



Five Years Later – Are we better prepared?

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When Hurricane Katrina made landfall on Aug. 29, 2005, it caused an estimated \$41.1 billion in insured losses across six states, and took an incalculable economic and social toll on many communities. Five years later, the recovery continues and some residents in the most severely affected states of Alabama, Louisiana and Mississippi are still struggling.

There is no question that no one wants a repeat performance of this devastating event that left at least 1,300 people dead. Yet, the steps taken to improve the quality of the building stock, whether through rebuilding or new construction, call into question the commitment of some key stakeholders to ensuring that past mistakes are not repeated.

In recognition of the five-year anniversary of Hurricane Katrina, the Institute for Business & Home Safety (IBHS) analyzed the quality of building codes in place along the Gulf Coast before and after the storm. While there have been positive steps taken in a number of coastal communities and counties in Alabama and Mississippi, only the State of Louisiana moved decisively to adopt and enforce a statewide building code just four months after Katrina struck.

The Good News

The Louisiana Uniform Construction Code is based on the 2006 edition of the International Building Code and the International Residential Code, which are created by the International Code Council (ICC). The code mandates enforcement through building officials, plan reviewers and inspectors. It also provides a regulatory scheme for the application and issuance of building permits, certificates of occupancy, authority to charge fees, penalties for violating the building code and a complete system to administer the building codes effectively.

Louisiana lawmakers put aside political challenges and took the bold step of adopting the statewide code because it was the right thing to do. Since then, the state has encountered the types of difficulties that typically accompany any new program.

Louisiana has struggled financially to establish, staff, and manage inspection departments. Design professionals, contractors and subcontractors are still in the process of learning the new code and altering their construction practices in order to comply. While it is difficult to measure the level of code enforcement that currently exists in Louisiana, reports from code officials indicate it is a struggle to find qualified people to fill the role of inspectors. Still, the state must be commended for taking steps toward building homes that are more likely to survive the next hurricane.

It is worth remembering that after Katrina the U.S. Coast Guard alone rescued more than 33,500 people by boat or helicopter. Many of the Louisianans rescued or evacuated did not return to the state, furthering hampering economic recovery. In July 2006, the U.S. Census estimated the state's population had declined by 4.87 percent.

Louisiana is one of 13 states with mandatory statewide building codes that have not weakened either the wind or seismic provisions of the International Building Code or International Residential Code. Florida, Virginia, and South Carolina are among the other hurricane-prone states that have adopted statewide codes that include mandatory enforcement and have not been modified with any weakening amendments.

Room for Improvement

Mississippi

Much of the media attention since Katrina has focused on the devastation in New Orleans. While the city was severely damaged, the state of Mississippi actually suffered the most widespread property losses. It is estimated that 90 percent of the buildings along the Biloxi-Gulfport coast were destroyed by the storm. In fact, all of the state's counties were in some way affected by Katrina, resulting in a statewide federal disaster declaration, with the lower 49 counties eligible for full federal disaster assistance.

As in Louisiana, Mississippi lawmakers took proactive steps following Katrina and created the Mississippi Building Code Council in 2006. The council was to be responsible for adopting the latest editions of the IBC and IRC, which would have provided guidance for local jurisdictions to follow in their own code adoption processes. The legislation also required adoption and enforcement of the wind and flood provisions beginning in 2006, in three coastal counties – Jackson, Hancock, and Harrison – as well as two adjacent counties, Pearl River and Stone. This was followed by adoption in two other inland counties – Forrest and Lamar – one year later. All of these counties adopted the provisions of the 2003 International Codes. Unfortunately, these seven counties are the only ones of the state's 82 counties required to enforce the wind and flood requirements of the 2003 International Building Code (IBC) and 2003 International Residential Code (IRC). After this initial progress, the push for statewide building code adoption in Mississippi met with significant opposition, which led to several unsuccessful legislative efforts. The Building Code Council is no longer meeting. While it is encouraging that there are a few counties enforcing the flood and wind provisions of the 2003 International Codes, the state has fallen short by failing to keep pace by adopting upgrades to the code, or expanding code adoption to all areas of the state.

A major weakness in the 2003 code, which has since been addressed in the 2006 version, is the allowance of the “partially enclosed” design method. This design method allows the builder to strengthen connec-

tions between walls and roofs, and walls and foundations, in lieu of providing opening protection in areas with a high hurricane exposure. As a result, these properties are much more likely to have windows broken out or doors pushed in, which can result in wind and water damage throughout the home. This design option was eliminated for residential buildings in the 2006 IRC because of the high losses that occur and the fact that most people living out of the actual surge inundation areas frequently shelter in their homes.

Mississippi should do more to protect its citizens by addressing the structural weaknesses in properties exposed to hurricane-force winds and rains. The first step is to adopt the 2006 International Codes, followed by a move toward statewide code adoption and enforcement. With some residents continuing to live in emergency housing five years after Katrina, opportunities exist to provide a strong code that will ensure a future safer living environment for those who have already endured too much.

Alabama

Alabama also makes the IBHS list of states that have fallen short by failing to adopt strong building codes statewide, despite widespread damage from Katrina.

Lawmakers in Alabama have had plenty of experience and opportunities to address hurricane damage. Before Katrina struck in August 2005, the state was damaged by three other major storms: Hurricane Ivan in 2004, and Hurricanes Cindy and Dennis, which struck just days apart in July 2005. After Katrina, 22 Alabama counties spanning 400 miles were declared federal disaster areas.

The limited building code requirements that do exist in the state are governed by the Alabama Building Commission. The commission requires state-owned buildings, hotels and motels, and motion picture theaters to follow the 2006 International Building Code. Individual cities are not prohibited from adopting modern codes, but the adoption and enforcement is voluntary. There have been numerous unsuccessful attempts in the Alabama Legislature to pass bills that would create a statewide code.

On a more optimistic note, in 2009, the state passed a law requiring Alabama-admitted insurance companies to provide a premium discount or insurance rate reduction to owners who build, rebuild, or retrofit their homes in accordance with specified standards to better withstand hurricanes and other catastrophic windstorm events. Among these standards are the IBHS FORTIFIED for Safer Living® and FORTIFIED for Existing Homes™ programs, which employ code-plus design guidelines and retrofit measures for bringing existing homes in line with modern building codes.

While this was a positive development, Alabama must learn from its history of repeated hurricane exposures and do more to protect residents and business owners. Modern building codes have been proven time and again to result in better performance for homes and businesses, particularly when natural disasters strike.

Learning from Experience

The arguments against building code adoption in Alabama and Mississippi primarily center on the belief that modern construction practices will make homes too expensive. The latest U.S. Census Bureau poverty statistics show 15.9 percent of people in Alabama and 20.8 percent of people in Mississippi lived below the poverty line in 2008. Compare this to the 15.7 percent of people in South Carolina and 17.6 percent of people in Louisiana living in similar conditions in 2008. The comparisons are important because of progress toward stronger construction practices in each of the latter two states. Louisiana is addressed above; now let's turn to South Carolina.

South Carolina grappled with code issues after its residents were repairing and rebuilding their lives and property following Hurricane Hugo in 1989. During the past two decades, the state has made great strides toward strengthening its homes and businesses against future damage. The catalyst has been two-fold: concern for the safety of its citizens and the recognition of what is at stake.

The state has experienced tremendous growth since Hugo hit, particularly in coastal counties. By 2030, the South Carolina population is predicted to grow to more than 5.4 million people – many of whom will be living in harm's way. Currently, South Carolina has approximately \$200 billion in insured property along its coast. State officials realize it is not a matter of if, but when, the state will be struck by another major storm. In preparation, the state has taken proactive steps and is much better prepared for storms. The state adopted a mandatory code on June 13, 1997, and is currently operating under the guidelines of the 2006 IBC and IRC.

The progress made in South Carolina and the continuing efforts in Louisiana, despite political and economic challenges, is evidence that it is possible to adopt strong building codes without radically increasing the cost of construction.

Modern codes get results

Brick and mortar can be replaced, along with furniture and some other material possessions, but it is impossible to put a price on irreplaceable family heirlooms and the safety and security attached to a home. This is where the cost-benefit of the adoption and enforcement of modern building codes really becomes clear. In Florida, which has some of the nation's best building codes, the performance of homes constructed to newer standards compared to older methods, were truly tested when four major hurricanes attacked the state from both coastlines in a six-week period between August 13 and September 28, 2004.

The first of these storms, Hurricane Charley, made landfall in Charlotte County, Florida. Afterward, IBHS building science engineers surveyed the damage to homes. Later, IBHS analysts studied 5,636 homeowners' insurance policies for properties in the same area; more than 2,100 of these properties had damage claims. The IBHS study found that homes built to modern, well-enforced codes were 60 percent less likely to incur hurricane-related damage than homes constructed before the codes were adopted. The study also revealed that, if damage did occur, it was likely to be 42 percent less severe. Damage reductions like these mean a faster, less expensive recovery process for individuals and communities.

If keeping communities intact is not enough to spur code adoption, maybe financial incentives will be. Federal legislation is now under consideration to amend the Stafford Act. The amendments include financial incentives for states to adopt and enforce modern building codes by rewarding them with increased federal funding for post-disaster recovery, provided that the codes adhere to the model wind and seismic provisions.

By acting now to adopt statewide building codes, Alabama and Mississippi can position themselves to better protect their vulnerable populations and position their state to benefit financially from potentially increased federal funding that will be desperately needed in their next hurricane recovery process.

The Gulf Coast has been hit hard by a number of recent natural and man-made events. Saving lives, protecting families, and opening the door to greater financial resources is a winning strategy that everyone should get behind.