

# NEW OZONE NAAQS & OZONE SEASON SUMMARY

---

Sunil Kumar  
Principal Environmental Engineer

MWAQC  
May 24, 2017

# EPA's New Ozone NAAQS

- October 1, 2015 - EPA announced revisions to 2008 primary & secondary 8-hour ozone standards (75 ppb)
  - Primary standard: Public health
  - Sec. standard: Public welfare (Plants & trees)
- Revised Pr./Sec. 8-hour ozone standards = **70 ppb**
- EPA extended ozone monitoring season by 1 month (now March-October)
- EPA updated the Air Quality Index (AQI) for ozone
- Revisions based on clinical/epidemiological studies - 2008 standard (75 ppb) not adequate to protect public health
- 70 ppb standard - Adequate margin of safety to protect at-risk group (children and people with asthma)
- Benefits - \$2.9-\$5.9 billion (2025), Costs - \$1.4 billion
- Ozone  $\geq 71$  ppb – Reduced growth, other harmful effects on plants and trees



# Implementation Schedule - New Ozone NAAQS

<b>Milestone</b>	<b>2015 Ozone Standard</b>
<b>Final Rule Announced</b>	October 1, 2015
<b>State Designation Recommendations to EPA</b>	October 1, 2016
<b>EPA Response to State Designation Recommendations</b>	June 1, 2017
<b>Final Designations</b>	October 1, 2017 (Likely based on 2014-16 data)
<b>Attainment Demonstration SIPs Due</b>	2020/2021 (for Moderate and above NAA)
<b>Attainment Dates</b>	2020-2037 (depends on level of nonattainment designation) Marginal NAA – October 1, 2020



# Peak 8-Hour Average Ozone Levels (ppb)

APRIL 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	31	01 <b>39</b>
02	03	04	05	06	07	08
<b>56</b>	<b>50</b>	<b>52</b>	<b>57</b>	<b>47</b>	<b>43</b>	<b>57</b>
09	10	11	12	13	14	15
<b>62</b>	<b>68</b>	<b>71</b>	<b>61</b>	<b>54</b>	<b>64</b>	<b>55</b>
16	17	18	19	20	21	22
<b>52</b>	<b>45</b>	<b>58</b>	<b>43</b>	<b>48</b>	<b>45</b>	<b>28</b>
23	24	25	26	27	28	29
<b>33</b>	<b>37</b>	<b>35</b>	<b>35</b>	<b>57</b>	<b>61</b>	<b>49</b>
30	01	02	03	04	05	06
<b>46</b>						

MAY 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	01 <b>35</b>	02 <b>55</b>	03 <b>49</b>	04 <b>48</b>	05 <b>40</b>	06 <b>33</b>
07	08	09	10	11	12	13
<b>43</b>	<b>54</b>	<b>58</b>	<b>68</b>	<b>48</b>	<b>35</b>	<b>34</b>
14	15	16	17	18	19	20
<b>61</b>	<b>51</b>	<b>64</b>	<b>76</b>	<b>72</b>		
21	22	23	24	25	26	27
28	29	30	31	01	02	03
04	05	06	07	08	09	10

3 Code Orange Days, 16 Code Yellow Days, 29 Code Green Days

Analysis is based on draft data as of May 19th, 2017. Data is subject to change

# 2017 Ozone Exceedances

Date	Monitors Exceeding	Highest Monitor	8-Hr Max (ppb)
4/11	2	HU-Beltsville/Rockville	71
5/17	8	Beltsville	76
5/18	2	HU-Beltsville	72

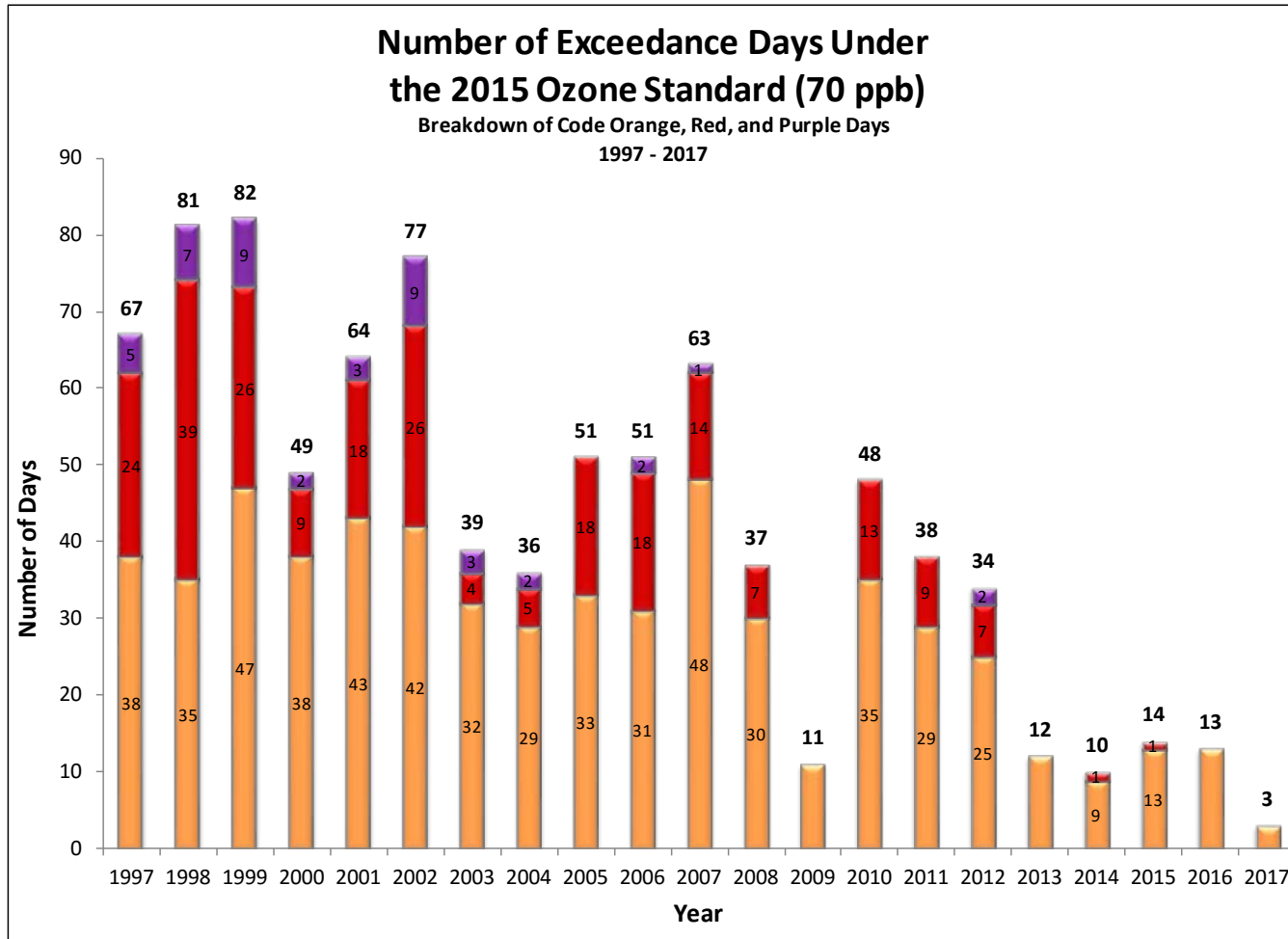
Analysis is based on draft data as of May 19th, 2017. Data is subject to change.

# Meteorology on Exceedance Days

---

- April 11 & May 17/18
  - High Temperature: 86°F - 92°F, Clear sky
  - Light southwesterly winds
  - Ozone build up on previous days
  - Influenced by local and southern Mid-Atlantic emissions

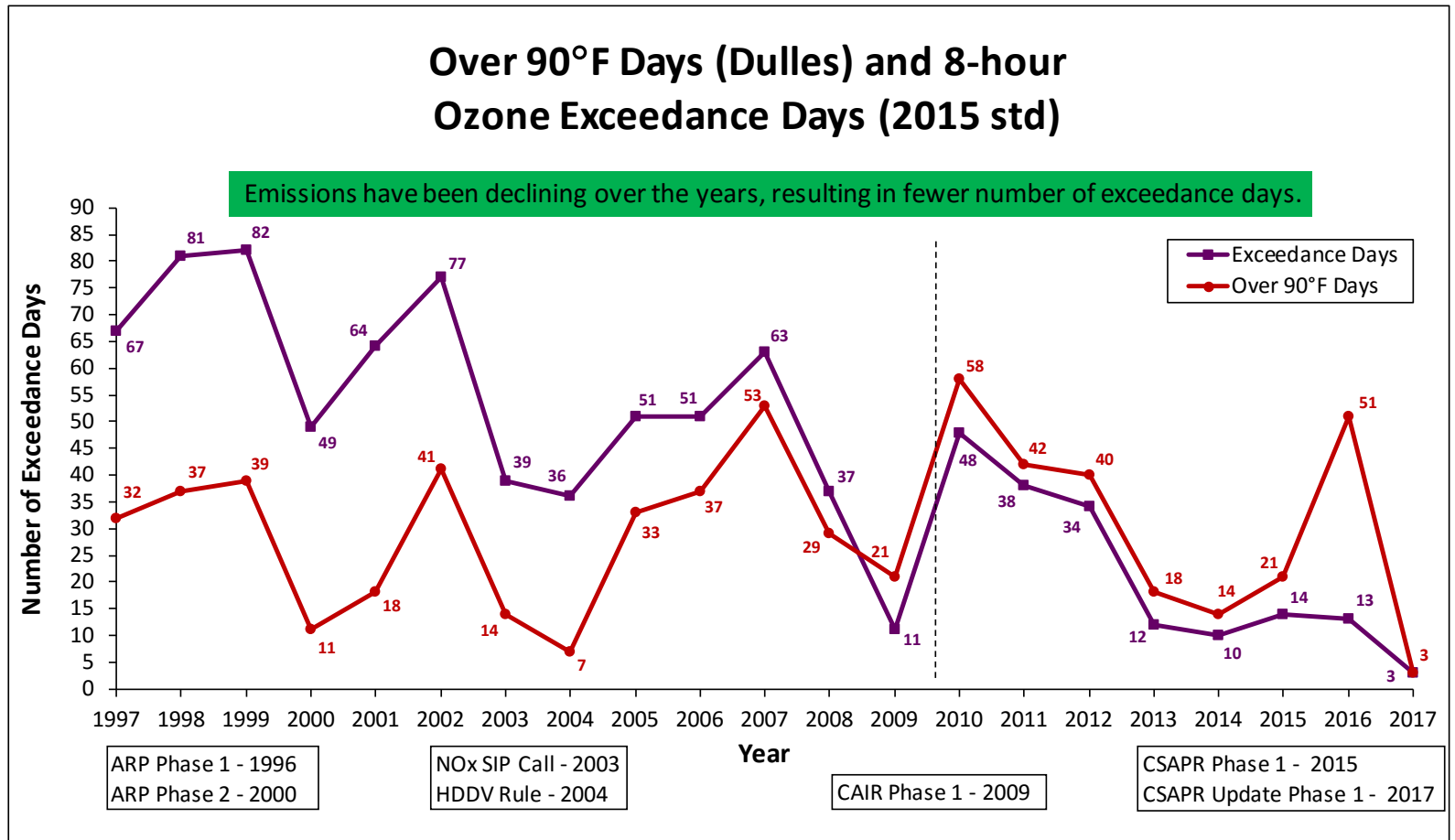
# Ozone Exceedance Trend



\* 2017 data is incomplete and preliminary as of May 19<sup>th</sup>, 2017.



# Ozone & Temperature Trend

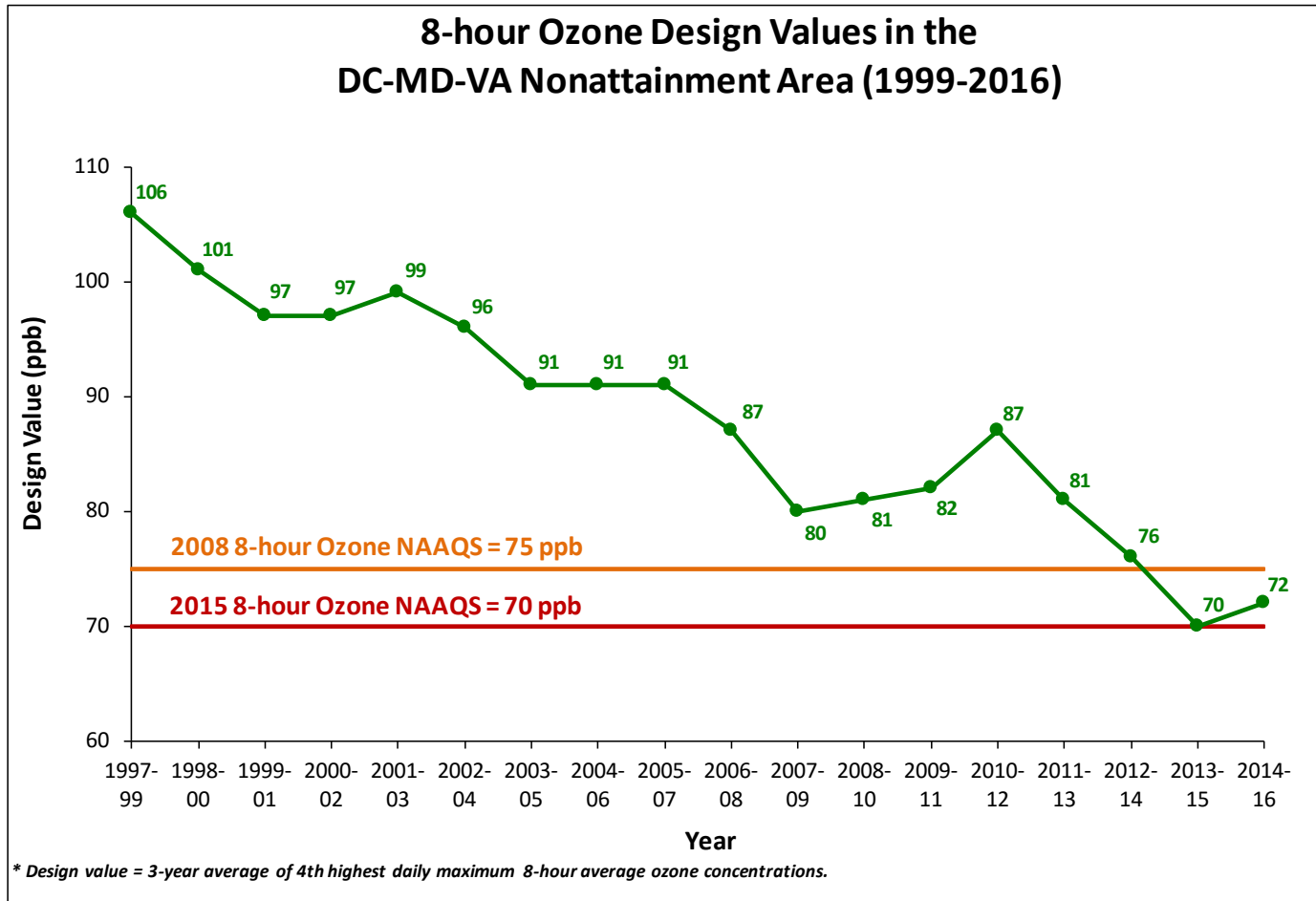


\* 2017 data is incomplete and preliminary as of May 19<sup>th</sup>, 2017.





# Ozone Design Value Trend



\* 2016 data is preliminary as of May 19<sup>th</sup>, 2017.

# Why Fewer Exceedance Days Now ?

Emission Control Programs		
Federal	State	Local
Acid Rain Program Phase 1/2 (1996/2000)	Vehicle Inspection and Maintenance Programs	Renewable Energy Programs: <i>Regional Wind Power Purchase Program</i> <i>Clean Energy Rewards Program</i> <i>Renewable Portfolio Standards</i>
Tier 2 (LD Vehicle) Rule (2004)	MD Healthy Air Act (2009/2012)	Energy Efficiency Programs: <i>LED Traffic Signal Retrofit Program</i> <i>Building Energy Efficiency Programs</i>
HD Diesel Vehicle Rule (2004/2007)	VA CSAPR Rule	VRE Idling Reduction
Nox SIP Call (2004)	Ozone Transport Commission Rules	Low VOC Paint
Clean Air Interstate Rule/CSAPR/CSAPR Update (2009/2015/2017)		Gas Can Replacement



# 24-Hour Average PM<sub>2.5</sub> Levels (µg/m<sup>3</sup>)

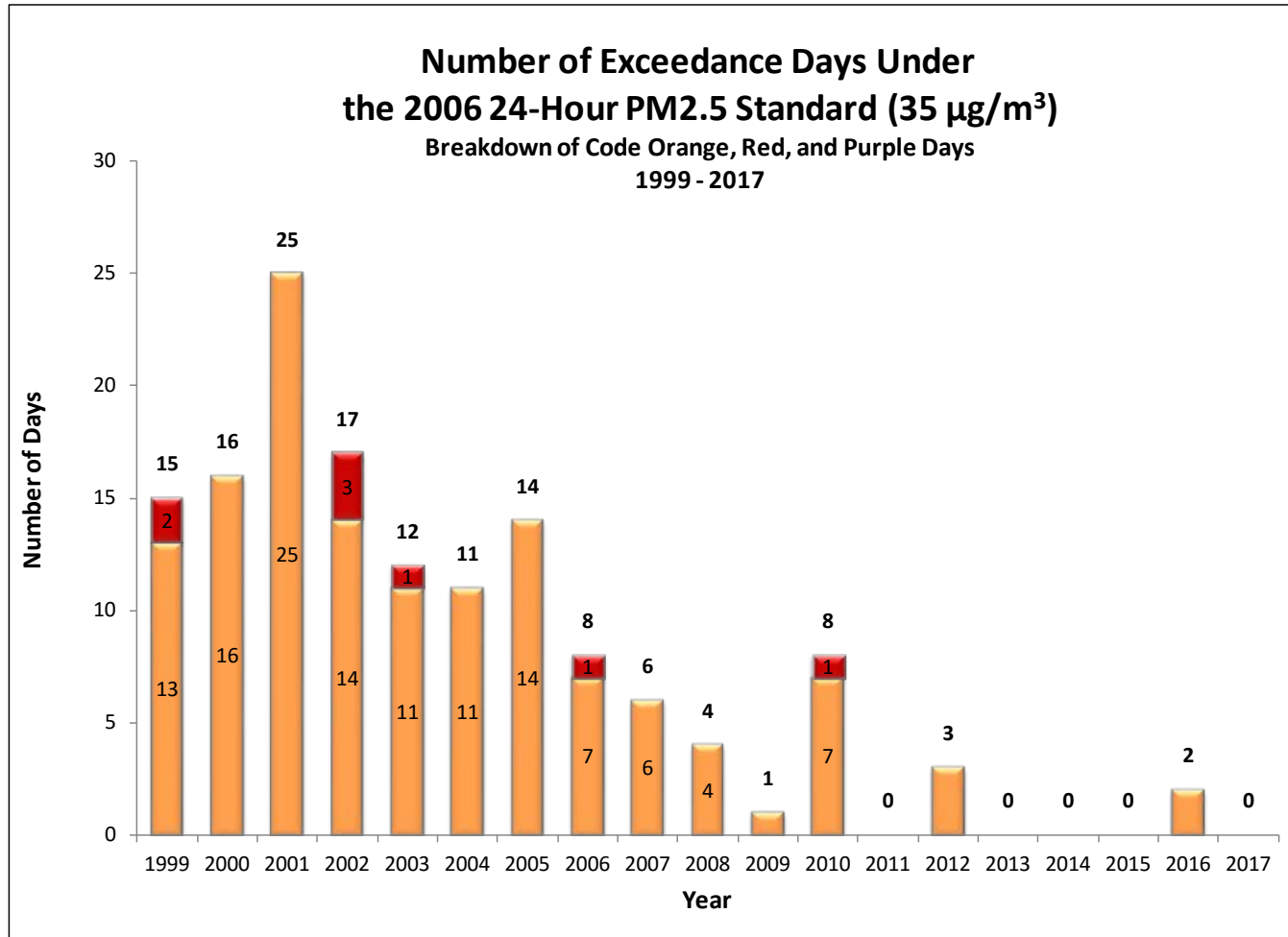
APRIL 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	31	01 <b>6.7</b>
02 <b>6.8</b>	03 <b>7.1</b>	04 <b>5.2</b>	05 <b>6.1</b>	06 <b>6.4</b>	07 <b>2.6</b>	08 <b>4.7</b>
09 <b>8.5</b>	10 <b>11.0</b>	11 <b>14.0</b>	12 <b>8.7</b>	13 <b>6.7</b>	14 <b>9.7</b>	15 <b>8.6</b>
16 <b>10.3</b>	17 <b>7.2</b>	18 <b>4.2</b>	19 <b>6.1</b>	20 <b>8.2</b>	21 <b>13.6</b>	22 <b>14.0</b>
23 <b>5.0</b>	24 <b>6.0</b>	25 <b>3.4</b>	26 <b>5.0</b>	27 <b>15.3</b>	28 <b>16.1</b>	29 <b>17.2</b>
30 <b>16.3</b>	01	02	03	04	05	06

MAY 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	01 <b>9.8</b>	02 <b>4.7</b>	03 <b>5.1</b>	04 <b>5.6</b>	05 <b>5.2</b>	06 <b>3.1</b>
07 <b>3.7</b>	08 <b>4.8</b>	09 <b>5.6</b>	10 <b>8.4</b>	11 <b>8.6</b>	12 <b>5.2</b>	13 <b>3.2</b>
14 <b>6.7</b>	15 <b>3.6</b>	16 <b>6.8</b>	17 <b>13.8</b>	18 <b>12.8</b>		
21	22	23	24	25	26	27
28	29	30	31	01	02	03
04	05	06	07	08	09	10

9 Code Yellow Days, 39 Code Green Days

Analysis is based on draft data as of May 19th, 2017. Data is subject to change

# PM<sub>2.5</sub> Exceedance Trend



\* 2017 data is incomplete and preliminary as of May 19<sup>th</sup>, 2017.



# Air Quality Resources

---

- Current Air Quality Data & Forecasts
  - <https://www.mwcog.org/environment/planning-areas/air-quality/air-quality-forecast/>
  - <http://www.cleanairpartners.net/>
- Historical Air Quality Data
  - <https://www.mwcog.org/environment/planning-areas/air-quality/air-quality-data/>
  - <http://www.cleanairpartners.net/>
- Download the Clean Air Partners air quality app and signup for EnviroFlash email notifications
  - <http://www.cleanairpartners.net/>

