



Flood Tabletop Exercise



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Flood Tabletop Exercise Participant Guide

For information on how to lead the tabletop exercise, see the accompanying document “Emergency Exercises Training Package Instructions” within the Emergency Exercises Package.

In this tabletop exercise, you should imagine that you are a member of your school’s emergency planning team and that you have access to only the resources and systems you currently have in place. You will discuss your response to a hypothetical flood.

The scenario will first be presented to you and then be followed by individual questions. After each question is asked, you should pause and discuss it with your group. Additional information on how the scenario unfolds, called injects, is provided, and questions are then posed on how the school would respond.

Scenario

It is a Monday morning at your school, and classes are just beginning. You have heard on the news that a storm is forecast for today. At this time, no changes have been made to the school schedule, and after-school sports and extracurricular activities are planned. Earlier this morning, the forecast predicted the storm would arrive sometime after 10:00 a.m., but rainfall begins at 9:45 a.m. and gets heavier throughout the late morning and is accompanied by wind. Shortly before the first lunch period, around 11:30 a.m., the National Weather Service (NWS) issues a Flash Flood Watch for your county.

Discussion Questions

Now, please answer the following questions. As you answer them, have a volunteer take notes to help later with the exercise debrief.

1. Who in the school is responsible for monitoring NWS alerts and warnings? How would they receive and share this information? Who else would be notified?
2. What would be your immediate concerns when you learn about the Flash Flood Watch?
3. What would be your team’s first steps? Does your school or school district currently have established protocols for this situation? What are they, and where would you find this information — does

the Flood Annex to your school emergency operations plan (EOP) contain this information?

4. What information would you relay to the school community at this time, if any?

Now that the team has discussed these questions, you’ll hear how the scenario hypothetically unfolds with Inject #1.

Inject #1

At 12:00 p.m., staff members report that they can see water flowing over a section of roadway in front of the school, which is a main bus route. It appears that water runoff has overwhelmed a nearby stream, which has crested its banks and overflowed. Rain continues to fall heavily, accumulating roughly 2 inches every hour since the storm began, but the storm is forecast to end in the early afternoon. At 12:20 p.m., the NWS issues an immediate Flash Flood Warning and an Urban and Small Stream Advisory for your county. You activate your response team.

Discussion Questions

Now, please answer the following questions:

1. Based on this updated information, how have your initial concerns changed? Would you alter the school day schedule?



2. At this time, how would you decide to keep students and staff safe? Who makes these decisions? Do you decide to shelter-in-place and wait out the storm?
 - Do you have a Shelter-in-Place Annex to your EOP, and would it be activated in this scenario?
 - If you decide to shelter-in-place, how would students be cared for during this time? Where would students convene? Would you have the necessary supplies, snacks, and activities needed to care for students if the water takes multiple hours to recede? Would you have the necessary supplies or equipment to care for students with disabilities or access and functional needs?
3. How would your school manage internal (among staff and students) and external (among parents, families, after-school providers, and volunteers) communications pertaining to the Flash Flood Warning? Would you communicate with nearby schools in the area? Would you communicate with local law enforcement, the fire department, or the local emergency management agency? Where would you find this information — does a Communications and Warning Annex to your EOP contain this information?
4. Is there anything you would do to protect the school from potential water damage? Are there any records or equipment that would need to be moved?

Read on to learn about how the scenario hypothetically unfolds with Inject #2.

Inject #2

By 12:30 p.m. it becomes clear that the grounds around the school are flooding. The road in front of the school is now impassable in multiple sections. Sediment and debris are washing over the road and accumulating near the school. Several tree branches have fallen because of heavy winds. Local police

officers arrive by 12:45 p.m. and close off the main road leading to the school. Due to the fast-moving nature of the storm and the rising water levels surrounding the school, they advise your team to evacuate the school. Several students live outside of the district's bus routes, complicating plans for early dismissal.

Discussion Questions

Now, answer the following questions:

1. What immediate actions would you take? How would you communicate this new information to all relevant parties?
2. What is your school's evacuation plan? Do you have an Evacuation Annex to your EOP? Is there a predetermined evacuation route? What would staff members need to bring with them upon evacuation? How would students and staff with disabilities or access and functional needs be supported during an evacuation?
3. How would bus drivers transport students now that flooding has made the main route unsafe? Are there alternate bus routes mapped?
4. How would all students and staff be accounted for? Do you have an Accounting for All Persons Annex to your EOP?
5. How would the building be closed and secured? Who would do a final sweep of the building after evacuation?
6. Where would students who do not ride buses be relocated to? How would these students be cared for at the relocation site until an authorized caregiver arrives? Do you have a Family Reunification Annex?

Now, we're moving on to Inject #3.

Inject #3

The storm subsides in the late afternoon. By that time, the lower level of the school has suffered significant water damage and there is debris



scattered outside the school, including large branches, sediment, and damaged playground and athletic equipment. The school will need to be closed for several days to allow for recovery and cleanup operations. Multiple community members offer to volunteer and donate funds to assist with cleanup efforts.

Discussion Questions

Again, answer the following questions:

1. While the school is closed, what steps would your school take to ensure continuity of operations, including business services; teaching and learning; and school-based medical services and food programs, if provided? Do you have any established protocols for what to do, such as in the Continuity of Operations Annex to your EOP?
2. How would your school approach recovery? Does your school have a Recovery Annex in your EOP?
3. Who would first return to the school to assess the extent of the damage? Which community partners would you work with to ensure a successful recovery from this event? Who would manage volunteers and donations, and how would these processes be organized?

4. What emotional, social, or behavioral supports would you provide to students, teachers, and staff who were impacted by the flood?

This concludes the exercise.

Conclusion

An exercise debrief — called a “hot wash”—should now be conducted, and an after-action report developed, which identifies and documents gaps, shortfalls, and lessons learned. You should consider

1. What did the exercise demonstrate about how the school or school district would respond to this type of emergency event?
2. What went well in the exercise?
3. What lessons were learned?
4. What gaps in the school’s or school district’s EOP, including annexes, were identified?
5. How will the EOP and annexes be revised, if needed?
6. Who will be responsible for making these revisions?
7. When will these revisions be made by?

Resources on Preparing for Floods That Impact Education Agencies

Flood Annex Development

[Preparing for Floods at Institutions of Higher Education](#), Fact Sheet (REMS TA Center) — Higher ed only. Provides resources on flood planning that institutions of higher education (IHEs) can use to incorporate flooding in higher ed emergency operations plans (EOPs) and participate in flood-related preparedness activities.

[Preparing for Floods at K-12 Schools and School Districts](#), Fact Sheet (REMS TA Center) — K-12 only. Provides information on flood planning that public and nonpublic schools and school districts can use to incorporate flooding in school EOPs and participate in flood-related preparedness activities.

[Preparing for Floods at State Education Agencies](#), Fact Sheet (REMS TA Center). Provides information on flood planning that state education agencies (SEAs) can use to incorporate flooding in EOP development efforts and participate in flood-related preparedness activities.

[Planning for Natural Hazards That May Impact Students, Staff, and Visitors](#), Web Page (REMS TA Center). Contains resources from the REMS TA Center, the U.S. Department of Education, and other Federal agencies related to planning for natural hazards, which includes floods.

[When the Weather Turns Severe: A Guide to Developing a Severe Weather Emergency Plan for Schools](#), Publication (U.S. Department of Commerce [DOC], National Oceanic and Atmospheric Administration [NOAA], National Weather Service [NWS]) — K-12 only. Offers information on severe weather, such as flash flooding and severe flooding; ways to obtain emergency weather information; ways to alert educators and students; and actions that can be taken during severe weather events.

[The Role of School Facility Managers in School Safety Efforts](#), Webinar (REMS TA Center). Explores the role of school facility managers in supporting school EOP development, including flood planning.

Flood Exercises

[Prepare Your Organization for a Flood Playbook](#), Publication (U.S. Department of Homeland Security [DHS], Federal Emergency Management Agency [FEMA]). Contains a sample tabletop exercise with a flood scenario and step-by-step instructions.

[Tool Box](#), Web Page (REMS TA Center). Contains materials for conducting a tabletop exercise of a power outage scenario, which were created by a state education agency, state school safety center, and local education agency. Also contains materials for planning, conducting, and evaluating emergency exercises.

Data Sources for Floods

[FEMA Flood Map Service Center: Search By Address](#), Web Page (DHS, FEMA). Contains information for the public on flood hazards and was created in support of the National Flood Insurance Program (NFIP).

[Flood Inundation Mapper](#), Website (U.S. Department of the Interior [DOI], U.S. Geological Survey [USGS]). Features an interactive flood inundation map that contains real-time data and flood forecasts, as well as potential loss estimates.

[Historical Flood Risk and Costs](#), Web Page (DHS, FEMA). Provides information on historical flood risk and potential flood-related costs by state and by county.



[Storm Events Database](#), Web Page (DOC, NOAA). Generates information on coastal flood, flash flood, flood, and lakeshore flood events by state and county.

[Interactive Flood Information Map](#), Web Page (DOC, NOAA, NWS). Contains the most significant floods that have occurred and NWS Forecast Offices and River Forecast Centers in each state.

Flood Mitigation

[Mitigation and Resiliency Strategies for Schools and Institutions of Higher Education](#), Webinar (REMS TA Center). Presents key considerations for mitigation, the process for including mitigation activities in planning efforts, how school and IHE mitigation and resiliency plans integrate with those at the local and state levels, and practical examples of how schools and IHEs have made their campuses more resilient to emergencies.

[Hurricane and Flood Mitigation Handbook for Public Facilities](#), Publication (DHS FEMA). Read “Fact Sheet 3.0: Buildings, Systems and Equipment” for relevant information for publicly owned school buildings.

[IS-322: Flood Mitigation Basics for Mitigation Staff](#), Online Course (DHS, FEMA, Emergency Management Institute [EMI]). Provides an overview of floods, mitigation measures, and mitigation resources available to the public.

[Design Guide for Improving School Safety in Earthquakes, Floods, and High Winds](#), Publication (DHS, FEMA) — K-12 only. Provides design guidance for the protection of school buildings and their occupants against natural hazards. Chapter 5 focuses on floods exclusively, including the nature of floods and its effect on vulnerability, the consequences of building exposure, and methods of reducing its effects.

[Flood Mitigation Assistance \(FMA\) Grant](#), Web Page (DHS, FEMA). Contains information on the grant program, which aims to reduce or eliminate long-term risk of flood damage to structures insured under NFIP. Eligible applicants include states, territories, and federally recognized tribes, and subapplicants include state agencies and local governments/communities, among others.

[Hazard Mitigation Planning](#), Web Page (DHS, FEMA). Contains policy updates, news and announcements, information, best practices, and resources for creating hazard mitigation plans and implementing mitigation planning activities.

Flood Alerts, Communications, and Warnings/Notifications

[NWS Geographic Information Services \(GIS\) Portal](#), Web Page (DOC, NOAA, NWS). Displays an interactive map of the national forecast, as well as watches, warnings, and advisories issued by NWS.

[Flood Safety: Wireless Emergency Alerts](#), Video (DOC, NOAA, NWS). Describes how individuals can enable a feature to automatically receive Wireless Emergency Alerts from the NWS about flash flooding nearby.

[IS-271.A: Anticipating Hazardous Weather & Community Risk](#), Online Course (DHS, FEMA, EMI). Covers weather basics, weather forecasting, warning partnership information, fact sheets for weather and non-weather-related hazards, and human behavior and community response.

Physical and Structural Recovery From Floods

[Building State-Level Relationships to Support Education Agencies With Disaster Response and Recovery Planning](#), Webinar (REMS TA Center). Shares information on how FEMA Public Assistance Program funding can support recovery efforts.



[Mold Remediation in Schools and Commercial Buildings Guide](#), Publication (U.S. Environmental Protection Agency [EPA]) — K-12 only. Contains information on mold prevention; investigation, evaluation, and remediation of moisture and mold problems; water damage — cleanup and mold prevention; and mold remediation. The intended audience is building managers, custodians, and others who are responsible for school maintenance.

[Clinician Recommendations Regarding Return of Children to Areas Impacted by Flooding and/or Hurricanes](#), Publication (American Academy of Pediatrics and Pediatric Environmental Health Specialty Units) — K-12 only. Describes activities that must be completed before children can return to an area impacted by a flood, such as ensuring that basic utilities and public services are operating normally and learning environments are safe.

[Planning to Recover From Emergencies at Districts and Schools](#), Webinar (REMS TA Center) — K-12 only. Describes key considerations for recovery, the process for including recovery activities in planning efforts, and lessons learned from emergency events.

[Managing Donations and Volunteers Before, During, and After School and Campus Emergency Events](#), Webinar (REMS TA Center). Describes operational considerations for managing donations and volunteers from the Federal and local perspectives, and shares lessons learned from Hurricanes Harvey and Irma and the 2011 tornado that impacted Joplin.

[Supporting Displaced Students and Families During and After Emergency Events](#), Webinar (REMS TA Center). Provides a basic overview of why providing supports for homeless and displaced students and families during and after emergencies is important. It also provides insight that can help SEAs and local education agencies, with their emergency management agency partners, understand how they

can support students and families displaced from homes, communities, and school settings because of a natural disaster, such as a flood.

Creating a Culture of Flood Preparedness

School Initiatives

[StormReady® Program](#), Web Page (DOC, NOAA, NWS). Aims to increase communities' preparedness for weather and flood emergencies to create a [Weather-Ready Nation](#). Education agencies can apply to become a StormReady® site.

[TsunamiReady® Program](#), Web Page (DOC, NOAA, NWS and National Tsunami Hazard Mitigation Program). Aims to increase communities' preparedness for tsunamis, including subsequent flooding, to create a [Weather-Ready Nation](#). Education agencies can apply to become a TsunamiReady® site.

[Flood Safety Social Media Toolkit](#), Web Page (DHS, FEMA). Contains flood safety and preparedness messages that may be shared and customized via social media channels.

[NWS Awareness and Preparedness Calendar](#), Web Page (DOC, NOAA, NWS). Provides information on weather safety events for each state and U.S. territory, including flood safety/awareness/preparedness weeks.

[National Seasonal Safety Campaign](#), Web Page (DOC, NOAA, NWS). Contains four seasonal awareness activities that aim to prepare the public for hazardous weather, including floods. Seasonal resources include Websites, social media, infographics, videos, and other materials.



Classroom Resources

[Educational Resources](#), Website (DOI, USGS) — K-12 only. Offers activities that connect to science, technology, engineering, and math (STEM) initiatives and teach students about floods, including their size and occurrence for [grades 6-8](#) and [grades 9-12](#).

[Floods iQuest](#), Web Page (National Aeronautics and Space Administration) — K-12 only. Introduces middle school students to the many aspects of flooding. This program connects to STEM initiatives.

[SKYWARN®](#), Web Page (DOC, NOAA, NWS). Trains severe weather spotters. This program connects to both STEM and career and technical education initiatives.

[Ready Kids](#), Website (DHS, FEMA) — K-12 only. Contains [classroom-based curriculum](#), information, and resources on youth preparedness, including for [floods](#).

[Floods Happen. Lessen the Loss. A Coloring Workbook for Flood Education and Awareness](#), Publication (DOC, NOAA, NWS) — K-12 only. Increases students' and educators' understanding of flooding and flood safety.

[Ready Wrigley: Flooding and Mold](#), Publication (U.S. Department of Health and Human Services [HHS], Centers for Disease Control and Prevention [CDC]) — K-12 only. For educators, as well as families and caregivers, to use to discuss disaster preparedness and safe mold cleanup after a flood with children. This book is also available in [Spanish](#).

General Flood Safety

[Natural Disasters and Severe Weather: Floods](#), Website (HHS, CDC). Contains information on preparing for a flood, practicing floodwater safety during a flood, and protecting your health when you return home after a flood. Also available in [Spanish](#).

[Ready.Gov: Floods](#), Web Page (DHS, FEMA). Contains tips on preparing for a flood, surviving during a flood, and staying safe after a flood.

[Flood Safety Tips and Resources](#), Website (DOC, NOAA, NWS). Offers information to keep the public safe in a flood event, including what to do before, during, and after a flood.

[USGS Flood Information](#), Website (DOI, USGS). Contains information about active flood events, historical regional flood events by year, state-based flood information via an interactive map, and flood resources.

[Severe Weather 101: Flood Basics](#), Web Page (DOC, NOAA, National Severe Storms Laboratory). Provides information on the basics, types, detection, and forecasting of floods.

[Flooding](#), Web Page (EPA). Provides information and resources on preparing for flooding before, during, and after a flood. Also available in [Spanish](#).

[Be Prepared for a Flood](#), Publication (DHS, FEMA). Shares information about floods, as well as preparedness and protective actions individuals can take to stay safe before, during, and after a flood.

[Food and Water Safety During Power Outages and Floods](#), Fact Sheet (HHS, U.S. Food and Drug Administration). Offers preparedness considerations and recommended actions to maintain food and water safety during and after a flood and prevent a contaminated food outbreak.