



2018 Oklahoma Regional Tabletop Exercise for Institutions of Higher Education

Summary Report





HANDLING INSTRUCTIONS

The title of this document is the *2018 Oklahoma Regional Tabletop Exercise for Institutions of Higher Education Summary Report* (Summary Report). This document should be safeguarded, handled, transmitted, and stored in accordance with appropriate security directives. This report should be handled in a sensitive manner. Reproduction of this document, in whole or in part, is prohibited without prior approval.

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INTRODUCTION

The *2018 Oklahoma (OK) Regional Tabletop Exercise (RTTX) for Institutions of Higher Education (IHE)* is part of a broader series dedicated to empowering IHEs to improve preparedness and build resilience. The OK RTTX event was designed and sponsored by the U.S. Department of Homeland Security (DHS) Office of Academic Engagement (OAE) and the DHS Federal Emergency Management Agency (FEMA) National Exercise Division (NED). Hosted by the University of Central Oklahoma, the event took place in Edmond, Oklahoma on October 11, 2018. The OK RTTX focused on threats and hazards related to a tornado incident occurring during a large on-campus commencement ceremony, and sought to provide participants with insights into preparedness, response, and recovery best practices. The OK RTTX brought together over 125 participants from academia, public safety, and law enforcement.

The *2018 Oklahoma Regional Tabletop Exercise for Institutions of Higher Education Summary Report* provides OK RTTX participants – as well as academic, emergency management, and law enforcement stakeholders – with a summary of the key findings and takeaways from the event. The report focuses on key findings from OK RTTX activities as well as insights gained from various feedback opportunities.

Per the Homeland Security Exercise and Evaluation Program (HSEEP), this report's analyses are organized into two main categories: 1) strengths demonstrated by participating organizations and 2) areas for improvement uncovered during the event.

Background

The Campus Resilience Program (CR) Tabletop Exercise (TTX) Series is a set of events focused on specific resilience-related topics that impact the higher education community. DHS OAE held the inaugural RTTX in 2018 as a part of the wider series of campus-based events that includes National Tabletop Exercises (NTTX) and Leadership Tabletop Exercises (LTTX). The goal of these events is to enhance participants' knowledge of emergency preparedness and identify opportunities to improve their response and recovery capabilities. DHS facilitates each event in coordination with the academic community, government partners, and the private sector and provides participants with tools and resources to develop and improve emergency plans, policies, procedures, and capabilities.

Campus Resilience Program

DHS launched the CR Program in 2013 as an effort to engage IHEs in developing and testing an emergency preparedness and resilience planning process tailored to IHEs. The OAE-managed program is dedicated to helping IHEs build, sustain, and promote resiliency to better manage and respond to the threats they face.

The CR Program offers a Resource Library which organizes resources according to threat or hazard, and then further categorizes each resource according to its relevant mission area, as outlined in the [National Preparedness Goal](#). The resources included reflect the collaborative efforts of many program and partner organizations, and represent a variety of federal, state, local, private sector, emergency management, and academic association entities. For more information and to access the Library, visit <https://www.dhs.gov/campus-resilience-program-resource-library>.

The CR Program's Exercise Starter Kits (ESK) are self-conducted exercises which provide the academic community with a set of scalable tools to develop a TTX that can be tailored to match their most pressing threats and hazards while validating specific emergency plans, protocols, and procedures. ESK scenarios currently focus on cyber breaches, hurricanes, and active shooter incidents. To obtain an ESK, please visit: <https://www.dhs.gov/exercise-starter-kits-esks>.

Additional information on the CR Program TTX Series is accessible [here](#).





EXERCISE OVERVIEW

Exercise Name	2018 Oklahoma Regional Tabletop Exercise for Institutions of Higher Education
Exercise Date	Thursday, October 11, 2018
Event Scope	<p>The 2018 Oklahoma (OK) Regional Tabletop Exercise for Institutions (RTTX) of Higher Education (IHE) aimed to empower the higher education community to improve preparedness and build resilience for the variety of threats and hazards that pose the greatest risk to campus communities across the nation. The 2018 OK RTTX included the following components:</p> <ul style="list-style-type: none"> ▪ A Learning Session consisting of a weather briefing provided by two Warning Coordination Meteorologists ▪ A three-module Tabletop Exercise (TTX) consisting of scenario-driven facilitated discussion, associated polling questions, and visual aid activities designed to examine roles, responsibilities, authorities, and capabilities to enhance the resilience of IHEs
Mission Areas	Preparedness, Response, Recovery
Objectives	<ol style="list-style-type: none"> 1. Evaluate institutions’ quality of plans and preparation level for a tornado on campus. 2. Assess the quality, comprehensiveness, and level of campus stakeholder understanding of institutions’ emergency response plans to a tornado on campus. 3. Evaluate the reliability of information channels, and the effectiveness of institutions’ communications capabilities during a tornado during a campus event. 4. Assess processes for maintaining high-quality, accurate, and timely situational awareness while a tornado is occurring on campus. 5. Assess the quality and comprehensiveness of institutions’ plans to restore operations after a tornado. 6. Evaluate institutions’ knowledge of operational coordination plans with outside agencies/organizations.
Scenario	Tornado during commencement
Sponsors	The Department of Homeland Security (DHS) Office of Academic Engagement (OAE), the Federal Emergency Management Agency (FEMA) National Preparedness Directorate (NPD) National Exercise Division (NED), and the University of Central Oklahoma
Participating Organizations	Refer to <i>Appendix E</i> for participating organizations

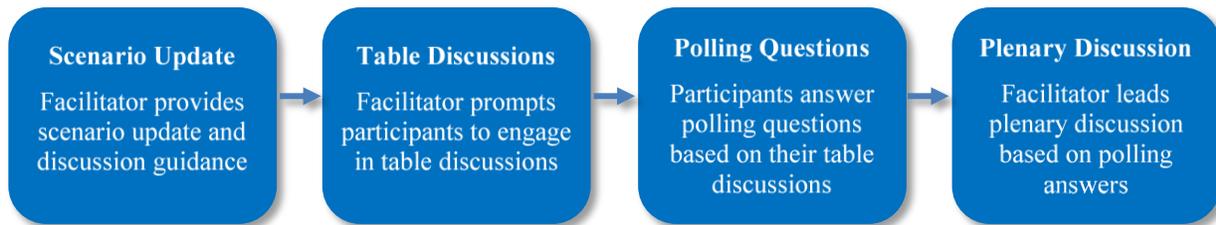
LEARNING SESSION AND EXERCISE STRUCTURE

The 2018 OK RTTX consisted of one 30-minute Learning Session, three 75-minute Exercise Modules, and a 30-minute After-Action Review session.

Exercise Module Format

Each exercise module consisted of four separate activities: 1) a scenario update, 2) table discussions, 3) polling questions covering specific elements of the scenario, and 4) a facilitated plenary discussion (**Figure 1: Exercise Activities**). Participants were asked to consider their real-world roles for their home institutions when thinking about the scenario, offering observations, and discussing strategic and tactical decisions.

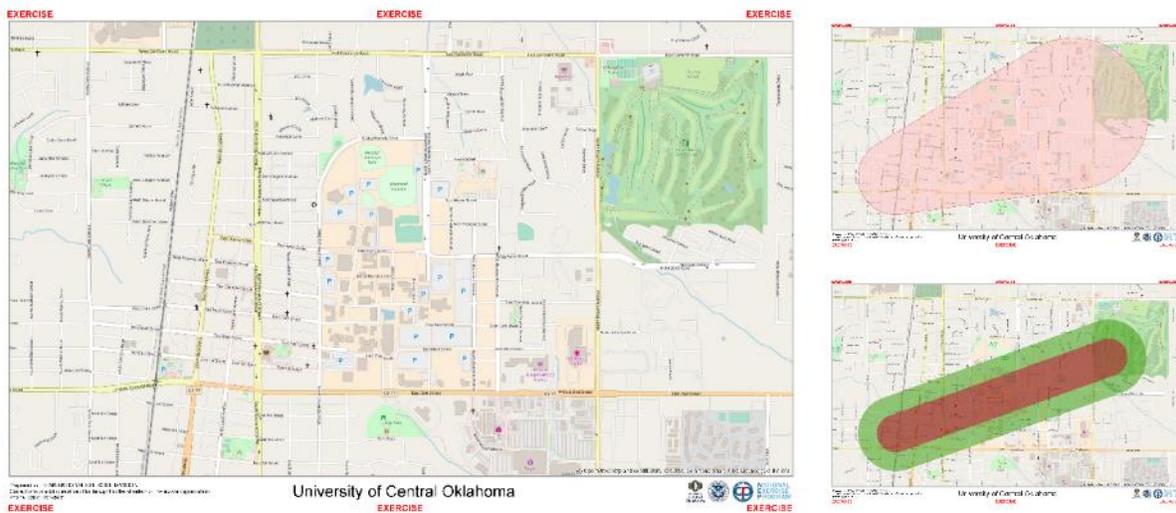
Figure 1: Exercise Activities



Visual Aids

To add realism to the exercise and help participants individualize the scenario to their respective campuses, each institution was provided with an aerial map of their campus, a clear transparency, and two semi-transparent overlays to be used to visualize the impacts of the scenario (see **Figure 2: Sample Map and Overlays**). Maps were developed using Geographic Information System (GIS)-based tools. Participants also received a *Visualization Tool Guide* that outlined the purpose of the mapping tool, listed the materials, and provided instructions on how to use the visual aid.

Figure 2: Sample Map and Overlays





KEY RESULTS

The following is a summary of key findings captured from in-exercise polling questions, Participant Feedback Forms (PFF), and pre- and post-event surveys. The results presented below provide participants with insights into preparedness, response, and recovery best practices for the academic community when faced with a tornado occurring during a large, on-campus event. This report also includes details regarding regional capabilities, participants’ overall impression of the event, and the impact of the OK RTTX on institutions’ ongoing preparedness efforts.

Strengths

During the exercise, each IHE was asked to report on their own capabilities as they related to the exercise scenario. This section categorizes the strengths that participating institutions discussed during the exercise. Strengths are defined as categories in which 5% or more of institutions reported having no challenges addressing this issue and more than 75% of institutions reported having minor to no challenges.

Table 1: Key Strengths

Information Sharing:

100% of institutions indicated they would experience minor or no challenges coordinating with internal and external stakeholders to develop actionable information based on severe weather forecasts and communicating with the campus community.

- 54% of institutions stated they would be able to address this issue with no challenges **citing the use of established all-hazards Emergency Operation Plans (EOP) and incident/venue specific annexes to guide information sharing processes with relevant internal and external stakeholders and communications with the campus community prior to an event**
- 46% of institutions said they would be able to address this issue with minor challenges **due to existing relationships with local first responders and police departments, however some institutions noted that they could reinforce these relationships on a more regular basis**

Community Preparedness:

100% of institutions indicated they would experience minor or no challenges devising and communicating planned protective measures across campus during the days prior to a predicted severe weather incident.

- 93% of institutions said they could manage community preparedness measures with minor challenges **due to the linkage of campus and community emergency notification systems and the use of reputable preparedness programs (e.g., the National Weather Service (NWS) Storm Ready University Program) to aid in identifying and implementing pre-incident protective measures**

Protective Measures and Public Alert:

82% of institutions said they could promptly implement campus and community wide protective measures and utilize public alert systems and technologies with minor or no challenges.

- 5% of institutions believed they could address this issue without challenges, citing **strong relationships with local first responders coupled with integrated communication mechanisms and alert systems**
- 77% of institutions indicated they could address this issue with minor challenges by **utilizing online platforms and social media tools to communicate internally and with event attendees and the campus community**



Areas for Improvement

The exercise also provided insights into areas for improvement as identified by participating institutions. Areas for improvement are defined as categories in which less than 5% of institutions reported no challenges and more than 50% of institutions reported major challenges or being unable to address the issue presented.

Table 2: Key Areas for Improvement

<p>Initial Response Priorities:</p> <p>89% of institutions indicated they would have major challenges or would not be able to rapidly determine response priorities and coordinate the required internal and external resources.</p> <ul style="list-style-type: none"> 84% of institutions believed they would have major challenges addressing this issue due to complexities in managing initial response efforts for event attendees, other on-campus groups, and community members 5% of institutions said they would not be able to address this issue, citing stretched personnel at smaller schools and reliance on external stakeholders’ resources that take time to deploy in the event of an incident
<p>Operational Coordination:</p> <p>54% of institutions indicated they would have major challenges or would be unable to establish an incident command structure (ICS) and integrate with external stakeholders (e.g., law enforcement, emergency management, weather services) in response to a severe weather incident during a large university event.</p> <ul style="list-style-type: none"> 45% of institutions believed they would have major challenges addressing this issue; many smaller institutions would not have their Emergency Operations Centers (EOC) activated for the event and establishing ICS would pose a challenge 9% of institutions said they would not be able to address this issue as they do not have the resources to support response operations to a large-scale incident during an event that includes campus visitors, community members, and other non-campus groups
<p>Incident Management and Public Messaging:</p> <p>75% of institutions indicated they would have major challenges or would not be able to ensure the safety of event attendees and first responders while senior leadership determines and messages event guidance.</p> <ul style="list-style-type: none"> 65 % of institutions believed they would have major challenges addressing this issue as they would rely heavily on external stakeholders to assess safety of campus buildings, provide emergency medical services personnel, and complete other lifesaving operations 10% of institutions said they would not be able to address this issue as they do not have sufficient staffing to manage incident response and implement consistent, reliable public messaging efforts

Event Feedback

Following the event, participants were provided the opportunity to give candid feedback on their overall impression of the event and individual takeaways by completing a PFF. Key insights from the exercise are provided in *Table 3: Key Insights from Exercise Participant Feedback Forms* below, and detailed results can be found in *Appendix C: Participant Feedback Forms*.



Table 3: Key Insights from Exercise Participant Feedback Forms

<ul style="list-style-type: none"> 98% of participants indicated the exercise facilitator engaged participants and helped guide meaningful discussions
<ul style="list-style-type: none"> 98% of participants believed the exercise increased their understanding of institutions’ risks and vulnerabilities when considering the threat of an on-campus tornado
<ul style="list-style-type: none"> 98% of participants said the exercise helped them gain a better understanding of the response and recovery actions their institution should implement when considering the threat of an on-campus tornado
<ul style="list-style-type: none"> 91% of participants indicated that exercise discussion topics were relevant to their institution

Event Impact

The OK RTTX had a significant impact on participants’ understanding of their own institution’s risks and vulnerabilities as well as their preparedness, response, and recovery postures in managing tornado incidents that impact university commencement ceremonies. Following the OK RTTX, a comparison of pre- and post-survey data revealed the extent to which institutions understand their risks and vulnerabilities, how confident they are in addressing these risks and vulnerabilities, and the status of specific actions to address them. Based on the feedback data, **94% of respondents identified at least one new risk or vulnerability at their institution** based on their participation in the 2018 OK RTTX.

Top 3 Categories of Risk and Vulnerability Identification
 (% of respondents identifying the category as a new risk or vulnerability)

1. Incident planning for a tornado during a large campus event (63%)
2. Continuity of Operations Planning (55%)
3. Public communication while responding to a tornado during a large campus event (47%)

Pre- and post-event surveys also demonstrated the change in participants’ confidence in their institutions’ abilities when preparing for, responding to, and recovering from a severe weather incident and participants discussed and indicated their intentions to review and revise their respective IHE’s plans and procedures. The pre- and post-event surveys revealed the following notable insights:

- IHEs became **13% more confident in their ability to respond** to a tornado during a large campus event and **5% more confident in their ability to recover** from a tornado that impacts campus.
- There was an average **21% increase in respondents intending to revisit their plans and procedures** related to preparing for, responding to, and recovering from a severe weather incident impacting a large campus event.

For detailed results, please refer to *Appendix B: Participant Survey Results*.

Summary of Discussions

The following sections provide an overview of the exercise scenario, polling question results, and subsequent discussions on each issue area. Findings are grouped by the three major scenario phases: **1) Preparedness; 2) Immediate Response; and 3) Continued Response and Recovery**. These phases were



developed based on FEMA’s five Mission Areas (Prevention, Protection, Mitigation, Response, and Recovery), which are organized according to the specific capabilities needed to address an incident throughout its lifecycle¹. Each section includes:

- An overview of the capabilities addressed during that phase;
- A snapshot of the scenario presented to the participants;
- The associated findings from each discussion; and,
- Recommended resources relevant to the key issues.

Associated findings were developed based on polling questions using the scale outlined in *Table 4: Polling Assessment Scale* below and observational notes provided by HSEEP-trained staff.

Table 4: Polling Assessment Scale

Assessment	Criteria
A	My institution can successfully address this issue without challenges
B	My institution can address this issue, but with minor challenges
C	My institution can address this issue, but with major challenges
D	My institution does not have the ability to address this issue

The report that follows also provides insights on the quality and effectiveness of the event garnered from several channels of feedback recorded prior to, during, and after the OK RTTX. The report includes a summary of the key results and recommendations for future events, and detailed results are included in the appendices. The feedback opportunities included:

- Pre-event survey, distributed before the OK RTTX;
- Post-event survey, distributed after the OK RTTX; and,
- PFF, provided to participants at the OK RTTX.

¹ <https://www.fema.gov/national-preparedness-goal>



MODULE 1: PREPAREDNESS

Overview

The preparedness phase covered pre-incident actions that IHEs would take days prior to a commencement ceremony with severe weather forecasted. Discussions revolved around emergency communication channels, identification of information sources, information sharing with internal and external stakeholders, institutional plans and procedures, decision-making processes, and threat and risk mitigation activities.

The preparedness module examined the following core capabilities:

- Planning
- Operational Coordination
- Community Resilience

May 20, 2019 (5 Days Prior to Commencement)

- Students have just finished spring semester final exams; it is the week leading up to graduation and graduating students are making final arrangements for the **commencement ceremony to be held on Saturday, May 25, 2019 at 3:00 PM (Central Standard Time (CST))**
- The area is experiencing above-average temperatures and frequent rain and thunderstorms and excess rain has saturated the ground; local seven-day forecasts indicate increased rainfall throughout the week with thunderstorms likely Friday through Sunday
- Family members and friends are expected to arrive in town over the next five days dramatically increasing the on-campus population and that of the surrounding area
- Many visitors plan to attend graduation lead-up events (parties, convocations, etc.)
- Your institution's emergency management personnel have developed a commencement contingency plan due to severe weather forecasts

Discussion Results

The preparedness phase of this exercise examined the following capabilities:

- **Information Sharing and Situational Awareness**
- **Contingency Planning**
- **Community Preparedness**

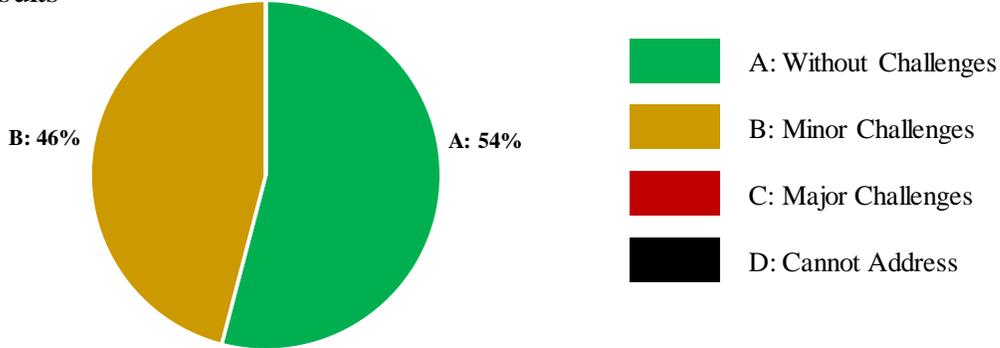
Key Issue 1: Information Sharing and Situational Awareness

Information Sharing and Situational Awareness focused on IHEs' processes to identify and collect relevant information from credible sources (internal and external), effectively assess the information to maintain situational awareness, utilize established communications channels to coordinate preparedness actions with key stakeholders, and disseminate pre-event updates and forecast information to students, their visitors, faculty, staff, and the community.



Assess your institution's ability to coordinate with internal and external stakeholders to develop actionable information based on weather forecasts and communicate with the campus community.

Results



Strengths: 100% of institutions indicated they could address this issue without challenges or with minor challenges

- 54% of institutions said they could address this issue without challenges, citing **updated campus-wide emergency plans with hazard- and venue-specific annexes** and tools enabling **consistent communication with critical planning stakeholders, such as NWS, and the campus community**
- 46% of institutions believed they could address this issue but with minor challenges; most institutions have **strong relationships with state and local partners**, but acknowledged the need to **incorporate more non-traditional local resources into planning processes** and ensuring **up-to-date memorandums of understanding (MOU)** and other agreements

Resources:

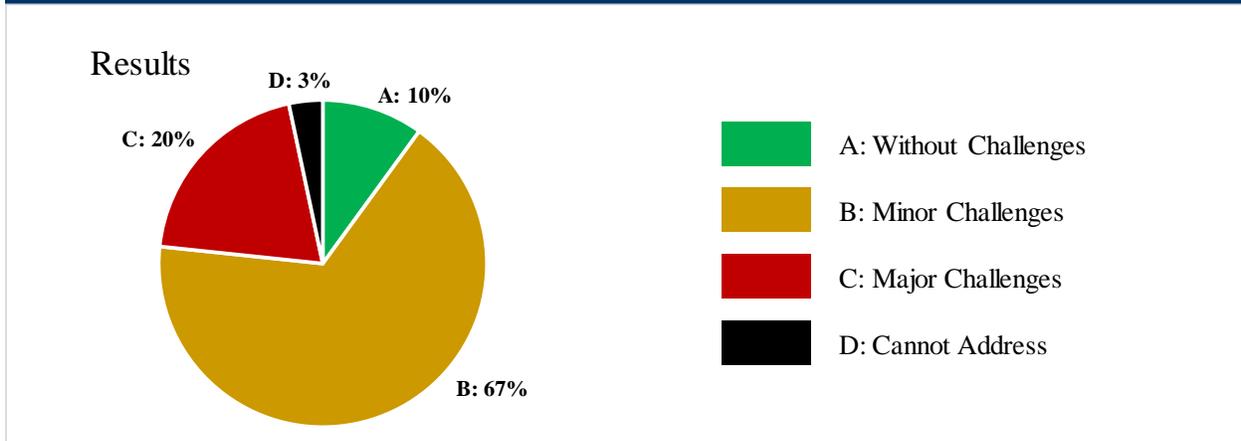
- Guide for Developing High-Quality Emergency Operations Plans for Institutions of Higher Education.** This guide provides guidance to IHEs on best practices for taking preventative and protective measures to stop an emergency from occurring or reduce the impact of an incident. The guide aligns and builds upon years of emergency planning work by the Federal Government and is a joint product of DHS, Department of Justice (DOJ), Department of Education (DoED), and Department of Health and Human Services (HHS). IHEs can use the guide to create and/or revise existing emergency operations plans. For more information, visit: http://www.fema.gov/media-library-data/20130726-1922-25045-3638/rem_s_ihe_guide.pdf
- IS-29: Public Information Officer Awareness.** This course provides an overview of the public information function and the role of the Public Information Officer (PIO) in the emergency management environment. For more information, visit: <https://training.fema.gov/is/courseoverview.aspx?code=IS-29>

Key Issue 2: Contingency Planning

Contingency Planning discussions delved into institutions' existing policies, plans, and procedures for the development of alternate plans for campus events, including decision-making timelines, external vendor and community member integration, and the availability of internal and external resources used in preparing for a major event such as commencement.



Assess your institution's ability to effectively devise and implement a suitable contingency plan for a major university event and coordinate necessary resources to reduce risks and ensure the safety of the whole campus community.



Strengths: 77% of institutions indicated they could address this issue without challenges or with minor challenges

- 10% of institutions said they could address this issue without challenges, noting that **contingency planning mechanisms are built into the event planning process and emergency management committees have the information necessary to decide on and implement alternate plans on short notice**
- 67% of institutions indicated they could address this issue with minor challenges due to **extensive coordination required with venues, other institutions, and/or broader community stakeholders**

Areas for Improvement: 23% of institutions indicated they would face major challenges or could not address this issue

- 20% of institutions indicated they would face major challenges implementing contingency plans as **schools would have to consider the impact of an impending storm on the larger community and plan for support requirements for non-campus communities**, such as shelters and medical needs
- Many institutions **do not have alternate on-campus or off-campus location options suitable for large events** such as commencement ceremonies, and **therefore would be forced to cancel the event** under threats of severe weather

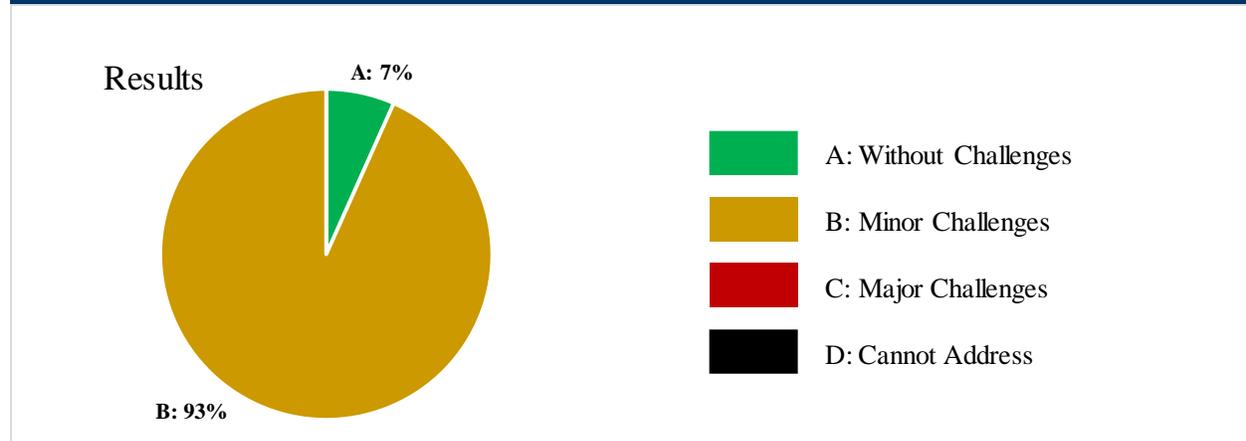
Resources:

- Building A Disaster-Resistant University.** *Building A Disaster-Resistant University* is a how-to guide and distillation of the experiences of six universities and colleges that have been working to become disaster-resistant. The guide provides basic information designed for institutions just getting started, as well as ideas, suggestions, and practical experiences for institutions that have already begun to take steps to becoming more disaster-resistant. For more information, visit: <http://www.fema.gov/media-library/assets/documents/2288>

Key Issue 3: Community Preparedness

Community Preparedness focused on IHEs’ roles and responsibilities in taking actions and safety precautions to mitigate tornado threats and associated risks that contribute to community-wide preparedness. The section also examined campus communications and emergency notification plans for events coinciding with severe weather.

Assess your institution's ability to promptly devise and communicate planned protective measures across campus during the days prior to a predicted severe weather incident.



Strengths: 100% of institutions indicated they could address this issue without challenges or with minor challenges

- Some institutions said they could address this issue without challenges due to **regular communication with local stakeholders regarding public messaging and mutual aid agreements with other campuses that would not be affected by the severe weather event**
- 93% of institutions believed they could address this issue with minor issues; many institutions **conduct regular trainings and practice sessions** to address preparedness gaps and issues, but noted **students may not always participate in the trainings or engage appropriately**
- Smaller institutions communicated **confidence in their stakeholder engagement processes and emergency alert systems**, but noted that they may face minor issues due to **understaffed planning teams and increased reliance on external notification systems**

Resources:

- Safe Rooms for Tornadoes and Hurricanes.** This FEMA publication provides guidance on constructing and utilizing community and residential safe rooms for both tornado and hurricane hazards. Contents include new standards for safe room efficacy derived from a collection of real-world damage assessments and lessons learned, most of which are tornado related. For more information, visit: https://www.fema.gov/media-library-data/1467990808182-0272256c8a8a35a4e8c35e5ff53dd547/fema_p361_July2016_508.pdf
- StormReady.** The NWS StormReady program uses a grassroots approach to help communities and institutions develop plans to handle all types of severe weather. The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear-cut guidelines on how to improve their hazardous weather operations. For more information, visit: <https://www.weather.gov/StormReady>



MODULE 2: IMMEDIATE RESPONSE

Overview

The immediate response phase examined short-term response operations and coordination from pre-incident mitigation actions through post-incident first responder mobilization, including stakeholder coordination, community alert, response plan activation and prioritization, shelter management, and damage assessment processes.

The immediate response module examined the following core capabilities:

- Operational Coordination
- Operational Communication
- Community Resilience

Scenario

May 25, 2019 – 12:00 PM CST (Day of Commencement)

- At **12:00 PM CST** on the day of commencement, the NWS issues a **Tornado Watch** for the county, city, and surrounding areas; the watch covers portions of your campus, as well as your commencement location
- Visiting families and friends contact your institution in high volumes expressing concerns regarding the tornado watch and its impact on the commencement ceremony
- Many attendees have already arrived at the commencement location

May 25, 2019 – 2:40 PM CST (Day of Commencement)

- At **2:40 PM CST**, approximately 20 minutes prior to the start of the commencement ceremony, the NWS issues a **Tornado Warning**
- Large numbers of students, parents, faculty, and staff require sheltering and community members have already arrived at your shelter location seeking refuge
- The tornado touches down on campus with a wind speed range of 140-160 miles per-hour (MPH)
- Several buildings on campus sustain damage; wind, rain, and lightning continue to impact the area
- Debris, downed trees, and flooding block emergency response access routes to the commencement venue
- The storm knocked out power and telephone lines and high demand on the system is further impacting communications
- Students and attendees are posting on social media that they have been separated from family members during sheltering processes. At this time your institution is unable to determine how many individuals are missing

Discussion Results

The immediate response component of the scenario examined the following capabilities:

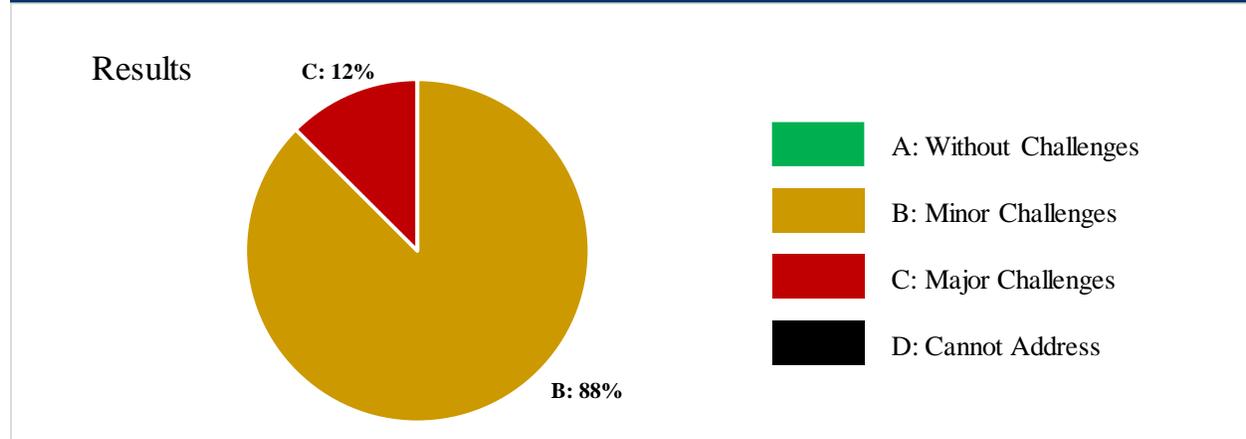
- **Threat Assessment**
- **Protective Measures**
- **Public Alert and Warning**



Key Issue 1: Threat Assessment

The Threat Assessment phase examined IHEs’ abilities to accurately assess severe weather information regarding an impending event in coordination with internal and external stakeholders and activation of appropriate plans in a timely and synchronized manner.

Assess your institution's ability to assess immediate threats and effectively implement required actions in response to a severe weather warning.



Strengths: 88% of institutions indicated they could address this issue with minor challenges

- Institutions believed they would be able to **maintain accurate and up-to-date awareness about the severe weather risks by communicating with multiple partners**, including the NWS, and **continuously updating threat assessments** throughout the day of the event
- Institutions noted they may face minor challenges as planning teams and PIOs **rely heavily on social media**, which can create issues **understanding and communicating information in an efficient manner**; however, **social media platforms are also crucial tools in communicating to all groups** that would be on campus for the event, including parents and community members

Areas for Improvement: 12% of institutions indicated they could only address this issue with major challenges

- Institutions said they would **face communications challenges** as the decision-making timeline for commencement events would be **complex due to staggered arrival times for different groups** (e.g., staff, students, families)
- Many institutions also indicated they would **face challenges implementing contingency plans for access and functional needs and elderly populations** and that these considerations may impact their decision-making timeline

Resources:

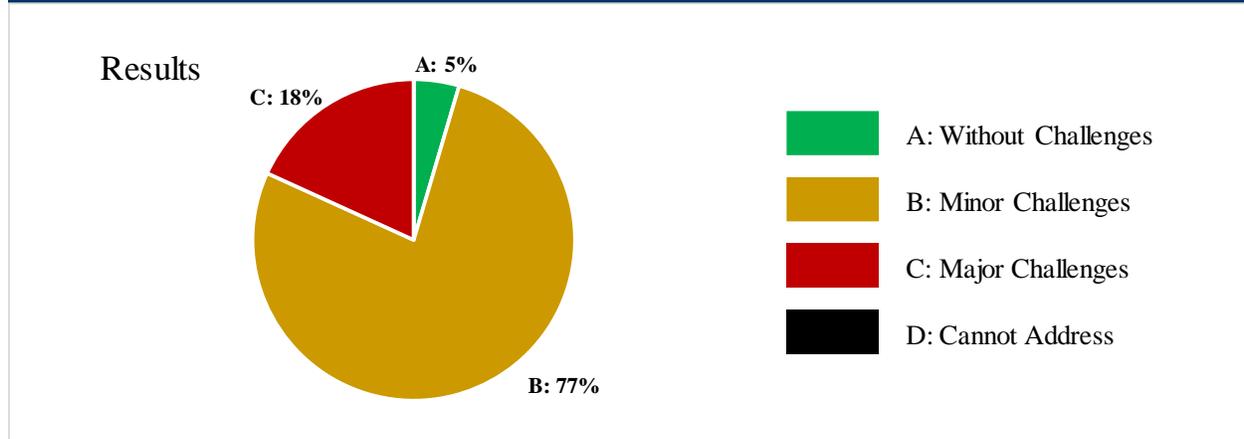
- **Thunderstorms, Tornadoes, Lightning...Nature’s Most Violent Storms: A Preparedness Guide Including Tornado Safety Information for Schools.** Provided by the Department of Commerce (DOC), National Oceanic and Atmospheric Agency (NOAA), and the NWS, the preparedness guide provides an overview of severe weather threats and hazards as well as information on how to identify weather threats, devise operational plans, and act in a coordinated manner when severe weather hits. The publication includes information specifically for schools on how to prepare for, respond to, and recover from severe weather impacts. For more information, visit: <https://www.weather.gov/media/owlie/ttl6-10.pdf>



Key Issue 2: Protective Measures and Public Alert

Protective Measures and Public Alert included discussions regarding the prioritization of protective actions and resources, shelter population management and patient tracking, shelter staffing, and campus emergency notification systems.

Assess your institution's ability to promptly implement campus- and community-wide protective measures and utilize effective public alert systems and technologies.



Strengths: 82% of institutions indicated they would be able to address this issue without challenges or with minor challenges

- 77% of institutions indicated they could address this issue with minor challenges, expressing confidence in the **student population's ability to effectively follow protective measures** because of prior trainings, but noting that **other groups on campus (families, community members) would be less prepared to do so** as they are not aware of evacuation or shelter-in-place processes
- Smaller institutions noted advantages that would help them address this issue, including **close working relationships with local first responders** and the **ability to communicate protective measures without a reliance on technology** (e.g., by using a public address system)

Areas for Improvement: 18% of institutions indicated they would face major issues addressing this issue

- Many institutions said they would face major issues due to a **lack of integrated alert systems** either **across multiple campuses** within the institution or **with external response organizations**
- Institutions noted that **public messaging is often pre-recorded in multiple languages**, but for events with an **increased presence of international visitors**, they would face **challenges communicating with all event attendees**

Resources:

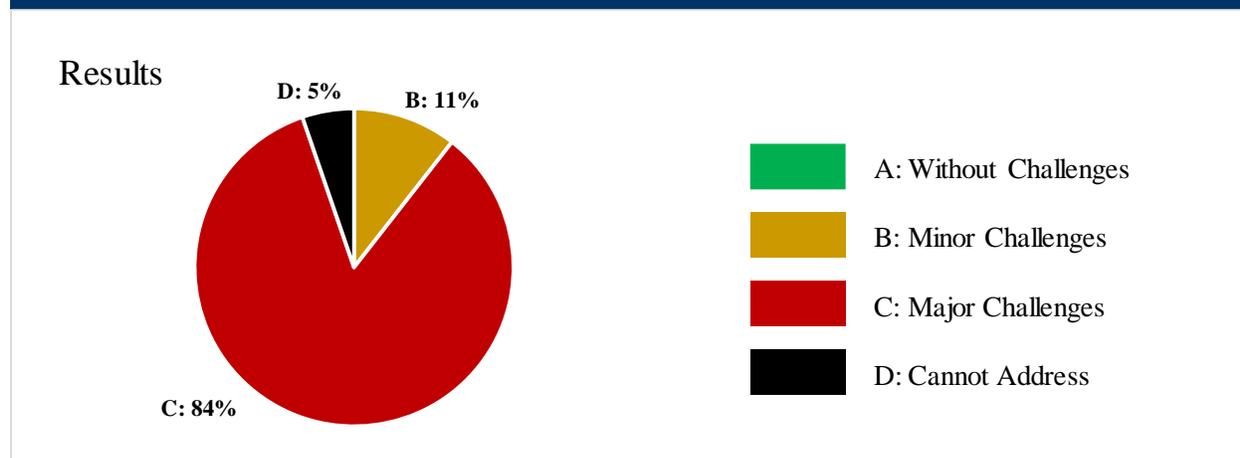
- How to Prepare for a Tornado.** This document provides individuals and organizations with step-by-step guidance on how to best prepare for, identify, respond to, and recover from a tornado. The document also provides several best practices, strategies, and risk mitigation activities that are supported by relevant data points. For more information, visit: https://www.fema.gov/media-library-data/1409003506195-52740fd2983079a211d041f7aea6b85d/how_to_prepare_tornado_033014_508.pdf
- IS-29: Public Information Officer Awareness.** This course provides an overview of the public information function and the role of the PIO in the emergency management environment. For more information, visit:

<https://training.fema.gov/is/courseoverview.aspx?code=IS-29>

Key Issue 3: Initial Response Priorities

The Initial Response Priorities component covered IHEs' immediate response priorities, operational communications systems, and coordination with local law enforcement and emergency management.

Assess your institution's ability to rapidly determine response priorities and coordinate the required internal and external resources.



Strengths: 11% of institutions indicated they would be able to address this issue with minor challenges

- Institutions that **hold commencement rehearsals with students in attendance** indicated they would be able to address this issue as students would be **prepared for evacuation plans and opted into alert systems**

Areas for Improvement: 89% of institutions indicated they would face major challenges or be unable to address this issue

- 84% of institutions believed they would face major issues addressing this issue as their **evacuation and sheltering processes would have to support additional groups outside of event attendees**, including community members seeking shelter and other students on campus; many institutions noted **overcrowding due to an influx of local residents** as a main concern
- 5% of institutions said they would not be able to address this issue, citing a **limited number of staff members trained to quickly conduct damage assessments and ensure the safety of persons** walking through different areas of campus
- Institutions also noted that they would **activate mutual aid agreements and establish triage areas** directly following a severe weather event, but that **implementing immediate response priorities, such as search and rescue operations, would pose major challenges**

Resources:

- **Critical Infrastructure Training.** DHS's Office of Infrastructure Protection (OIP) provides free training programs to government and private sector partners to support security and resilience of critical infrastructure. For more information, visit: <https://www.dhs.gov/critical-infrastructure-training>
- **Student Tools for Emergency Planning (STEP).** The STEP Program was designed by teachers and is sponsored by a state's emergency management agency and FEMA. The program provides



**NATIONAL
EXERCISE
PROGRAM**

**2018 Oklahoma Regional Tabletop Exercise
Summary Report**

students and their families with concrete strategies to prepare for and deal with various emergencies. For more information, visit: <http://www.fema.gov/student-tools-emergency-planning-step>



MODULE 3: CONTINUED RESPONSE AND RECOVERY

Overview

The continued response and recovery section covered ongoing priorities and operations including first responder staffing and site access, communication management, decision making, resource and restoration management and prioritization, and public relations and social media monitoring.

The continued response and recovery module covered the following core capabilities:

- Operational Coordination
- Operational Communication

Scenario

May 25, 2019 – 4:00 PM CST (Day of Commencement)

- Emergency response and medical team personnel arrive on scene and begin assessing injuries; the number of injuries is undetermined at this time
- The tornado has left a path of destruction approximately one-half mile by two miles
- The impacted area of campus is cordoned off
- Visitors and students continue having difficulty reuniting, particularly in light of degraded communications infrastructure

Evening of May 25 – Morning of May 26, 2019 (10+ Hours Post-Commencement)

- Multiple buildings require more extensive repair and campus operations must be temporarily relocated
- Visitors and students post on social media criticizing your institution's response operation
- Faculty and staff are requesting updates on how damage will affect summer classes and other on-campus activities

Discussion Results

The continued response and recovery phase examined the following capabilities:

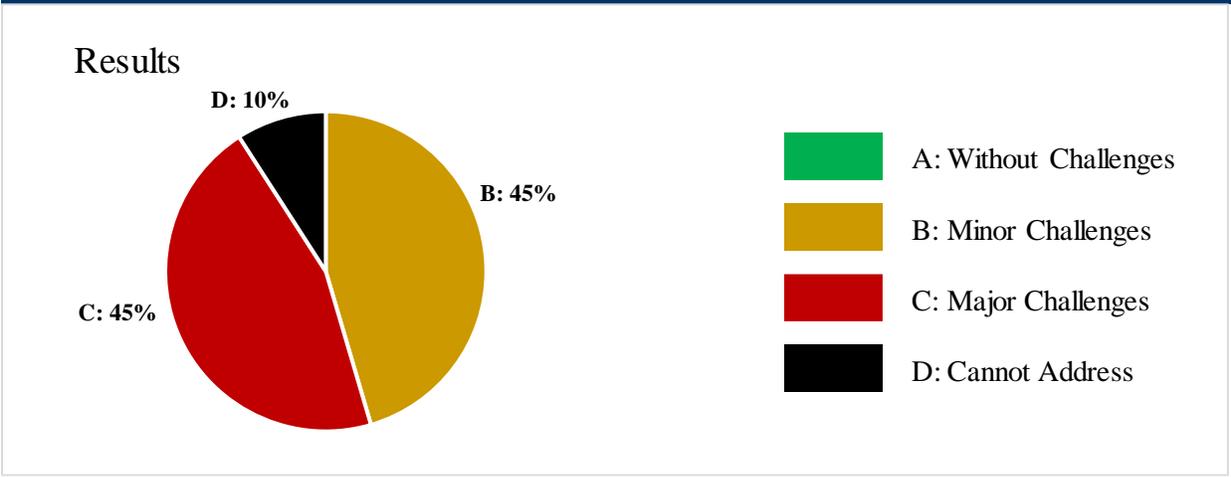
- **Operational Coordination**
- **Incident Management**
- **Campus Recovery**
- **Public Information and Media Relations**

Key Issue 1: Operational Coordination

During the Module 3 Operational Coordination phase, IHEs discussed external stakeholder support management and alternative means of communication in light of degraded standard communication systems.



Assess your institution's ability to establish an ICS and integrate with external stakeholders (e.g., law enforcement, emergency management, weather services) in response to a severe weather incident during a large university event.



Strengths: 45% of institutions indicated they could address this issue with minor challenges

- Many institutions said they **have the necessary resources and personnel to establish an incident command center**, but would face minor challenges **if the tornado impacted multiple jurisdictions**
- Larger institutions indicated they would **be able to rely more heavily on internal resources and campus stakeholders than smaller institutions**; for example, larger campuses have **increased shelter capacity** and some campuses have **Level 1 trauma centers**

Areas for Improvement: 55% of institutions indicated they would face major challenges or would not be able to address this issue

- 45% of institutions said they would face major challenges addressing this issue, citing **prolonged lag time setting up an EOC and downed communications technology** in the event of severe weather
- Institutions noted that the **scale and scope of the tornado's impact may hinder response and recovery operations if city and county organizations are unavailable** to augment institutional personnel and resources; under these circumstances, institutions would need to **wait for state or other resources to be deployed**

Resources:

- IS-100.HE Introduction to the Incident Command System for Higher Education.** This FEMA training course introduces ICS and provides the foundation for higher level ICS training. This course uses the same objectives and content as other ICS courses with higher education examples and exercises. For more information, visit <https://training.fema.gov/is/courseoverview.aspx?code=IS-100.HE>

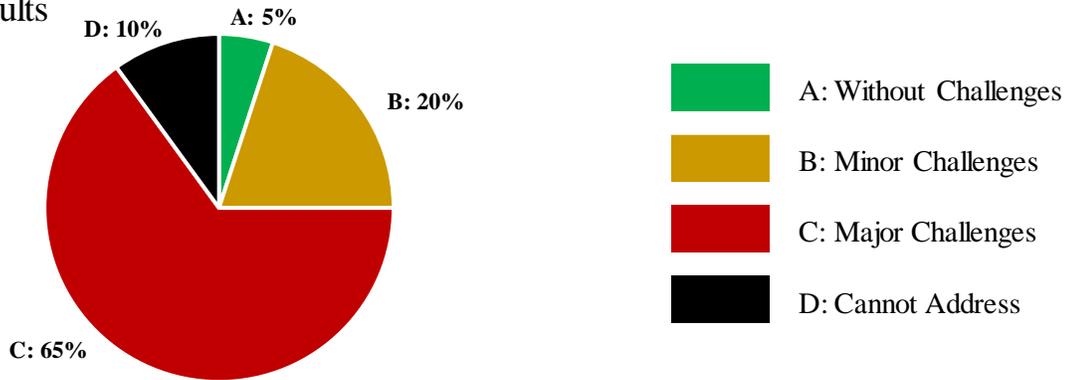
Key Issue 2: Incident Management and Public Messaging

Incident Management discussions focused on campus accountability and emergency response staffing plans and procedures, decision making regarding commencement scheduling, and messaging priorities.



Assess your institution's ability to ensure the safety of event attendees and first responders while senior leadership determines and messages event guidance.

Results



Strengths: 25% of institutions indicated they would be able to address this issue without challenges or with minor challenges

- Many large institutions believed they would be able to address this issue without challenges as they **regularly exercise public messaging and incident management procedures and establish an EOC** for all large events
- 20% of institutions said they would be able to address this issue with minor challenges, citing the **presence of student Community Emergency Response Teams (CERT) and trained first responders on campus** to support emergency response before external first responders arrive

Areas for Improvement: 75% of institutions indicated they would face major challenges or would be unable to address this issue

- 65% of institutions indicated they would face major challenges addressing this issue due to the need for **large-scale reunification, patient tracking, and triage operations**, which collectively would overwhelm campus organizations
- 10% of institutions believed they would not be able to address this issue; smaller institutions noted that **the storm would render nearly all buildings inoperable**, resulting in an **inability to setup reunification centers and provide shelter from any ongoing storm impacts**
- Many institutions noted a need to **revise their contingency plans** to incorporate **nontraditional partners** into event planning, **address challenges enacting MOUs due to storm impacts to neighboring jurisdictions**, and manage other cascading consequences

Resources:

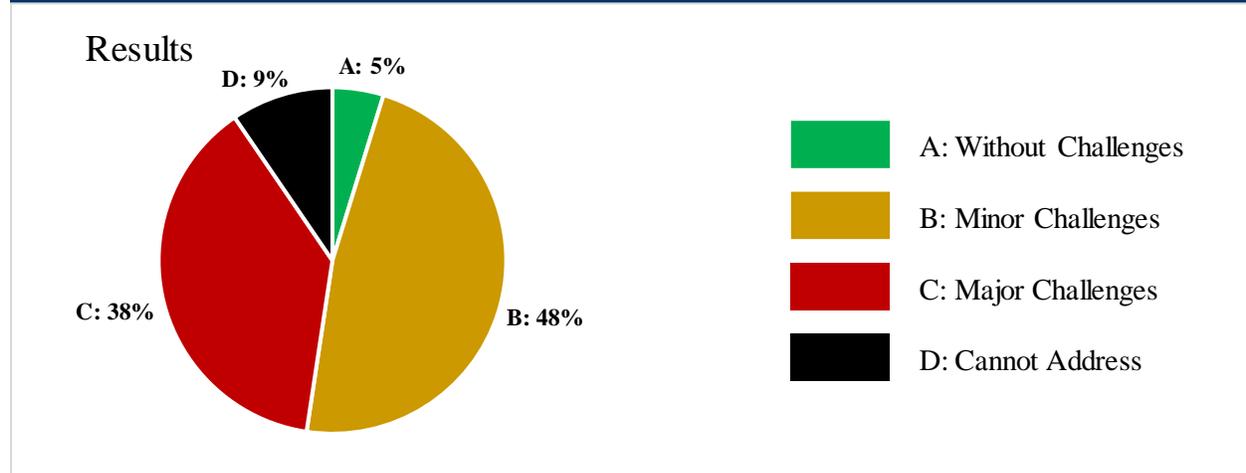
- IS-42: Social Media in Emergency Management.** This course provides an overview of best practices including tools, techniques, and a basic roadmap to build capabilities in the use of social media technologies to further emergency response missions. For more information, visit: <https://training.fema.gov/is/courseoverview.aspx?code=IS-42>
- Tornados | Natural Disasters | Environmental Protection Agency (EPA).** This resource, managed by the EPA, provides general tornado preparation and recovery guidance, as well as risk-mitigating information on environmental threats and hazards that may result from tornado incidents. For more information, visit: <https://www.epa.gov/natural-disasters/tornados>



Key Issue 3: Campus Recovery and Public Information

The Campus Recovery topic provided IHEs with an opportunity to discuss and assess resource management in the event of significant constraints, restoration priorities, and post-incident messaging to the campus population and broader community.

Assess your institution's ability to effectively implement continuity-of-operations plans and restore impacted campus services and functions.



Strengths: 53% of institutions indicated they would be able to address this issue without challenges or with minor challenges

- 5% of institutions believed they would be able to address this issue without challenges, citing the **ability to continue operations in the short-term without main campus facilities** by utilizing other campus buildings and online courses
- 48% of institutions said they would be able to address this issue with minor challenges due to **consideration of legal liabilities around campus response efforts**

Areas for Improvement: 47% of institutions indicated they would face major challenges or be unable to address this issue

- Many smaller institutions and institutions located in rural areas said that some **MOUs and blanket agreements critical to restoring campus operations (e.g., agreements with cellular companies for backup communications) are cost prohibitive** and the lack of resources may prolong restoration efforts
- Institutions also noted the challenge of **maintaining positive communications regarding response and recovery efforts with all affected groups** (e.g., the entire student population, staff) and not just event attendees

Resources:

- National Intercollegiate Mutual Aid Agreement (NIMAA).** NIMAA is a source for providing and/or receiving assistance. NIMAA membership includes both public and private institutions. The agreement allows IHEs to share equipment, personnel, and other resources. To request more information, visit:
https://docs.google.com/forms/d/e/1FAIpQLSc-TvK2KASugln7sl0NEYyXCGDpR_4b95N7MwUi0_OSMBC8A/closedform



- **Tornadoes | Centers for Disease Control and Prevention (CDC).** This resource, managed by the CDC, outlines steps that individuals and organizations can take to increase their safety and resilience before, during, and after a tornado. Additionally, the CDC resource provides additional information on health and safety concerns for all disasters. For more information, visit: <https://www.cdc.gov/disasters/tornadoes/index.html>



APPENDIX A: LEARNING SESSION DETAILS AND TAKEAWAYS

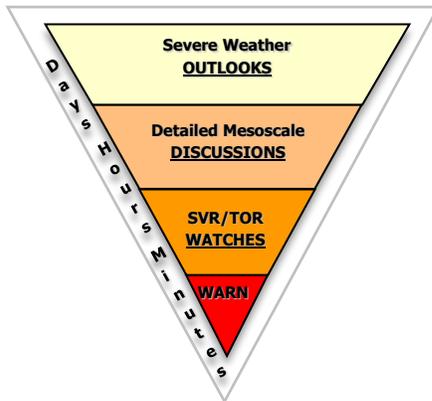
The OK RTTX included a Learning Session weather briefing on tornado threats, risks, and associated complications. The weather briefing was compiled and presented by the following meteorologists:

- **Patrick Marsh** – Warning Coordination Meteorologist, National Oceanic and Atmospheric Administration NOAA, National Weather Service (NWS) Storm Prediction Center
- **Rick Smith** – Warning Coordination Meteorologist, NWS, Norman Forecast Office

Tornado and Thunderstorm Threats

- Approximately 1,300 tornadoes impact the U.S. per year causing an estimated \$1.1 billion in damages and over 80 fatalities
- **Severe Thunderstorm (U.S. definition)** – Tornado, hail at least one inch in diameter, and winds of 50 knots (58 MPH) (30 – 60-minute warning duration)
- **Significant Severe Thunderstorm (U.S. definition)** – (~10 % of all severe thunderstorms) Fujita Scale (EF) 2+ tornado, two-inch diameter hail, and 65+ knot (75+ MPH) winds (hurricane strength) (30 – 60-minute warning duration)

NWS Severe Weather Product Evolution



- **NOAA NWS Storm Prediction Center** – Forecasts severe thunderstorms, tornadoes, and fire weather nationwide from eight days to a few minutes in advance, partnering with 116 local NWS offices

Severe Thunderstorm Risk Categories

- **(0) Thunderstorms (no label)** – No severe thunderstorms expected
 - Threats: *Lightning/flooding (exist with all thunderstorms)*
- **(1) Marginal (MRGL)** – Isolated severe thunderstorms possible
 - Threats: *Limited in duration and/or coverage and/or intensity*
- **(2) Slight (SLGT)** – Scattered severe storms possible
 - Threats: *Short-lived and/or not widespread, isolated intense storms possible*
- **(3) Enhanced (ENH)** – Numerous severe storms possible
 - Threats: *More persistent and/or widespread, a few intense*
- **(4) Moderate (MDT)** – Widespread severe storms likely
 - Threats: *Long-lived, widespread and intense*
- **(5) High (HIGH)** – Widespread severe storms expected
 - Threats: *Long-lived, very widespread and particularly intense*

Tornado Watch and Warning

- **Tornado Watch** – Issued when severe thunderstorms and tornadoes are *possible* in and near the watch area. It does not mean that they will occur. It only means they are *possible*. Four to eight-hour duration.²
- **Tornado Warning** – Issued when a tornado is imminent. When a tornado warning is issued, seek safe shelter immediately. 30-minute to one-hour duration (average lead time of 11 minutes).³

Enhanced Fujita (EF) Scale

Tornado ratings are based on damage.

Estimated Wind Speed	Ratings	% OK Tornadoes
65 – 85 MPH	EF0	41.0 %
86 – 110 MPH	EF1	31.6 %
111 – 135 MPH	EF2	18.5 %
136 – 165 MPH	EF3	5.2 %
166 – 200 MPH	EF4	1.5 %
> 200 MPH	EF5	0.2 %

73% (EF0-EF3)

1.7% (EF4-EF5)

NWS Alert and Notification Resources

NWS Chat

(1:07 AM) KOCO Shelby Hays: My family in Veina went to the shelter the winds were so bad at about 12:45. They said it was pretty scary. They live a couple miles north of town.

(1:08 AM) nwsbot: OUN issues [Severe Thunderstorm Warning](#) [wind: 70 MPH, hail: 1.00 IN] for Carter, Garvin, Jefferson, Murray, Stephens [OK] till 2:15 AM CDT

(1:08 AM) nwsbot: Local Storm Report by NWS OUN: Elmore City [Garvin Co, OK] public [reports TSTM WND DMG](#) at 01:07 AM CDT – tops of a few trees in streets

(1:09 AM) NWSOUN-ryan.barnes: Thanks, Shelby. Thankfully, it looks like it is slowly weakening on the northern flank now.

(1:09 AM) media-steve.c.lanore: thanks...

(1:16 AM) nwsbot: OUN issues [SIGNIFICANT WEATHER ADVISORY FOR southern Stephens and northeastern Jefferson Counties Until 2:00 AM CDT](#) for Jefferson, Stephens [OK] till 2:00 AM CDT

(1:30 AM) nwsbot: OUN cancels [Severe Thunderstorm Warning](#) for Jefferson, Stephens [OK]

(1:30 AM) nwsbot: OUN continues [Severe Thunderstorm Warning](#) [wind: 60 MPH, hail: 0.66 IN] for Carter, Garvin, Murray [OK] till 2:15 AM CDT

(1:41 AM) nwsbot: OUN extends area of [Severe Thunderstorm Watch](#) for Love, Marshall [OK] till 4:00 AM CDT

(1:41 AM) nwsbot: OUN cancels [Severe Thunderstorm Watch](#) for Cleveland, Grady, Lincoln, McClain, Oklahoma, Payne, Pottawatomie [OK]

(1:41 AM) nwsbot: OUN continues [Severe Thunderstorm Watch](#) for Carter, Garvin, Johnston, Murray, Pontotoc, Stephens [OK] till 4:00 AM CDT

(1:41 AM) OU Emerg Prep - Kevin Kloese: OU EDC Calling it a night. Thanks everyone!

(1:45 AM) nwsbot: OUN issues [SIGNIFICANT WEATHER ADVISORY FOR northeastern Love, southeastern Carter, southern Johnston and Marshall Counties Until 2:30 AM CDT](#) for Carter, Johnston, Love, Marshall [OK] till 2:30 AM CDT

nwschat.weather.gov

iNWS

iNWS - Interactive NWS
National Weather Service Mobile Decision Support Services (MDS5)

iNWS MOBILE ALERTING
Receive customized text message and e-mail alerts for National Weather Service products that you care about.

Welcome.
InteractiveNWS (iNWS) is the home of new mobile and desktop innovations of the National Weather Service. This application suite allows NWS partners to receive National Weather Service products in new and innovative ways, such as text messaging and mobile-enabled webpages. iNWS strives to fulfill our mission of protecting life and property by using new technology to reach out to our customers.

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[New Versions of the iNWS Web Page Released](#)
[All Advisories, Watches and Warnings Restored to iNWS Text Messaging Alerts](#)
[iNWS and iNWSnow Links Linked to iNWS Products](#)
[Important Change to iNWS User Profiles](#)

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inws.ncep.noaa.gov

2

https://www.weather.gov/otx/Watch_Warning_Advisory_Definitions#Tornado%20Watch

3

https://www.weather.gov/otx/Watch_Warning_Advisory_Definitions#Tornado%20Watch



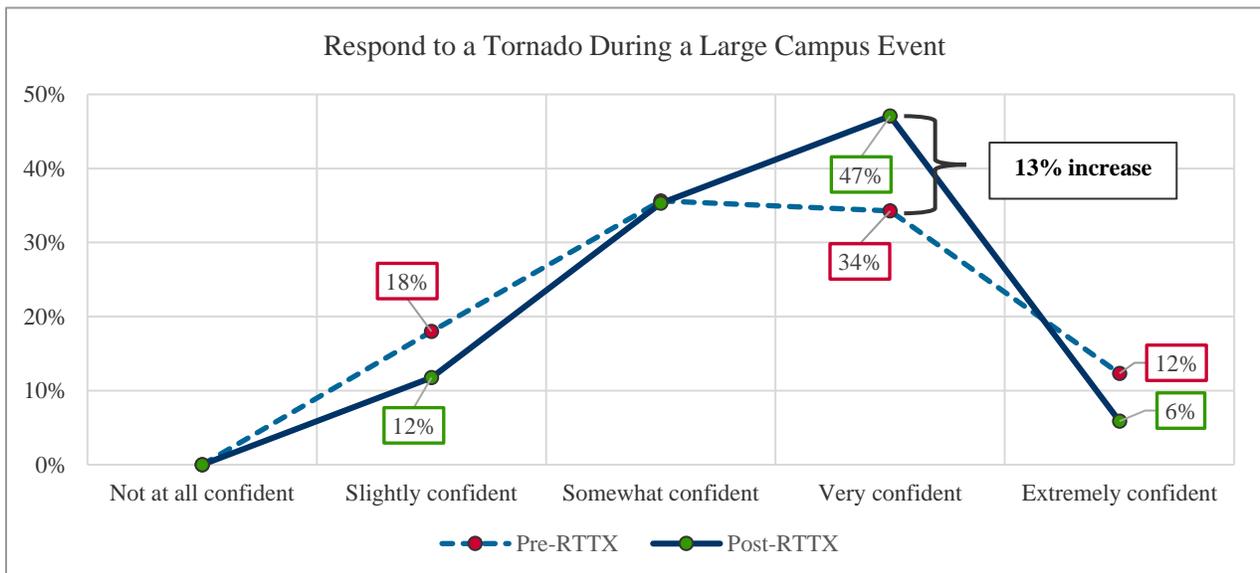
APPENDIX B: PARTICIPANT SURVEY RESULTS

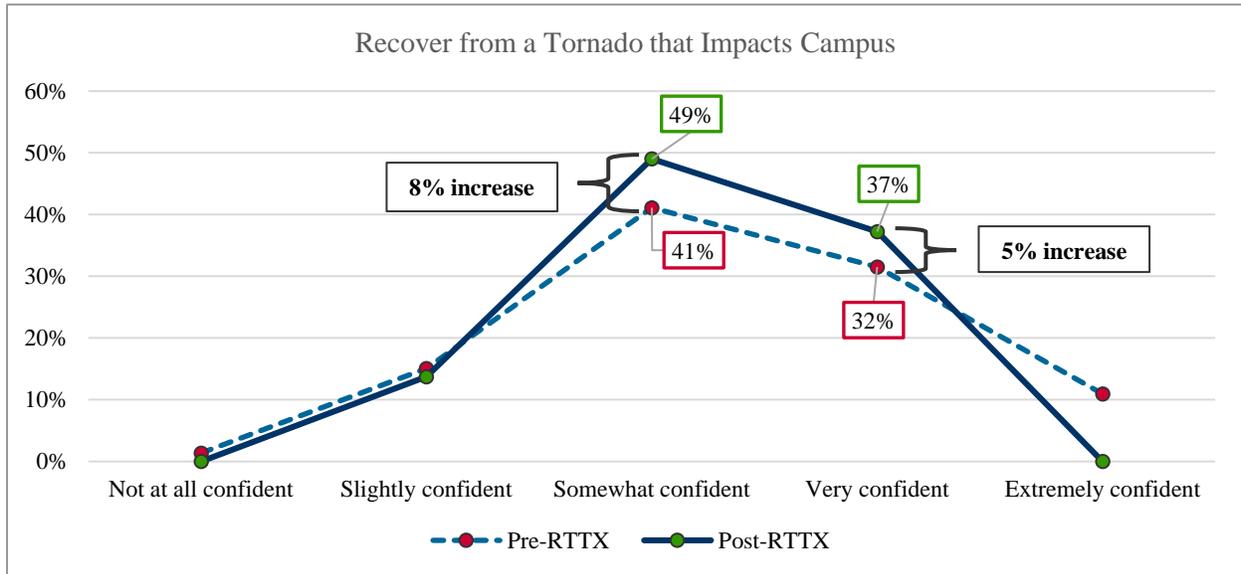
Following the OK RTTX, pre- and post-survey data revealed how institutions understand their risks and vulnerabilities, how confident they are in addressing these risks and vulnerabilities, and the status of specific actions to address them. Survey results indicate that **94% of respondents identified at least one new risk or vulnerability at their institution** after participating in this year’s OK RTTX. *Table 5: Risk and Vulnerability Identification Following OK RTTX* provides a list of newly identified risks and vulnerabilities and the percentage of participants associated with each category.

Table 5: Risk and Vulnerability Identification Following OK RTTX

Category	% of Participants
Incident planning for a tornado during a large campus event	63%
Public communication while responding to a tornado during a large campus event	47%
Public communication while recovering from a tornado that impacted campus	41%
Implementation of protective measures to limit the impacts of a tornado during a large campus event	43%
Establishment of an Incident Command Structure	20%
Coordination with local law enforcement, office of emergency management, etc.	24%
Continuity of Operations Planning	55%
Management of impacts to your institution's reputation or brand	28%
I did not identify a new risk or vulnerability at my institution during the RTTX	6%

The graphs below highlight differences in participant confidence levels before and after the OK RTTX in preparing for, responding to, and recovering from a severe weather incident occurring during a large campus event. IHEs rated the level of **confidence in their ability to respond to a tornado during a large campus event 13 percentage points higher**, and **confidence in their ability to recover from a tornado that impacts campus 5 percentage points higher post-OK RTTX than pre-OK RTTX**.





Following the event, participants indicated their intentions to review and revise their respective IHE’s emergency management plans and procedures. On average, there was a **21% increase in respondents intending to revisit their plans and procedures** related to severe weather incidents occurring during large campus events. *Table 6: Key Insights from the Post-Event Survey* below reflects their specific responses.

Table 6: Key Insights from the Post-Event Survey

Action	% Increase of IHEs that Completed/Plan to Complete Post-OK RTTX
Integrated tornado preparedness into emergency planning for large campus events	16%
Conducted a risk assessment of tornado vulnerabilities during a large campus event	23%
Conducted training or exercises to better prepare for a tornado during a large campus event	21%
Conducted a senior leader briefing on current tornado emergency response plans for large campus events	19%
Engaged key stakeholders in the local and campus community to assist in the review or development of tornado preparedness plans for large campus events	29%
Conducted outreach to the local and campus community for the purpose of education on tornado preparedness during large campus events (e.g. town halls)	16%



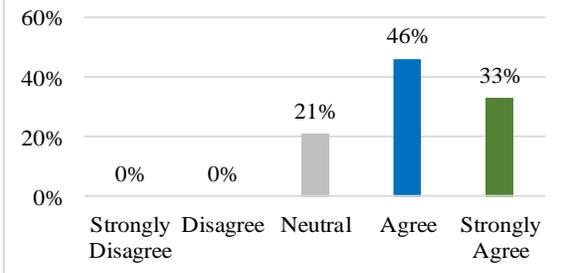
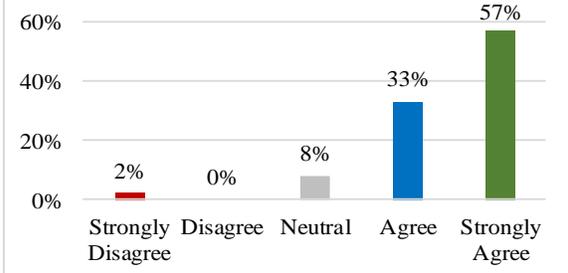
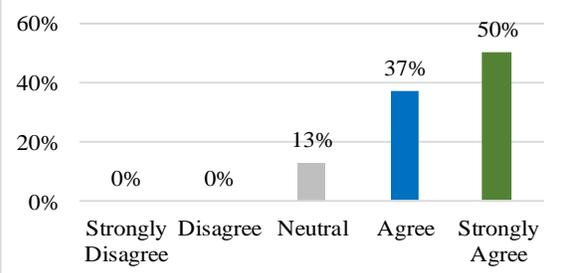
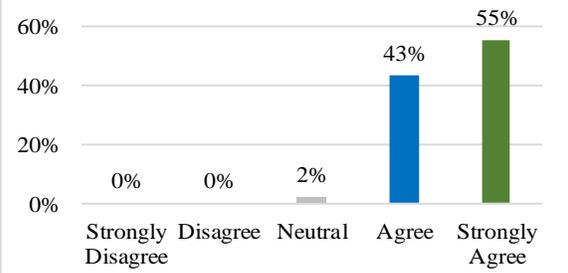
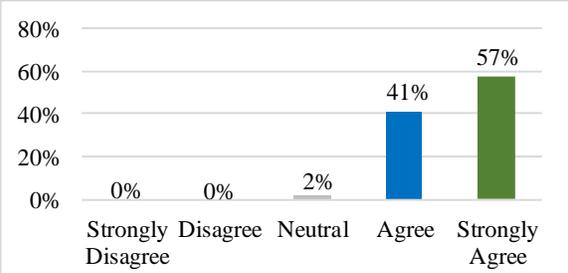
APPENDIX C: PARTICIPANT FEEDBACK FORMS

The following section reflects responses to the questions in the PFFs. Participants were asked to rate statements on a 1-5 scale, with 1 indicating: “strongly disagree” and 5: “strongly agree.” *Table 7: Exercise Assessment Feedback* below documents the distribution of responses for each statement.

Table 7: Exercise Assessment Feedback

Statement	Distribution												
Pre-exercise information and documentation were easy to understand and helped me prepare for exercise discussions.	<table border="1"> <tr><th>Response</th><th>Percentage</th></tr> <tr><td>Strongly Disagree</td><td>0%</td></tr> <tr><td>Disagree</td><td>2%</td></tr> <tr><td>Neutral</td><td>8%</td></tr> <tr><td>Agree</td><td>41%</td></tr> <tr><td>Strongly Agree</td><td>49%</td></tr> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	2%	Neutral	8%	Agree	41%	Strongly Agree	49%
Response	Percentage												
Strongly Disagree	0%												
Disagree	2%												
Neutral	8%												
Agree	41%												
Strongly Agree	49%												
The exercise scenario was realistic.	<table border="1"> <tr><th>Response</th><th>Percentage</th></tr> <tr><td>Strongly Disagree</td><td>0%</td></tr> <tr><td>Disagree</td><td>0%</td></tr> <tr><td>Neutral</td><td>4%</td></tr> <tr><td>Agree</td><td>35%</td></tr> <tr><td>Strongly Agree</td><td>61%</td></tr> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	0%	Neutral	4%	Agree	35%	Strongly Agree	61%
Response	Percentage												
Strongly Disagree	0%												
Disagree	0%												
Neutral	4%												
Agree	35%												
Strongly Agree	61%												
The exercise lasted for an appropriate length of time.	<table border="1"> <tr><th>Response</th><th>Percentage</th></tr> <tr><td>Strongly Disagree</td><td>0%</td></tr> <tr><td>Disagree</td><td>2%</td></tr> <tr><td>Neutral</td><td>2%</td></tr> <tr><td>Agree</td><td>42%</td></tr> <tr><td>Strongly Agree</td><td>54%</td></tr> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	2%	Neutral	2%	Agree	42%	Strongly Agree	54%
Response	Percentage												
Strongly Disagree	0%												
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Neutral	2%												
Agree	42%												
Strongly Agree	54%												
The exercise facilitators engaged participants and helped guide meaningful discussions.	<table border="1"> <tr><th>Response</th><th>Percentage</th></tr> <tr><td>Strongly Disagree</td><td>0%</td></tr> <tr><td>Disagree</td><td>0%</td></tr> <tr><td>Neutral</td><td>2%</td></tr> <tr><td>Agree</td><td>28%</td></tr> <tr><td>Strongly Agree</td><td>70%</td></tr> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	0%	Neutral	2%	Agree	28%	Strongly Agree	70%
Response	Percentage												
Strongly Disagree	0%												
Disagree	0%												
Neutral	2%												
Agree	28%												
Strongly Agree	70%												



Statement	Distribution												
<p>The use of SMS (text message) polling enhanced participant involvement in the exercise.</p>	 <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Strongly Disagree</td> <td>0%</td> </tr> <tr> <td>Disagree</td> <td>0%</td> </tr> <tr> <td>Neutral</td> <td>21%</td> </tr> <tr> <td>Agree</td> <td>46%</td> </tr> <tr> <td>Strongly Agree</td> <td>33%</td> </tr> </tbody> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	0%	Neutral	21%	Agree	46%	Strongly Agree	33%
Response	Percentage												
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Agree	46%												
Strongly Agree	33%												
<p>Exercise discussion topics were relevant to my institution.</p>	 <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Strongly Disagree</td> <td>2%</td> </tr> <tr> <td>Disagree</td> <td>0%</td> </tr> <tr> <td>Neutral</td> <td>8%</td> </tr> <tr> <td>Agree</td> <td>33%</td> </tr> <tr> <td>Strongly Agree</td> <td>57%</td> </tr> </tbody> </table>	Response	Percentage	Strongly Disagree	2%	Disagree	0%	Neutral	8%	Agree	33%	Strongly Agree	57%
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Strongly Disagree	2%												
Disagree	0%												
Neutral	8%												
Agree	33%												
Strongly Agree	57%												
<p>Exercise discussion topics encouraged someone with my level of training and experience to participate.</p>	 <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Strongly Disagree</td> <td>0%</td> </tr> <tr> <td>Disagree</td> <td>0%</td> </tr> <tr> <td>Neutral</td> <td>13%</td> </tr> <tr> <td>Agree</td> <td>37%</td> </tr> <tr> <td>Strongly Agree</td> <td>50%</td> </tr> </tbody> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	0%	Neutral	13%	Agree	37%	Strongly Agree	50%
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Agree	37%												
Strongly Agree	50%												
<p>The exercise increased my understanding of my institution's risks and vulnerabilities when considering the threat of an on-campus tornado during commencement.</p>	 <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Strongly Disagree</td> <td>0%</td> </tr> <tr> <td>Disagree</td> <td>0%</td> </tr> <tr> <td>Neutral</td> <td>2%</td> </tr> <tr> <td>Agree</td> <td>43%</td> </tr> <tr> <td>Strongly Agree</td> <td>55%</td> </tr> </tbody> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	0%	Neutral	2%	Agree	43%	Strongly Agree	55%
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Strongly Disagree	0%												
Disagree	0%												
Neutral	2%												
Agree	43%												
Strongly Agree	55%												
<p>The exercise helped me gain a better understanding of the preparedness, response, and recovery actions my institution should implement when considering the threat of an on-campus tornado during commencement.</p>	 <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Strongly Disagree</td> <td>0%</td> </tr> <tr> <td>Disagree</td> <td>0%</td> </tr> <tr> <td>Neutral</td> <td>2%</td> </tr> <tr> <td>Agree</td> <td>41%</td> </tr> <tr> <td>Strongly Agree</td> <td>57%</td> </tr> </tbody> </table>	Response	Percentage	Strongly Disagree	0%	Disagree	0%	Neutral	2%	Agree	41%	Strongly Agree	57%
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Agree	41%												
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APPENDIX D: CAMPUS RESILIENCE RESOURCES

This section provides a list of resources useful for preparedness, response, and recovery operations related to severe weather incidents occurring during a large campus event.

The Campus Resilience Program offers a Resource Library which organizes resources according to threat or hazard, and then further categorizes each resource according to its relevant mission area (*Prevention, Protection, Mitigation, Response, Recovery*), as outlined in the [National Preparedness Goal](#). The resources included reflect the collaborative efforts of many program and partner organizations, and represent a variety of Federal, state, local, private-sector, emergency management, and academic association entities. For more information and to access the Library, visit <https://www.dhs.gov/campus-resilience-program-resource-library>.

Any additional requests for information should be directed to DHS/OAE at: AcademicEngagement@hq.dhs.gov.

Emergency Preparedness

Community Emergency Response Team Programs. The CERT programs focus on disaster preparedness and training in basic disaster response skills such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their communities. For more information, visit:

<https://www.fema.gov/community-emergency-response-teams>

Department of Education, Response and Emergency Management for Schools (REMS) Technical Assistance (TA) Center. The REMS TA Center, administered by the Department of Education (DoED) Office of Safe and Healthy Students (OSHS), supports public and private schools, school districts, and IHEs, with their community partners, in building their preparedness capacity (including mitigation, prevention, protection, response, and recovery efforts) and creating comprehensive emergency operations plans that address a variety of security, safety, and emergency management issues. For more information, visit: <https://rems.ed.gov/>

FEMA Emergency Management Institute (EMI) Independent Study Program. Virtual training on a multitude of emergency preparedness and continuity resilience strategies is available through the FEMA EMI Independent Study Program. For more information and a list of courses, visit:

<http://training.fema.gov/IS/>

- **IS-100.HE Introduction to the Incident Command System for Higher Education.** This FEMA training course introduces ICS and provides the foundation for higher level ICS training. This course uses the same objectives and content as other ICS courses with higher education examples and exercises. For more information, visit: <https://training.fema.gov/is/courseoverview.aspx?code=IS-100.HE>
- **IS-29: Public Information Officer Awareness.** This course provides an overview of the public information function and the role of the PIO in the emergency management environment. For more information, visit: <https://training.fema.gov/is/courseoverview.aspx?code=IS-29>
- **IS-42: Social Media in Emergency Management.** This course provides an overview of best practices including tools, techniques, and a basic roadmap to build capabilities in the use of social media technologies to further emergency response missions. For more information, visit:



<https://training.fema.gov/is/courseoverview.aspx?code=IS-42>

G0367: Emergency Planning for Campus Executives. This two-hour FEMA training course provides executives with insights into multi-hazard emergency planning and their role in protecting lives, property, and operations. For more information, visit:

<https://training.fema.gov/hiedu/aemrc/eplanning/g367.aspx>

Incident Command System Resource Center. The FEMA ICS Resource Center website has a multitude of ICS reference documents including, but not limited to, ICS Forms, checklists, training course information, and links to other related resources. For more information, visit:

<https://training.fema.gov/emiweb/is/icsresource/>

International Association of Emergency Managers Universities and Colleges Caucus (IAEM-UCC). The purpose of the IAEM-UCC is to represent emergency management issues surrounding college and university campuses. Although they are a part of the communities in which they reside, higher education institutions take on special and sometimes unique considerations when preparing their students, faculty, staff, and visitors for responding to, recovering from, and mitigating against emergencies. For more information, visit:

<http://www.iaem.com/page.cfm?p=groups/us-caucuses/universities-colleges&lvl=2>

- **National Intercollegiate Mutual Aid Agreement.** NIMAA is a source for providing and/or receiving assistance. NIMAA membership includes both public and private institutions. The agreement allows IHEs to share equipment, personnel, and other resources. To request more information, visit:

https://docs.google.com/forms/d/e/1FAIpQLSc-TvK2KASugIn7sl0NEYyXCGDpR_4b95N7MwUi0_OSMBC8A/closedform

Protecting Critical Infrastructure

Critical Infrastructure Training. DHS OIP provides free training programs to government and private sector partners to support security and resilience of critical infrastructure. For more information, visit: <https://www.dhs.gov/critical-infrastructure-training>

Student Tools for Emergency Planning. The STEP Program was designed by teachers and is sponsored by a state's emergency management agency and FEMA. The program provides students and their families with concrete strategies to prepare for and deal with various emergencies. For more information, visit: <http://www.fema.gov/student-tools-emergency-planning-step>

Exercises and Training

Tabletop and Emergency Planning Exercises. FEMA offers free, downloadable tabletop and emergency planning exercises and presentations for the private sector, including academic institutions. The exercises are designed to help organizations such as IHEs test emergency situations, such as a natural or man-made disaster, evaluate the ability to coordinate, and test readiness to respond. For more information, visit: <http://www.fema.gov/emergency-planning-exercises>.

Resilience Planning

Building A Disaster-Resistant University. *Building A Disaster-Resistant University* is a how-to guide and distillation of the experiences of six universities and colleges that have been working to become disaster-resistant. The guide provides basic information designed for institutions just getting started, as well as ideas, suggestions, and practical experiences for institutions that have already begun to take steps to becoming more disaster-resistant. For more information, visit: <http://www.fema.gov/media-library/assets/documents/2288>



DHS Campus Resilience Program. The DHS CR Program was created upon a recommendation from the Homeland Security Academic Advisory Council (HSAAC). This initiative builds upon best practices, lessons learned, and resources already developed to make U.S. colleges and universities more resilient. For more information on the DHS CR Program, contact the Office of Academic Engagement at AcademicEngagement@hq.dhs.gov or visit: <https://www.dhs.gov/campus-resilience>

Enhancing Campus Safety and Security. The DOJ Bureau of Justice Assistance provides resources for campus safety training and best practices. For more information, visit: https://www.bja.gov/ProgramDetails.aspx?Program_ID=108#horizontalTab3

Guide for Developing High-Quality Emergency Operations Plans for Institutions of Higher Education. This guide provides guidance to IHEs on best practices for taking preventative and protective measures to stop an emergency from occurring or reduce the impact of an incident. The guide aligns and builds upon years of emergency planning work by the Federal Government and is a joint product of DHS, DOJ, DoED, and Health and Human Services. IHEs can use the guide to create and/or revise existing emergency operations plans. For more information, visit: http://www.fema.gov/media-library-data/20130726-1922-25045-3638/rem_s_ ihe_guide.pdf

Weather Threats and Hazards

How to Prepare for a Tornado. This document provides individuals and organizations with step-by-step guidance on how to best prepare for, identify, respond to, and recover from a tornado. The document also provides several best practices, strategies, and risk mitigation activities that are supported by relevant data points. For more information, visit:

https://www.fema.gov/media-library-data/1409003506195-52740fd2983079a211d041f7aea6b85d/how_to_prepare_tornado_033014_508.pdf

Multi-Agency Resource Center (MARC) – Planning Resource. The *MARC – Planning Resource* outlines a collection of individual and volunteer organizations’ duties and responsibilities when disaster strikes. The publication helps coordinate the overall humanitarian effort to provide effective and efficient aide to those impacted by disaster and includes sample products and activities based on outcomes from real-world experiences, as reported by the American Red Cross, Catholic Charities, and The Salvation Army. The aforementioned volunteer groups author the living document in conjunction with FEMA and multiple individual contributors. For more information, visit:

https://nationalmasscarestrategy.org/wpcontent/uploads/2017/11/MultiAgency_Resource_Center_Planning_Resource_JT_V-1-0_2017_06_12-.pdf

Prepare Your Organization for A Tornado – Playbook. This preparedness playbook provides organizations with various preparatory activities, including discussion topics with facilitation guidance, TTX options with a pre-canned scenario, objectives, discussion questions, and a facilitator guide. The playbook also includes ways to engage the whole community and information on additional resources. For more information, visit:

https://www.fema.gov/media-library-data/1409936139924-14f8f593c82cf0ee0384701252b30995/prepareathon_playbook_tornado_final_090414_508.pdf

Safe Rooms for Tornadoes and Hurricanes. This FEMA publication provides guidance constructing and utilizing community and residential safe rooms for both tornado and hurricane hazards. Contents include new standards for safe room efficacy derived from a collection of real-world damage assessments and lessons learned, most of which are tornado related. For more information, visit:

https://www.fema.gov/media-library-data/1467990808182-0272256cba8a35a4e8c35eeff53dd547/fema_p361_July2016_508.pdf

StormReady. The NWS StormReady program uses a grassroots approach to help communities and institutions develop plans to handle all types of severe weather. The program encourages communities to



take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear-cut guidelines on how to improve their hazardous weather operations. For more information, visit: <https://www.weather.gov/StormReady>

Thunderstorms, Tornadoes, Lightning...Nature's Most Violent Storms: A Preparedness Guide Including Tornado Safety Information for Schools. Provided by the Department of Commerce, NOAA, and the NWS, the preparedness guide provides an overview of severe weather threats and hazards as well as information on how to identify weather threats, devise operational plans, and act in a coordinated plan when severe weather hits. The publication includes information specifically for schools on how to prepare, respond, and recover from severe weather impacts. For more information, visit: <https://www.weather.gov/media/owlie/ttl6-10.pdf>

Tornados | Natural Disasters | Environmental Protection Agency. This resource, managed by the EPA, provides general tornado preparation and recovery guidance, as well as risk-mitigating information on environmental threats and hazards that may result from tornado incidents. For more information, visit: <https://www.epa.gov/natural-disasters/tornadoes>

Tornadoes | Centers for Disease Control and Prevention. This resource, managed by the CDC, outlines steps that individuals and organizations can take to increase their safety and resilience before, during, and after a tornado. Additionally, the CDC resource provides additional information on health and safety concerns for all disasters. For more information, visit: <https://www.cdc.gov/disasters/tornadoes/index.html>



APPENDIX E: EXERCISE PARTICIPATING IHEs AND OBSERVERS

Institutions of Higher Education

Cameron University	Oklahoma State University, Tulsa
Collin College	Oklahoma Wesleyan University
Connors State College	Redlands Community College
East Central University	Seminole State College
Eastern Oklahoma State College	Southeastern Oklahoma State University
Hutchinson Community College	Southern Nazarene University
John Brown University	Southwestern Oklahoma State University
Kansas State University	University of Arkansas
Langston University	University of Arkansas, Fort Smith
Moore Norman Technology Center	University of Central Oklahoma
Neosho County Community College	University of Dallas
Northern Oklahoma College	University of Kentucky
Northwestern Oklahoma State University	University of North Texas
Oklahoma City Community College	University of Oklahoma
Oklahoma State University Institute of Technology	University of Oklahoma, Tulsa
Oklahoma State University, Oklahoma City	University of Tulsa

Organizations & Associations (Observers)

American Red Cross	Latimer County Emergency Management
City of Edmond Emergency Management	Oklahoma Information Fusion Center

Government Partners (Observers)

Federal Emergency Management Agency	U.S. Department of Homeland Security
National Exercise Division	Immigration & Customs Enforcement Agency
National Oceanic & Atmospheric Association/National Weather Service, Storm Prediction Center	U.S. Department of Homeland Security National Protection & Programs Directorate Office of Infrastructure Protection
Oklahoma Department of Emergency Management	U.S. Department of Homeland Security Office of Academic Engagement



APPENDIX F: ACRONYMS

AAR	After-Action Report
CDC	Centers for Disease Control and Prevention
CERT	Community Emergency Response Team
CR	Campus Resilience
CST	Central Standard Time
DHS	Department of Homeland Security
DoED	Department of Education
DOJ	Department of Justice
EF	Enhanced Fujita
EMI	Emergency Management Institute
ENH	Enhanced
EPA	Environmental Protection Agency
ESK	Exercise Starter Kit
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
HSAAC	Homeland Security Academic Advisory Council
HSEEP	Homeland Security Exercise and Evaluation Program
IAEM-UCC	International Association of Emergency Managers Universities and Colleges Caucus
ICS	Incident Command System
IHE	Institution of Higher Education
LTTX	Leadership Tabletop Exercise
MARC	Multi-Agency Resource Center
MDT	Moderate
MOU	Memorandums of Understanding
MPH	Miles Per-Hour
MRGL	Marginal



NED	National Exercise Division
NIMAA	National Intercollegiate Mutual Aid Agreement
NOAA	National Oceanic and Atmospheric Administration
NPD	National Preparedness Directorate
NTTX	National Tabletop Exercise
NWS	National Weather Service
OAE	Office of Academic Engagement
OIP	Office of Infrastructure Protection
OK	Oklahoma
OSHS	Office of Safe and Healthy Students
PFF	Participant Feedback Form
PIO	Public Information Officer
REMS	Response and Emergency Management for Schools
RTTX	Regional Tabletop Exercise
SLGT	Slight
STEP	Student Tools for Emergency Planning
TA	Technical Assistance
TTX	Tabletop Exercise
U.S.	United States