

OTC MODELING OVERVIEW



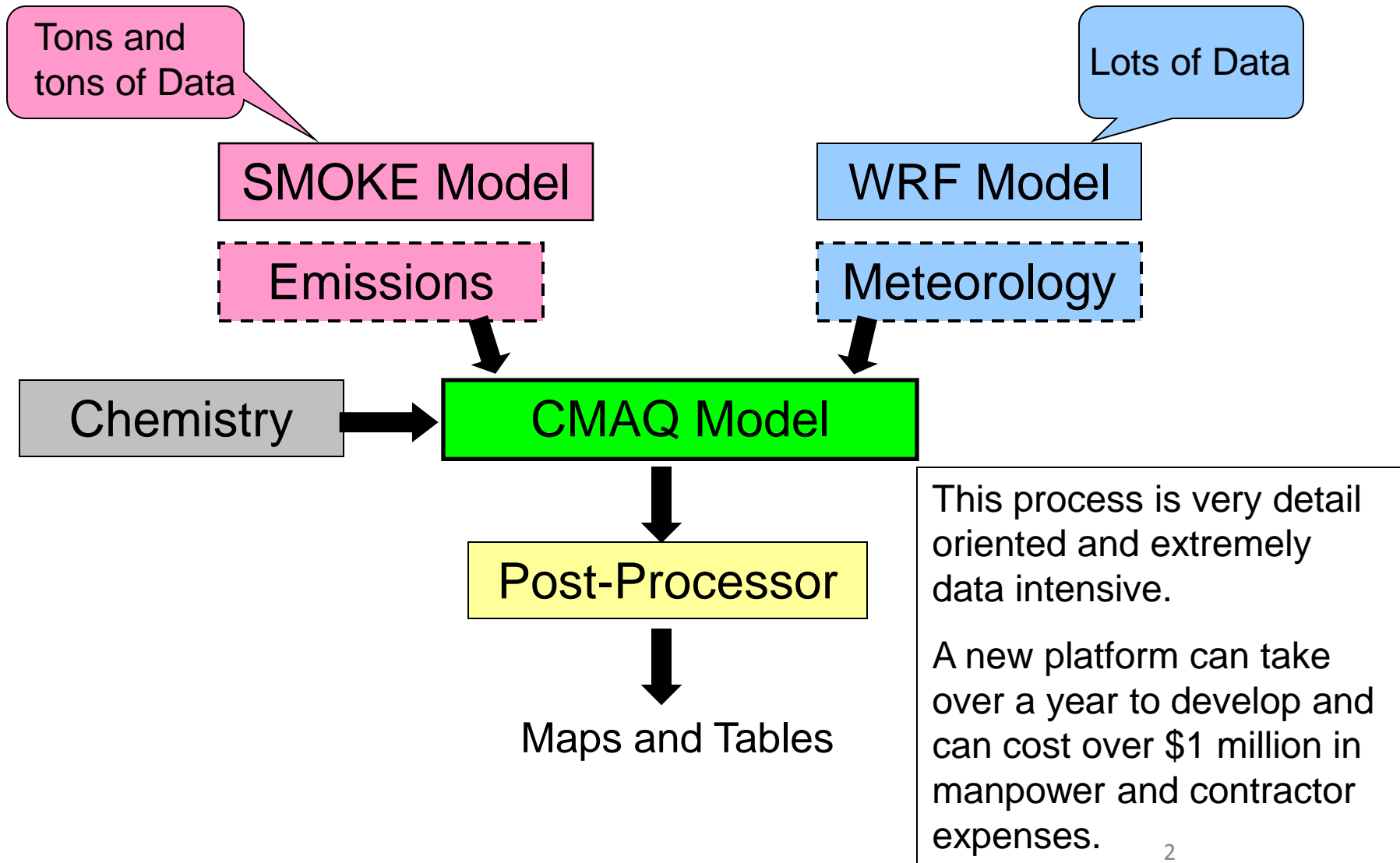
May 14, 2013

MWAQC TAC Meeting



OZONE TRANSPORT COMMISSION

Ozone Modeling Platform



LEVEL 3 SCREENING UPDATE

Level 3 Screening Summary

Modeling Basics

- Base Year: 2007
- Future Year: 2020
- Inventories: MARAMA Level 3

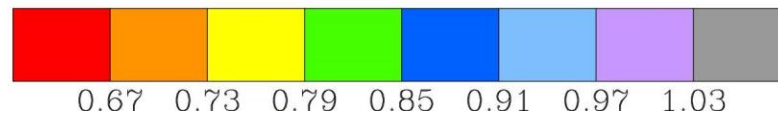
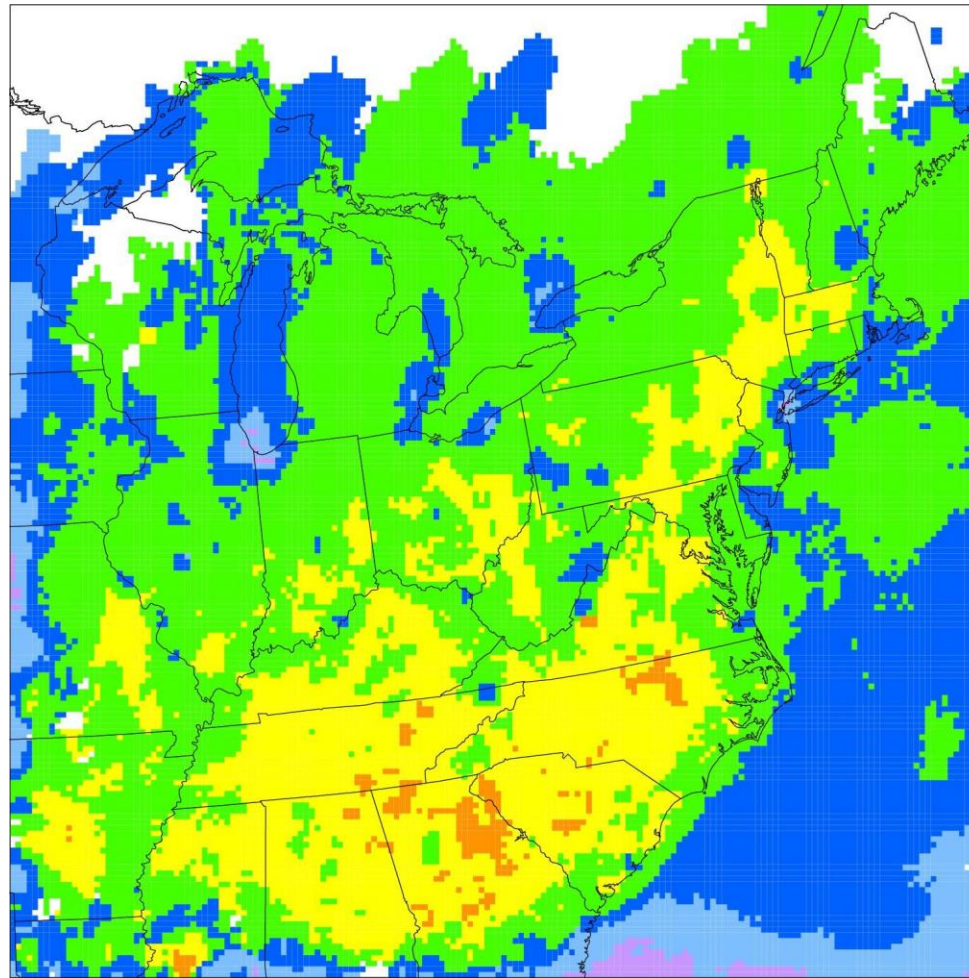
Model Performance

- Generally meet EPA performance criteria
- Not “SIP Quality” modeling

General Results

- Simulation generally yields RRF between 0.75 – 0.90 with higher values (lower reductions) in core urban areas

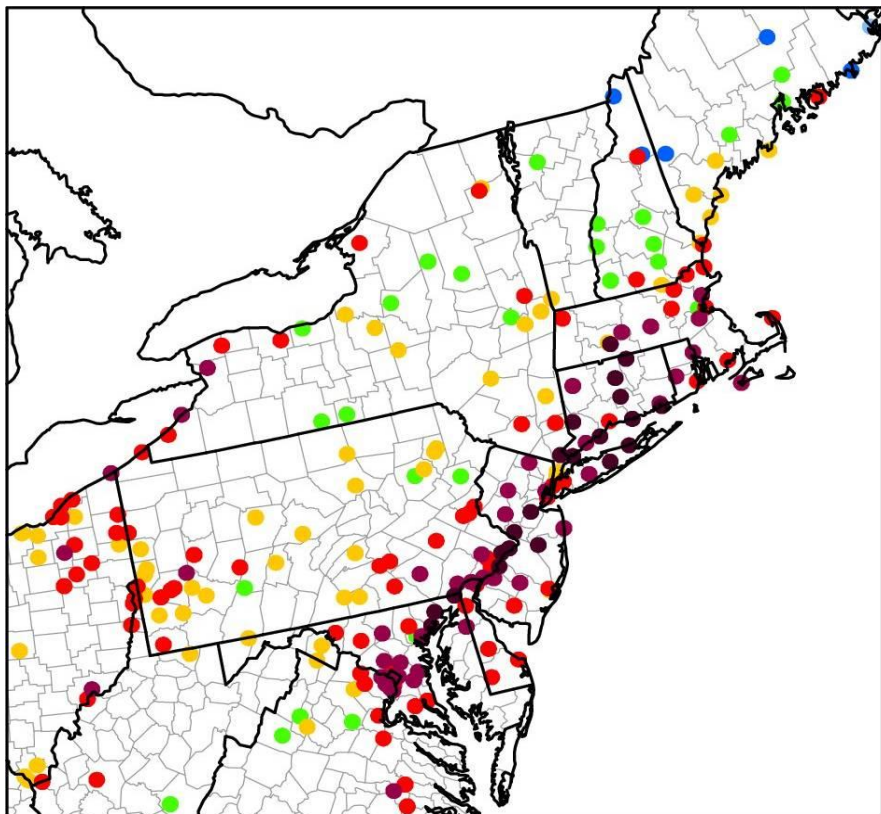
Relative Reduction Factors Level3 Base 2020 vs. 2007



Daily Max 8-hr Ozone April 15 – October 30

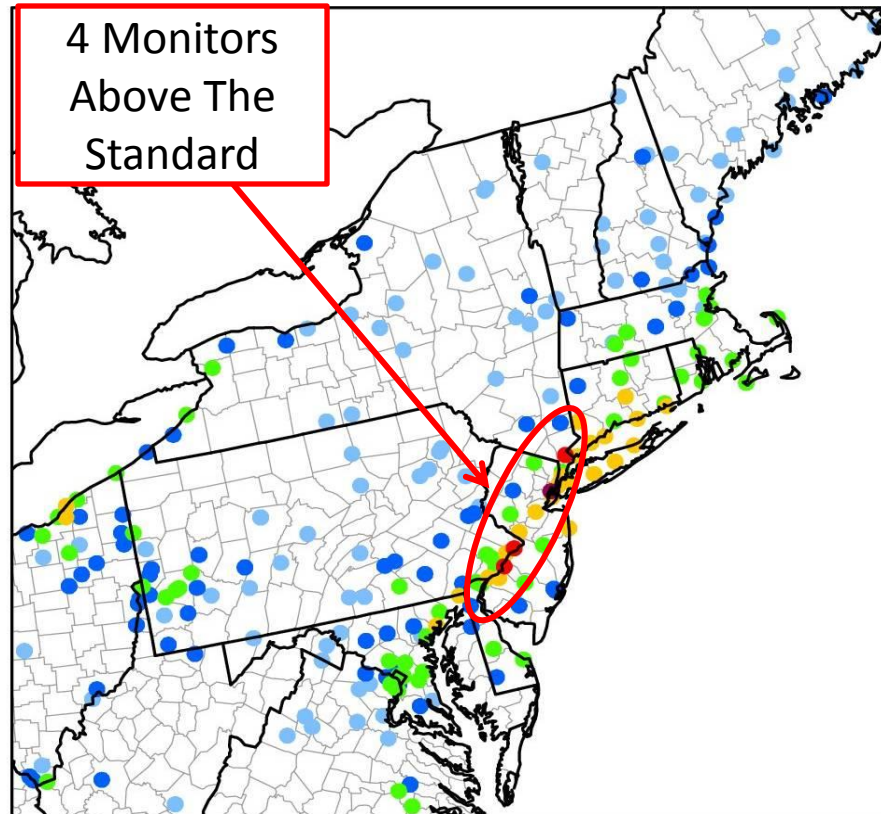
2007 Base Case Design Values

Observed 8-Hr Daily Maximum Ozone DVC
(Average of 05-07, 06-08, and 07-09 DV)



CMAQ Predicted 2020 Design Values

Estimated 2020 Future Design Value based on
2007 Level 3 platform



60 65 70 75 80 85

Level 3 Screening Results

Site AQS ID	Site Name	Base Design Value	Future Design Value
110010044	McMillan	85	63
110010041	River Terrace	83	62
110010050	Takoma	79	56
240090011	Calvert Co.	78	60
240210037	Frederick Co.	80	62
240330030	Beltsville	82	67
240338003	PG Equestrian Ctr	85	67
240313001	Rockville	83	67
240170010	Southern Maryland	81	61
511071005	Ashburn	81	64
510120020	Aurora Hills	84	69
510590030	Franconia	84	67
511530009	Long Park	76	58



LEVEL 2 SCREENING

Level 2 Screening Summary

Scenario 5v2

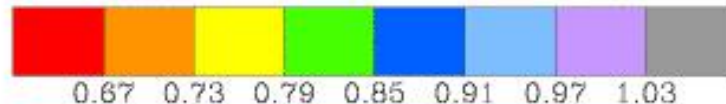
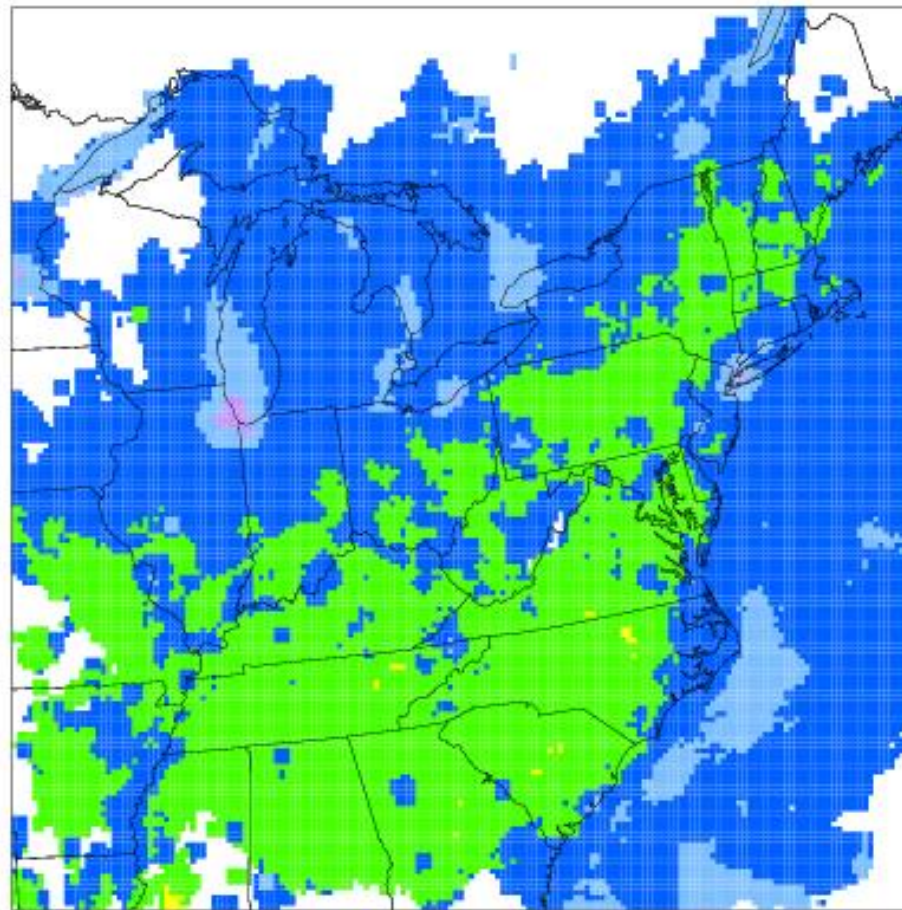
- Base Year: 2007
- Future Year: 2015
- Future year inventory interpolated from 2020 base

Scenario 6v2

- Base Year: 2007
- Future Year: 2018
- Future year inventory interpolated from 2020 base

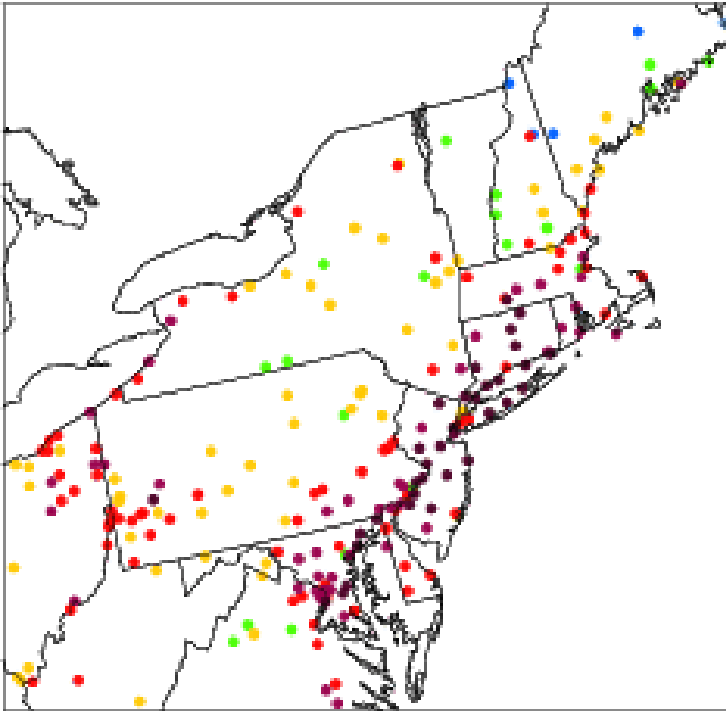
Relative Reduction Factors

Level2 Scenario 5v2 - 2015 vs. 2007



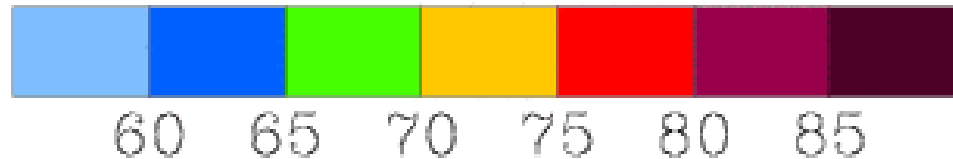
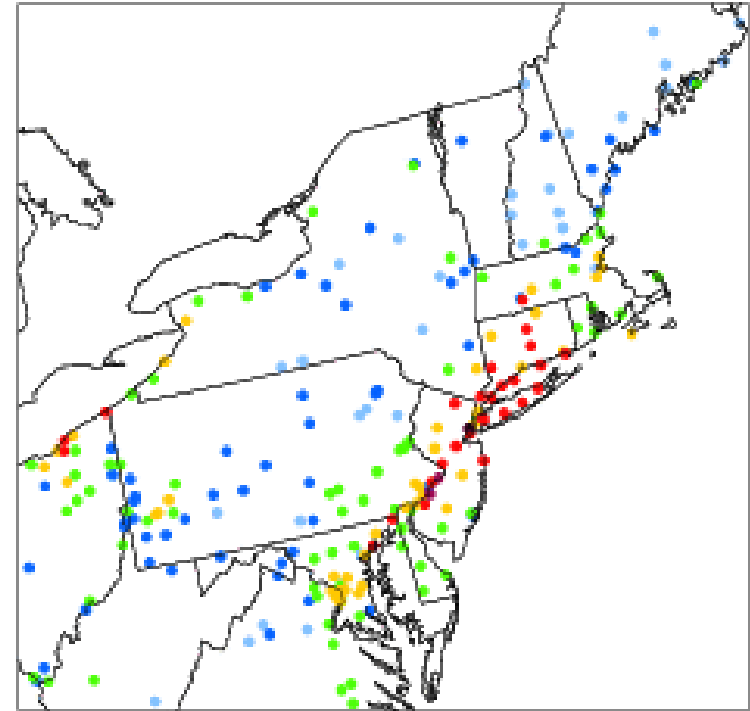
2007 Base Case Design Values

Observed 8-Hr Daily Maximum Ozone DVC
(Average of 05-07, 06-08, and 07-09 DV)



CMAQ Predicted 2015 Design Values

Estimated 2015 Future Design Value based on
2007 Level 2 Scenario 5v2

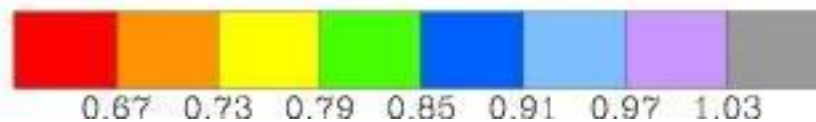
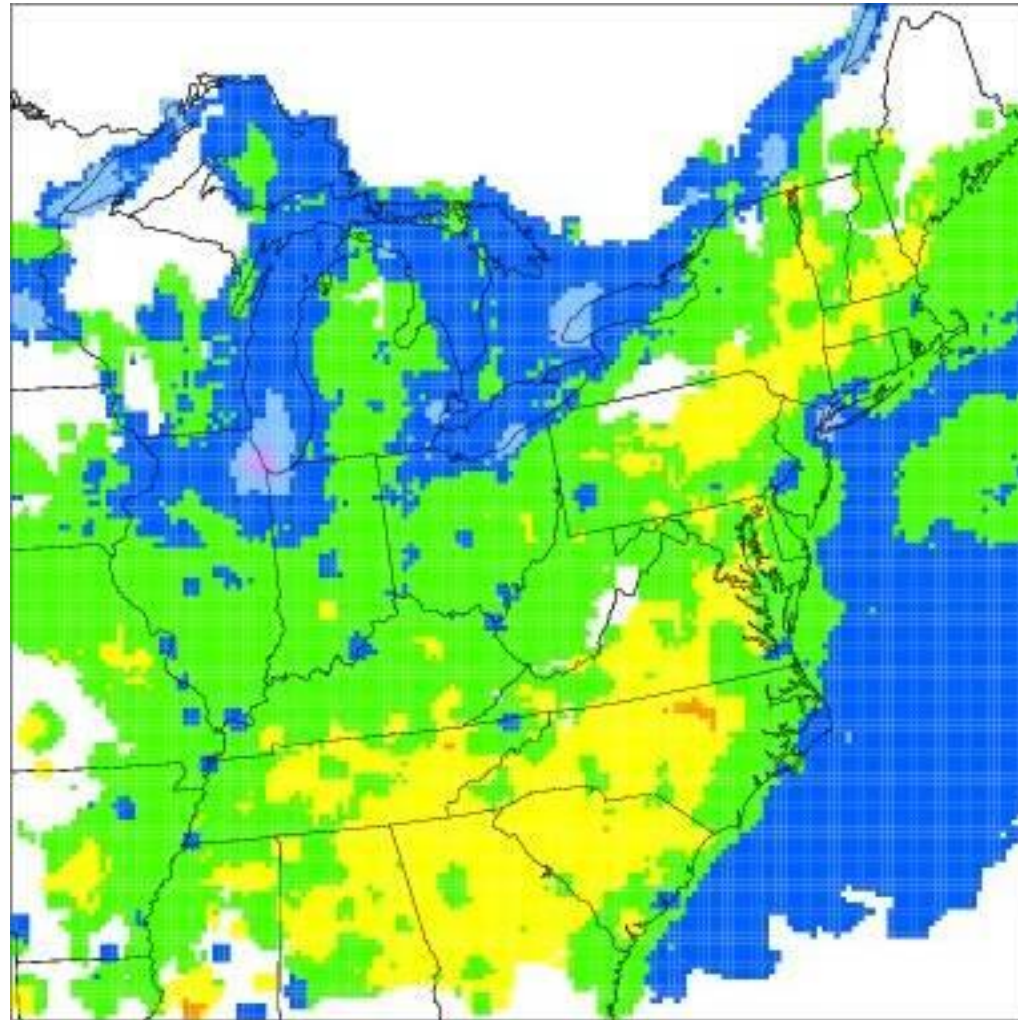


Level 2 Scenario 5v2 Results

Site AQS ID	Site Name	Base Design Value	Future Design Value
110010044	McMillan	85	73
110010041	River Terrace	83	72
110010050	Takoma	79	69
240090011	Calvert Co.	78	64
240210037	Frederick Co.	80	67
240330030	Beltsville	82	70
240338003	PG Equestrian Ctr	85	71
240313001	Rockville	83	71
240170010	Southern Maryland	81	66
511071005	Ashburn	81	69
510120020	Aurora Hills	84	72
510590030	Franconia	84	72
511530009	Long Park	76	63

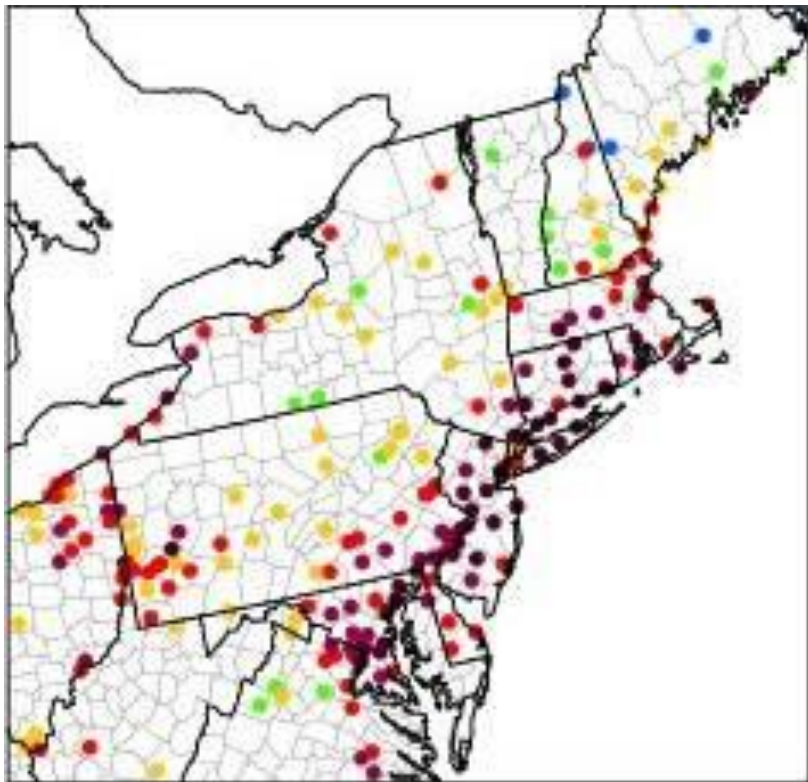
Relative Reduction Factors

Level 2 Scenario 6v2 - 2018 vs. 2007



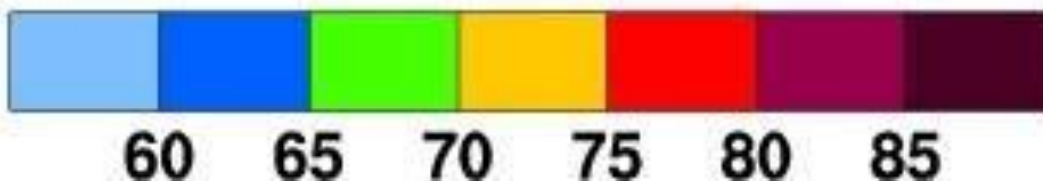
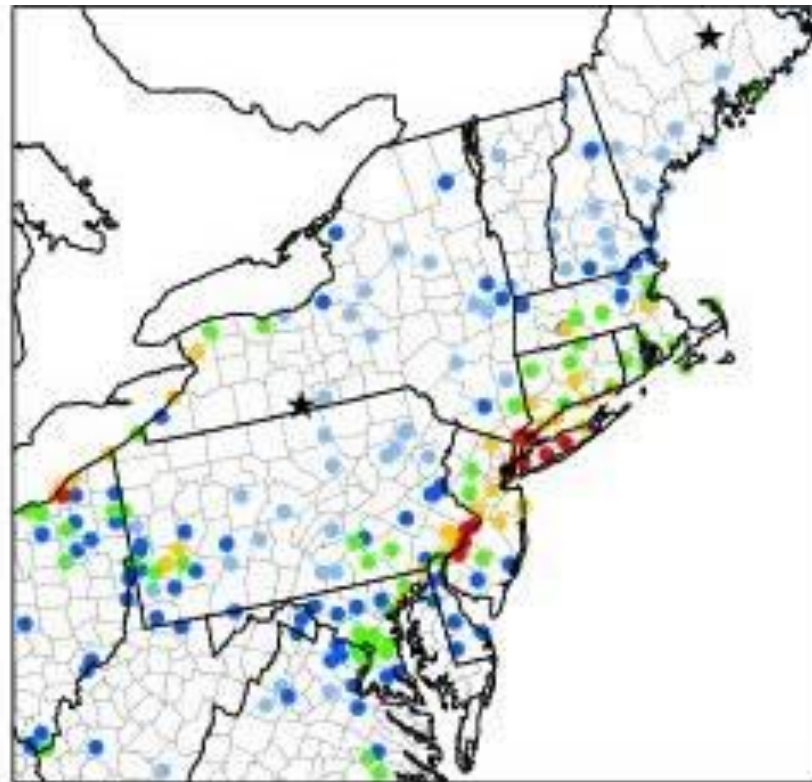
2007 Base Case Design Values

Observed 8-Hr Daily Maximum Ozone DVC
(Average of 05-07, 06-08, and 07-09 DV)



CMAQ Predicted 2018 Design Values

Estimated 2018 Future Design Value based on
2007 Level 2 Scenario 6v2



Level 2 Scenario 6v2 Results

Site AQS ID	Site Name	Base Design Value	Future Design Value
110010044	McMillan	85	69
110010041	River Terrace	83	68
110010050	Takoma	79	65
240090011	Calvert Co.	78	61
240210037	Frederick Co.	80	63
240330030	Beltsville	82	66
240338003	PG Equestrian Ctr	85	67
240313001	Rockville	83	66
240170010	Southern Maryland	81	63
511071005	Ashburn	81	64
510120020	Aurora Hills	84	68
510590030	Franconia	84	68
511530009	Long Park	76	60

Next Steps

Goal: Assessment of Tier 3 Program

- Level 3A Platform
 - 11.1% Reduction to Onroad NOX domain-wide
 - 4.6% Reduction to Onroad VOC domain-wide
- Annual Meeting

Goal: Improved 2020 Base for Performance Assessment

- Level 3B
 - Update draft ERTAC EGU emissions domain-wide
 - Update draft Oil & Gas emissions
- Fall Meeting

Credits

- Committee Chair:
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