

Cenergistic®

INSTRUCTIONAL ARTICLE

Weathering the Storm:

How to Develop
Emergency
Preparedness Plans +
Safely Bring Students
Back to Weather
Stricken Areas

"Interval data is the key for really optimizing buildings and understanding how they're operating during a major storm event. Hurricanes and extended rain periods have caused higher dew points, and the rise of moisture management issues has really been the issue that we've seen broadly across our schools."

**Jack Bullock, PE , CEM, BESA,
Chief Engineer, Cenergistic**

SUMMARY

The primary problem -- **not all emergencies can be prevented in schools**, namely weather-related disasters.

Poor preparedness or an inability to plan for severe weather events in K-12 schools and higher education facilities has a direct link to increased costs and length of recovery. Risk of injury and facility destruction exists, but **schools that take the time to plan for these weather events and develop a disaster recovery plan can work to minimize the impact of these events.**

Since we know catastrophic weather events pose a high risk for K-12 schools, **Facilities Managers need to understand the role of school weather disaster recovery and how to reduce the adverse impact** of these events as their severity grows worse in light of climate change.

TYPES OF EMERGENCY EVENTS

Explained by **FEMA**, **50+ million children are enrolled in public elementary and secondary schools in the US**, with over one-quarter of the nation's population being children. And, the prevalence of natural disasters is increasing.

Black Swan weather events, described as storms that have grown in intensity beyond expectations as a result of climate change, include severe storms in the Midwest, hurricanes and winter blizzards, to name a few. As detailed by the Geophysical Fluid Dynamics Laboratory, the intensity of tropical storms and hurricanes is expected to continue to increase, contributing to a 15% rise in average rainfall for each 2-degree increase of Celsius global temperatures. Main types of disasters include:

- Floods
- Tornadoes
- Forest fires
- Mudslides
- Hurricanes
- Blizzards
- Severe thunderstorms
- Volcanic activity

HOW TO CREATE COMPREHENSIVE EMERGENCY PLANS

A comprehensive plan for emergency preparedness in schools should consider the specific types of emergencies and disasters that a given school may face for its region, explains [AccreditedSchoolsOnline.com](https://www.accreditedschools.com). Since planning for emergencies means setting a preparedness and recovery budget before the event occurs, schools may opt to work with an on-site energy specialist to ensure all needs are addressed.

Of course, the Superintendent will be extremely busy working to keep building occupants safe and prevent undue damage when a storm is on the way. Therefore, knowing when to step back and be a back-stop to offer assistance is one of the key ways Cenergistic can help.

- 1) **Develop a written plan for the threat of emergencies.** This plan should specify the types of risks to a school, their likelihood of occurrence and actions to take when a warning is issued.
- 2) **Create an emergency supply kit.** The emergency supply kit is the next phase of ensuring continuity; it should include medical supplies, food and water for children and staff until rescuers arrive. Schools should also have multiple emergency supply kits throughout the building.
- 3) **Educate staff and students on emergency plans.** While children may not understand the state of emergencies, staff should know how to respond with age-appropriate instructions and encourage proper evacuation protocols. Such programs should include conducting drills and practicing evacuation on a frequent basis. A good rule of thumb is to conduct at least one exercise every six-week period.



WHEN AN EMERGENCY STRIKES

- 1) **Assess the threat, if possible.** Weather-related emergencies, such as unusually severe weather and hurricanes, may allow some planning time as schools will know the path of the storm. School officials should assess the risk and determine the best course of action.
- 2) **Evacuate or take cover.** If there is no time for evacuation, the next step will be taking cover. Most importantly, all personnel should stay calm to reduce stress on children.
- 3) **Address health and medical needs when it is safe to do so.** For long-duration emergencies, like tropical storms, focus on maintaining health and safety. This may include ensuring proper use of generators to conserve power.

ONCE THE EVENT PASSES

- 1) **Assess the integrity of the building.** A full-scale assessment won't be immediately possible, but conduct a quick sweep of the facility to identify potential danger areas, like walls that appear on the verge of collapse.
- 2) **Check all students for injuries and needs.** All injuries should be addressed as quickly as possible, contact the school nurse or EMS as needed.

ONCE THE EVENT PASSES (con't.)

- 3) **Evacuate students from damaged areas.** Student safety is the priority. Begin immediate evacuations or relocation to a safer part of the facility.
- 4) **Contact parents or guardians.** Although many students may have a smart phone to contact parents, staff should still contact parents as necessary. This is a key aspect of emergency preparedness planning and notification systems. An automated system can also generate alerts to notify parents of an impending occurrence of an emergency.
- 5) **Only re-enter a building if the disaster recovery professionals have deemed it safe for building occupants.** Following an event, even on-site personnel may not be allowed back into the building to prevent liability and let professional experts, e.g. ServPro, assess the building's condition and ensure safety.
- 6) **Learn from what went wrong.** The best-laid plans may still suffer setbacks when faced with an actual emergency. School officials should take stock of pain points experienced in the response and focus on how to improve planning for the future.

BEST PRACTICES TO ENSURE A SAFE RETURN TO SCHOOL

The steps to reopening a school are not necessarily finite. Flooding and other weather disasters are disruptions, but it is also impractical to keep a school closed when a particular wing or other area is under repair. In anticipation of reopening and upon reopening, leaders should follow these best practices for managing weather-stricken schools:

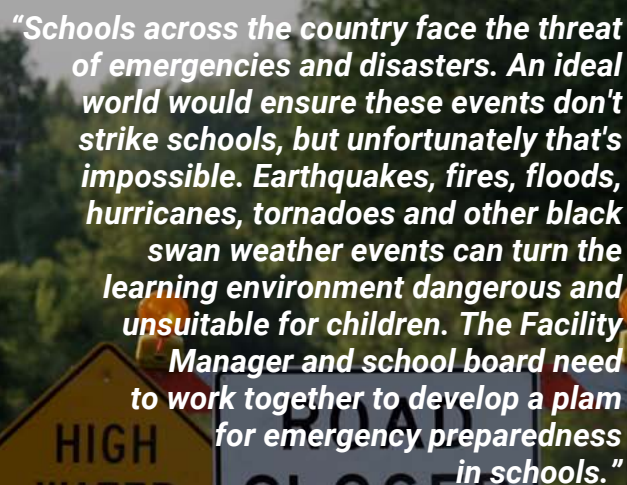
1) **Consider air quality.** Air quality may be reduced for numerous reasons, including generator exhaust, particulates from material and debris removal and more. Officials should consider installing CO detectors, smoke alarms, and air filtration systems to reduce the impact on air quality. Ducts tend to not flood, provided the entire school was not submerged to the roof.

2) **Exercise caution in selecting cleaning materials/supplies.** the type and hazard of materials and supplies can also affect air quality. It's essential to choose materials and to clean supplies that will not add to the problem.

3) **Look beyond the debris.** Flooding hides risks, such as contributing to the growth of mold inside walls and inaccessible areas, so it is essential to look beyond the initial debris field.

4) **Remember play areas.** Child-play areas are essential to encouraging a return to school and maintaining a healthy mental state for children. Play areas should be checked for damage, including non-structured areas. For instance, sandboxes may need more sand, or rubber-mats to prevent injuries may need replacement.

5) **Complete all remediation before children return to a given area.** There are times when the rush to reopen and lack of funds make remediation measures go out the proverbial door. Do not allow children entry into any areas that have not been adequately inspected and certified to be suitable for use.



"Schools across the country face the threat of emergencies and disasters. An ideal world would ensure these events don't strike schools, but unfortunately that's impossible. Earthquakes, fires, floods, hurricanes, tornadoes and other black swan weather events can turn the learning environment dangerous and unsuitable for children. The Facility Manager and school board need to work together to develop a plan for emergency preparedness in schools."

Jake Jacobs,
Southeast Regional VP, Cenergistic