50 STATES, 50 FIXES

Fighting Louisiana Floodwaters With Patches of Green

Simple, affordable initiatives like rain gardens are helping to soak up water in New Orleans.





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When Angela Chalk first heard there were ways that ordinary people could offset flooding in New Orleans, she was skeptical.

Her neighbors in the Seventh Ward knew all about heavy rains that brought knee-high floodwaters, spilling into porches and marooning cars and homes, and were frustrated that it was something they felt powerless to stop.

Then she heard Jeff Supak, head of a nonprofit organization now called Water Wise Gulf South, talk about how simple fixes like rain gardens and vegetated ditches, also known as bioswales, could soak up extra rain.

She challenged Mr. Supak to prove it.

50 States, 50 Fixes is a <u>series about local solutions</u> to environmental problems. More to come this year.

"I didn't know if this was some lamebrain, cockamamie excuse post-Katrina, because so many people were telling us they could do so many things post-Katrina to help improve communities," recalled Ms. Chalk, the executive director of a nonprofit group that focuses on public health and sustainability, referring to the 2005 hurricane that ravaged the city.





Angela Chalk by a bioswale, a vegetated trench that can absorb stormwater, in New Orleans. Even rainfall in the range of one inch can cause flooding in parts of New Orleans. Native trees are planted to help absorb water.

A bioswale was installed alongside Ms. Chalk's driveway, native species were planted, and clay in her backyard was replaced with absorbent soil.

During the next heavy downpour, Ms. Chalk looked outside. Storm water that previously had nowhere to go was seeping into the ground. She took photos and shared them with friends.

"What I saw at her home was a project that I had never witnessed before," recalled one of the friends, Cheryl Austin, who works with a community organization, the Greater Treme Consortium. "I was so impressed."

Word spread, and more of Ms. Chalk's neighbors agreed to have rain barrels installed to catch runoff from roofs, and French drains, which are underground perforated pipes topped with gravel that filter and redirect heavy rain.

Today, green infrastructure projects on Ms. Chalk's block can capture 8,800 gallons of rain per storm, and Water Wise has installed 150 projects in public and private spaces across low-lying neighborhoods. Altogether, they can retain 190,000 gallons of water per storm, mitigating local flooding.

"There are multiple benefits," said Mr. Supak, whose group has also planted nearly 800 trees. "It's about flood risk. It's about water quality. It's about green spaces in your neighborhood. It's about the urban heat island effect, because we have so much concrete and we're such a hot city. And it's about beautification."

Green infrastructure isn't a cure-all for New Orleans's flooding problems, but in a city where much of the land lies below sea level, it certainly helps. Slowing heavy rains gives the city's complex, antiquated system of pumps and drains a chance to catch up, and lessens standing water, which in turn decreases the risk of mold and mosquitoes. Catching rain in planters, french drains and gardens also means that storm water previously contaminated by concrete and asphalt is filtered by the time it's pumped back into nearby Lake Pontchartrain.

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Top, a rain garden and community park in the Seventh Ward in New Orleans. Above, Cheryl Austin of the Greater Treme Consortium, a community group. The consortium offices have a permeable driveway, a bioswale and a rain barrel to absorb heavy rainfall and reduce flooding.

"Every drop of water that is stored somewhere that is not in our drainage system counts toward a benefit," said Meagan Williams, the urban water program manager for the city of New Orleans. "If we can't take away all the flooding, but we can reduce how much it's flooding, then we're moving the needle in the right direction."

Water Wise Gulf South also turns the idea of top-down fixes on its head. The organization, which is largely funded by private donors and foundations, operates as a collective, working with half a dozen community groups in primarily Black neighborhoods. Residents who know which drains get clogged and which driveways get swamped determine where projects go, and often design and build them, too.

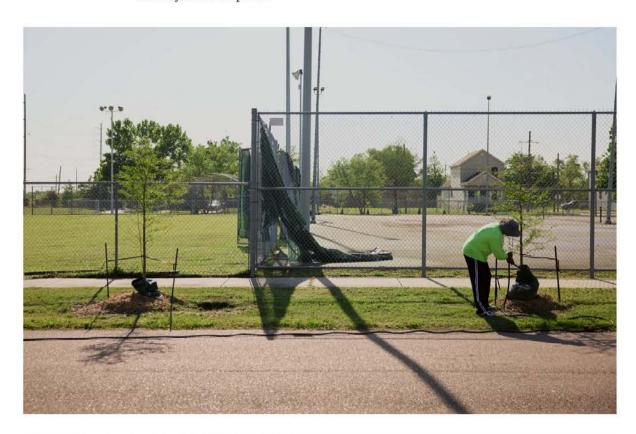
"We let residents know there are things they can do to help mitigate these flooding issues that they are dealing with again and again," said Trina Warren, who works with one of the neighborhood organizations that is part of the Water Wise collective.

One Water Wise project was installed at the behest of Brenda Lomax-Brown, whose neighborhood, Hollygrove-Dixon, is sandwiched between an interstate and a state highway and is often water loggett.

To get to the local community center after heavy rains, people had to wade through standing water, often in rubber boots. Water Wise installed permeable paving stones in the parking lot to speed up drainage and planted a rain garden to catch runoff from the roof.

A week later, Ms. Lomax-Brown was at the community center when the skies opened up, unleashing sheets of rain.

She ventured outside. "There was no more puddling. You didn't need boots to get in," Ms. Lomax-Brown said. "And I was singing 'Hallelujah' on the porch."











Top, a worker watered trees planted for flood mitigation in New Orleans. Above, Groundwork New Orleans, a local nonprofit group, installed a flood-management system outside a home in the Lower Ninth Ward.

The Water Wise project, she added, "was just the greatest thing since apple pie."

This year, Water Wise had hoped to implement more than 100 larger scale projects, but that would require government funding, which Mr. Supak said seemed unlikely, given the current political landscape. Still, there were dozens of smaller green infrastructure projects in the works, he said.

Ms. Austin, of Treme, said each of the projects offered new ways of showing people in New Orleans how to connect with what was happening with the climate while learning how they could help keep storm waters at bay.

"This was not a subject that we talked about in the Black community," Ms. Austin, 70, said.

"For the past 50 years, after graduating high school, I very rarely heard anything in Treme about climate change or the environment," she continued. "We came into this issue unknowingly, not knowing that it would be one of the most important issues of the world."