TEXAS

after the

The Golden Triangle sits on one of the world's richest oil reserves. After Hurricane Harvey, it became ground zero in the war between industry and environment

PHOTOGRAPHY BY
BRANDON THIBODEAUX

STORM

BY **PETER SIMEK**

The refineries appear on the horizon about 20 miles west of Port Arthur, Texas, smokestacks and twisted piping all pallid gray against the clear morning sky. It's nearly a month and a half after Hurricane Harvey made landfall on the Gulf Coast, and I'm on Texas Highway 73, heading east from Houston toward the Golden Triangle, a small region of the state tucked between the Gulf of Mexico and the Louisiana border.

I'm drawn to the place by a peculiar irony. In 1901 an Austrian-born mechanical engineer punched a hole in the ground at a place called Spindletop and discovered an oil well from which gushed 100,000 barrels of crude a day. The size of the discovery, unprecedented at the time, kick-started the era of cheap fossil fuel. Today the Golden Triangle remains a major center of the petrochemical industry, home to North America's largest oil refinery and responsible for approximately 8.5 percent of all U.S. oil refining. It is also a sitting duck for increasingly destructive tropical storms, coastline erosion and sea-level rise—events that scientists attribute to human-assisted climate change. Hurricane Harvey offered a preview. Over five days, upward of 40 inches of rain fell on the region, causing floods that wiped entire towns off the map.

Highway 73 cuts through sodden bottomland. Off the side of the road, cattle mill about in scrubby sage. A heron takes flight from the lavender-tinged blue of an estuarial pool. Here the Texas Gulf Coast is a no-man's-land between sea and earth, shaped by the continual lurching and ebbing of waters. But the refineries offer a grim reminder: Scientists project that at some point within the next century, because of warming oceans and melting polar ice caps, all of it will be subjected to chronic flooding or submerged by rising seas. This out-of-the-way corner of the world is a front line in the global war against climate change, one that is harder to ignore than the vanishing Pacific Islands or the desertification of sub-Saharan Africa. Here, at the birthplace of domestic Big Oil, the industry's major players find themselves at the threshold of the catastrophic planetary change they helped set in motion. And it is no longer a question of when. After Harvey, it is clear: Change has already begun.

• • •

Port Arthur, population about 55,000, sits at the southern tip of the Golden Triangle, which counts the small cities of Beaumont and Orange as its other two points. The region's municipalities are a collection of in-betweens—a blend of industrial and rural, economically inequitable, proud but struggling, diverse yet polarized. The refineries are owned by the world's wealthiest corporations and sit in foreign-trade zones. Demographically it's roughly split in half: Jefferson

County, the region's largest, voted for Donald Trump but in the same election put a female African American Democrat in the sheriff's office. The unemployment rate is nearly double the national average, and the median income is about $15,000 less than that of the U.S. as a whole.

I arrive in Port Arthur late in the morning and drive through the downtown of early–20th century brick high-rises and boarded-up storefronts, all of them scarred by hurricanes or blight or both. Harvey's effects are clear. You can trace the path of the floodwater by following the heaps of trash on the curb: rotten mattresses, torn-out carpet, waterlogged sofas and crumpled drywall. Among the soggy cardboard boxes and taped-up refrigerators, some are sprayed with yellow paint that reads DO NOT TAKE or NOT FOR SALE. Across from a hardware store, where pickups load up on Sheetrock, the facade of a shuttered storefront bears another spray-painted message: GOD BLESS EVERYONE.

When the rain came, most people knew to evacuate. Gerald Durham, an elderly man I find in front of his Bridge City home, sipping coffee while neighbors stack trash at the curb, drove to Louisiana and stayed at a motel to wait out the deluge. When he returned he was relieved to find the water came only to the top of his front-porch step.

Edward Sanders wasn't so lucky. He managed Port Arthur's civic center, which was converted to a shelter during the storm. He remembers watching the rain pour down and thinking, It's going to stop soon; it has to stop. The rain did stop, but not before the reservoir to the north of his home had overflowed and flooded it with three feet of water. Still, Sanders says, some of his neighbors' homes took in twice that much.

The damage can appear random—one house a total loss, its neighbor apparently untouched. The disconnect between people trudging through the grind of recovery and small-town life resuming its sleepy course makes everything feel eerie. The people and places I find most alive are the ones that seem somehow stuck in crisis mode—still tapped into the initial adrenaline, resilience and resolve that gave birth to the catchphrase "Texas Strong" in the hours after the storm and led to an uptick in the number of Texas-themed tattoos at local parlors.

Stopping at what looks like a clothing drive in front of a community-policing storefront in Bridge City, I find Gwen Prine and Lee Morrison, two Alabamans who came to Texas and started a homespun relief organization called Thumbs Up on a Mission 4 Jesus. They've been gathering supplies—diapers, clothes, water, bleach, household items and food—and distributing them door-to-door nearly every day for weeks.

Prine wears rolled-up jeans, flip-flops and a T-shirt with a map of Alabama on the back. She decided to come to Texas, she says, after she received a vision in which the Lord told her to go help the flood victims. The next day, she packed a pickup full of supplies and headed south. When she and Morrison arrived in Texas, much of the area was still underwater, and Interstate 10 was shut down. A policeman told them to turn around.

"Well," Prine says she told the officer, "the Lord filled this truck up with water and supplies and told us we've got to go to Orange."

The officer looked at the barricade and then back at Prine and her truck.

"If you serve the same Lord I serve, you go right around that barricade and he'll part them waters," he said.

They drove on, following a thin strip in the center of the road with the floodwaters pulsing on either side. When they arrived at North Orange Pentecostal Church, they unloaded their supplies with the pastor.

"THE LORD, HE SETS HOW EVERYTHING IS GOING TO BE. HE'LL TAKE CARE OF US."

"It was down for maybe an hour or two," Prine remembers. "It was like the exact time we were there, the water receded."

Outside I chat with Mr. James, a local resident who is helping the women with the drive. I ask if he's concerned about the scientific projections that weather events like Harvey may be coming more frequently.

"The Lord, he sets how everything is going to be," he tells me. "It is in his hands on all that. He'll take care of us. I believe it."

• • •

The National Oceanic and Atmospheric Administration predicts that the sea level at Sabine Pass, a natural outlet from Sabine Lake into the Gulf of Mexico that serves as a major shipping route for the Golden Triangle's petrochemical industry, will rise up to nearly seven feet by the year 2100. Some models anticipate higher rises if global carbon emissions continue to escalate. A map tool NOAA created to demonstrate the impact this will have on the Gulf Coast shows the slow creep of narrow blue waters fingering their way up available channels and low-lying areas, eroding barrier islands and eating away at the coastline and even portions of settled land.

But renderings like these may not accurately portray what will happen to the coast when the sea rises. John Anderson, an oceanographer at Rice University, says that most projections focus on overall sea-level rise, but he's concerned about the rate of rise. When you look at the last major period of sea-level rise, at the end of the Ice Age, high rates of rise facilitated more-rapid erosion of coastal areas, resulting in surging seas that moved inland more quickly. If the rate of erosion continues to increase, Anderson says, a couple of feet of sea-level rise on the Gulf Coast could mean as much as 30 feet of lost coastline a year.

Rising seas will only intensify the effects of strengthening storms. This part of the Gulf Coast is well versed in hurricanes, but no one here had ever seen anything like Harvey. The storm's severity resulted from two peculiar phenomena: the incredible volume of moisture it picked up off an unusually warm Gulf of Mexico, and the way the system stalled over southeast Texas. Scientists are not yet sure what caused the latter. Since 2010, the continental wind systems that would have pushed the hurricane northward have collapsed, and disruptions in atmospheric flows caused by a warming climate could be a factor. What scientists are sure about is that the warming climate supercharged Harvey. When it came across the Yucatán, Harvey was barely a tropical storm. Then, after hitting a warmer-than-usual Gulf of Mexico, it grew into a category 4 hurricane within 48 hours.

The science is clear: Sea levels are rising, storms are getting stronger, and if nothing is done to curb carbon emissions, things will only get worse. Increasingly the American public agrees. According to a recent Gallup poll, the percentage of Americans who believe in global warming and attribute its cause to human activities is on the rise. Even among those who voted for Trump in the last election, only one in three does not believe that global warming is happening. And in recent years, most oil companies have admitted to their investors and the

Previous page: Carol Smith strolls through what's left of her neighborhood in Rose City. **This page, clockwise from top left:** Nathaniel Welch works on a home in Mauriceville. Chris Duplant and his daughter Shelley pose at his home in Groves. Smith assesses the damage to her home. A volunteer sorts through donations received by the city of Port Arthur.

public that they are aware of the risks related to global climate change.

In a speech at an energy conference in 2016, Saudi Aramco president and chief executive officer Amin Nasser called addressing climate change and the environmental sustainability of the planet a "critical objective." (Saudi Aramco owns the Motiva refinery, the largest in North America and a pillar of the Golden Triangle.) An ExxonMobil statement entitled "Our Position on Climate Change" speaks about the need both to address the challenges of climate change and to lift "billions out of poverty," calling for constructive political dialogue and citing its own attempts to reduce greenhouse-gas emissions in its operations.

"The risk of climate change is clear and the risk warrants action," the statement reads. "There is a broad scientific and policy consensus that action must be taken to further quantify and assess the risks." (When I ask an ExxonMobil spokesperson via e-mail to speak about whether Harvey, and climate change in general, had affected the corporation's long-range planning with regard to its Golden Triangle facilities, she sends an e-mail with links to internally produced articles that trumpet the company's resilience in weathering Harvey and the work of its engineering teams in restoring the refineries to full operating capacity.)

But climate change remains a polarizing political issue. Last year, President Donald Trump announced that the United States would withdraw from the Paris Accord and in 2012 tweeted that global warming is a Chinese conspiracy. Big media outlets tend to ignore the issue. According to a Media Matters analysis, during the two weeks of coverage leading up to and after Harvey, only one of the three major television networks even discussed climate change as it related to the storm.

"In Texas there are a lot of vested interests to argue against climate-change regulation," says climate scientist Andrew Dessler, professor of atmospheric sciences at Texas A&M University and co-author of *The Science and Politics of Global Climate Change: A Guide to the Debate.* "In their hearts, I think they know it is true."

• • •

At the foot of the Rainbow Bridge, which spans the mouth of the Neches River as it enters Sabine Lake, a dirt road runs past a shuttered bait shop, a marina and some small warehouses. Nearby, a large earthmover sits on an earthen levee, lifting huge clumps of black, silty soil and dumping it on top of the mound.

Next door in a small warehouse I meet Mary Burdine, owner of DBS Electronics, a marine electronics company that services tugboats in the channel. Burdine sits behind an old aluminum desk, wearing a gray T-shirt and glasses, her brown hair pulled up in a ponytail. The earthmover, she explains, has nothing to do with the storm. She believes it's part of the ongoing expansion of the Total Petrochemical USA refinery that sits across the marsh from her business. Dredging for the expansion has affected drainage in the entire area, causing water to back up into the farmers' market up the road and silt to fill in the canal behind the office. Burdine says she doesn't mind the refinery expansion—"When I smell stink, I smell money," she says—but is ticked off that the government agencies tasked with overseeing the expansion aren't protecting her land from its impact.

"They always pass the buck," she says. "Nobody has an answer. No one has a solution to the problem they created down there."

Burdine's frustration hints at an aspect of climate change often overlooked in sea-level calculations and the fear of superstorms: The human cost will not be felt merely by scientifically measured effects but also by how

Clockwise from top left: An oil tanker traverses the Intracoastal Waterway near Port Arthur. Richard LeBlanc, general manager of Jefferson County Drainage District 6, stands near a drainage project the county had been developing prior to Harvey. North Beaumont resident Chris Edwards assesses his mother's home, which took in six feet of water.

industry and government respond and adapt to the gradual changes. In a small though not insignificant way, this remote marina, where a farmers' market is almost permanently flooded and a canal that supports a small business needs to be dredged, shows that chess game already in progress. And Burdine knows it will only get worse.

"The sea level is coming up. That's a given," she says. "The icebergs are melting. That's a given. It doesn't take a genius to figure that one out."

The road south toward Sabine Pass bisects the Valero and Motiva refineries. Pipes zigzag in every direction, hissing as they run up from the ground, pass over the road and plunge back into the earth. Smokestacks spit huge clouds of ashen white smoke. Mountains of black coal sit adjacent to plump cylindrical storage containers and rounded white orbs of pressurized gas.

The major oil companies may have admitted they're aware of the impending threats of climate change, but none of them appears to be going anywhere. In fact, Total's dredging near Rainbow Bridge is presumably part of a $1.7 billion expansion, and Saudi Aramco plans to invest in a similar project to the tune of up to $30 billion.

"They know the sea level is rising. They've done some risk-reward calculations—how much does it cost?" says Dessler. "The big corporations are not what I'm worried about. What's going to hurt the economy is people getting flooded. It is a socially destabilizing force."

Most of the media coverage of climate change frames its effects cinematically: the gaping caves of Antarctic ice sheets; the rushing melted water boring moulins in Greenland's white expanse; animations of rising seas contracting around the New York skyline like a great blue python. But most of the millions of people whose lives will be transformed by climate change will experience those changes like the people struggling with Harvey's aftermath, in a thousand subtle, insidious ways—ways that might not even seem, on the surface, to have anything to do with carbon dioxide emissions.

Initially, Harvey fit the climate-change cinematic narrative, providing television networks with around-the-clock disaster-film outtakes—images of ordinary suburban homes flooded to the rooflines. But most of the news cameras left before the owners of those homes experienced Harvey's social destabilization: the physical and psychological torment of hauling furniture to the curb, tearing out Sheetrock, buying gallons of bleach, scrubbing black mold, sifting through waterlogged papers, struggling to maintain employment and trying to decide what, if anything, from life before Harvey is worth salvaging.

Perhaps the scariest thing about Harvey was not its scale or the drama of its monstrous wind, rain and floods, but the way the hurricane revealed who would bear the weight of future natural disasters. Rising seas will continue to redraw coastlines, but climate change is not a purely natural phenomenon. The broader destabilizing forces Dessler describes will follow socioeconomic fault lines as well.

• • •

In tiny Rose City, population 523, all but a single home was submerged up to its roofline.

The town is nestled in a dark, swampy forest in the Neches River floodplain, just southwest of a large sand-and-gravel operation. Driving its streets, one encounters devastation like nowhere else in the region. Houses sit rotting in the afternoon heat, some with windows gone, others missing entire walls. Mold is visible on interior studs and exterior eaves. Trash piles are everywhere. An entire chimney, still connected to its fireplace, sits in a yard near the curb.

Near the little one-story City Hall, a makeshift disaster-relief center built out of shipping containers distributes supplies. A volunteer directs me toward Eric Klein, CEO and founder of Can-Do, a disaster-relief nonprofit based in Marina

del Rey, California that is running the relief operation in Rose City. Klein, who appears to be in his 40s, wears a black T-shirt, jeans, earbuds and a camouflage hat. He founded Can-Do after receiving a settlement from a car accident, and the organization has since deployed to areas affected by Katrina, Rita, Ike, the earthquake in Haiti and other disaster zones. In 2008 he was a contestant on Oprah's philanthropy-themed reality-TV show *The Big Give*.

Today Klein looks tired. It has been a month and a half since the storm, and none of the homes in Rose City is habitable, and the city still doesn't have running water. The relief organizations, he says, are nowhere to be found. The Red Cross showed up the day before to register residents for aid but simply parked its branded truck on the most visible street corner and handed out 1-800 numbers. It's a familiar shtick, says Klein, who participated in a ProPublica report on the Red Cross response in Haiti that found the organization had spent little of the millions donated to it on tangible relief efforts. FEMA has been similarly useless, Klein says. He's advising residents to go down to the government staging center to ask for a relocation grant even if they plan to stay and rebuild. If they say they're staying, he tells them, they won't get the $2,000.

Looking at the homes in Rose City, it's difficult to picture what $2,000 will do. And recovery from the flooding goes beyond simply fixing homes: The Gulf Coast lost about 27,000 jobs in the aftermath of the hurricane, and long-term health issues related to mosquito-borne illnesses, mold, stress and anxiety are only starting to surface. The Gulf Coast Health Center reports 10 percent more patients than this time last year, with locals complaining about breathing problems and rashes. Doctors are providing patients with hepatitis A vaccines and insect repellent to protect against Zika virus. Some doctors warn that prolonged contact with mold can lead to neurological disorders. Even if the aid were reaching all the victims, there are some things money alone can't fix.

The region seems to be slipping into a new phase of recovery: a period filled less with the essential concerns of the day-to-day and more with uncertainty and fear for the future. It challenges the assumptions that fuel the outpouring of goodwill that tends to follow a national tragedy. The scale, complexity and frequency of events like Harvey are only increasing, and their intensity suggests that the existing social safety net and our storied American grit may not be enough. This new phase arrives with a sinking feeling that, despite the massive mobilization of government services and the billions of dollars in philanthropy, at the end of the day we're all on our own.

• • •

What if a Harvey happens once a year or every other year or even every four years? Perhaps the question is no longer hypothetical. This past year saw hurricanes Harvey and Irma hit the mainland United States and Maria pummel Puerto Rico. Wildfires ravaged northern California after changing climate patterns fueled record-high temperatures and abnormally powerful winds. Each of those events received its moment of around-the-clock media coverage and philanthropic zeal before public attention drifted to the next catastrophe. And each of those areas is full of what Harvey left scattered across the Golden Triangle: individuals struggling to find a way forward.

"NO ONE HAS A SOLUTION TO THE PROBLEM THEY CREATED DOWN THERE."

On my way out of town, I follow one last trail of trash to a buried bayou that runs under Manning Street in North Beaumont on its way to the Neches River. The street is dotted with 80-year-old shotgun shacks and tiny bungalows. Chris Edwards stands outside his mother's gutted home. From the stoop you can see the blackened studs inside and smell the deep, noxious funk of mold. Edwards says his uncle did most of the demo work, though Edwards tried to help when he wasn't at his job as an operator at ExxonMobil. His uncle sits on the stoop with a cigarette dangling from his lips, staring at the ground.

The family has lived on the land for decades; their cousins live up the street. In all those years, he says, the water never even came over the curb. He can't understand how the flood could have been so bad this time, and he's adamant that it must be related to the release of reservoir waters. But Richard LeBlanc, general manager of Jefferson County Drainage District 6, says North Beaumont flooded after the massive amount of rain that fell in the largely undeveloped land to the north of town percolated down the watershed and, over the course of a few days, overwhelmed the Neches River and its bayou tributaries.

Standing in front of Edwards's ruined family home, it hardly seems to matter what you believe about the cause of all this heartbreak and devastation. The result is the same.

"It's sad, man," Edwards says. "You know the people who work their whole life trying to put something together, and then your whole life is out there in the street, in the trash pile."

"What will your mother do?" I ask.

"She's just accepting it for what it is," he says. "It's all you can do. You just got to accept it for what it is and try to move on best you can. It's hard. It's a hard blow. But that's life. You either sit around and cry about it or pick up and try to keep on going."

Before I head out of town, I decide to look for Spindletop, the place that started it all. I find a granite obelisk sitting in a pristine grassy meadow adjacent to a quaint museum fashioned after a tiny frontier town. But upon reading the marker, I discover that it doesn't in fact mark the spot of Spindletop. The monument was moved some years back because decades of digging, drilling and pumping for oil, natural gas, sulphur, sand and gravel at the actual site had left the ground ravaged and unstable. I drive a mile south trying to find the location of the original well; it's barricaded by a web of railroad tracks and barbwire fences guarding patches of industrial wasteland.

I keep hearing the voice of Chris Edwards. What does it mean to "keep on going" when faced with forces as colossal as a changing climate? It's hard to ignore the parallel between our trajectory and the history of Spindletop: using up the earth until there's nothing left.

But Edwards's remarks speak to another urgent question: How we are going to prepare for the change we already know is on the way? If Hurricane Harvey is any indication, our current answer is to allow those with the means to get out of the way while leaving the rest to fend for themselves—the de facto disposition of a society still caught in denial of its own fate. Reversing that attitude won't be easy, but it might begin with the resolve Edwards gave voice to in the face of disaster. The future may be stormy, but its story can still be written. ■