

The Air You Breathe

Free Quarterly Newsletter from Akron Regional Air Quality Management District
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Climate Change, Temperatures, and *Crime?*

Research showing temperature change may impact crime rates.

Energy & Environment (E&E) reporter, Chelsea Harvey reported on an intriguing study out of the University of Colorado, Boulder. The take away message: as the climate warms, milder winters may come with an unexpected side effect - an increase in violent crimes.

A link between higher temperatures and spikes in crime have been suggested by researchers. A study, lead authored by Ph.D. student Ryan Harp, was published recently in the journal *GeoHealth*, and it suggests the strongest link is actually observed during winter months.

The authors say higher winter temperatures tend to entice more people to leave their homes. The increase in social interaction leads to an increased opportunity for assaults and other violent crimes.

Harp is quoted in the *E&E* article as says "Having milder winters leads to more people out and about — going to parks, restaurants, whatever it might be — gives you more personal interactions and increases the chance that an offender might meet a victim. So we think that's the main driver of the link between temperature and crime."

Climate scientist Kris Karnauskas advised on the study which drew on nearly four decades of crime statistics and monthly climate data from across the United States. The study examined data on a regional level and controlled for the fact that crime rates have fallen overall in many places over the years.

Not unsurprisingly, crime rates tend to rise with temperatures across the board in all regions of the United States. However, a specific relationship between spikes in temperature and violent crimes were strongest during the winter months.

Of particular interest to those of us in Ohio, the researchers note that the relationship also tends to be strongest in the Northeast and Midwest, the coldest parts of the country, where warmer winter days are likely to have the biggest effect on people's willingness to go outside.

E &E reports, "Scientists have previously attempted to explain the links between temperature and crime with several major social theories. One of these, the

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Winter Air Quality Advisories

While air quality in northeast Ohio is usually quite good throughout the winter months, every so often we do have an Air Quality Advisory day or two in the winter.

This is usually the result of a weather pattern that creates a temperature inversion. Learn more here: <https://sciencing.com/temperature-inversions-influence-air-pollution-10038430.html>

LET'S GET SOCIAL!

We love sharing our local air quality index every weekday, notifying our followers of Air Quality Advisory days, & sharing the occasional cool air quality related article.

Want to stay in the know on local AQ stuffs?

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New ARAQMD Engineers

We are pleased to have two new air permit engineers on staff!



Sai Sreedhar Varada obtained a Master's of Science in Chemical Engineering from University of Maryland, College Park. He obtained his Bachelor's of Technology from the Indian Institute of Technology in India. During his Master's program, Sai worked as a Graduate Assistant for 2 years and as a faculty assistant for 6 months. Throughout that time he did research on air quality modeling. Having recently relocated to Akron and being a nature enthusiast Sai said; "The best part about being in Akron is it has lots of trees and metro parks. I like the fact that I live next to a national park. "



Connor Moroney joins us after obtaining his Bachelor's degree in Chemical Engineering from Ohio University in 2017. Before coming to work with ARAQMD, Connor worked as a systems modeler for the Institute for Sustainable Energy and the Environment working on the use of fuel cells in reactors to modify reaction dynamics.

Having lived in southwest Ohio, this Cincinnati native enjoys the Akron area's tabletop gaming community and says his favorites are, "Splendor as a casual game, and Ascension for a more challenging game."

Climate, Temps & Crime Continued...

temperature-aggression hypothesis, suggests that high temperatures tend to promote more aggressive behavior in humans. This can lead to an increase in social conflict. The other, known as the routine activities theory, points out that the ingredients for a crime must include both an offender and a target, as well as the absence of police or other law enforcers capable of stopping the crime. It suggests that environmental changes that lead to an increased likelihood in these three factors coming together can cause a spike in crime rates." Harp and Karnauskas say their findings seem better supported by the routine activities theory.



The research seems to suggest that warmer winters, driven by climate change, could bring higher crime rates. But Harp cautioned that there are other less conspicuous factors that may come into play in the future.

More broadly, Harp noted that the work points to some of the less obvious, but still important, ways that climatic changes can affect human societies. "Our work shows that climate can impact our lives in so many more ways than scientists conventionally address or the public might even be aware of," Harp said.

The findings may prove useful to law enforcement agencies interested in examining patterns in crime rates and planning for the future, the researchers say. Establishing that there's a strong relationship between winter temperatures and spikes in crime could help experts create models, either for seasonal forecasts of crime rates or for long-term projections on climate change and social conflict.

Read more about it at <https://eos.org/>.

On the National Scene

Our Administrator, Sam Rubens, served as co-President of the National Association of Clean Air Agencies (NACAA) from October 2017 to October 2018.

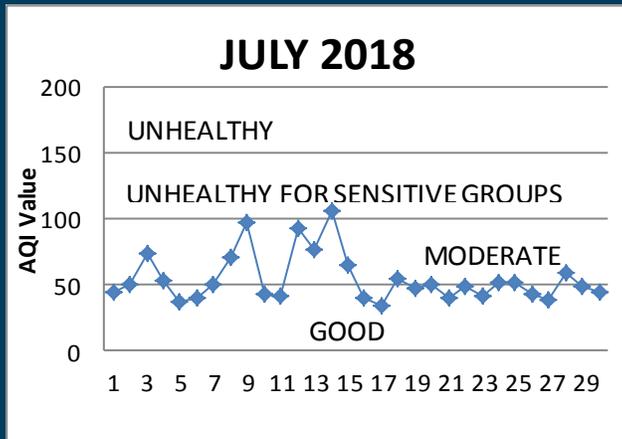
During his tenure as Co-President Sam helped bring the NACAA Membership Conference to NE Ohio by way of downtown Cleveland. He also helped establish a formal commenting process for other members relating to NACAA business. To help guide future strategic planning, he was involved in revising and updating the mission statement. This sets the table for the new co-presidents to begin to set goals for the strategic plan.

Sam's dedication to the field of clean air has been evident on a national level. We are proud of the time he spent helping shape the future of NACAA and advocating for local air agencies around the country and working for cleaner air for us all!

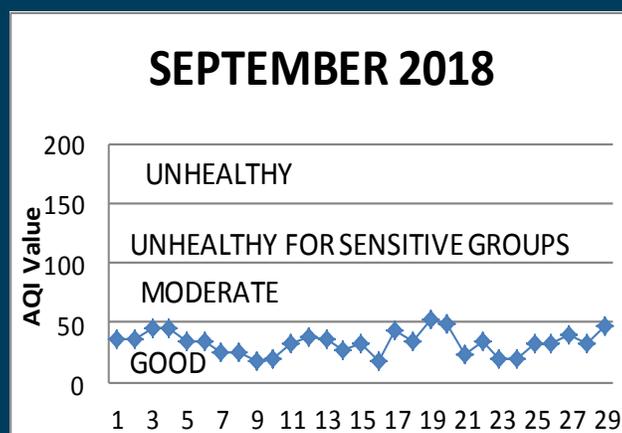
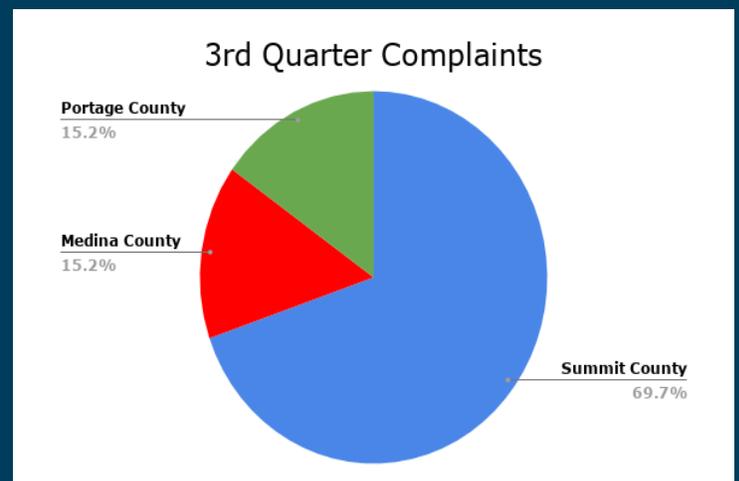
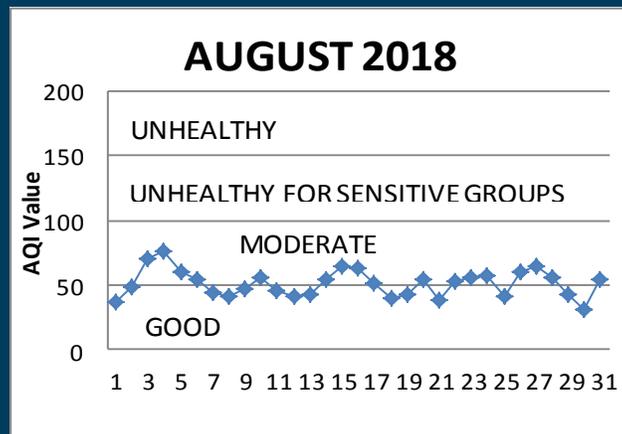
AQ by the Numbers: Third Quarter 2018

Air Quality Index

Complaints & Inspections



Area/ Health District	Commercial/ Industrial	Residential	Total
Summit County	10	13	23
Medina County	2	3	5
Portage County	2	3	5
Kent	0	0	0



Site Visits	3rd Quarter 2018
FEPTIO	4
Title V	11
Non Title V	40
GDF	0
Full Compliance Evaluations	6

Additional Stats

Permits Issued							
3rd Quarter	PTI		PTIO		TV		PBR
	Draft	Final	Draft	Final	Draft**	Final	Total
	0	1	4	18	2	3	13

Asbestos	
3rd Q—Notifications	67
3rd Q—Inspections	36

