

Episode 56EM May 26, 2023. The “San Joaquin Valley” issue.

Residents Against Wood Smoke Emission Particulates (see RAWSEPresidents.wordpress.com and Scroll Down for PDFs of articles with U R L’s to search on, and on the website are links to 30 minute Youtube videos and Spotify podcasts as well as podcasts on Amazon Music Prime (free for Prime subscribers), podcasts.google.com, Cast Box, and Pocket Cast (Pocket Cast is only free on the phone App)

United States

[EPA releases Annual Air Report, highlighting trends through 2022 - BIC Magazine](#)

BIC Magazine

Particulate Matter 2.5 microns (PM2.5) 24-Hour,42% (from 2000); Sulfur Dioxide (SO2) 1-Hour,90%. It is important to note that air quality ...

[EPA advice to prevent smoke pollution | Mirage News](#)

Mirage News

Buying the right wood heater, using it correctly and maintaining it well are some simple measures you can take to reduce smoke pollution in your ...

California, San Joaquin Valley, Oakdale

[18.5M in federal grant dollars to fund two Valley clean-air programs - ScienceBlog.com](#)

Science Blog

... and the wood burning device change out proposal was selected for ... dirty wood burning devices in homes throughout the San Joaquin Valley.

[18.5M in federal grant dollars to fund two Valley clean-air programs - Air Quality Matters](#)

Air Quality Matters - Science Blog

... of air quality data – PM 2.5 · With Fresno bus rapid transit having hit the ground running, is light rail transit to be completely ruled out?

[New Federal Clean Air Funds Coming To District - Oakdale Leader](#)

Oakdale Leader

The \$8,590,223 from this grant will help fund the replacement of approximately 2,089 wood burning devices with much cleaner electric or gas devices, ...

May 23, 2023.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

The Valley Air District took action earlier this month to accept over \$18.5 million in additional U.S. Environmental Protection Agency (US EPA) funding to replace old nut harvesters and wood burning devices.

The Valley Air District submitted three proposals to the EPA for the highly competitive 2022 Targeted Air Shed Grant Program and was informed that two of the three proposals were selected for funding. the wood burning device change out proposal was selected for funding in the amount of \$8,590,223.

To date, the District’s Fireplace & Woodstove Change-Out Program has successfully provided over \$57.6 million to replace 29,000 dirty wood burning devices in homes throughout the San Joaquin Valley. The \$8,590,223 from this grant will help fund the replacement of approximately 2,089 wood burning devices with much cleaner electric or gas devices, with significant match funding provided by the grant recipients.

Significant resources are needed to implement a successful incentive-based strategy and procure the necessary reductions in emissions. The Valley Air District has developed and implemented a robust and effective voluntary incentive program to identify the needs of the Valley and meet those needs with funding that helps generate significant emission reductions that would not otherwise occur.

A complete listing of available grant programs and requirements can be found at www.valleyair.org/grants or by calling program staff at 559-230-5800.

The Valley Air District covers eight counties including San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and San Joaquin Valley air basin portions of Kern. For additional information about the San Joaquin Valley Air Pollution Control District, visit www.valleyair.org or call 559-230-6000.

California, San Joaquin Valley, Fresno

[San Joaquin Valley Air Pollution Control District Board \(5/18/23\) - FresnoLand](#)

FresnoLand

Replace open hearth fireplaces and old wood or pellet burning devices with new, cleaner-emitting burning devices to help reduce PM2.5 emissions in ...

How will residents and growers benefit from incentive grant programs? When will the District implement the PM 2.5 Plan? Will the air monitoring ...

Colorado

Georgia, Rome

[City commission approves wood transfer station on Technology Parkway - WRGA News](#)

WRGA News

The Rome City Commission has approved a special use permit for a wood ... an enclosed machine to burn wood debris, as opposed to open burning.

Missouri, Kansas City

[US cities with the dirtiest air | Slideshows | gwinnettdailypost.com](#)

Gwinnett Daily Post

Kansas City is subject to the impacts of industrial air pollution, particularly soot from coal-fired power plants, diesel emissions, and wood-burning ...

North Carolina

[In the hot seat: Development, climate leads to increased risk of wildfires near NC cities and suburbs](#)

NC Newsline

Exposure to wildfire smoke can cause serious health problems. Very fine particulate matter — PM 2.5 — can burrow deep into the lungs, enter the ...

Wisconsin, Washington County, Polk and Slinger

[Massive Washington County fire continues to smolder - WISN](#)

WISN

Smoke blowing through neighboring homes. ... Oak Creek Wood Products Wednesday released a statement that the fire started in a large mulch pile,

[1.5 million gallons of water used to extinguish large blaze in Washington County | WLUK](#)

WLUK

When crews first arrived, firefighters discovered equipment and large wood chip pile burning. The fire then extended to a stack of wood pallets, ...

[Smoke concerns follow Oak Creek Wood Products fire - Yahoo News](#)

Yahoo News

[Smoke concerns follow Oak Creek Wood Products fire - YouTube](#)

YouTube

Neighbors in Polk said there's no escape from the smoke, especially during windy conditions. Subscribe to WISN on YouTube now for more: ...

[Remnants of Sunday fire could continue smoking for weeks | Washington County News](#)

GMToday.com

... on Wednesday that the extinguished mulch piles, which had caught fire Sunday night at Oak Creek Wood Products, may continue to smoke for.

1.5 million gallons of water used to extinguish large blaze in Washington County

May 23, 2023.

A fire broke out at Oak Creek Wood Products in the town of Polk, just south of Slinger, May 21, 2023. (WisDOT) TOWN OF POLK (WLUK) -- Roughly 1.5 million gallons of water were used to put out a large fire at a Washington County business.

[Crews began battling the fire](#) at Oak Creek Wood Products around 7:30 p.m. Sunday. It took until just after 8 p.m. on Monday to extinguish the blaze.

When crews first arrived, firefighters discovered equipment and **large wood chip pile burning**. The fire then extended to a **stack of wood pallets**, grass and the nearby building. It continued to spread into **several brush fires** around the property.

The Slinger Fire Department says the **mulch piles may continue to smoke for a couple of weeks**, despite being extinguished.

Nearly 50 agencies helped respond to the fire.

The incident remains under investigation, and the cost of the damage is unknown.

Canada

[Best practices to keep yourself safe from wildfire smoke - The Weather Network](#)

The Weather Network

May 23, 2023. Health Canada is particularly concerned with fine particulate matter, or particulate matter 2.5 microns in size or smaller.

[How wildfire smoke can harm your health, even from far away - EarthSky](#)

EarthSky

Read on to learn how **wildfire smoke can affect human health** from ... Being exposed to wood smoke won't independently cause someone to have a heart ...

Canada, Manitoba

[Fire Bulletin #3 - Province of Manitoba | News Releases](#)

Province of Manitoba | News Releases

There are nine active wildfires currently burning in Manitoba. ... **FireSmart Tip: Install only approved wood-burning fireplaces**, stoves, ...

May 25, 2023.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

FIRE BULLETIN #3

The Manitoba Wildfire Service advises that wildfire danger in central and eastern Manitoba is high to extreme, and low to moderate across northern Manitoba. Favourable weather conditions and precipitation are expected in northern Manitoba over the next 48 hours.

There are **nine active wildfires currently burning in Manitoba**. The Manitoba Wildfire Service is working with ground crews and aircraft to suppress a fire approximately two to three kilometres south of Cross Lake/Pimicikamak Cree Nation. Due to unfavourable wind conditions and extreme fire behaviour, there was an increase in the size of the fire which included movement toward the community. Overnight there was a change in those conditions, including precipitation and a shift in the wind direction. Favourable conditions are expected over the next 48 hours. Some **evacuations of high-risk community members** have been co-ordinated through the Canadian Red Cross, FireSmart Tip: Install only approved wood-burning fireplaces, stoves, and inserts. Be sure installations are completed according to the manufacturer's recommendations and local regulations. When disposing stove or fireplace ashes, place ashes in a fire-safe container, then dispose of cold ashes in a cleared area free of all flammable material.

Manitoba Emergency Measures Organization (EMO) continues to work with all local authorities and emergency management partners, including the Manitoba Wildfire Service to provide guidance and support for emergency response activities. Manitoba EMO continues to work closely with Indigenous Services Canada (ISC) and the Canadian Red Cross in supporting ISC-led response measures with First Nation communities.

For further information on Manitoba Wildfire Service, restrictions and other important wildfire links go to www.gov.mb.ca/wildfire/ or follow the Twitter account at <https://twitter.com/mbgovnews>. To report a wildfire, call 911 or the TIP line (toll-free) at 1-800-782-0076.

United Kingdom

U K, Northumberland

[US cities with the dirtiest air | National News | newsontheneck.com](#)

Northern Neck News

Wildfire smoke is the main source of unhealthy air in Kalispell. ... emissions and residential wood burning, as well as wildfires in the region.

US cities with the dirtiest air

May 24, 2023.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

[Stacker](#) analyzed the [2021 Air Quality Statistics Report](#) from the Environmental Protection Agency released in May 2022 to compile a list of the 50 cities with the dirtiest air.

Two out of every five Americans—40%, or 137 million people—live in counties with unhealthy air quality, according to the [American Lung Association's 2022 State of the Air report](#). Poor air quality, including unhealthy ozone or particle pollution, can lead to long-term health effects, including respiratory and cardiovascular issues that can lead to premature death.

Air quality can be impacted and degraded by [residential heating systems](#), and [wildfires](#) and drought. Air quality can vary significantly by season and by region, even within the same city.

To help track air quality around the country, the [Environmental Protection Agency \(EPA\) created National Ambient Air Quality standards](#). [One relevant threshold is 12 micrograms of pollutants for fine particulate matter \(PM2.5\)](#).

Air quality was ranked according to the amount of coarse particulate matter (PM10) in the air in metropolitan areas.

#50. Sandpoint, Idaho

May 24, 2023

Average fine particulate matter (PM2.5): Not available

Idaho's air quality has reached [unhealthy-to-hazardous ranges](#) due to an increase in wildfires

U K, Wales, Cardiff, Ely

[100 tonnes of timber set on fire in huge blaze sending black smoke hovering over Ely again](#)

Wales Online

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

The blaze has been raging across 100 tonnes of timber at a wood yard off Birdies Lane and Mill Road, according to a South Wales Fire and Rescue ...

A large fire is still being tackled by firefighters after it broke out in Ely, [Cardiff](#).

A large number of firefighters were at the scene this morning watering down smouldering ruins.

A fire service spokeswoman said last night (May 24): "We were called at 7.30pm and attended with four fire engines.

Europe

France

Le Dernier Mot: Wood you Believe it?

May 24, 2023.

Kristin's driftwood collection goes from treasure to poison to art.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

As for driftwood, Le Service Public notes it is OK to take. But now another dilemma arose: these shapely pieces of wood we'd collected were too beautiful to burn!

Back on the web, I watched a documentary on driftwood artists including the exotically beautiful Karine, a furniture-maker who harvests wood near Biarritz, and the no-nonsense grandmother who drags home driftwood from the beaches of Saintes-Maries-de-la-Mer. Sigh! From lamps to outdoor seating, such beautiful creations these artists make! Driftwood on the beach in La Ciotat. Was it, after all, OK to burn driftwood? A few more taps on the keyboard and the results were in, via this terrifying headline: 'Driftwood – the Deadliest Firewood in the World'. I don't want my family breathing in dioxins when those salt-saturated logs release toxic chemicals as they burn. Mais quelle dommage! The idea of lugging all this wood back to the sea was killing me until my conscience piped up again: "All is not lost when you view things from an artist's perspective. Keep the treasure. Make art, not fire."

FRENCH VOCABULARY

LE BRASERO = brasier, fire pit

LA BRINDILLE = twig

LE PETIT BOIS = kindling

LA POIGNÉE = handful

LA PLAGE = beach

LE BOIS FLOTTÉ = driftwood

LE COQUILLAGE = shell

LE GALET = stone

QUEL DOMMAGE! = what a pity!

Spain, Catalonia, Barcelona

[Long-term exposure to air pollution and severe COVID-19 in Catalonia - Nature](#)

Nature

Higher exposure to PM2.5, NO2, and BC was associated with an increased risk of COVID-19 hospitalization, ICU admission, death, and hospital length of ...

[Toxicological Effects of Fine Particulate Matter \(PM2.5\): Health Risks and Associated Systemic ... - Springer Link Full Coverage](#)

[Long-term exposure to air pollution associated with higher risk of developing severe COVID-19](#)

News Medical

The researchers determined the mean annual levels of fine particulate matter (PM2.5, particles with an aerodynamic diameter of $\leq 2.5 \mu\text{m}$), ...

[Lethal Risk: Long-Term Air Pollution Exposure Linked to Severe COVID-19 - SciTechDaily](#)

SciTechDaily

The researchers determined the mean annual levels of fine particulate matter (PM2.5, particles with an aerodynamic diameter of $\approx 2.5 \mu\text{m}$), ...

Long-term exposure to air pollution associated with higher risk of developing severe COVID-19

May 24, 2023.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

A long history of exposure to air pollution is associated with a higher risk of developing severe disease, admission to hospital or an intensive care unit (ICU) and death by COVID-19 according to a study led by the Barcelona Institute for Global Health (ISGlobal), a research centre supported by the "la Caixa" Foundation. The study, published in the journal Nature Communications, was based on a large cohort of 4,660,502 adults resident in Catalonia in 2020, the year the Spanish autonomous community had a high incidence of COVID-19.

The researchers determined the mean annual levels of fine particulate matter (PM2.5, particles with an aerodynamic diameter of $\leq 2.5 \mu\text{m}$), nitrogen dioxide (NO2), black carbon (BC) and ozone (O3) at the residential address of each participant. They also collected data on severe cases of COVID-19 in 2020, including the number of hospital and ICU admissions, length of hospital stay, and COVID-19 related deaths. An analysis of this data revealed the following associations:

An increase in exposure to PM2.5 of $3.2 \mu\text{g}/\text{m}^3$ was associated with a 19% increase in hospital admissions.

An increase in exposure to NO2 of $16.1 \mu\text{g}/\text{m}^3$ was associated with a 42% increase in ICU admissions.

An increase in exposure to BC of 0.7 µg/m³ was associated with a 6% increase in mortality. Our findings add further compelling evidence on the importance of reducing levels of air pollution to improve the health of the population in general and, in particular, to reduce the incidence of severe acute respiratory infections."

Possible explanations for the association

why long-term exposure to air pollution increases the risk of severe COVID-19.

exposure to air pollution increases the individual's risk of developing chronic comorbidities associated with severe COVID-19, such as hypertension.

air pollution may facilitate the infection, as there is published evidence that exposure to fine particulate matter increases the expression of the receptors the SARS-CoV-2 virus binds to, particularly in the lung.

changes in the immune defenses key to mitigating SARS-CoV-2, such as a decrease in the type II interferon response to SARS-CoV-2 and the antibody response.

How the study was carried out

The COVAIR-CAT cohort is based on data from the Catalan public health system covering primary care, emergency care and the discharge from hospital of patients with acute conditions. It also includes data from a SARS-CoV-2 surveillance system (SUVEC), which gathered information on PCR and rapid [antigen](#) test results in cohort participants in Catalonia.

[Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis](#)

X. Wu et al., Sci Adv, 2020

[Short-term exposure to ambient air pollution and individual emergency department visits for COVID-19: a case-crossover study in Canada](#)

Eric Lavigne et al., Thorax, 2022

[P-199 Long term exposure to air pollution and COVID-19 incidence in the city of Varese, northern Italy: a complete-year, individual-level analysis](#)

Giovanni Veronesi et al., Occup Environ Med, 2021

[How air pollution may influence the course of pandemics](#)

Jeremy Jackson et al., Sci Adv, 2020

According to the data analysed in this study, 340,608 people were diagnosed with COVID-19 in Catalonia in 2020. Of these, 14% (47,174) were admitted to hospital and 1.4% (4,699) to an intensive care unit. In total, taking into account inpatients and outpatients, 10,001 COVID-19 related deaths (3%) were recorded.

The meteorological and air pollution data was obtained from the pertinent Catalan and Spanish monitoring networks.

These data were cross-checked with the place of residence of the 4,660,502 people in the study cohort.

"Our study provides robust evidence that long-term exposure to ambient air pollution is associated with severe COVID-19."

[Barcelona Institute for Global Health \(ISGlobal\)](#)

Journal reference:

Ranzani, O., et al. (2023) Long-term exposure to air pollution and severe COVID-19 in Catalonia: a population-based cohort study. Nature Communications. doi.org/10.1038/s41467-023-38469-7.

Asia

Bangladesh

[City dwellers' health in peril: Revealing the devastating effects of air pollution and non ...](#)

The Business Standard

A recent study found that biomass burning (burning of leaves, wood, etc) is equally responsible as fossil fuel burning for black carbon emission, ...

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

City dwellers' health in peril: Revealing the devastating effects of air pollution and non-communicable diseases.

A recent study found that biomass burning (burning of leaves, wood, etc) is equally responsible as fossil fuel burning for black carbon emission, known to cause cancer.

Bangladesh is one of the most polluted countries in the world, with nine out of ten people living in places where air quality exceeds World Health Organization (WHO) guidelines. This alarming level of air pollution poses a significant risk

for the prevalence of non-communicable diseases (NCDs), including cardiovascular disease, respiratory disease, cancer, and diabetes, which collectively contribute to around 70% of the total mortality rate in the country.

According to a report published by World Bank, air pollution in Bangladesh is responsible for around 20% of premature deaths and this significant impact on public health translates into a substantial economic cost, estimated to be approximately 3.9% to 4.4% of the country's GDP.

Air pollution in urban areas primarily originates from two sources: industrial smoke and vehicle emissions. Additionally, brick kilns contribute to air pollution as well.

WHO has identified six major factors that have detrimental effects on public health. These factors include fine particulate matter (PM2.5). Among these, PM2.5 poses the greatest harm to human health. Due to their tiny size, these pollutants have the ability to enter the body through the nose, infiltrate the bloodstream via the lungs, and potentially impact major organs. Exposure to PM2.5 leads to short-term and long-term exacerbation of health issues, such as heart disease and various respiratory diseases such as asthma, bronchitis, and lung cancer.

According to a study conducted by WB, urban areas experience high concentrations of PM2.5 during the dry season. The second highest concentration of PM2.5 levels was observed near a brick kiln, which exceeded the World Health Organization guidelines by 136 percent, or the equivalent of smoking 1.6 cigarettes per day. Research conducted by World Bank indicates that even a mere 1 percent increase in PM2.5 levels, as per WHO's Air Quality Guidelines for 2021, raises the risk of experiencing shortness of breath by 12.8 percent, coughing by 12.5 percent, and respiratory tract infections by 8.1 percent.

Individuals most vulnerable to the effects of air pollution include those aged 65 and above, children between the ages of zero and five, and individuals undergoing medical treatment for other illnesses.

Short-term exposure to high levels of air pollution can lead to respiratory issues such as asthma, bronchitis, and pneumonia.

Additionally, it can cause eye irritation, coughing, and breathing difficulties. Prolonged exposure to polluted air has been linked to the development of chronic respiratory diseases like chronic obstructive pulmonary disease (COPD) and lung cancer. Moreover, air pollution has been recognized as a significant risk factor for non-communicable diseases (NCD's) in urban areas of Bangladesh. NCDs, such as cardio-vascular diseases, diabetes, stroke, cancer, chronic obstructive pulmonary disease (COPD), asthma, bronchitis, pneumonia, mental health, injury et cetera diseases are a major cause of morbidity and mortality worldwide. According to a study, exposure to air pollution increases the risk of stroke, heart attack, and other cardiovascular conditions. Issues such as asthma, bronchitis, and pneumonia. Additionally, it can cause eye irritation, coughing, and breathing.

Some of the possible solutions to reduce air pollution include implementing stricter emission standards and regulations for brick kilns.

Another solution could be promoting clean energy sources and technologies, such as renewable energy, energy efficiency, and electric vehicles. Improving public transportation systems and encouraging active modes of transport, such as walking, cycling, and carpooling, can also contribute to reducing air pollution.

Encouraging the use of masks and air purifiers can also provide some protection to individuals in highly polluted areas.

Lastly, supporting research and innovation to develop new methods and tools to monitor, assess, and mitigate air pollution is essential.

China, Wuhan

[Air quality characteristics during 2016–2020 in Wuhan, China | Scientific Reports - Nature](#)

Nature

PM2.5_C, PM10_C, SO2_C, and CO_C presented a significantly negative association with temperature and precipitation, while O3 was significantly ...

India, New Dehli

[High exposure to PM2.5, nitrogen dioxide linked with Covid severity, death](#)

Social News XYZ

New Delhi, May 24

[High Exposure To PM2.5, Nitrogen Dioxide Linked With Covid Severity, Death - Glamsham](#)

Glamsham

[High exposure to PM2.5, nitrogen dioxide linked with Covid severity, death](#)

INDIA New England News

[High exposure to PM2.5, nitrogen dioxide linked with Covid severity, death - Daijiworld.com](#)

Daijiworld

New Delhi, May 24 (IANS): Greater exposure to fine particulate matter (PM) 2.5, nitrogen dioxide, and black carbon has now been linked with a ...

High exposure to PM2.5, nitrogen dioxide linked with Covid severity, death.

May 24, 2023.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

New Delhi, May 24 (IANS): Greater exposure to fine particulate matter (PM) 2.5, nitrogen dioxide, and black carbon has now been linked with a higher risk of developing severe disease, admission to hospital or an intensive care unit (ICU) and death by Covid-19.

A study, published in the journal Nature Communications, led by the Barcelona Institute for Global Health (ISGlobal) and based on a large cohort of 4,660,502 adults, found direct association between long-term exposure to air pollution and severe Covid-19.

An increase in exposure to PM2.5 of 3.2 micrograms per cubic metre was associated with a 19 per cent increase in hospital admissions and an increase in exposure to NO2 of 16.1 micrograms per cubic metre was associated with a 42 per cent increase in ICU admissions.

Also, an increase in exposure to BC of 0.7 micrograms per cubic metre was associated with a 6 per cent increase in mortality.

Exposure to air pollution has also been associated in another study with changes in the immune defenses key to mitigating SARS-CoV-2, such as a decrease in the "type II interferon" response to SARS-CoV-2 and the antibody response. While many studies have been published on the effects of short- and long-term exposure to air pollution on chronic respiratory diseases, there is less data available on the effects of long-term exposure on the incidence and severity of acute respiratory infections.

India, Dhaka

[Why you should be worried about Dhaka's air pollution | The Daily Star](#)

The Daily Star

One of the biggest threats to our lungs is the fine particles of PM 2.5 matter. These are small enough to penetrate masks and cause lasting damage ...

PM2.5 and Health Effects (Wood smoke is 90% PM2.5)

PM2.5 and Sleep Disorders

[Reduced Sleep Efficiency Tied to Air Quality, Temperature, and Noise - Psychiatry Advisor](#)

Psychiatry Advisor

Particulate matter 2.5 (PM2.5): 10.6 (SD, 47.0) mg/m³ ... During the sleep period, PM2.5 and sound decreased while humidity and CO₂ increased.