

OHHC2I Community Engagement Core and EJ STRONG:

Empowering Communities to “Use Data and Sound Science to *Make Noise!*”*

* A favorite statement used by Mr. Herbert Maybank, local resident and member of Executive Committee of both the Lowcountry Alliance for Model Communities and the Charleston Community Research to Action Board



Partnerships for Environmental Public Health Network
Meeting

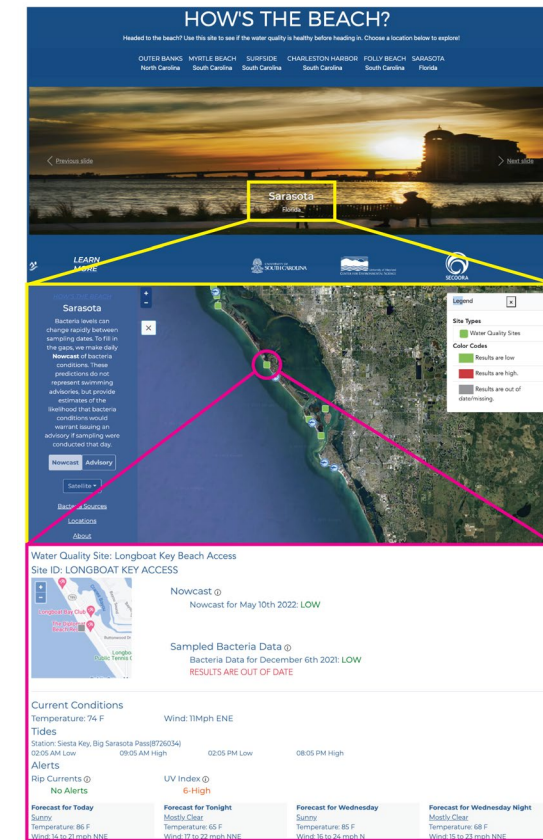
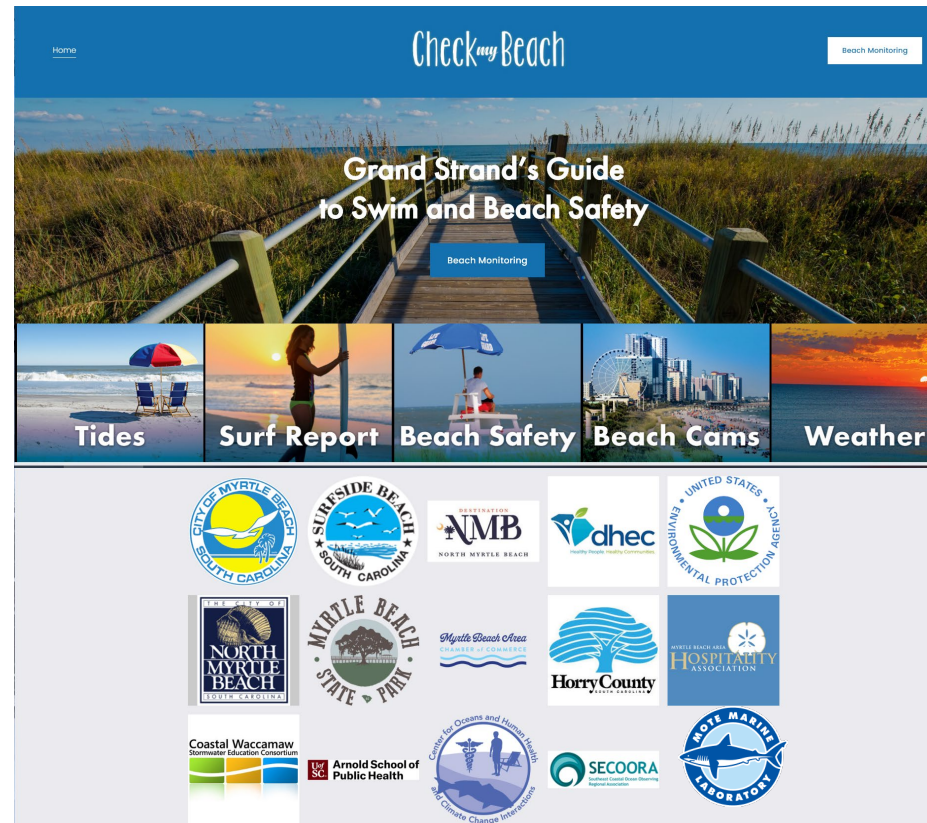
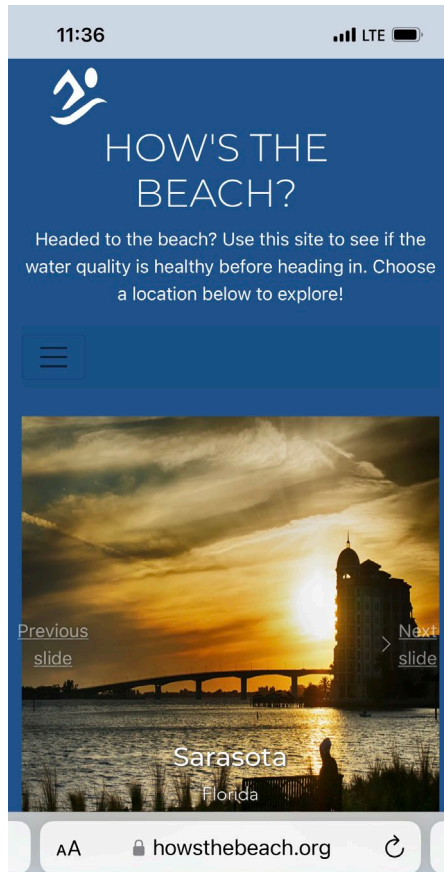


Two Types of 'Communities' and Two Approaches to Community Engagement

- Community Partnerships to Address Public Health and Economic Vitality
- Community Partnerships to Address Quality of Life Issues



Community Partnerships to Address Public Health and Economic Vitality



But that is not the focus of today ...



Community Partnerships to Address Quality of Life Issues

Rosemont Neighborhood Council
"A Growing Community for Growing People"



Introduction

- Rosemont is a neighborhood in the City of Charleston, SC
- The neighborhood is directly adjacent to I-26, one of the busiest highways in Charleston
- Red dots on the image to the right indicate where monitoring stations are located



Source: Google Maps

Community Partnerships to Address Quality of Life Issues

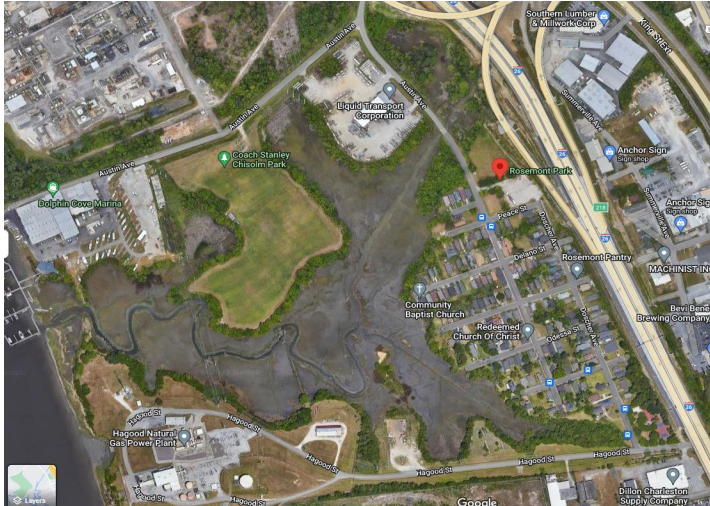
COMMUNITY SPOTLIGHT:

- Identified community needs: water level and air quality monitoring and notification
- Cross project collaboration (WebCOOS, PurpleAir, OHHC²I, EJ STRONG, Southeast Water Level Network)
- Extensive community bi-directional engagement
- Multi-organization collaboration
- Community transition plan

USER ENGAGEMENT:

- Primary focus to engage with community members
- Recognition that using sound science is more effective than emotions
- Establish community engagement and trust to identify community defined needs; cannot be perceived as a 'parachuting scientist'
- Collaborate with communities to design situational monitoring and reporting tools
- Develop outreach material for engagement and educational purposes

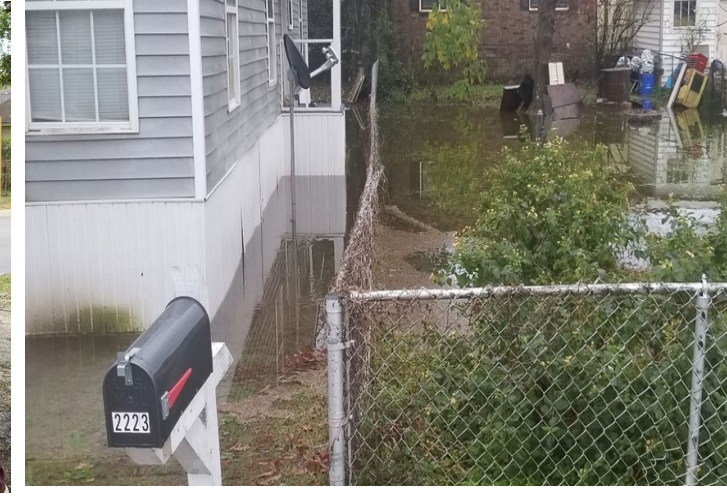
Community Partnerships to Address Quality of Life Issues



ROSEMONT COMMUNITY ENVIRONMENTAL MONITORING PROGRAM

PROJECT PARTNERS

Rosemont Neighborhood Council
"A Governing Community for Growing People"



Community Partnerships to Address Quality of Life Issues

Hurricane Ian

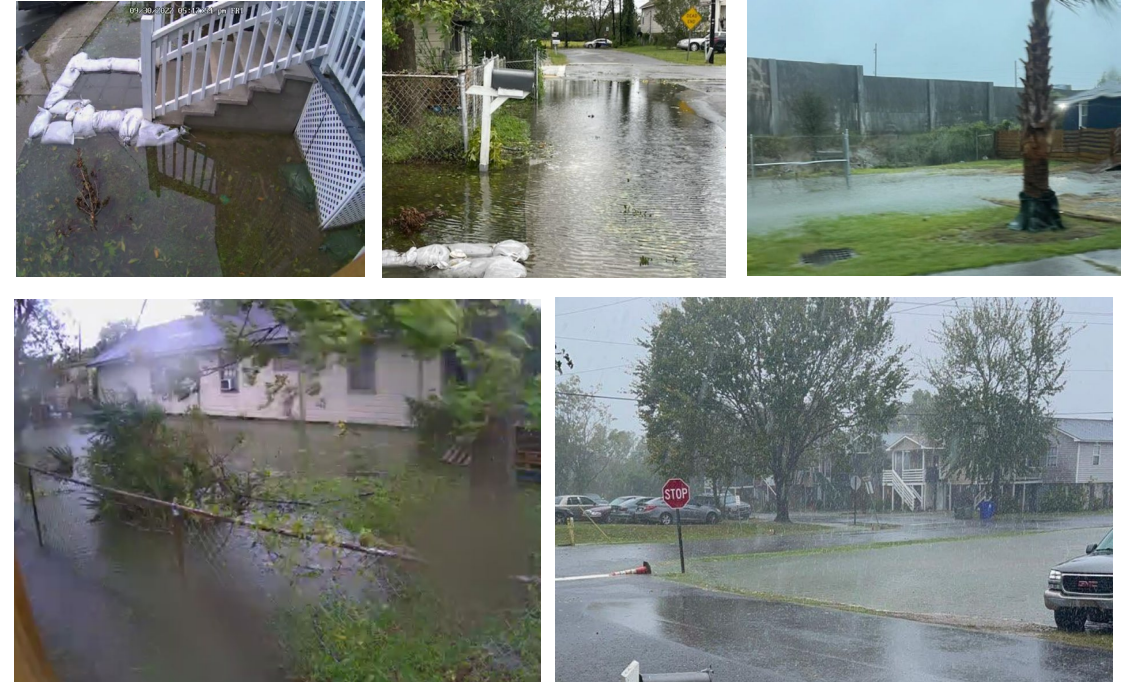


“Grateful we have data storage capacity & a skilled team to record, analyze, assess the harmful effects arising from these water problems Rosemont is experiencing....”

~Herbert Maybank, member of Executive Committee of both the Lowcountry Alliance for Model Communities and the Charleston Community Research to Action Board

COMMUNITY IMPACTS!

Rosemont Community



Through our eyes: Community-driven monitoring during Hurricane Ian captures environmental and public health concerns of Rosemont residents

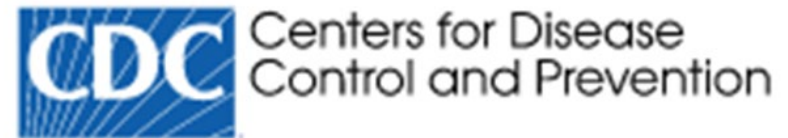
Draft presentation compiled by OHHC2I students and presented to Rosemont Community on 7 December 2022:

<https://www.youtube.com/watch?v=UVeg8EnT1xA>

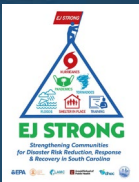


Potential consequences from flooding or standing water

According to the Center for Disease Control and Prevention, floodwater and standing waters can make humans vulnerable to infectious diseases, chemical hazards, and injuries. This impact can have a negative effect on the lives of those affected. Those effects can lead to the public health, environmental, social, cultural, economic issues for the community.

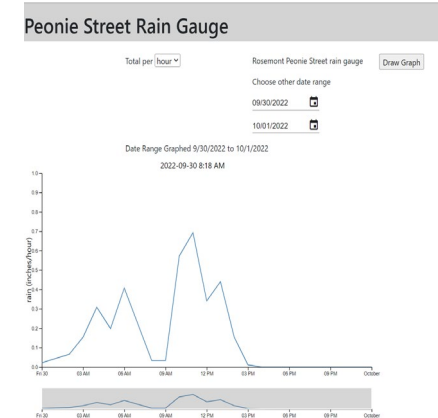


Centers for Disease Control and Prevention Logo
Source: cdc.gov



Potential consequences from flooding or standing water

- **Public health concerns:**
 - Contamination of drinking water systems with bacteria, chemical waste, and/or other toxins
 - Transmission of pathogens such as viruses and waterborne diseases via waste management and sewage systems overflowing
 - Increased risk of both airborne infections via mold and vector-borne diseases via insects



Flooding in Rosemont Community after Hurricane Ian
Source: Resident Personal Phone

Potential consequences from flooding or standing water

- **Environmental concerns:**
 - Stormwater runoff of hazardous materials from nearby industrial manufacturing and Superfund sites (specifically Kopper Company and Macalloy Corporation)
 - Natural habitat destruction, debris, wild animal deaths, migration of nuisance plants and animals such as snakes and frogs
 - Degraded air and water quality
 - Inadequate water drainage systems



Storm Drain in Rosemont Community after Hurricane Ian
Source: Resident Personal Phone

Potential consequences from flooding or standing water

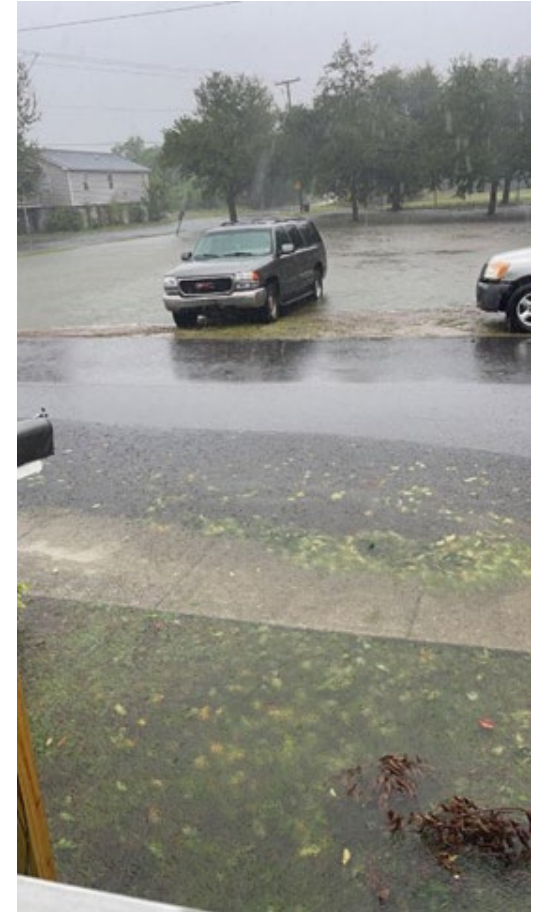
- **Social and cultural concerns:**
 - Residents unable to evacuate homes, hindering 911 rescues
 - Development/exacerbation of mental health/PTSD issues, especially for children
 - Loss of property, traditional and social practices, routines and livelihoods
 - Exacerbation of social inequality due to continued under-service from governmental agencies



Rosemont Community Park during Hurricane Ian
Source: Resident Personal Phone

Potential consequences from flooding or standing water

- **Economic concerns:**
 - Damage to property
 - Increase in insurance premiums and unexpected costs
 - Relocation expenses
 - Loss of income



Cars parked in Rosemont Community after Hurricane Ian
Source: Resident Personal Phone

Potential recommendations

- Adjust the temporal/spatial resolution for the cameras, because the current cameras are not equipped to collect data during nighttime
- Water level gauges could help with the nighttime issue and provide quantitative data on flooding
- Monitors can help to alert people not just about rising floods but when the floods recede
- Additional testing is needed for water quality, air quality, soil health and others
- Improved maintenance of stormwater drainage system





Documenting flooding and air pollution in Rosemont with community-based monitoring

Rosemont residents are taking the pulse on their own environmental health. Organizing around and advocating for a safe and healthy neighborhood, driven by decades of local environmental injustice, has resulted in the installation of air and water monitoring stations in the community. Recently, Environmental Health Sciences (ENHS) 793 course students from the University of South Carolina, who are specializing in community engagement, joined their efforts to highlight the significance of air pollution and flooding on community public health.



The Peonie Street monitoring station, photo by Dwayne Porter.

Tidal and stormwater flooding

When Charleston first began developing a storm surge mitigation action plan, mitigation actions proposed for Rosemont did not address the concerns of residents. Because of the Rosemont community's advocacy, the City has now dedicated resources to more holistic resilience planning in partnership with the neighborhood.



A bird wades through a flooded park in Rosemont following a rain event, photo by Rosemont residents.

Industrial and highway pollution

Industrial activity, adjacent Superfund sites, and traffic from Interstate-26 have created pollution that affects the community's air quality.



Flooding near the I-26 soundwall at Rosemont, photo by Rosemont residents on September 30, 2022.

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Preparing for a crisis

Disaster relief training in state's low-wealth communities, modeled after program in Philippines, a first for the US



A cyclist on Meeting Street near Sprull Avenue navigates the remnants of a deluge in July 2018. North Charleston communities have begun disaster relief training to help prepare low-wealth neighborhoods better respond during crises.

BY RICKEY CIAPHA DENNIS JR.
rdennis@postandcourier.com

NORTH CHARLESTON — South Carolina's low-wealth communities have begun disaster-relief trainings aimed at helping neighborhoods better prepare for crises.

State agencies and community groups held their first emergency preparation session June 25 at the Perry-Webb Community Center in North Charleston's Accabee neighborhood. There, dozens of attendees from across the state joined in person and virtually for the first of four trainings aimed at strengthening the state's at-risk communities for disaster risk-reduction, response and recovery.

The trainings, modeled after mutual-aid sessions done in the Philippines, are the first of their kind in the United States, said Omar Muhammad, executive director for the Low-country Alliance for Model Communities. While other cities have mutual-aid networks,

"We waited early on we can't wait on government."

Omar Muhammad
Executive Director for the Low-country Alliance for Model Communities

"This is designed for the community to design its own plan," Muhammad said. The effort is funded by a \$200,000 grant from the Environmental Protection Agency, and also involves LAMC, the S.C. Department of Health and Environmental Control, the College of Charleston, Clemson University and the University of South Carolina.

The idea is for DHEC to train neighborhood "block captains," who will be sources of information and supplies during crises. These people will also be contacts for health agencies, helping them more easily identify community

ings focus on the seven North Charleston communities represented by LAMC, as well as the Rosemont neighborhood in Charleston. The June 25 inaugural training session also featured guests from Marlboro and Aiken County counties, and the city of Columbia.

Trainings will highlight four types of disasters in particular: hurricanes, flooding, chemical releases and pandemics.

Participants will learn about the risks of mold and also how to weatherize homes, which includes sealing doors and windows.

There will also be a focus on food insecurity, as Clemson hopes to expand its Food Access Map covering the Upstate to a statewide resource that identifies food resources.

The disaster relief sessions will occur quarterly and end fall 2022. Forty-five persons will be trained for the sessions, which have reached maximum capacity.

"The interest has been overwhelming," Muhammad said.

Schools honored for STEM education

Six awards from national nonprofit a CCSD record

BY LIBBY STANFORD
lstanford@postandcourier.com

Six Charleston County schools earned distinctions for their commitment to science, technology, engineering and math education over the 2020-21 school year.

Project Lead The Way, a nonprofit dedicated to providing STEM professional development and curriculum to schools across the nation, gave out High School Distinguished School awards to Wando High School, James Island Charter High School and the Charleston Charter School for Math and Science's high school program.

The nonprofit awarded the Gateway Distinguished School recognition to Morningstar Middle School in North Charleston and Moultrie and Thomas C. Cario middle schools, both in Mount Pleasant. The Gateway award also went to the middle school program at the Charleston Charter School for Math and Science.

The six awards are a record for Charleston County School District, which has used the nonprofit's curriculum for over a decade.

The nonprofit names its Distinguished Schools for each year based on the schools' commitment to providing Project Lead The Way programs, which include engineering, biomedical and computer science curriculum.

For the past decade, the district has been working to expand its Project Lead The Way curriculum, said Tralce Reddock, career and technology education curriculum specialist. Currently, 19 schools in the district offer Project Lead The Way programs.

Through the curriculum, students are taught engineering processes, how to build buildings, design sustainable architecture, create robots and program computers. They also get experience identifying skeletal remains and analyzing disease outbreaks through simulations provided by the program.

Please see **STEM**, Page A4

Third overlay zone proposed for transit line



Community Partnerships to Address Quality of Life Issues

BROADER IMPACTS!!



Community Partnerships to Address Quality of Life Issues

BROADER IMPACTS!!

City of Charleston
Resilience Plan for
Rosemont

Lower Richland's
CERT training and
Early Warning
System Planning

CMDRR App
developed by
Georgia Tech
computer science
majors

Clemson's Food
Security interactive
map

Shaping the
trajectory of
intermediate funding
at EPA

Community-Led Resilience Planning



Matching Funds : \$217,000

Community Capacity Building for Nature-Based Flood Resiliency in Rosemont and Bridgeview, SC



City of Charleston

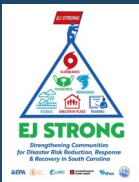
Total Project Contributions: \$767,000

And hot off the press

EPA – EJ STRONG: Practicing Risk Reduction Education through Partnership in South Carolina

EPA – EJ STRONG: Resilience in the Southeast

SC General Assembly – EJ STRONG: Citizens Earning and Learning



QUESTIONS?

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