



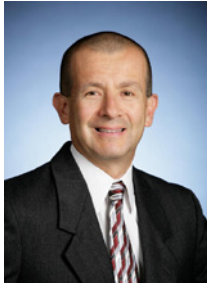
Destination: *Clean Air*



Ventura County
Air Pollution
Control District

The mission of the Ventura
County Air Pollution Control
District is to protect public
health and agriculture from
the adverse effects of air
pollution by identifying
air pollution problems and
developing a comprehensive
program to achieve and
maintain federal and state air
quality standards.

To the community



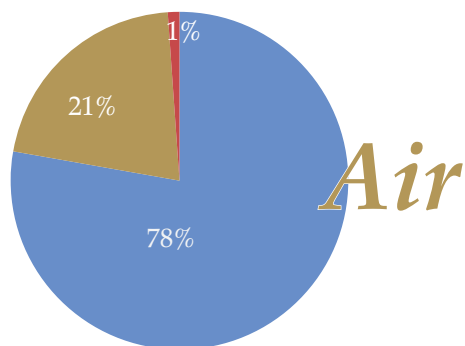
2010 was the cleanest air quality year on record here. This shows the remarkable progress we have made improving air quality. In 1990, the county experienced 117 days over the federal 8-hour ozone standard. In 2000, we had 57 days over the standard, and in 2010, only 11 days. But the future brings new challenges. The United States Environmental Protection Agency (EPA) is planning to consider a more stringent ozone health-based standard in the next few years. In addition, air districts are becoming involved with greenhouse gas emissions. These things, coupled with a growing population and fast-paced technology, impact the environment, and our air.



Overlooking the Promenade, Thousand Oaks

The District will continue to be a leader in creating effective programs to protect air quality. Our Ventura County Air Pollution Control Board, APCD staff, and our local residents and businesses, are all part of the clean air solution in the decades to come. I hope *Destination: Clean Air* will inform and enlighten you about Ventura County's air quality. If you have any questions or concerns, be sure to contact us by phone or online. We're here for you.

Mike Villegas
Ventura County Air Pollution Control Officer



■ Nitrogen ■ Oxygen ■ Other*

* argon, water vapor, carbon dioxide, ozone, particulate matter, many other gases, pollutants, toxics, and other substances

The big three

"I don't trust air I can't see."

-Captain Frank Ramsey
(Crimson Tide, Buena Vista Pictures, 1995)

But Captain, trust us. What you can't see can harm you. Ozone is an odorless, colorless gas. It can be good or bad, depending on where it is found. **Good ozone** occurs naturally in the upper atmosphere – 10 to 30 miles above the Earth's surface – where it is a protective layer shielding us from the sun's harmful ultraviolet rays.

Bad ozone is formed at ground level, where pollutants emitted by motor vehicles, power plants and industrial boilers, refineries, chemical plants, and other sources, react chemically in the presence of sunlight. The basic formula for ozone is:

Nitrogen oxides (NOx) + reactive organic gases (ROG) + heat + sunlight = ozone

Currently, Ventura County is classified as a "serious" nonattainment area for the federal 8-hour ozone standard.

Where Does Our Ozone Come from?

On-Road Vehicles (cars, trucks, buses, motorcycles, motor homes)

Other Mobile Sources (farm & construction equipment, ships, trains, airplanes, recreational vehicles, pleasure craft, etc.)

Stationary (factories, power plants, gasoline dispensing, oil & gas field operations, platforms, auto body refinishing, dry cleaning, & other industrial processes)

Area-wide (consumer products, coatings, solvents, etc.)

Source: 2008 Inventory, California Air Resources Board

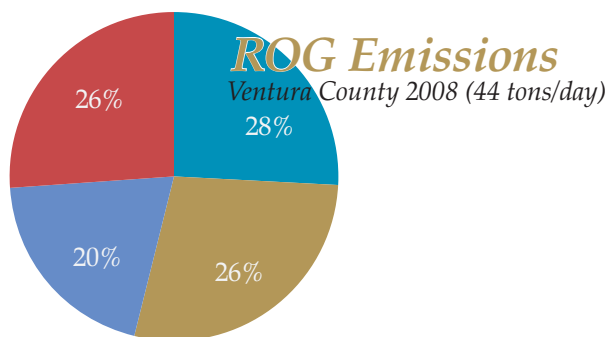
Health effects: breathing problems, lung tissue damage, cancer, and increased mortality.

Up in the air

Air is essential to life. At the Ventura County Air Pollution Control District, ensuring that all residents breathe healthful air is priority one. Ventura County is classified by the United States Environmental Protection agency as a "serious" area for air pollution.

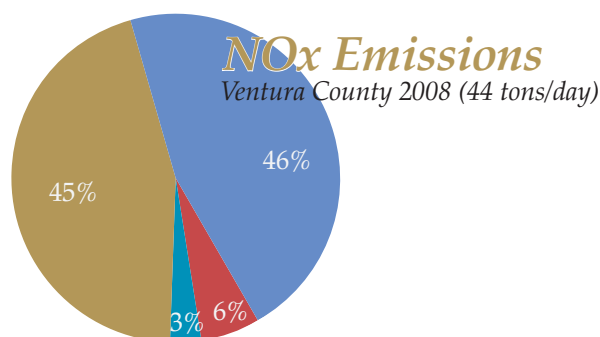
We each
breathe
about 19,000
times a day.

We've heard about smog since the 1950s. But the word smog was first used in 1905 in England by Dr. H.A. Des Voeux to refer to smoky air mixed with fog. Now we call any bad air smog. But long before there was the word smog, there was the wondrous blue sky. In Ventura County, the Chumash People believed that the world of air, the "Upper World," was the supernatural place where beings like the Sun, Moon, Morning Star, and other "First People" lived. The Chumash believed the Sky was the father of mankind. And it's true: without air, there is no life.



■ Area-wide sources ■ On-road vehicles
■ Stationary sources ■ Other mobile sources

Excludes outer continental shelf and natural sources



■ On-road vehicles ■ Other mobile sources
■ Area-wide sources ■ Stationary sources

Excludes outer continental shelf and natural sources

We've come a long way



Dawn in Ojai

The current standard is 75 parts per billion. "A new ozone standard will be based on the best science and meet the obligation established under the Clean Air Act to protect the health of the American people."

United States Environmental Protection Agency, August 2011

Air Quality Index

- Good AQI is 0 - 50. Air quality is satisfactory, and air pollution poses little or no risk.
- Moderate AQI is 51 - 100. Air quality is acceptable; yet, for some pollutants there may be a moderate health concern for a very small number of people. For example, people who are unusually sensitive to ozone may experience respiratory symptoms.
- Unhealthy for Sensitive Groups AQI is 101 - 150. Although the general public is not likely to be affected at this AQI range, people with lung disease, older adults and children are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, older adults and children are at greater risk from the presence of particulate matter.
- Unhealthy AQI is 151 - 200. Everyone may begin to experience some adverse

Air Quality Index (AQI Values) <i>When the AQI is in this range</i>	Levels of Health Concern <i>...air quality conditions are</i>	Colors <i>...as symbolized by this color</i>
0-50	Good	Green
51-100	Moderate	Yellow
101-150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

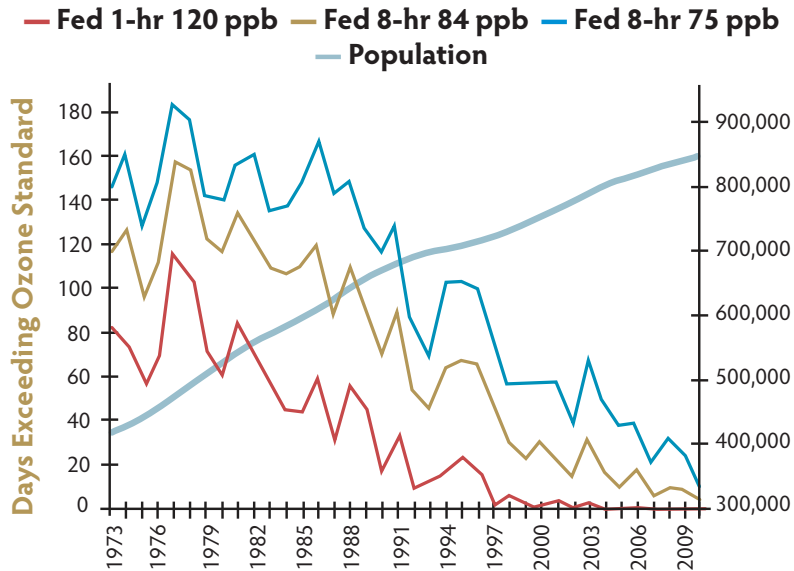
health effects, and members of the sensitive groups may experience more serious effects.

- Very Unhealthy AQI is 201 - 300. This would trigger a health alert signifying that everyone may experience more serious health effects.

- Hazardous AQI greater than 300. This would trigger health warnings of emergency conditions. The entire population is more likely to be affected.

(Source: U.S. Environmental Protection Agency)

Days Over Federal Ozone Standards – Ventura County 1973-2010



Particulate matter (PM) consists of tiny bits of solid or liquid matter suspended in the air. Sources of PM can be man-made or natural. Natural sources include volcanoes, dust storms, wildfires, and sea spray. Human-related sources include burning fossil fuels in vehicles, power plants, and various industrial processes. **PM is defined as coarse (PM10) particles** with diameters less than or equal to 10 microns. Fine particles (PM2.5) are less than or equal to 2.5 microns.

Health effects include heart disease, lung damage, cancer, and increased mortality.

And Global Climate Change?

Heat trapping greenhouse gases (GHGs) are reducing the amount of radiated heat escaping into outer space, thus altering the Earth's climate. They differ from conventional air pollutants like ozone and particulate matter in several ways. The major GHGs have much longer atmospheric lives, while conventional air pollutants typically remain airborne for only days or weeks. And because they have longer lives, they become well-mixed in the atmosphere and their concentration tends to be evenly distributed around the world. The major greenhouse gases are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Fuel combustion is a large source of many of these gases.

APCD has offered a presentation on climate change to local groups since 2007. *Global Climate Change – what it is and what you can do*, discusses the symptoms and science of climate change; actions taken at the local, state and federal levels; technologies associated with greenhouse gas emissions and energy efficiency; and actions

everyone can do to lessen the impact of climate change. Over 1,200 people have seen the presentation. For more information on greenhouse gases and climate change, request a copy of *The Ventura County Climate Change Almanac*, or download it at vcapcd.org. The Ventura County Board of Supervisors created the Climate Action Awards program to recognize individuals, organizations, businesses, schools, and others who are taking actions to reduce their carbon footprints. Call 805/654-2703 for more information.



Wood Ranch, Simi Valley

What is an air district anyway?



California State University, Channel Islands, Camarillo

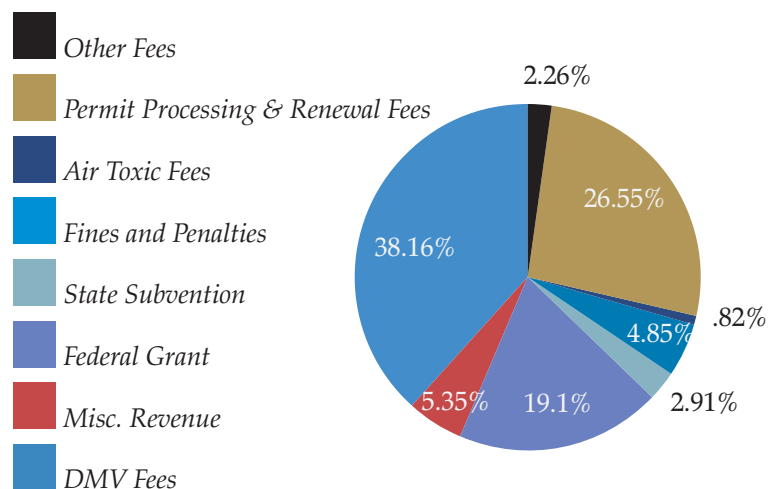
There are over 250 air agencies nationwide; thirty-five of them are in California. A 2011 report from the California Air Pollution Control Officers Association states, "California's clean air strategies continue to serve as a model for the rest of the nation and throughout the world."

The Ventura County Air Pollution Control District covers an area of 1,800 square miles, consisting of valleys, mountains and seashore, giving it six different micro-climates, more than any other county in the nation. It's home to over 800,000 residents. And here, the APCD works to ensure healthful air for all residents.

The District was formed on July 1, 1968 in response to the first air pollution study identifying a severe air pollution problem here. It is responsible for controlling emissions from stationary sources of air pollution. These sources include anything from large power plants to the corner gasoline station. APCD is also responsible for consumer products not regulated by the State Air Resources Board including house paint, furniture varnish, and thousands of products containing solvents that evaporate into the air. Emission standards for mobile sources are established by the State Air Resources Board and the U.S. EPA.

District Revenue Sources

Based on FY 2011-12 Adopted Budget



The APCD has a staff of approximately 50 employees.

Duties include:

- Administration
- Air Monitoring
- Engineering
- Information Systems
- Inspections
- Meteorology
- Planning
- Public Information
- Transportation

Who Does What

The Air Pollution Control Board

Ten-member board consisting of the County Board of Supervisors and five elected officials from County cities. It establishes policy, approves new rules, and appoints the Air Pollution Control Officer, the Hearing Board, the Advisory Committee, and the Clean Air Fund Advisory Committee.

The Air Pollution Control Officer

APCD executive officer, charged with the authority to direct staff, make policy recommendations to the Board, and implement Board decisions. The APCO is responsible for managing all District operations.

The Hearing Board

Independent, quasi-judicial body established by state law consisting of five APCD Board appointees. Authorized to grant or deny a petition for variance; uphold or overturn APCD decisions regarding permit denials and operating conditions on permits; settle certain disputes such as emission banking; and issue abatement orders or revoke permits to operate.

The Advisory Committee

Twenty-member body appointed by the Air Pollution Control Board. It meets as needed to review proposed new or revised rules, and submits recommendations to the Air Pollution Control Board.

The District works with business and industry to reduce emissions from new and existing sources. Major District programs include:

- Air quality forecasting
- Air Quality Management Plan development and implementation
- Air quality monitoring at five County locations
- Air toxics and risk assessment
- Asbestos removal regulation
- Compliance inspections and source test reviews
- Emissions inventory quantification and forecasting
- Grant programs such as the Carl Moyer Program
- Permit processing and renewal
- Public information and air quality education
- Rule development
- Transportation outreach programs

Monitoring the Air

The Monitoring and Technical Services Division operates an air monitoring network at five County locations: El Rio, Ojai, Piru, Simi Valley, and Thousand Oaks. The division determines the County's attainment status for the National and California ozone and particulate matter standards:

- Tracks air quality trends
- Provides public information about air quality
- Reports the Air Quality Index and ozone episode forecasting for air quality monitoring data



Heritage Square, Oxnard

Planning for Clean Air

The most recent Air Quality Management Plan was approved in 2008. The plan presents a strategy for attaining the federal 8-hour ozone standard of 0.08 parts per million. It contains control measures to reduce emissions and bring the County into attainment of the standard. The County is designated as an ozone nonattainment area for both the state and federal standards. New plans are updated and written as required by federal law.



Santa Paula pumpkin patch

A Burning Issue

According to the California Department of Food & Agriculture, Ventura County is the 8th highest-grossing agricultural area in California. Burning is the most economical way to dispose of agricultural waste, yet the smoke produced can pollute the air. To assist farmers in disposing of waste and to protect the public from the health risks of smoke, the APCD works cooperatively with the Ventura County Fire Department to declare burn days and issue agricultural burning permits. Under state law, air districts must regulate agricultural burning but may not prohibit it. In 2010 there were 148 burn permits issued, and 7,487 tons burned on 46 burn days. The burn day status is updated at 8 a.m. and 4 p.m. daily on our website and by telephone at 805/654-2807.

Compliance Update

The Compliance Division makes sure that all regulated air pollution-emitting sources comply with APCD rules and regulations and applicable provisions of California and U.S. EPA air pollution regulations.

The District's permit system requires review of equipment design and inspection to ensure compliance with District regulations. There are about 1,400 permitted sources of air pollution in Ventura County.

2010 Activities

Asbestos inspections	62
Breakdowns received & investigated	98
Cases settled after office conference	161
Complaints received & investigated	235
New business inspections	43
Notices of Violation issued	182
Permit/other inspections	2,774
Settlement/fines	\$204,015

The District's Transportation Outreach Program, which is part of the Compliance Division, assists large employers complying with Rule 211. Motor vehicles are responsible for over half of Ventura County's air pollution and greenhouse gas emissions. The home to work commute trip is the most frequent trip, repeated every day by most people. Therefore, reducing trips to work by using alternatives like carpooling, cycling or taking the bus helps lessen traffic congestion and reduce air pollution long term. Rule 211 requires employers to survey employees for one week to see how they are travelling to work. Then, employers voluntarily ask employees to drive less through education and recognition programs with support from APCD.

Out and About

Elly May: *I hear they got smog here.*

Granny: *What's a smog?*

Jethro: *I reckon it's a small hog.*

(Beverly Hillbillies, Twentieth Century Fox, 1993)



Four-year old Ethan Page spins the Clean Air Wheel with APCD's Judy Willens at the Wings over Camarillo Air Show

The Public Information Division has been educating residents about air quality since 1989. (Apparently Jethro wasn't listening.) Outreach events, school programs, and public awareness campaigns are just a few of the ways the division reaches its audience. During the past five years, the division has reached almost 200,000 people at events. In addition, it has distributed over 300,000 pieces of public information materials. Earth Day is an opportune time to reach residents with an environmental message. In addition to Earth Day events, the division has also had displays at the Ventura County Home & Garden Show, the Camarillo Air Show, Simi Valley's Living Green Expo, and other events throughout the year. APCD staff also does presentations at local service clubs, church groups, and at schools.

The award-winning District film, Air – The Search for One Clean Breath, has been shown to over 250,000 Ventura County residents at special presentations and on cable television. It has been featured nationally at screenings all over the country. Every air district in the United States received a copy of the DVD and, as a consequence, hundreds of thousands of people have viewed it. There is also an Educator's Guide to the film available online at www.airthefilm.org. The DVD was distributed to instructors all over Ventura County for Earth Day 2010. The film, along with the Educator's Guide, was one of the largest public information projects ever done by a local air quality agency. It has had great success in educating viewers on the history of air pollution and the value of healthful air for everyone, no matter where they live.

Sky Savers 
Good for you. Good for the air.

The District introduced this environmental "coupon" program on Earth Day, April 22, 2011. The online program – skysavers.org – educated residents about environmental issues while saving them money. It also highlighted local merchants who offered products and services that help the environment, including air quality. The program was given a Special Recognition by the Ventura County Board of Supervisors at its 3rd Annual Community Climate Change Action Awards.

Innovation & Action



The Hueneme Beach Sundial Memorial, Port Hueneme

Carl Moyer Memorial Air Quality Standards Attainment Program

- Statewide incentive program administered by local California air districts since 1998.
- Provides grants to entice diesel equipment owners to voluntarily upgrade to lower emission equipment. Grants can cover up to 85 percent of the cost of the upgrades. Named after the late Dr. Carl Moyer in recognition of his work in air quality and in helping create the program, it is funded by state motor vehicle registration fees and tire disposal fees.
- Paid out over \$15 million to Ventura County businesses to replace 325 older high-emitting diesel engines with new lower emission engines since 2005.
- Funding opportunities exist for unregulated equipment, including farm tractors, commercial fishing boats, and construction equipment in small fleets. Applications for grants are accepted each year in May and the most cost-effective projects are selected for funding. Check the APCD website for program details.

Agricultural Assistance Program

- Component of the Carl Moyer Program. Helps the agricultural community comply with air quality regulations by paying for up to 85 percent of the cost of new lower emission irrigation pump engines.
- Since 2007, the program has funded \$2.5 million in local grants to repower 181 irrigation pumps with new lower-emitting engines or electric motors.
- Some funding opportunities still exist for upgrading pumps to electric motors or the cleanest Tier 4 diesel engines. Applications for grants are accepted on a continuous basis. Visit the APCD website for details.

Lower Emission School Bus Grant Program

- California Air Resources Board's statewide incentive program, administered by California air districts since 2001, and will continue into 2012.
- Program protects vulnerable populations, particularly California's school children, from the harmful effects of air pollution. The program reduces children's exposure to smog-forming and cancer-causing pollution by providing grants to upgrade our State's aging school bus fleet.
- In 2008, Ventura County APCD was awarded a \$5 million grant to both replace the oldest, most polluting school buses and retrofit the remaining fleet with ARB-verified pollution control equipment that significantly reduces toxic particulate matter emissions. Since then, APCD has replaced the 27 oldest public school buses in the County and has retrofitted 133 school buses in the existing fleet.

So Many Ways to Help Our Air

- **EDUCATION:** Learn about all the different ways to have a more environmentally friendly lifestyle by taking classes or reading books about organic gardening, biking, composting and energy efficiency.
- **ENERGY:** Use energy-conserving devices or materials, including insulation and weatherization supplies, ceiling fans, compact fluorescent light bulbs, clotheslines, or use clean energy products such as solar panels.
- **FITNESS AND OUTDOOR:** Get healthy and have fun by exploring environmentally friendly outdoor activities, including camping, biking, hiking, paddling, running, climbing and electric boating.
- **IN YOUR GARDEN:** Grow native or other low-water plants, compost and install water-saving devices.
- **RECYCLE:** Purchase anything used or salvaged, including clothing, building materials, books and music.
- **STAY LOCAL:** Go to nearby stores and restaurants, especially ones that use organic, local ingredients.
- **TRANSPORTATION:** Ride your bike, use local ridesharing services, take the bus or transit system, or use clean fuels.
- **CALL OR EMAIL THE DISTRICT** for even more tips on how to help air quality and the environment. You can also request a speaker or invite the District to participate in local outreach events. The Public Information Division also has publications and fact sheets about air quality and climate change. Some are available for download on the District's website.



Ventura County Air Pollution Control District

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805/645-1400

vcapcd.org

skysavers.org

airthefilm.org

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After-Hours Complaints

805/654-2797

Agricultural Burn Forecast

805/654-2807

Complaints

805/645-1445

Industrial Breakdown

805/654-2797

Lower-Emission School Bus

Grant Program

805/645-1408

Public Information & Speaker's Bureau

805/645-1415

Transportation Outreach Program

805/645-1424

OTHER AIR QUALITY INFORMATION

California Air Pollution Control

Officers' Association

capcoa.org

California Air Resources Board

arb.ca.gov

California Bureau of Automotive

Repair Smog Check

smogcheck.ca.gov/

National Association of

Clean Air Agencies

4cleanair.org

U.S. Environmental Protection Agency

epa.gov/air/

TEXT

Barbara L. Page,
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Boney Mountain, Point Mugu State Park



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