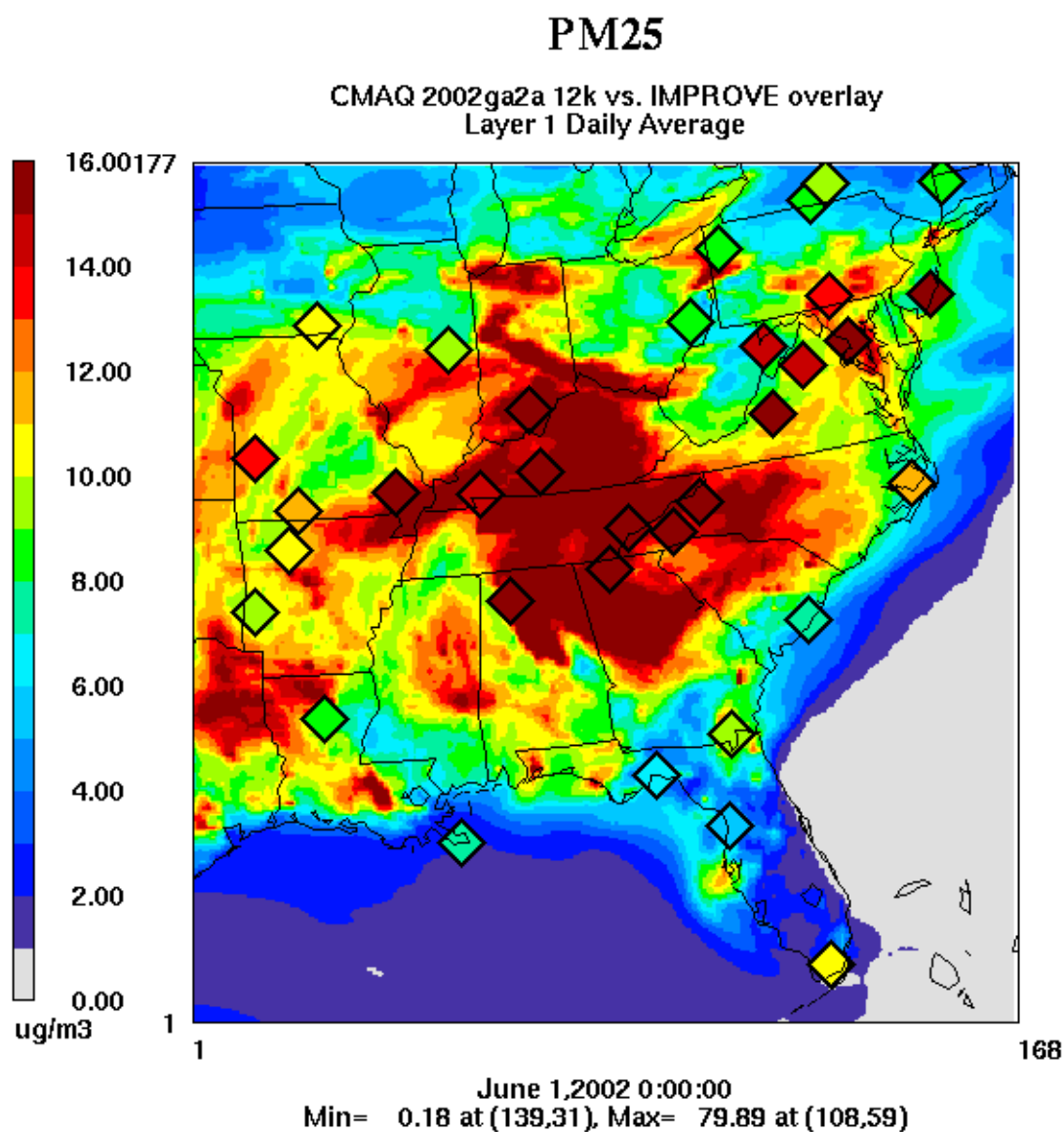
Figure D-149: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 1, 2002

D.50 June 4, 2002

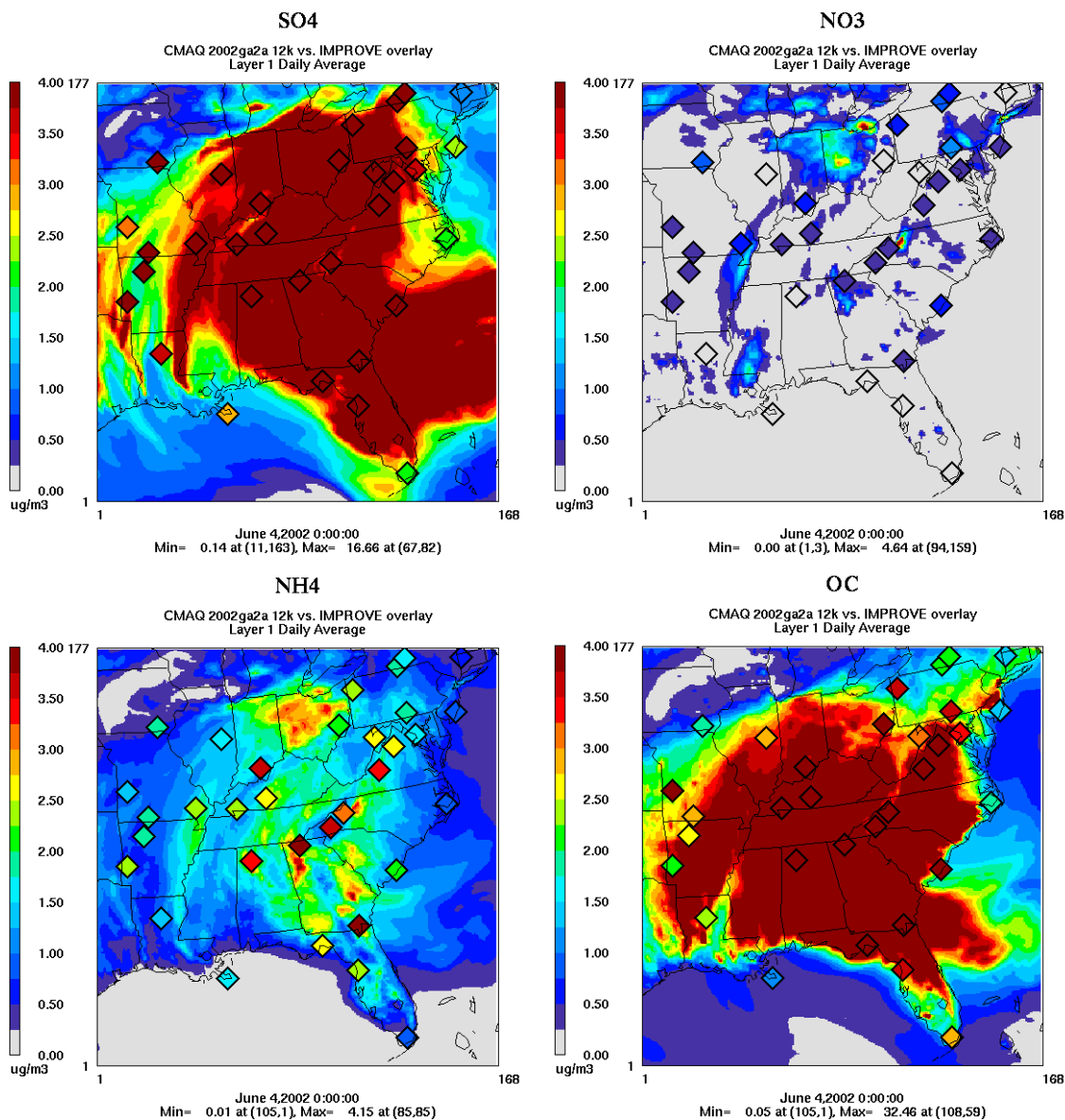| Date	Julian Day	Type	Class I Areas Affected
06/04/02	155	W20%	SHRO, JARI, SIPS, SAMA, OKEF, CACR, SHEN, DOSO, CHAS, COHU, MACA, ROMA
06/04/02	155	B20%	

Figure D-150: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 4, 2002
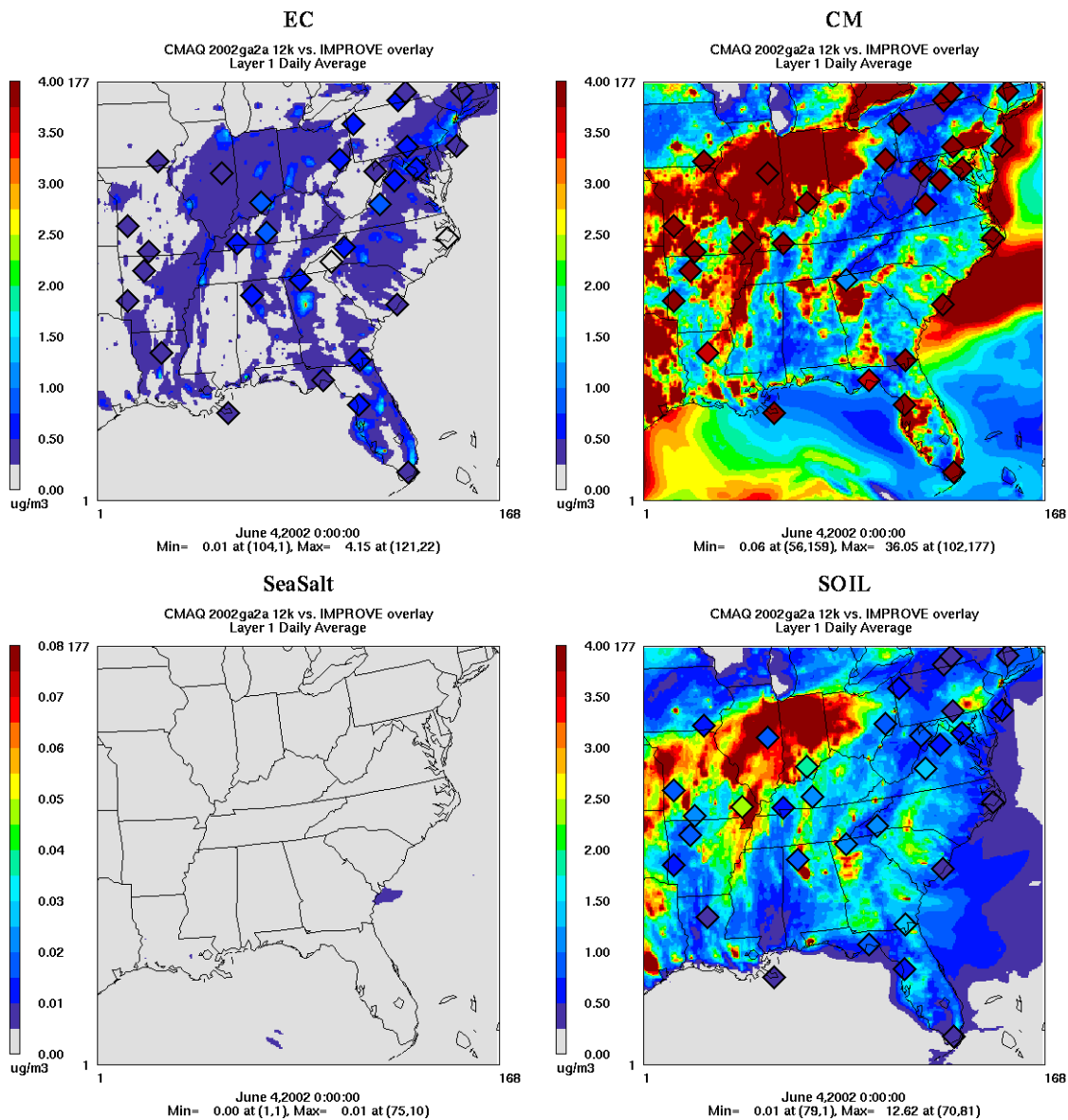
Figure D-151: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 4, 2002
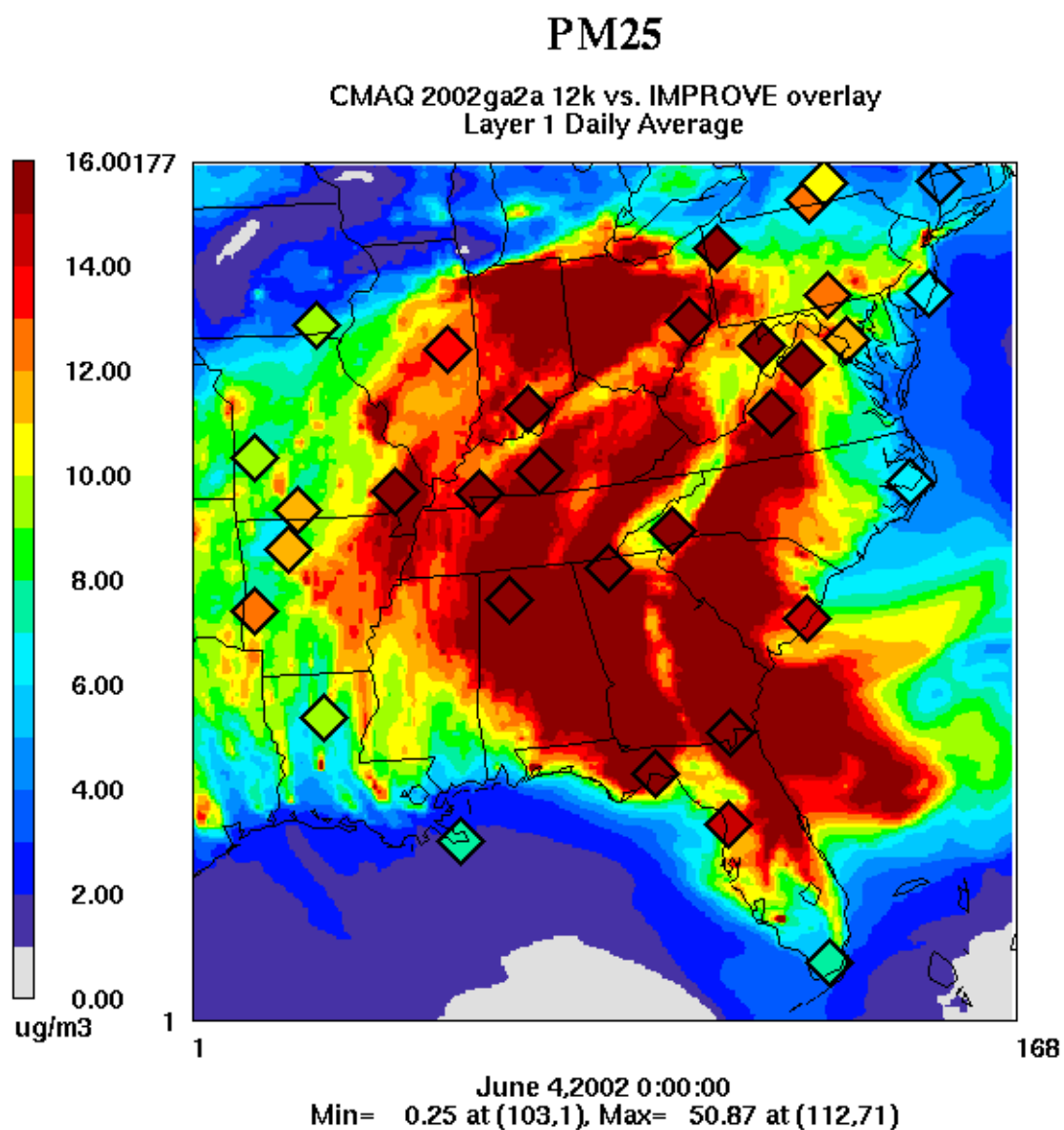
Figure D-152: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 4, 2002

D.51 June 7, 2002

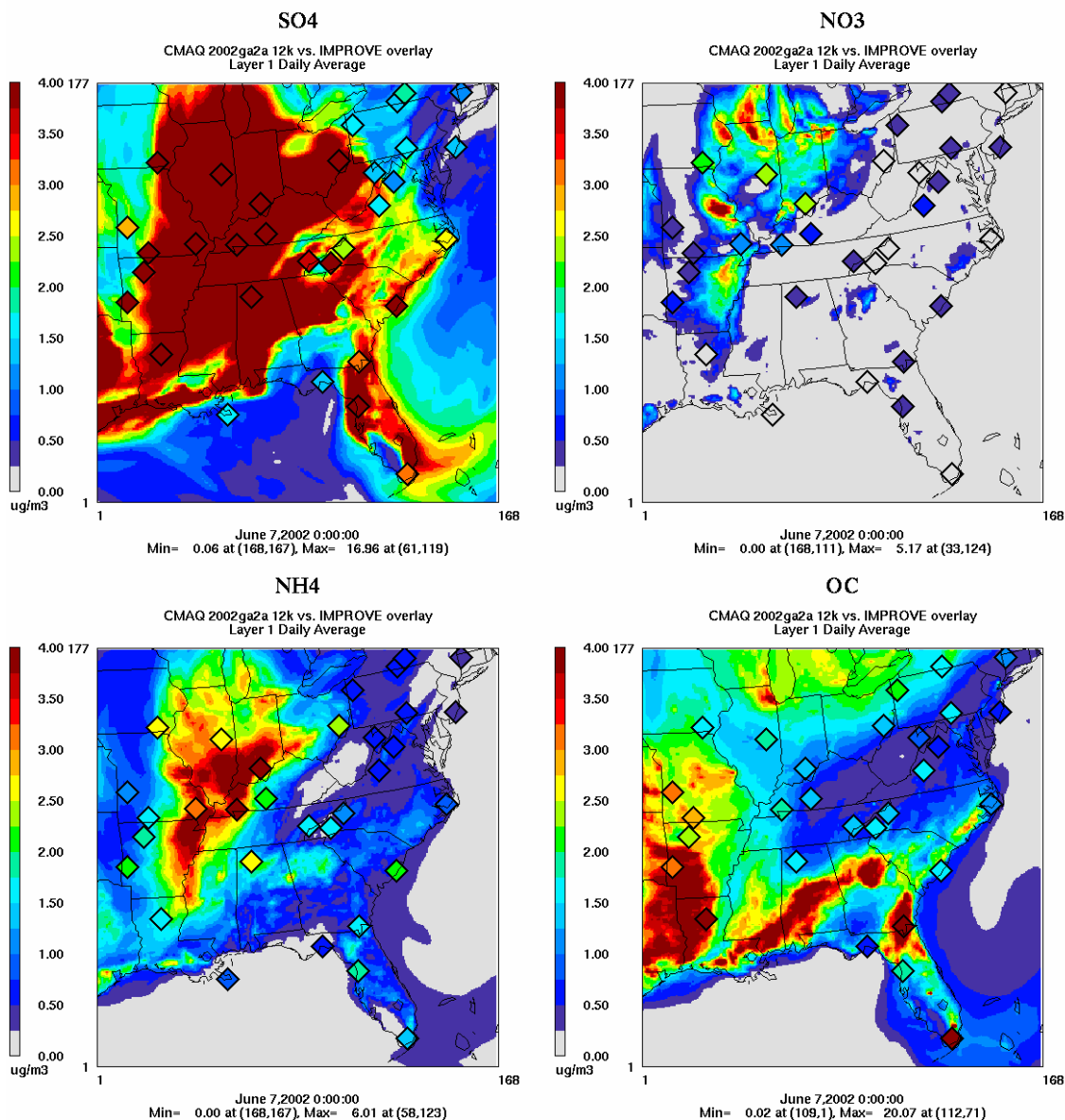| Date	Julian Day	Type	Class I Areas Affected
06/07/02	158	W20%	EVER, ROMA, UPBU, MING
06/07/02	158	B20%	JARI, SAMA, BRET, SHEN, DOSO, BRIG

Figure D-153: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 7, 2002
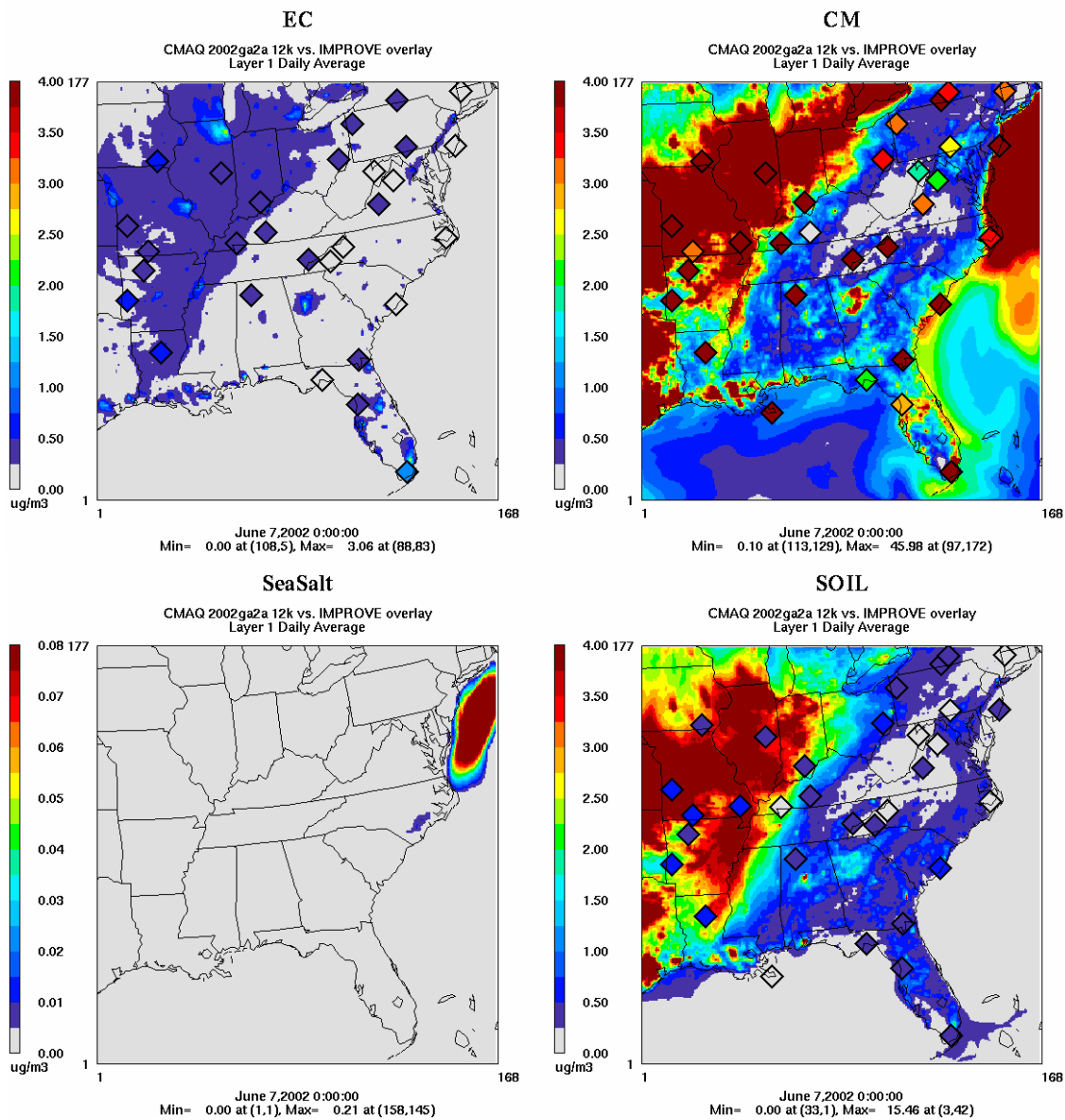
Figure D-154: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 7, 2002
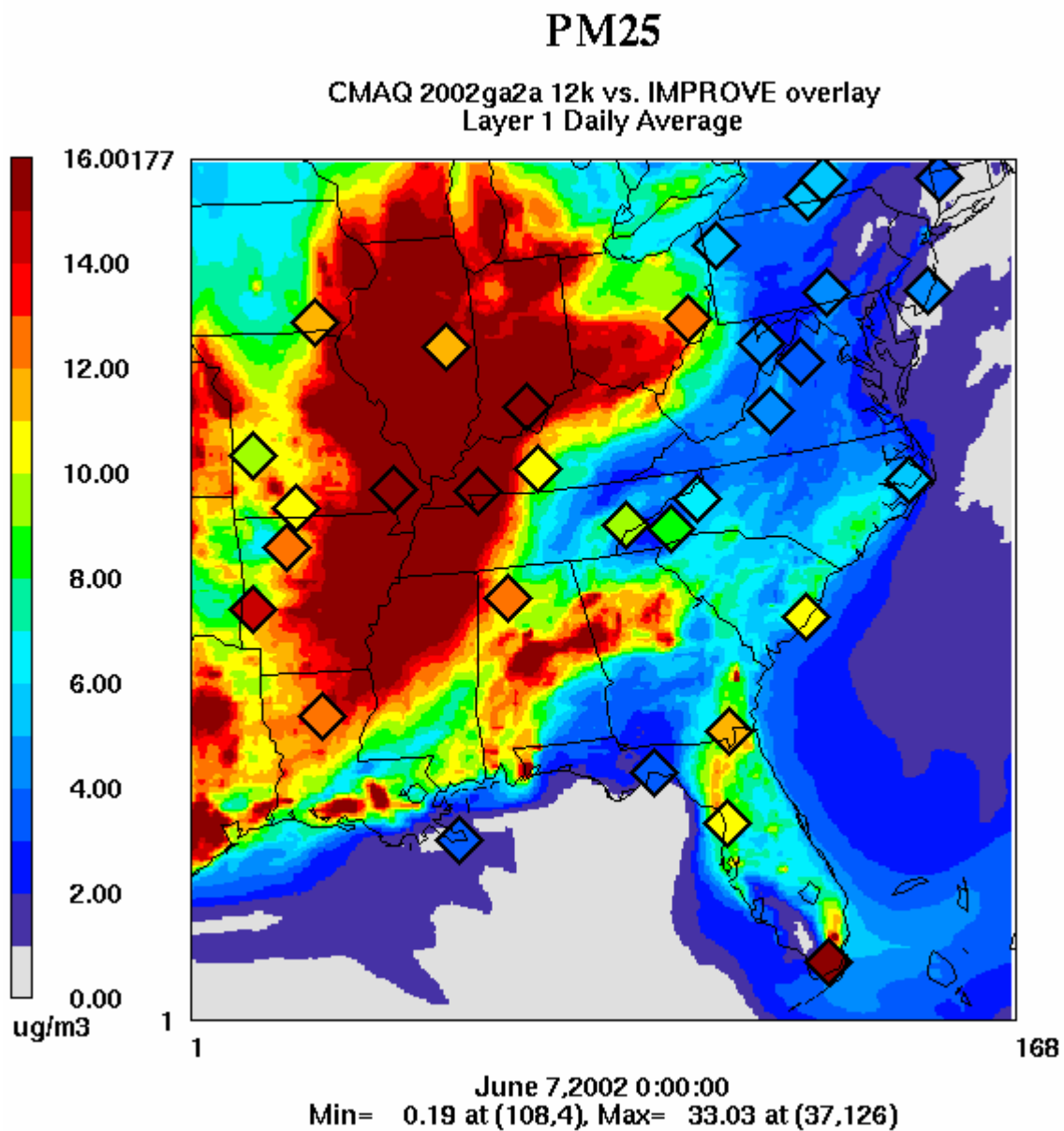
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

June 7,2002 0:00:00
Min= 0.19 at (108,4), Max= 33.03 at (37,126)

Figure D-155:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 7, 2002

D.52   June 10, 2002

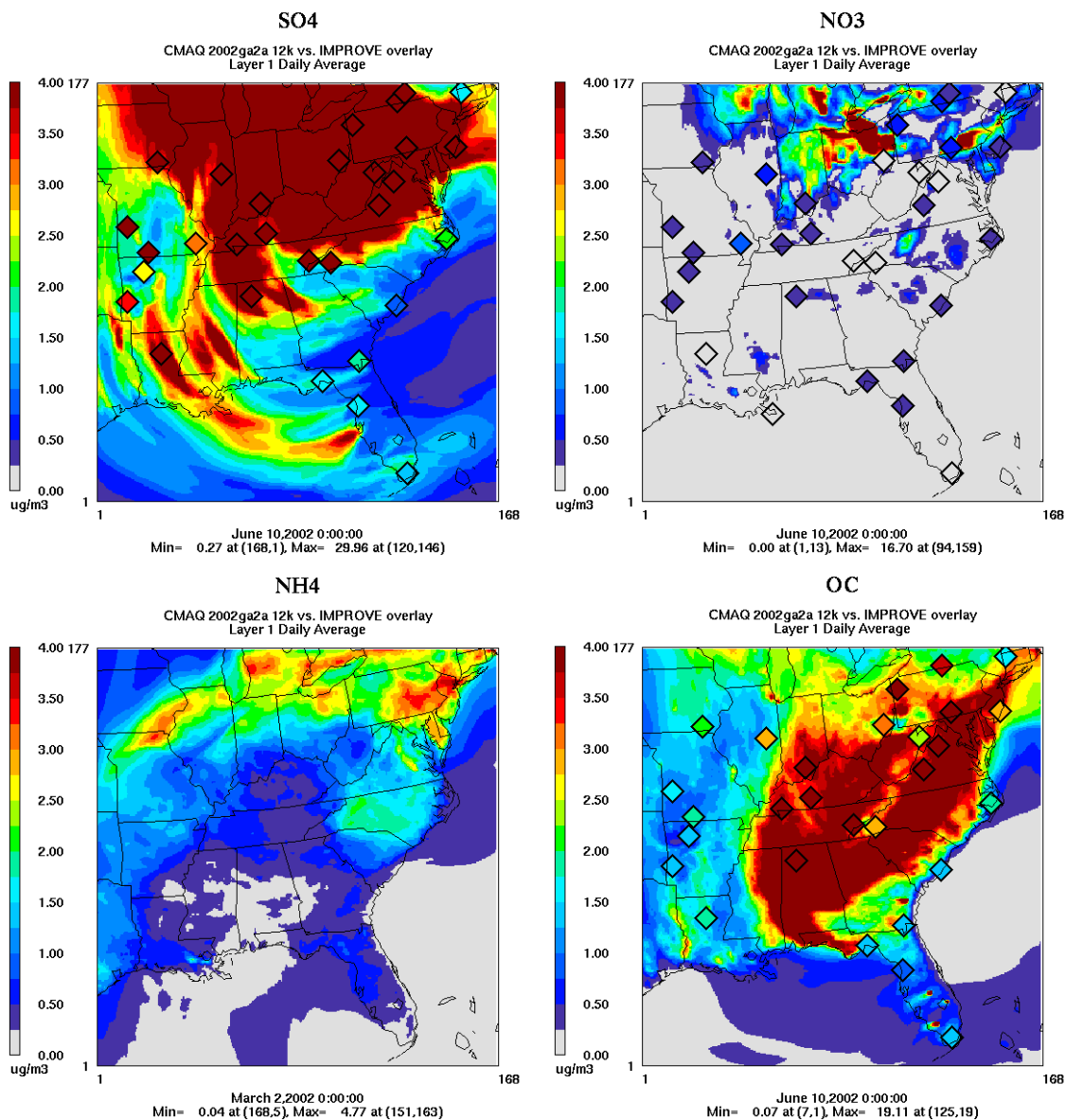| Date	Julian Day	Type	Class I Areas Affected
06/10/02	161	W20%	SHRO, JARI, SIPS, SHEN, DOSO
06/10/02	161	B20%	SAMA, CHAS, ROMA

Figure D-156: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 10, 2002
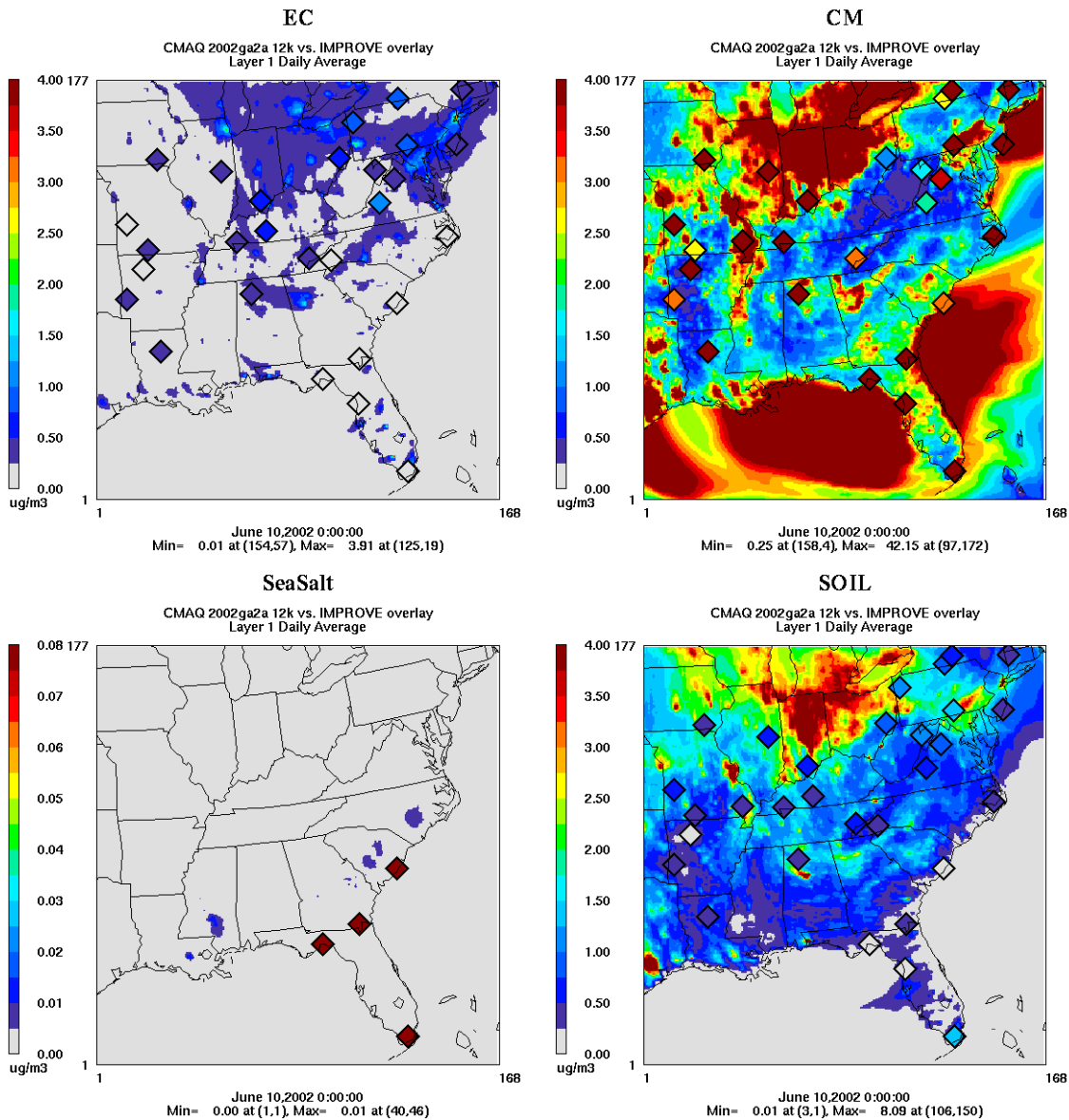
Figure D-157: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 10, 2002
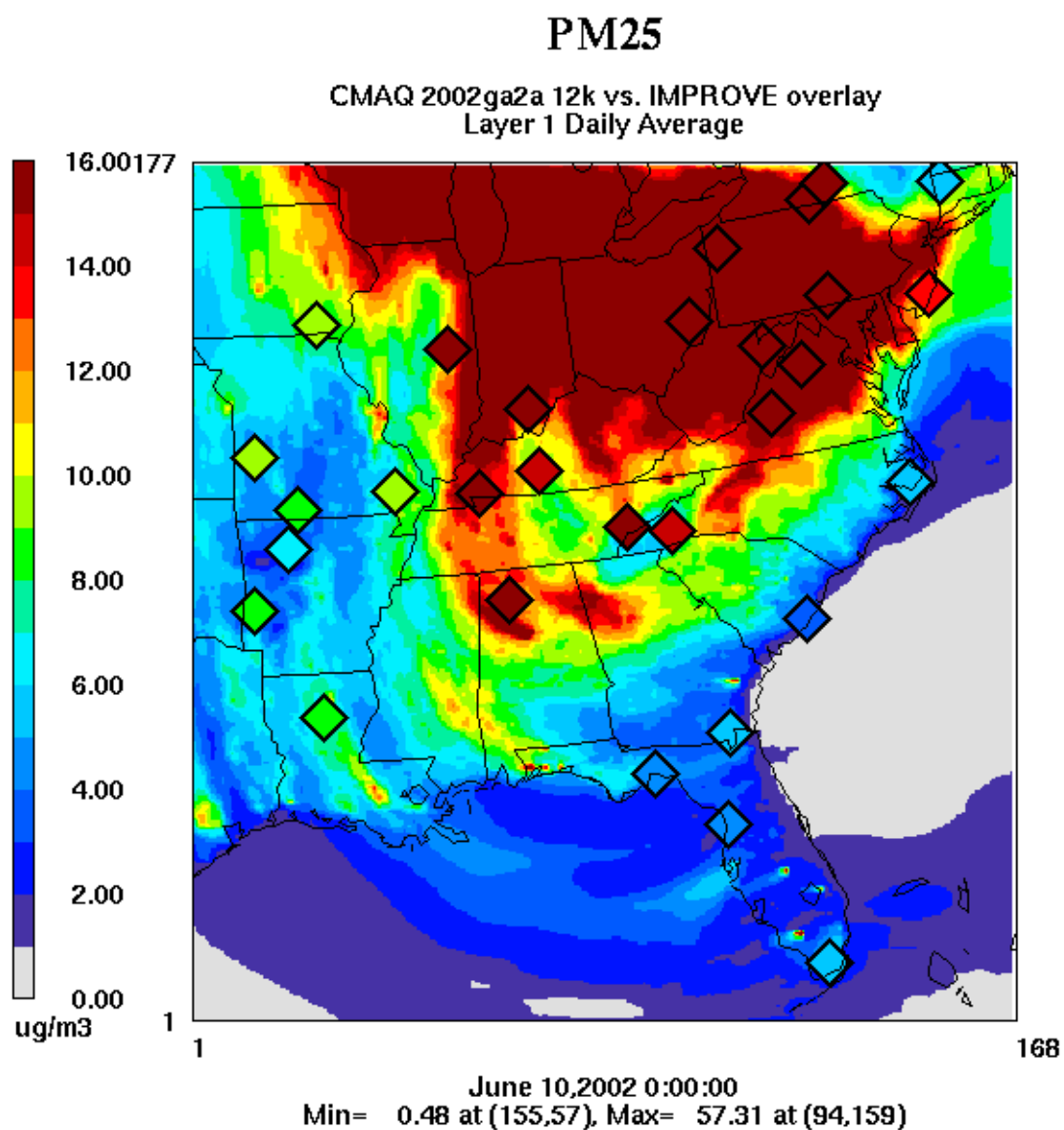
Figure D-158: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 10, 2002

D.53   June 13, 2002

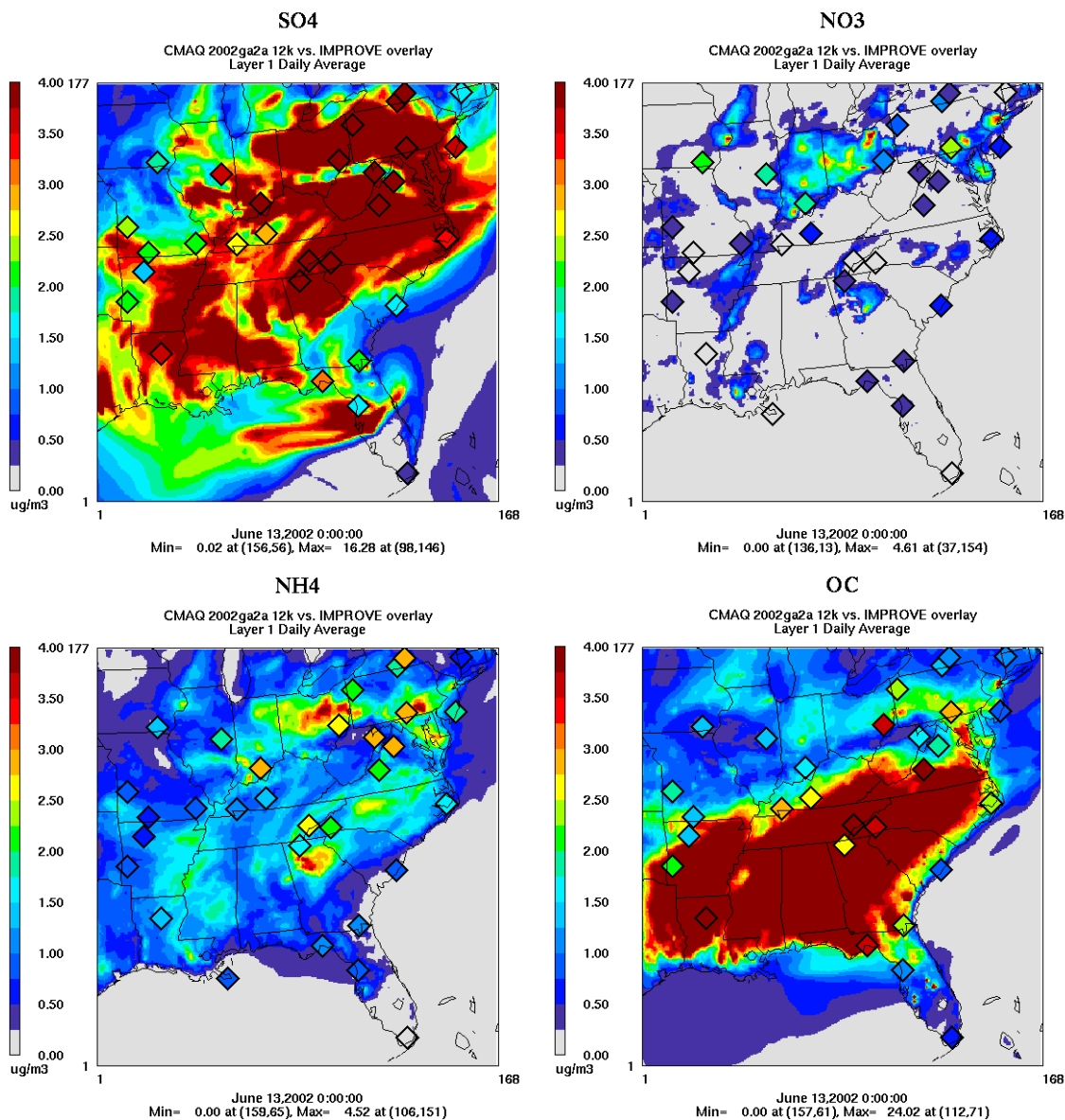| Date	Julian Day	Type	Class I Areas Affected
06/13/02	164	W20%	SHRO, GRSM, SHEN, DOSO
06/13/02	164	B20%	CHAS, EVER, UPBU, MING

Figure D-159: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 13, 2002
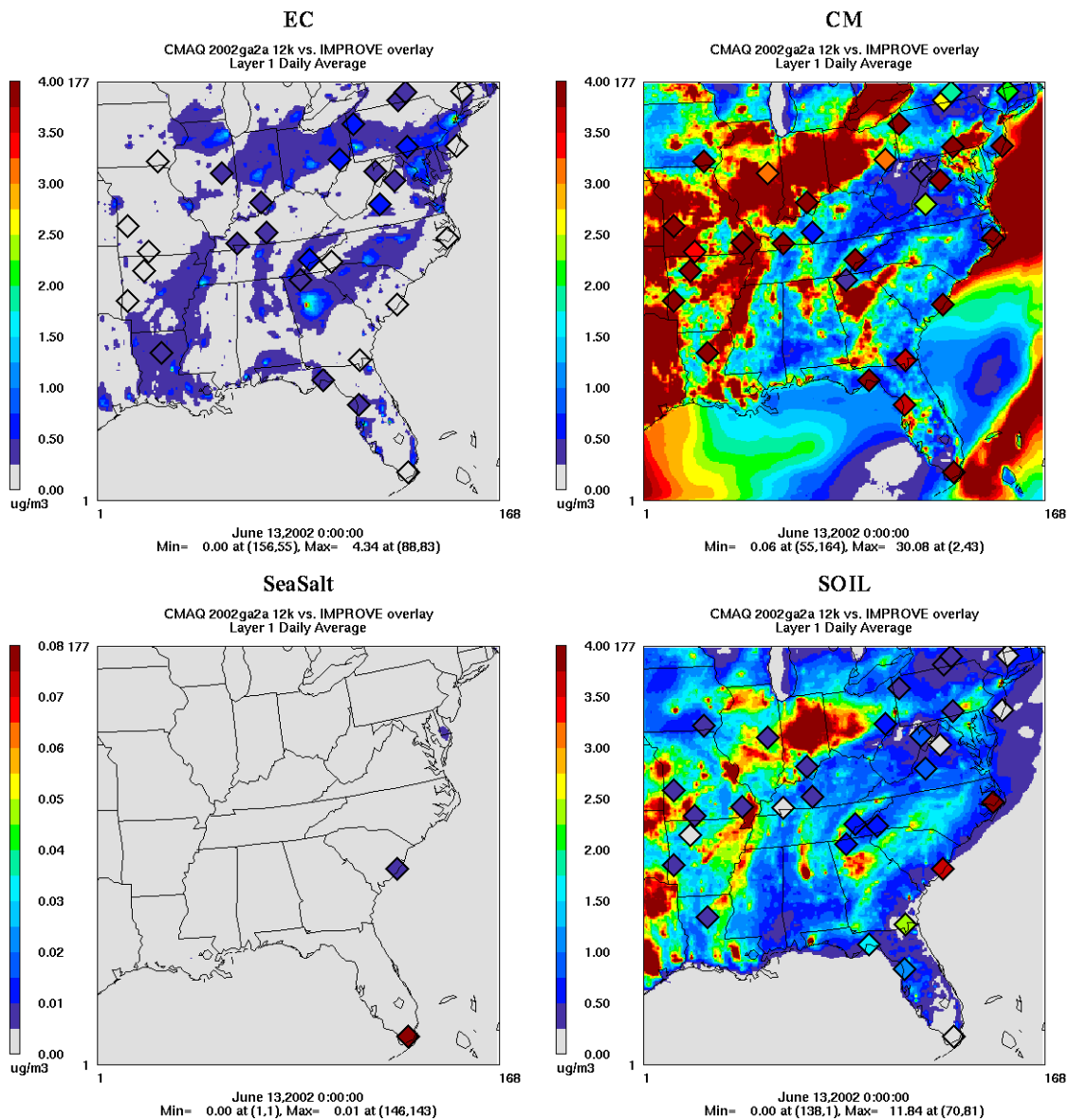
Figure D-160: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 13, 2002
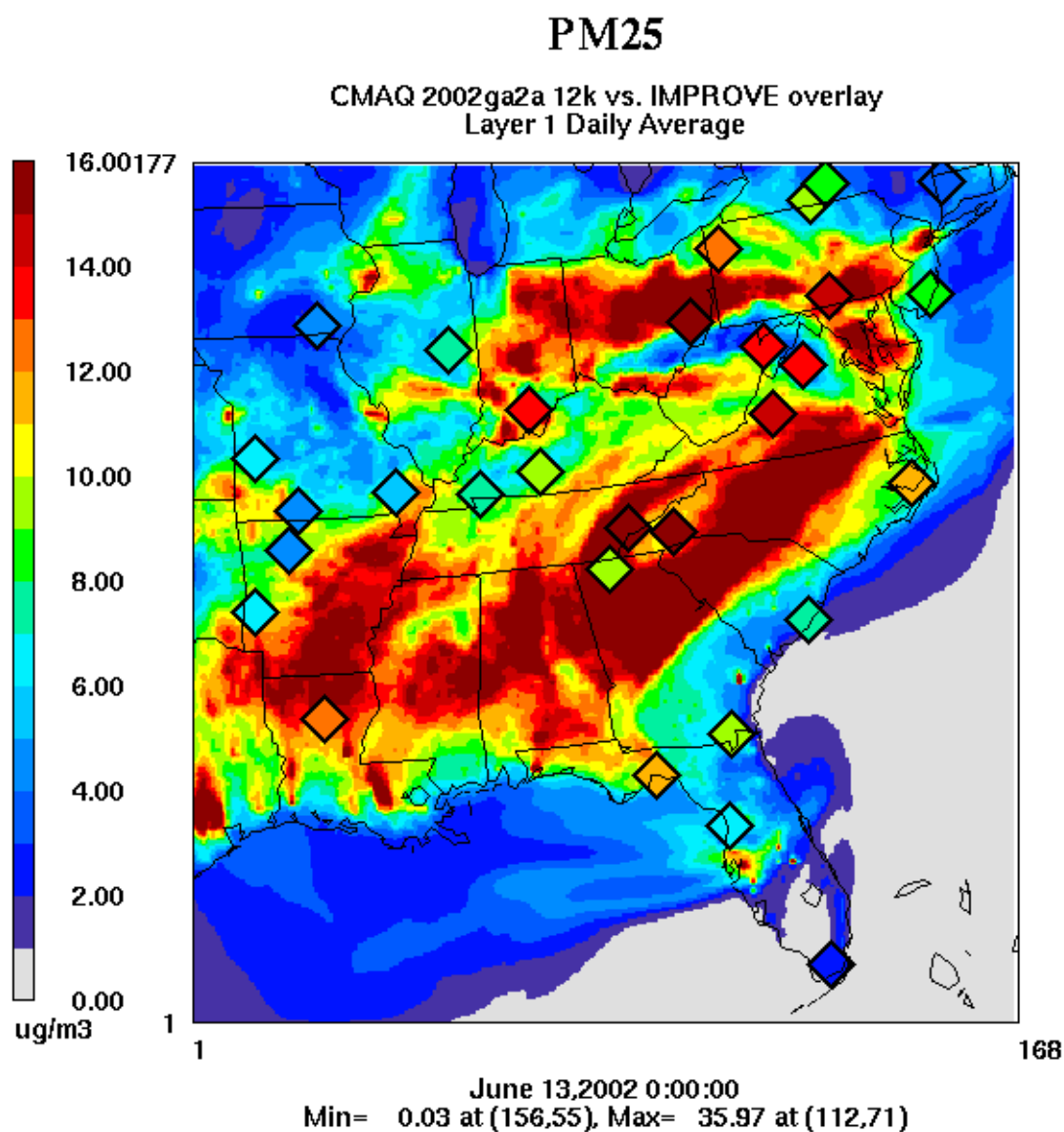
Figure D-161: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 13, 2002

D.54 June 16, 2002

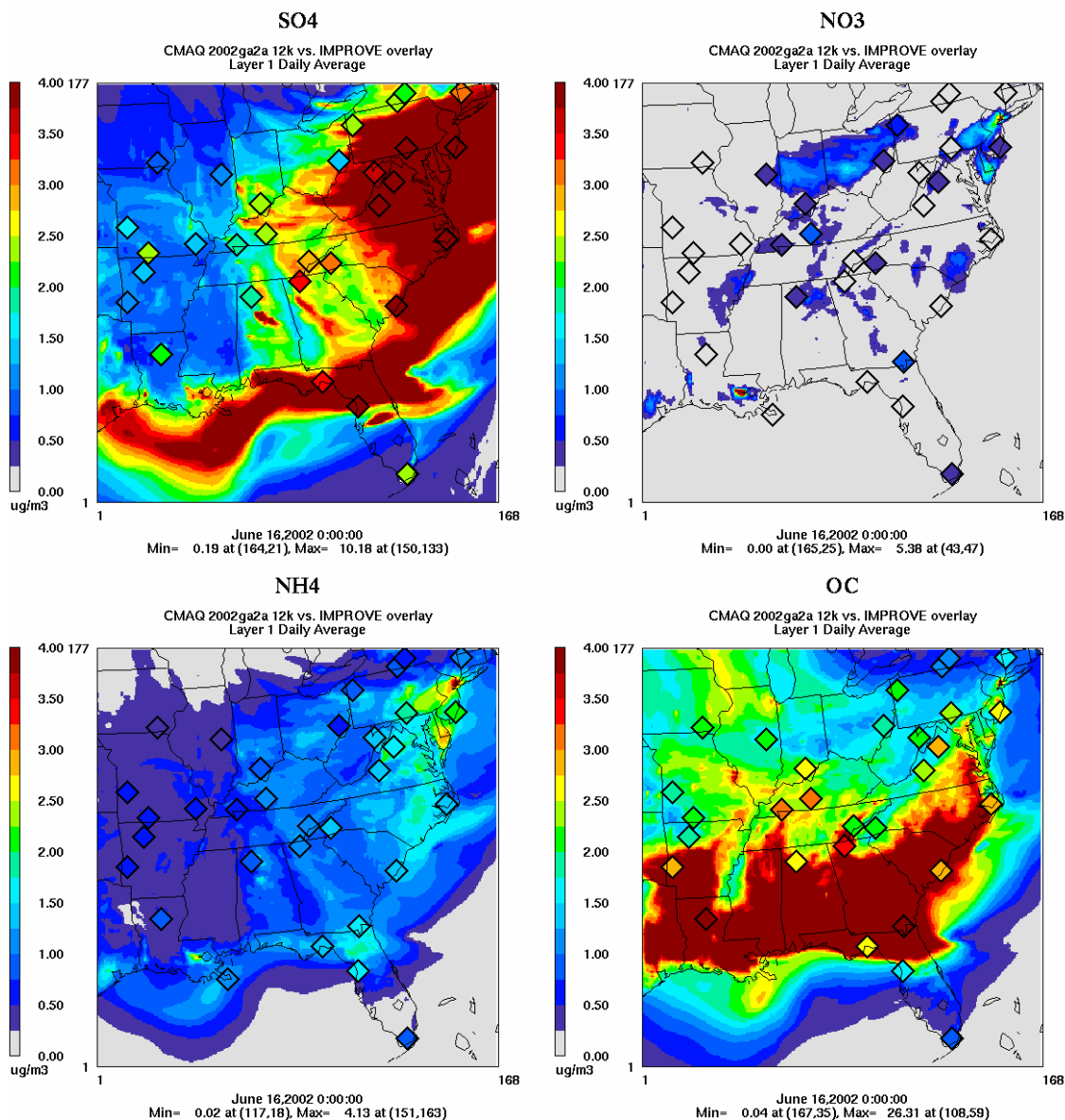| Date	Julian Day	Type	Class I Areas Affected
06/16/02	167	W20%	
06/16/02	167	B20%	SIPS, UPBU, MING

Figure D-162: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 16, 2002
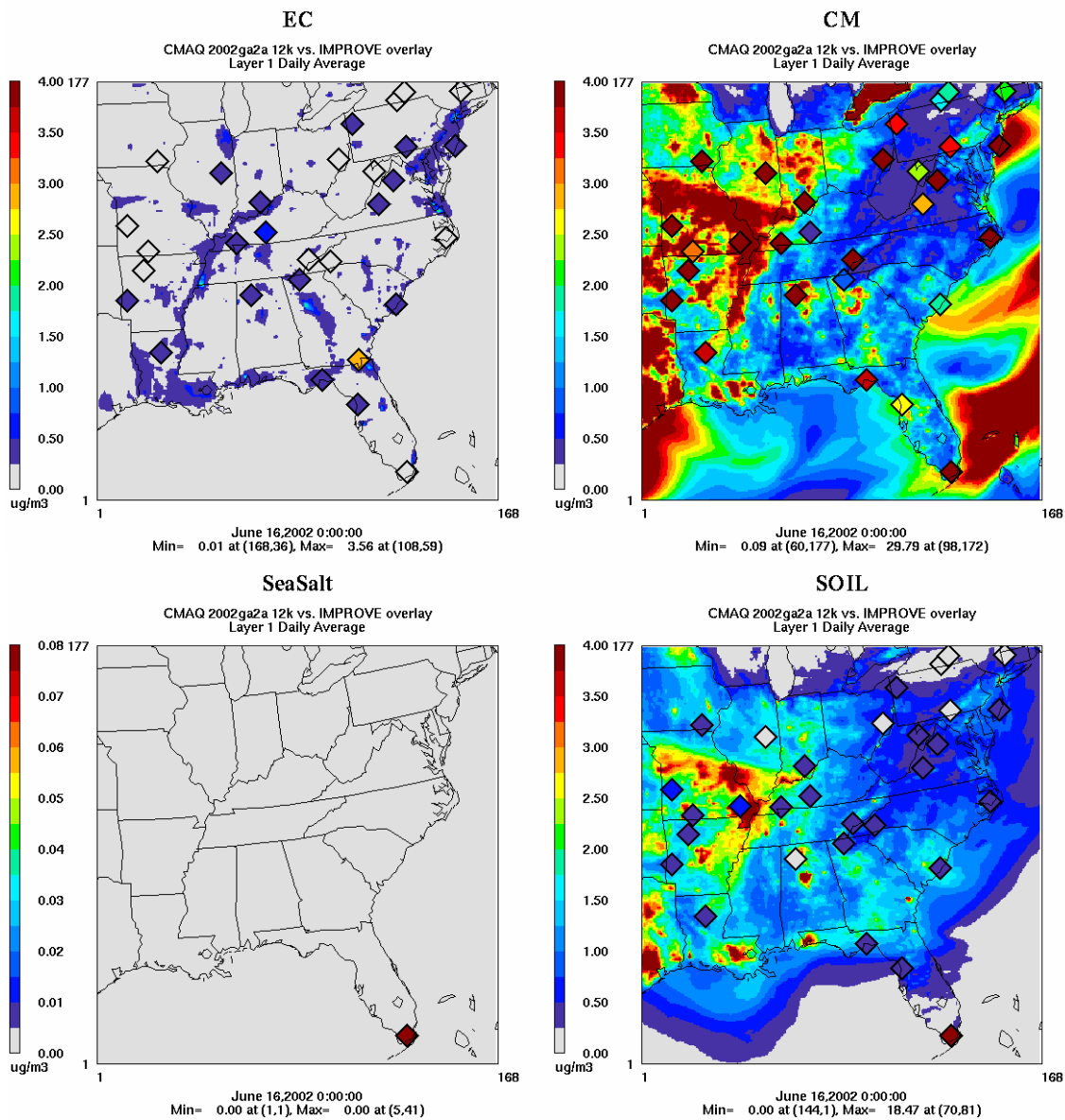
Figure D-163:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 16, 2002
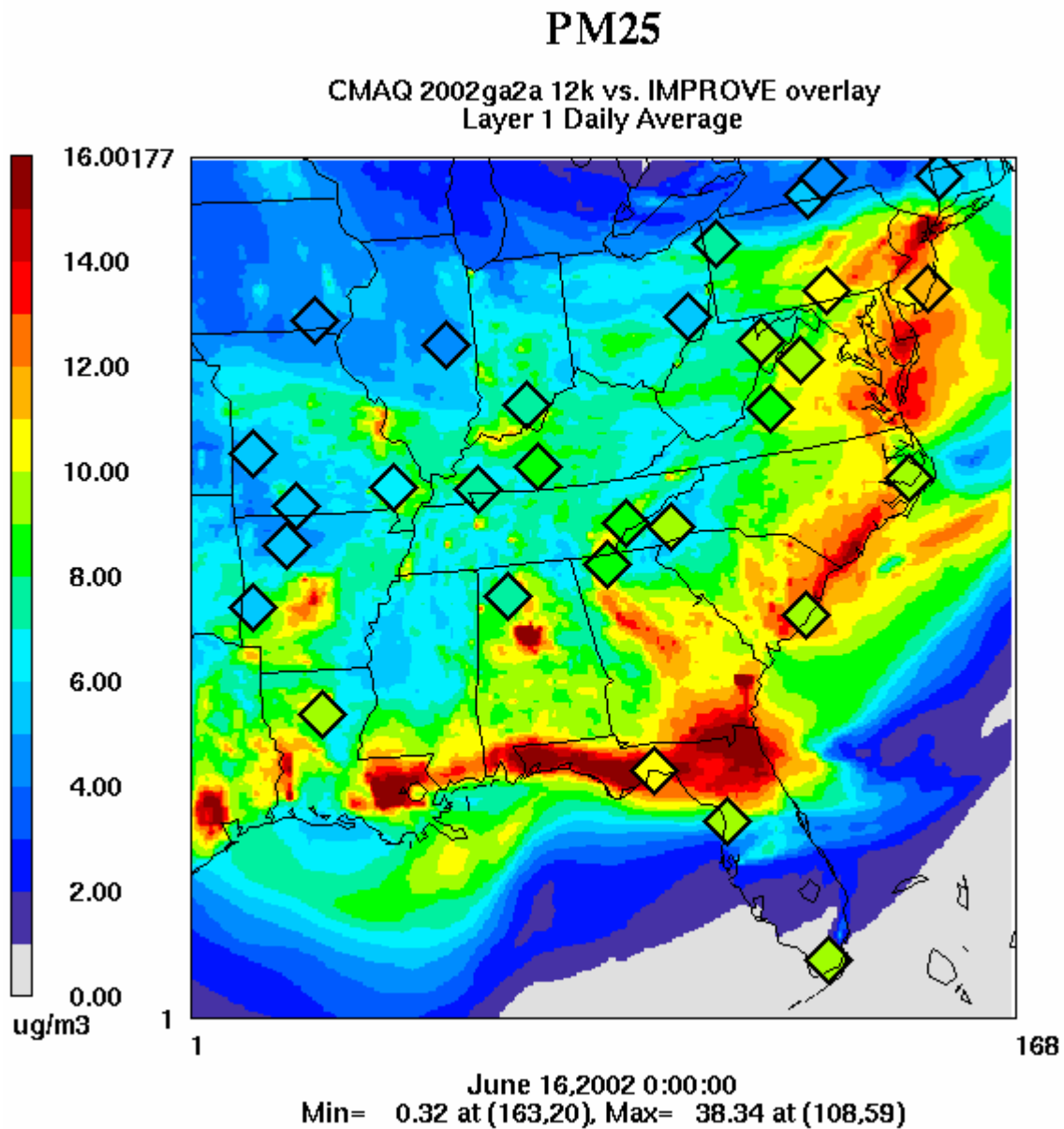
Figure D-164:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 16, 2002

D.55   June 19, 2002

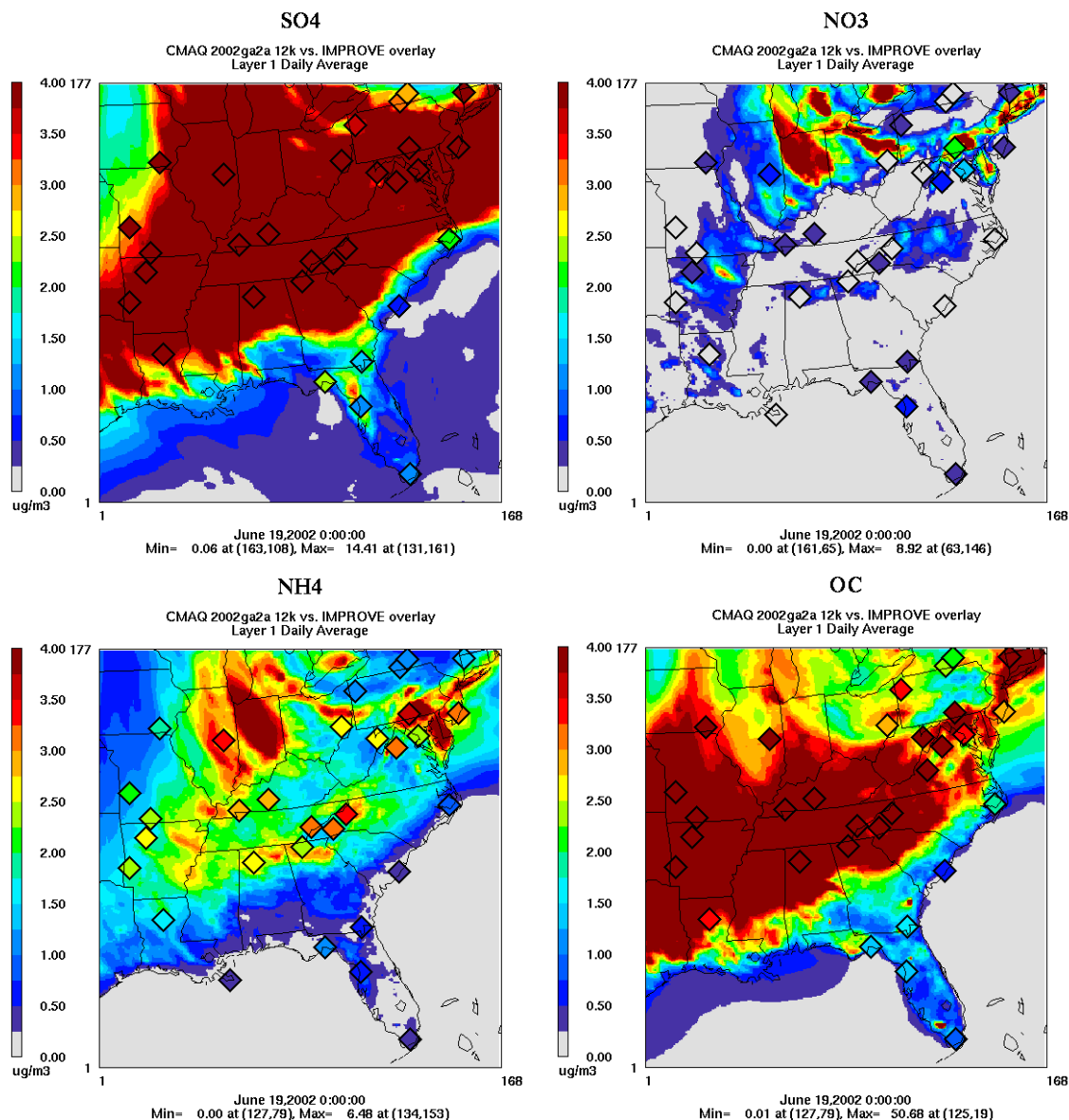| Date	Julian Day	Type	Class I Areas Affected
06/19/02	170	W20%	LIGO, SHRO, GRSM, CACR, SHEN, DOSO, HEGL, MACA, UPBU, BRIG
06/19/02	170	B20%	OKEF, BRET, CHAS, ROMA

Figure D-165:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 19, 2002
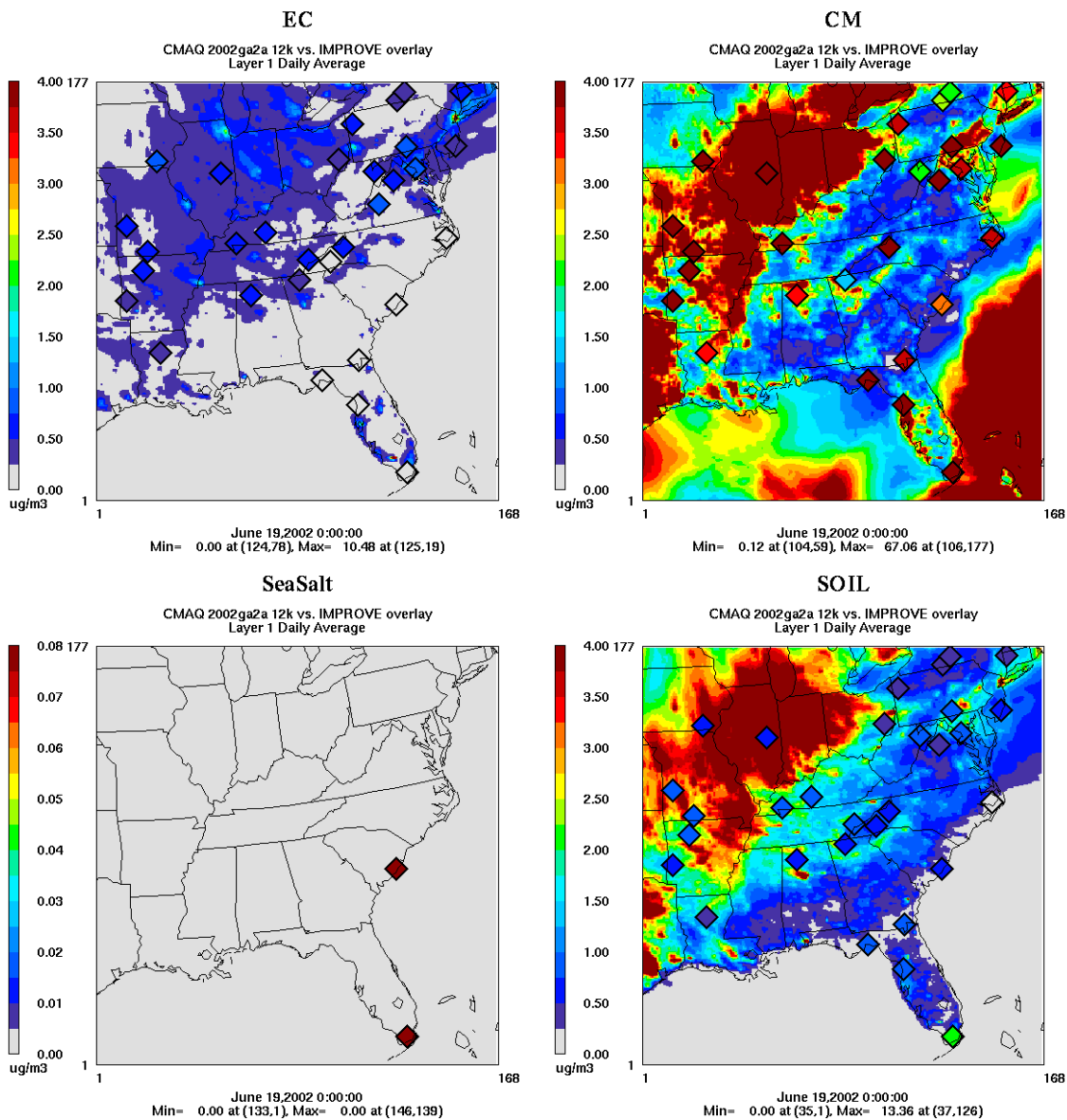
Figure D-166: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 19, 2002
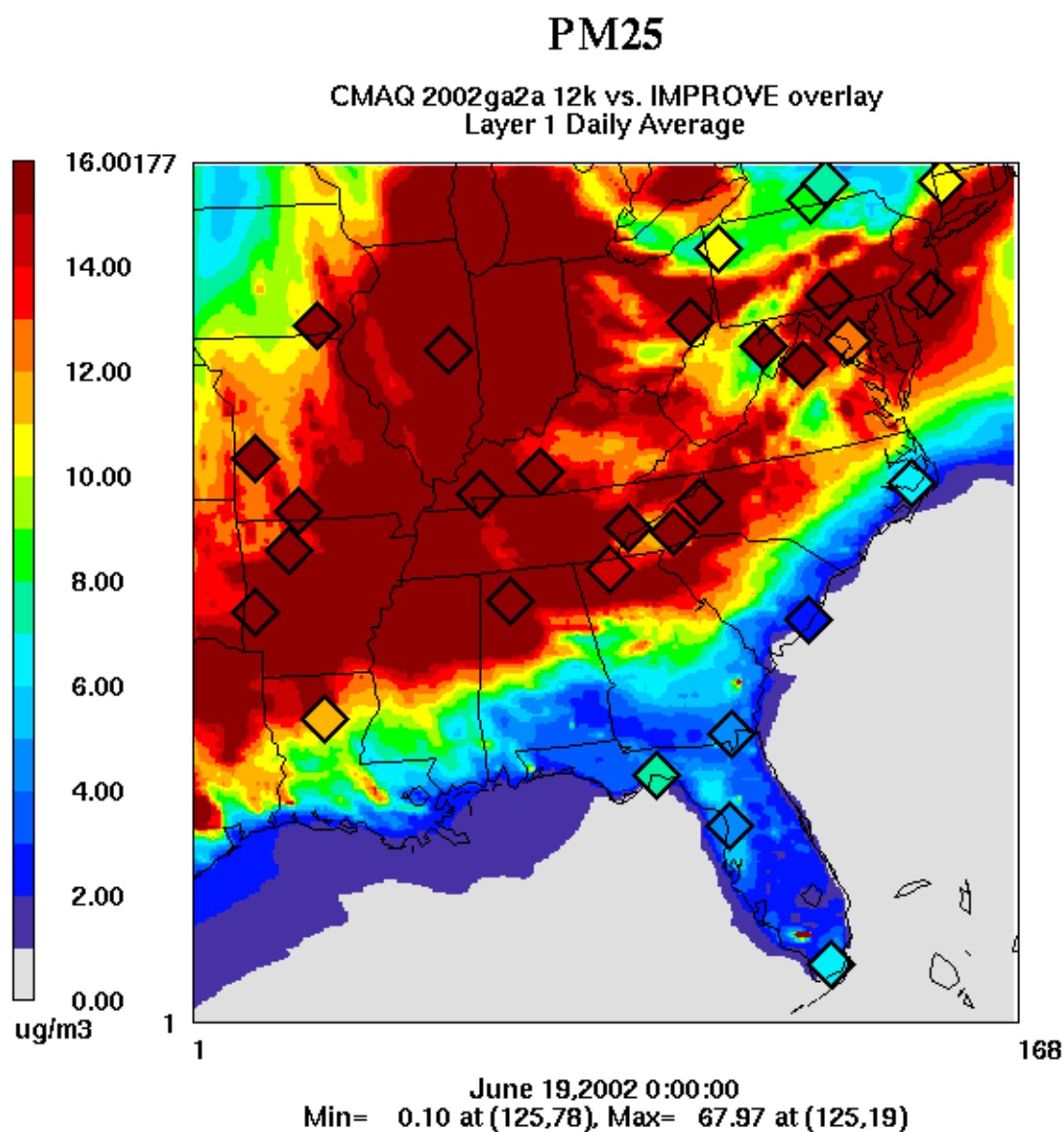
Figure D-167:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 19, 2002

D.56   June 22, 2002

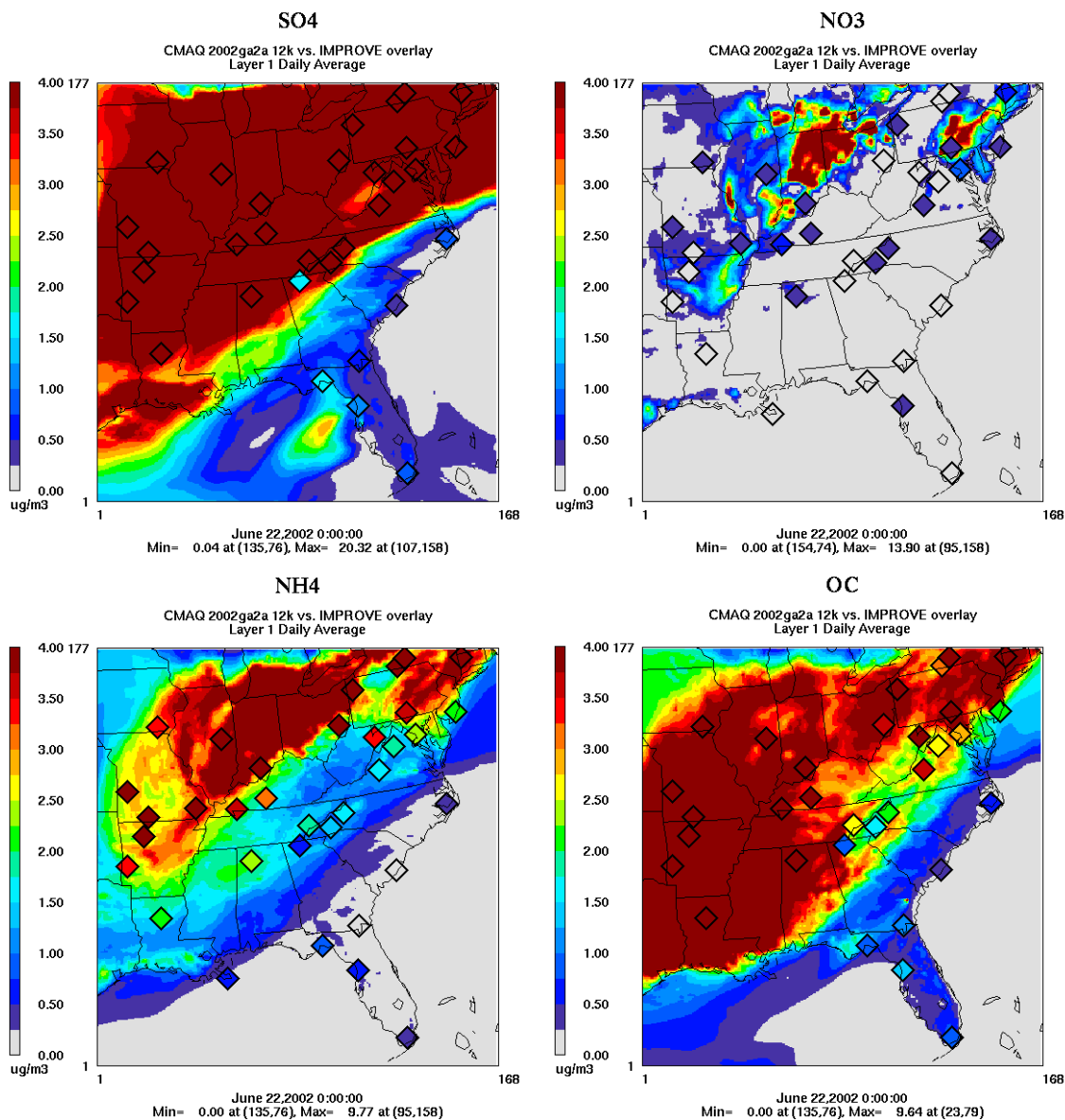| Date	Julian Day	Type	Class I Areas Affected
06/22/02	173	W20%	GRSM, CACR, DOSO, HEGL, MACA, UPBU
06/22/02	173	B20%	SAMA, OKEF, CHAS, SWAN, COHU, ROMA

Figure D-168:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 22, 2002
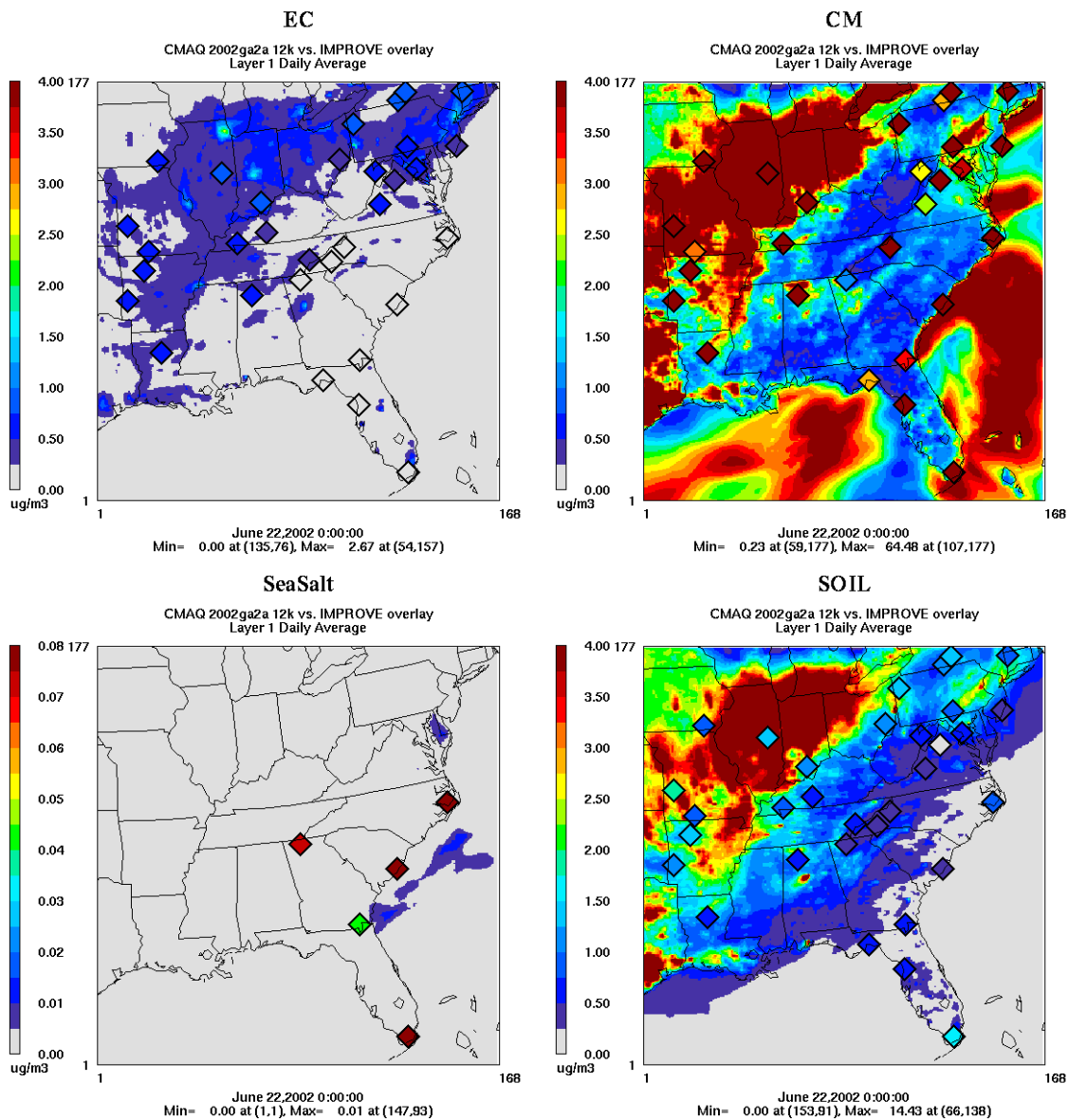
Figure D-169: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 22, 2002
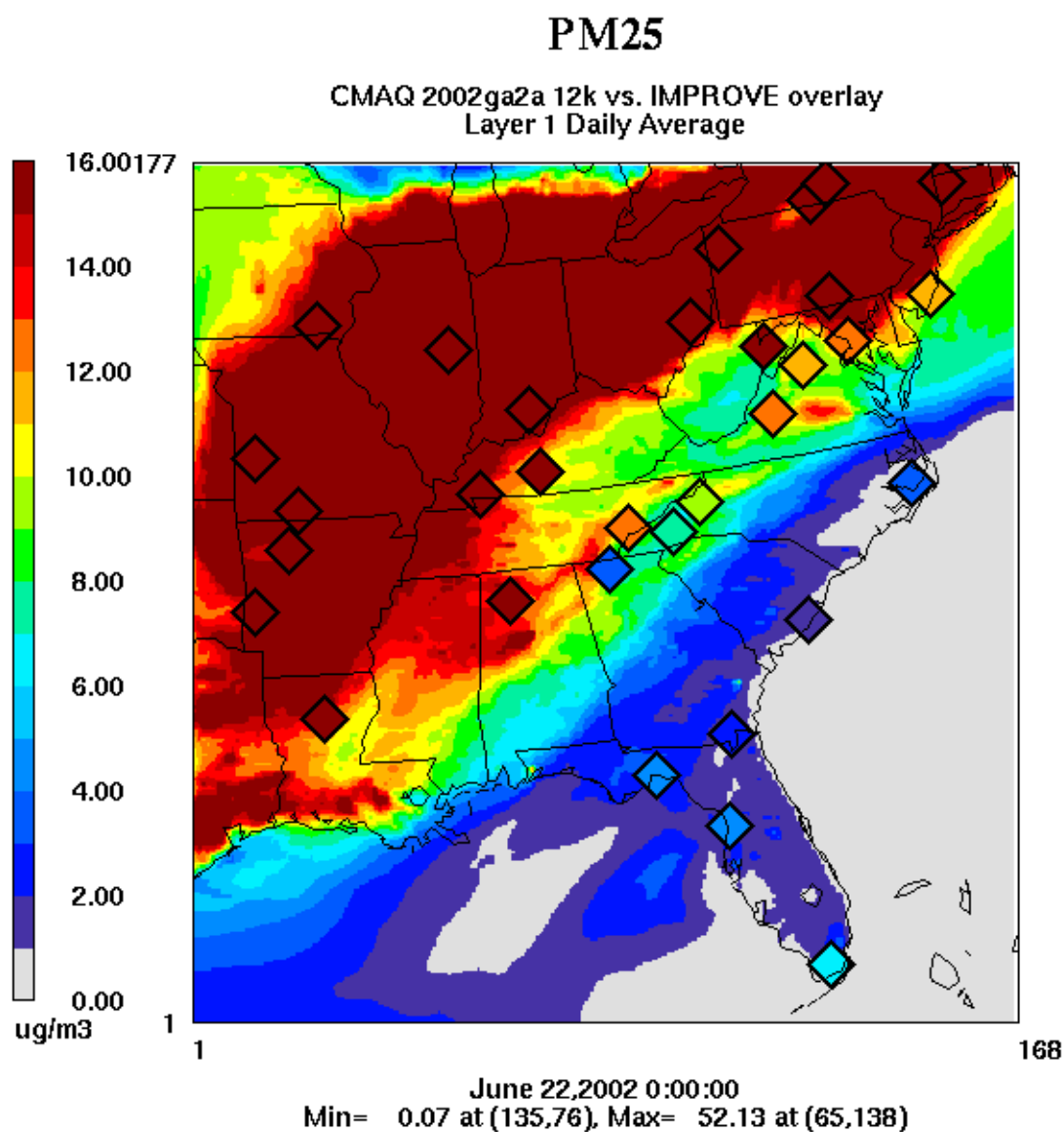
Figure D-170:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 22, 2002

D.57   June 25, 2002

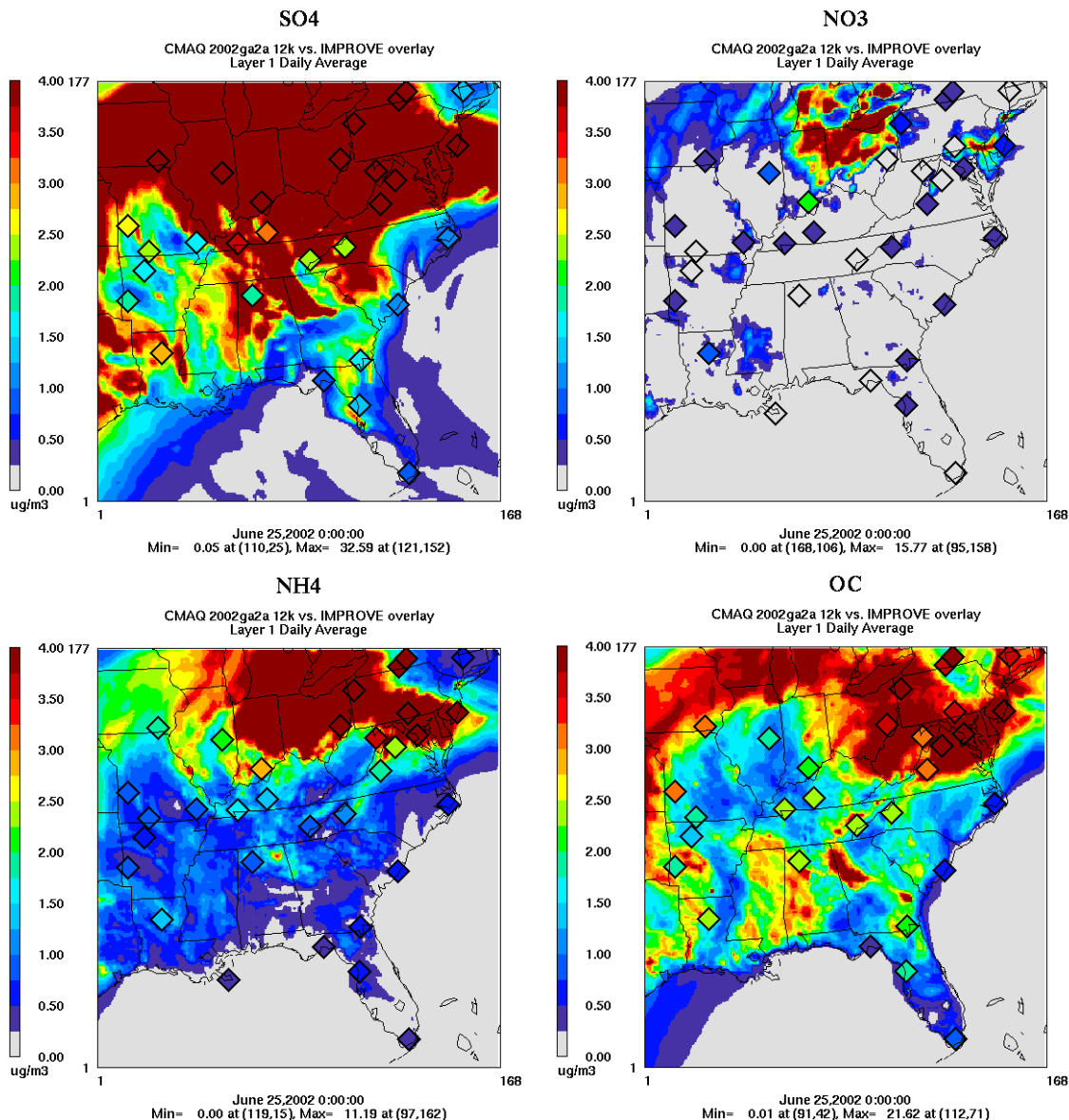| Date	Julian Day	Type	Class I Areas Affected
06/25/02	176	W20%	SHEN, DOSO, BRIG
06/25/02	176	B20%	SIPS, SAMA, OKEF, BRET, CHAS, EVER, SWAN, ROMA, UPBU, MING

Figure D-171: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 25, 2002
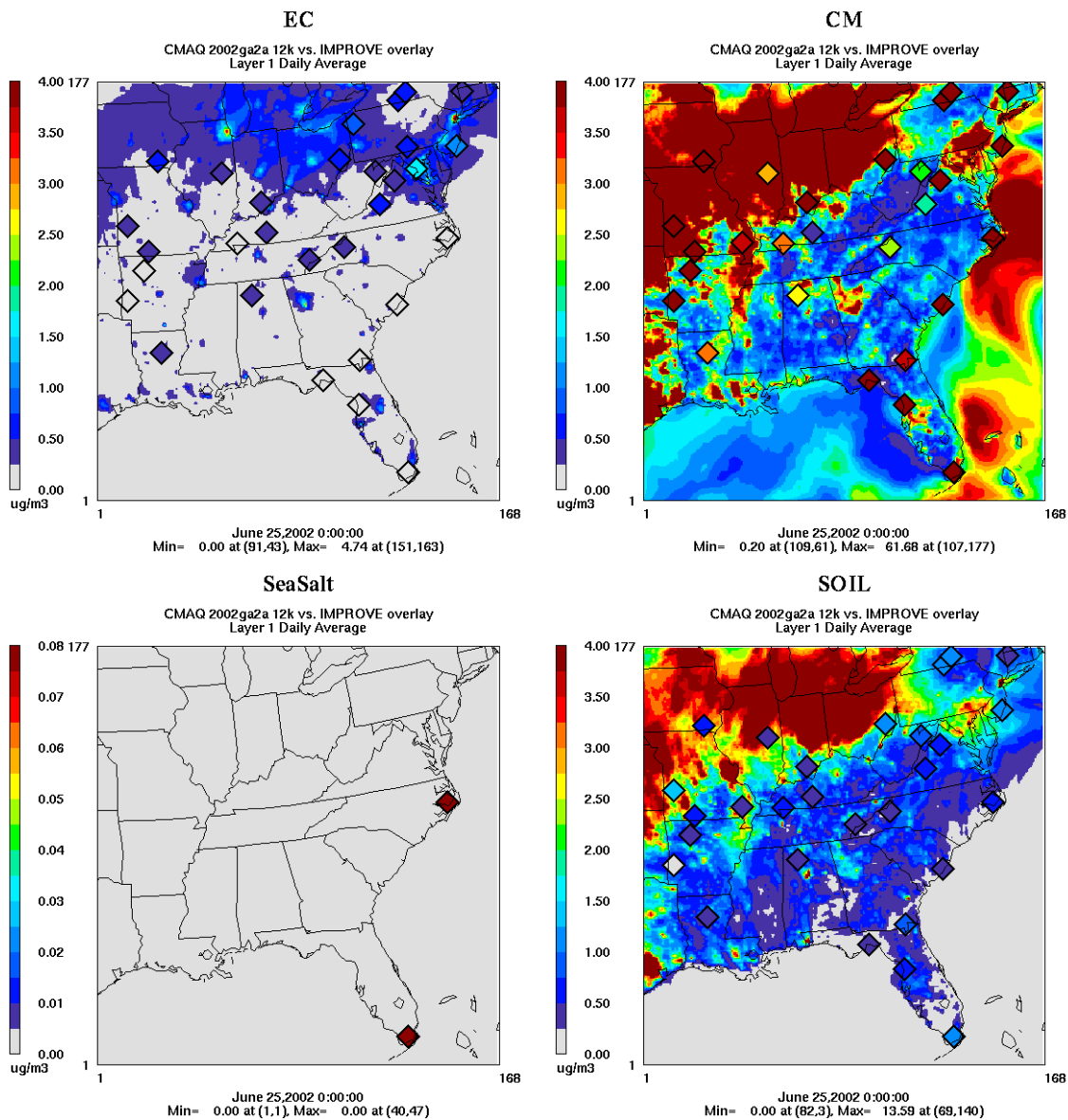
Figure D-172: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 25, 2002
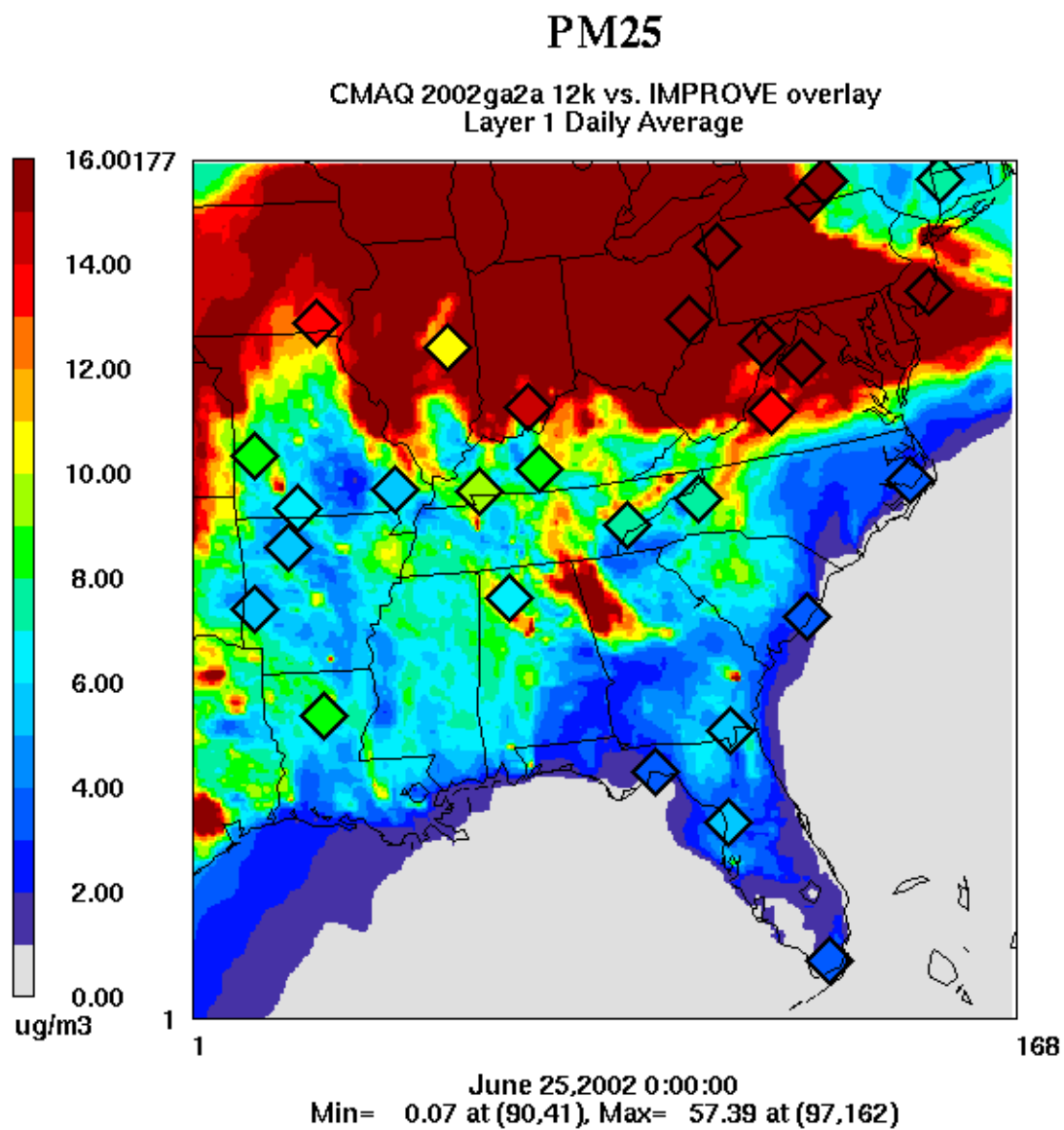
Figure D-173:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 25, 2002

D.58 June 28, 2002

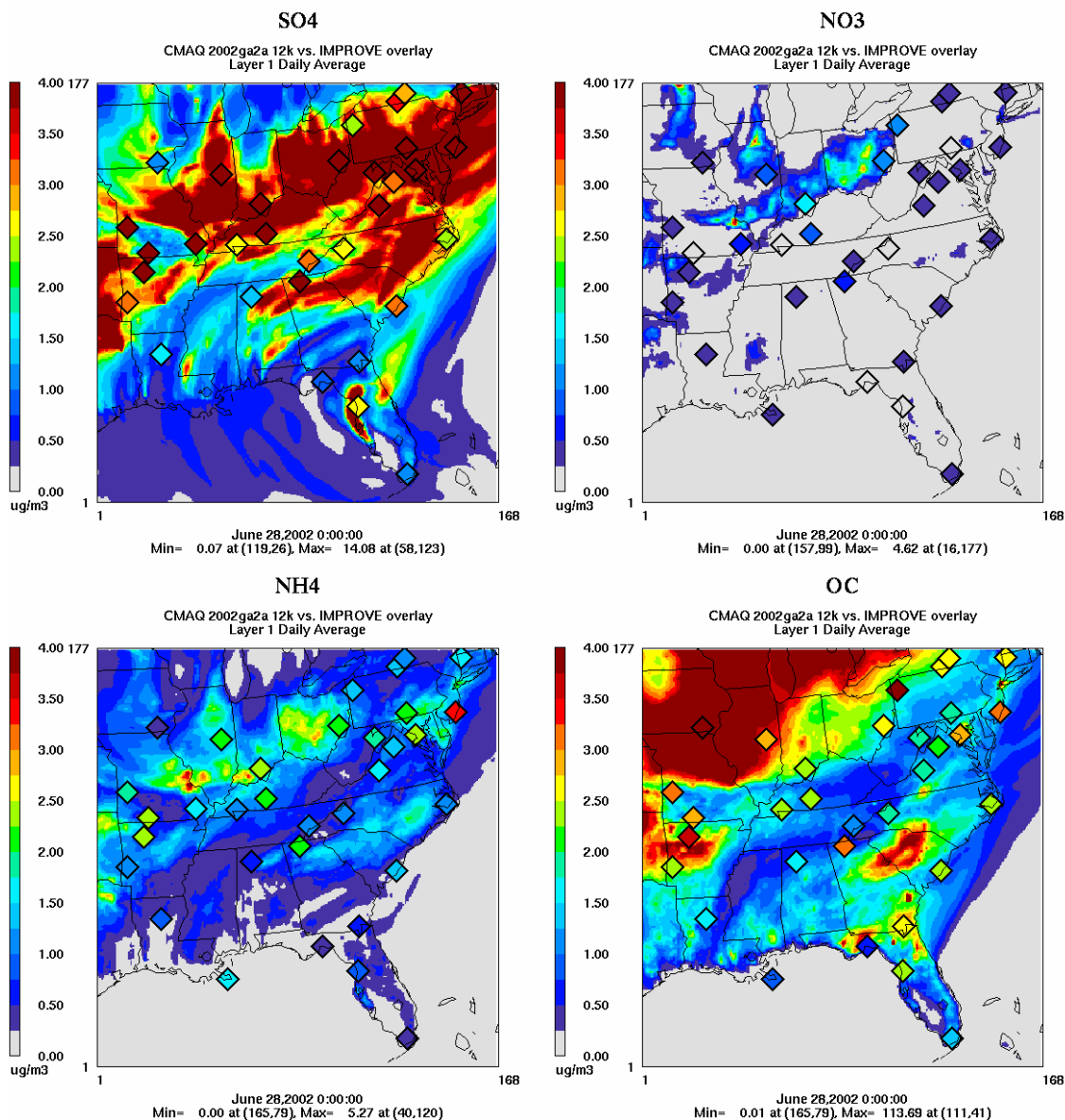| Date	Julian Day	Type	Class I Areas Affected
06/28/02	179	W20%	BRET, HEGL, UPBU, BRIG
06/28/02	179	B20%	SIPS, SAMA, OKEF

Figure D-174: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For June 28, 2002
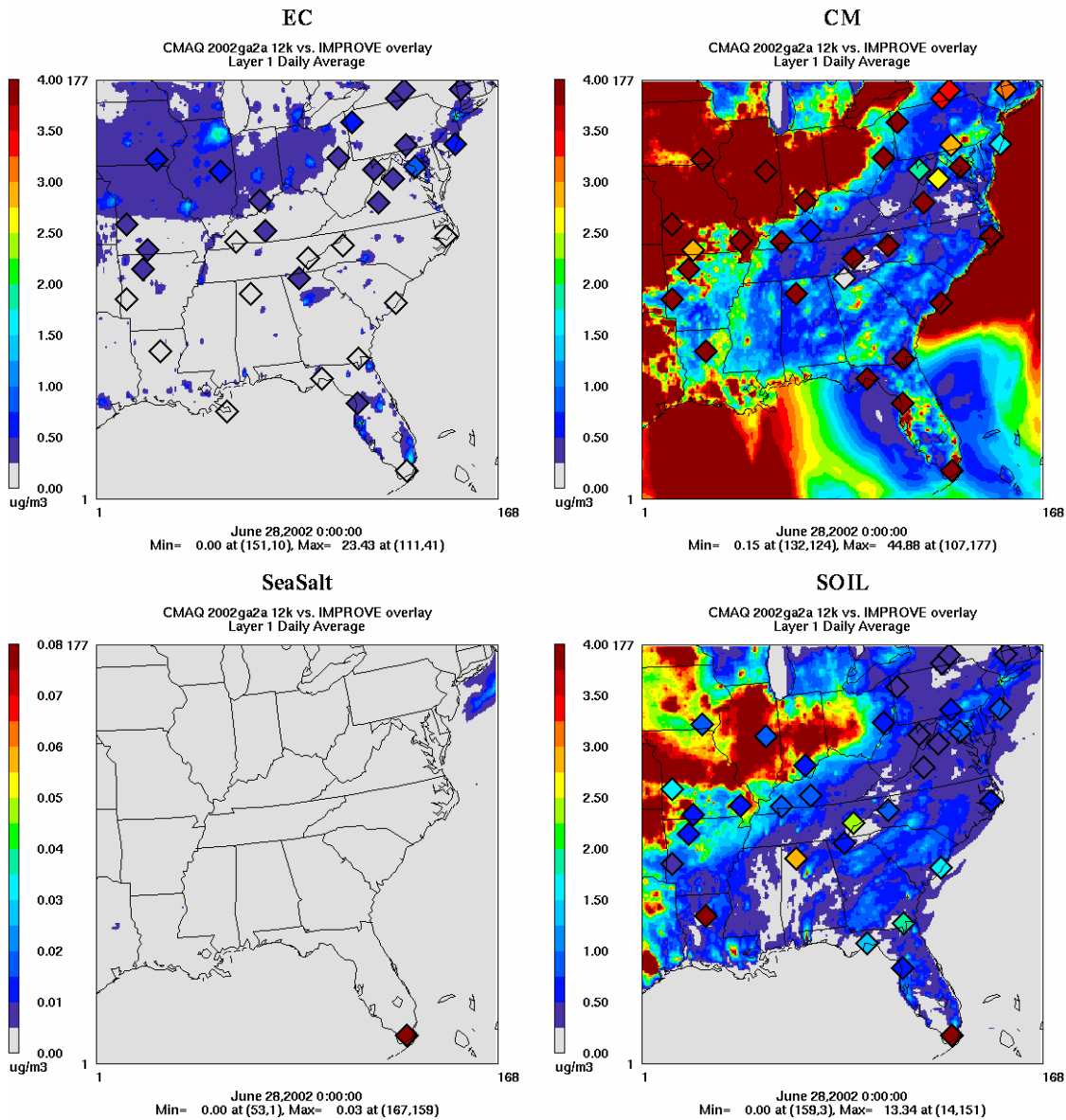
Figure D-175: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For June 28, 2002

Figure D-176:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For June 28, 2002

D.59 July 1, 2002

Date	Julian Day	Type	Class I Areas Affected
07/01/02	182	W20%	SHRO, GRSM, JARI, SHEN, DOSO, ROMA
07/01/02	182	B20%	CHAS

Figure D-177: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 1, 2002

Figure D-178: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 1, 2002
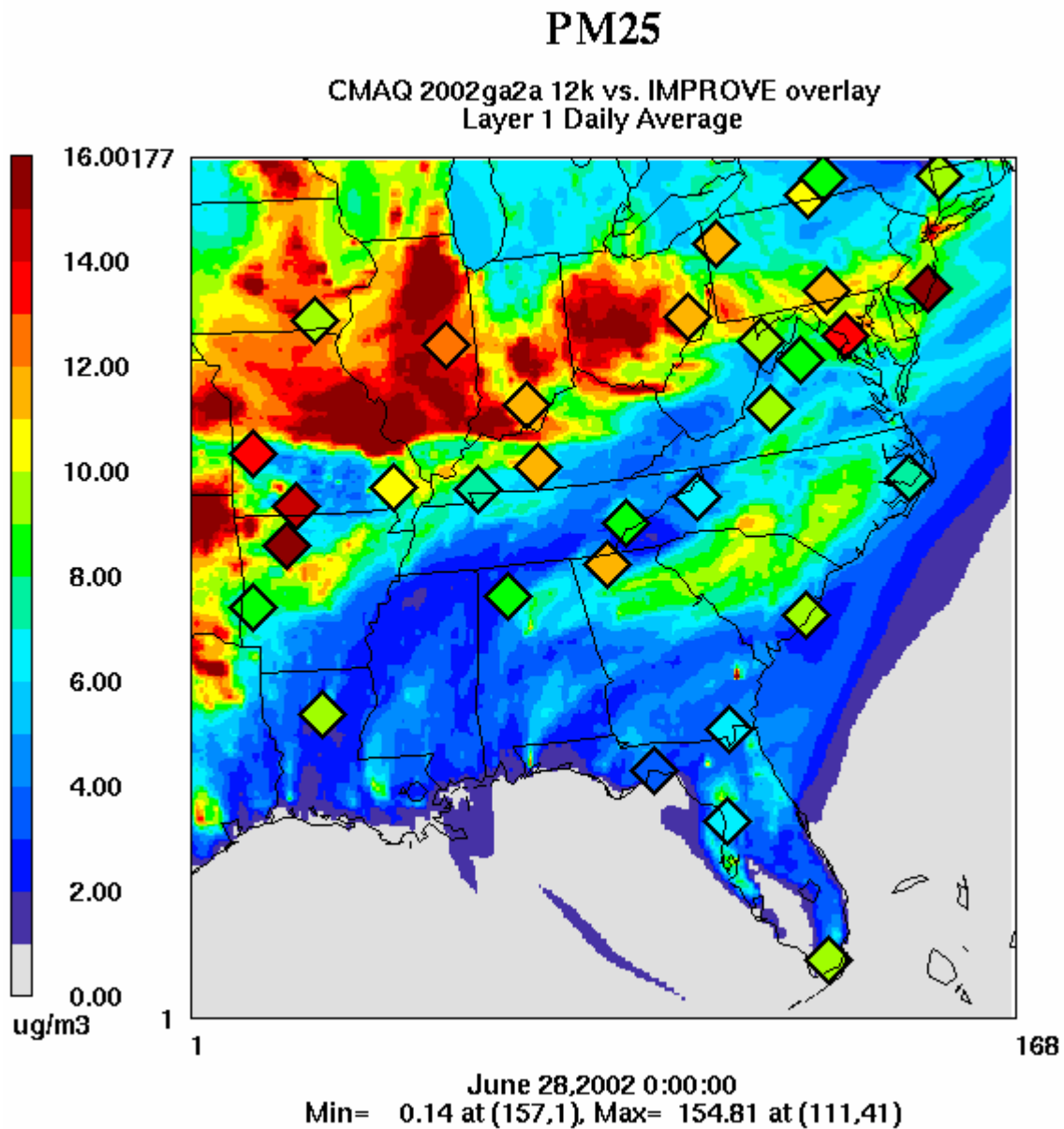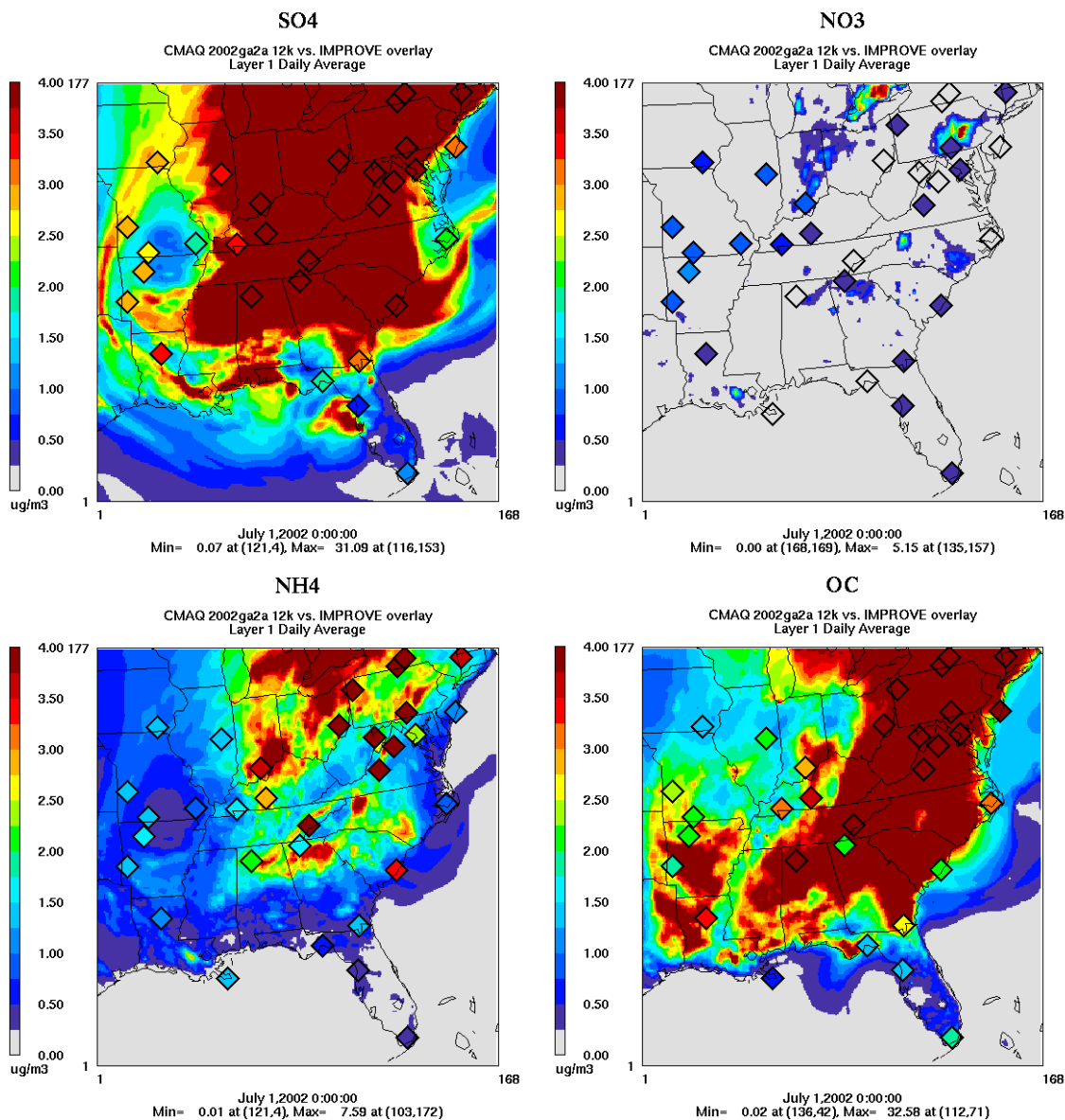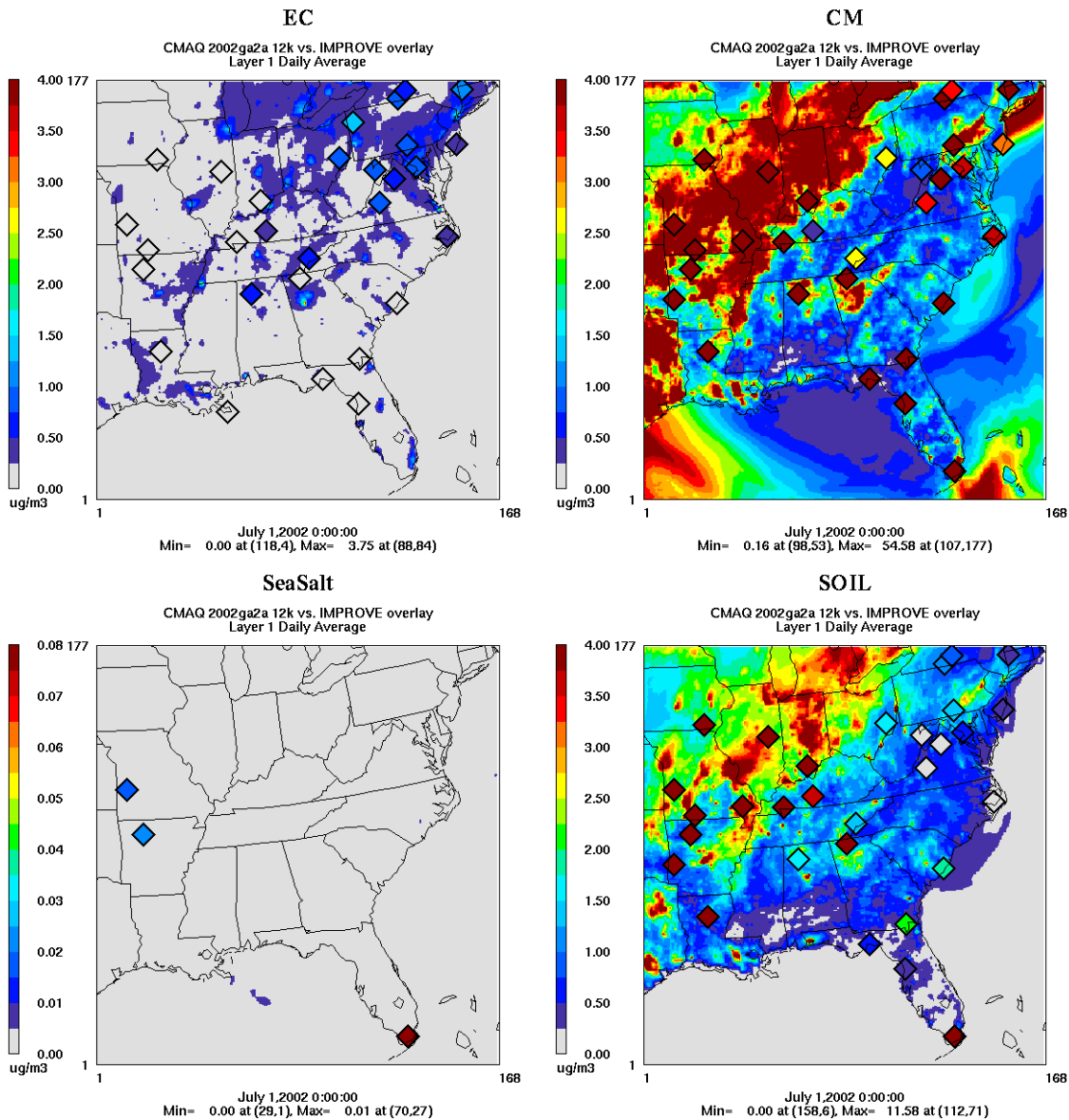
Figure D-179:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 1, 2002

D.60   July 4, 2002

Date	Julian Day	Type	Class I Areas Affected
07/04/02	185	W20%	SHRO, JARI, SIPS, SAMA, SHEN, SWAN, COHU, MACA, ROMA, MING, BRIG
07/04/02	185	B20%	

Figure D-180: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 4, 2002**

Figure D-181:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 4, 2002
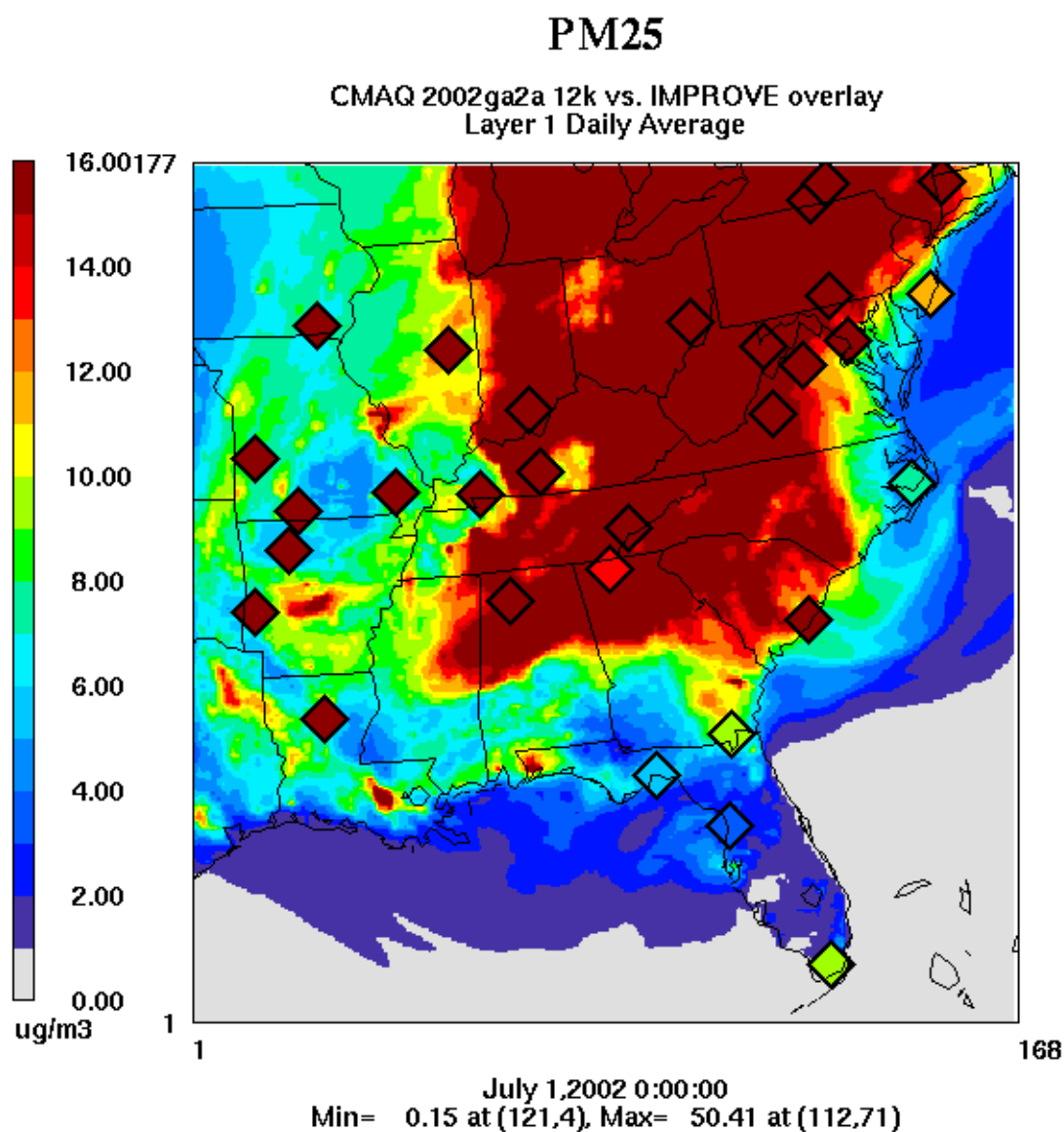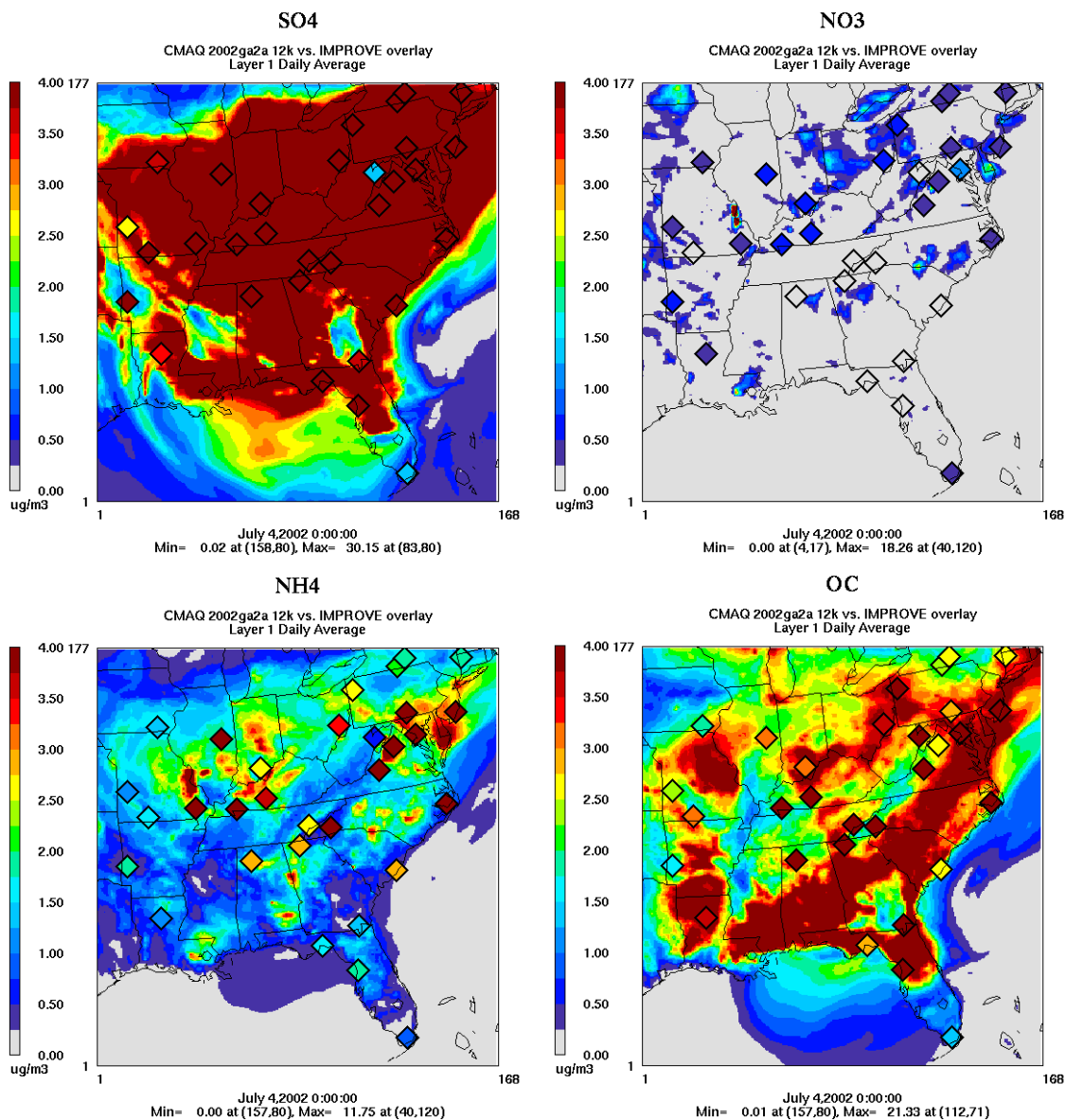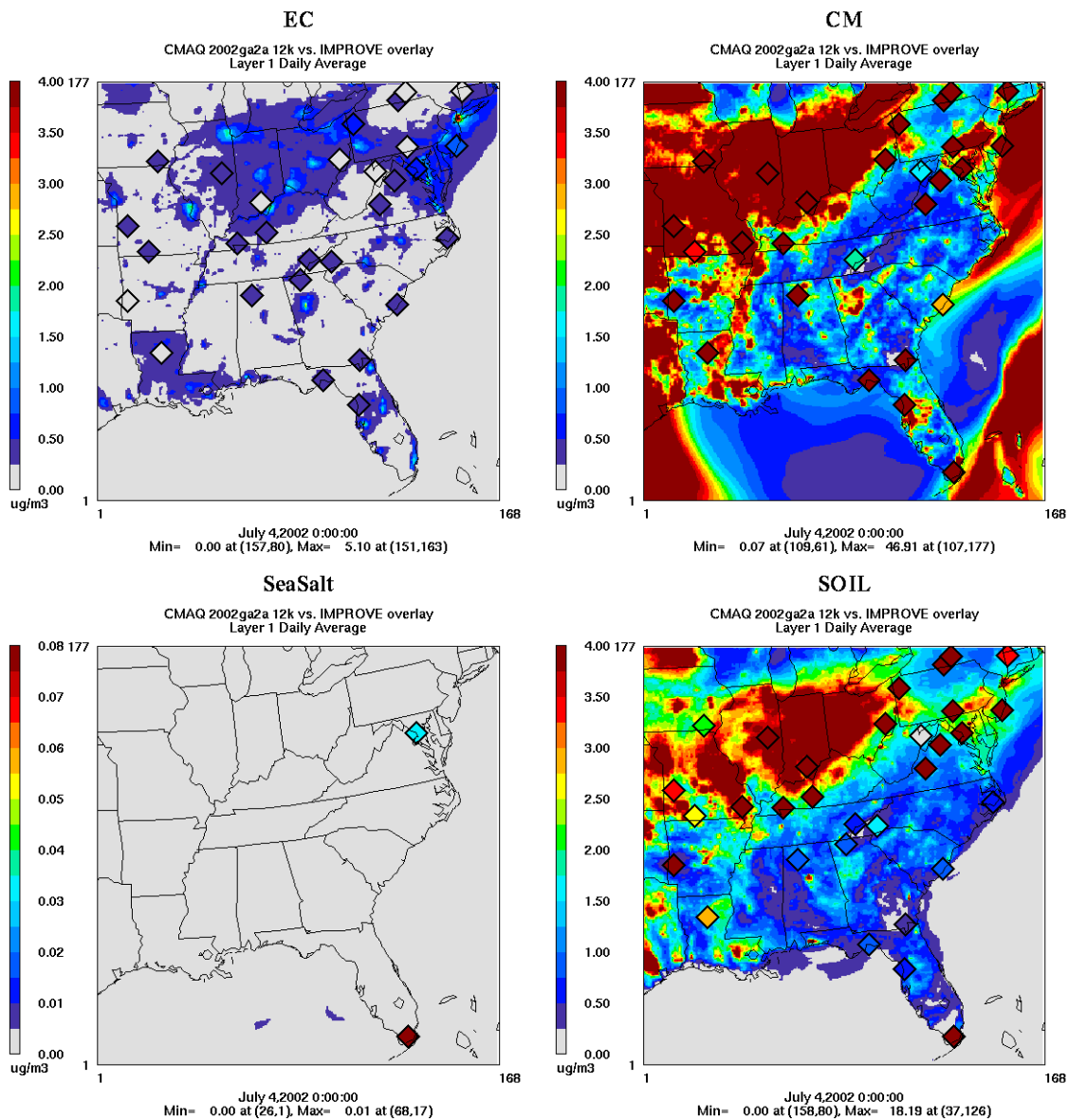
Figure D-182:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 4, 2002

D.61 July 7, 2007

Date	Julian Day	Type	Class I Areas Affected
07/07/02	188	W20%	SHRO, GRSM, SIPS, SAMA, OKEF, CACR, SWAN, HEGL, COHU, ROMA, MING, BRIG
07/07/02	188	B20%	

Figure D-183:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 7, 2007

Figure D-184: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 7, 2007
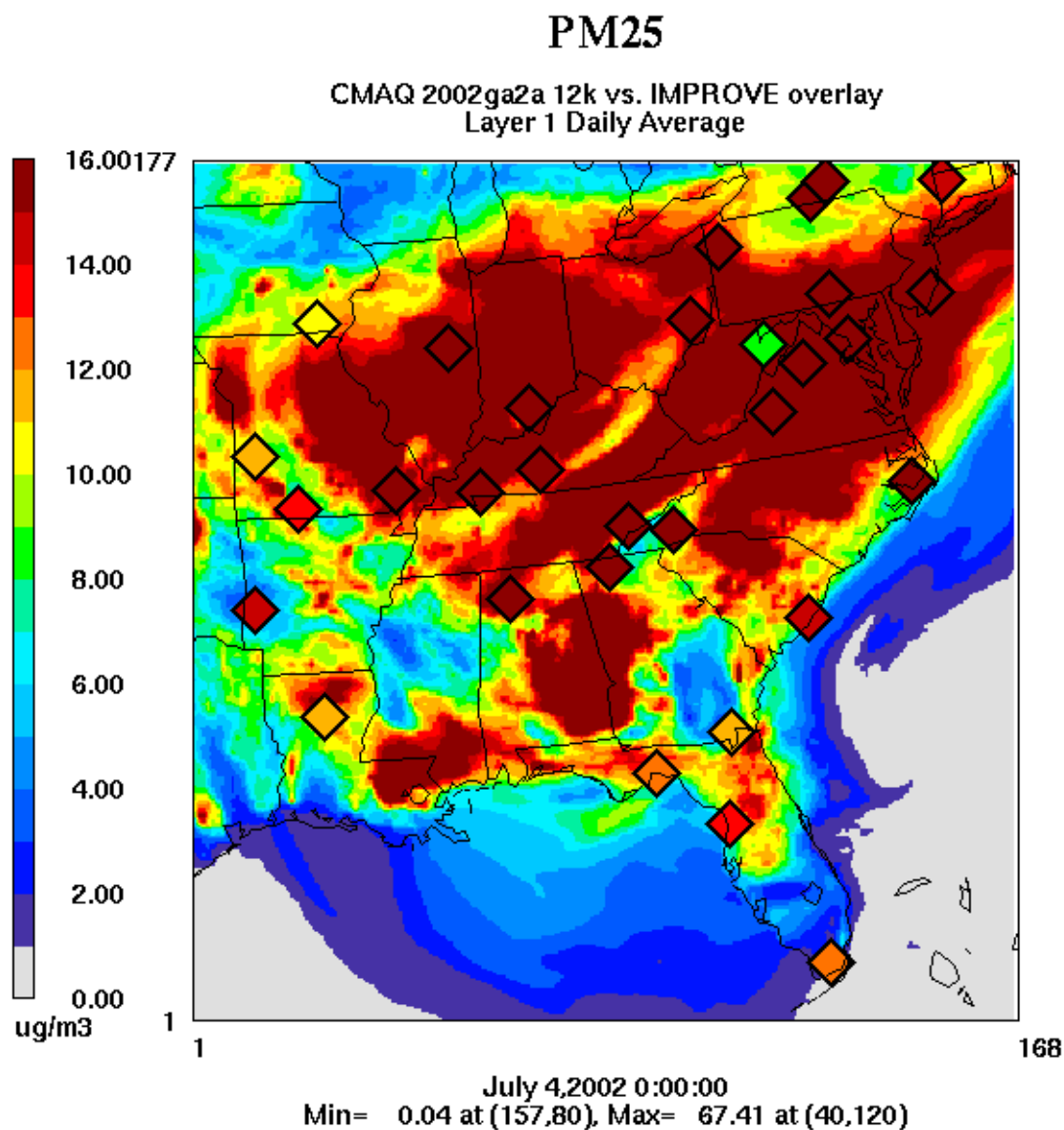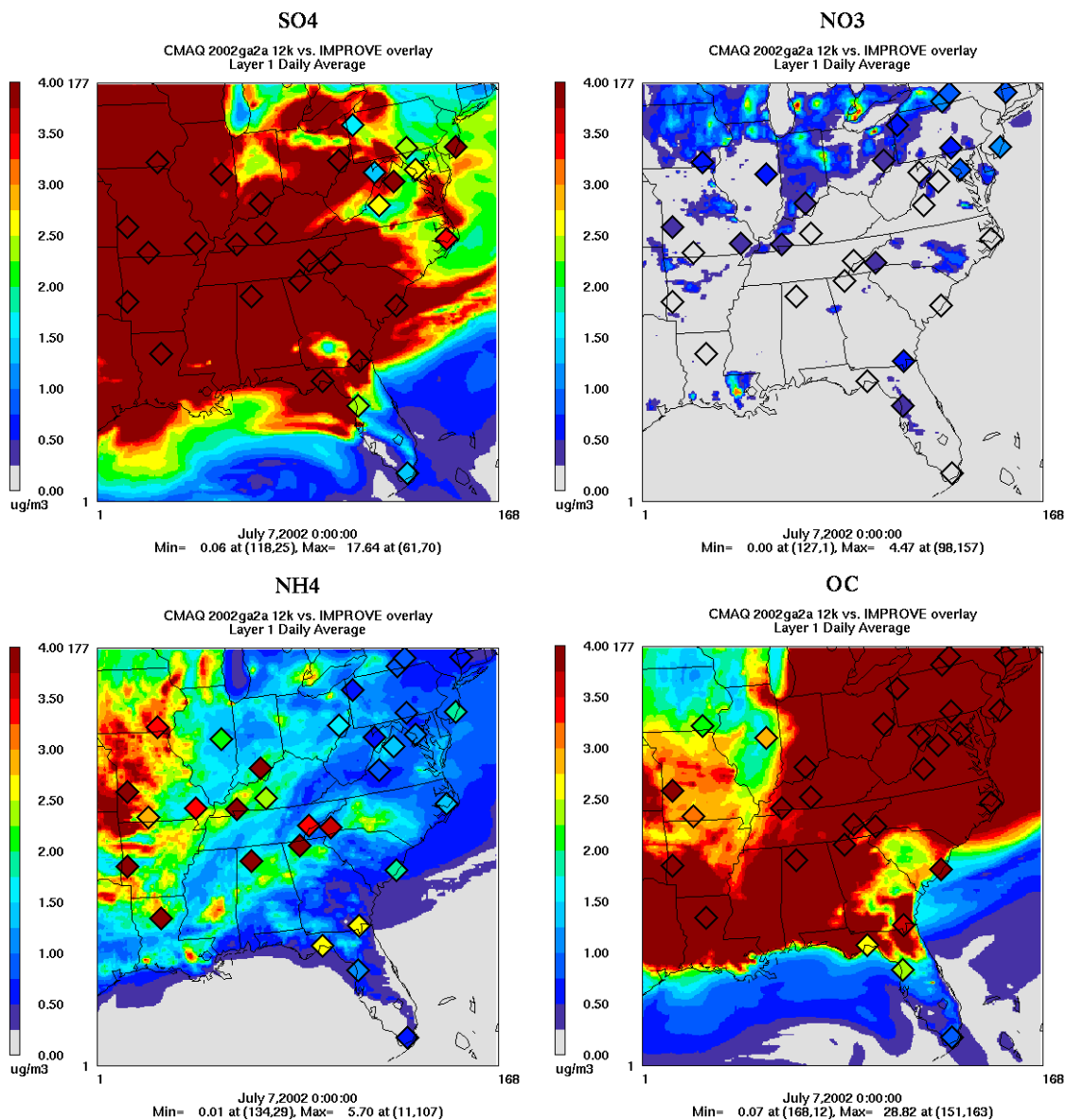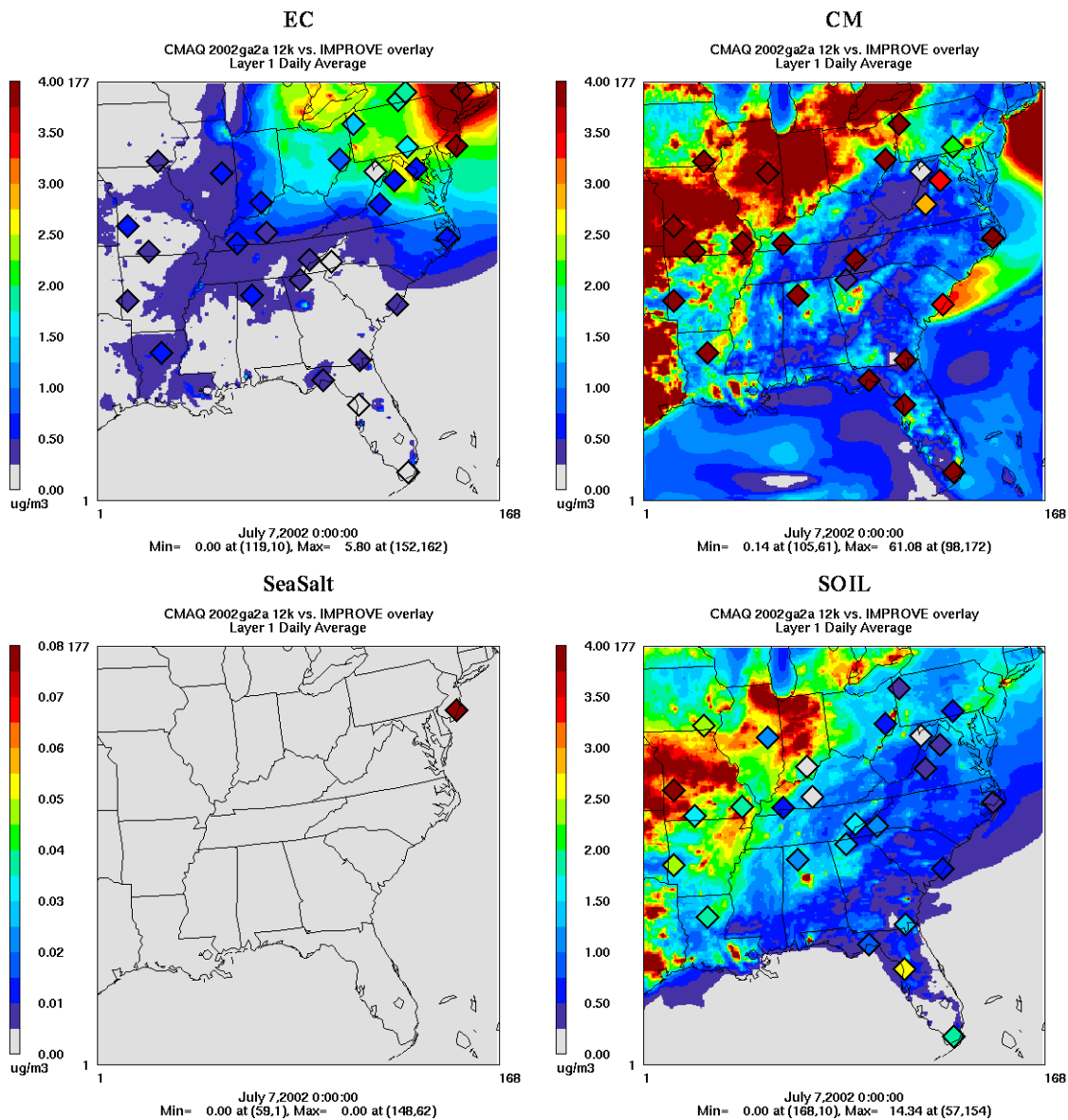
Figure D-185:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 7, 2007

D.62   July 10, 2002

Date	Julian Day	Type	Class I Areas Affected
07/10/02	191	W20%	LIGO, SHRO, GRSM, JARI, SIPS, CACR, DOSO, HEGL, COHU, MACA, UPBU, MING, BRIG
07/10/02	191	B20%	OKEF, BRET, CHAS, EVER, ROMA

Figure D-186: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 10, 2002

Figure D-187: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 10, 2002
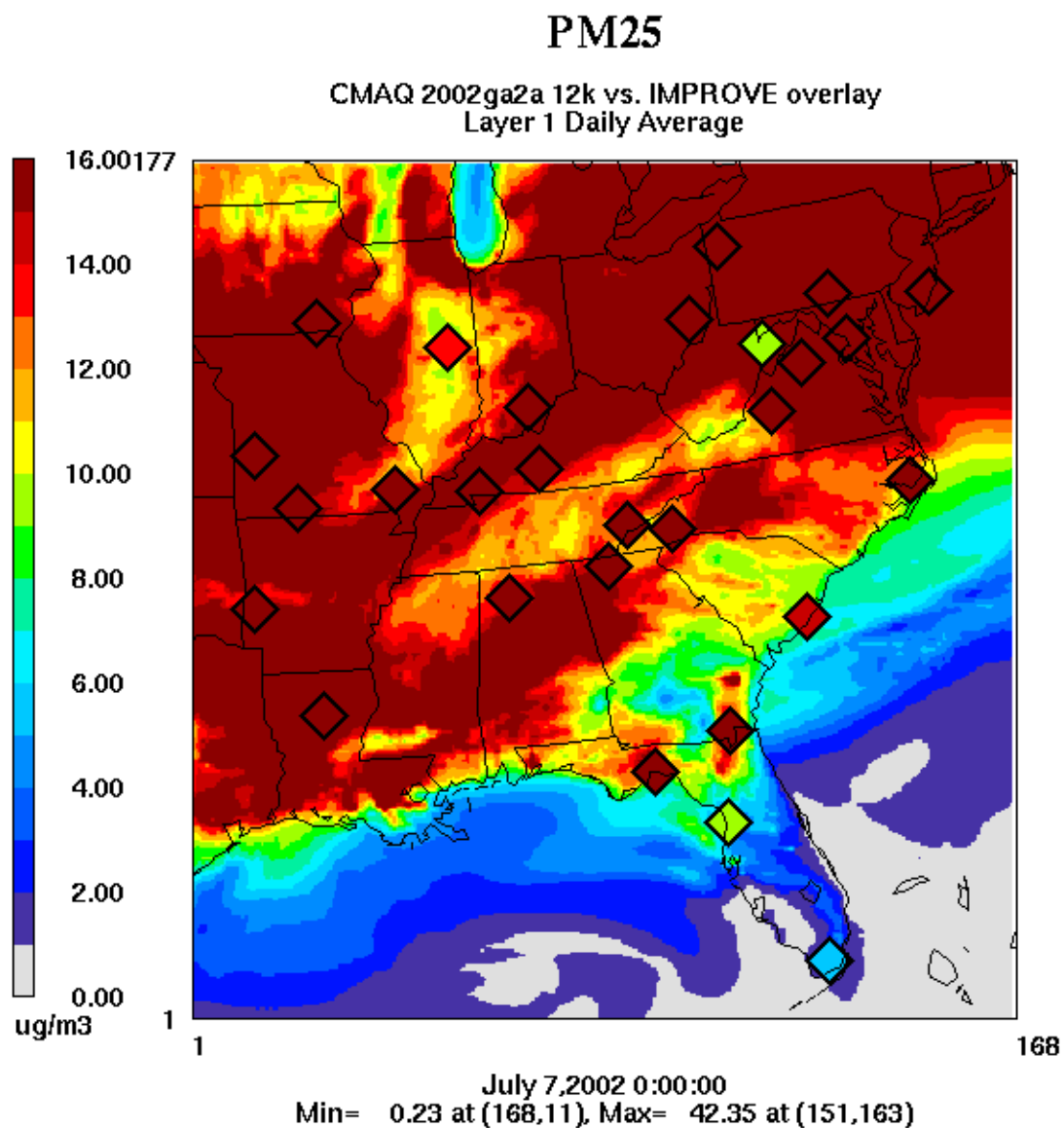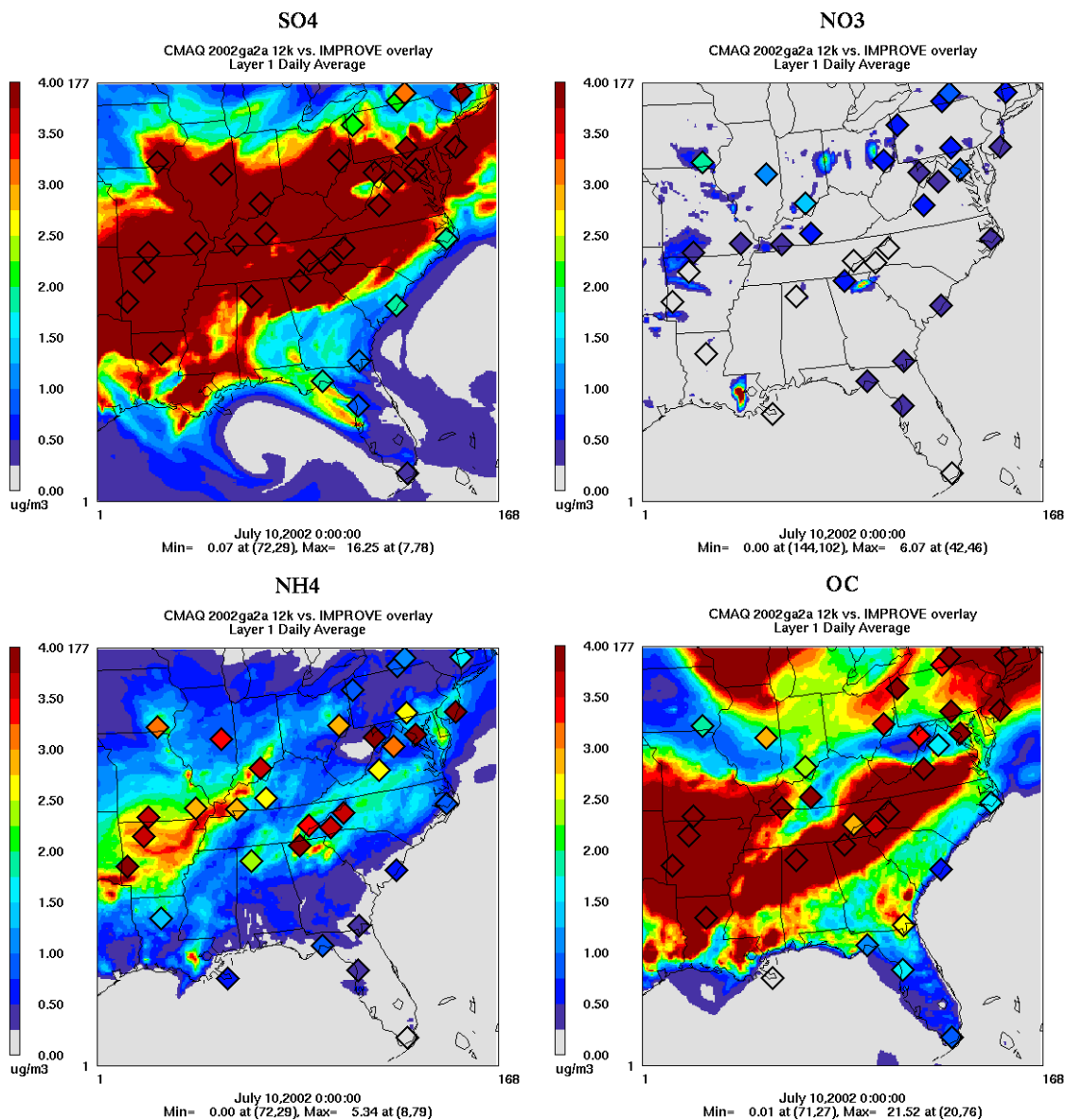
Figure D-188:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 10, 2002

D.63 July 13, 2002

Date	Julian Day	Type	Class I Areas Affected
07/13/02	194	W20%	BRET, MING
07/13/02	194	B20%	GRSM, SAMA, SWAN, COHU, BRIG

Figure D-189: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 13, 2002
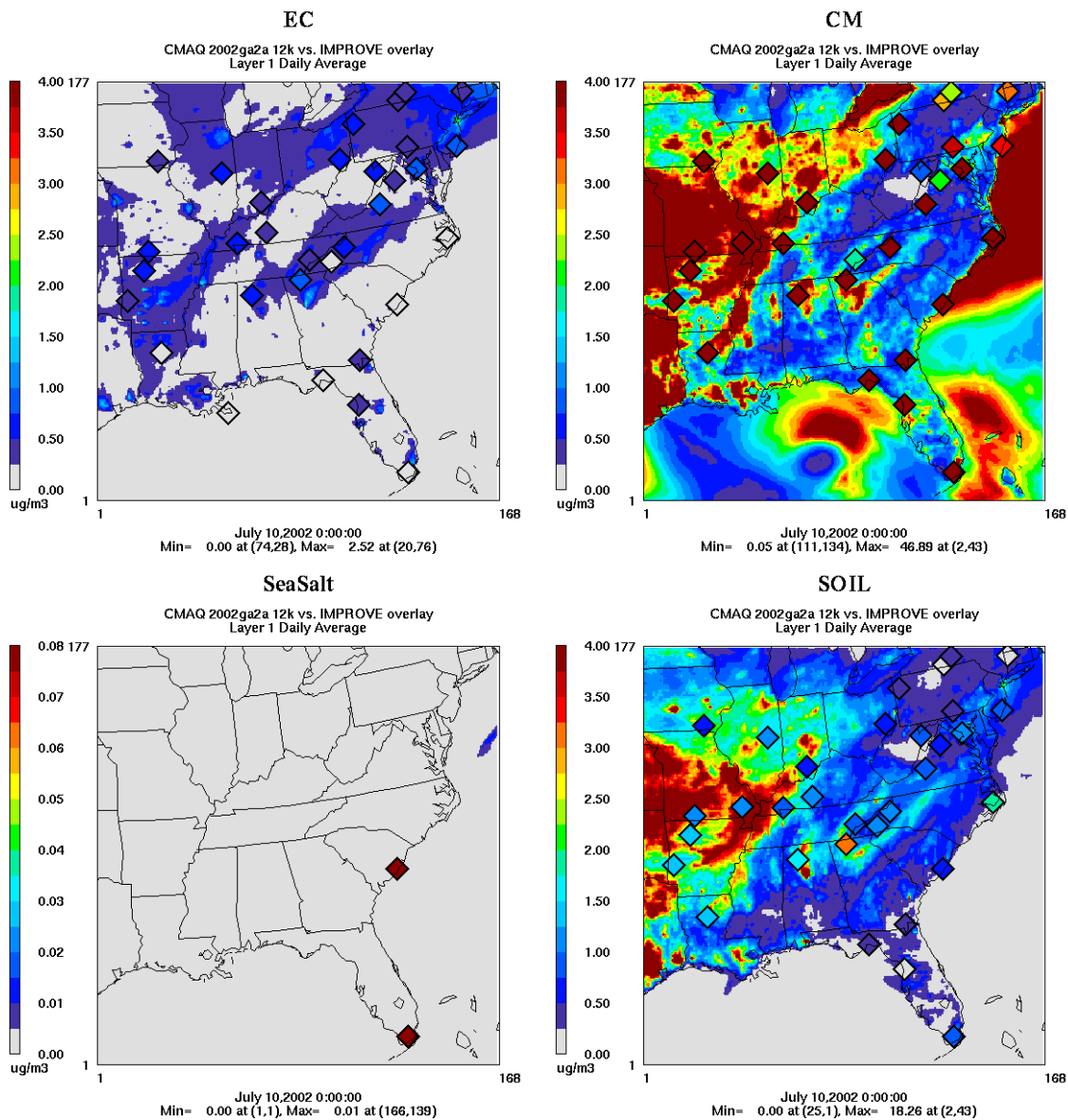
Figure D-190: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 13, 2002
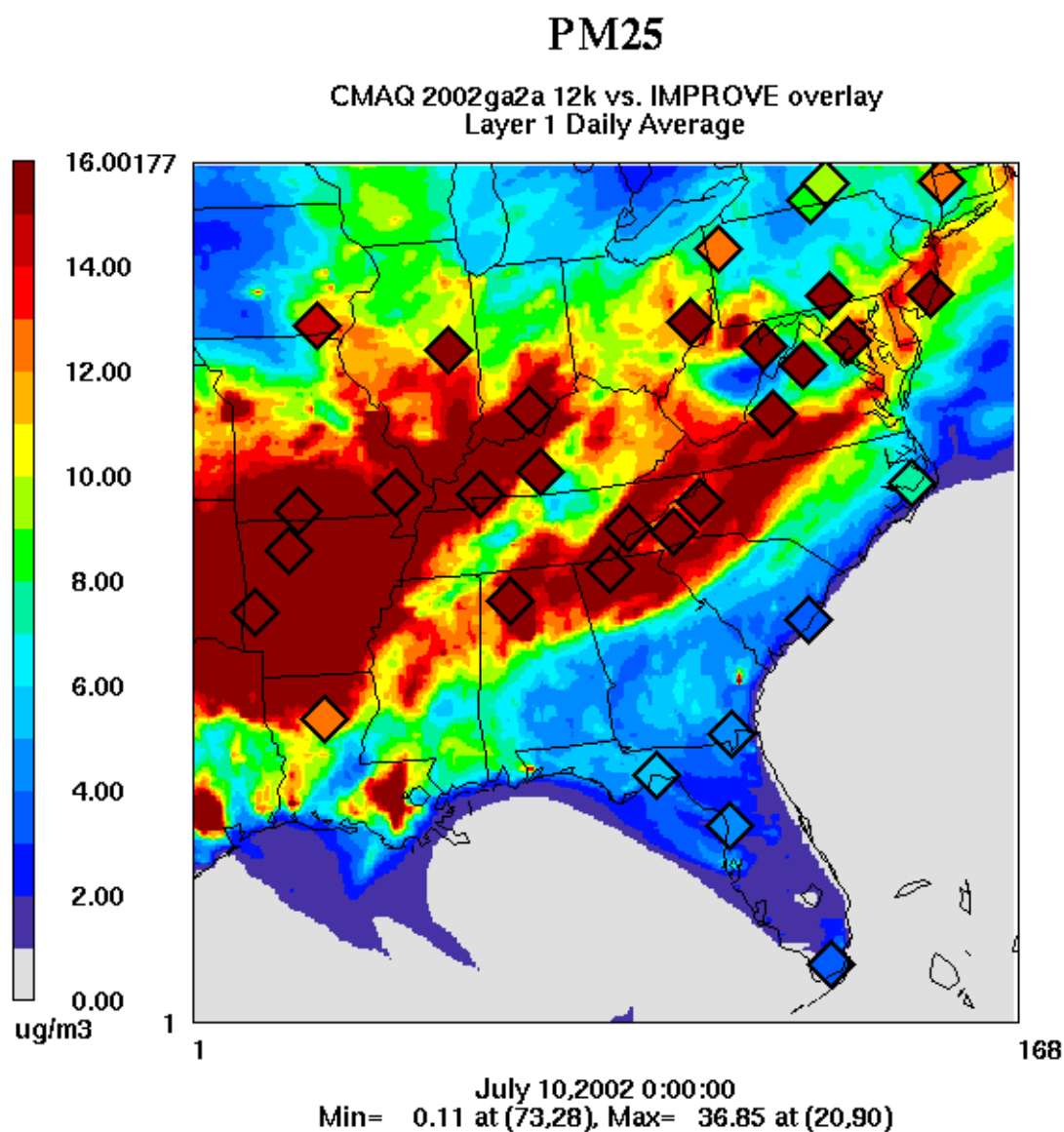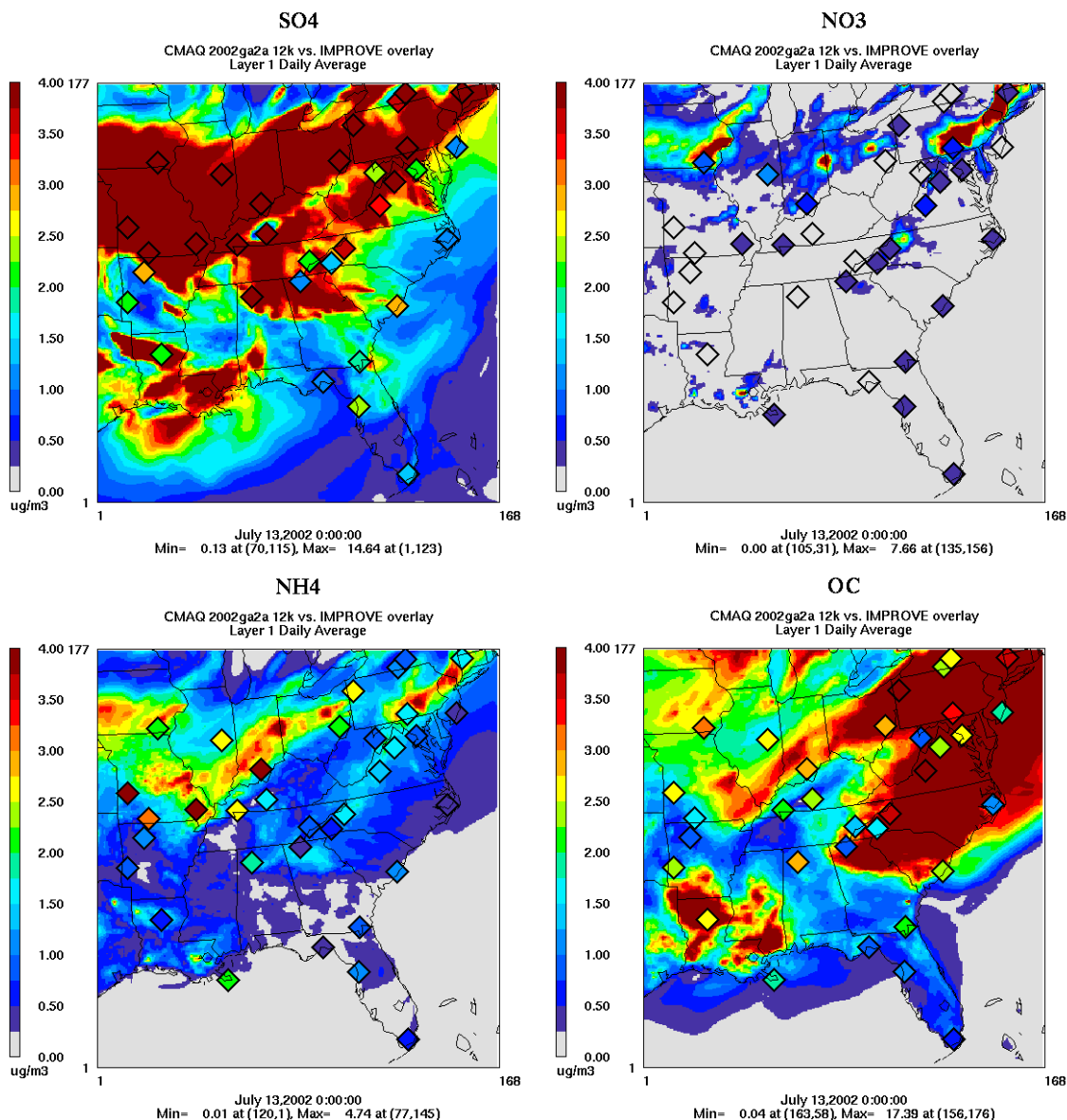
Figure D-191:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 13, 2002

D.64   July 16, 2002

Date	Julian Day	Type	Class I Areas Affected
07/16/02	197	W20%	SHRO, GRSM, JARI, SAMA, OKEF, BRET, SHEN, SWAN, COHU, MACA, ROMA, UPBU, MING, BRIG
07/16/02	197	B20%	CACR

Figure D-192:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component

Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 16, 2002
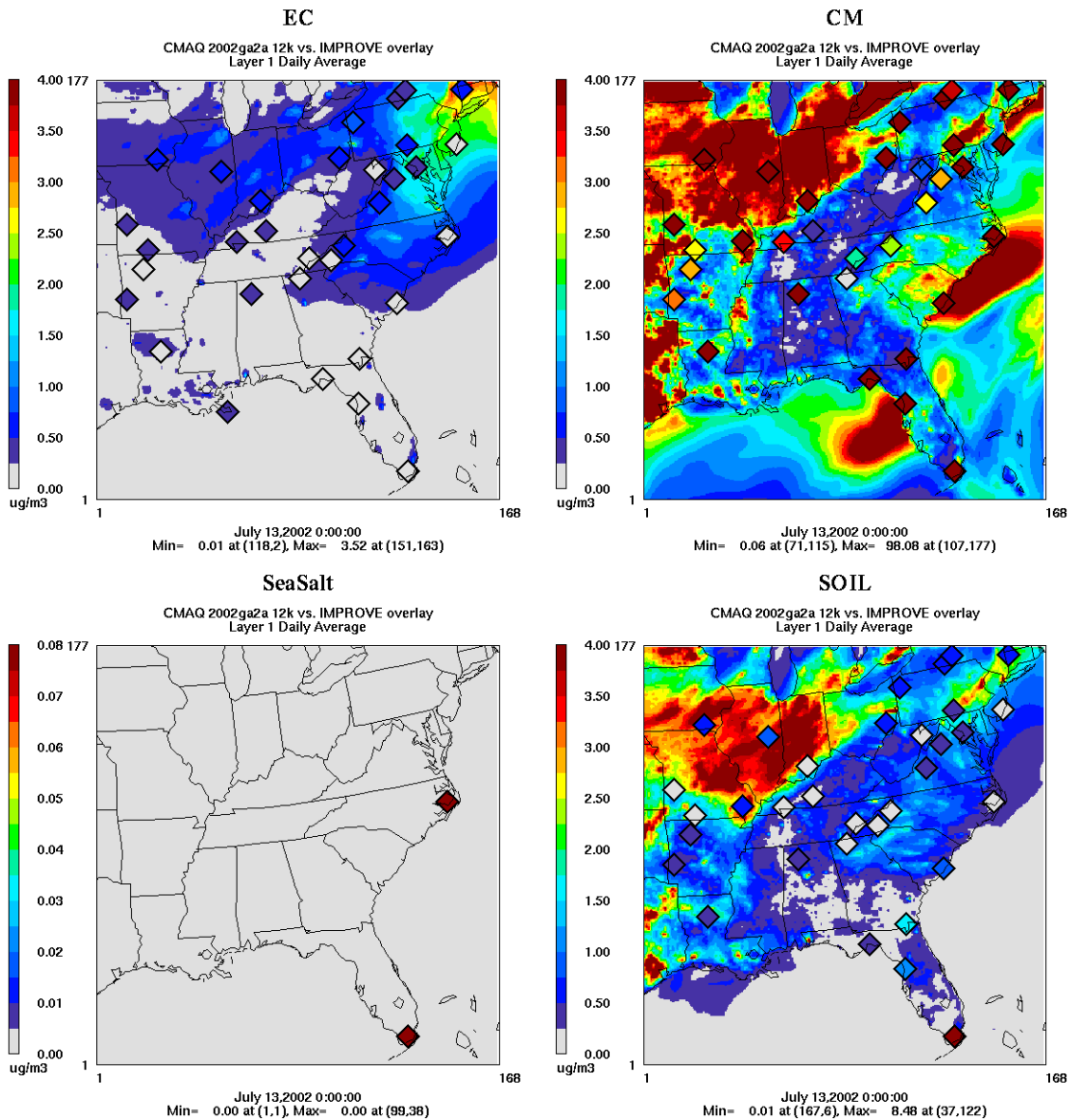

Figure D-193: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 16, 2002
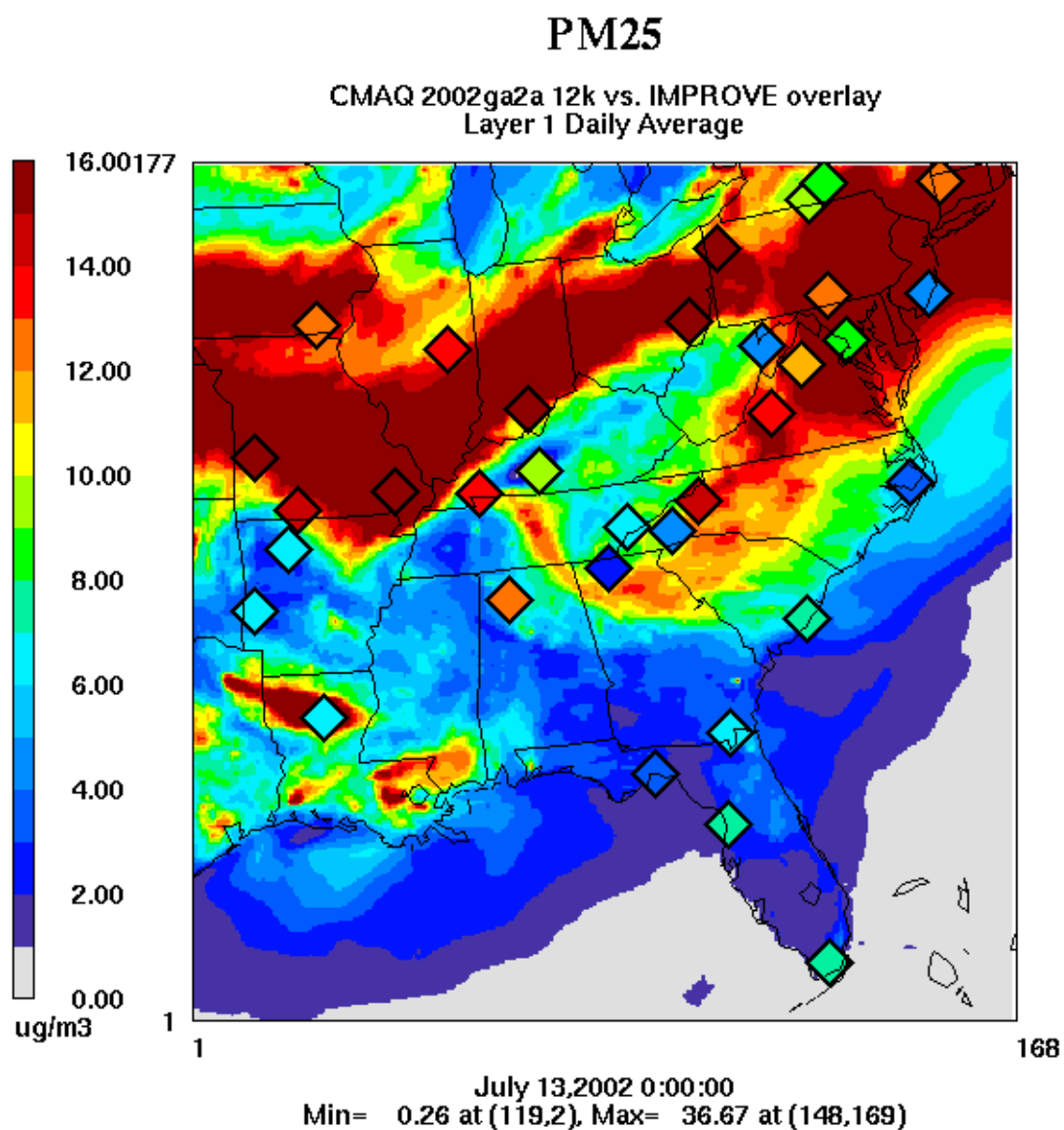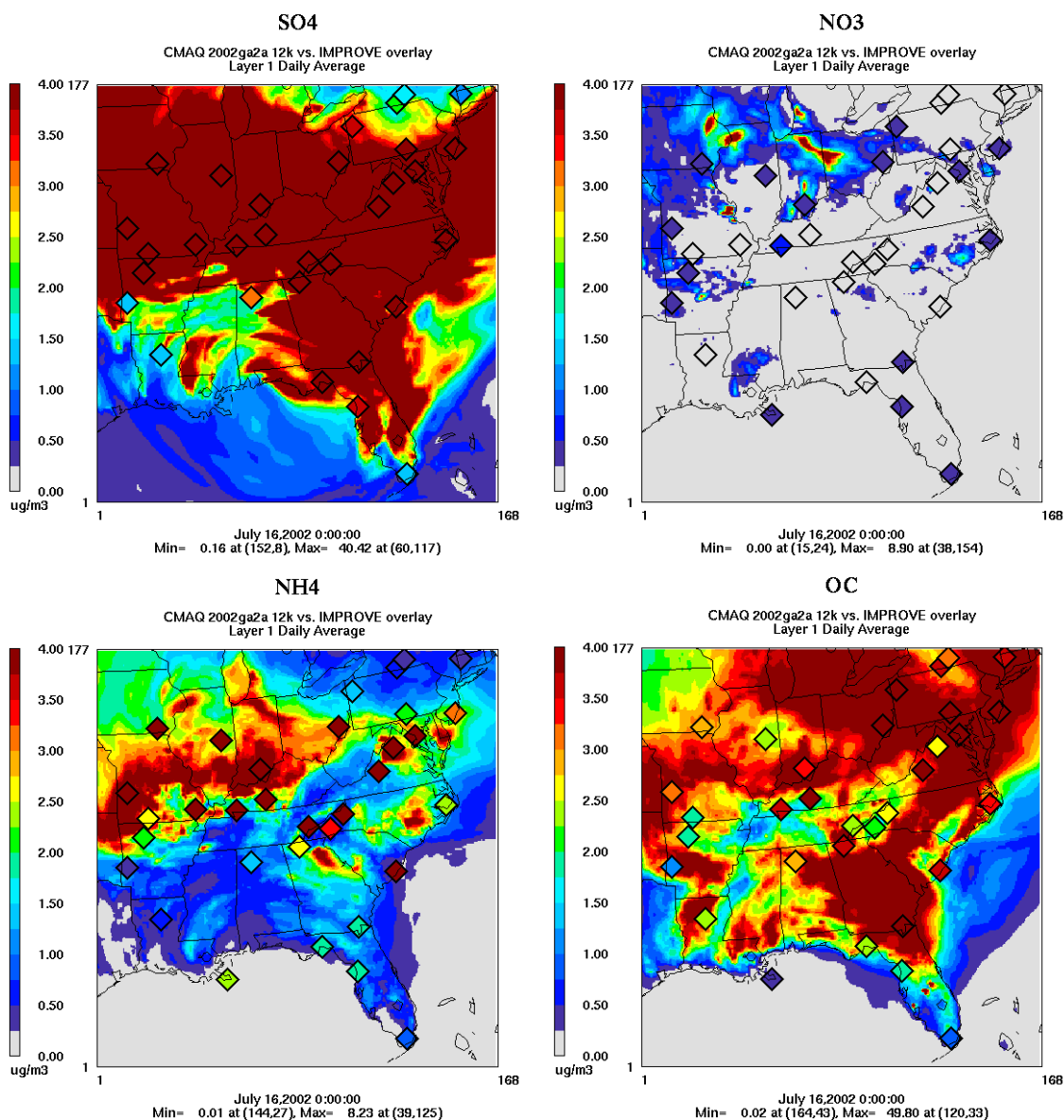
Figure D-194:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 16, 2002

D.65   July 19, 2002

Date	Julian Day	Type	Class I Areas Affected
07/19/02	200	W20%	JARI, SAMA, OKEF, CACR, BRET, SHEN, CHAS, SWAN, ROMA
07/19/02	200	B20%	MING

Figure D-195: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 19, 2002
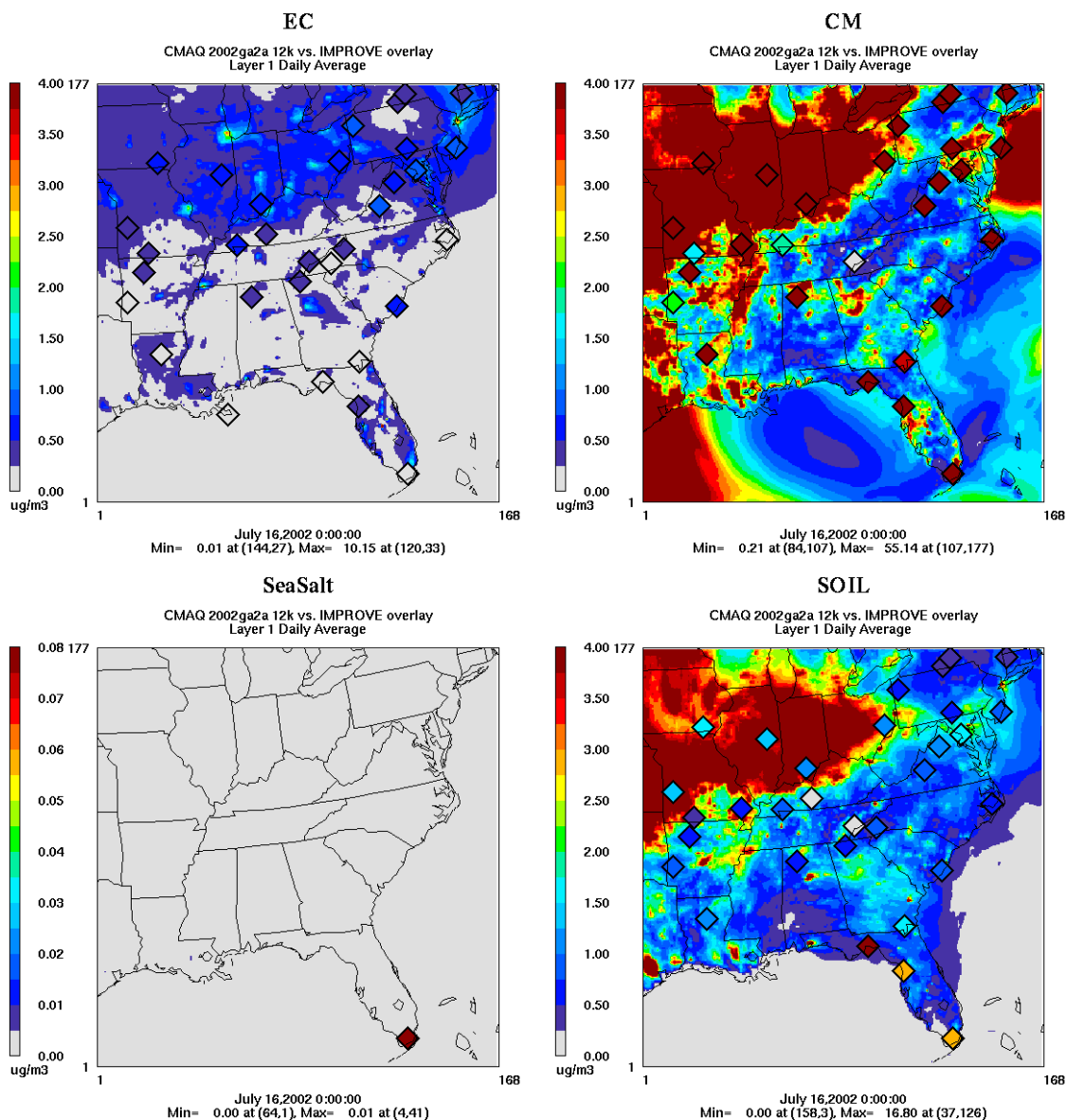
Figure D-196: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 19, 2002
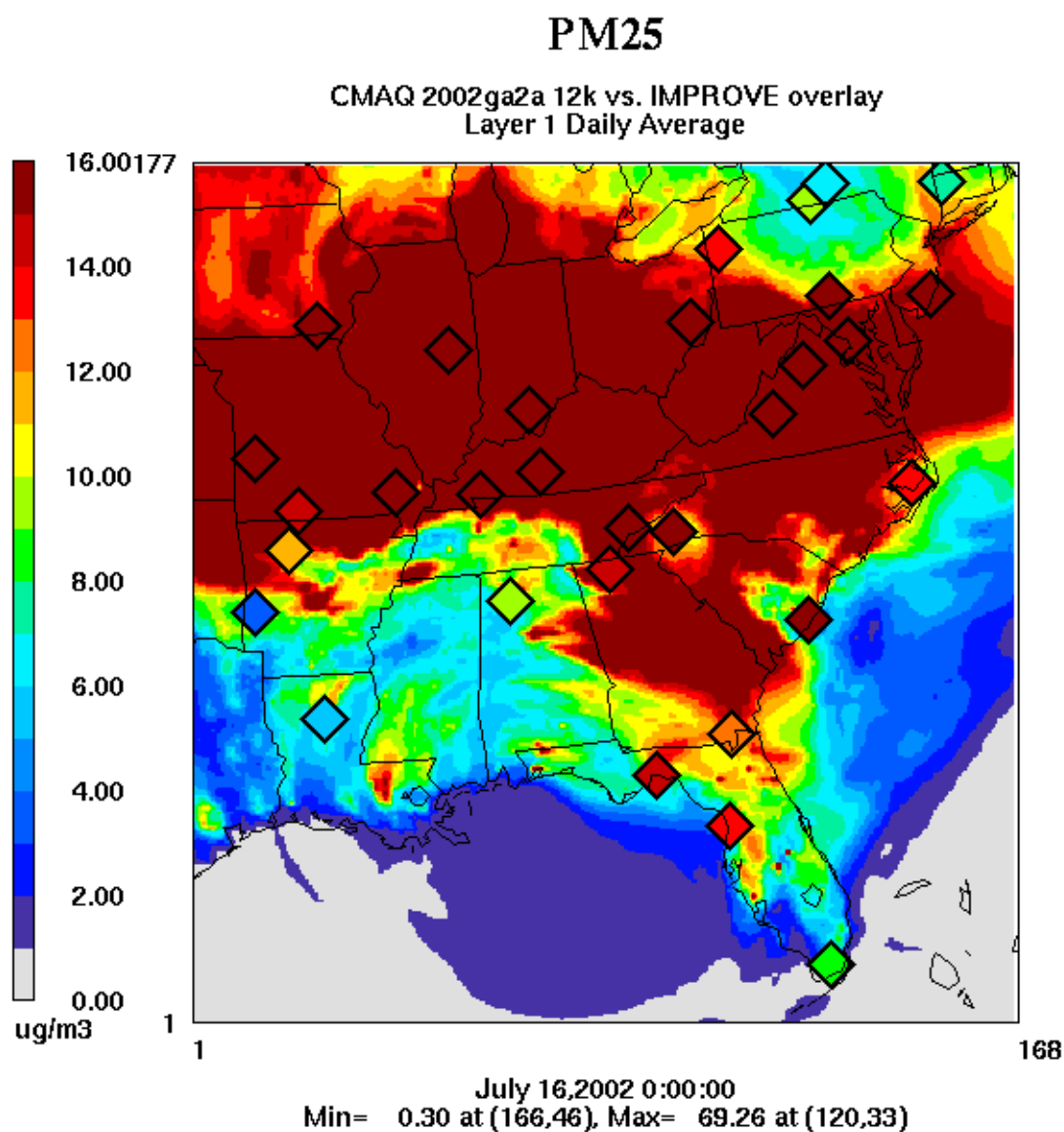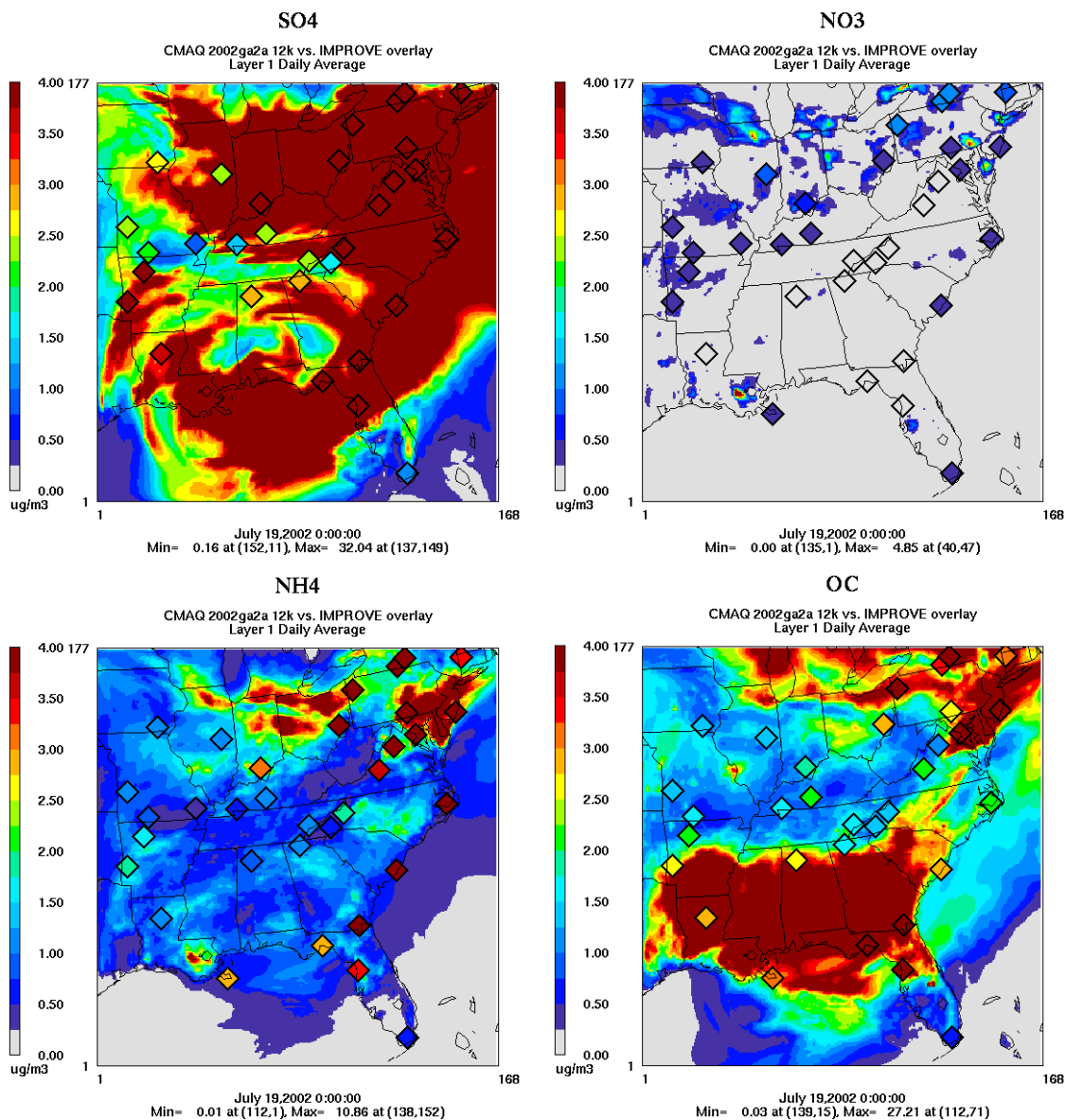
Figure D-197: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 19, 2002

D.66   July 22, 2002

Date	Julian Day	Type	Class I Areas Affected
07/22/02	203	W20%	LIGO, SHRO, GRSM, JARI, CACR, SHEN, MACA, UPBU
07/22/02	203	B20%	CHAS
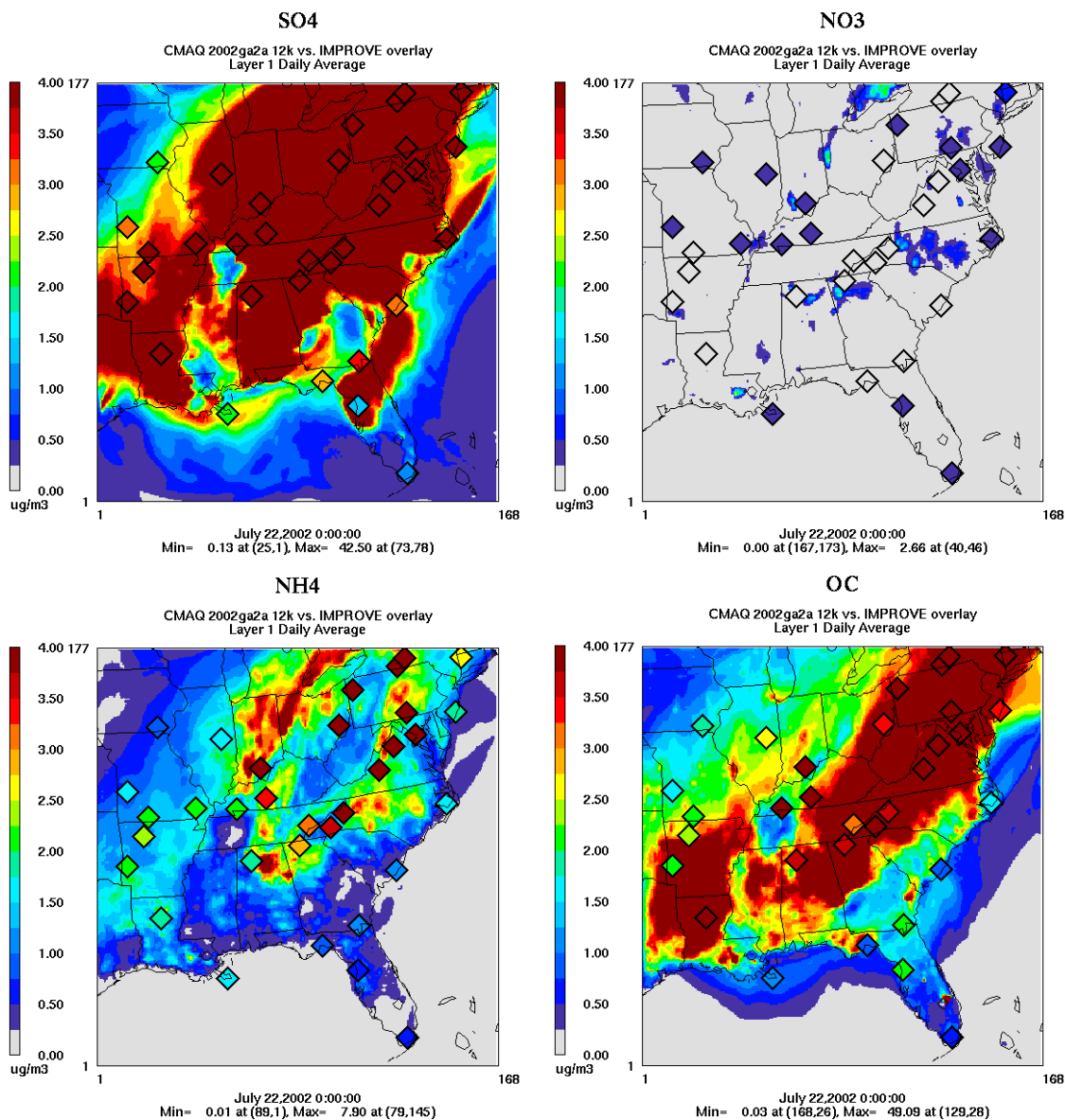
Figure D-198: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 22, 2002
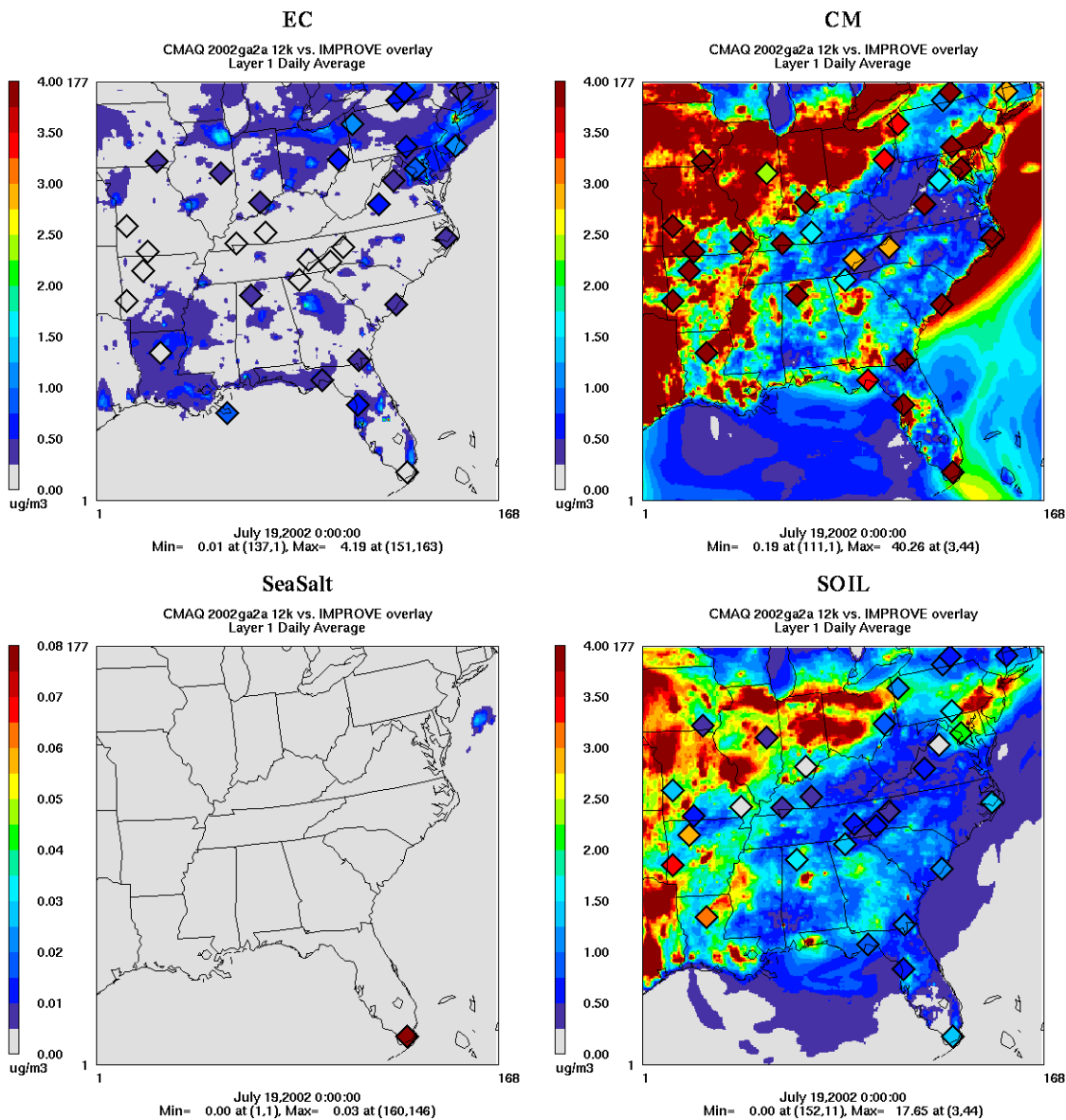
Figure D-199: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 22, 2002
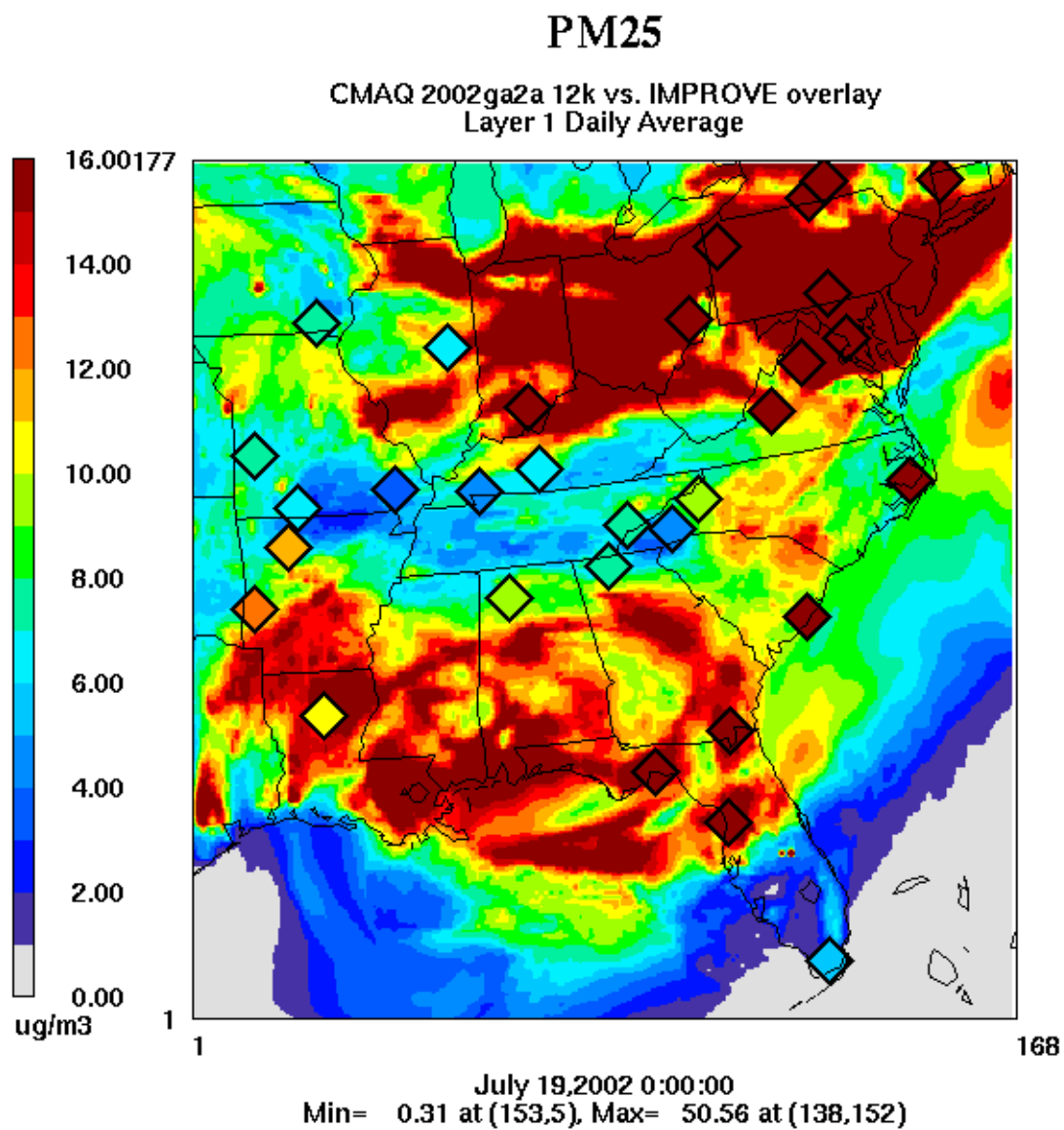
Figure D-200: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 22, 2002

D.67   July 25, 2002

| Date	Julian Day	Type	Class I Areas Affected
07/25/02	206	W20%	LIGO, SHRO, BRET, DOSO, CHAS, HEGL, COHU, MACA, ROMA, UPBU, MING
07/25/02	206	B20%	SAMA, SHEN, EVER, BRIG
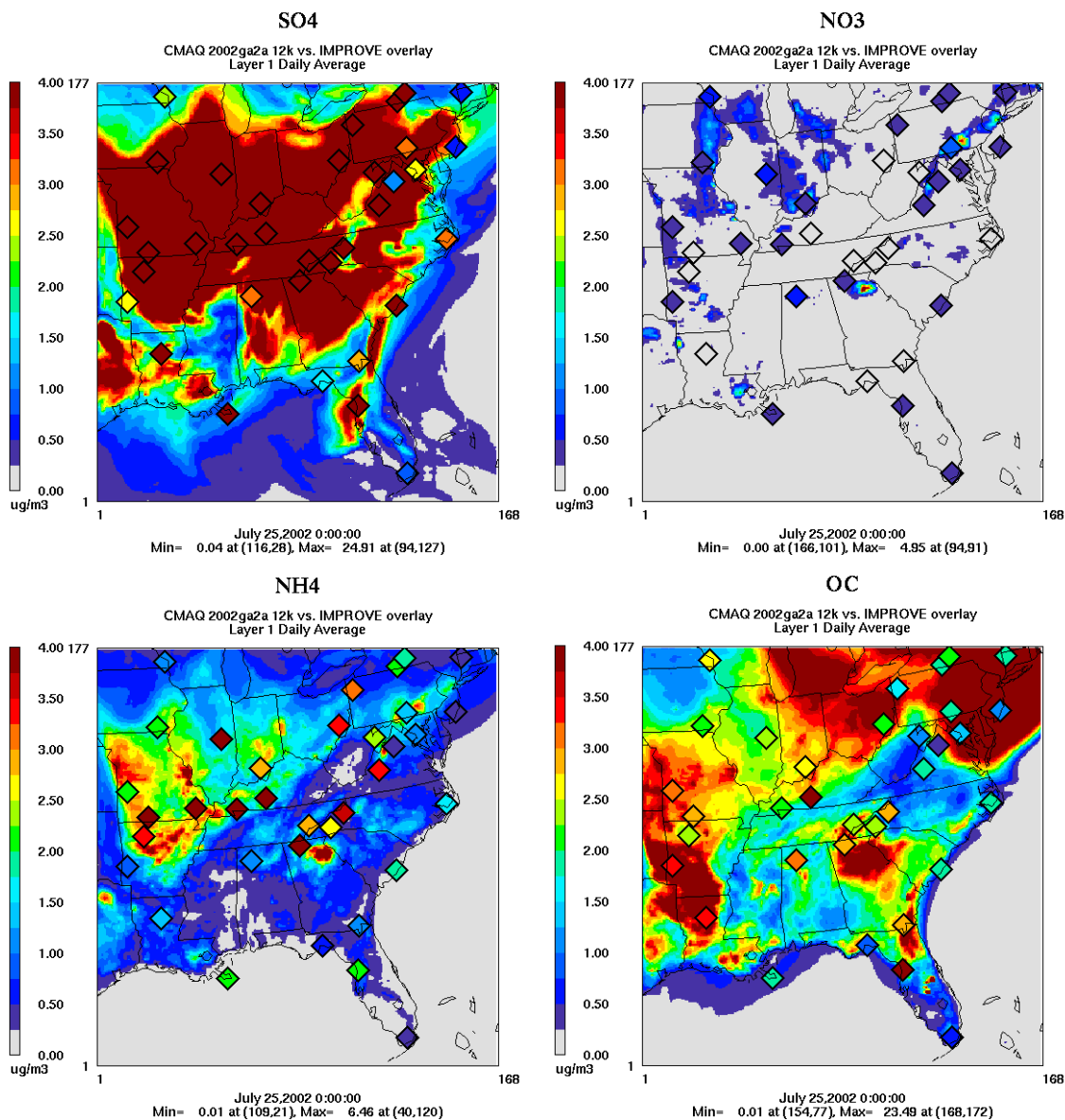
Figure D-201:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 25, 2002
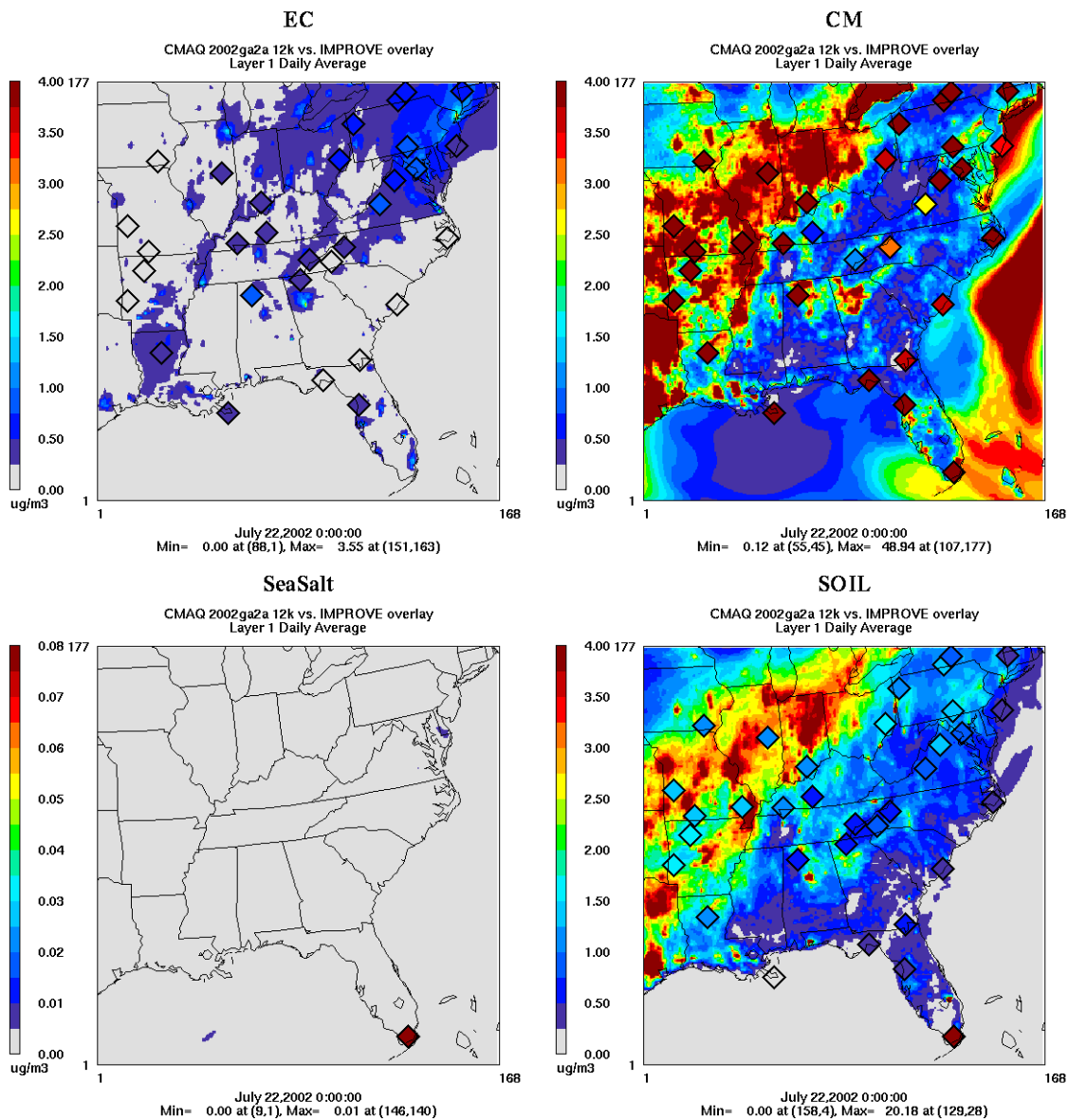
Figure D-202: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 25, 2002
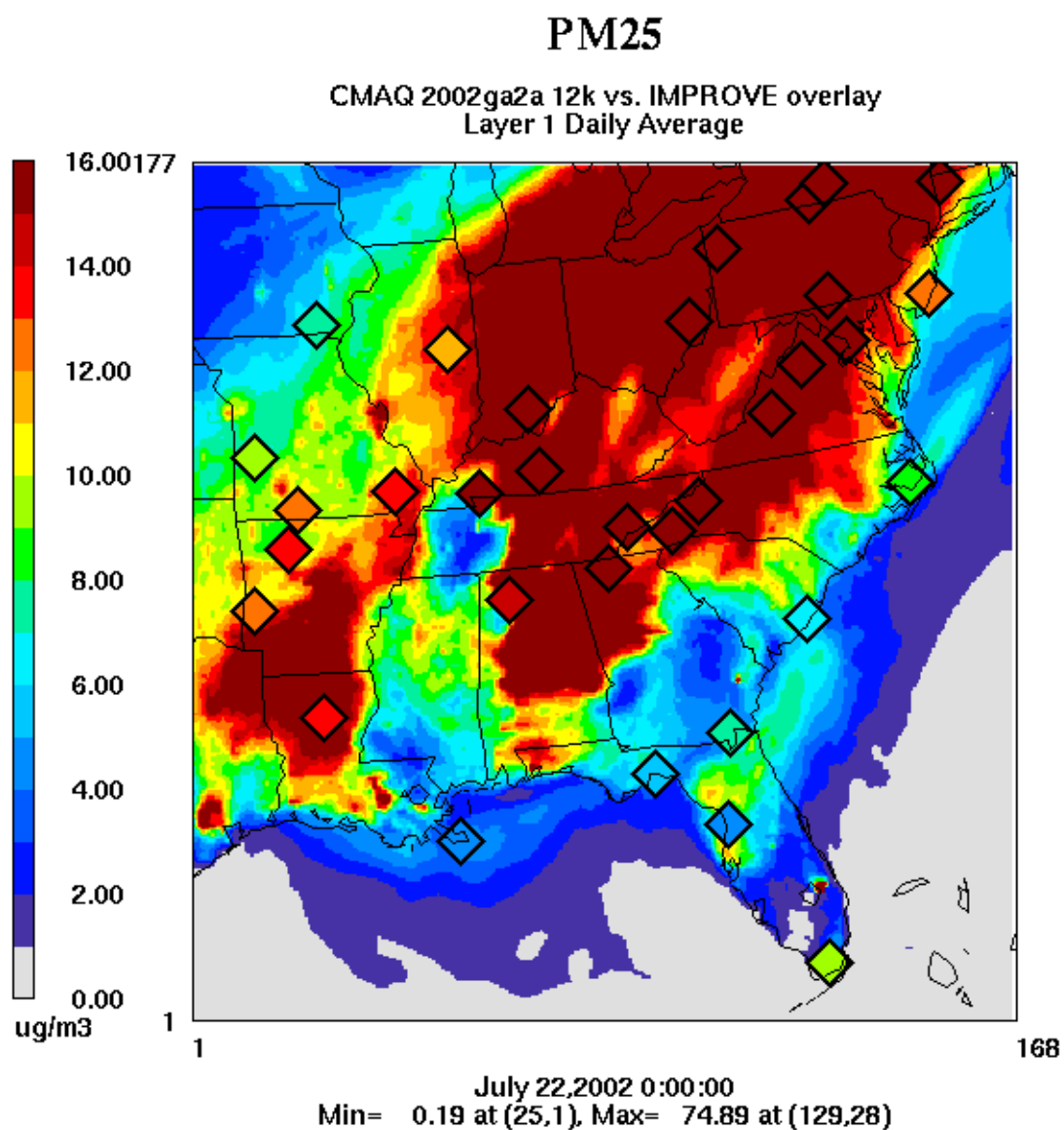
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

July 25,2002 0:00:00
Min= 0.16 at (164,66), Max= 39.66 at (37,126)

Figure D-203:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 25, 2002

D.68   July 28, 2002

Date	Julian Day	Type	Class I Areas Affected
07/28/02	209	W20%	LIGO, SWAN, BRIG
07/28/02	209	B20%	SAMA, BRET

SO4

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

July 28,2002 0:00:00
Min=   0.07 at (60,1), Max=   16.14 at (104,89)

NO3

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

July 28,2002 0:00:00
Min=   0.00 at (1,17), Max=   5.70 at (149,165)

NH4

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

July 28,2002 0:00:00
Min=   0.00 at (58,5), Max=   6.30 at (136,156)

OC

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

July 28,2002 0:00:00
Min=   0.01 at (168,23), Max=   13.10 at (112,71)

Figure D-204:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 28, 2002
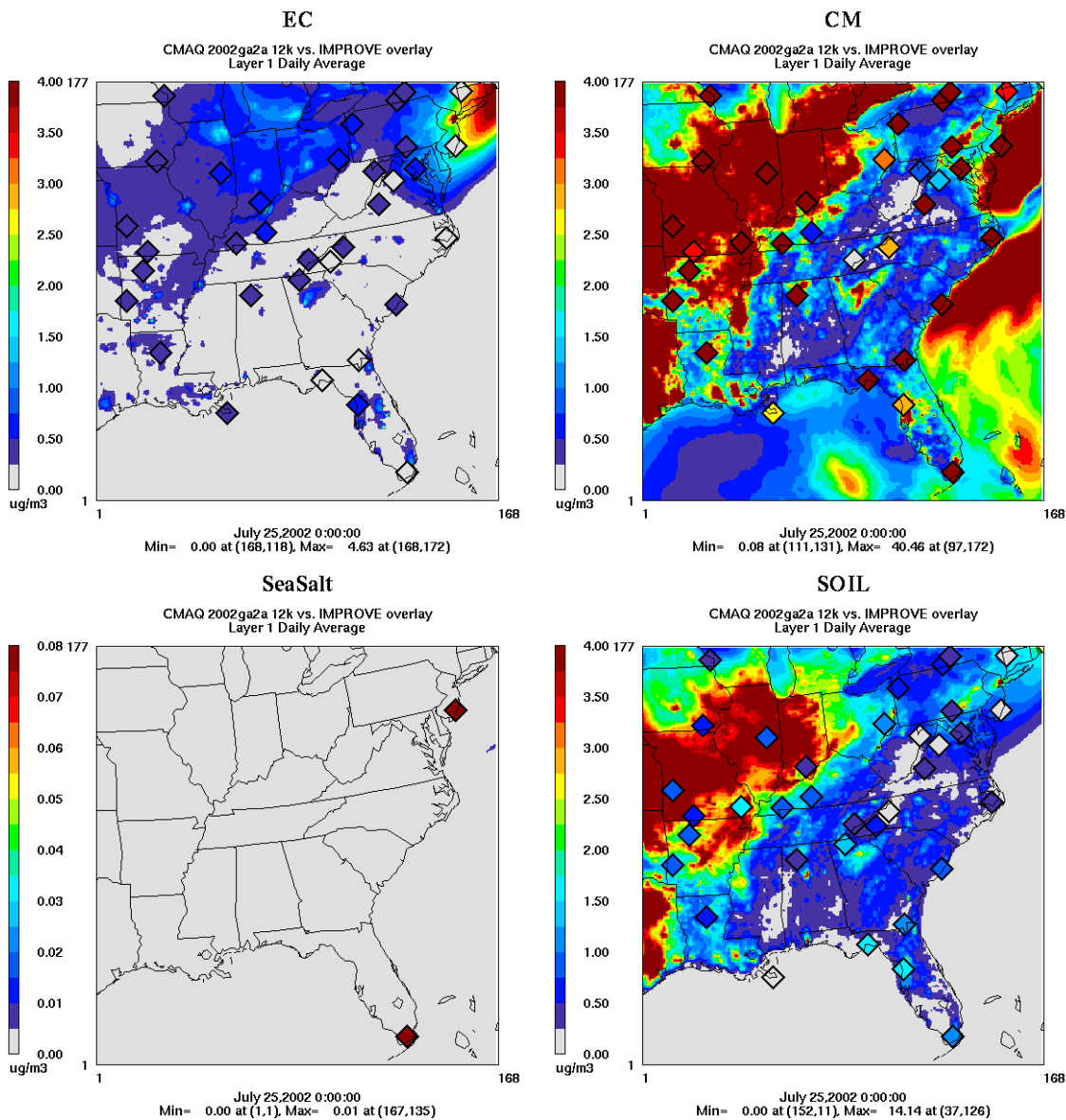
Figure D-205: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 28, 2002
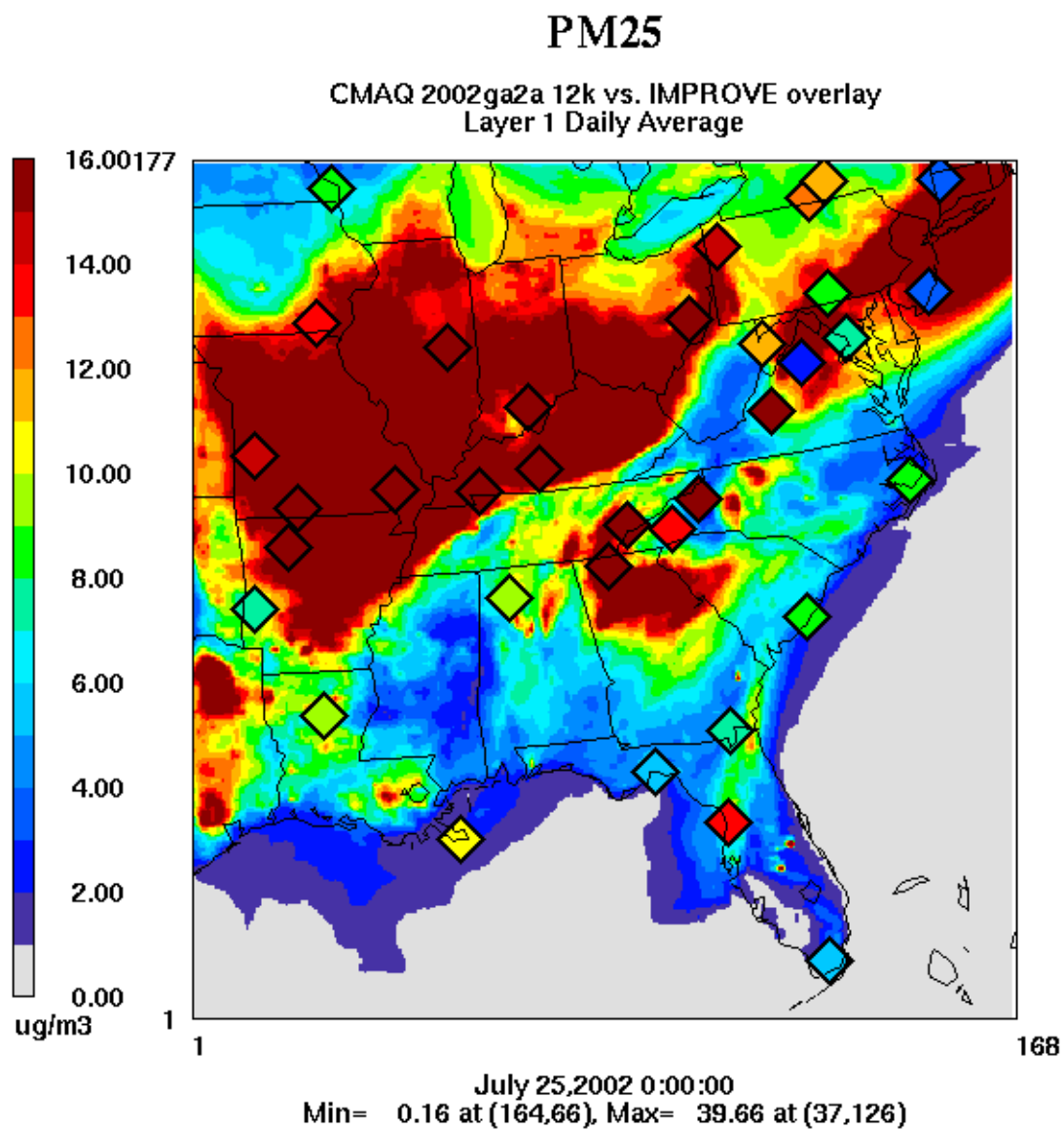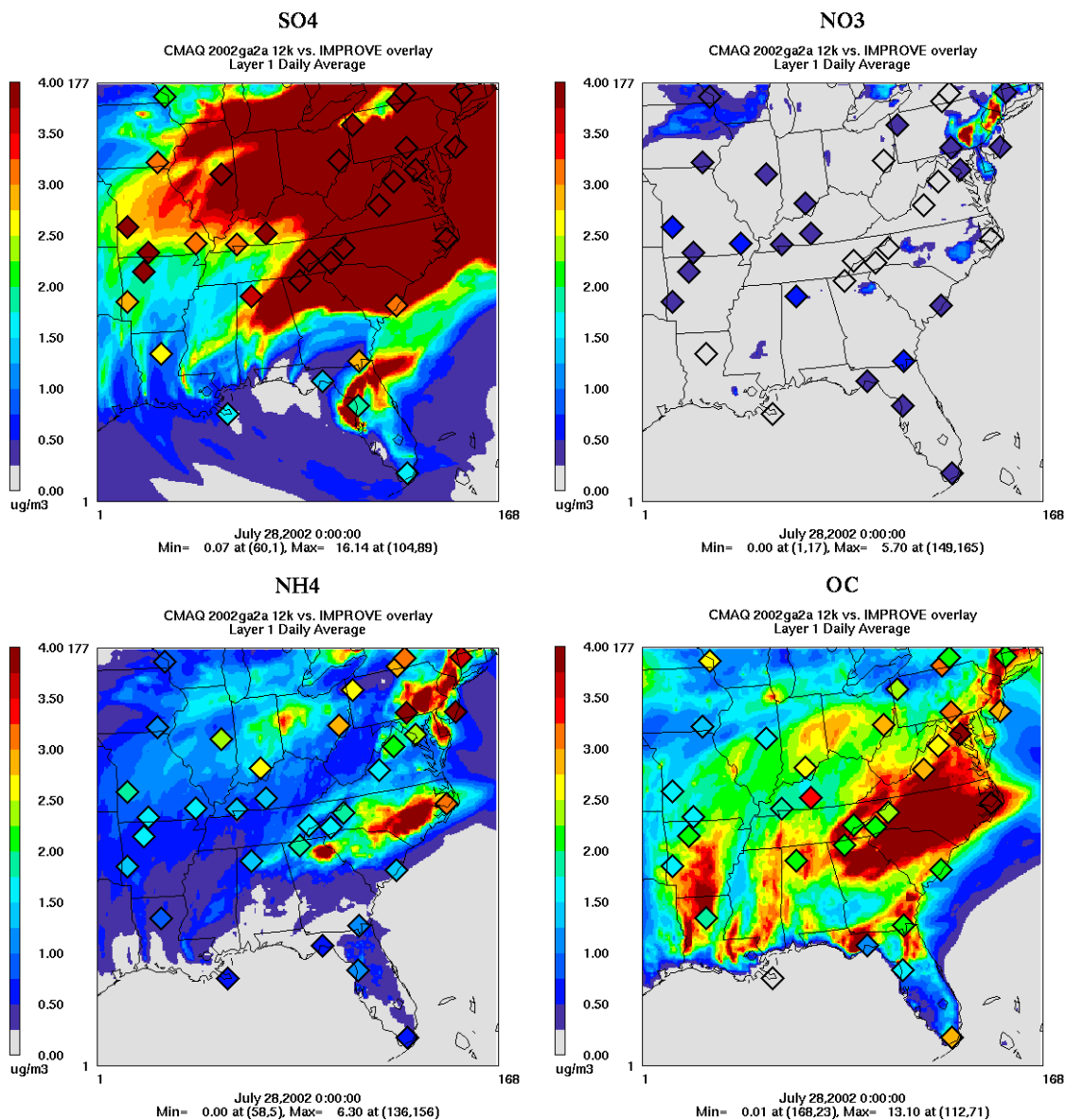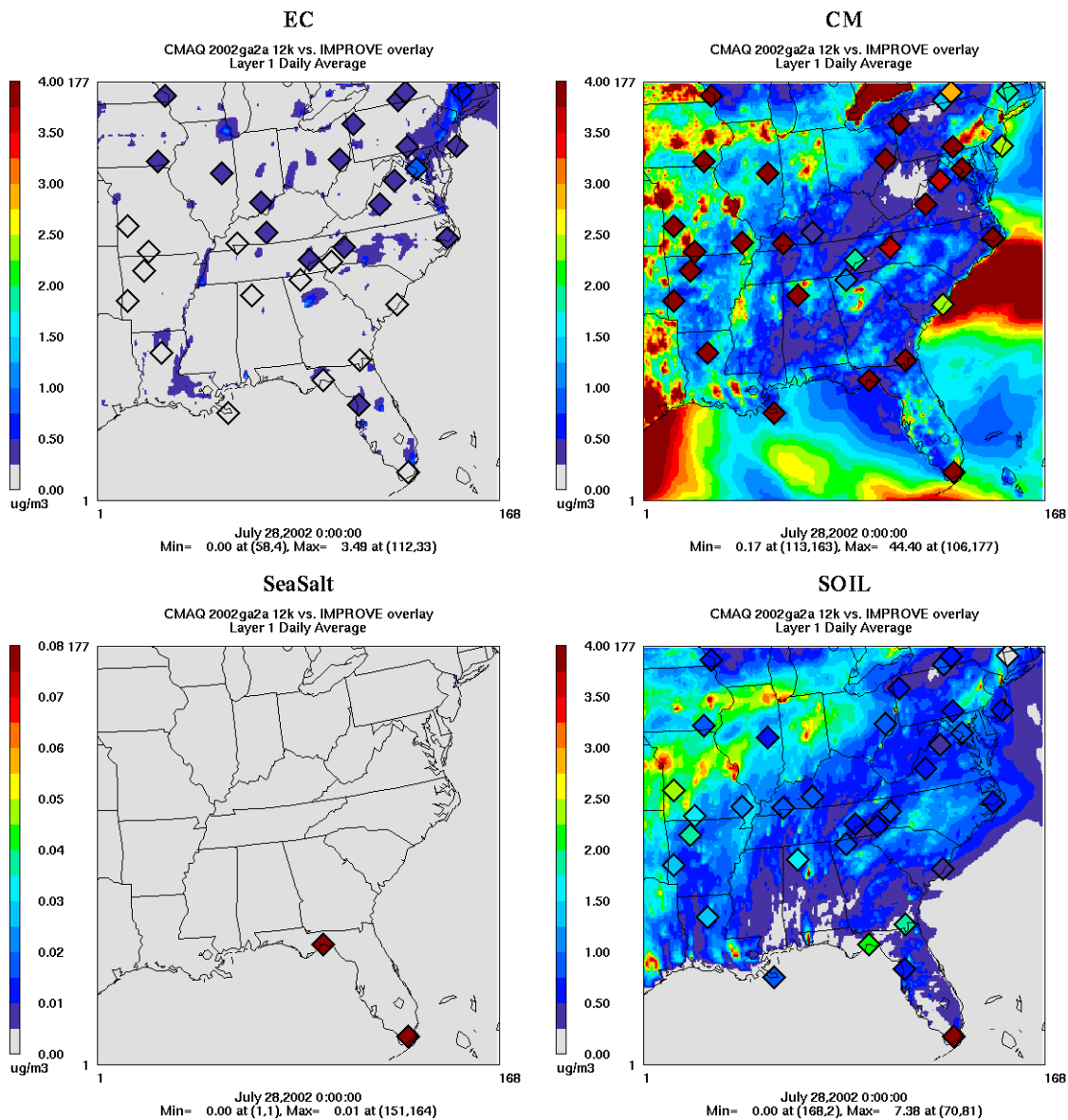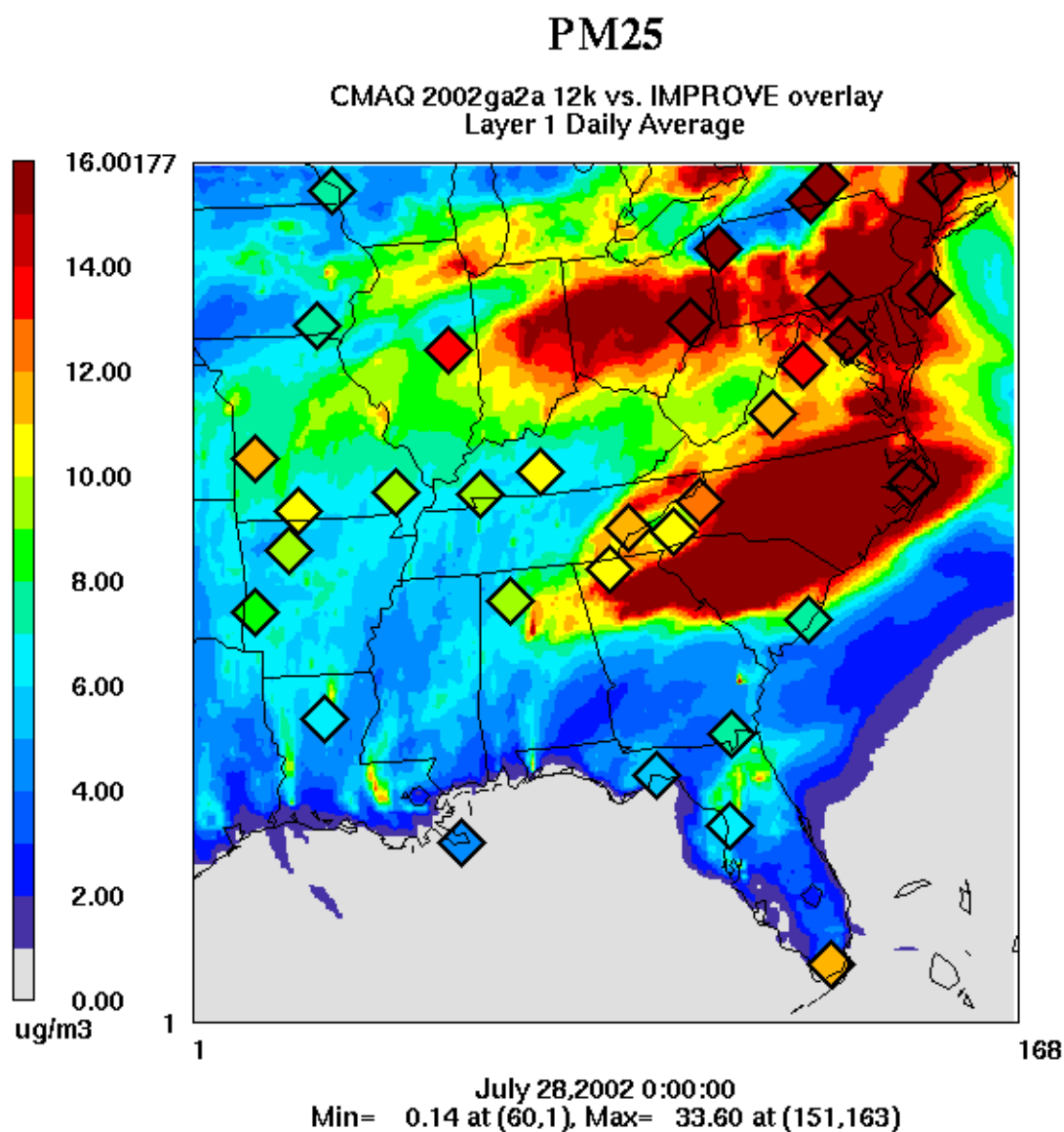
Figure D-206:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 28, 2002

D.69   July 31, 2002

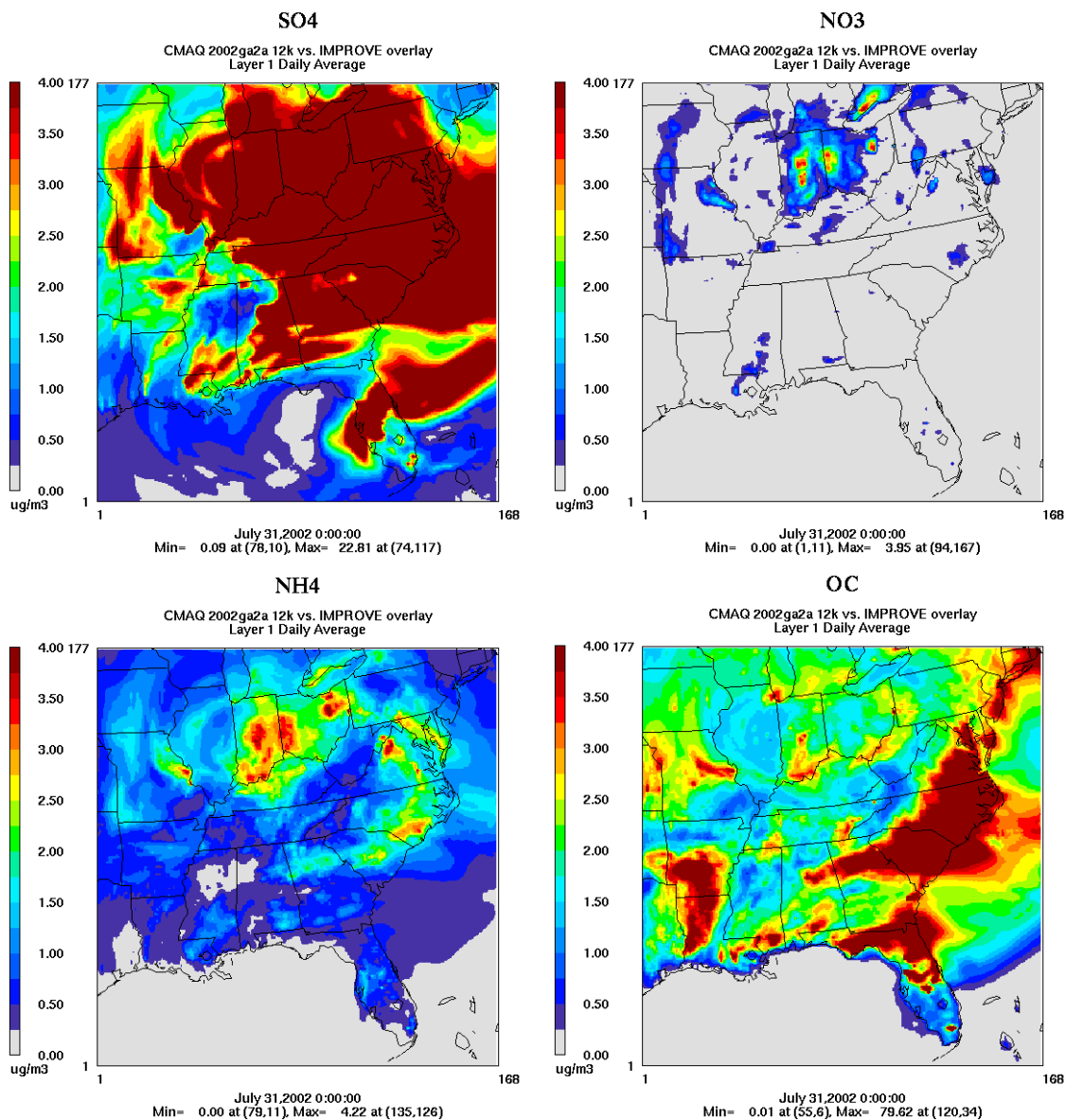| Date	Julian Day	Type	Class I Areas Affected
07/31/02	212	W20%	LIGO, SHRO, GRSM, JARI, SHEN, SWAN, MACA, ROMA
07/31/02	212	B20%	SIPS, EVER

Figure D-207: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For July 31, 2002
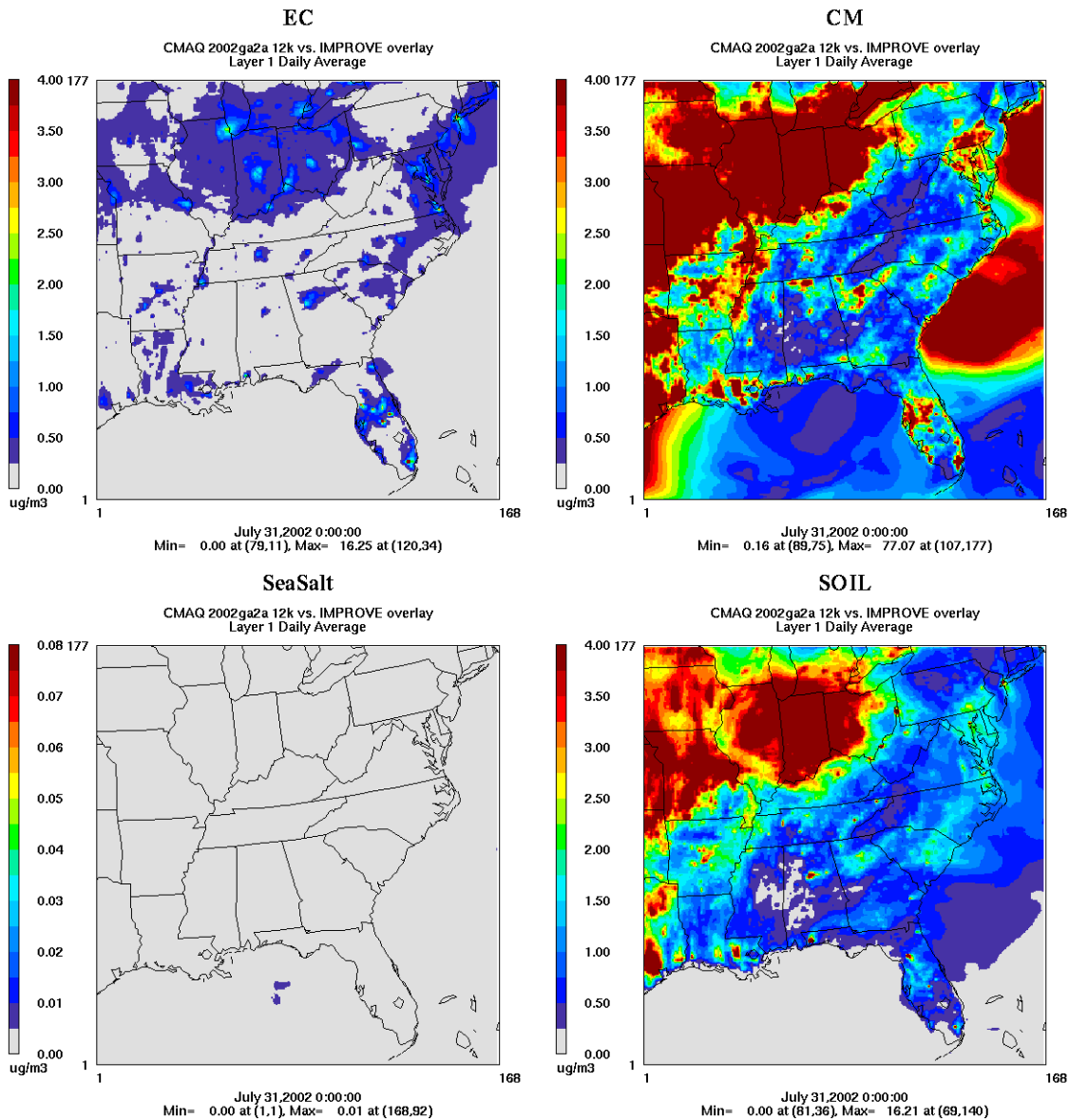
Figure D-208: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For July 31, 2002
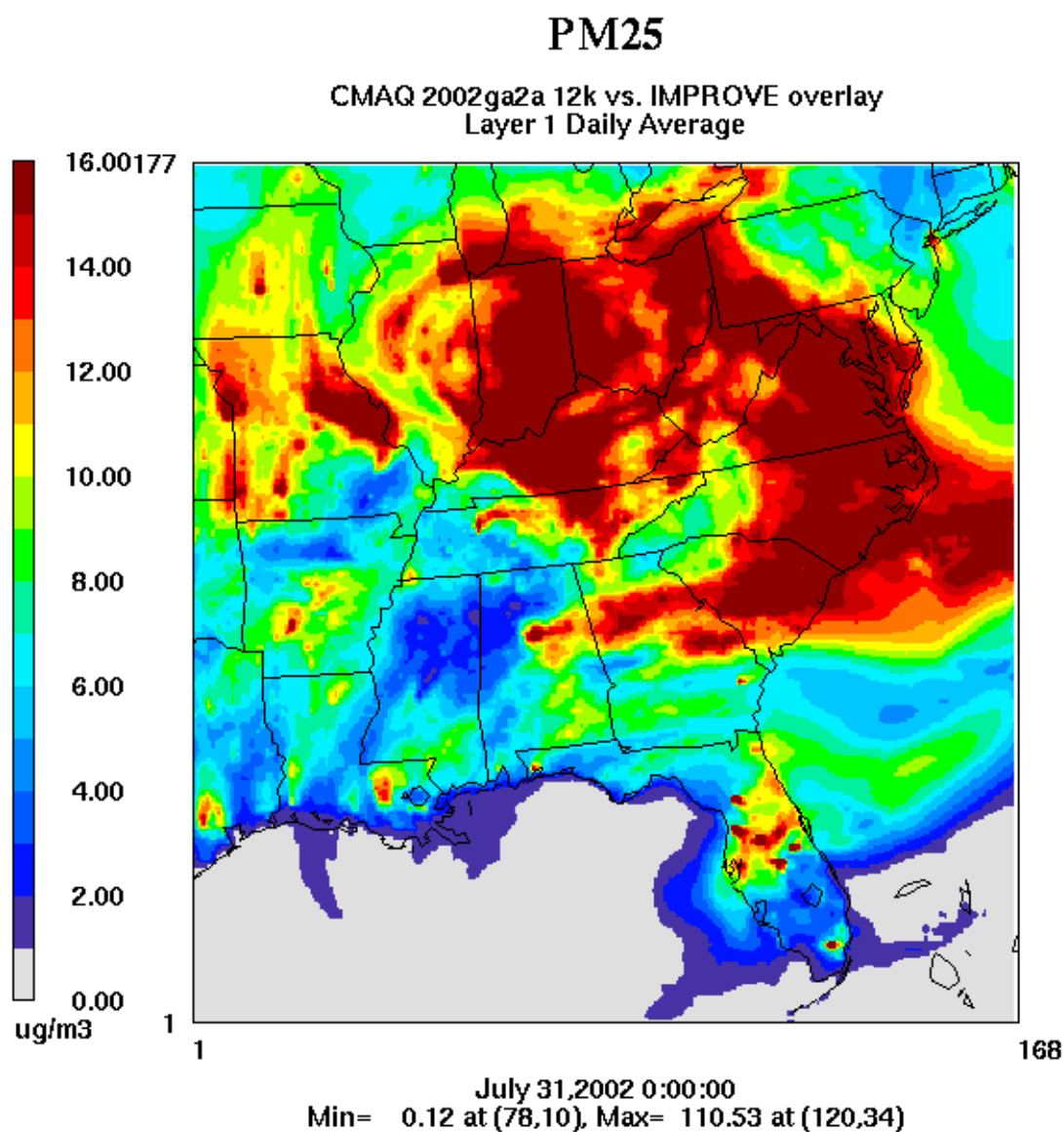
Figure D-209: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For July 31, 2002

D.70   August 3, 2002

Date	Julian Day	Type	Class I Areas Affected
08/03/02	215	W20%	LIGO, SHRO, GRSM, JARI, SIPS, CACR, BRET, SHEN, HEGL, COHU, MACA, UPBU, MING
08/03/02	215	B20%	

SO4

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

August 3,2002 0:00:00
Min=   0.10 at (96,28), Max=   27.74 at (112,144)

NO3

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

August 3,2002 0:00:00
Min=   0.00 at (142,83), Max=   7.85 at (137,153)

NH4

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

August 3,2002 0:00:00
Min=   0.00 at (96,30), Max=   6.12 at (134,155)

OC

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

August 3,2002 0:00:00
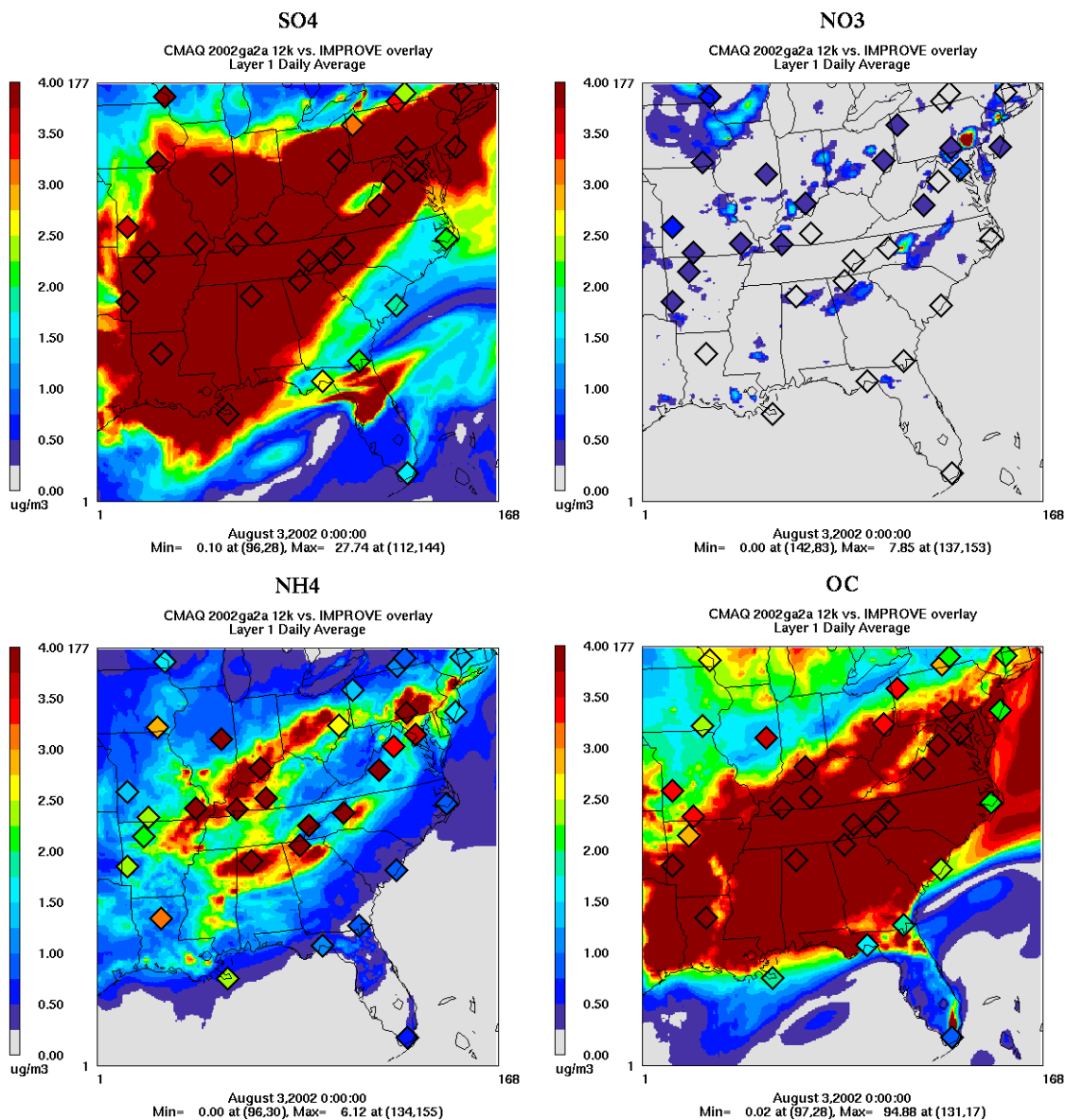Min=   0.02 at (97,28), Max=   94.88 at (131,17)

Figure D-210:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 3, 2002
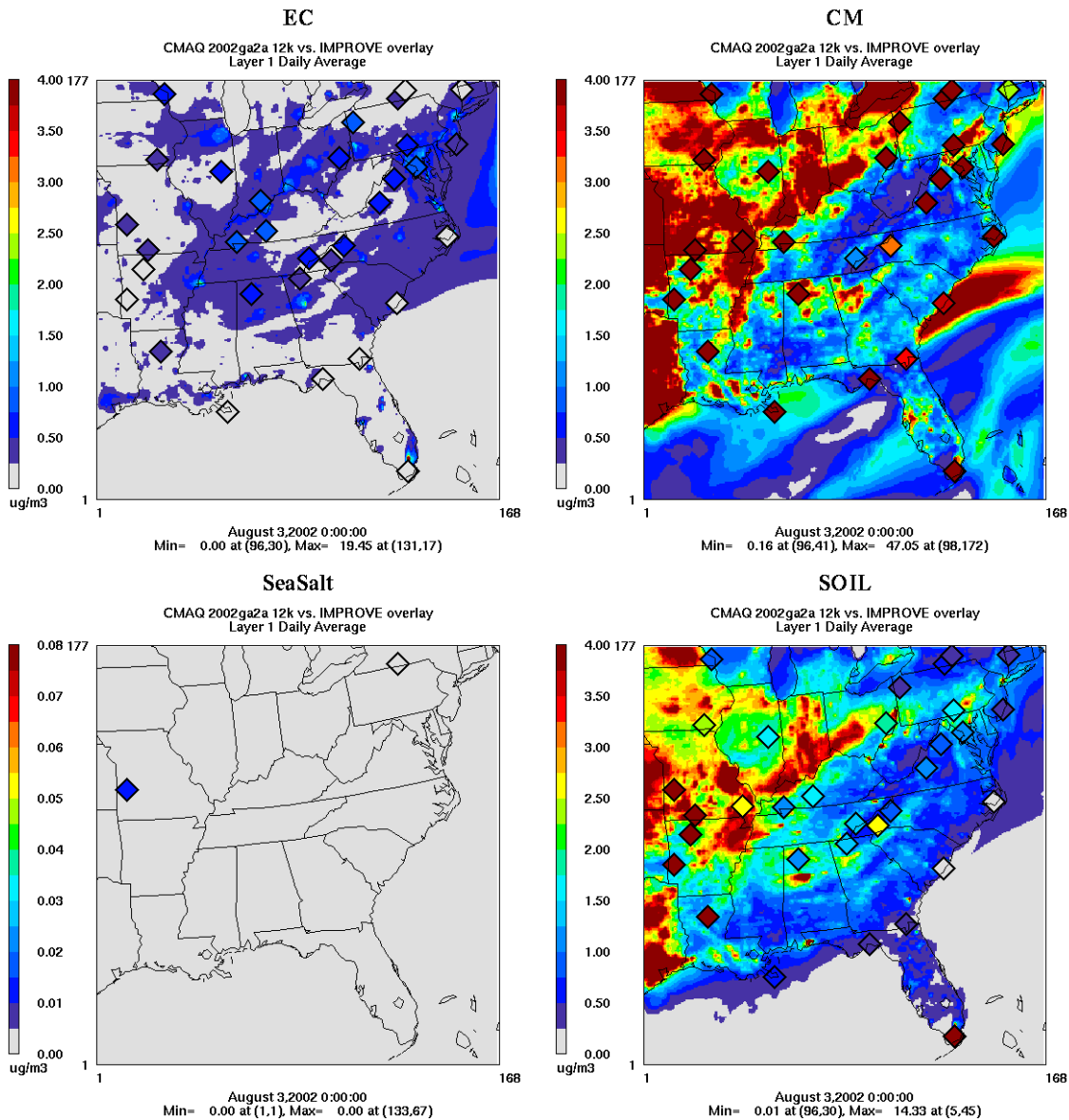
Figure D-211: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 3, 2002
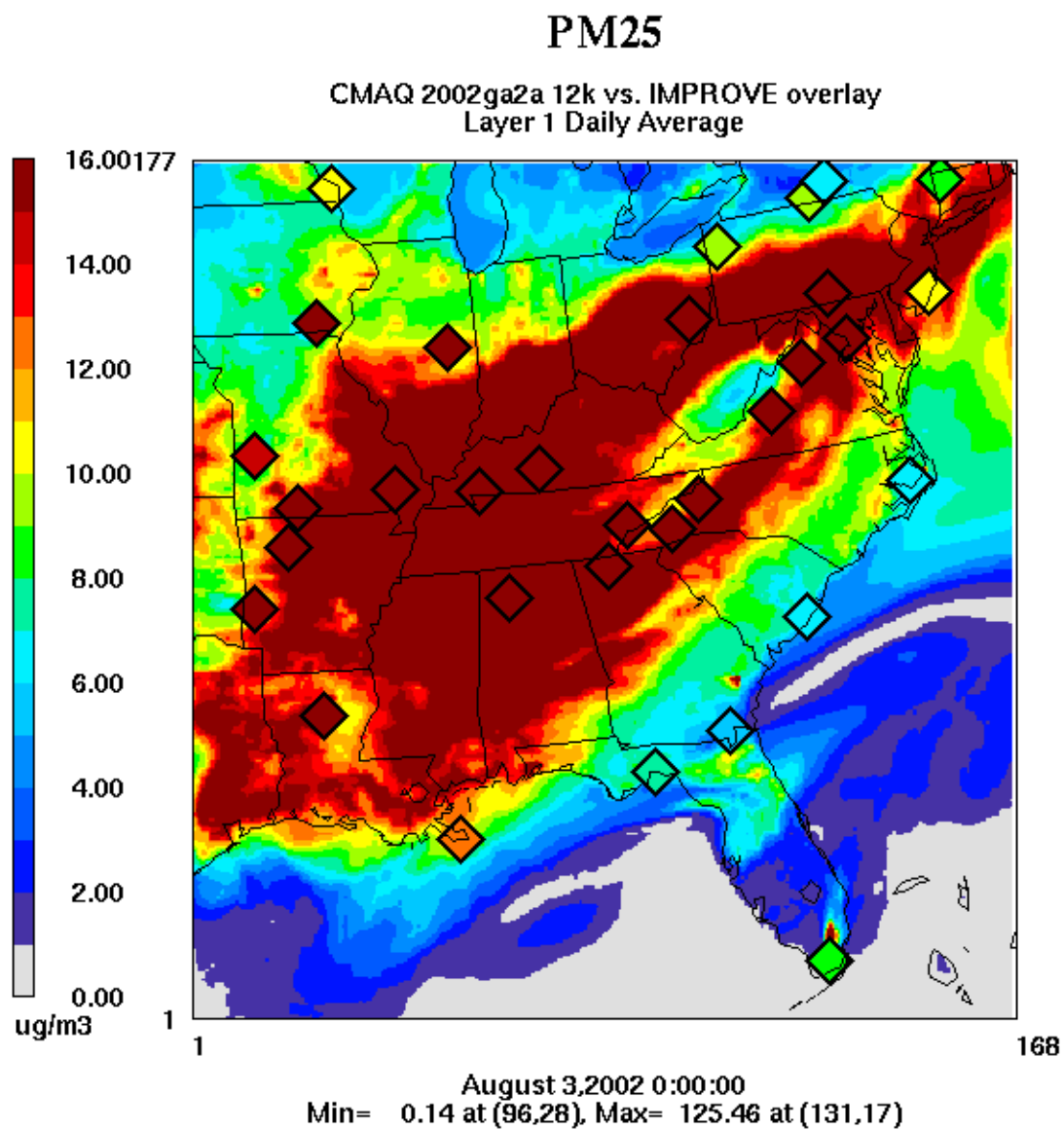
Figure D-212:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 3, 2002

D.71 August 6, 2002

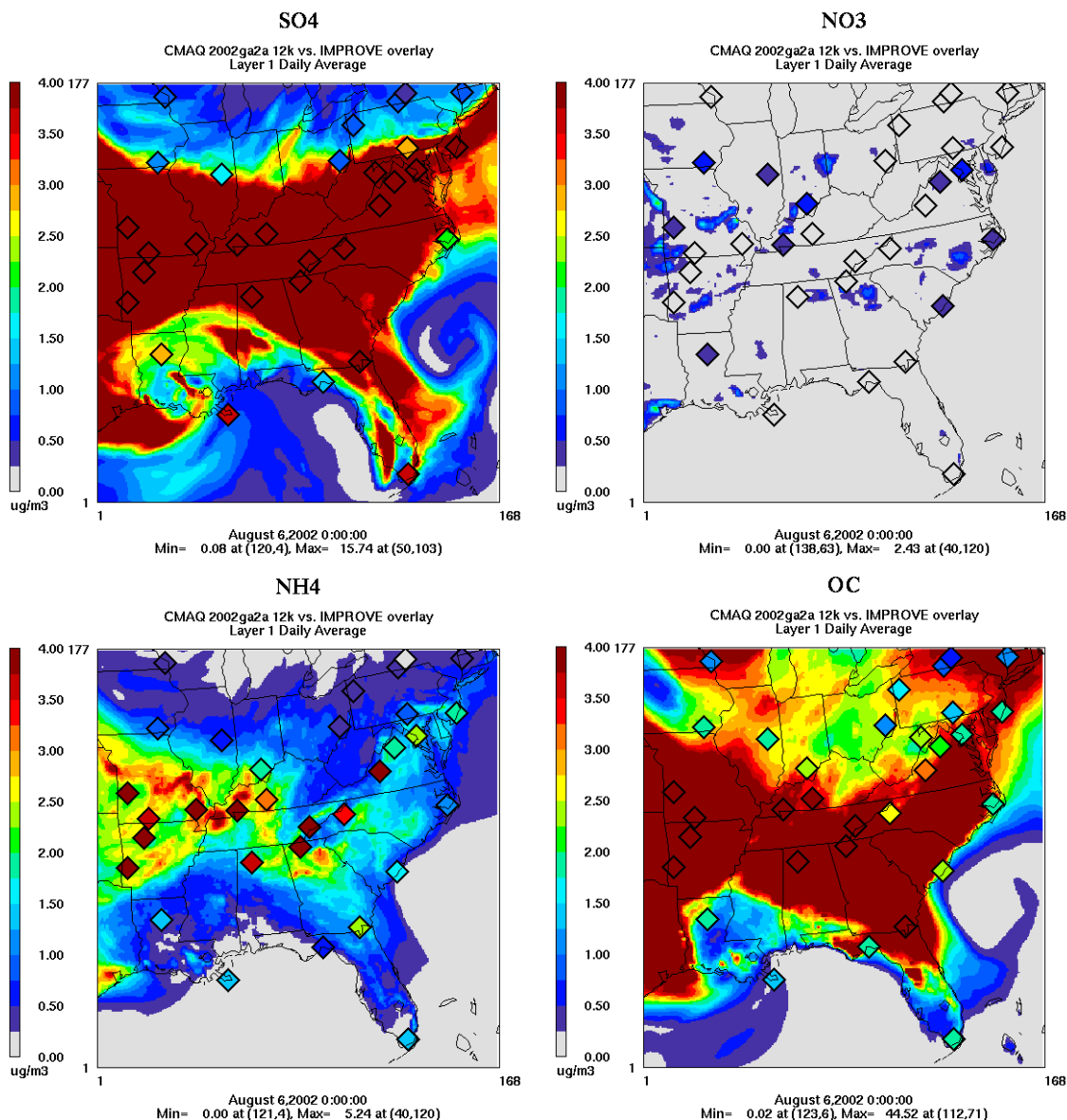| Date	Julian Day	Type	Class I Areas Affected
08/06/02	218	W20%	LIGO, SHRO, GRSM, JARI, SIPS, OKEF, CACR, EVER, HEGL, COHU, MACA, UPBU, MING
08/06/02	218	B20%	SAMA

Figure D-213: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 6, 2002
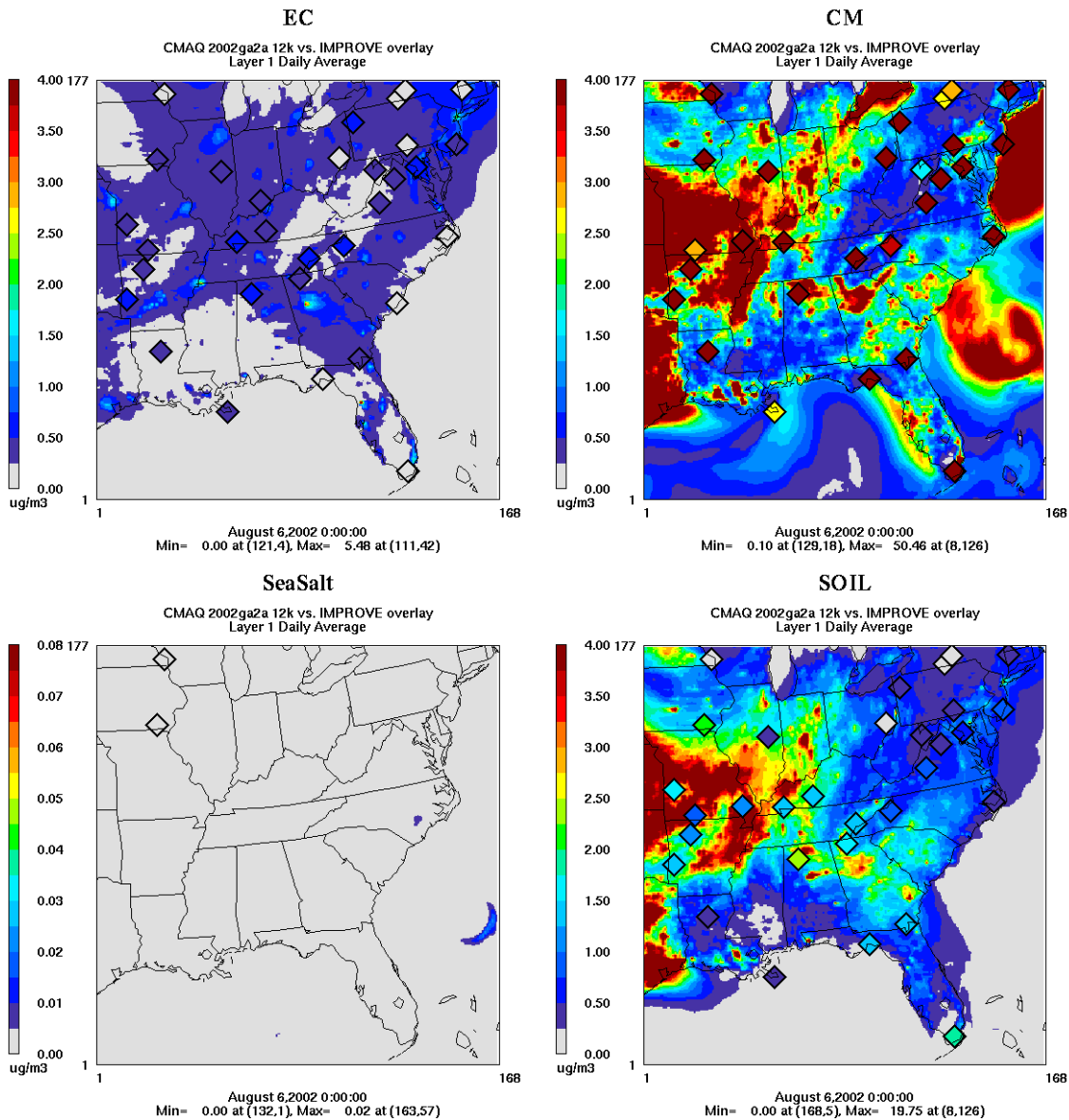
Figure D-214: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 6, 2002
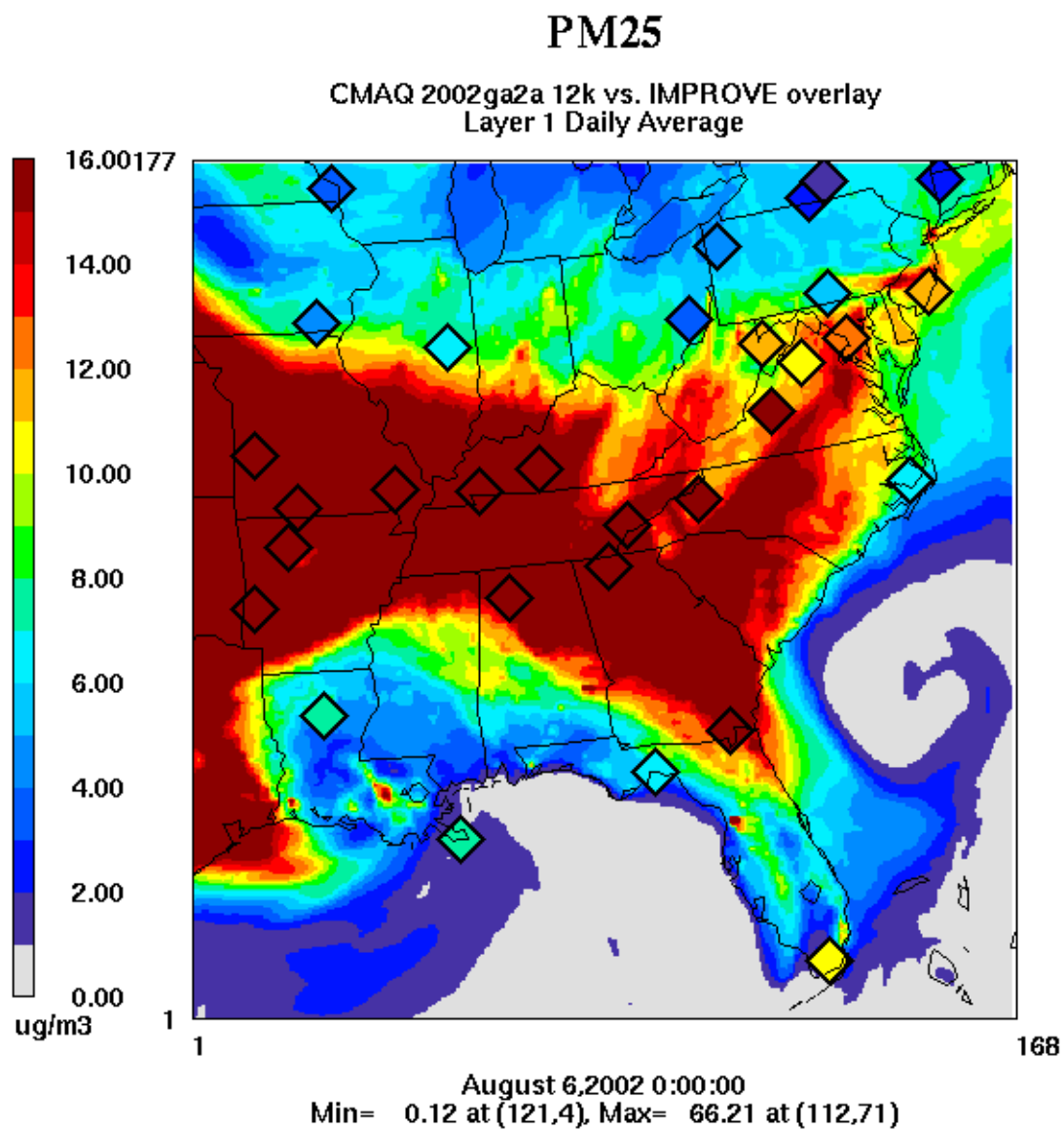
Figure D-215: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 6, 2002

D.72 August 9, 2002

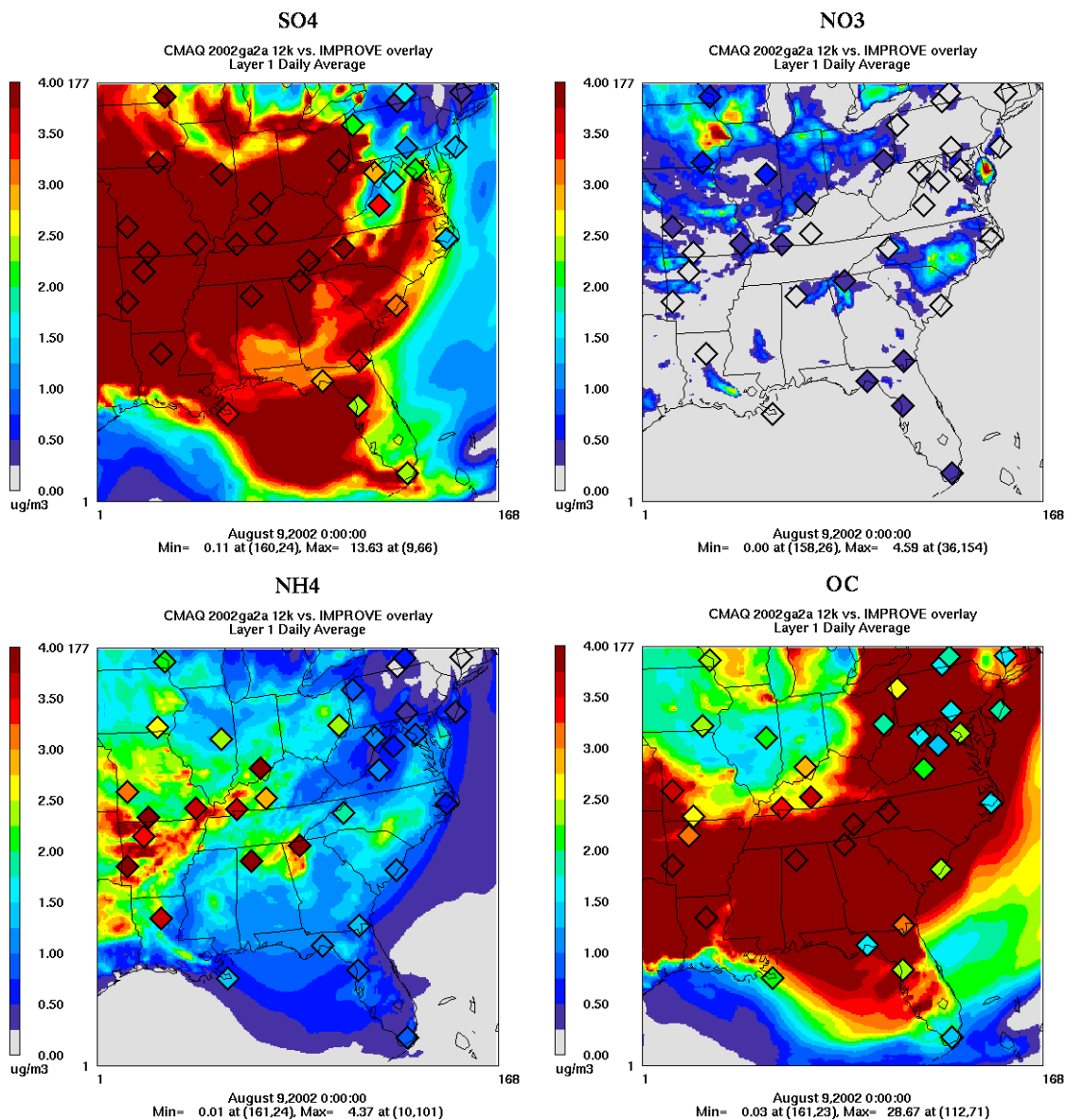| Date	Julian Day	Type	Class I Areas Affected
08/09/02	221	W20%	LIGO, SHRO, GRSM, SIPS, CACR, HEGL, COHU, UPBU, MING
08/09/02	221	B20%	SHEN, SWAN, BRIG

Figure D-216: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 9, 2002
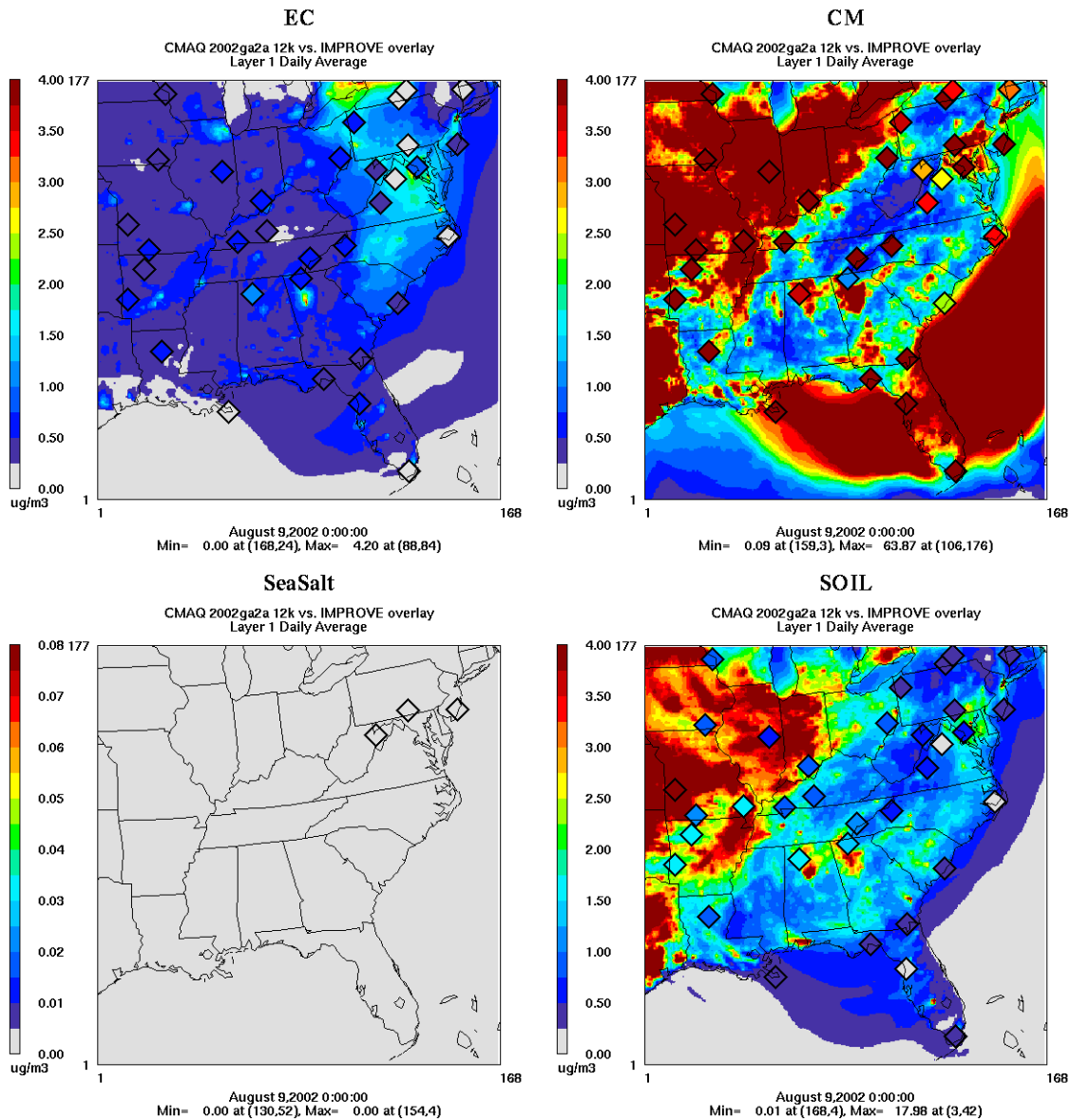
Figure D-217: Modeled Predicted And Observed Daily Average Elemental Carbon (EC)
Component Concentrations (top left), Daily Average Coarse Particle Mass
(CM) Component Concentrations (top right), Daily Average Sea Salt
Component Concentrations, And Daily Average Soil Component
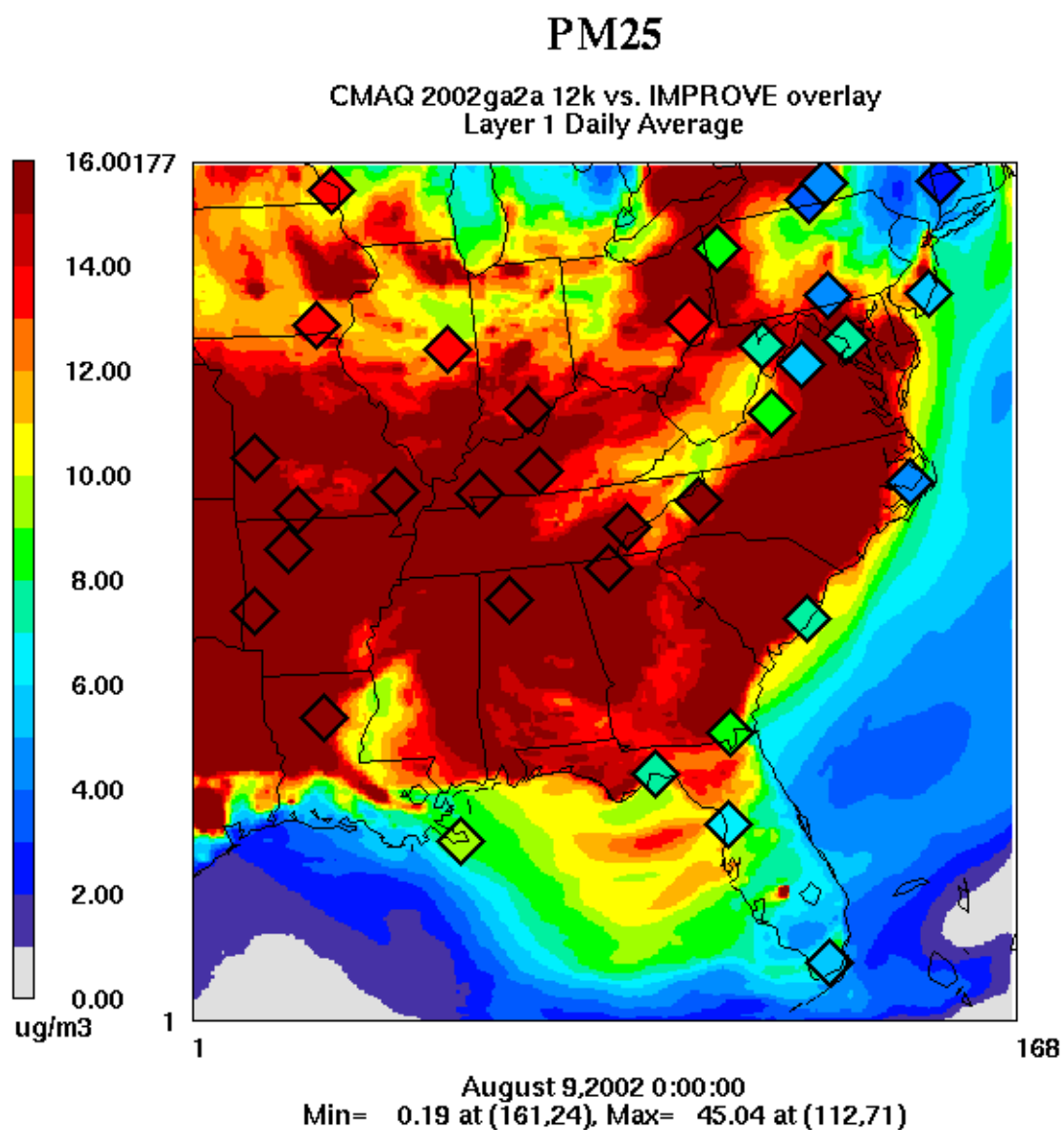Concentrations Spatial Plots For August 9, 2002

Figure D-218:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 9, 2002

D.73 August 12, 2002

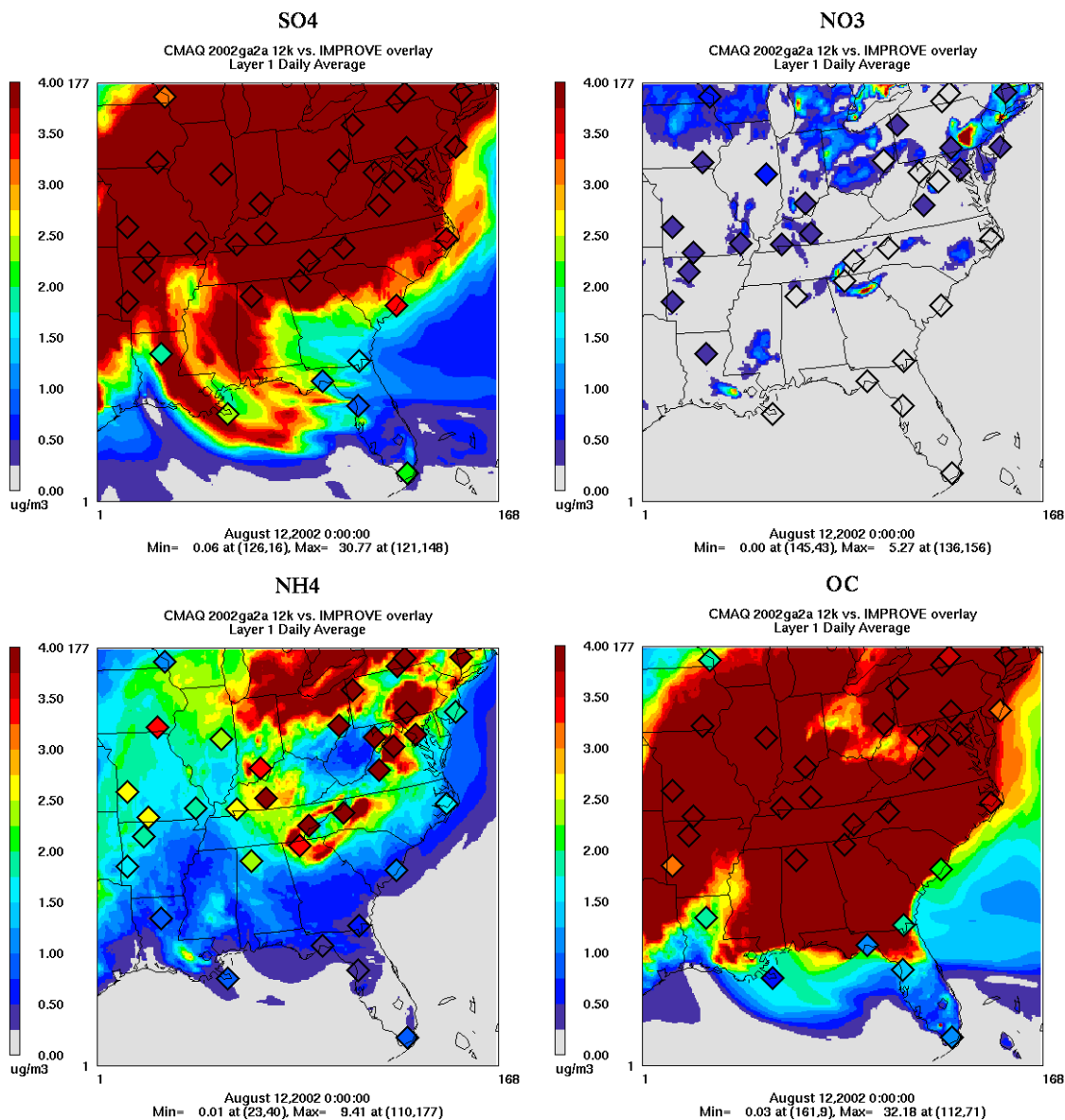| Date	Julian Day	Type	Class I Areas Affected
08/12/02	224	W20%	LIGO, SHRO, GRSM, JARI, SIPS, SHEN, DOSO, HEGL, COHU, MACA, UPBU, BRIG
08/12/02	224	B20%	SAMA, CHAS

Figure D-219: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 12, 2002
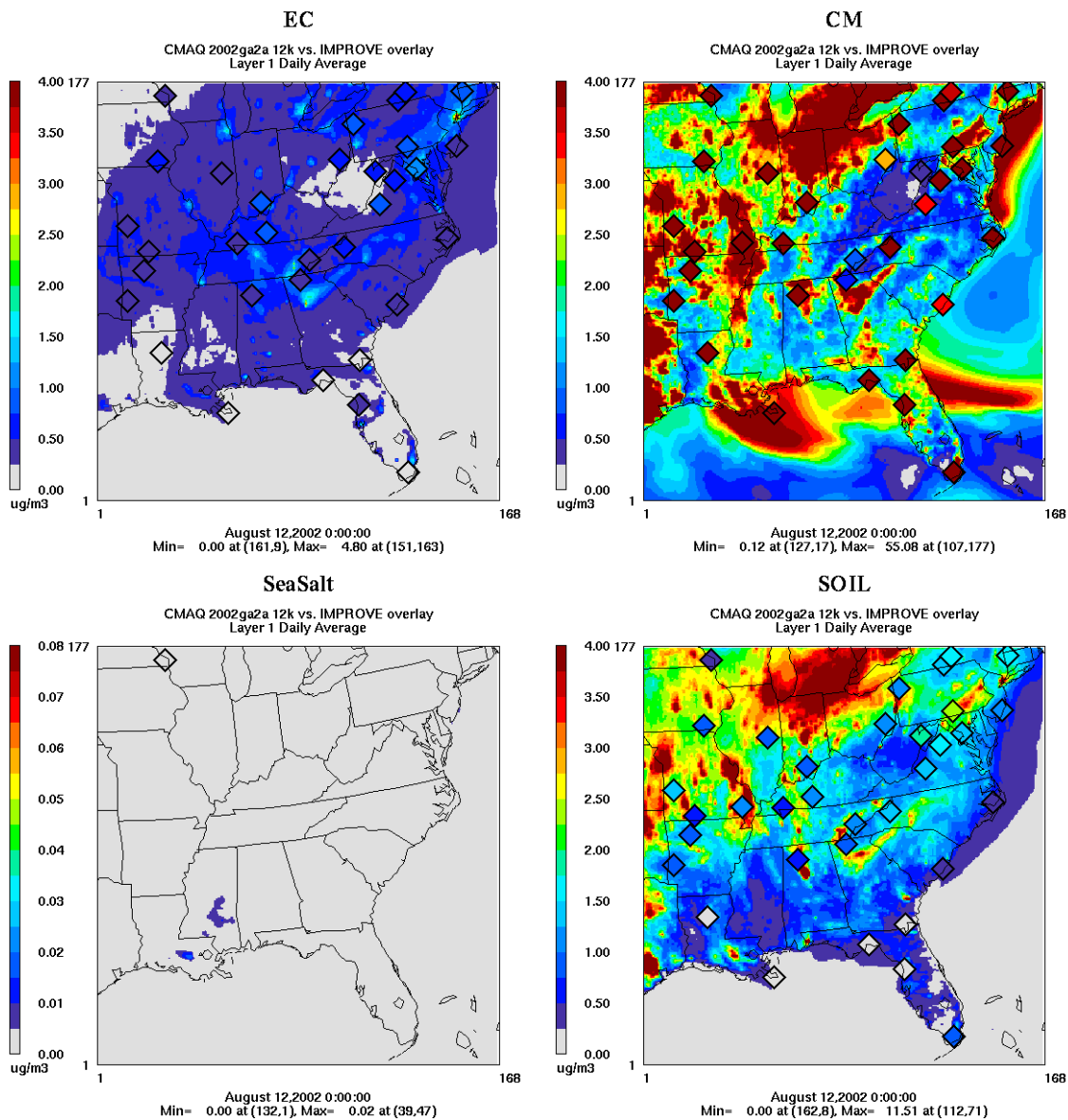
Figure D-220: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 12, 2002
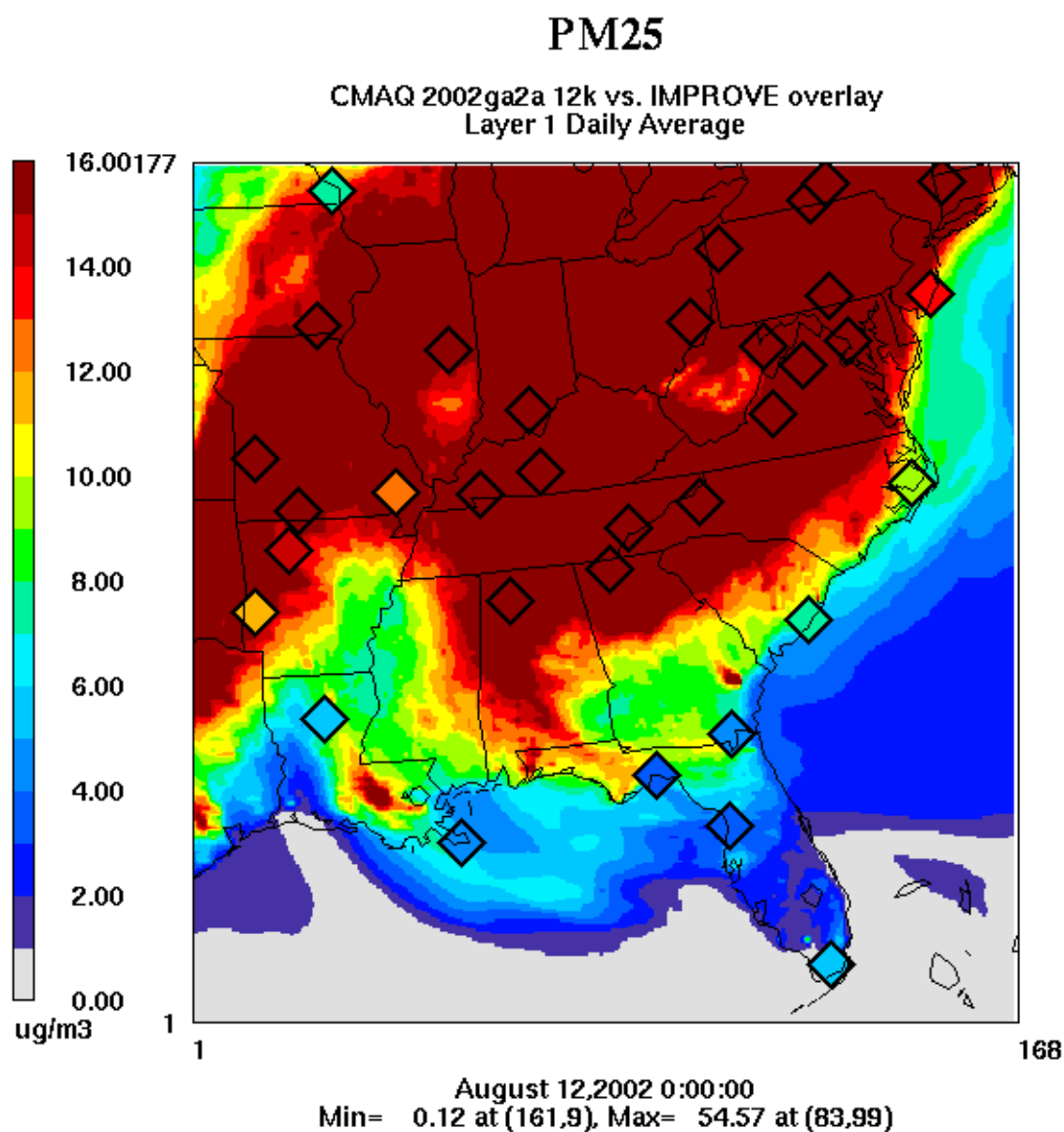
Figure D-221: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 12, 2002

D.74   August 15, 2002

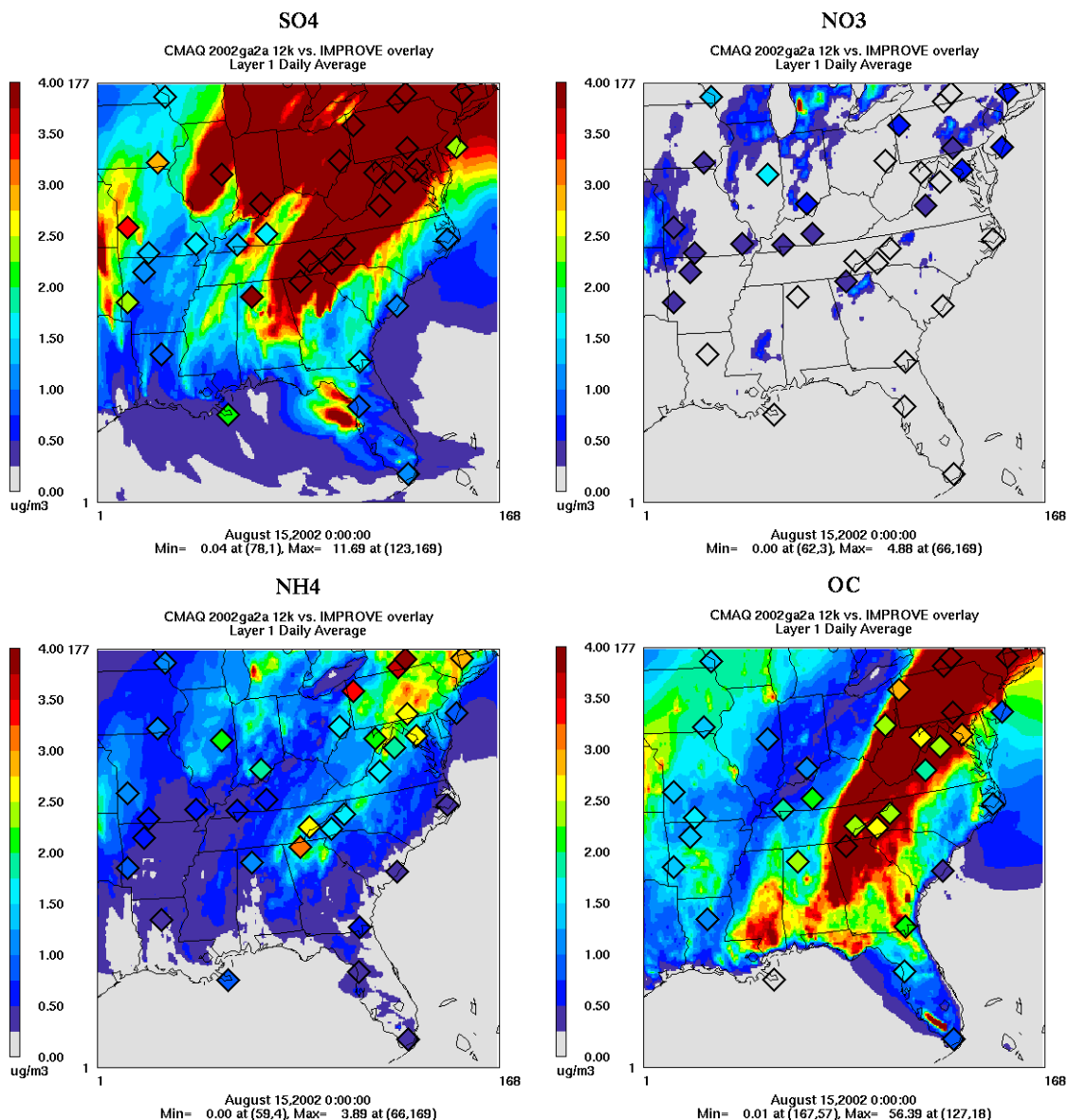| Date	Julian Day	Type	Class I Areas Affected
08/15/02	227	W20%	GRSM, DOSO, COHU
08/15/02	227	B20%	BRET, CHAS, SWAN, HEGL, MACA, ROMA, UPBU, MING

Figure D-222: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 15, 2002
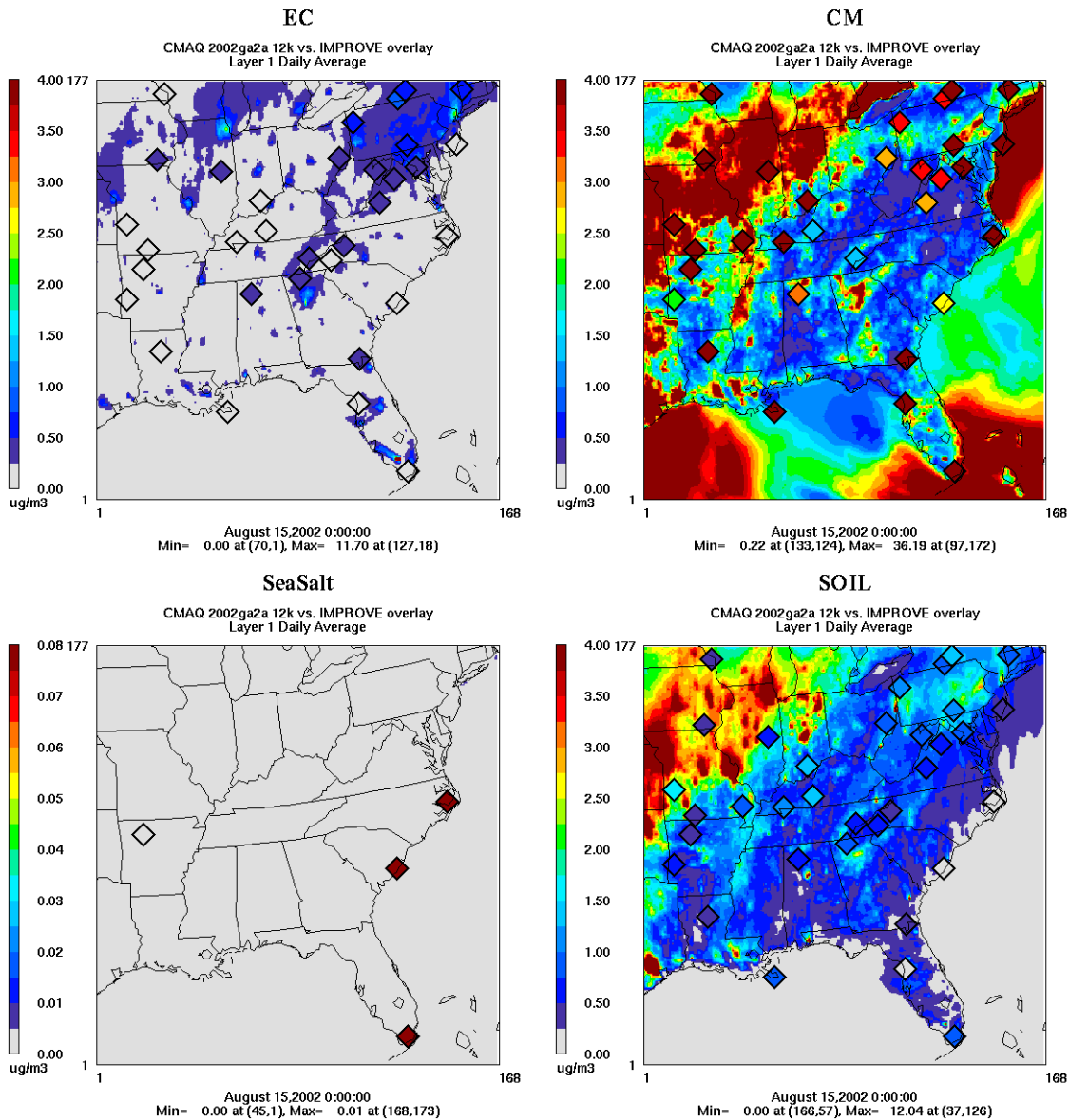
Figure D-223: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 15, 2002
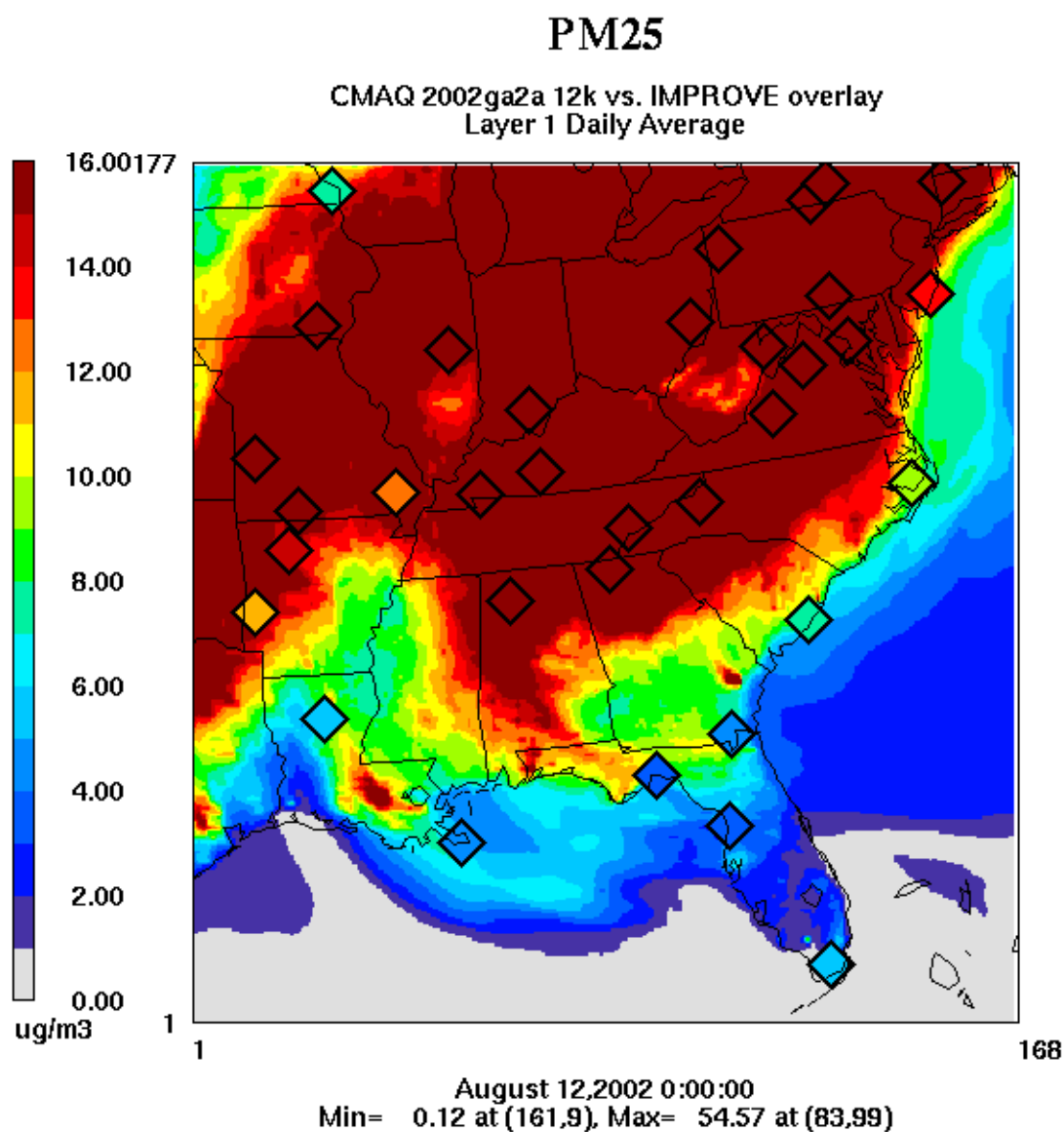
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

16.00177

14.00

12.00

10.00

8.00

6.00

4.00

2.00

0.00

ug/m3

August 12,2002 0:00:00
Min=   0.12 at (161,9), Max=   54.57 at (83,99)

Figure D-224:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 15, 2002

D.75   August 18, 2002

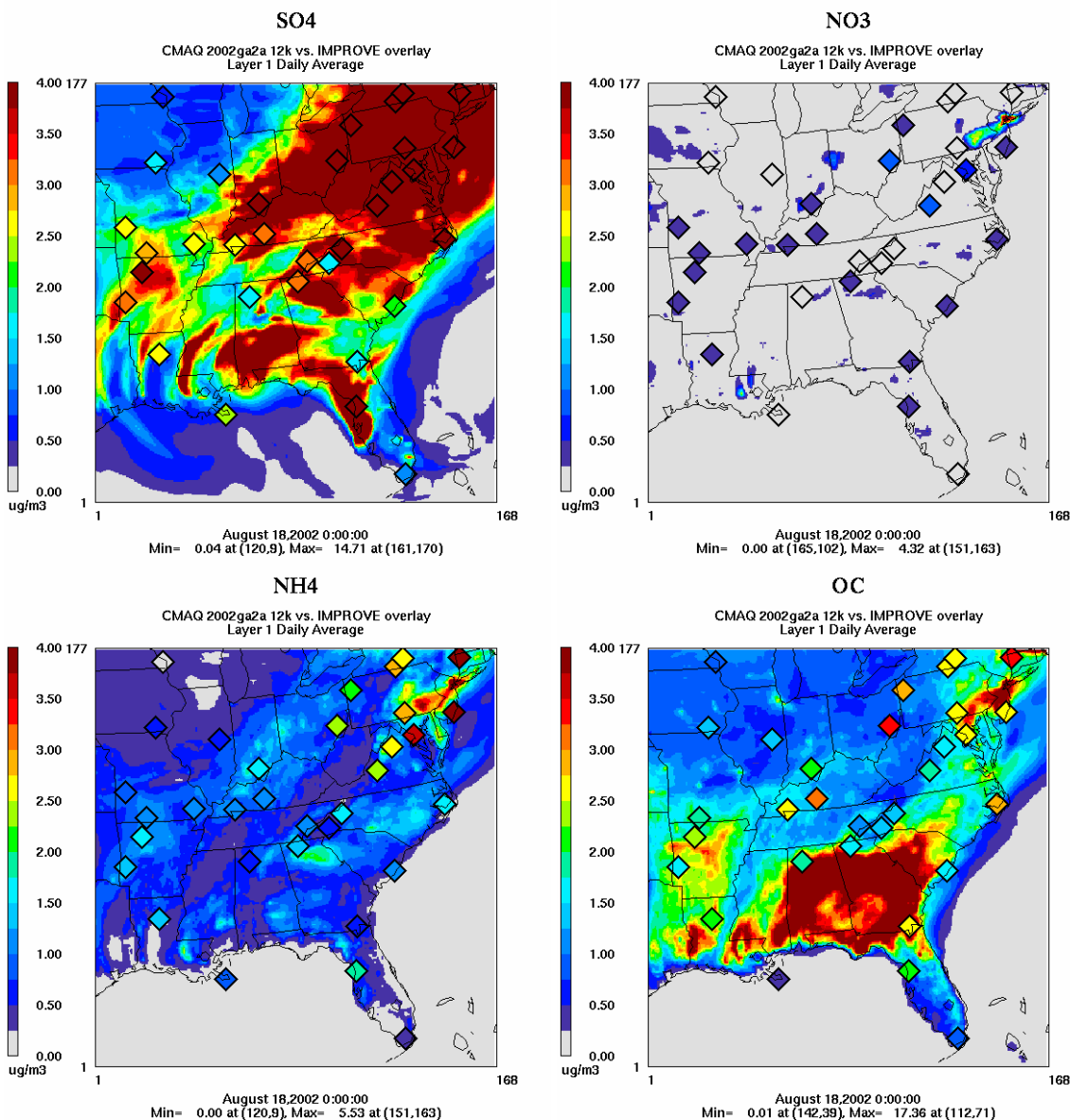| Date	Julian Day	Type	Class I Areas Affected
08/18/02	230	W20%	BRIG
08/18/02	230	B20%	SIPS

Figure D-225: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 18, 2002
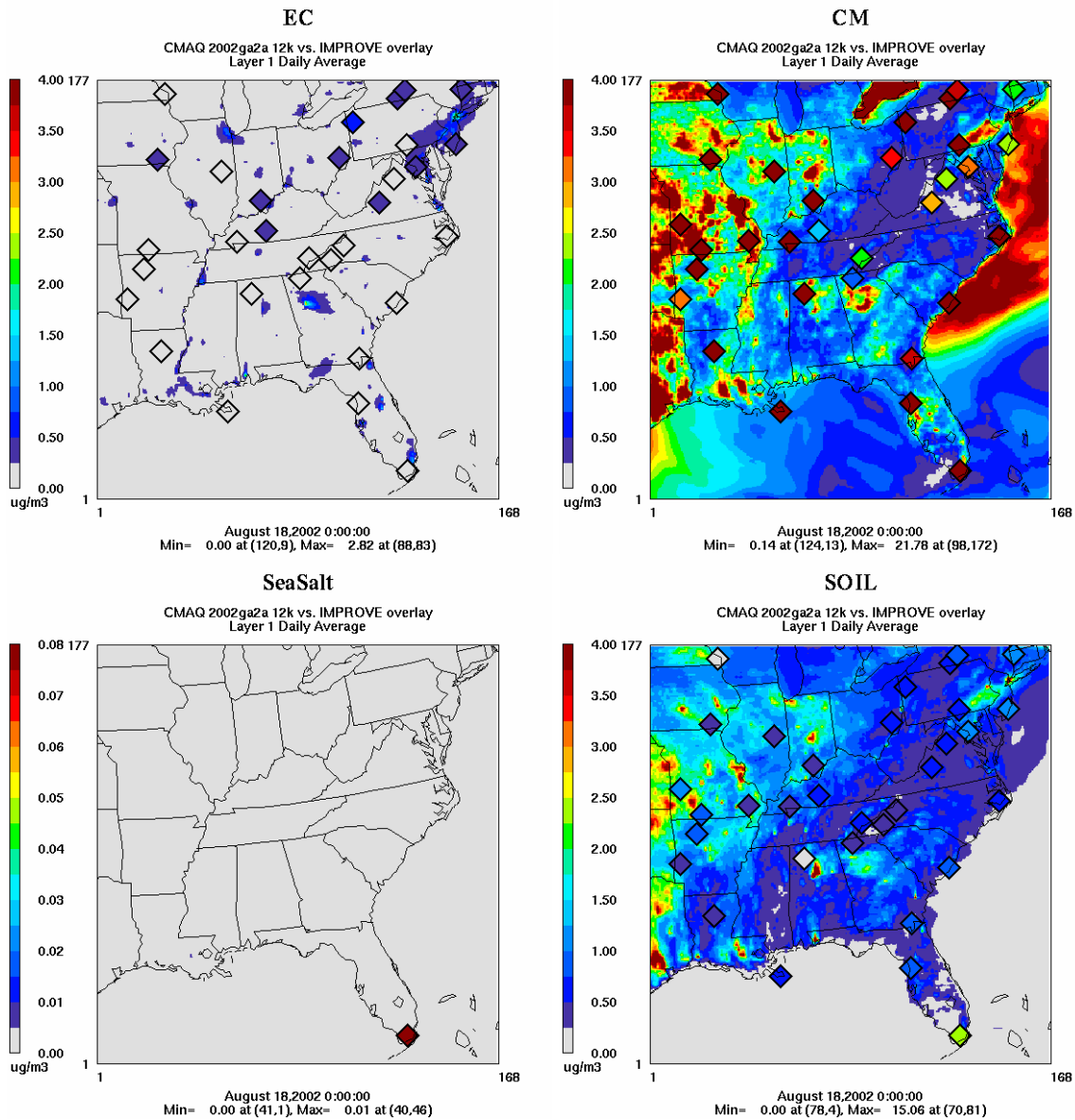
Figure D-226: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 18, 2002
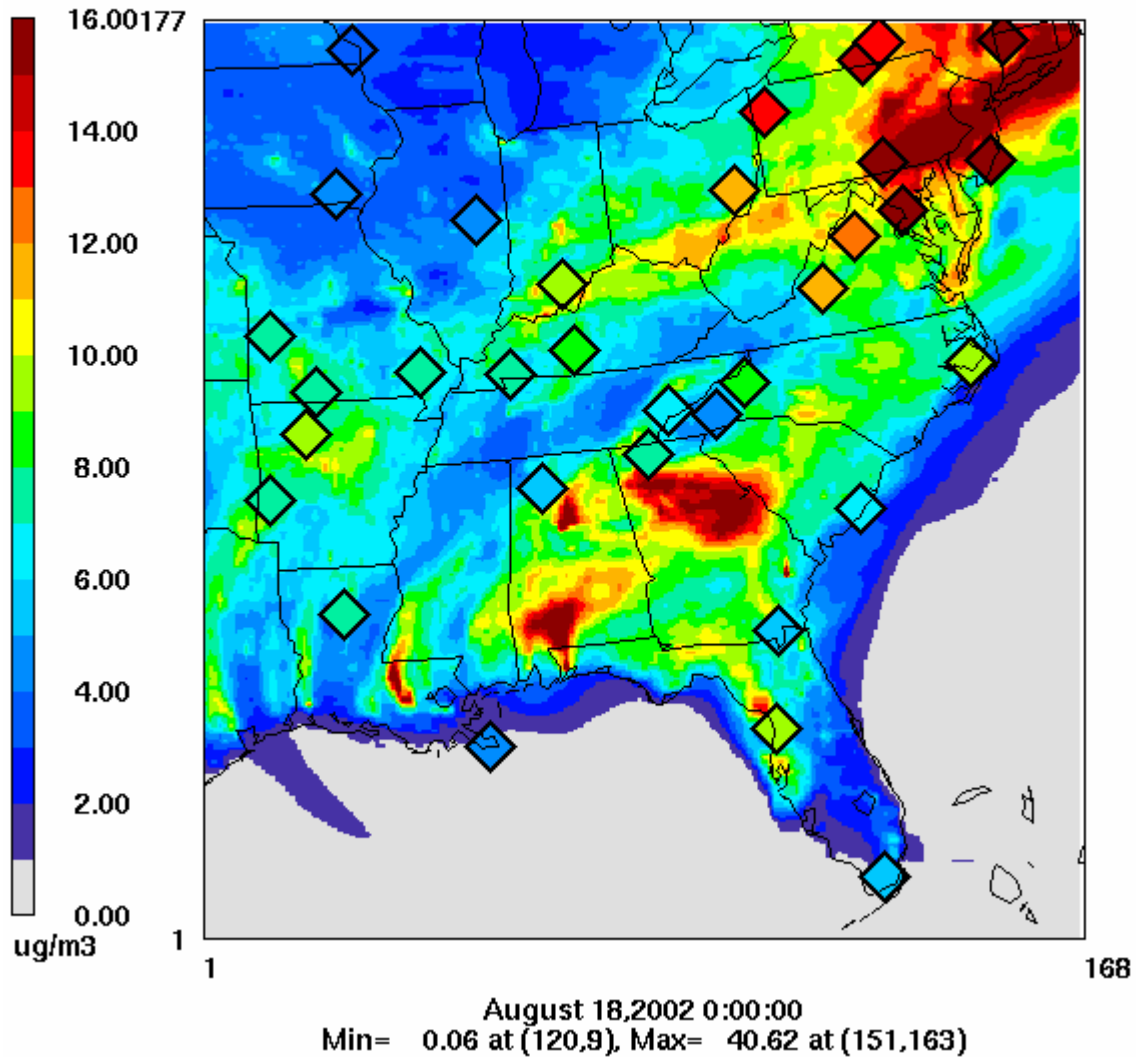
Figure D-227: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 18, 2002

D.76   August 21, 2002

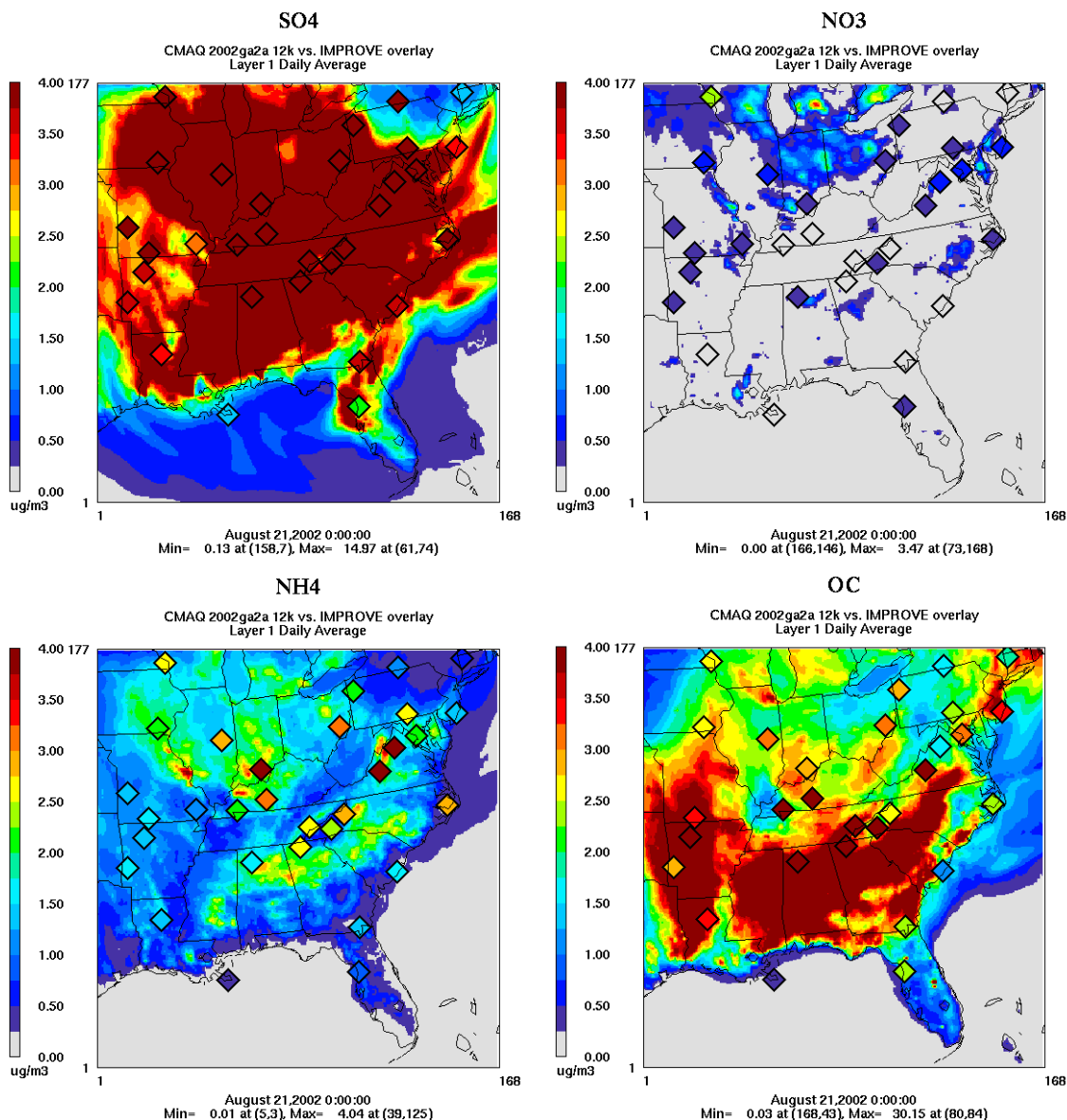| Date	Julian Day	Type	Class I Areas Affected
08/21/02	233	W20%	LIGO, SHRO, GRSM, JARI, SHEN, SWAN, COHU, MACA
08/21/02	233	B20%	BRET

Figure D-228: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 21, 2002
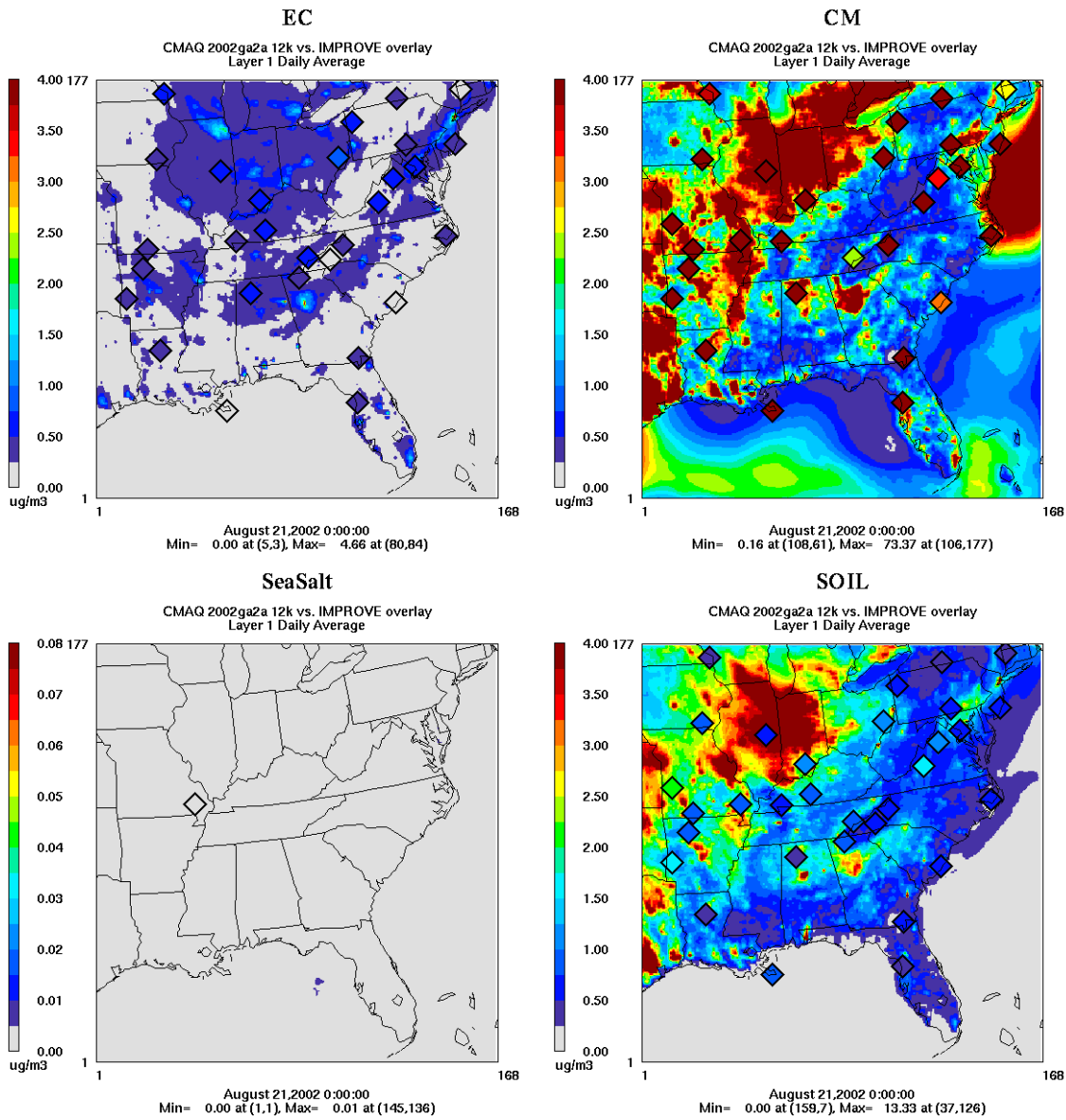
Figure D-229: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 21, 2002
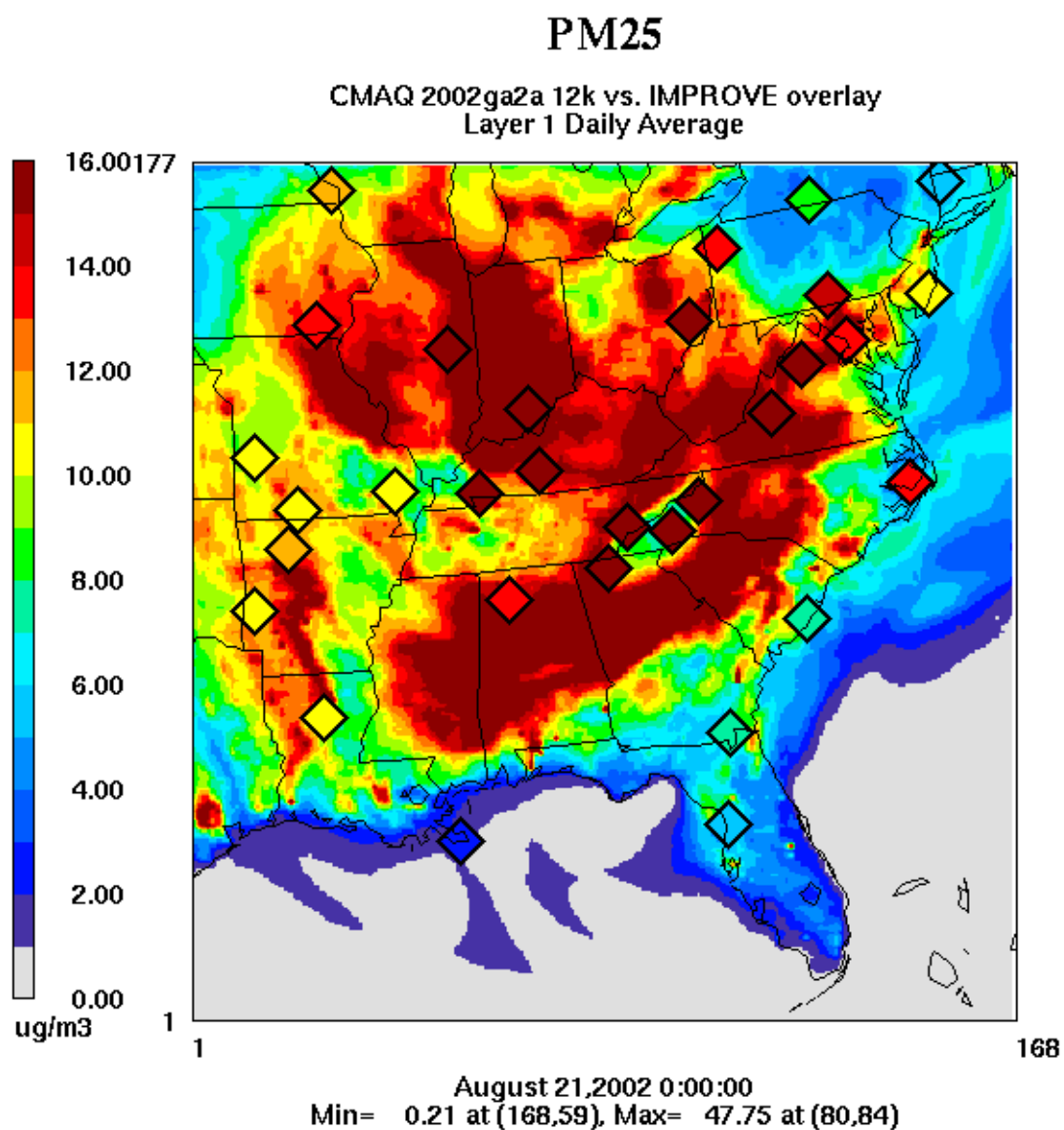
Figure D-230:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 21, 2002

D.77 August 24, 2002

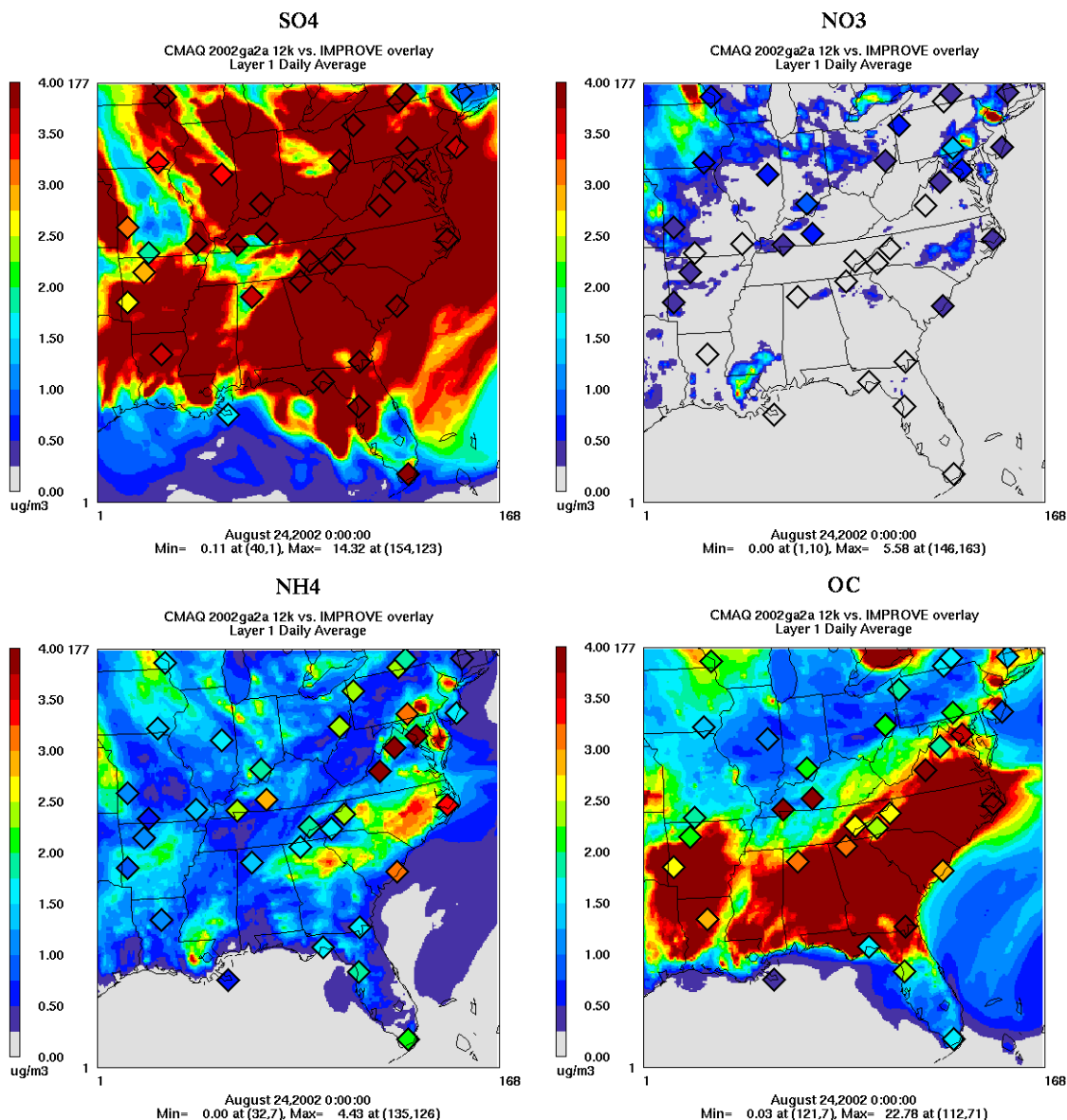| Date	Julian Day	Type	Class I Areas Affected
08/24/02	236	W20%	LIGO, JARI, OKEF, SHEN, CHAS, EVER, SWAN, MACA, ROMA
08/24/02	236	B20%	BRET

Figure D-231:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 24, 2002
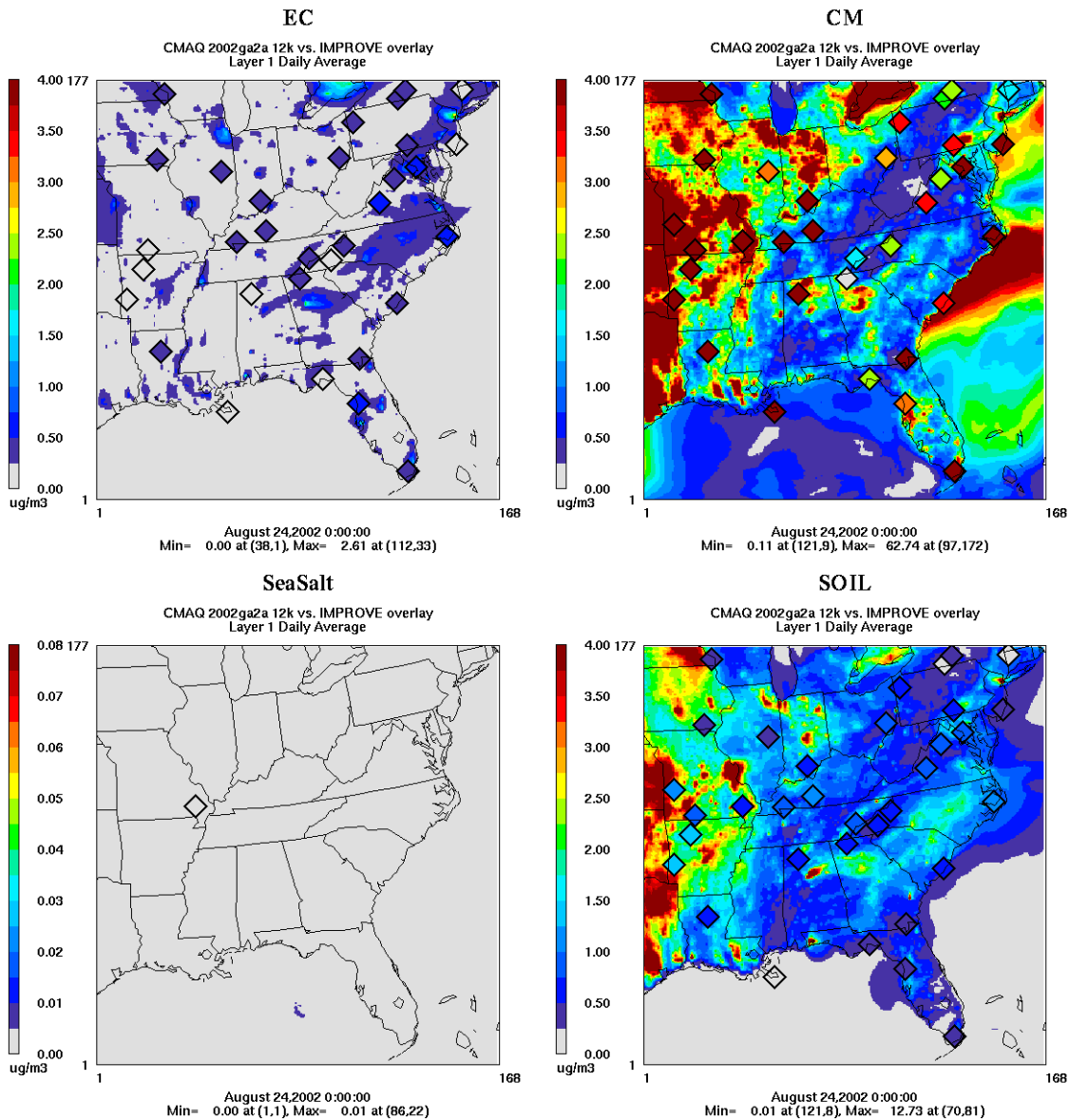
Figure D-232: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 24, 2002
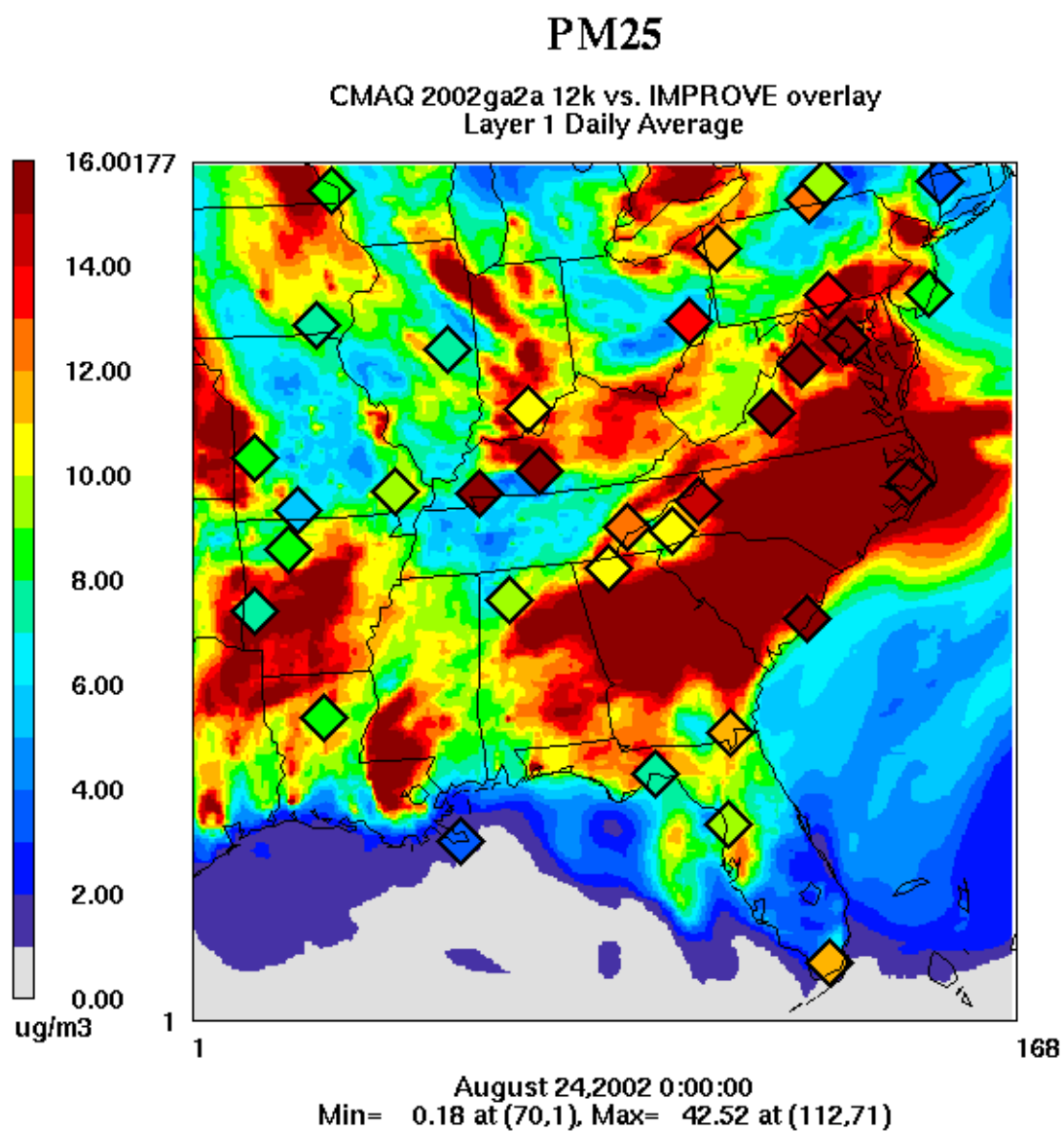
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

August 24,2002 0:00:00
Min=   0.18 at (70,1), Max=   42.52 at (112,71)

Figure D-233:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 24, 2002

D.78 August 27, 2002

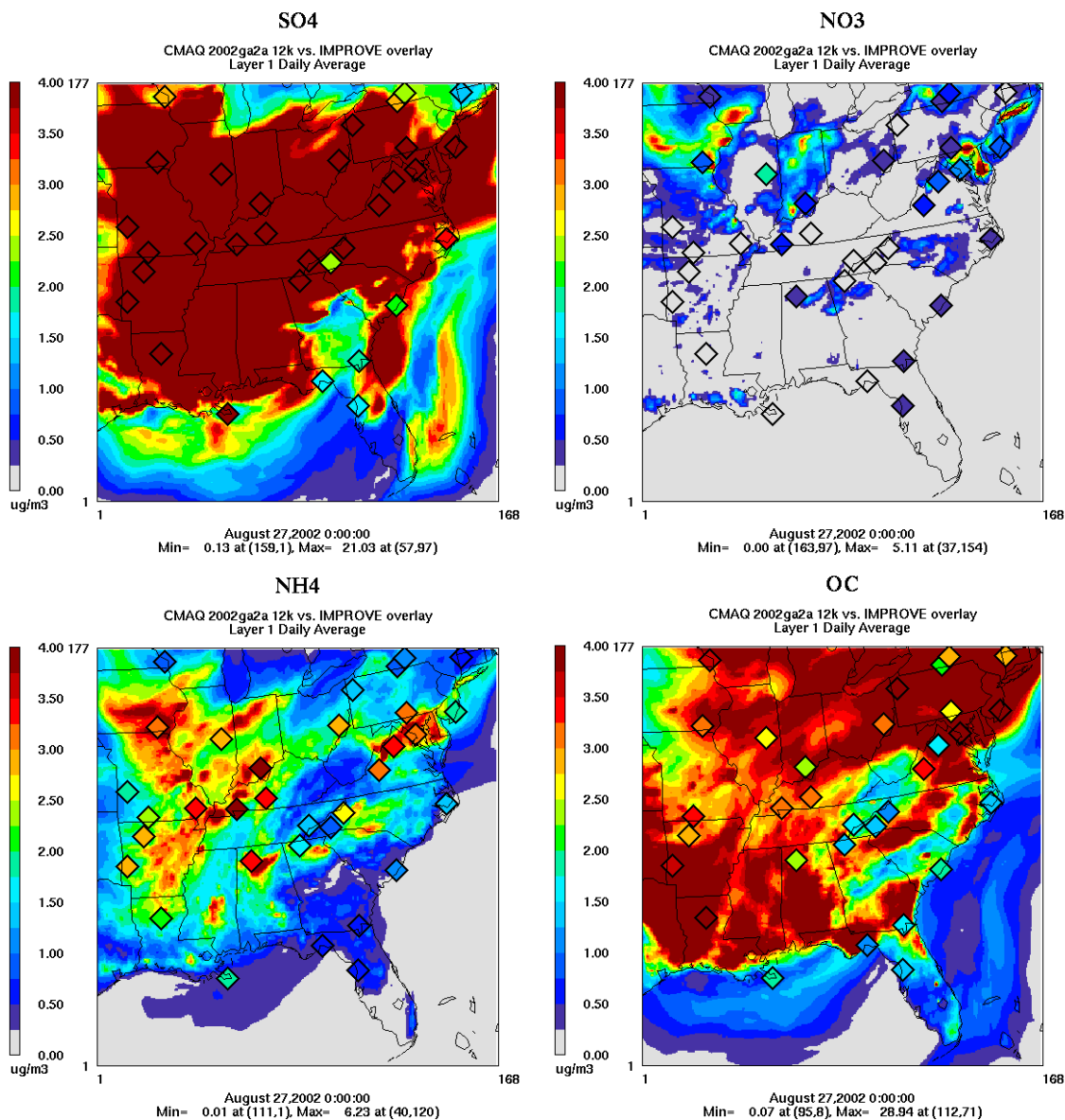| Date	Julian Day	Type	Class I Areas Affected
08/27/02	239	W20%	LIGO, JARI, CACR, BRET, SHEN, HEGL, MACA, UPBU, MING
08/27/02	239	B20%	SAMA, OKEF, CHAS

Figure D-234:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 27, 2002
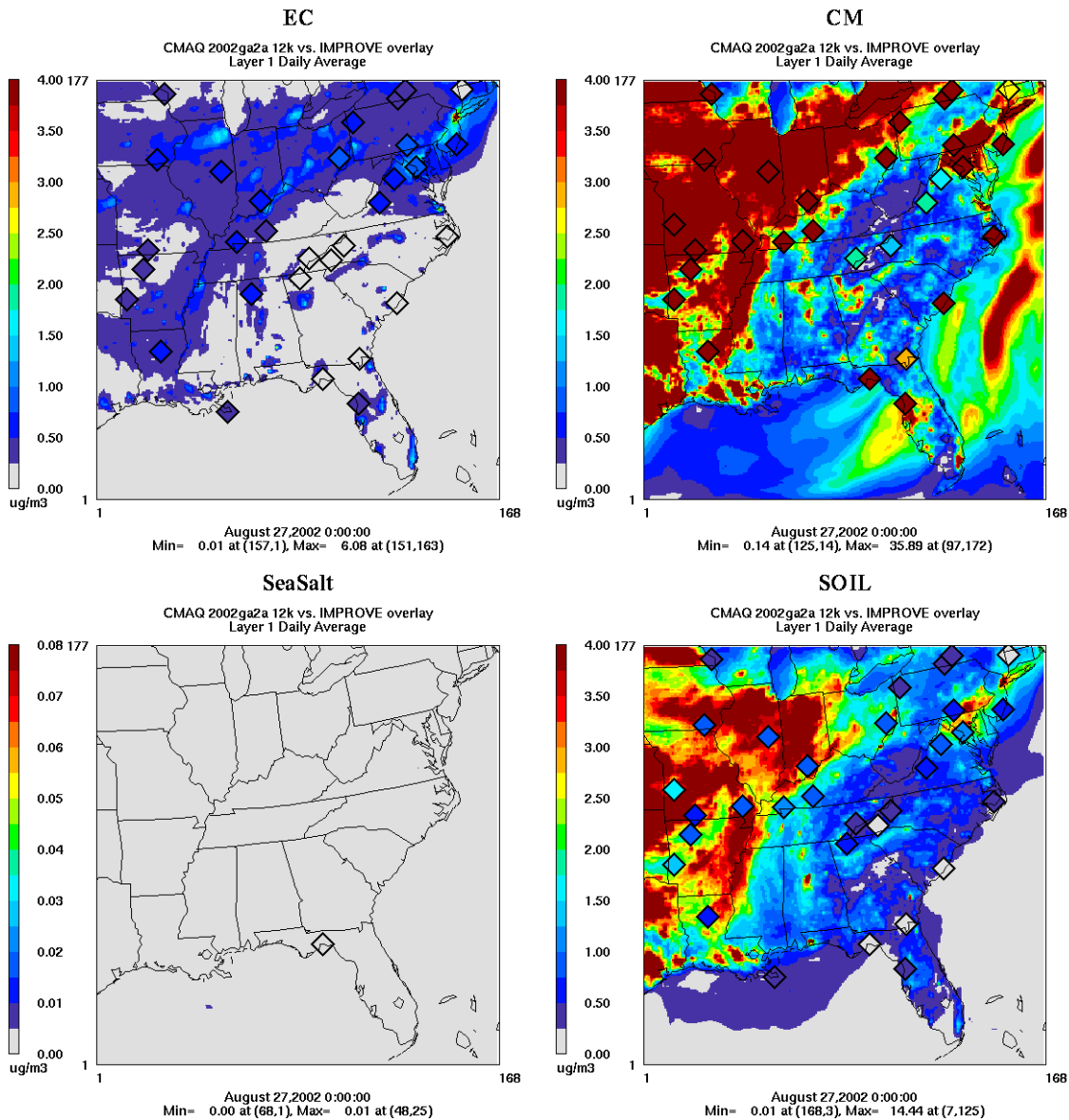
Figure D-235: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 27, 2002
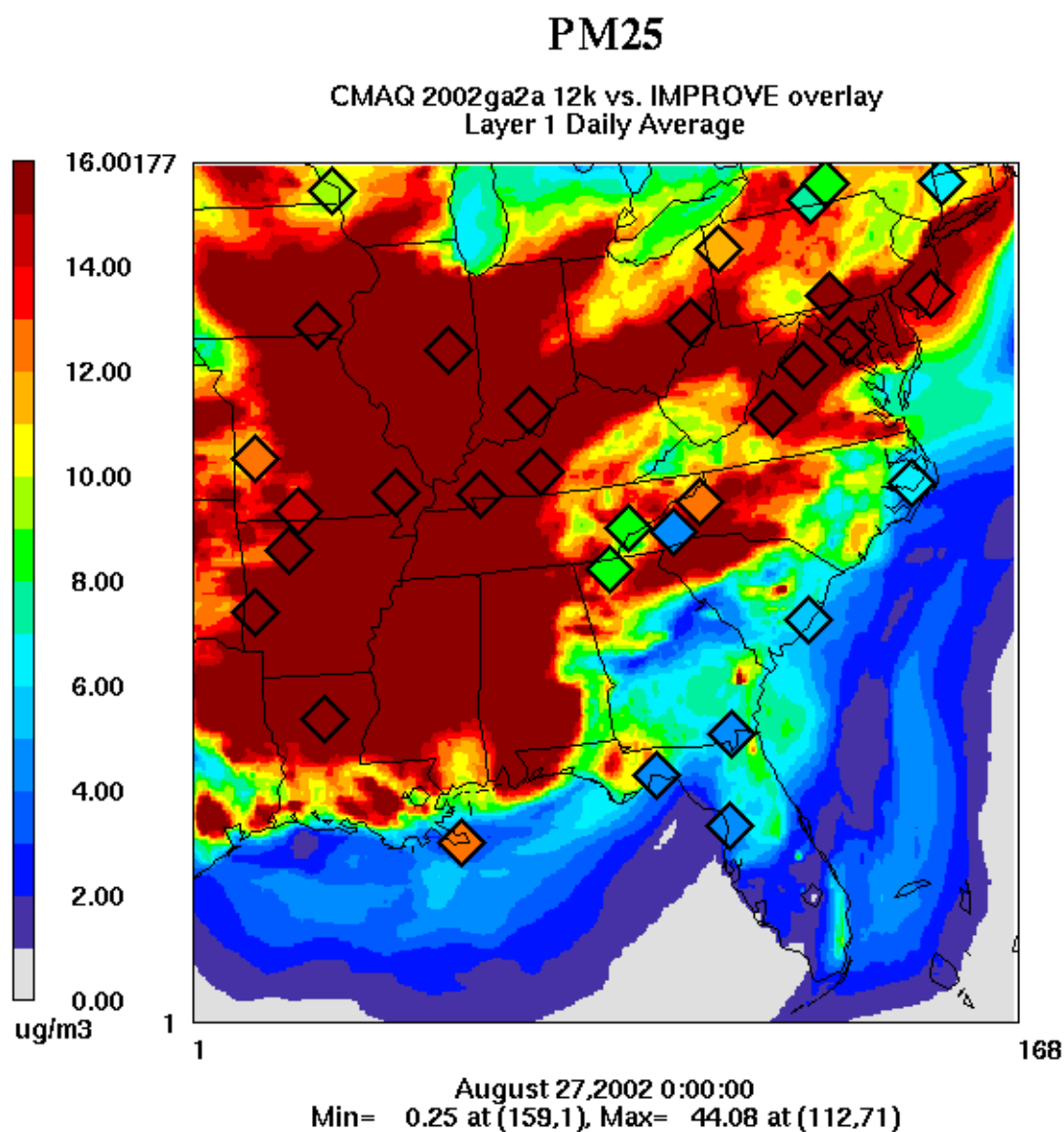
Figure D-236: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 27, 2002

D.79   August 30, 2002

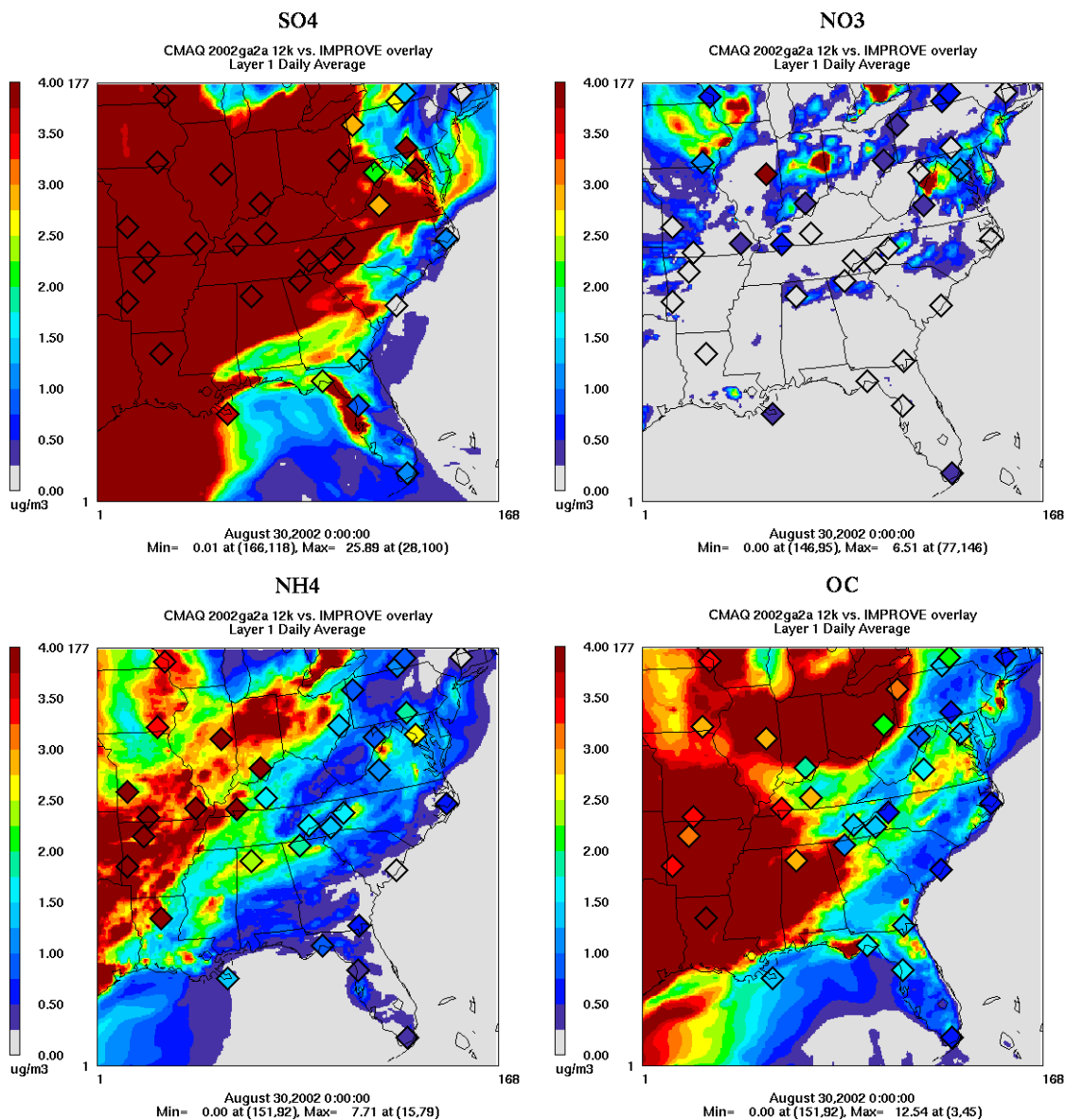| Date	Julian Day	Type	Class I Areas Affected
08/30/02	242	W20%	CACR, HEGL, UPBU, MING
08/30/02	242	B20%	OKEF, CHAS, EVER, SWAN, ROMA

Figure D-237:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For August 30, 2002
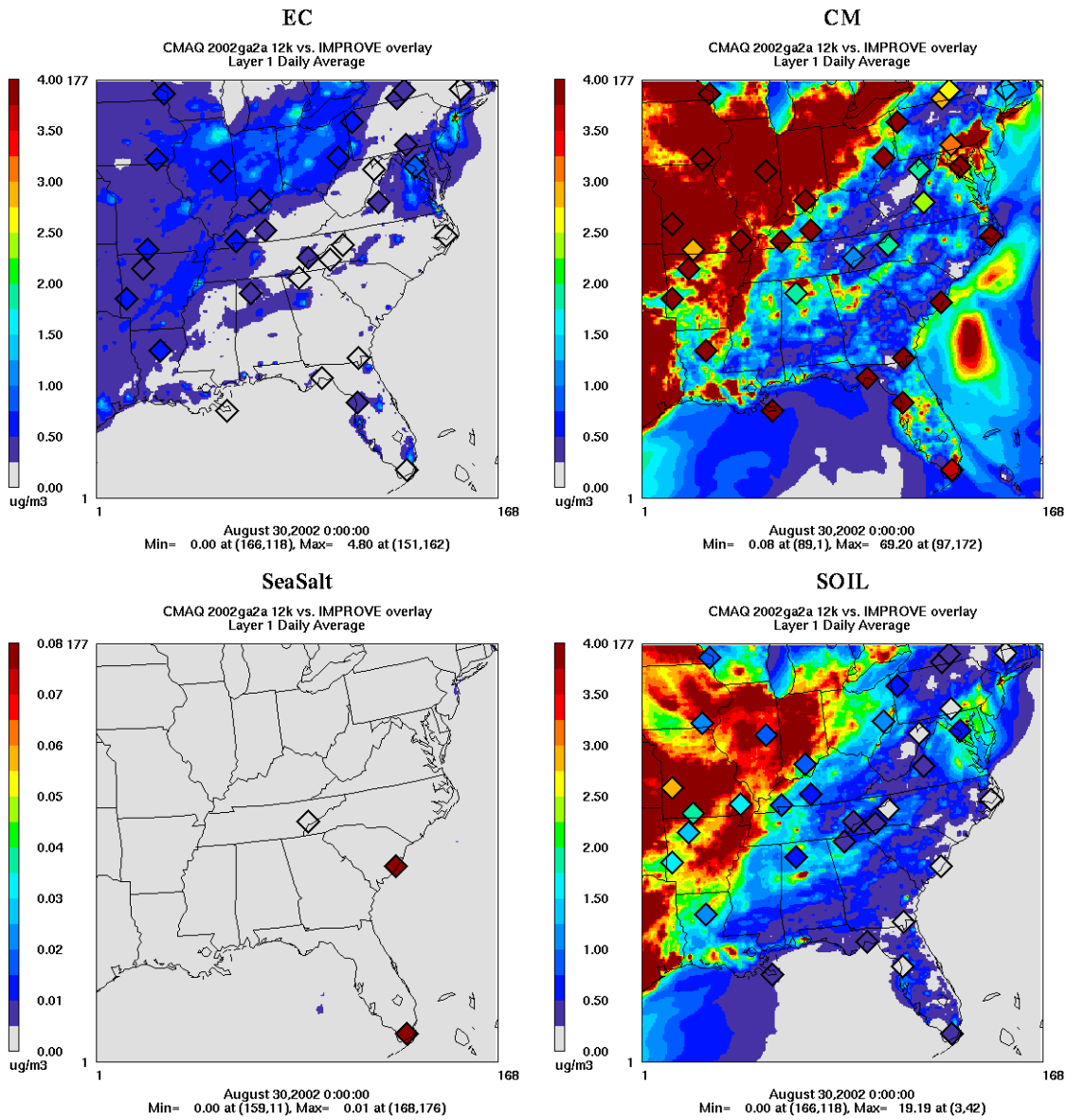
Figure D-238: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For August 30, 2002
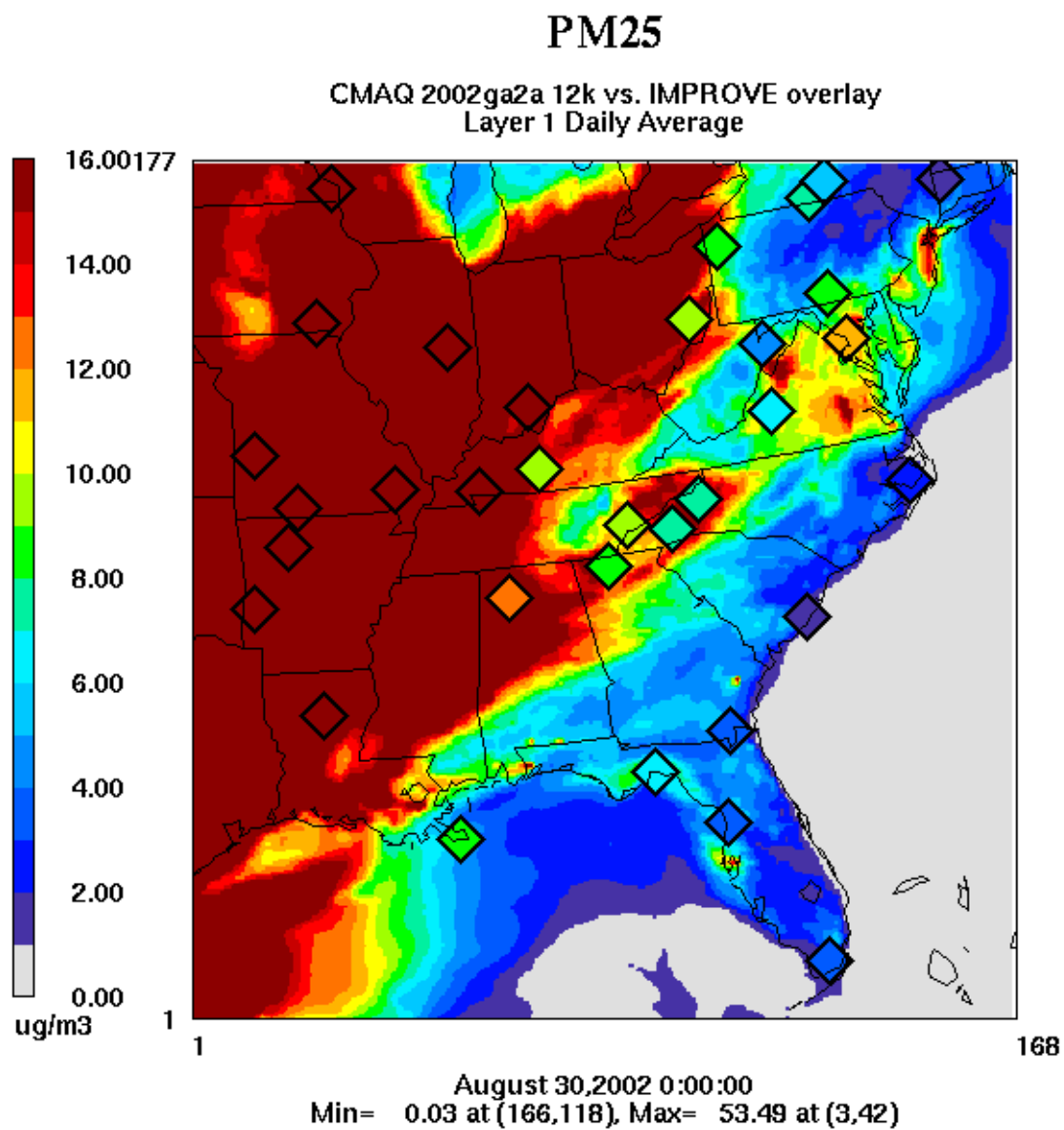
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

August 30,2002 0:00:00
Min=   0.03 at (166,118), Max=   53.49 at (3,42)

Figure D-239:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For August 30, 2002

D.80   September 2, 2002

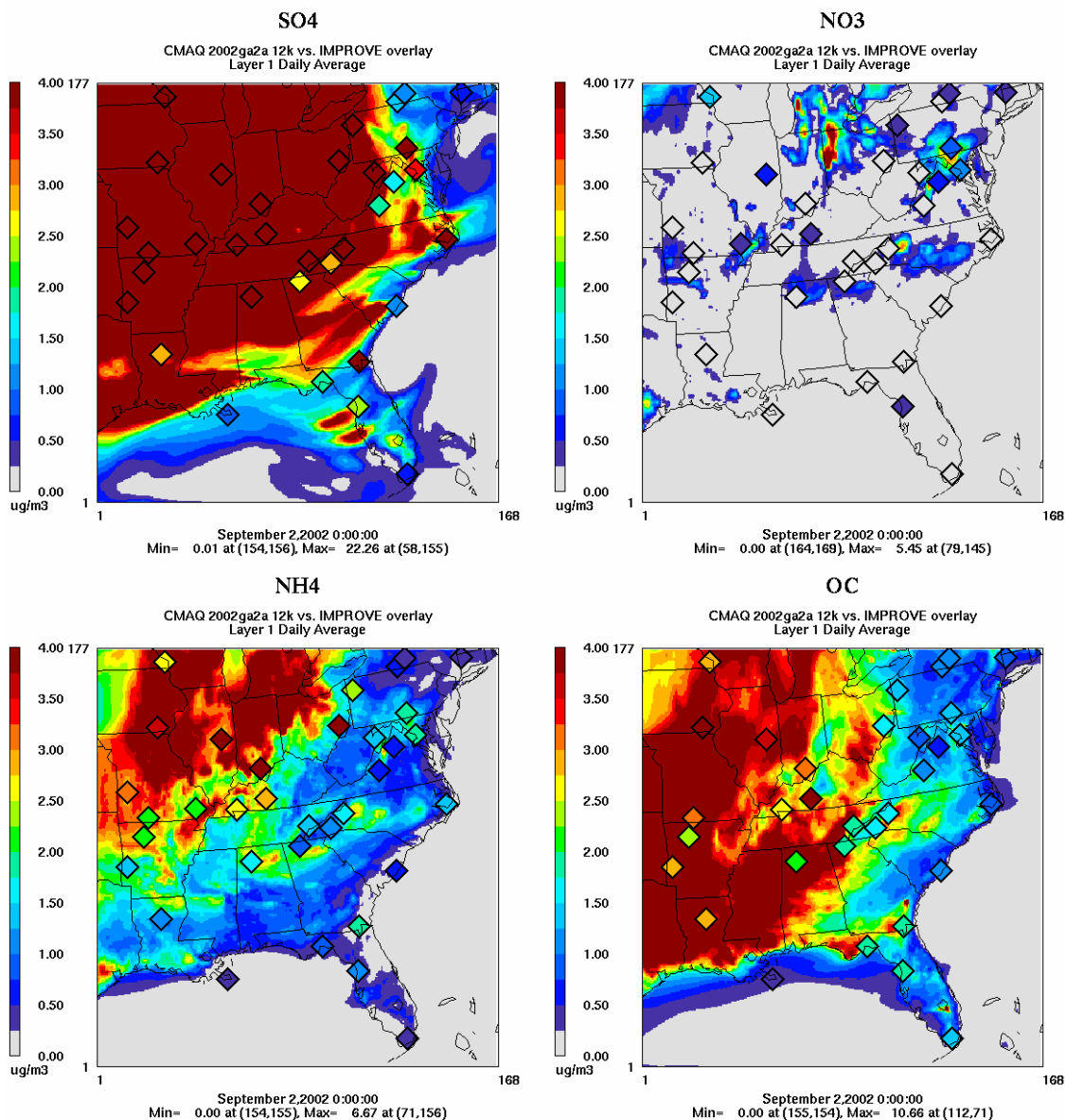| Date	Julian Day	Type	Class I Areas Affected
09/02/02	245	W20%	HEGL, MACA, MING
09/02/02	245	B20%	JARI, BRET, SHEN, EVER, ROMA

Figure D-240:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 2, 2002
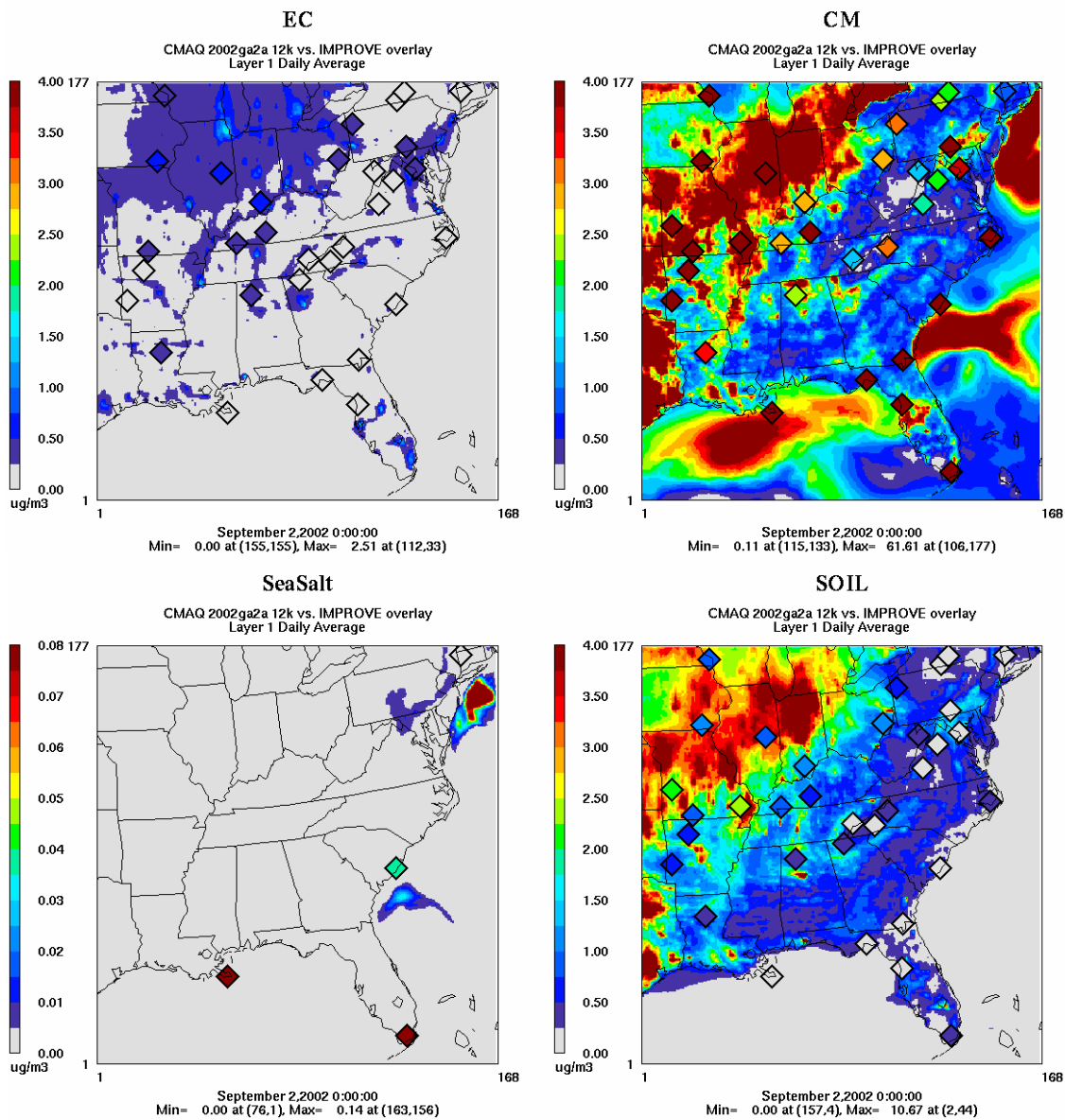
Figure D-241: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 2, 2002
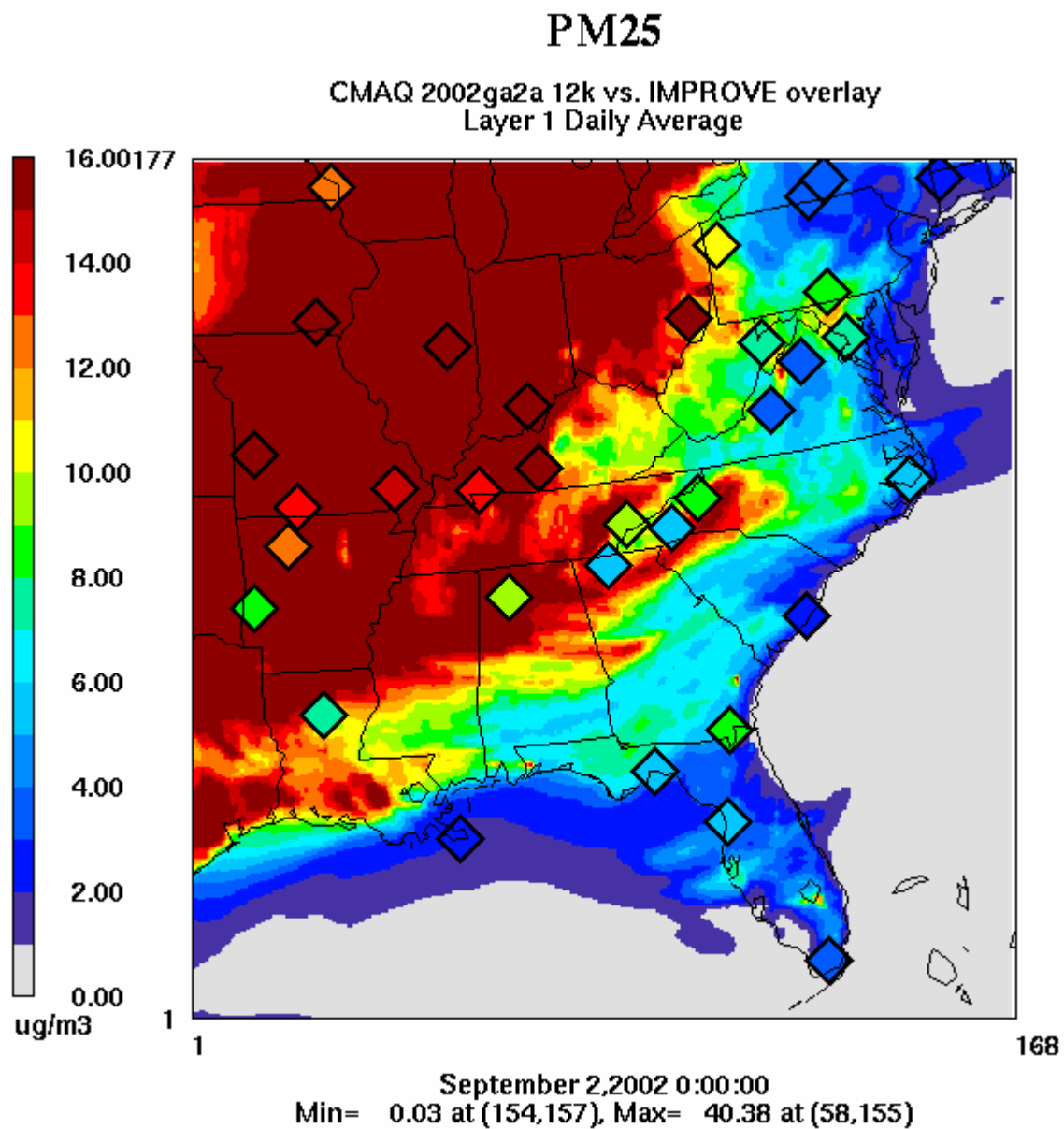
Figure D-242:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 2, 2002

D.81   September 5, 2002

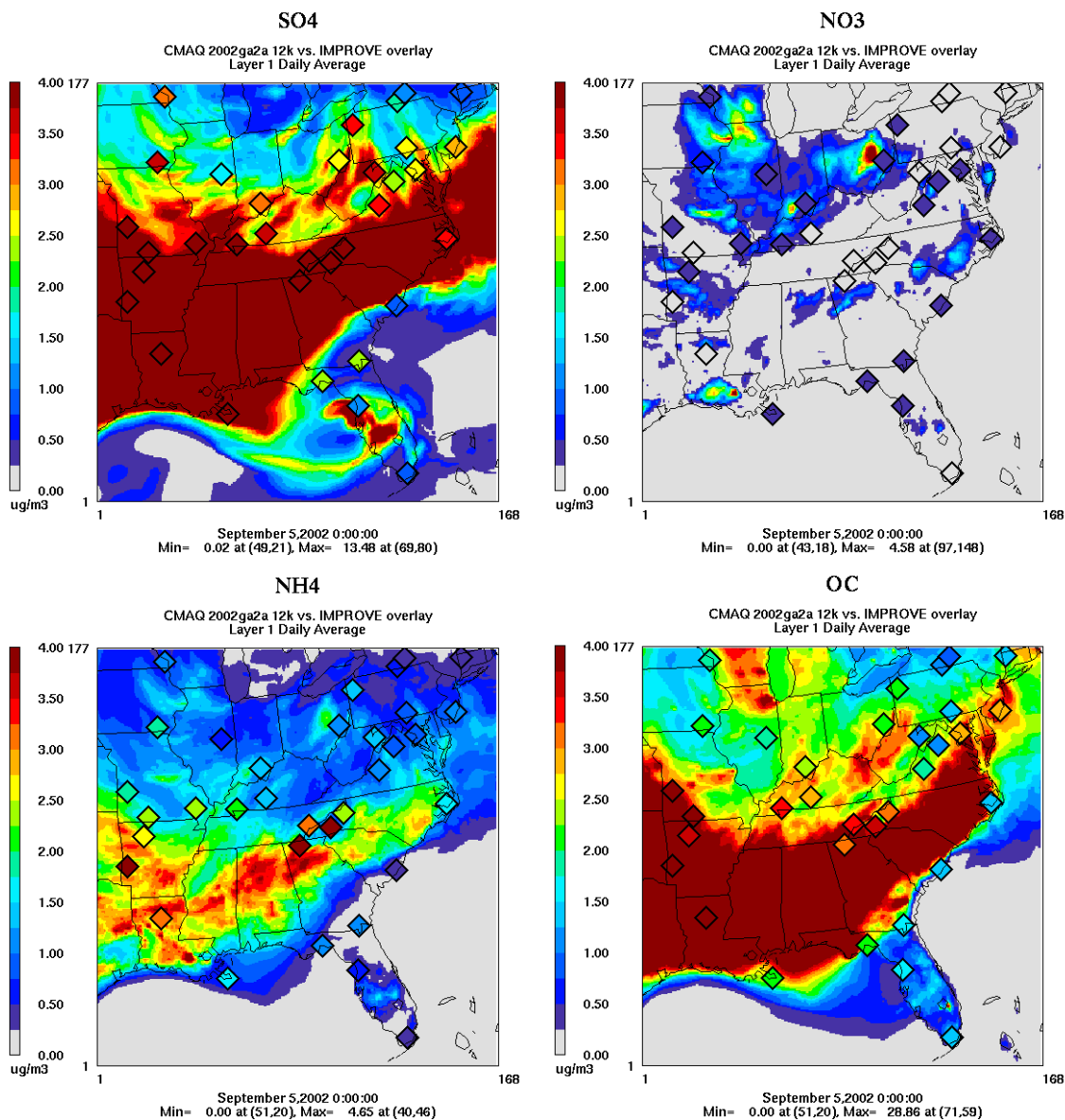| Date	Julian Day	Type	Class I Areas Affected
09/05/02	248	W20%	LIGO, SHRO, GRSM, CACR, BRET, HEGL, COHU, UPBU
09/05/02	248	B20%	CHAS, EVER, ROMA

Figure D-243:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 5, 2002
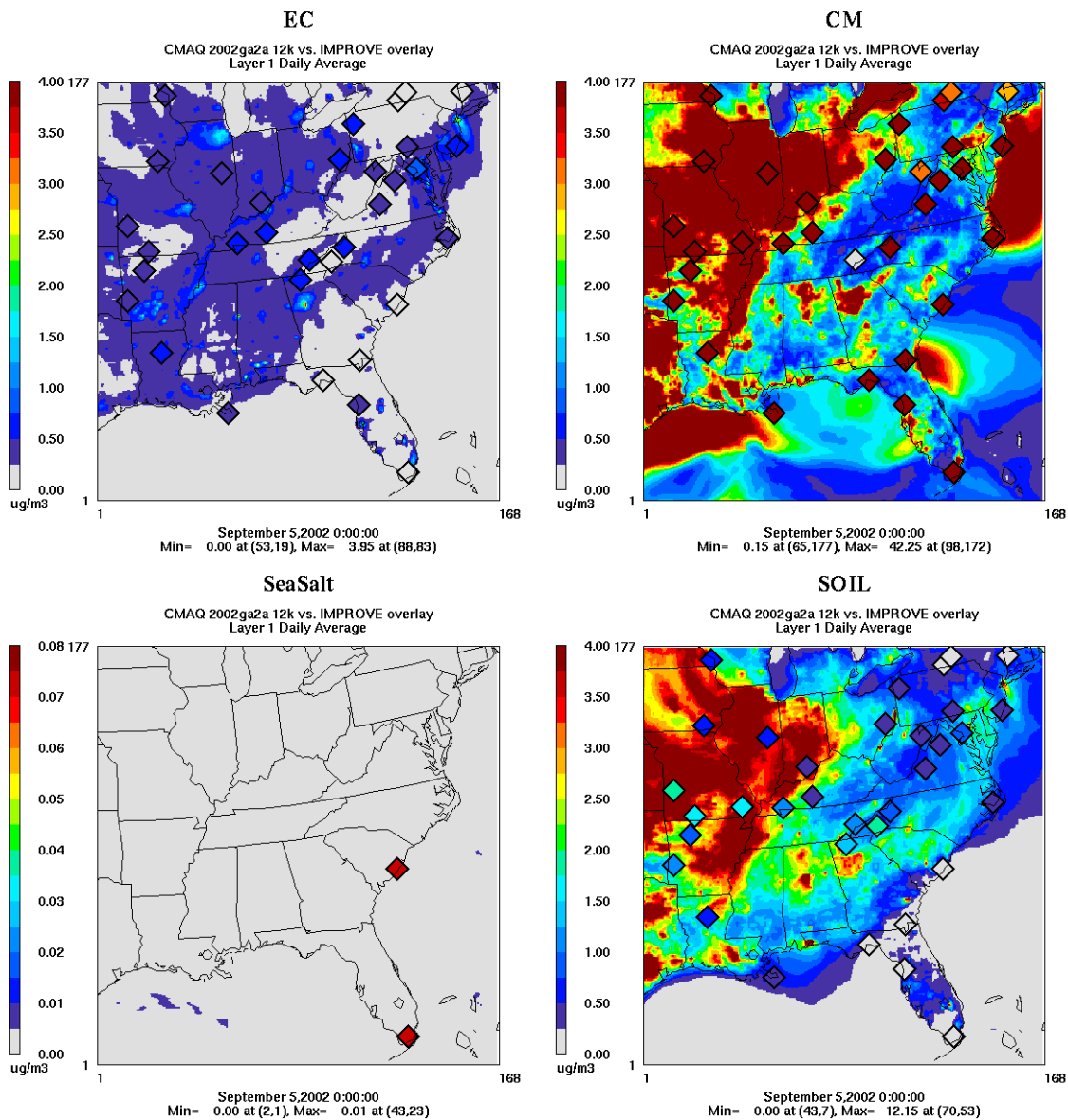
Figure D-244: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 5, 2002
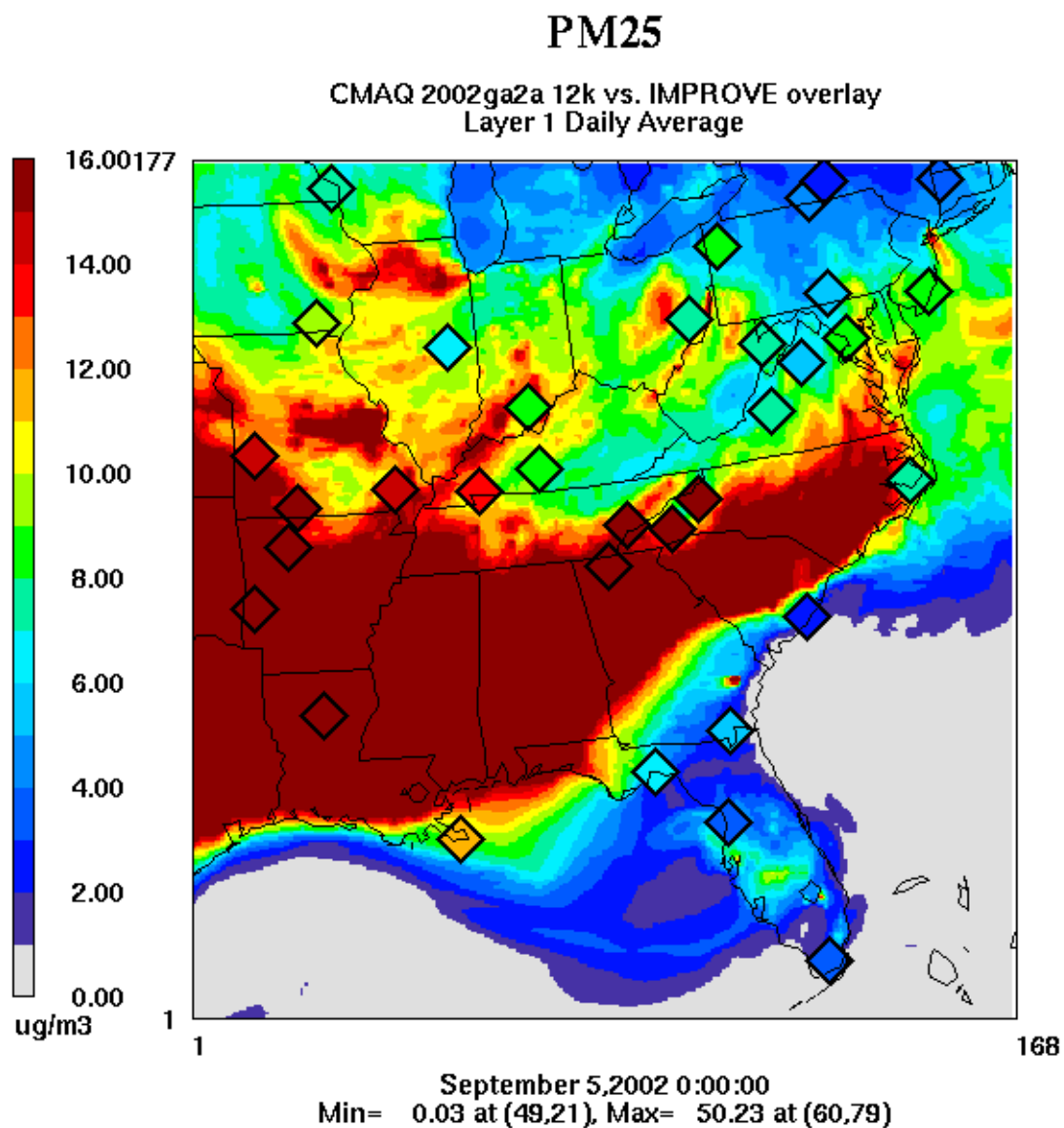
Figure D-245:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 5, 2002

D.82 September 8, 2002

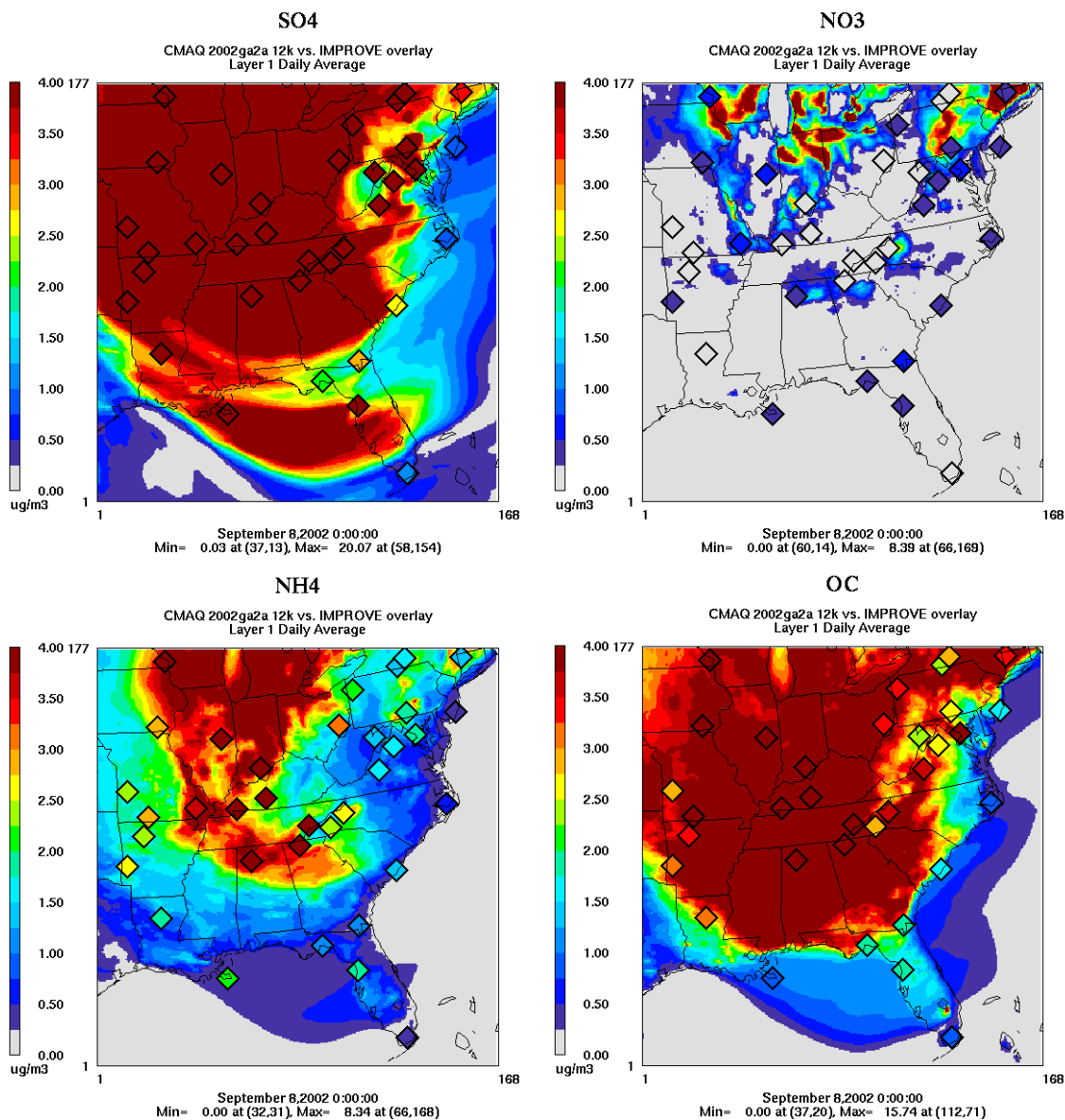| Date	Julian Day	Type	Class I Areas Affected
09/08/02	251	W20%	LIGO, SHRO, GRSM, SIPS, CACR, BRET, HEGL, COHU, MACA, UPBU, MING
09/08/02	251	B20%	EVER, SWAN, BRIG

Figure D-246: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 8, 2002
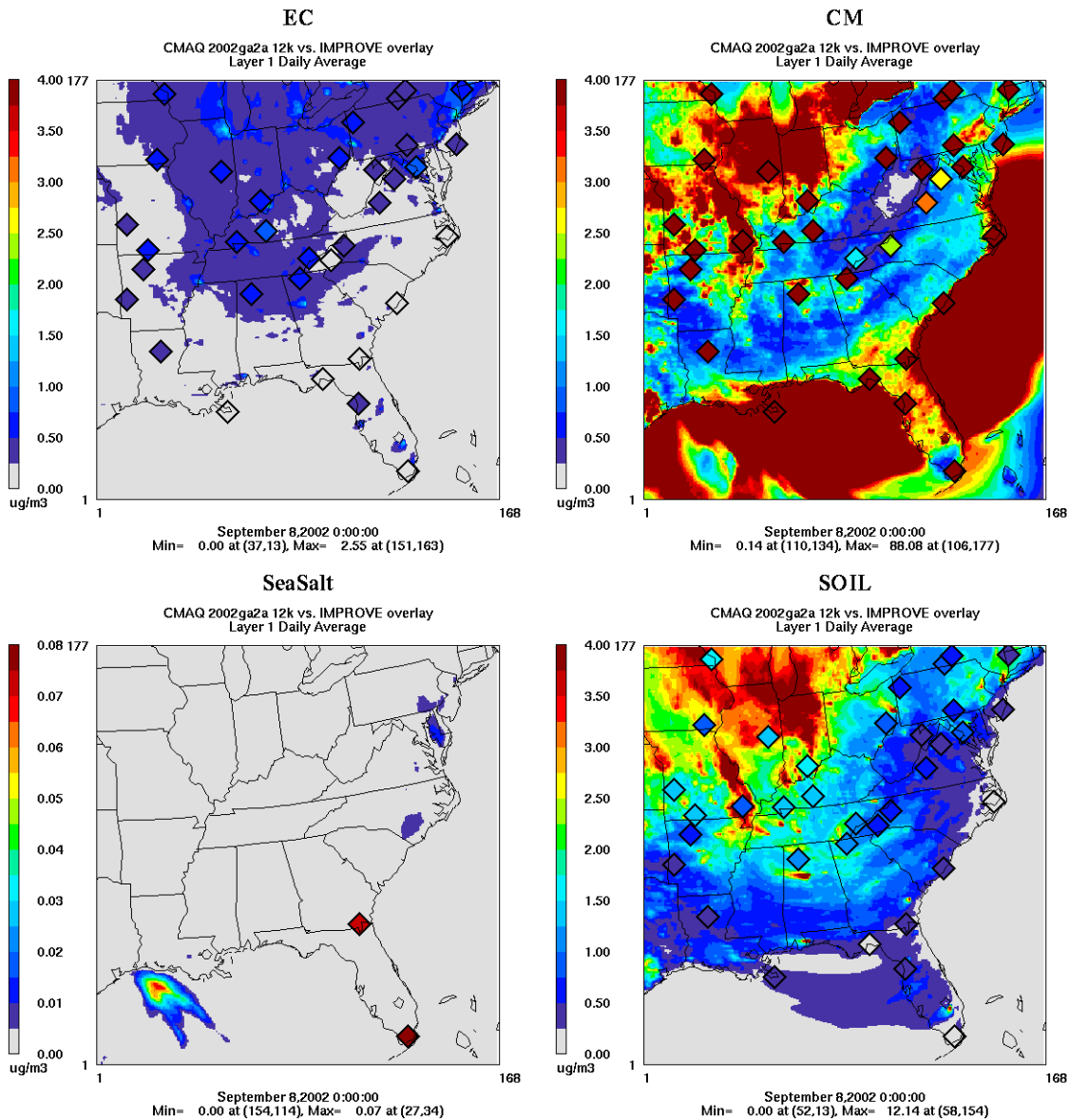
Figure D-247: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 8, 2002
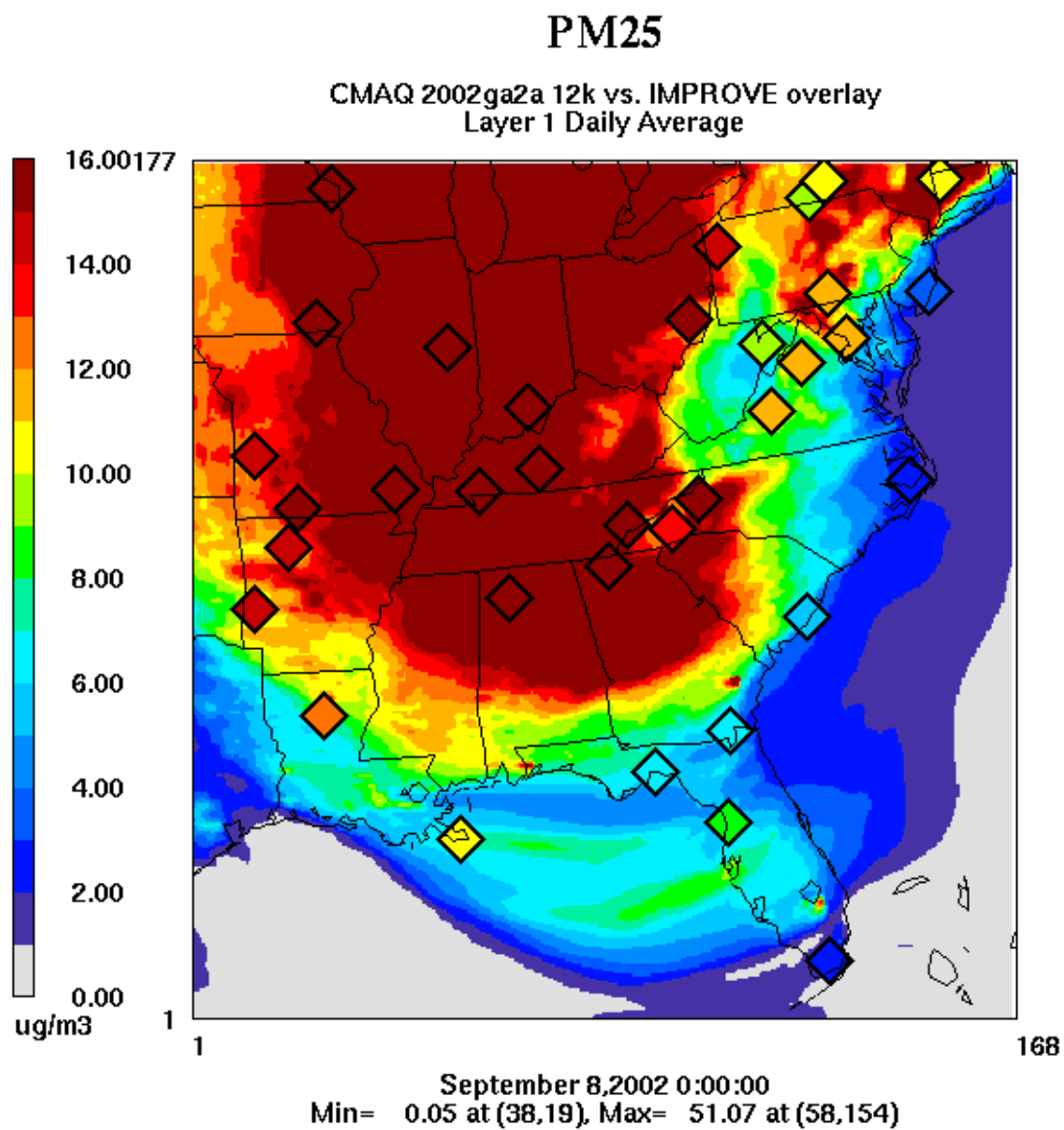
Figure D-248:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 8, 2002

D.83   September 11, 2002

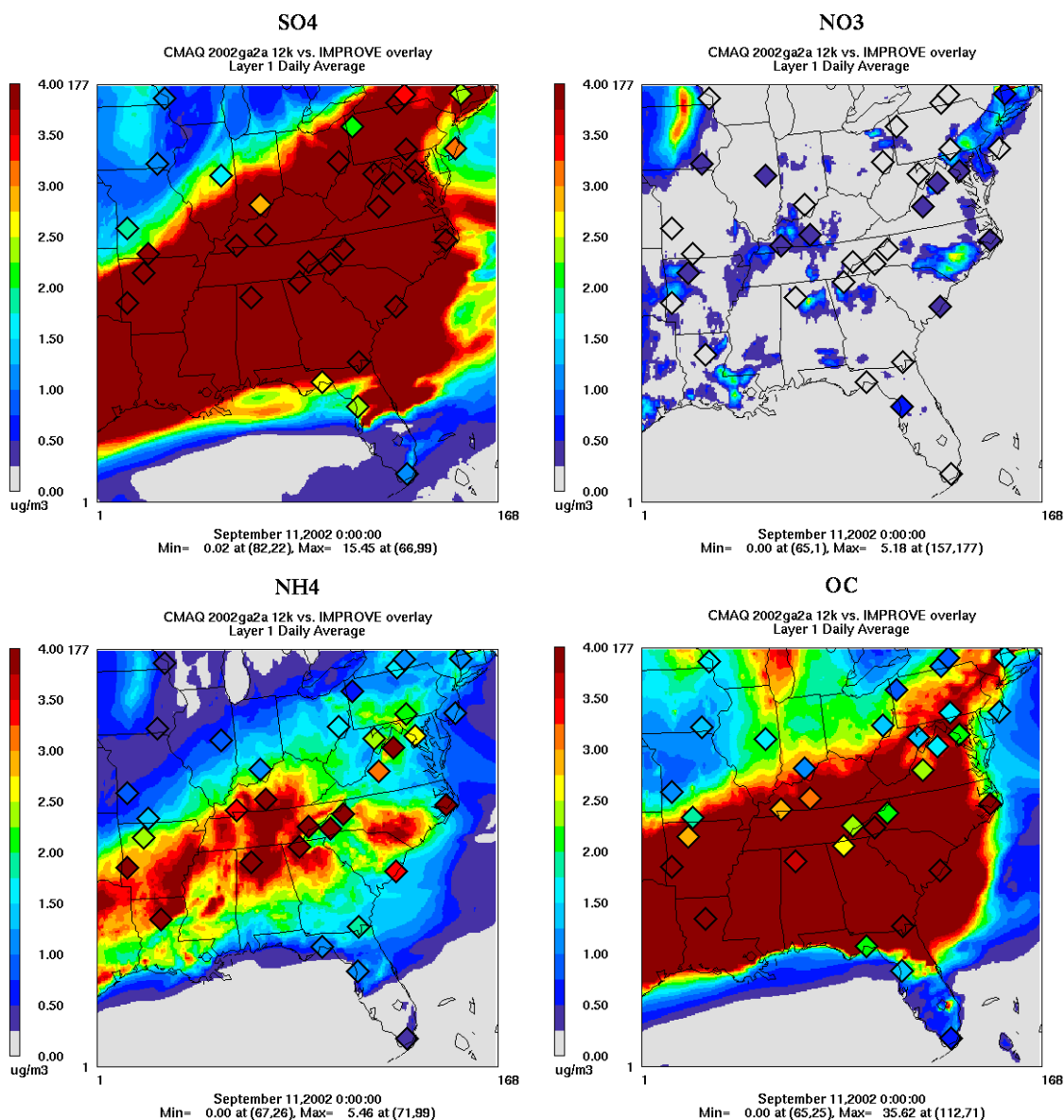| Date	Julian Day	Type	Class I Areas Affected
09/11/02	254	W20%	LIGO, SHRO, GRSM, JARI, SIPS, OKEF, CACR, BRET, SHEN, DOSO, SWAN, MACA, ROMA, UPBU
09/11/02	254	B20%	EVER

Figure D-249: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component

Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 11, 2002
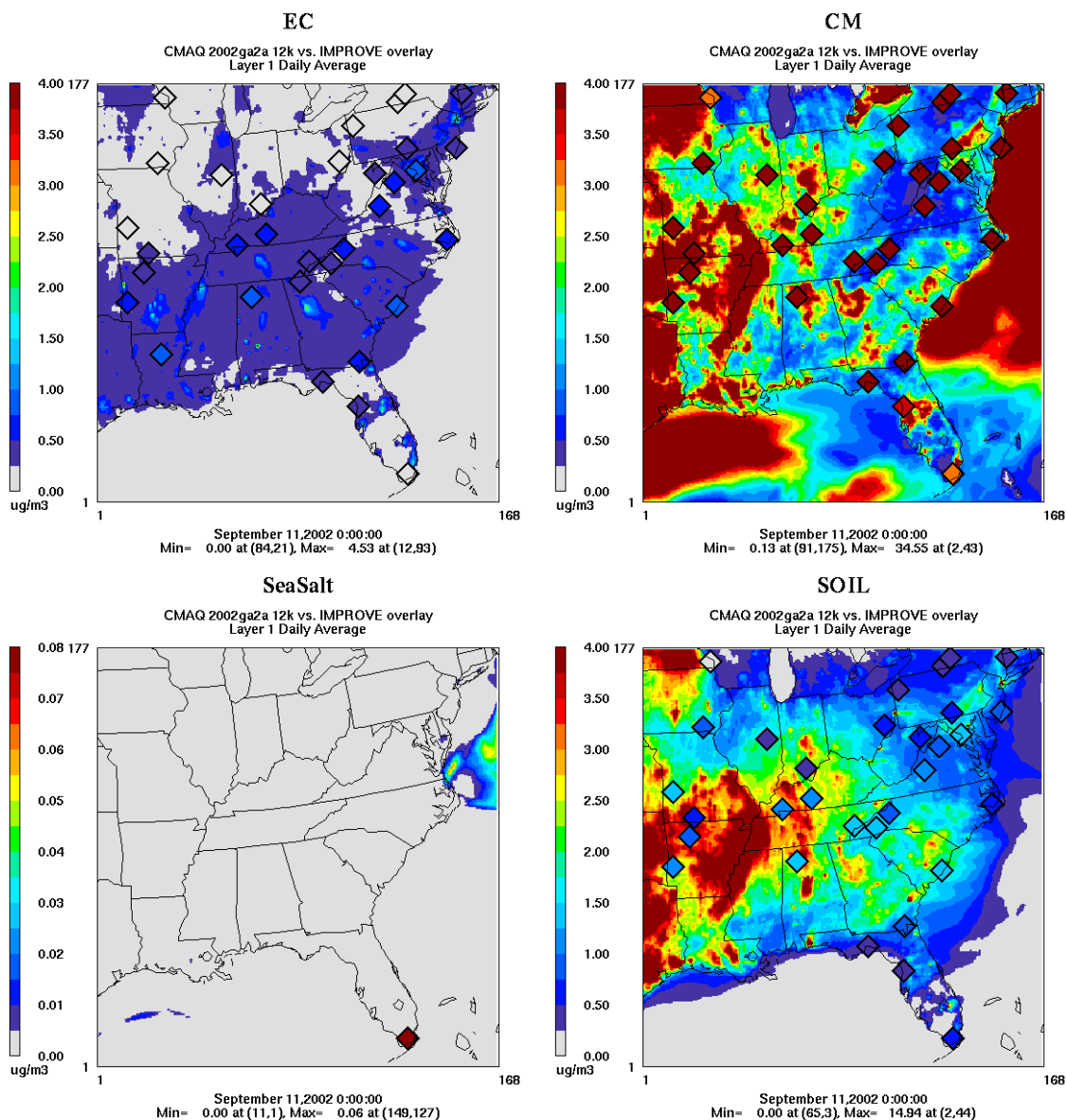

Figure D-250: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 11, 2002
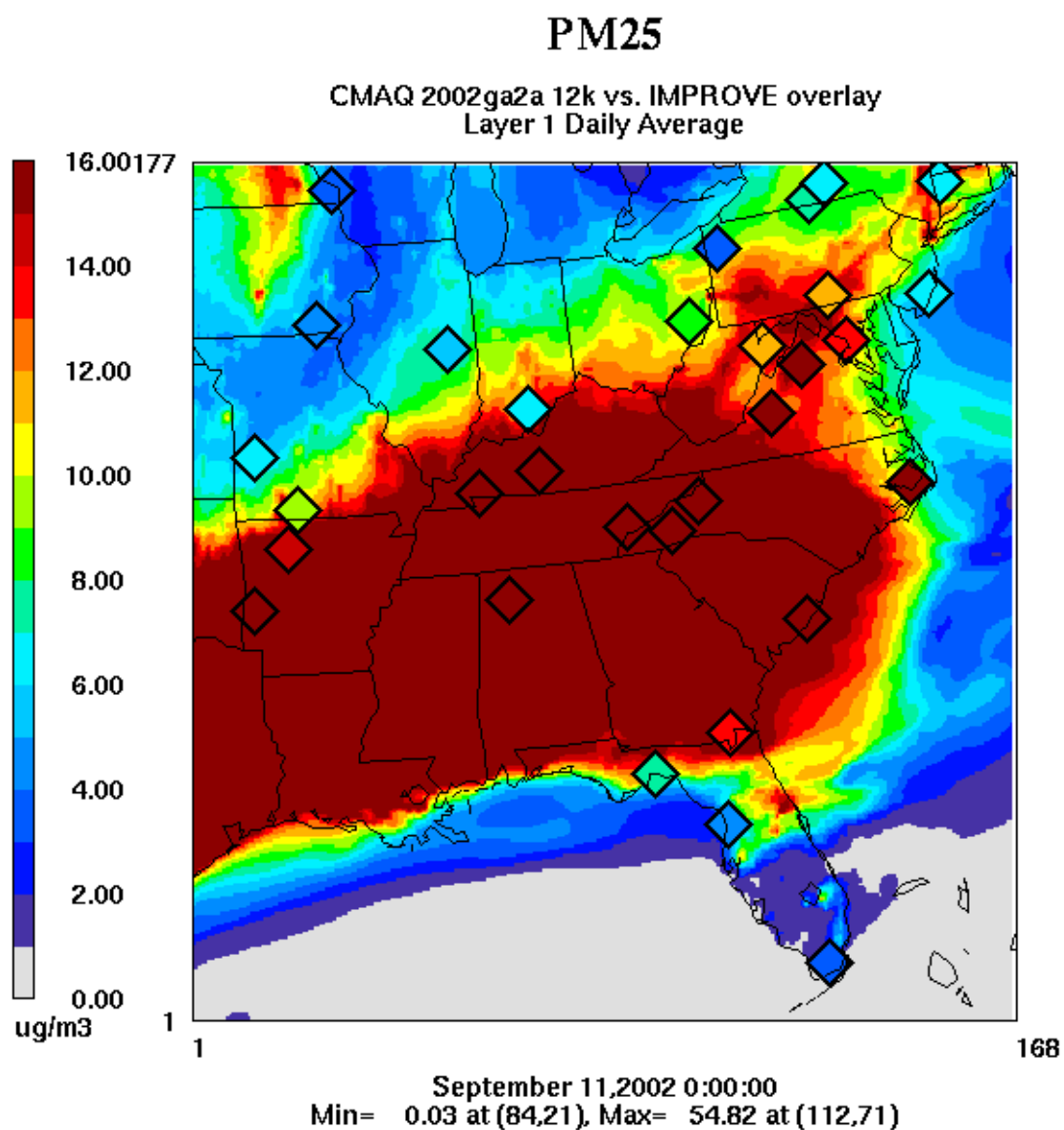
Figure D-251:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 11, 2002

D.84   September 14, 2002

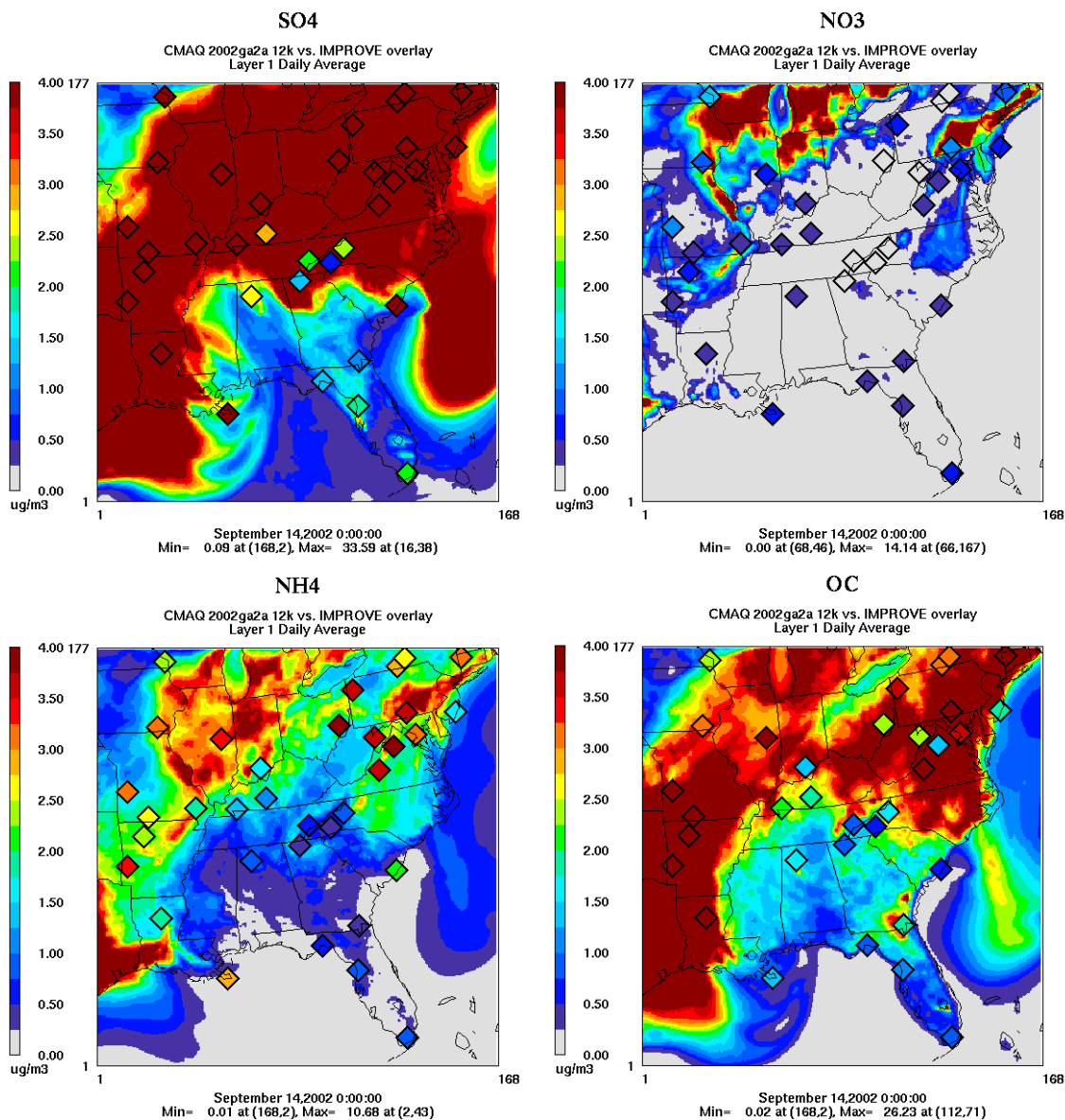| Date	Julian Day	Type	Class I Areas Affected
09/14/02	257	W20%	JARI, CACR, BRET, SHEN, DOSO, EVER, HEGL, ROMA, UPBU
09/14/02	257	B20%	SHRO, GRSM, SIPS, OKEF, COHU

Figure D-252: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 14, 2002
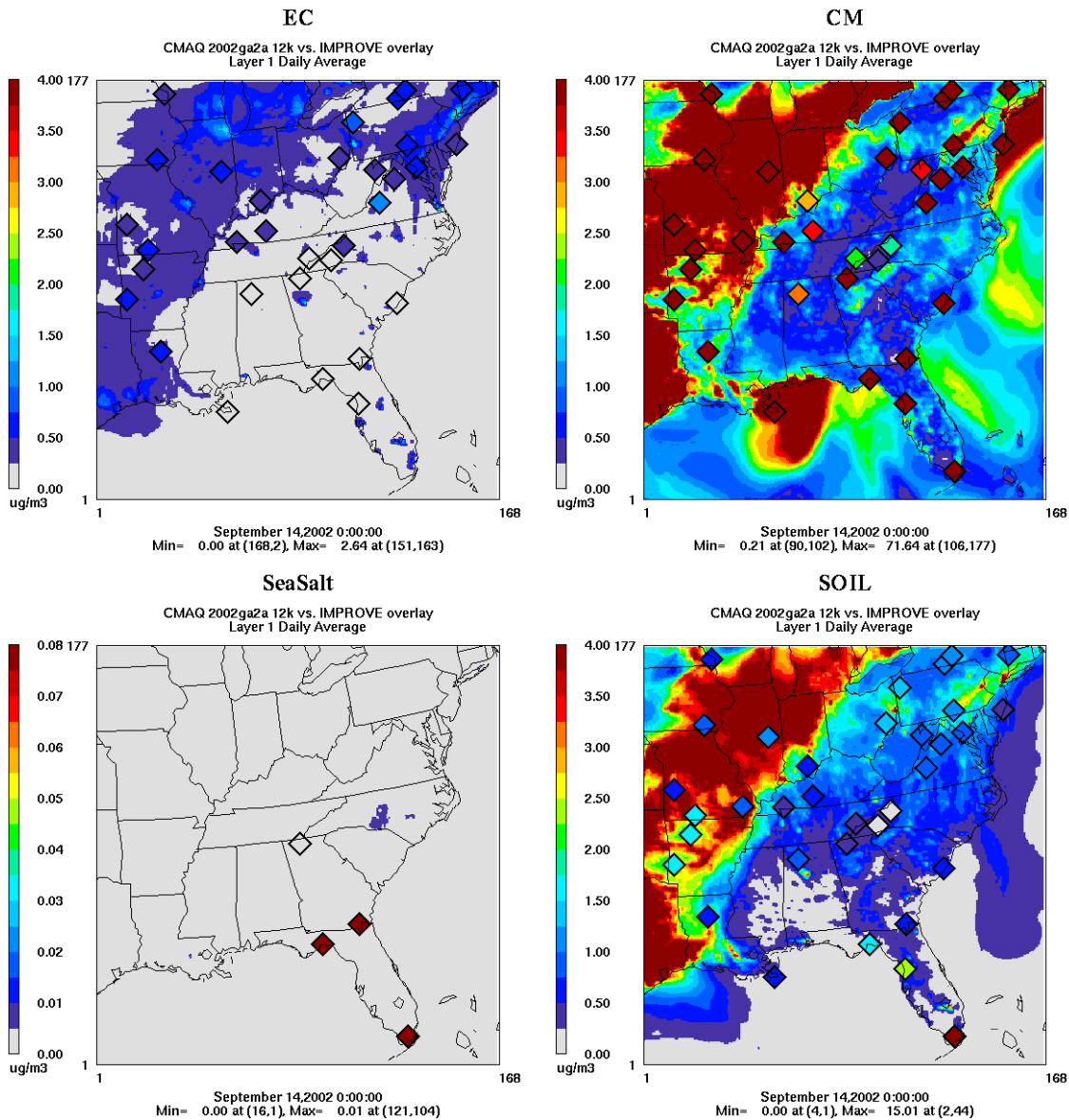
Figure D-253: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 14, 2002
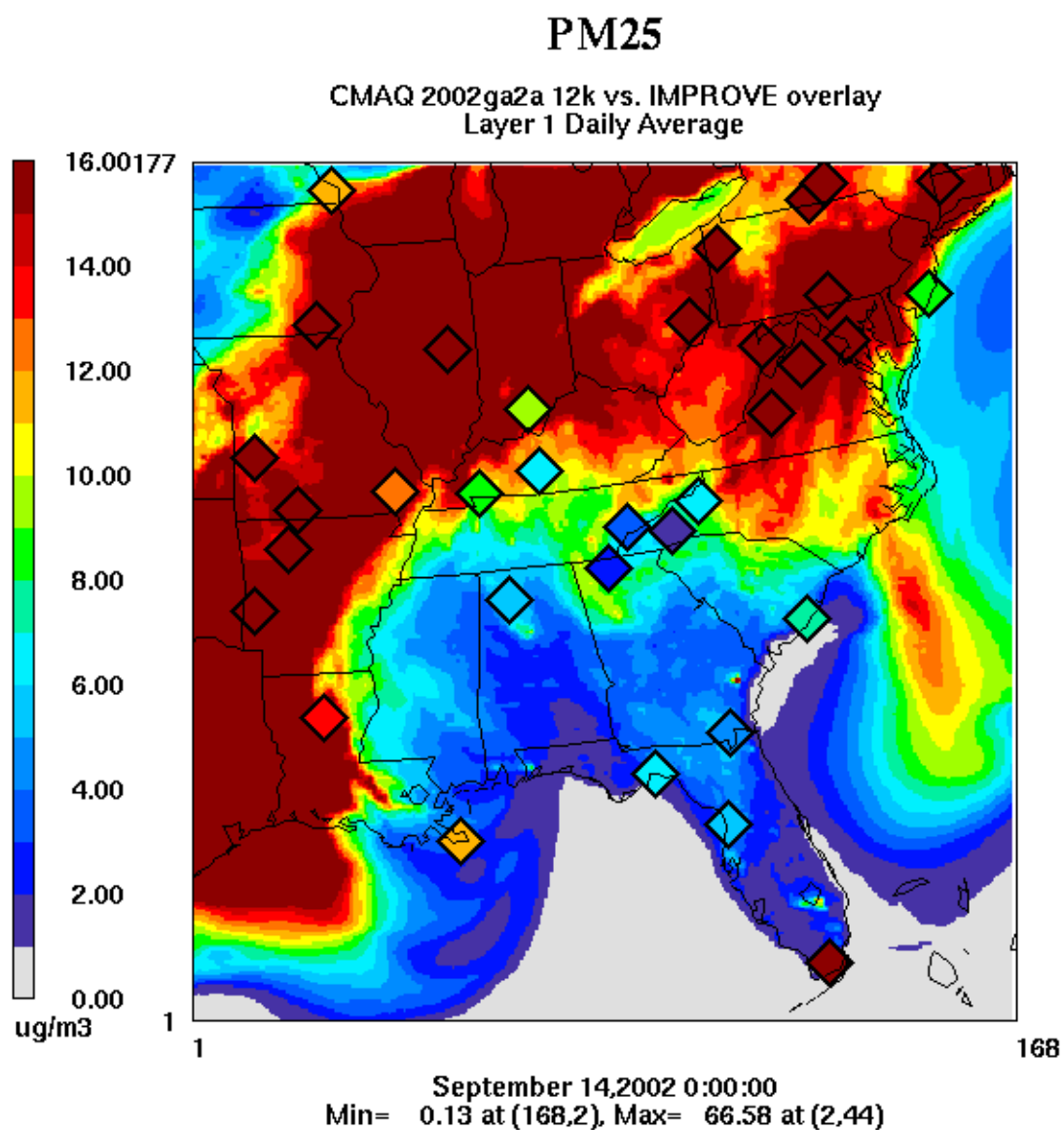
Figure D-254:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 14, 2002

D.85 September 17, 2002

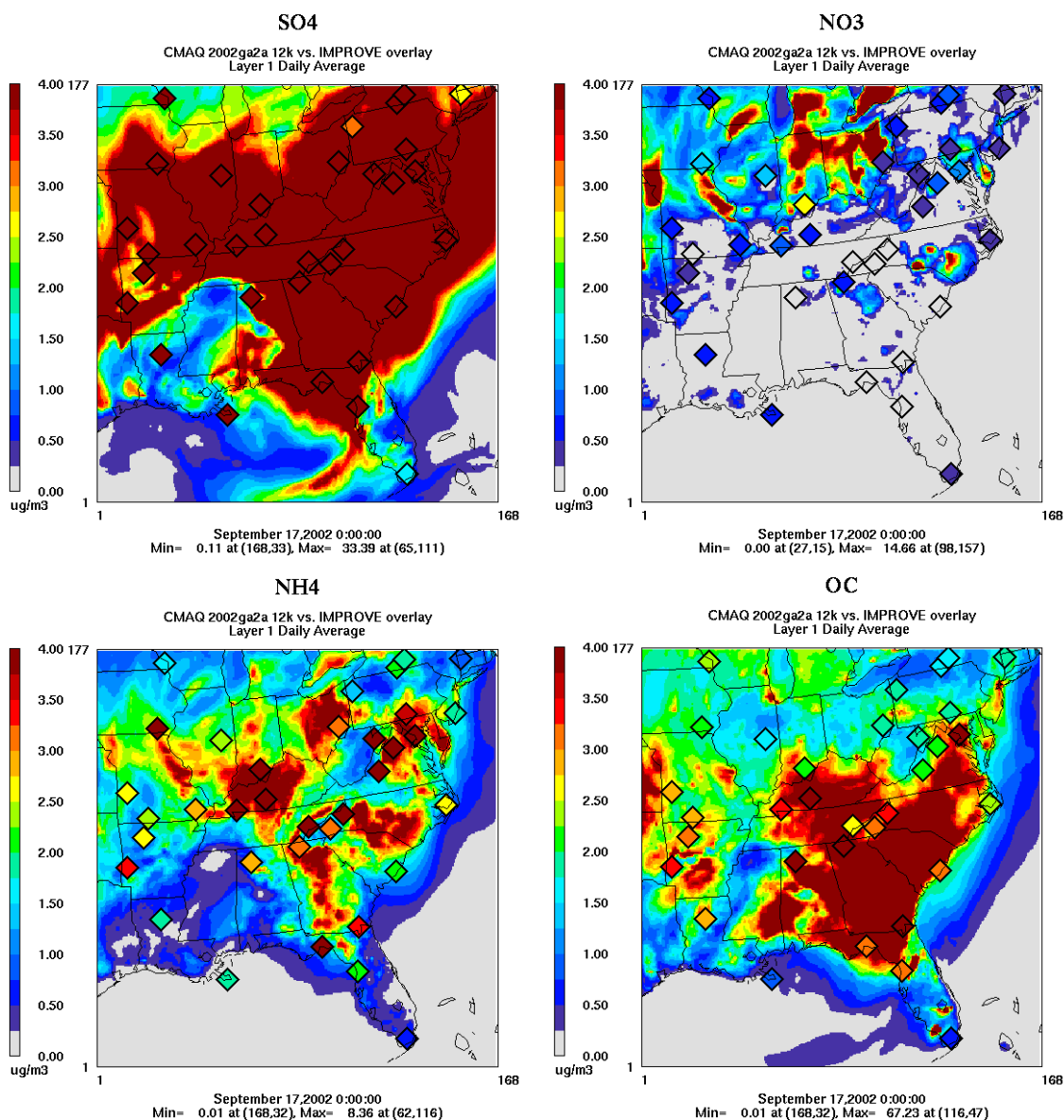| Date	Julian Day	Type	Class I Areas Affected
09/17/02	260	W20%	LIGO, SHRO, GRSM, SIPS, SAMA, OKEF, CACR, BRET, SHEN, DOSO, CHAS, SWAN, HEGL, COHU, MACA, ROMA, MING
09/17/02	260	B20%	

Figure D-255: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component

Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 17, 2002
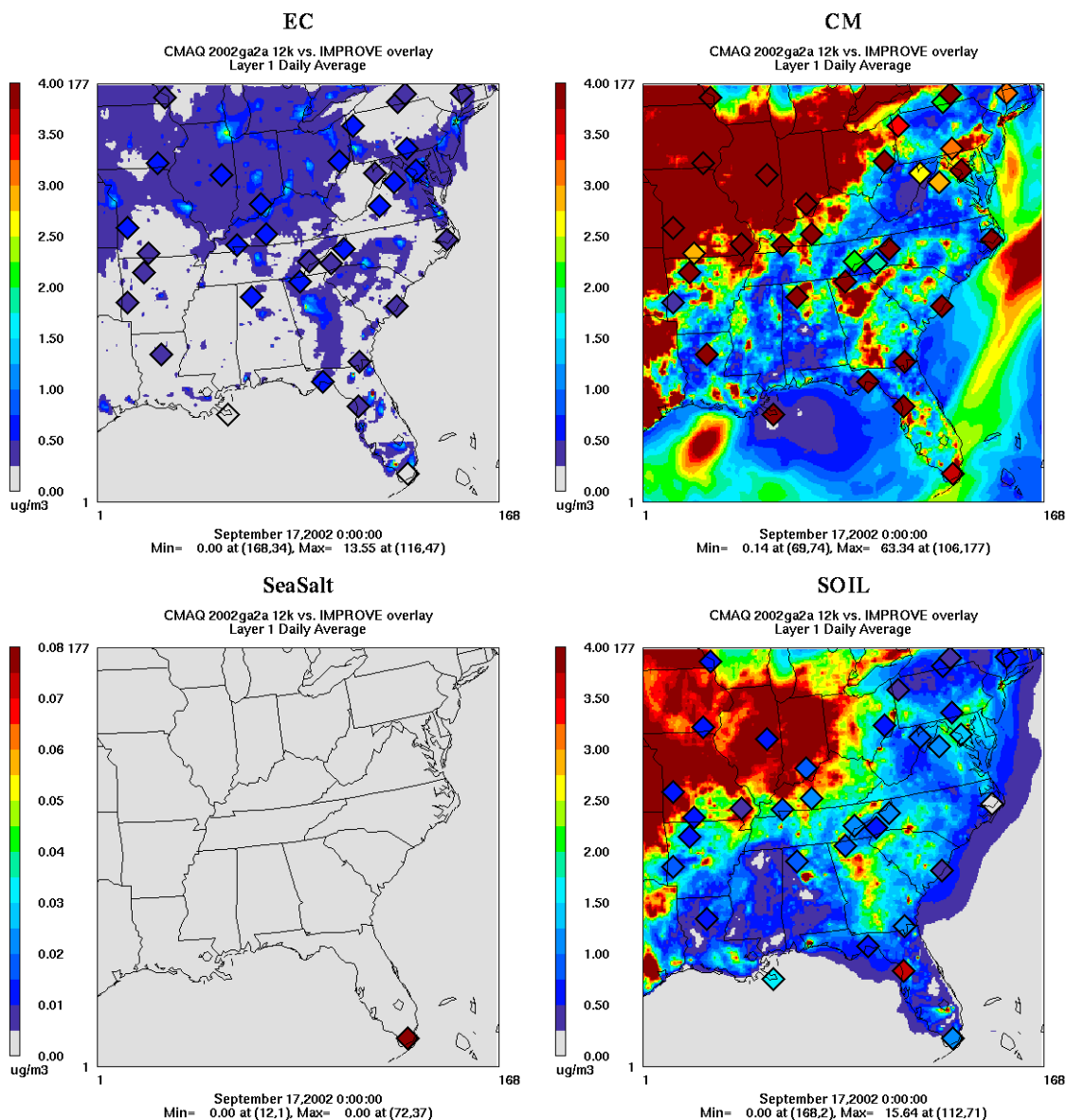

Figure D-256: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 17, 2002
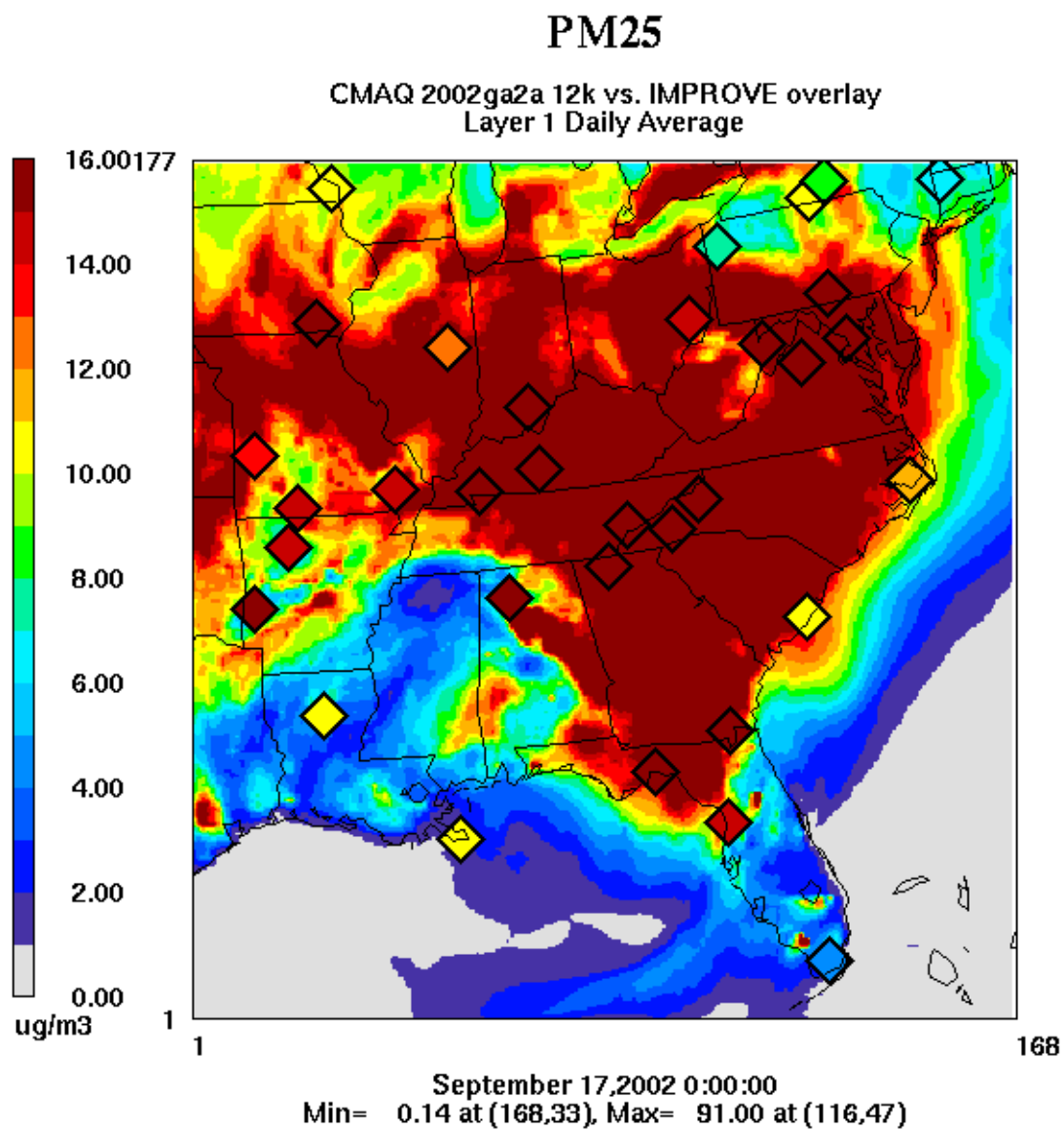
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

September 17, 2002 0:00:00
Min= 0.14 at (168,33), Max= 91.00 at (116,47)

Figure D-257:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 17, 2002

D.86   September 20, 2002

Date	Julian Day	Type	Class I Areas Affected
09/20/02	263	W20%	JARI, SIPS, OKEF, BRET, DOSO, COHU, MACA
09/20/02	263	B20%	SWAN, ROMA, MING, BRIG

SO4

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

September 20,2002 0:00:00
Min=   0.05 at (28,1), Max=   18.40 at (112,120)

NO3

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

September 20,2002 0:00:00
Min=   0.00 at (115,5), Max=   4.71 at (27,174)

NH4

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

September 20,2002 0:00:00
Min=   0.00 at (74,14), Max=   5.48 at (111,111)

OC

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

September 20,2002 0:00:00
Min=   0.01 at (161,36), Max=   56.45 at (72,56)

Figure D-258: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 20, 2002
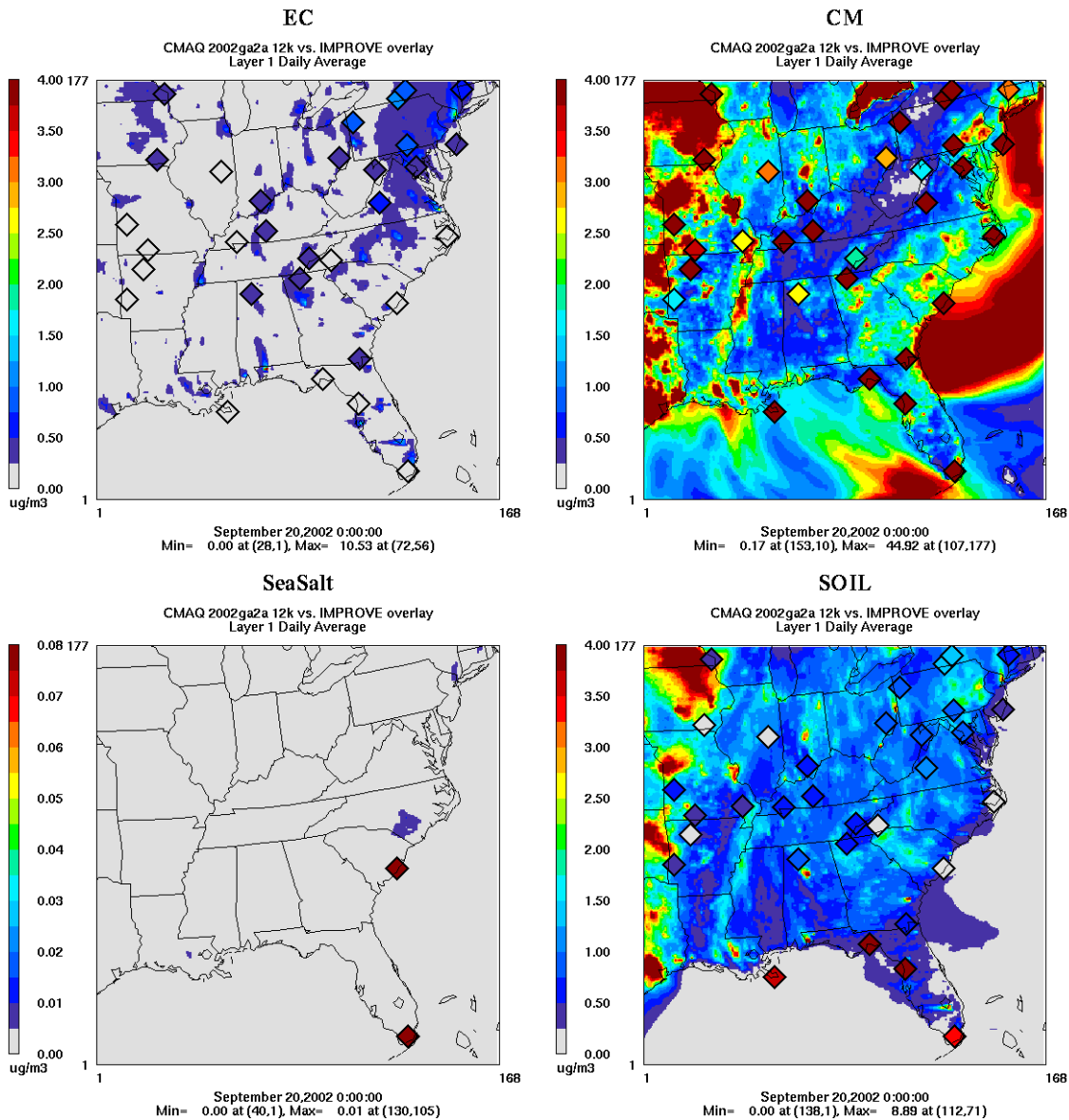
Figure D-259: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 20, 2002
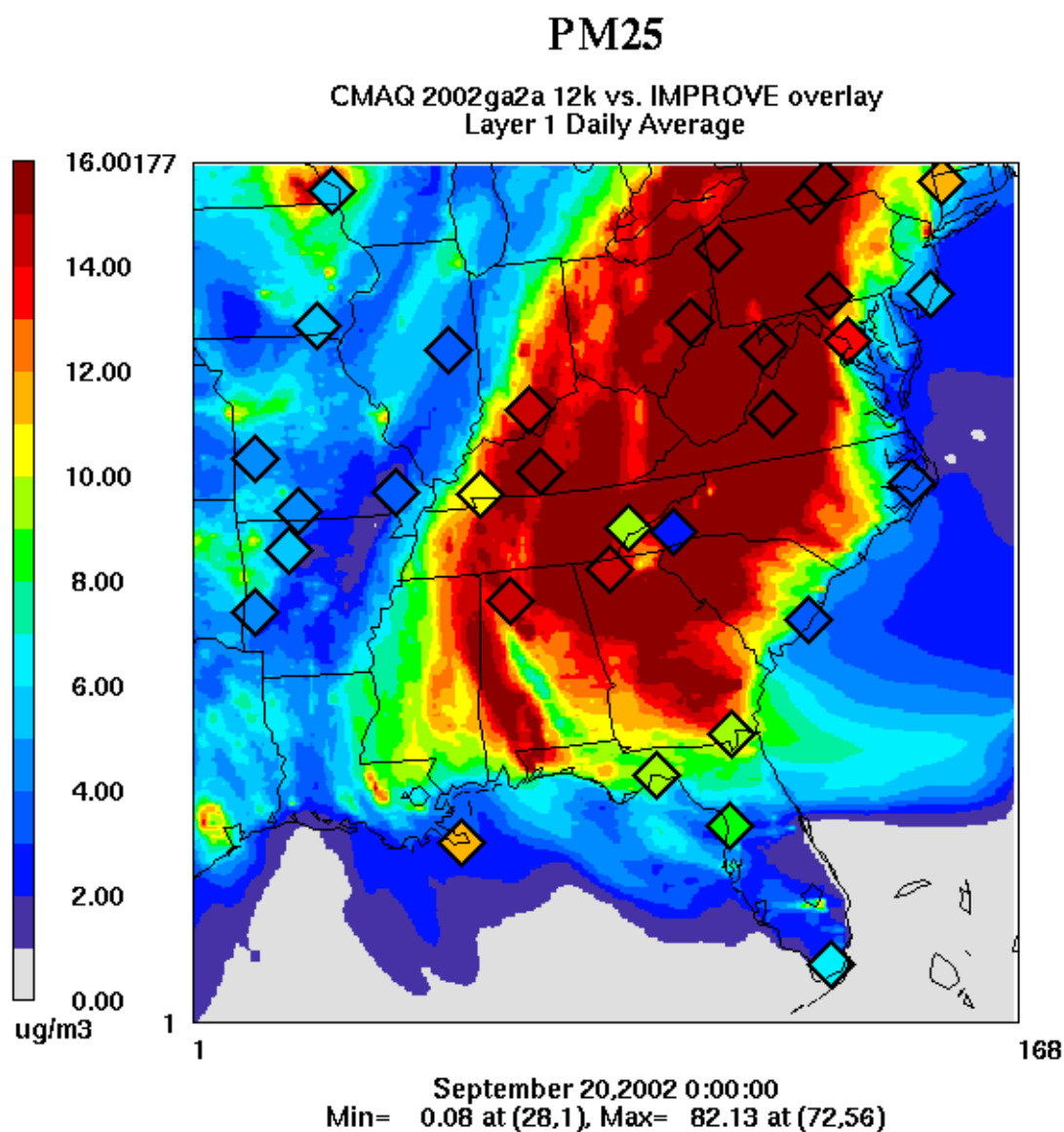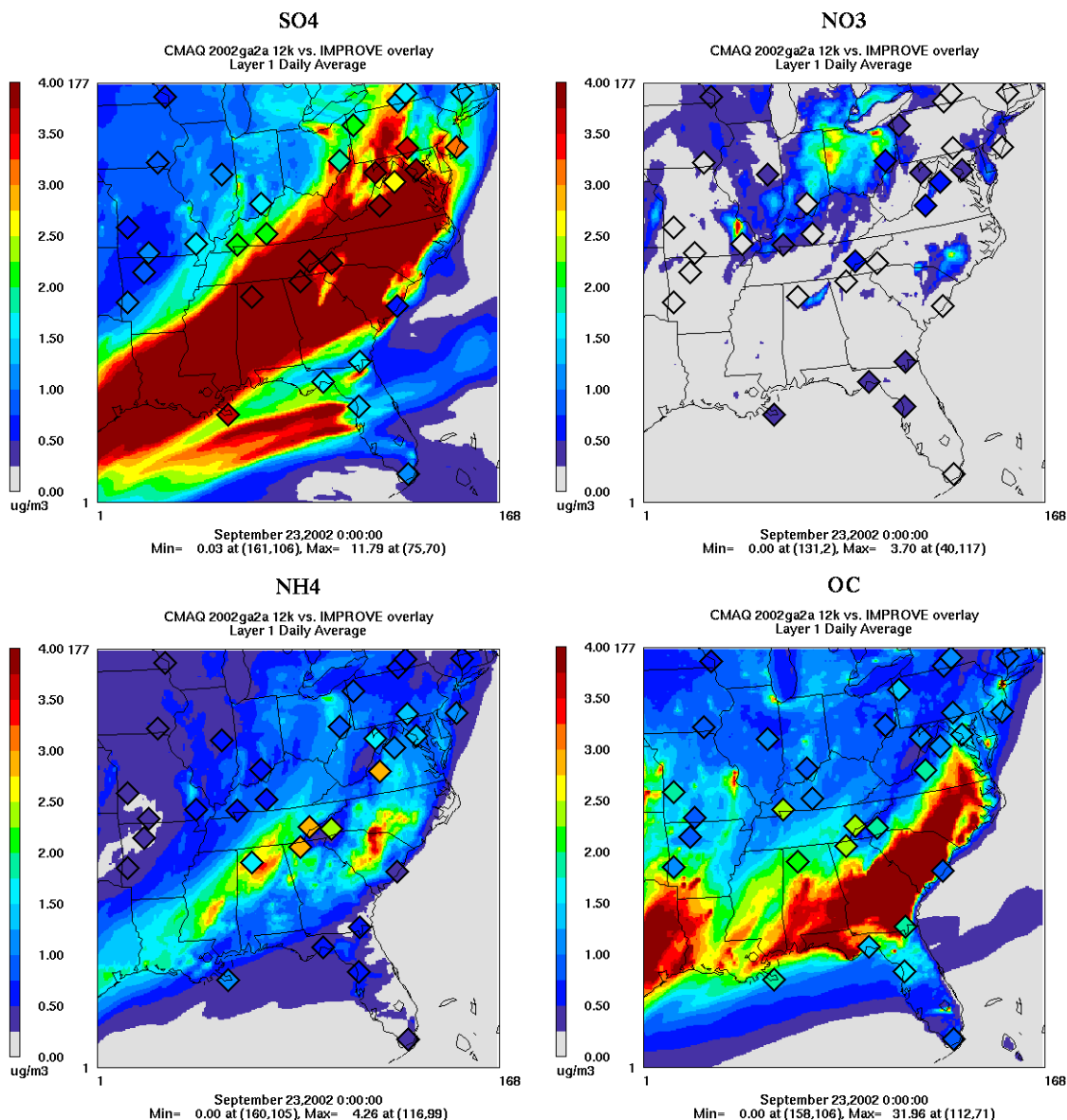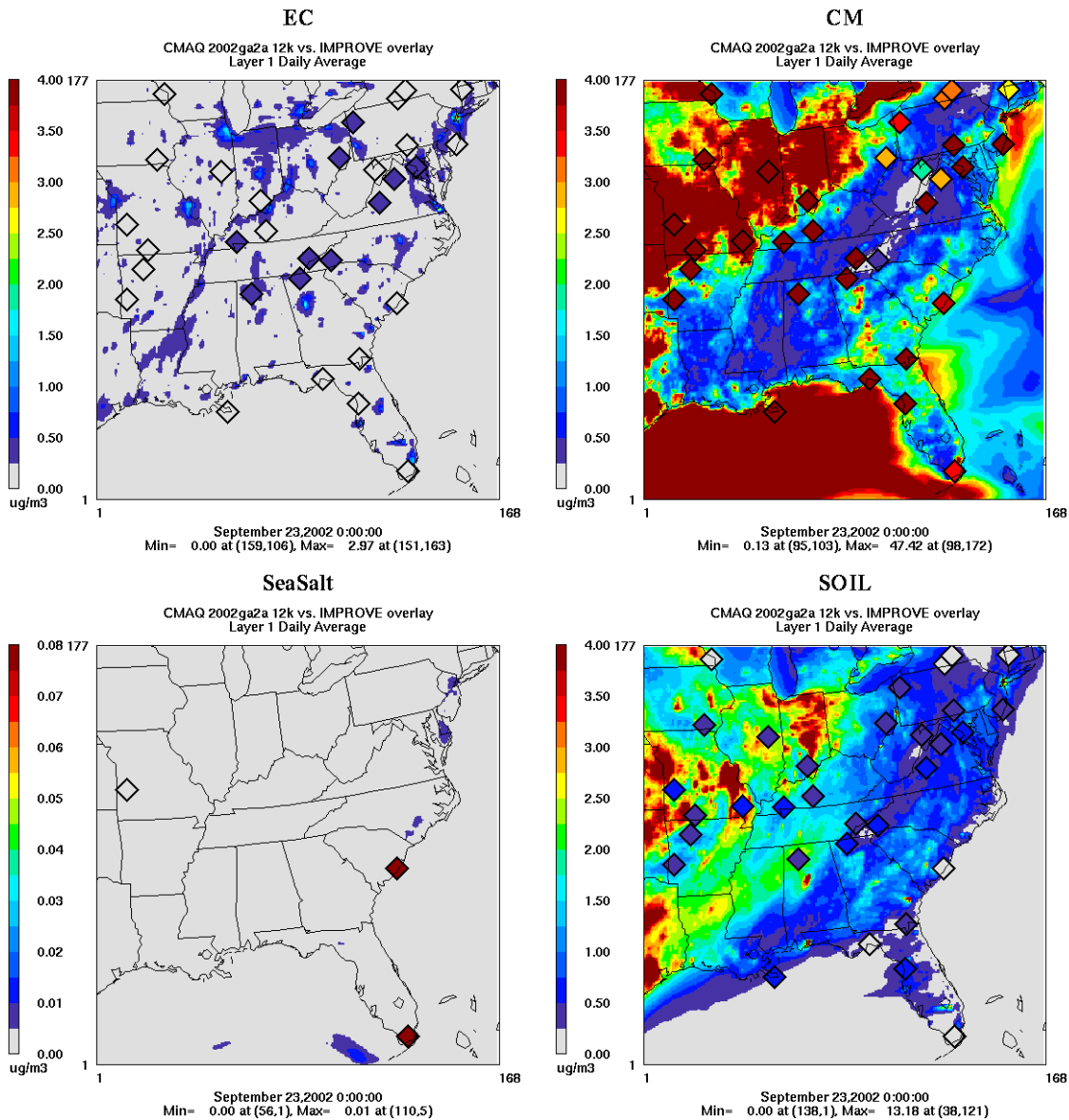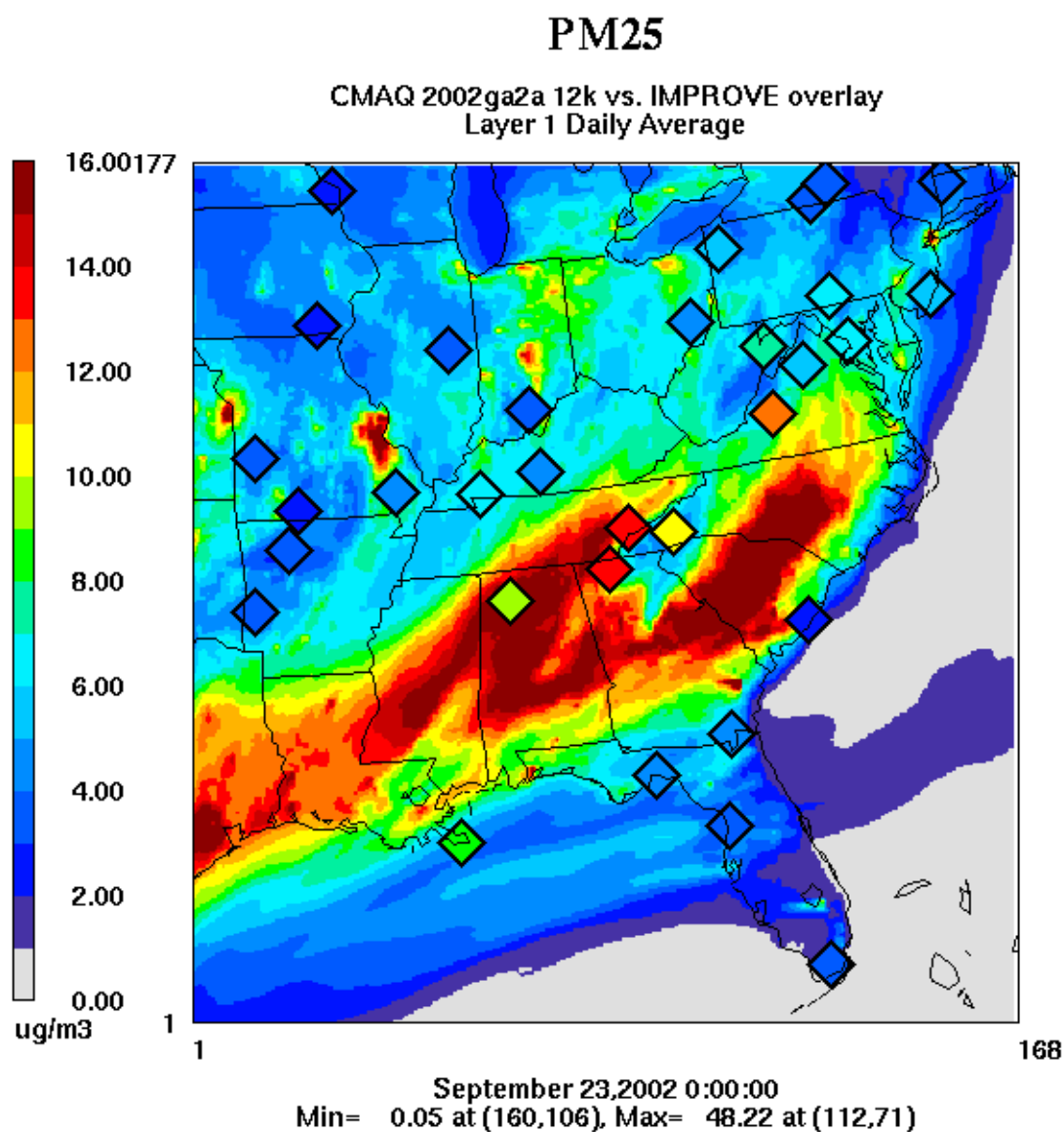
Figure D-260:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 20, 2002

D.87   September 23, 2002

| Date	Julian Day	Type	Class I Areas Affected
09/23/02	266	W20%	SHRO, JARI, COHU
09/23/02	266	B20%	SAMA, OKEF, CACR, CHAS, HEGL, MACA, ROMA, UPBU, MING

Figure D-261:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 23, 2002
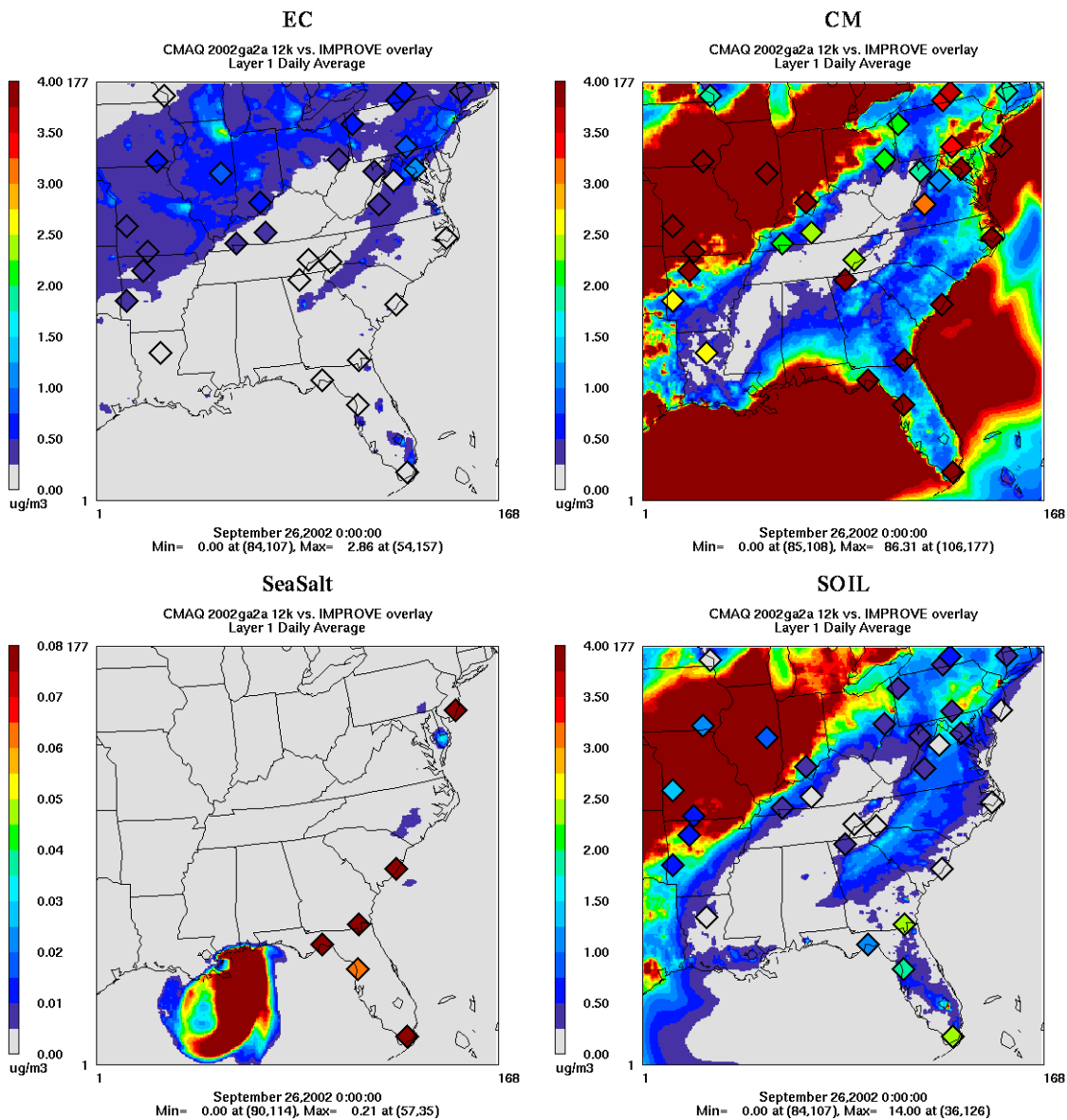
Figure D-262: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 23, 2002

Figure D-263: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 23, 2002

D.88   September 26, 2002

Date	Julian Day	Type	Class I Areas Affected
09/26/02	269	W20%	HEGL, UPBU
09/26/02	269	B20%	SHRO, GRSM, SHEN, SWAN, COHU, MACA, ROMA, BRIG
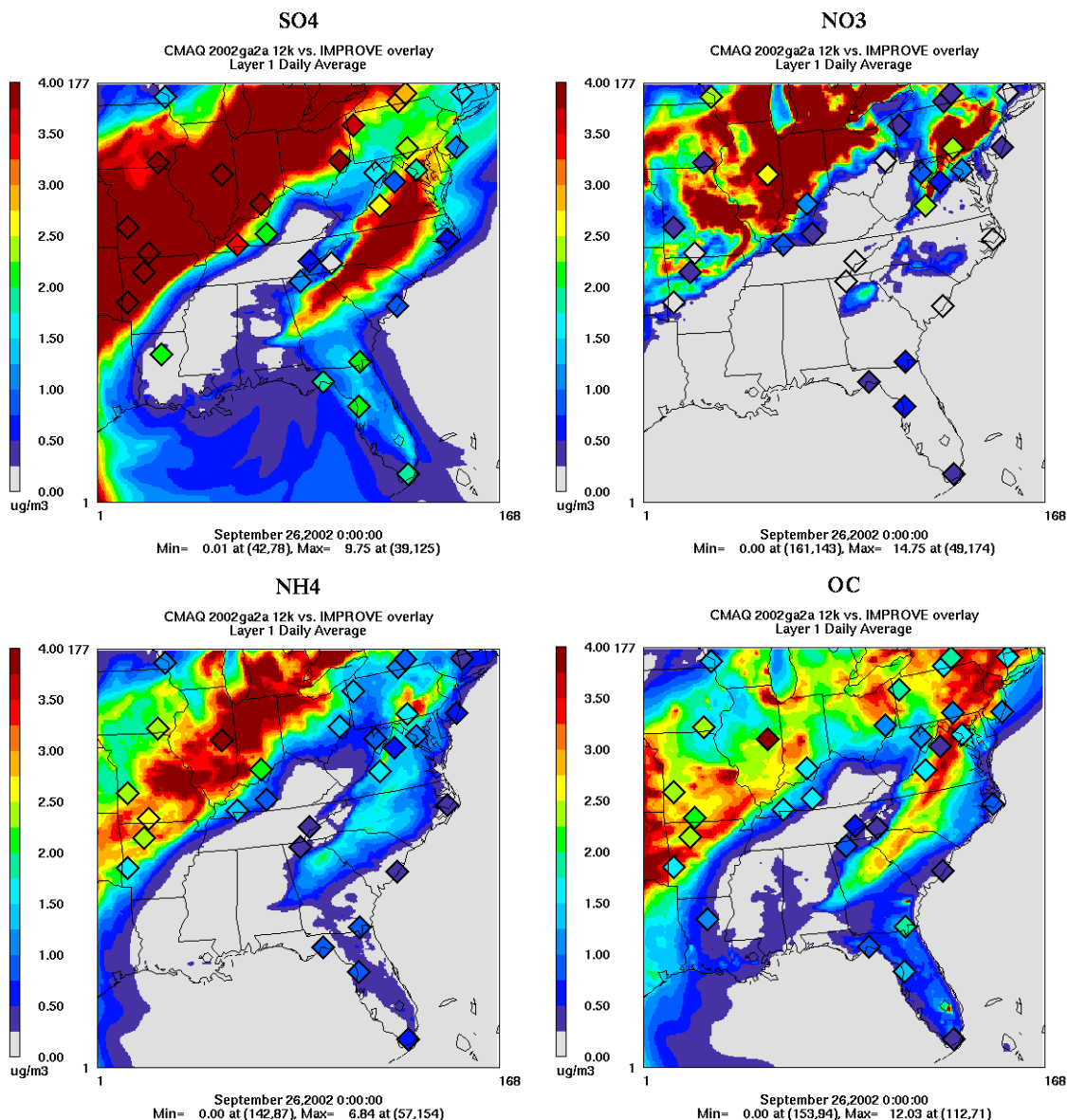
Figure D-264: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 26, 2002

Figure D-265: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 26, 2002
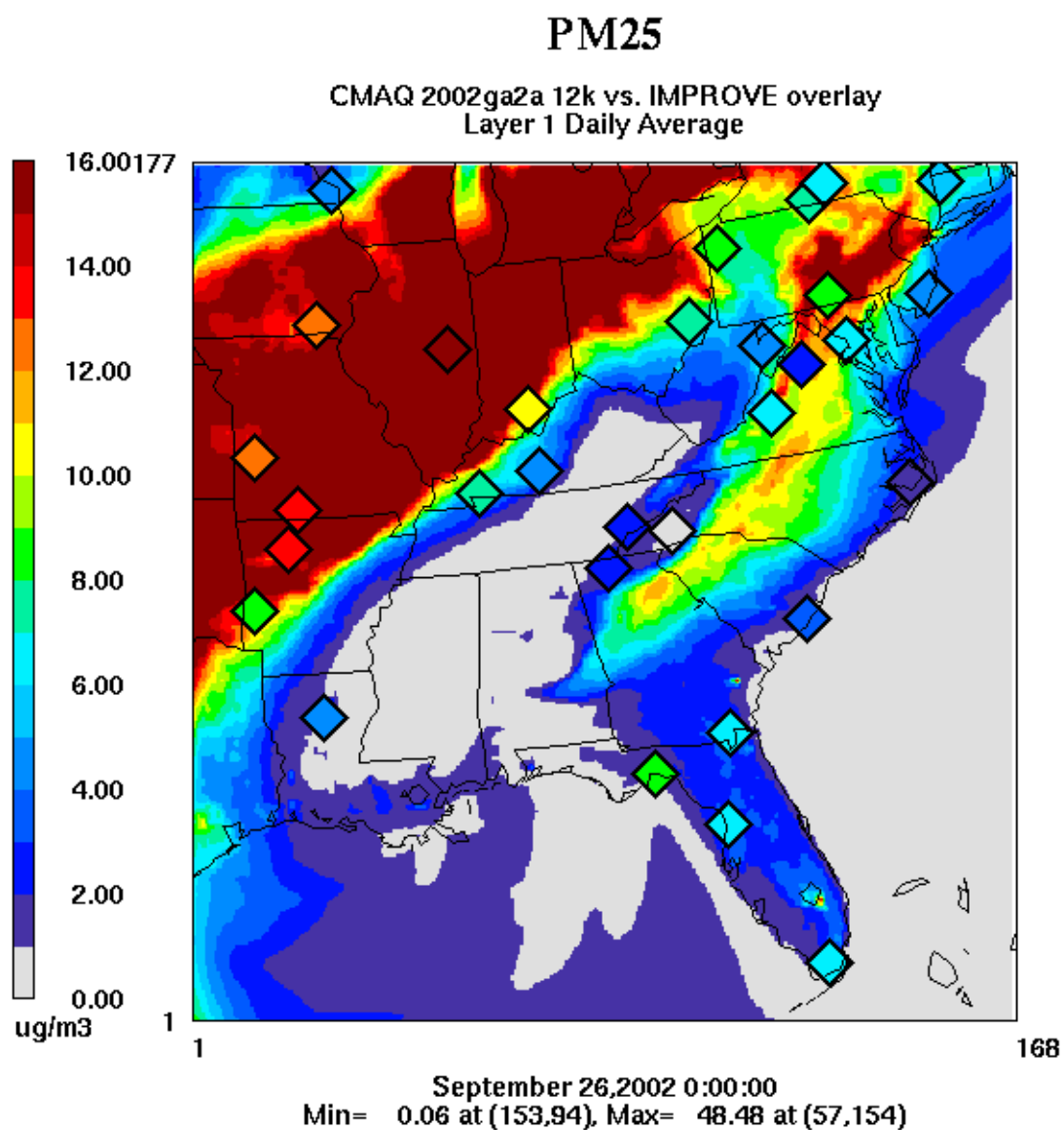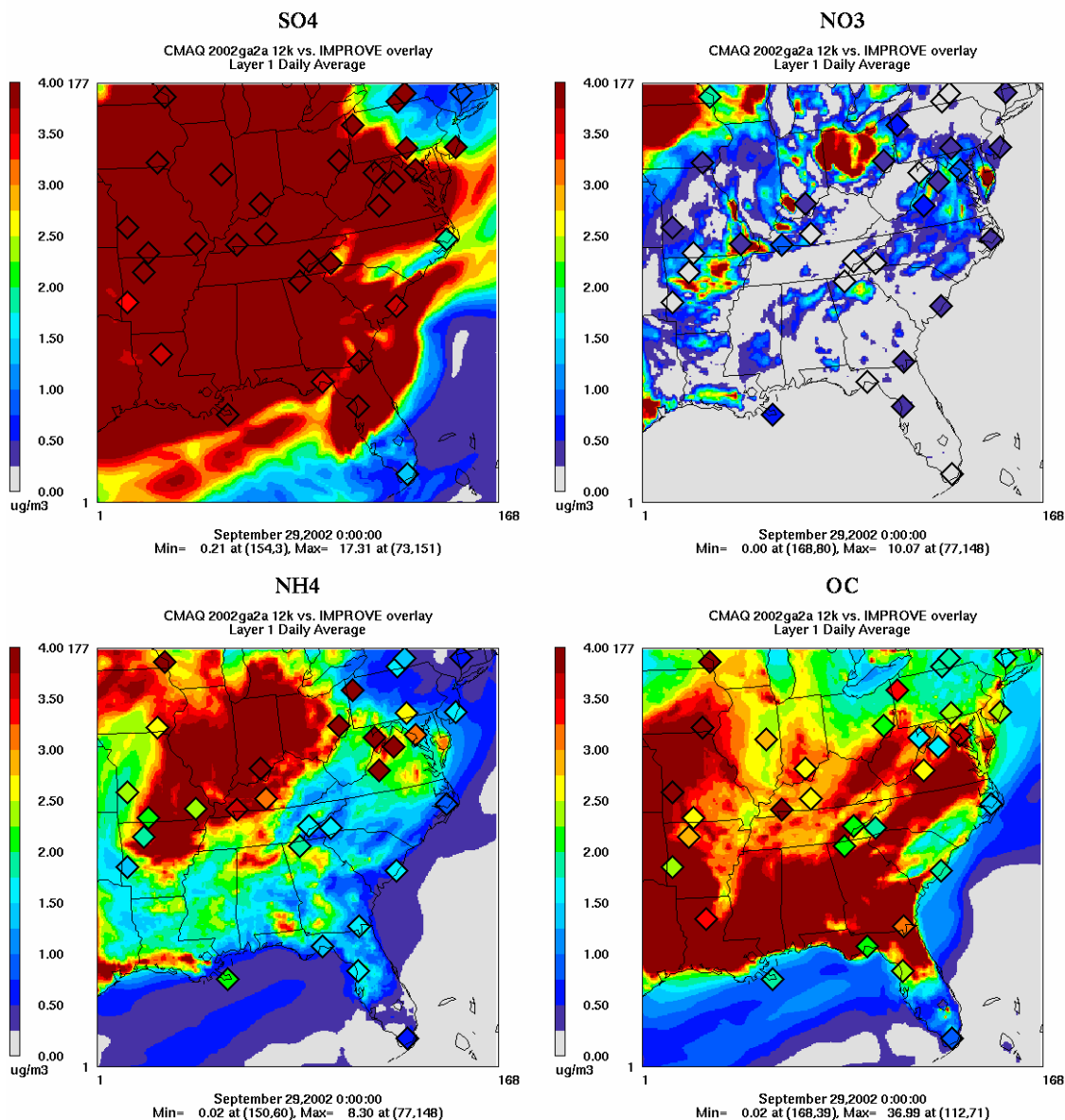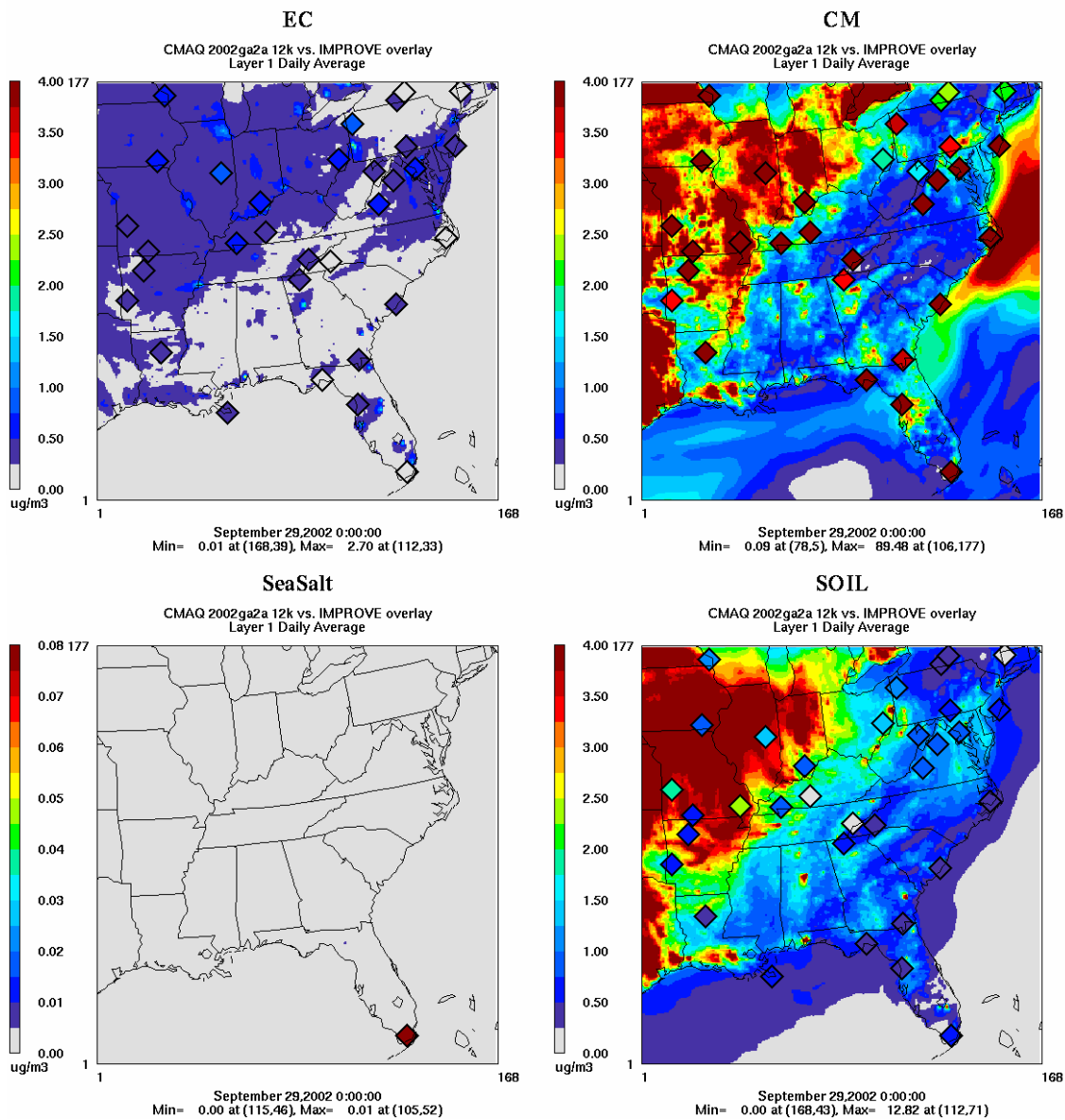
Figure D-266: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 26, 2002

D.89   September 29, 2002

Date	Julian Day	Type	Class I Areas Affected
09/29/02	272	W20%	JARI, BRET, SHEN, DOSO, MING
09/29/02	272	B20%	

Figure D-267:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For September 29, 2002

Figure D-268: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For September 29, 2002
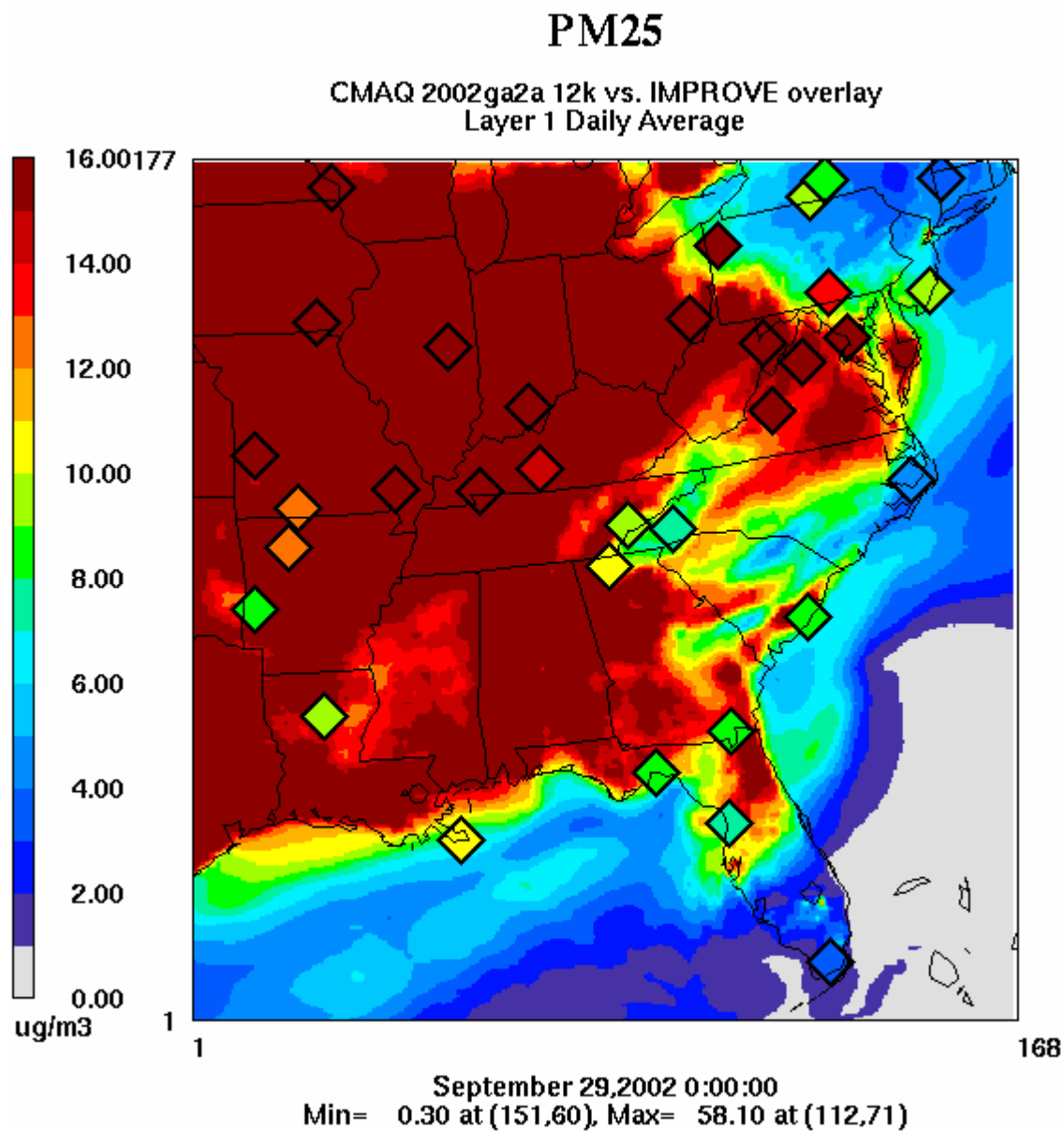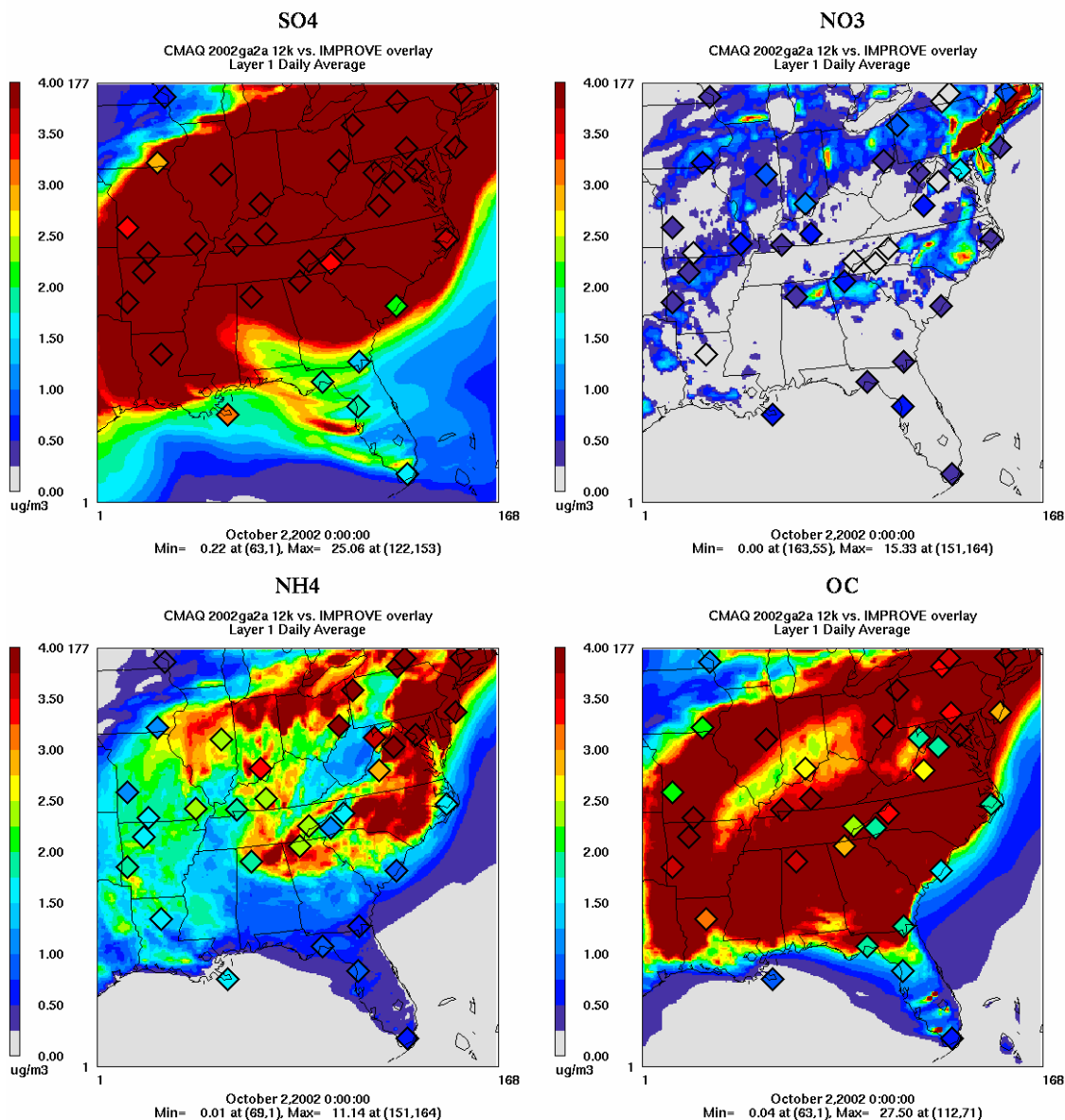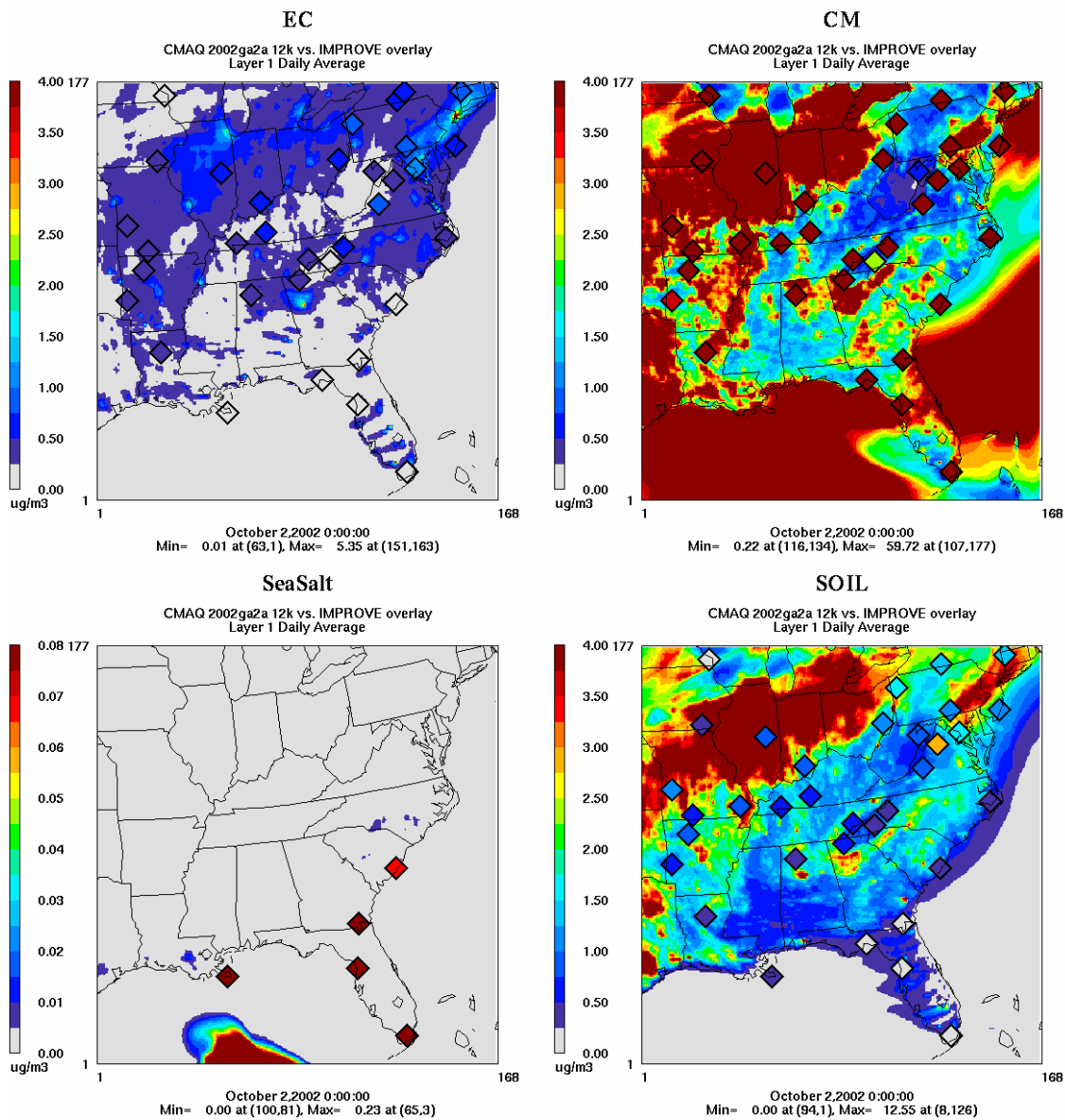
Figure D-269:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For September 29, 2002

D.90   October 2, 2002

Date	Julian Day	Type	Class I Areas Affected
10/02/02	275	W20%	JARI, SHEN, DOSO, BRIG
10/02/02	275	B20%	OKEF

Figure D-270: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 2, 2002

Figure D-271: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 2, 2002
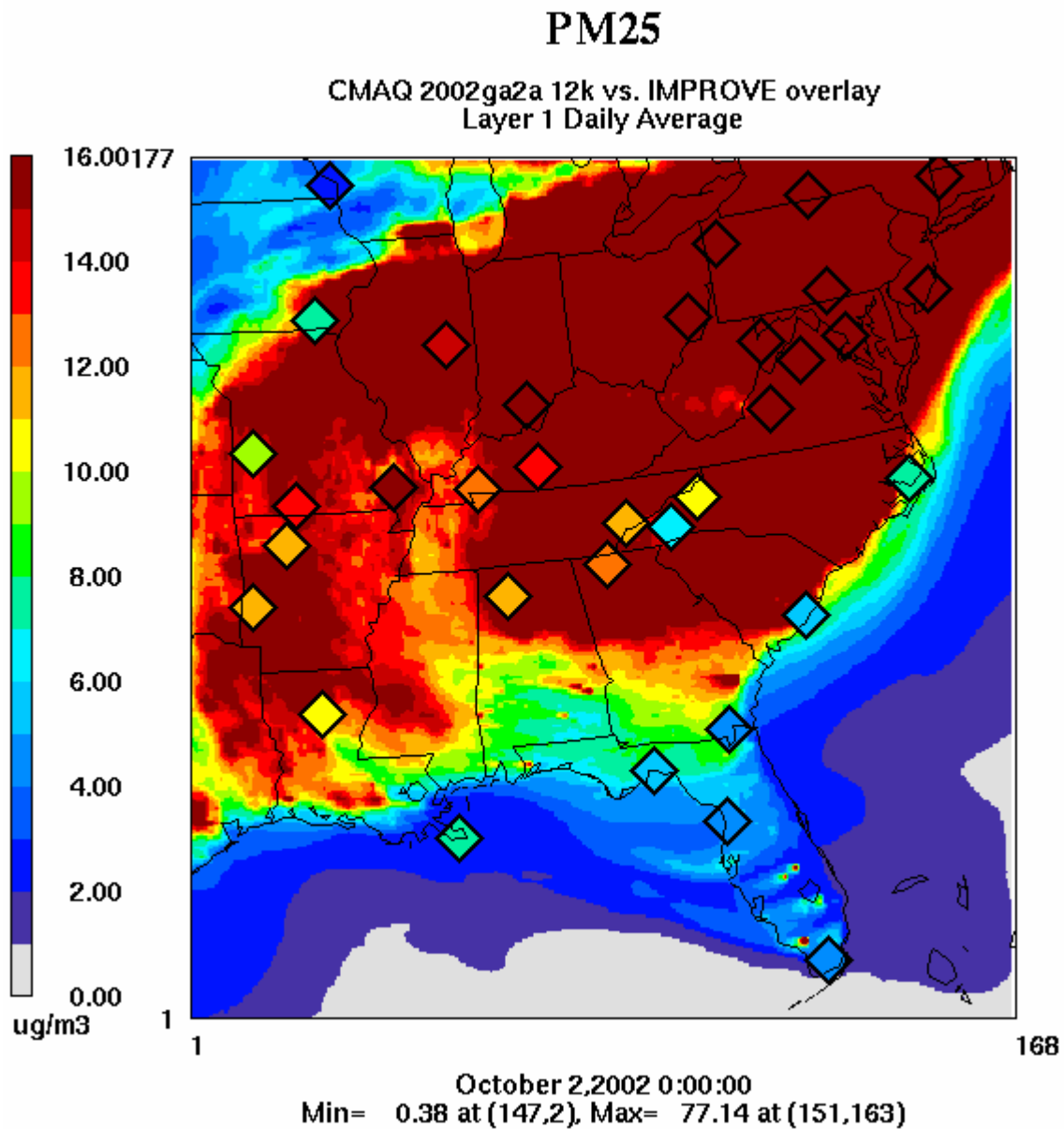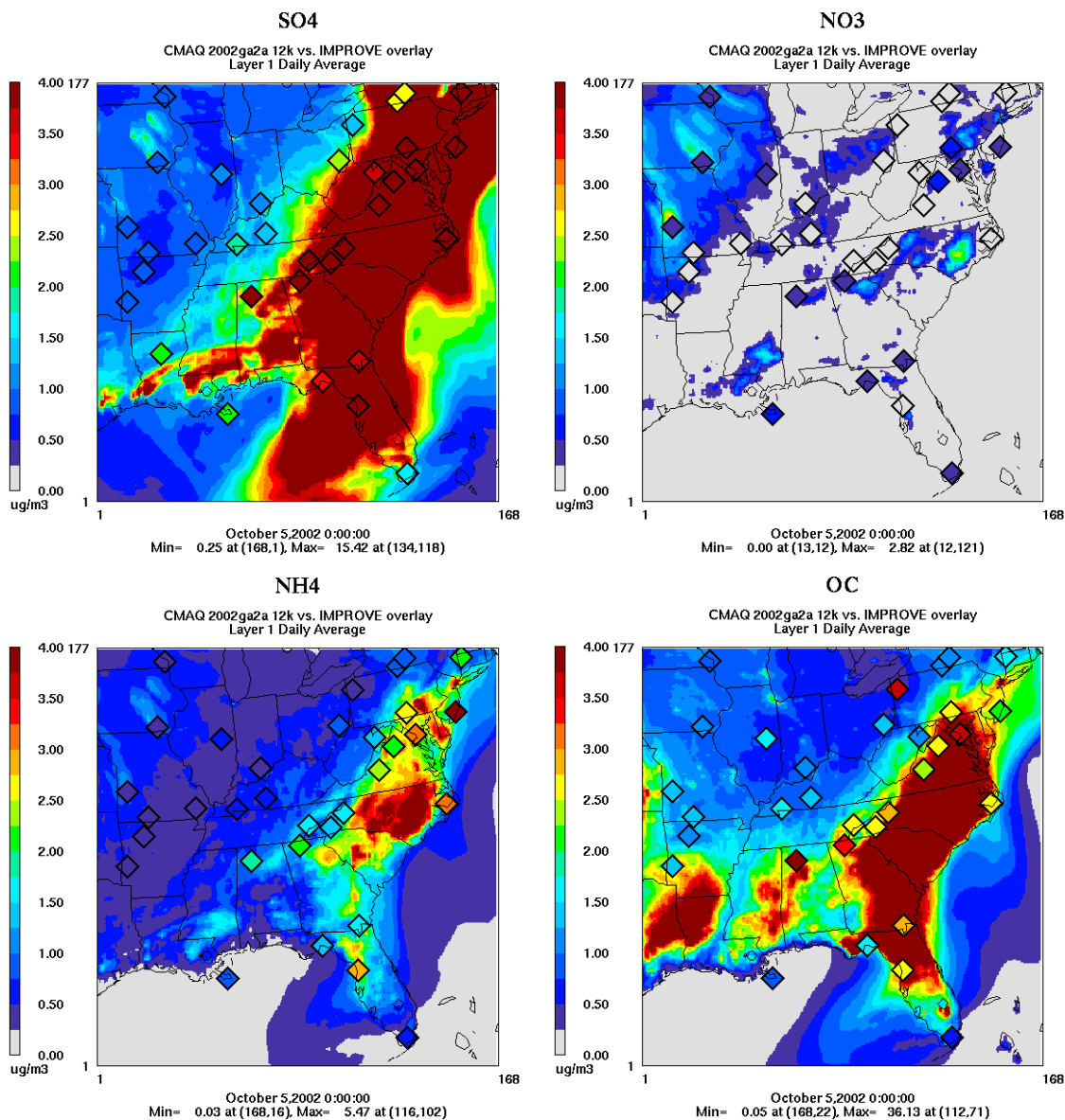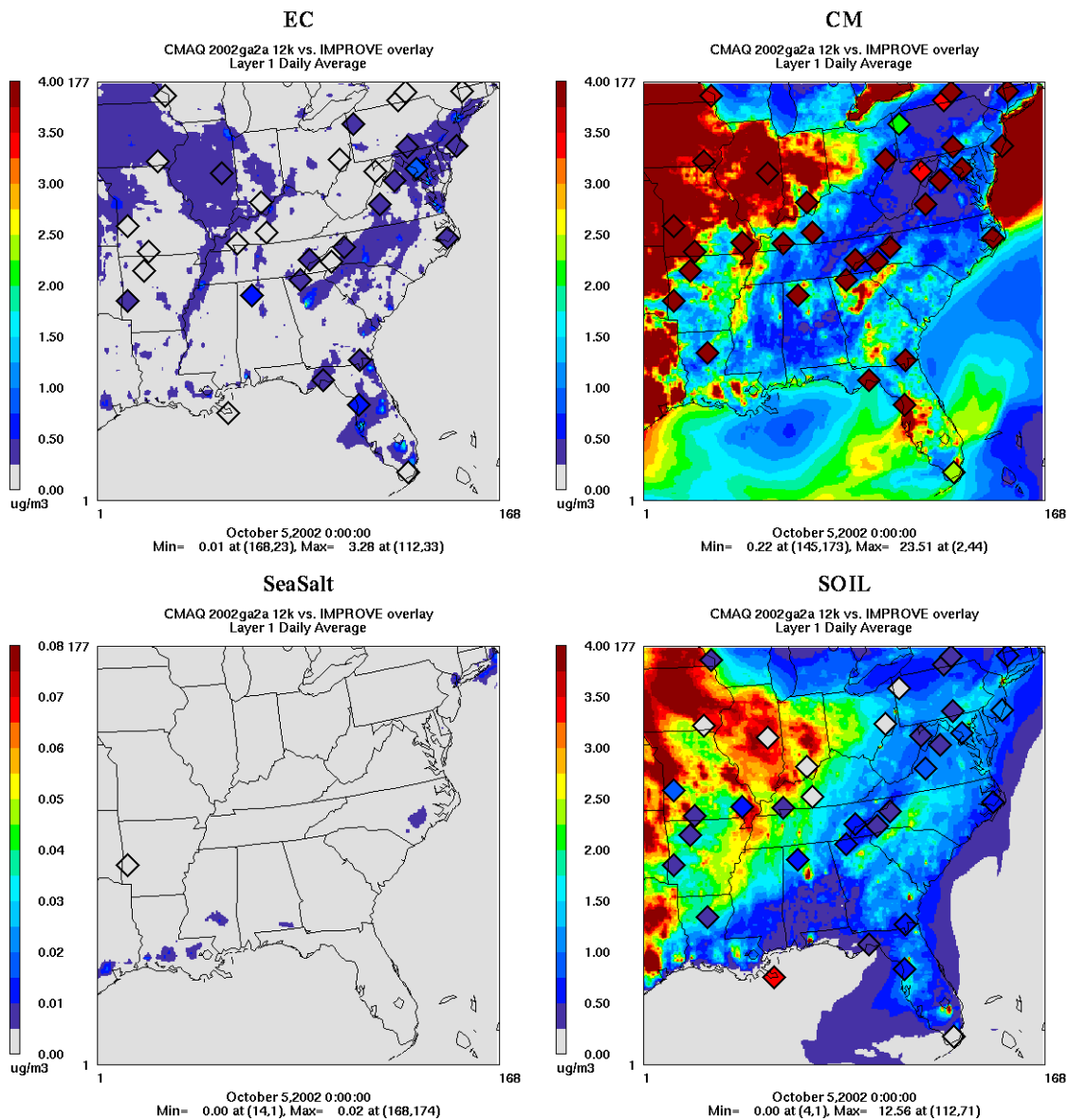
Figure D-272:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 2, 2002

D.91 October 5, 2002

Date	Julian Day	Type	Class I Areas Affected
10/05/02	278	W20%	CHAS, SWAN, BRIG
10/05/02	278	B20%	CACR, HEGL, MACA, UPBU, MING

Figure D-273: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 5, 2002

Figure D-274: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 5, 2002
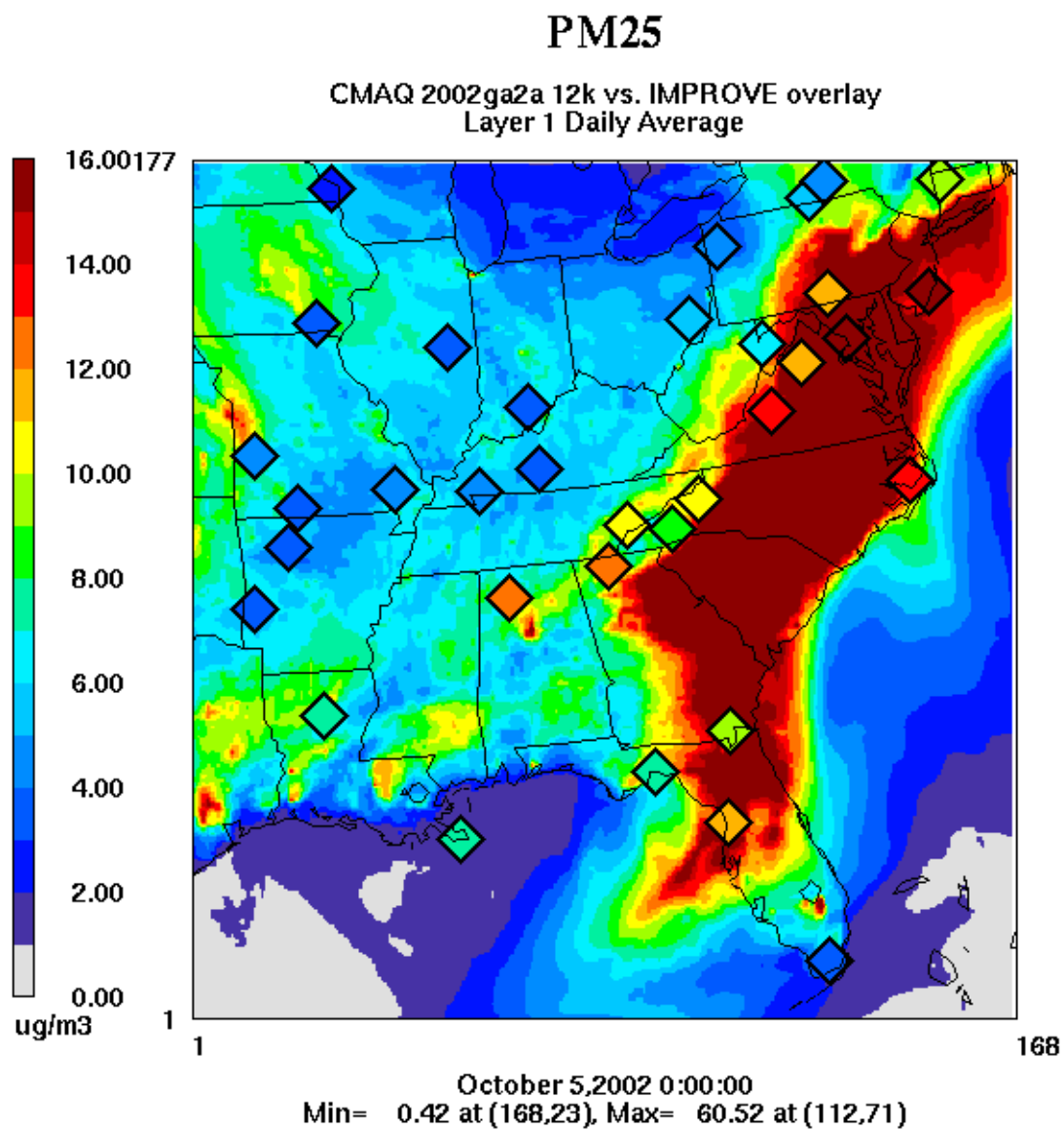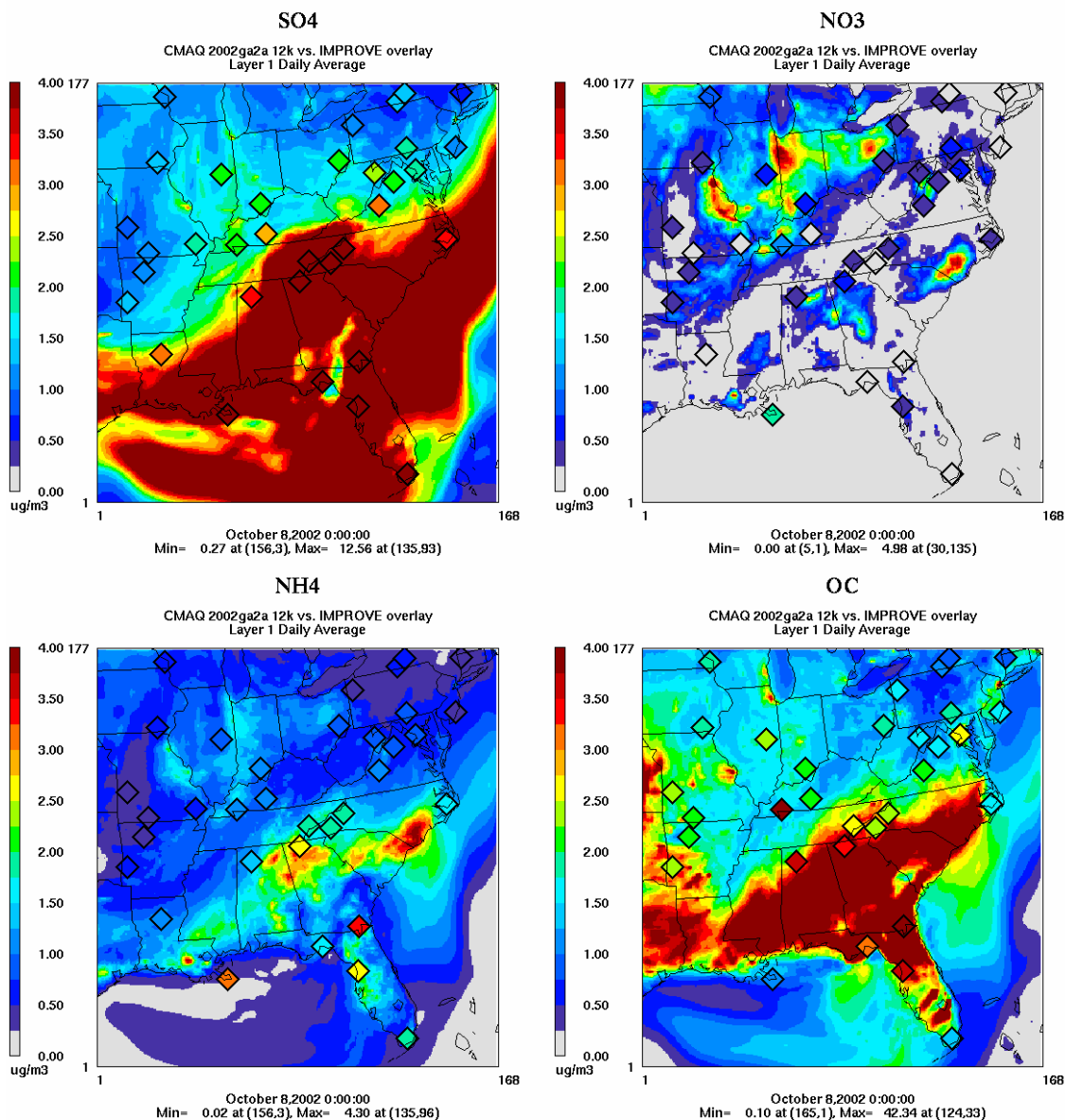
Figure D-275:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 5, 2002

D.92 October 8, 2002

Date	Julian Day	Type	Class I Areas Affected
10/08/02	281	W20%	OKEF, BRET, CHAS, EVER, COHU
10/08/02	281	B20%	HEGL, MACA, UPBU, MING, BRIG

Figure D-276: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 8, 2002
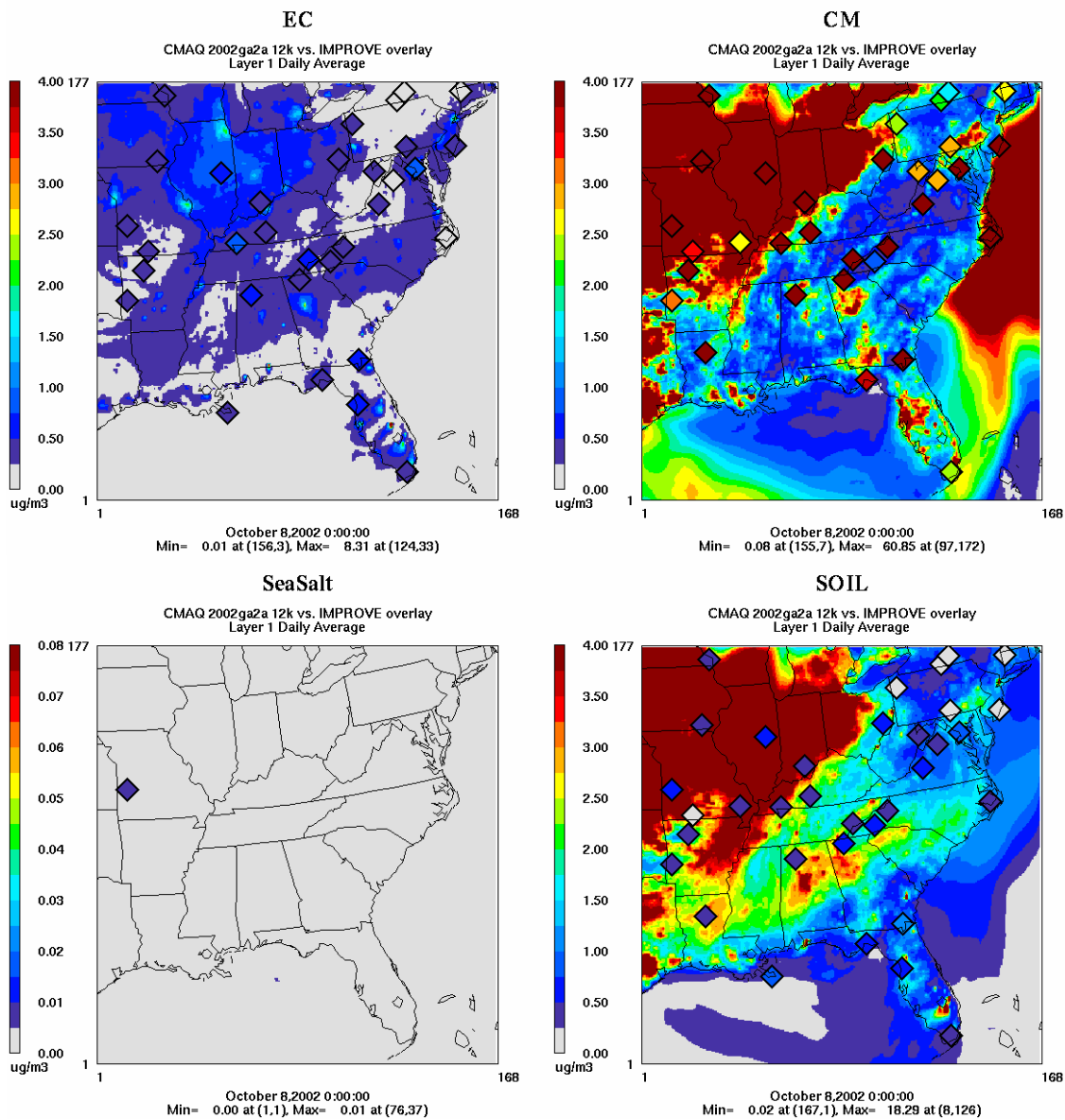
Figure D-277:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 8, 2002
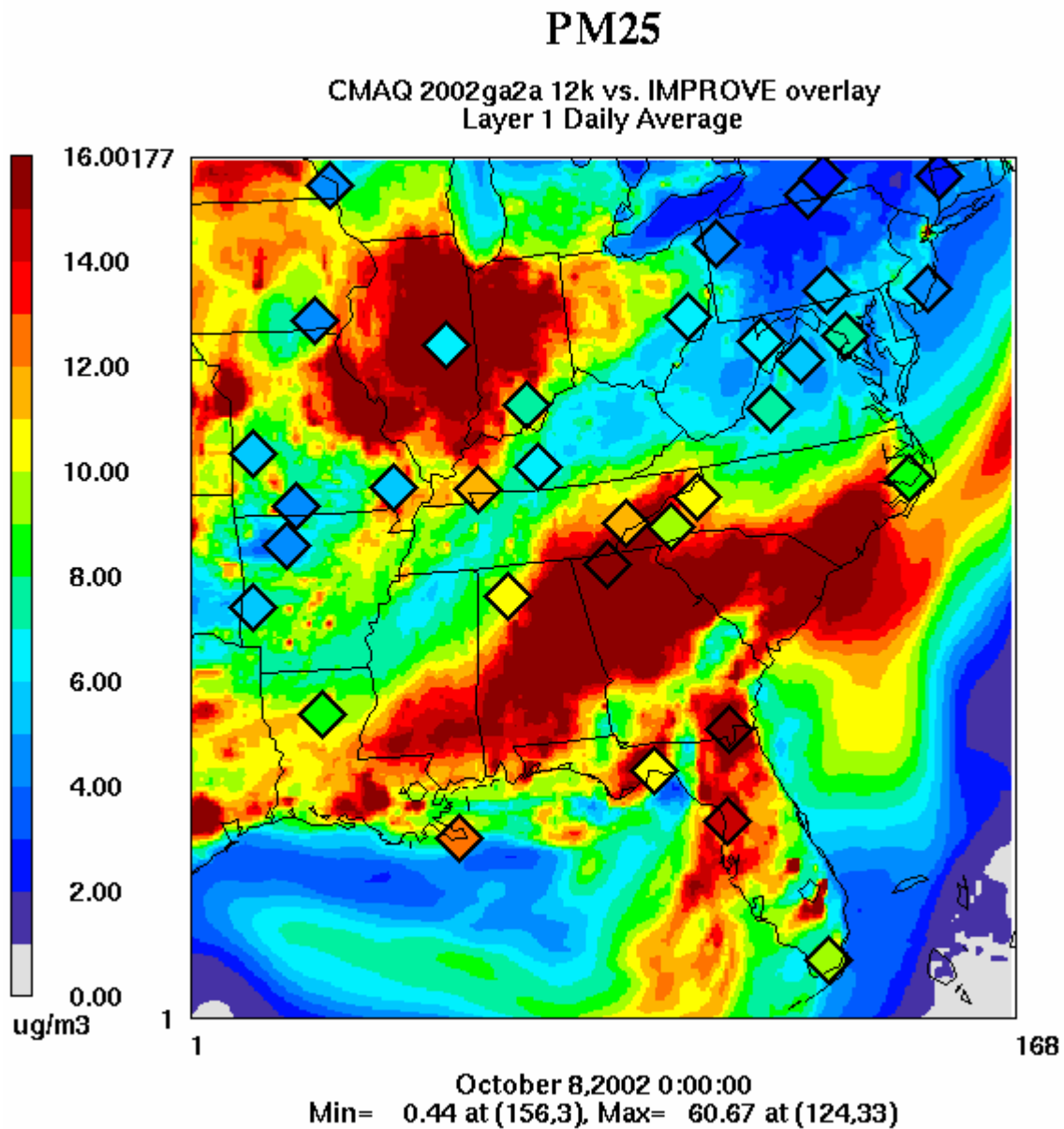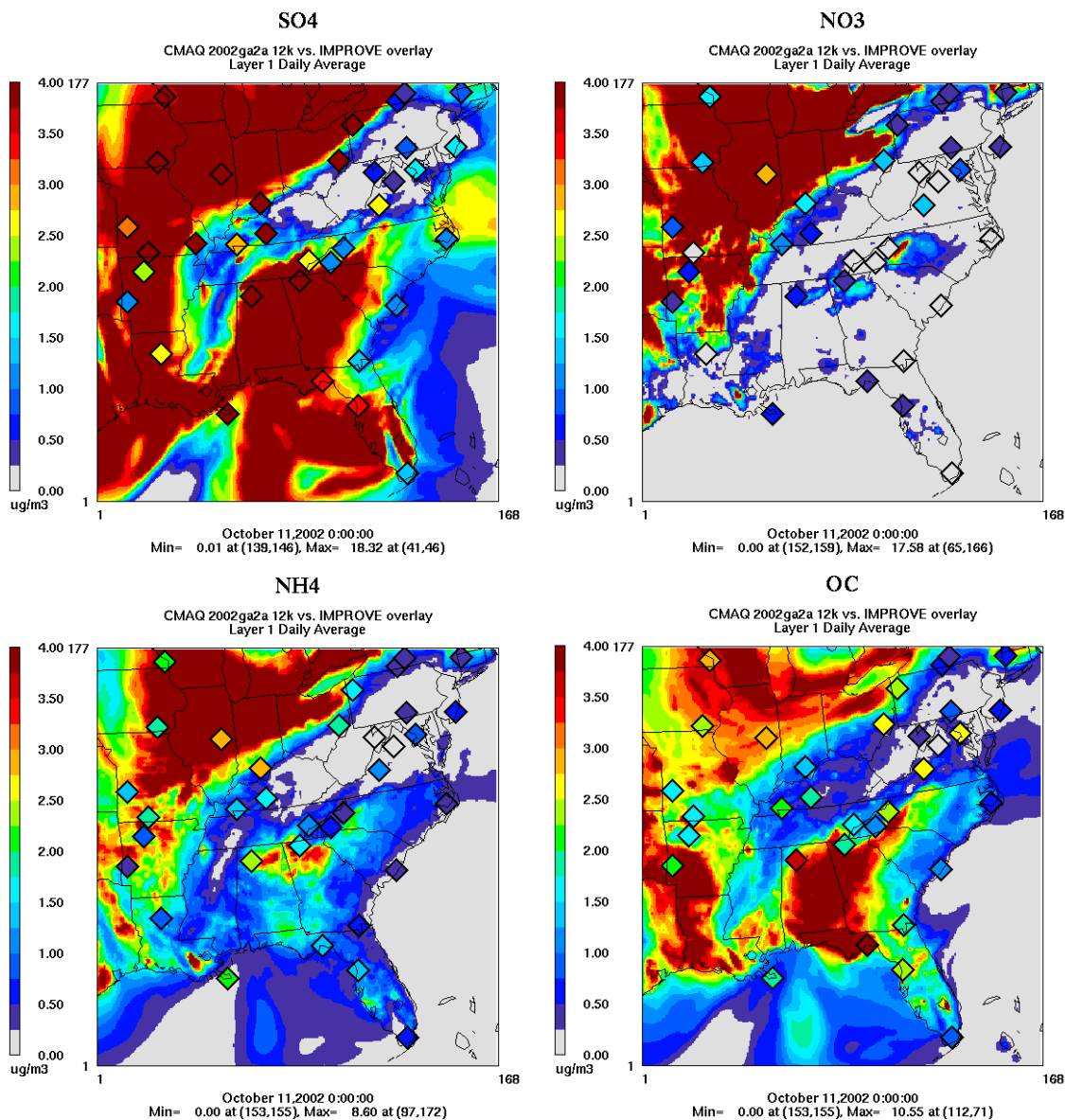
Figure D-278:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 8, 2002

D.93   October 11, 2002

Date	Julian Day	Type	Class I Areas Affected
10/11/02	284	W20%	SIPS, BRET
10/11/02	284	B20%	OKEF, CACR, SHEN, DOSO, EVER, SWAN, ROMA, BRIG

Figure D-279: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 11, 2002**
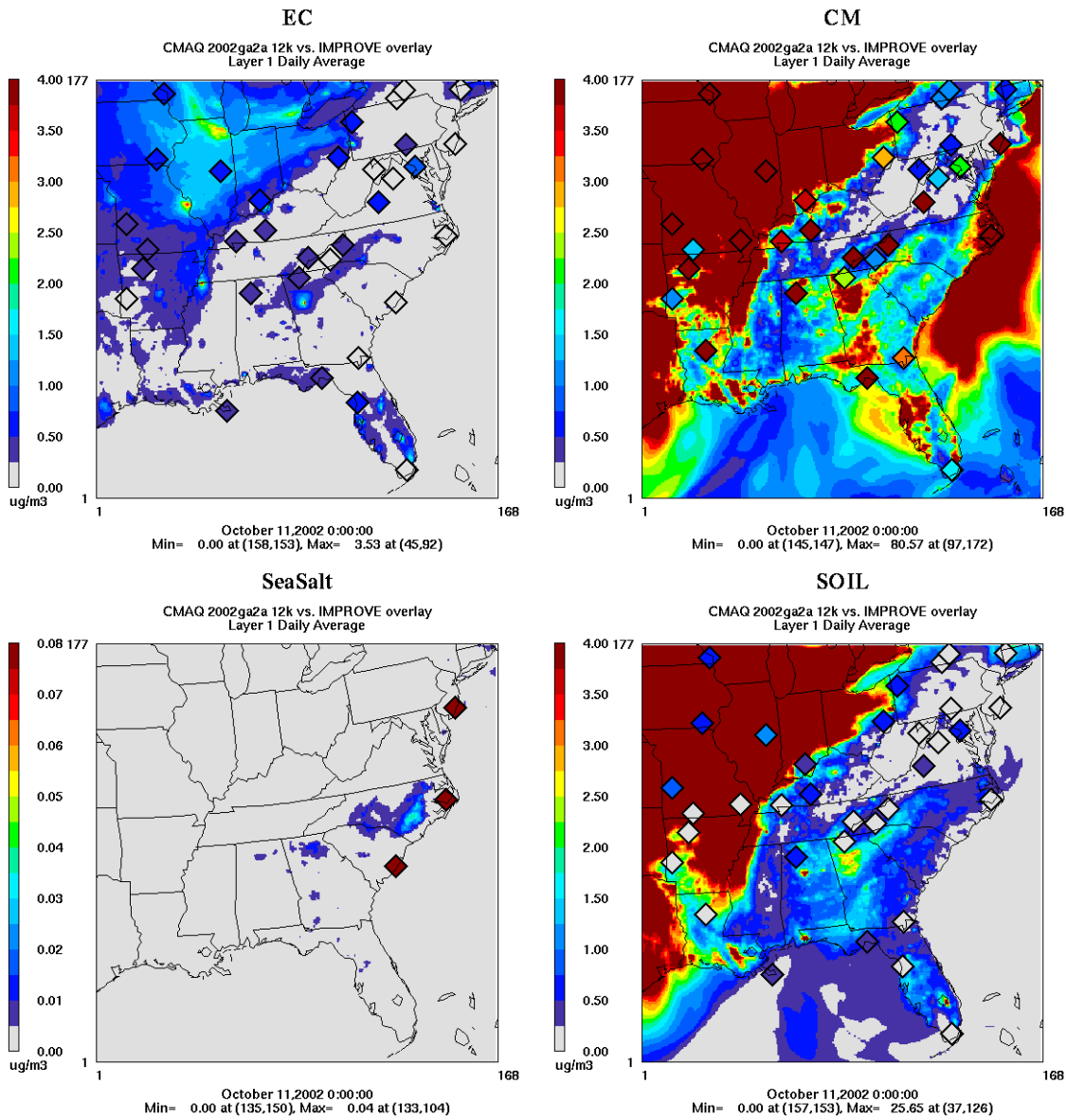
Figure D-280: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 11, 2002
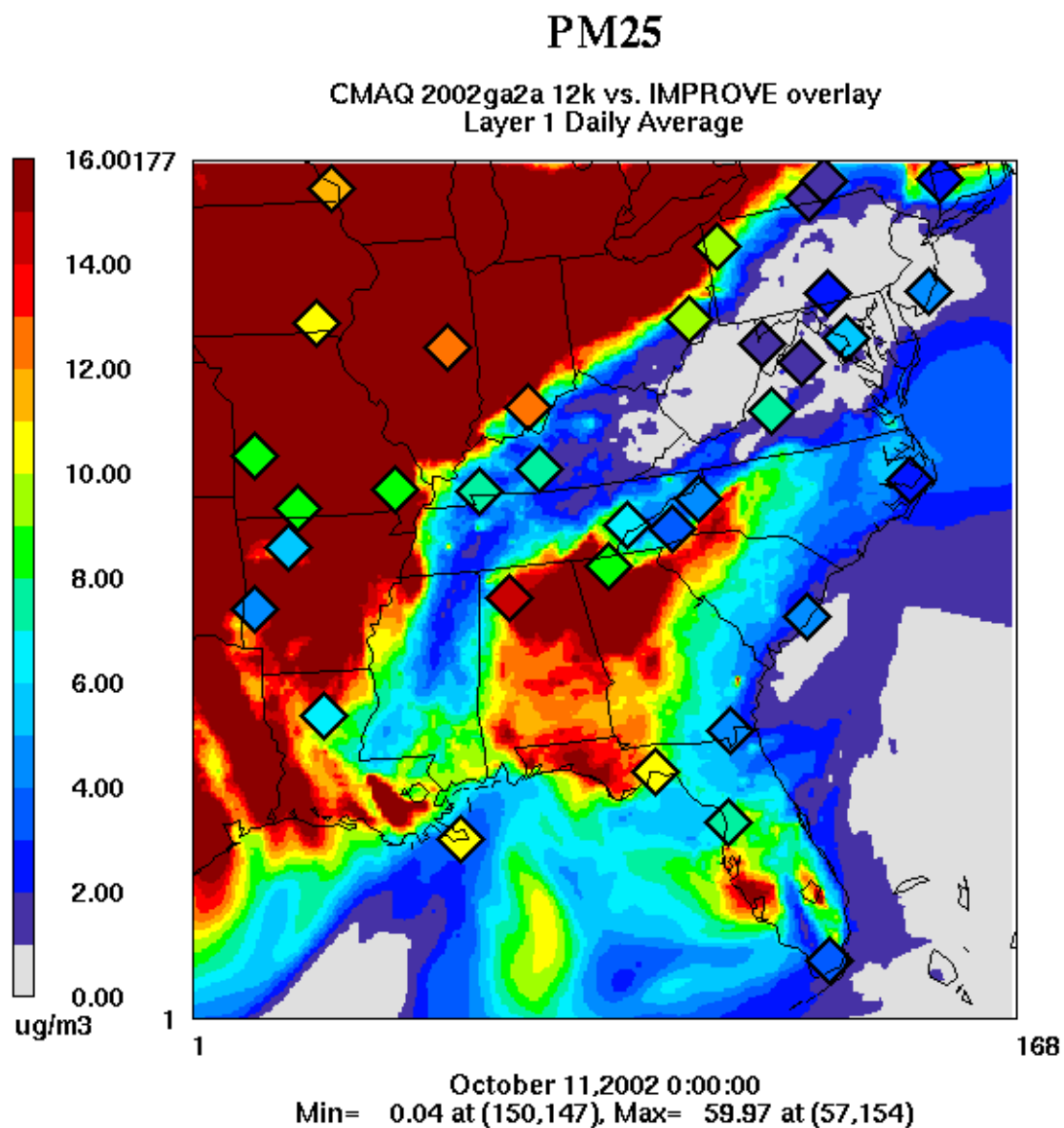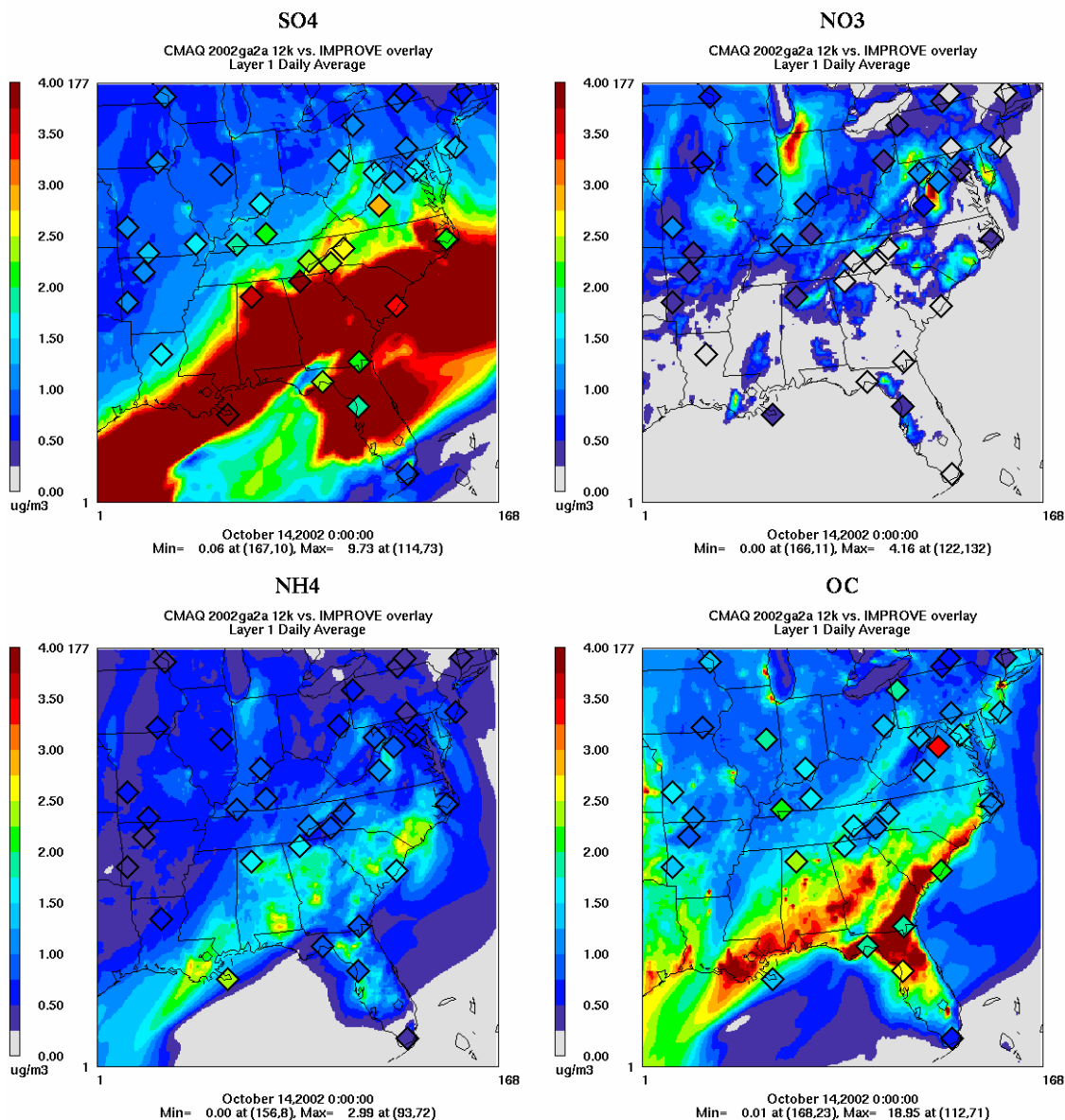
Figure D-281:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 11, 2002

D.94   October 14, 2002

Date	Julian Day	Type	Class I Areas Affected
10/14/02	287	W20%	BRET
10/14/02	287	B20%	CACR, EVER, HEGL, MACA, UPBU, BRIG

Figure D-282: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 14, 2002
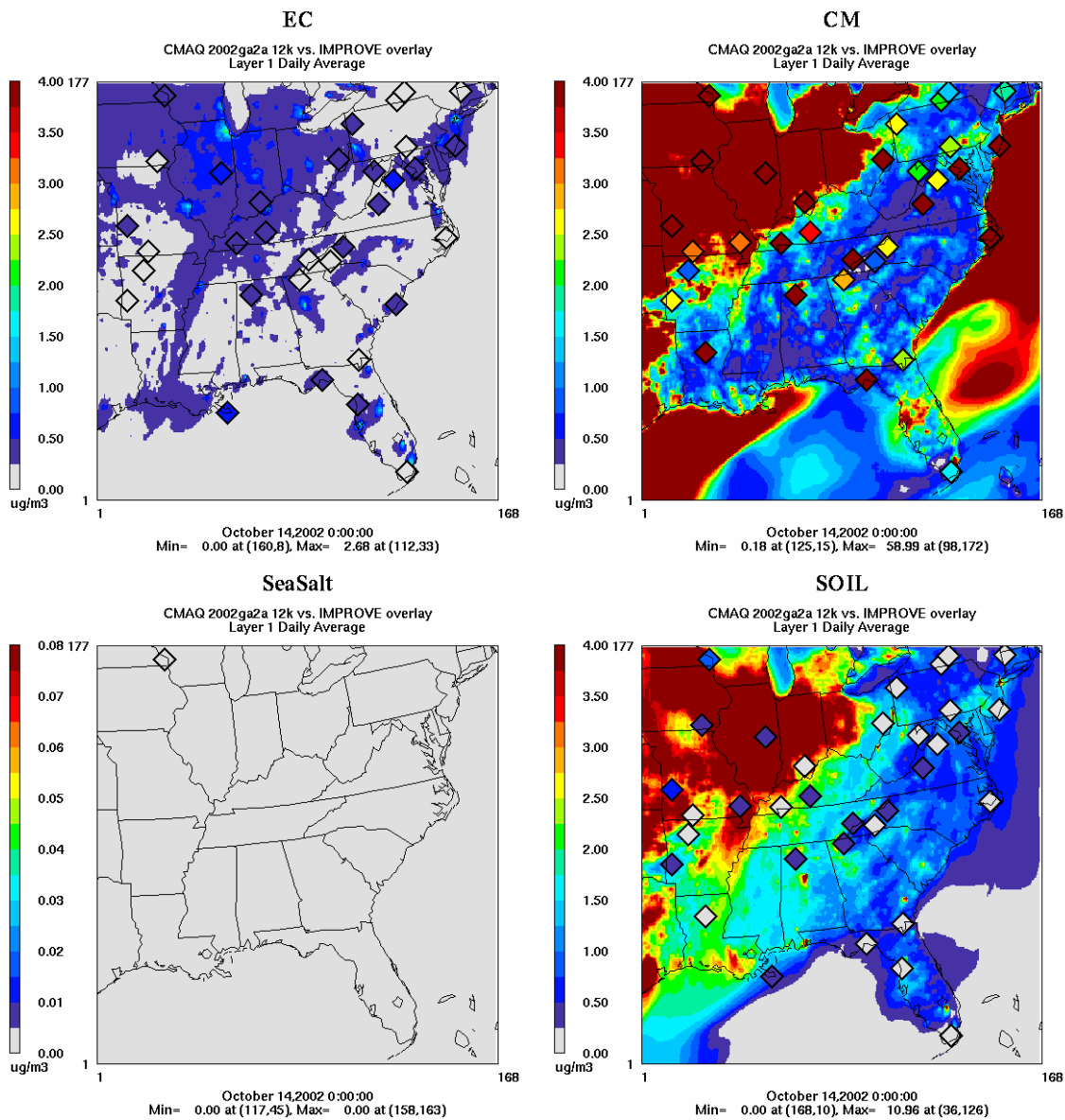
Figure D-283: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 14, 2002
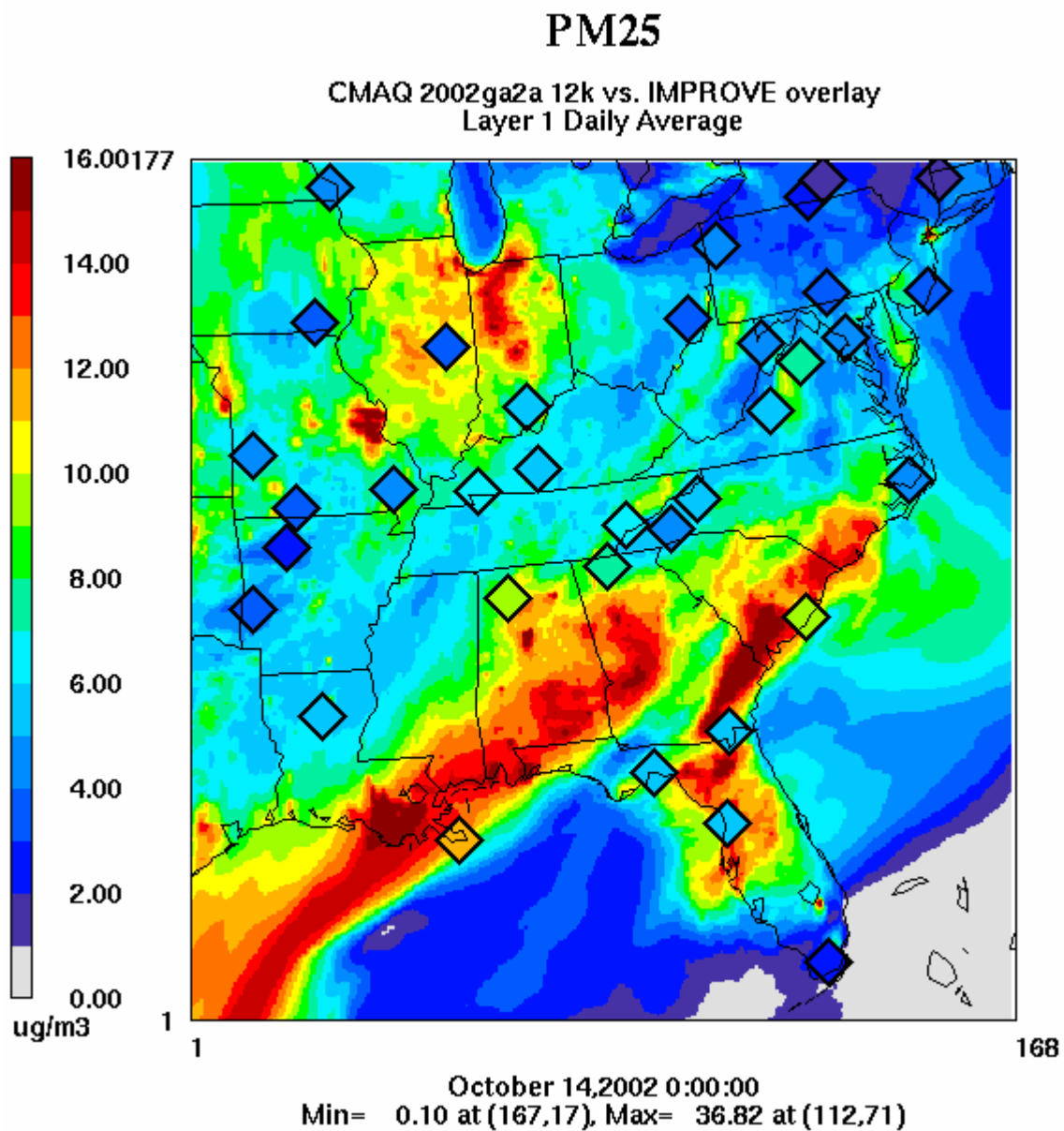
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

October 14,2002 0:00:00
Min= 0.10 at (167,17), Max= 36.82 at (112,71)

Figure D-284:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 14, 2002

D.95   October 17, 2002

Date	Julian Day	Type	Class I Areas Affected
10/17/02	290	W20%	SAMA, CHAS, EVER
10/17/02	290	B20%	SWAN, HEGL, UPBU, MING
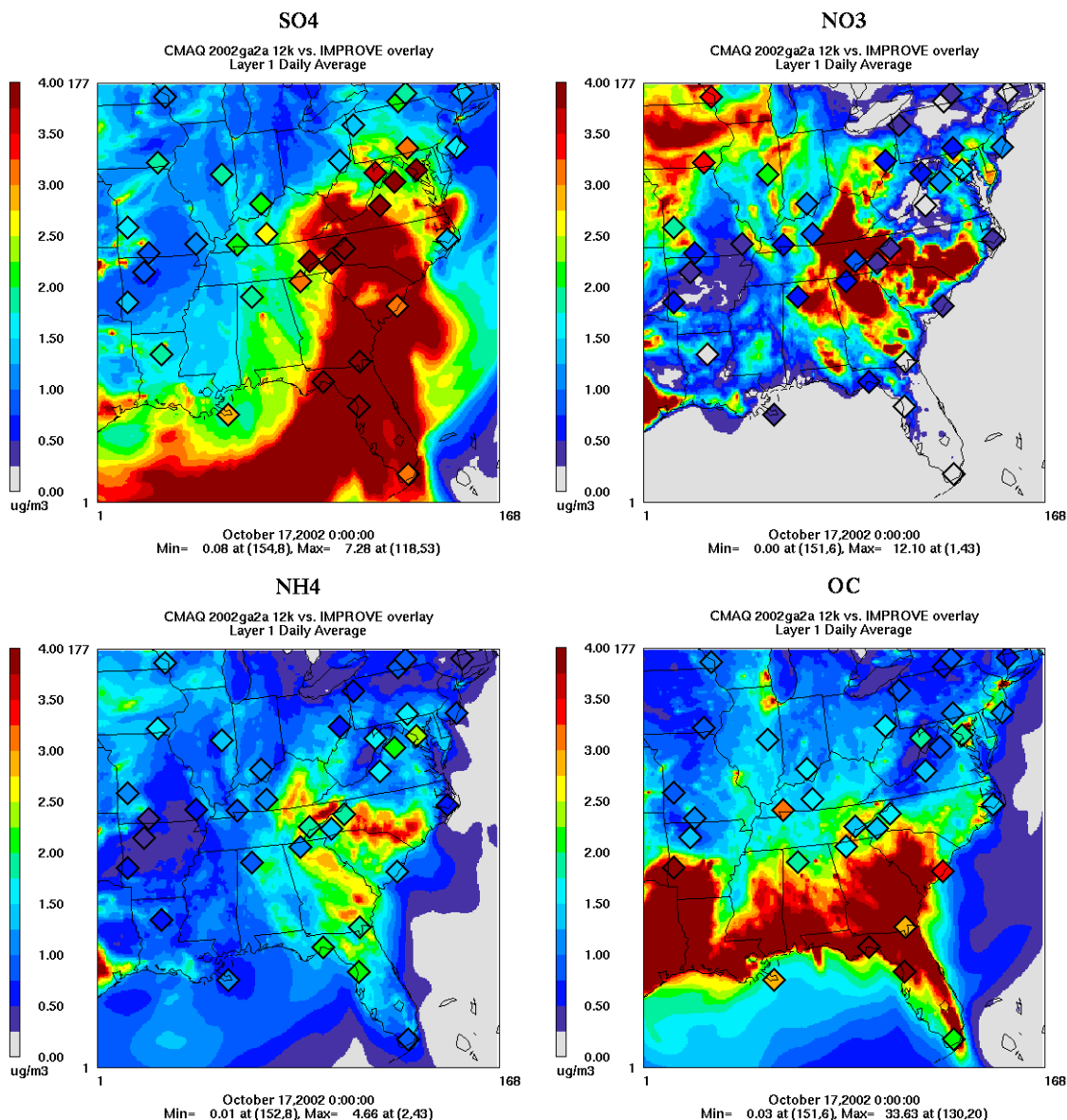
Figure D-285: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 17, 2002
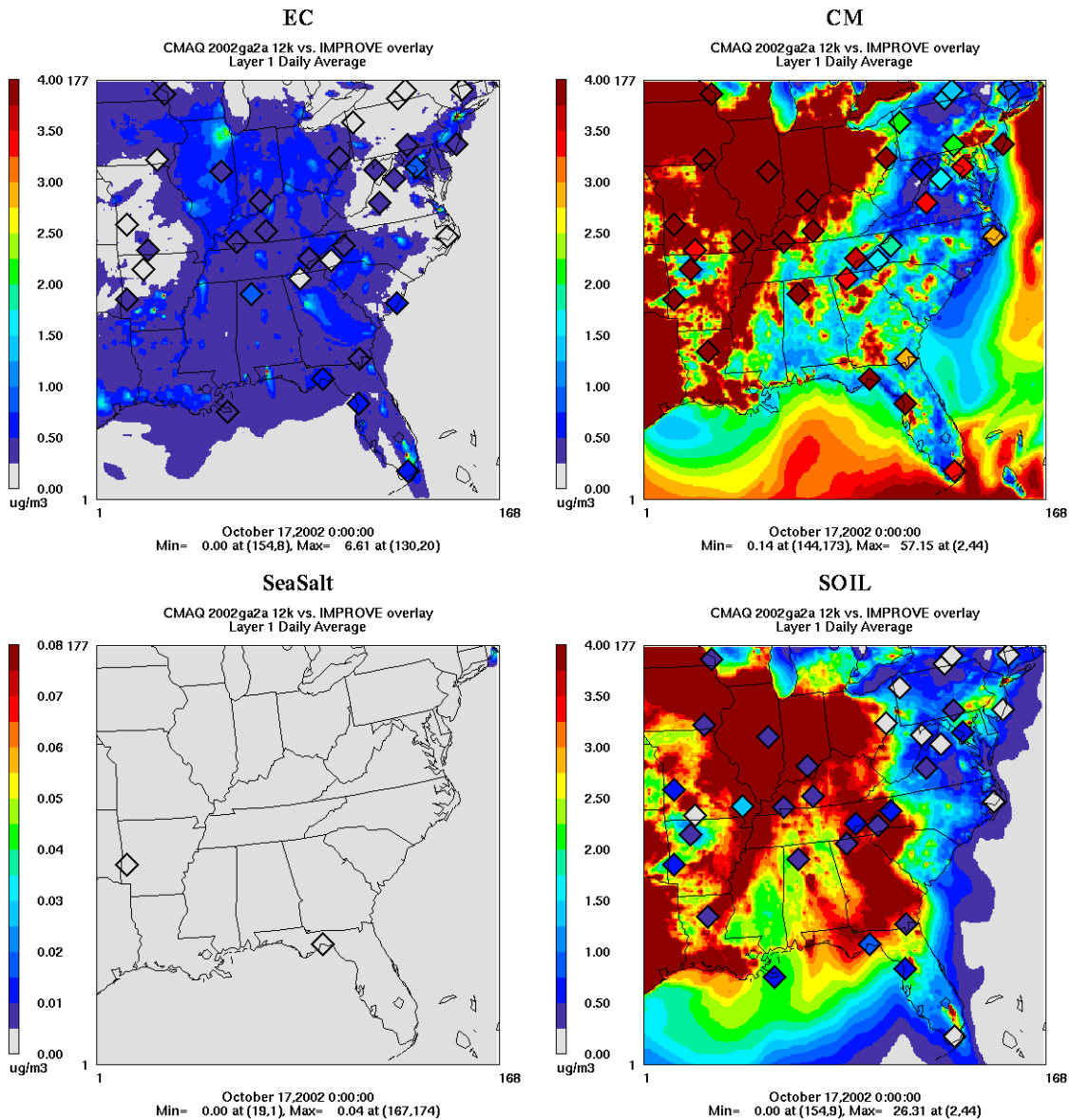
Figure D-286: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 17, 2002
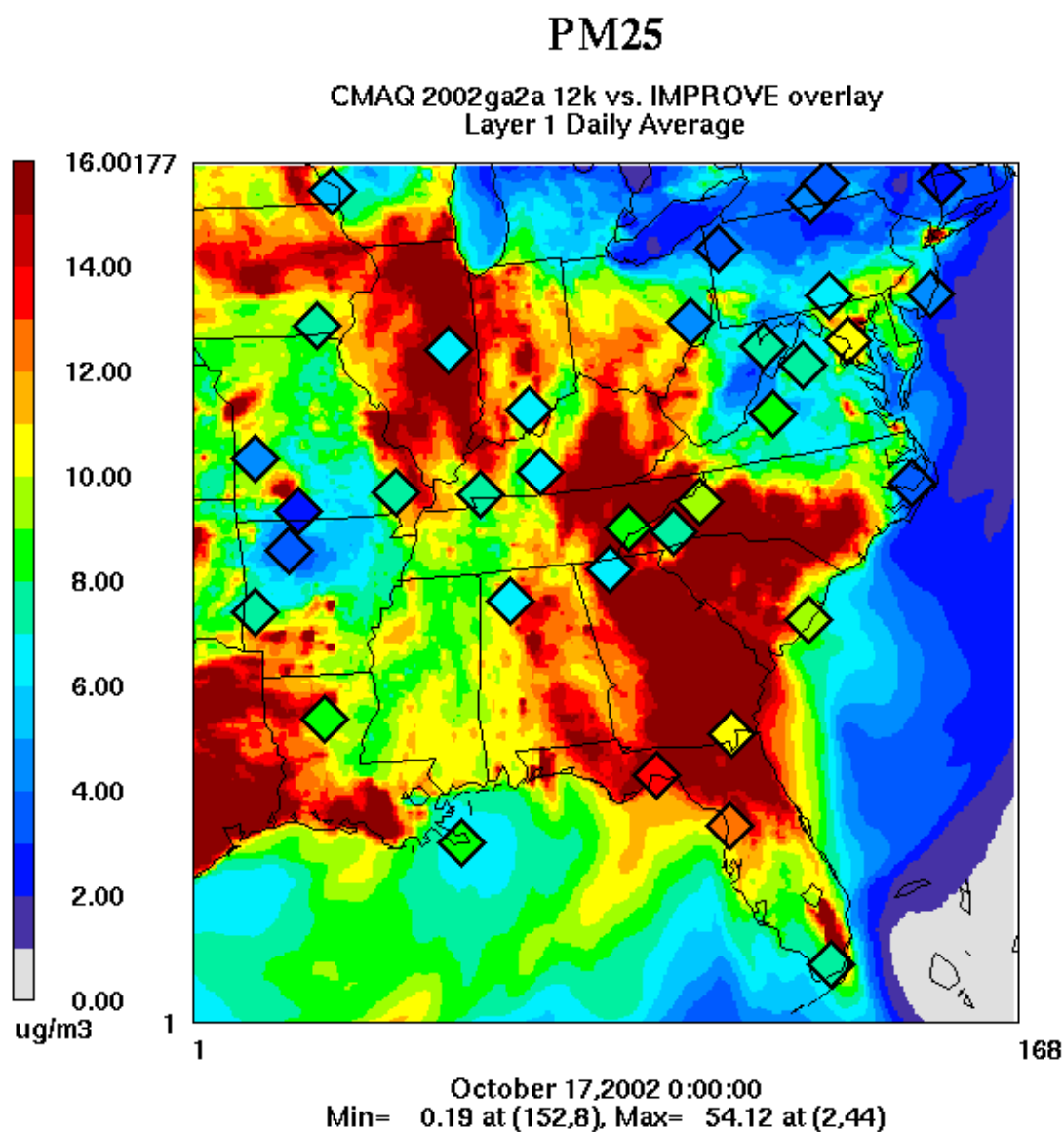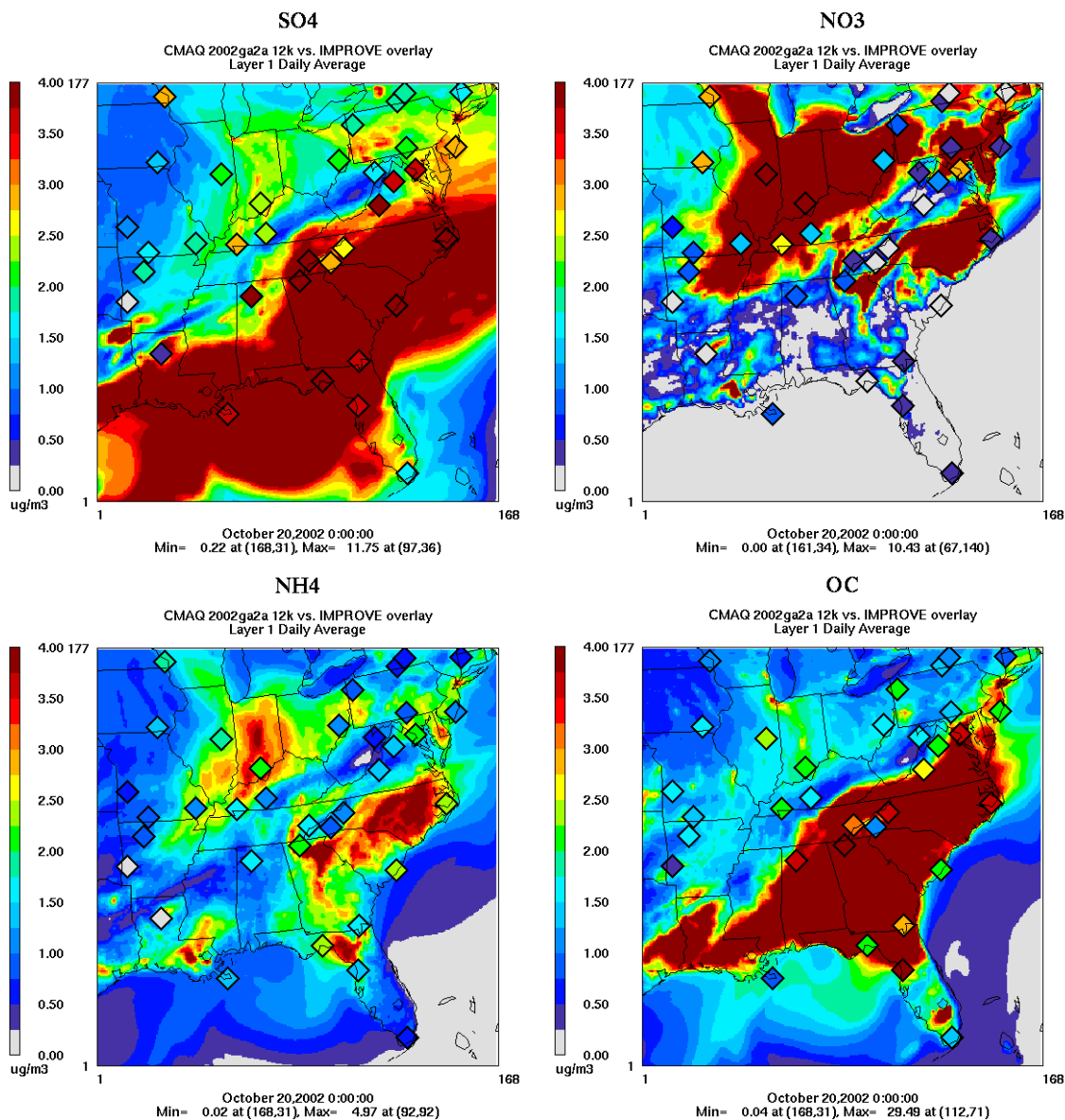
Figure D-287:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 17, 2002

D.96 October 20, 2002

Date	Julian Day	Type	Class I Areas Affected
10/20/02	293	W20%	SAMA, SWAN, ROMA
10/20/02	293	B20%	CACR, DOSO

Figure D-288: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 20, 2002
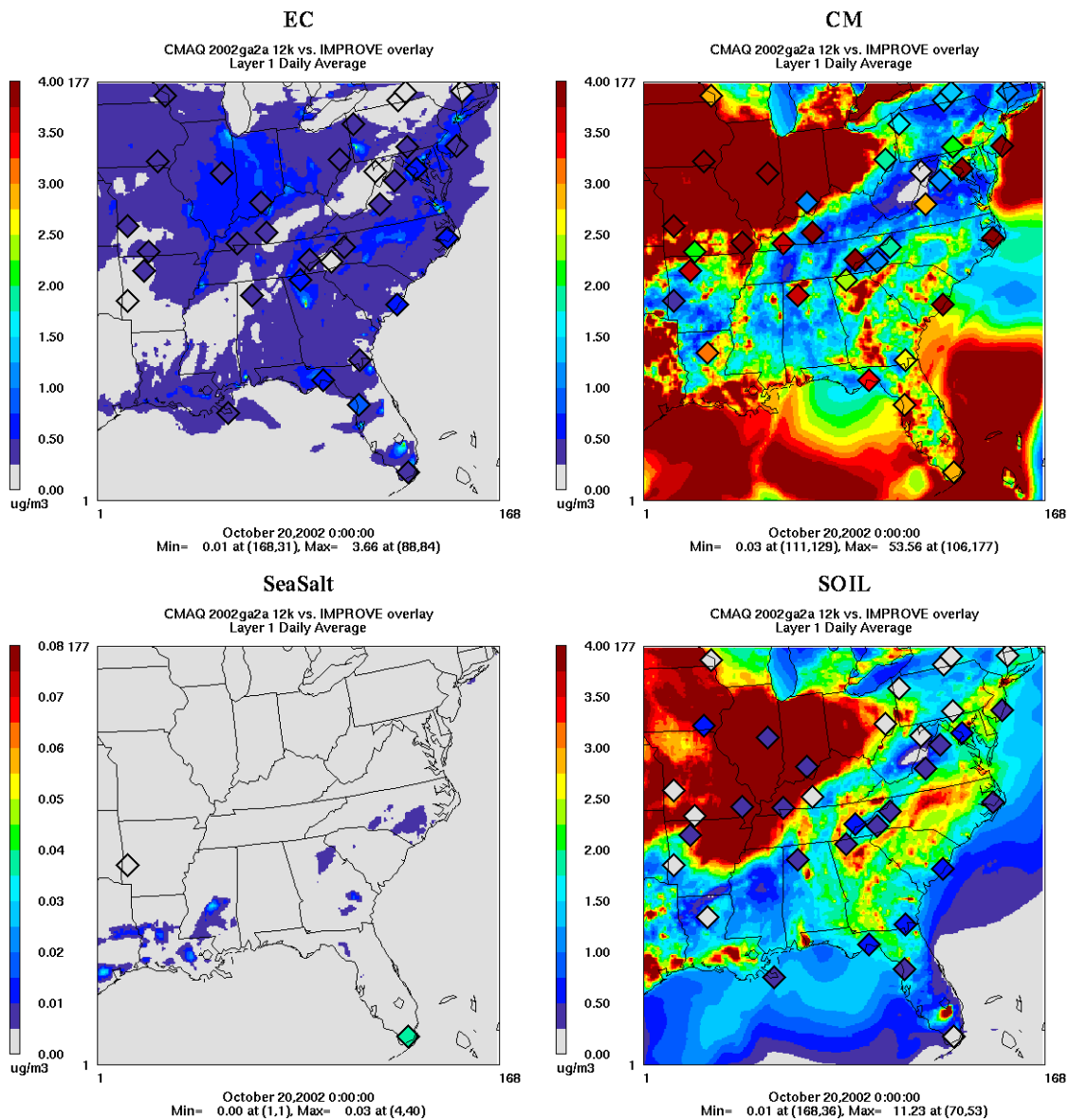
Figure D-289: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 20, 2002
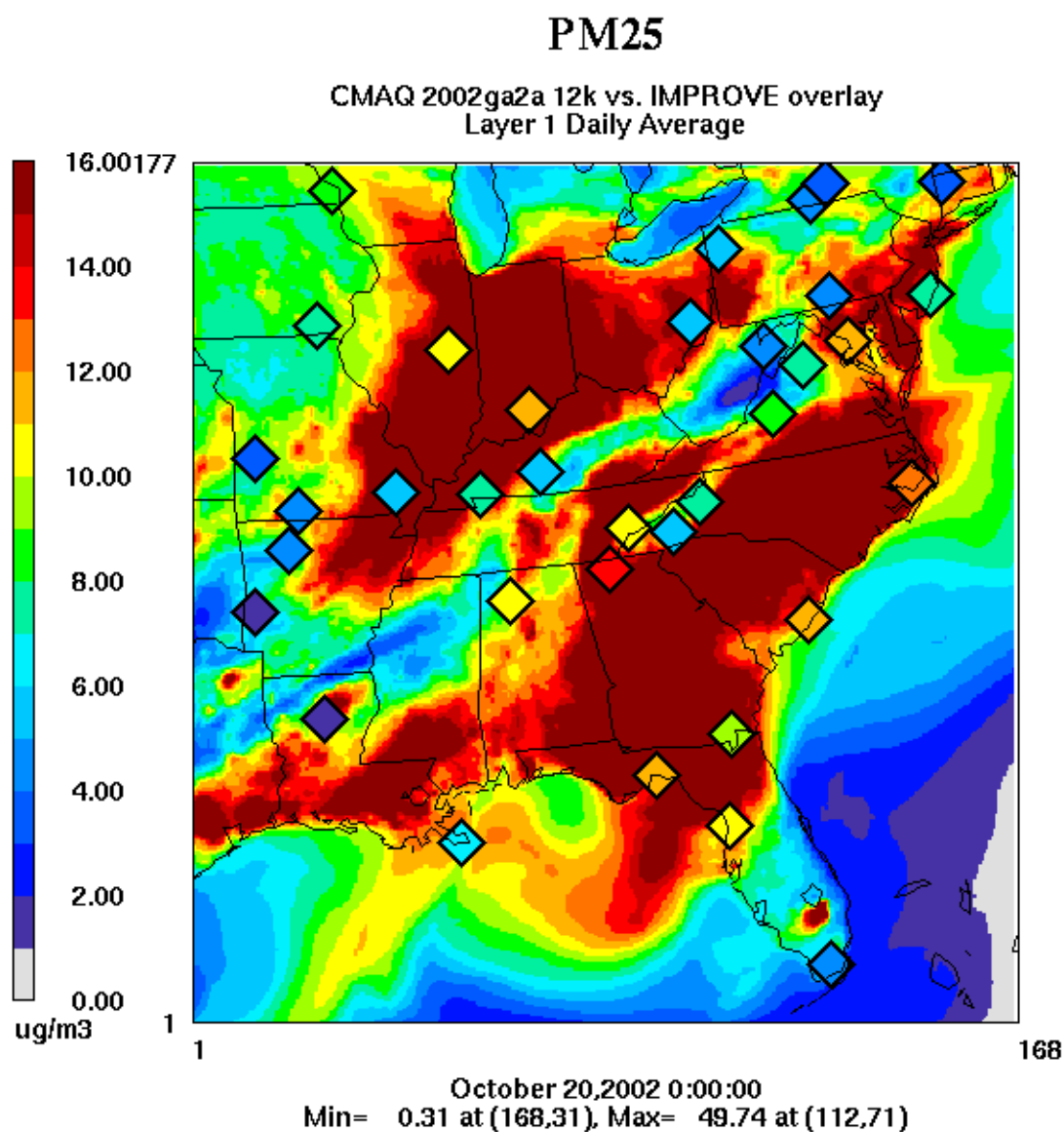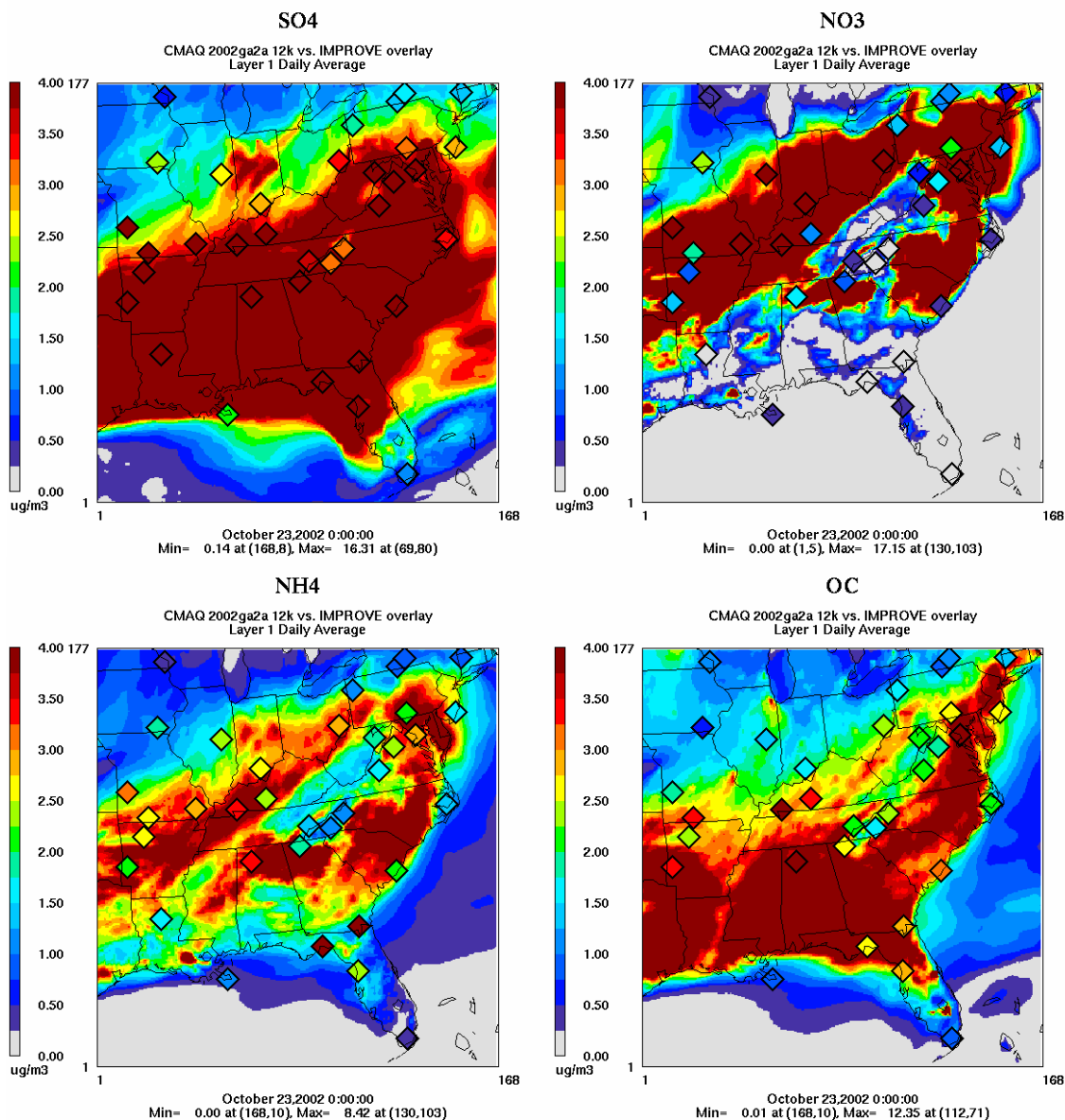
Figure D-290: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 20, 2002

D.97 October 23, 2002

Date	Julian Day	Type	Class I Areas Affected
10/23/02	296	W20%	SIPS, SAMA, OKEF, CACR, CHAS, HEGL, ROMA, UPBU, MING
10/23/02	296	B20%	EVER

Figure D-291: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 23, 2002
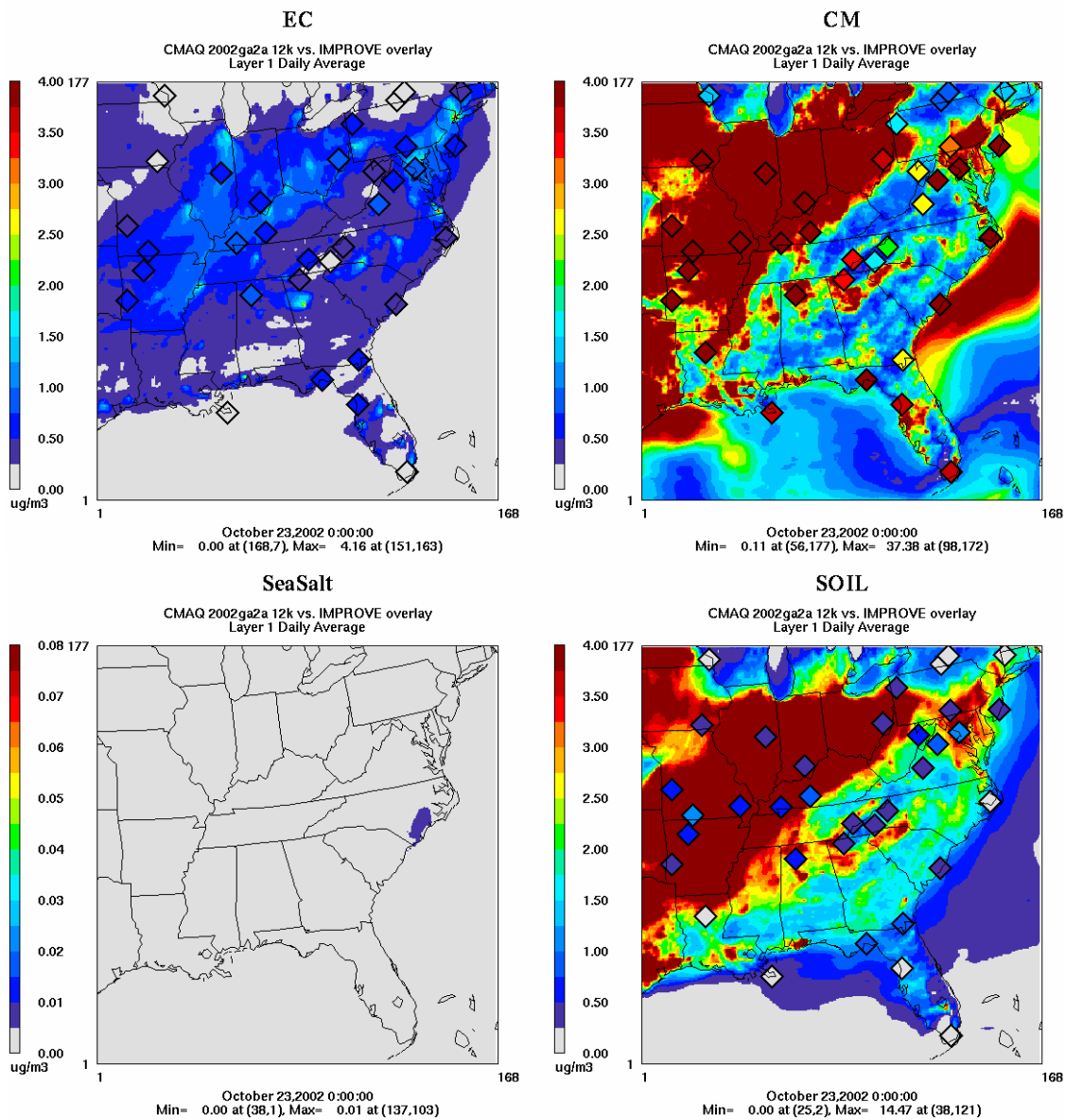
Figure D-292: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 23, 2002
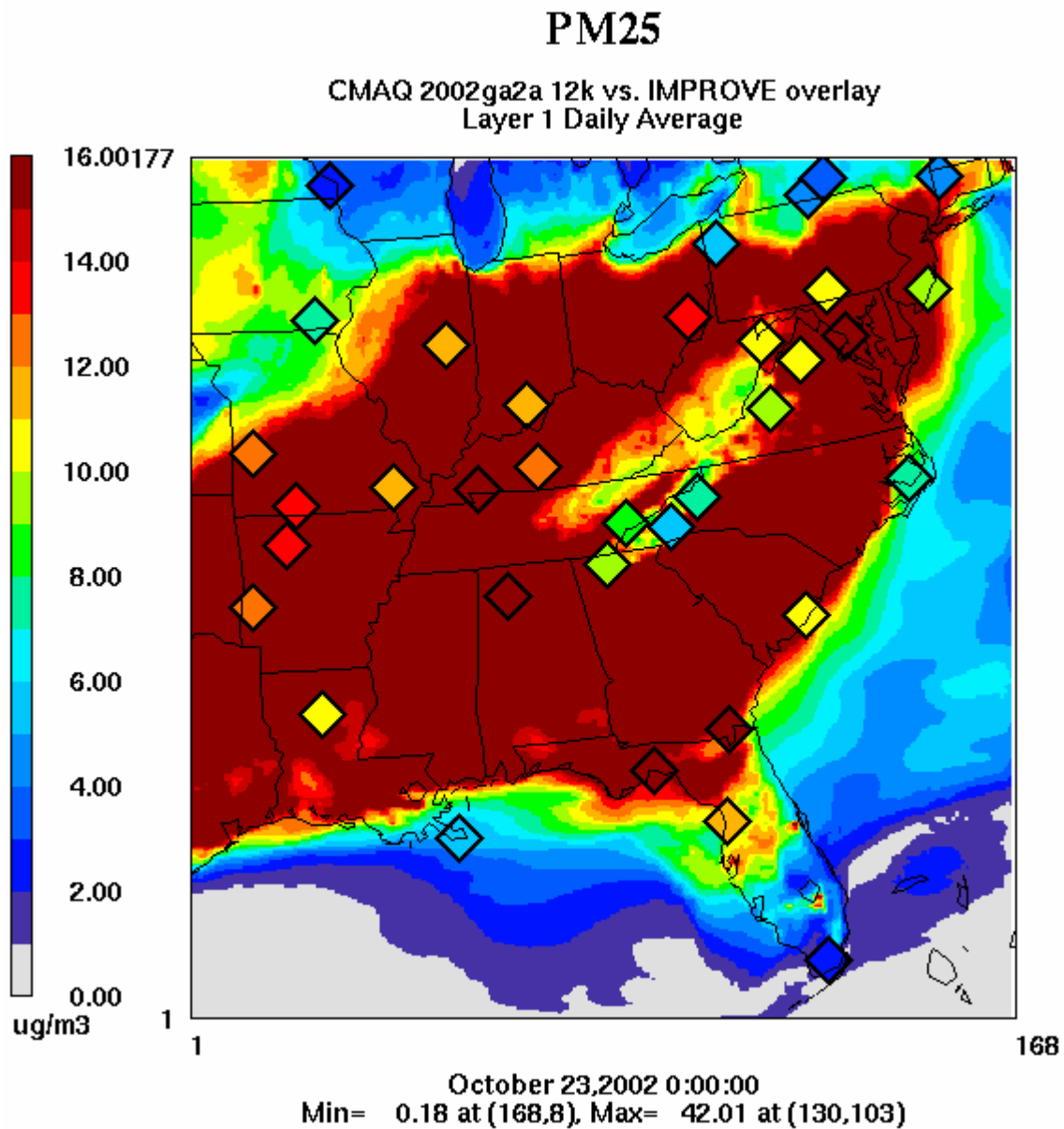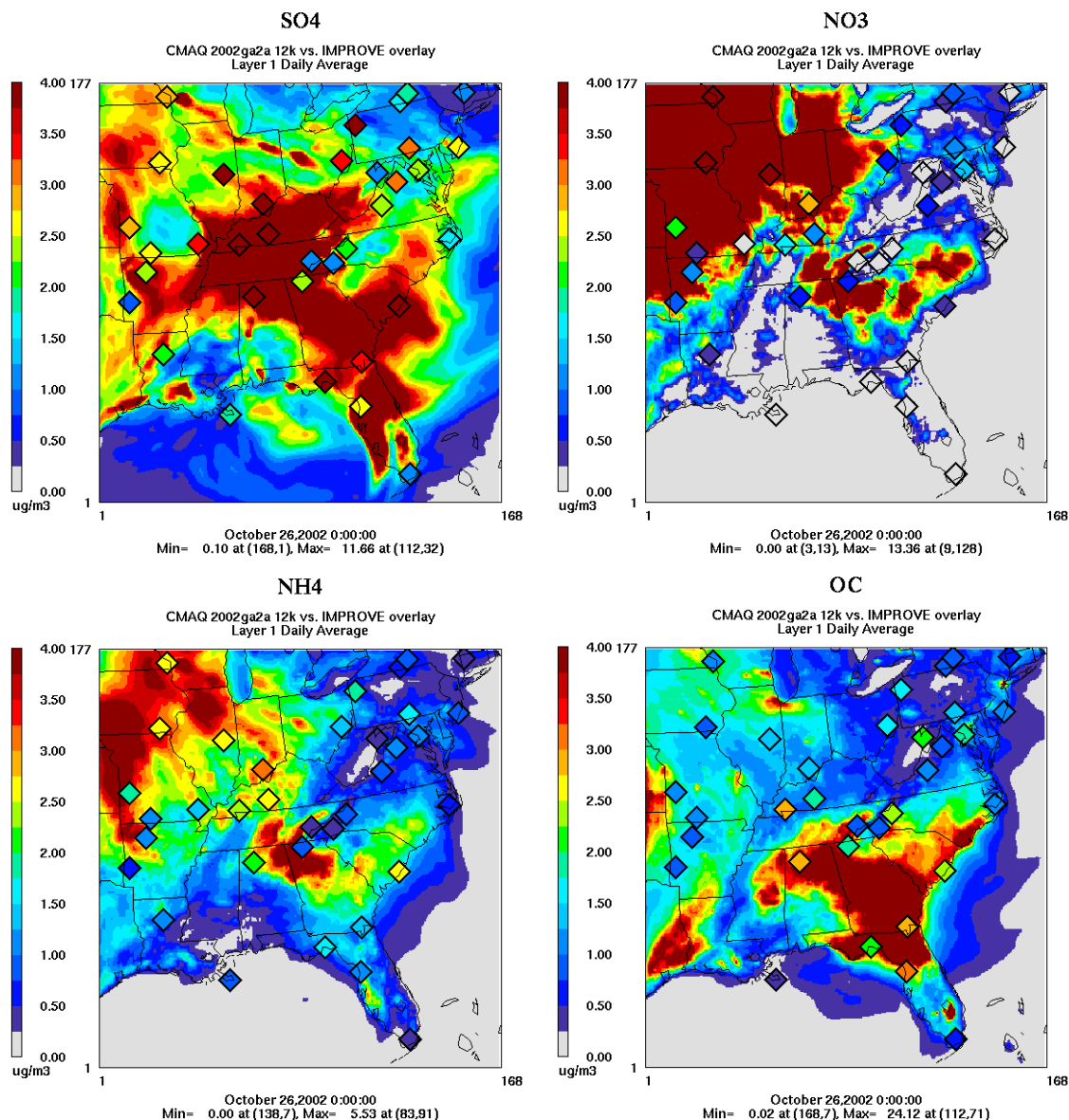
Figure D-293:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 23, 2002

D.98 October 26, 2002

Date	Julian Day	Type	Class I Areas Affected
10/26/02	299	W20%	ROMA
10/26/02	299	B20%	SHRO, GRSM, JARI, CACR, BRET, DOSO, EVER

Figure D-294:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 26, 2002
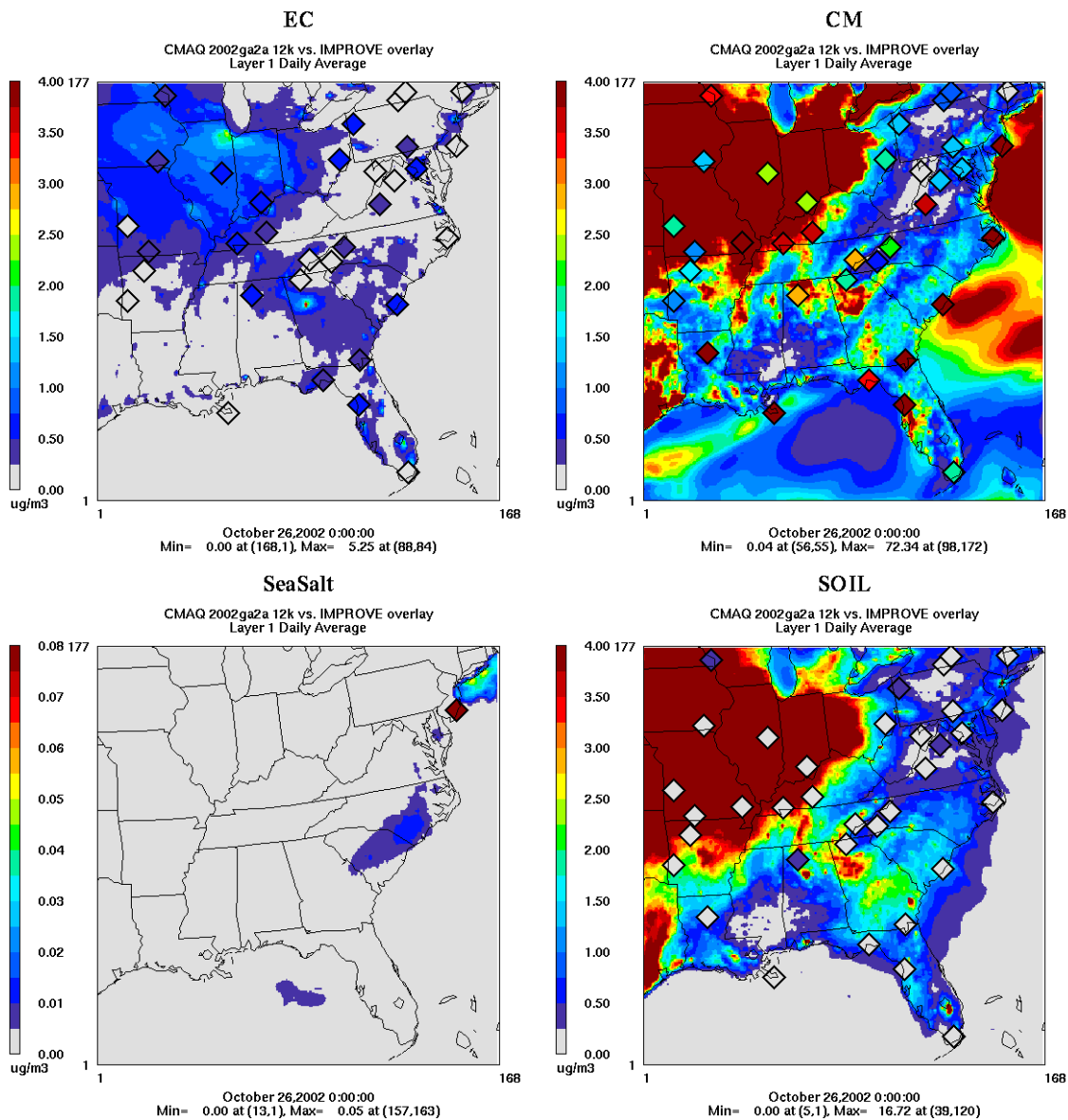
Figure D-295: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 26, 2002
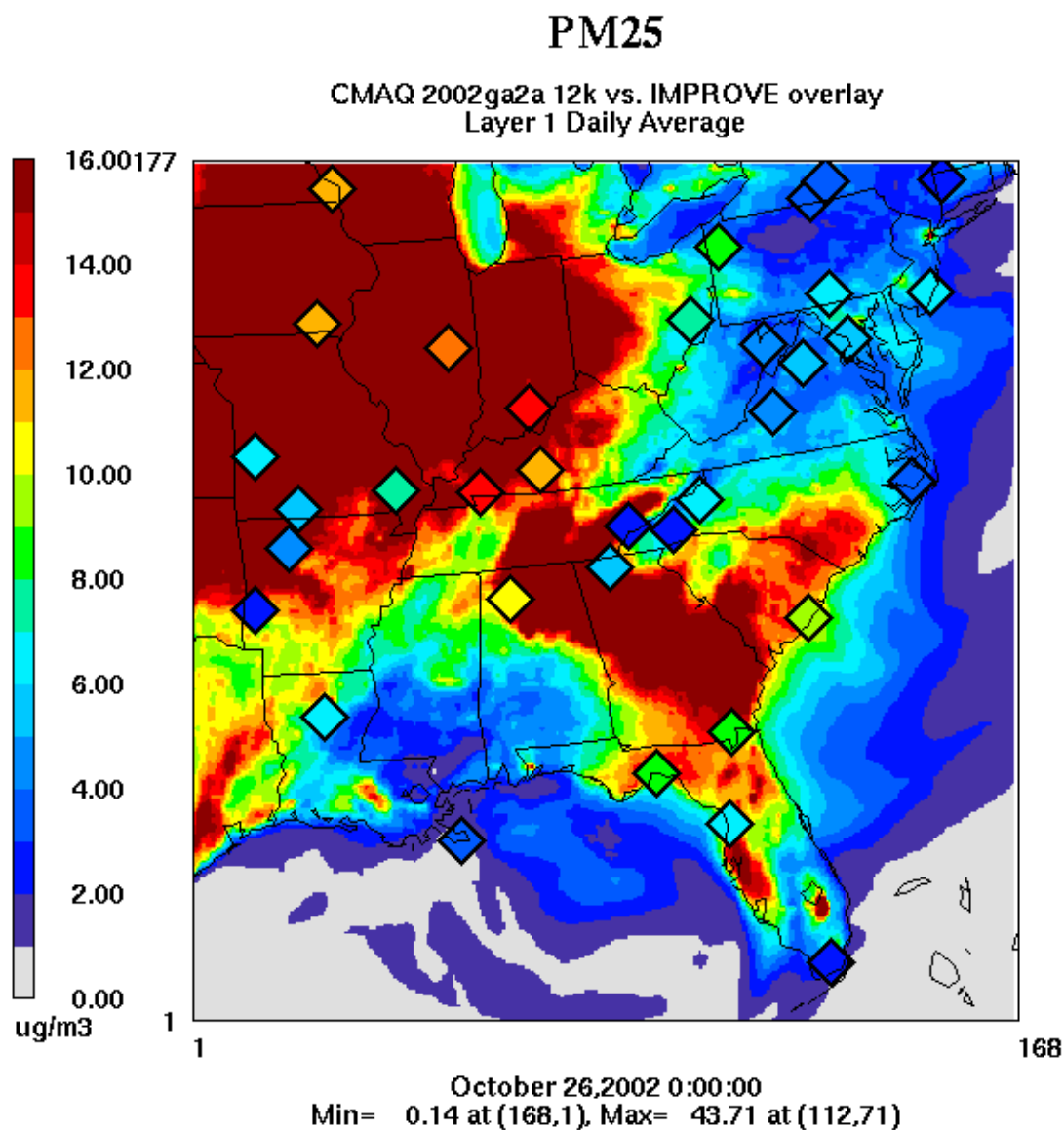
Figure D-296:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 26, 2002

D.99 October 29, 2002

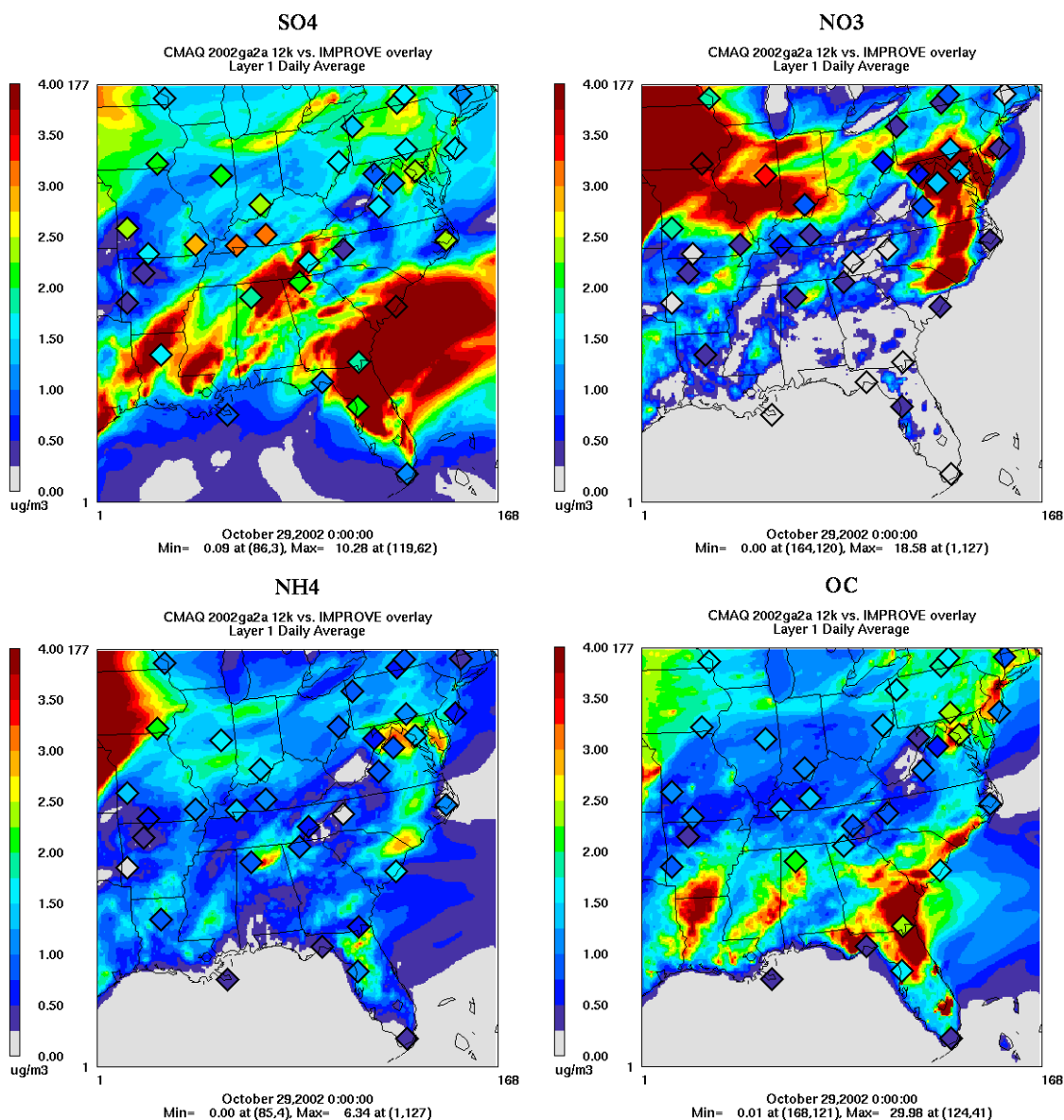| Date	Julian Day	Type	Class I Areas Affected
10/29/02	302	W20%	
10/29/02	302	B20%	LIGO, SHRO, GRSM, JARI, SIPS, SAMA, CACR, BRET, DOSO, EVER, HEGL, MACA, UPBU, MING, BRIG

Figure D-297: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component

Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For October 29, 2002
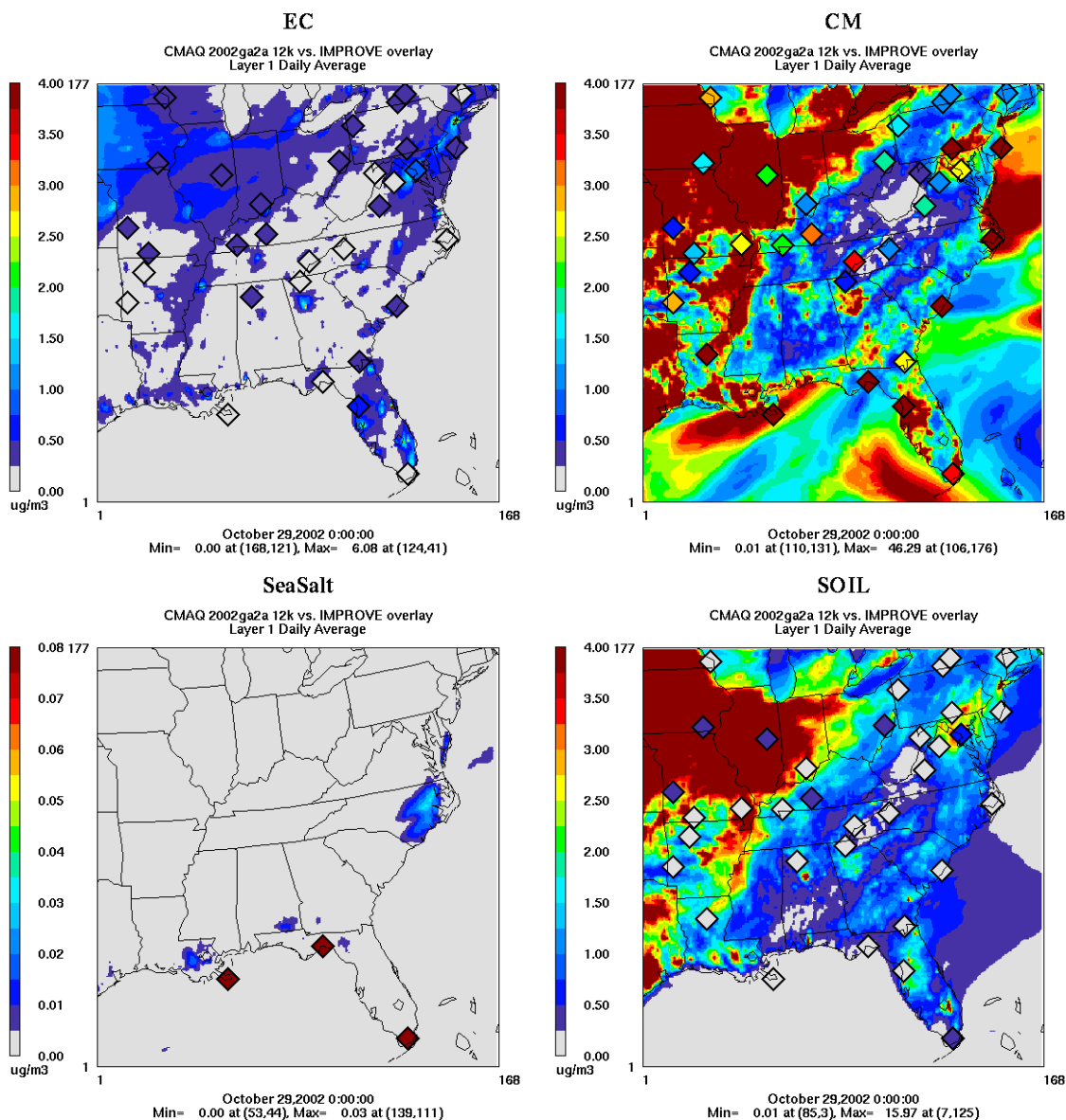

Figure D-298: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For October 29, 2002
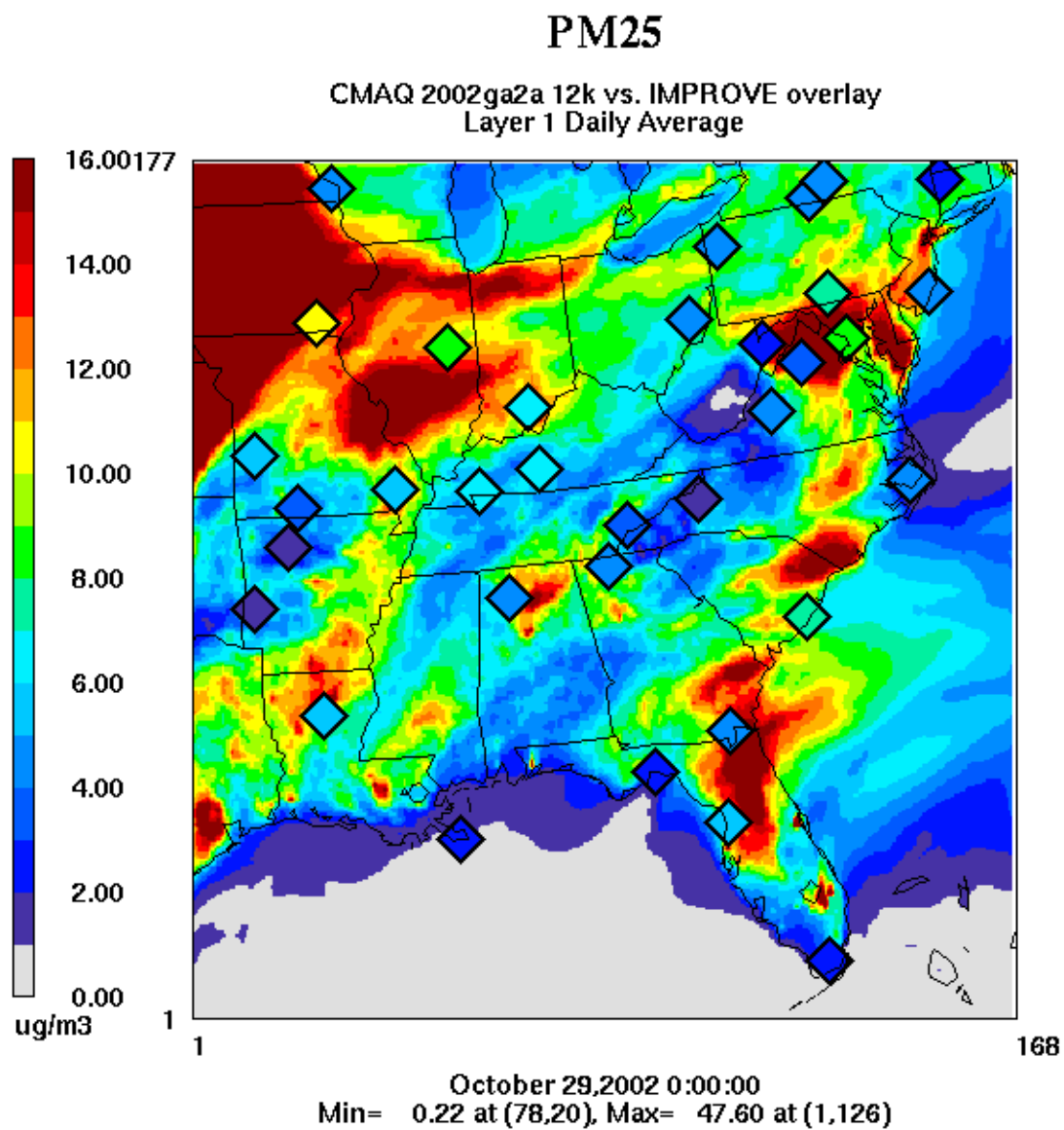
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

October 29,2002 0:00:00
Min= 0.22 at (78,20), Max= 47.60 at (1,126)

Figure D-299:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For October 29, 2002

D.100 November 1, 2002

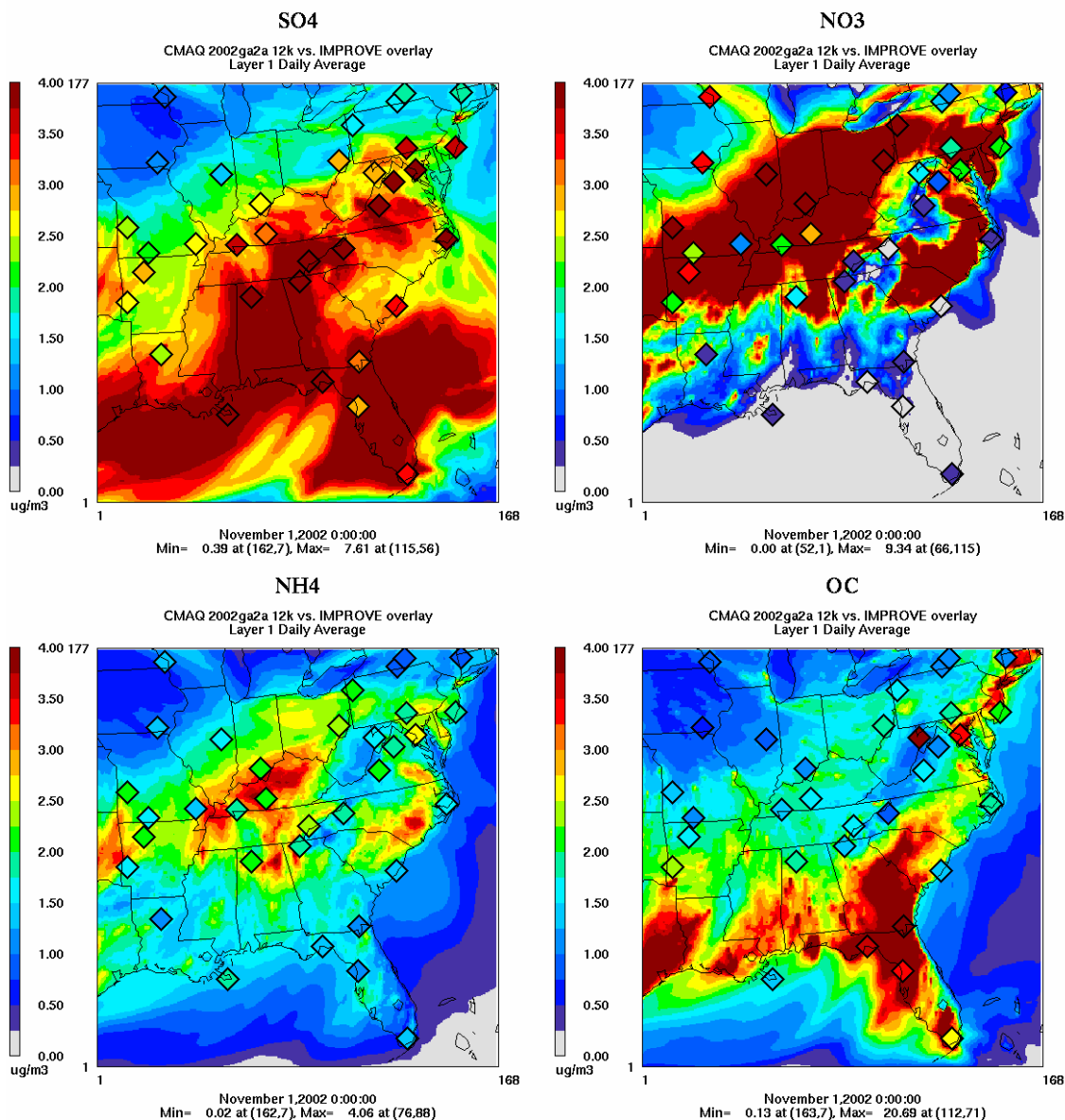| Date	Julian Day	Type	Class I Areas Affected
11/01/02	305	W20%	BRET, EVER
11/01/02	305	B20%	

Figure D-300: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 1, 2002
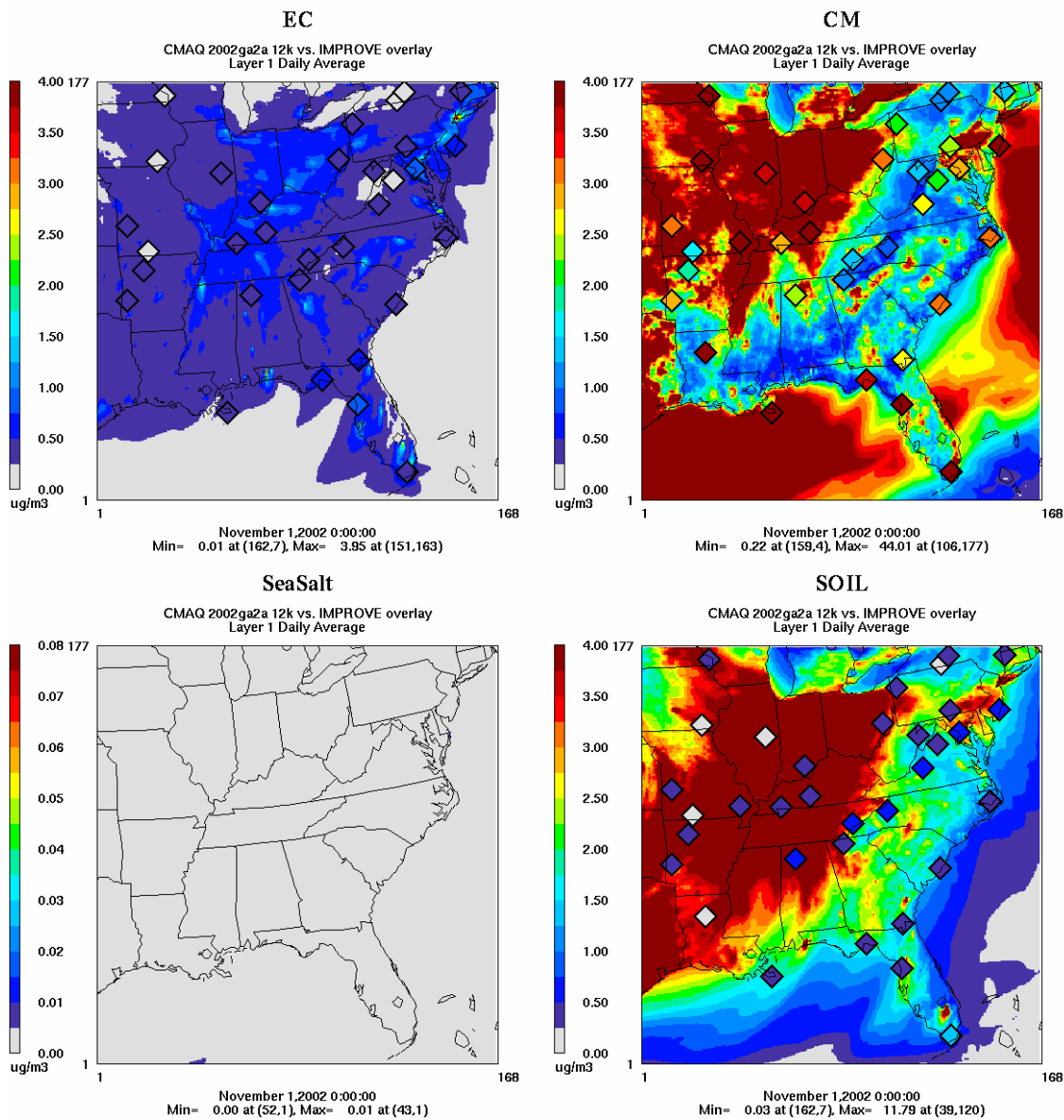
Figure D-301:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 1, 2002

PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

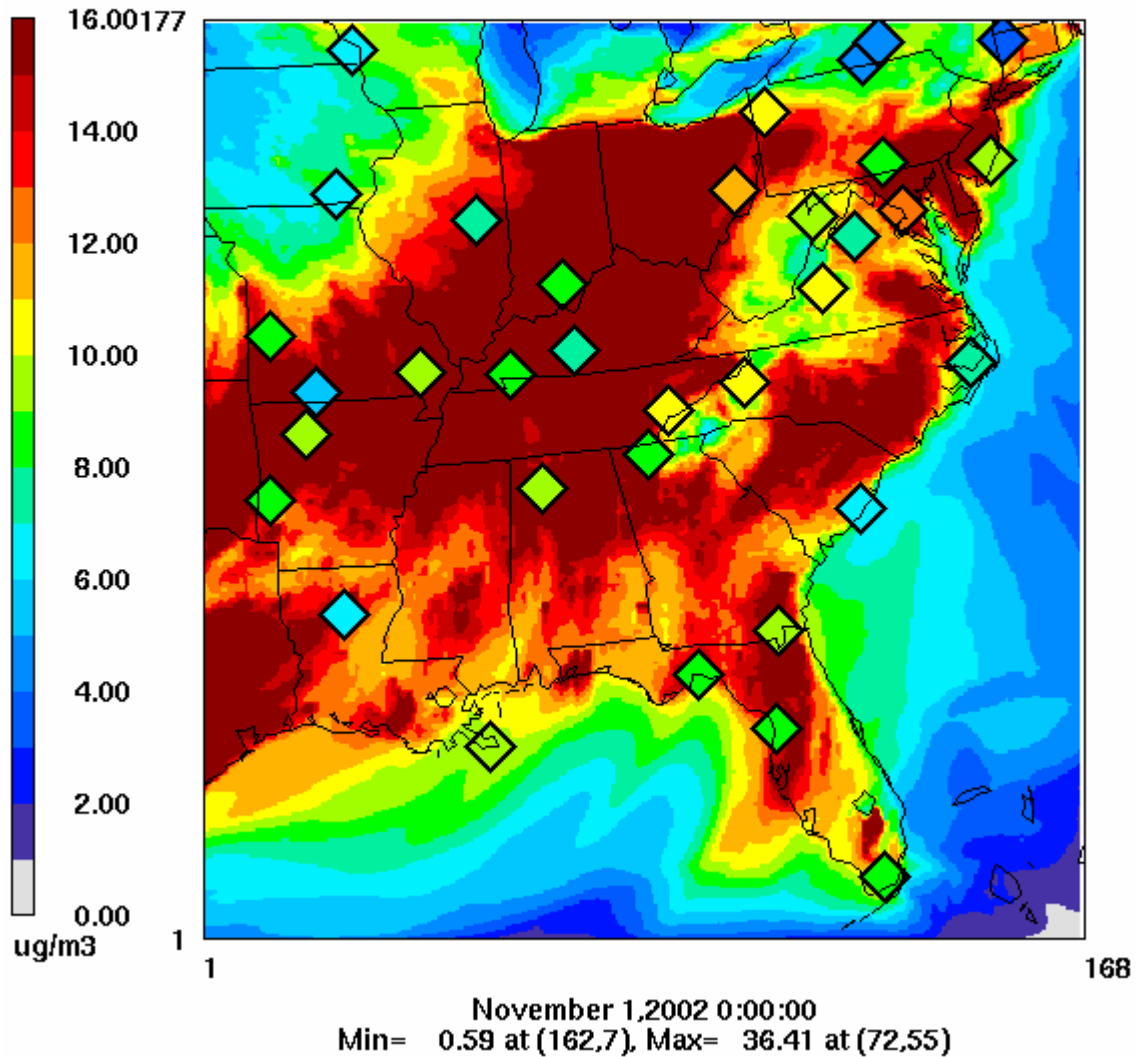November 1,2002 0:00:00
Min= 0.59 at (162,7), Max= 36.41 at (72,55)

Figure D-302:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 1, 2002

D.101 November 4, 2002

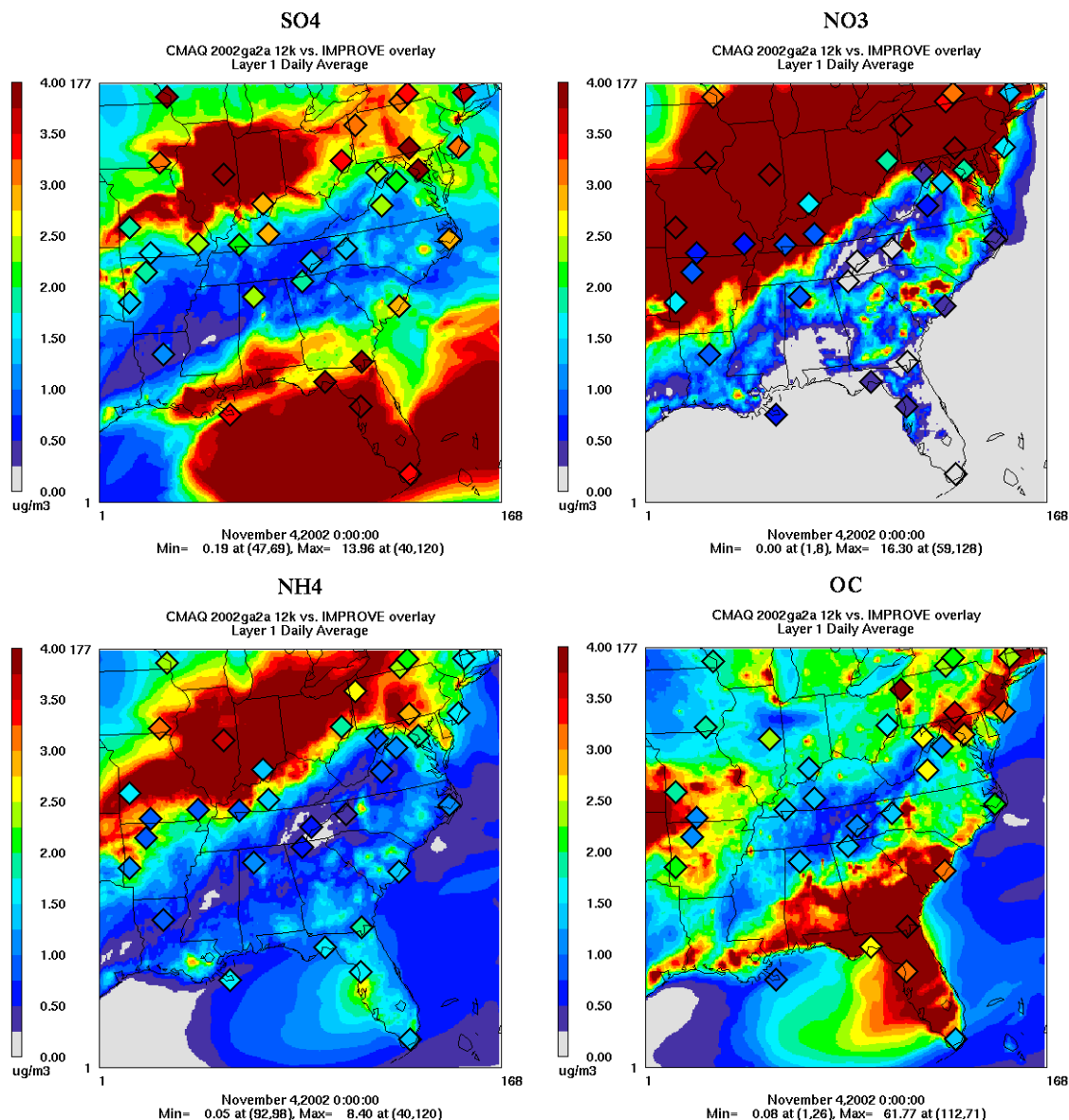| Date	Julian Day	Type	Class I Areas Affected
11/04/02	308	W20%	OKEF
11/04/02	308	B20%	LIGO, SHRO, GRSM, SIPS, HEGL, COHU, MACA, MING

Figure D-303: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 4, 2002
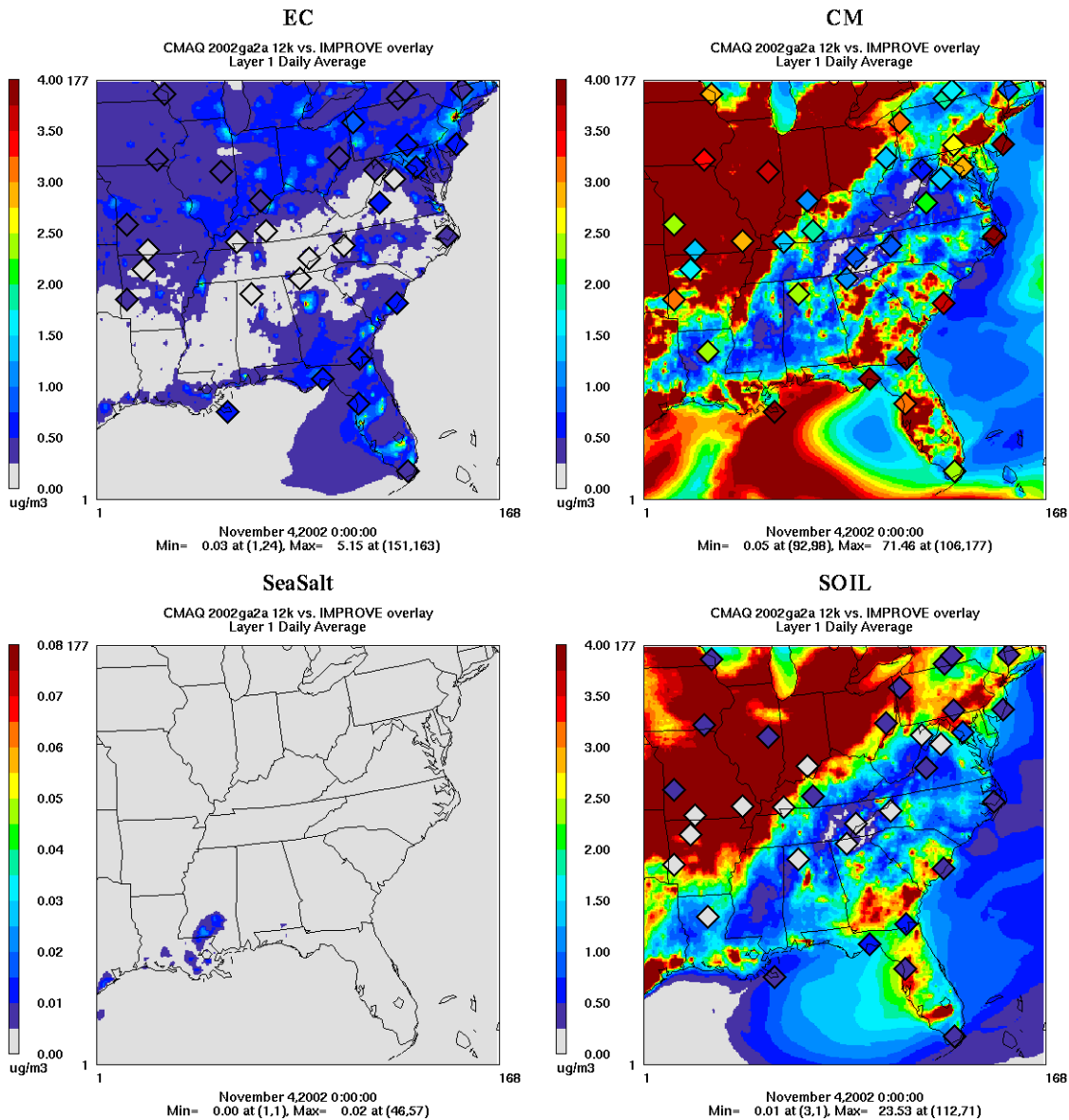
Figure D-304: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 4, 2002
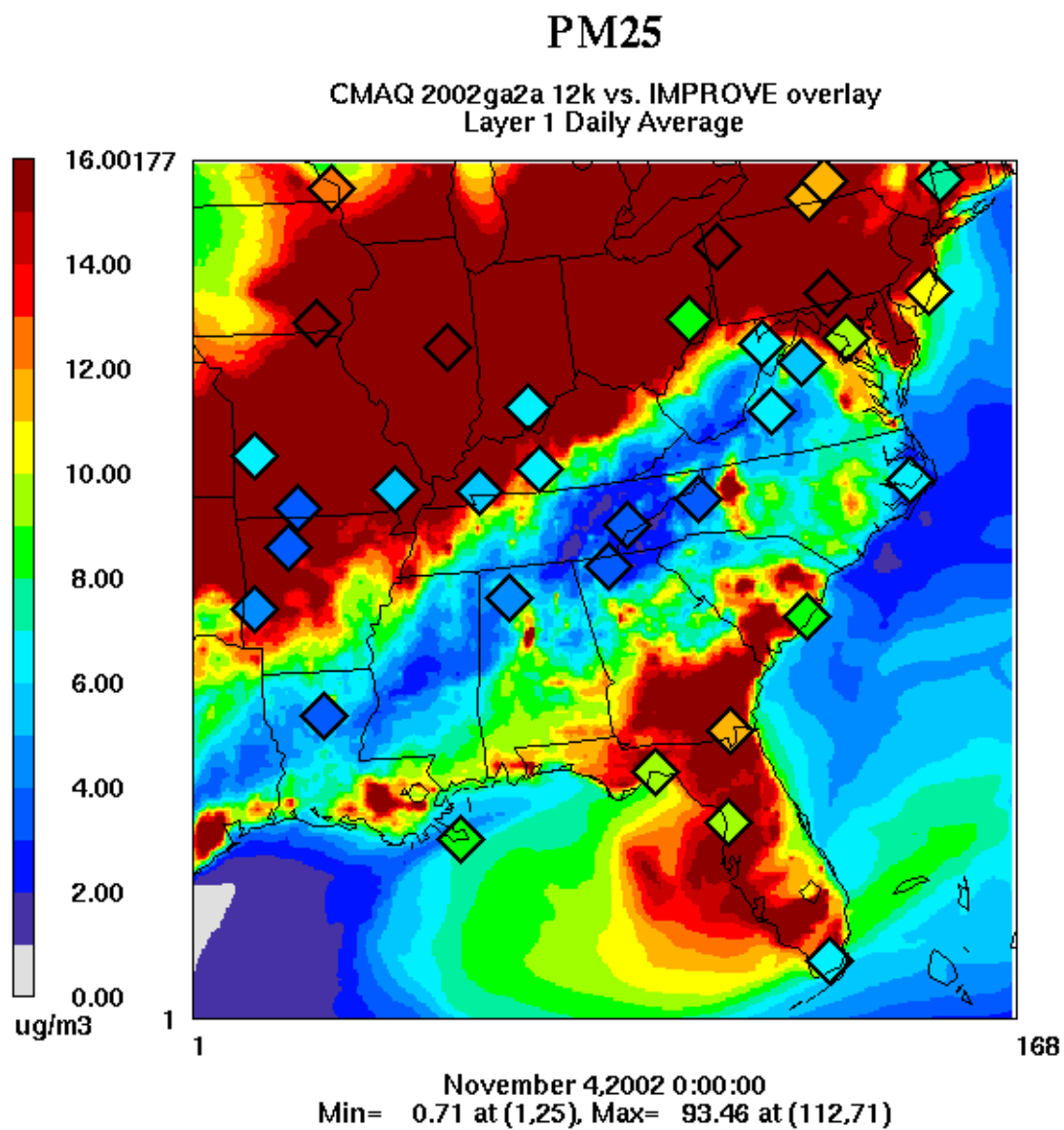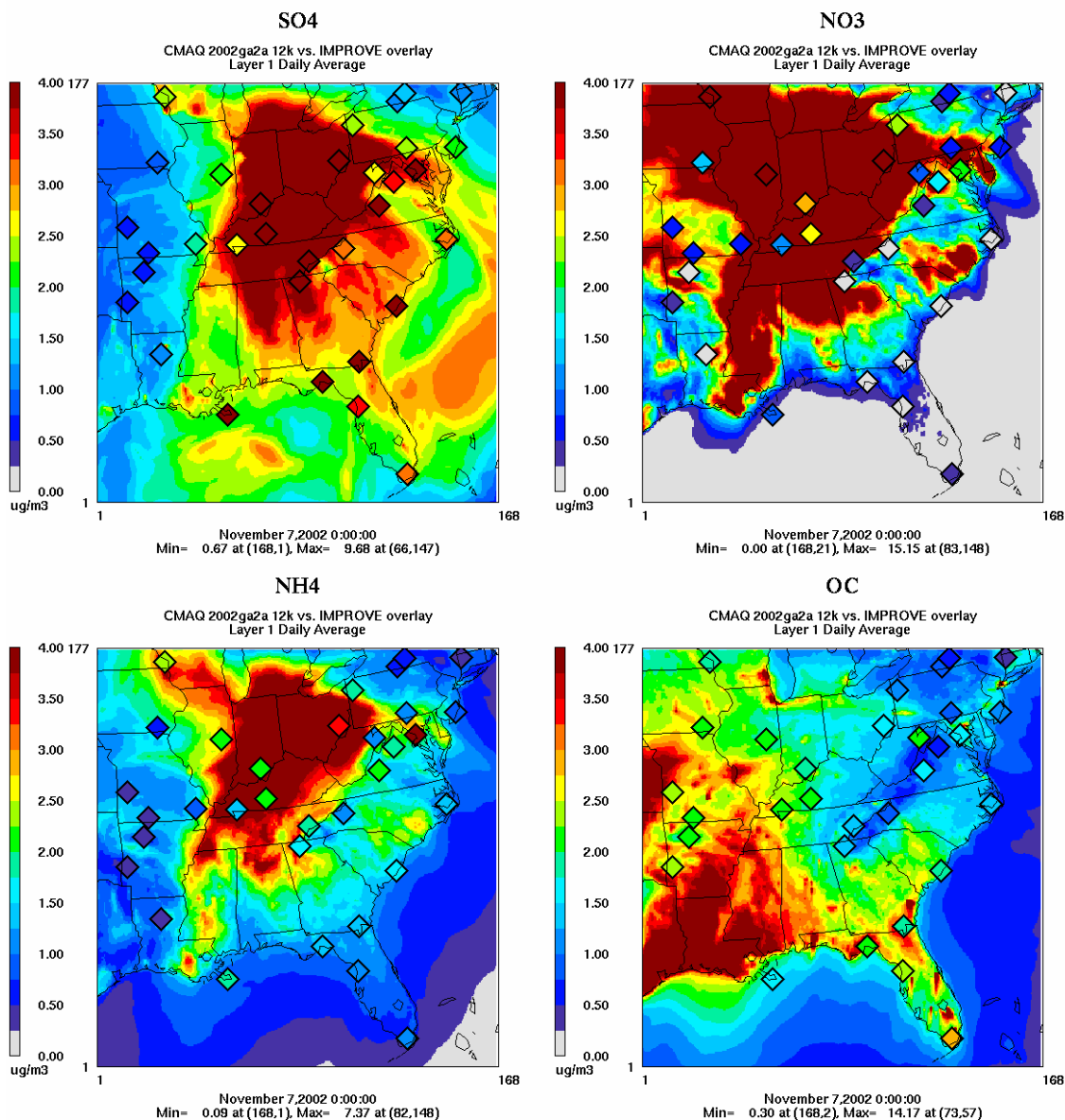
Figure D-305:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 4, 2002

D.102 November 7, 2002

Date	Julian Day	Type	Class I Areas Affected
11/07/02	311	W20%	BRET, EVER
11/07/02	311	B20%	CACR, HEGL, UPBU

Figure D-306: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 7, 2002
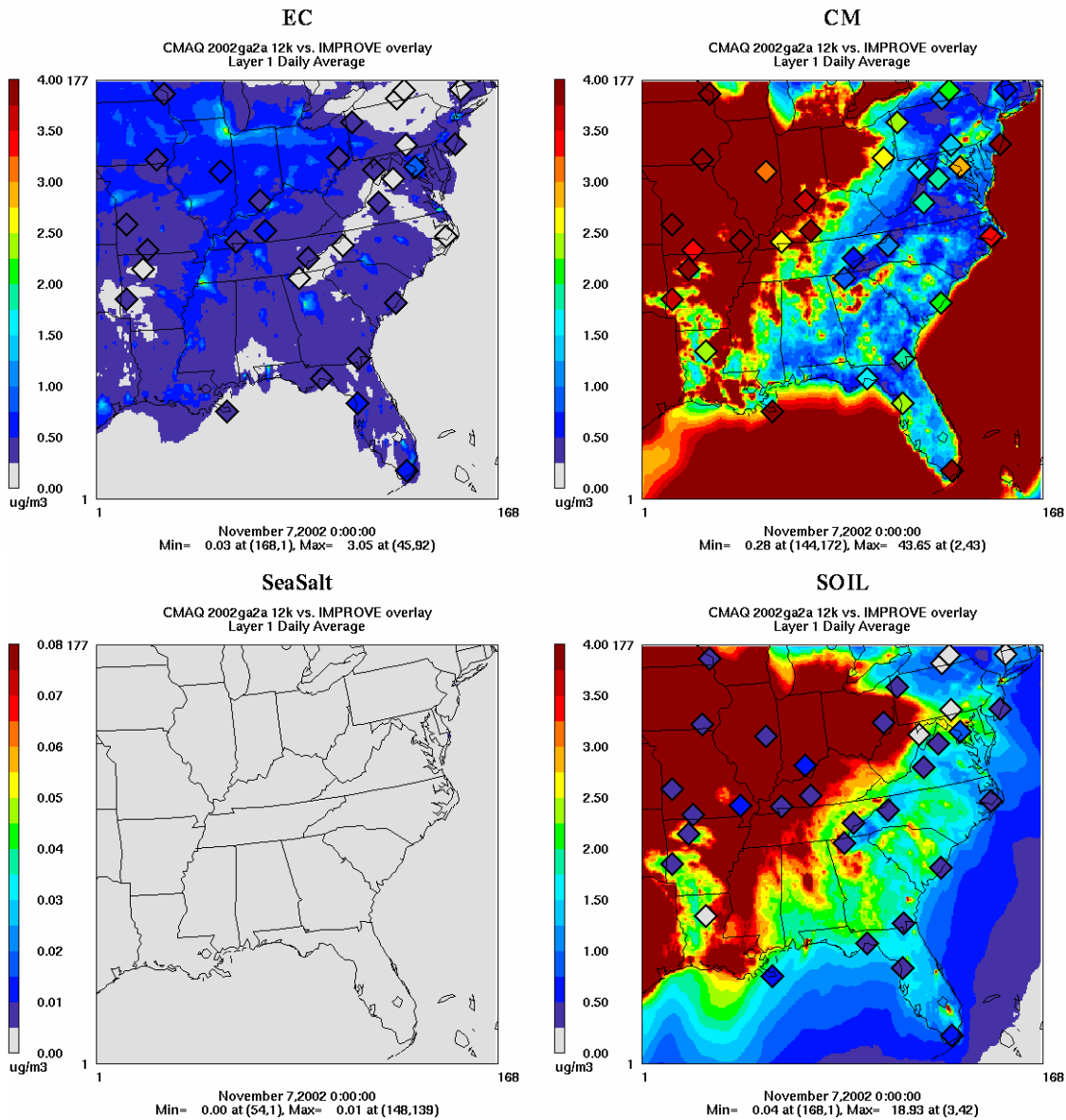
Figure D-307:Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 7, 2002
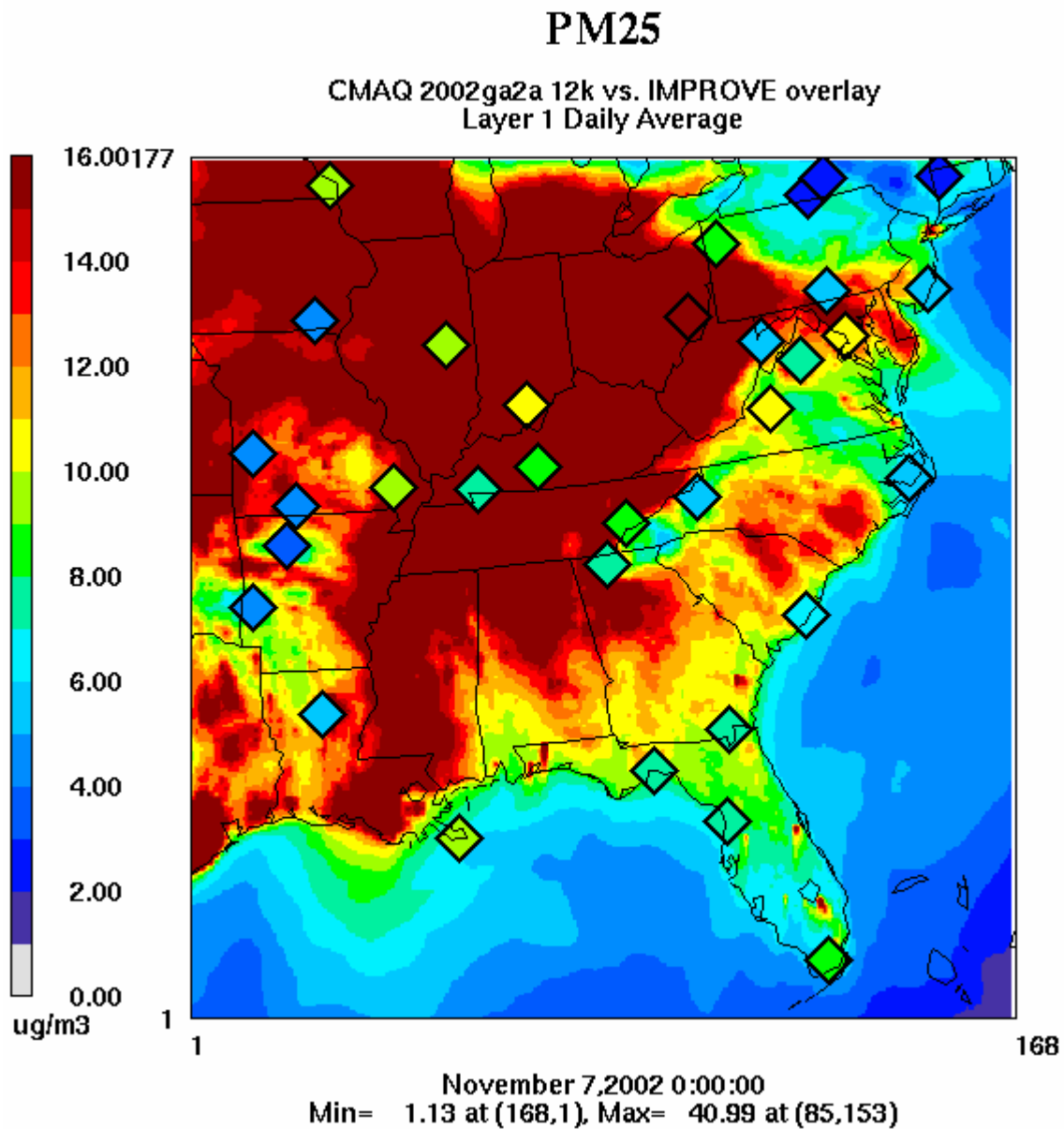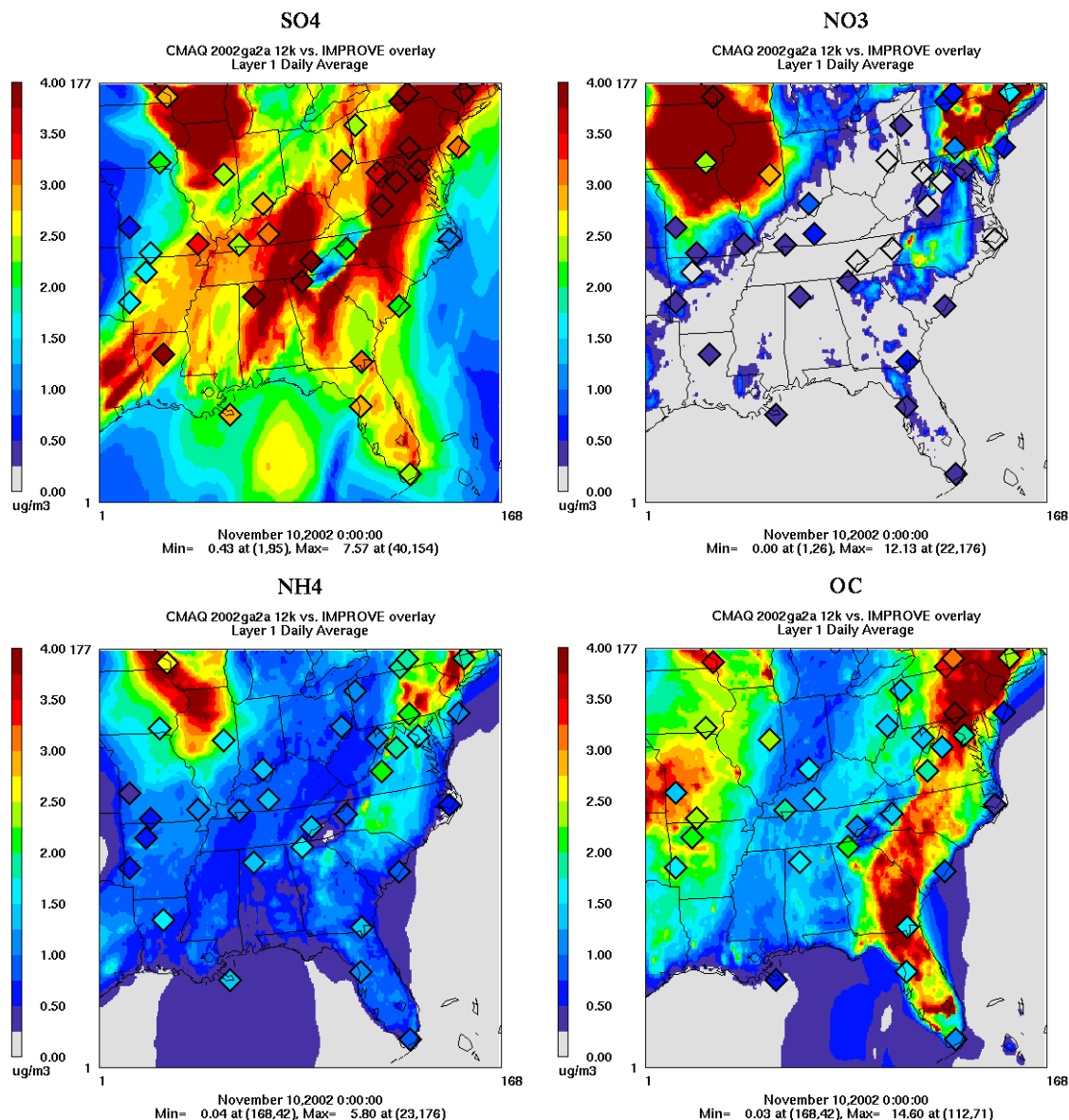
Figure D-308: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 7, 2002

D.103 November 10, 2002

Date	Julian Day	Type	Class I Areas Affected
11/10/02	314	W20%	
11/10/02	314	B20%	SWAN

Figure D-309:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 10, 2002
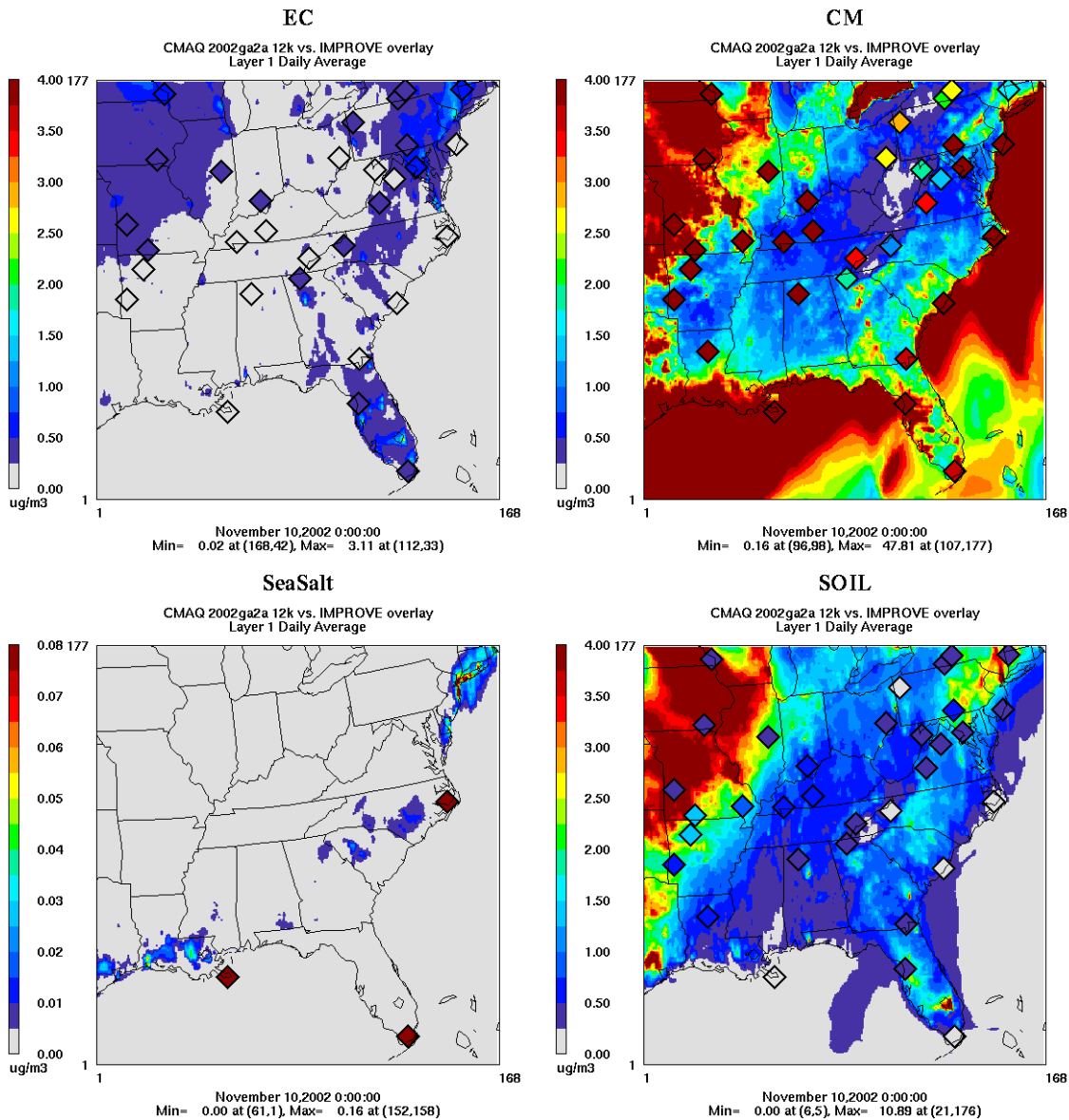
Figure D-310: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 10, 2002
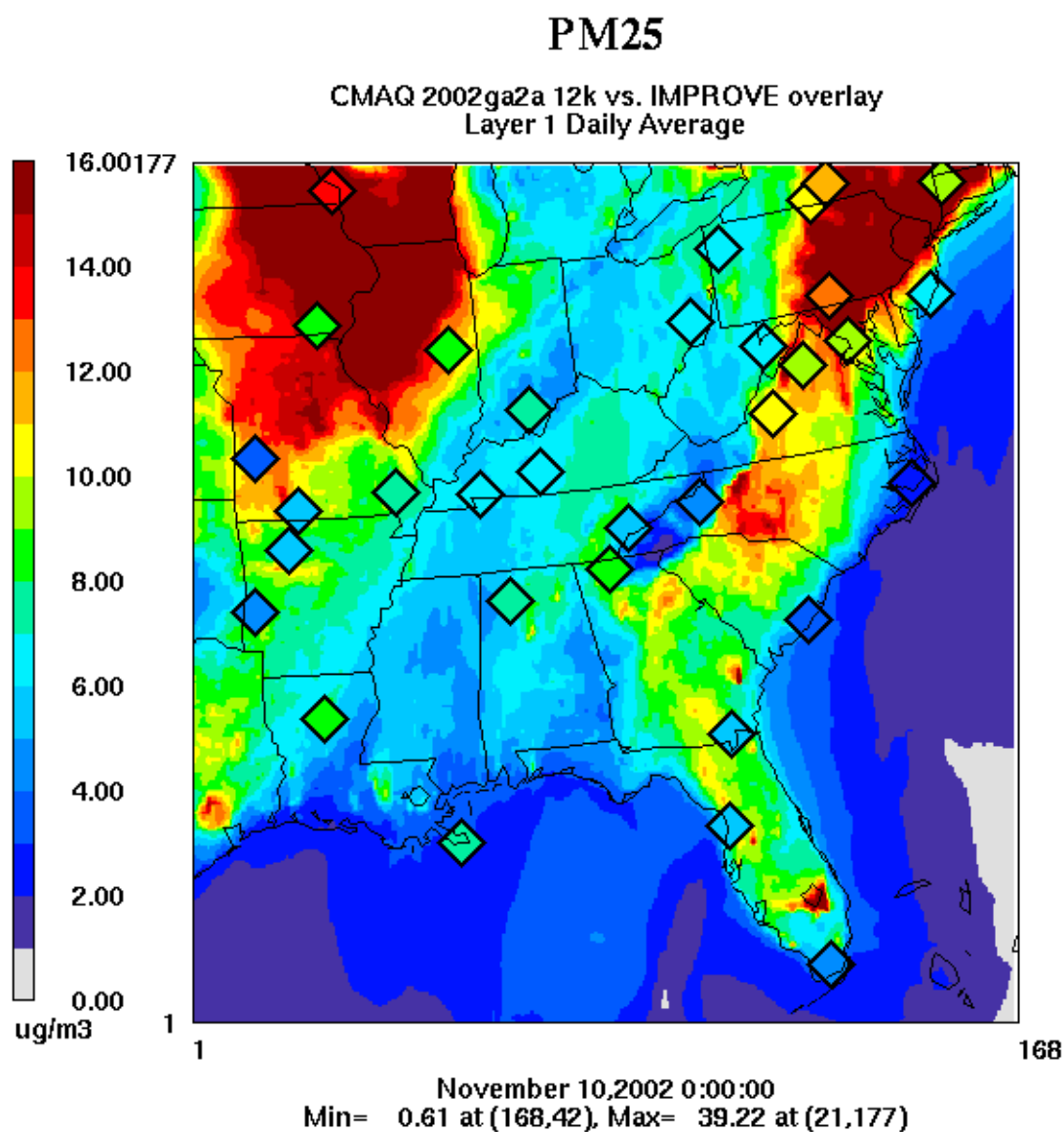
Figure D-311:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 10, 2002

D.104 November 13, 2002

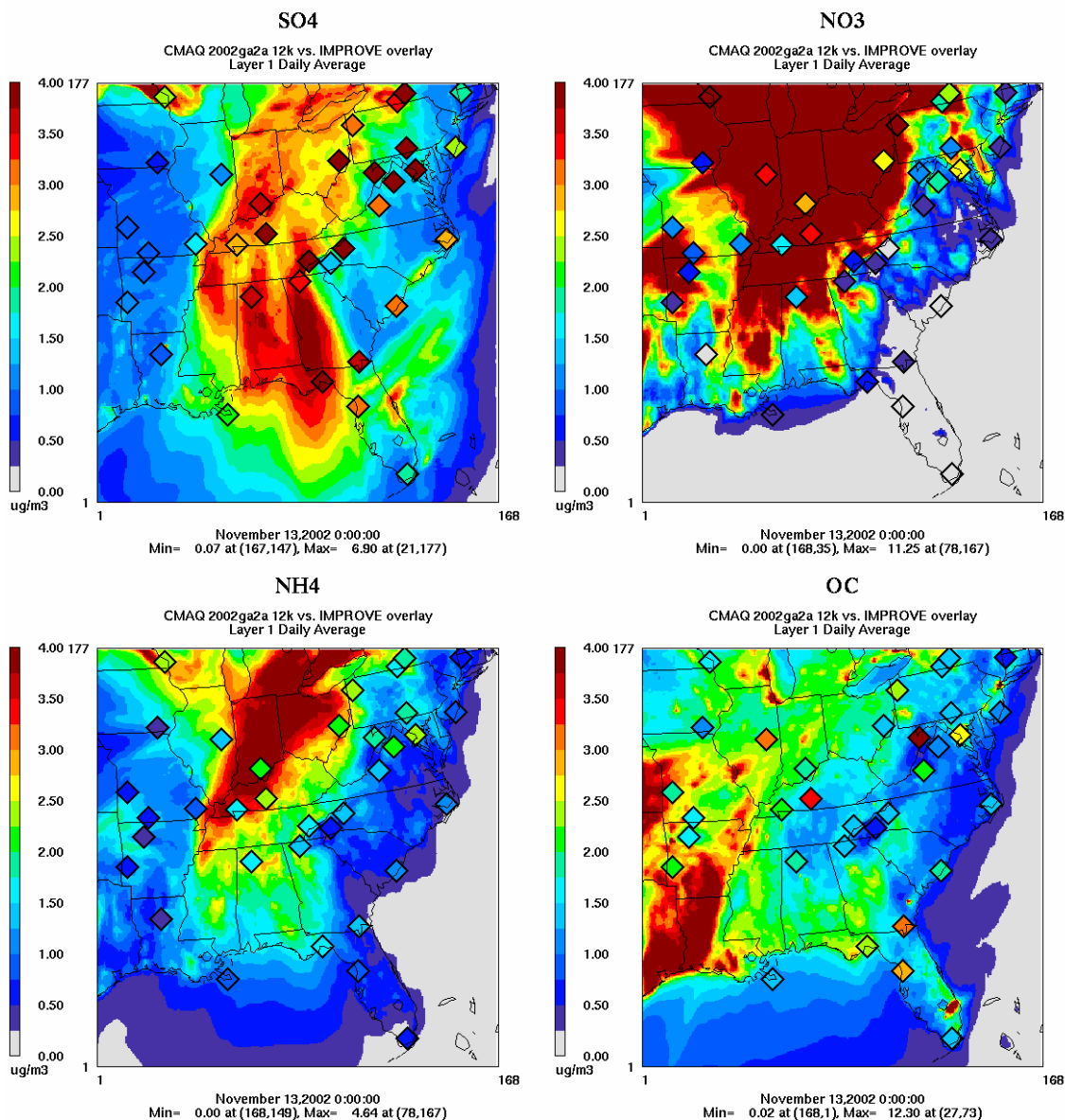| Date	Julian Day	Type	Class I Areas Affected
11/13/02	317	W20%	
11/13/02	317	B20%	HEGL, BRIG

Figure D-312:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 13, 2002
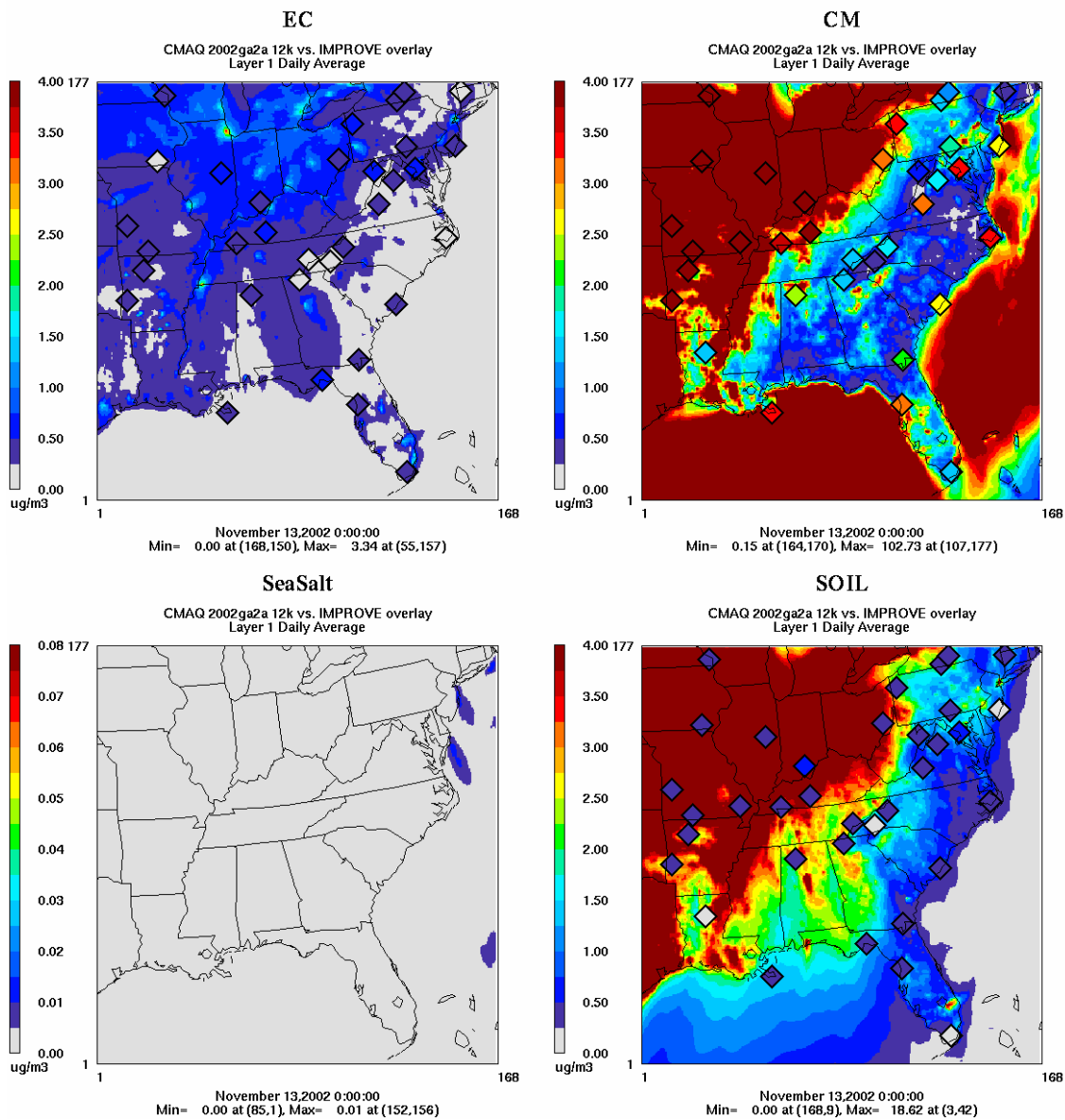
Figure D-313: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 13, 2002
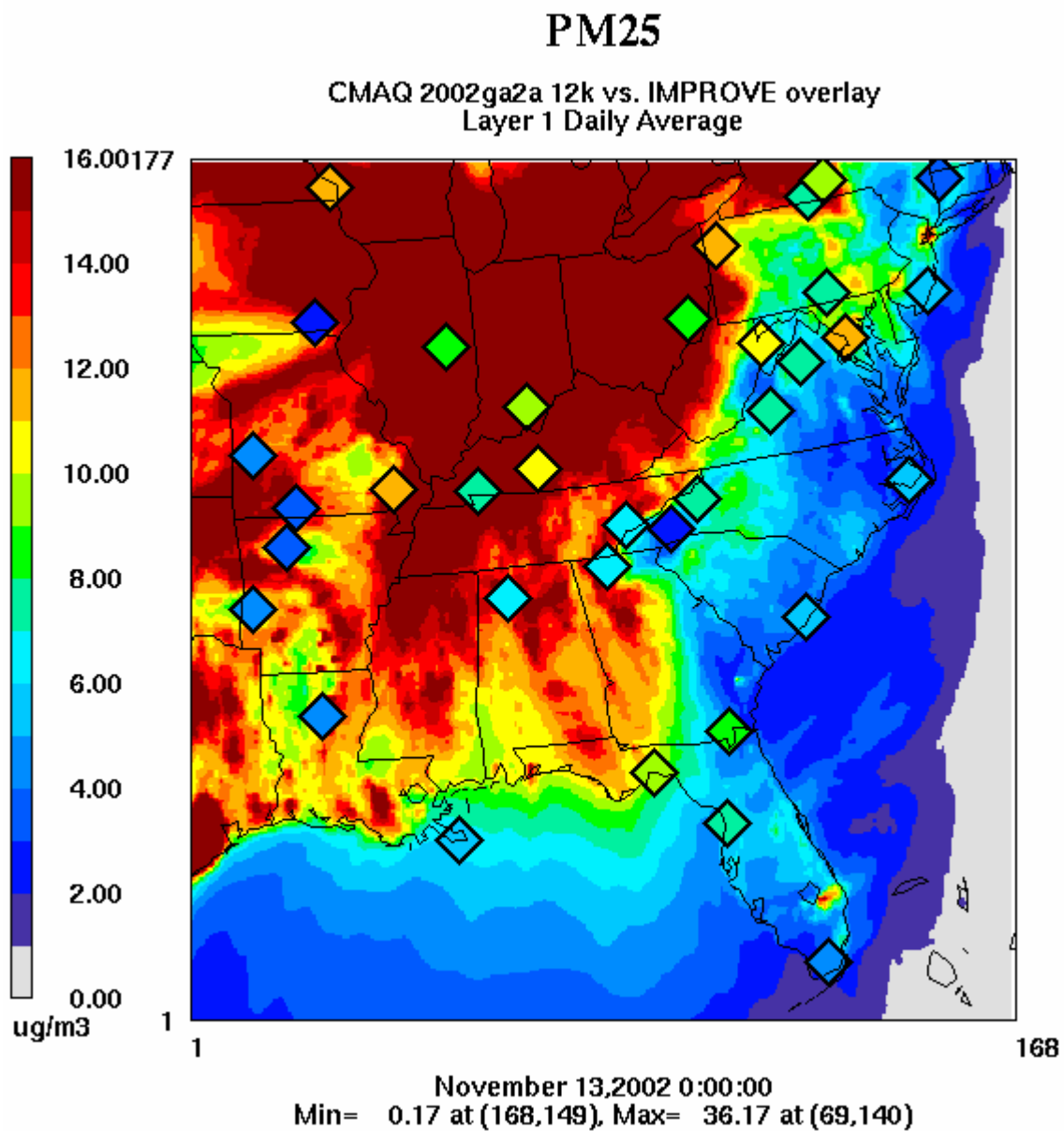
Figure D-314:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 13, 2002

D.105 November 16, 2002

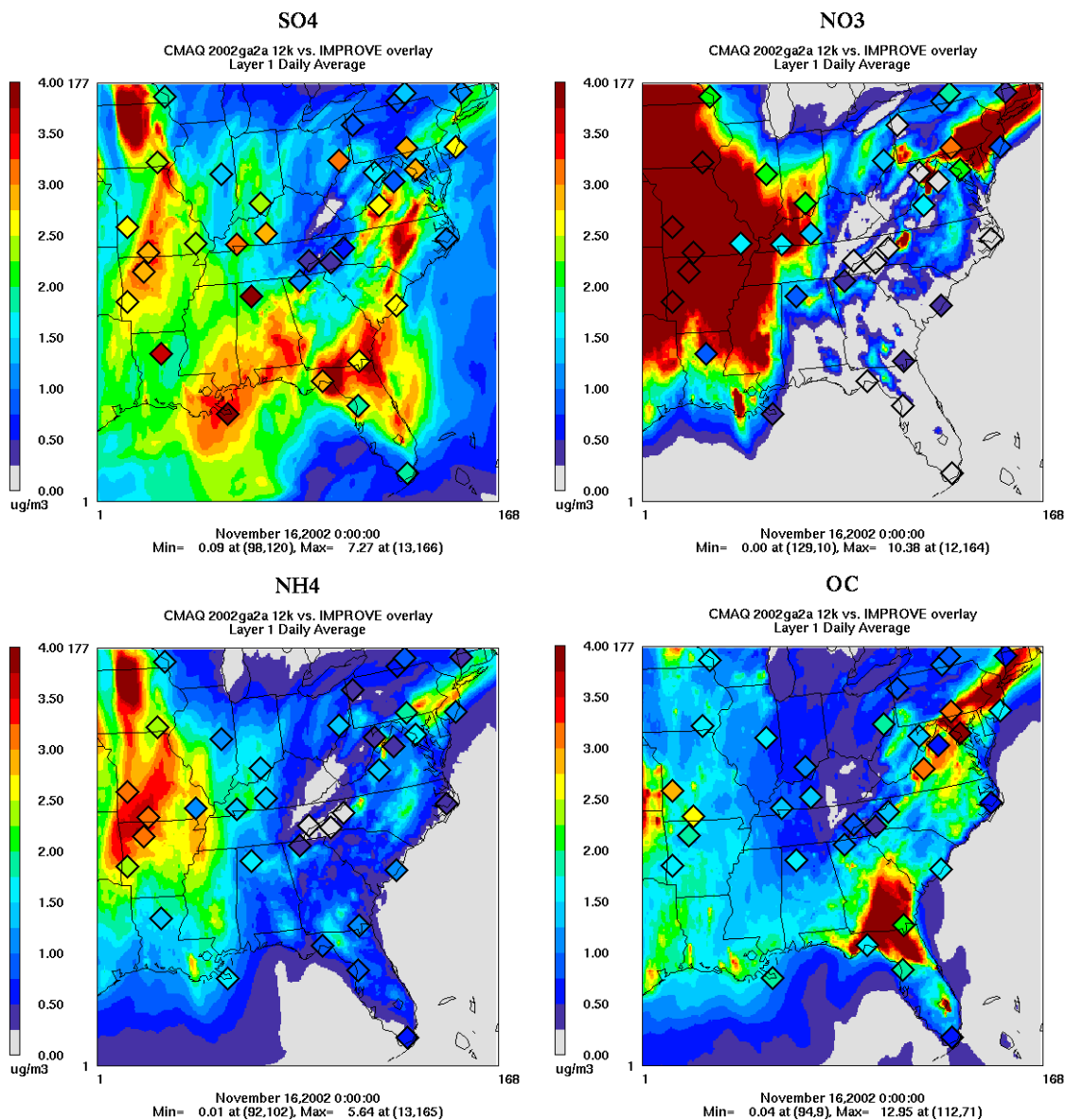| Date	Julian Day	Type	Class I Areas Affected
11/16/02	320	W20%	CACR, HEGL, UPBU
11/16/02	320	B20%	LIGO, SHRO, GRSM, SHEN, DOSO, CHAS, SWAN, COHU

Figure D-315: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 16, 2002
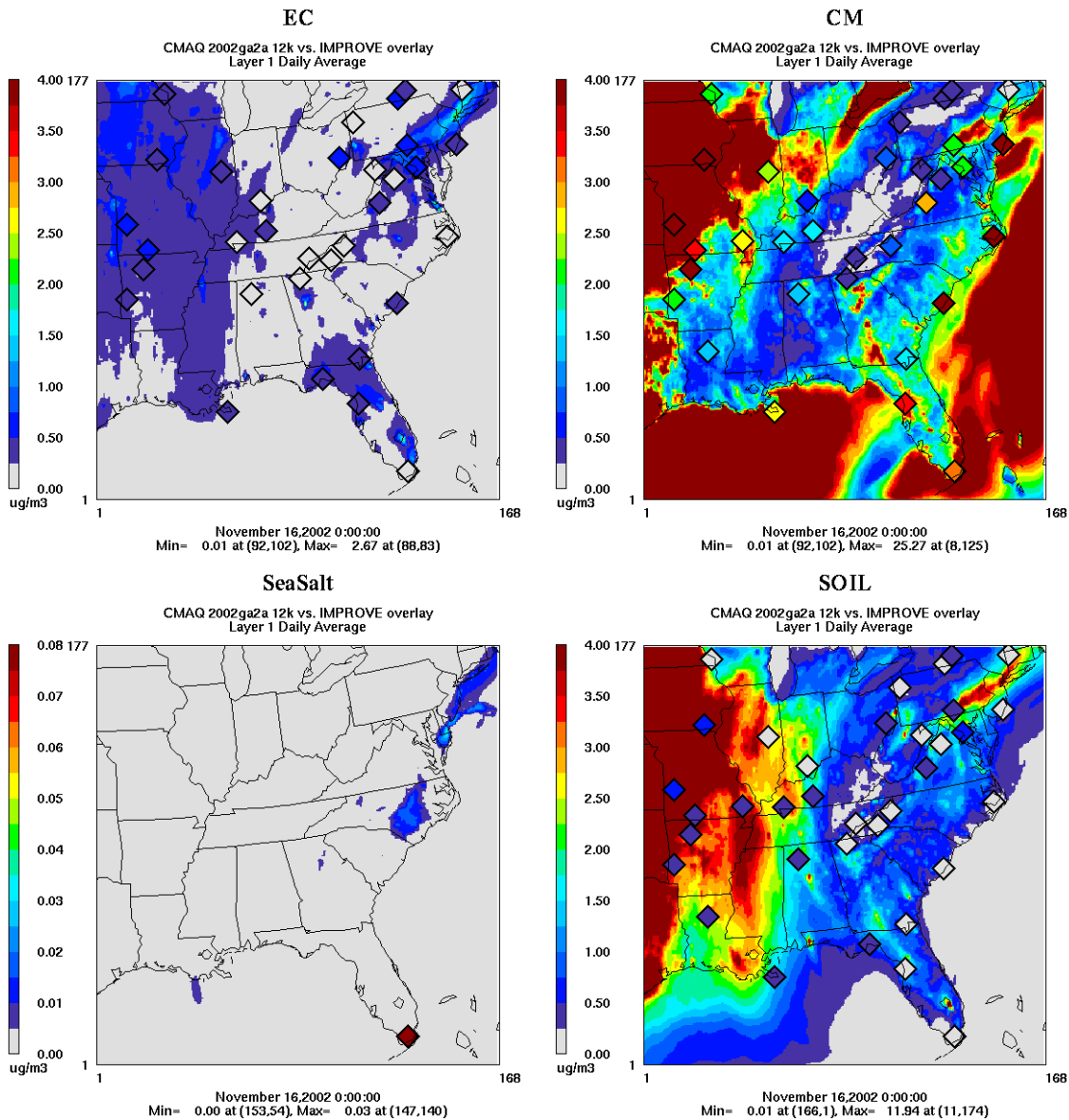
Figure D-316: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 16, 2002
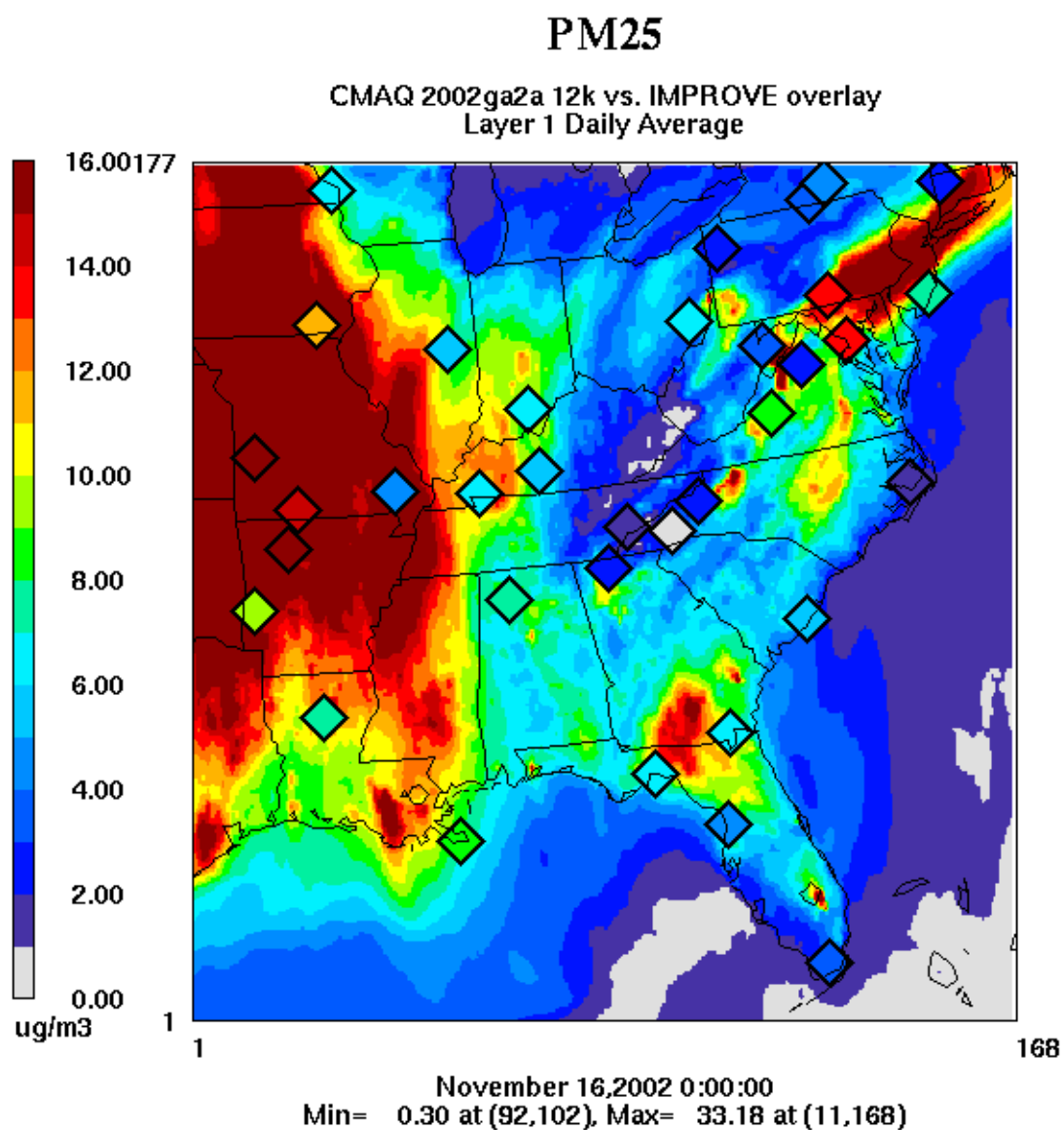
Figure D-317:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 16, 2002

D.106 November 19, 2002

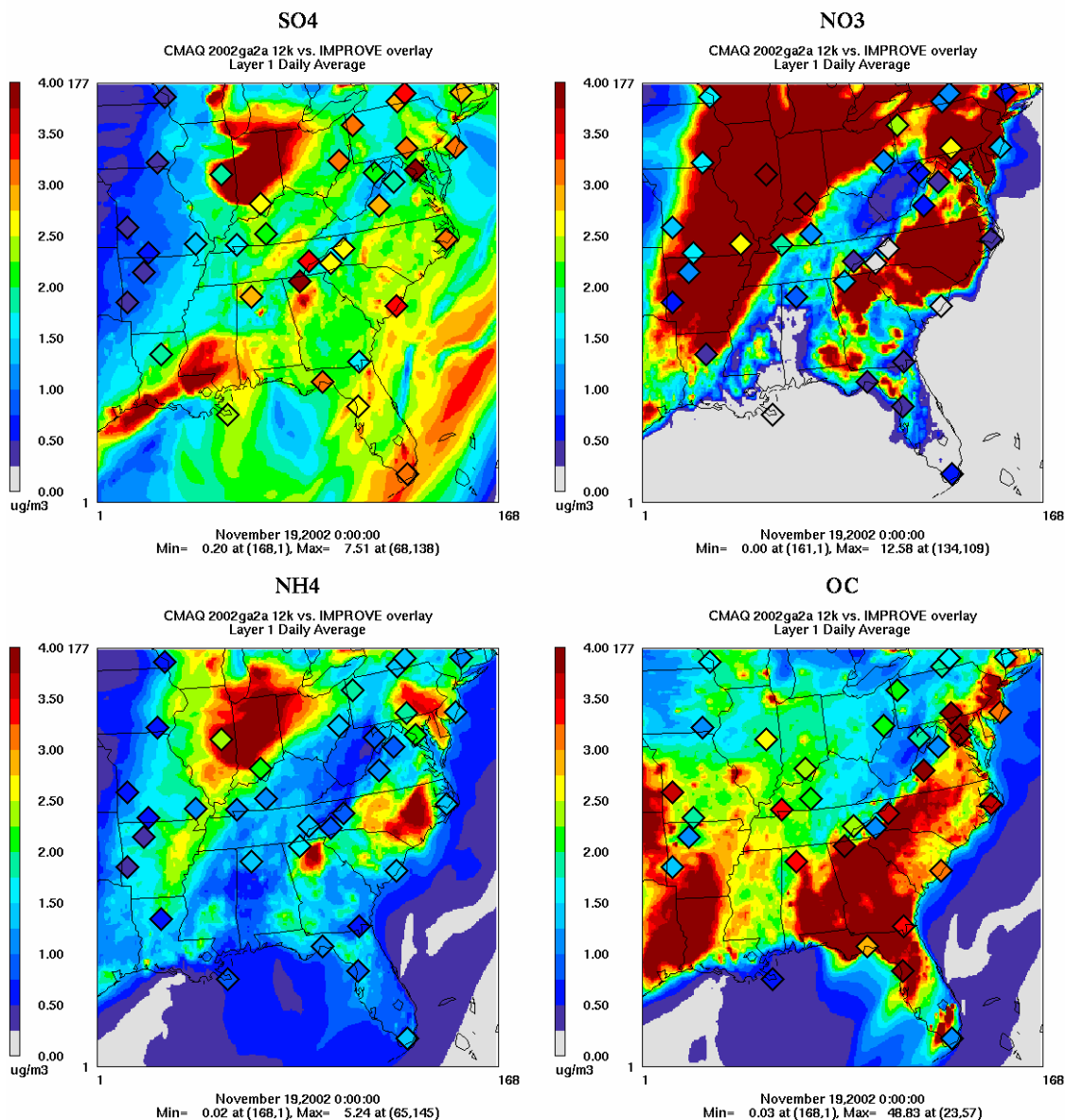| Date	Julian Day	Type	Class I Areas Affected
11/19/02	323	W20%	
11/19/02	323	B20%	CACR, MACA, UPBU

Figure D-318:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 19, 2002
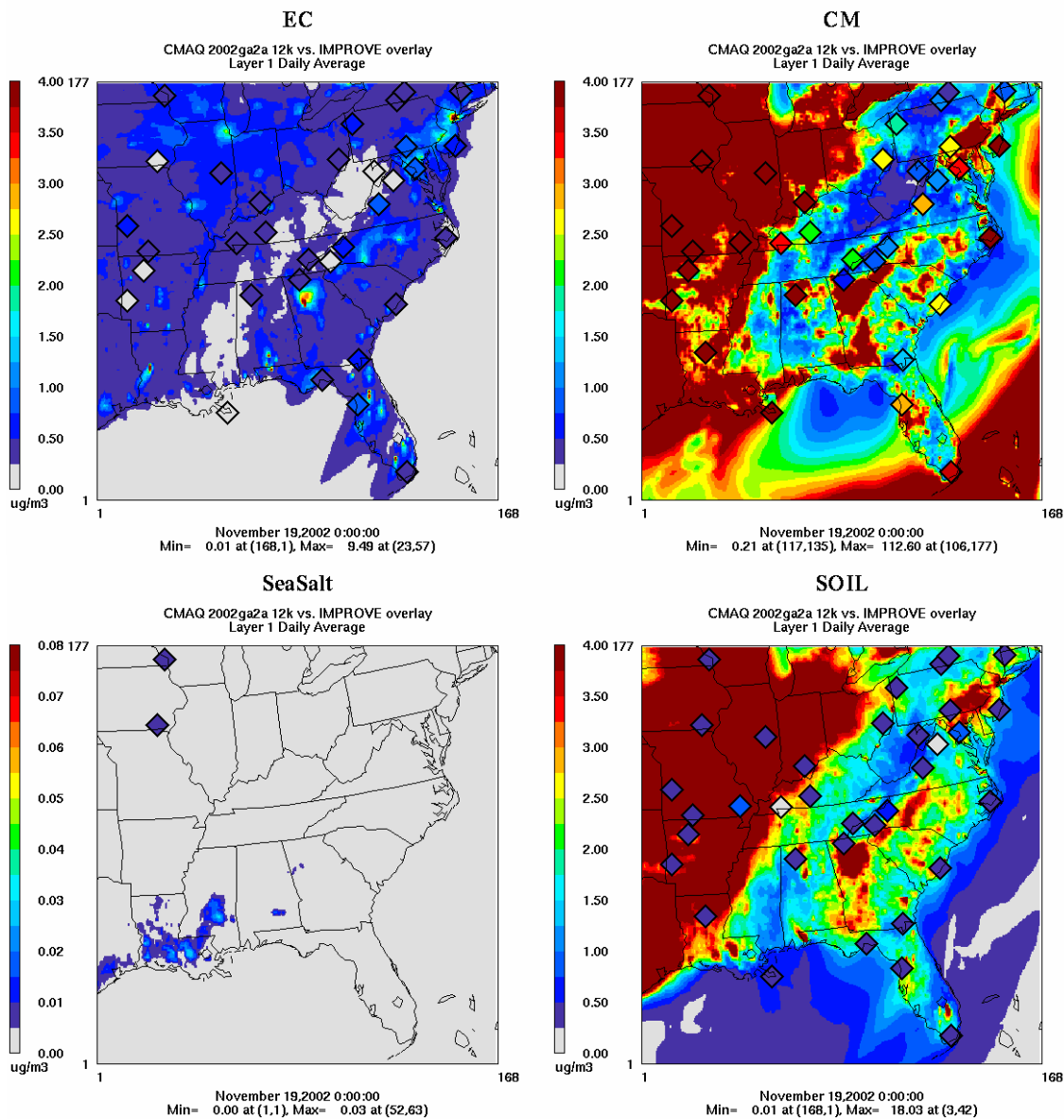
Figure D-319: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 19, 2002
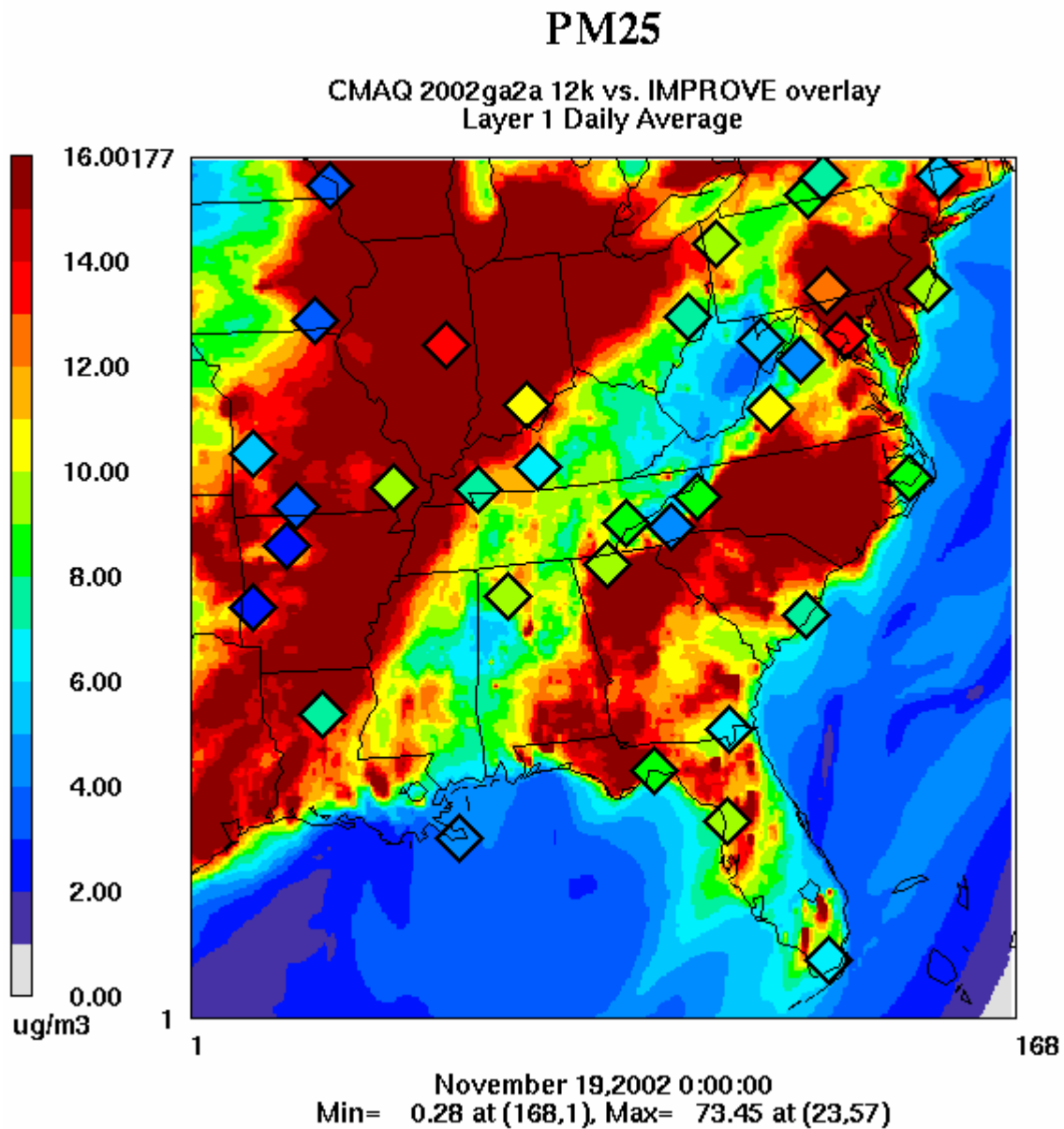
Figure D-320:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 19, 2002

D.107 November 22, 2002

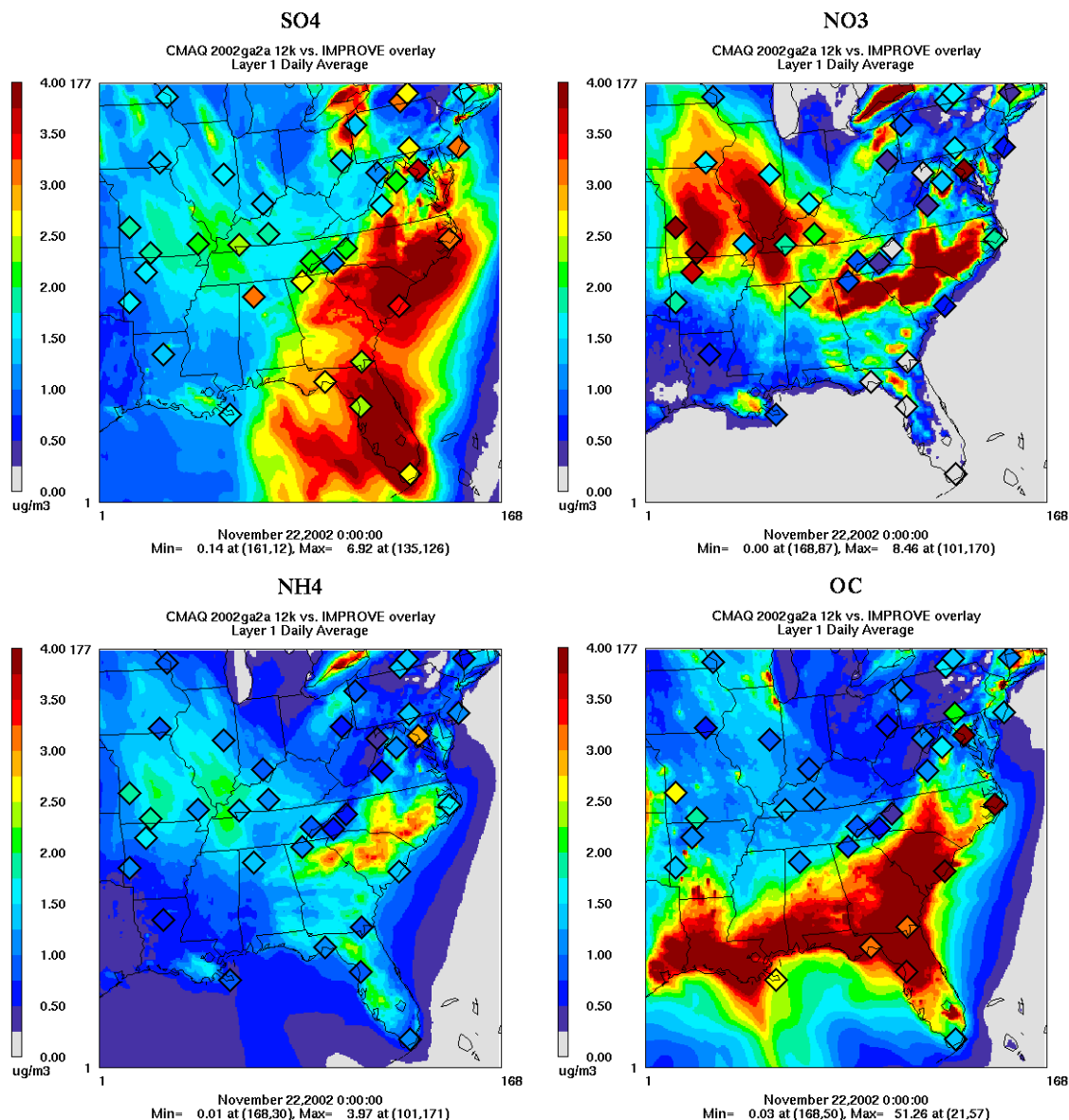| Date	Julian Day	Type	Class I Areas Affected
11/22/02	326	W20%	SWAN
11/22/02	326	B20%	LIGO, SHRO, GRSM, JARI, DOSO

Figure D-321: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 22, 2002
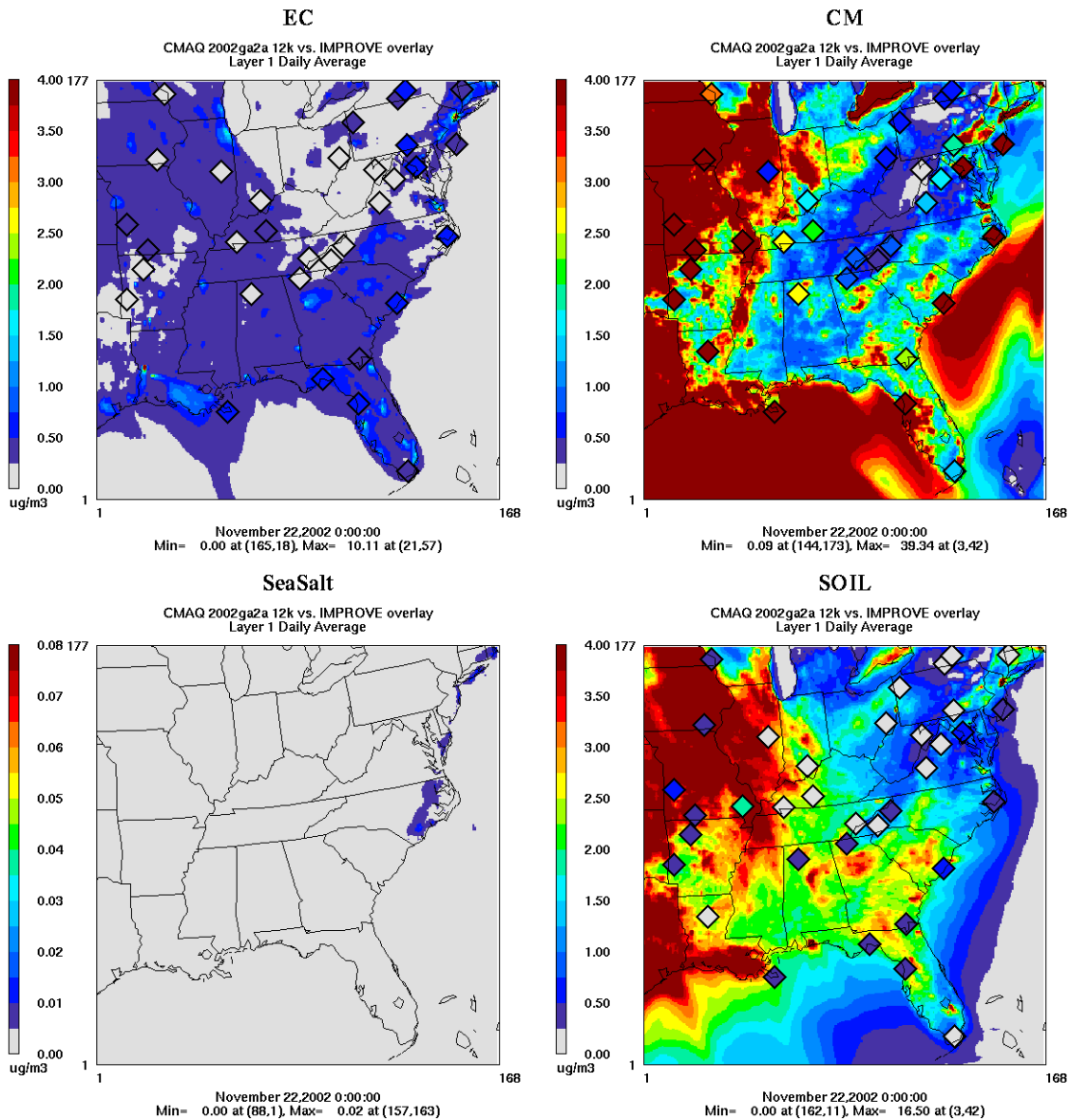
Figure D-322: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 22, 2002
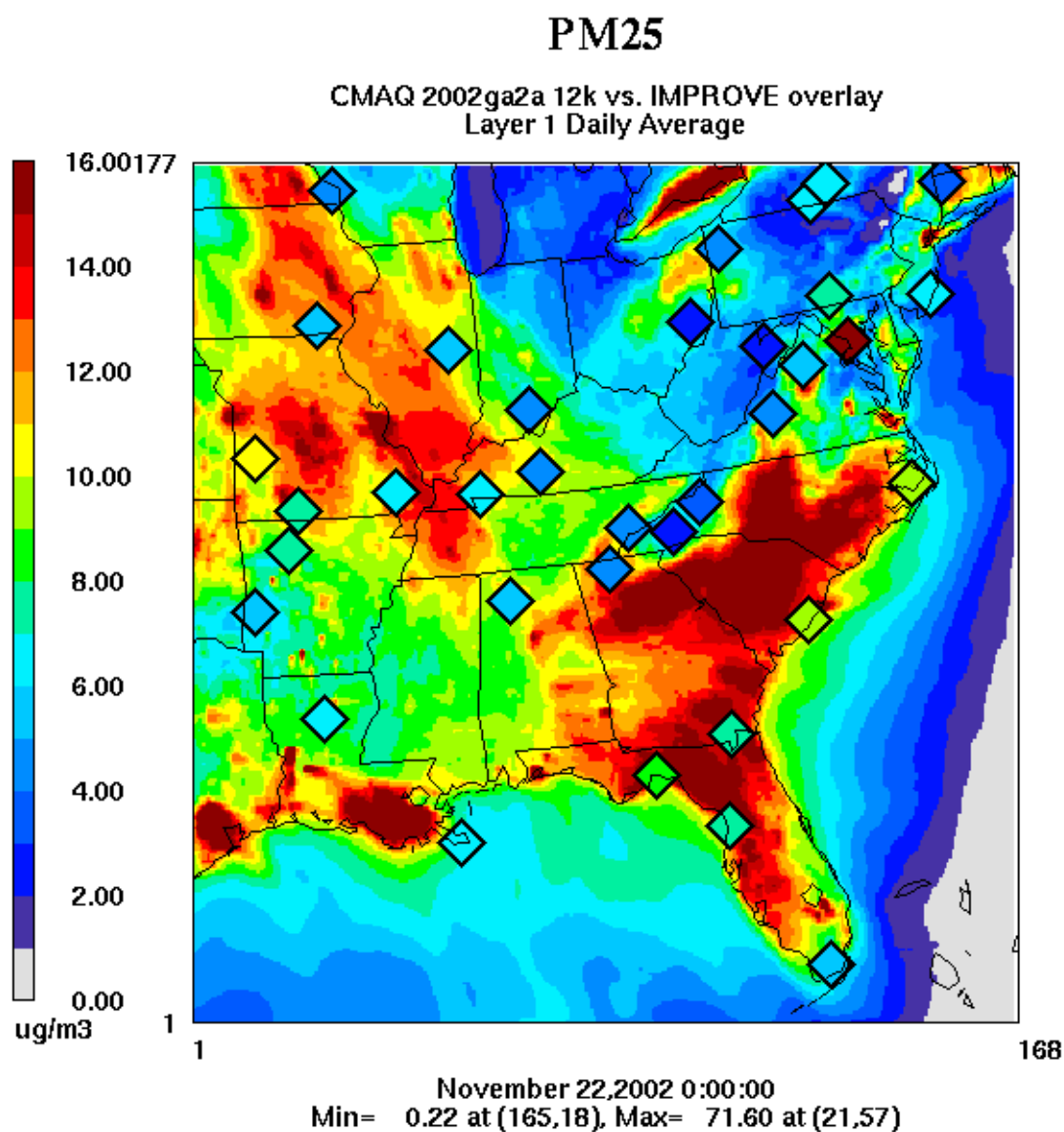
Figure D-323:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 22, 2002

D.108 November 25, 2002

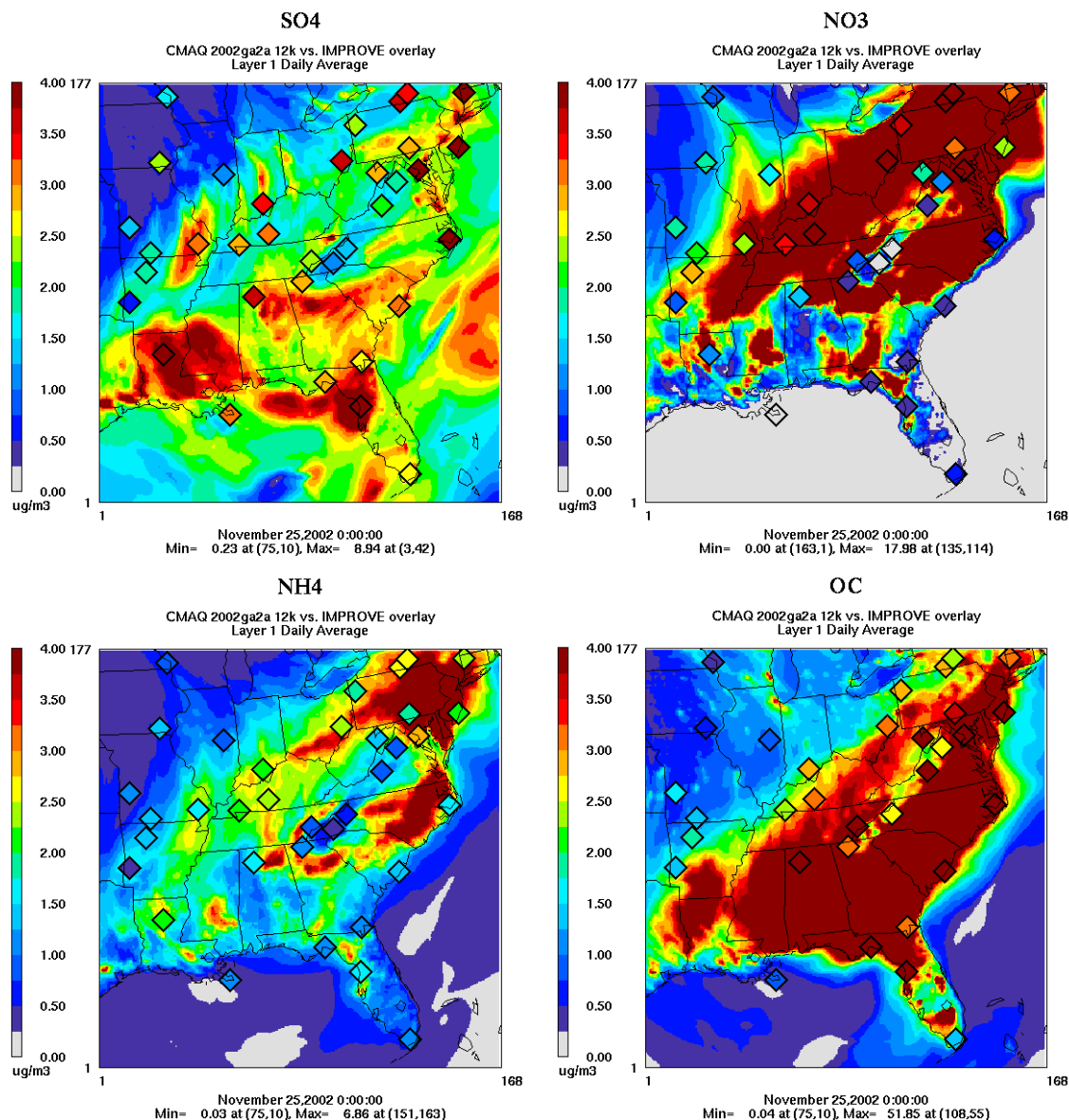| Date	Julian Day	Type	Class I Areas Affected
11/25/02	329	W20%	CHAS, SWAN, BRIG
11/25/02	329	B20%	CACR

Figure D-324: **Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 25, 2002**
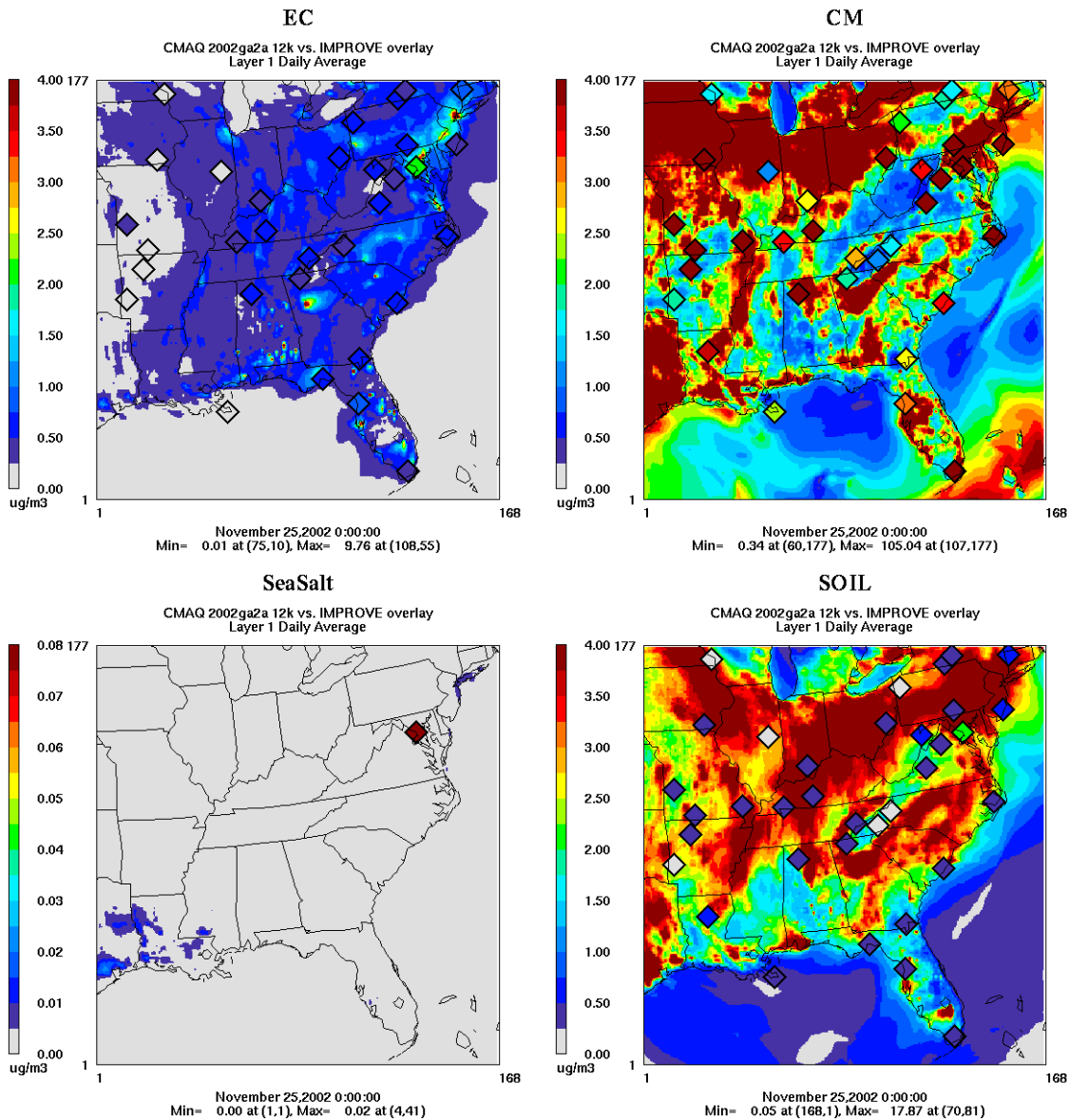
Figure D-325: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 25, 2002
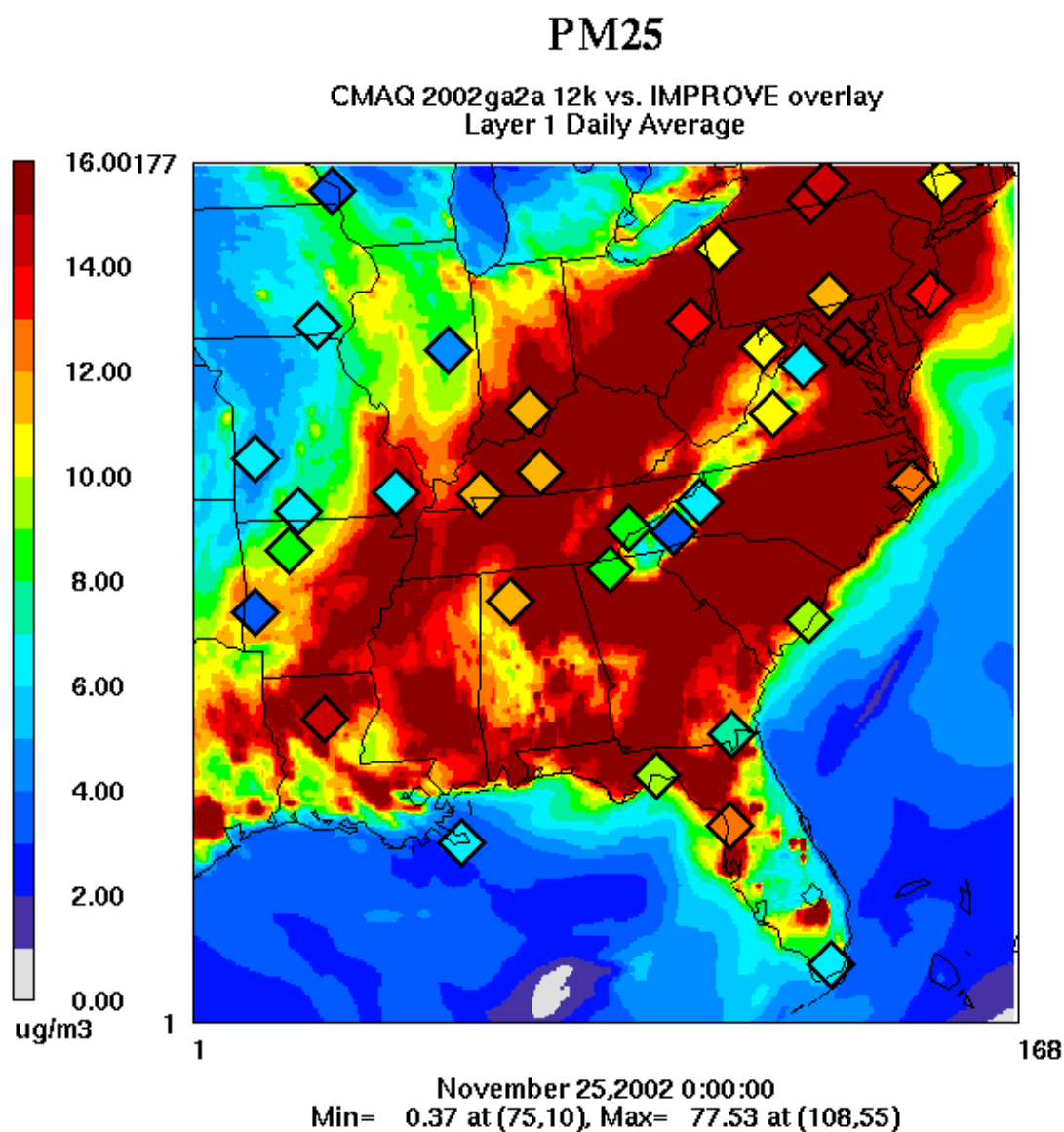
Figure D-326: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 25, 2002

D.109 November 28, 2002

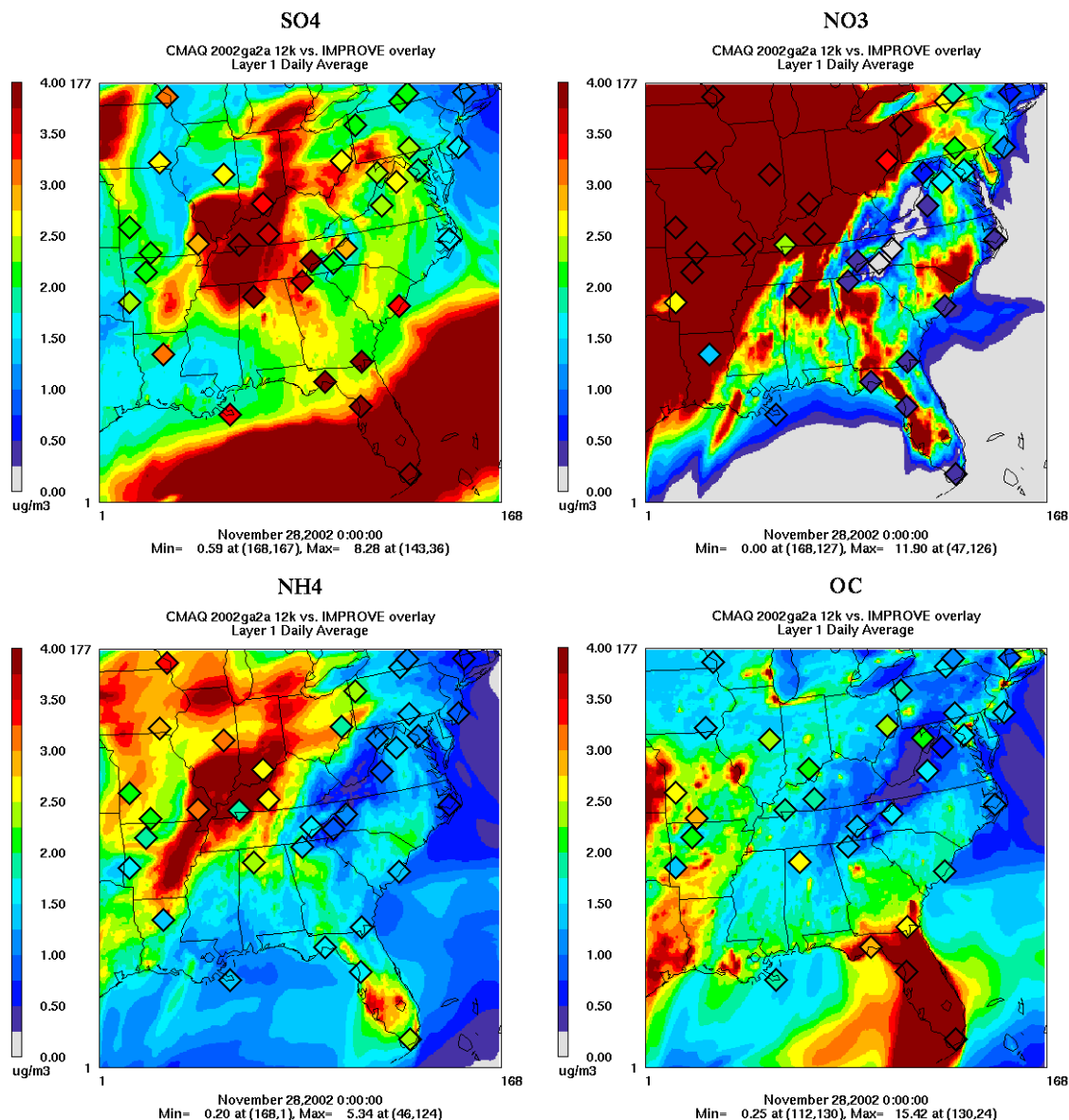| Date	Julian Day	Type	Class I Areas Affected
11/28/02	332	W20%	CHAS, EVER, UPBU, MING
11/28/02	332	B20%	JARI, SWAN, BRIG

Figure D-327: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For November 28, 2002
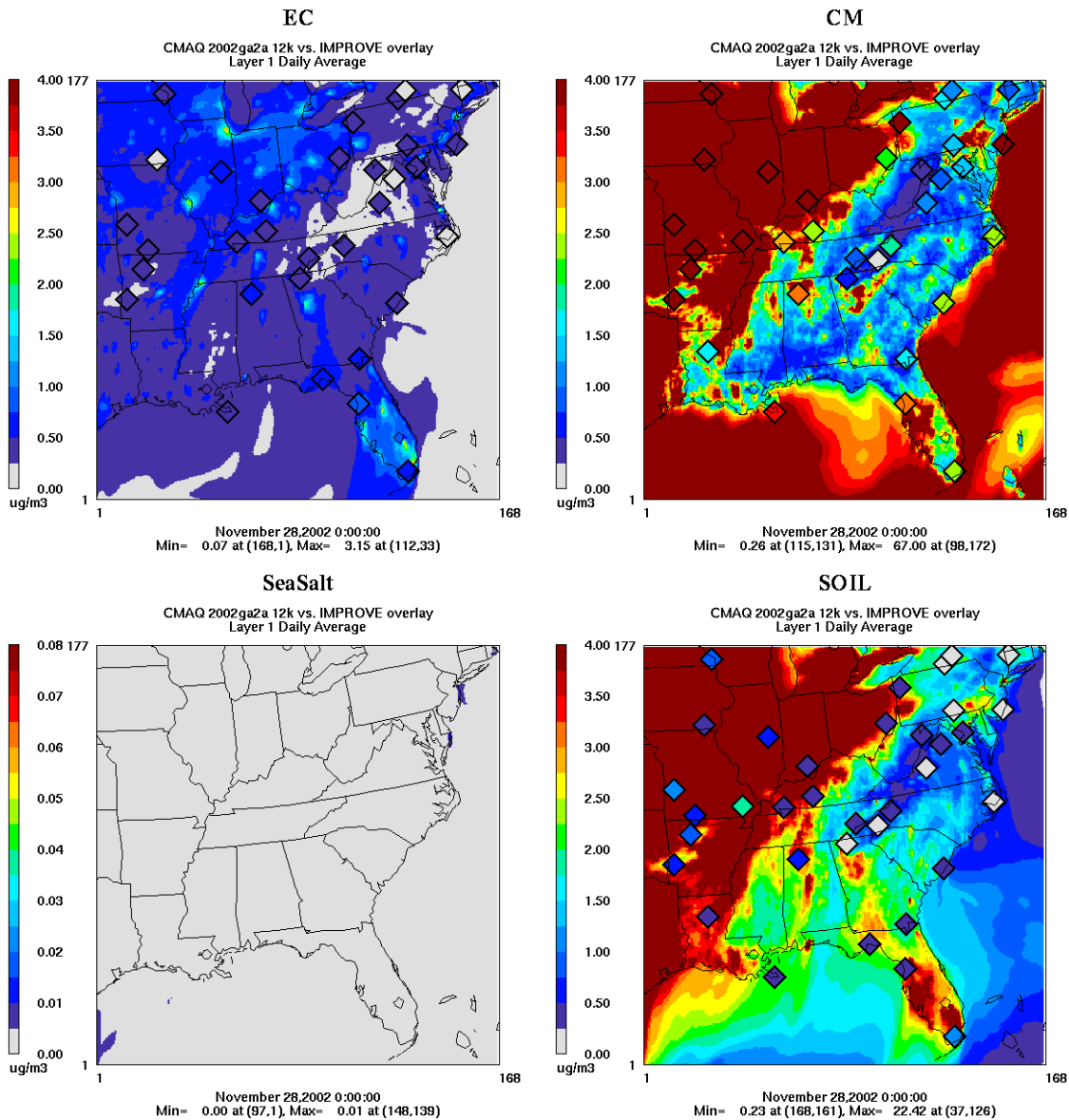
Figure D-328: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For November 28, 2002
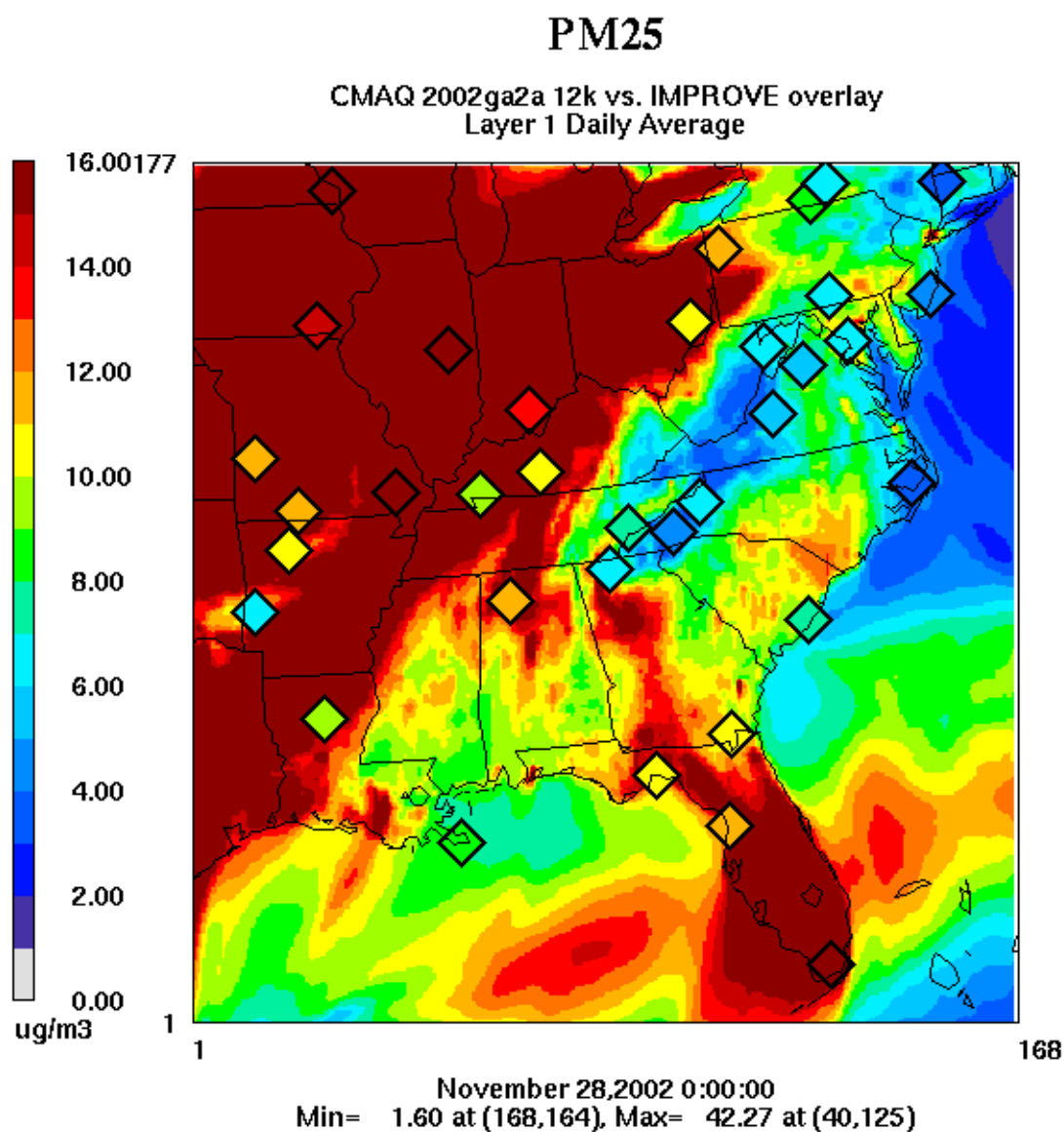
Figure D-329: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For November 28, 2002

D.110 December 1, 2002

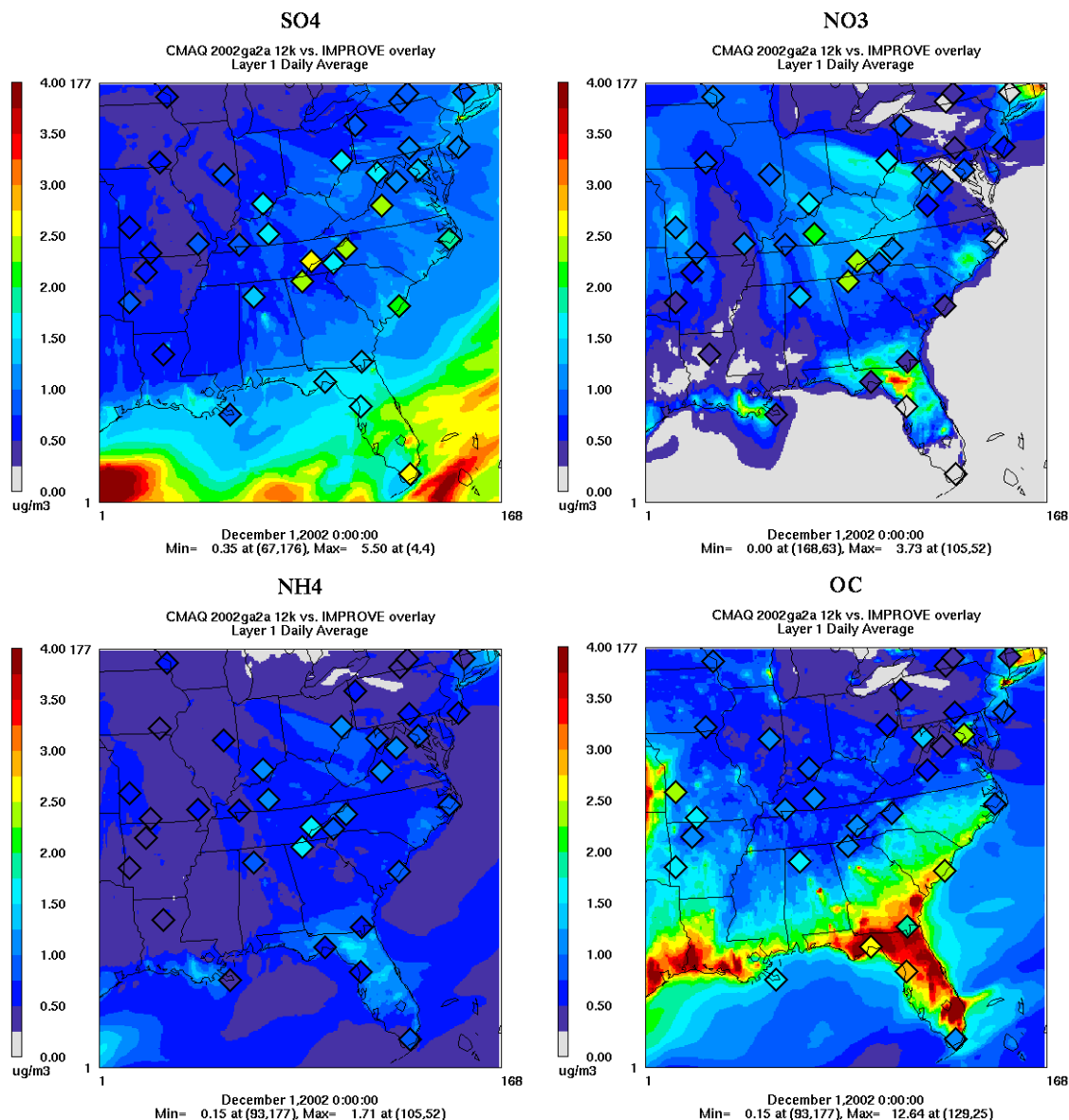| Date	Julian Day	Type	Class I Areas Affected
12/01/02	335	W20%	
12/01/02	335	B20%	JARI, OKEF, CACR, BRET, SHEN, SWAN, HEGL, UPBU, BRIG

Figure D-330: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 1, 2002
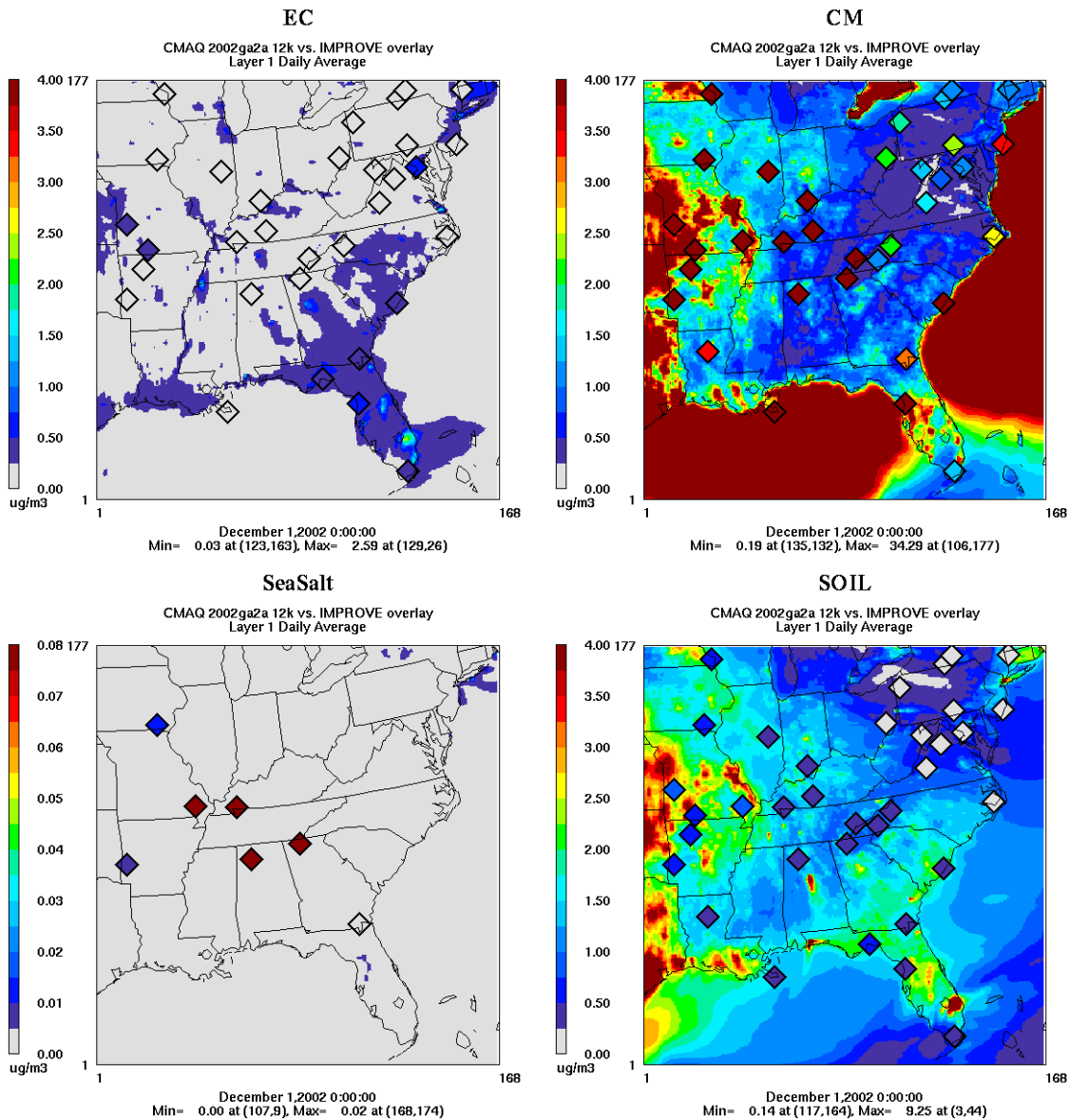
Figure D-331: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 1, 2002
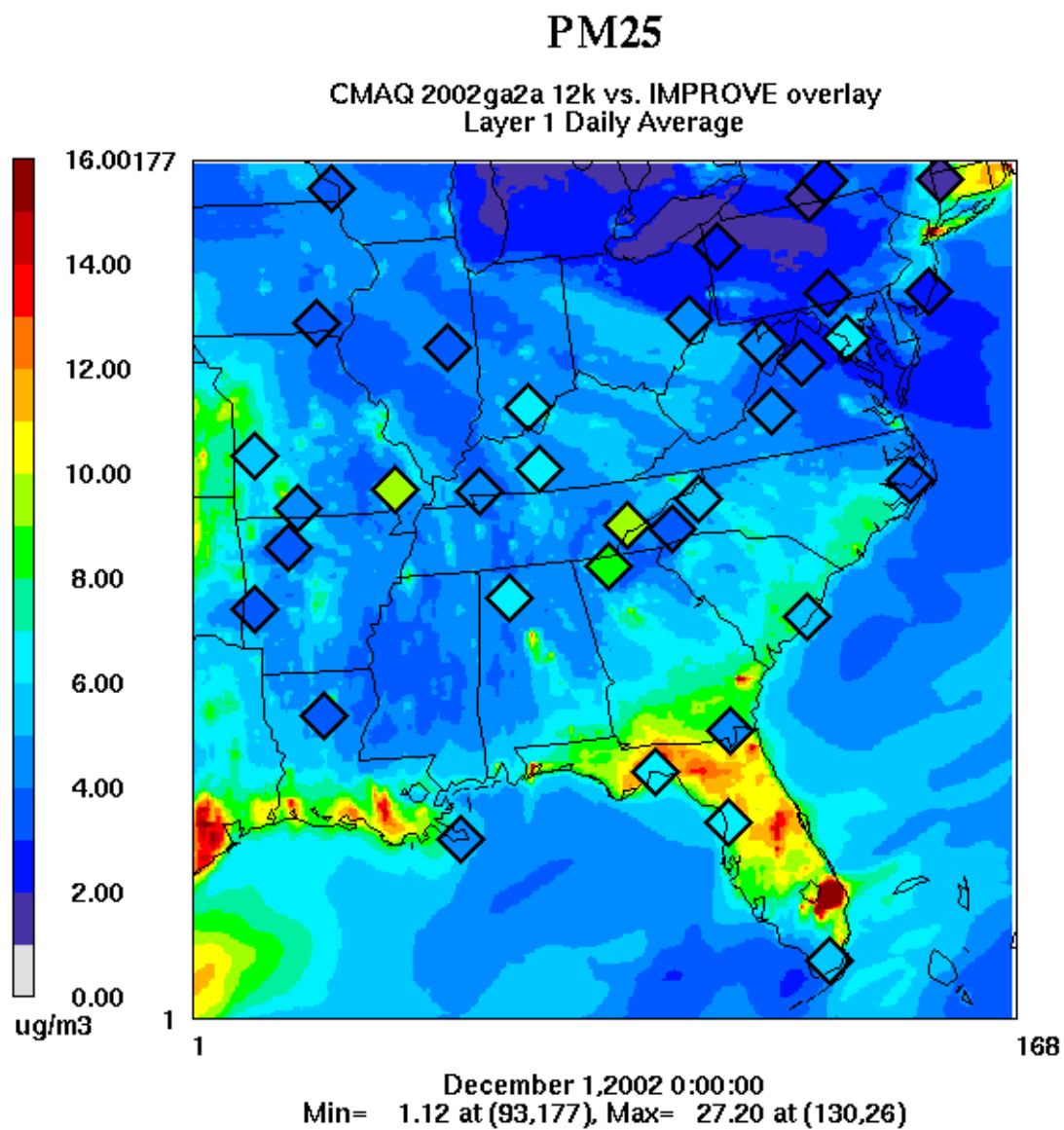
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

16.00177

14.00

12.00

10.00

8.00

6.00

4.00

2.00

0.00
ug/m3

December 1,2002 0:00:00
Min=   1.12 at (93,177), Max=   27.20 at (130,26)

**Figure D-332:Modeled Predicted And Observed Daily Average Total Fine Particulate
Matter (PM25) Concentration Spatial Plots For December 1, 2002**

D.111 December 4, 2002

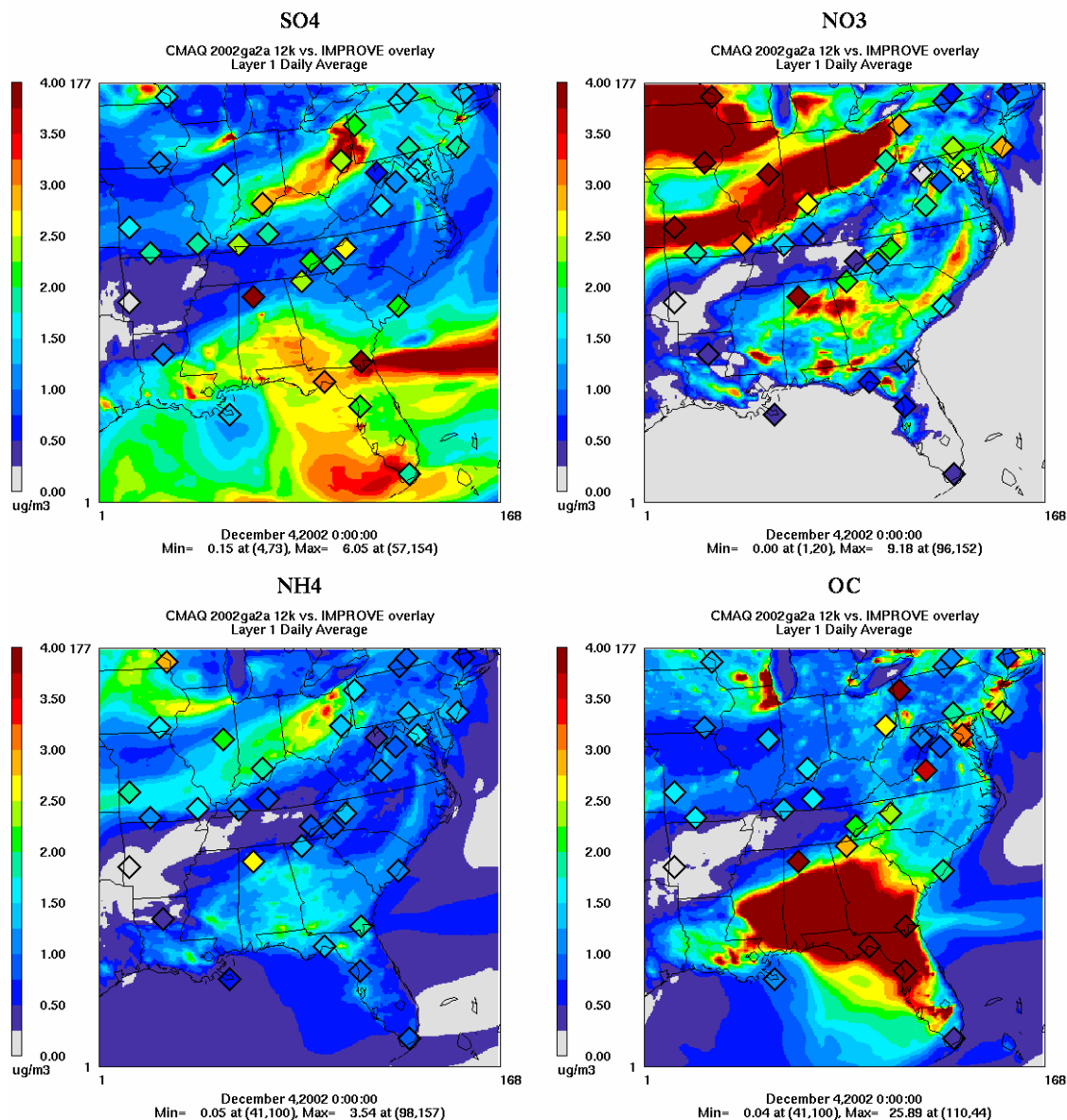| Date	Julian Day	Type	Class I Areas Affected
12/04/02	338	W20%	SIPS, OKEF
12/04/02	338	B20%	CACR, SHEN, DOSO, MACA

Figure D-333: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 4, 2002
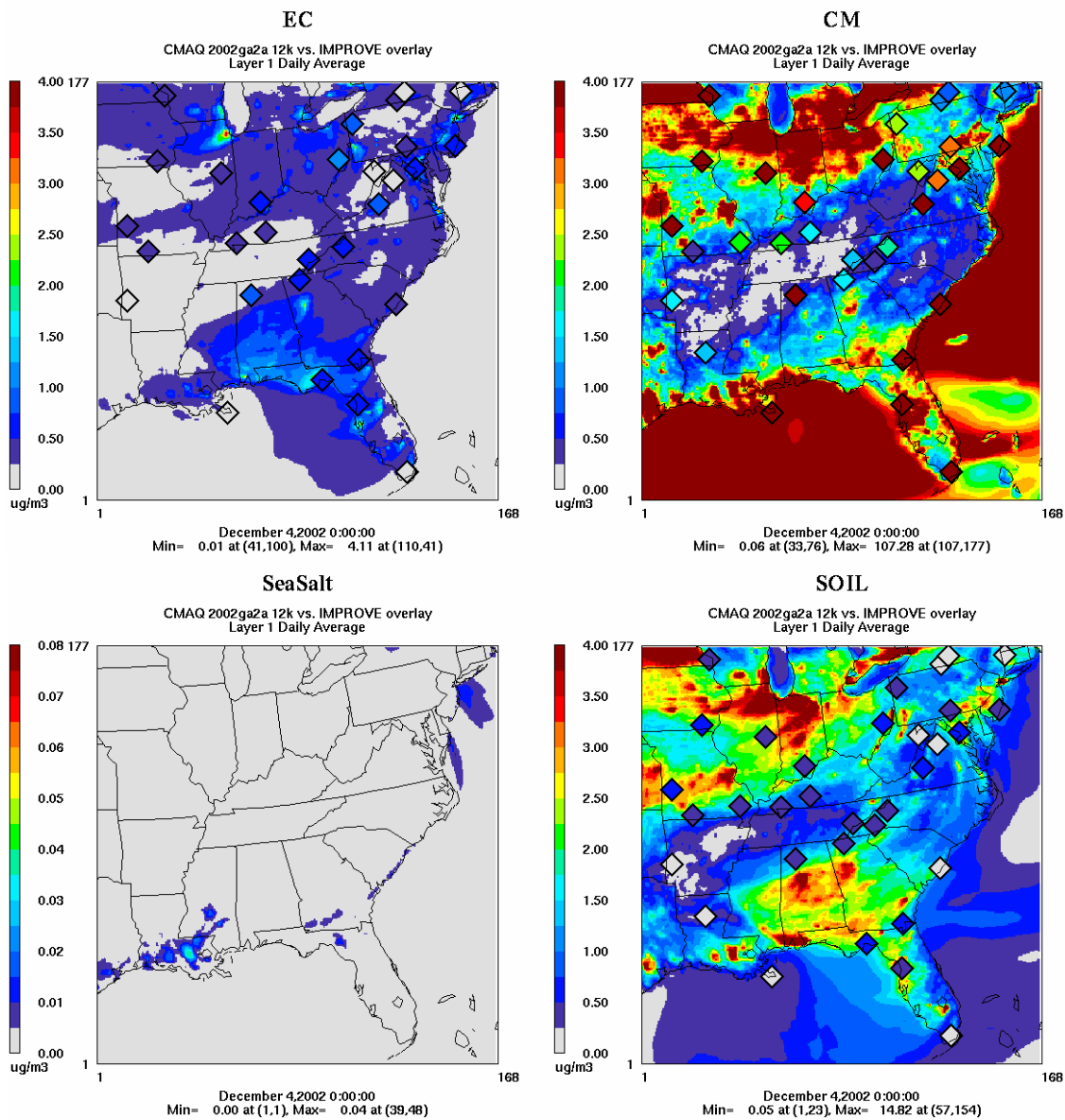
Figure D-334: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 4, 2002
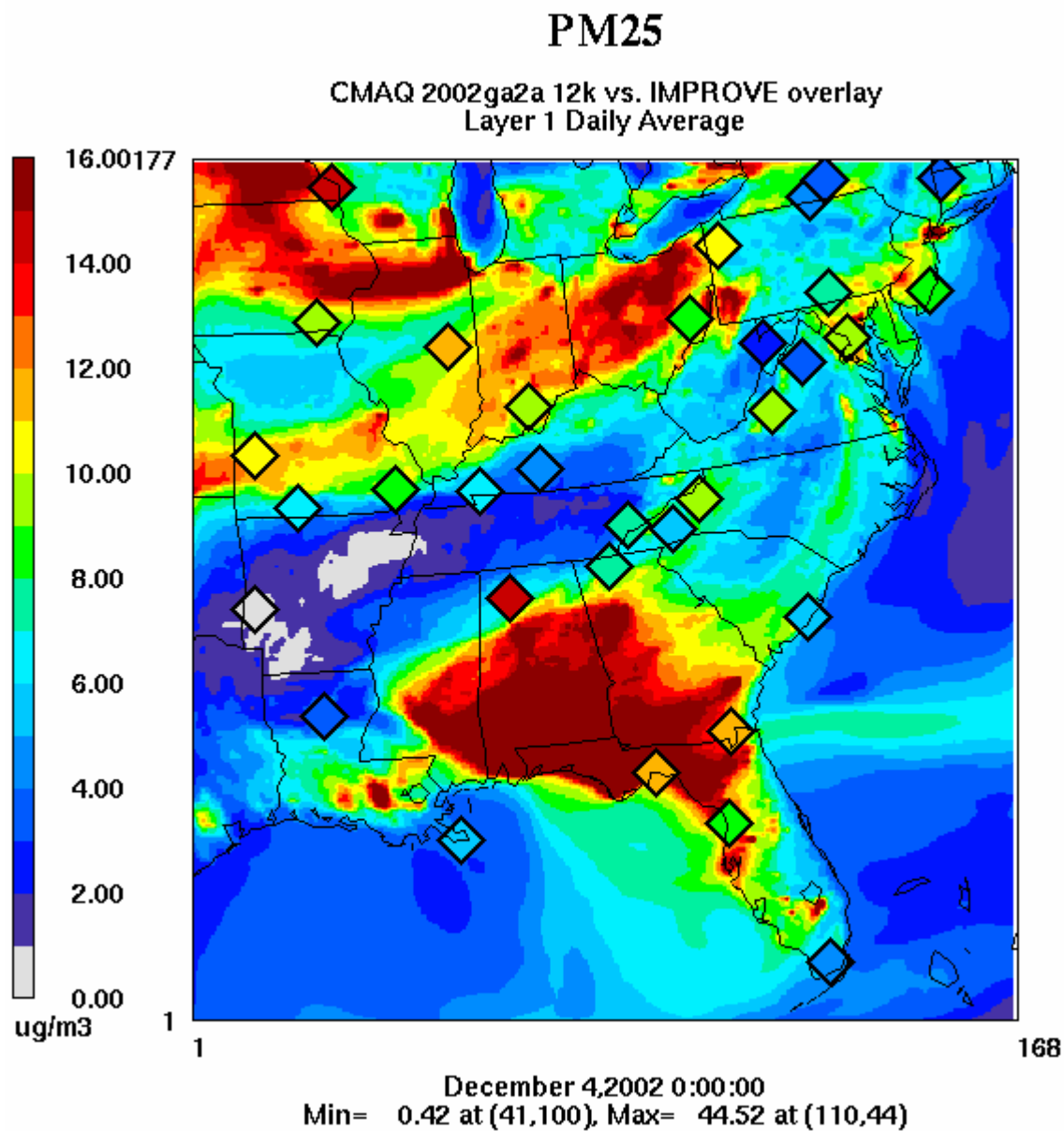
Figure D-335: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 4, 2002

D.112 December 7, 2002

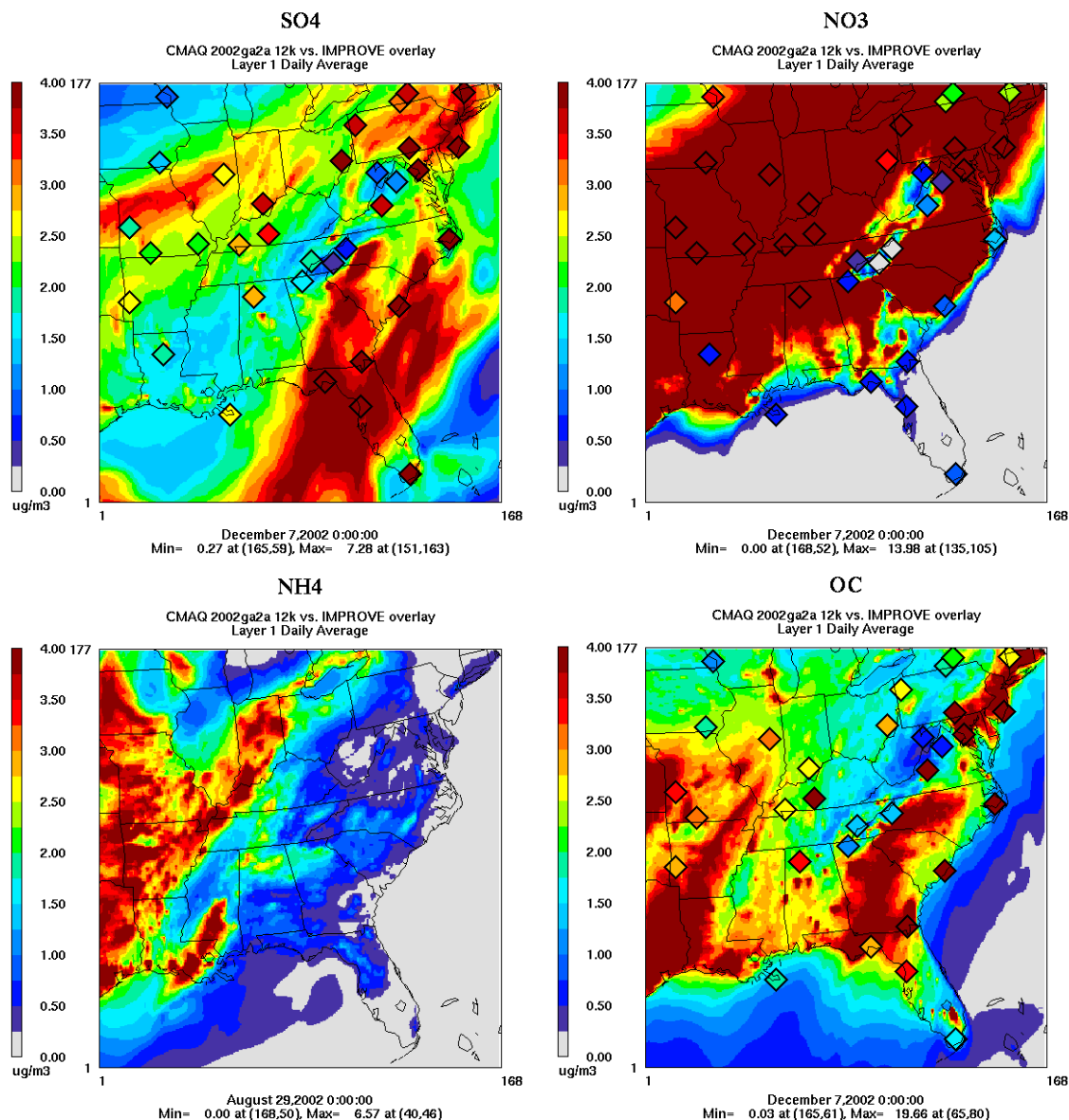| Date	Julian Day	Type	Class I Areas Affected
12/07/02	341	W20%	SIPS, SAMA, OKEF, CACR, CHAS, EVER, SWAN, HEGL, MACA, ROMA, MING, BRIG
12/07/02	341	B20%	LIGO, SHRO, GRSM, SHEN, DOSO, COHU

Figure D-336: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 7, 2002
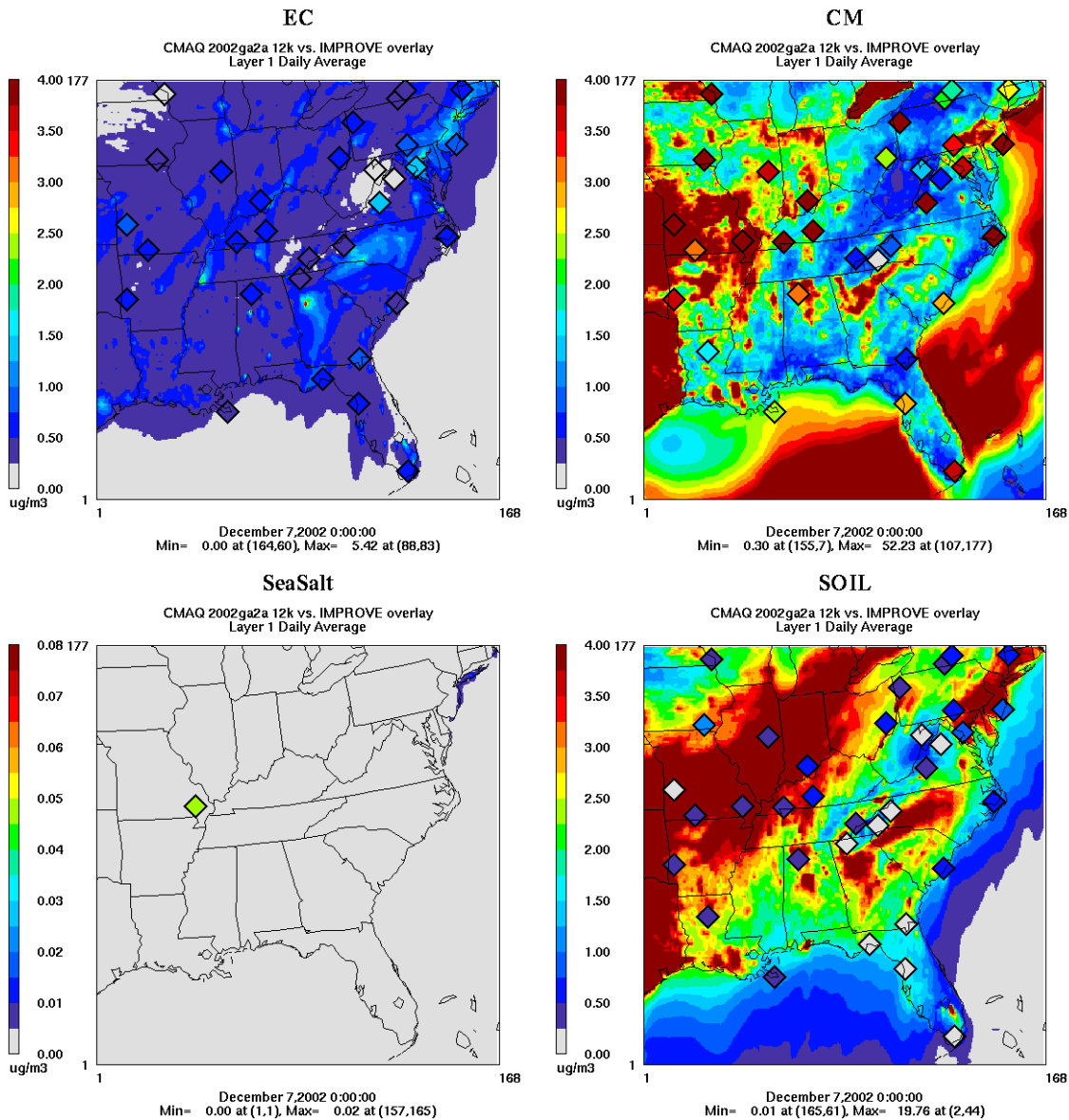
Figure D-337: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 7, 2002
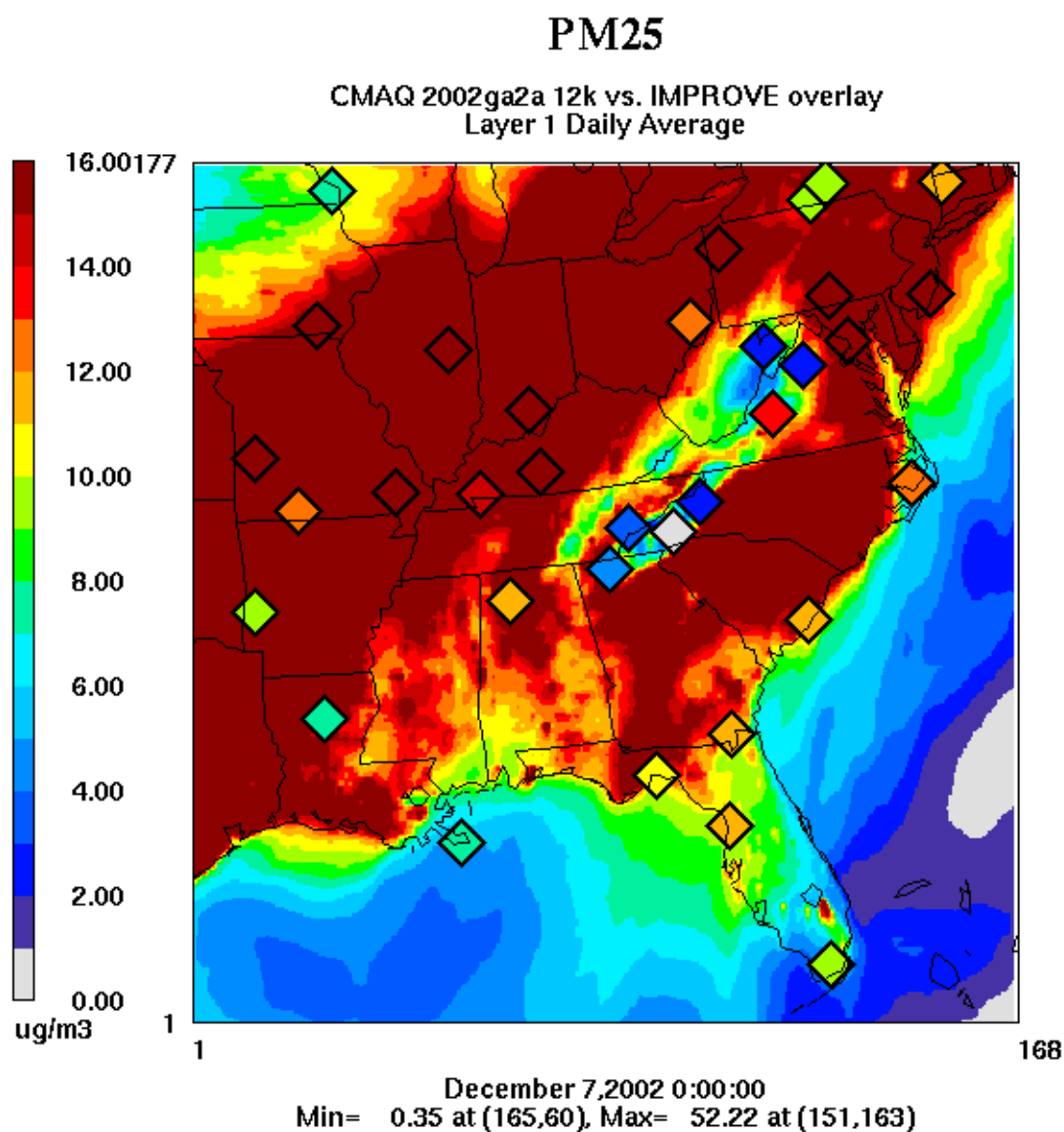
Figure D-338:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 7, 2002

D.113 December 10, 2002

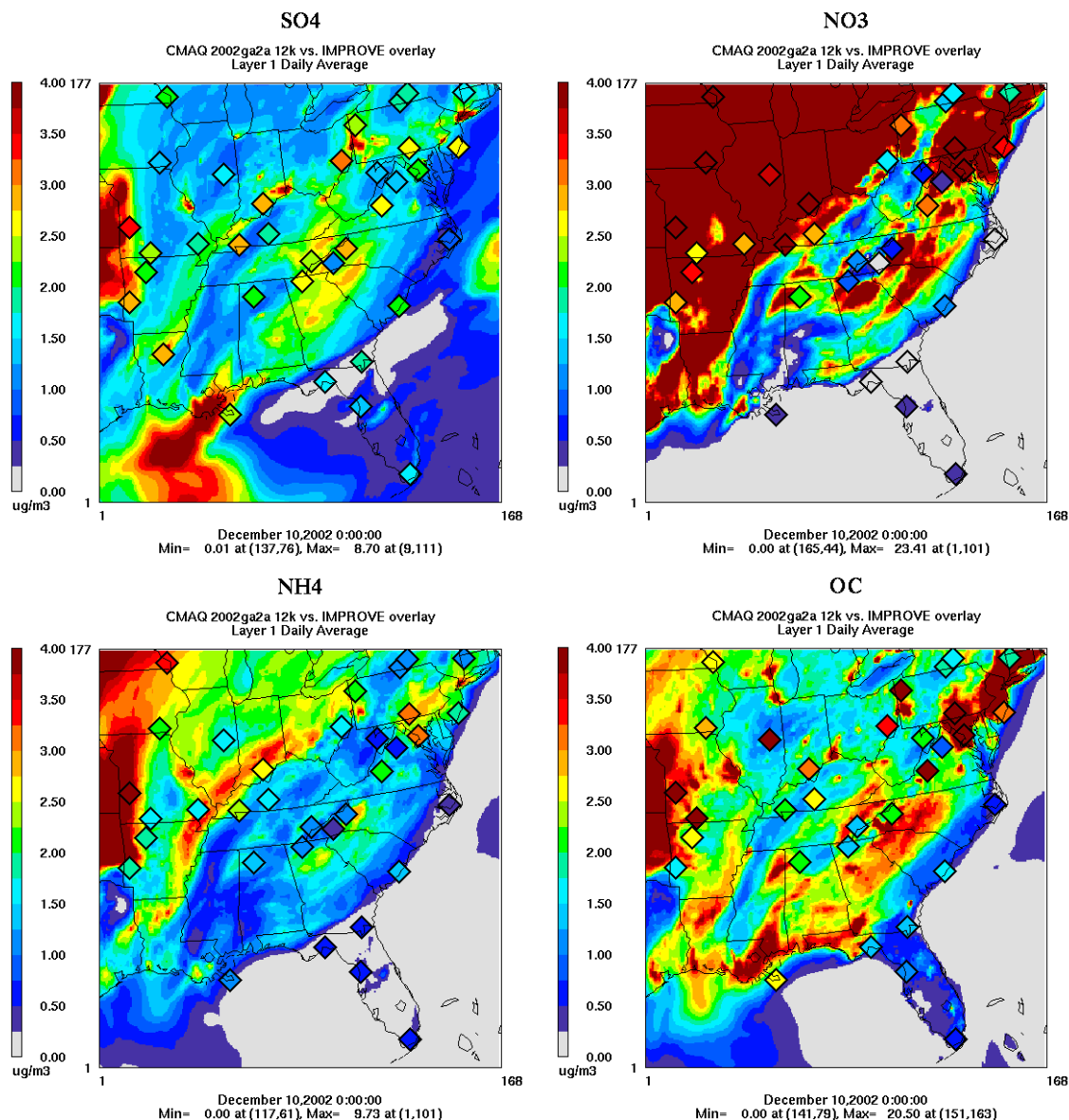| Date	Julian Day	Type	Class I Areas Affected
12/10/02	344	W20%	
12/10/02	344	B20%	SHRO, SAMA, OKEF, SHEN, CHAS, SWAN

Figure D-339: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 10, 2002
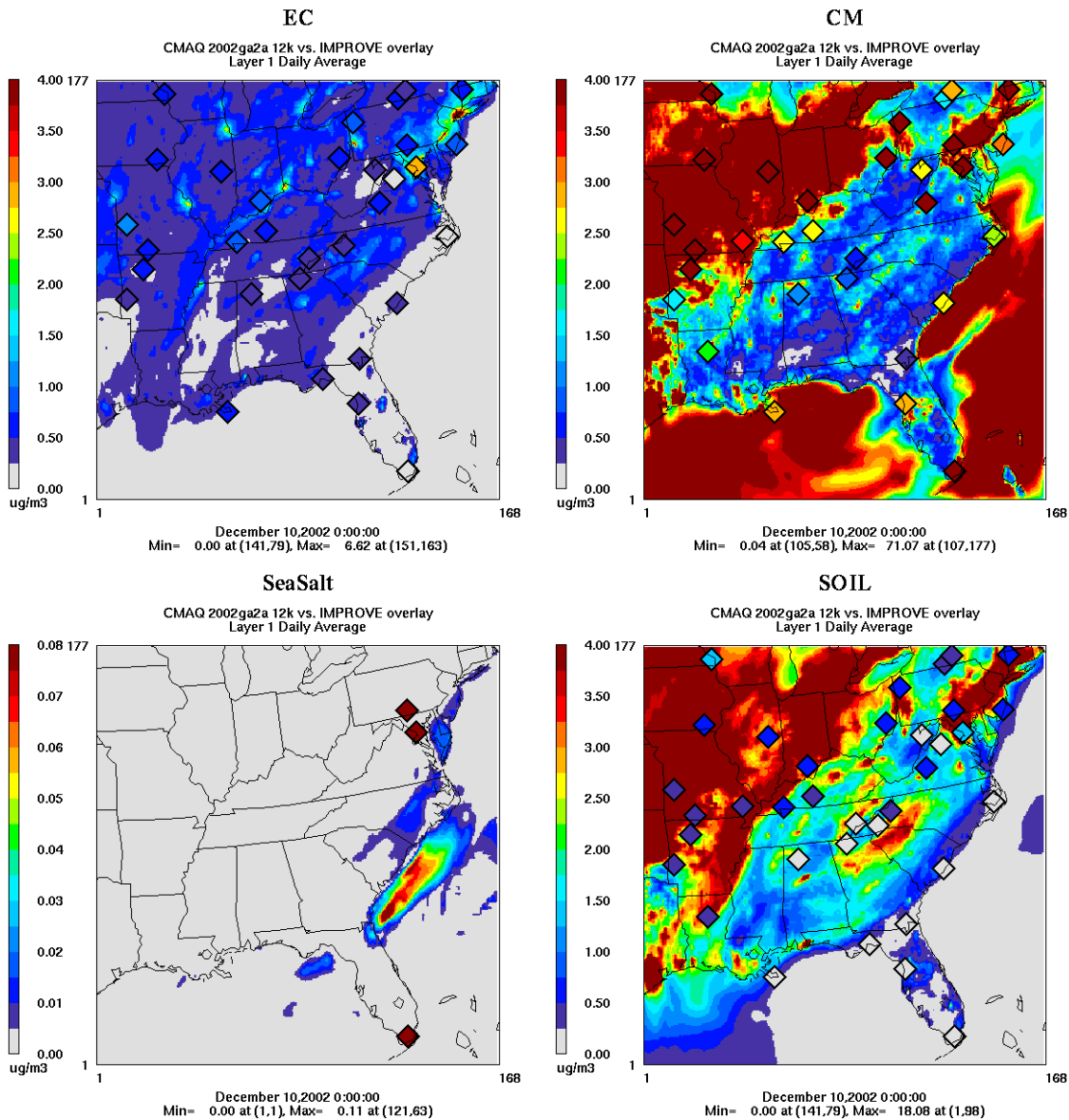
Figure D-340: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 10, 2002
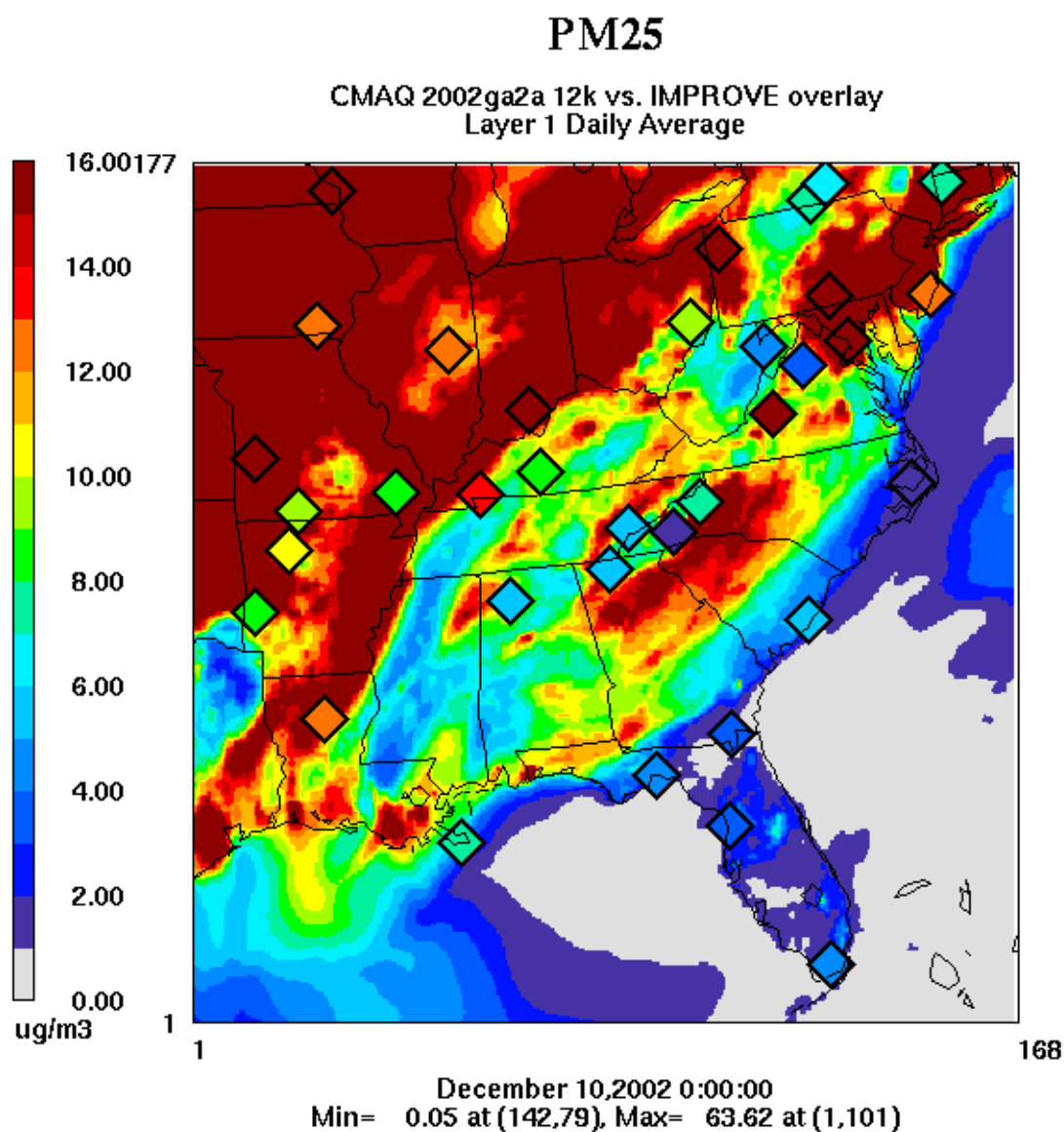
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

16.00177

14.00

12.00

10.00

8.00

6.00

4.00

2.00

0.00
ug/m3

1

1

168

December 10,2002 0:00:00
Min=   0.05 at (142,79), Max=   63.62 at (1,101)

Figure D-341:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 10, 2002

D.114 December 13, 2002

Date	Julian Day	Type	Class I Areas Affected
12/13/02	347	W20%	HEGL
12/13/02	347	B20%	LIGO, SHRO, GRSM, SIPS, OKEF, SHEN, DOSO, CHAS, COHU, MACA

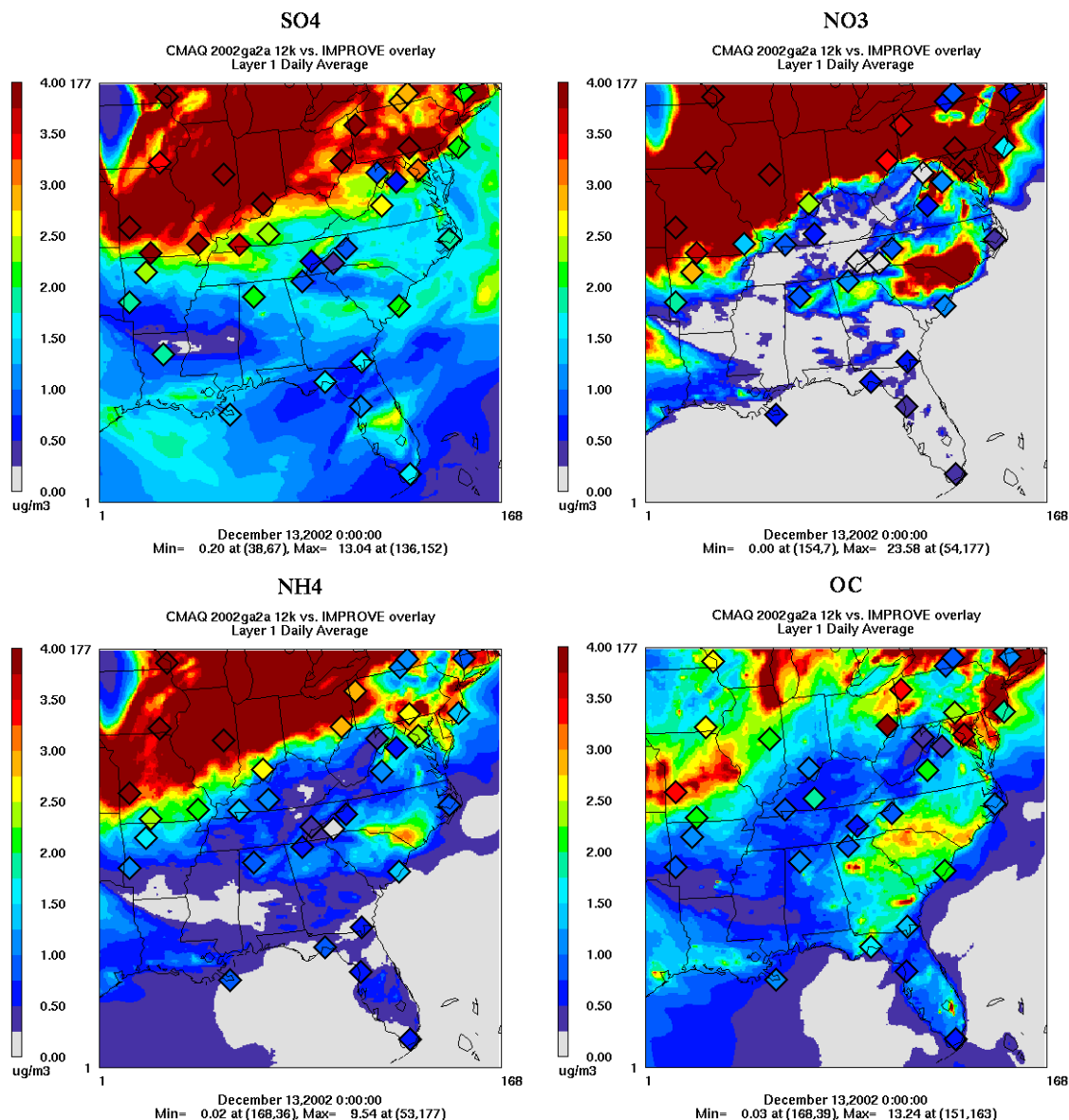**Figure D-342:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 13, 2002**
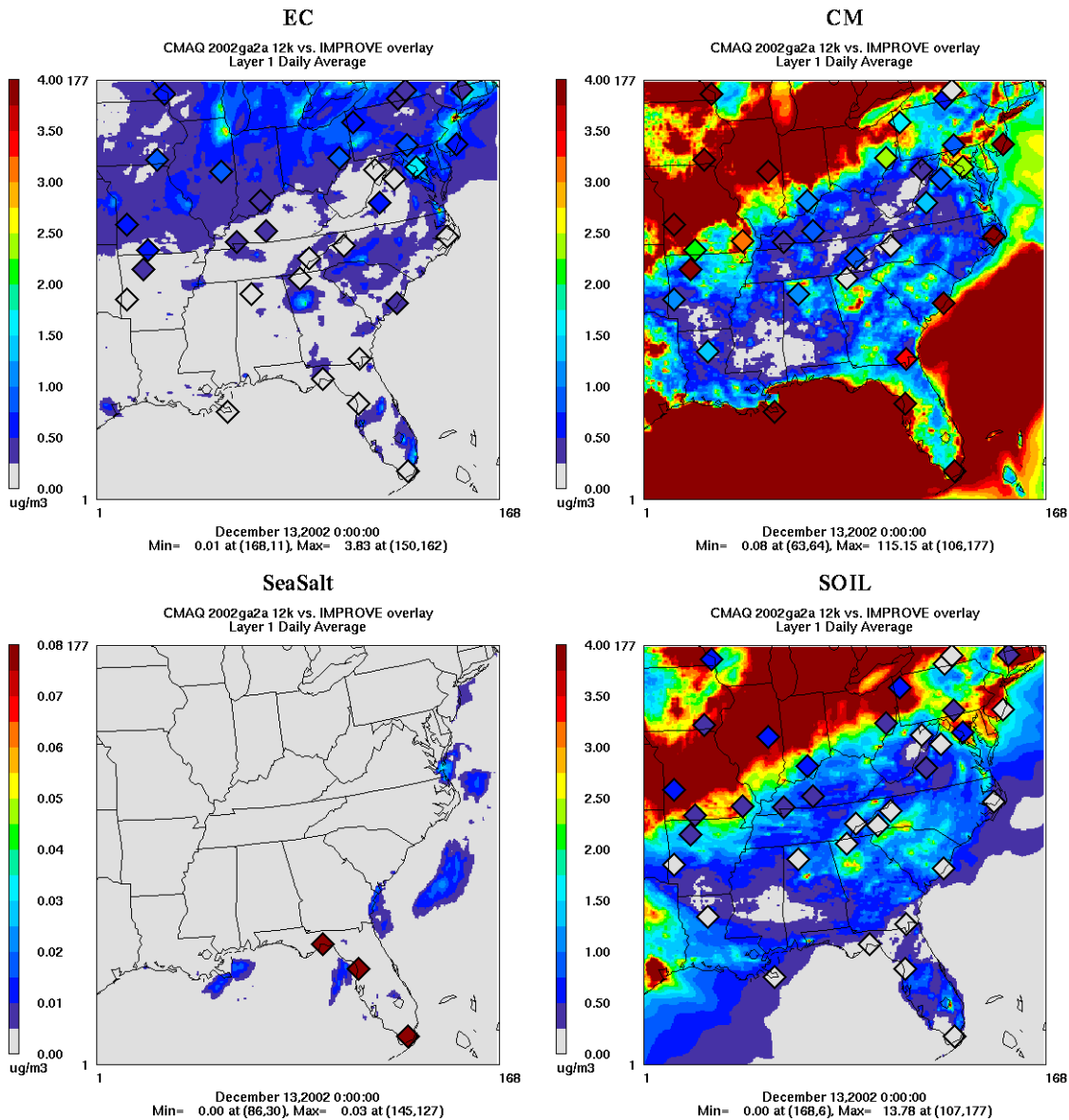
Figure D-343: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 13, 2002
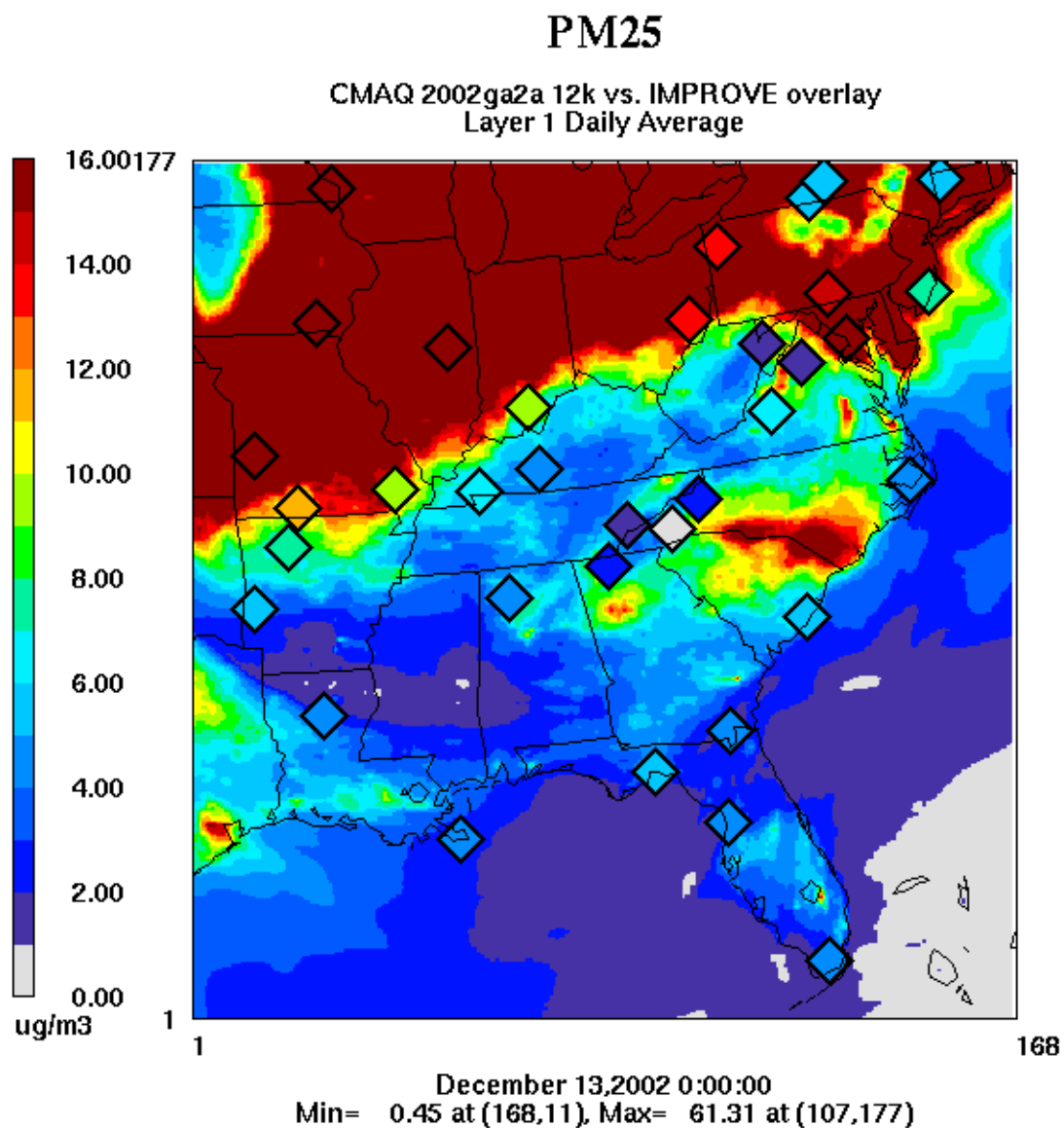
Figure D-344:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 13, 2002

D.115 December 16, 2002

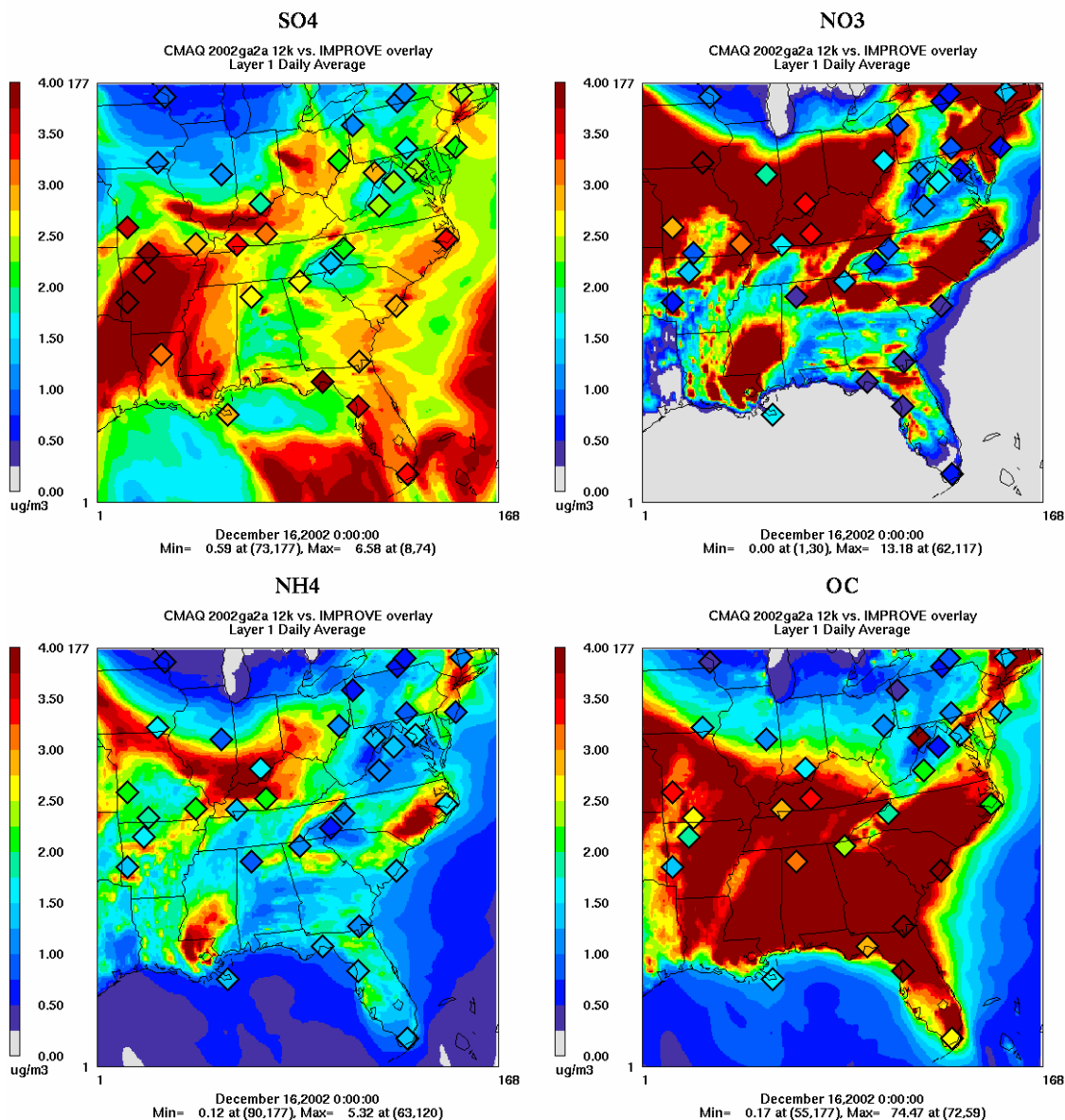| Date	Julian Day	Type	Class I Areas Affected
12/16/02	350	W20%	OKEF, CHAS, EVER
12/16/02	350	B20%	

Figure D-345: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 16, 2002
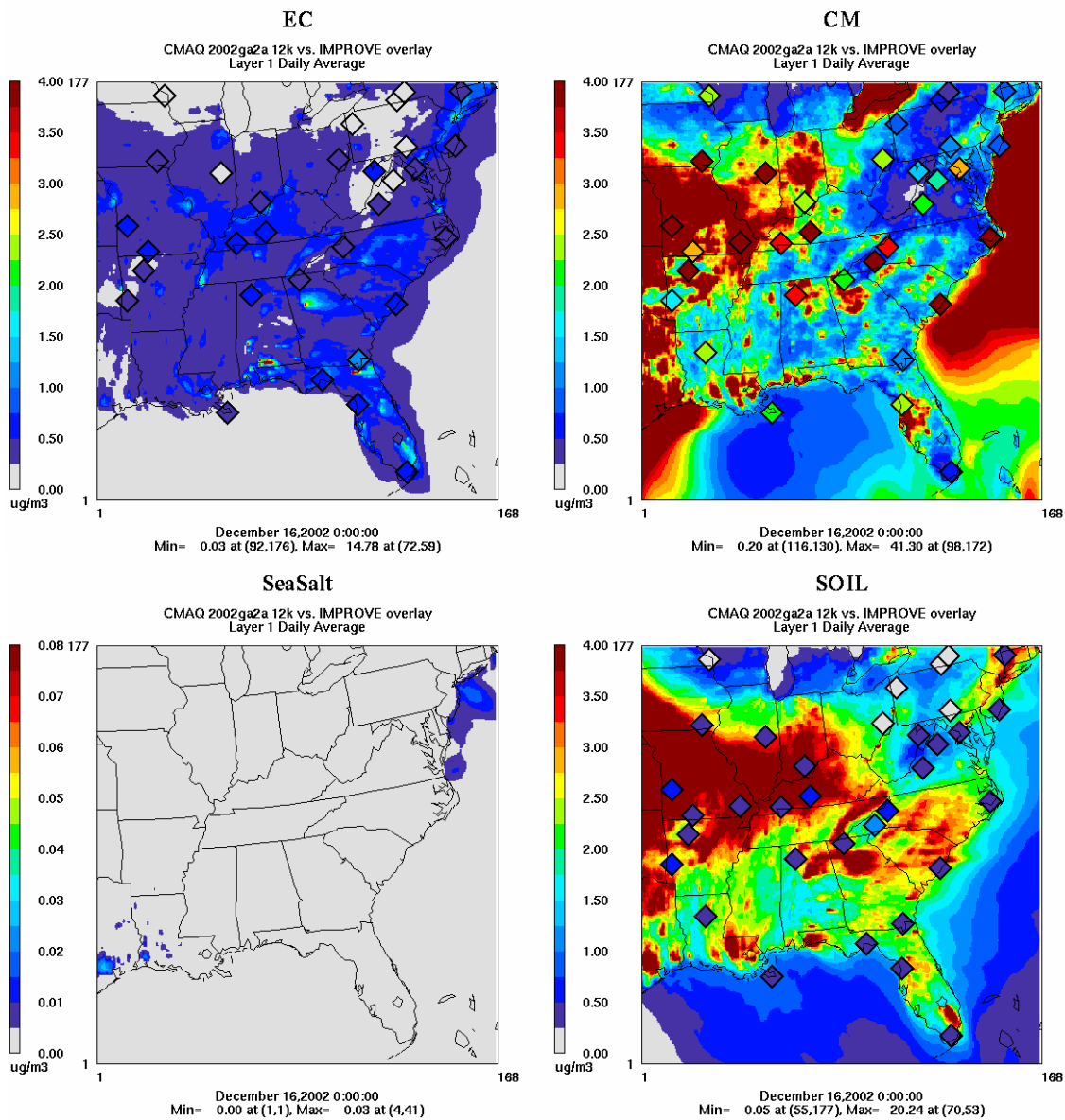
Figure D-346: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 16, 2002
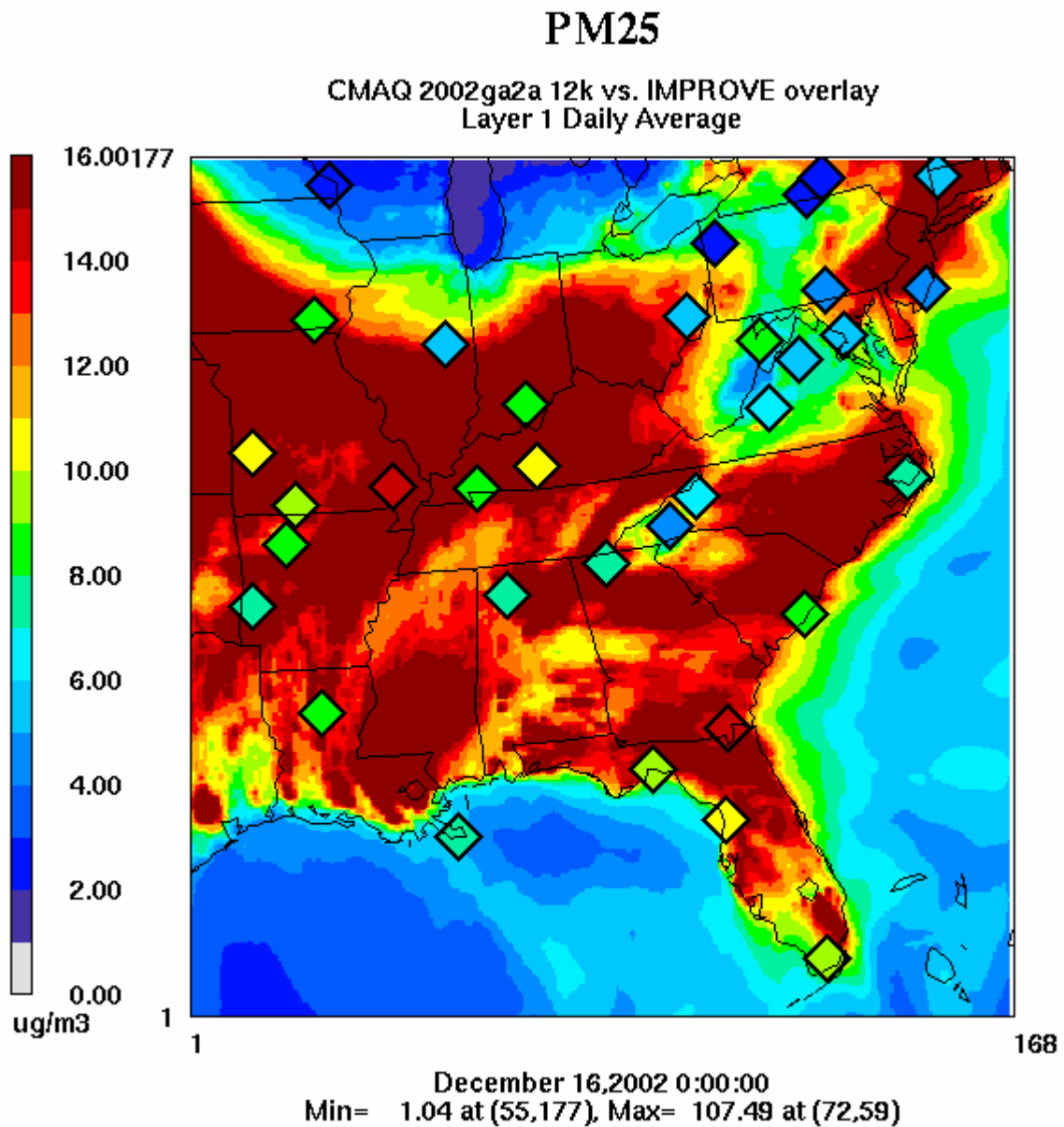
Figure D-347:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 16, 2002

D.116 December 19, 2002

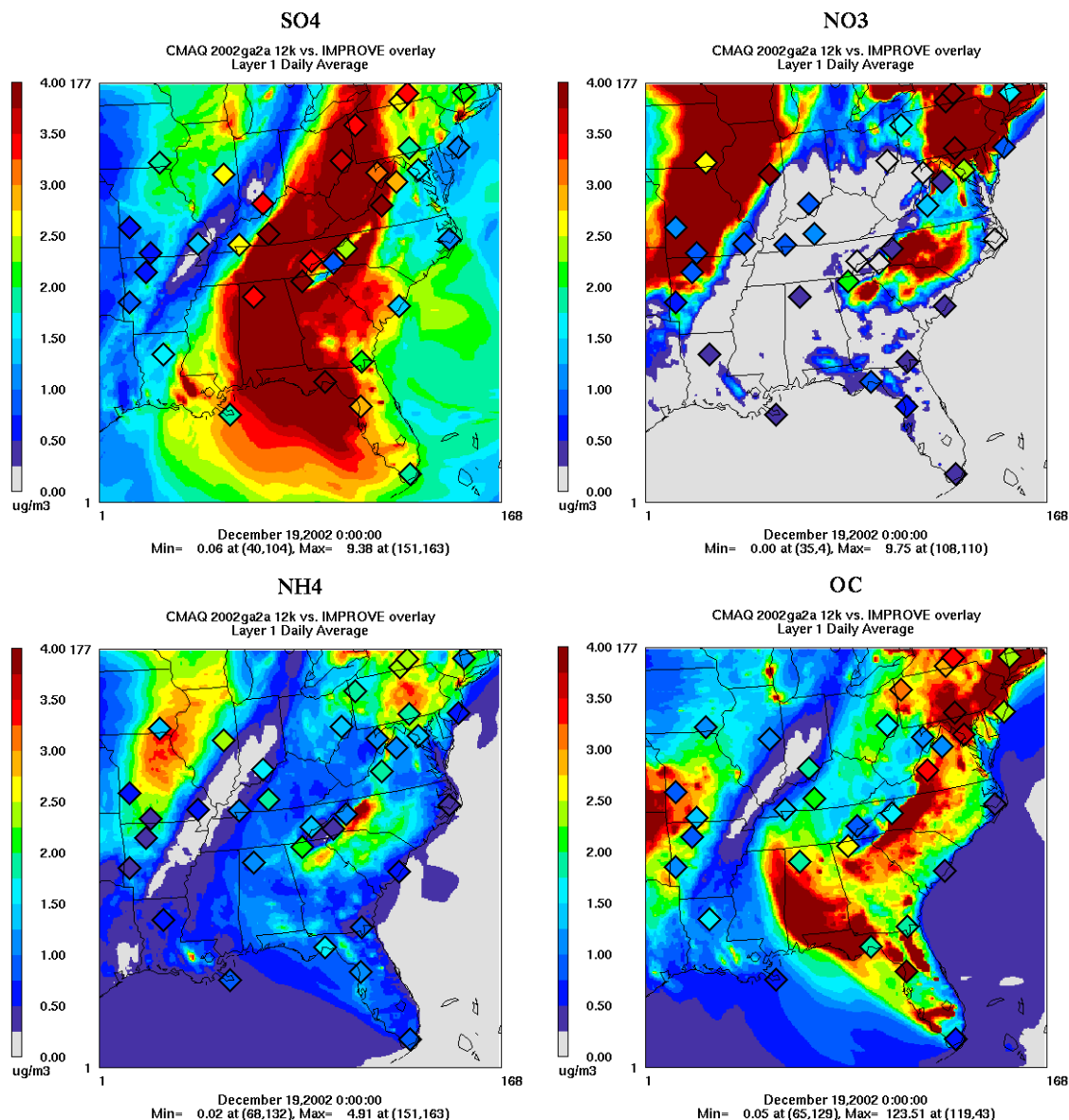| Date	Julian Day	Type	Class I Areas Affected
12/19/02	353	W20%	
12/19/02	353	B20%	SHRO, CACR, SWAN, HEGL, ROMA, UPBU, MING

Figure D-348:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 19, 2002
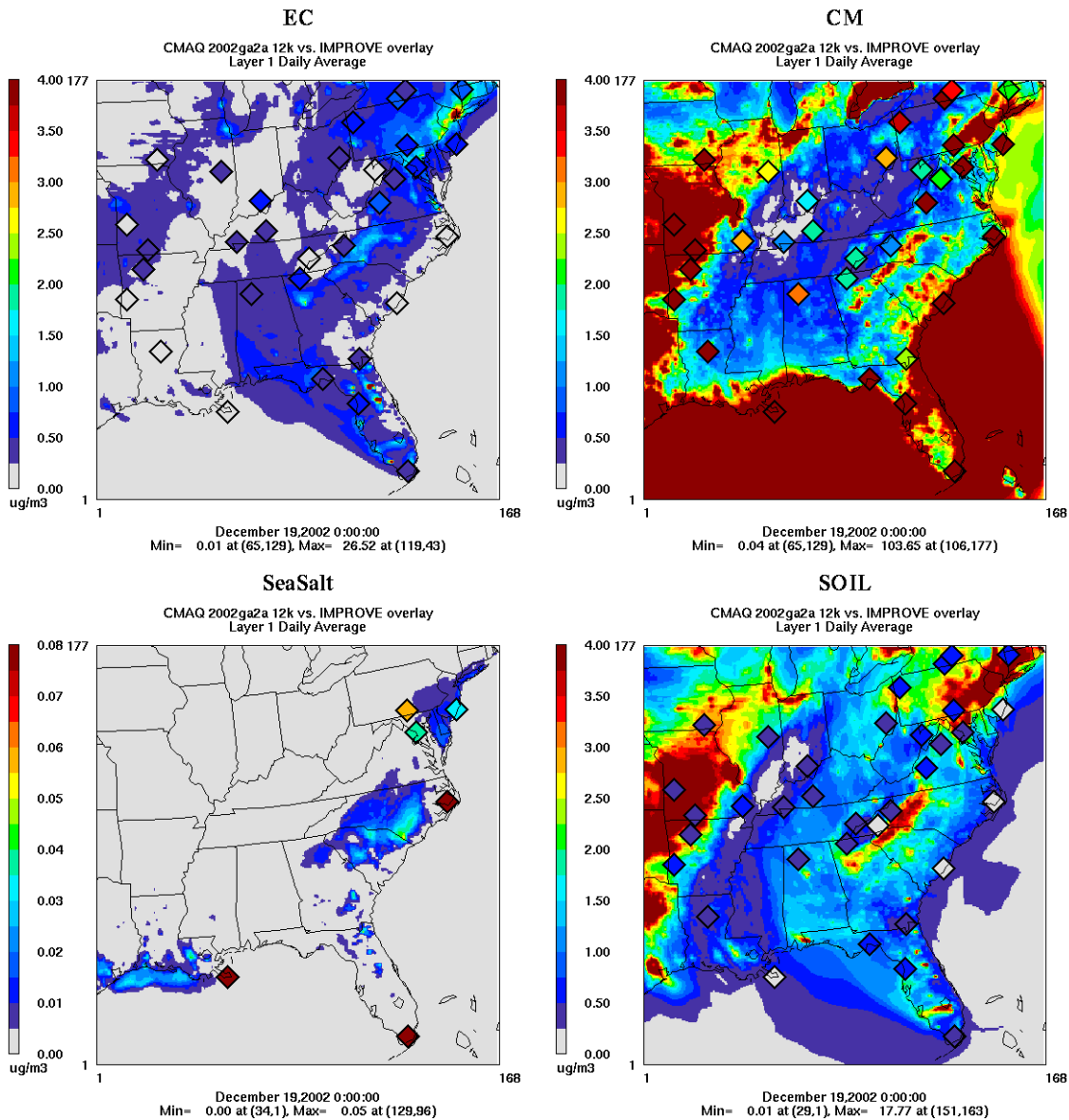
Figure D-349: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 19, 2002
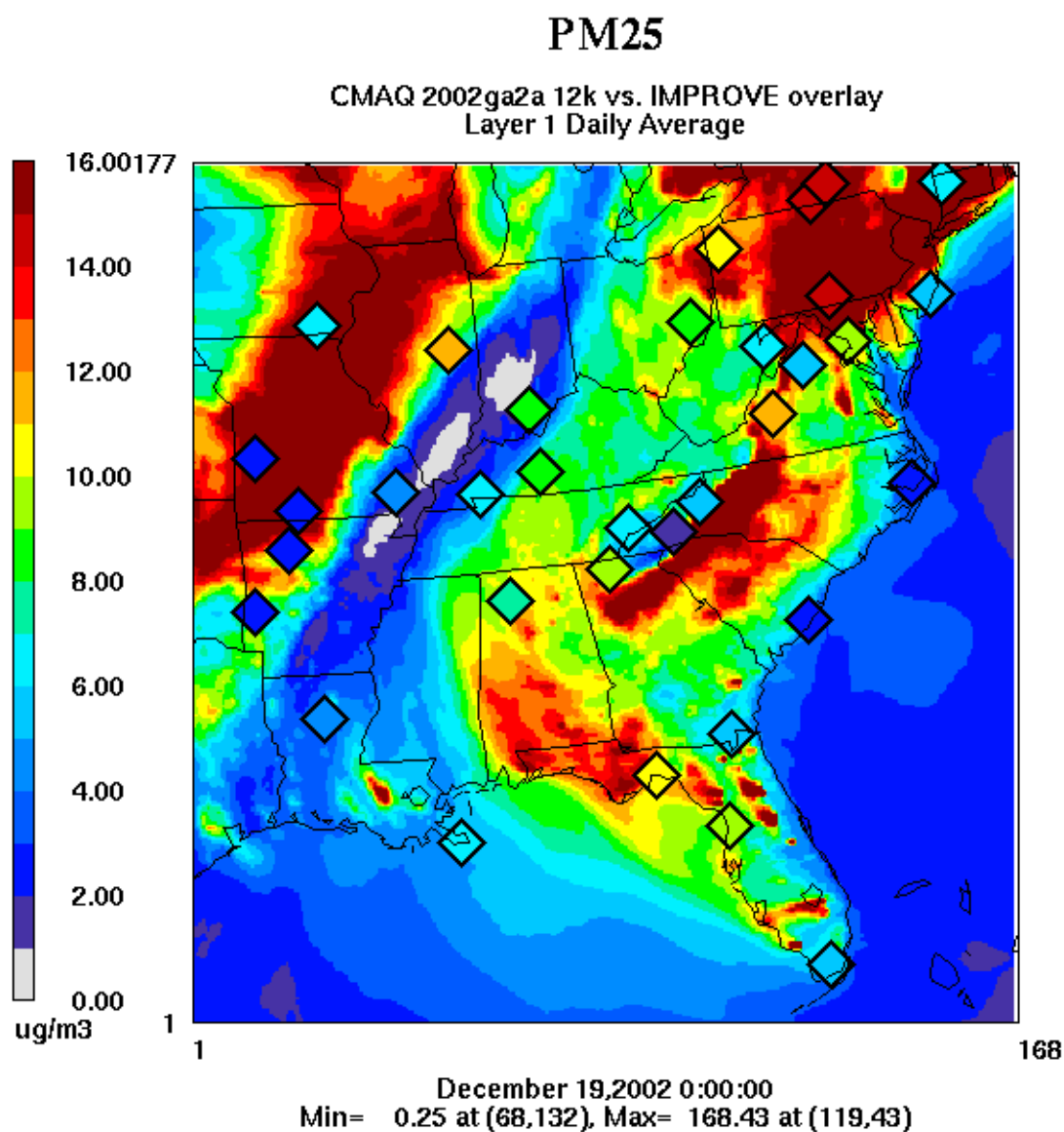
Figure D-350: Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 19, 2002

D.117 December 22, 2002

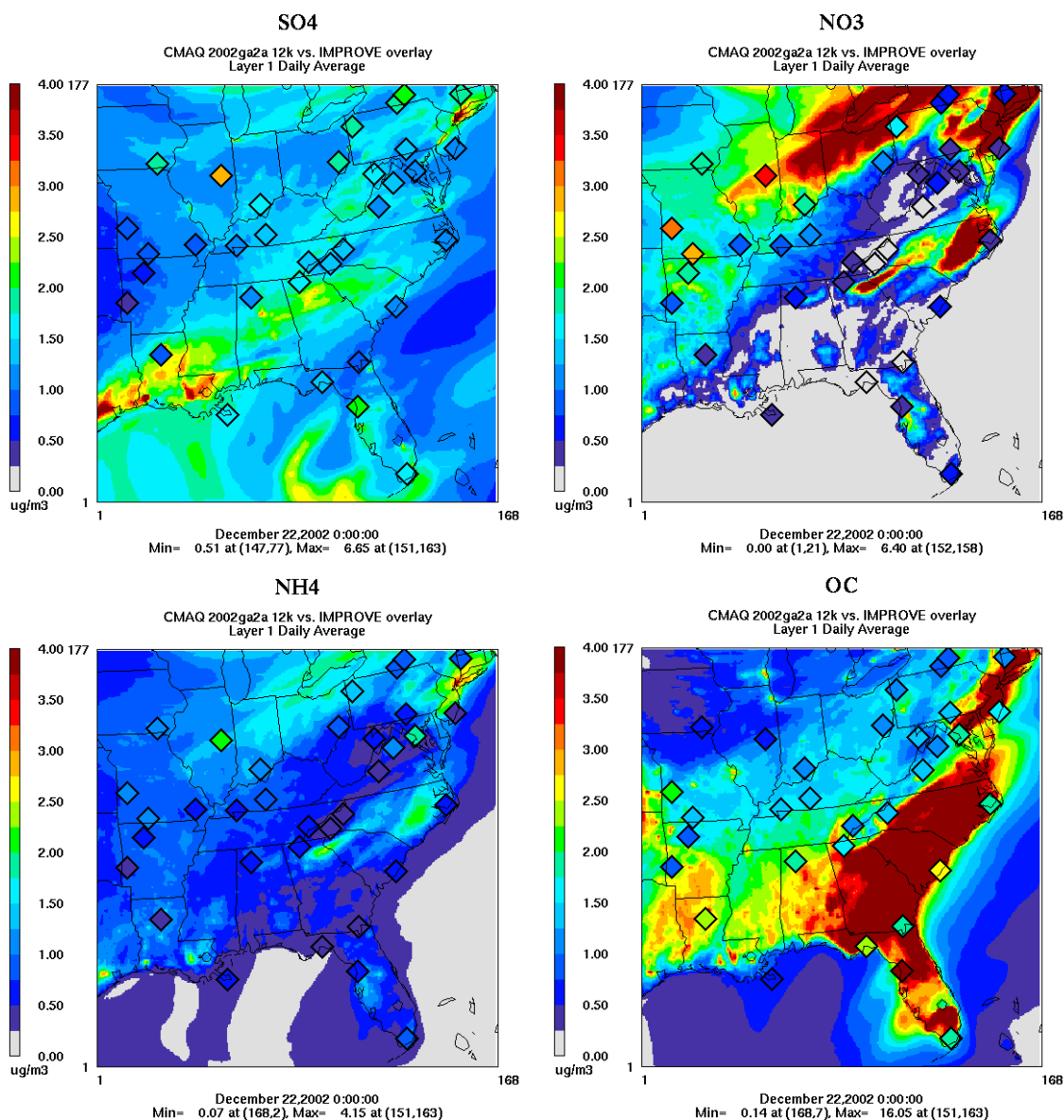| Date	Julian Day	Type	Class I Areas Affected
12/22/02	356	W20%	
12/22/02	356	B20%	LIGO, GRSM, JARI, SIPS, SAMA, OKEF, CACR, BRET, SHEN, DOSO, COHU, MACA, MING, BRIG

Figure D-351:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component

Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 22, 2002
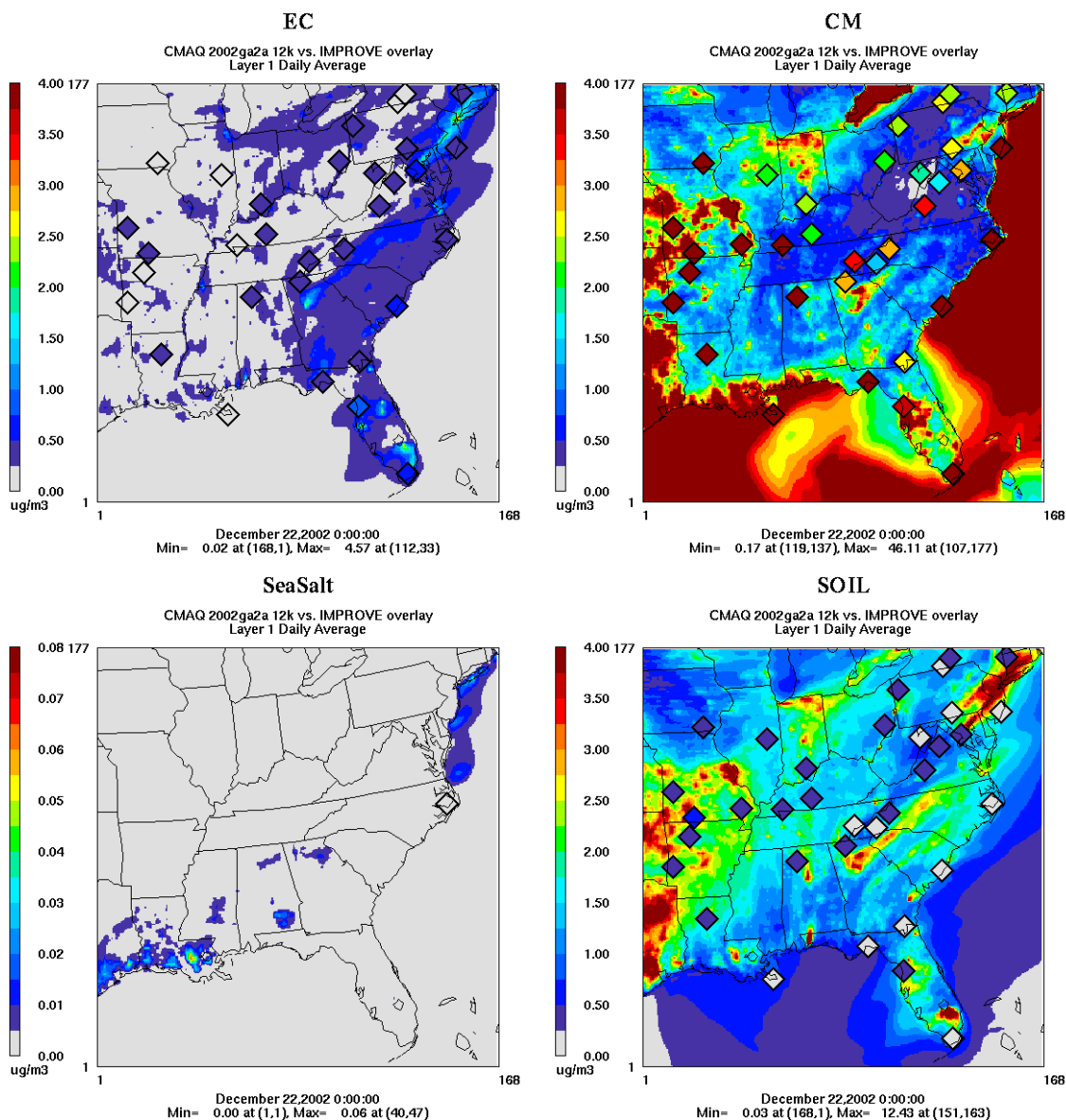

Figure D-352: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 22, 2002
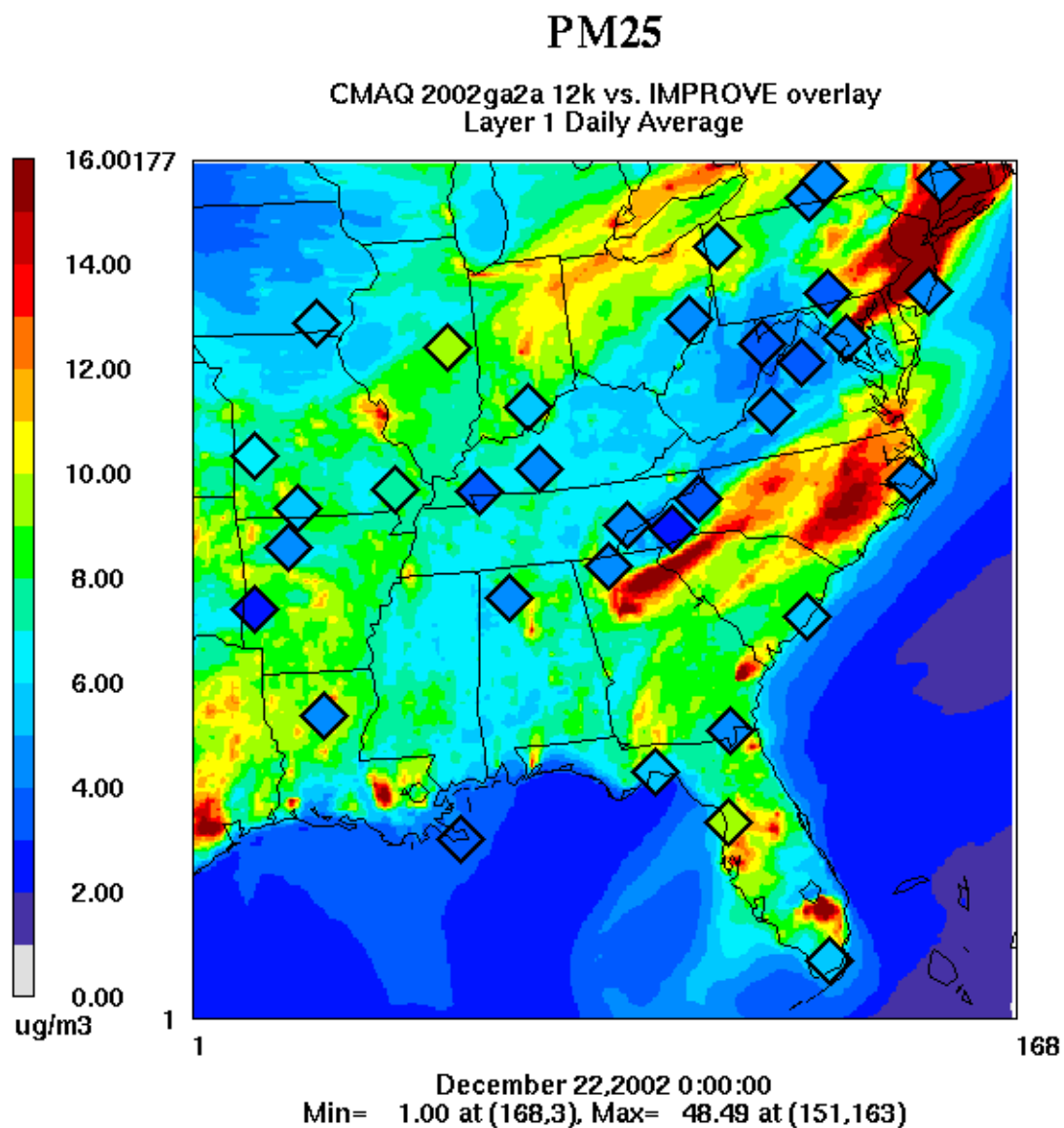
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

December 22,2002 0:00:00
Min= 1.00 at (168,3), Max= 48.49 at (151,163)

Figure D-353:
Figure D-354:Modeled Predicted And Observed Daily Average Total Fine Particulate
Matter (PM25) Concentration Spatial Plots For December 22, 2002

D.118 December 25, 2002

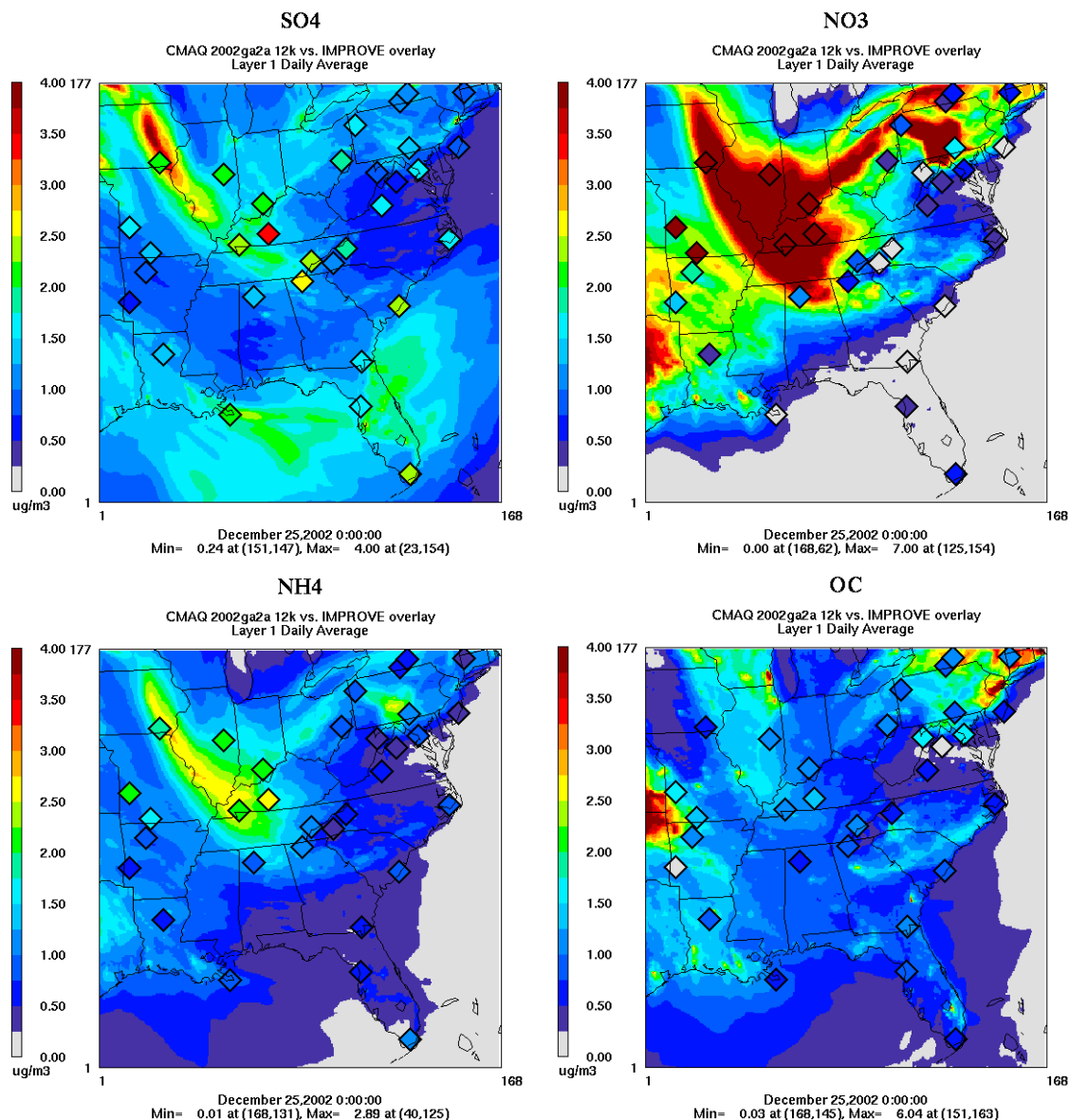| Date	Julian Day	Type	Class I Areas Affected
12/25/02	359	W20%	
12/25/02	359	B20%	LIGO, SHRO, JARI, SIPS, OKEF, CACR, BRET, SHEN, DOSO, SWAN, BRIG

Figure D-355: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 25, 2002
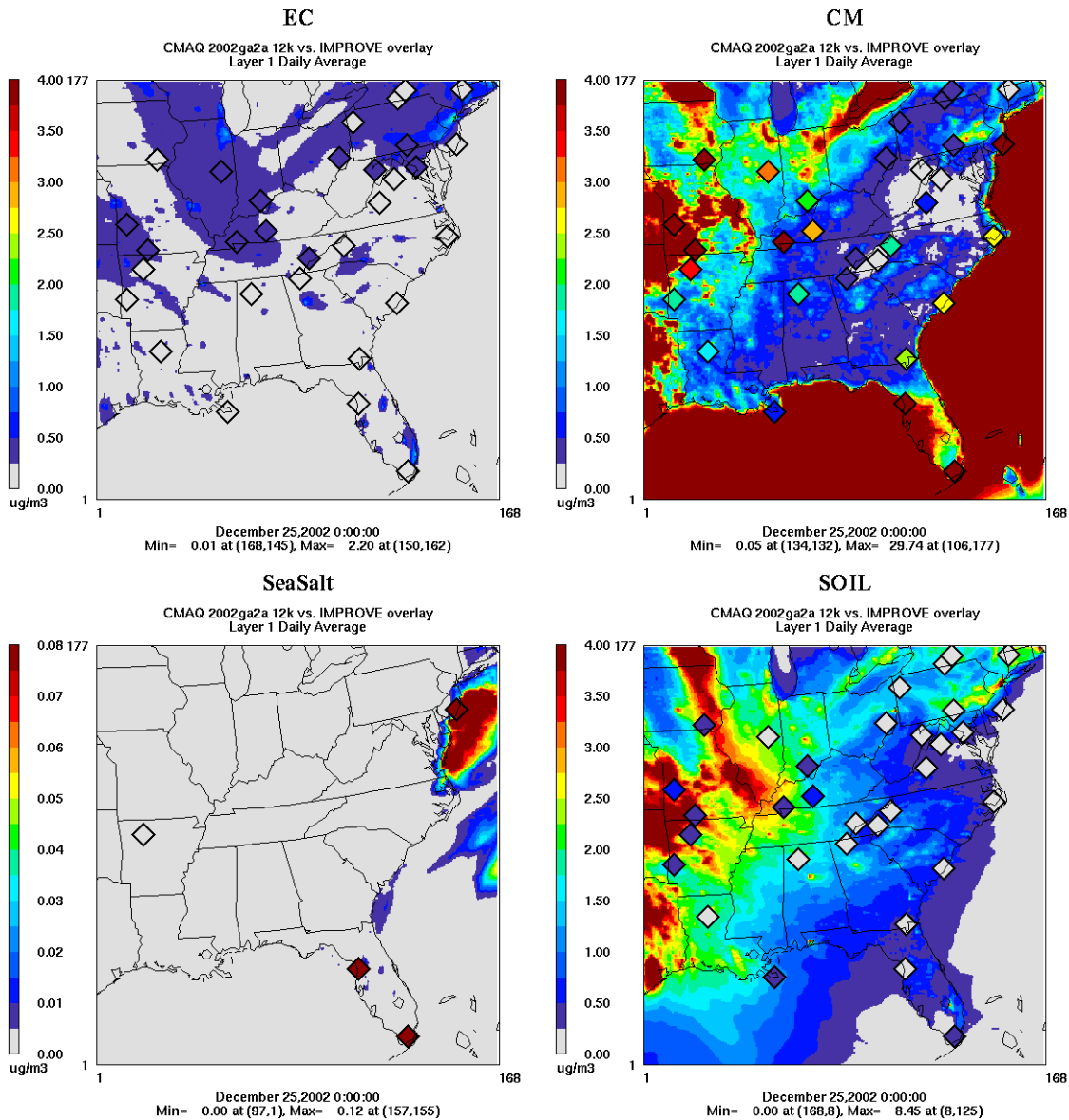
Figure D-356: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 25, 2002
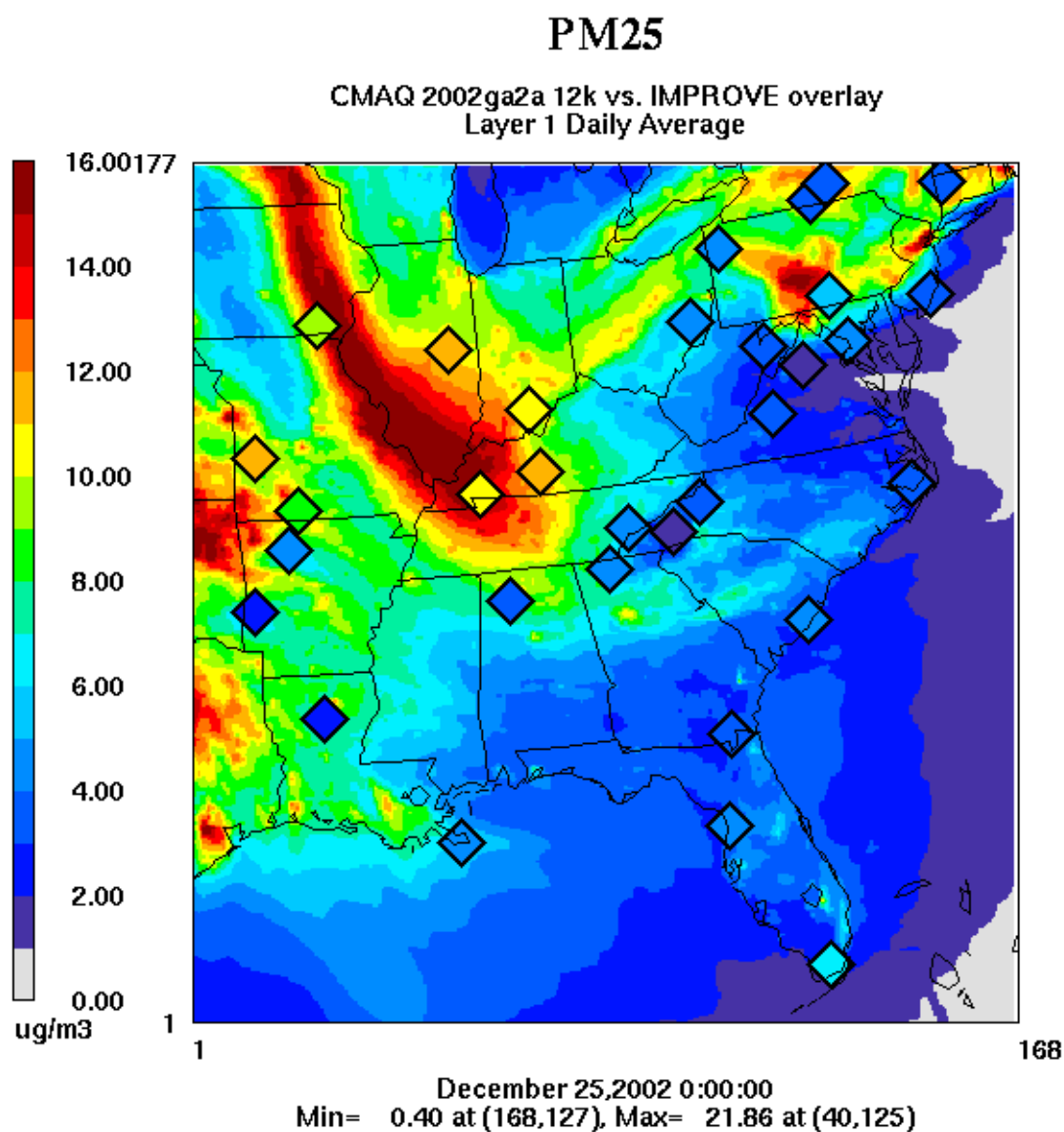
PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

December 25,2002 0:00:00
Min= 0.40 at (168,127), Max= 21.86 at (40,125)

Figure D-357:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 25, 2002

D.119 December 28, 2002

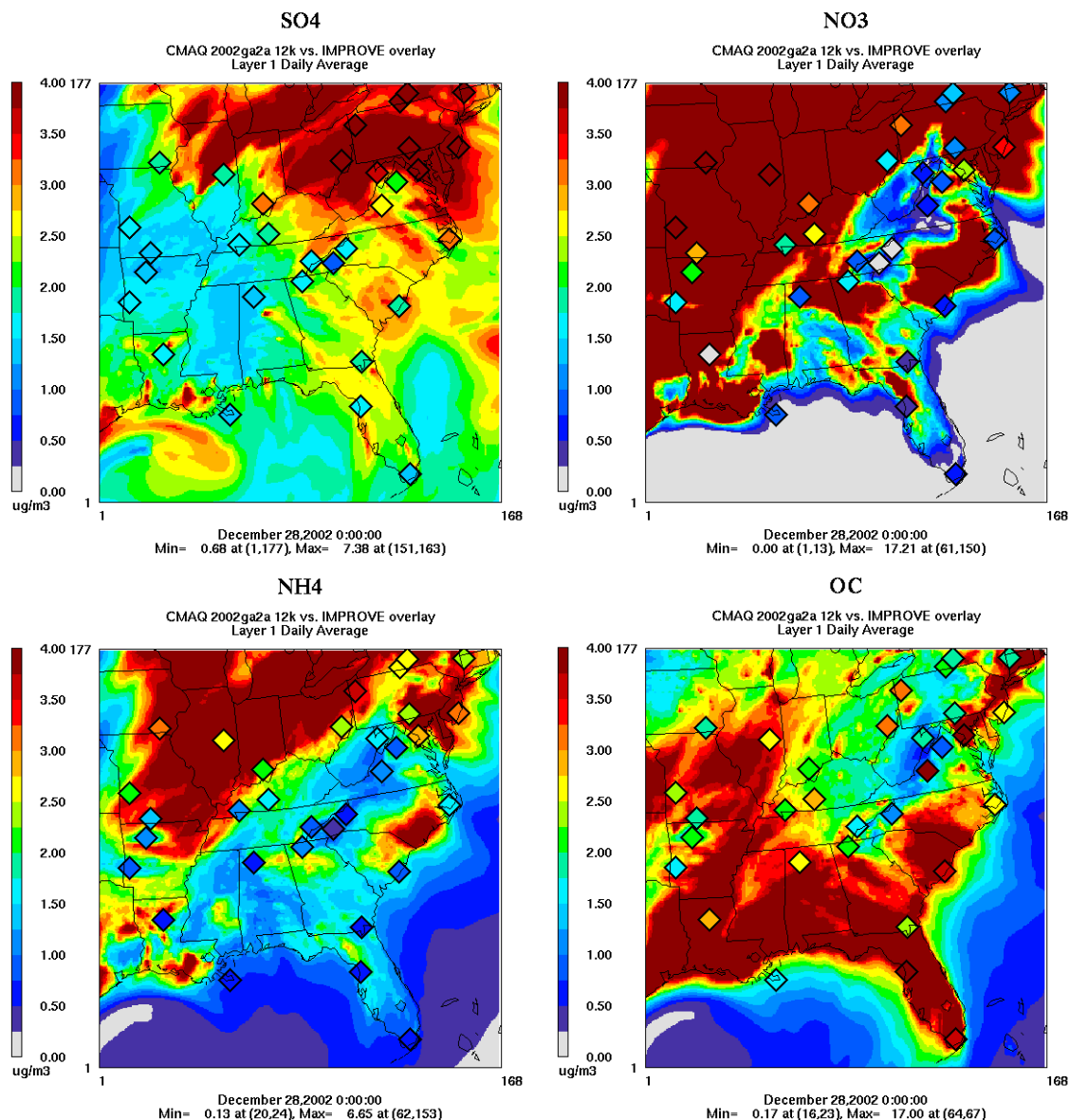| Date	Julian Day	Type	Class I Areas Affected
12/28/02	362	W20%	EVER, BRIG
12/28/02	362	B20%	LIGO, SHRO, SIPS

Figure D-358:Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 28, 2002
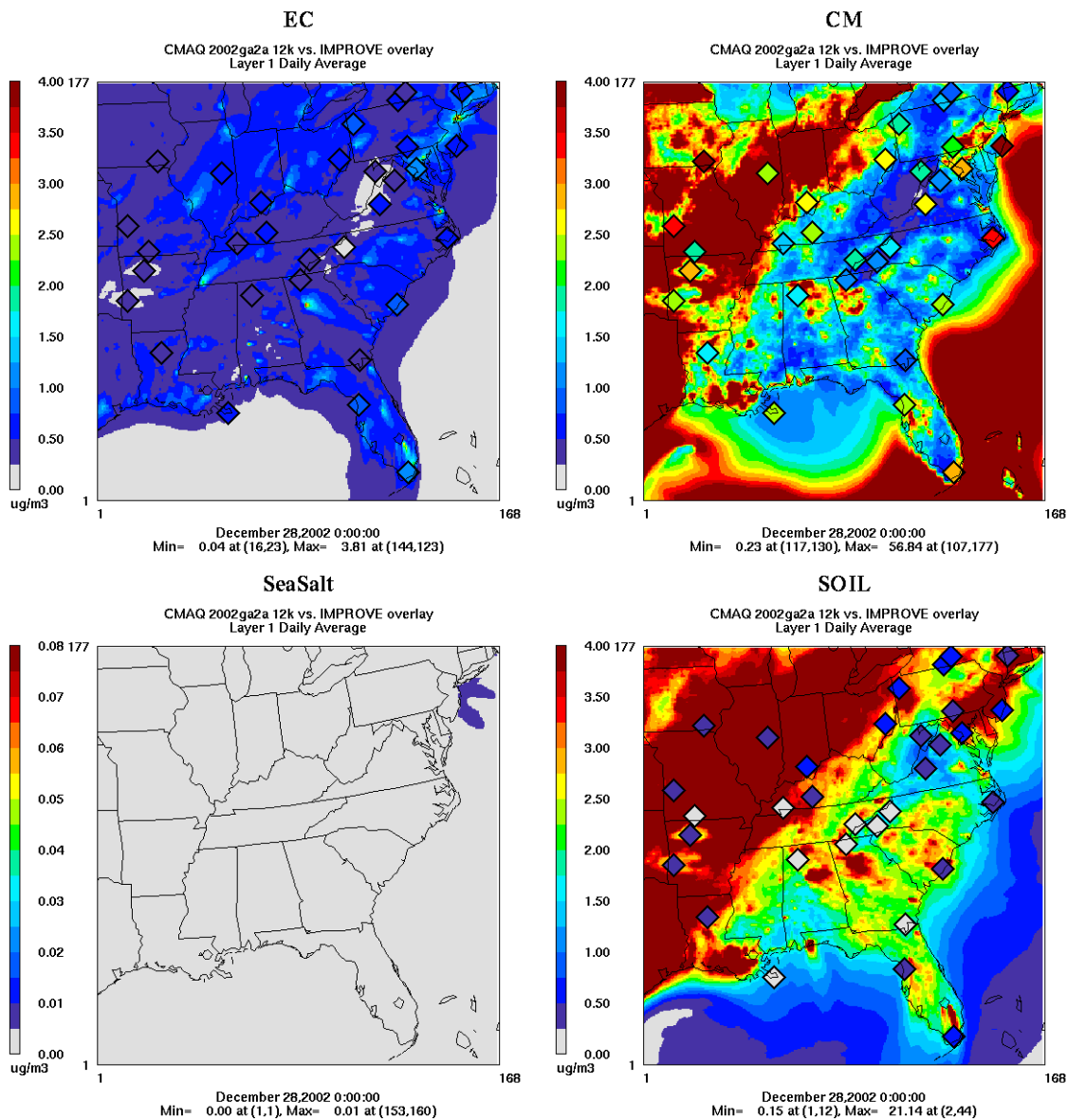
Figure D-359: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations (top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 28, 2002
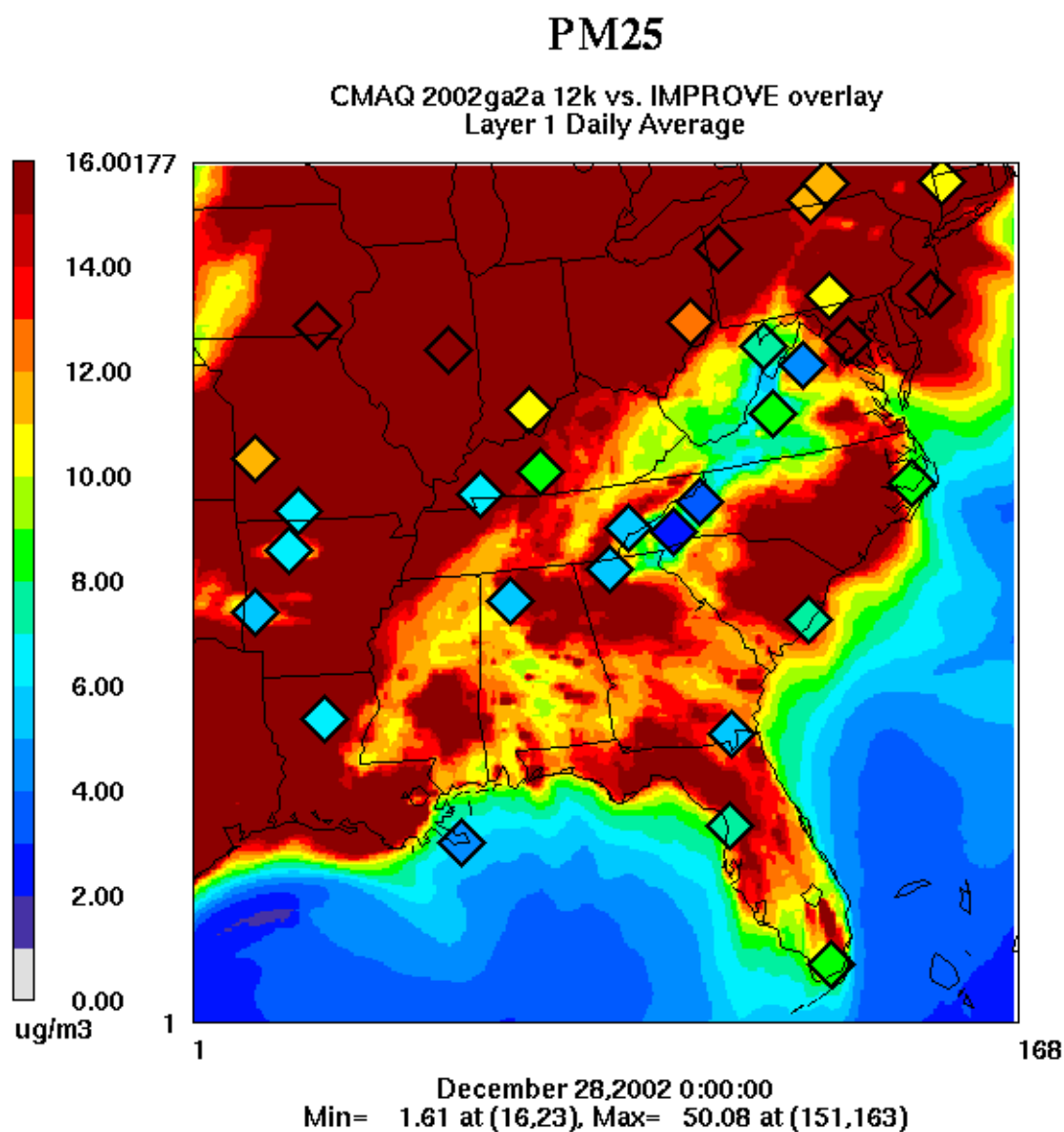
Figure D-360:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 28, 2002

D.120 December 31, 2002

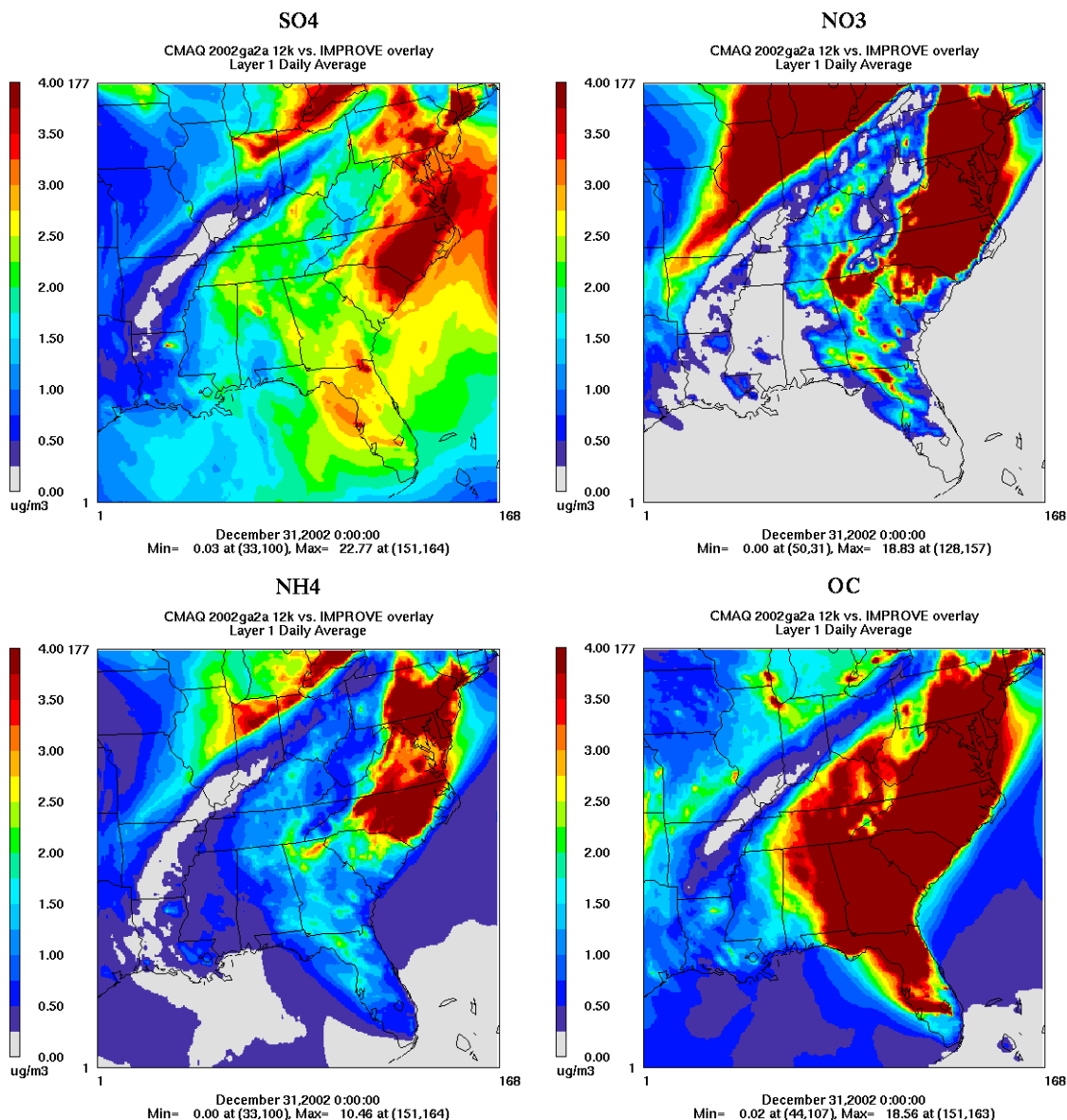| Date	Julian Day	Type	Class I Areas Affected
12/31/02	365	W20%	
12/31/02	365	B20%	SHRO, BRET, DOSO, HEGL, MACA, UPBU

Figure D-361: Modeled Predicted And Observed Daily Average Sulfate (SO4) Component Concentrations (top left), Daily Average Nitrate (NO3) Component Concentrations (top right), Daily Average Ammonium (NH4) Component Concentrations, And Daily Average Organic Carbon (OC) Component Concentrations Spatial Plots For December 31, 2002
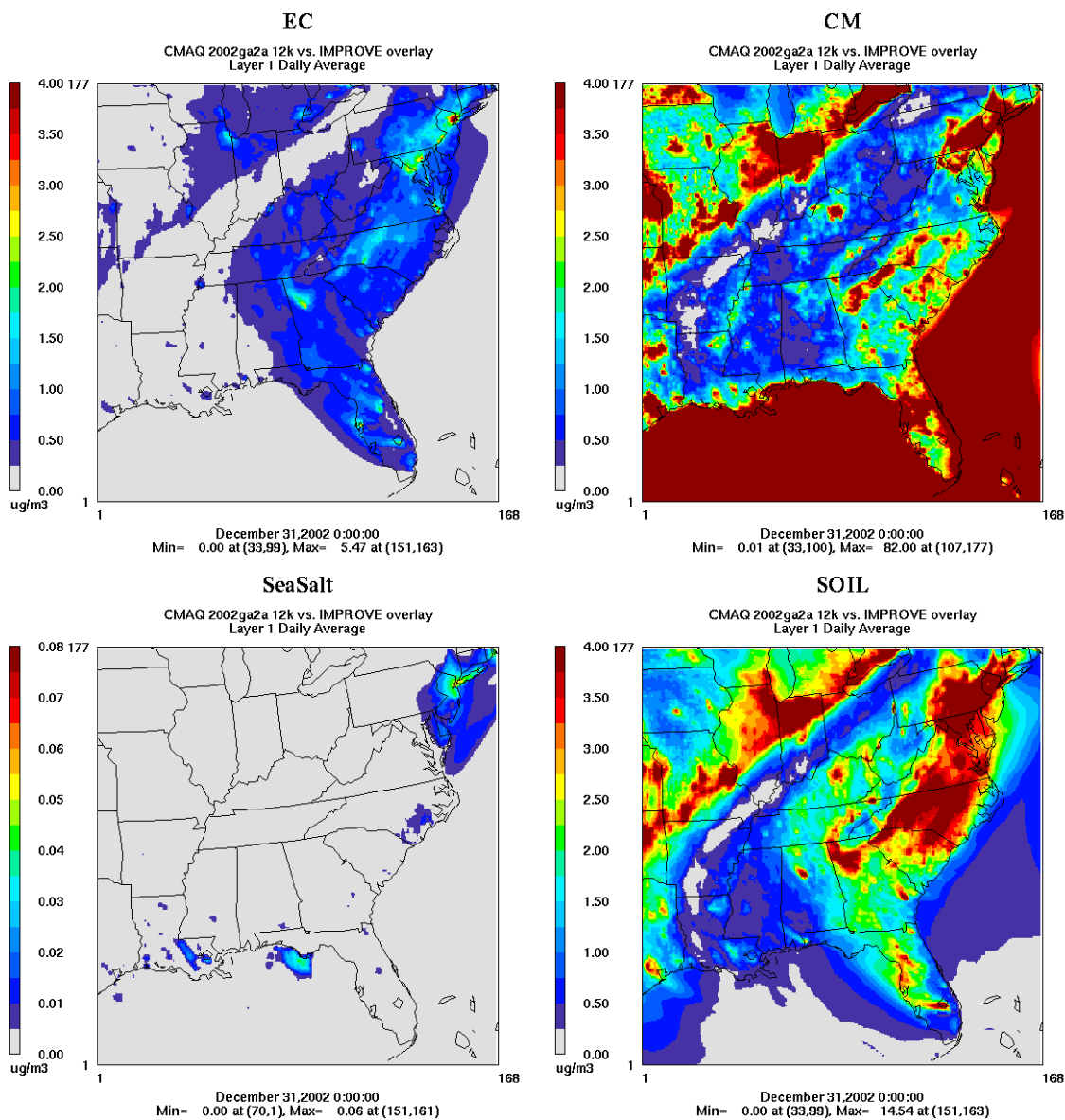
Figure D-362: Modeled Predicted And Observed Daily Average Elemental Carbon (EC) Component Concentrations (top left), Daily Average Coarse Particle Mass (CM) Component Concentrations(top right), Daily Average Sea Salt Component Concentrations, And Daily Average Soil Component Concentrations Spatial Plots For December 31, 2002

PM25

CMAQ 2002ga2a 12k vs. IMPROVE overlay
Layer 1 Daily Average

December 31,2002 0:00:00
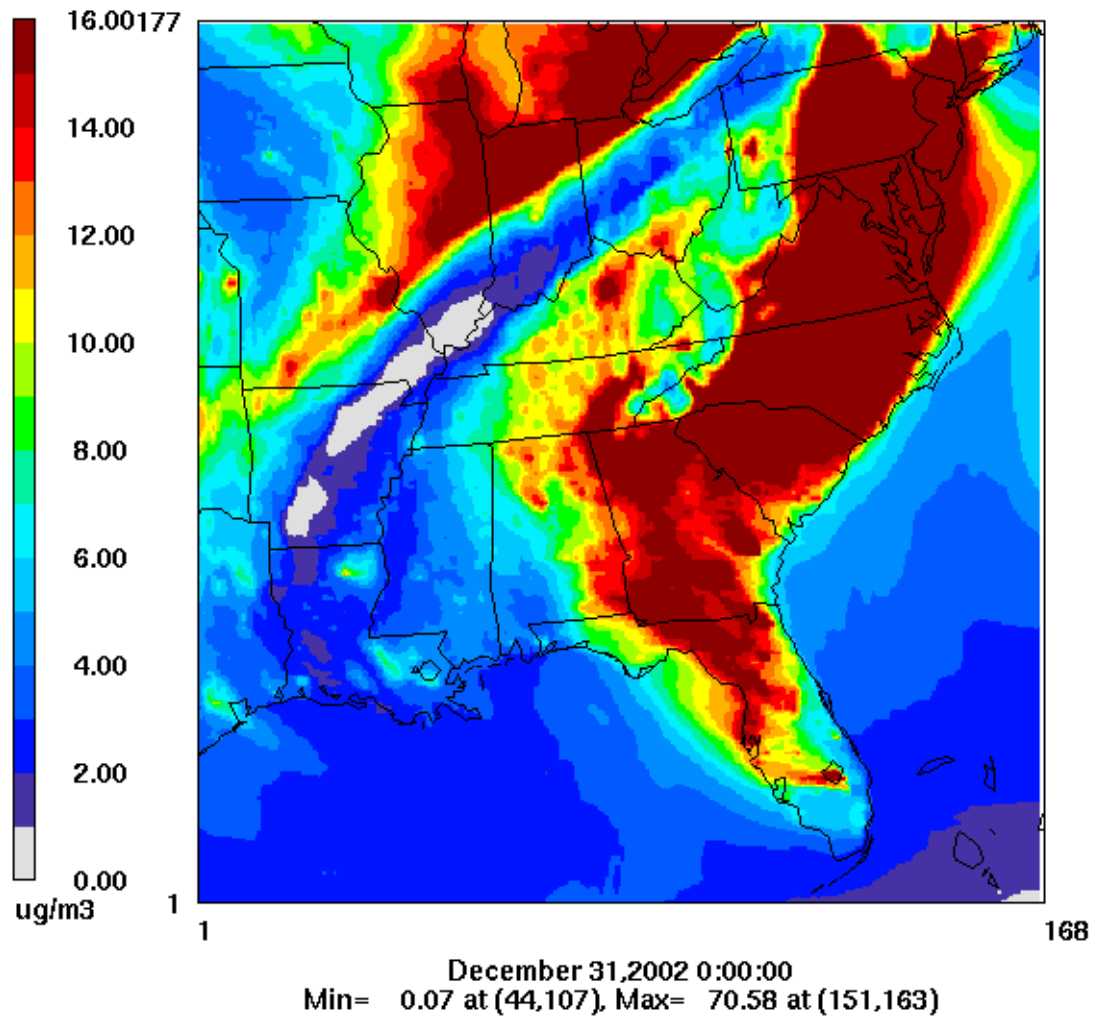Min=   0.07 at (44,107), Max=   70.58 at (151,163)

Figure D-363:Modeled Predicted And Observed Daily Average Total Fine Particulate Matter (PM25) Concentration Spatial Plots For December 31, 2002