

Modeling Committee Update

OTC/MANE-VU Committee Meeting SAS/Mobile/Modeling/Technical Support

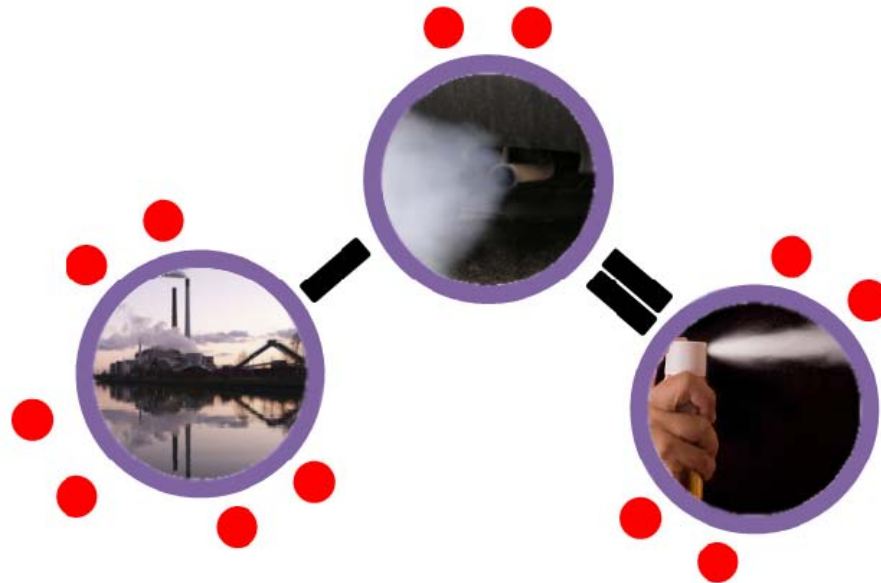
September 13th, 2012
Washington, DC



OZONE TRANSPORT COMMISSION

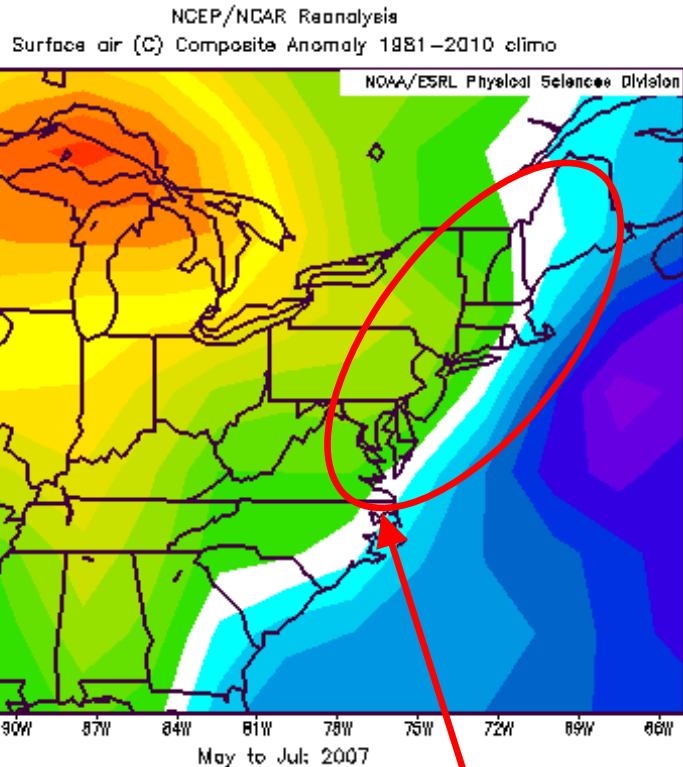
Overview

1. 2012 Summer Review
2. Ozone Design Value Update
3. Building Level 3 Screening
4. Proposed Screening Modeling Runs



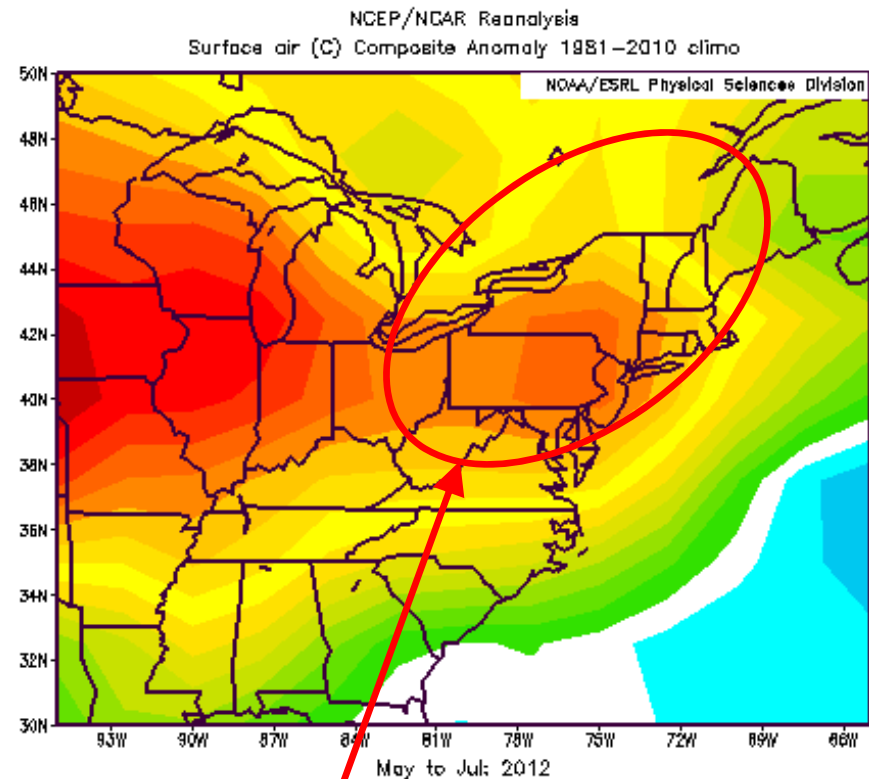
May-July Temperature Anomalies

2007



Near Normal
Temperatures

2012



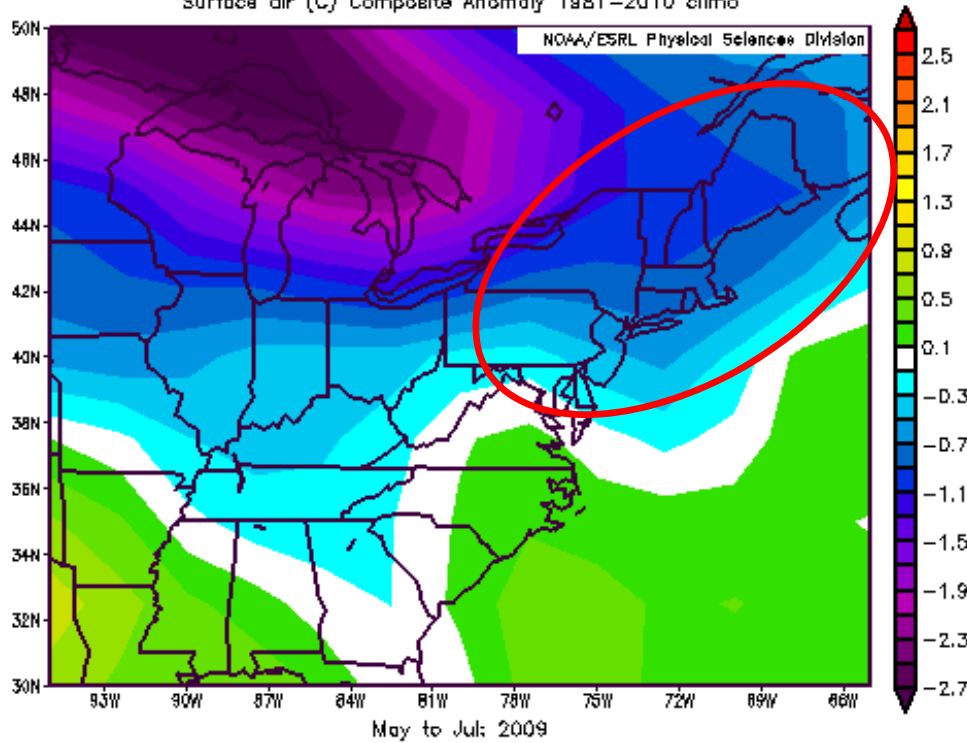
Warmer than
Normal (~2-4°F)

May-July Temperature Anomalies

2009

NCEP/NCAR Reanalysis
Surface air (C) Composite Anomaly 1981-2010 climo

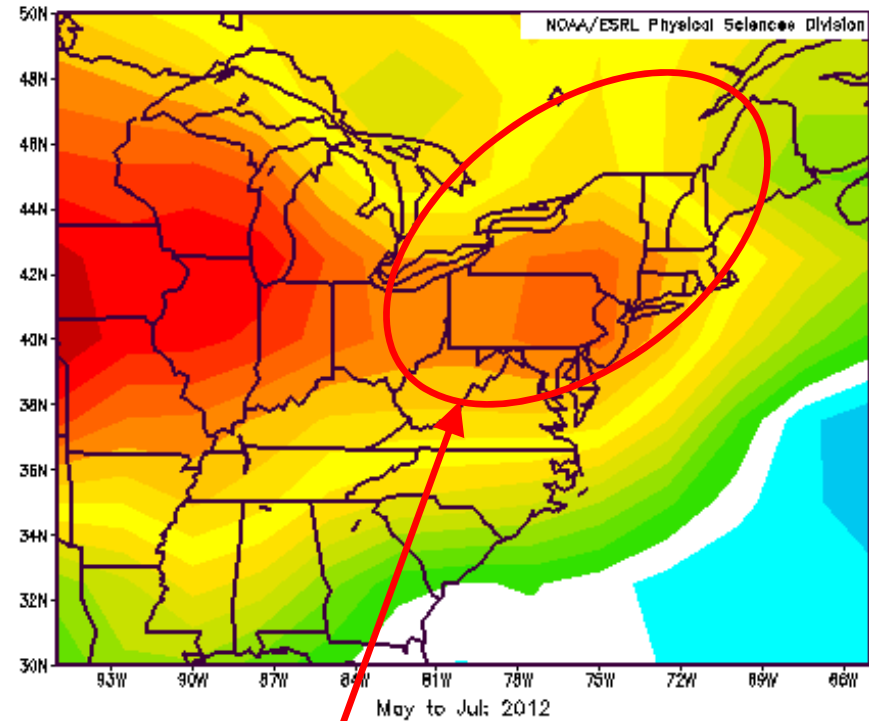
NOAA/ESRL Physical Sciences Division



2012

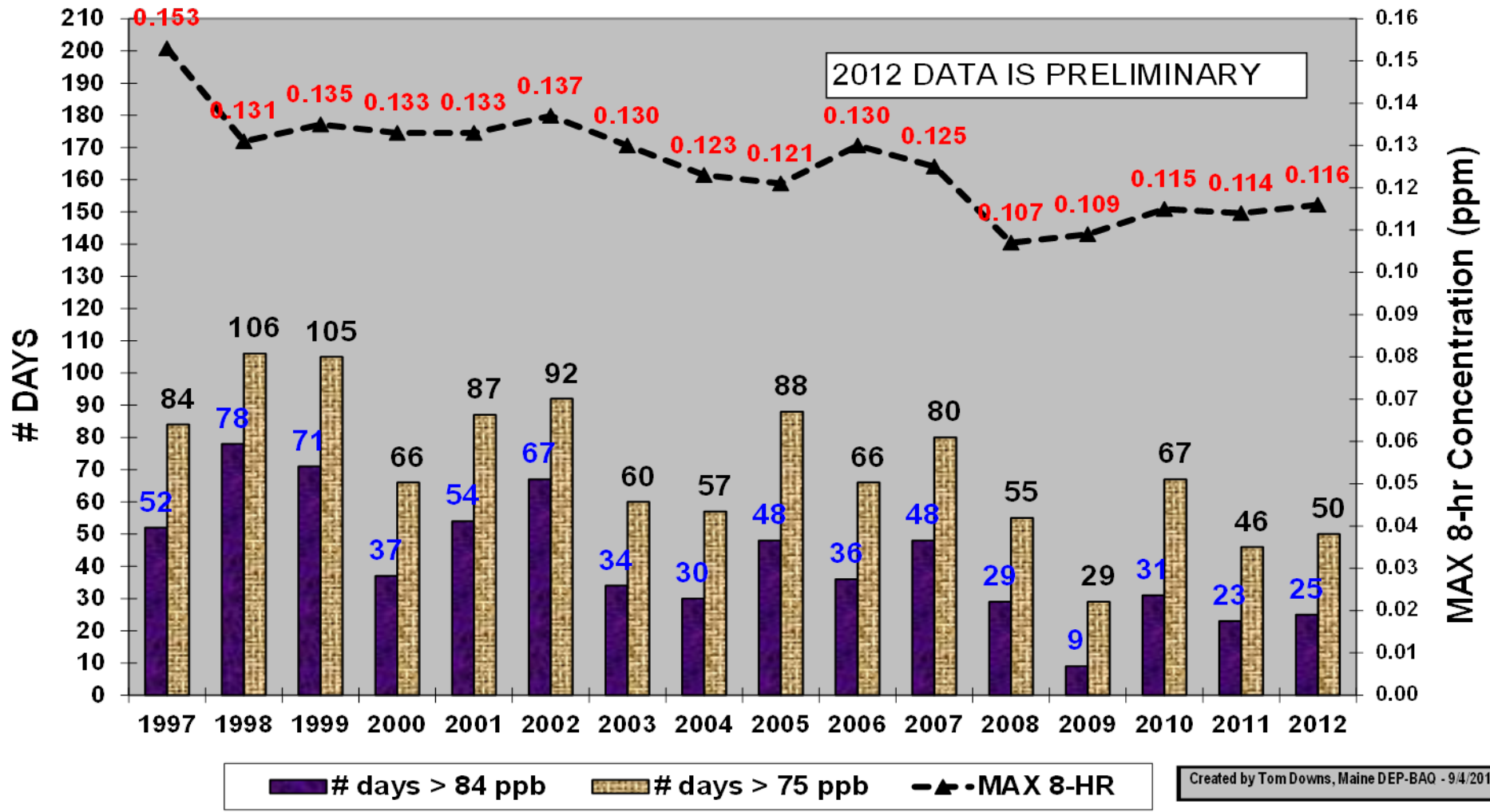
NCEP/NCAR Reanalysis
Surface air (C) Composite Anomaly 1981-2010 climo

NOAA/ESRL Physical Sciences Division

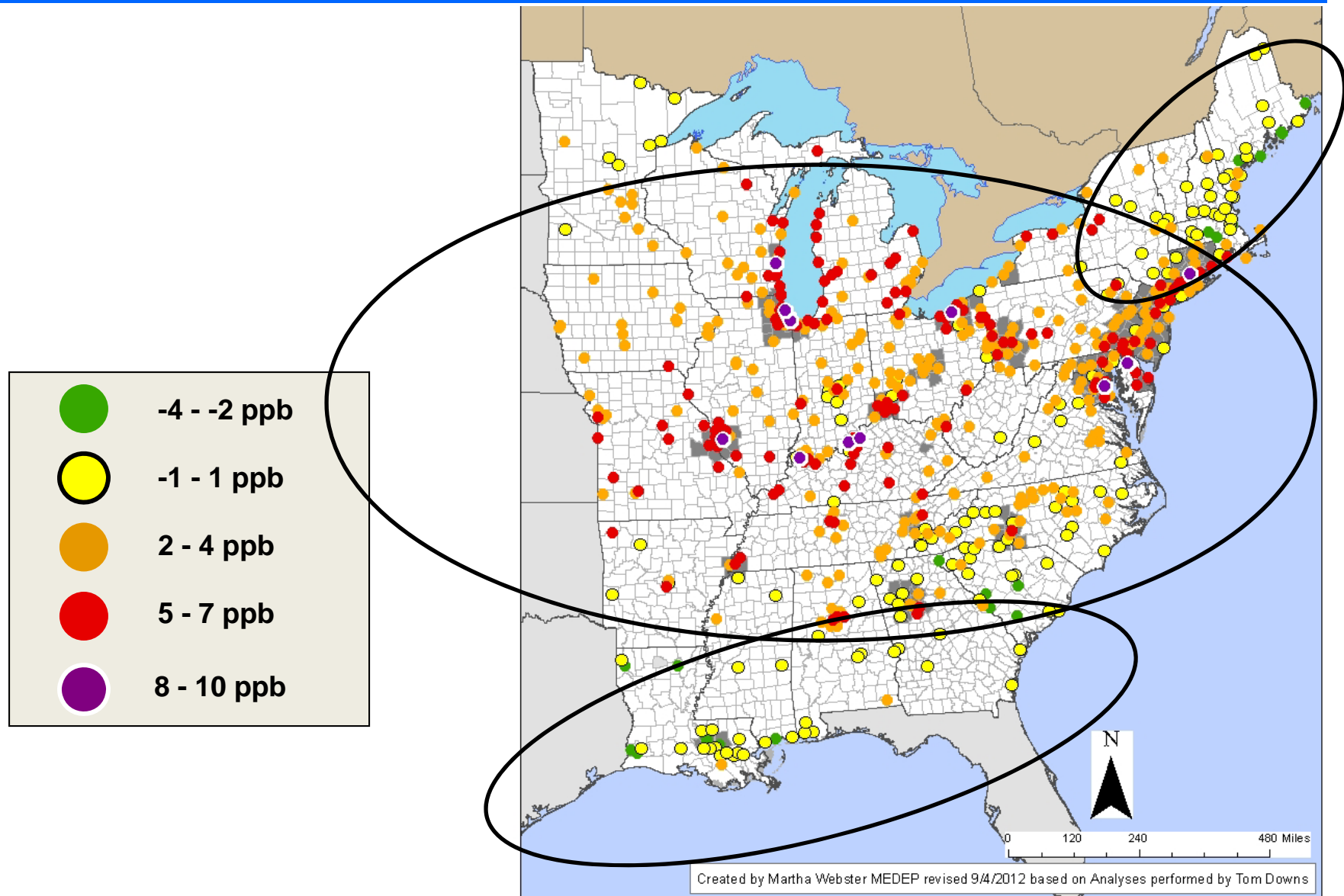


Warmer than
Normal (~2-4°F)

OTR Trend Days 1997-2012

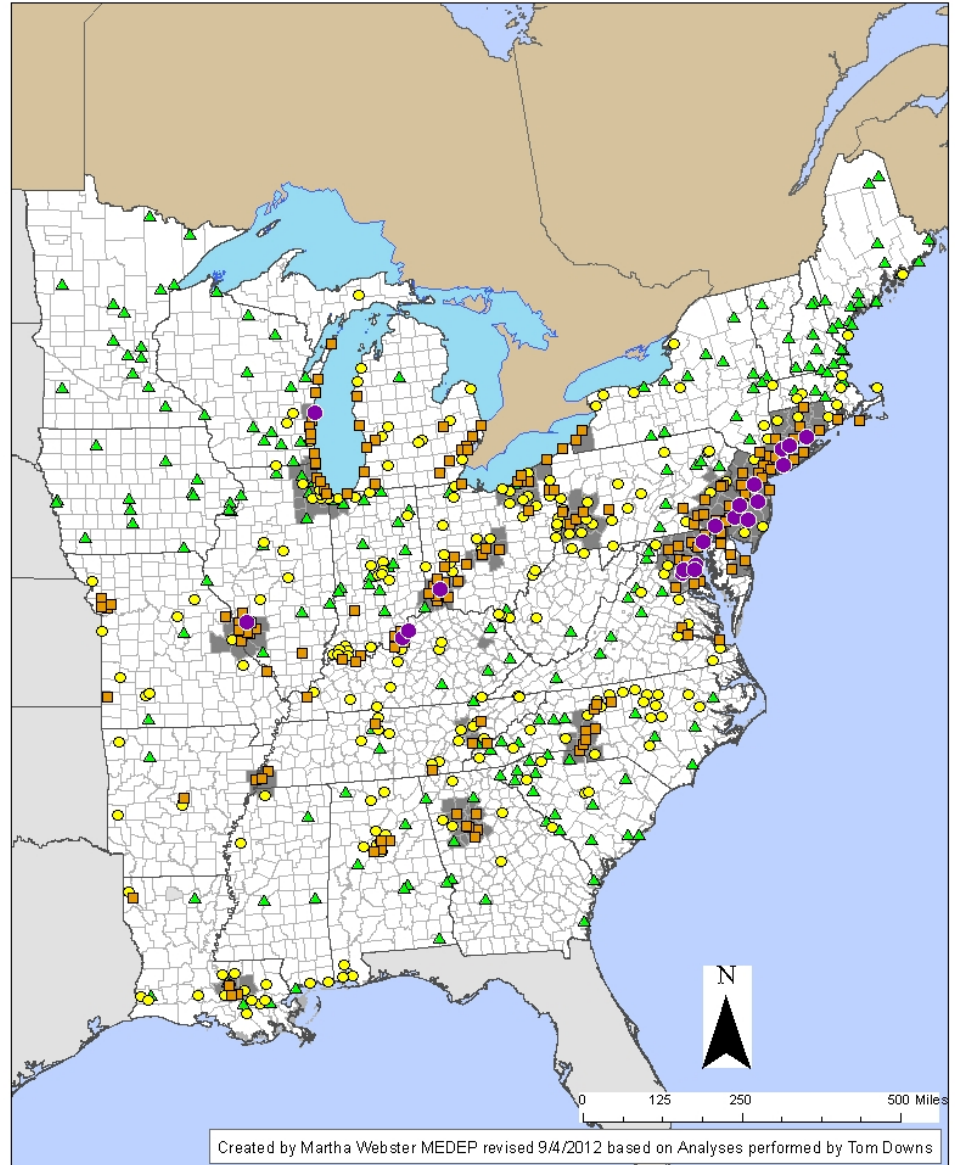
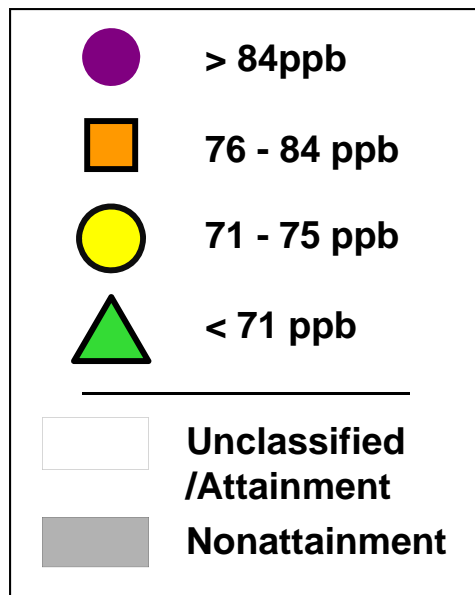


Differences between 2011 and 2012 DVs



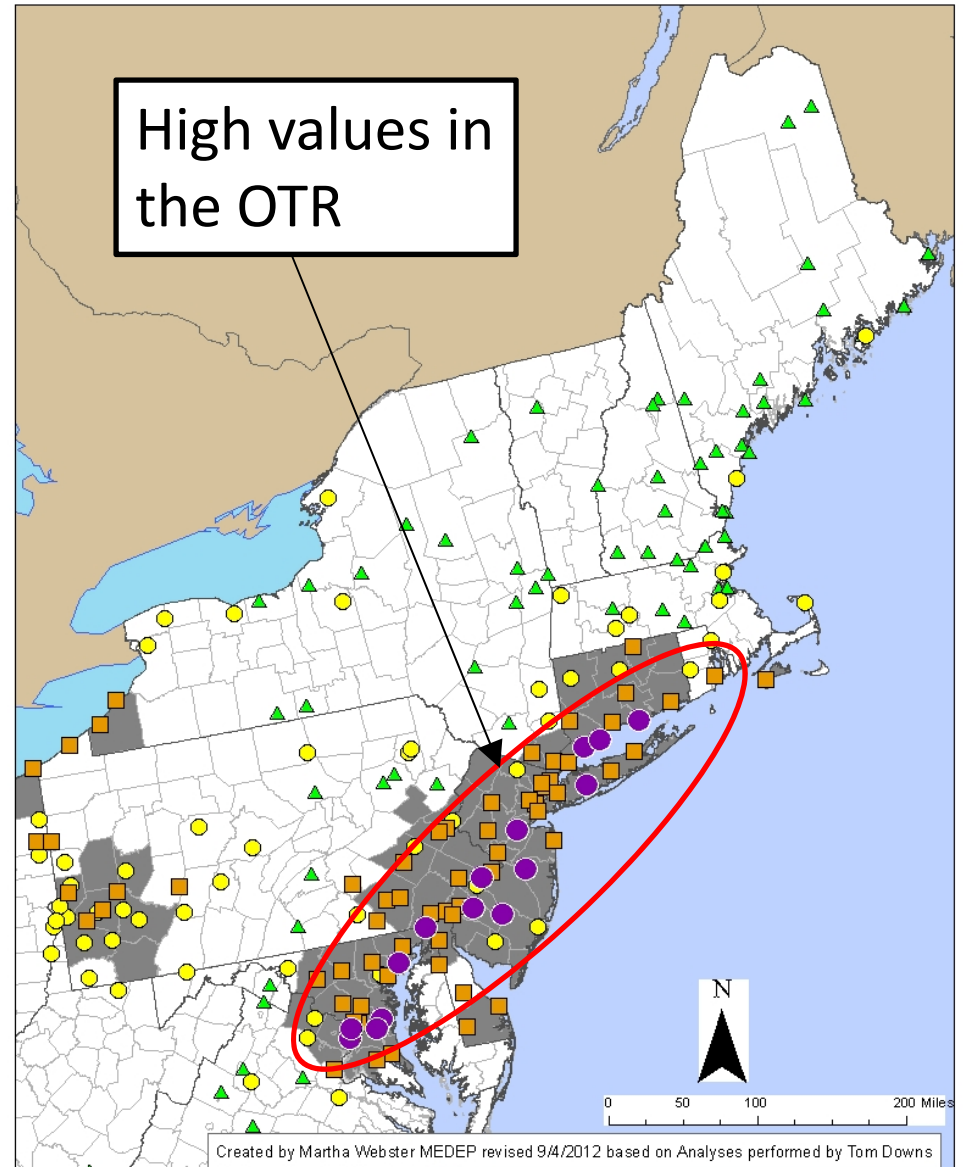
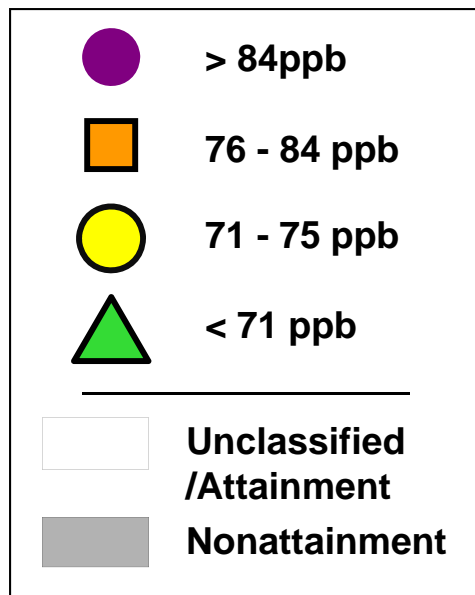
Preliminary 2012 Ozone Design Values

3-Year average of the 4th high concentration for 2010, 2011, 2012



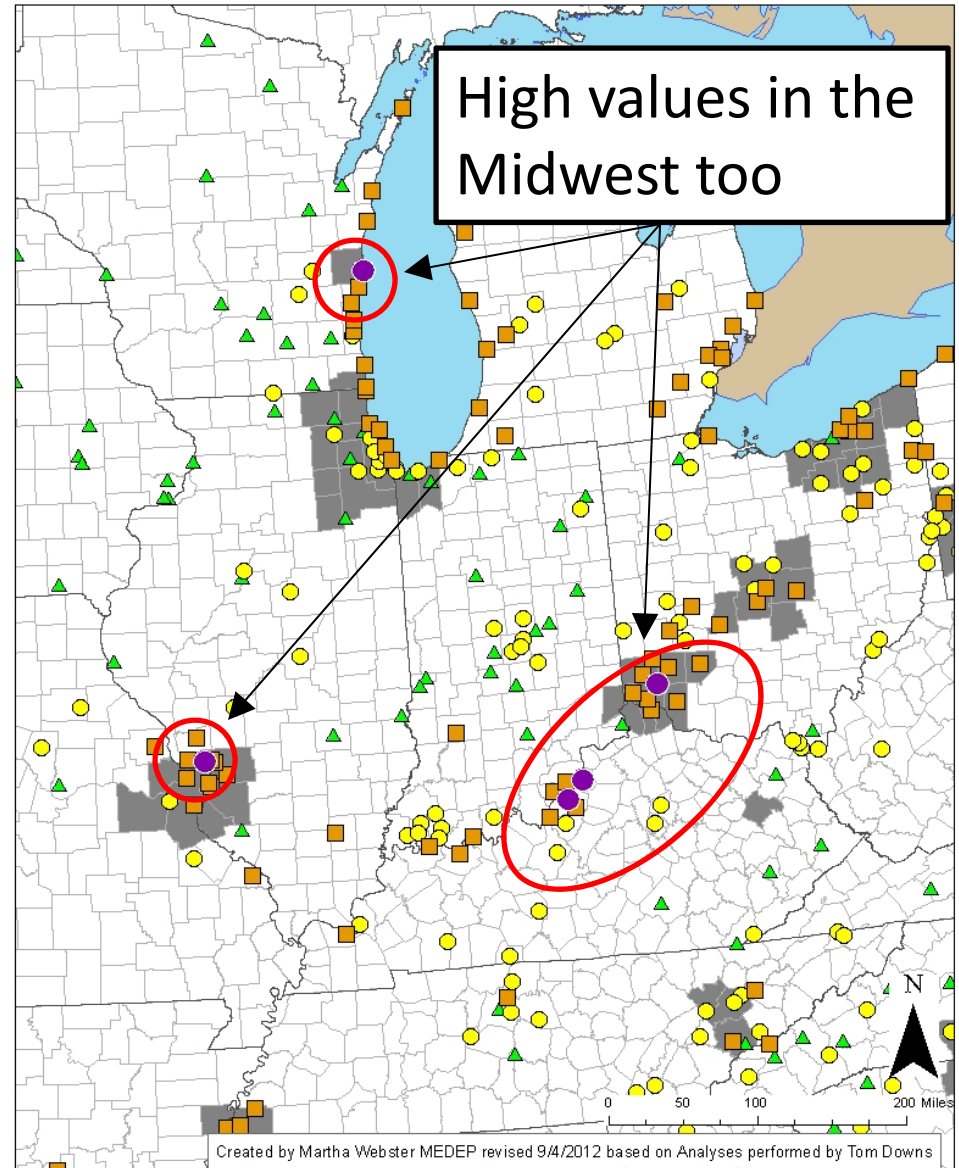
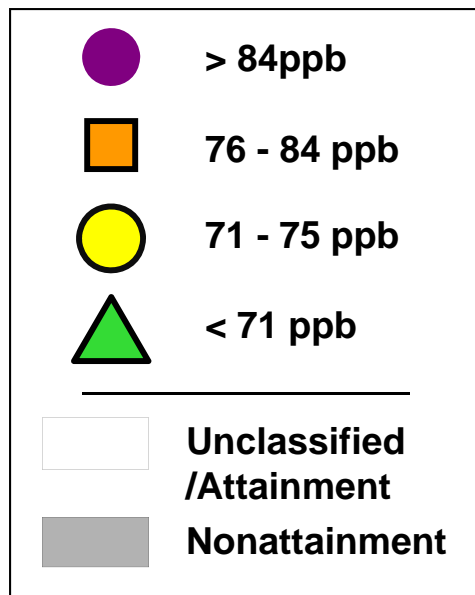
Preliminary 2012 Ozone Design Values

3-Year average of the 4th high concentration for 2010, 2011, 2012



Preliminary 2012 Ozone Design Values

3-Year average of the 4th high concentration for 2010, 2011, 2012






Screening Modeling Schedule



Level 1 Screening
(2007 Inventory & 2020 Control Scenario Using Proxies)

- Completed



Level 2 Screening
(2007 Inventory & 2020 Control Scenario Using Proxies)

- Completed

Level 3A Screening
(Near Complete 2020 Inventory + Variable Boundary Conditions)

- For Fall 2012

Level 3B Screening
(Complete 2020 Inventory)

- For Spring 2013

SIP Quality

- For SIP submission deadline TBD

OTR 2007 Emissions

	Level 1	Level 2	Level 3A
OnRoad	Mobile 6 Proxy (2002-2009 interp)	MARAMA V1 MOVES	MARAMA V2 (MOVES)
NonRoad	MARAMA V1	MARAMA V2	MARAMA V3
MAR	MARAMA V1	MARAMA V2	MARAMA V3
Area	Proxy (2002-2009 interp)	MARAMA V2	MARAMA V3
EGU	MARAMA V1	MARAMA V2	MARAMA V3
Other Point	MARAMA V1	MARAMA V2	MARAMA V3
Cat3 Marine	EPA Chief 2005	EPA Chief 2005	EPA Chief 2008
Boundary Conditions	Static	Static	36km modeling

NonOTR 2007 Emissions

	Level 1	Level 2	Level 3A
OnRoad	Chief 2005 & Proxy (2002-2009 interp)	LADCO MOVES & EPA MOVES	SEMAP 2007 & NEI 2008 V2
NonRoad	Chief 2005 & Proxy (2002-2009 interp)	SEMAP 2007 & NEI 2008 V1.5	LADCO 2007 & SEMAP 2007 & NEI 2008 V2
MAR	NEI 2008 V1.5	NEI 2008 V1.5	
Area	Chief 2005 & Proxy (2002-2009 interp)	NEI 2008 V1.5	
EGU	Chief 2005 & Proxy (2002-2009 interp)	NEI 2008 V1.5	
Other Point	Chief 2005 & Proxy (2002-2009 interp)	NEI 2008 V1.5	
Cat3 Marine	EPA Chief 2005	EPA Chief 2005	EPA Chief 2008

OTR 2020 Emissions

	Level 1	Level 2	Level 3A
OnRoad	Proxy Scale 2007 → 2020	Proxy Scale 2007 → 2020	MARAMA V2 (MOVES)
NonRoad	Proxy Scale*	MARAMA V2	MARAMA V3
MAR	MARAMA V2	MARAMA V2	MARAMA V3
Area	Proxy Scale*	MARAMA V2	MARAMA V3
EGU	Proxy Scale*	Proxy Scale*	State-by-State**
Other Point	Proxy Scale*	MARAMA V2	MARAMA V3
Cat3 Marine	EPA Chief 2005	EPA Chief 2005	EPA Chief 2020
Boundary Conditions	Static	Static	36km modeling

*Proxy scale means emissions were scaled from the 2007 base case.

**EGU emissions state-by-state caps applied to 2007 operations.

NonOTR 2020 Emissions

	Level 1	Level 2	Level 3A
OnRoad	Proxy Scale 2007 → 2020	Proxy Scale 2007 → 2020	SEMAP 2007 & LADCO EPAMOVES & Other Proxy Scale*
NonRoad	Proxy Scale*	Proxy Scale*	Proxy Scale*
MAR	Proxy Scale*	Proxy Scale*	Proxy Scale*
Area	Proxy Scale*	Proxy Scale*	Proxy Scale*
EGU	Proxy Scale*	Proxy Scale*	Proxy Scale*
Other Point	Proxy Scale*	Proxy Scale*	Proxy Scale*
Cat3 Marine	EPA Chief 2005	EPA Chief 2005	EPA Chief 2020

* Proxy scale means emissions were scaled from the 2007 base case.

Planned 3A Screening Activities

Goal: Near SIP quality 2007 base for performance assessment

- CMAQ Base Case 2007

Goal: Improved projection of 2020 attainment status

- CMAQ Base Case 2020

Goal: Improved understanding of mobile source influences
(OnRoad and NonRoad)

- CALGRID Tier 3 + Low Sulfur Fuel (from 2020 base)
- CALGRID Onroad/Nonroad Apportionment (2007 & 2020)

Goal: Widespread vs Targeted NOX and VOC Sensitivity Runs

- CMAQ & CALGRID Comparative runs

Questions

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