



FEMA

Brownsville's "Blue Ribbon" Resacas Reduce Hurricane Dolly Flood Losses

Brownsville, TX—When Hurricane Dolly came in the summer of 2008, Brownsville was ready with an ingenious disaster defense that kept hundreds of homes from flooding. The Rio Grande Valley leaders capitalized on natural assets, creativity, and teamwork to handle Hurricane Dolly's 10 to 14 inches rainfall across the city.

As Brownsville's Joe Barrera, who manages the Brownsville Irrigation District, explains, this Texas town is networked with what they call resacas, water-filled, winding "blue ribbons" that aid in flood control and water storage, and add an aesthetic character to the city. Recently, city officials thought to use the resacas for flood control in a management network that stretches across multiple agencies.

"Resacas are the piecemeal remains of old channels of the Rio Grande River that used to meander all through what is now Brownsville. The river now flows along the city's southern fringe," said Barrera. "A hundred years ago, farmers in the [Rio Grande] Valley hit on the idea of damming up the dry resaca channels so they could become linear lakes. We use the water to irrigate crops – sunflowers, soybeans, wheat, corn, rice, onions, cabbage."

Over time, flooding became a chronic problem in this city of 150,000 that dubs itself "On the border by the sea." Hurricane Beulah, for example, dropped up to 30 inches of rain in 1967, and is the kind of storm that Brownsville leaders know may occur again in any year. In more recent years, Brownsville has experienced serious flooding in 1984, 1993, 1996, 1997, 1998, and 2004.

When Dolly stormed ashore July 23rd in 2008 as a Category 2 hurricane, rain across Brownsville varied from 6 to 14 inches. Some Brownsville residents call Dolly a 100-year storm; others say it was less. Nonetheless, in the old days, they would have been awash.

But not this time. "We did a lot of things differently this time, and it paid off well," said Brownsville Assistant City Engineer Doro Garcia, Jr. "I don't think in the history of Brownsville we have been able to manage that much water without flooding."

Joe Barrera said, "I didn't have a single complaint call." The city reported some flooded streets but virtually no complaints of water in buildings.

Brownsville leaders reduced Dolly's flooding impact dramatically with a multi-pronged program of prevention, pipes, pumps, planning, and partnerships. The city's flood-mitigation program requires careful planning, vigilant management, and close cooperation among a patchwork of entities with differing authorities.

"I have to say," said Barrera, "we've worked on it. This is a joint effort among a lot of people who work together well. It could never work without our partners."

Together, they developed updated plans and procedures, starting with a major flood protection study in 2004. They created flood detention basins in strategic areas, using a combination of local money and other funds such as U.S. Housing and Urban Development (HUD) Community Development Block Grants (CDBG). Three detention ponds reduced flooding directly for more than 35,000 people, according to Ben Medina, Brownsville Planning and Community Development Director.



Cameron County,
Texas



Quick Facts

- Sector:
Public
- Cost:
Amount Not Available
- Primary Activity/Project:
Flood Control
- Primary Funding:
Local Sources