

## Twist, Toss, and Turn

*If your school district is not prepared for a disaster, get ready for a lot of sleepless nights. Planning is not just critical to your safety, but your future success as well*

**T**ornado Alley, an area often hit by powerful twisters, stretches across northern Texas, regions of Oklahoma, Kansas, and Colorado, nearly all of Nebraska, and sections of Iowa, South Dakota, and Minnesota.

Don't breathe a sigh of relief, however, if your district lies outside this path. Your schools could still be in danger. Oklahoma-based storm experts Chris Boyles and Casey Crosbie recently turned up evidence of "several tornado alleys" during a search of records dating back to 1880. Shreveport, La., and South Bend, Ind., are situated in especially dangerous tornado zones, they report.

In fact, tornadoes occur all over the

country. They can strike any time, any place, and they can hit without warning.

Wisconsin school officials know these facts firsthand. In 2007, 18 tornadoes swept across the state. Five tornadoes struck on June 7, including one so severe that it spun a 40-mile track across four counties, the longest U.S. tornado path recorded that year.

The state's peak tornado season is April to August, but Johnnie Smith, Wisconsin's emergency management administrator, cautions that tornadoes can strike when they're least expected. On Jan. 7, for instance, 48 tornadoes started in Oklahoma, spread across Missouri, and stretched into Illinois and Wisconsin. Two twisters struck Kenosha County just as the school day was ending, leaving behind widespread destruction.

In April, Gov. James Doyle dedicated a week to emergency preparedness for tornadoes. Statewide, school officials and safety officers were required to update tornado safety plans and conduct emergency drills.

### **It can happen here**

The Federal Emergency Management Agency says school officials should plan for disasters on a grand scale, noting that "no state, no location, no school district is invulnerable" to severe weather. The agency recommends including a

section on tornadoes in districts' emergency preparedness plans, even if violent storms seldom strike the area.

Forty-five tornadoes caused school fatalities between 1884 and 2007. Most often, the tornadoes killed fewer than five students and employees, but some storms resulted in higher casualties.

In March 1925, for instance, the Tri-State Tornado swept across Missouri, Illinois, and Indiana in early afternoon, tearing apart nine schools and causing 69 fatalities. In 1955, a tornado touched down in Commerce Landing, Miss., at 2:20 p.m., resulting in 23 school-related deaths. In 1989, a tornado reached Newburg, N.Y., tearing apart an elementary school cafeteria at 12:05 p.m., killing nine students. In March 2007, a tornado struck a school in Enterprise, Ala., resulting in eight deaths.

Tornado-inflicted school fatalities also have occurred in Oklahoma, Georgia, Texas, Tennessee, Nebraska, Arkansas, Ohio, Louisiana, Iowa, Colorado, Kansas, South Carolina, Maryland, Virginia, North Carolina, Minnesota, and Florida.

### **The moment of decision**

School officials in Enterprise still agonize over the tornado that struck at 1:10 p.m., ripping the roof off the high school and collapsing hallway walls, killing eight students.

When the first tornado watch was posted, school leaders decided to release students early. But when storm reports worsened, they decided to shelter students in school hallways, a drill they'd rehearsed several times.

The tornado struck the high school with a vengeance. County Emergency Manager John Tallas recalls a "continu-



ous series of storms” that mounted four simultaneous wind shears, more than the school could withstand.

Officials at Illinois’ Belvidere High School will never forget the horror inflicted by a fast-moving tornado. It struck during dismissal, just as 16 buses carrying elementary students pulled up to board high school students.

Twelve buses were overturned or thrown aside, killing one bus driver and 12 students who were “tossed like leaves” into nearby fields. Some 300 injured students were moved to shelter on makeshift stretchers improvised from school doors and plywood fragments.

How would you handle the specter of a tornado spinning toward your school? What split-second decisions would you make?

### Planning for severe weather

No single plan and no one decision is fool-proof when it comes to tornadoes, says Todd Shea, a meteorologist with the National Oceanic and Atmospheric Administration’s (NOAA) National Weather Service Forecast Office in LaCrosse, Wis.

Still, Shea says, you’re more likely to spare students and staff from injury, and save lives, if you follow these strategies, adapted from NOAA’s *Preparedness Guide for Schools*:

Before the storm:

- Learn all you can about severe weather. Know that a “watch” means the possibility of a tornado exists and a “warning” means a tornado has been spotted.

- Monitor hazardous weather forecasts, available from the National Weather Service and through NOAA’s Weather Radio and e-mail alerts.

- Assess the physical layout and structure of each school building with fire officials and emergency management personnel. Determine the safest places to shelter students and staff.

- Install a system that alerts students and staff to take immediate shelter.

- Train bus drivers to protect students

during severe weather. Equip buses with two-way radios and other safety equipment.

- Evaluate and upgrade weather emergency plans. Inform parents of changes to the plan.

- Cancel assemblies and bring students in from playgrounds and sports fields.

During the storm:

- Monitor the storm’s path and potential impact. Position storm spotters to watch for funnel clouds.

- Assume that a tornado could change course and hit your school.

- Move students and staff to designated safe areas before the storm intensifies.

- Delay boarding students onto buses. Alert drivers already on the road to shelter students from imminent danger.

- Shelter students and staff until the first storm has passed and no other storms are approaching.

After the storm:

- Give an “all clear” signal when it’s safe to move students to classrooms and

on to buses.

- Assess damage to the interior and exterior of buildings and surrounding areas.

- Review your plan’s strengths and weaknesses. Revise the plan and conduct more drills.

### Update your plans

Outdated tornado safety plans can cause considerable harm, experts say.

Some school safety plans still require teachers to open doors and windows when a tornado approaches. But this practice, thought to equalize pressure and reduce damage, is “useless and a waste of precious time,” says Roger Edwards with NOAA’s storm prediction center in Norman, Okla.

Many plans still insist on sheltering students away from southwest sites, the prevailing approach for most tornadoes. It’s far more important, Edwards says, to select sites that are structurally sound and free from glass and unsecured items, such as bookcases and sci-

## Tips for disaster planning

Short-cutting tornado safety is risky, says Roger Edwards with NOAA’s Oklahoma Storm Prediction Center. He says you should never use outdated plans, copy plans posted by other school districts, or rely on one plan for all of your buildings.

Edwards provides these tips to help you develop your plans:

- Calculate the time, space, and coordination required to move staff and students to shelter.

- Respond instantly when a tornado is sighted. Tornadoes can strike within seconds of the first warning. Some tornadoes strike without warning.

- Protect students and staff from flying debris, the greatest tornado hazard.

- Shelter students and staff inside sturdy interior walls.

- Select sites with structural strength to withstand 150 to 200 mph winds from any direction.

- Move students out of gymnasiums, auditoriums, and cafeterias, which can collapse when hit by even weak tornadoes.

- Move students out of portable classrooms and into the main building when a tornado watch is posted. It’s usually less risky to move students than to keep them in portables which, like trailers, can easily topple and become death traps.

- Keep a NOAA Weather Radio with a warning alarm and battery back-up on hand. Be sure the radio is equipped with technology that provides weather alerts for your area.

Adapted from: Edwards, Roger. “Tornado Preparedness Tips for School Administrators.” [www.spc.noaa.gov/faq/tornado/school.html](http://www.spc.noaa.gov/faq/tornado/school.html)

ence equipment, which can become lethal weapons.

Indiana's Department of Education recently updated its Tornado Safety Rules in Schools. To protect students from head injuries, the leading cause of tornado-related deaths, schools now must teach students protective posture—face an interior wall and crouch low, clasping hands behind the neck and keeping eyes closed, until it's safe to move.

In Indiana, the peak time for tornadoes is between 3 and 8 p.m., from April through June, a time when many students are riding buses home, or are traveling to or from school-sponsored activities. As a result, many new rules apply to bus drivers.

For instance, drivers are prohibited from trying to outrace a tornado, an impossible feat. They're required to steer clear of hazards such as fallen trees and weakened bridges, and they're expected to know the location of suitable shelters, such as office buildings and houses with basements.

When a tornado funnels downward, drivers must evacuate students from the bus and guide them into ditches, ravines, or other below-ground areas away from the bus, power lines, utility poles, and trees. They must instruct students to lie flat, face down, until it's safe to move.

Before letting students back on the bus, drivers must be certain that a second tornado isn't approaching and that it's safe to continue.

Indiana's state education officials say: "The only thing harder than planning for an emergency is explaining why you did not."

It's important to keep an eye on the sky at all times. It's even more important to work on updating your tornado safety plan, starting today. ■

---

Susan Black, an *ASBJ* contributing editor, is an education researcher and writer in Hammondsport, N.Y.