

Appendix K

Modeling Results

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Introduction

The air quality modeling results for the 12-kilometer (km) grid modeling domain are presented in this appendix for the attainment demonstration for the Charlotte-Gastonia-Rock Hill, NC-SC 8-hour ozone nonattainment area (referred to as the Metrolina area). These modeling results are displayed as daily maximum 8-hour ozone plots for both the 2002 baseline year and the 2009 attainment year. Only the modeling days that were used in determining the relative reduction factors (RRFs) at any of the Metrolina area ozone monitors are presented here. The color scale used for these plots are based on the Air Quality Index (AQI) where orange and red colorations indicate modeled exceedances of the 8-hour ozone National Ambient Air Quality Standard.

Each of the following 31 pages presents a single modeling day. The first or top plot on each page is the daily maximum 8-hour ozone plot for the 2002 baseline year. The second or bottom plot is the daily maximum 8-hour ozone plot for the 2009 attainment year. The comparison of the of the attainment year plot to the baseline year plot determines the relative reduction for each of the RRF days in this attainment modeling exercise.

A table is presented immediately below the plots to further detail the change in number of grid cells between the respective AQI color codes from 2002 to 2009. The grid cell counts are only calculated for a domain mask that represents the Metrolina nonattainment area. This domain mask is presented in Figure 1 below.

Finally, a table is included at the bottom of each page to list the monitors that use that particular day in their respective RRF calculation. A summary of all RRF days is supplied at the end of the appendix in Table 33.

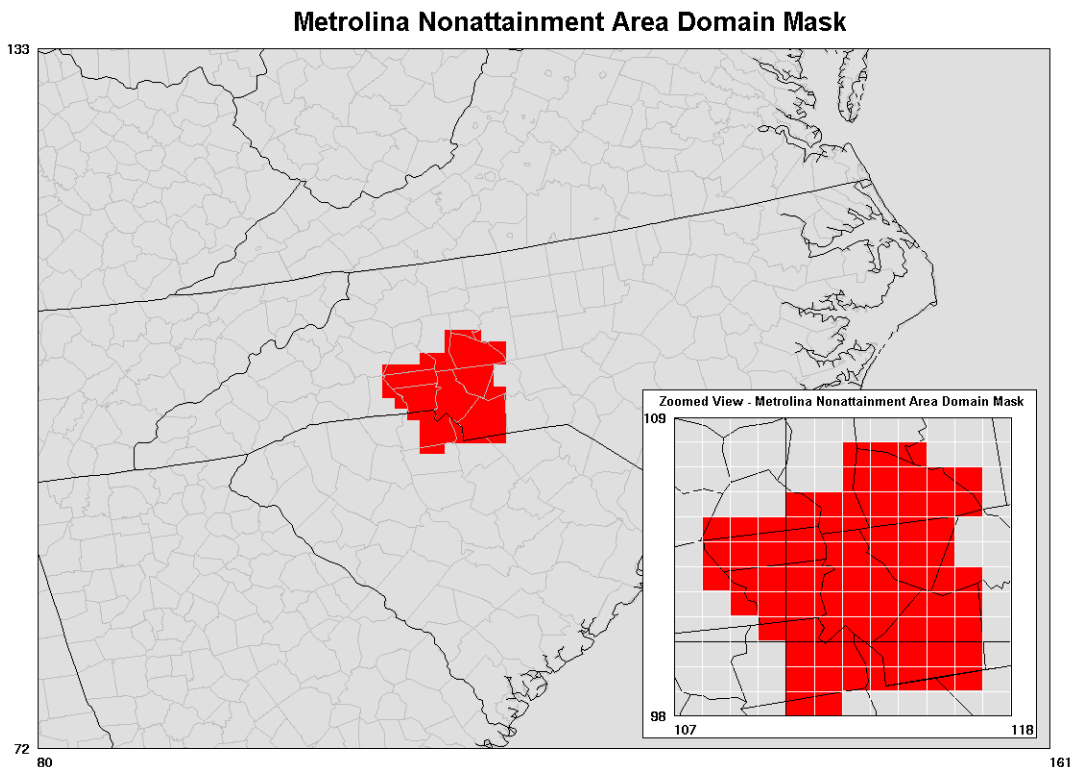
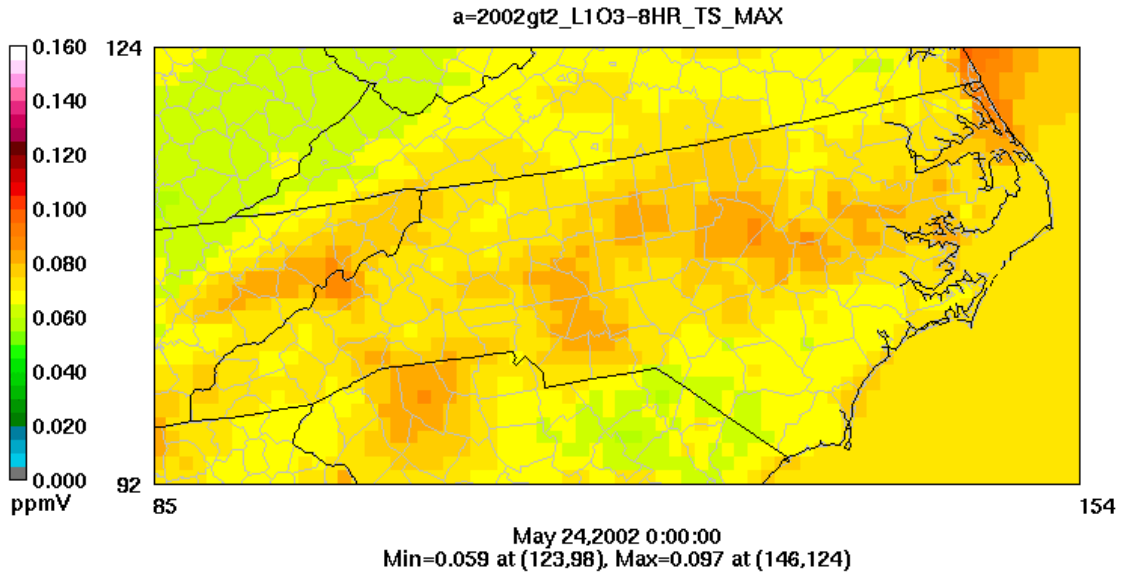


Figure 1 Metrolina Nonattainment Area Domain Mask

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

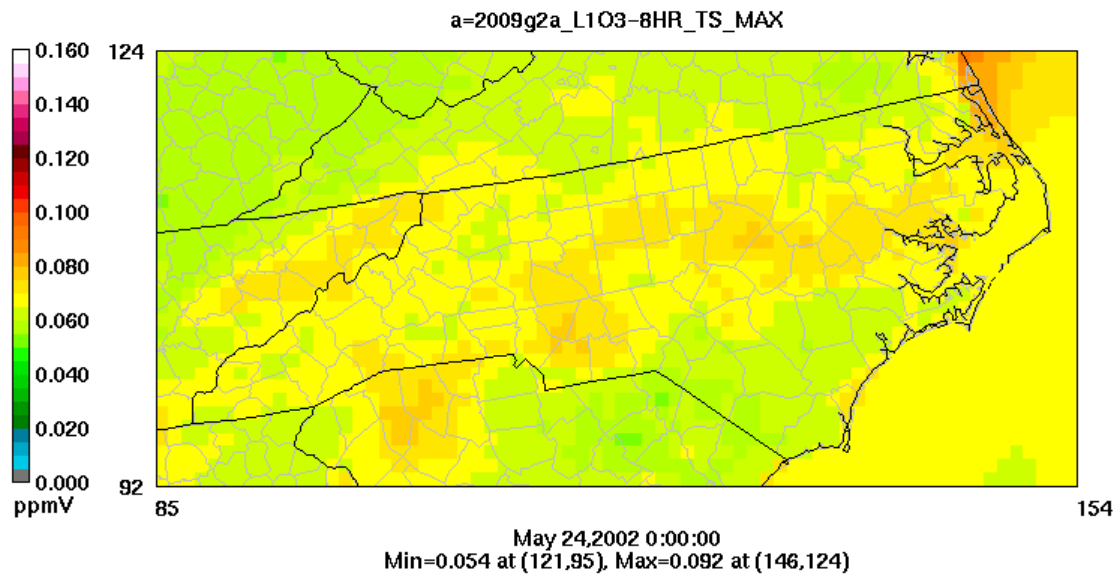


Figure 2.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For May 24th

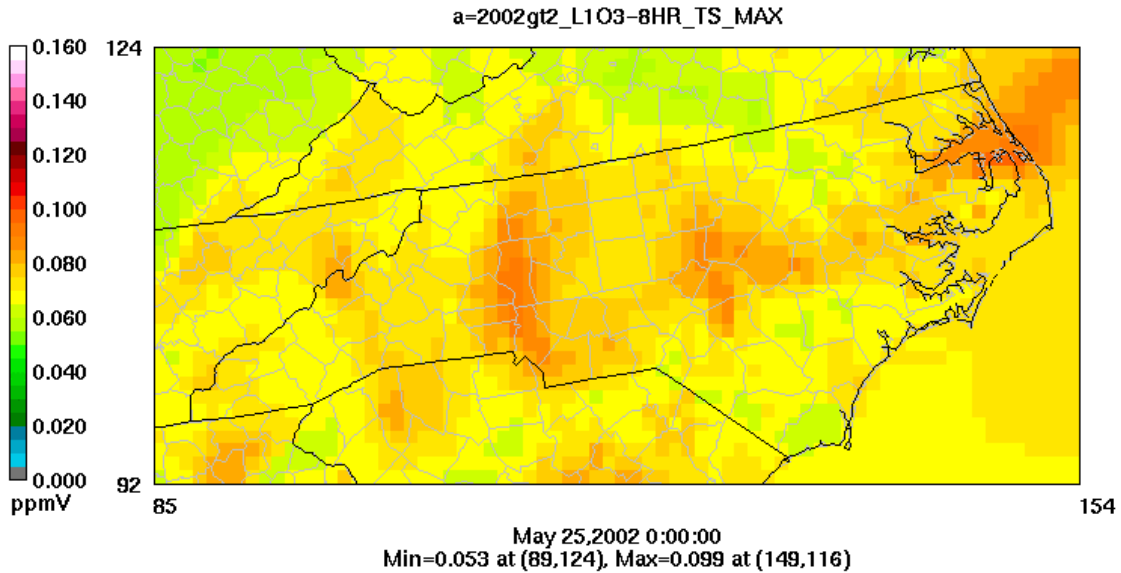
Table 2.1 AQI Count Across Metrolina Domain Mask For May 24th

Day 144	2002	2009
Green Cells	0	6
Yellow Cells	76	70
Orange Cells	0	0
Red Cells	0	0

Table 2.2 Table Of Monitors Using May 24th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
144	24-May	NO	NO	NO	NO	YES	NO	YES	NO	2

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

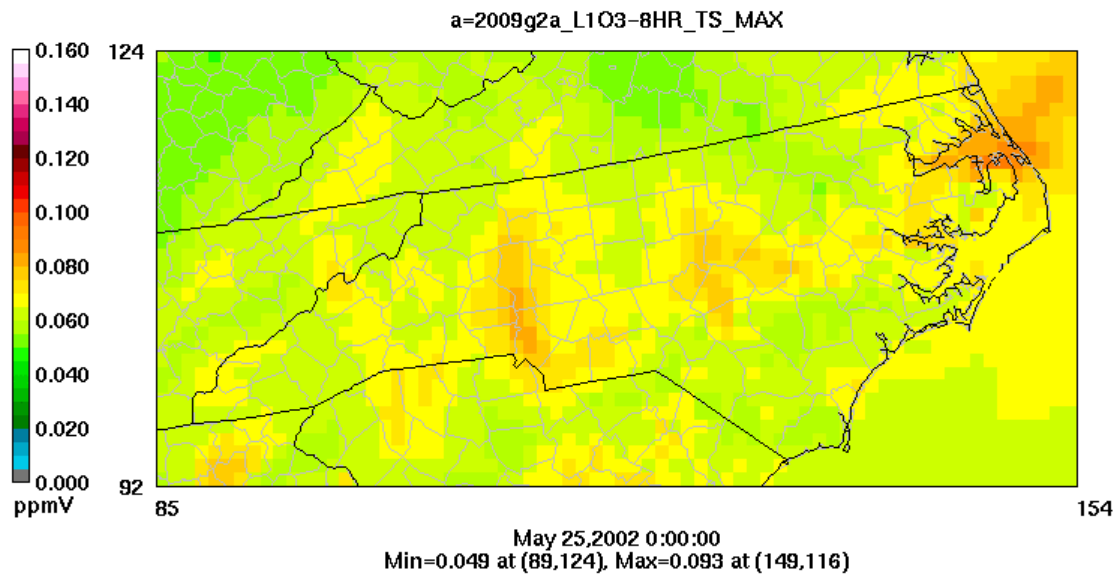


Figure 3.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For May 25th

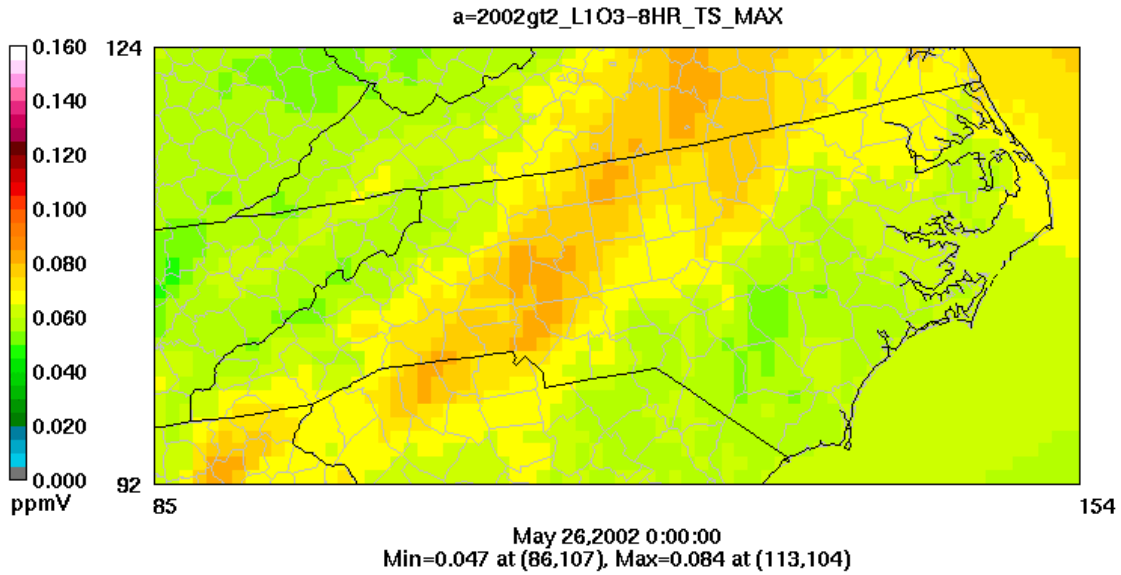
Table 3.1 AQI Count Across Metrolina Domain Mask For May 25th

Day 145	2002	2009
Green Cells	0	3
Yellow Cells	58	71
Orange Cells	18	2
Red Cells	0	0

Table 3.2 Table Of Monitors Using May 25th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
145	25-May	YES	YES	YES	YES	NO	YES	YES	YES	7

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

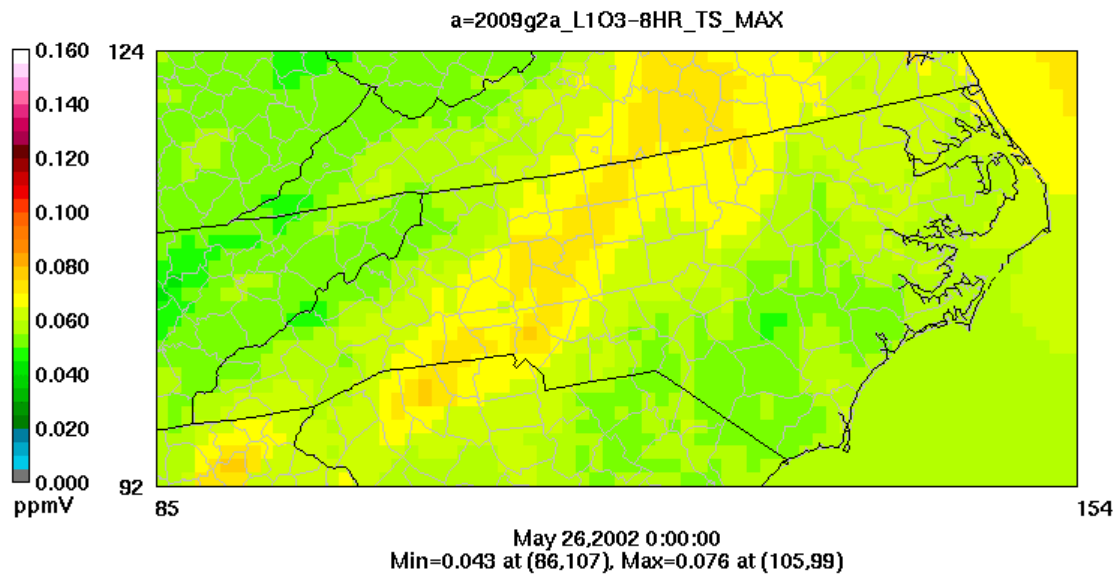


Figure 4.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For May 26th

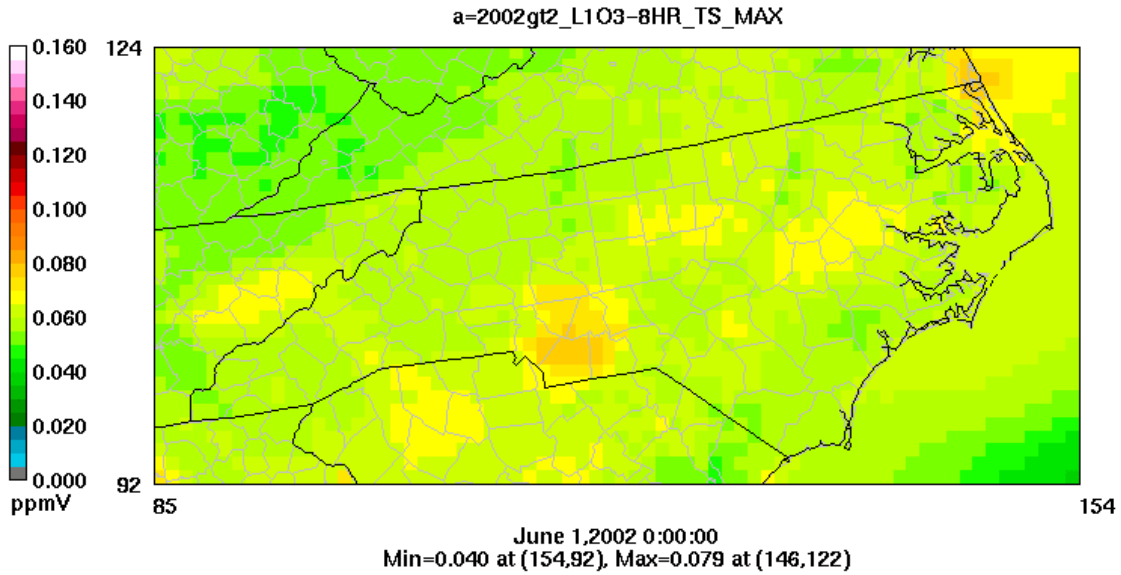
Table 4.1 AQI Count Across Metrolina Domain Mask For May 26th

Day 146	2002	2009
Green Cells	3	18
Yellow Cells	70	58
Orange Cells	3	0
Red Cells	0	0

Table 4.2 Table Of Monitors Using May 26th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
146	26-May	NO	YES	NO	YES	NO	YES	NO	NO	3

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

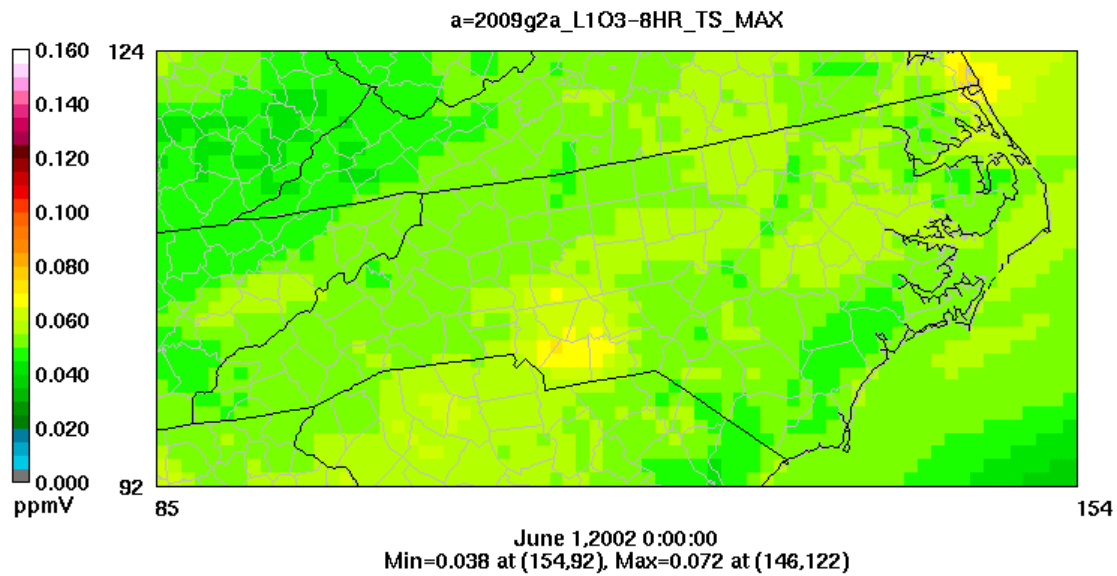


Figure 5.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 1st

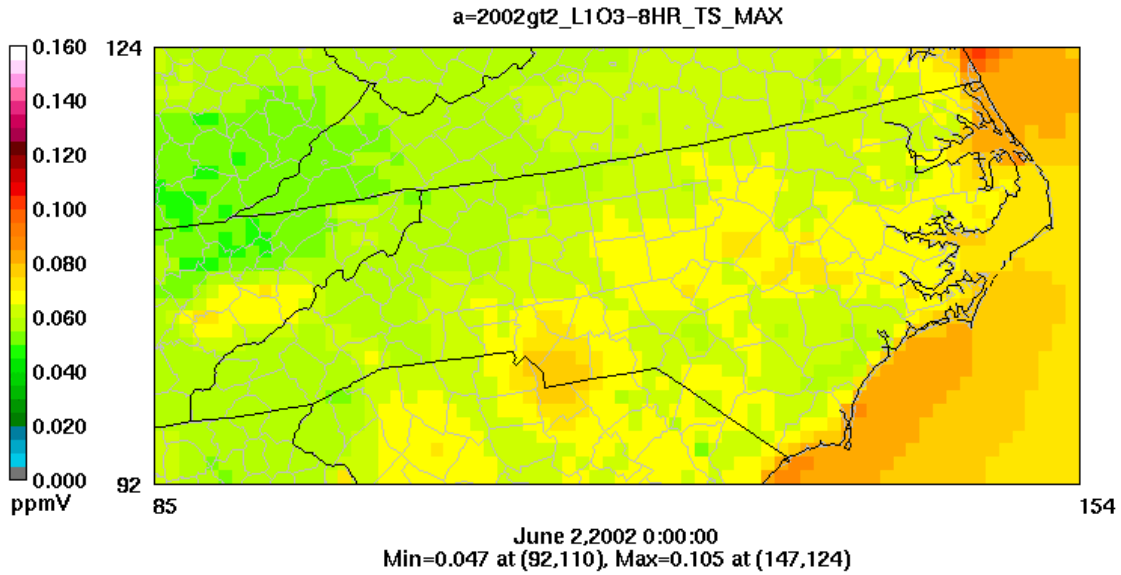
Table 5.1 AQI Count Across Metrolina Domain Mask For June 1st

Day 152	2002	2009
Green Cells	35	62
Yellow Cells	41	14
Orange Cells	0	0
Red Cells	0	0

Table 5.2 Table Of Monitors Using June 1st As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
152	1-Jun	NO	NO	NO	NO	NO	NO	YES	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

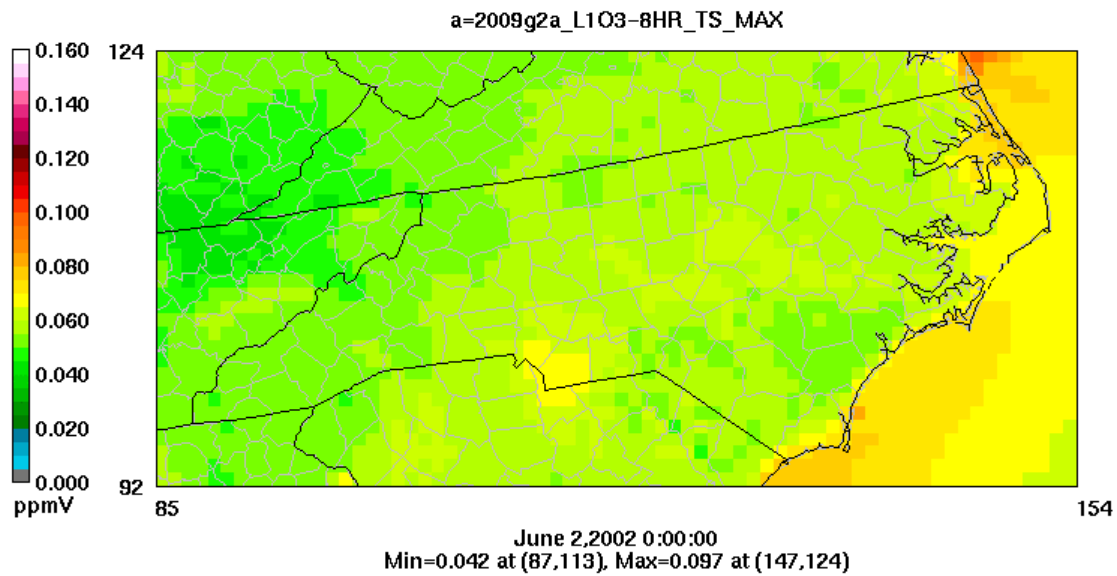


Figure 6.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 2nd

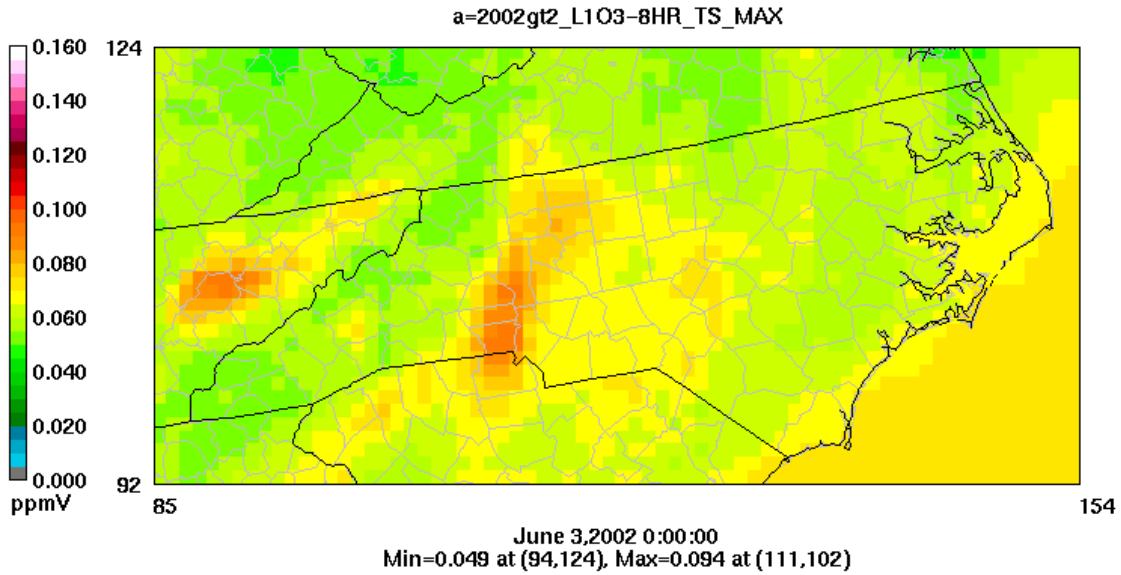
Table 6.1 AQI Count Across Metrolina Domain Mask For June 2nd

Day 153	2002	2009
Green Cells	18	59
Yellow Cells	58	17
Orange Cells	0	0
Red Cells	0	0

Table 6.2 Table Of Monitors Using June 2nd As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
153	2-Jun	NO	NO	NO	NO	NO	NO	YES	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

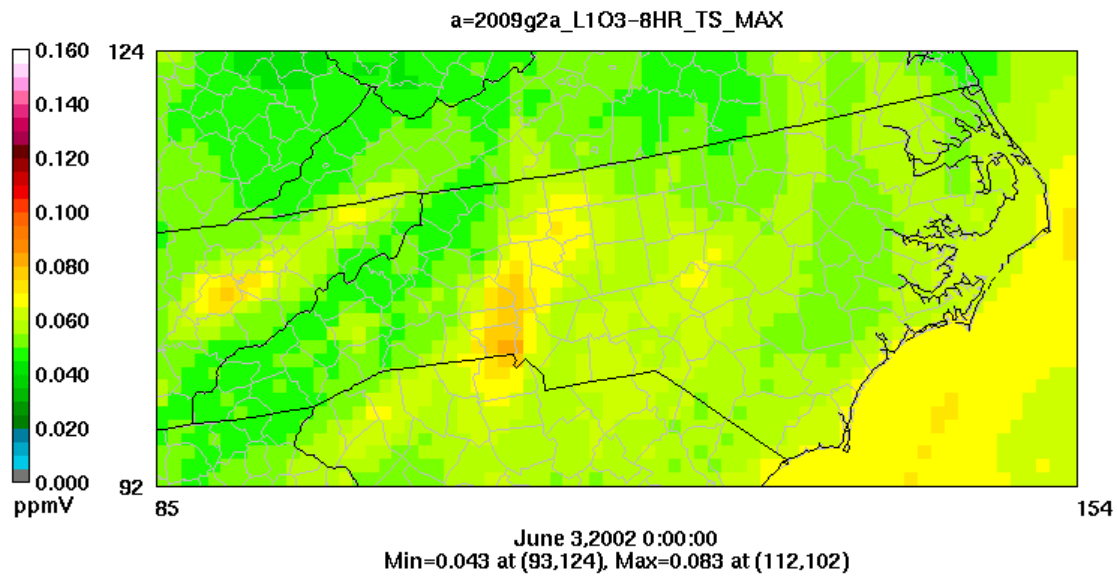


Figure 7.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 3rd

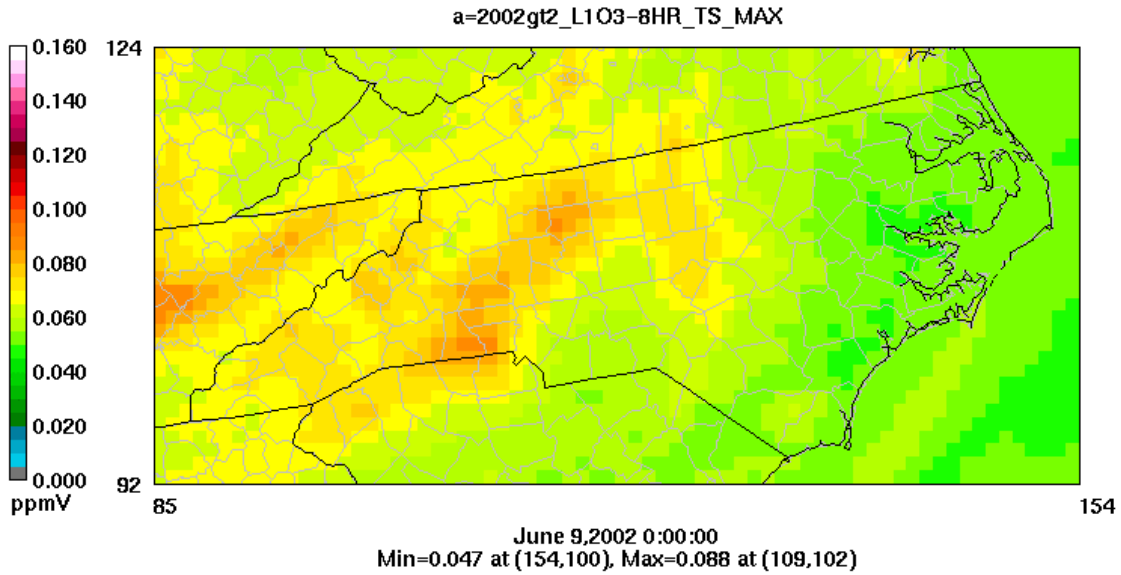
Table 7.1 AQI Count Across Metrolina Domain Mask For June 3rd

Day 154	2002	2009
Green Cells	1	37
Yellow Cells	57	37
Orange Cells	18	2
Red Cells	0	0

Table 7.2 Table Of Monitors Using June 3rd As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
154	3-Jun	YES	YES	YES	NO	NO	NO	NO	YES	4

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

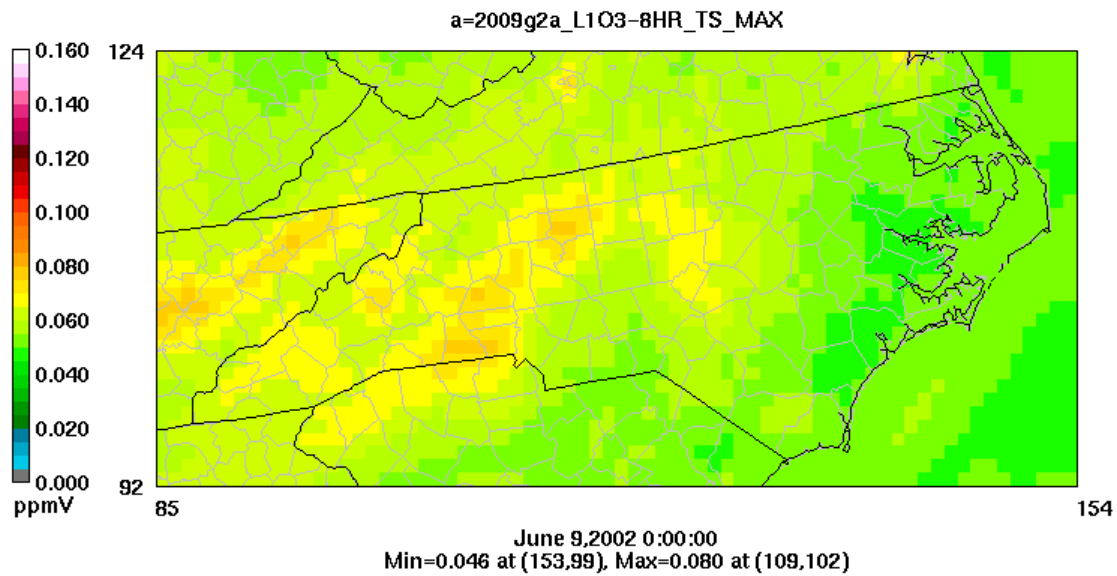


Figure 8.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 9th

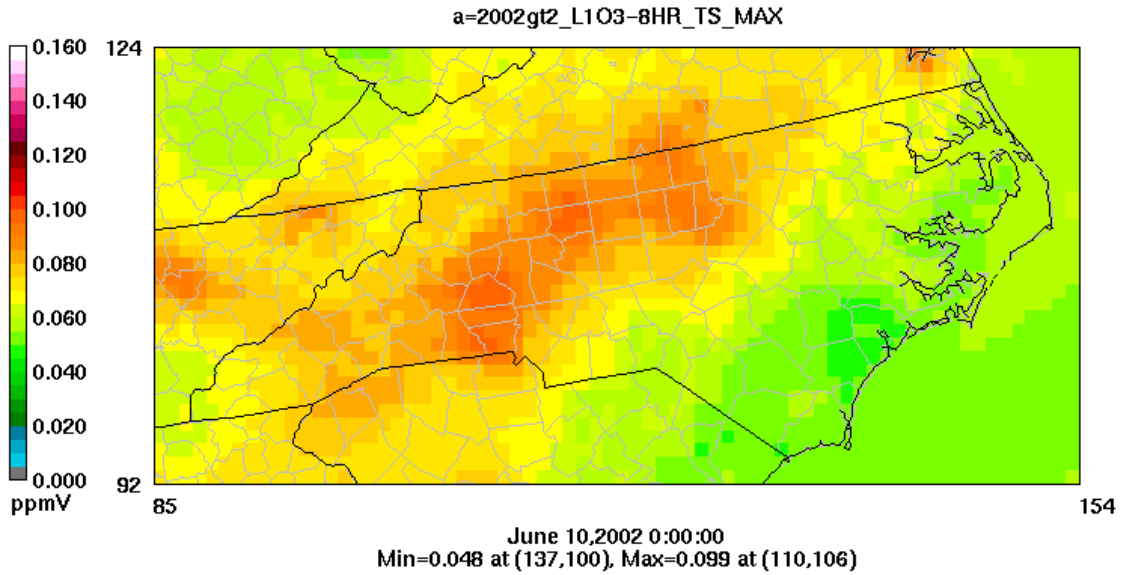
Table 8.1 AQI Count Across Metrolina Domain Mask For June 9th

Day 160	2002	2009
Green Cells	27	40
Yellow Cells	47	36
Orange Cells	2	0
Red Cells	0	0

Table 8.2 Table Of Monitors Using June 9th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
160	9-Jun	YES	NO	NO	NO	NO	NO	NO	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

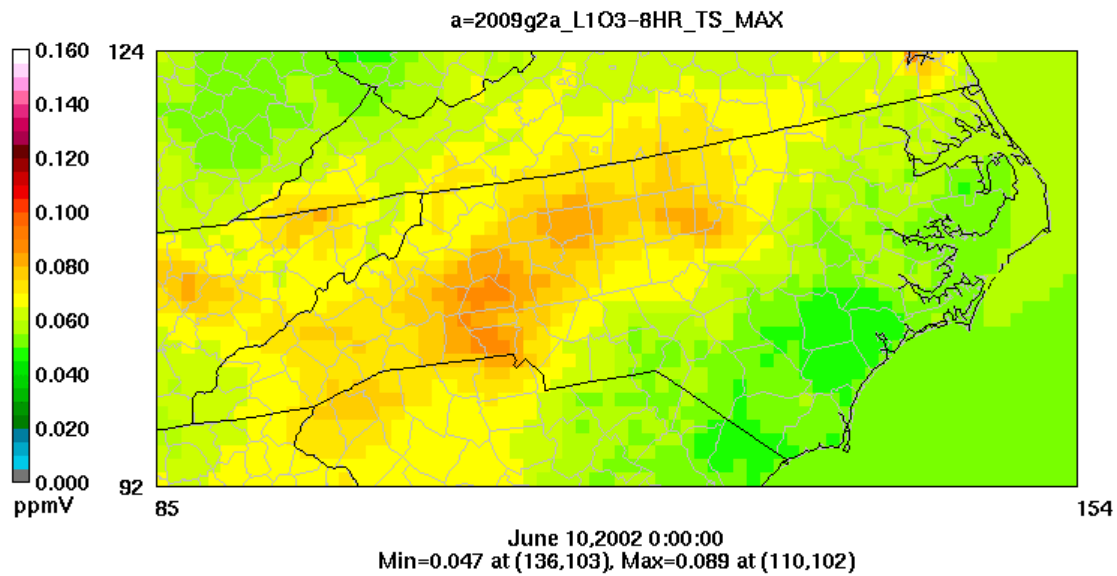


Figure 9.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 10th

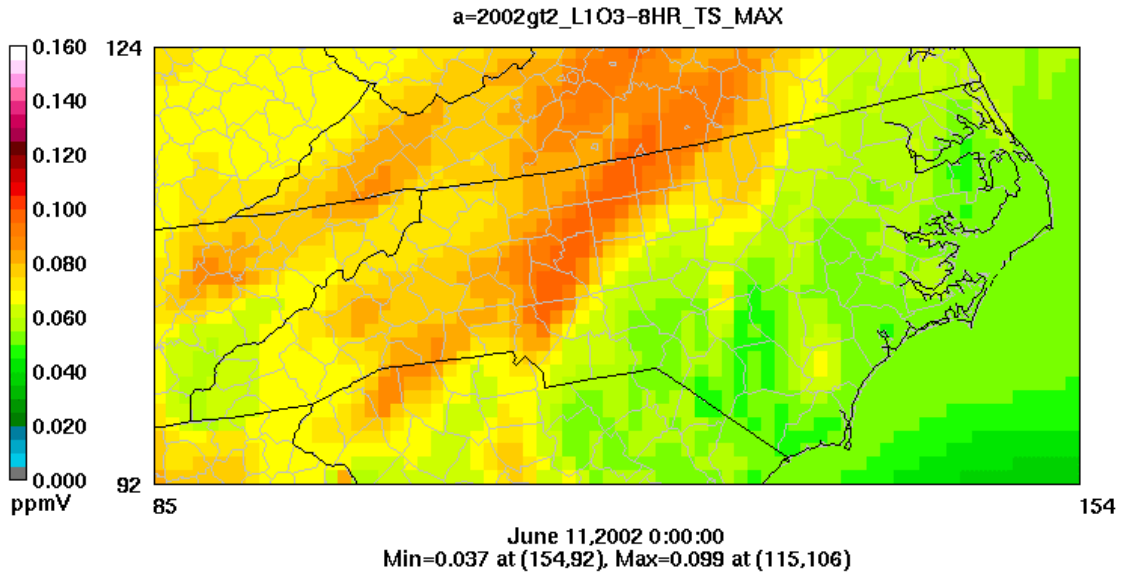
Table 9.1 AQI Count Across Metrolina Domain Mask For June 10th

Day 161	2002	2009
Green Cells	0	7
Yellow Cells	39	54
Orange Cells	37	15
Red Cells	0	0

Table 9.2 Table Of Monitors Using June 10th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
161	10-Jun	YES	YES	YES	YES	YES	YES	NO	YES	7

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

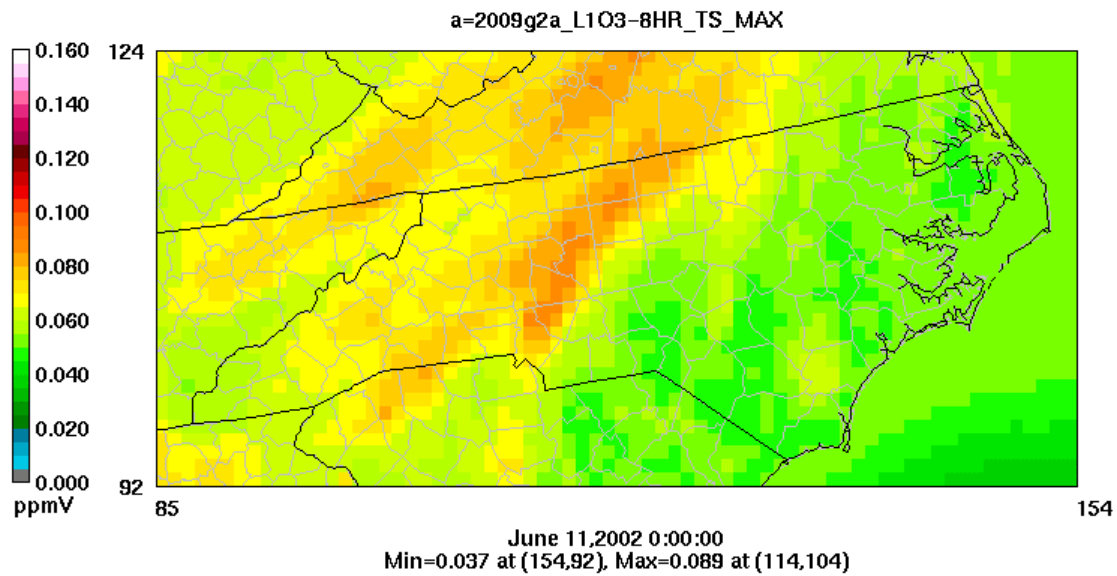


Figure 10.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 11th

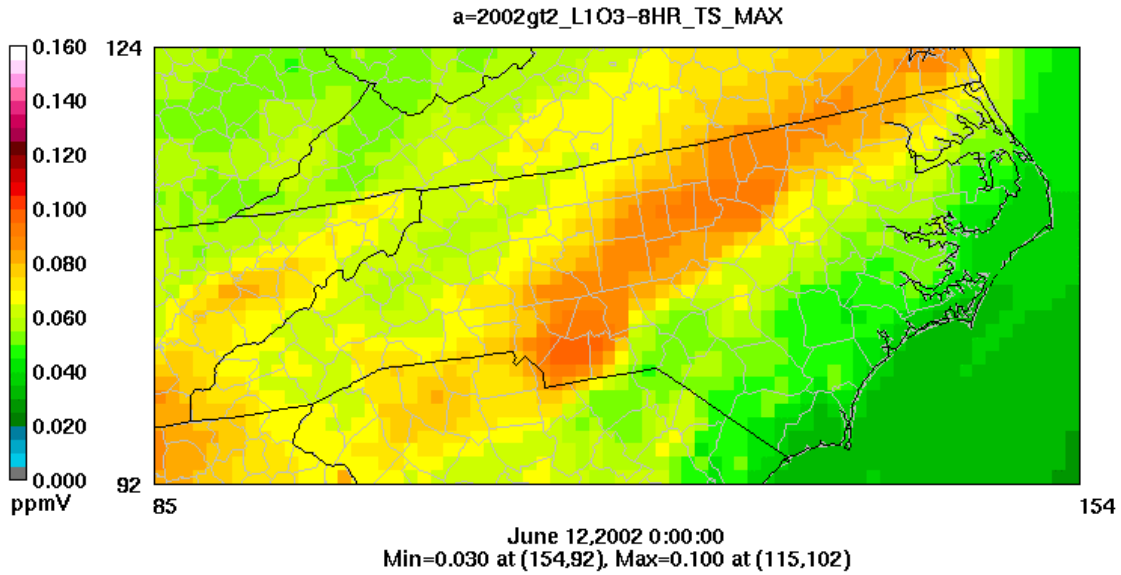
Table 10.1 AQI Count Across Metrolina Domain Mask For June 11th

Day 162	2002	2009
Green Cells	10	21
Yellow Cells	43	45
Orange Cells	23	10
Red Cells	0	0

Table 10.2 Table Of Monitors Using June 11th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
162	11-Jun	YES	YES	NO	YES	YES	YES	NO	NO	5

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

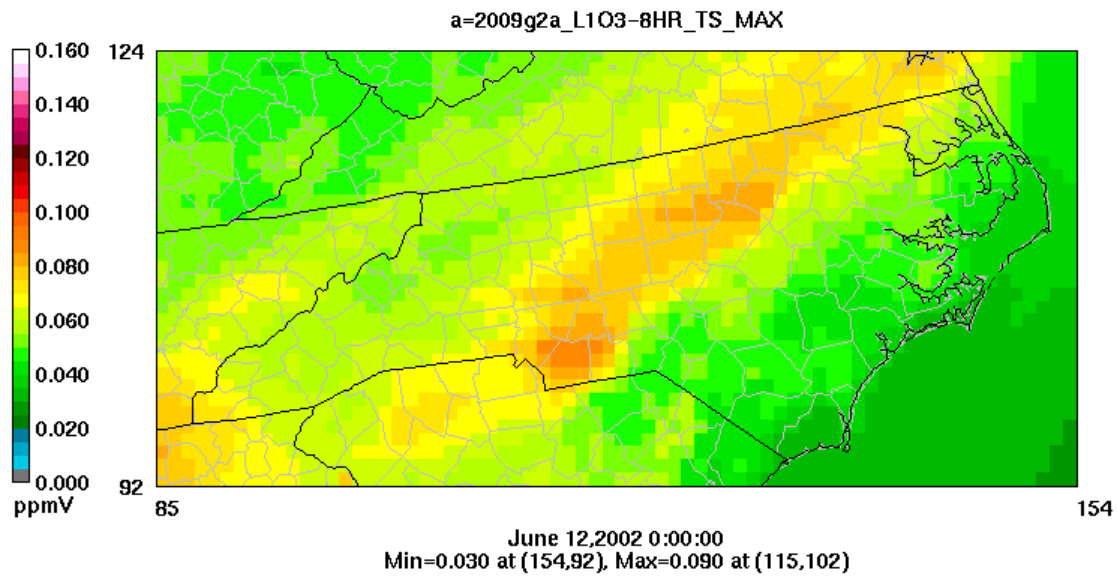


Figure 11.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 12th

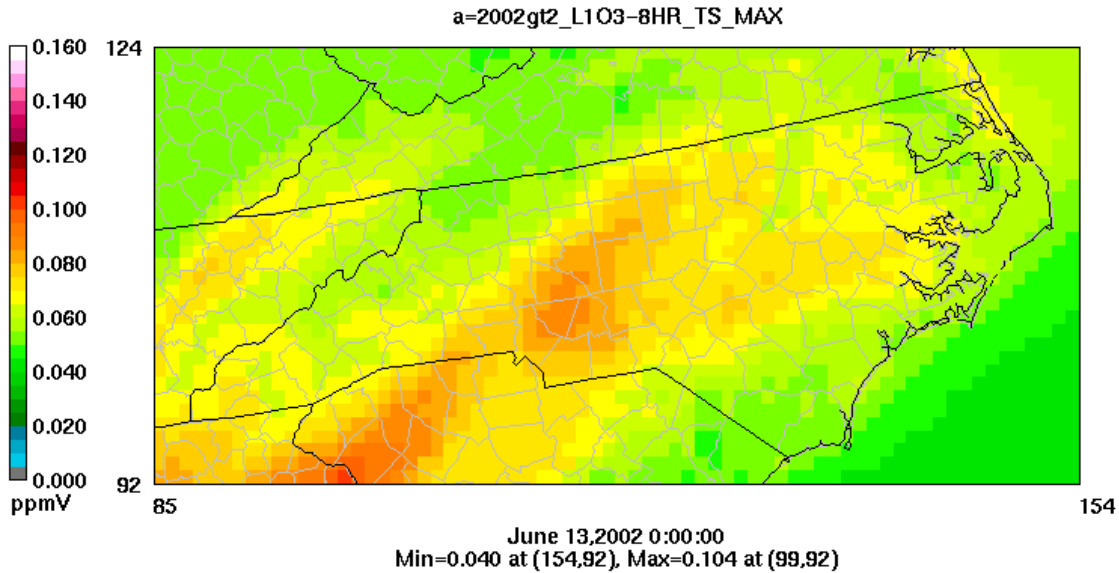
Table 11.1 AQI Count Across Metrolina Domain Mask For June 12th

Day 163	2002	2009
Green Cells	0	7
Yellow Cells	44	62
Orange Cells	32	7
Red Cells	0	0

Table 11.2 Table Of Monitors Using June 12th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
163	12-Jun	NO	YES	YES	YES	YES	YES	YES	NO	6

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

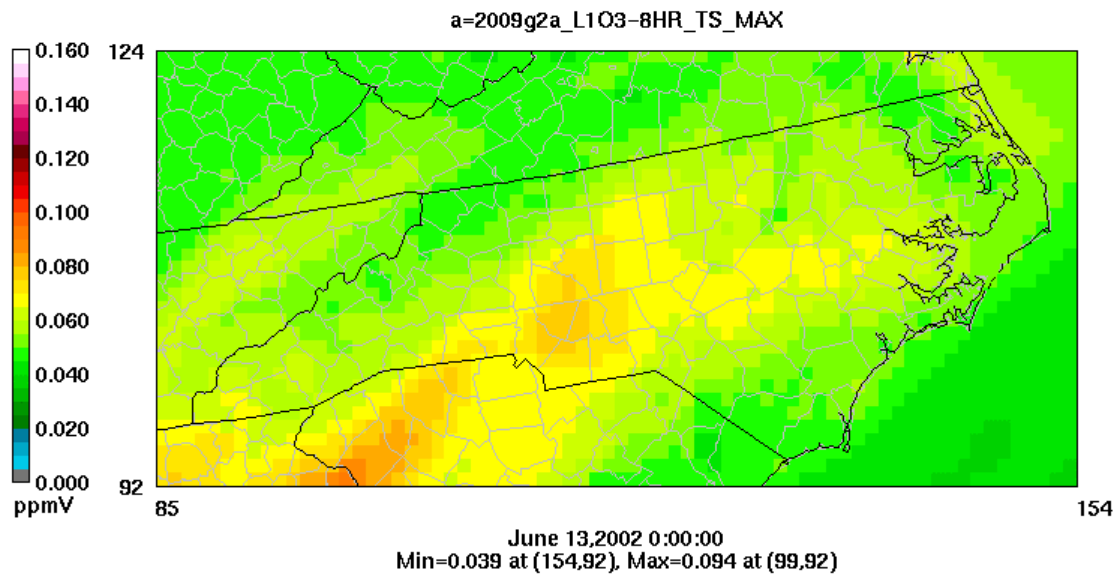


Figure 12.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For June 13th

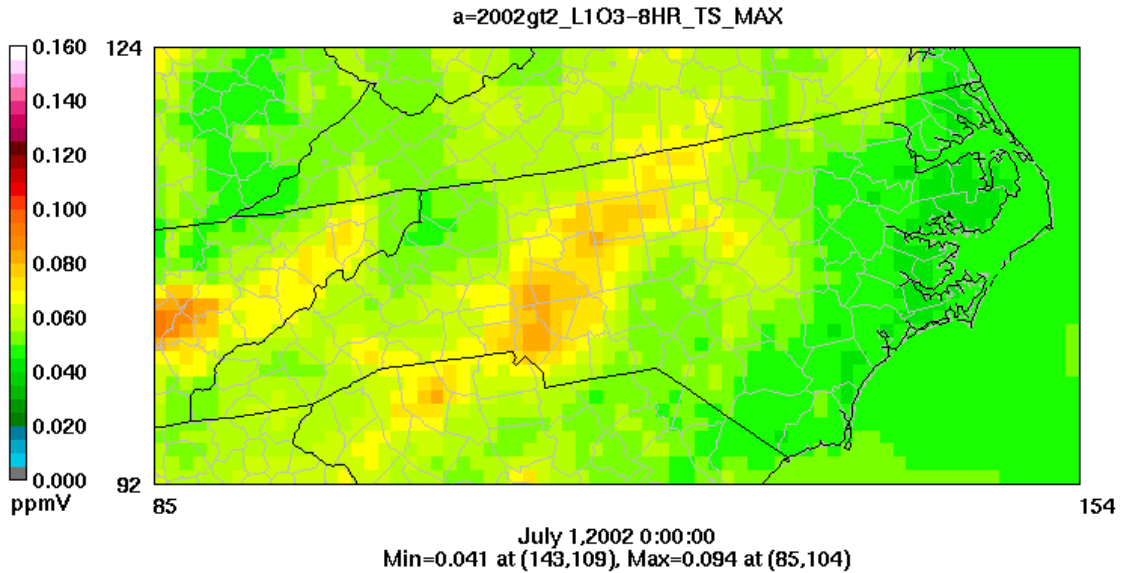
Table 12.1 AQI Count Across Metrolina Domain Mask For June 13th

Day 164	2002	2009
Green Cells	0	4
Yellow Cells	58	72
Orange Cells	18	0
Red Cells	0	0

Table 12.2 Table Of Monitors Using June 13th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
164	13-Jun	NO	YES	YES	YES	YES	YES	YES	NO	6

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

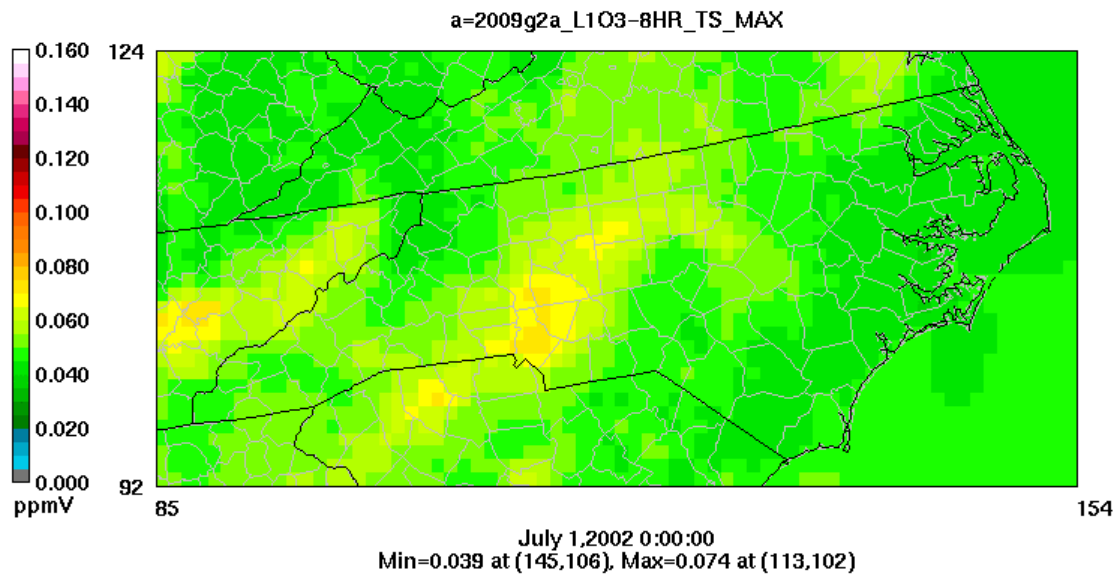


Figure 13.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 1st

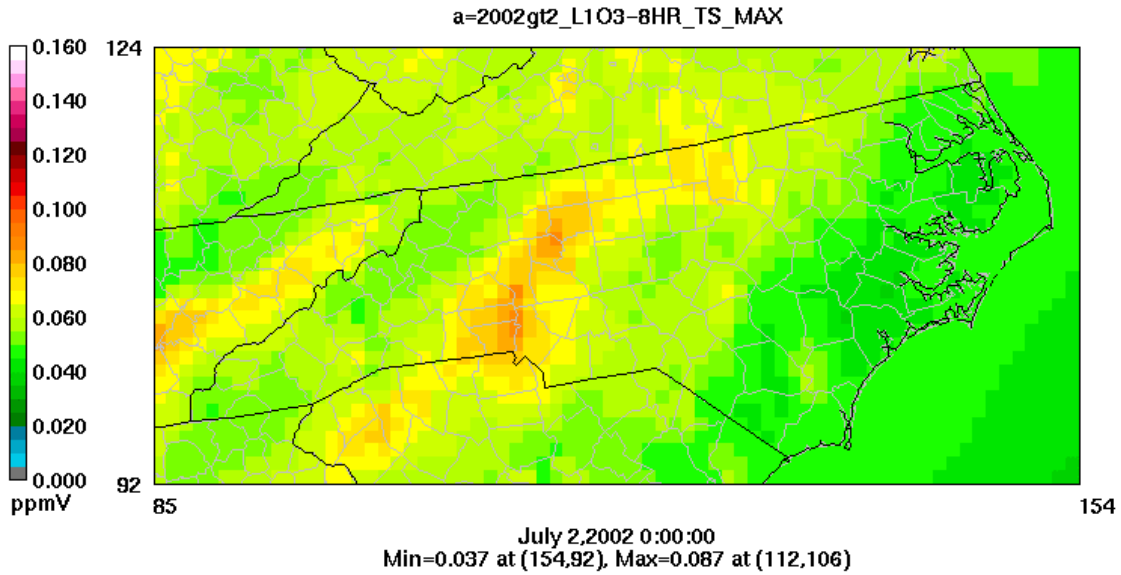
Table 13.1 AQI Count Across Metrolina Domain Mask For July 1st

Day 182	2002	2009
Green Cells	18	43
Yellow Cells	57	33
Orange Cells	1	0
Red Cells	0	0

Table 13.2 Table Of Monitors Using July 1st As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
182	1-Jul	NO	NO	NO	NO	NO	YES	NO	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

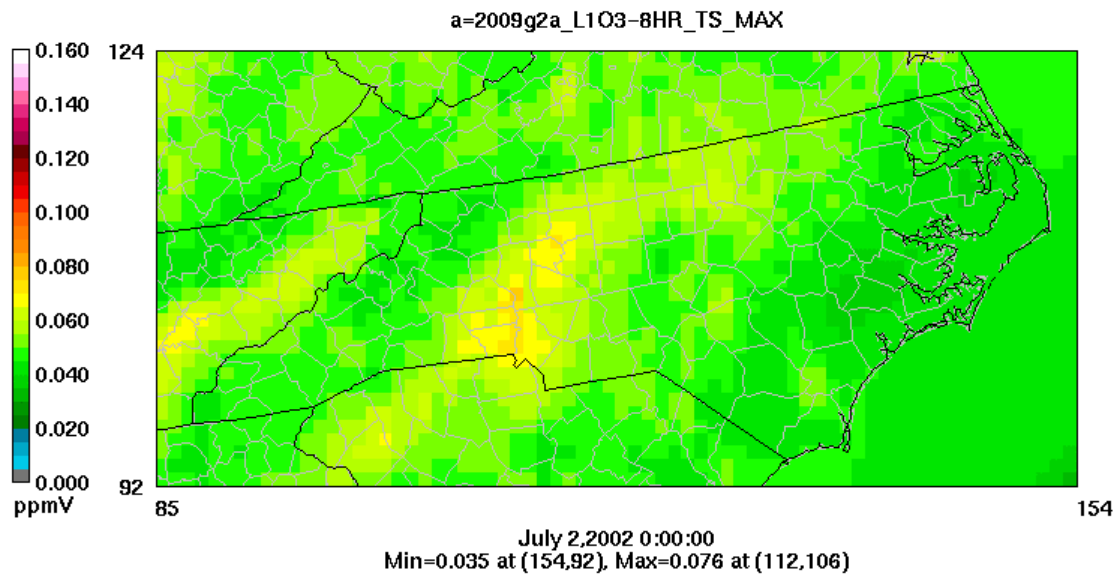


Figure 14.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 2nd

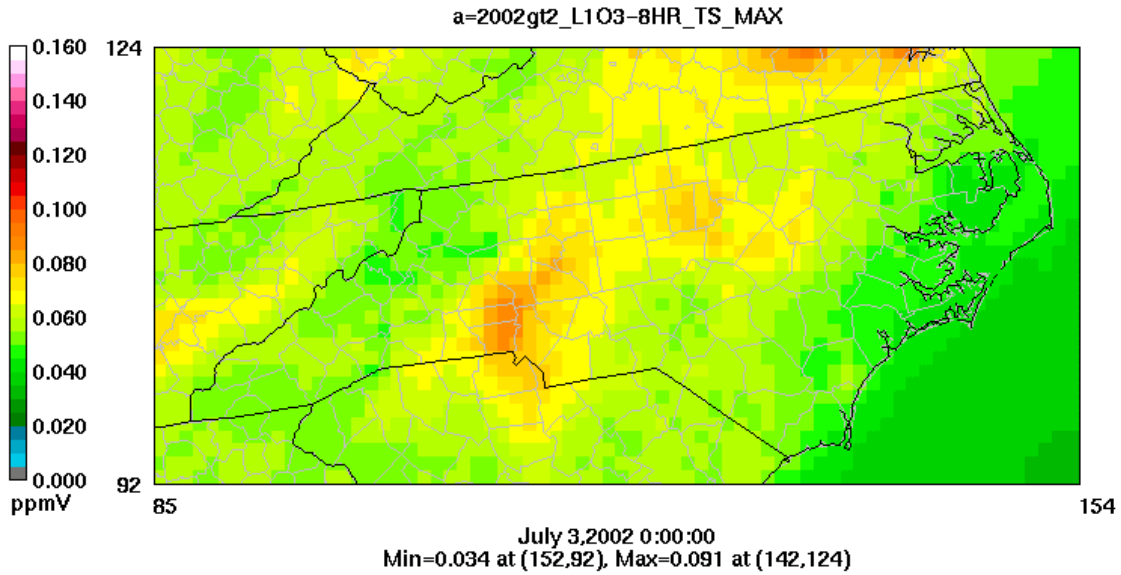
Table 14.1 AQI Count Across Metrolina Domain Mask For July 2nd

Day 183	2002	2009
Green Cells	9	43
Yellow Cells	61	33
Orange Cells	6	0
Red Cells	0	0

Table 14.2 Table Of Monitors Using July 2nd As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
183	2-Jul	NO	YES	NO	NO	NO	NO	NO	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

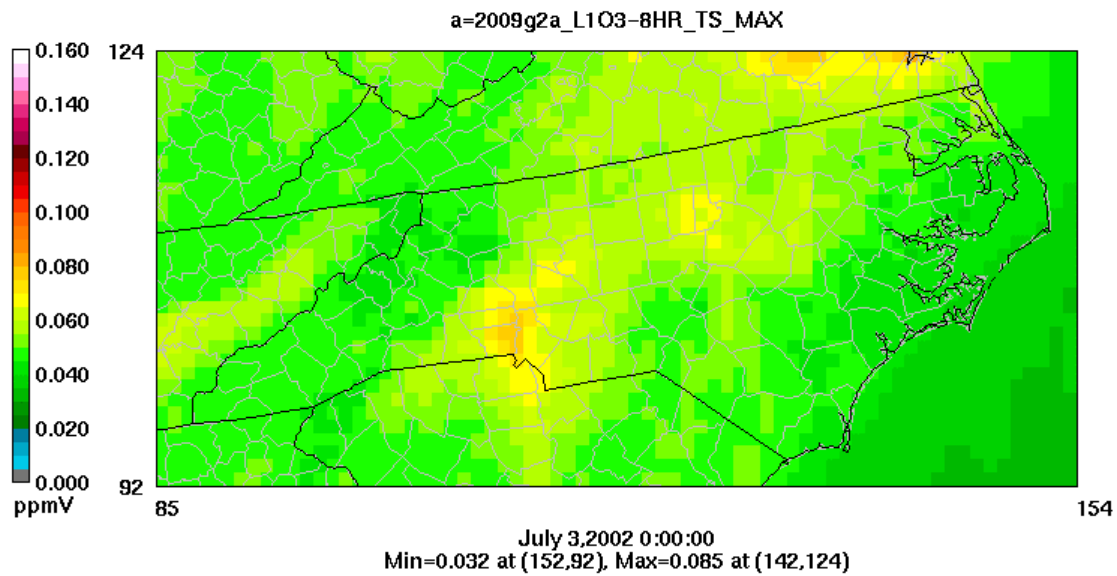


Figure 15.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 3rd

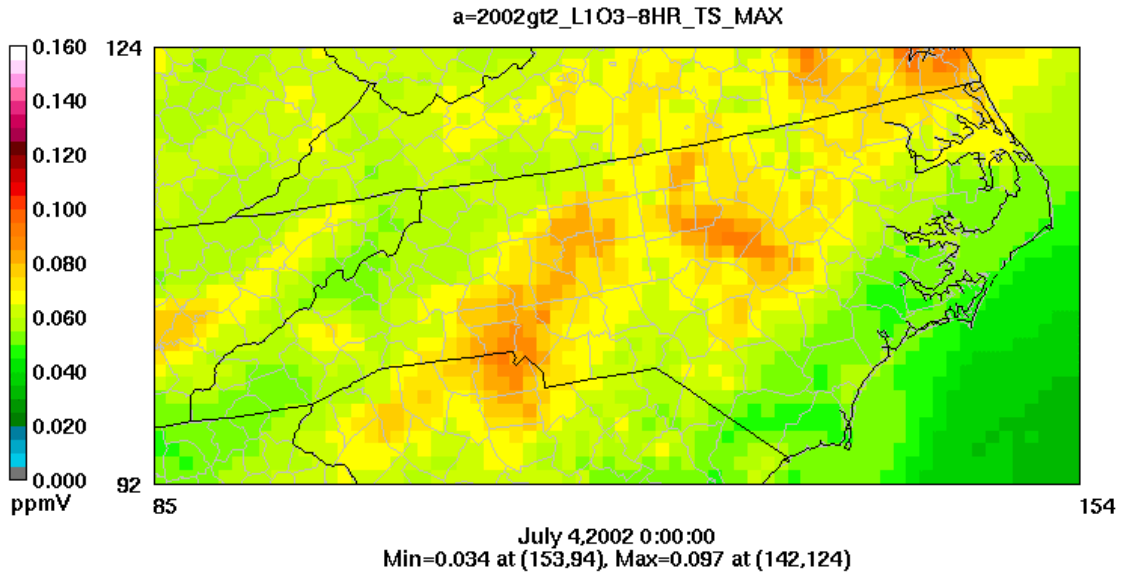
Table 15.1 AQI Count Across Metrolina Domain Mask For July 3rd

Day 184	2002	2009
Green Cells	0	39
Yellow Cells	67	37
Orange Cells	9	0
Red Cells	0	0

Table 15.2 Table Of Monitors Using July 3rd As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
184	3-Jul	YES	YES	YES	NO	NO	NO	NO	NO	3

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

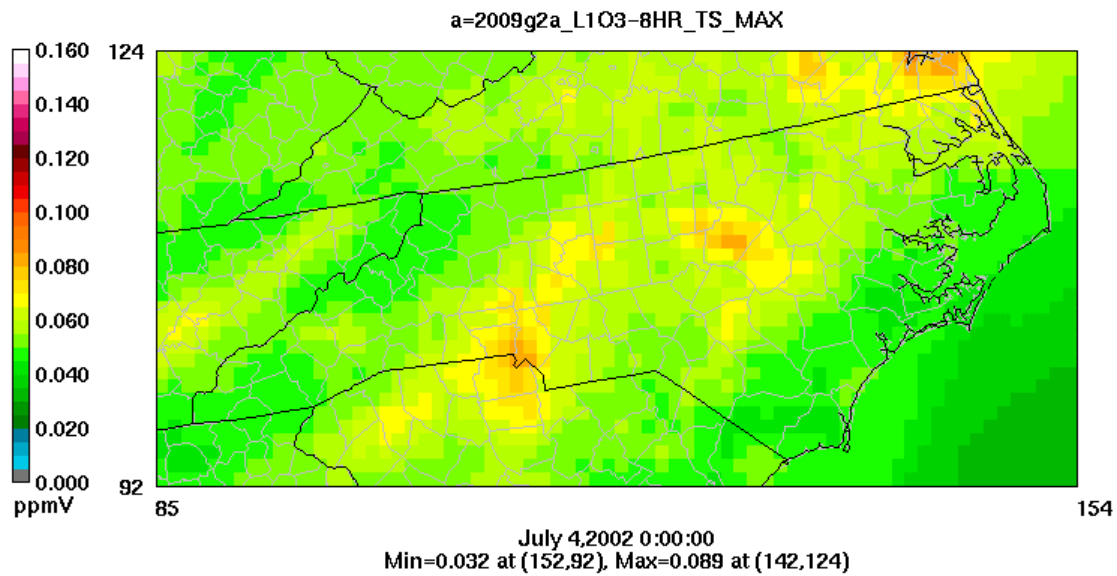


Figure 16.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 4th

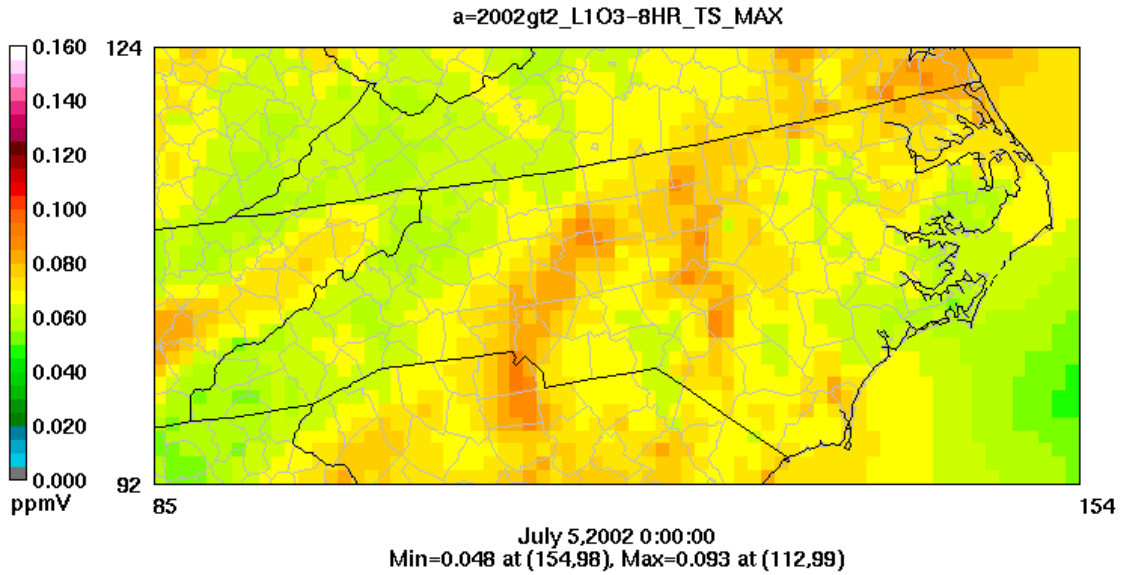
Table 16.1 AQI Count Across Metrolina Domain Mask For July 4th

Day 185	2002	2009
Green Cells	0	32
Yellow Cells	62	44
Orange Cells	14	0
Red Cells	0	0

Table 16.2 Table Of Monitors Using July 4th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
185	4-Jul	NO	YES	YES	YES	YES	YES	NO	YES	6

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

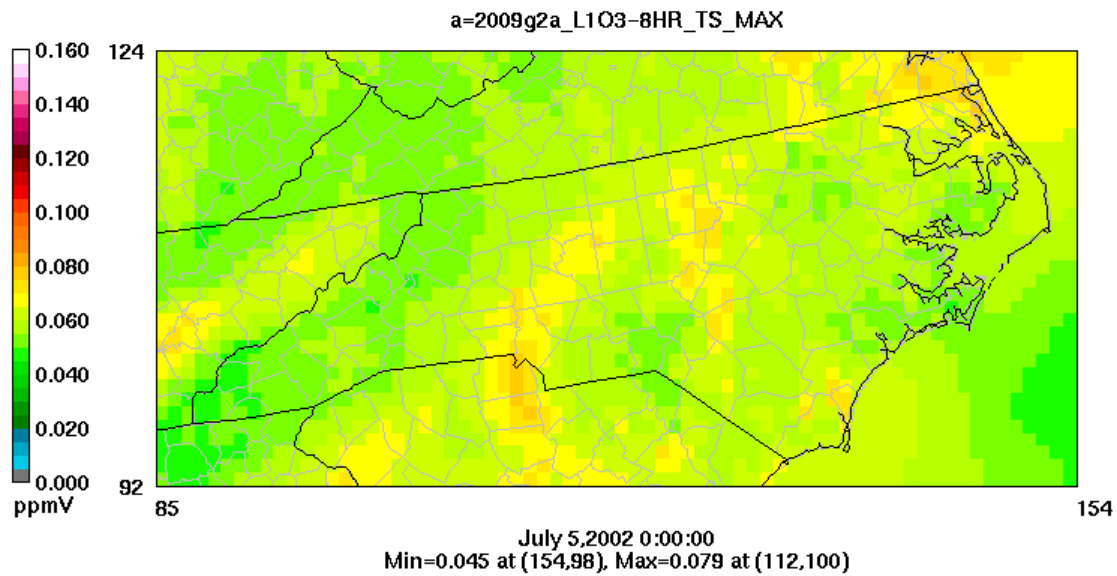


Figure 17.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 5th

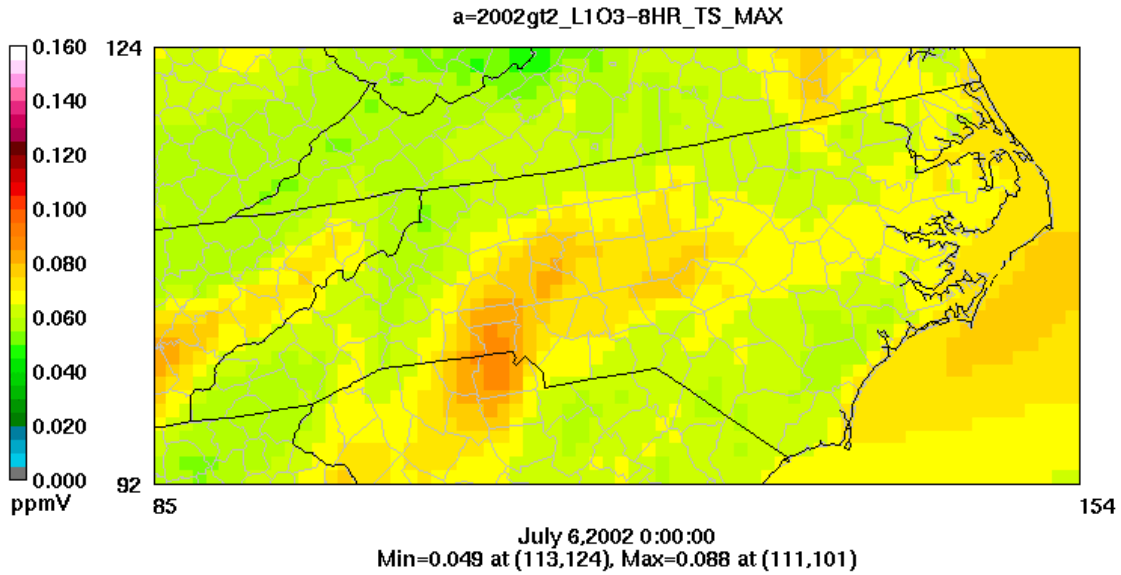
Table 17.1 AQI Count Across Metrolina Domain Mask For July 5th

Day 186	2002	2009
Green Cells	0	34
Yellow Cells	65	42
Orange Cells	11	0
Red Cells	0	0

Table 17.2 Table Of Monitors Using July 5th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
186	5-Jul	NO	YES	YES	NO	YES	NO	NO	YES	4

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

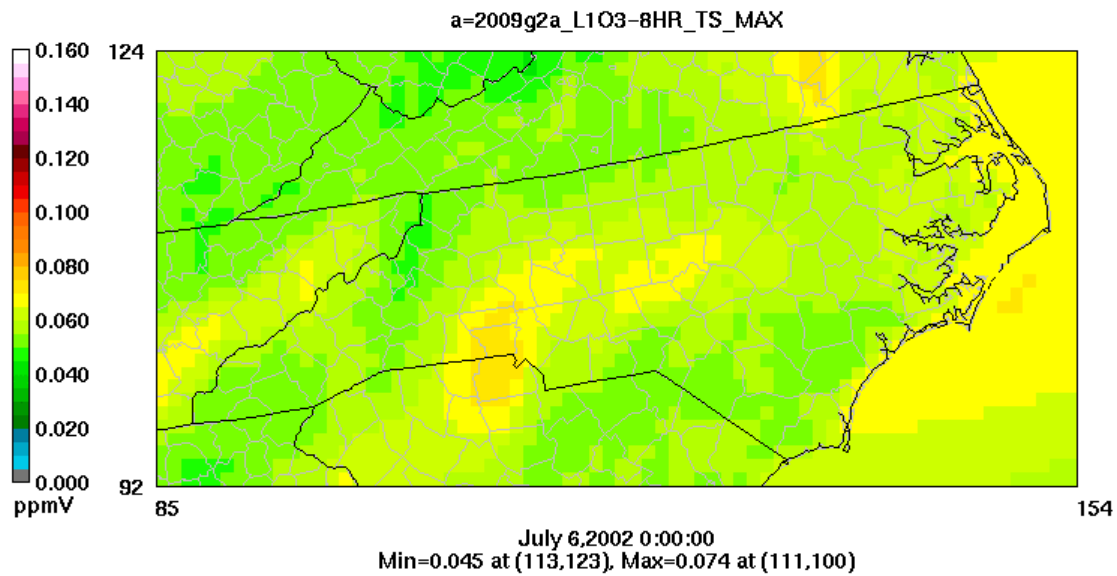


Figure 18.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 6th

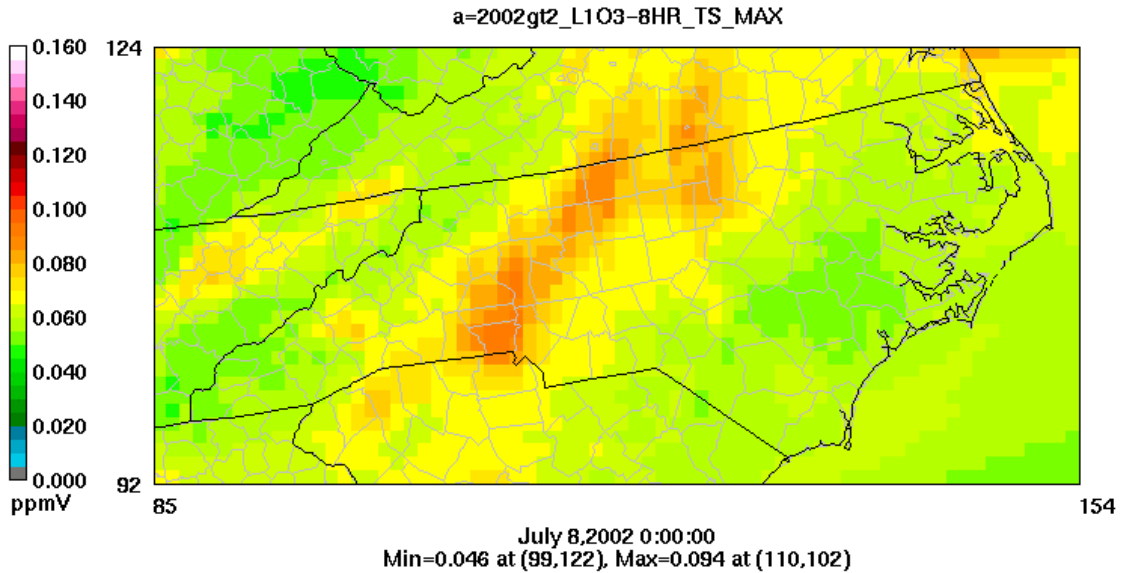
Table 18.1 AQI Count Across Metrolina Domain Mask For July 6th

Day 187	2002	2009
Green Cells	2	29
Yellow Cells	63	47
Orange Cells	11	0
Red Cells	0	0

Table 18.2 Table Of Monitors Using July 6th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
187	6-Jul	YES	YES	YES	NO	NO	NO	NO	YES	4

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

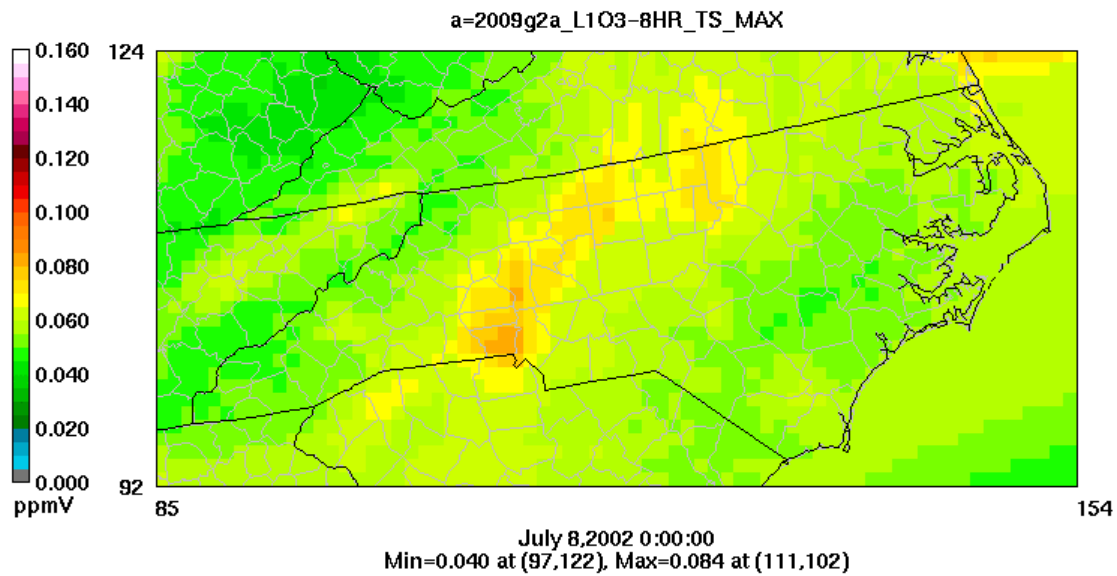


Figure 19.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 8th

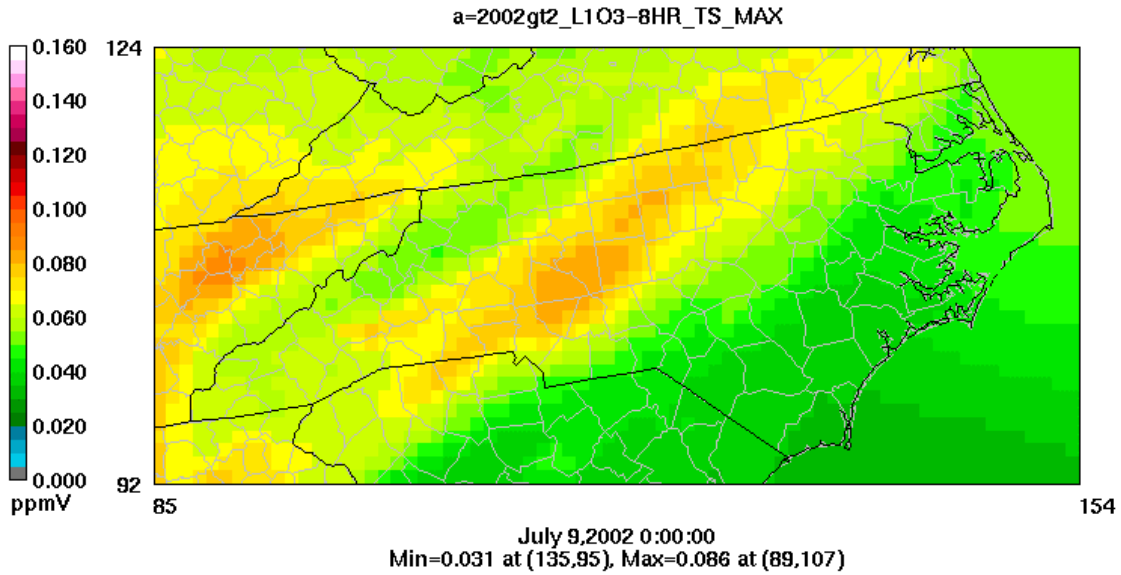
Table 19.1 AQI Count Across Metrolina Domain Mask For July 8th

Day 189	2002	2009
Green Cells	1	27
Yellow Cells	56	47
Orange Cells	19	2
Red Cells	0	0

Table 19.2 Table Of Monitors Using July 8th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
189	8-Jul	YES	YES	YES	NO	NO	NO	NO	YES	4

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

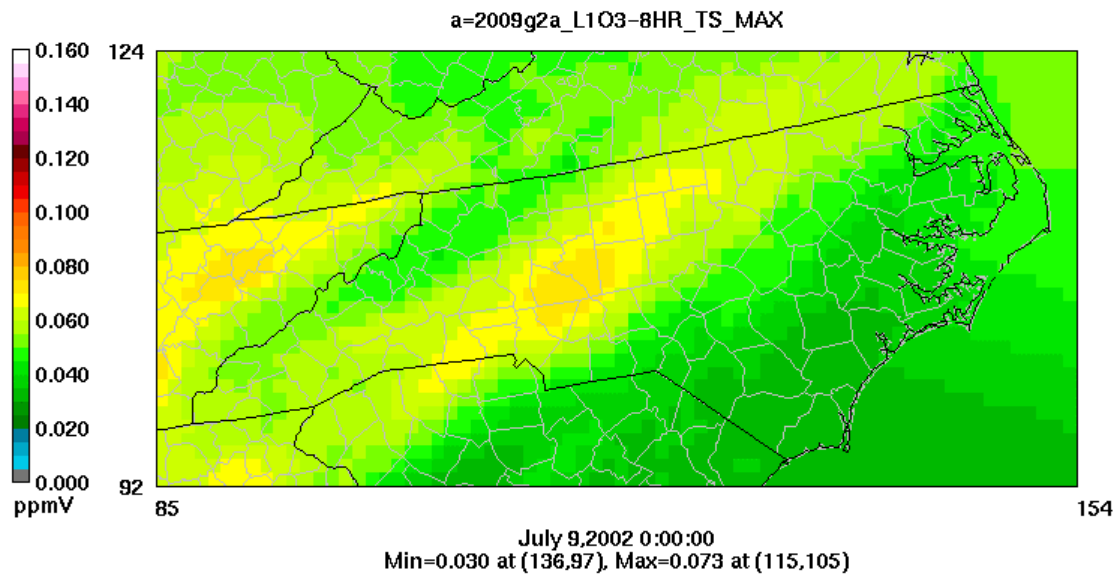


Figure 20.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 9th

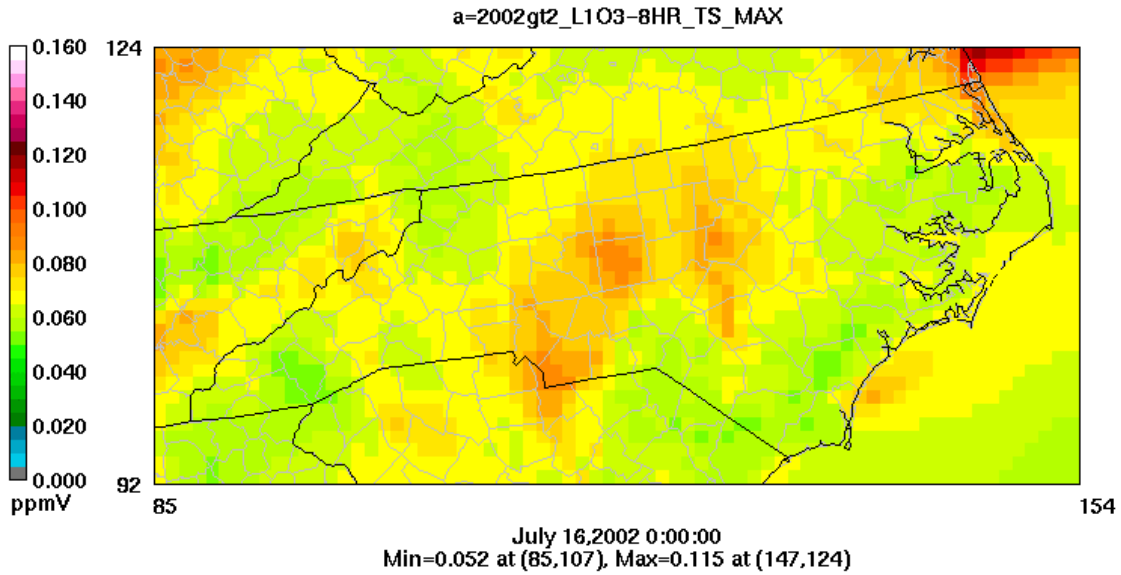
Table 20.1 AQI Count Across Metrolina Domain Mask For July 9th

Day 190	2002	2009
Green Cells	24	38
Yellow Cells	48	38
Orange Cells	4	0
Red Cells	0	0

Table 20.2 Table Of Monitors Using July 9th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
190	9-Jul	NO	NO	NO	YES	YES	YES	NO	NO	3

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

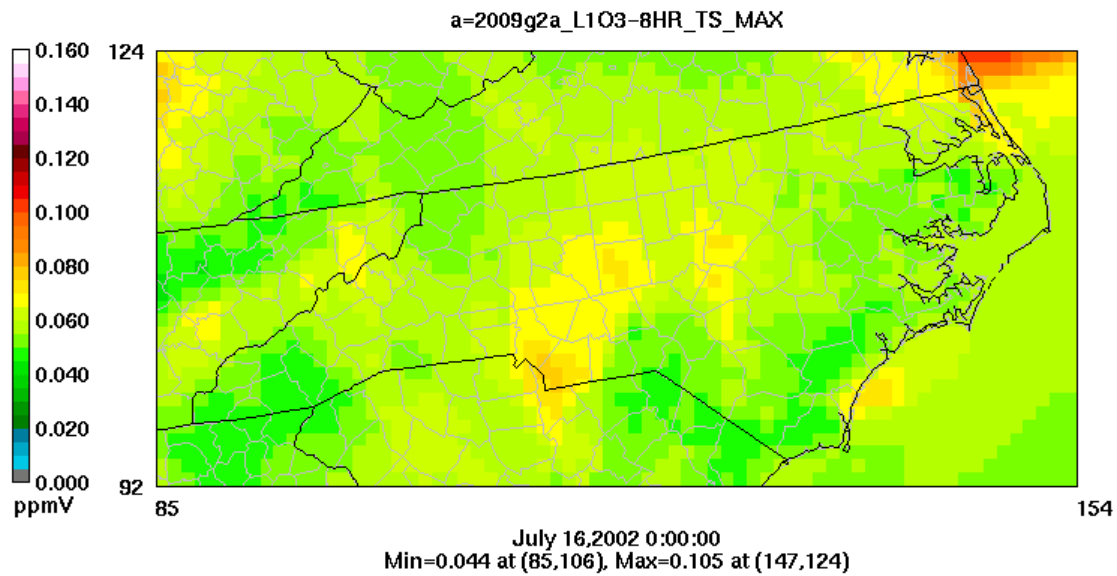


Figure 21.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 16th

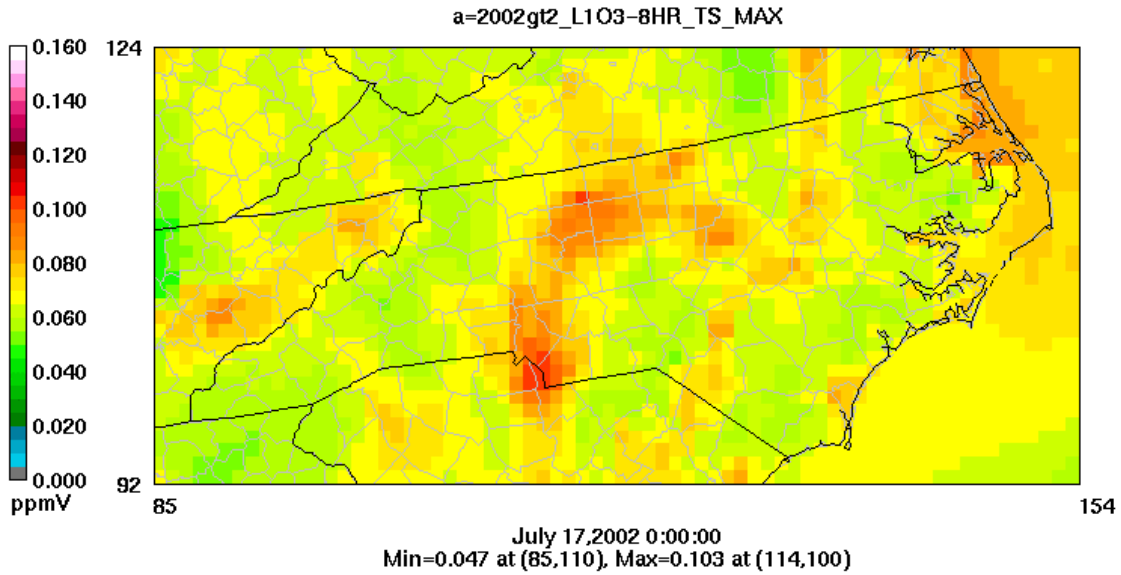
Table 21.1 AQI Count Across Metrolina Domain Mask For July 16th

Day 197	2002	2009
Green Cells	0	25
Yellow Cells	67	51
Orange Cells	9	0
Red Cells	0	0

Table 21.2 Table Of Monitors Using July 16th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
197	16-Jul	NO	NO	YES	NO	NO	NO	YES	YES	3

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

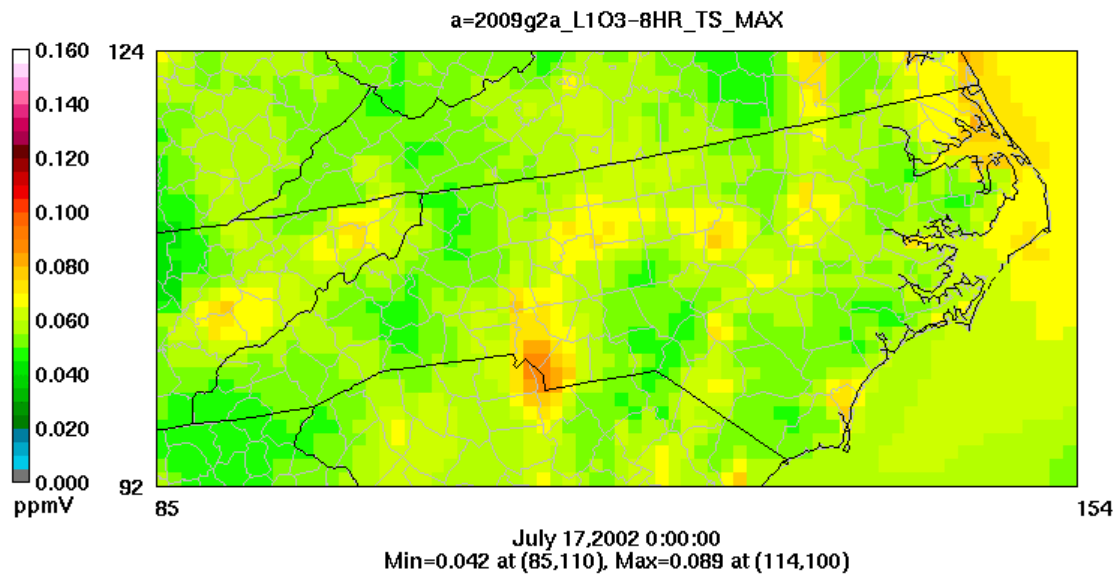


Figure 22.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 17th

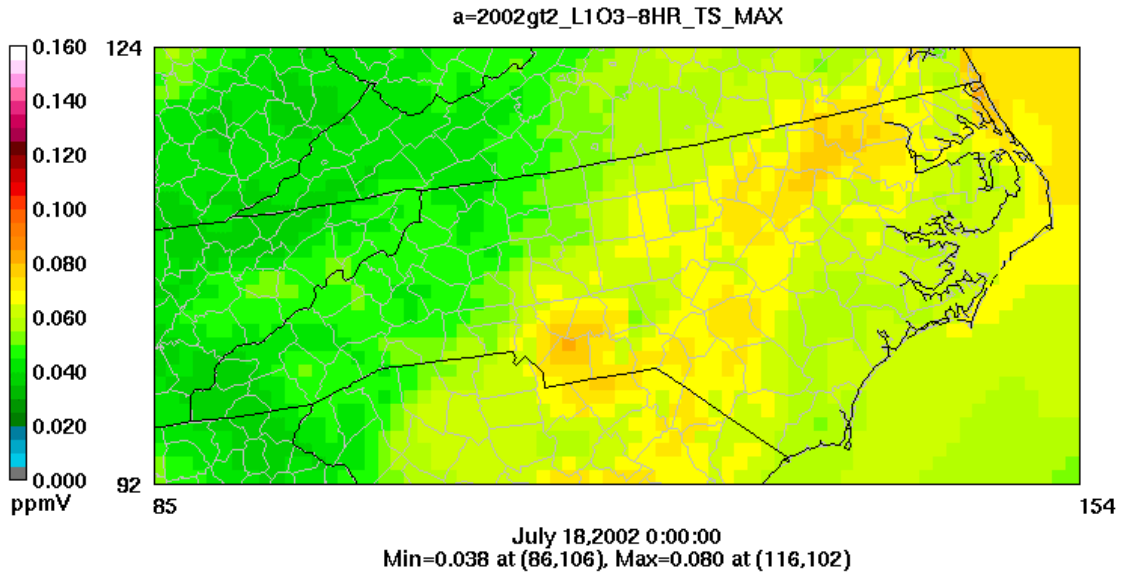
Table 22.1 AQI Count Across Metrolina Domain Mask For July 17th

Day 198	2002	2009
Green Cells	0	35
Yellow Cells	52	33
Orange Cells	24	8
Red Cells	0	0

Table 22.2 Table Of Monitors Using July 17th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
198	17-Jul	NO	YES	YES	YES	YES	YES	YES	YES	7

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

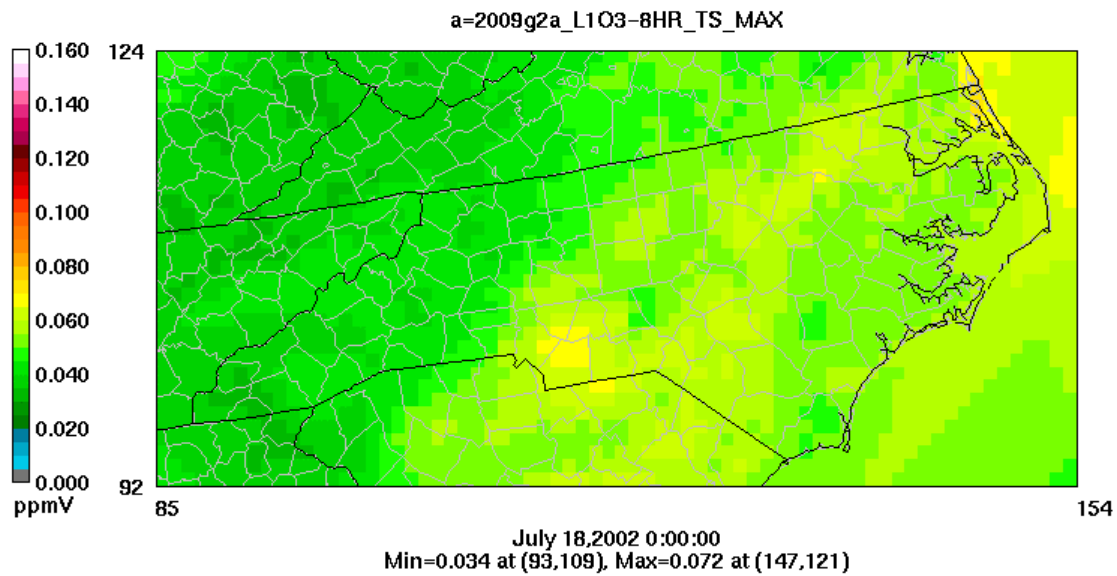


Figure 23.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 18th

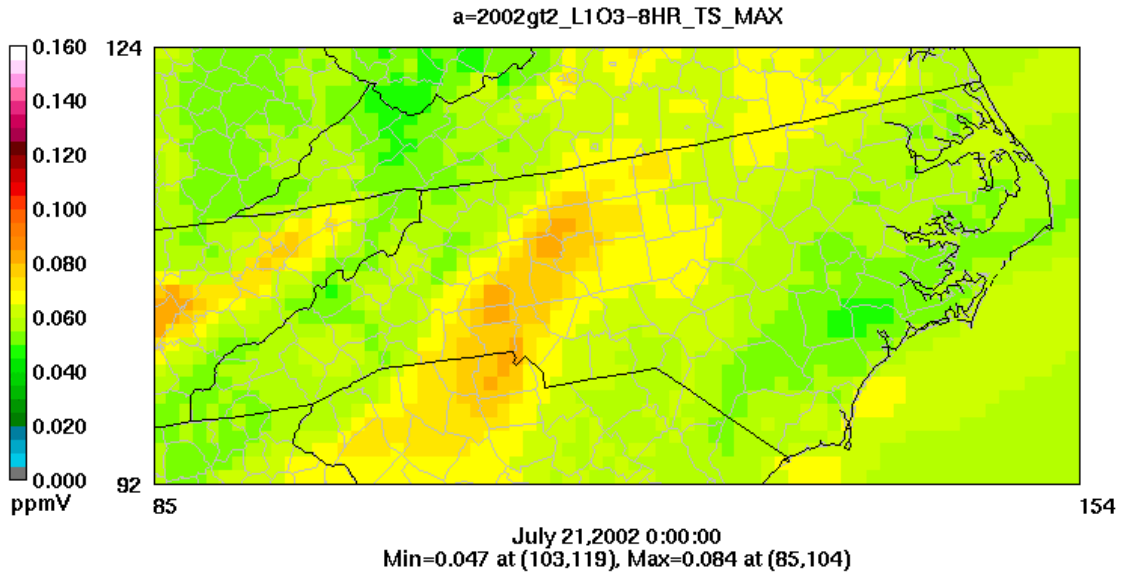
Table 23.1 AQI Count Across Metrolina Domain Mask For July 18th

Day 199	2002	2009
Green Cells	33	60
Yellow Cells	43	16
Orange Cells	0	0
Red Cells	0	0

Table 23.2 Table Of Monitors Using July 18th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
199	18-Jul	NO	NO	NO	NO	NO	NO	YES	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

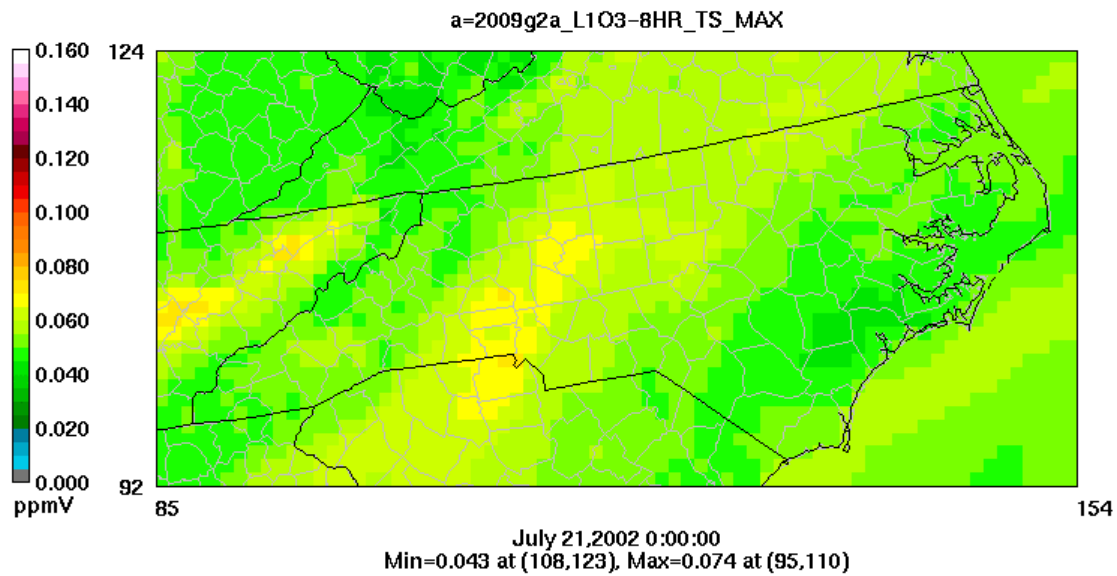


Figure 24.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For July 21st

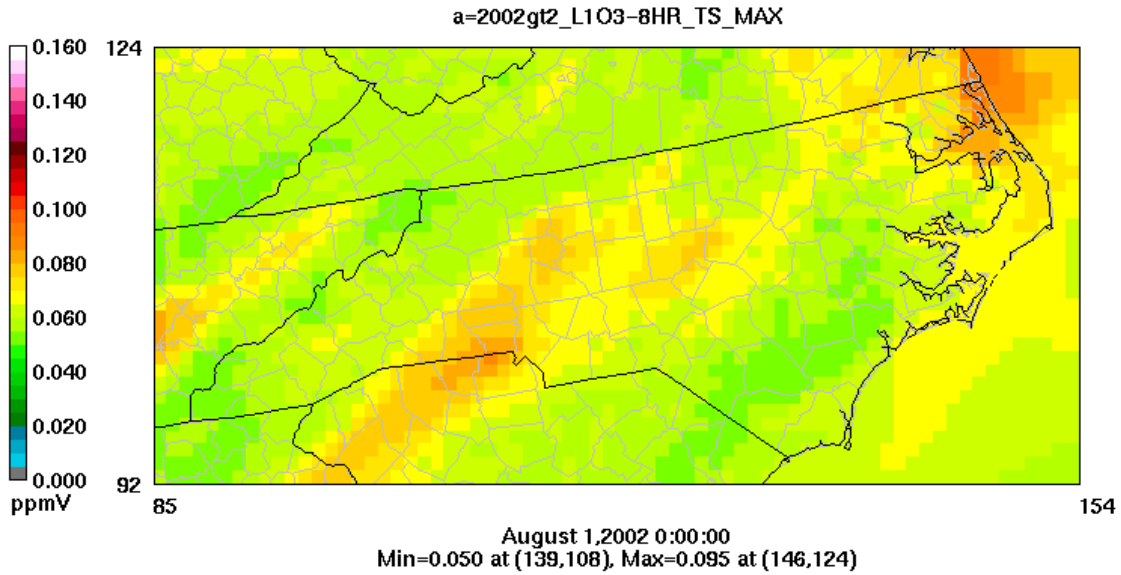
Table 24.1 AQI Count Across Metrolina Domain Mask For July 21st

Day 202	2002	2009
Green Cells	8	37
Yellow Cells	68	39
Orange Cells	0	0
Red Cells	0	0

Table 24.2 Table Of Monitors Using July 21st As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
202	21-Jul	YES	NO	NO	NO	NO	NO	NO	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

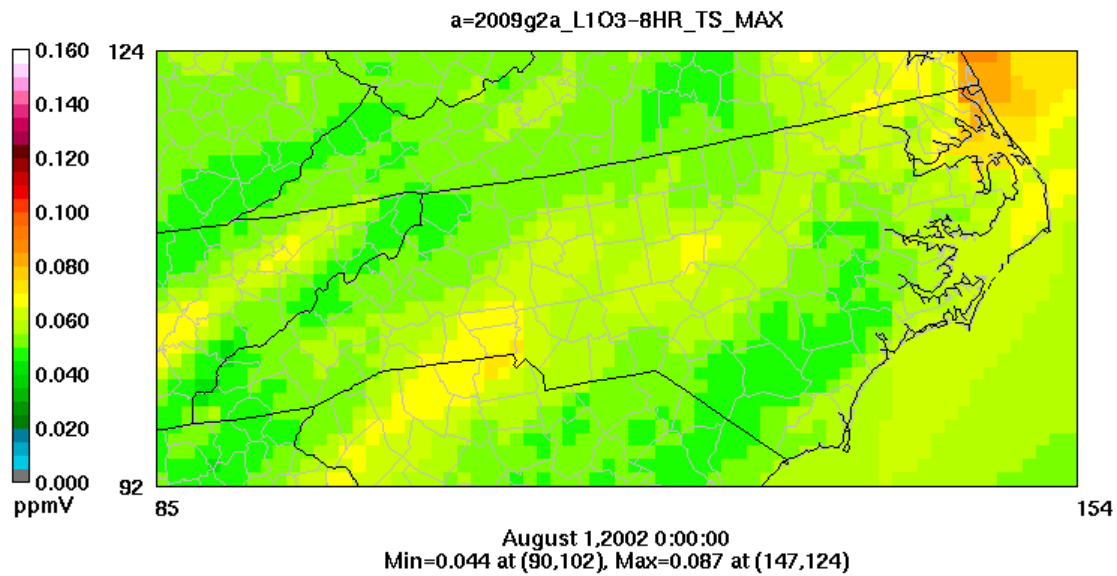


Figure 25.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 1st

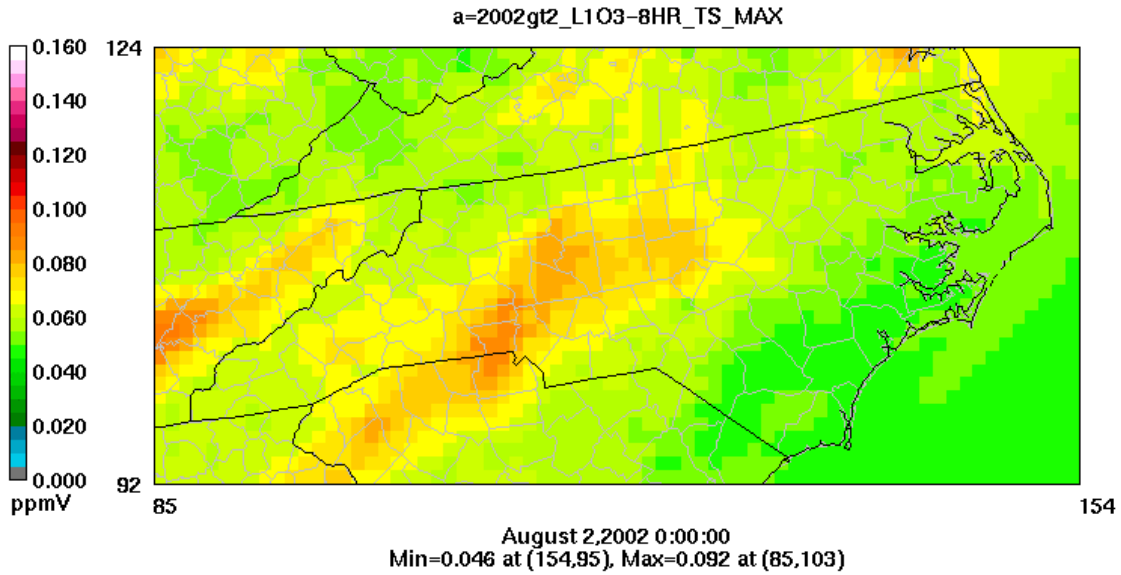
Table 25.1 AQI Count Across Metrolina Domain Mask For August 1st

Day 213	2002	2009
Green Cells	4	55
Yellow Cells	70	21
Orange Cells	2	0
Red Cells	0	0

Table 25.2 Table Of Monitors Using August 1st As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
213	1-Aug	NO	NO	NO	NO	NO	NO	NO	YES	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

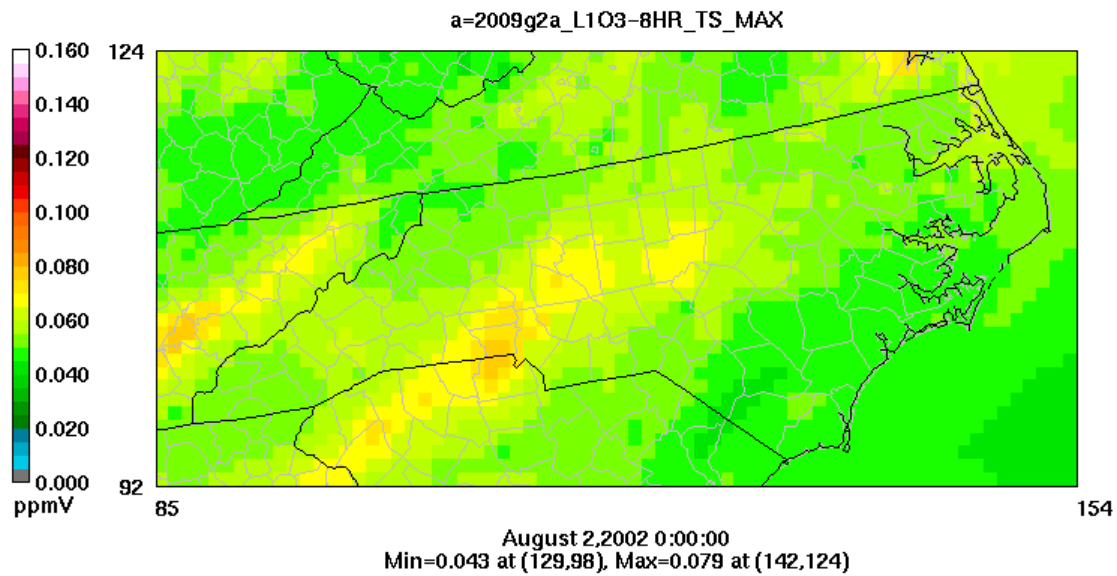


Figure 26.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 2nd

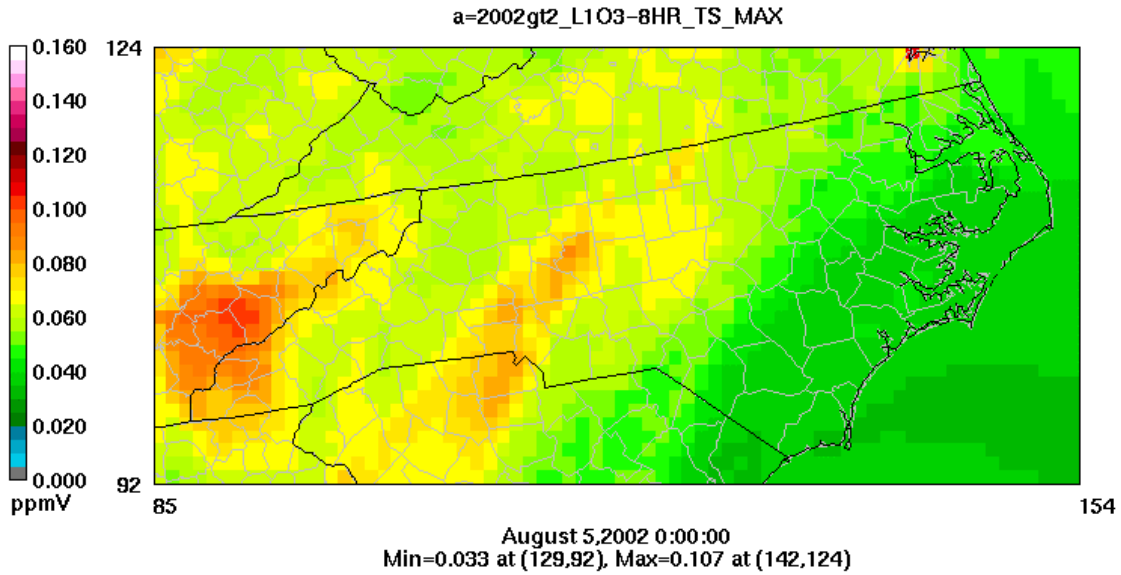
Table 26.1 AQI Count Across Metrolina Domain Mask For August 2nd

Day 214	2002	2009
Green Cells	8	31
Yellow Cells	53	45
Orange Cells	15	0
Red Cells	0	0

Table 26.2 Table Of Monitors Using August 2nd As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
214	2-Aug	YES	YES	YES	NO	YES	NO	NO	YES	5

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

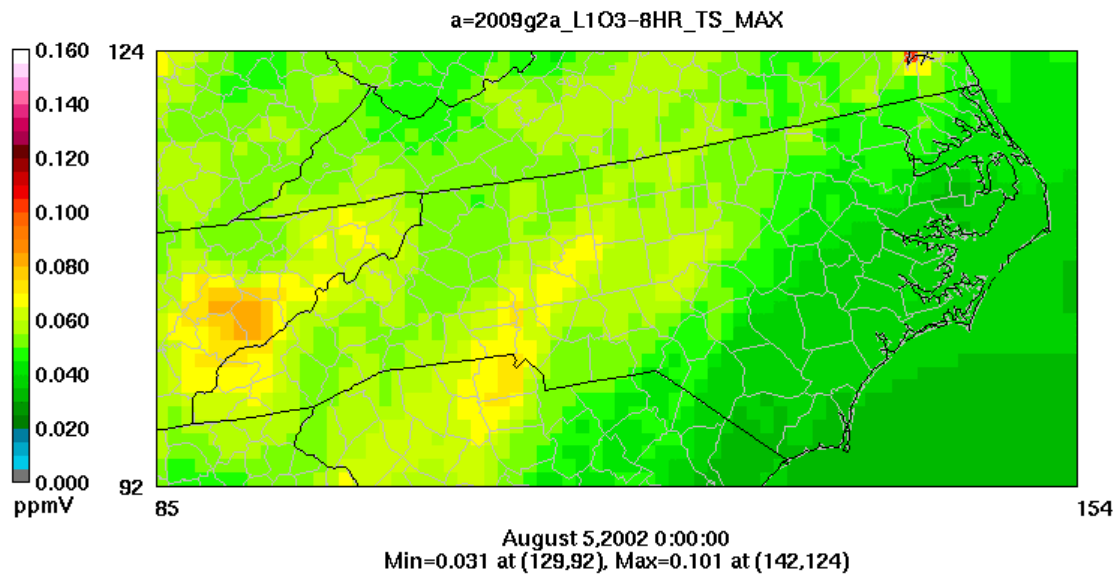


Figure 27.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 5th

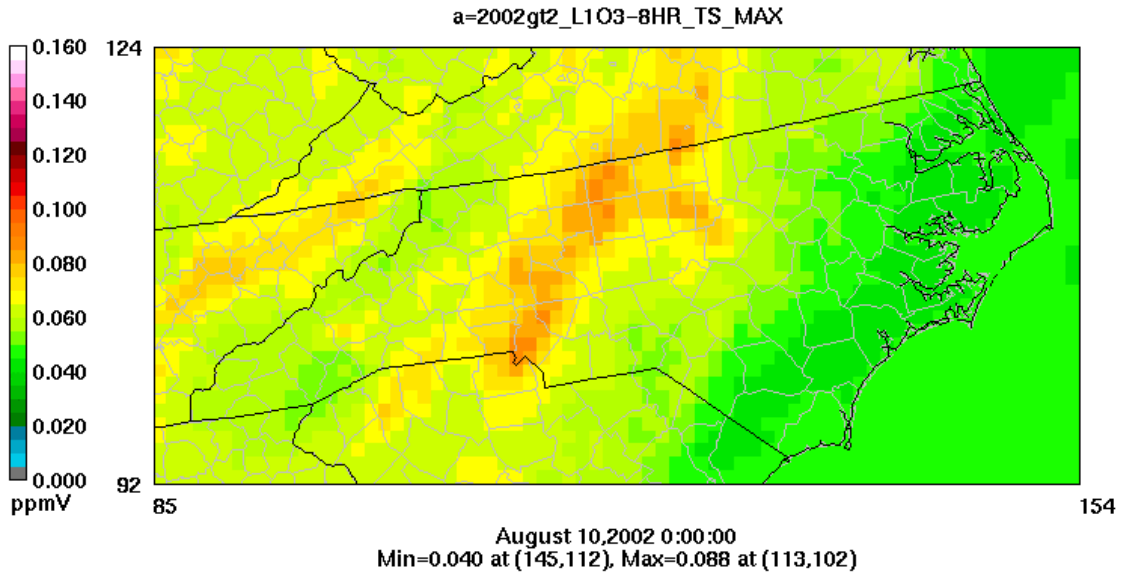
Table 27.1 AQI Count Across Metrolina Domain Mask For August 5th

Day 217	2002	2009
Green Cells	19	43
Yellow Cells	55	33
Orange Cells	2	0
Red Cells	0	0

Table 27.2 Table Of Monitors Using August 5th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
217	5-Aug	NO	NO	NO	NO	YES	NO	NO	NO	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

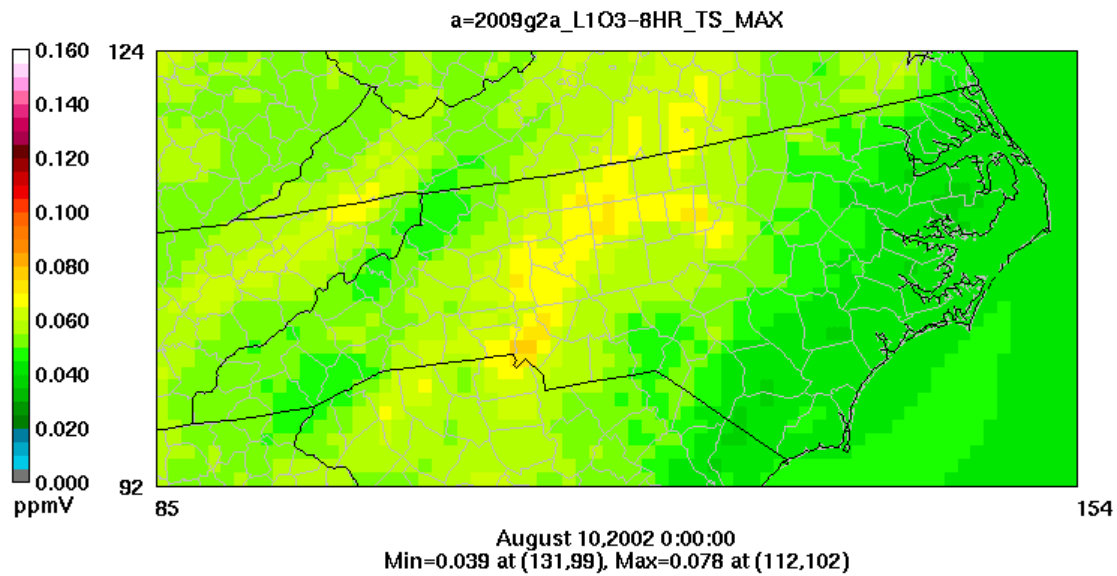


Figure 28.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 10th

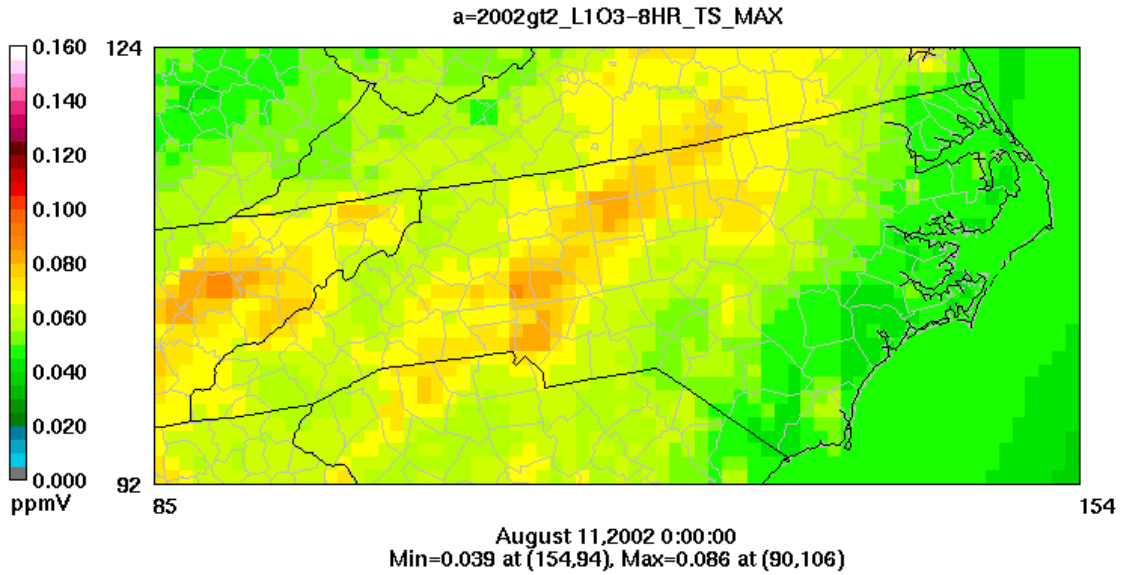
Table 28.1 AQI Count Across Metrolina Domain Mask For August 10th

Day 222	2002	2009
Green Cells	9	45
Yellow Cells	62	31
Orange Cells	5	0
Red Cells	0	0

Table 28.2 Table Of Monitors Using August 10th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
222	10-Aug	NO	YES	YES	YES	NO	YES	NO	YES	5

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

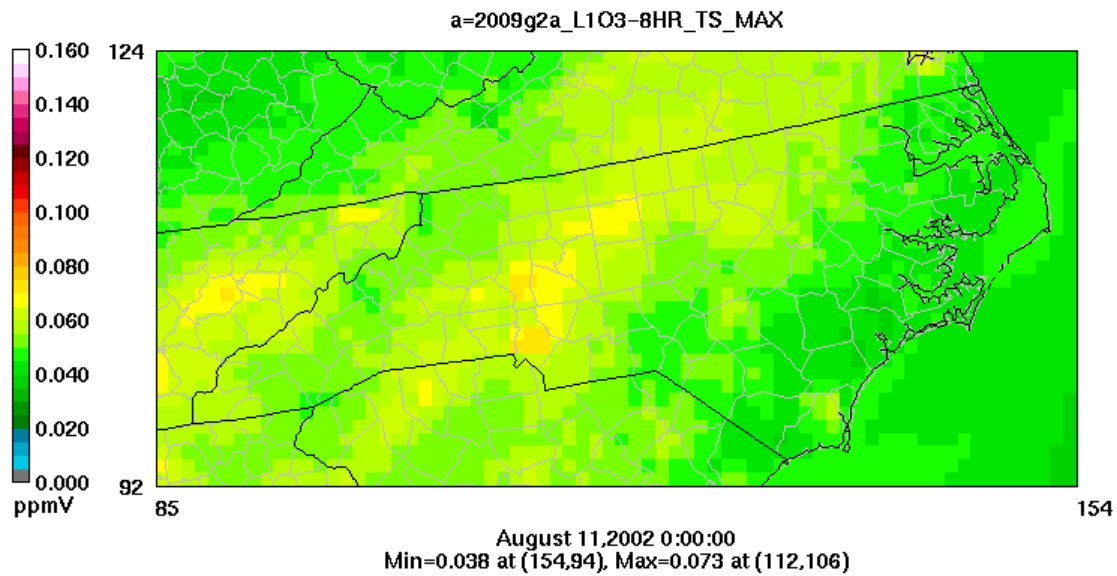


Figure 29.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 11th

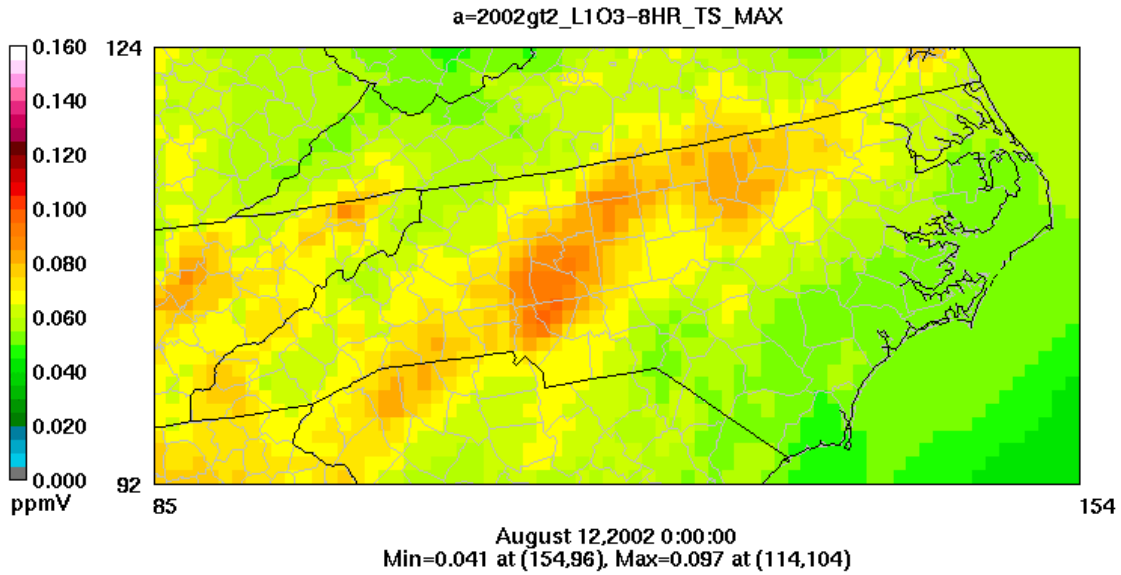
Table 29.1 AQI Count Across Metrolina Domain Mask For August 11th

Day 223	2002	2009
Green Cells	12	53
Yellow Cells	60	23
Orange Cells	4	0
Red Cells	0	0

Table 29.2 Table Of Monitors Using August 11th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
223	11-Aug	NO	YES	YES	YES	NO	NO	NO	NO	3

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

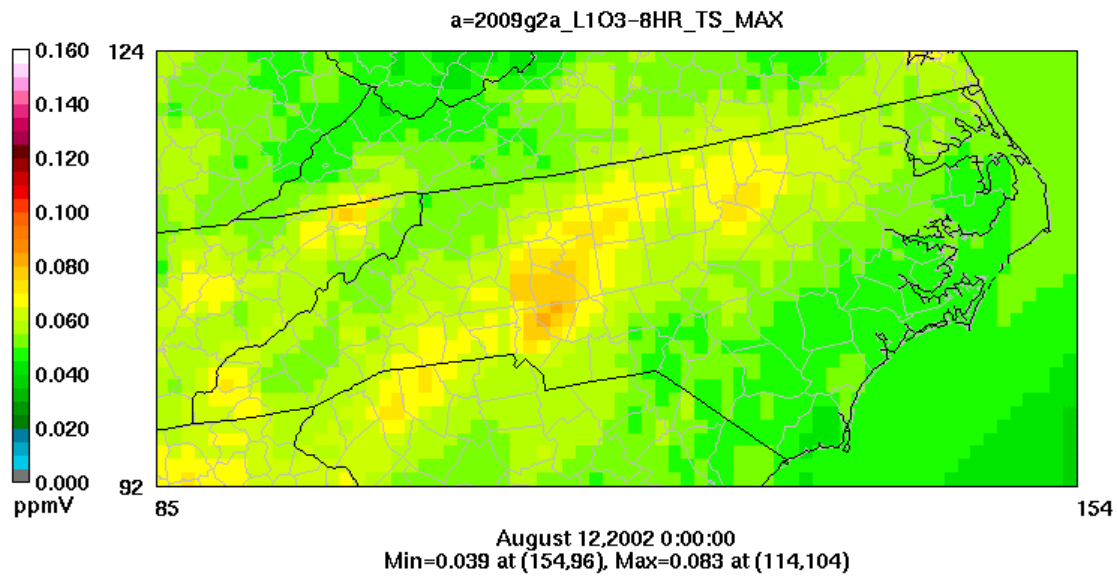


Figure 30.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 12th

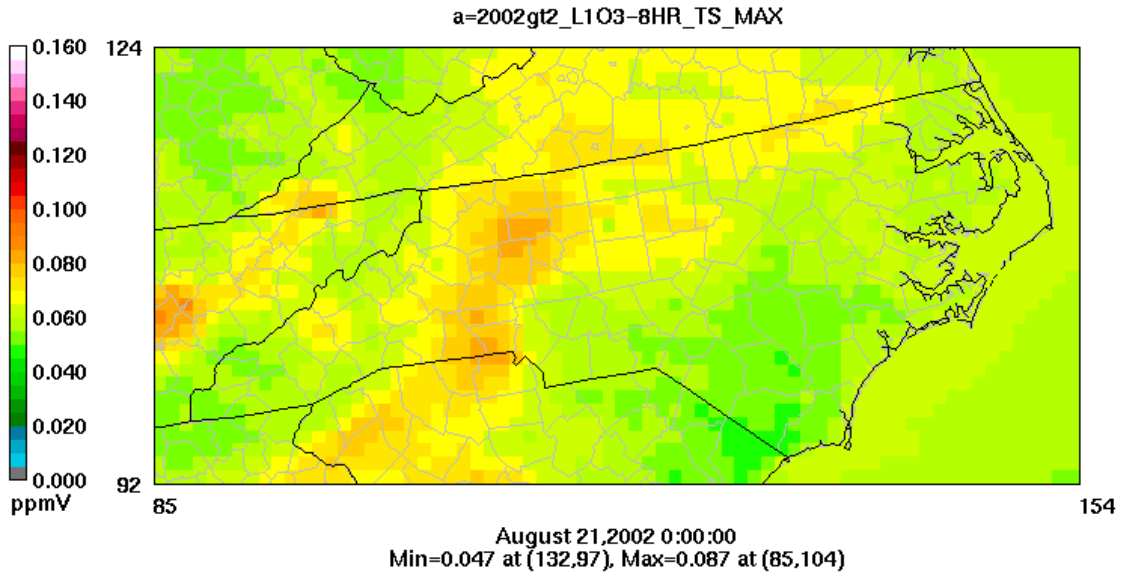
Table 30.1 AQI Count Across Metrolina Domain Mask For August 12th

Day 224	2002	2009
Green Cells	5	37
Yellow Cells	48	39
Orange Cells	23	0
Red Cells	0	0

Table 30.2 Table Of Monitors Using August 12th As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
224	12-Aug	NO	YES	NO	YES	YES	YES	NO	NO	4

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

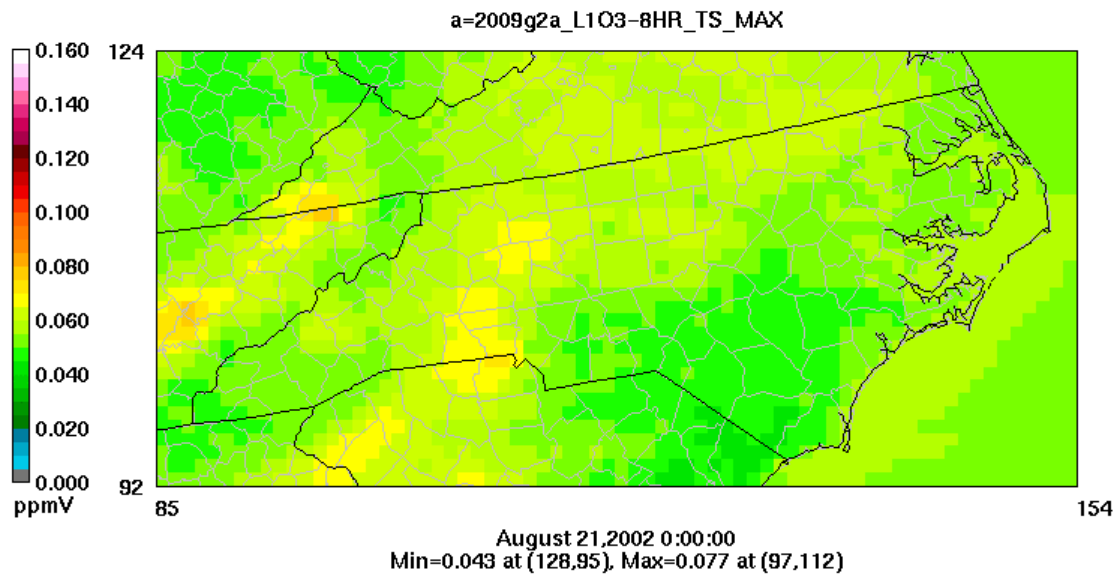


Figure 31.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 21st

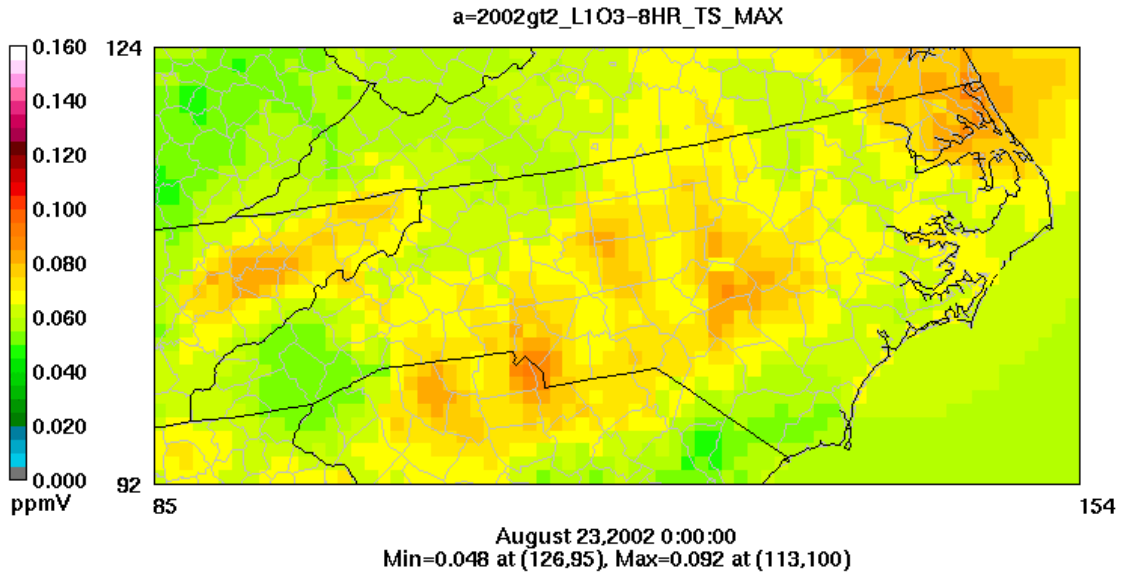
Table 31.1 AQI Count Across Metrolina Domain Mask For August 21st

Day 233	2002	2009
Green Cells	32	53
Yellow Cells	42	23
Orange Cells	2	0
Red Cells	0	0

Table 31.2 Table Of Monitors Using August 21st As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
233	21-Aug	NO	NO	NO	NO	NO	NO	NO	YES	1

Daily Max 8-hour Ozone



Daily Max 8-hour Ozone

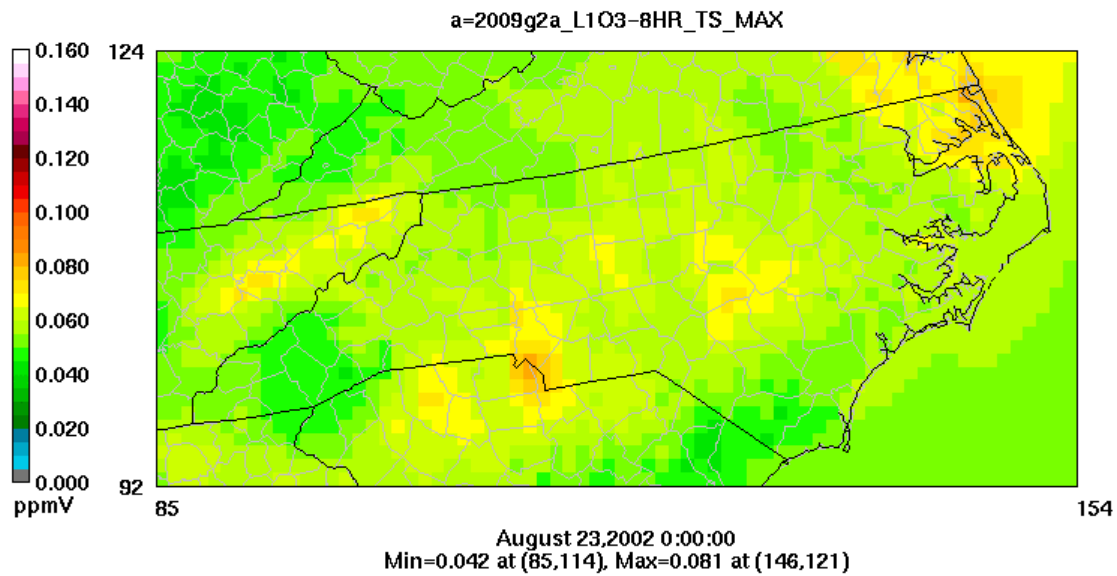


Figure 32.1 2002 (top) and 2009 (bottom) Modeled Daily Max 8-hour Ozone For August 23rd

Table 32.1 AQI Count Across Metrolina Domain Mask For August 23rd

Day 235	2002	2009
Green Cells	1	40
Yellow Cells	67	36
Orange Cells	8	0
Red Cells	0	0

Table 32.2 Table Of Monitors Using August 23rd As An RRF Day

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
235	23-Aug	NO	NO	YES	NO	NO	NO	YES	YES	3

Table 33 Combined Table Of Days Used In The RRF Calculations By Monitor

JDAY	Date	Crouse 37-109-0004	Garinger 37-119-0041	Arrowood 37-119-1005	County Line 37-119-1009	Rockwell 37-159-0021	Enochville 37-159-0022	Monroe 37-179-0003	York County 45-091-0006	Total # of sites for day
144	24-May	NO	NO	NO	NO	YES	NO	YES	NO	2
145	25-May	YES	YES	YES	YES	NO	YES	YES	YES	7
146	26-May	NO	YES	NO	YES	NO	YES	NO	NO	3
152	1-Jun	NO	NO	NO	NO	NO	NO	YES	NO	1
153	2-Jun	NO	NO	NO	NO	NO	NO	YES	NO	1
154	3-Jun	YES	YES	YES	NO	NO	NO	NO	YES	4
160	9-Jun	YES	NO	NO	NO	NO	NO	NO	NO	1
161	10-Jun	YES	YES	YES	YES	YES	YES	NO	YES	7
162	11-Jun	YES	YES	NO	YES	YES	YES	NO	NO	5
163	12-Jun	NO	YES	YES	YES	YES	YES	YES	NO	6
164	13-Jun	NO	YES	YES	YES	YES	YES	YES	NO	6
182	1-Jul	NO	NO	NO	NO	NO	YES	NO	NO	1
183	2-Jul	NO	YES	NO	NO	NO	NO	NO	NO	1
184	3-Jul	YES	YES	YES	NO	NO	NO	NO	NO	3
185	4-Jul	NO	YES	YES	YES	YES	YES	NO	YES	6
186	5-Jul	NO	YES	YES	NO	YES	NO	NO	YES	4
187	6-Jul	YES	YES	YES	NO	NO	NO	NO	YES	4
189	8-Jul	YES	YES	YES	NO	NO	NO	NO	YES	4
190	9-Jul	NO	NO	NO	YES	YES	YES	NO	NO	3
197	16-Jul	NO	NO	YES	NO	NO	NO	YES	YES	3
198	17-Jul	NO	YES	YES	YES	YES	YES	YES	YES	7
199	18-Jul	NO	NO	NO	NO	NO	NO	YES	NO	1
202	21-Jul	YES	NO	NO	NO	NO	NO	NO	NO	1
213	1-Aug	NO	NO	NO	NO	NO	NO	NO	YES	1
214	2-Aug	YES	YES	YES	NO	YES	NO	NO	YES	5
217	5-Aug	NO	NO	NO	NO	YES	NO	NO	NO	1
222	10-Aug	NO	YES	YES	YES	NO	YES	NO	YES	5
223	11-Aug	NO	YES	YES	YES	NO	NO	NO	NO	3
224	12-Aug	NO	YES	NO	YES	YES	YES	NO	NO	4
233	21-Aug	NO	NO	NO	NO	NO	NO	NO	YES	1
235	23-Aug	NO	NO	YES	NO	NO	NO	YES	YES	3
Total day		10	18	16	12	12	12	10	14	
Cut Off (ppb)		84	85	85	85	83	85	78	85	

Table 34 Daily RRF Values for Days Used in Attainment Test RRF

AIRS ID	Monitor Name	5/24	5/25	5/26	6/3	6/9	6/10	6/11	6/12	6/13	7/1
37-109-0004	Crouse		0.876		0.853	0.883	0.9	0.918			
37-119-0041	Garinger High School		0.903	0.896	0.905		0.907	0.9	0.912	0.892	
37-119-1005	Arrowood		0.921		0.908		0.953		0.912	0.902	
37-119-1009	County Line		0.91	0.896			0.9	0.896	0.881	0.883	
37-159-0021	Rockwell						0.91	0.884	0.896	0.874	
37-159-0022	Enochville		0.879	0.874			0.907	0.893	0.897	0.878	0.858
37-179-0003	Monroe	0.922	0.9						0.897	0.909	
45-091-0006	York				0.871		0.898				

AIRS ID	Monitor Name	7/2	7/3	7/4	7/5	7/6	7/8	7/9	7/16	7/17	7/18
37-109-0004	Crouse		0.847			0.843	0.873				
37-119-0041	Garinger High School	0.856	0.859	0.904	0.864	0.852	0.902			0.862	
37-119-1005	Arrowood		0.905	0.896	0.85	0.867	0.946		0.871	0.859	
37-119-1009	County Line			0.858				0.867		0.831	
37-159-0021	Rockwell				0.824			0.866			
37-159-0022	Enochville			0.858				0.867		0.836	
37-179-0003	Monroe								0.874	0.861	0.879
45-091-0006	York			0.874	0.841	0.844				0.851	

AIRS ID	Monitor Name	7/21	7/27	8/1	8/2	8/5	8/10	8/11	8/12	8/23	9/4	9/3
37-109-0004	Crouse	0.831			0.845							
37-119-0041	Garinger High School				0.864		0.883	0.871	0.851		0.885	
37-119-1005	Arrowood				0.881		0.883	0.871		0.869	0.885	
37-119-1009	County Line						0.863	0.858	0.851		0.859	
37-159-0021	Rockwell				0.837	0.819			0.844		0.859	
37-159-0022	Enochville						0.844		0.851		0.859	
37-179-0003	Monroe		0.862							0.883	0.874	
45-091-0006	York			0.851	0.857	0.867				0.861		0.858

Table 35 Daily 8-Hour Ozone Maximum for 2002 Base Year Used in Attainment Test RRF

AIRS ID	Monitor Name	5/24	5/25	5/26	6/3	6/9	6/10	6/11	6/12	6/13	7/1
37-109-0004	Crouse		84.81		90.70	84.38	97.90	84.20			
37-119-0041	Garinger High School		94.75	86.70	95.19		93.02	99.88	96.29	89.15	
37-119-1005	Arrowood		92.65		94.89		88.46		96.29	85.52	
37-119-1009	County Line		91.80	86.70			90.10	100.32	92.33	90.34	
37-159-0021	Rockwell						87.49	100.70	90.34	88.67	
37-159-0022	Enochville		91.49	86.70			90.70	100.70	90.09	90.34	85.81
37-179-0003	Monroe	83.80	84.65						100.87	85.60	
45-091-0006	York				85.84		86.39				

AIRS ID	Monitor Name	7/2	7/3	7/4	7/5	7/6	7/8	7/9	7/16	7/17	7/18
37-109-0004	Crouse		84.55			86.28	93.00				
37-119-0041	Garinger High School	90.18	92.87	90.78	85.85	85.07	93.62			100.08	
37-119-1005	Arrowood		87.36	91.85	94.10	85.47	89.30		88.44	104.34	
37-119-1009	County Line			86.46				85.08		88.11	
37-159-0021	Rockwell				84.62			85.21			
37-159-0022	Enochville			86.46				85.08		86.61	
37-179-0003	Monroe								87.34	99.28	82.17
45-091-0006	York			89.05	95.02	88.70				86.81	

AIRS ID	Monitor Name	7/21	7/27	8/1	8/2	8/5	8/10	8/11	8/12	8/23	9/4	9/3
37-109-0004	Crouse	84.57			85.95							
37-119-0041	Garinger High School				87.74		90.22	86.69	99.55		90.75	
37-119-1005	Arrowood				86.08		90.22	86.69		93.53	90.75	
37-119-1009	County Line						86.79	85.73	99.55		89.59	
37-159-0021	Rockwell				84.92	85.49			96.69		89.59	
37-159-0022	Enochville						86.79		99.55		89.59	
37-179-0003	Monroe		83.65							81.18	88.13	
45-091-0006	York			84.90	89.15	84.18				88.96		84.19

Table 36 Daily 8-Hour Ozone Maximum for 2009 Future Year Used in Attainment Test RRF

AIRS ID	Monitor Name	5/24	5/25	5/26	6/3	6/9	6/10	6/11	6/12	6/13	7/1
37-109-0004	Crouse		74.28		77.35	74.47	88.12	77.33			
37-119-0041	Garinger High School		85.59	77.70	86.18		84.34	89.90	87.83	79.54	
37-119-1005	Arrowood		85.31		86.18		84.34		87.83	77.11	
37-119-1009	County Line		83.57	77.70			81.10	89.90	81.36	79.79	
37-159-0021	Rockwell						79.64	88.99	80.95	77.48	
37-159-0022	Enochville		80.43	75.82			82.26	89.90	80.82	79.31	73.64
37-179-0003	Monroe	77.29	76.19						90.44	77.82	
45-091-0006	York				74.77		77.55				

AIRS ID	Monitor Name	7/2	7/3	7/4	7/5	7/6	7/8	7/9	7/16	7/17	7/18
37-109-0004	Crouse		71.63			72.76	81.16				
37-119-0041	Garinger High School	77.17	79.77	82.09	74.20	72.44	84.45			86.30	
37-119-1005	Arrowood		79.06	82.32	79.97	74.08	84.45		77.02	89.60	
37-119-1009	County Line			74.18				73.77		73.21	
37-159-0021	Rockwell				69.75			73.77			
37-159-0022	Enochville			74.18				73.77		72.42	
37-179-0003	Monroe								76.32	85.49	72.19
45-091-0006	York				77.85	79.94	74.90			73.91	

AIRS ID	Monitor Name	7/21	7/27	8/1	8/2	8/5	8/10	8/11	8/12	8/23	9/4	9/3
37-109-0004	Crouse	70.25			72.62							
37-119-0041	Garinger High School				75.84		79.70	75.54	84.72		80.28	
37-119-1005	Arrowood				75.84		79.70	75.54		81.25	80.28	
37-119-1009	County Line						74.94	73.59	84.72		76.98	
37-159-0021	Rockwell				71.06	70.05			81.59		76.98	
37-159-0022	Enochville						73.23		84.72		76.98	
37-179-0003	Monroe		72.15							71.64	77.02	
45-091-0006	York			72.25	76.40	72.96				76.63		72.24