

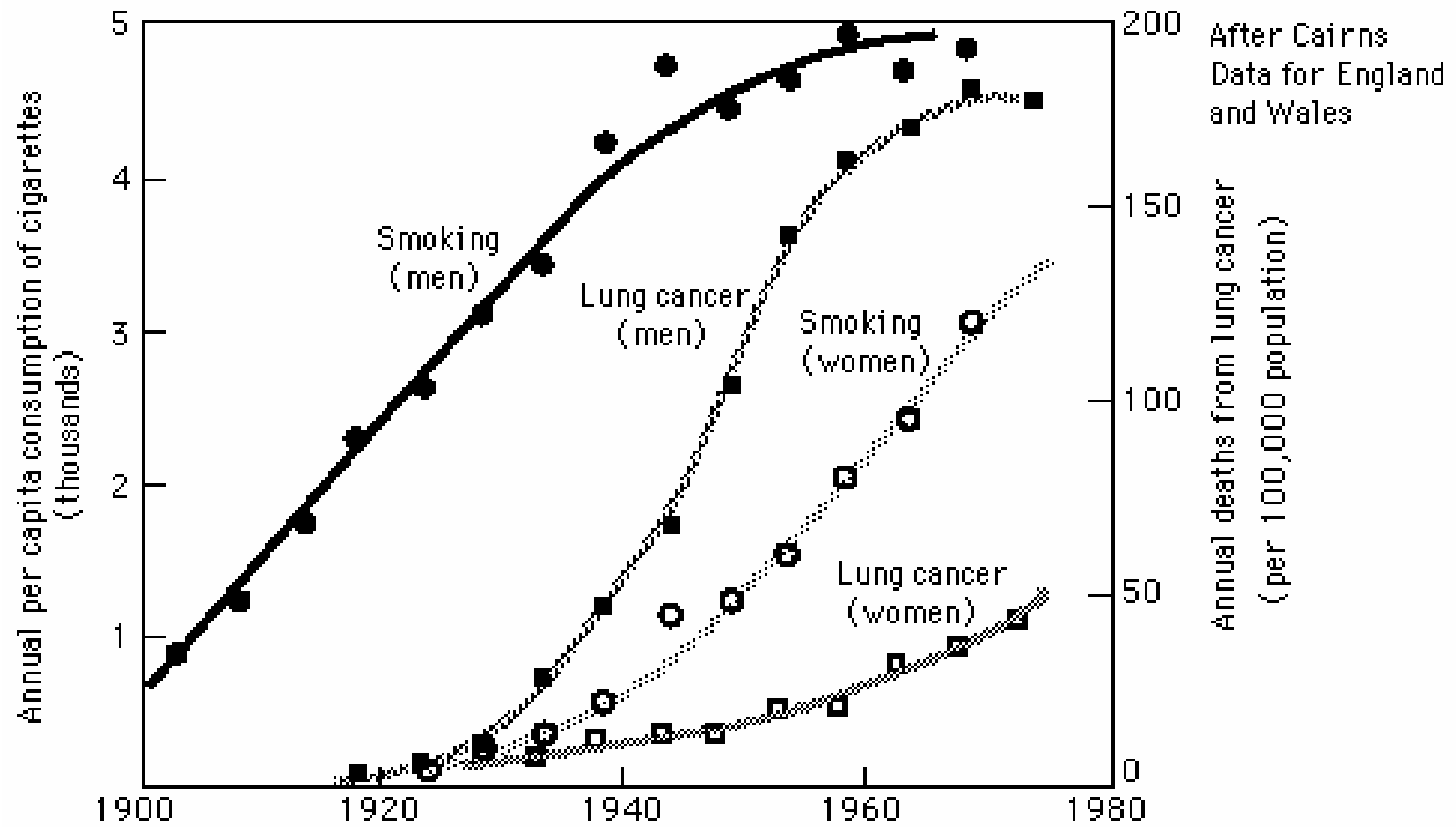
Ground Zero

Each Of Us Breathes About 3,000
Gallons of Air Every Day

NOIR

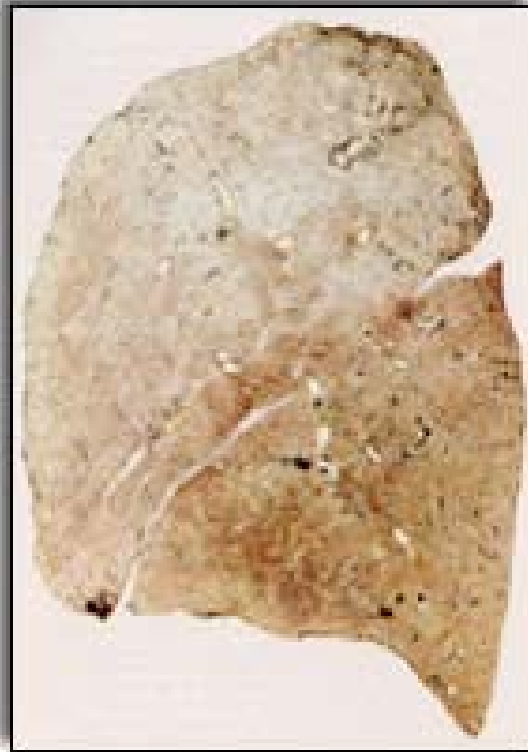


The cigarette that makes
your lungs as black as
a night in the naked city.





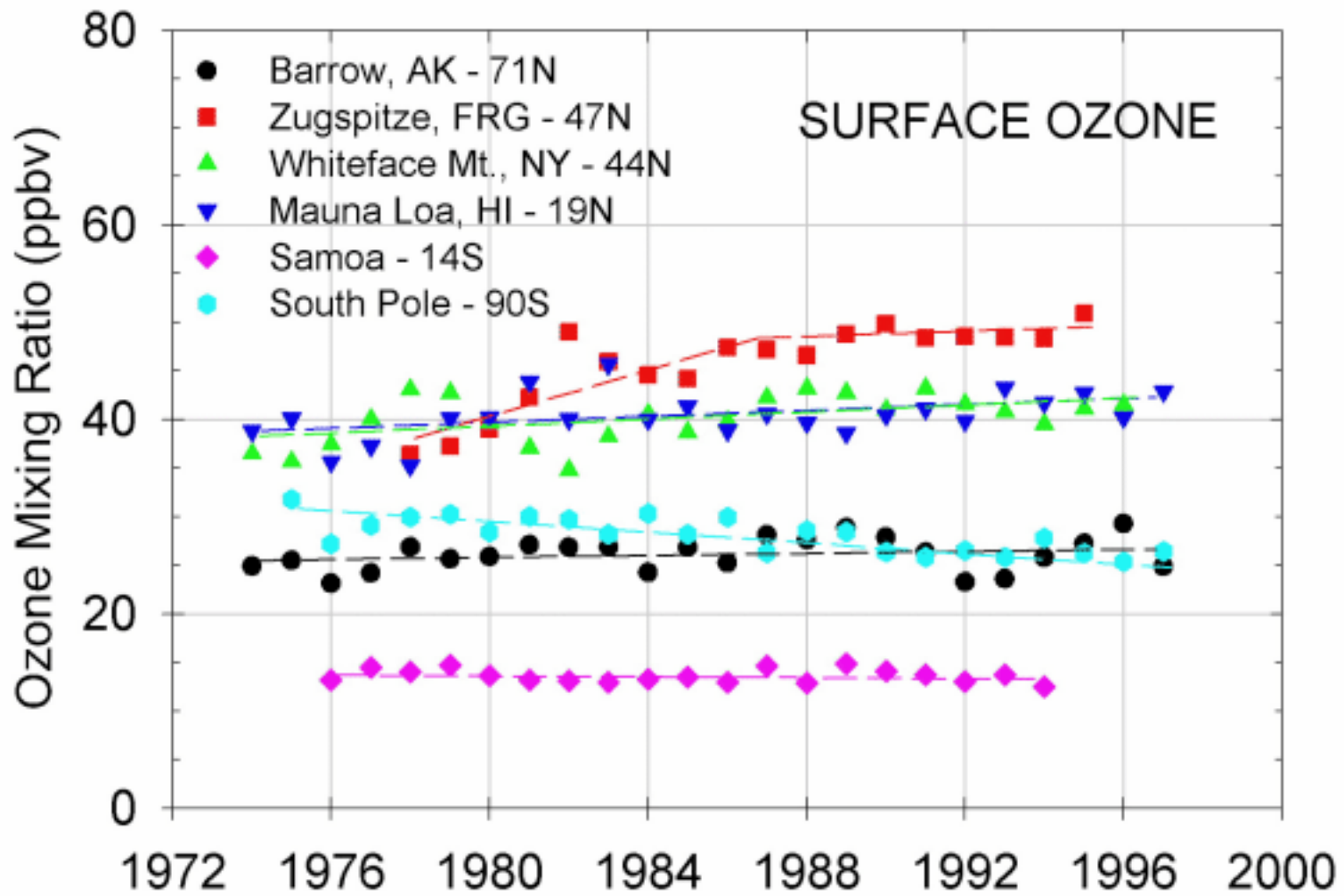
Healthy Tissue

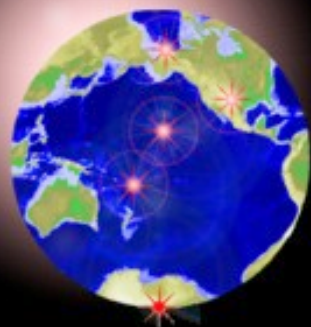


**Healthy Tissue
90-year-old
schoolteacher**



**Progressive
massive fibrosis
40-year-old-miner**





CMDL

Climate Monitoring & Diagnostics Laboratory

Ozone & Water Vapor

U.S. Dept. of Commerce / NOAA / OAR / CMDL / OZWV

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Trends of ozone in the troposphere

S. J. Oltmans, A. S. Lefohn, H. E. Scheel, J. M. Harris, H. Levy II, I. E. Galbally, E.-G. Brunke, C. P. Meyer, J. A. Lathrop, B. J. Johnson, D. S. Shadwick, E. Cuevas, F. J. Schmidlin, D. W. Tarasick, H. Claude, J. B. Kerr, O. Uchino, V. Mohnen

Reprinted from

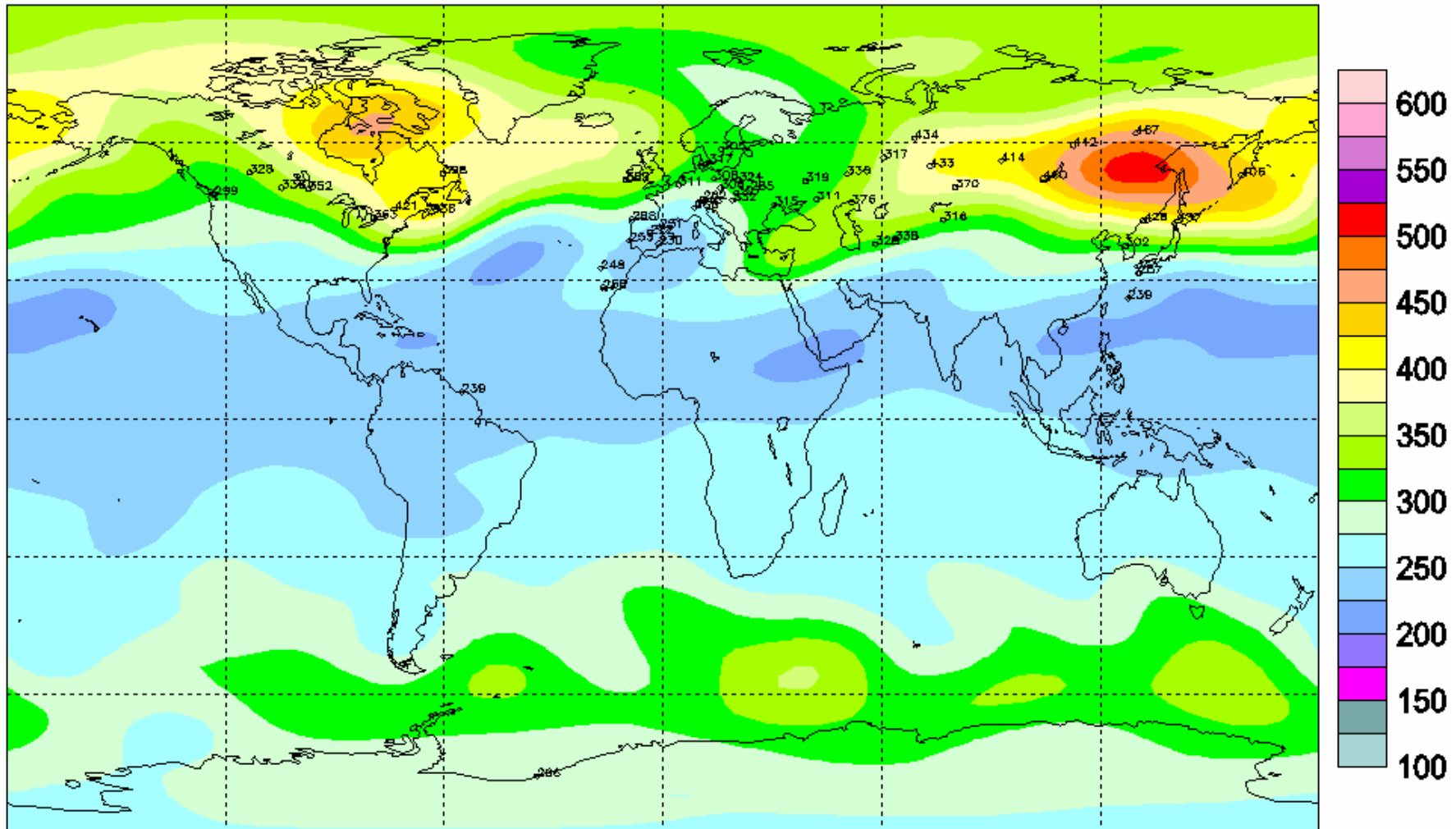
Geophysical
Research
Letters

Volume 25, Number 2, January 15, 1998

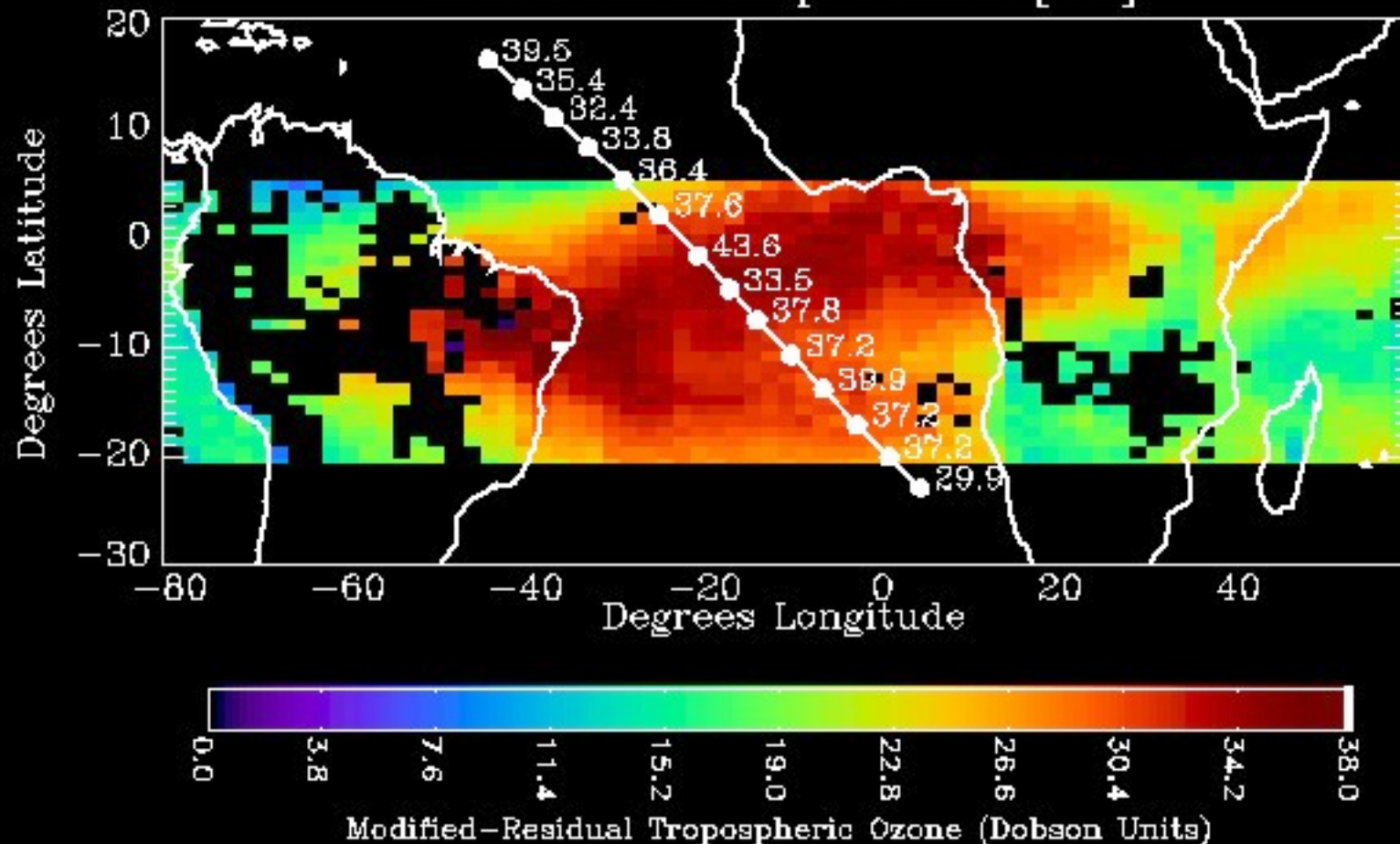


World Ozone and Ultraviolet Radiation Data Centre (WOUDC)

Total ozone (DU) / Ozone total (UD), 2004/01/11



Tropospheric Ozone from TOMS - Jan/99
Aerosols99 Trop. Ozone [DU]





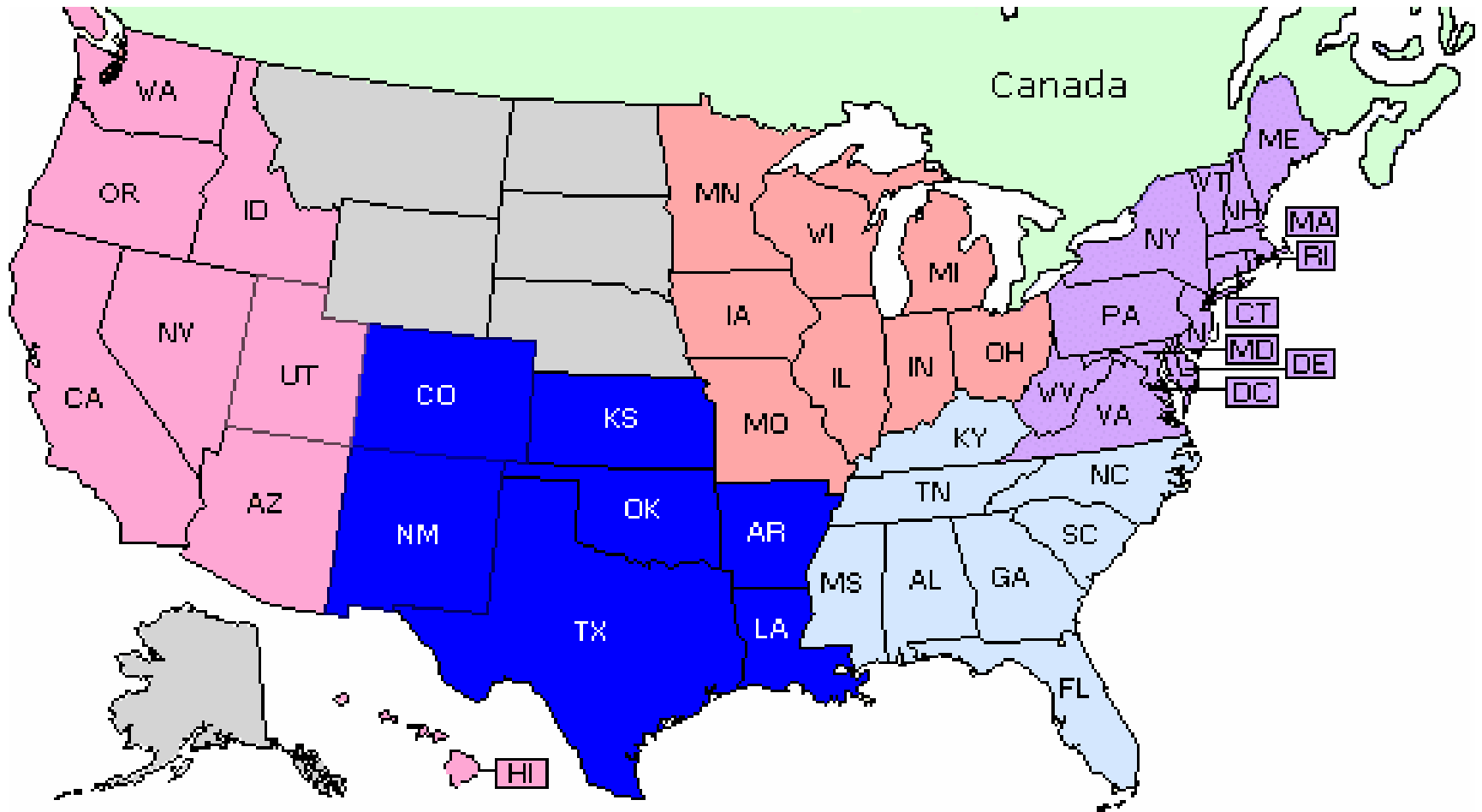
AIRNow

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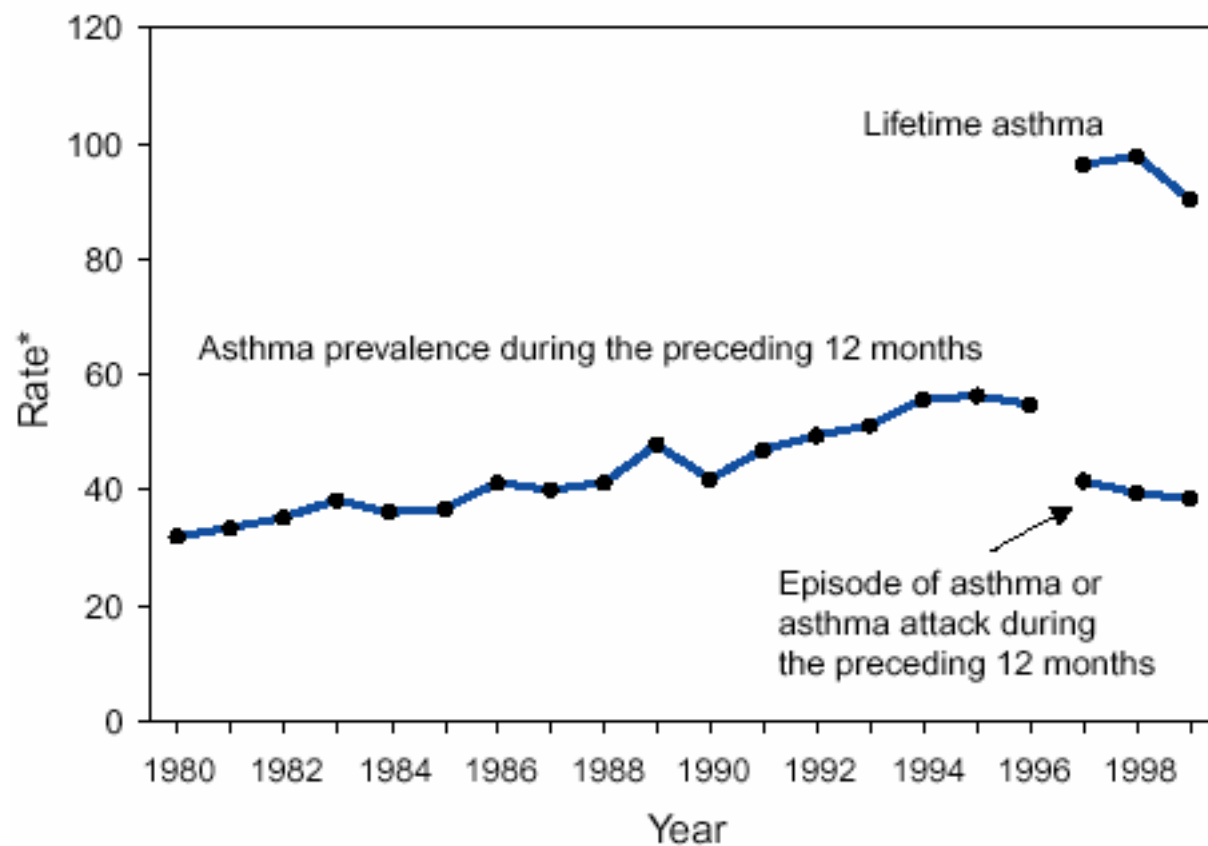
GO

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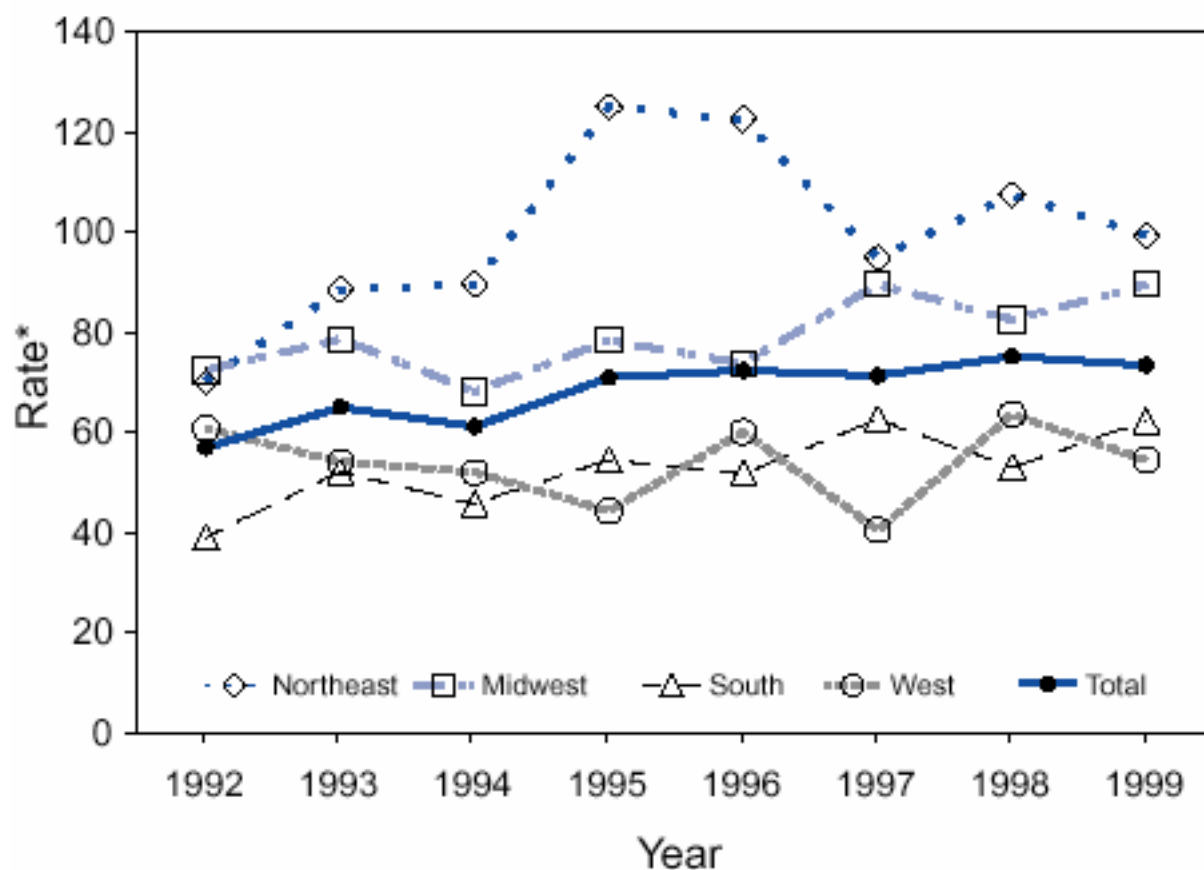
<http://www.epa.gov/airnow/mapselect.html>

FIGURE 2. Estimated annual prevalence* of asthma — United States, National Health Interview Survey, 1980–1999



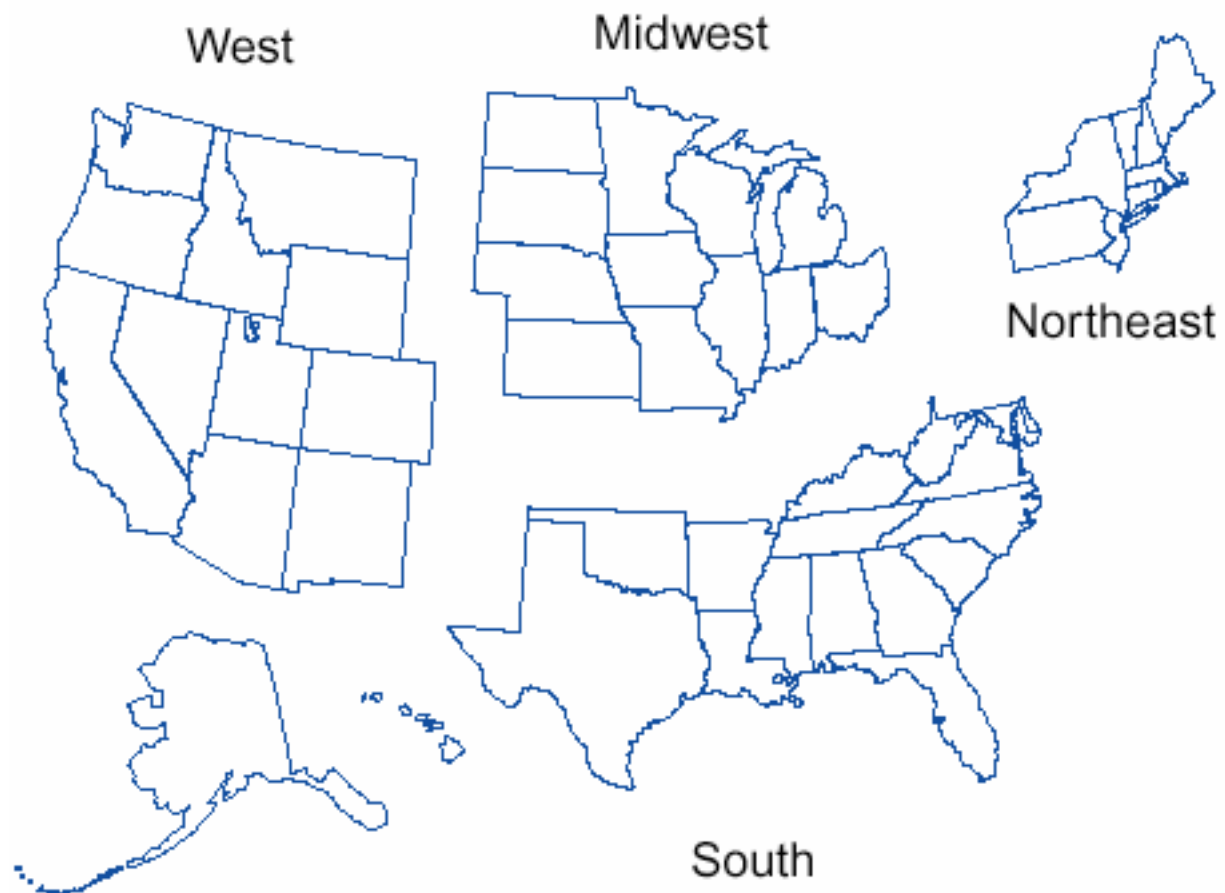
* Per 1,000 population; age-adjusted to the 2000 U.S. population.

FIGURE 4. Estimated annual rate* of emergency department visits for asthma as the first-listed diagnosis, by region and year, National Hospital Ambulatory Medical Care Survey — United States, 1992–1999



* Per 10,000 population; age-adjusted to the 2000 U.S. population.

FIGURE 1. Geographical regions of the United States* as used in this report





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[Health Topics A-Z](#)

MMWRTM

Surveillance Summaries

March 29, 2002 / 51(SS01);1-13

Surveillance for Asthma --- United States, 1980--1999

David M. Mannino, M.D.

David M. Homa, Ph.D.

Lara J. Akinbami, M.D.

Jeanne E. Moorman, M.S.

Charon Gwynn, Ph.D.

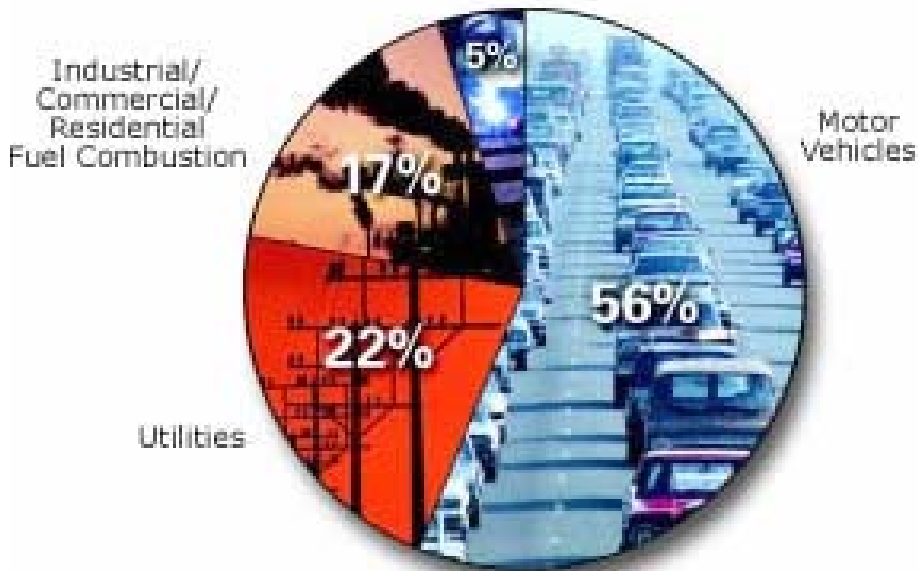
Stephen C. Redd, M.D.

Division of Environmental Hazards and Health Effects

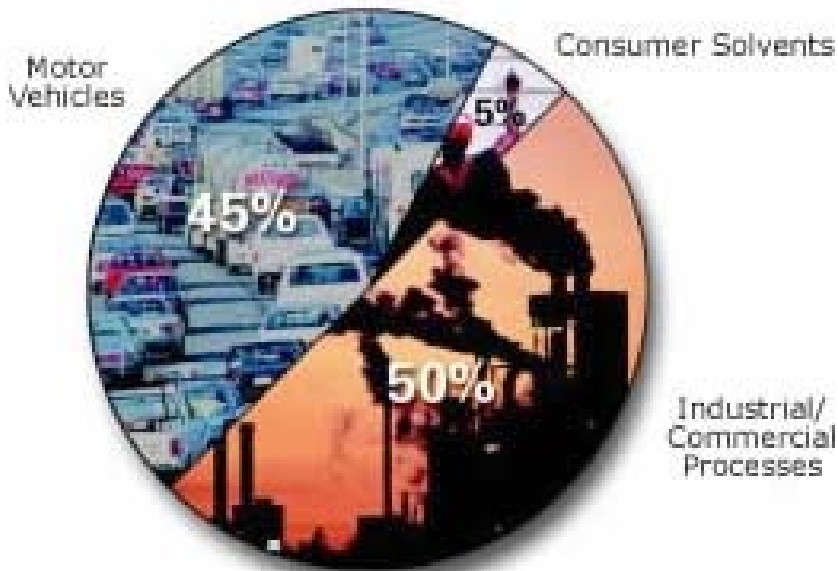
National Center for Environmental Health

Asthma and Air Pollution

All other sources



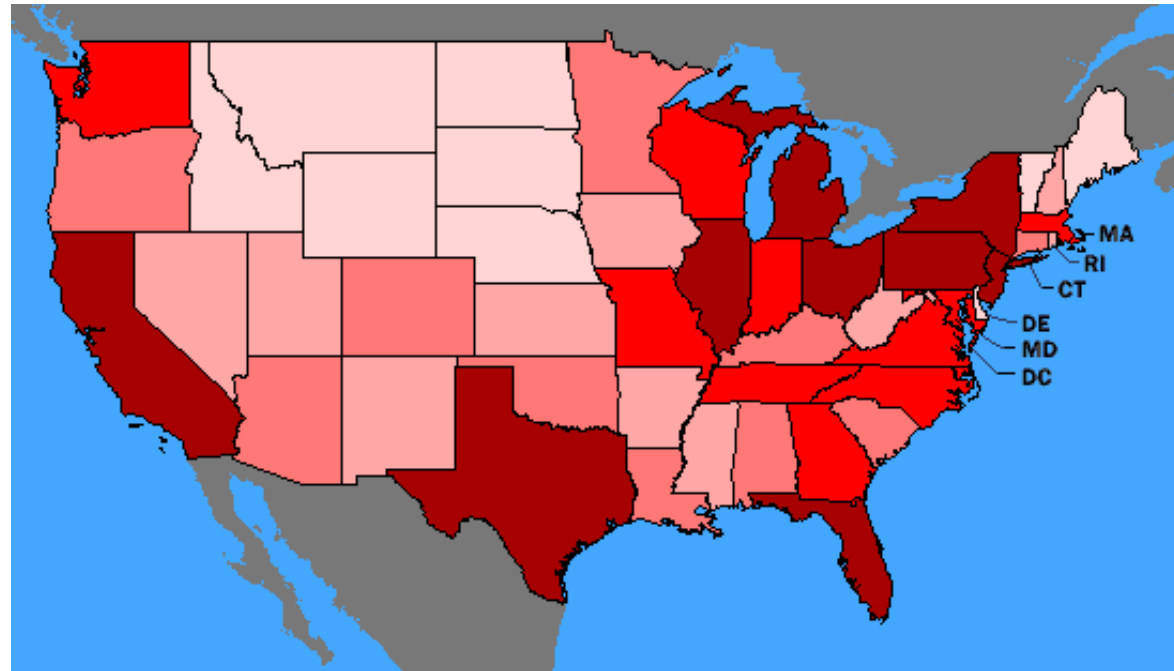
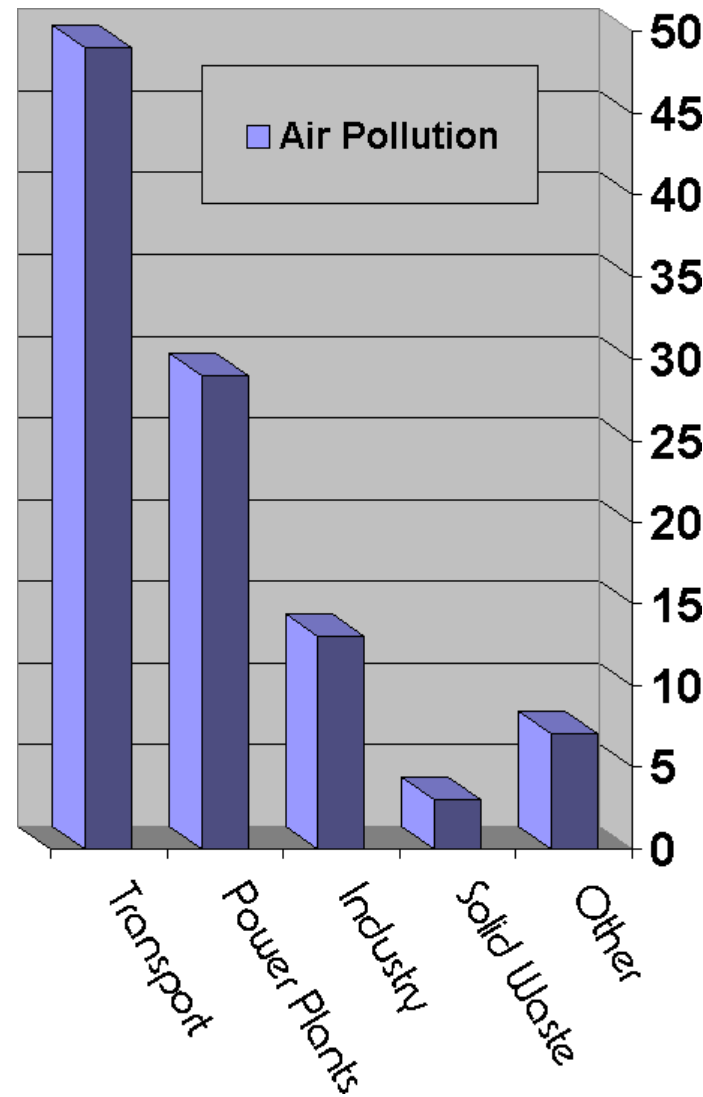
Sources of NOx



Sources of VOC

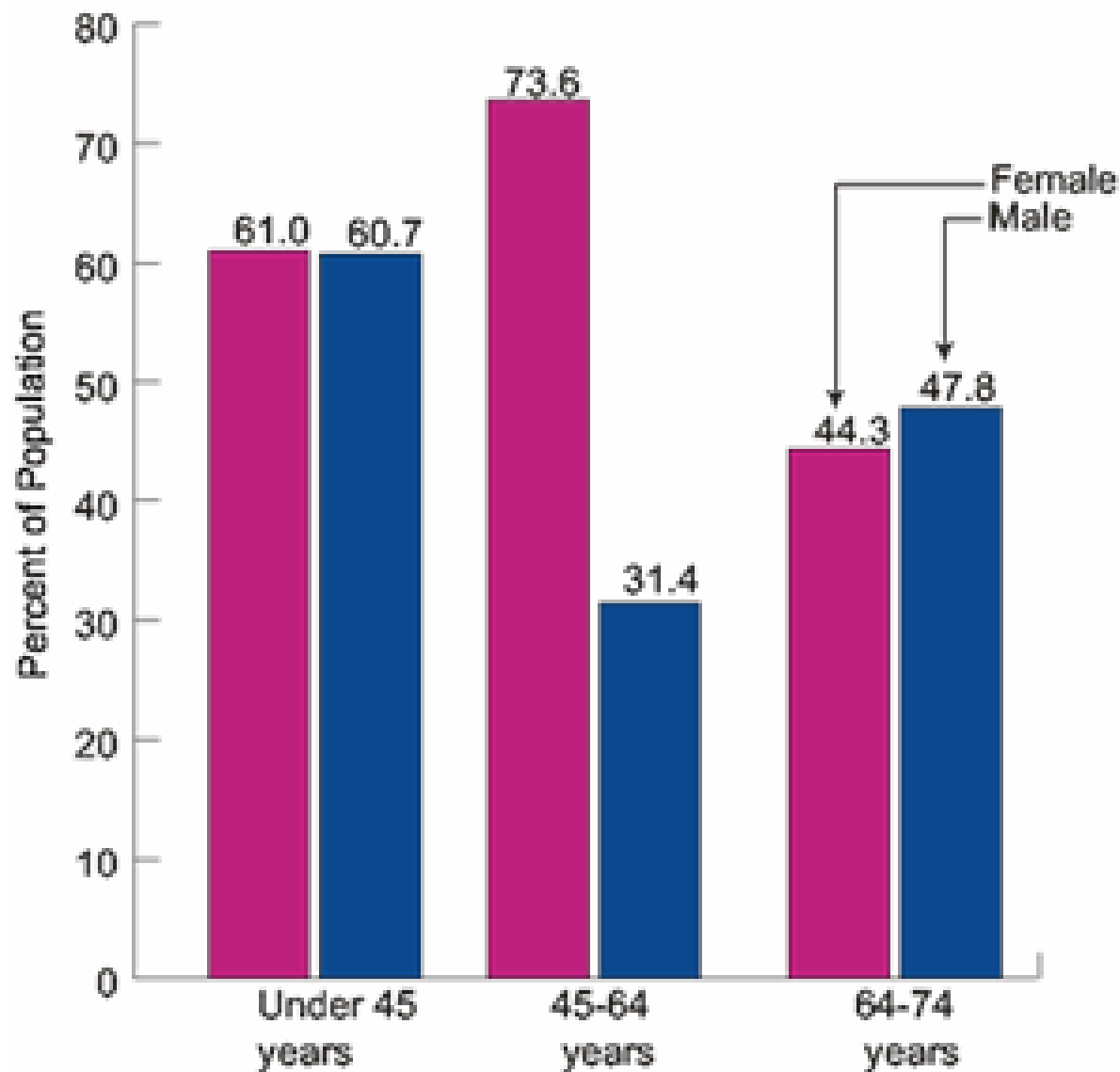


Air Pollution In The USA



Persons Diagnosed with Asthma, by Age and Sex, 1999

Source (II.20): National Health Interview Survey



Asthma In New Jersey

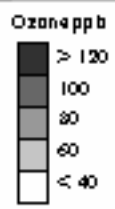
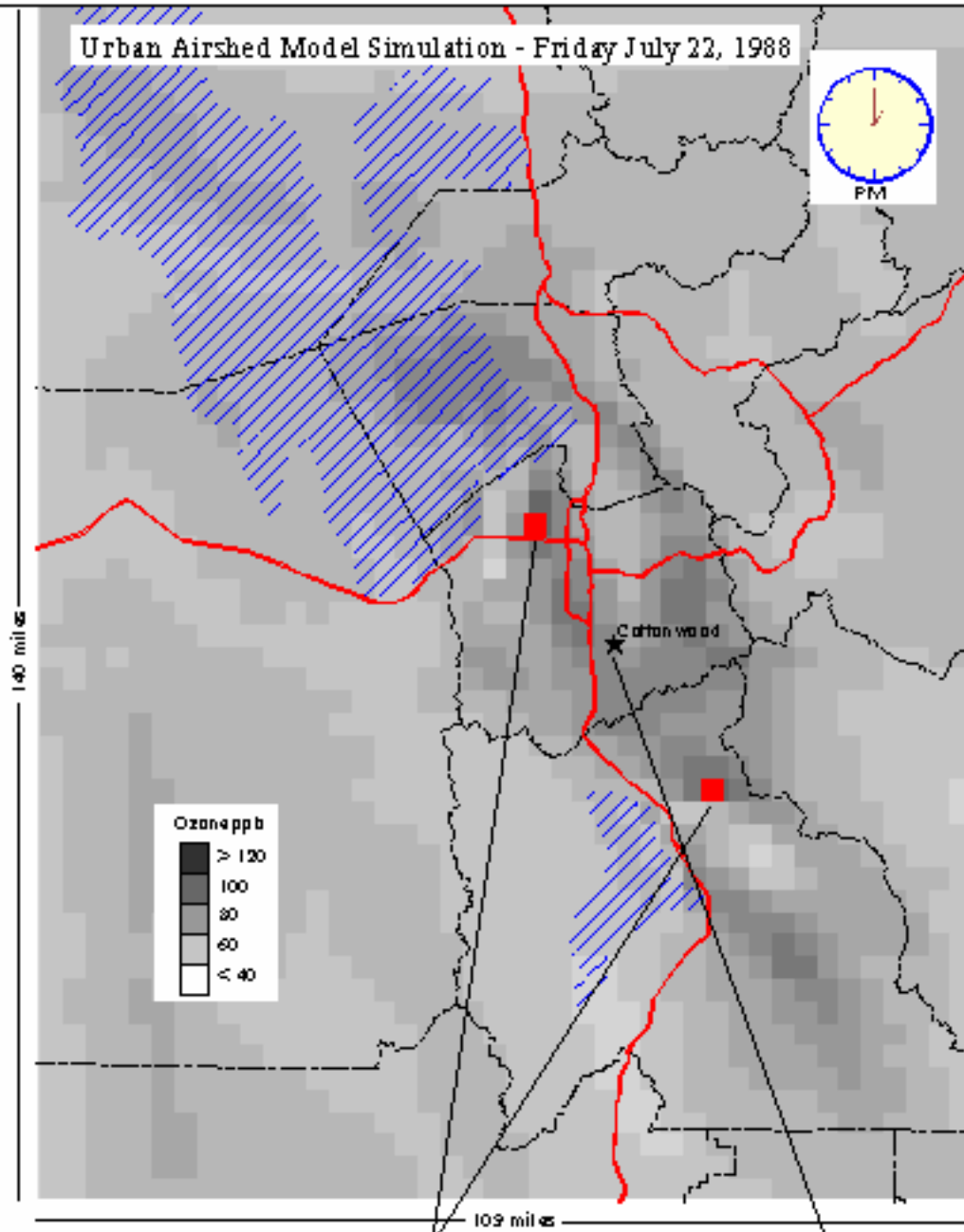
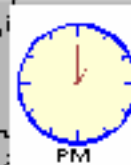
High Ozone Days

At-Risk Groups

2003 Changes

County	Grade	Wgt. Avg.	Orange Days	Red Days	Purple Days	Years in Previous Reports					
						(1998-2000)		(1997-1999)		(1996-1998)	
						Grade	Wgt. Avg.	Grade	Wgt. Avg.	Grade	Wgt. Avg.
<u>ATLANTIC</u>	F	8.7	26	0	0	F	13	F	18.3	F	18.3
<u>BERGEN</u>	*	*	*	*	*	*	*	*	*	D	3
<u>CAMDEN</u>	F	23	48	14	0	F	25.5	F	30.2	F	25.2
<u>CUMBERLAND</u>	F	12.5	30	5	0	F	13.2	F	16.7	F	12.8
<u>ESSEX</u>	*	*	*	*	*	*	*	F	6.2	F	4.8
<u>GLOUCESTER</u>	F	16.3	37	8	0	F	17.8	F	21.8	F	18
<u>HUDSON</u>	F	9.8	20	5	1	F	10	F	12.3	F	7.5
<u>HUNTERDON</u>	F	15.3	37	6	0	F	18.2	F	21.8	F	16.2
<u>MERCER</u>	F	18.7	35	10	3	F	19.2	F	21.3	F	15.5
<u>MIDDLESEX</u>	F	18.5	38	9	2	F	17.5	F	19.7	F	14.2
<u>MONMOUTH</u>	F	9	21	4	0	F	12.5	F	15.2	F	15.2
<u>MORRIS</u>	F	14.3	34	6	0	F	16.8	F	18.8	F	15.2
<u>OCEAN</u>	F	20	40	12	1	F	22.2	F	25.8	F	22.3
<u>PASSAIC</u>	F	8	24	0	0	F	8	*	*	*	*

Urban Airshed Model Simulation - Friday July 22, 1988



County boundaries
Interstate highways

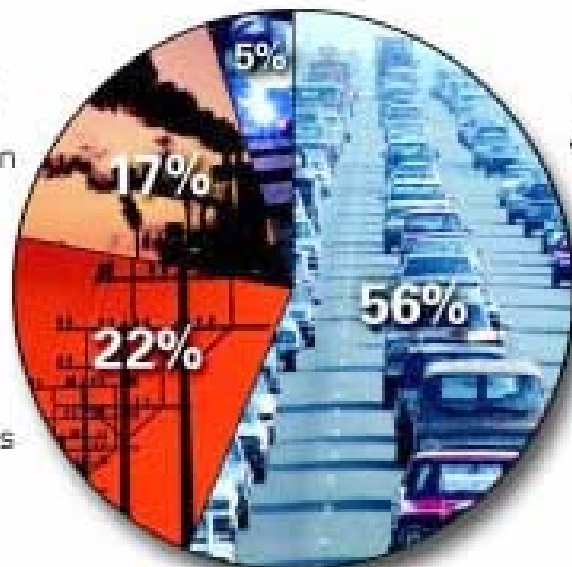
Maximum predicted
100 ppb

Maximum observed
120 ppb

All other sources

Industrial/
Commercial/
Residential
Fuel Combustion

Utilities

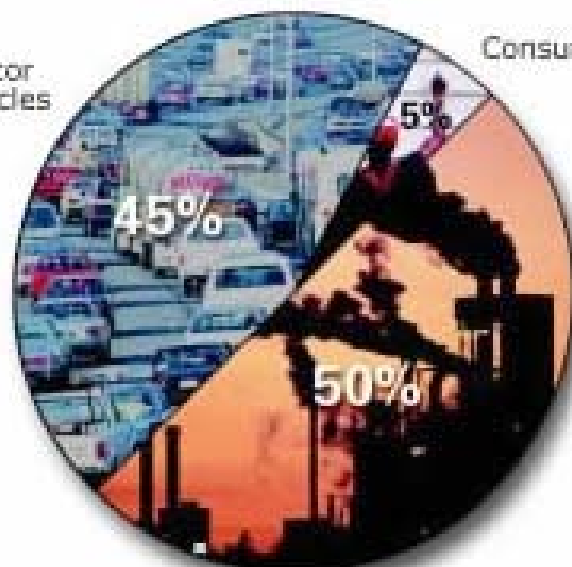


Motor
Vehicles

Sources of NOx

Motor
Vehicles

Consumer Solvents

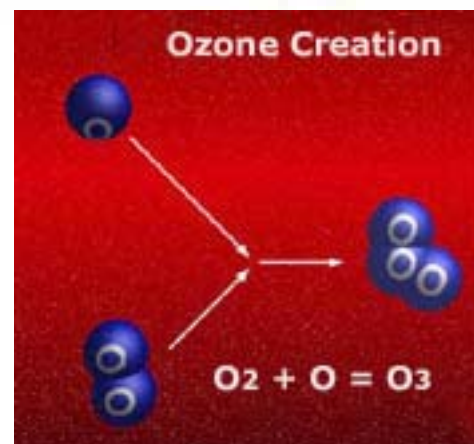


Industrial/
Commercial
Processes

Sources of VOC

How is ground level ozone created?

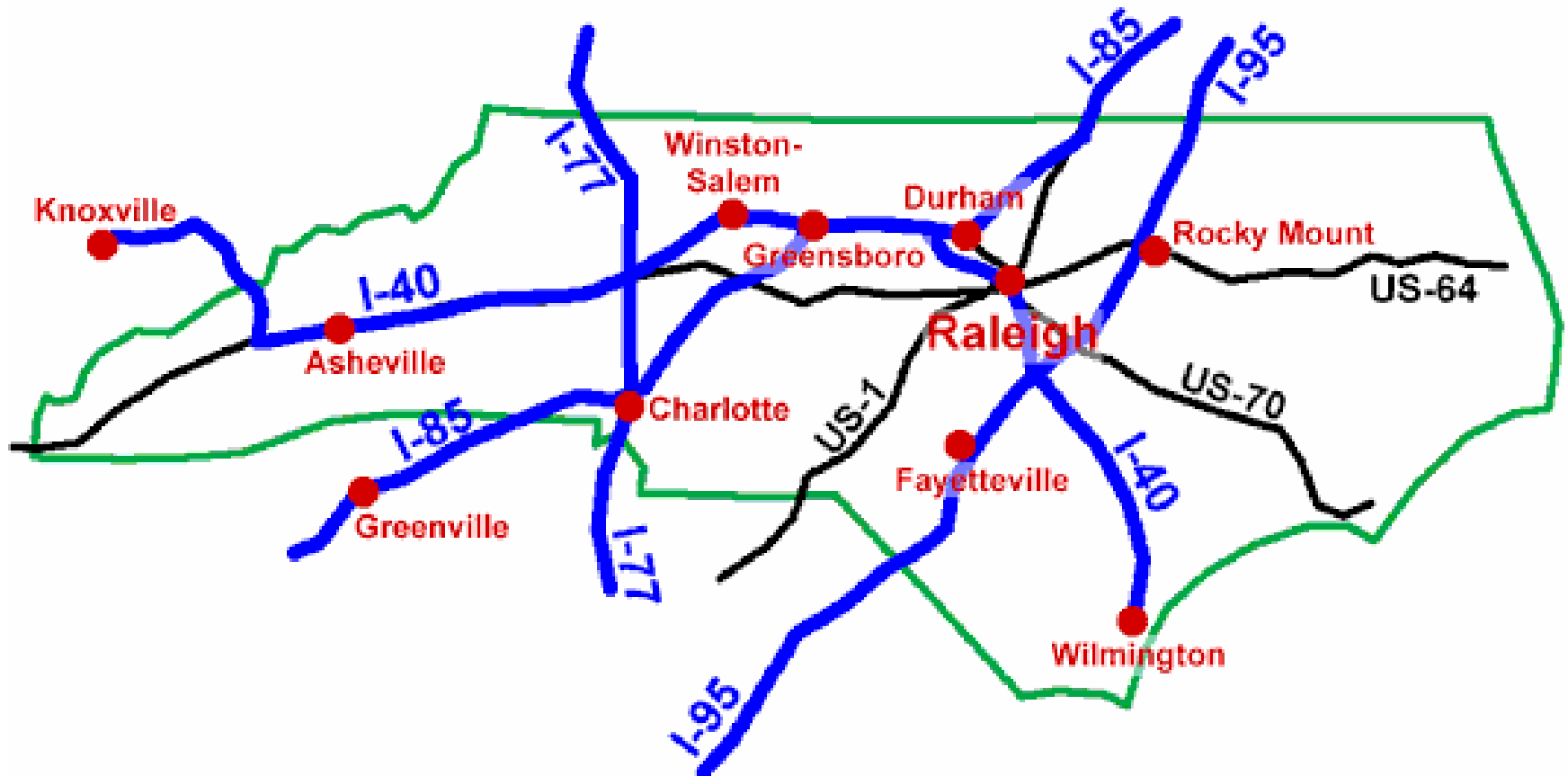
Three things are necessary to create ground level ozone—volatile organic compounds (VOCs), oxides of nitrogen (NO_x) and sunlight. Cars, power plants, industrial boilers, refineries, chemical plants and other sources emit VOC and NO_x . Sunlight "cooks" VOC and NO_x , creating ground level ozone.



Knoxville, TN - A new study* released today by the American Lung Association (ALA) finds that ten cities in the Southeast rank in the top 25 for worst ozone pollution. In addition, ten counties in the Southeast with ozone monitors received a "Failing" grade from ALA for air quality. The report ranks four Tennessee cities, two Georgia cities, and three North Carolina cities in the top 25. Eleven counties in Florida

* 2002 study by ALA

Case Study: North Carolina



**New Study Shows Southeast Cities Worst
in Nation for Air Pollution
*Groups Call for Senators to Support
Power Plant Clean Up***

The Southeast cities ranking in the top 25 worst polluted in the U.S. are as follows:

#6 Atlanta, Georgia

#8 Knoxville, Tennessee

#13 Raleigh-Durham-Chapel Hill, North Carolina

#18 Nashville, Tennessee

#19 Memphis, Tennessee

#21 Birmingham, Alabama

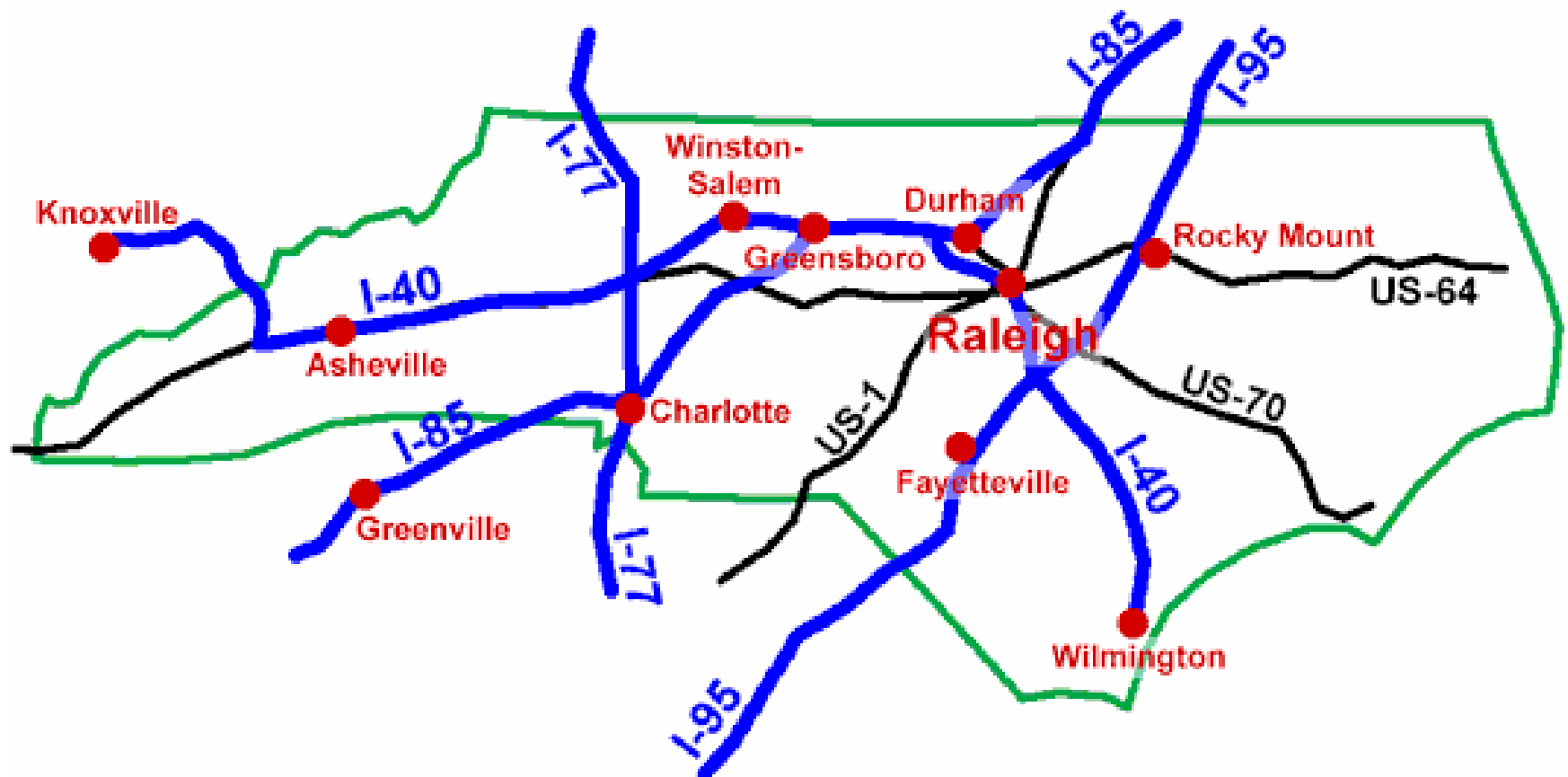
#21 Greensboro-Winston-Salem-High Point, North Carolina

#24 Macon, Georgia

#24 Chattanooga, Tennessee

Ozone and Your Health

When people think of air pollution affecting human health, they probably think of southern California or other highly urbanized areas. But air pollution can be a problem in North Carolina. In 1999, ozone levels reached unhealthy levels at least somewhere in the state on 68 days -- which means North Carolina ranks fifth among the 50 states for unhealthy ozone.



Division of Air Quality



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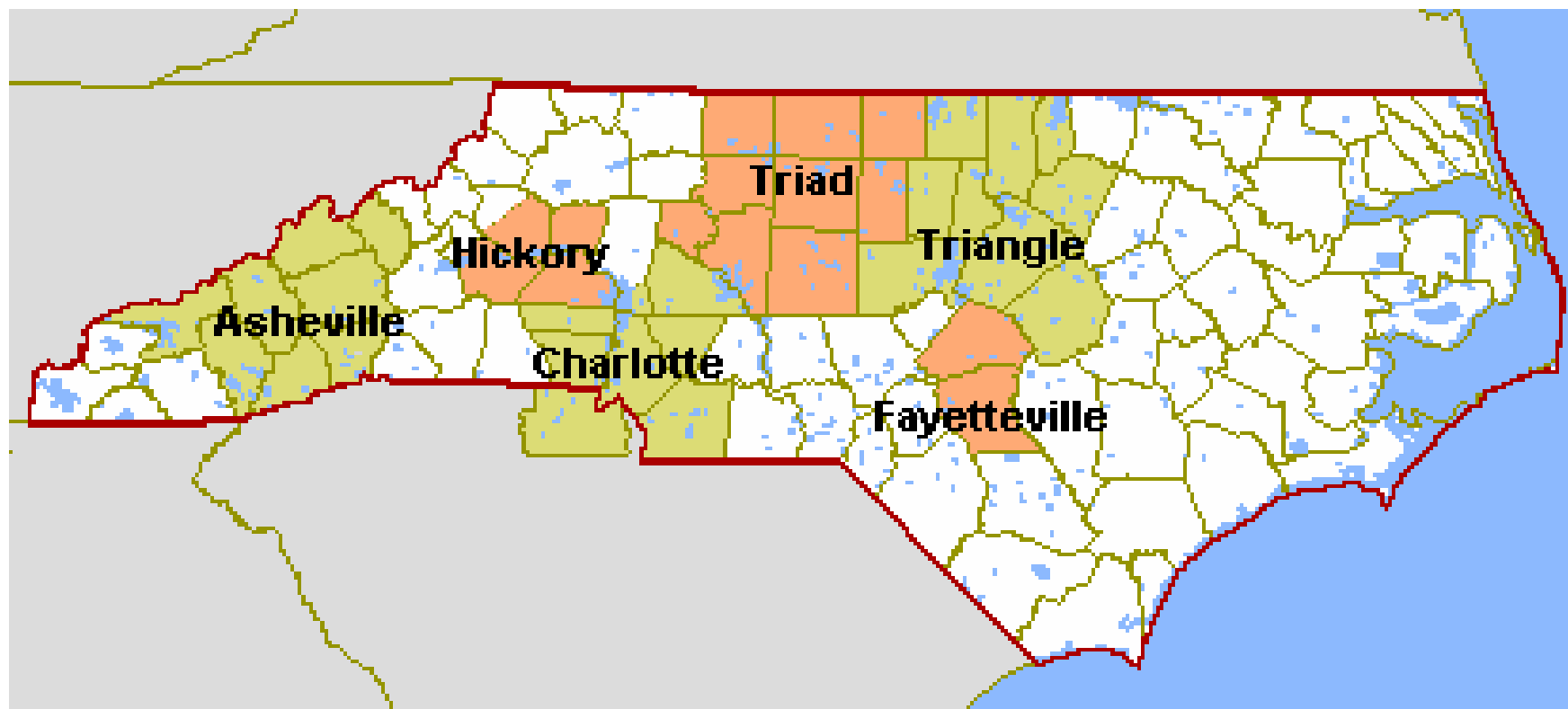
[Events Calendar](#)

[Staff Directory](#)

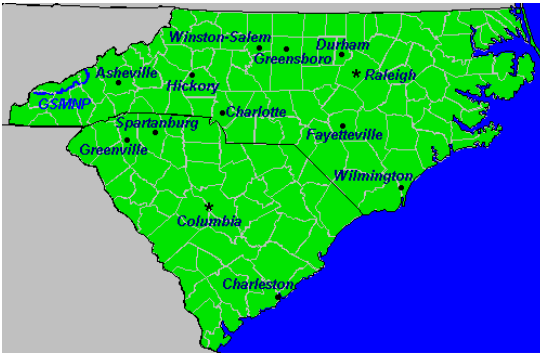
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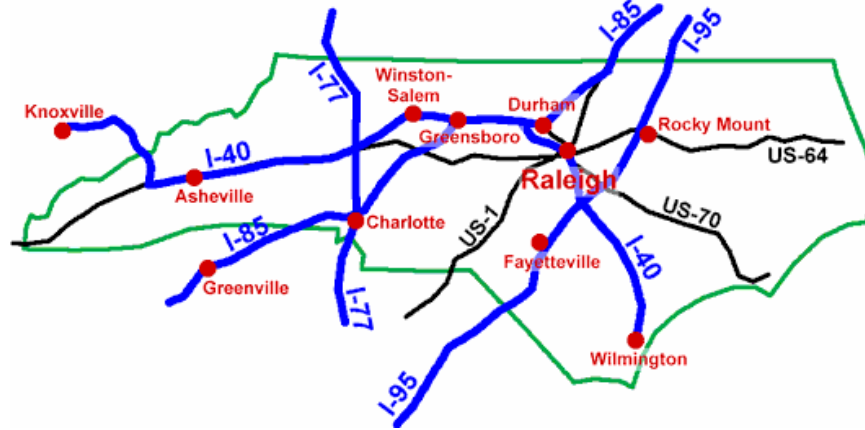
[N.C. Air Awareness Program](#) >> [Ozone Forecast Center](#) >> [Ozone Monitors](#)



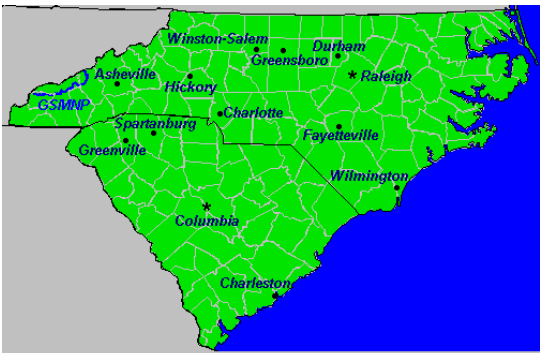
AQI Map Archives - Southeast



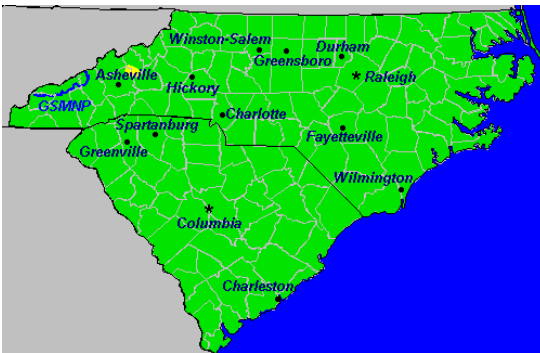
August 17, 2003 8:00 am EDT



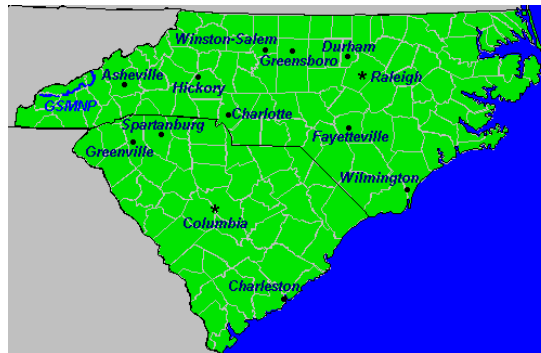
- Ozone Animation**
- Good
 - Moderate
 - Unhealthy for Sensitive Groups
 - Unhealthy
 - Very Unhealthy



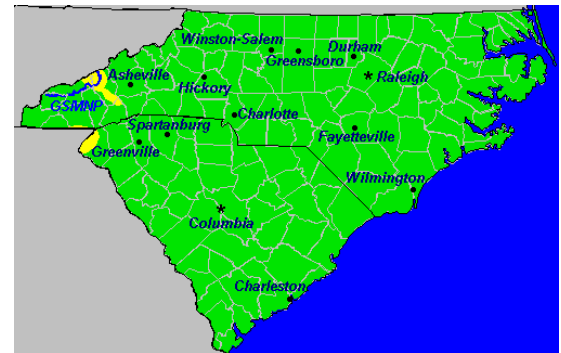
August 18, 2003 8:00 am EDT




August 26, 2003 8:00 am EDT

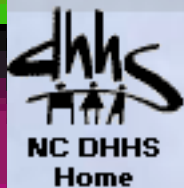


August 27, 2003 8:00 am EDT



August 28, 2003 8:00 am EDT

- 
- The average adult breathes over 3,000 gallons of air a day.
 - Almost 4 million North Carolinians live in counties with air quality not meeting Federal clean air standards.
 - Up to 70% of air pollution in North Carolina's cities is caused by cars and trucks.
The traffic really is getting worse every day. The number of miles we drive in our state is increasing three times as fast as the population.
 - Air Pollution aggravates asthma and may cause asthma in children.(2)
 - One in ten North Carolina 7th and 8th graders has diagnosed asthma. One in four 7th and 8th graders has either diagnosed asthma or asthma symptoms.(3)



North Carolina
Department of Health and Human Services

<http://www.dhhs.state.nc.us/ozone.htm>

**New Study Shows Southeast Cities Worst
in Nation for Air Pollution
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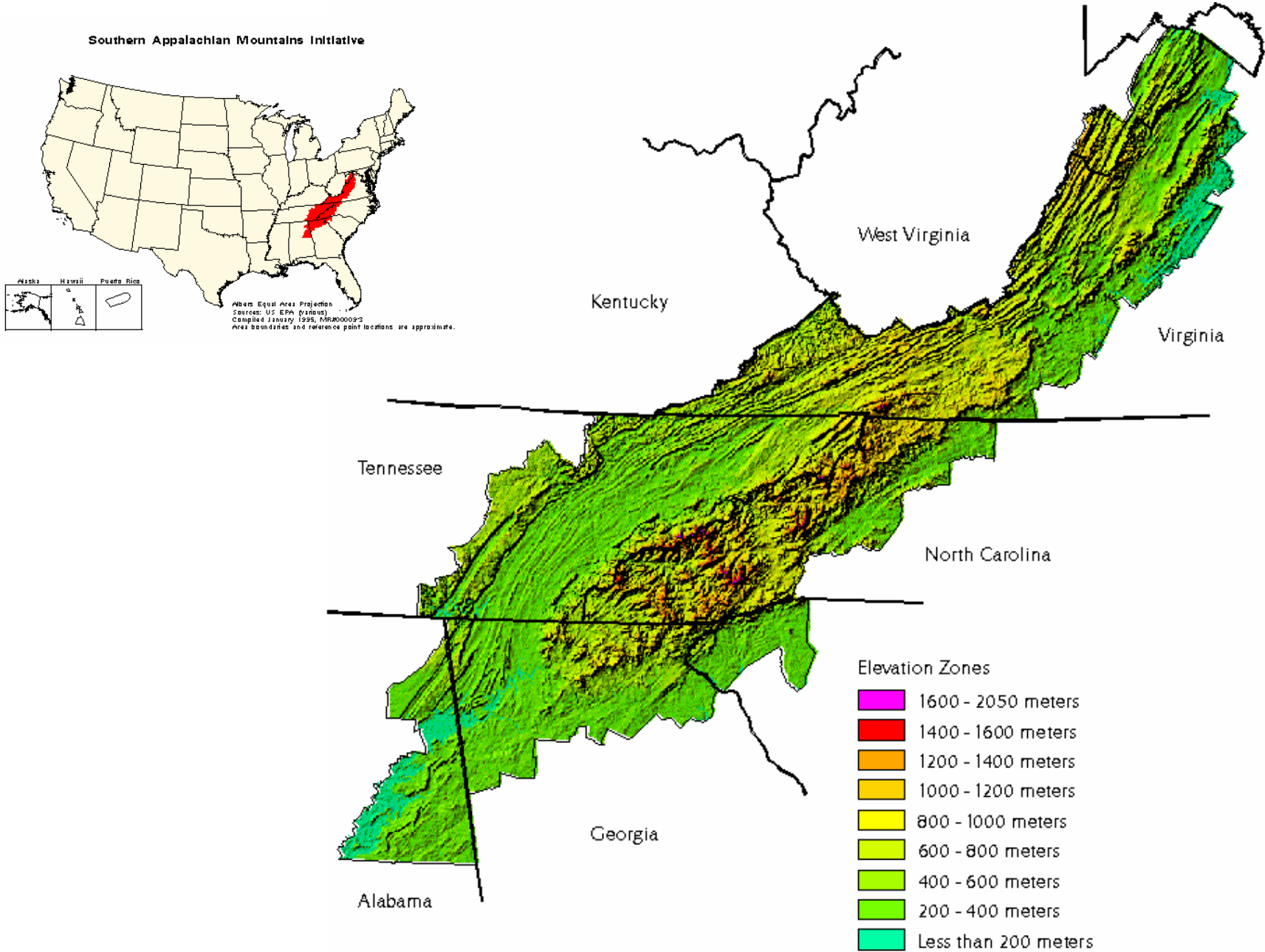
#21 Birmingham, Alabama

#21 Greensboro-Winston-Salem-High Point, North Carolina

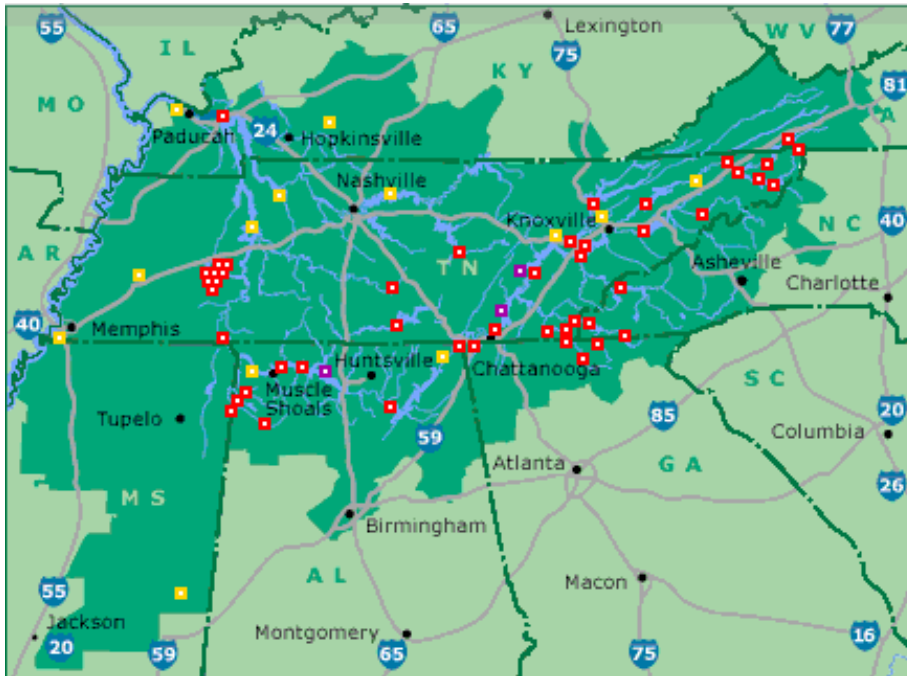
#24 Macon, Georgia

#24 Chattanooga, Tennessee

Southern Appalachian Mountains Initiative



Tennessee Valley Authority



Interactive Map

Reservoirs

Apalachia
 Bear Creek
 Beaver Creek
 Beech
 Blue Ridge
 Boone
 Cedar
 Cedar Creek
 Chatuge
 Cherokee
 Chickamauga
 Clear Creek
 Dogwood
 Douglas
 Fontana *
 Fort Loudoun
 Fort Patrick Henry
 Great Falls
 Guntersville
 Hiwassee
 Kentucky *
 Little Bear Creek
 Lost Creek
 Melton Hill

Nickajack

Nolichucky
 Normandy
 Norris
 Nottely
 Ocoee 1
 Ocoee 2
 Ocoee 3
 Pickwick
 Pin Oak
 Pine
 Raccoon Mtn. *
 Redbud
 South Holston
 Sycamore
 Tellico
 Tims Ford
 Upper Bear Creek
 Watauga
 Watts Bar
 Wheeler
 Wilbur
 Wilson

Fossil Plants

Allen
 Bull Run
 Colbert
 Cumberland
 Gallatin
 John Sevier
 Johnsonville
 Kemper
 Kingston
 Lagoon Creek
 Paradise
 Shawnee
 Widows Creek

Nuclear Plants

Browns Ferry
 Sequoyah
 Watts Bar

Small TVA dams at John Sevier and Doakes Creek do not appear on this map.

* Visitor Centers at these sites are open except during high security alerts.

American Geophysical Union



5 January 2004
AGU Release No. 04-01
For Immediate Release

Contact: Harvey Leifert
+1 (202) 777-7507
hleifert@agu.org

Ozone Standards Pose Health Risks, Scientists Report

WASHINGTON - The air Americans breathe contains more ozone from pollution than the Environmental Protection Agency estimates, Harvard scientists report. Ozone can cause pain, breathing difficulties, and coughing. It can damage the lungs, EPA warns on its Web site, and it can also make one susceptible to respiratory infections. Those active outdoors are particularly at risk for exposure, the agency says.