

waterfrontline

The water's edge is the front line.

The Front Line: Deweyville, Texas. 2016. 2017. 2018. 2019. and it didn't even rain.

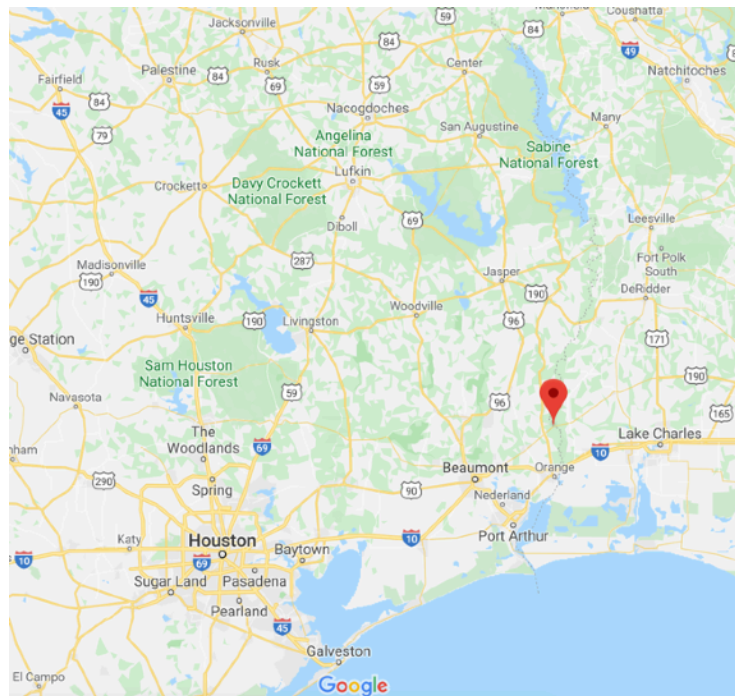
When you're downstream from a land-locked body of water, the water looks like a basin and the stream functions as that basin's storm drain; if that basin goes over its boundary levels then water is released down the stream/drain. For waterfront towns built along the stream, the increasingly large and intense storms brought by climate changes have brought on larger and more frequent releases from upstream lakes and reservoirs. The old system design — with its earlier definitions of allowable flood levels and building guidelines — doesn't work when the system's upstream rain inputs are radically changed. There's nowhere for extra water surges to go but downstream. When the stream can't hold the extra water within its banks, it has to reconfigure on the fly — by creating new streams or (usually) by spreading out and flooding streamside towns. Repeatedly.

The people living in the coastal towns of the US's inland rivers have been thrust onto the front lines of climate change. They complain to the folks upstream about water releases. They struggle to rebuild. They fight with their insurance companies. And they just keep trying to survive. If you were to design a system to handle the new water volume being released, you'd have to dig deeper basins and deeper, wider storm drainage to support the storms. Without those wider and deeper channels, the riverside towns become extensions of the riverbeds.

If you look closely on this map, you can see the tiny blue line that runs from the south end of the Sabine National Forest down to Port Arthur and the Gulf of Mexico. Along its path are numerous small towns, and the increased severe storm activity in this region has had an unusual effect: they can flood even when there is no rain in their immediate area, as the upstream releases make their way downstream. *(all map images from Google Maps)*

The town marked by the location pointer on the map is Deweyville, Texas, just inside the state boundary, nestled against the Sabine River.

This is the front line.



2016



In 2016, Deweyville was warned about an upcoming flood: although they'd been dry, the area north of them received 2 feet of rain over 4 days, much of it draining down to the South Toledo Bend area. All of the gates at the dam at Toledo Bend were opened to release the flood volume. It was estimated Deweyville could expect a flood level of 28 feet. The flooding in Deweyville would last 30 hours.

A 28 ft flood is 4 feet above Deweyville's flood limit. That warning was incorrect. When it hit them 3 days later, the actual flood came in at 35 feet, 11 feet over flood stage, 7 feet over the warned level. Given that warning, and that there was no rain occurring in the town preceding the flood, a crew set up a time lapse camera to capture images from at a high point the town as the water level rose: (see <https://youtu.be/ue-tUrF-vok>)



Deweyville became an island; the Highway 12 bridge out of town was shut down. The elementary school was flooded out. As shown in the KJAS news video (screen shot below), the river just kept spreading, breaching sandbag levies and walls.
(full video at https://youtu.be/E5V20sDlk_8)



The town thought insurance would cover the \$12.5 million loss of the school buildings. Their insurer thought otherwise. see <https://www.asumag.com/safety-security/fire-life-safety/article/20853050/floodravaged-district-in-texas-says-insurance-wont-cover-damages>



Flood-ravaged district in Texas says insurance won't cover damages



Across the Sabine, their sister city of Starks, Louisiana, is 4 miles inland — but it was flooded too. As of May 2016, the Starks cemetery reported 88 caskets being reburied in the local cemetery after they were disinterred by flooding: <https://www.cbsnews.com/news/louisiana-flooding-caskets-calcasieu-parish/>

2017

In August of 2017, Hurricane Harvey slammed southeast Texas. The hurricane approached Houston over gulf waters that were significantly above average temperatures, made landfall as a Category 4 storm, and brought torrential rainfall to southeast Texas and Louisiana. Houston and Port Arthur were the focus of most of the immediate media coverage due to their size and their direct impacts from the storm.

The residents along the Sabine River who survived the initial rains from Harvey were notified the South Toledo Bend gates would again open, sending floods down the river to them.

See <https://therecordlive.com/2017/08/30/toledo-bend-opens-floodgates/?mobile=true>

HARVEY RAINFALL CAUSES TOLEDO FLOODGATES TO OPEN WIDE ON SABINE



By Dave Rogers / For The Record

The Toledo Bend Reservoir today increased spillway releases into the Sabine River to nearly half the surge that preceded last year's federally declared flooding disaster in Deweyville and eastern Orange County.

Deweyville saw it coming. With press in the area already, reporters had time to get there too. Having been flooded so severely twice, their 2017 flood was featured in the New York Times:

From <https://www.nytimes.com/2017/09/06/us/small-town-harvey-deweyville-flood.html>

"Paul Price, the county judge here in Newton County, said the calamities of Deweyville were the result of a combination of factors, including the operation of the floodgates and some raised railroad tracks that run through town and keep floodwater from draining. But he agreed with Ms. Galassi that one of the factors was just abnormally bad weather.

"We're getting more rain here in recent years as weather patterns change," he said. "It is a curse for a poor and rural county that has enough problems keeping people as it is. There are some already saying that rebuilding in Deweyville is out of the question. It's just too tiring to endure over and over again."

There are a couple of points there: the town structures include a railroad bed that residents say prevents floodwaters from flowing out freely. And several residents were among those suing the Sabine River Authority (SRA), which operates the flood gates at the South Toledo Bend reservoir. And it is almost uniformly the rural population along riverbanks that bear the disproportionate personal economic and physical brunt of climate change impacts.

As the judge reported, the weather had changed. More water was being dumped into the upstream basins, and it was coming down a drainage area that was too narrow to handle it all at once. Being southeast Texas, the ground is largely clay and nonporous so the river did not absorb more water easily. The river went over its banks, forming a wider channel.

Meanwhile, *"Scholastic Book Fairs (SBF) and the Kids in Need Foundation (KINF) teamed up to deliver 4,000 new books to hurricane-ravaged southeast Texas school students. The donation, part of KINF's Second Responder program, is part of an ongoing commitment to support the communities hardest-hit by Hurricane Harvey in 2017."*

<https://bookfairs.scholastic.com/bookfairs/articles/book-fairs-kinf-deliver-books-texas-schools.html>

2018

After the August 2017 flood (for photos of the town and various livestock in flood conditions, see <https://www.beaumontenterprise.com/news/article/Photos-Deweyville-flooded-twice-in-two-years-12172368.php#photo-14047675>), the town got a break until the next flood — all the way to the end of February 2018.

A local article (<https://www.beaumontenterprise.com/news/article/Deweyville-residents-brace-for-3rd-flood-in-3-12716136.php>) concluded with a teacher's observations:

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Deweyville residents brace for 3rd flood in 3 years

By Phoebe Suy Updated 8:04 am CST, Wednesday, February 28, 2018

[...] After Harvey, Shoemake said she was "almost numb" that her house was gone again, but at least she still had her job, her classroom and students. "It takes your mind off of it," she said.

"What a flood used to mean is inconvenience, you were inconvenienced. Now, you don't know if it means catastrophic or inconvenience," Shoemake said.

Meanwhile, the residents of four impacted counties had sued the SRA in 2016, accusing the river authority of unconstitutionally taking their property when they had opened the spillways in 2016. The court upheld a lower court ruling that the SRA had operated within its guidelines. (see <https://apnews.com/c833f44154974fa68f2d2f22c3728ae0>)

Landowners lose again in Toledo Bend flooding suit

Phoebe Suy December 6, 2018

The SRA is not focused on flood control but on power generation, and for that function to be performed they have to release water when it exceeds the allowable level. The SRA's defense is essentially that everybody is doing their job and following guidelines. That approach worked with the old land and river structures and old weather patterns. The 2016 through 2019 weather patterns overflowed the system, exceeded the basin's capacity, and the increased water flowing downstream didn't fit in the existing channels. The system is working as designed, but the inputs have changed. And that changes the definition of the flood plain significantly.

2019.

In January 2019, Deweyville was getting direct rain and looking 75 miles upriver to the SRA. But over the past few years they'd also put FEMA funds to strategic use:

Flood fears put Deweyville on edge

By [Kaitlin Bain](#) Updated 8:25 am CST, Friday, January 4, 2019

From <https://www.beaumontenterprise.com/news/article/Flood-fears-put-Deweyville-on-edge-13507277.php>

[...]“Assistant Emergency Management Coordinator for Jasper, Newton and Sabine counties Olen Bean said there isn’t much else the county can do in terms of preparation, aside from letting residents know sandbags are available through their county commissioners. The disaster declaration would allow the county to get help from the state or federal government should there be damage to more structures than expected.

In the long-term, the Commissioners Court has been using money to buy out homes along the Sabine River’s flood plain.

“Some of the 2016 flood money and from Hurricane Harvey has helped buy people out so they can move to higher ground or completely out of the county,” he said.”

In a changed climate with increasing rainfalls added to the environment, if you can’t deepen the basins, deepen the channel, divert the water, or slow the incoming rainfall, then those living on the front line of the drainage rivers need to be moved to higher ground. This can happen proactively or it can happen in an emergency, after people have lost their possessions or lives in a disaster.



For a ground level view of 2016 Deweyville flood sites, see <https://youtu.be/KbNrS7VDsS0>