
clean air for all
CAFA
now!

NEWSLETTER NUMBER 9

New CAFA-now! Website

We have a brand spanking new website that has just gone live at cafanow.org! Please check it out to see the latest Chemical of the Month, new newsletters, articles on impact of air pollution on human health, and a variety of other items of interest. We believe we now have a workable arrangement with a commercial vendor that will host, manage and regularly update the site.

www.cafanow.org

New Fiscal Sponsor / 501c3 Organization

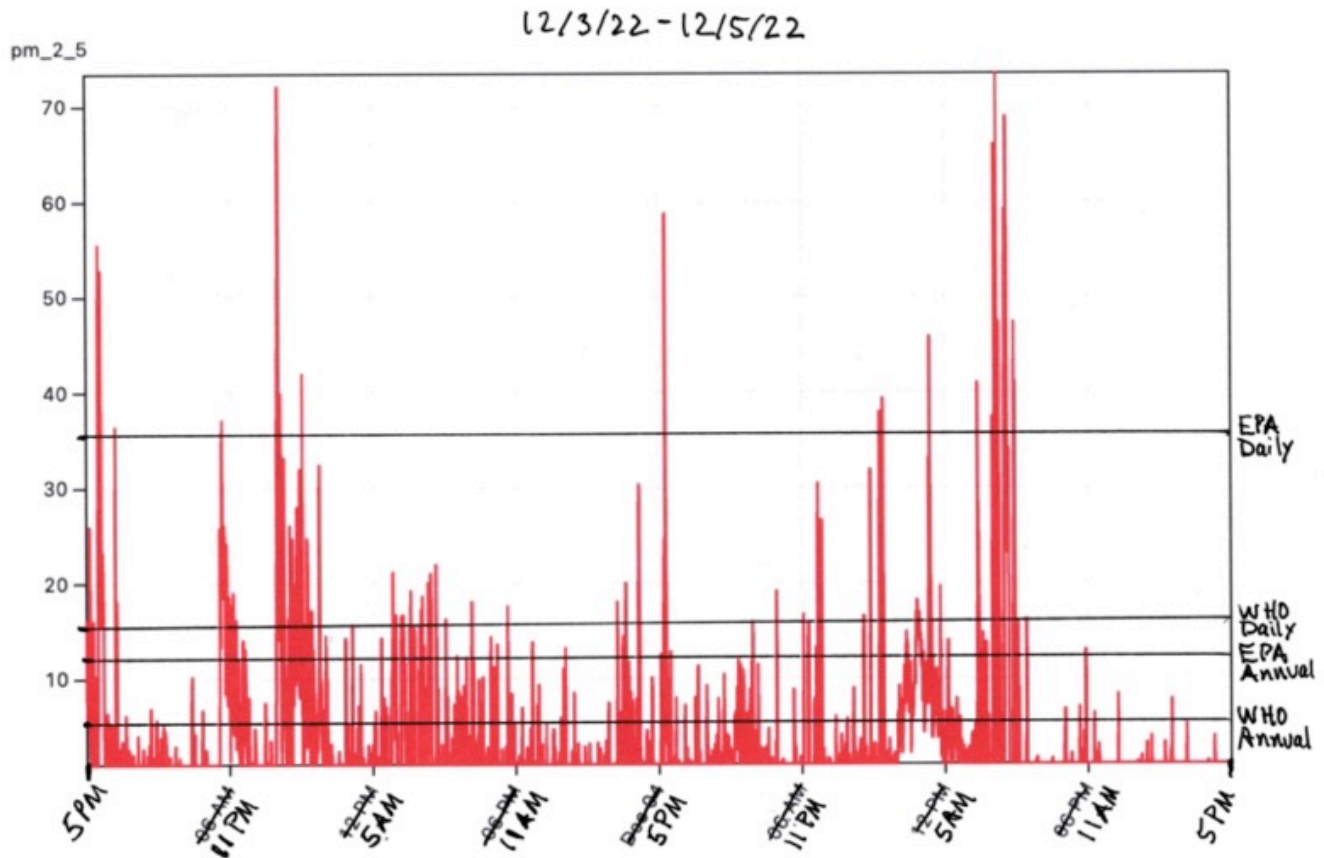
Our new fiscal sponsor, Southwest Research and Information Center (SRIC), is located in Albuquerque and will handle our financial resources going forward. Our relationship with SRIC ensures that our funds will be professionally managed and donations to CAFA-now! will continue to be tax deductible. Please consider visiting our website, www.cafanow.org and clicking the "Donate" button to make a donation to support our efforts. Anticipated expenses include the purchase of six more sophisticated air monitors at \$200 per item (see below), website maintenance and management at \$95 per month, and various expenditures for advertising, printing and supplies. Contributions of any amount are appreciated.

The Cancer Study #2

The cancer study is still not complete and no date has been scheduled for public presentation of the results. CAFA-now! continues to voice our frustration with this situation since the Tumor Registry Director committed to undertake the new study in January 2020, three years and seven months ago. We are told that it is nearly finished and perhaps it can be published and presented in October. We will share information about when and where the presentation will take place as soon as we are informed.

Monitoring Intel Emissions

We continue to monitor emissions in the vicinity of the Intel plant with three small air pollution monitors that measure total VOCs, Nitrogen Dioxide, and two sizes of particulate



matter—PM2.5 and PM10. Our plan going forward is to validate the data for the PM2.5 by deploying new PM monitors called Purple Air PM II which have been evaluated and shown to be very accurate. Following is a graph of two days of early PM2.5 data in micrograms per cubic meter revealing frequent spikes and levels that routinely exceed EPA’s supposed safe levels for both daily and annual exposure as well as the World Health Organization’s lower proposed levels.

New Partnerships

CAFA-now! partnered for a year and a half with Portland (Oregon) Clean Air where the largest U.S.-based Intel plant is located, and with its 501c3 organization, Cascadia Action. That partnership is now ending. We

communicate with another organization in Oregon, the Washington County Citizen Action Network, which is based in Washington County, near the Oregon Intel facilities. In 2022, we applied for and received a small grant from the Center for Health, Environment and Justice (CHEJ). We receive their technical updates, and we participate periodically in their Zoom-based webinars. We have recently connected with an Albuquerque-based environmental organization, Common Ground Rising, which is helping us with technical assistance. We recently became members of the Anthropocene Alliance (A2), a national organization with over 200 member groups, which is also offering us technical assistance. We have been in contact with community members in the

Johnstown/New Albany area outside Columbus, Ohio where Intel has just begun construction of two new chip fabrication facilities (fabs) costing \$20 billion. We are encouraging them to form their own organization to try to protect themselves from the impact of Intel emissions. And we participate in meetings of two different organizations sponsored by Intel Oregon and Intel New Mexico respectively, purportedly for the purpose of promoting community dialog around their plants' toxic air emissions

Article on Exposure to Chemical Mixtures

Following is an article published by the Center for Health, Environment and Justice that describes a newly emerging understanding about the potential risk of developing cancers from exposure to low-dose mixtures of chemicals that individually are considered safe.



Exposure to Chemical Mixtures Matters

Considering cumulative exposures to low levels mixtures of chemicals is an enormous challenge when evaluating the toxicity of chemicals. Neither the EPA nor ATSDR have guidance on how to evaluate exposure to multiple chemicals simultaneously, or cumulatively over time. The EPA does have its Risk-based Screening Levels (RSLs) that provide some guidance on risk estimates, but these values only consider chemicals in isolation, or when exposed to one chemical at a time. This limitation has begun to be recognized as a fundamental weakness in the way research is done on the toxicity of chemicals. Testing one chemical at a time is not sufficient nor appropriate for evaluating public health risks when people are exposed to multiple chemicals at the same time, or cumulatively over time.

This limitation was highlighted when a group of 350 cancer research scientists came together in Halifax, Nova Scotia to address the question of continuous multiple chemical exposures and the risks these exposures pose. Referred to as the Halifax Project, this effort merged two very distinct fields - environmental toxicology and the biological mechanisms of cancer - and provided the opportunity for researchers to look at the diversity of environmental factors that contribute to cancer by examining the impact that exposure to very small amounts of chemicals can have on various systems of the body.

These scientists looked at whether everyday exposures to mixtures of commonly encountered chemicals have a role to play in cancer causation. The researchers began by identifying a number of specific key pathways and mechanisms that are important in the formation of cancer. Then they identified individual (non-carcinogenic) chemicals that are commonly found in the environment that had some potential to disrupt these systems. A total of 85 environmental chemicals were identified.

The authors found that 59% of these chemicals (50/85) had low dose effects “at levels that are deemed relevant given the background levels of exposure that exist in the environment.” They found that only 15% of the chemicals reviewed (13/85) had a dose-response threshold and that the remaining 26% (22/85) could not be categorized due to a lack of dose-response information. The authors concluded that these results help “to validate the idea that chemicals can act disruptively on key cancer-related mechanisms at environmentally relevant levels of exposure.”

This is an important observation because it challenges the traditional thinking about how cancer forms in the body. It challenges the notion that all cancers share common traits (considered the “hallmarks of cancer”) that govern the transformation of normal cells to cancer cells. The authors also discuss how the results in this paper impact the process of risk assessment as even its most sophisticated model fails to address continuous exposures to mixtures of common chemicals.

The authors concluded that “the cumulative effects of individual (non-carcinogenic) chemicals acting on different pathways, and a variety of related systems, organs, tissues and cells could plausibly conspire to produce carcinogenic synergies.” In other words, exposure to multiple chemicals at low doses, considered individually to be “safe,” could result in various low dose effects that lead to the formation of cancer. This is a remarkable observation and conclusion. It is also an important advance in the understanding of the risks chemicals pose to society. It also highlights how surprisingly little is actually known about the combined effects of chemical mixtures whether on cancer related mechanisms and processes or on adverse effects in general.

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