

AN EXPLORATORY STUDY OF DISASTER PREPAREDNESS AMONG NATIVE AMERICAN COMMUNITIES IN THE UNITED STATES

EMERGENCY MANAGEMENT & DISASTER SCIENCE | UNIVERSITY OF NORTH TEXAS

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ABSTRACT

This study explores the issue of disaster preparedness among Native American communities in the United States. Its goals are to empirically measure disaster preparedness levels within these communities, identify disaster preparedness challenges, and explore various sources of resilience. While past studies have sought to measure preparedness at the individual, household, and organizational levels, few have focused explicitly on the community level and even fewer have looked specifically at Native American populations. Thus, this research is transformative in that it refines and extends existing disaster preparedness frameworks while simultaneously broadening the field's horizon and reach through the inclusion of a historically underrepresented group.

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RESEARCH QUESTIONS

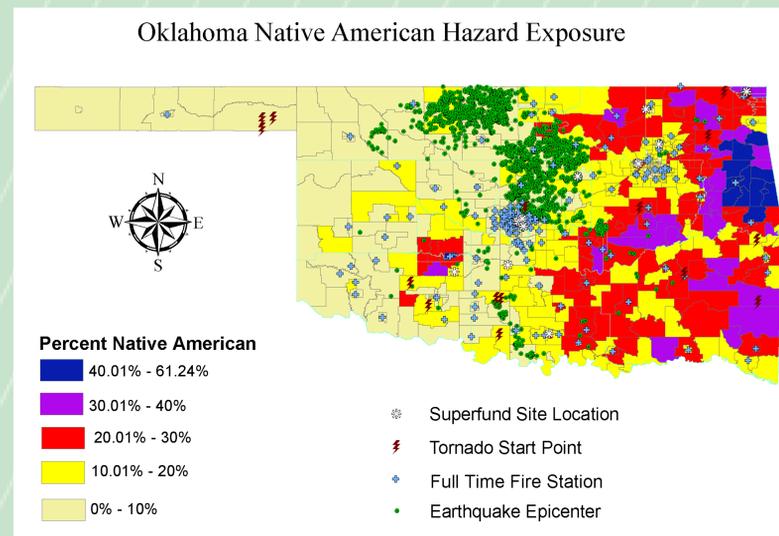
1. What kinds of hazards are Native American tribes most likely to face?
2. How prepared are these communities for natural and technological hazards, and what kinds of preparedness activities are taking place there?
3. What are the major challenges to preparedness that tribal emergency managers face, and what solutions have been implemented to address these challenges?

METHODS & ANALYSIS

A triangulated approach using mapping techniques, quantitative survey analysis, and qualitative interviews & participant observation help us answer these research questions.

- **Hazard Mapping:** We used GIS software to identify and geolocate major hazards faced by Native American communities
- **Survey Analysis:** Online surveys distributed to tribal emergency managers nation-wide
- **Qualitative Interviews:** Semi-structured telephone interviews with tribal emergency managers relied on key informants and snowball sampling methods
- **Participant Observation:** Throughout the research, we were invited to attend meetings and conferences put on by tribal emergency management coalitions, and a tribal Teen CERT summer camp.

HAZARD MAPPING



Native American communities face a variety of natural and technological hazards. In addition to traditional hazards, including tornadoes and environmental contamination, in recent years induced seismicity has emerged as a threat to these communities. The map above depicts the spatial distribution of tornadoes, earthquakes, and superfund locations in Oklahoma.

MAJOR FINDINGS

SURVEY ANALYSIS

An online survey of tribal emergency managers, which is currently underway, covers a variety of topics, including risk perception, disaster readiness, and preparedness activities.

Preliminary results indicate that respondents are more likely to view a major disaster as something that is very likely to occur in the longer term than in the shorter term (Figure 1).

Asked to assess their communities' readiness for a major disaster on a scale of 1-10, respondents reported an average score of 5.5 (Figure 2).

When asked about specific preparedness activities, on average, respondents reported engaging in five of the nine items contained in the preparedness index (Figure 3).

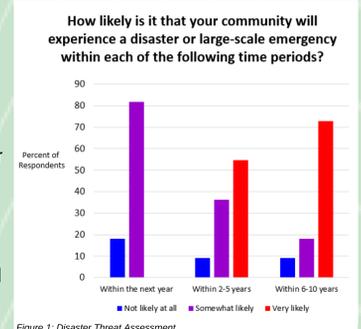


Figure 1: Disaster Threat Assessment

Which of the following activities has your community conducted in the past 24 months?

Preparedness Activity	Percent Conducting
Held stakeholder meetings to coordinate emergency planning	90%
Developed a hazard mitigation plan	90%
Public awareness campaign on disaster preparedness	70%
Established mutual aid agreements with surrounding jurisdictions	60%
Provided assistance to households to develop emergency plans or disaster preparedness kits	60%
Reached out to businesses, encouraging them to take preparedness measures	40%
Community-wide evacuation or disaster response drills	30%
Tested disaster warning and communication systems	30%
Involved youth in preparedness activities	30%

Figure 3: Disaster Preparedness Activities

If a disaster occurs in the next couple of years, how prepared is your community to manage its impacts?

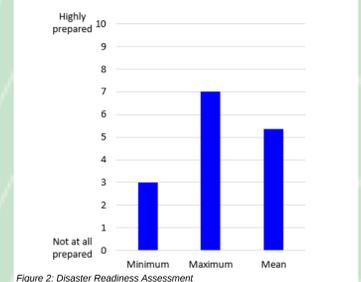


Figure 2: Disaster Readiness Assessment

INTERVIEWS & OBSERVATION

PREPAREDNESS CHALLENGES AND SOURCES OF RESILIENCE

INVESTING IN YOUTH

Challenge: The legacy of generational trauma persists. "Some of our elders are the children of people who walked the Trail of Tears. So when the preparedness measures we propose are things that are developed by outsiders, they're going to resist that. And if they say no, we're not doing it."

Solution: Using young people to reach their communities. Tribal emergency managers implement a range of activities that target youth of all ages, from informal nursery programs, to building robust Tribal Teen CERT programs.

- Tribal Teen CERT Participant: "My grandmother won't listen to anybody, but when me or my brother tell her that she needs to do something [to prepare for a disaster] she'll do it."
- Tribal Emergency Manager & Tribal Teen CERT Director: "These kids love it. They're always asking me, 'What's the next thing we're gonna do?' They've made it their own and become leaders."
- Tribal Emergency Manager: "We start with our children. We do monthly drills and evacuations. So now, they hear that sound and they go... and if you're standing there, they're gonna tell you to get out. It's awesome. It's wonderful, because they do they same thing when they go home. They're teaching their parents."
- Tribal Emergency Manager: "Elders and youth are revered people. Elders hold the historical knowledge, and the youth are the ones who are going to carry that forward. So getting the youth involved means that we can inrain emergency management into the cultural mores of the tribe. If we do it correctly, then resilience will become part of their culture, and if we do it with the youth, they're going to carry it forward."

SOCIAL CAPITAL

Challenge: Building relationships with non-native emergency management entities has many barriers. Some tribes want to "close themselves off from the outside world"; Others simply recognize that the "state isn't going to help us. We're out here on our own." As a result, these relationships often suffer.

Solution: Developing and participating in coalitions of tribal emergency managers. Multiple coalitions have developed throughout the country, and tribal emergency managers say they are "absolutely vital to what [they] do!" These coalitions bring tribal emergency managers together to build resilience through collaboration and support. The support of these coalitions has also empowered these emergency managers and encouraged them to build relationships with state and federal entities.

CULTURAL BELIEFS AND PRACTICES

Challenge: Cultural beliefs create barriers for traditional preparedness measures. For example, several emergency managers mentioned a sacred connection to the land for these communities, pointing out that, "the elders believe that talking about disasters invites them to come destroy our land. I've held emergency preparedness meetings where people will literally stand and just walk out."

Solution: Building on the resilience that is already embedded in cultural practices.

- "For the community I serve, the individual isn't important, the community is. That's the way these folks are raised. So I was like, 'OK! Let's do CERT [Community Emergency Response Training] and you folks can come and learn basic emergency response stuff so that you can give back to the community.' And that has been wildly successful!"
- "It goes back a thousand years. Native Americans would watch how rivers flow and when they rise and how much they would flood out, so they would know how to camp. So any tribe if you look at em, they set everything back to where they know it isn't going to flood. And then we look at people who build in the flood plain and think 'why are they building there if they know it's gonna flood! That makes no sense.' And so, to me, it's just natural for us to build on high ground or where the winds are lower."



The Olwe-Missouri Teen CERT Team became the first Tribal Teen CERT instructors in the nation during a 2019 training in Norman, OK. The newly certified instructors are (L to R): Michaela Kihaga, Derek Bible, Breanna Kihaga, chaperone Carolee Bible Pratt, and Anias Bible. Source: https://www.omtribe.org/who-we-are-media-news&a=view&article_id=70