



# Air Quality Forecasting Program and Ozone Season 2004

Ozone Action Day Kickoff

May 5, 2004

Joan Rohlfs



## Presentation Topics

- Health-based standards for air pollutants
- Forecasting Program
- Public Education through Clean Air Partners
- Change in Forecasting Procedures



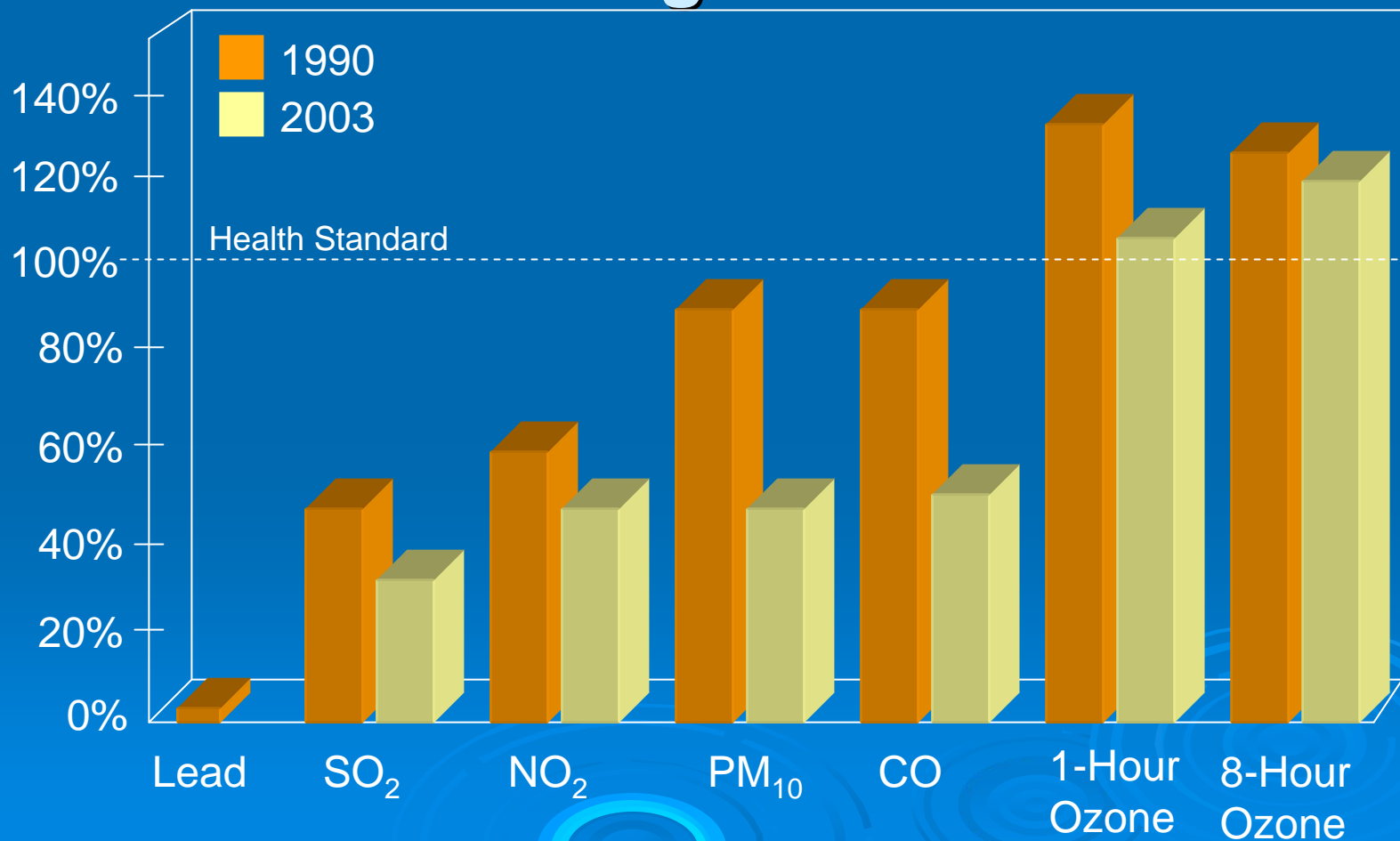
# Clean Air Act Amendments 1990

EPA set federal health standards for ambient pollutants



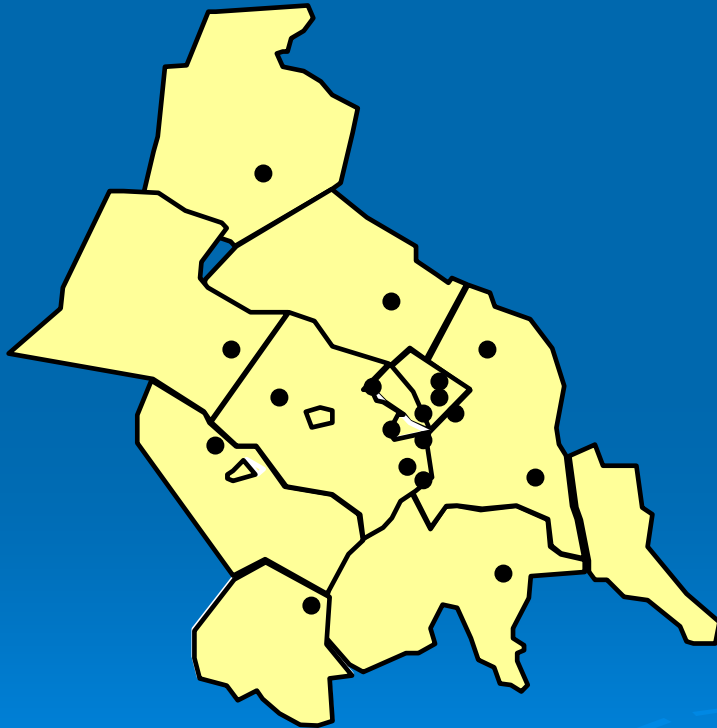


# Status of Air Quality in Washington Region





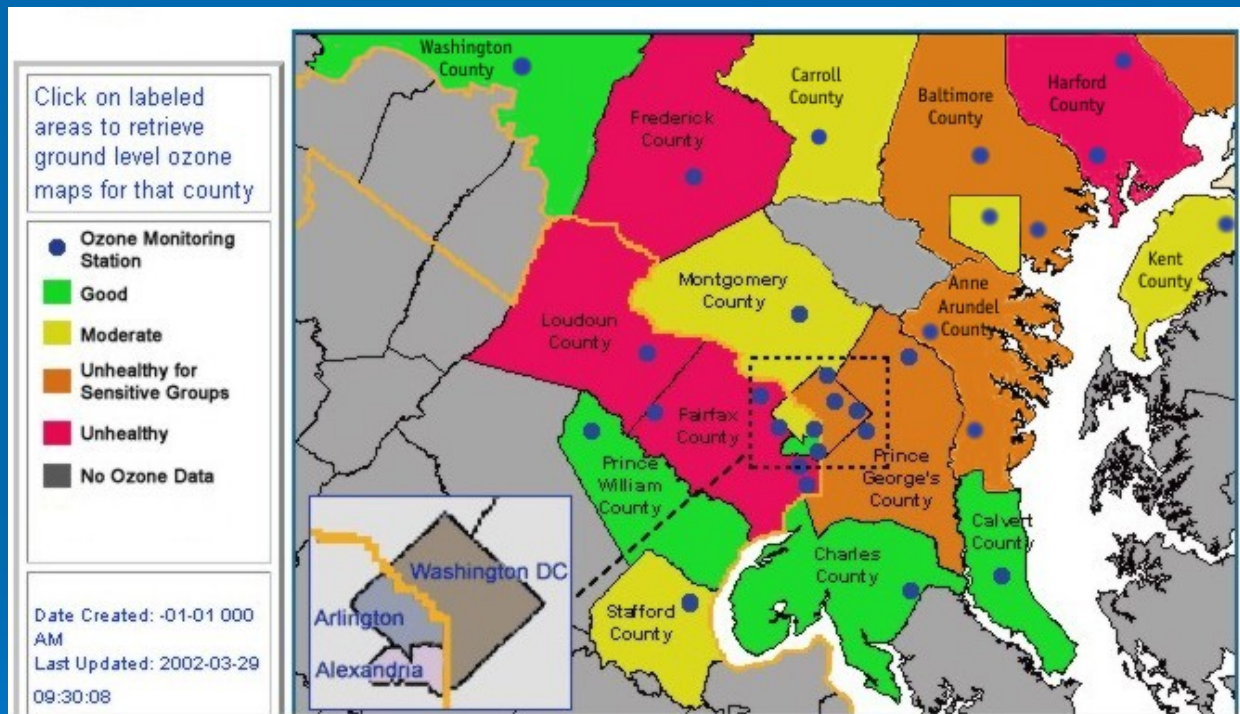
# Air Quality is Monitored and Forecasted



- State air agencies and localities monitor air constantly at 17 regional locations
- Meteorologists conduct daily forecast calls to predict tomorrow's air quality
- Purpose: alert public 24 hours in advance of an ozone episode



# Real-Time Air Quality Data



View current county-level air quality data at [www.air-watch.net](http://www.air-watch.net)



## CLEAN AIR PARTNERS

Educate the public about the health effects of ozone and motivate employers and individuals to take actions to improve air quality.

Originally created as ENDZONE Partners by MWAQC and TPB in 1994, the organization was chartered by COG and BMC as Clean Air Partners in 1997.

BMC – COG - DC-DOH – DDOT – MDE – MDOT – VDEQ - VDOT



## CLEAN AIR PARTNERS



Communicate Air Quality Information



500 Public/Private Partners



Prevent Air Quality Code Red Days





# New Pollutant Standards



Photo courtesy US EPA

- 8-Hour Ozone Standard
- Particle Pollution  
( $< 2.5$  micrometers)

- EPA is adopting two more protective air quality standards
- Forecasting for these standards begins this summer
- Air quality plans will be developed soon



# Comparison of Ozone Standards

## 1-hr Ozone Standard

- Protects against shorter-term exposure
- Higher ozone limit measured over shorter time
- Exceedance known at end of hour

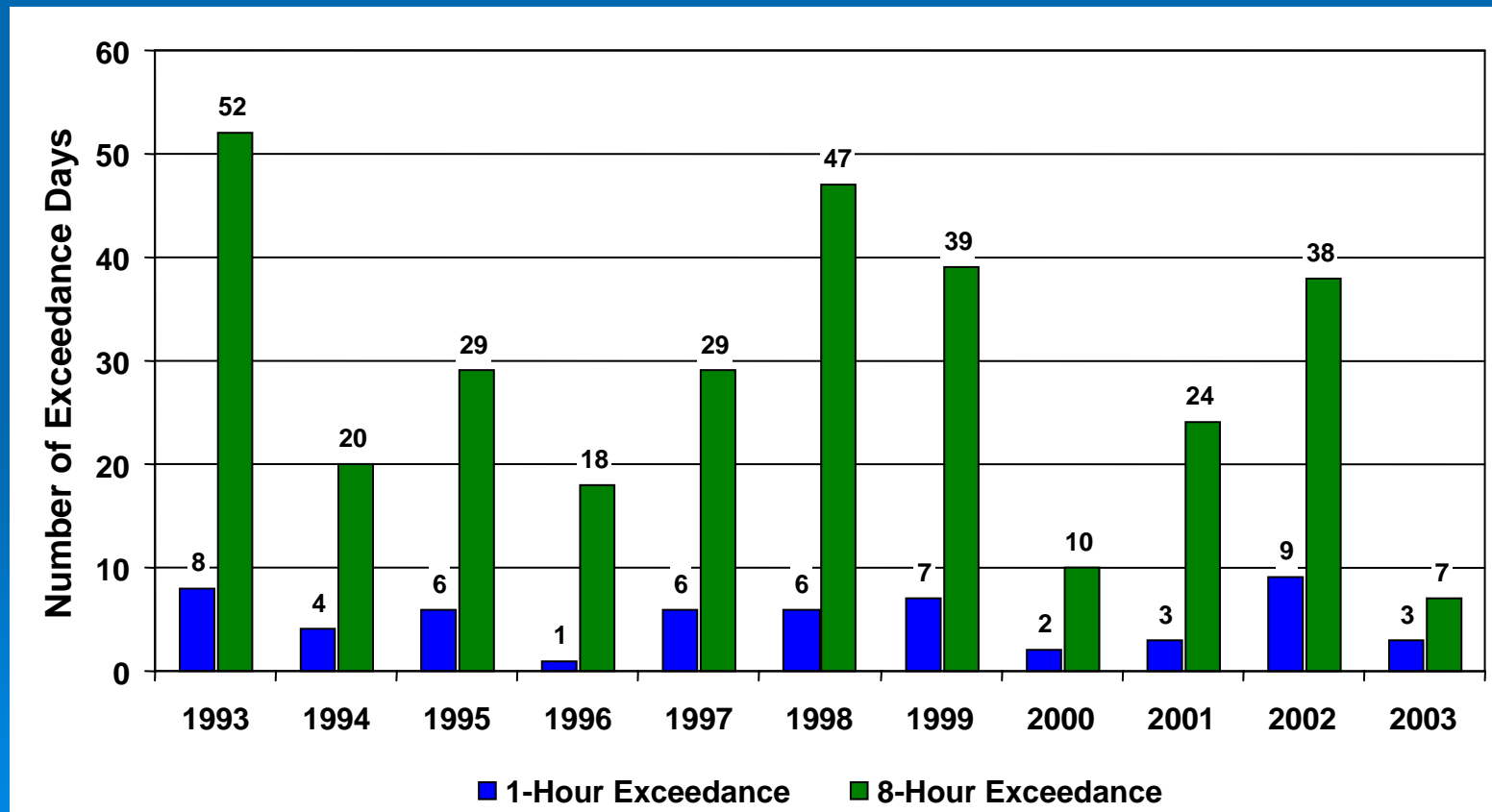


## 8-hr Ozone Standard

- Protects against chronic exposure
- Lower limit over a longer period of time
- Exceedance known at end of day



## 8-Hour vs. 1-Hour Ozone Exceedances (1993-2003 Washington Region Data)





## 8-Hour Ozone Calendar (2003)

JUNE '03						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

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

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

SEPTEMBER						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



## The New Forecast Approach

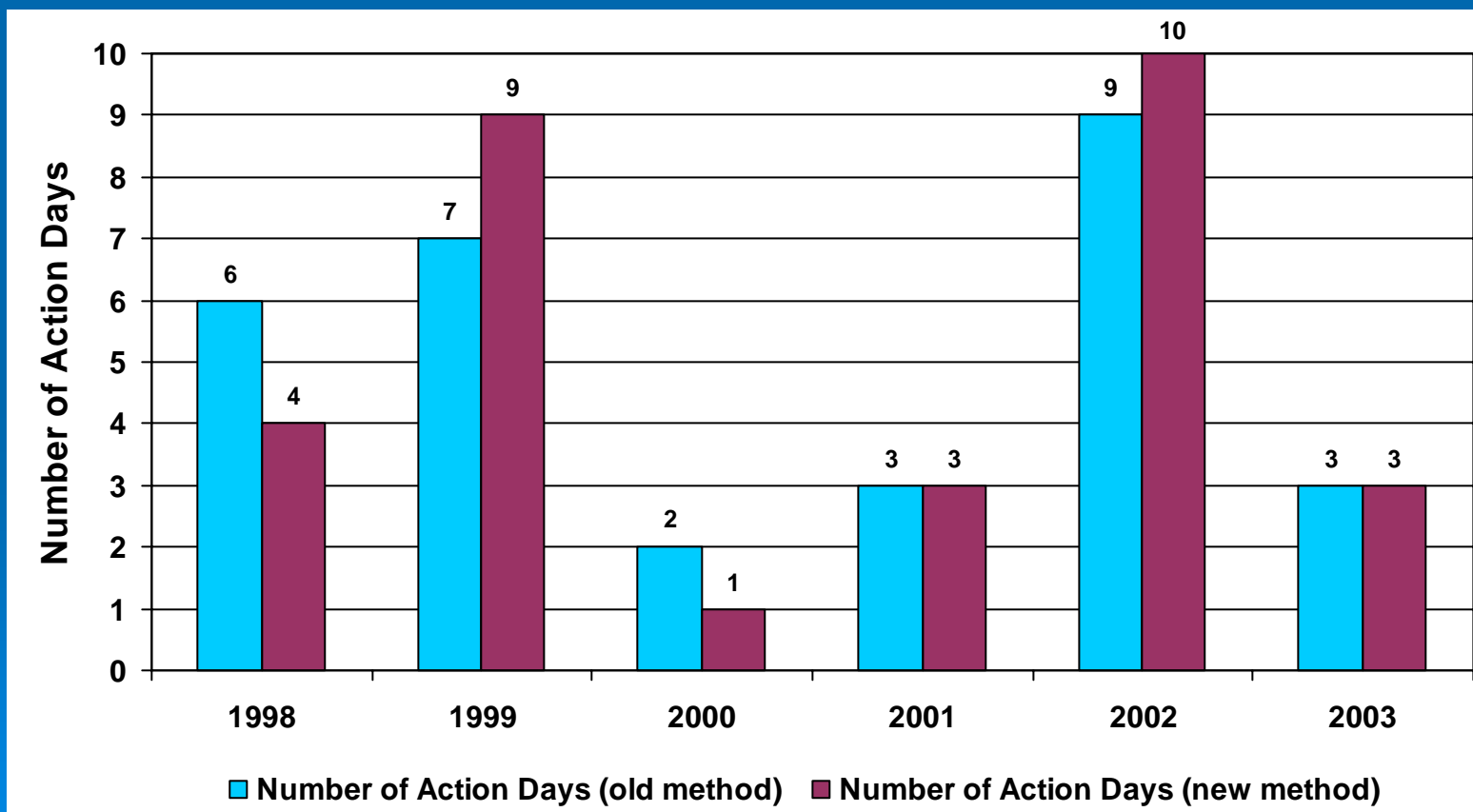
AQI Range	AQI Color
201-300	Purple
151-200	Red
101-150	Orange
51-100	Yellow
0-50	Green

- An Ozone Action Day will be called at an AQI level of 151 (Code Red).
- An Ozone Action Day will be called if the next day is forecasted to be a “High Orange” (AQI of 125) **AND** the following day is forecasted to be a Code Red.



# How Many **Code Red** Action Days Could We Have?

(1998-2003 Washington Region Data)



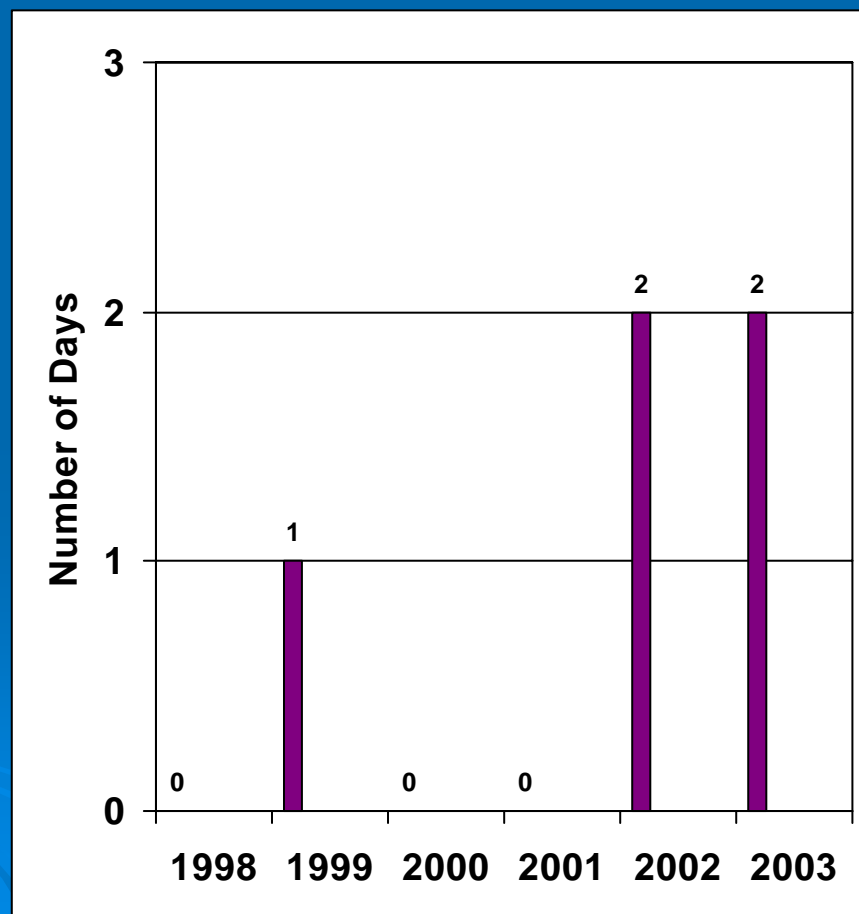


## What is Code Purple?

AQI Range	AQI Color	Health Descriptor	8-Hr O3 Range (ppb)
201-300	Purple	Very Unhealthy	125-374

Active adults and kids – and adults and children with lung disease like asthma – are sensitive to air pollution and should **avoid all** outdoor exertion while we are in the purple range.

(1998-2003 Washington Region Data)

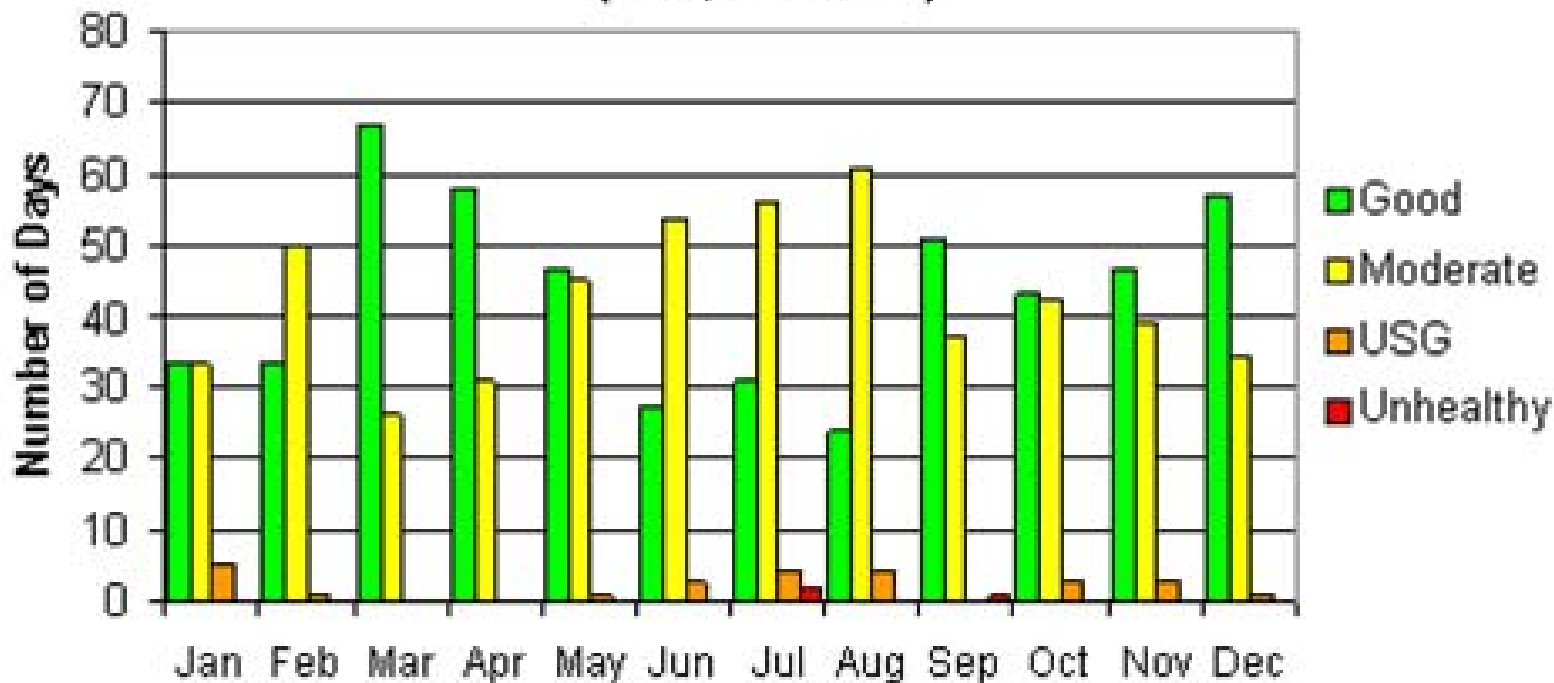




# Code Red and Orange Particle Days

Washington, DC

AQI Category by Month for Washington D.C.  
(FRM, 1999-2001)







# Addressing The Multi-Pollutant Issue

AQI Range	AQI Color	8-Hr O <sub>3</sub> Range (ppb)	24-Hr PM <sub>2.5</sub> Range (µg/m <sup>3</sup> )
201-300	Purple	125-374	150.5-250.4
151-200	Red	105-124	65.5-150.4
101-150	Orange	85-104	40.5-65.4
51-100	Yellow	65-84	15.5-40.4
0-50	Green	0-64	0-15.4

- Forecasts will be issued using the Air Quality Index (AQI) color codes.
- Primary pollutant on hotline and fax.
- Both pollutants on the web site.
- Integrated health message to address both ozone and particles.



## Sample Washington Press Release

- Air Quality Report
- Health Message
- Ozone Prevention Tips
- Contact Information

\*\*\*\* Air Quality Forecast valid through sunset, May 1, 2004 \*\*\*\*



### Air Quality Forecast

Metropolitan Washington Council of Governments  
777 N. Capitol Street, NE  
Suite 300  
Washington, DC 20002

For Immediate Release  
April 30, 2004

**MEDIA INQUIRIES: (202) 962-3787**

#### Air Quality Forecast for May 1, 2004

Forecast Region	Primary Pollutant	AQI	Color Code	Air Quality Description
Washington Metropolitan Area	Ozone	151	Red	Unhealthy

**Air Quality Reports:**

Air quality reports use the Air Quality Index (AQI), which represents the pollutants – ground level ozone and particles. Ground level ozone values are based upon an 8-hour running average. Particles with a diameter less than 2.5 microns (PM<sub>2.5</sub>) are based upon a 24-hour daily average. The primary pollutant represents the pollutant, either ozone or particles, that is expected to reach the highest concentration.

**Health Warning:**

People with heart or lung disease, older adults, children, and even healthy adults may experience health effects when air pollution levels are high (Code Orange or worse). Should air quality exceed the federal health standard, an Air Quality **Code Red Health Advisory** will be issued advising the following precautions:

- Children and older adults should reduce outdoor activities.
- Healthy individuals should limit strenuous work or exercise, especially outdoors.
- Individuals with respiratory and heart ailments, emphysema, asthma, or chronic bronchitis should limit their activity level.

**Prevention Tips:**

Much of the air pollution in our region is created from vehicles, lawnmowers, other garden equipment, and common household products. In order to prevent high levels of air pollution from forming, residents are strongly urged to:

- Limit driving and, when possible, combine errands.
- Use area bus and rail lines, or share a ride to work.
- Avoid mowing lawns with gasoline-powered mowers.
- Refuel vehicles after dusk.

**For More Information:**

COG provides the daily air quality conditions and next-day forecast at 3:30 p.m. during the summer ozone season. For more information, call the Air Quality Hotline at (202) 962-3299 or visit our website at: [www.mwco.org/dep/air/airquality\\_index.htm](http://www.mwco.org/dep/air/airquality_index.htm)



[www.mwco.org/dep/air/index.htm](http://www.mwco.org/dep/air/index.htm)

CLEAN AIR PARTNERS

[www.cleanairpartners.net](http://www.cleanairpartners.net)



## Integrated Health Message

People with **HEART OR LUNG DISEASE**, older adults, children, and even healthy adults may experience health effects when air pollution levels are high (Code Orange or worse). Should air quality exceed the federal health standard, an Air Quality **Code Red Health Advisory** will be issued advising the following precautions:

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## Conclusions

2004 will be a transition year from 1-hour to 8-hour ozone forecasting

“Ozone Action Day” becomes  
“Air Quality Action Day” to include particles