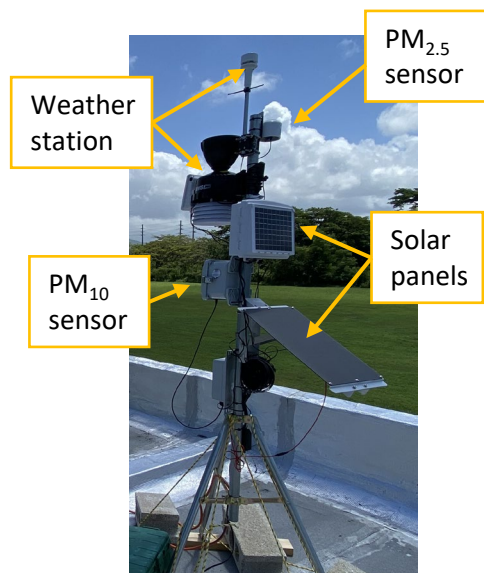


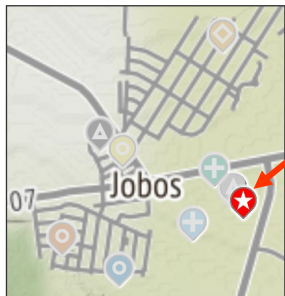
# Particulate Matter Research Study in the Guayama and Salinas area of Puerto Rico: Research Project Updates for February, 2024 - Final Newsletter

## What is this study about and what does this summary include?

- Over the past 9 months, EPA has been working with community member input and technical support from the Puerto Rico Department of Natural and Environmental Resources (DNER) to better understand the occurrence of particulate matter (PM) in the communities around Puente Jobos.
- EPA installed 15 air sensors measuring PM<sub>2.5</sub> or PM<sub>10</sub> and 2 weather stations in and around the Puente Jobos. EPA also installed a filter sampling instrument at one site to collect air filters for laboratory analysis of PM<sub>10</sub> mass and chemical components. During this study, EPA collected 167 filter samplers and 7,035 hours of combined sensor data.
- The sensor network portion of the project ended February 21-22, 2024. Final sensor performance quality checks were performed by placing the sensors at the air filter sampling site for several weeks to compare the sensor and filter data. After that comparison period, the research equipment was uninstalled and returned to the EPA laboratories.



## Side-by-side sampling site



Filter sample site and site of the final side-by-side sensor and sampler operation.

## What's next for this study?

This final monthly newsletter provides data from the first few weeks of February when the sensors were at multiple locations in the community. After the laboratory analysis of samples is complete, the study team will develop a final summary presentation and peer-reviewed journal article. EPA is planning on meeting with the community and other interested partners to discuss project updates and results.

### February Site Visit:

- EPA researchers visited each site in the community to take down sensors and move them to the site with the filter sampler where they operated side-by-side for several weeks.
- While at the field sites, researchers encountered some issues common in air sensor studies such as sensor hardware failures, unplugged sensors, and a power cable that appeared to have been chewed through by an animal. These issues all limit the amount of time a sensor was collecting data. Researchers will use these observations to provide context to the amount and quality of data collected in the study.

A researcher secures sensors at the site near the filter sampler.

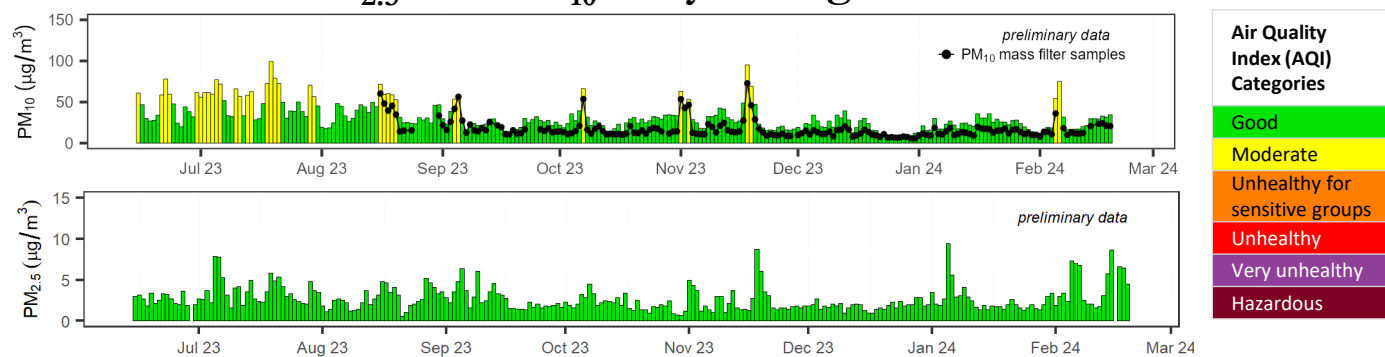


For questions about this research project, please reach out to EPA Region 2 contacts:  
Gavin Lau ([lau.gavin@epa.gov](mailto:lau.gavin@epa.gov)) and Sarah Pender ([pender.sarah@epa.gov](mailto:pender.sarah@epa.gov))



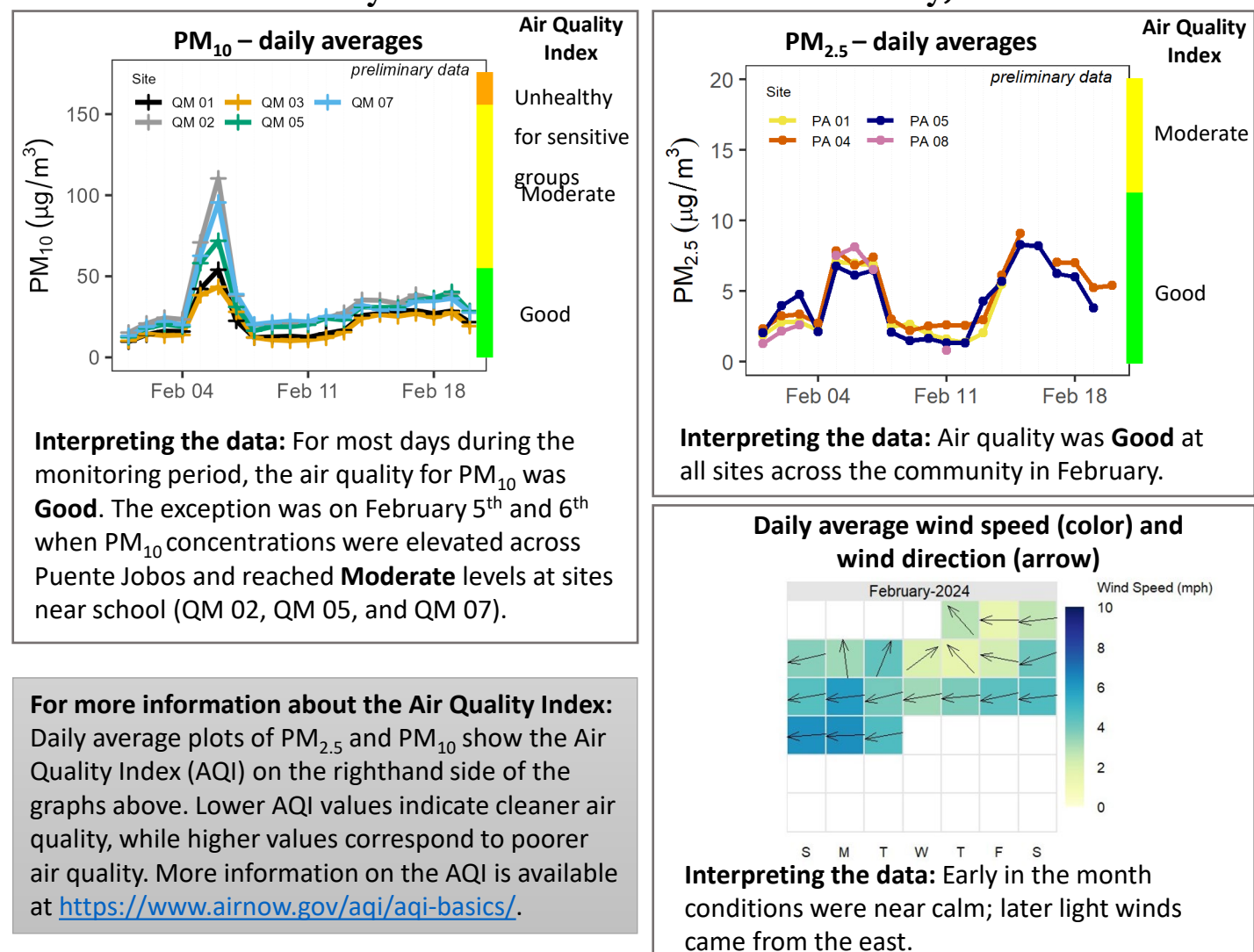
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## PM<sub>2.5</sub> and PM<sub>10</sub> daily averages across sites



Note: The daily averages (barplots) include all data recorded by PA sensors for PM<sub>2.5</sub> and QM sensors for PM<sub>10</sub>. The PM<sub>10</sub> filter sample data (black markers).

## Summary of data from sites for February, 2024



### For more information about the Air Quality Index:

Daily average plots of PM<sub>2.5</sub> and PM<sub>10</sub> show the Air Quality Index (AQI) on the righthand side of the graphs above. Lower AQI values indicate cleaner air quality, while higher values correspond to poorer air quality. More information on the AQI is available at <https://www.airnow.gov/aqi/aqi-basics/>.

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