

# OZONE SEASON SUMMARY 2017

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MWAQC-Technical Advisory Committee  
July 11th, 2017

# 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	02	03	04	05	06
	<b>35</b>	<b>55</b>	<b>49</b>	<b>48</b>	<b>40</b>	<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>	<b>55</b>	<b>43</b>
21	22	23	24	25	26	27
<b>45</b>	<b>35</b>	<b>33</b>	<b>50</b>	<b>46</b>	<b>48</b>	<b>49</b>
28	29	30	31	01	02	03
<b>49</b>	<b>47</b>	<b>43</b>	<b>57</b>			
04	05	06	07	08	09	10

JUNE 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	31	01	02	03
				<b>61</b>	<b>66</b>	<b>63</b>
04	05	06	07	08	09	10
<b>62</b>	<b>50</b>	<b>53</b>	<b>41</b>	<b>59</b>	<b>62</b>	<b>70</b>
11	12	13	14	15	16	17
<b>61</b>	<b>74</b>	<b>72</b>	<b>73</b>	<b>64</b>	<b>58</b>	<b>43</b>
18	19	20	21	22	23	24
<b>45</b>	<b>36</b>	<b>57</b>	<b>61</b>	<b>60</b>	<b>29</b>	<b>52</b>
25	26	27	28	29	30	01
<b>51</b>	<b>55</b>	<b>53</b>	<b>56</b>	<b>65</b>	<b>63</b>	
02	03	04	05	06	07	08

JULY 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27	28	29	30	01
						<b>43</b>
02	03	04	05	06	07	08
<b>59</b>	<b>64</b>	<b>64</b>	<b>56</b>	<b>36</b>	<b>57</b>	<b>58</b>
09	10	11	12	13	14	15
<b>51</b>						
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	01	02	03	04	05

6 Code Orange Days, 41 Code Yellow Days, 53 Code Green Days

Analysis is based on draft data as of July 10th, 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
6/12	1	PG Equestrian Center	74
6/13	1	PG Equestrian Center	72
6/14	4	McMillan NCORE	73

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# Meteorology on Exceedance Days

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- June 12th & 13th

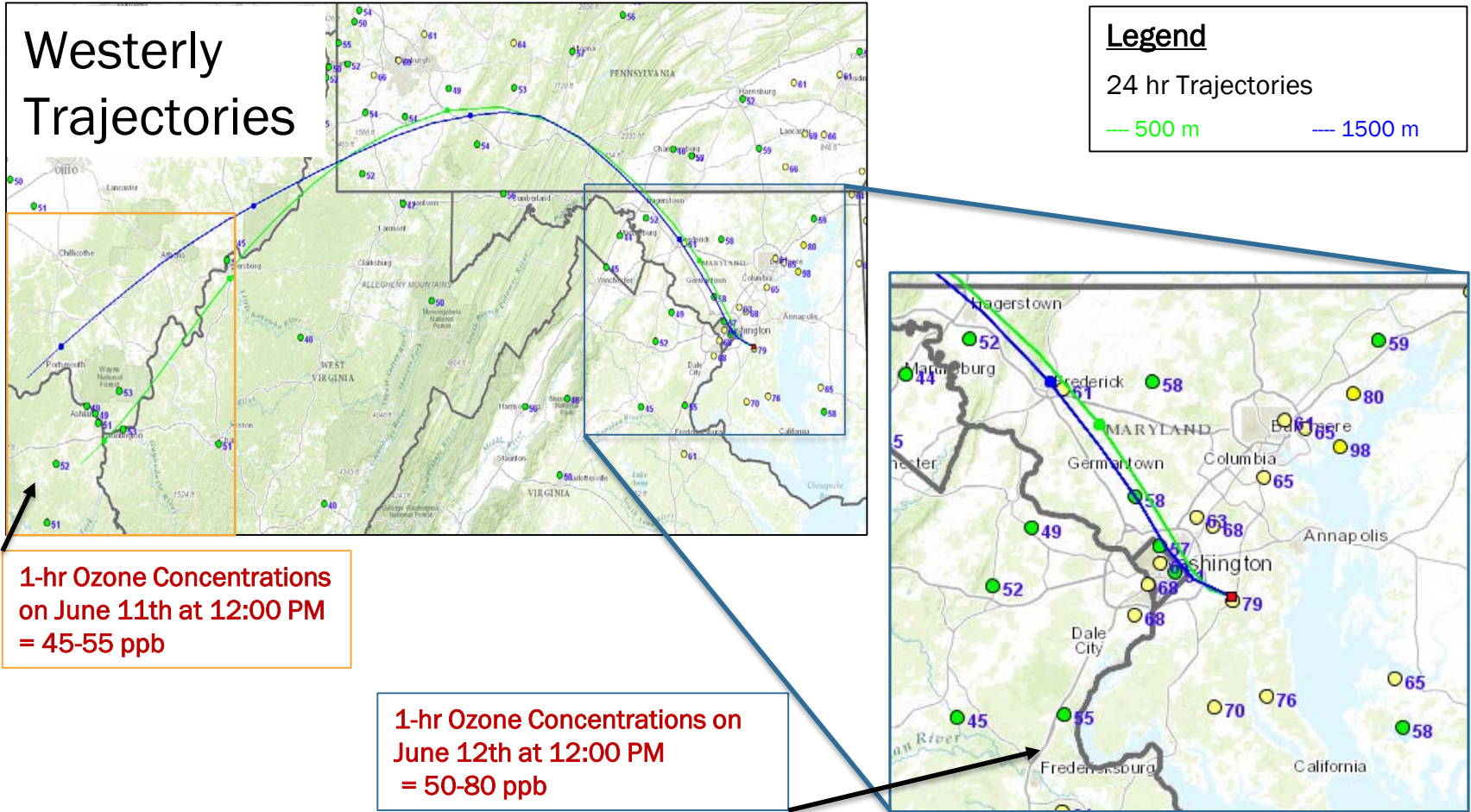
- High Temperature: 90° F - 95° F, Clear sky
- Light west-southwest winds
- Ozone build up on previous days
- Ozone build up mainly due to local emissions

- June 14th

- High Temperature: 90° F, Clear sky
- Light northwest winds
- Ozone build up on previous days
- Ozone build up due to both local and regional emissions (northern Pennsylvania, northern Ohio)



# June 12th, 2017

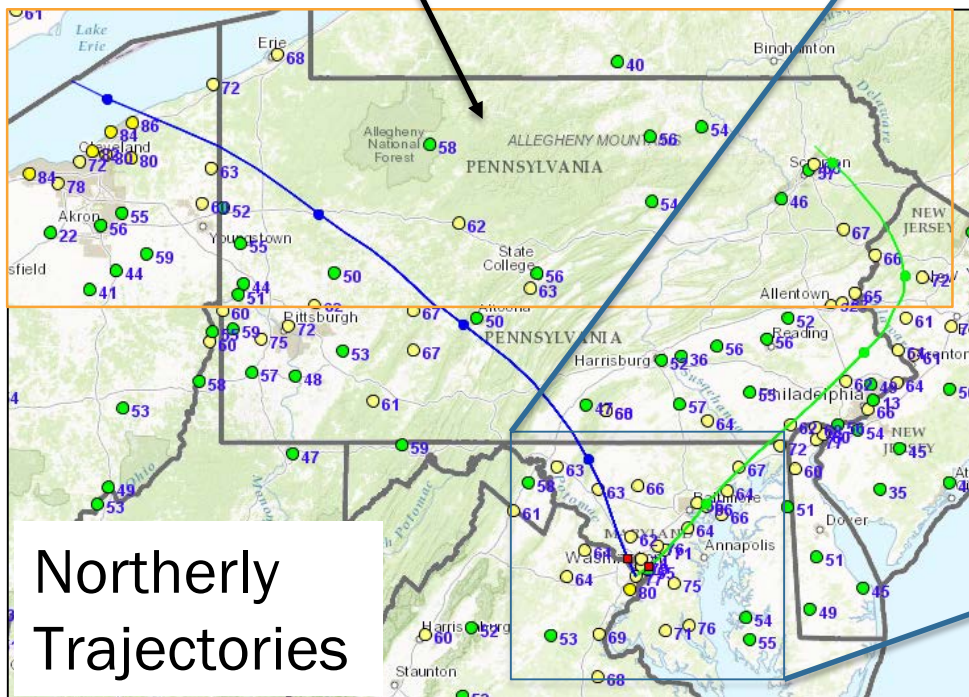




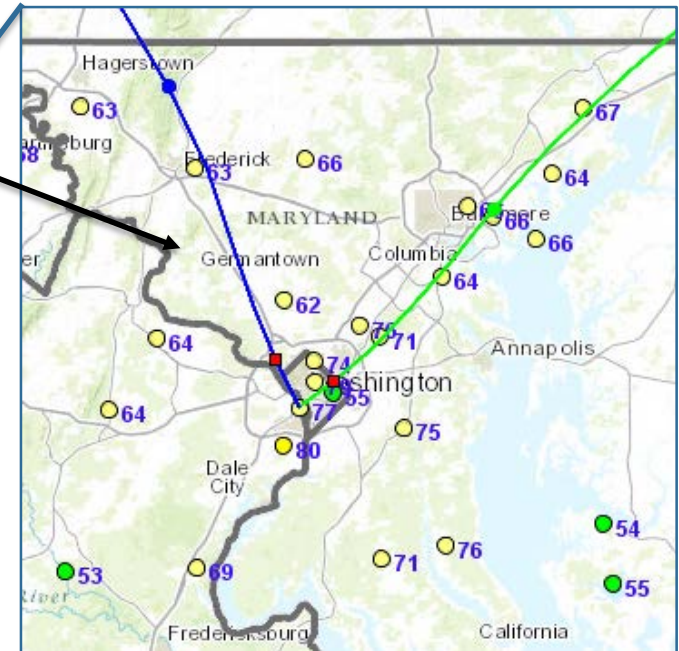
# June 14th, 2017

1-hr Ozone Concentrations on June 14th at 2:00 PM = 55-80 ppb

1-hr Ozone Concentrations on June 13th at 2:00 PM = 55-85 ppb



Northerly Trajectories

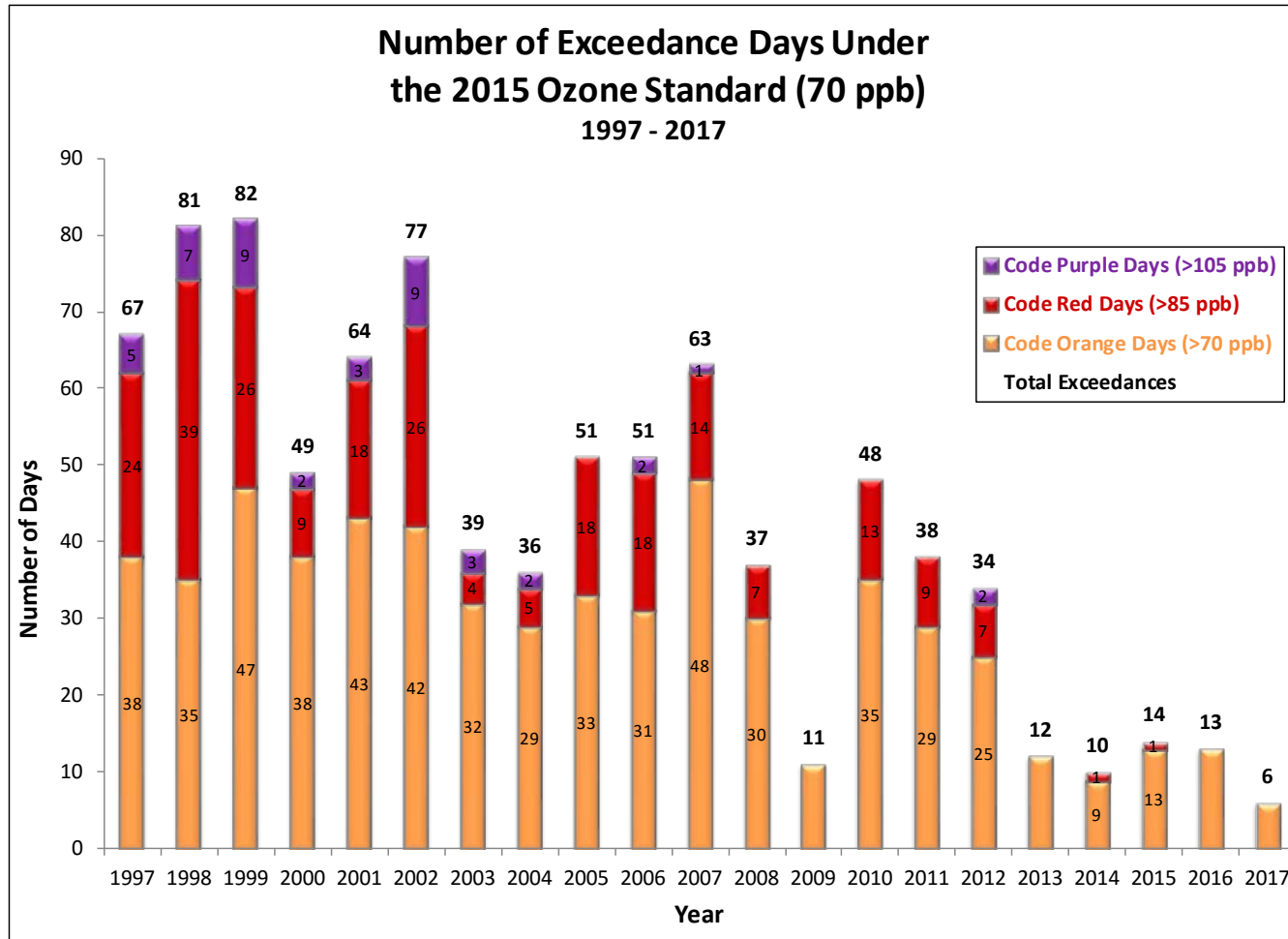


**Legend**

24 hr Trajectories

- 500 m
- 1500 m

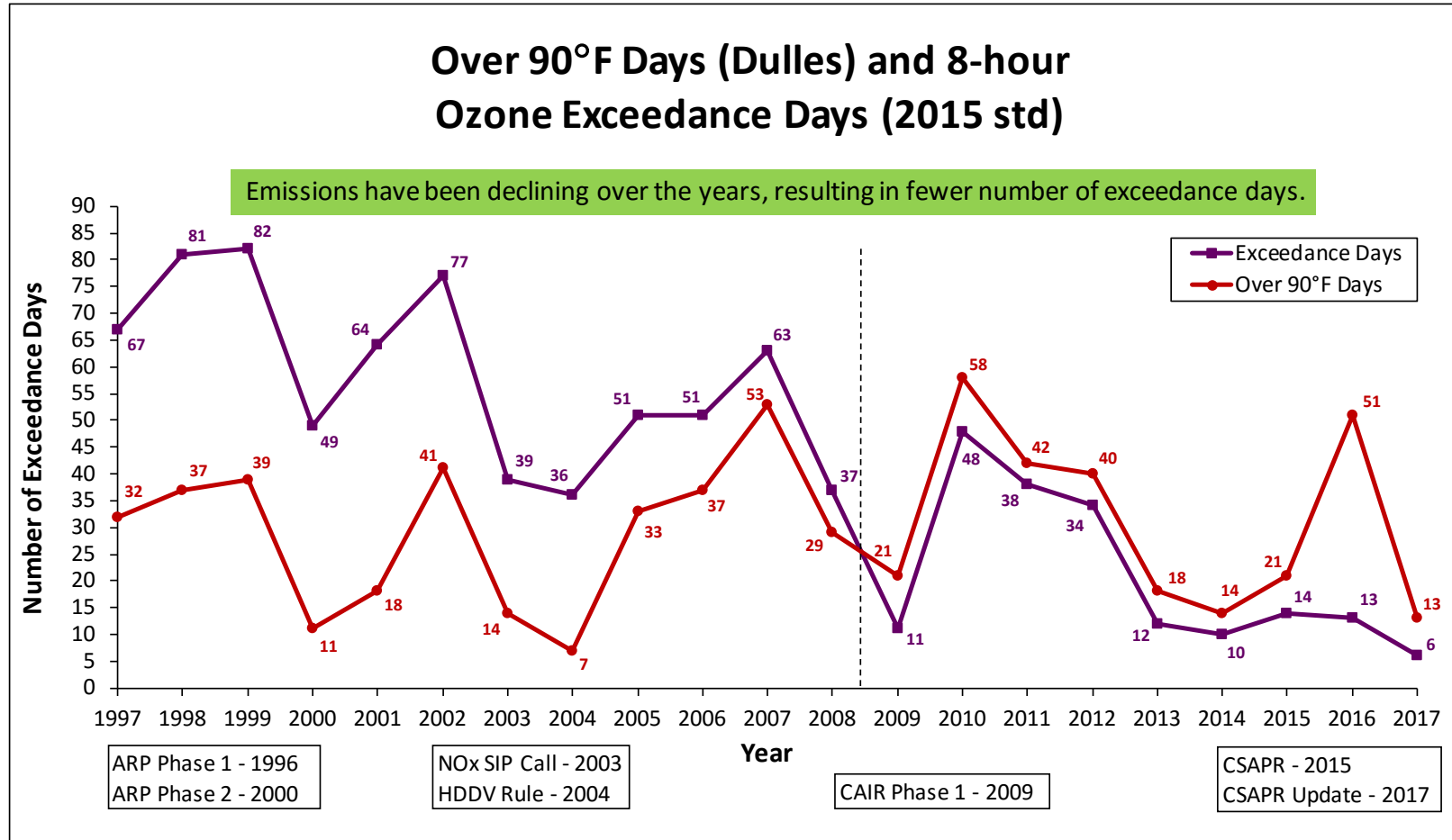
# Ozone Exceedance Trend



\* 2017 data is incomplete and preliminary as of July 10th, 2017.



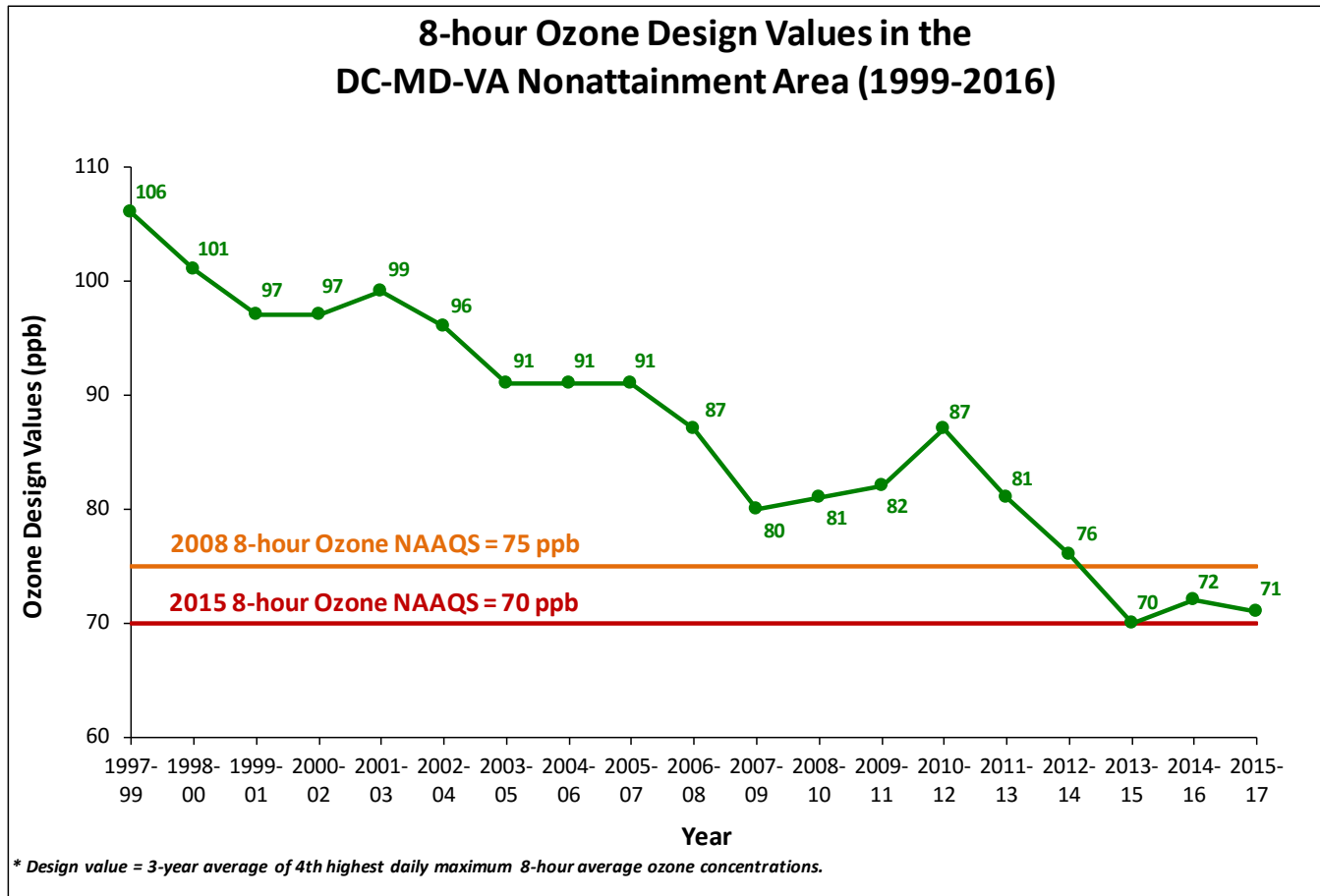
# Ozone & Temperature Trend



Analysis is based on draft data as of July 10th, 2017. Data is subject to change.



# Ozone Design Value Trend



- \* 2016 data is a draft as of July 10th, 2017.
- \* 2017 data is incomplete and preliminary as of July 10th, 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>	19 <b>12.6</b>	20 <b>7.4</b>
21 <b>6.1</b>	22 <b>6.3</b>	23 <b>10.6</b>	24 <b>7.7</b>	25 <b>3.0</b>	26 <b>5.5</b>	27 <b>8.6</b>
28 <b>9.2</b>	29 <b>8.1</b>	30 <b>8.3</b>	31 <b>9.9</b>	01	02	03
04	05	06	07	08	09	10

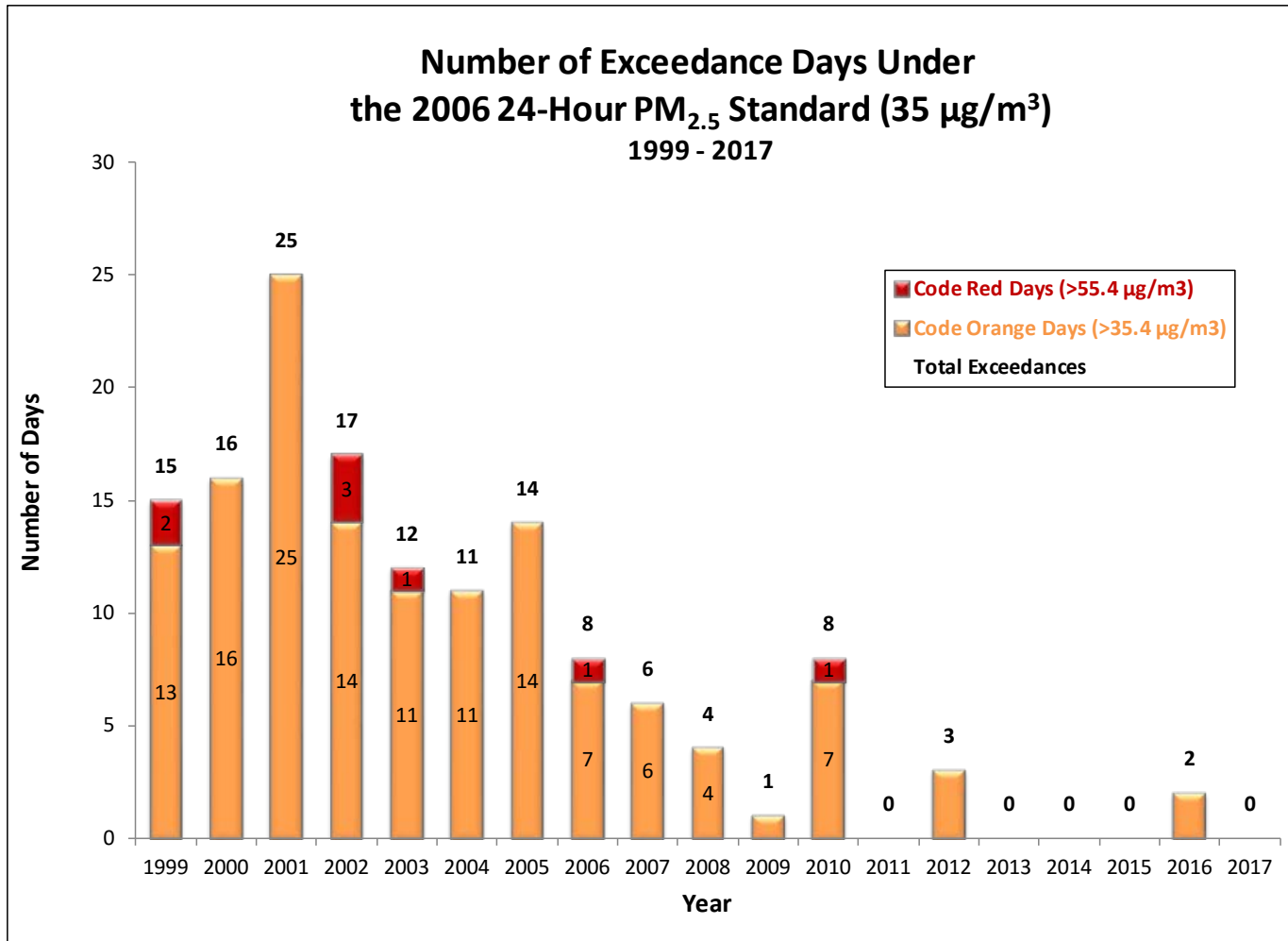
JUNE 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	31	01 <b>8.0</b>	02 <b>9.0</b>	03 <b>11.4</b>
04 <b>14.5</b>	05 <b>12.9</b>	06 <b>8.5</b>	07 <b>6.4</b>	08 <b>6.5</b>	09 <b>8.5</b>	10 <b>10.8</b>
11 <b>13.0</b>	12 <b>17.0</b>	13 <b>17.7</b>	14 <b>15.0</b>	15 <b>10.7</b>	16 <b>11.5</b>	17 <b>8.2</b>
18 <b>11.3</b>	19 <b>9.0</b>	20 <b>6.6</b>	21 <b>10.7</b>	22 <b>14.5</b>	23 <b>10.5</b>	24 <b>8.3</b>
25 <b>7.2</b>	26 <b>6.0</b>	27 <b>5.4</b>	28 <b>5.5</b>	29 <b>10.7</b>	30 <b>12.1</b>	01
02	03	04	05	06	07	08

JULY 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27	28	29	30	01 <b>7.7</b>
02 <b>10.1</b>	03 <b>11.2</b>	04 <b>25.1</b>	05 <b>19.0</b>	06 <b>8.3</b>	07 <b>6.2</b>	08 <b>7.2</b>
09 <b>7.7</b>	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	01	02	03	04	05

20 Code Yellow Days, 80 Code Green Days

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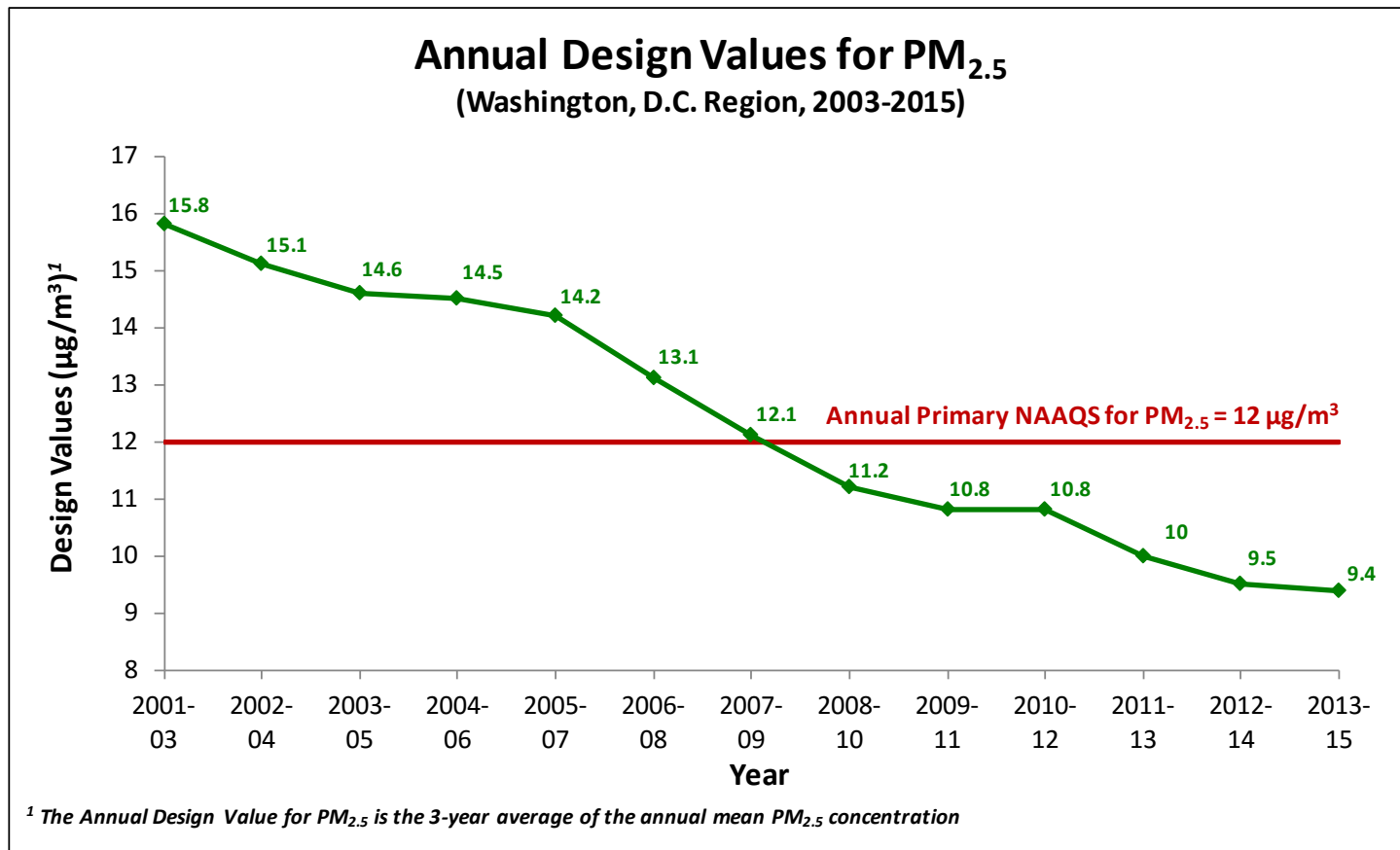
# PM<sub>2.5</sub> Exceedance Trend



\* 2017 data is incomplete and preliminary as of July 10th, 2017.



# Annual PM<sub>2.5</sub> Design Value Trend



# 24-Hour PM<sub>2.5</sub> Design Value Trend

