

Democratizing Geospatial Technology:

A Model for Providing Technical Assistance in Community Based Participatory Mapping to Environmental Justice Stakeholder Communities

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David Padgett leading a Deep South Center for Environmental Justice community asset mapping training in Gulfport, MS. Credit: Deep South Center for Environmental Justice.

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“Democratizing Geospatial Technology” Project Goals



The EthicalGEO Fellowship funds will be used to support our Gulf Coast Equity Consortium Community Based Organization (CBO) partners' community mapping objectives (assets, disamenities, EJ SCREEN, etc). Through a collaborative effort, we will develop the main project deliverable - a replicable community-based participatory mapping tutorial for environmental justice stakeholders. The tutorial will be designed to be customized to meet the specific needs of communities in the US and abroad.



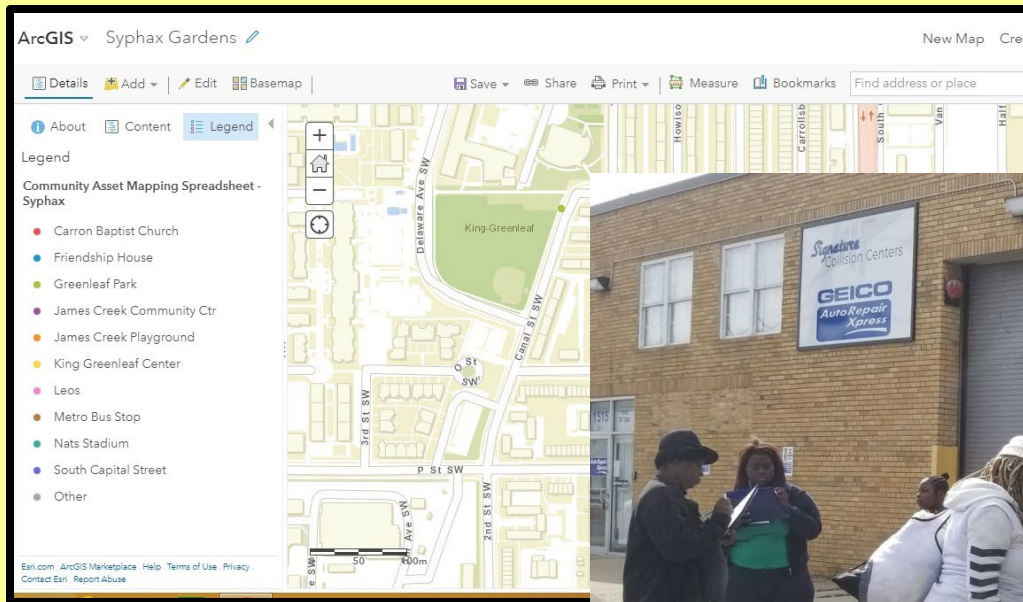
EthicalGEO **“Democratizing Geospatial Technology”**

**Geographic information
systems (GIS) workshops at
Community Based
Organization Sites**



“No Tech” Community Walk Throughs

Mental mapping exercise during which community stakeholders determine the objectives and goals of the community asset mapping project. Locations of desirable land uses are identified without global positioning systems (GPS) or geographic information systems (GIS) support.

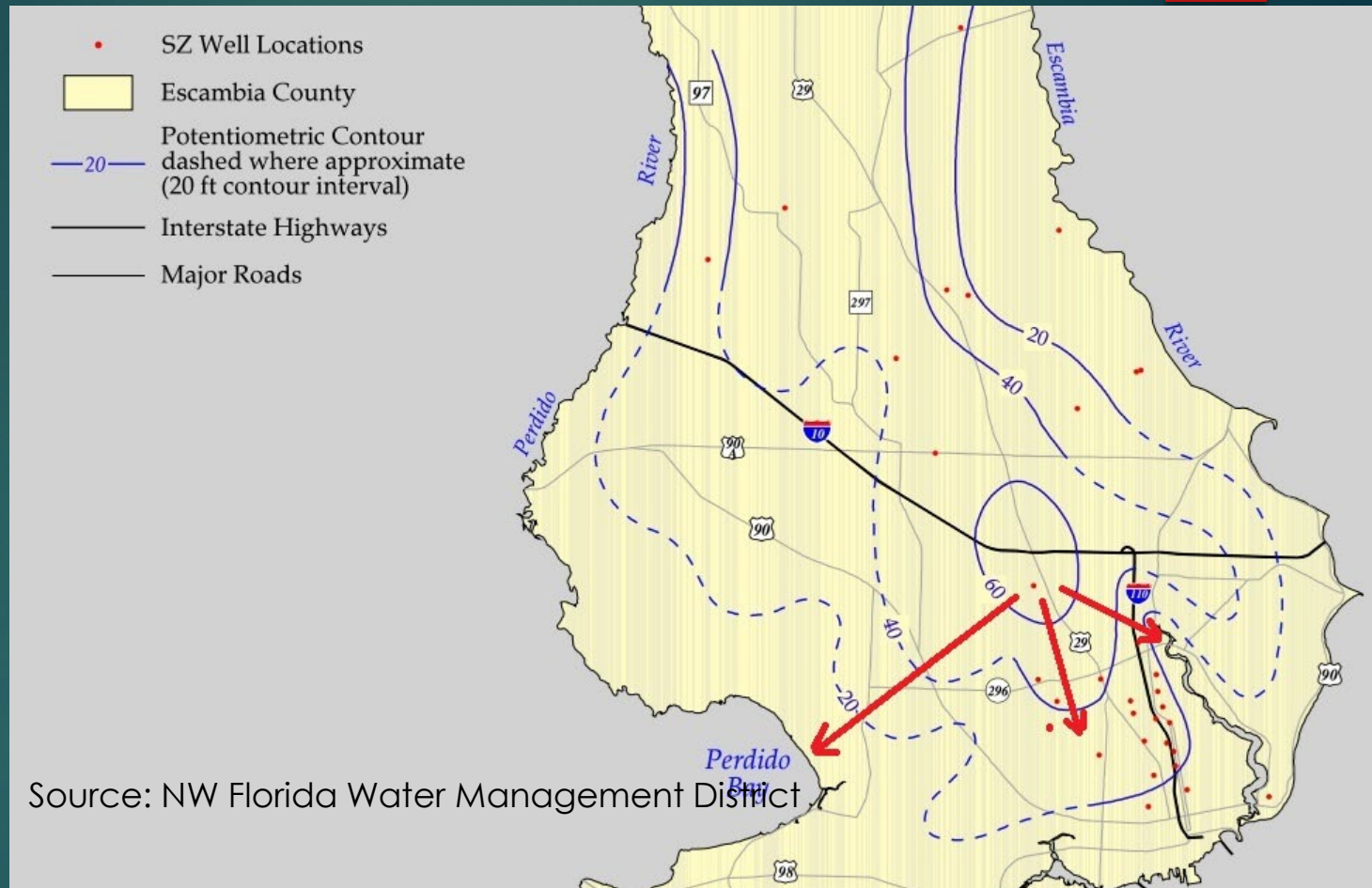


Community Asset Mapping Training: Buzzard Point Neighborhood – Washington, DC

Case Study 1: Wedgewood Community Pensacola, Florida

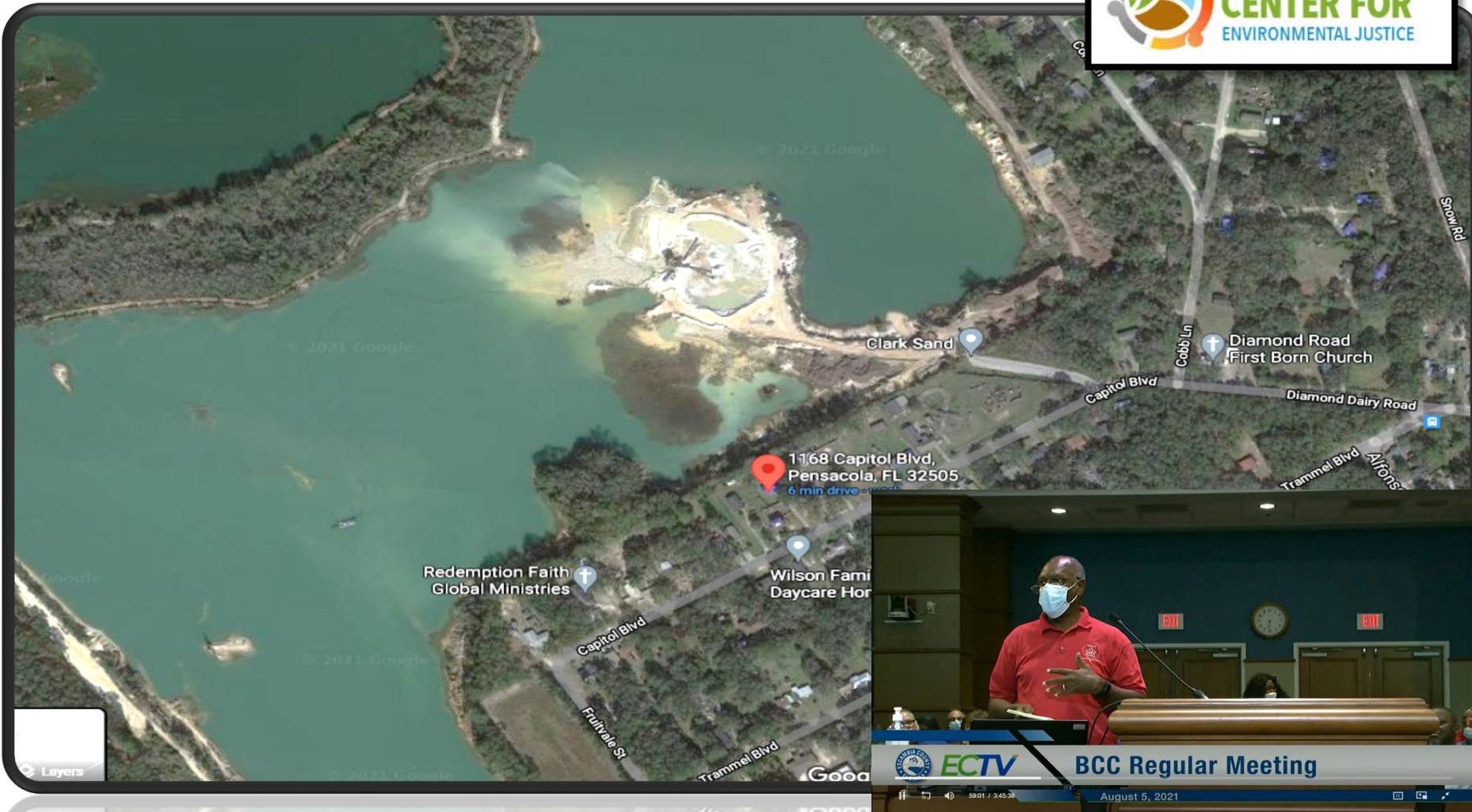
Shallow Groundwater Flow Characteristics: Southern Escambia County, Florida

Note that shallow groundwater flows perpendicular to potentiometric contour lines, from a “high” near the location of numerous contaminated burrow pits and unlined landfills.



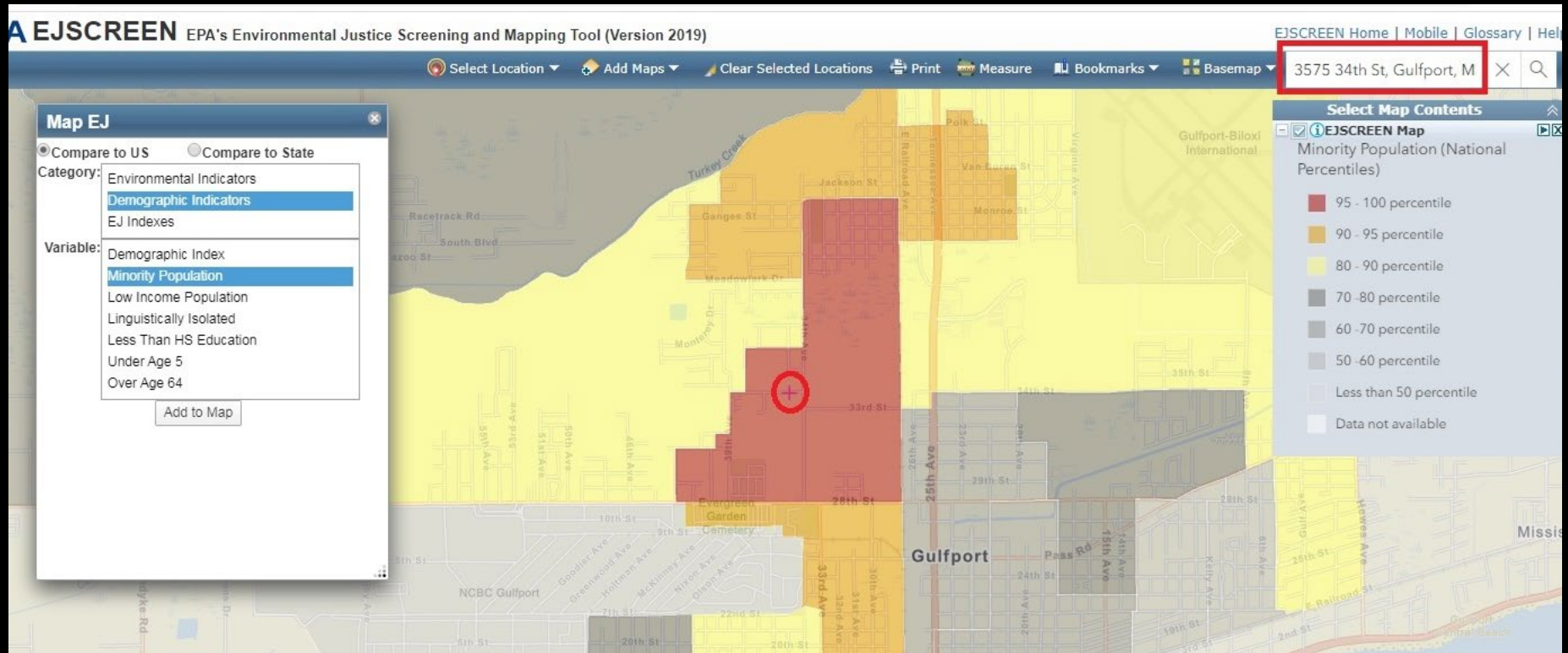
Fall 2019 -Wedgewood Community stakeholders presented this and other maps at a County Commission meeting to successfully block plans to construct a four-lane highway through their neighborhood.

Case Study 1: Wedgewood Community Pensacola, Florida



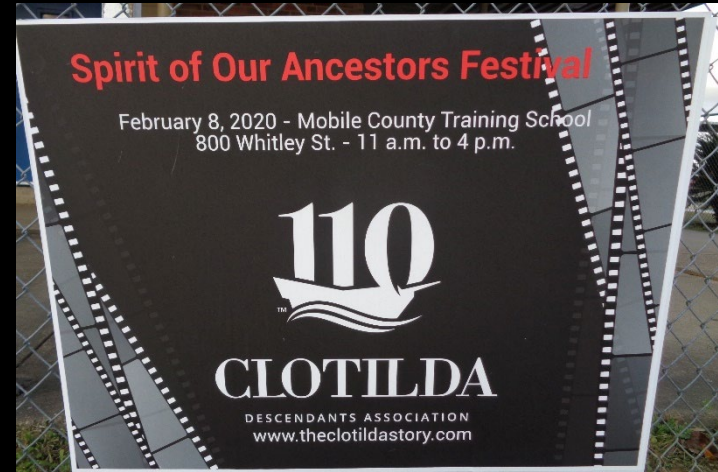
Fall 2021 – Update: Wedgewood stakeholders block landfill permit using local hydrology maps and aerial photos to support their argument.

Case Study 2: Turkey Creek Community Gulfport, Mississippi



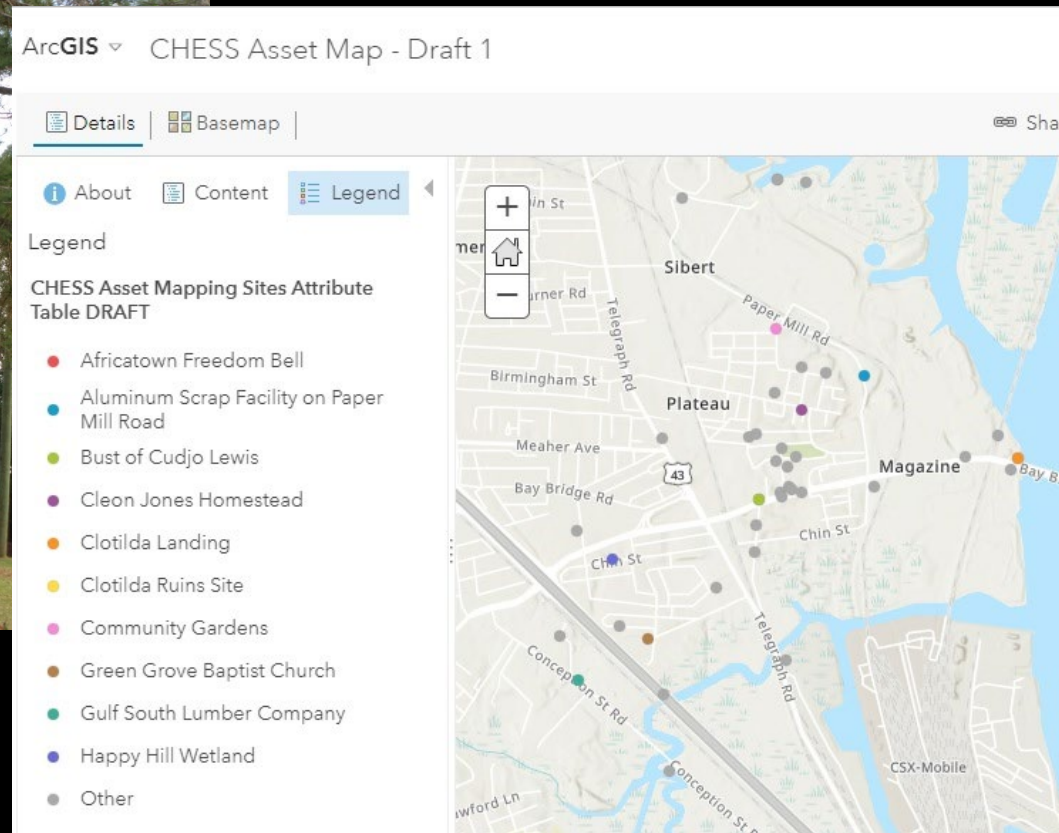
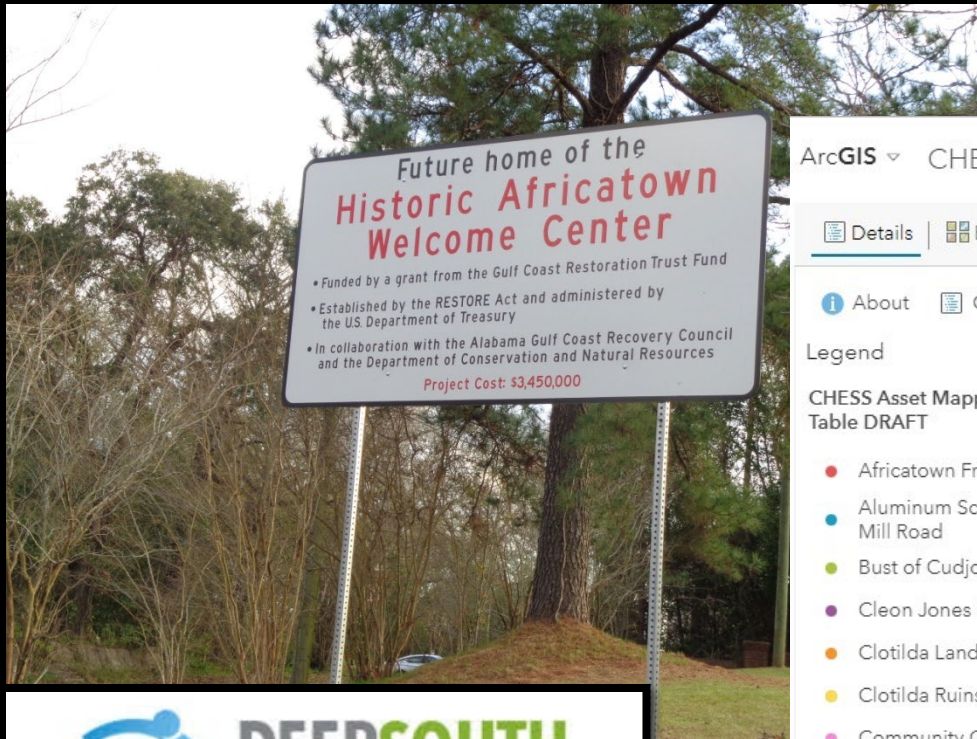
Summer 2020 - The Historical Turkey Creek Community is using GIS maps in support of a legal fight against the planned “North Port Property” development (symbolized by the **red circle**). Out-dated zoning codes designate the community as “Industrial” versus “Residential.” The above EJ SCREEN map shows the potential impacts upon nearby minority populations.

Case Study 3 - Community Asset Mapping with ArcGIS: Africatown Community – Mobile, Alabama



Summer 2020 – The 2019 finding of the Clotilda, the last ship known to have illegally transported Africans from Africa to the US in 1860, has brought major attention to the Africatown Community. The story was a cover feature in the February 2020 National Geographic.




Case Study 3 - Community Asset Mapping with ArcGIS: Africatown Community – Mobile, Alabama





Summer 2020 – Africatown community stakeholders collaborate with Tennessee State University in community-based participatory mapping using GIS to retain control of their local history, culture, and community assets.

Case Study 3 - Community Asset Mapping with ArcGIS: Africatown Community – Mobile, Alabama

Africatown Story Map Urban Geography


A Story Map   





Lewis Landing One

Lewis Landing One is property that is owned by Bobby Rock, 3815 Moffett Rd, Mobile, AL 36618. In 1980 Charlie Lewis, the brother of Cudjoe Lewis gathered his family to move away from their original Africatown settlement. After following the Three Mile trail West, he and his family settled in an area near the intersection of Conception Street and Three Mile Creek. The eastern and western banks of Three Mile Creek

 **DEEPSOUTH**
CENTER FOR
ENVIRONMENTAL JUSTICE

1 Lewis Landing One

2 Lewis Landing Two

3 AfricaTown Baptism LandMark

4 Clotilda Landing

5 Chickasabogue CSX Railroad Turnbridge

6 Africa Town Hog Bayou Docks

7 Historical Chickasaw Docks

8 William Brooks Park

9 Off The Hook Marina And Grill

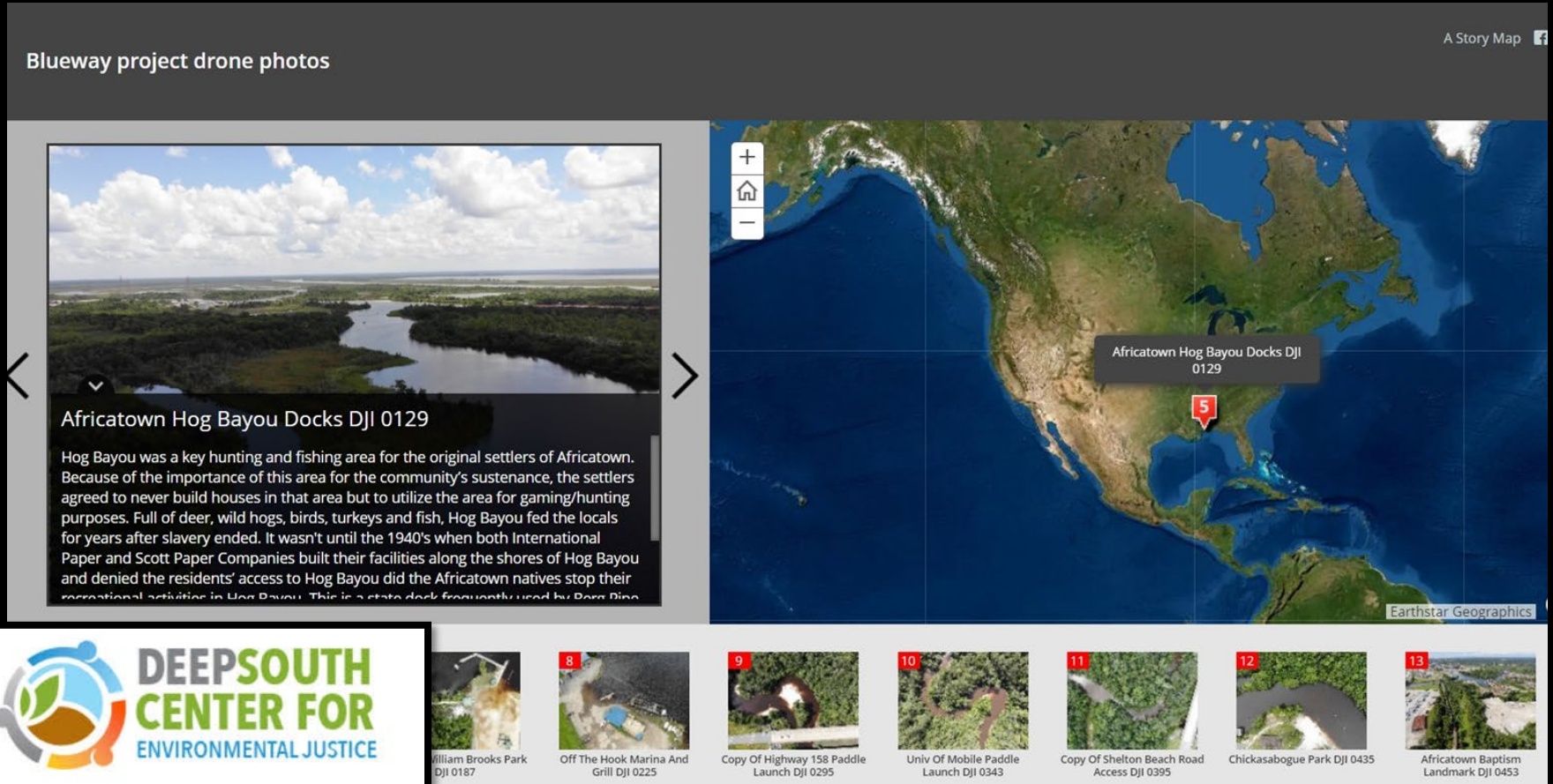
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Summer 2020 – Africatown community stakeholders collaborate with Tennessee State University Urban Geography students and the National Park Service to create a story map of the 14 points of interest on the proposed Africatown Connections Blueway

Case Study 3 - Community Asset Mapping with ArcGIS: Africatown Community – Mobile, Alabama

Blueway project drone photos


A Story Map



Africatown Hog Bayou Docks DJI 0129

Hog Bayou was a key hunting and fishing area for the original settlers of Africatown. Because of the importance of this area for the community's sustenance, the settlers agreed to never build houses in that area but to utilize the area for gaming/hunting purposes. Full of deer, wild hogs, birds, turkeys and fish, Hog Bayou fed the locals for years after slavery ended. It wasn't until the 1940's when both International Paper and Scott Paper Companies built their facilities along the shores of Hog Bayou and denied the residents' access to Hog Bayou did the Africatown natives stop their recreational activities in Hog Bayou. This is a state park frequently used by Barr Pine

Earthstar Geographics

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William Brooks Park
DJI 0187

Off The Hook Marina And
Grill DJI 0225

Copy Of Highway 158 Paddle
Launch DJI 0295

Univ Of Mobile Paddle
Launch DJI 0343

Copy Of Shelton Beach Road
Access DJI 0395

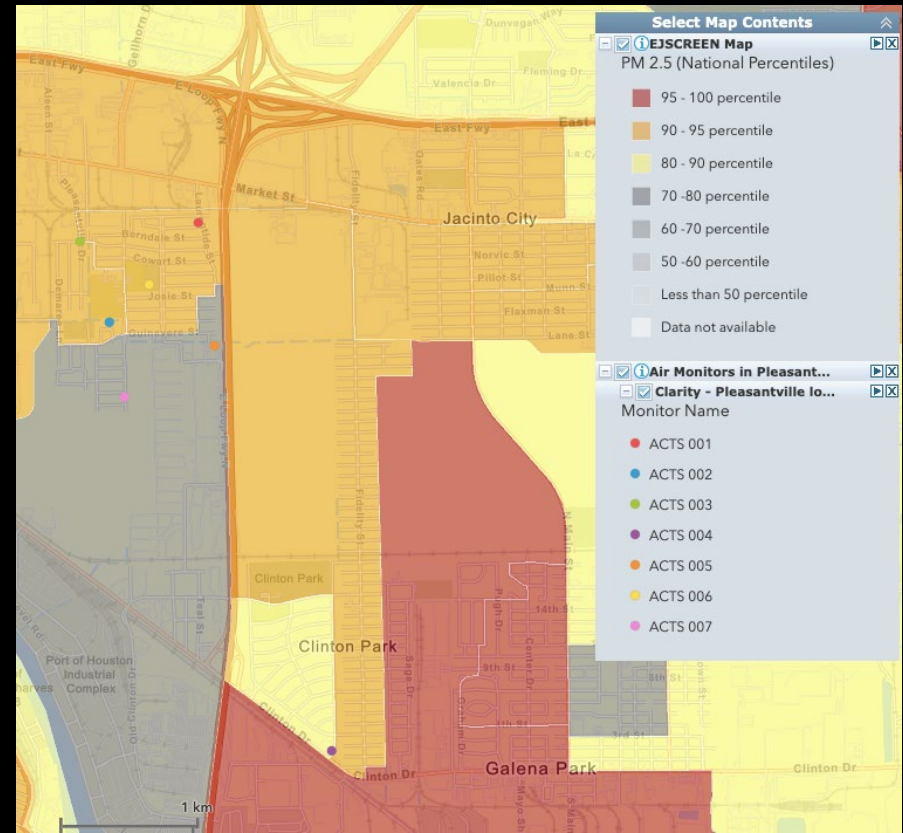
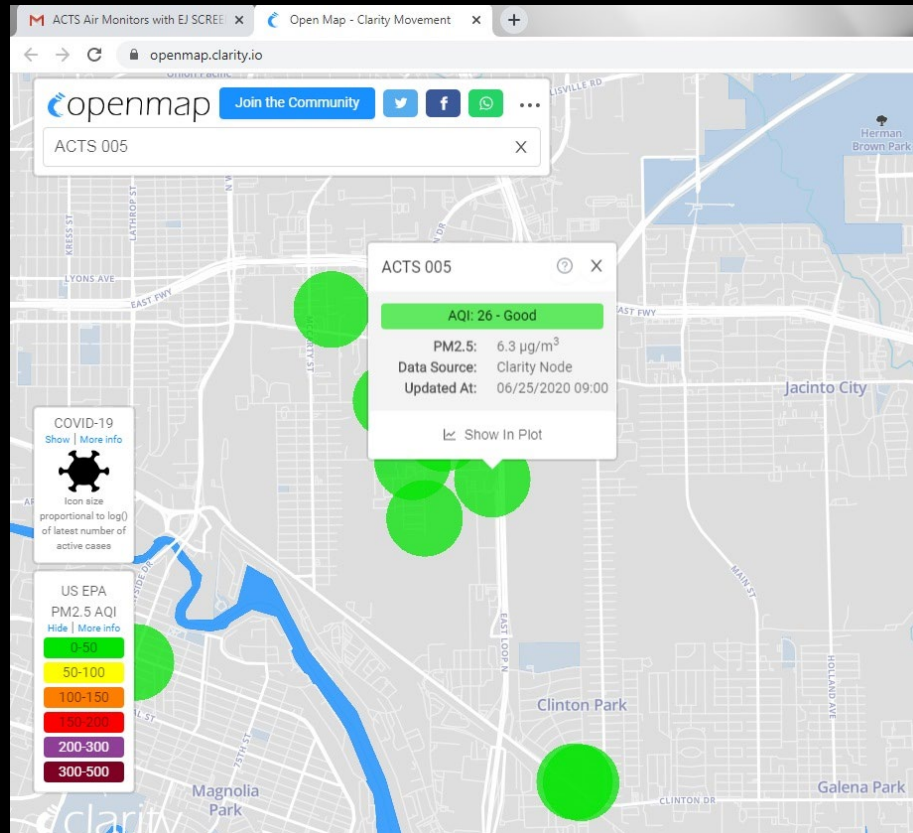
Chickasabogue Park DJI 0435

Africatown Baptism
Landmark DJI 0453

Summer 2021 – Tennessee State University, the US Park Service and Mobile, AL citizen scientists collaborate on a story map featuring high resolution drone images in support of the proposed Africatown Connections Blueway project

<https://arcg.is/1SbzOb>

Case Study 4: Pleasantville Community Houston, Texas




Summer 2020 – The Pleasantville Community was awarded a grant from the Environmental Defense Fund to locate air quality monitors in their neighborhood and environs. Particulate Matter (PM 2.5) and other criteria air pollutant measurements are available in real time on an online map portal (above left). Air monitor locations are layered onto EJ SCREEN maps to assess relative exposure risks.

Case Study 5: Historic Overtown Community Miami, Florida

Historic Overtown StoryMap Tour









Overtown is one of Miami's oldest continuously populated neighborhoods, coming in second only to Coconut Grove. Many people don't know that Overtown's founding was a direct result of the Jim Crow Laws, which segregationists practiced in a number of ways, including the establishment of specific neighborhoods for African-American residents. Initially built to serve as a home for African-American railroad workers employed by Henry Flagler, over the decades, Overtown evolved into a hub for African-American culture, music, and business. By the 1950s, the Overtown neighborhood was considered a Miami hotspot, famous for its nightlife.

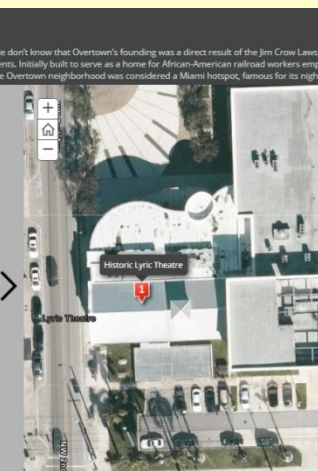


Historic Lyric Theatre

Founded and constructed by Georgia native, Geder Walker, in the year 1913, this historic theater has welcomed a star-studded list of cultural icons to its stage. Among the performers who have had audiences at the Lyric Theatre are Billie Holiday, Sammie Davis Jr., Count Basie, Louis Armstrong and Josephine Baker. The Lyric Theatre is part of The Black Archives, (<https://www.bahf.org/the-black-archives>) which also owns and operates an array of other important historic landmarks in and around the area. Events at the theater are ever-changing, featuring a variety of cultural and art experiences including the monthly Lyric Live, which showcases local talents in a one-of-a-kind interactive performance event.

<https://www.miamiandbeaches.com/things-to-do/history-and-heritage/18-historic-sites-in-miami-overtown>




ADDRESS/NEAREST INTERSECTION/GENERAL LOCATION	LATITUDE
155 NW 6th St	25.7799
NW 2nd Ave	
NW 2nd Ave	25.7803
NW 2nd Ave	25.7818
NW 9th St	25.7827
NW 2nd Ave	25.7827
NW 9th St	25.7827
NW 3rd Ave	25.783
NW 3rd Ave	25.784
NW 3rd Ave	25.784

TABLE	INCUBATOR
JACKSON SOUL FOOD	BOB
JOSEPHINE B.B.	BOB
EBENEZER NATURAL BOIL	BOB

HISTORIC OVERTOWN

CLYDE KILLENS POOL HALL & RECREATION CENTER



SCAN ME

To learn more, use your phone to scan the code, or visit qrco.de/poolhall

Built in 1954, the billiards hall was owned and operated by club promoter and musician, Clyde Killens. The Clyde Killens Pool Hall was located on Overtown's major entertainment corridor, NW 2nd Avenue. Frequenters in the old days included Muhammad Ali, then a young Cassius Clay; boxer Archie Moore; and Flip Wilson.

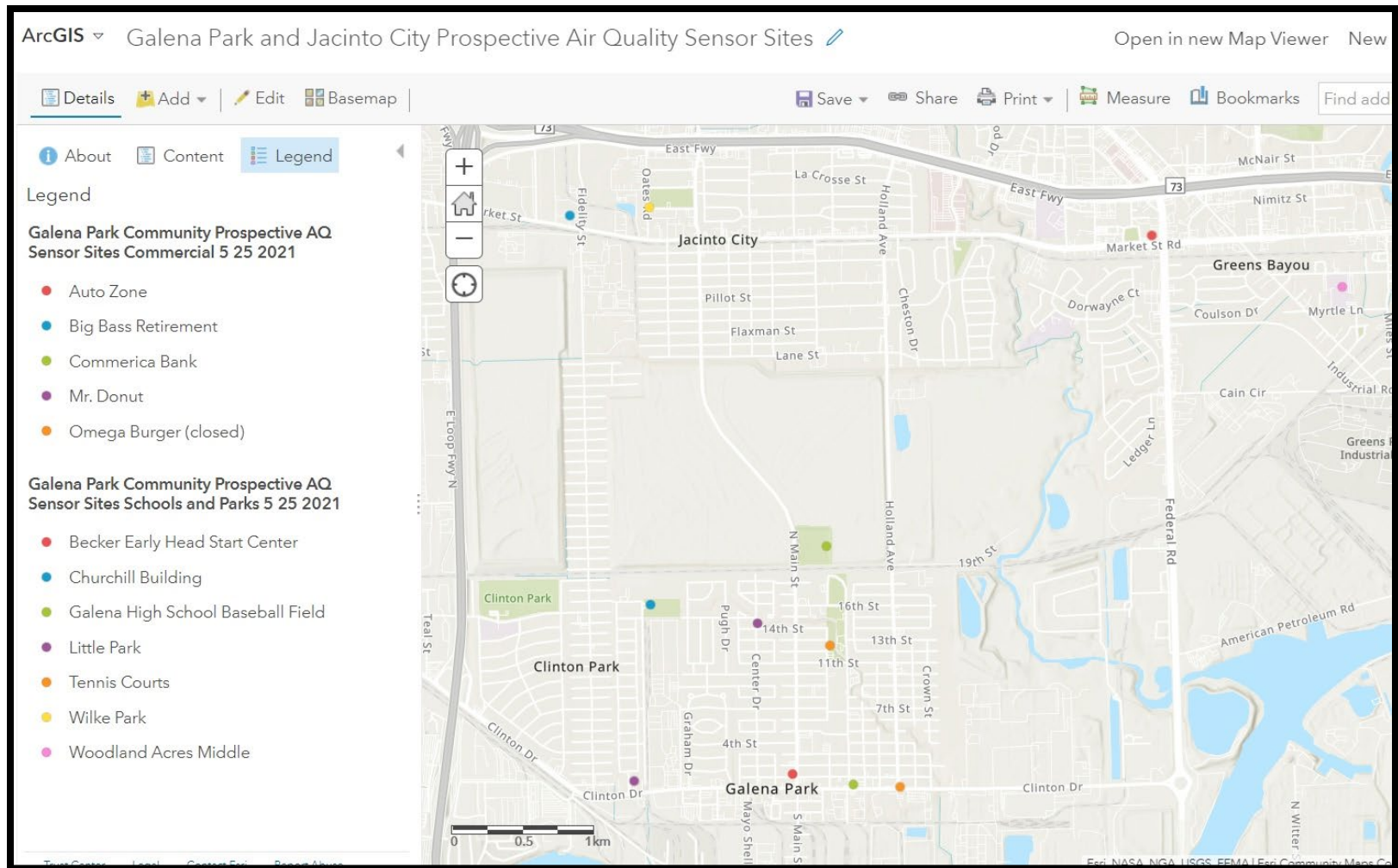
UHP ACTIVATE OVERTOWN

CATALYST MIAMI

Fall 2019 – Fall 2020 – Members of GirlTrek (<https://www.girltrek.org/>), representing the Historic Overtown Community, collaborated with Catalyst Miami (<https://www.catalystmiami.org/>) in an asset mapping workshop in the fall of 2019, that evolved into the development of the “Activate Overtown Tour” (<https://goingovertown.org/activate-overtown/>). Among the objectives of the ongoing project is protect significant Black historical properties from being lost to gentrification, and in support of “heritage tourism.”

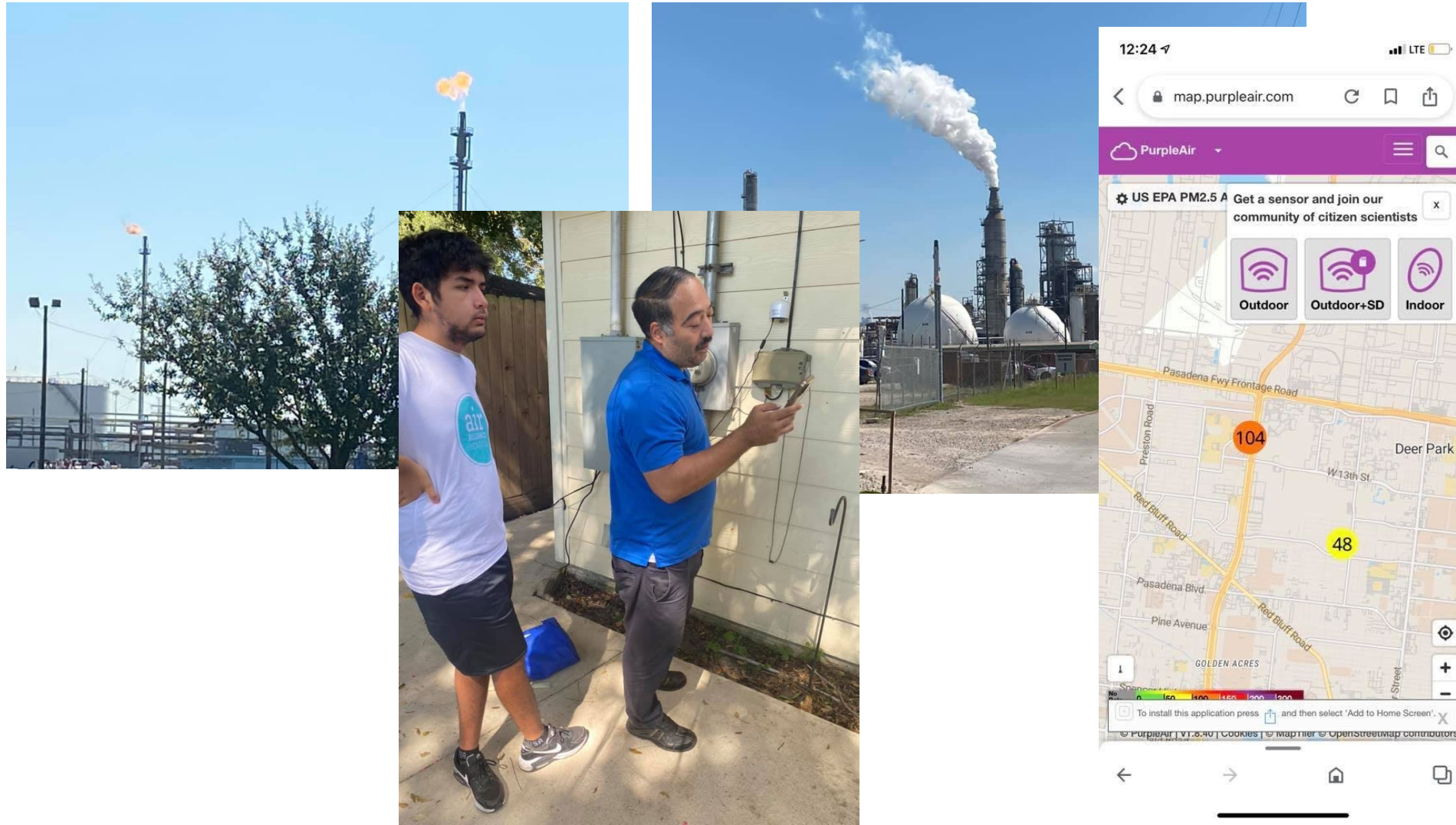
Case Study 6: Air Alliance Houston Community Air Monitor Program

October 2020-June 2021: Prospective air quality sensor locations selected via virtual community-based participatory mapping using ArcGIS Online and Google Maps



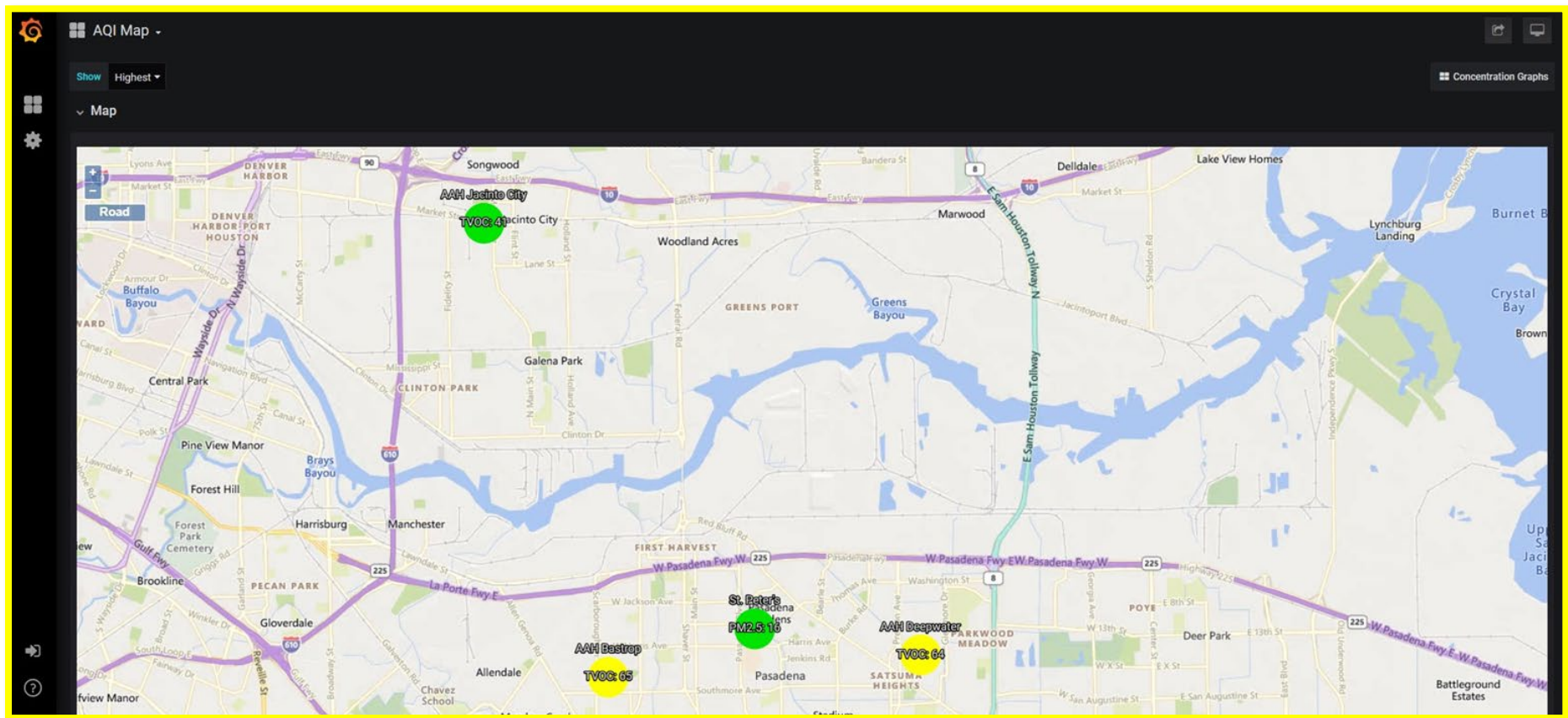
Case Study 6: **Air Alliance Houston Community Air Monitor Program** **Galena Park Community**

October 2021: On the ground tour of CAMP communities lead by AAH Air Quality Ambassadors. Pictured here – Refineries in the Galena Park Community, and installation of Purple Air Monitor by AAH Leader, Juan Flores.



Case Study 6: Air Alliance Houston Community Air Monitor Program

November 2021: AAH Air Monitor Dashboard Including APIS Air Monitors – Map display includes detected levels of VOCs. Community placed APIS and Purple Air Sensors will be added in the near future.



Historically Black College and University (HBCU) Environmental Justice Technical Team

Dr. David A. Padgett, Tennessee State University; Ms. Pamela Bingham, Bingham Consulting Services, Dr. Paul Robinson, Charles Drew University of Science and Medicine; Dr. Linda Loubert, Morgan State University; Dr. Reginald Archer, Tennessee State University; Dr. Tony Graham, North Carolina A&T State University (retired); Mr. Malik Warren, Blue Meta Technologies; and Ms. Cari Harris, Independent Consultant

The HEJTT core group is providing technical assistance to environmental justice and community-based organization (CBO) stakeholders in support of a number community-based participatory research (CBPR) activities, including:

- Applications of EJ SCREEN and ArcGIS Online in support of CBO community air quality monitoring project in the Pleasantville Community in Houston, Texas.
- Stakeholder training in geoscience and cartography in support of strategies to mitigate the negative impacts of landfills upon human health in the Wedgewood Community in Pensacola, Florida.
- Real estate data collection and analysis in support of CBO efforts to develop heritage tourism and preserve critical historical resources in the Africatown Community in Mobile, Alabama.
- Community-based participatory asset mapping and hydrological data analysis in support of community legal actions versus a proposed inland port facility that threatens the quality of life in the historic Turkey Creek community in Gulfport, Mississippi.
- Geographic information systems (GIS) training in support of a community-based flood mitigation program in New Orleans' Lower Ninth Ward.



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