



STATE OF ARKANSAS
GOVERNOR ASA HUTCHINSON

DEPARTMENT OF PUBLIC SAFETY
SECRETARY A.J. GARY

DIVISION OF EMERGENCY MANAGEMENT



October 31, 2022

The Honorable Terry Rice, State Senator
The Honorable Jeff Wardlaw, State Representative
Co-Chairs, Arkansas Legislative Council
c/o Bureau of Legislative Research
Room 315, State Capitol Building
Little Rock, AR 72201

Dear Senator and Representative:

Enclosed is the annual Arkansas Earthquake Program report as required per ACA 12-77-107. We are providing this report in an electronic version and can provide a print version upon request.

Please do not hesitate to contact me if I, or my staff, may be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "A.J. Gary".

A.J. Gary
Director and State Homeland Security Advisor

AJG:hb

To the Co-chairs of the Legislative Council:

In accordance with the House Bill 2032 amending Act 711, the Arkansas Division of Emergency Management (ADEM) hereby reports the following activities of the Arkansas Earthquake Program from November 1, 2021 to October 31, 2022 as they relate to specific requirements of the bill:

A. Continued assessment from proper scientific authorities of the seismic risk to the state:

In 2022, ADEM maintained its relationship with the Arkansas Department of Energy and Environment, Division of Geological Survey (AGS) and the State Fire Marshall through meetings, email, phone correspondence, and educational events.

- ADEM and AGS share responsibilities for the Arkansas Governor's Earthquake Advisory Council (GEAC) meetings.
- ADEM reaches out to the State Fire Marshall for subject matter expertise – most often to answer questions about the Arkansas Building Code.
- The ADEM and AGS continue to interact frequently. Activities that have involved both agencies are INSPECT ARKANSAS (INSPARK) trainings, educational/ STEM events, and the regular discussion of possible projects that might be undertaken with the funding available from the National Earthquake Hazard Reduction Program (NEHRP). ADEM and AGS work together to spread earthquake awareness and mitigation throughout the state, cooperatively staffing booths at preparedness events. (A list of conference calls, presentations, and meetings begins on page 5.)

Department of Energy, Ground Water Protection Council Grant

The Arkansas Geological Survey submitted a grant closeout report at the end of September to the Department of Energy, Ground Water Protection Council. The ongoing study, funded by this grant, involves the deployment of a small seismic array around the El Dorado, Arkansas area, where oil and gas production has been occurring since the 1920s. The area experienced seismicity in the 1930s, 1980s, in 2007 and more recently in February 2020 and May 2021.

The project analyzes the data from past earthquakes in order to determine the expected velocity (how fast a point on the ground is shaking as a result of an earthquake) of future earthquakes in the El Dorado area. This seismicity study will also evaluate which modeling method can be most effectively used to understand the area's seismicity. This research may show that seismic activity is shallower than is currently thought and it may be linked to human activity.

B. Training and education of the state and local government officials, employees, and citizens of Arkansas regarding preparation and protective measures that can be taken before, during, and after an earthquake:

During the period covered by this report, ADEM hosted courses to support response to earthquakes. Below is a list of classes offered by the state.

- December 7, 2021: Cal OES Safety Assessment Program (SAP) Training
- January 20, 2022: ATC-20, Rapid Visual Inspection Training
- April 14, 2022: Cal OES Safety Assessment Program (SAP) Training
- June 22, 2022: ATC-20, Rapid Visual Inspection Training
- September 16, 2022: Cal OES Safety Assessment Program (SAP) Training
- October 26, 2022: ATC-20, Rapid Visual Inspection Training

In 2022, ADEM promoted the following courses offered by FEMA, the Central US Earthquake Consortium, and the Applied Technology Council.

- June 9, 2022: FEMA 395, Earthquake Safety and Mitigation for Schools
- June 16, 2022: FEMA Reducing Earthquake Risk in the Classroom and Beyond, Seismic Mitigation of Nonstructural Hazards in Schools
- June 21, 2022: FEMA P-154, Rapid Visual Screening of Buildings for Potential Seismic Hazards (pre-disaster)
- June 23, 2022: FEMA P-767, Earthquake Mitigation for Hospitals
- June 29, 2022: FEMA P-1000, Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard Safety
- July 5, 2022: FEMA E-74, Reducing the Risks of Non-Structural Earthquake Damage

C. Planning coordination, guidance, and assistance to all state and local government officials in preparation for, response to, and recovery from earthquakes:

INSPect ARKansas (INSPARK)

Arkansas has had a training program for building inspection in place for over twenty years.

The INSPARK website (inspectarkansas.org) allows members to access information, take reassessment tests, and learn more about mitigating damage from earthquakes in the state. The ArcGIS Survey123 App, the primary means of data collection during trainings and real-life events, has been successfully integrated into the INSPARK Program. The Survey123 App information can be conveyed to the State Emergency Operations Center (SEOC) in real time during a disaster.

INSPARK leaders have been working to build a stronger relationship with the American Institute of Architects Arkansas (AIAAR) Chapter. AIAAR has established a Disaster Assistance Committee (DAC) whose role it will be to support ADEM and the INSPARK program. The committee will be looking at means to support members and member firms

that suffer a loss from a disaster. DAC will also be working toward recruiting architects to join INSPARK and educating the architecture profession about natural and man-made hazards and what these architects can do to protect themselves, their families, and their offices from risks.

Did you Feel It (DYFI)

After an earthquake, the Earthquake Program Manager communicates with the affected counties Emergency Manager to encourage them to remind their citizens of the United States Geological Survey (USGS) DYFI website. The website collects information from people who felt an earthquake and creates maps that show what people experienced and the extent of the damage.

D. Coordination of earthquake program activities with comparable agencies of the federal government and other states:

Arkansas Governor's Earthquake Advisory Council

The Arkansas Governor's Earthquake Advisory Council (GEAC) meets bi-annually. Detailed notes are submitted to the Governor and are available from the State's Earthquake Program Manager (EPM).

Seventy-eight people attended the January 14, 2022 virtual GEAC meeting. Keynote speakers were:

- Aaron Adams, Arkansas Department of Transportation (ARDOT)-Coordinating Agency for ESFs #1 and #3,
- David Baker, Arkansas Wireless Information Network (AWIN)- Coordinating Agency for ESF #2,
- Dennis Sternberg, Arkansas Rural Water Association (ARWA)-Support Agency for ESF #3,

Fifty people attended the July 15, 2022 GEAC that was held at AR Department of Energy and Environment, North Little Rock, AR. Keynote speakers were:

- Steve Brukwicki, Kentucky Office of Emergency Management, who described Kentucky's use of its NMSZ earthquake plan in response to the December 10-11, 2021 tornado
- Aaron Crowe of Strong-Tie who spoke about Continuous Load Path of Structures and Retrofitting.

- After collaborating with CUSEC, Missouri Seismic Safety Commission and West

Tennessee Seismic Safety Commission, the GEAC is taking advantage of the lessons learned to create a strategic planning committee. GEAC has created a working group of eight members who have volunteered to assist in developing the organization’s mission/vision statement and the strategic plan. It is anticipated that this planning, a year in development, will be shared with the membership for input and comments and approval. These plans will help guide the organization and maintain focus on goals that are deemed significant to the membership, the communities, organizations, and public.

Emergency Management Assistance Compact

ADEM Operations attended the annual All Hazards Resource Allocation Workshop with the National Guard. This workshop virtually brought together Guard representatives from every state to discuss their most catastrophic events and to allocate resources in the event of an earthquake. Arkansas EMAC has assisted our neighboring states with nine missions this year, which were good practice for similar missions that will need to be undertaken in an earthquake event.

ShakeOut

The Arkansas Earthquake Program continues to actively promote the Central United States ShakeOut. This yearly drill encourages people in homes, schools, businesses, and other organizations to practice what to do during an earthquake and improve preparedness using the “Drop, Cover and Hold On” methodology. A ShakeOut Social Media campaign has been developed, utilizing NEHRP funds, encouraging people to register for this international drill. The videos and PSA can be used across a variety of platforms, are specifically NMSZ oriented, and can be used indefinitely.

ShakeOut was held on October 20, 2022 at 10:20 am, there were 74,881 registered participants in the state of Arkansas, less than previous years because COVID-19 restrictions on large groups prevented large group registration and participation. The pandemic also limited activities to promote awareness of the event. ShakeOut.org offered many innovative ideas and approaches for participating in the drill and adapting it to a pandemic. Participation across different groups was as follows.

Category	Participants
Individuals/Families	112
Childcare and Pre-Schools	686
K-12 Schools and Districts	39,311
Colleges and Universities	16,104
Local Government	1,011
State Government	10,726
Federal/National Government (Including Military)	92
Businesses	928

Healthcare	4,818
Senior Facilities/Communities	285
Disability/AFN Organizations	0
Non-Profit Organizations	201
Preparedness Organizations	32
Faith-based Organizations	400
Museums, Libraries, Parks, etc.	80
Animal Shelter/Service Providers	7
Volunteer Radio Groups	4
Media Organizations	64
Other	0

Conference calls, presentations, and meetings

- November 4, 2021: GEAC Planning meeting
- November 10, 2021 (and continuing on the second Thursday of each month): Monthly Central United States Earthquake Consortium (CUSEC) conference call
- November 2, 2021 (and continuing on the second Tuesday of each month): Monthly Central Eastern United States (CEUS) Earthquake Coordination Committee conference call
- November 15, 2021 (and continuing monthly through February 2021): NEPM Planning Committee Meeting
- December 8-9, 2021: Association of School Board Conference
- January 13, 2022: New Madrid Earthquake Meeting with the Red Cross of Arkansas
- January 13, 2022: CUSEC board meeting
- February 3, 2022: Facebook live event with 6 CUSEC states promoting Earthquake Awareness Month
- February 4, 2022 (and weekly through February): Conway radio event promoting Earthquake Awareness Month
- February 6, 2022: Community preparedness distribution event/water heater straps, Walnut Ridge, AR
- February 16, 2022: Community preparedness distribution event/water heater straps, Jonesboro, AR
- February 18, 2022: Quarterly Earthquake Program Managers meeting
- February 20, Community preparedness distribution event/water heater straps, Walnut Ridge, AR
- March 1-4, 2022: Earthquake Summit, St. Louis, MO
- March 9, 2022: Earthquake Kiosk to Jonesboro, AR
- March 16, 2022: Municipal league presentation, North Little Rock, AR
- March 21, 2022: GEAC Meeting, Energy and Environment, North Little Rock, AR
- March 22, 2022: Meet with Mike Callahan, Cromwell Architects, Little Rock, AR
- March 28-April 1, 2022: NEPM meeting, Memphis TN

- April 4, 2022: Preparedness presentation Bald Knob City Council Meeting
- April 5, Kiosk to Izard County AR
- May 3, Kiosk to Lee County, AR
- May 9, 2022: Regional Resiliency Workshop, Springfield, IL
- May 23-26: Earthquake Insurance Summit, St Louis, TN
- June 15, 2022: Booth at the Municipal League Conference, Little Rock, AR
- June 22-24: Booth at the County Judges Conference, Hot Springs, AR
- June 28, 2022: Presented at the Workforce Innovation and Opportunities Act (WIOA) Conference
- July 6-7, 2022: Greene County Earthquake Festival, Paragould, AR
- July 14, 2022: Quake Smart Workshop, Little Rock, AR
- July 15, 2022: GEAC, North Little Rock, AR
- July 19, 2022: Presented at the Safe Schools Conference, Little Rock, AR
- August 10-12, 2022: Association of Counties Conference, Hot Springs, AR
- August 15, 2022: Kiosk to Lawrence County, AR
- September 21, 2022: GEAC subcommittee meeting
- September 27, 2022: Perry County Safety Fair, Perryville, AR
- September 30, 2022: GEAC planning meeting, Maumelle, AR
- October 10, 2022: GEAC planning meeting with Directors
- October 11, 2022: Kiosk to Mississippi County, AR
- October 12, 2022: Preparedness presentation Arkansas Response Coordination Center (ARCC)
- October 20, 2022: The Great ShakeOut Earthquake Drill, St Francis County
- October 27, 2022: Community preparedness distribution event/water heater straps, Poinsett, AR

E. The dissemination of information to the public pertaining to earthquake hazards, especially to Arkansans living near the New Madrid Fault, protective measures, seismic resistance in building construction, and appropriate actions to be taken before, during and after an earthquake and other matters the Arkansas Division of Emergency Management shall determine to be necessary or appropriate to educate, inform, and equip citizens in this state to deal with an earthquake:

- October 13, 2022: 100.3 The Edge Radio Show
- October 19, 2022: Fox 16 Morning Show, Little Rock, AR
- October 20, 2022: Mix & Fox Radio Stations, Jonesboro, AR
- October 28, 2022: KATHV 11, Evening News, Little Rock, AR

Recommendation for Improvement

Due in large part to the efforts put forward by the Arkansas Earthquake Program, in conjunction with the CUSEC and FEMA, many Arkansas citizens have become aware of

the potential threat posed by the New Madrid Seismic Zone (NMSZ). However, there is still room for improvement. The recommendation of the ADEM is to increase public outreach to promote citizen involvement in mitigation of the NMSZ peril. The Arkansas Earthquake Program requires additional funding toward education and awareness activities that will build and maintain interest in preparedness against this hazard.

Invitations to GEAC are sent to Arkansas' elected offices, Attendance from these offices would allow the Council to increase its impact and benefit more citizens.