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NEW ORLEANS IS SINKING

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The surge of a Category 5 storm could put New Orleans under 18 ft. of water.

They don't bury the dead in New Orleans. The highest point in the city is only 6 ft. above sea level, which makes for watery graves. Fearful that rotting corpses caused epidemics, the city limited ground burials in 1830. Mausoleums built on soggy cemetery grounds became the final resting place for generations. Beyond providing a macabre tourist attraction, these "cities of the dead" serve as a reminder of the Big

Easy's vulnerability to flooding. The reason water rushes into graves is because New Orleans sits atop a delta made of unconsolidated material that has washed down the Mississippi River.

Think of the city as a chin jutting out, waiting for a one-two punch from Mother Nature. The first blow comes from the sky. Hurricanes plying the Gulf of Mexico push massive domes of water (storm surges) ahead of their swirling winds. After the surges hit, the second blow strikes from below. The same swampy delta ground that necessitates above-ground burials leaves water from the storm surge with no place to go but up.

The fact that New Orleans has not already sunk is a matter of luck. If slightly different paths had been followed by Hurricanes Camille, which struck in August 1969, Andrew in August 1992 or George in September 1998, today we might need scuba gear to tour the French Quarter.

"In New Orleans, you never get above sea level, so you're always going to be isolated during a strong hurricane," says Kay Wilkins of the southeast Louisiana chapter of the American Red Cross.

During a strong hurricane, the city could be inundated with water blocking all streets in and out for days, leaving people stranded without electricity and access to clean drinking water. Many also could die because the city has few buildings that could withstand the sustained 96- to 100-mph winds and 6- to 8-ft. storm surges of a Category 2 hurricane. Moving to higher elevations would be just as dangerous as staying on low ground. Had Camille, a Category 5 storm, made landfall at New Orleans, instead of losing her punch before arriving, her winds would have blown twice as hard and her storm surge would have been three times as high.

Yet knowing all this, area residents have made their potential problem worse. "Over the past 30 years, the coastal region impacted by Camille has changed dramatically. Coastal erosion combined with soaring commercial and residential development in Louisiana, Mississippi and Alabama have all combined to significantly increase the vulnerability of the area," says Sandy Ward Eslinger, of the National Oceanographic and Atmospheric Administration's Coastal Services Center in Charleston, S.C.

Early Warning

Emergency planners believe that it is a foregone conclusion that the Big Easy someday will be hit by a scouring storm surge. And, given the tremendous amount of

coastal-area development, this watery "big one" will produce a staggering amount of damage. Yet, this doesn't necessarily mean that there will be a massive loss of lives.

The key is a new emergency warning system developed by Gregory Stone, a professor at Louisiana State University (LSU). It is called WAVCIS, which stands for wave-current surge information system. Within 30 minutes to an hour after raw data is collected from monitoring stations in the Gulf, an assessment of storm-surge damage would be available to emergency planners. Disaster relief agencies then would be able to mobilize resources--rescue personnel, the Red Cross, and so forth.

The \$4.5 million WAVCIS project, which is now coming on line, will fill a major void in the Louisiana storm warning system, which was practically nonexistent compared to those of other Gulf Coast states. A system of 20 "weather buoys" along the U.S. coastline serves as a warning system for the Gulf of Mexico. However, the buoys are not distributed evenly and Louisiana falls into one of the gaps. From the mouth of the Mississippi River to the Louisiana-Texas border, there are no buoys. Only one buoy serves Louisiana, and it is 62 miles east of the Mississippi River and more than 300 miles to the south. So it's a bit like predicting the weather in Boston when your thermometer is in Philadelphia. The other buoys are near the coastlines of Texas, Mississippi, Alabama and Florida, and several hundred miles out into the Gulf.

Stable Platforms

One reason that WAVCIS will be more accurate is that its sensors are attached to offshore oil platforms. The older, floating buoys ride up and down with the waves and often can't give accurate pictures of wave heights and storm surges. Stable platforms mean that the sensors can be placed above and below the water, allowing more precise measurements. Data from each of the 13 stations, five of which are now on line, is transmitted to LSU, where it'll be interpreted and sent to emergency planners centers, via the Internet.

"With this new system [WAVCIS], we get to see real information on storm surge and we can feed that into our models and come up with real data," says Mike Brown, assistant director of the New Orleans emergency management office.


Because large areas would have to be evacuated, false alarms could be harmful to the economy. Stone sees it as a reasonable tradeoff.

"It's better to have that frustration than the loss of life. The potential loss of life in Louisiana could be catastrophic because there is just nowhere to go."

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