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‘Beyond anything experienced’

Fast-rising waters triggered by Harvey force thousands to flee

From wire service reports

HOUSTON — The full extent of Hurricane Harvey’s aftermath started to come into chilling focus Sunday in Houston and across much of central Texas, as rain measured in feet not inches overwhelmed lakes, rivers and bayous, leaving several people dead and thousands displaced in a weather disaster described as “beyond anything experienced.”

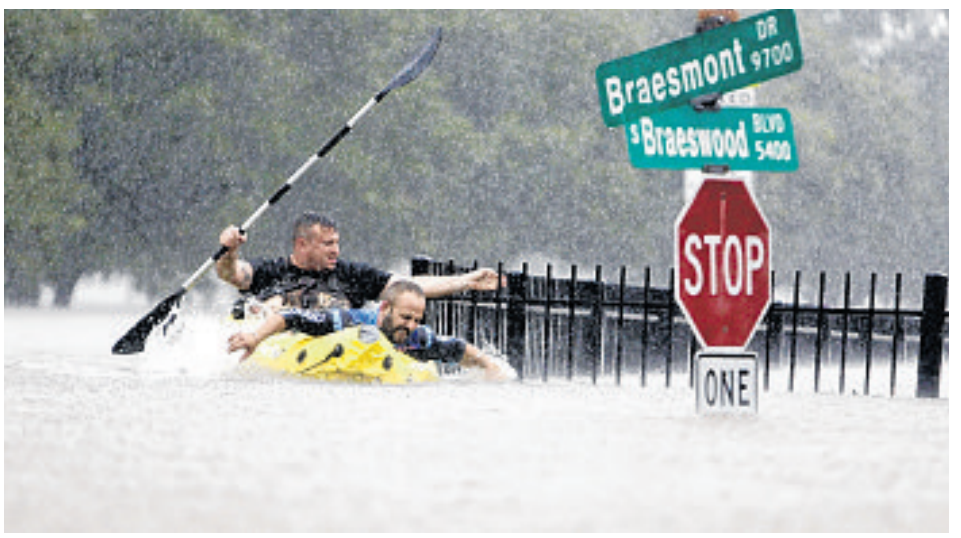
Across the nation’s fourth-largest city and suburbs many miles away, Harvey left families scrambling to get out of their fast-flooding homes. Rescuers — in many cases neighbors helping neighbors — in fishing boats, huge dump trucks and even front-end loaders battled driving rains to move people to shelter.

Some used inflatable toys to ferry their families out of inundated neighborhoods, wading through chest-deep water on foot while the region was under near-constant tornado watches.

By Sunday afternoon, the National Weather Service was predicting that parts of Texas could receive nearly 50 inches of rain, the largest recorded total in the state’s history. It also warned that Harvey’s relentless downpours were expected to continue until late in the week and that *See* **HARVEY,** *page 4*

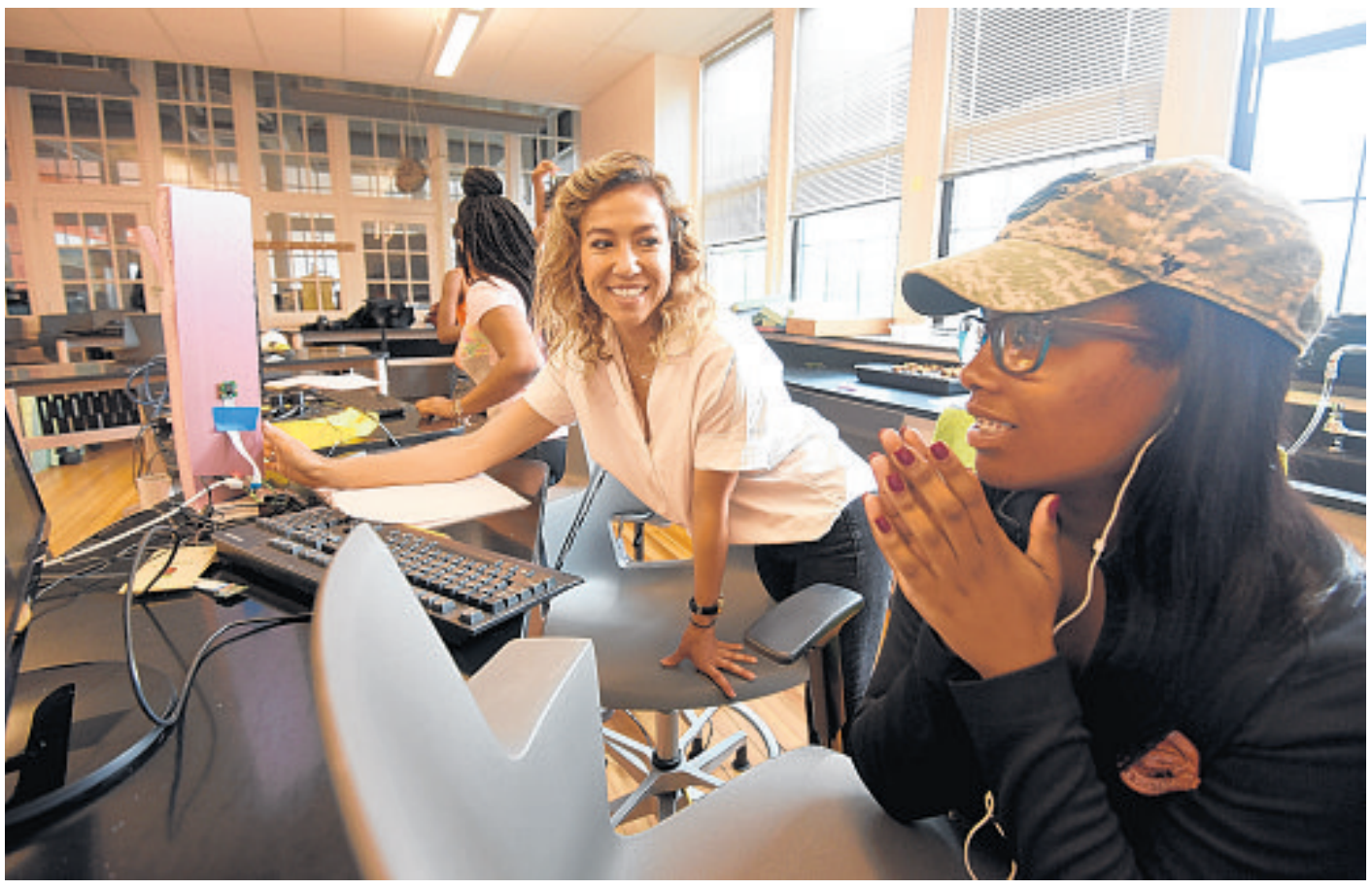
Inside

Houston has a long history of flooding
NEWS PG 4



MARK MULLIGAN/ASSOCIATED PRESS

Two kayakers try to beat the current pushing them down an overflowing Brays Bayou in Houston. Rescuers answered thousands of calls for help Sunday as floodwaters rose.



ALGERINA PERNA/BALTIMORE SUN PHOTOS

Maya Horton, 16, foreground, is excited when she programs her computer successfully. She is a student in a class at Green Street Academy taught by Melanie Shimano, center, that involves growing food in hydroponic greenhouses controlled by computers.

A byte to eat: Students learn agriculture for digital age

Class grows its food in tabletop greenhouses controlled by computers

By Sarah Meehan
The Baltimore Sun

Half an hour into a cooking competition at Green Street Academy, Tyana Givens, 15, dipped a plastic spoon into a pot simmering with ground turkey, tomatoes, bell peppers, onions, garlic and mushrooms over a burner in a science classroom.

She and the two other students, Kalimah Ball and Maya Smith, both 17, were making meat sauce from scratch to toss with rotini.

The girls had spent the past five weeks learning how to grow their own produce using food computers — tabletop greenhouses controlled by computer programs — at Green Street Academy, a charter school in Baltimore. The course, which weaved together lessons on programming, food systems and agriculture, culminated with an “Iron Chef”-style cooking contest.

Givens took a taste of the sauce and called her teacher over for advice.

“It’s missing something,” she said. “I just don’t know what.”

Tiara Dixon, 17, another student of Shimano’s, drops a piece of chicken into a pan.

Her group later added arugula, one of two crops they’d learned to grow inside the food computers they’d built just weeks earlier.

With the help of instructor Melanie Shimano, the all-girl class of 11 high school students and recent graduates incubated arugula and lettuce inside moving-box-size cubes made from insulation foam, duct-taped together with a grow light on the lid and an observation window on the front. A $30 computer the size of a credit card controlled temperature, light and *See* **FOOD,** *page 7*

Cannabis clinics raise concerns

As Baltimore readies for 11 marijuana businesses to open, neighbors balk

By Luke Broadwater
The Baltimore Sun

As Baltimore prepares for the opening of 11 medical marijuana dispensaries in the city, some residents say it’s been difficult to get information about where they’re opening or how the sites were selected.

The Baltimore City Council plans to hold a hearing at 1 p.m. Wednesday to get details about “the launching of upcoming medicinal marijuana dispensaries, their impact on local zoning and enforcement, and their impact on community master plans in Baltimore City.”

City Councilwoman Mary Pat Clarke said she called for the hearing after members of her district expressed concerns about a dispensary scheduled to open in the 3300 block of Keswick Road in Wyman Park.

“Basically they’re concerned about reports and academic studies that indicate that in other locations throughout the nation crime increases in surrounding neighborhoods to these locations,” Clarke said of residents of her district. “This backs up to a residential neighborhood. Yes, it’s zoned commercial but there should be a process for community input for the location of these dispensaries.”
See **CANNABIS,** *page 7*

SUMMARY OF THE NEWS

MARYLAND

CHARLOTTESVILLE ARREST: A 52-year-old Baltimore man has been arrested and charged with firing a gun at the white supremacist rally in Charlottesville, Va., earlier this month. Richard Wilson Preston was arrested Saturday in Maryland. **NEWS PG 3**

TODAY’S WEATHER

MOSTLY CLOUDY

75 HIGH | 63 LOW

Cloudy, shower possible Tuesday **SPORTS PG 10**

Study: Drug lowers heart risk via inflammation reduction

By Marilynn Marchione
Associated Press

For the first time, a drug has helped prevent heart attacks by curbing inflammation, a new and very different approach than lowering cholesterol, the focus for many years.

People on the drug also had surprisingly lower cancer death rates, especially from lung cancer. An anti-tumor effect is an exciting possibility, but it needs much more study because the heart experiment wasn't intended to test that.

Doctors say the results on the drug, canakinumab, open a new frontier. Many heart attacks occur in people whose cholesterol is normal and whose main risk is chronic inflammation that can lead to clogged arteries. "We suddenly know we can address the inflammation itself, the same way we learned almost 25 years ago that we could address cholesterol. It's very exciting," said the study's leader, Dr. Paul Ridker of Brigham and Women's Hospital in Boston.

Results were published Sunday by the New England Journal of Medicine and Lancet, and presented at the European Society of Cardiology conference in Barcelona, Spain. The drug's maker, Novartis, sponsored the study, and Ridker consults for the company.

Statins such as Lipitor lower LDL or bad cholesterol and have been the cornerstone of preventing heart attacks along with not smoking, blood pressure control and a healthy lifestyle.

Yet one quarter of people who suffer a heart attack will have another one within five years, and inflammation is a culprit in half of those cases.

Inflammation happens after a joint is injured and swells, but similar chemical responses can occur over time throughout the body with unhealthy habits. That chronic, unseen inflammation can damage arteries and set the stage for clots.

Twenty years ago, Ridker helped clarify its role and patented a cheap blood test for a sign of inflammation called high-sensitivity C-reactive protein, or CRP.

Canakinumab lowers CRP and is sold now under the brand name Ilaris for some rare inherited diseases.

The study tested it in 10,000 heart attack survivors with low cholesterol but high CRP. They got the usual heart medicines including statins and were given one of three different doses of canakinumab or a placebo as a shot every three months.

Those on the medium dose had a 15 percent lower chance of another heart attack, a stroke or a heart-related death over the next four years compared to people given dummy shots. About 33 people would have to be treated for five years to prevent one of these problems — a ratio that outside experts called very good. The highest dose also lowered risk but not by enough to say the drug was the reason. The lowest dose had no effect.

Canakinumab's benefit was comparable to Repatha, a powerful new type of cholesterol-lowering drug called a PCSK9 inhibitor. It came out two years ago and has had tepid sales, partly because many doctors hoped it would help more and due to its price — $14,000 a year.

But canakinumab raised the risk of fatal infections — about 1 of every 1,000 patients treated. Older people and diabetics were most vulnerable.

The drug had no effect on death rates once cancer, infection and heart risks were balanced out.

"The fatal infections are something to be concerned about," but overall trends are in a good direction, said Dr. David Goff of the National Heart, Lung and Blood Institute.

Novartis said it's premature to discuss price for any use as a heart medicine. It costs as much as $200,000 now for rare diseases and would have to prove cost-effective to justify its relatively modest benefits and risks for heart disease prevention, Dr. Robert Harrington, chairman of the department of medicine at Stanford University, wrote in a commentary in the New England journal.

The company said it would discuss the new results with regulators and pursue further studies on the lung cancer possibilities.

Ex-Colombia rebels launch political party, vow leftist bloc

By Christine Armario
Associated Press

BOGOTA, Colombia — After more than five decades of battle in Colombia's jungles, the nation's largest rebel movement initiated the launch of its political party Sunday at a concrete convention center in the capital, vowing to upend the country's traditional conservatism with the creation of an alternative leftist coalition.

The Revolutionary Armed Forces of Colombia will transform into a political party under a new, still-to-be-announced name as part of a historic peace deal signed last year. The accords guarantee the ex-combatants 10 seats in Congress and the same funding the state provides to the nation's 13 other political parties, in addition to a half-million dollars in funding to begin a think tank to develop their political ideology.

"We are taking an extraordinary step in the history of the common people's struggle in Colombia," said Rodrigo Londono, better known as Timochenko, to an audience of former guerrillas.

"This doesn't mean we are renouncing in any way our fundamental principles or societal project," he said.

The organization has signaled that it will adhere to its Marxist roots and focus on winning votes from peasants, workers and the urban middle class with a social justice platform, but it faces opposition from many who identify the guerrillas with kidnappings and terrorism.

A poll released in August found that fewer than 10 percent of Colombians said they had total confidence in the rebels as a political party, and a large majority said they'd never vote a former guerrilla into Congress.

"They're not going to be received very warmly in most of Colombia," said Adam Isacson of the Washington Office on Latin America think tank. "Their human rights record hurt them. Their media image is terrible. Most Colombians quite simply aren't socialists or communists."

But, he added, "All is not lost. A message of wanting to redistribute wealth and undo economic injustice could probably do quite well in a lot of poor areas of Colombia."

The group's entrance into politics has been met with fierce resistance from leaders such as former President Alvaro Uribe, one of the peace agreement's staunchest critics.

FROM PAGE ONE

Neighbors balk at city marijuana dispensaries

CANNABIS, *From page 1*

While the Baltimore County Council has set zoning rules that will govern where medical marijuana businesses can open, Baltimore City officials have chosen to simply treat the marijuana facilities like pharmacies under the zoning code — and not pass special legislation for them. That means that a medical marijuana facility approved by the state doesn't need to get zoning approval from the city to open.

"My main concern is the lack of transparency," said Jack Boyson, president of the Wyman Park Community Association. "It appears some neighborhoods are going to be very surprised to find out they have medical marijuana dispensaries in their neighborhoods because it's not being announced. There have been no hearings. There has been no input. There is no zoning criteria in place in terms of how far away they should be from residential areas, child care centers, parks, churches and schools."

Alan Staple, owner of the proposed dispensary in Wyman Park, said he's met with Clarke and the local residents. He said he's working on a memorandum of understanding to address their concerns.

"Although medical cannabis has been approved in many states, it's new to Maryland and naturally people have many questions and some misconceptions," he said in an email. "Dispensaries will be serving patients in need, who have been approved by their physicians, much like a pharmacy. There's no reason to stigmatize patients that need medical cannabis. They are not criminals."

Mayor Catherine Pugh said she wants to make sure that patients have access to medical marijuana if a doctor prescribes it. But she said she also wants to be mindful of community concerns and not place the dispensaries in residential areas.

"I think they have questions that deserve answers," Pugh said of the residents. "I don't want to see them backed up against communities and neighborhoods."

The mayor said the dispensaries should be located in commercial areas "equitably distributed" throughout Baltimore.

"There are people in desperate need of this treatment," she said. "I would not want people denied that kind of treatment."

Maryland lawmakers approved medical marijuana in 2013, but it has taken years for the program to get off the ground. The Maryland Medical Cannabis Commission has granted preliminary dispensary licenses to 102 operators. Only one — the Wellness Institute of Maryland in Frederick — has received final state approval to open.

The commission awarded the preliminary licenses by state Senate district. When applying for the licenses, prospective operators did not have to specify their proposed locations. In many cases, the locations are just becoming known as operators prepare for final inspections ahead of a December deadline to open.

"There's no criteria about density," said Boyson, noting that two or possibly three facilities are being planned near his neighborhood.

In Baltimore, 11 medical marijuana dispensaries have been pre-approved by the state in the city's six legislative districts.

They are:

- Chesapeake Integrated Health Institute LLC and WadeWomen LLC-Dr. Dot's in West Baltimore's District 40.
- H&G Maryland LLC in Northwest Baltimore's District 41.
- Blair Wellness Center and Medical Products and Services Inc. in North Baltimore's District 43.
- Charm City Relief Partners LLC in Southwest Baltimore's District 44.
- CannaMD LLC and Hallaway LLC in East Baltimore's District 45.
- GreenLabs Inc., Pure Life Medical Inc. and Doctor's Order Maryland in South Baltimore's District 46.

Baltimore also has one licensed grower and pre-approved processor, Temescal Wellness LLC.

Baltimore County lawmakers moved in 2015 to place restrictions on where the centers can open. Medical marijuana dispensaries there must be 500 feet away from schools and 2,500 feet from another dispensary, according to legislation passed by the County Council.

Lester Davis, a spokesman for Baltimore City Council President Bernard C. "Jack" Young, said city officials are following existing law in how they are implementing the medical marijuana program.

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Students use computers to grow food on tables

FOOD, *From page 1*

water inside the contraptions using code the students wrote themselves.

Shimano, a 26-year-old entrepreneur, piloted the course as part of Green Street Academy's junior biotechnology class in the spring and offered it this summer through YouthWorks, a grant-funded program that provided summer work experiences for 8,300 14- to 21-year-olds in Baltimore. She will expand the program to other schools in the fall, including Gwynns Falls Elementary School.

"Technology is not something that a lot of teachers have a lot of resources for all the time, but it's something that's not difficult to do with a relatively low amount of funding," Shimano said. "Baltimore is a hub for startups and food, so kind of fostering that culture of being into technology and into design and see all the pieces fit together is really cool."

While her course is unique to Baltimore, it's part of a broader program born at the Massachusetts Institute of Technology's Media Lab called the Open Agriculture Initiative, or OpenAg, which aims to create inventive, sustainable food systems through open-source technology. In addition to 10 full-time staff and researchers, OpenAg is primarily an online community of about 1,400 educators, growers, chefs and retailers in 47 countries, according to Hildreth England, OpenAg's assistant director.

"The interest level across the board generally comes from folks who are concerned about food systems and concerned about the environment, and it's usually a combination of the two," England said.

Food computers can replicate the ideal growing conditions — or create a climate that draws out certain flavors and textures — for produce by manipulating factors including light, humidity and water intake.

"It's not meant to supplant conventional agriculture, but trying to give the world just an alternative, or at least one more tool in their toolbox to produce food," England said.

Shimano's students began their first class by planting lettuce and arugula seeds, and they built the foam shells of the food computers while their seeds sprouted.

They spent the next few weeks learning the basics of computer programming. Using a language called Python, the girls created codes to control the temperature and amounts of water and light in their food computers, and to take pictures of their plants each day. With each new bit of code they learned, they added new components and functions to the computers like fans, thermometers and humidity sensors.

Many students said the course offered their first brush with computer programming.

"It was fun, but it was stressful," Givens said. "The programming was stressful."

Others, like 16-year-old Tynija Lucas, took to it more naturally.

"It was easy," she said.

Brian Giglio, dean of students for Green Street Academy's middle school, who oversaw the summer program, said he heard from students that although some concepts were difficult to grasp, they liked seeing the end results.

"They've loved the hands-on aspect of it," Giglio said. "The coding, I think, was a little abstract, but I think they enjoyed doing something and then seeing it happen. But like most things in education, where it becomes challenging is trying to like extrapolate it and connect it to the real world."

Shimano agreed the hands-on work makes lessons stick.

"It's easy to kind of explain it with pictures, but it's a lot more valuable for the kids, I think, to do stuff," she said.

Food computers have broader implications beyond the classroom, England said. The world will need to rethink the way it feeds urban populations as more people flock to cities during the coming decades, and food computers, which use up to 90 percent less water than traditional agriculture and can help reduce food waste, could be part of the solution, she said.

"The food system challenges that exist in urban centers in the U.S. are going to get more intense and more strained," England said. "The ways we produce enough food and ship food to these urban centers and support the production of food at a local level — this entire system is essentially going to have to be rethought."

MIT's Media Lab is working to make the open-source technology, which is free and public, available to create food computers for production at any level — from personal food computers to computers the size of warehouses. And Shimano is working with OpenAg to fine-tune a food computer for classrooms and develop a comprehensive curriculum for school systems.

Data from those using the technology has become part of MIT's research.

"Food and agriculture are such immense industries and disciplines that there is no way that one tiny little lab at the MIT Media Lab could cover the research needed to really address all parts of the food system," England said. "We've seen this massive interest, and interest from folks of all different sides of the conversation."

For the technology to catch on, it has to be socially and culturally accessible and acceptable, England said.

"This is not an 'if you build it, they will come' scenario," England said. "We have to make sure the technology is something folks are curious about, something they can engage with."

That much was true for Shimano's class, where students who were initially more interested in browsing their Instagram feeds discovered they could program thumbnail-sized cameras to take selfies. Those cameras were later inserted into the food computers to track their plants' growth with daily photos.

By the end of the five-week summer course, the lettuce had grown several inches in height, and the arugula was about half that size.

During Shimano's spring course, which ran about twice as long, students were able to use the arugula and lettuce they grew in the culminating cooking competitions. The summer students simulated the final products with store-bought lettuce and arugula.

One group in the contest centerpieced lettuce in a salad of chicken, zucchini, bell peppers and onion tossed with lemon dressing. Another group made chicken tacos stuffed with fried chicken, lettuce, peppers and homemade mayonnaise. Givens' group folded arugula into their pasta sauce.

About 40 students from other classes sifted through their makeshift kitchen, tasting and rating each of the dishes on a scale of one to five. The chicken tacos took home the win.

All the while, the food computers glowed in the background, lettuce leaves stretching toward the lights.

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ALGERINA PERNA/BALTIMORE SUN

Melanie Shimano shows tabletop greenhouses her students at Green Street Academy built; they then programmed computers to control conditions for growing food.