



## ***Saving Lives When Tornadoes Strike***

### **Tornado Safety Initiatives**

<http://www.fema.gov/hazard/tornado/index.shtm>

*Tornadoes are incredibly violent events and sufficient warning is not always possible. People need to be ready to take shelter immediately. The Federal Emergency Management Agency (FEMA) works with its partners to support initiatives that protect people from severe wind events. The agency assesses building damages and identifies lessons learned after tornadoes; funds research on shelter design and construction standards; develops best practices and technical manuals on safe rooms and community shelters; and produces public education materials on tornado preparedness and response.*

#### **A summary of FEMA initiatives**

**Providing guidance on shelter design and construction** – FEMA produces technical manuals for engineers, architects, building officials, and prospective shelter owners on the design and construction of safe rooms and community shelters

([www.fema.gov/plan/prevent/saferoom/index.shtm](http://www.fema.gov/plan/prevent/saferoom/index.shtm)). A safe room is a small, “hardened” room, such as a bathroom or closet, in a house, that can provide a high level of protection from severe winds and windborne debris. A community shelter, usually built in public buildings such as schools or hospitals, can protect a large number of people.

**Recommending new standards and best practices** – FEMA works with State governments, academia, and professional associations to recommend standards on shelter design and construction. Partners in this effort include the National Storm Shelter Association, the International Code Council, and the Wind Science and Engineering Research Center at Texas Tech University.

**Providing funds for shelter construction** – The Federal government makes funds available for the construction of safe rooms and community shelters. Sources include FEMA’s Hazard Mitigation Grant Program (States and local governments), U.S. Department of Housing and Urban Development / Community Development Block Grants (local governments), and U.S. Small Business Administration post-disaster loans (homeowners).

**Assessing damages caused by tornadoes** – After severe tornadoes or large tornado outbreaks, FEMA sends either technical study teams or Mitigation Assessment Teams (MATs) to assess the performance of buildings affected and to develop recommendations for reducing injuries and loss of life in future tornadoes. MATs involve professionals from government agencies and private firms, including structural engineers, wind engineers, architects, building code officials, and emergency planners.

#### **Nature’s most violent events**

Spawned from powerful thunderstorms and hurricanes, tornadoes can devastate neighborhoods in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends to the ground with winds whirling over 200 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long.

Tornado season is generally March through August, although tornadoes can occur at any time of year. Tornadoes have struck every state, including Alaska and Hawaii. But most tornadoes form in a belt from Nebraska southward through Kansas and Oklahoma, into central Texas, known as "Tornado Alley".