

Empowering environmental justice communities through community air monitoring in the energy capital of the world.

air
ALLIANCE
HOUSTON

Presenter:
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Community
Air Monitor
Program
Manager



Introduction

Our Vision: Healthy communities with clean air every day, for everyone.

Our Mission: To reduce the public health impacts from air pollution through applied research, education, and advocacy.

Our Core Belief: Everyone has a right to breathe clean air and where you live, work, learn, and play should not determine your health.

Our Commitments:

- Equitable governance and decision-making
- Ethical storytelling
- Racial equity and environmental justice



Our Theory of Change



Research

Inform the narrative through participatory research, modelling, policy analysis, and planning



Education

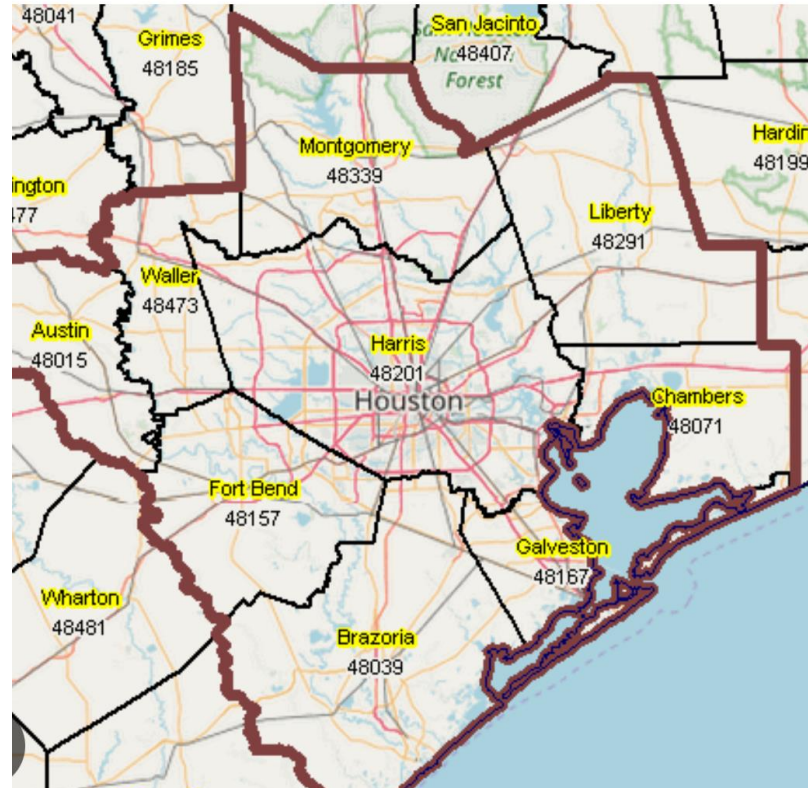
Build community knowledge and power through the diffusion of information



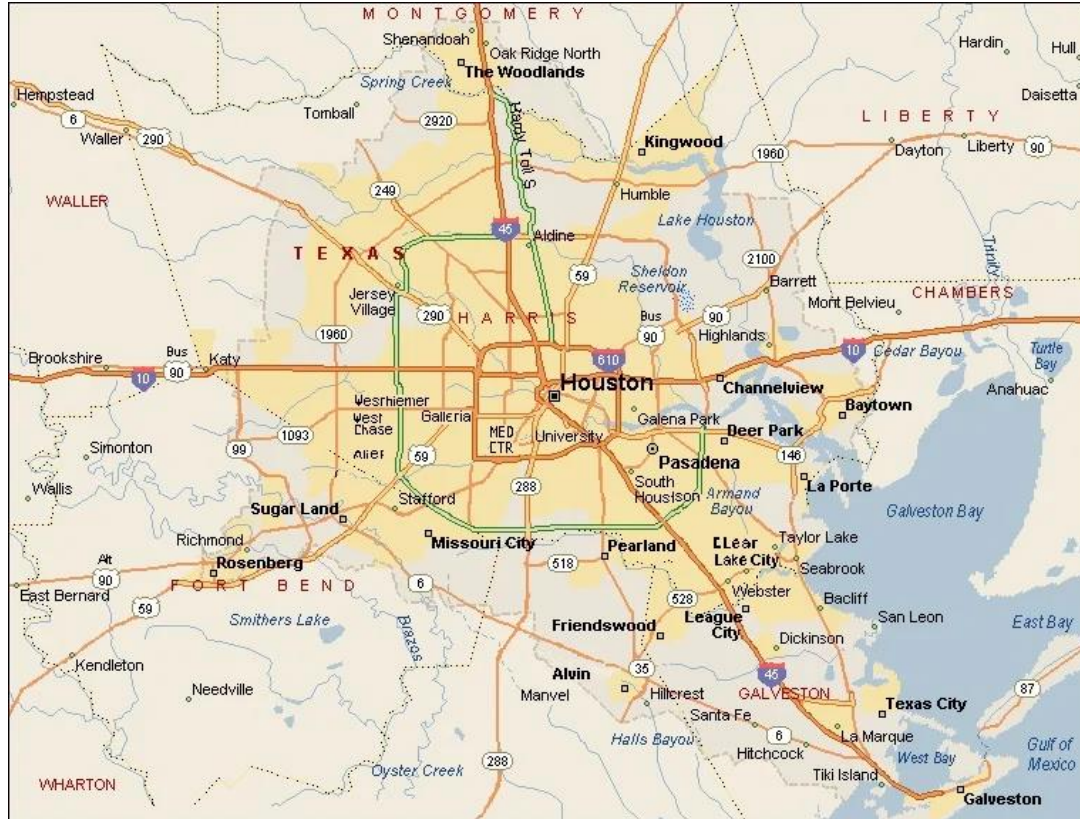
Advocacy

Create pathways for impacted residents to engage in decision-making

Houston surrounding area map



Houston Metro Area



Houston Area Pollution Obstacles

- Houston energy capital: Refineries, Transportation, and more.
- Houston has no zoning.
- Concrete Batch/Crusher Plants, Metal Recycler, Foundries and more.
- Very little support from some levels of government in Texas.
- The double edged sword of industry and residential conflicts of interest.

Community Air Monitoring Program (CAMP)

Components

- Stationary monitor networks in nine focus communities: Galena Park/Jacinto City, Kashmere Gardens, Pasadena, Near Northside, East Houston/Settegast, Cloverleaf, Deer Park, Channelview and Baytown.
- Combination of locations: residential homes, community centers, municipal buildings, etc.
- Community residents are recruited and trained to serve as Air Ambassadors who give air quality presentations and more.
- Mobile monitoring events (“Sampling the City”)
- Supplemental monitors placed throughout the region based on community need/concern
- Direct and indirect support to other community networks (Fort Bend Houston, Port Arthur and Houston region.)



Outline of CAMP Program

- Meet with the community.
- Community mapping session.
- Recruit monitor host and install them.
- Hire air ambassadors from the community.
- Educate the community on their network and how to use it.
- Gather data for a year.
- Have a community meeting to share the results.
- Create a community action plan.
- Continue the program and implement the action plan.



Communities in CAMP

Communities in our program:

- Community seeks us out.
- Referred to us by other organizations.
- Look for communities being impacted the most and look into complaints referred to us.

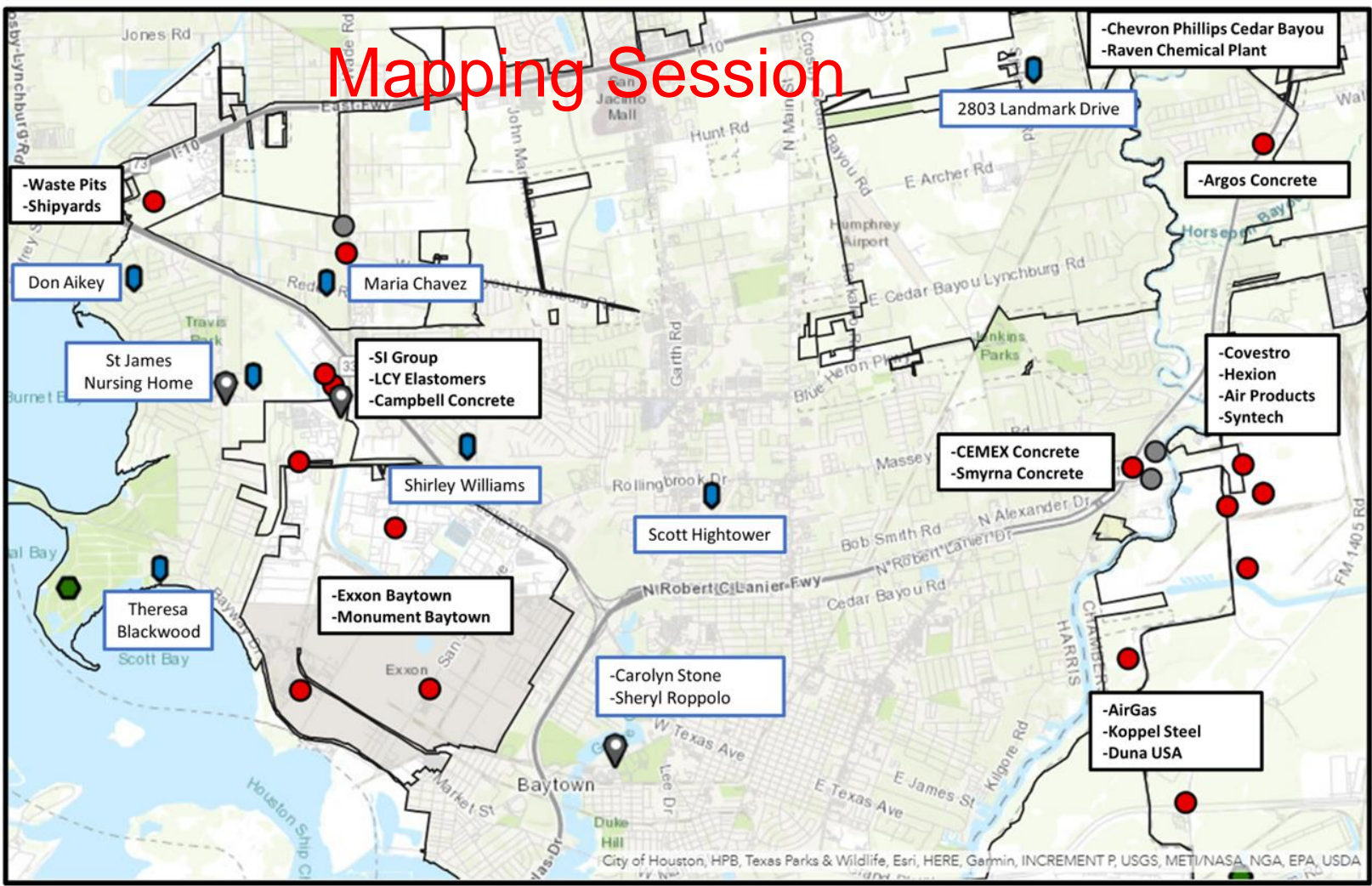
Getting the community involved:

- Community residents.
- Civic Clubs, Super Neighborhood Groups and more.
- Setup community meeting and get a commitment.
- Start the process.

Mapping Session

Legend

- Potential Sites
- TCEQ Air Monitor
- Municipal Solid Waste sites 2022
- Superfund Sites 2022
- 2021 Texas TRI
- Concrete Batch Plants, 2022
- Channelview

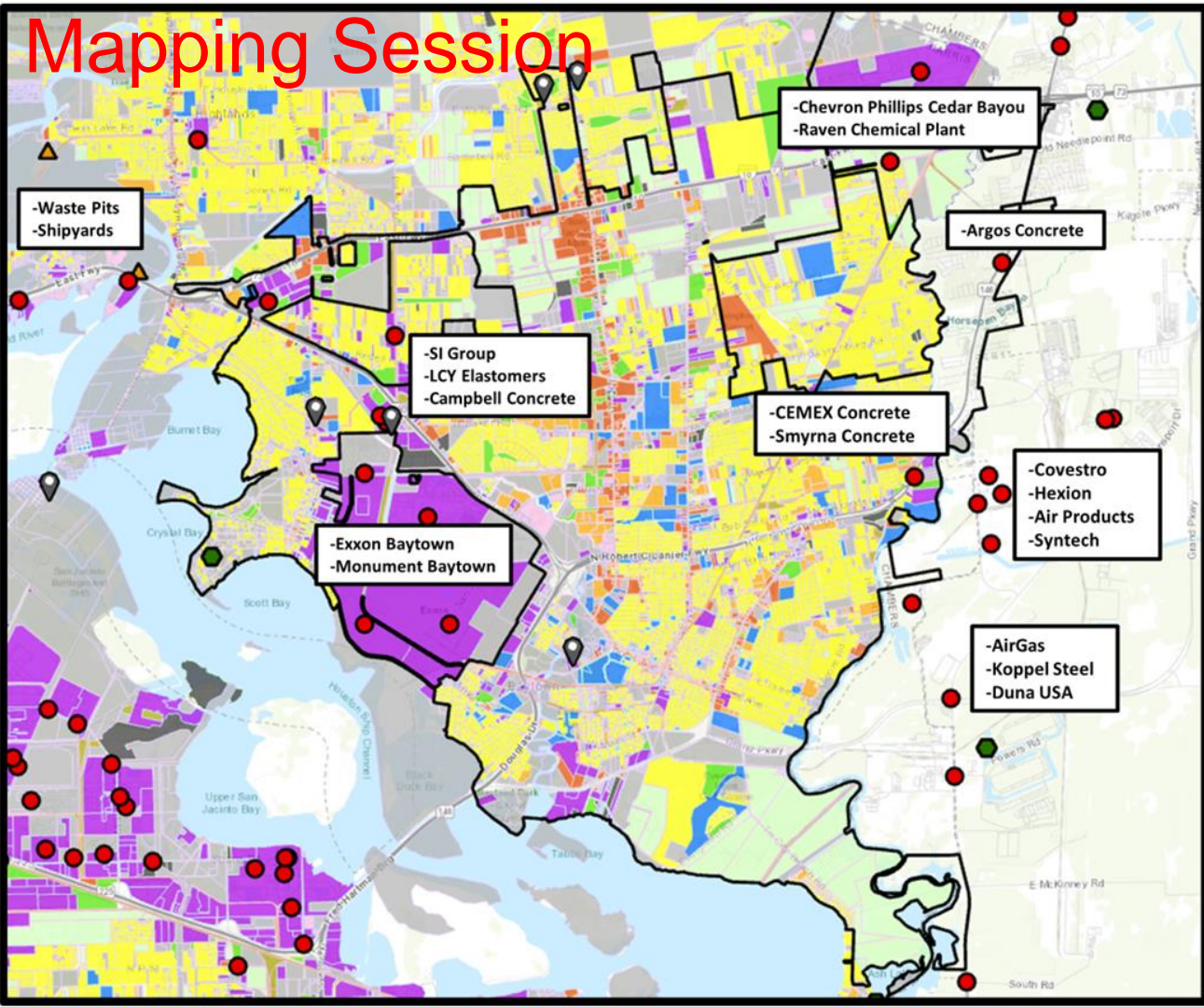


Land Use

- Single-Family Residential
- Multi-Family Residential
- Commercial
- Office
- Public & Institutional
- Industrial
- Park & Open Spaces
- Transportation & Utility
- Undeveloped
- Agriculture Production
- Unknown

- TCEQ Air Monitor
- Concrete Batch Plants, 2022
- Superfund Sites 2022
- Active Municipal Solid Waste sites
- Toxic Release Inventory facility, 2021

Mapping Session



Air Ambassador Program



Getting the community involved:

- Are hired from the communities they work and receive an hourly wage.
- They go through a training which includes topics such as pollution, health effects, how air monitors work and tools they can use to teach their communities about their networks.
- They go back into their communities to teach and inform their communities about our program.
- They help us install, maintain the air monitoring network and more.

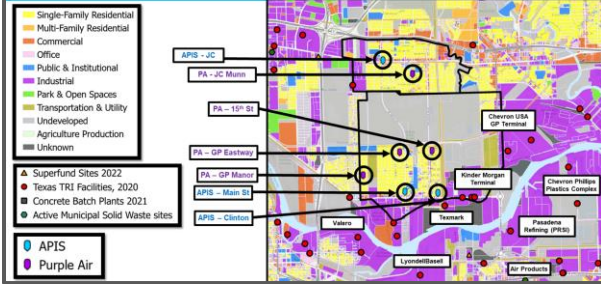
Air Monitor Network uses and advantages

- The air monitors are located in the neighborhoods.
- Educate the community how their network can be used.
- Residents can make decisions using the air monitors on going outdoors or dealing with health issues.
- Residents have been using our data to submit complaints and for lawsuits they are involved against industry.
- Have community meetings in each neighborhood to share the results of the data gathered for the one year period.



Community Meeting Data

Surrounding Land Use Map: GP + JC



Wind Direction and Speed

Averaged over: March - Oct 2022

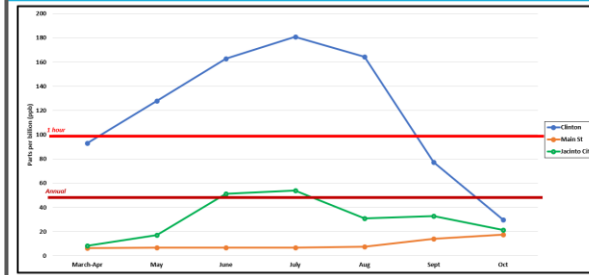
Sources of pollution upwind of the monitors make significant contributions to readings and measurements



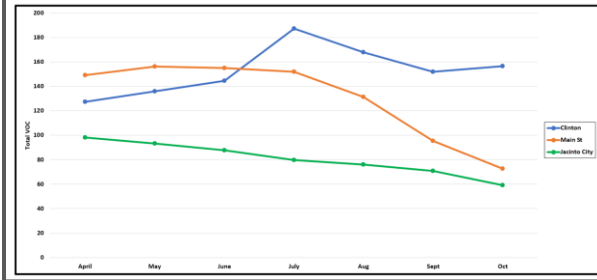
Predominant winds: SOUTHEAST
In line with regional prevailing winds from the Gulf of Mexico

NOx: Monthly Averages

EPA NOx standard	Annual
	53 ppb

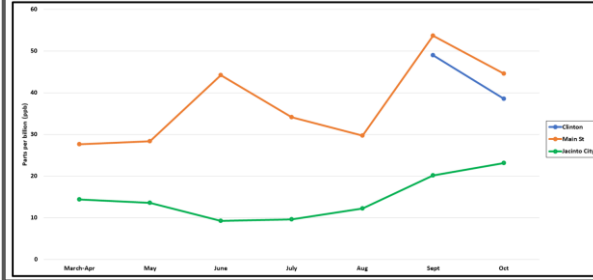


Total VOC: Monthly Averages



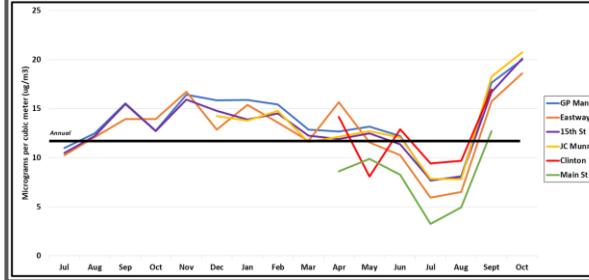
Ozone: Monthly Averages

EPA O3 standard	8 hour
	70 ppb



PM: Monthly Averages

EPA PM 2.5 standard	Annual
	12 ug/m3





Action Planning

Taking Action to Improve Air Quality in Galena Park/Jacinto City

Focus Area: Facility Permit Opposition

Focus Area: Expand the Air Monitor Network

Goal				
Oppose permits for facilities in this area and engage community members to actively participate in the campaign				
Aim	Specific Activity	Lead	Timeline	Updates
Mobilize community members to organize around specific facilities of concern	(1) Use Air Mail to scrub permits of concern and to notify residents	Air Alliance Houston (Inyang, Anthony)	Weekly	
	(2) Contact attendees regarding concerning permits	Air Alliance Houston (Juan)	As needed	Riikka and Cassy have contact information for attendees
	(3) Mobilize attendees and others to respond to permit oppositions including writing comments and attending public meetings.	Air Alliance Houston (Juan)	As needed	

Goal				
Promote the monitor network and explore installation of additional monitors				
Aim	Specific Activity	Lead	Timeline	Updates
Set-up new air monitor locations	Connect with individuals from the meeting to install monitors at their homes	Air Alliance Houston (Juan)	March 2023	
Raise awareness among community members about air quality and the role of air monitors	(1) Share the CAMP videos friends and on social media	Attendees	December 2022	Instagram and Galena Park Facebook community groups were specifically mentioned.

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	(2) Include an article in the local high school newsletter	ECAGP Air Alliance Houston (Riikka)	December 2022	Include links in the Thank You email to people who signed in so that they can share

Sampling the City



- Bike ride organized in CAMP communities and surrounding areas.
- Bike riders wear small air monitors and take readings as they travel.
- Kid bike ride is also organized so the whole family can be involved.
- The readings are then analyzed and shared back with the community.
- The community gets air quality data, learn bike safety, exercise and have fun.
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Community Air Monitoring Program (CAMP)

Looking Ahead

- Our real-time dashboard of the *regional* network and each *local* network will launch this fall.
- A series of PSA/videos will be produced to educate residents about how to use the dashboard and the data.
- Start canister sampling this upcoming year.
- As other communities hear about CAMP, we receive inquiries for joining the program. Prioritization and funding will be needed.

