

Developing Communication Tools for Ozone Transport



Tad Aburn, MDE
OTC Meeting
June 9, 2004



Topics Covered



- **Communicating with makers**
- **Working with media**



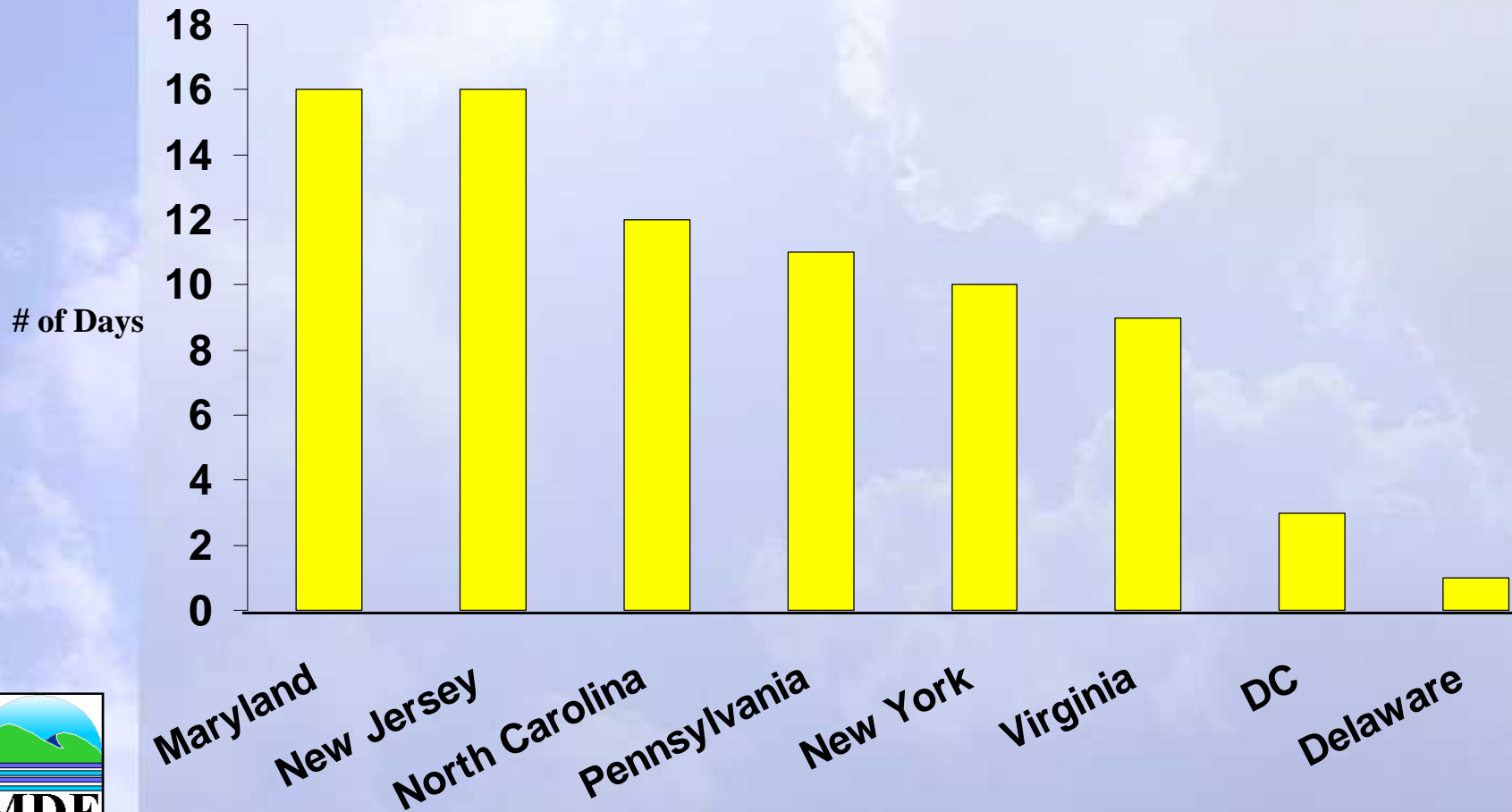
Maryland's Air Quality

- **Ozone levels in Maryland are very high**
- **Fine particulate levels are high**
- **Air pollution contributes significantly to Bay pollution**
- **Regional haze and air toxics are also significant air pollution problems in Maryland**



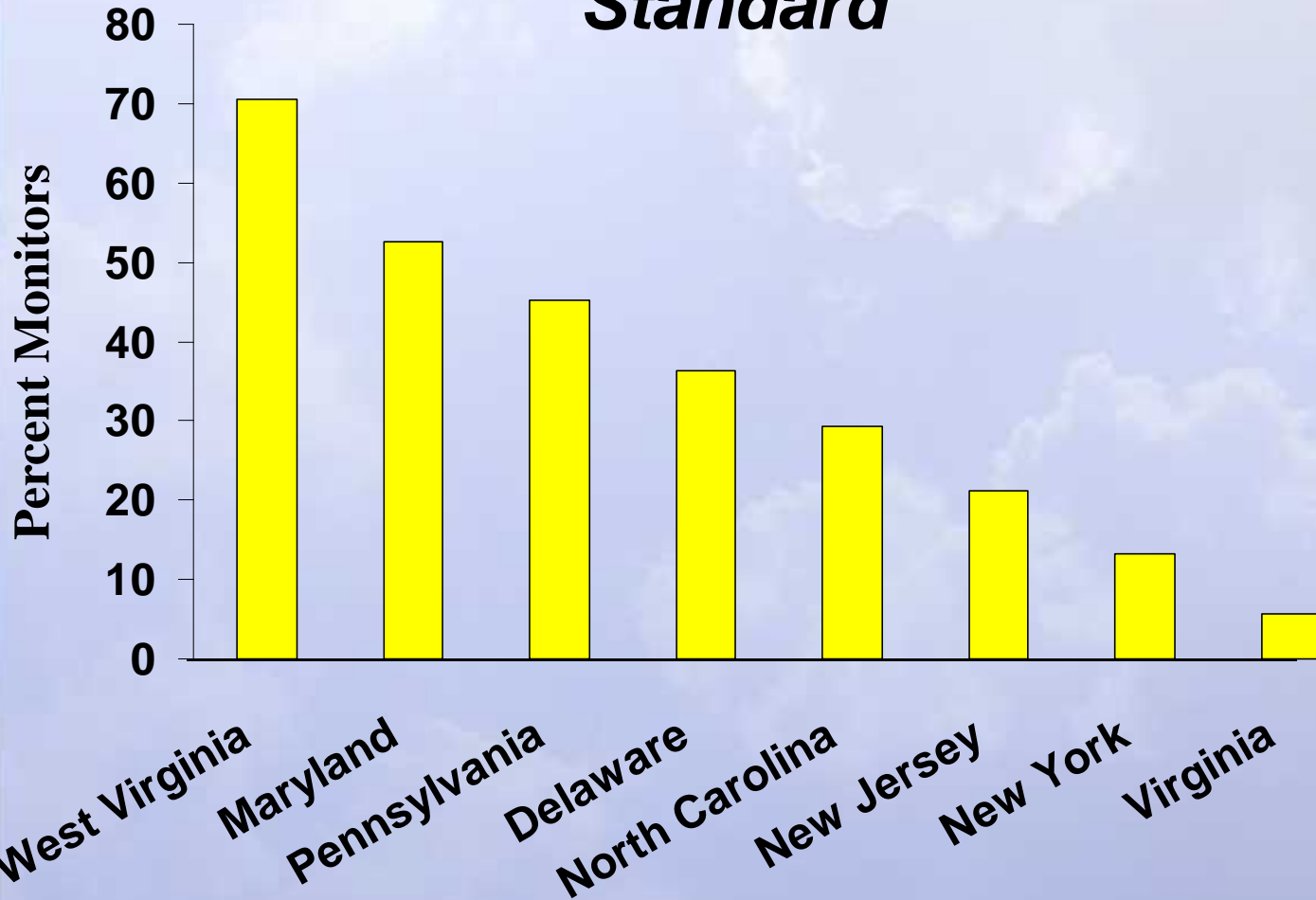
Ozone

Days Above the 1-hour Standard

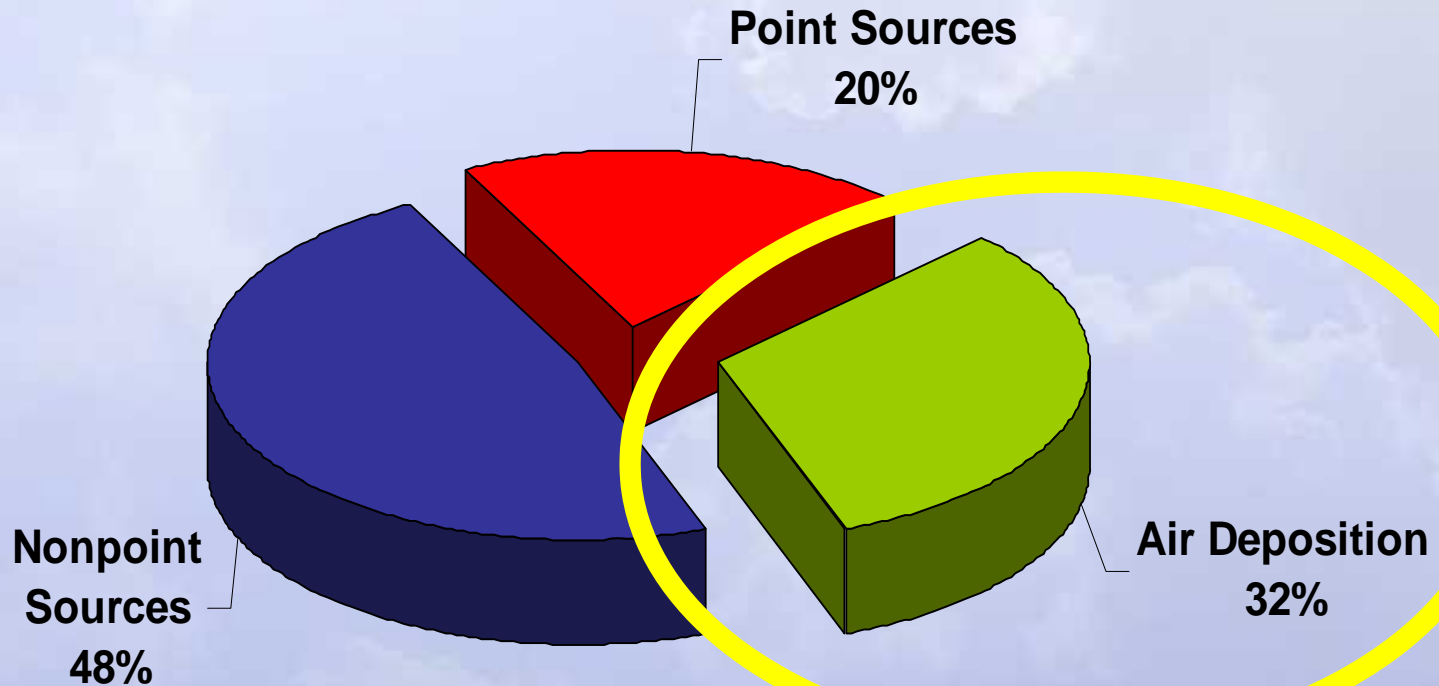


Fine Particulate

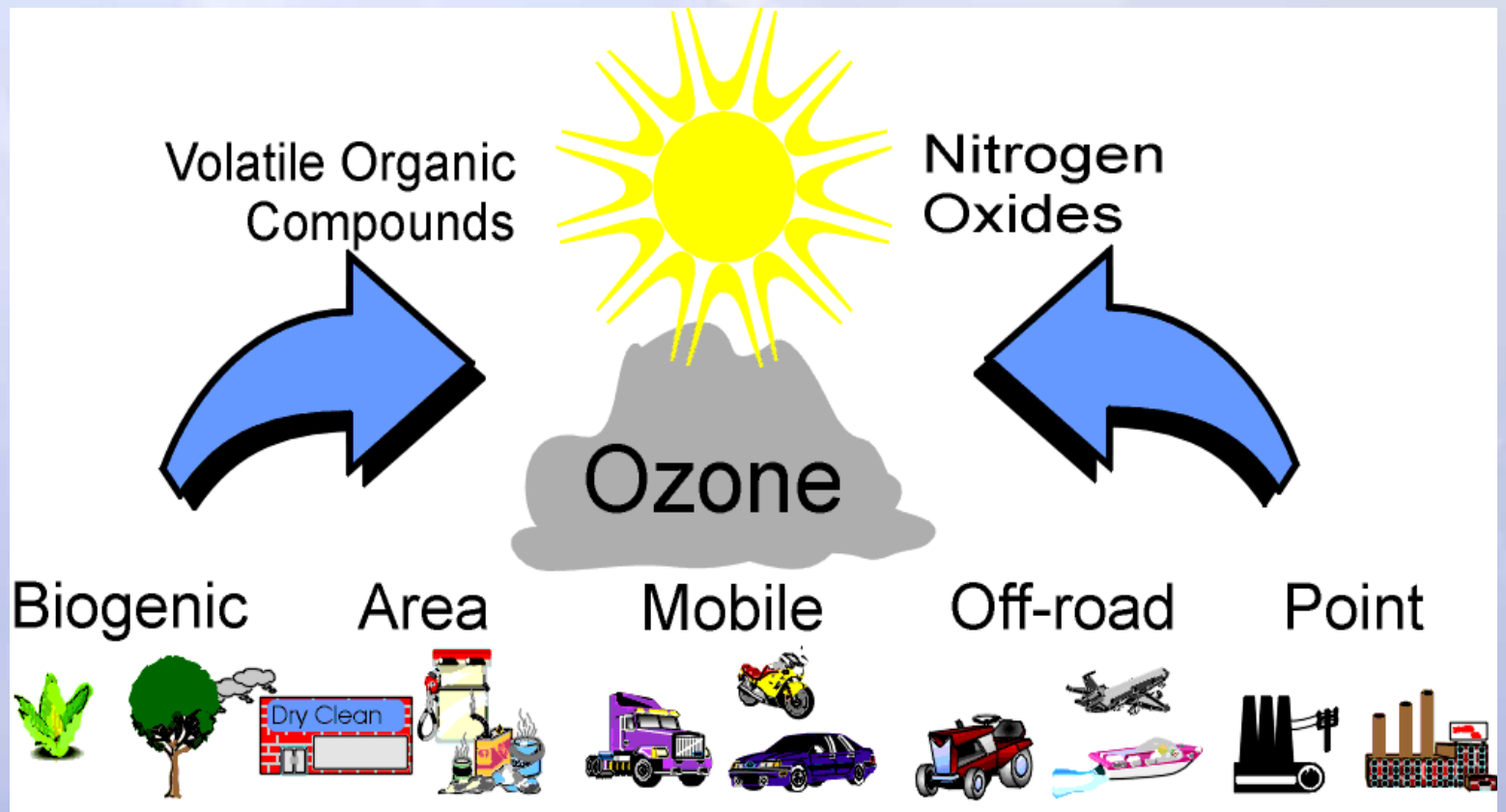
Percent of Monitors Above the Annual Standard



Nitrogen Deposition to the Chesapeake Bay

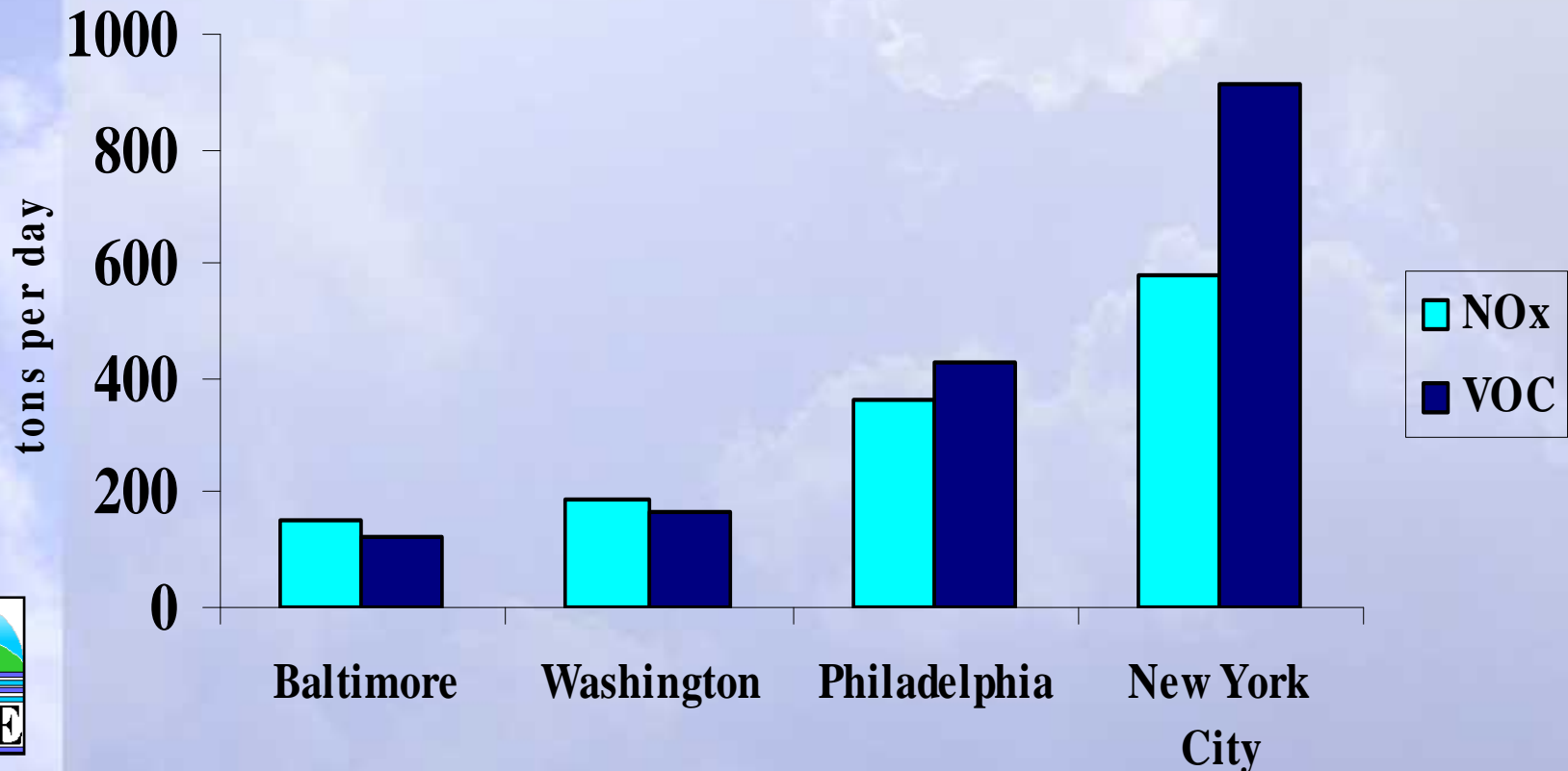


A Quick Primer on How Ground Level Ozone is Formed

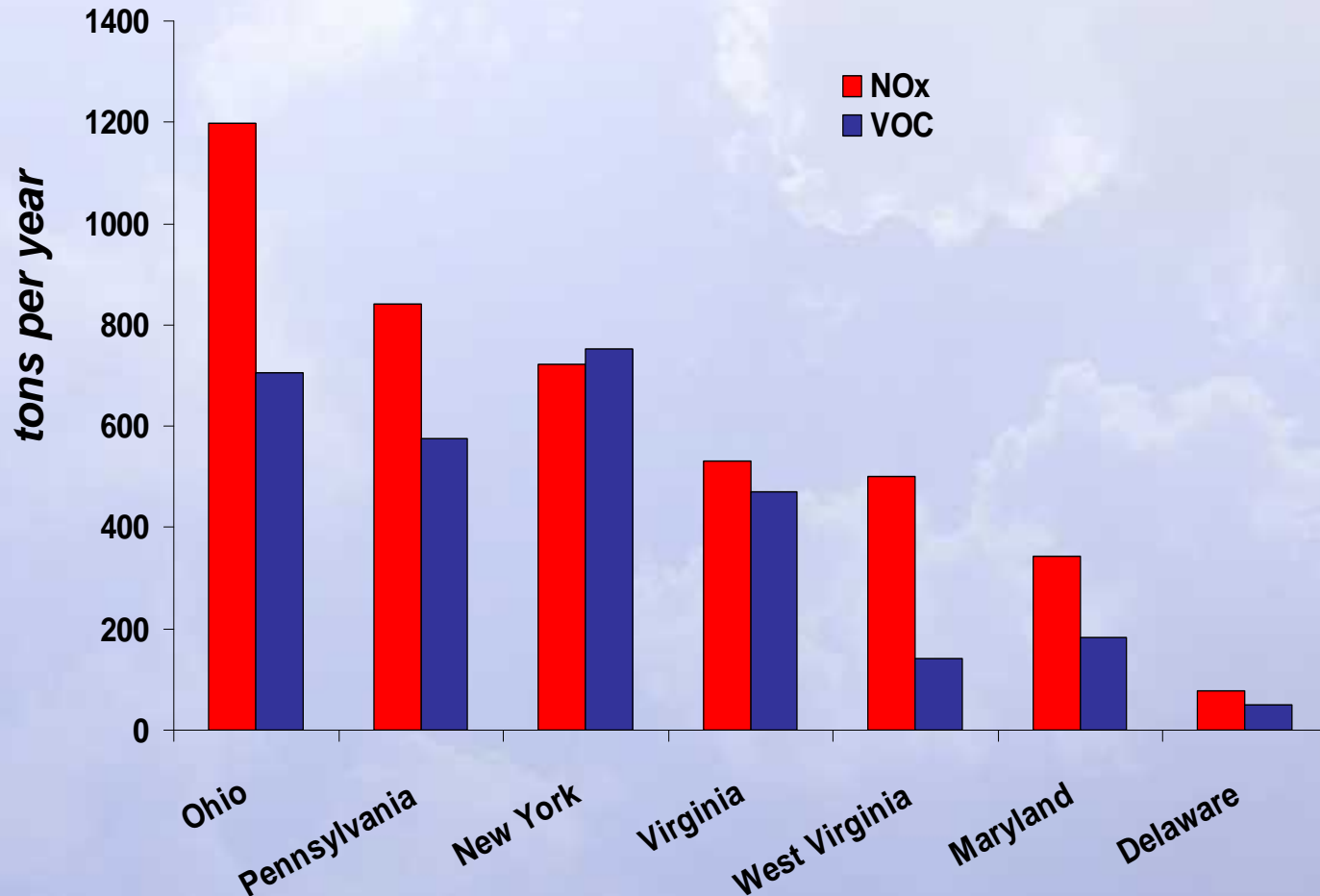


Are Our Emissions Higher Than Other Areas?

Ozone Nonattainment Areas

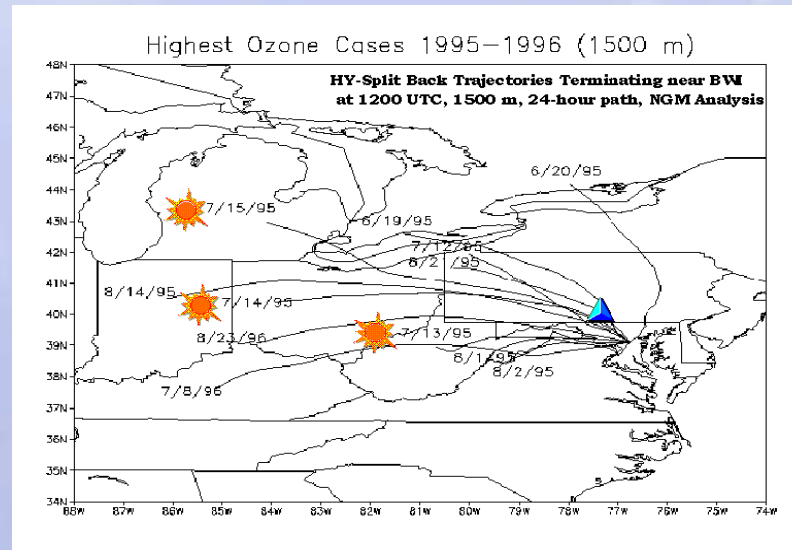


Are Our Emissions Higher Than Other States?



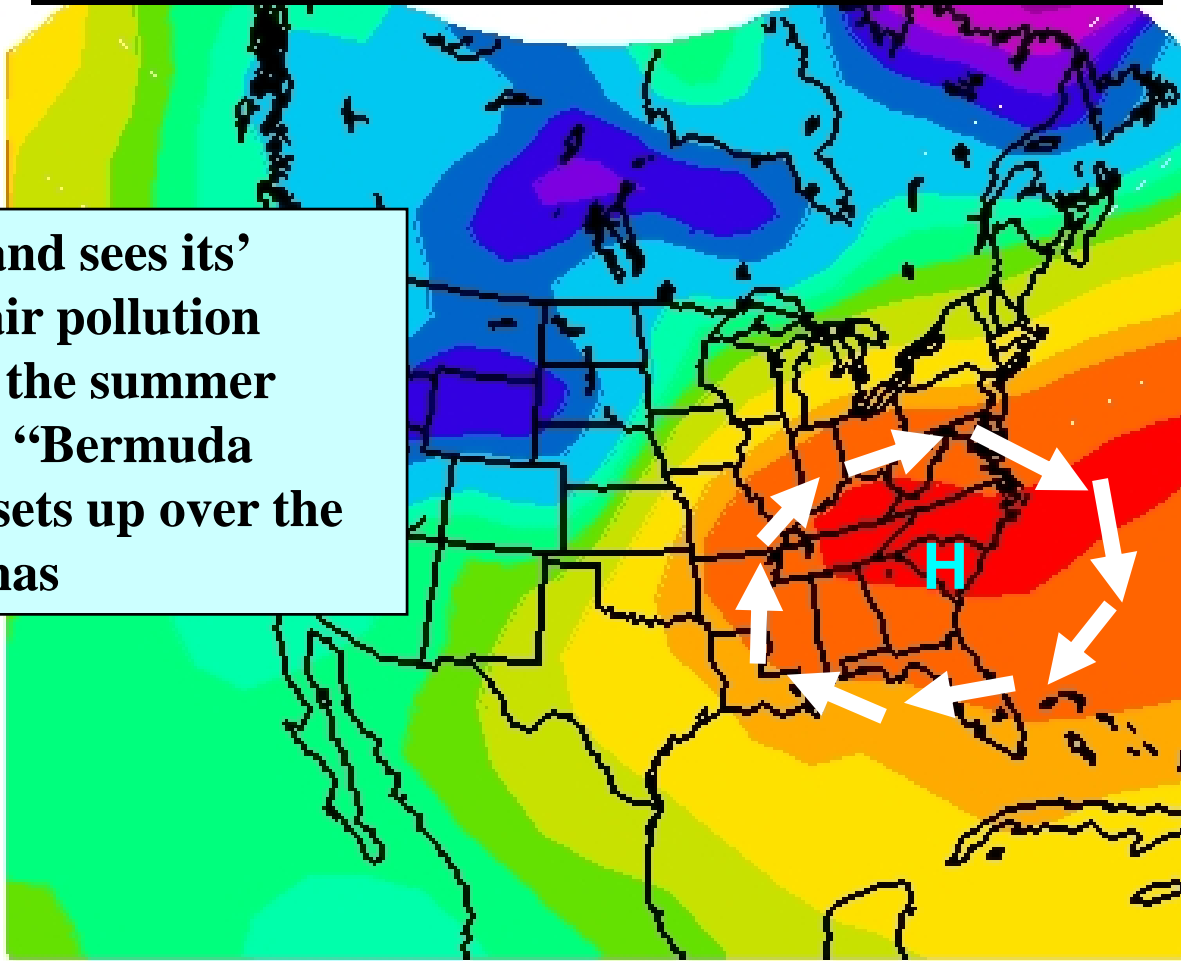
So Where Does It Come From?

- Air pollution floating in from other states (called transport) is a significant contributor to Maryland's air pollution problems
- Maryland's transport problem is amongst the worst in the United States
 - All states are affected by air pollution transport to some degree
- So what do we know about transport into Maryland?



Classic Ozone Weather in the Mid-Atlantic

Maryland sees its' worst air pollution during the summer when a "Bermuda High" sets up over the Carolinas



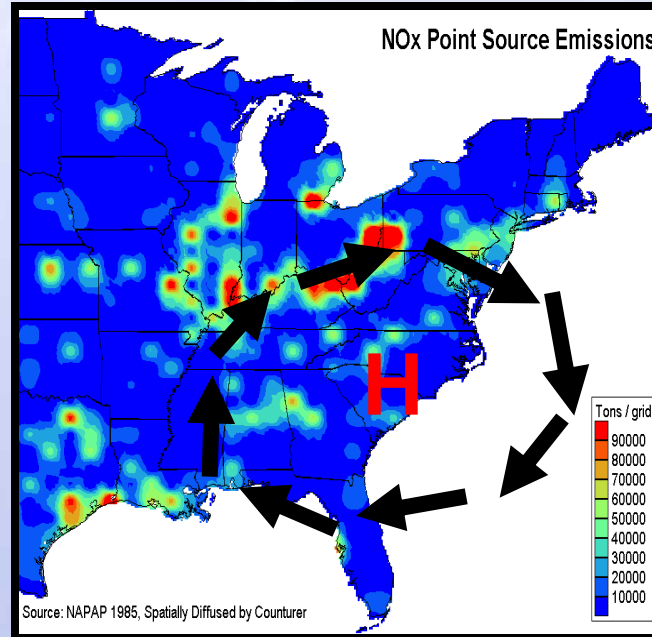
850mb GEOPOTENTIAL HEIGHTS (dam) 01-DAY MEAN FOR:
Sun JUL 04 1999

NCEP OPERATIONAL DATASET



Power Plant Emissions

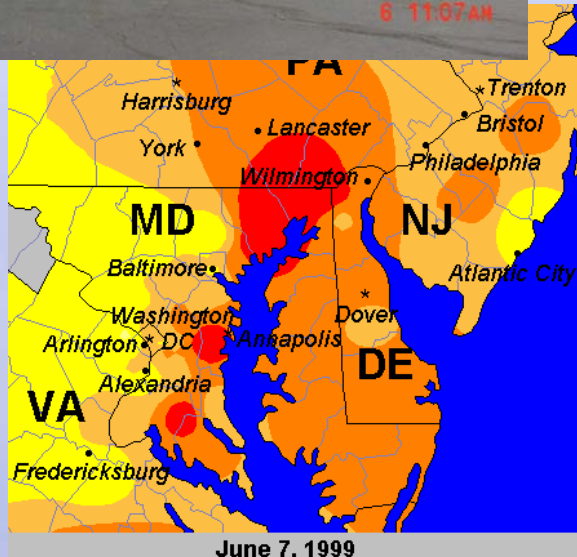
- Very large power plant emissions concentrated along the Ohio River valley
- Air aloft circulates clockwise around the high



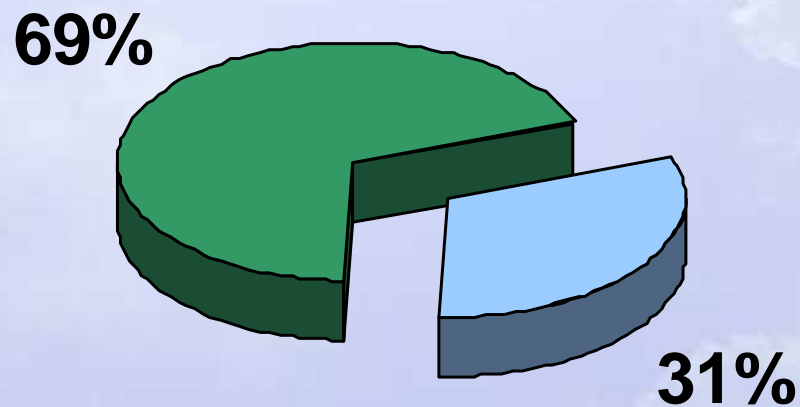
How Much Comes From Out of State?



- MDE works in partnership with the University of Maryland – College Park to measure and analyze pollution being transported into Maryland
- On our worst days we measure ozone at 110 parts per billion (ppb) floating into the state from the West
 - The 1-hour standard is 125 ppb
 - The 8-hour standard is 85 ppb



Who is Contributing to Maryland's Ozone Problem?



- From EPA's modeling to support the 22 state regional NOx reduction program called the "NOx SIP Call"
- Other models have generated different but generally similar results

■ MD/DC/DE ■ Other States



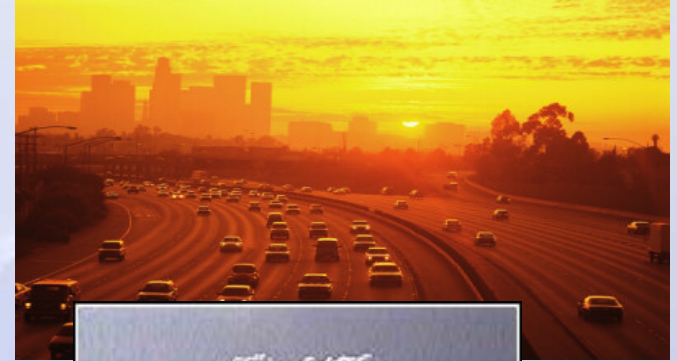
Newest Transport Research



- **The Low Level Night Time Jet**
 - Winds trapped aloft (1000 ft) that push a channel of air up the East Coast at night
- **The Elevated Reservoir of Ozone**
 - A large regional cloud of transported ozone (80 to 100 ppb) that sits above Maryland (and much of the East) every morning before we have a bad ozone day
 - Mixes down around 11:00 am
- **For more information contact MDE**

Our Audiences

- Public health
- Chesapeake Bay
- Transportation planning
- Economic development
- Local government
- Maryland sources
- EPA
- Equity and fairness



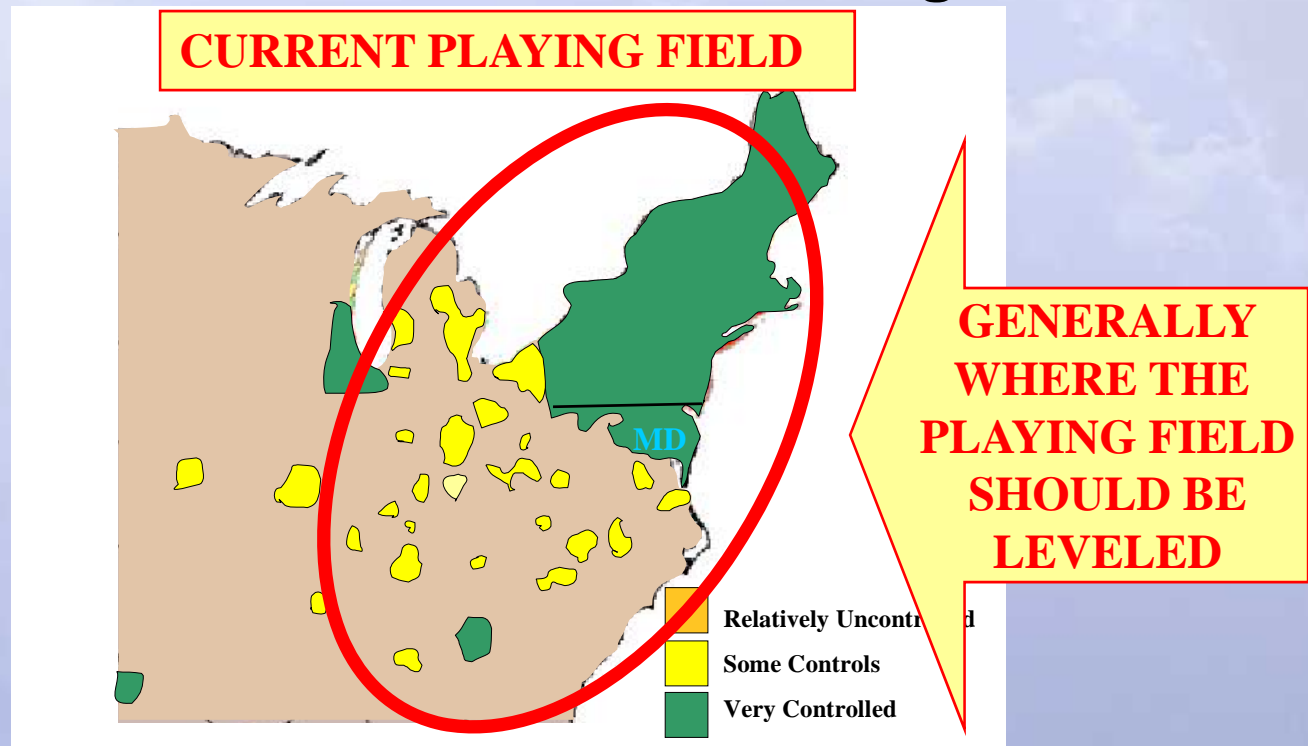
One of Our Themes: The OTC Multi-Pollutant Position

- **Maryland supports the Ozone Transport Commission (OTC) position on power plant controls**
 - **calls for deeper and quicker reductions from power plants than those proposed by EPA in the CAIR**
- **The OTC plan is achievable and very cost effective**
 - **Benefits outweigh costs by more than a factor of 10**
- **For more information go to www.otcair**



Another Theme: Level Playing Field

- Pollution controls in Maryland and other Northeast states are very tough
- Science tells us that the pollution control playing field needs to be leveled over much larger areas



Working with the Media

- **Media campaigns since early 1990s**
- **Partnership with Clean Air Partners (CAP)**
 - Baltimore/Washington
- **Builds off of highly successful ozone forecasting and mapping programs initiated by the OTC states in mid-1990s**



The Code Red Air Quality Message

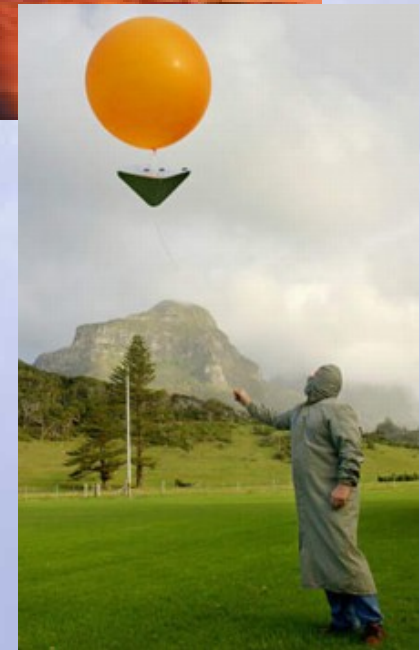


- CAP surveys indicate that 95% of citizens hear and understand the code red message
- Understanding of transport is not as good
 - Public perception is that air pollution is primarily a local problem



Recent Efforts to Communicate Transport

- Significant print coverage on transport
- Summer 2004 “Elevated Reservoir” initiative
- New clips for TV weatherman



TV Meteorologist Outreach Videos

MDE Short Ozone Videos

