

## **Blue Skies – Clean Air? “The most important things for human beings are clean air and clean water”**

by Gunnar J Kuepper

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After the recent storms the skies were beautiful and clear. Even “down the hill” the sky was crisp and one could see the far away mountains and Bakersfield in the distance. All the dust was washed away, the air smelled fresh and the ground became colorful. The Mountain Communities of the Tejon Pass, located at elevations between 3,500 and 6,500 feet experience healthy air nearly year around. The situation is somewhat different many parts of the United States and particularly in the San Joaquin Valley and the greater Bakersfield area. According to the American Lung Association, more than half of people in the U.S. (~150 million) still breathe air dirty enough to cause health problems.

The population in California has increased by 22 percent over the last 20 years and average daily miles driven increased by 45 percent. Over the same time, statewide emissions of smog-forming pollutants decreased by over 50 percent. Due to California’s strong vehicle emissions requirements and motor fuel standards, new cars and trucks emit significantly fewer air pollutants than they did 20 years ago. The Air Districts have complemented these state measures by providing millions of dollars in incentives and grants to expedite the turnover of the vehicle fleet in California. Older, highly polluting heavy duty vehicles are either retrofitted to make them emit less or are taken off the road altogether. In addition, local Air Districts have adopted and implemented numerous regulations and strategies that have effectively reduced industrial source emissions and have improved air quality throughout the state. Although the progress toward clean air has been quite remarkable, the quest for clean air has to continue.

Significant progress has been made in reducing air pollution and meeting air quality standards over the years, the effects of climate change threaten to reverse this progress and diminish decades of investments made to improve air quality. The higher number of extreme heat days and heat waves predicted to occur as a result of climate change will increase smog formation, increase the number and severity of wildfires, worsen heat island effects in urban areas, and increase adverse health effects due to the public’s increased exposure to harmful air pollutants. The health risks associated with poor air quality, smoke from wildfires, and extreme heat days include: respiratory and cardiovascular diseases, heat stroke and exhaustion, asthma, and permanent damage to the lungs and heart.

A 2013 study found that air pollution in California caused over \$193 million in hospital medical care costs from 2005-2007 as residents went to emergency rooms for ailments triggered by elevated toxic air pollutant levels. Approximately 30,000 emergency room visits and hospital admissions recorded over the three year period were correlated with high levels of fine particulate concentrations in the San Joaquin and South Coast air basins.

The San Joaquin Valley is one of the richest, most productive agricultural regions in the country. But the agricultural activities constantly “whip up” a lot of dust, pesticides, and fertilizers. The valley is also surrounded on all sides by mountains. That topography creates a bowl that traps air pollution. It creates inversion layers that lock in pollution, and there is usually not enough wind to carry the pollutants away. Subsequently, the Delano-Bakersfield area ranks highest in annual and 24-hour peak averages in fine particulates. Fine particles emitted by vehicles (especially diesel-powered ones), coal-fired power plants, and burning wood can penetrate deep into the lungs, while car exhaust, heat, and sunlight contribute to high ozone levels.

The airway irritants can exacerbate asthma and chronic obstructive pulmonary disease (COPD) as well as make breathing more difficult for people with healthy lungs. However, at least according to the San Joaquin Air Pollution Control District, much has been done in recent years to reduce air pollution.

The San Joaquin Valley Air Pollution Control District is one of 35 air districts throughout California. It is a public health agency made up of eight counties in California’s Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern.

The Valley Air District is governed by an fifteen member Governing Board consisting of representatives from the Board of Supervisors of all eight counties, one Health and Science member, appointed by the Governor, one Physician, appointed by the Governor and five Valley city representatives.

On December 9, 2014 the District's Executive Director Seyed Sadredin, provided more than 250 professionals with an Air Quality Update at an event hosted by the Bakersfield Chamber of Commerce event. He pointed out that the valley's efforts to reduce air pollution include some of the toughest air regulations in the nation. The adoption of more than 500 stringent rules led to a reduction of 80% in stationary source emissions.

The focus of the air pollution district is also on public education to create an air friendly behavior by the public and to build support for regulations and measures. According to Sadredin volunteer incentive programs have triggered \$ 1 billion in public and private investments which reduced 100,000 tons of emissions coming from mobile sources.

Subsequently the year 2014 saw the lowest average number of days in which residents of the San Joaquin Valley were exposed to 8-hour ozone levels above federal standards.

August 2014 was the cleanest on record with 17 days without exceeding the 75 ppb (parts per billion) 8-hour ozone standard. The typical ozone season is May to September. 2014 saw the lowest number of days in which the 75 ppb 8-hour ozone standard was exceeded.

Nevertheless, Sadredin stated, significant challenges will remain. These include the geography, topography, climate of the San Joaquin Valley, the Interstate 5 and Highway 99 transportation corridors (80% of pollution comes from mobile sources), and, according to Sadredin, pollution transport from Asia and neighboring regions. Sadredin also stated that technology to achieve all needed emission reductions, does currently not exist. There is also a need for a "common sense fine tuning of the federal Clean Air Act". The federal standards in regards to Ozone have also changed significantly over the last 15 years. The 1997 Standard set a limit of 84 ppb (parts per billion), the 2008 Standard reduced the limit to 75 ppb, and the new standard reduced the Ozone limit to 65 ppb. Within the eight counties of the San Joaquin Air Pollution Control District (San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, Kern) the southern tip of the valley with Kern County certainly experienced the highest Ozone levels.

In the end we all breathe the same air. Air moves. There is no air that stays solely in the mountains, and there is no air that stays solely in the valleys. Therefore we all have to share the same responsibility to keep the air clean and safe.

More info can be found at [www.valleyair.org](http://www.valleyair.org) and a brief interview with Executive Director Sadredin can be found at [www.youtube.com/watch?v=ww-SBNwP\\_Ok](http://www.youtube.com/watch?v=ww-SBNwP_Ok)

## **Healthy Air Living Kids' Calendar for 2015 available Valley's student artists illustrate 18th edition of popular annual publication**

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The 2015 Healthy Air Living Kids' Calendar is printed and available for free distribution, featuring the colorful artwork of 15 talented Valley students.

The bilingual, full-color wall calendar is an annual publication of the San Joaquin Valley Air Pollution Control District. It showcases original works of art by children in each of the air basin's eight counties, chosen from hundreds of entries. They illustrate a monthly clean-air message in English and Spanish, such as "Go green – use an electric machine" and "Bike there for clean air!"

The students whose artwork was selected for the 2014 calendar are:

- Isabella Zardo, grade 4, Modesto
- Christina Nuqui, grade 8, Tracy
- Noorpreet Mann, kindergarten, Fresno
- William Mosby, grade 6, Lodi
- Angela Flynn-Ulfers, grade 6, Lemoore
- Alice Medrano, grade 11, Coarsegold
- Jesse Gutierrez, grade 7, Delhi

- Hadiyah Pashvaei, grade 3, Bakersfield
- Jason Villegas, grade 3, Fresno
- Nathaniel Valadas, grade 4, Modesto
- Catricia Alvarez, grade 3, Dinuba
- Emily Martinez, grade 2, Sanger
- Hannah Ortiz, grade 12, Coarsegold
- Angel Pardo-Garcia, grade 7, Tulare
- Francine Therese, grade 6, Lathrop

The calendars are distributed to schools, community groups, healthcare facilities, churches, civic organizations and non-profit groups throughout the Valley. The District prints 20,000 copies of the popular, free publication, which promotes Healthy Air Living throughout the year.

The 2015 calendars can be reserved, while supplies last, by emailing [public.education@valleyair.org](mailto:public.education@valleyair.org), and can be picked up in any District office: in Fresno, at 1990 E. Gettysburg Ave. (559-230-6000), in Modesto, at 4800 Enterprise Way (209-557-6400), and in Bakersfield, at 34936 Flyover Court (661-392-5500).