# Ozone Season Summary

# 2013

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May 14, 2013

# Ozone Season Summary

## Peak 8-Hour Ozone Concentrations (ppb)

Since April 1, 2013, there have been:

8 Code Yellow Days

28 Code Green Days

### April

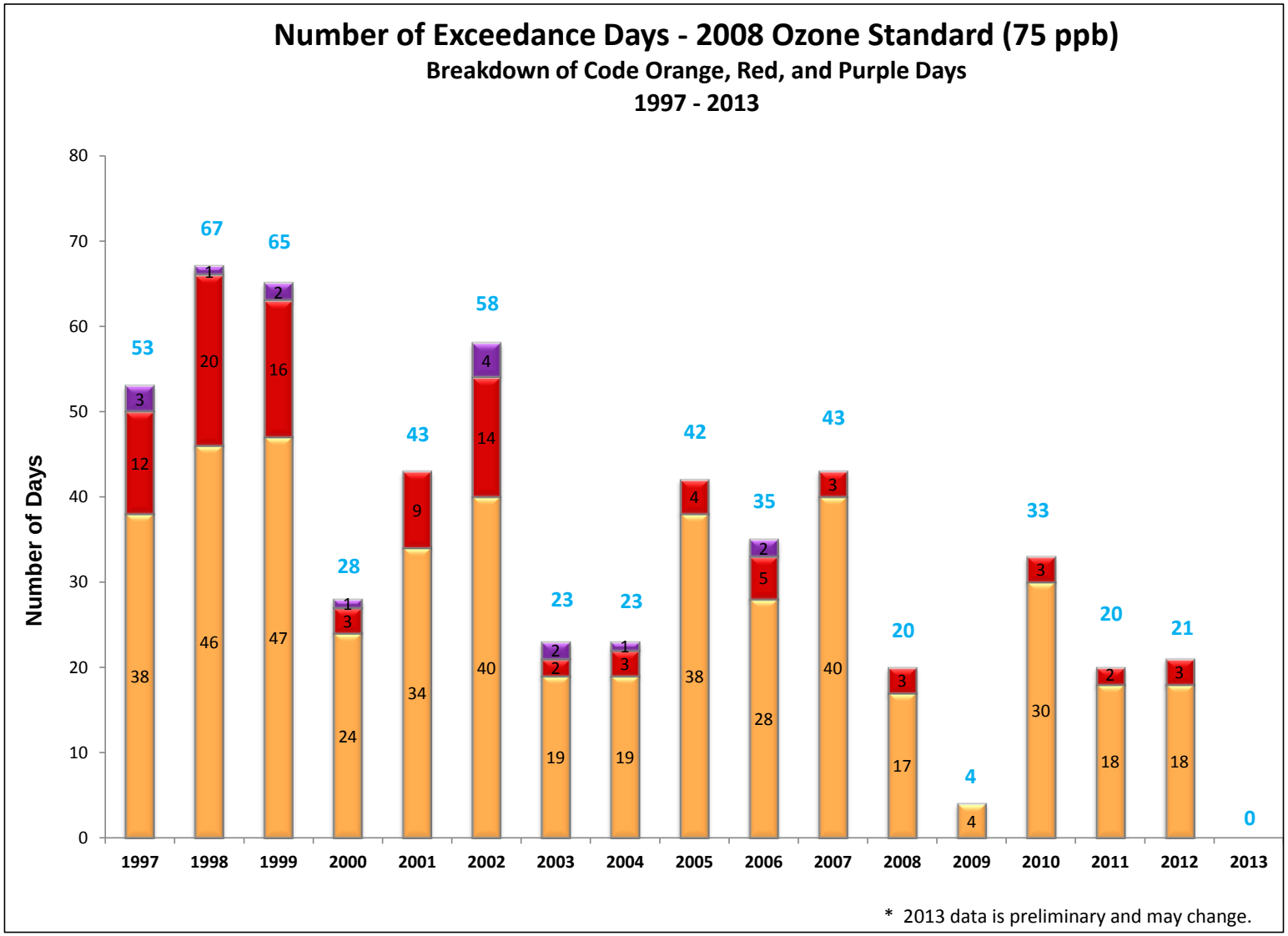
| Sun | Mon | Tues | Wed | Thurs | Fri | Sat |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| | 52 | 53 | 52 | 53 | 59 | 53 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 61 | 62 | 60 | 64 | 68 | 38 | 53 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 56 | 49 | 54 | 50 | 46 | 38 | 50 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 54 | 49 | 44 | 56 | 56 | 62 | 70 |
| 28 | 29 | 30 | | | | |
| 71 | 52 | 49 | | | | |

### May

| Sun | Mon | Tues | Wed | Thurs | Fri | Sat |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| | | | 59 | 46 | 51 | 50 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 58 | 35 | | | | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | | | | |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | |
| 26 | 27 | 28 | 29 | 30 | 31 | |
| | | | | | | |

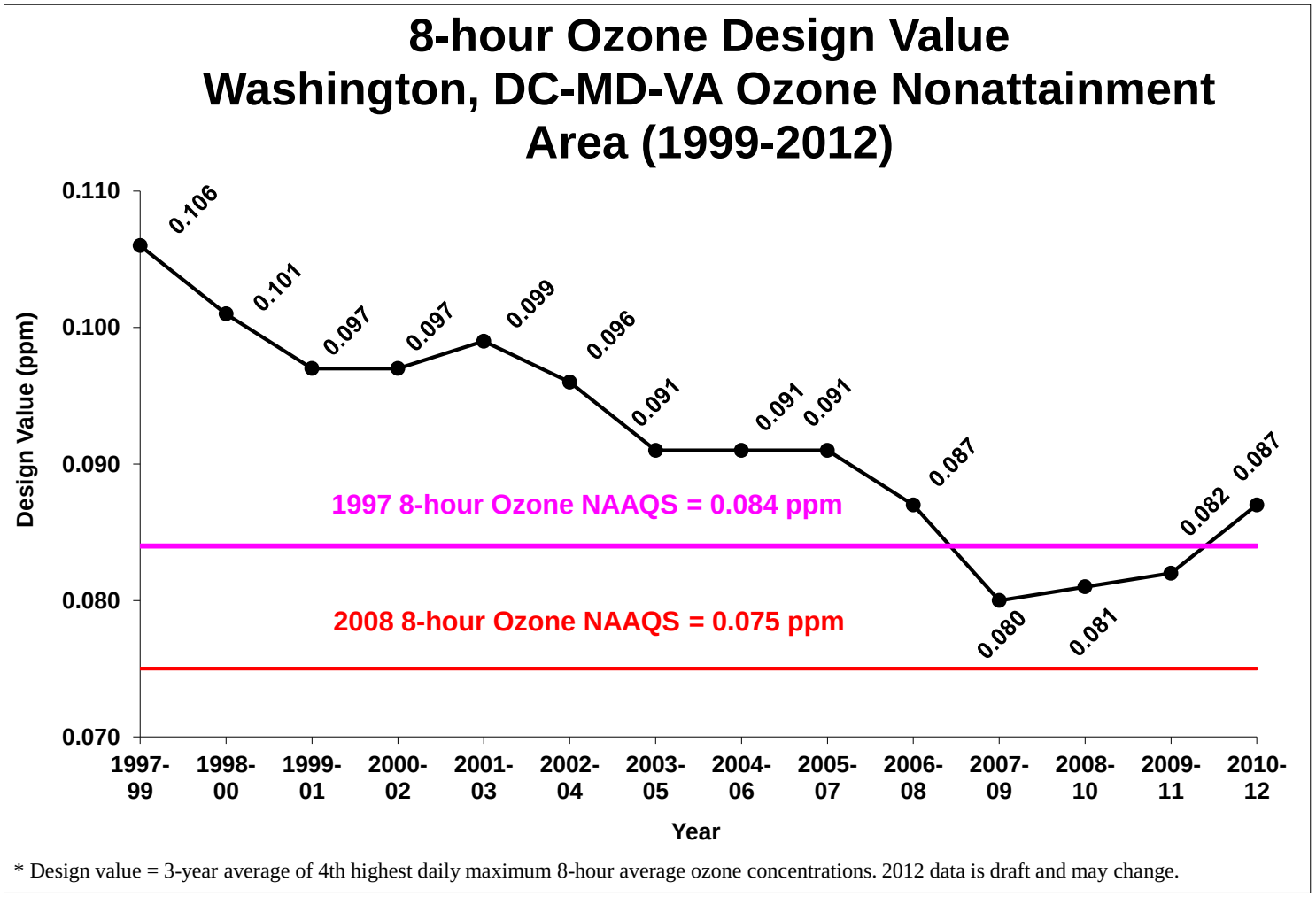
•**Analysis is based on draft data until May 9, 2013. Data is subject to change.**

# Ozone Exceedance Trend



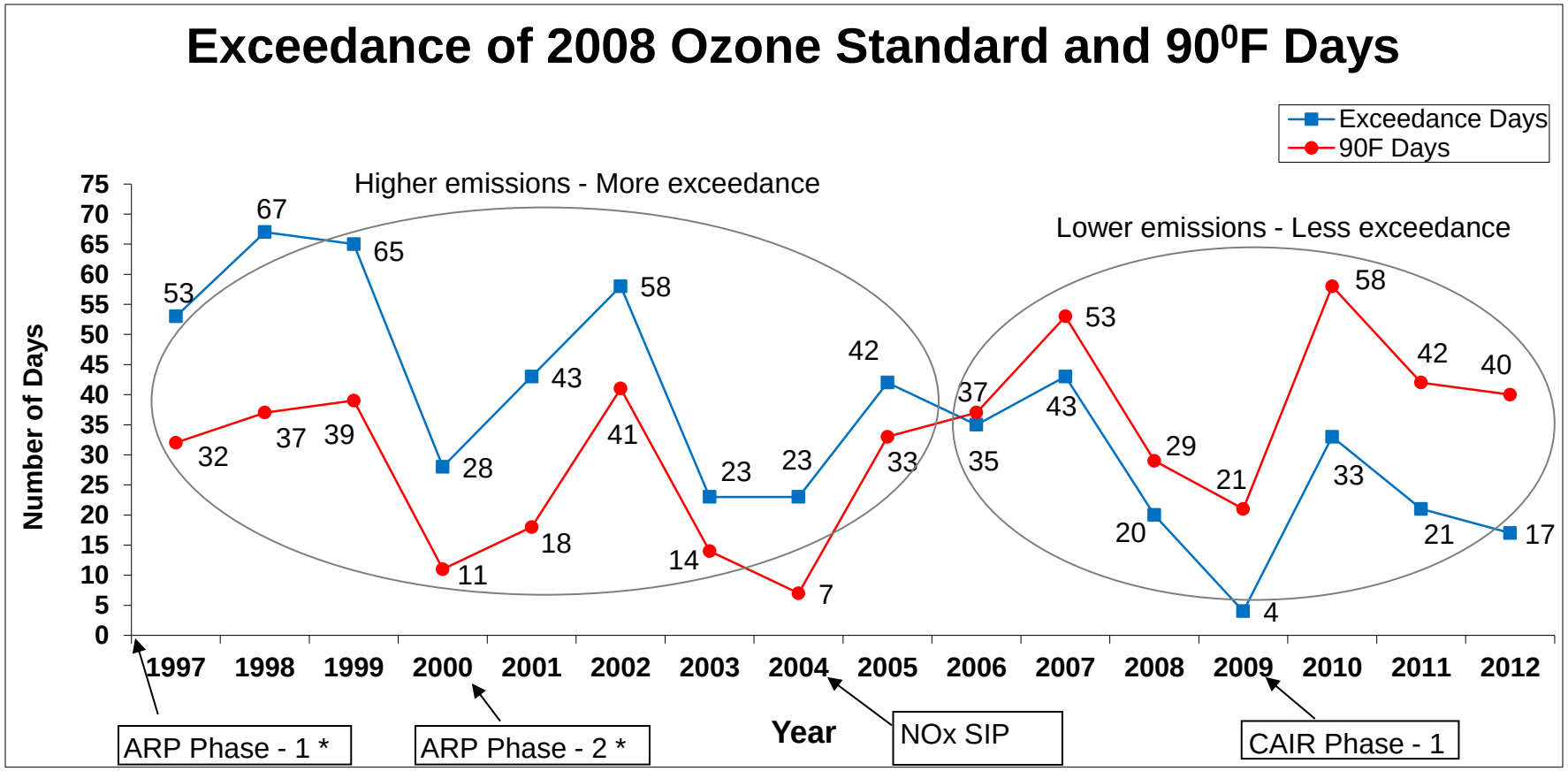

*** 2013 analysis is based on draft data as of May 9, 2013 and is subject to change.**

# Ozone Design Value Trend




* Design value = 3-year average of 4th highest daily maximum 8-hour average ozone concentrations. 2012 data is draft and may change.

# Ozone & Temperature Trend




*** ARP = Acid Rain Program**

- Phase 1 : 1996
- Phase 2 : 2000

*** Analysis is based on draft data as of May 9, 2013 and is subject to change.**

# Fine Particle Summary

## 24-Hour PM2.5 Concentrations (ug/m3)

Since April 1, 2013, there have been:

14 Code Yellow Days

23 Code Green Days

### April

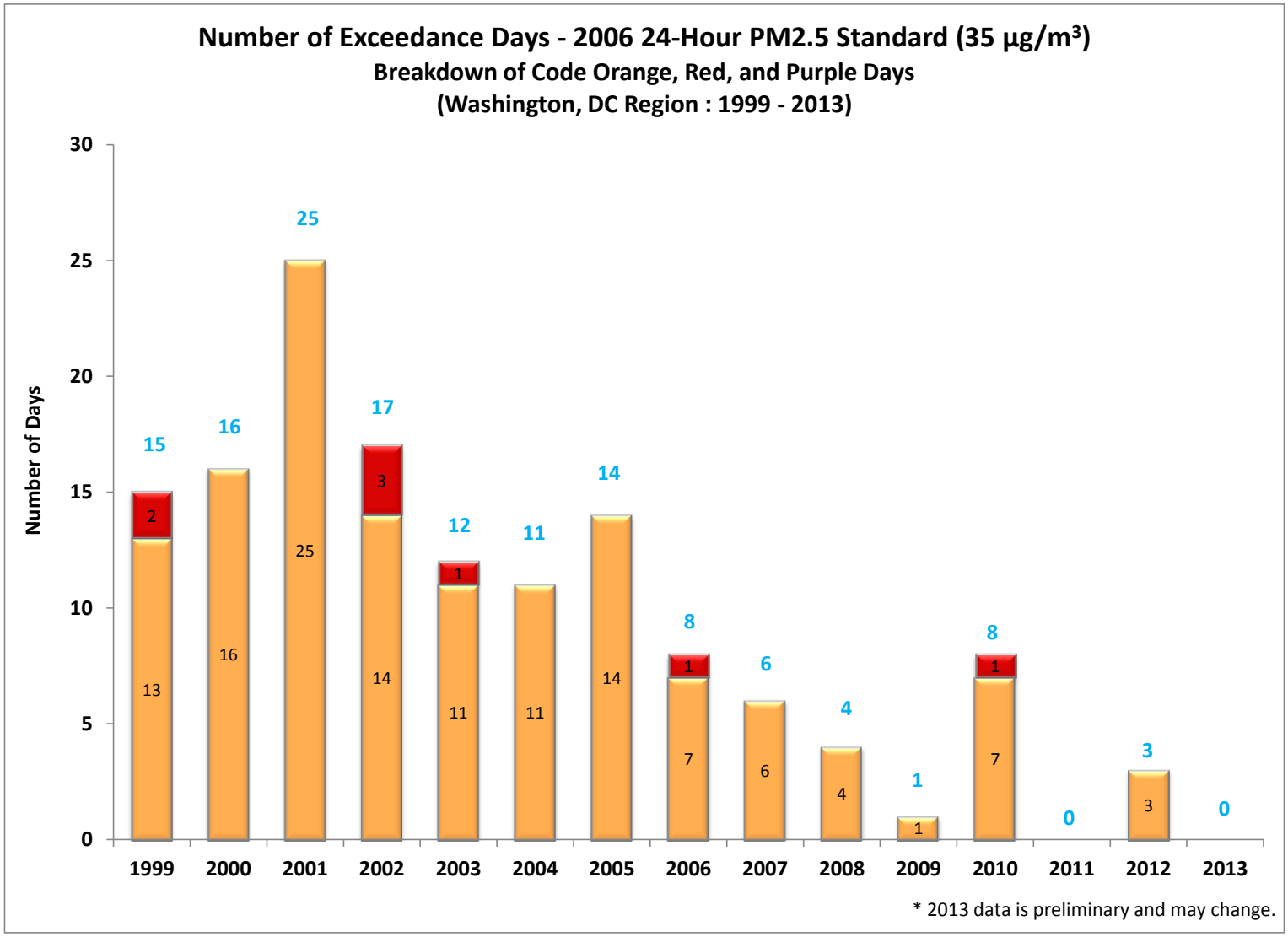
| Sun | Mon | Tues | Wed | Thurs | Fri | Sat |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| | 15.1 | 7.3 | 9.4 | 7.9 | 14.0 | 8.8 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 10.1 | 14.8 | 14.0 | 19.1 | 14.9 | 13.4 | 11.9 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 11.6 | 12.4 | 12.1 | 14.8 | 14.8 | 9.0 | 7.3 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 7.9 | 6.7 | 13.0 | 13.6 | 9.0 | 11.6 | 14.3 |
| 28 | 29 | 30 | | | | |
| 11.4 | 7.1 | 5.3 | | | | |

### May

| Sun | Mon | Tues | Wed | Thurs | Fri | Sat |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| | | | 7.5 | 5.5 | 7.3 | 5.6 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 8.8 | 10.1 | 5.6 | | | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | | | | | | |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | |
| 26 | 27 | 28 | 29 | 30 | 31 | |
| | | | | | | |

*** Analysis is based on draft data until May 9, 2013. Data is subject to change.**

# PM2.5 Exceedance Trend

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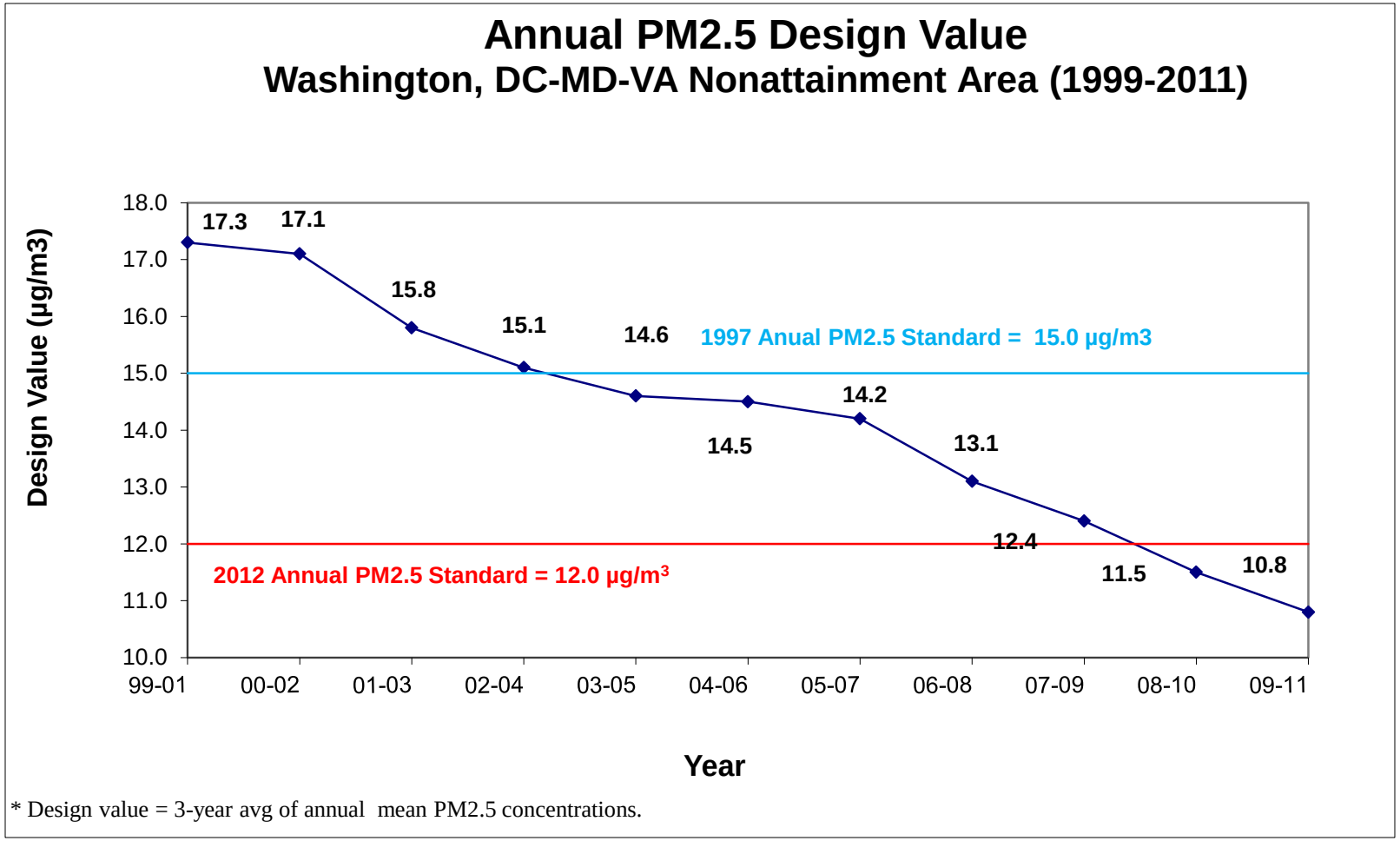
# Annual $PM_{2.5}$ Design Value Trend

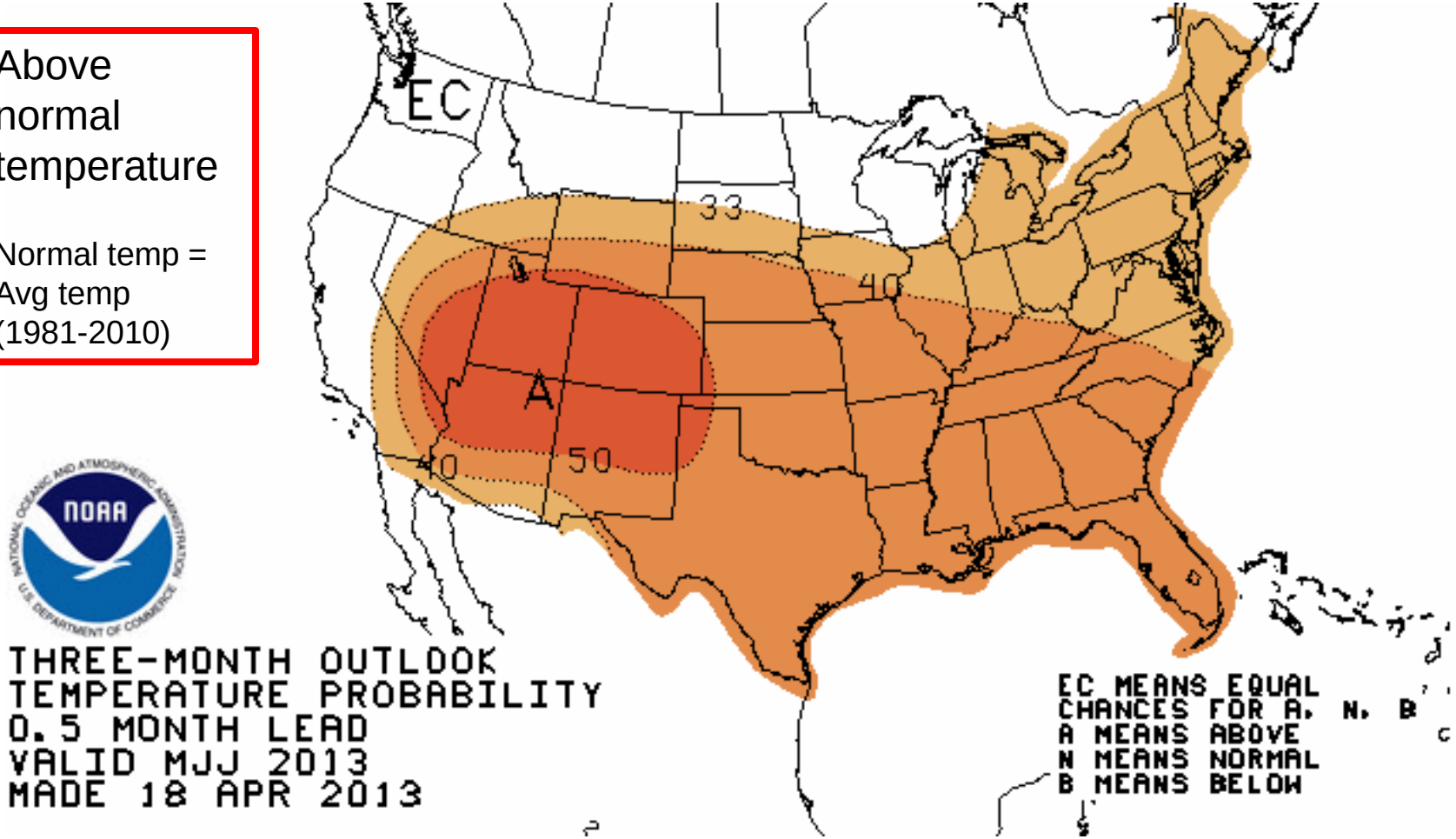



* Design value = 3-year avg of annual mean PM2.5 concentrations.

# 2013 Summer Temperature Outlook (May-July)

Above normal temperature

Normal temp = Avg temp (1981-2010)

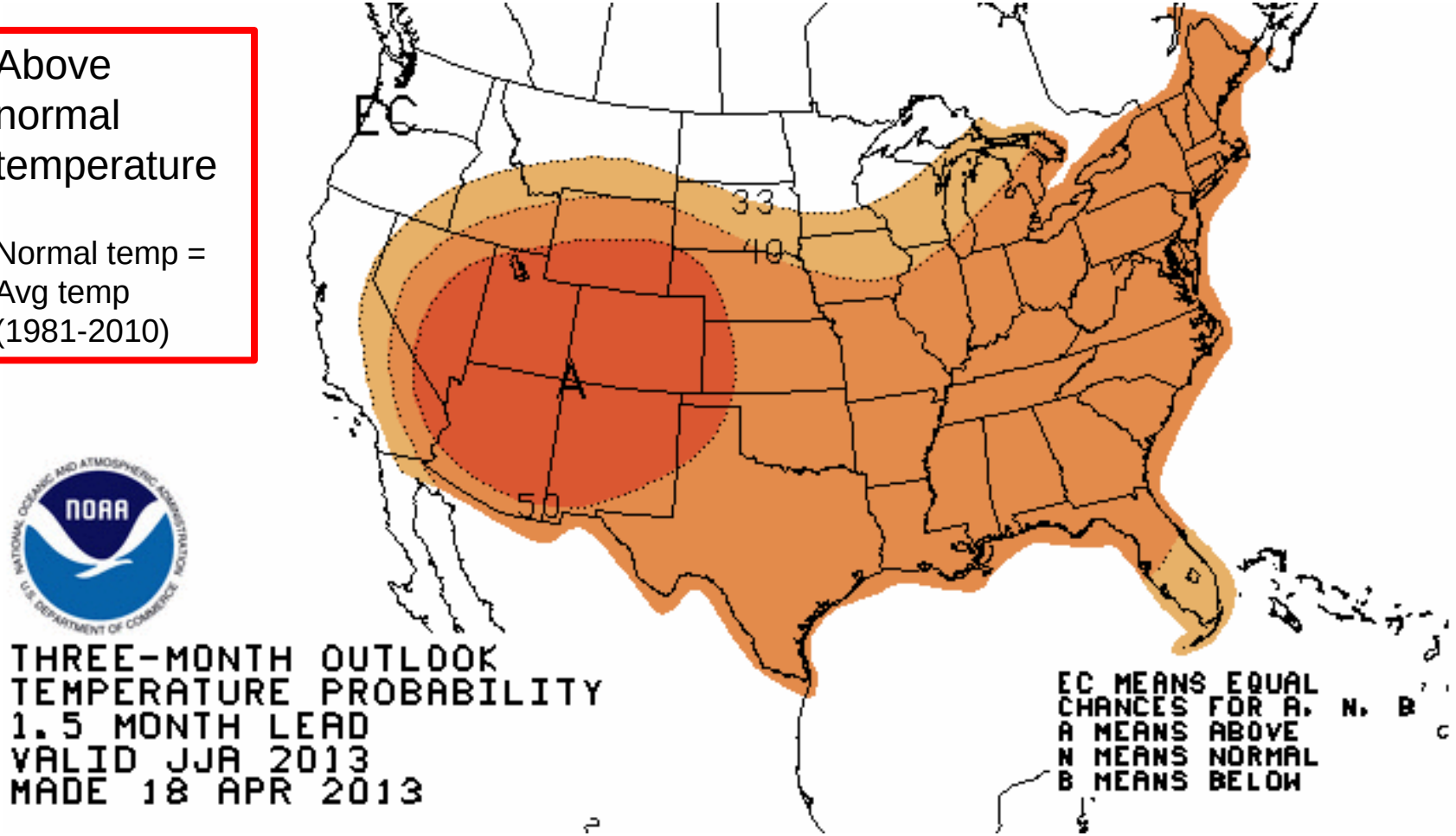



Source: NWS Climate Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

# 2013 Summer temperature Outlook (June-August)

Above normal temperature

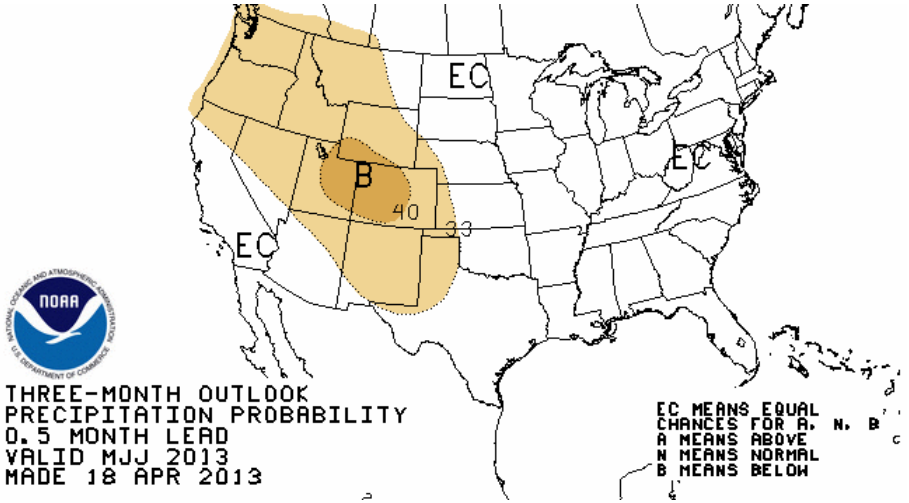
Normal temp = Avg temp (1981-2010)



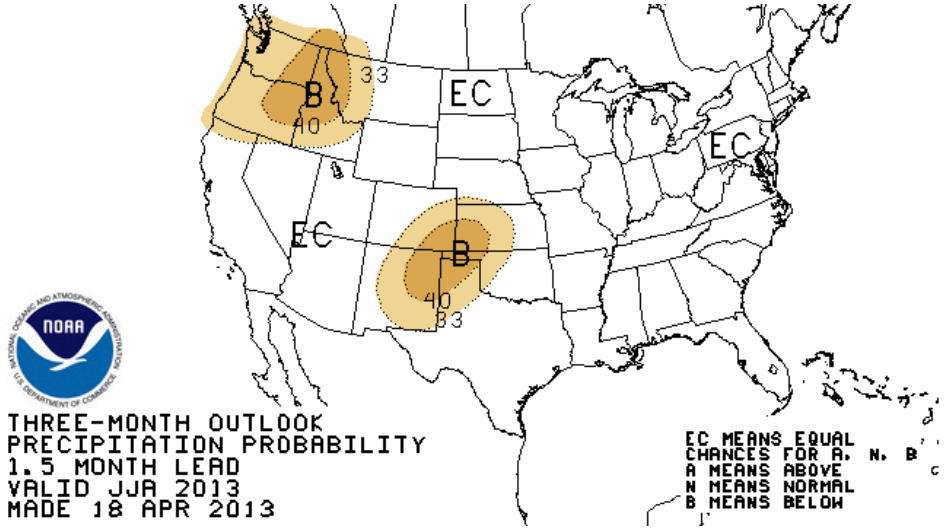

Source: NWS Climate Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2

# 2013 Summer Precipitation Outlook

No clear precipitation forecast




May-July




June-August

Source: NWS Climate Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1 (May-July)
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2 (June-August)

# Conclusion

- 2013 Summer temperature - Above normal
  - Not clear *how much* above normal
- Forecasts do not compare 2013 temperatures and number of 90 degree days to those of past three years (2010-2012)
- Not possible to predict impact of 2013 temp on 2011-2013 ozone design value based on summer forecast