In response to Hurricane Katrina, FEMA deployed a Mitigation Assessment Team (MAT) to evaluate and assess damage from the hurricane and provide observations, conclusions, and recommendations on the performance of buildings and other structures impacted by wind and flood forces. 

https://www.fema.gov/media-library/assets/documents/4069

FEMA produced this series of 37 fact sheets to provide technical guidance and recommendations concerning the construction of coastal residential buildings. 

https://www.fema.gov/media-library/assets/documents/6131

In May and June 2011, MATs were deployed to Alabama, Georgia, Mississippi, Tennessee, and Missouri, respectively, to assess the damage caused by outbreaks of tornadoes in those states. This report presents the MATs observations, conclusions, and recommendations in response to those field investigations. The mission of the MATs was to assess the performance of structures affected by the tornadoes, investigate safe room and shelter performance in the affected areas, and describe the lessons learned to help future efforts to more successfully mitigate tornado events. The MAT report presents the observations, conclusions, and recommendations for residential structures, as well as commercial and other non-residential and critical facilities (e.g., schools, hospitals and health care facilities, first responder facilities, and emergency operations centers and emergency management agencies). 

http://www.fema.gov/media-library/assets/documents/25810

The purpose of this Guide is to provide guidance on how to improve the wind resistance of existing residential buildings in Mississippi and across the Gulf Coast. Although this Guide was developed to support initiatives in the Gulf Coast region, the content of this document should serve as guidance on retrofitting existing buildings for improved performance during high-wind events in all coastal regions. 

https://www.fema.gov/media-library/assets/documents/21082


https://www.fema.gov/media-library/assets/documents/100807


http://www.fema.gov/media-library/assets/documents/3293


http://www.fema.gov/media-library/assets/documents/2246

FEMA 543, Design Guide for Improving Critical Facility Safety from Flooding and High Winds (January 2007) 

https://www.fema.gov/media-library/assets/documents/8811
BUILDING SCIENCE

The Building Science Branch develops and produces technical guidance and tools focused on fostering a disaster-resistant built environment. Located within the FEMA Federal Insurance and Mitigation Administration’s (FIMA) Risk Reduction Division, the Building Science Branch supports FIMA’s mission to reduce risk to life and property by providing state-of-the-art technical hazard mitigation solutions for buildings. Mitigation efforts provide value to the American people by creating safer communities and reducing loss of life and property.

Building Science publications provide strategies for all types of hazards. This brochure provides readers with a quick summary of publications that will help them prepare for and mitigate against wind hazards.

WIND HAZARD

Severe wind storms often directly damage roofs, windows, and exterior finishes. The impact that wind has on the envelope of a building can also impact the superstructure of the building, and breaches in a building envelope frequently contribute to additional damages. Debris such as signs, roofing material, and other small items can also become flying missiles during wind events, which can pose a danger to your home or the safety of you and your family.

Proper design and construction provides resilient buildings that resist damages from hurricane-force winds and other high-wind events.

BUILDING SCIENCE PUBLICATIONS


This catalog contains a listing with brief descriptions of publications and training courses developed by the Building Science Branch for all hazards. https://www.fema.gov/media-library/assets/documents/12909


FEMA P-320, now in its fourth edition, helps home or small business owners assess their risk and determine the best type of safe room for their needs. The publication includes safe room designs and shows how to construct a safe room for your home or small business. Design options include safe rooms located inside or outside of a new home or small business. https://www.fema.gov/media-library/assets/documents/2009


This publication presents important information about the design and construction of community and residential safe rooms that will provide protection during tornado and hurricane events. This edition presents updated and refined criteria for safe rooms, and it features clarified guidance and revised commentary to reflect 6 additional years of post-damage assessments and lessons learned, including those based on many safe rooms directly impacted by tornadoes. https://www.fema.gov/media-library/assets/documents/3140

Protect Your Property from High Winds (April 2011) E, C, CO

This series of 8 flyers describes actions you can take to protect your property from high winds, including inspecting and maintaining your building and installing protective devices. Most of these actions, especially those that affect the exterior shell of your building, should be carried out by qualified maintenance staff or professional contractors licensed to work in your state, county, or city. https://www.fema.gov/media-library/assets/documents/13270

Key to Symbols:
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CO (Community Officials) H (Homeowners)
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