



2021 NATIONAL EARTHQUAKE PROGRAM MANAGERS MEETING

June 16, 2021 – DAY 2
12:00PM – 4:00PM CDT

NEPM Meeting - Reminders

- This meeting is being recorded.
- Mute phones/video unless speaking.
- Post questions/comments/requests in the chat area.
- Technical issues or additional support:
 - Brian Blake – bblake@cusec.org
 - Pascal Schuback – schuback@crew.org

NEPM Meeting - Code of Conduct

- Show up on time & come prepared
- Contribute to meeting goals
- Let everyone participate
- Listen with an open mind



NEPM Meeting - Code of Conduct cont.

- Think before speaking
- Stay on point & on time
- Attack the problem, not the person
- Close decisions & ID action items
- Record outcomes & follow up



Know Yo “SHMO”



Janell Woodward
Nevada



Chelsea Morganti
New Mexico



KNOW YO SHMO

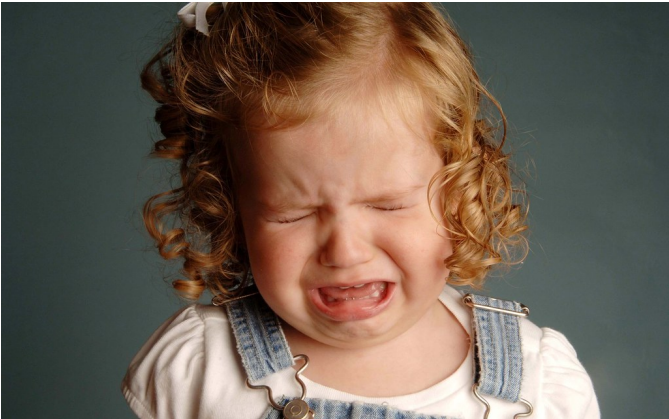
JANELL WOODWARD – NEVADA

CHELSEA MORGANTI – NEW MEXICO

NATIONAL EARTHQUAKE PROGRAM

MANAGER'S CONFERENCE

JUNE 16, 2021



WHO IS THE SHMO AND WHAT DO THEY DO?

- SHMO – State Hazard Mitigation Officer
 - Manages Mitigation Program
- Everything!
 - Grants
 - Planning
 - Technical Assistance/Education/Outreach

GETTING A SEAT AT THE TABLE

JOIN IN THE PLANNING PROCESS!

State Hazard Mitigation and Local/Tribal Hazard Mitigation Plans

- Plans expire every 5 years
- Planning process begins about 3 years prior to expiration

Per 44 CFR 201.6

(b) **Planning process.** An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

WHY SHOULD I CARE...

A CHANCE TO SHARE INFORMATION!

Hazard Identification Risk Assessment - the **HIRA** is a process of defining and describing hazards by characterizing their probability, frequency, and severity and evaluating adverse consequences, including potential losses and injuries.

Understand the data that is being utilized and ensure that what you know is included. Data out is only as good as data in.

WHY SHOULD I CARE...

A CHANCE TO SHARE INFORMATION!

Vulnerabilities and Capabilities

What are you lacking? Where do weaknesses exist?

What resources do you have? Who can you go to for help?

If no one knows how to utilize the resource, who benefits?

WHY SHOULD I CARE...

SHARE IDEAS AND HAVE AN IMPACT!

Mitigation Actions - A mitigation action is a specific action, project, activity, or process taken to reduce or eliminate long-term risk to people and property from hazards and their impacts.

As a member of the planning team, you can propose mitigation actions and rank their importance.

The background is a blue gradient. In the corners, there are white line art elements resembling circuit boards or neural networks, with lines and small circles connecting them.

PROJECT IDENTIFICATION LEADS TO
PROJECT FUNDING!

WHY SHOULD I CARE... AND YOU GET TO MAKE FRIENDS!

Networking and knowing who to contact for what is an essential component of a functioning emergency management team. Make friends. Make Connections. Break the silo!

What other local planning opportunities could you look into?

- *Land-Use Planning*
- *Wildland Urban Interface Planning*
- *Strategic Planning*
- *Master Planning*
- *Urban Revitalization*
- *Environmental Planning*
- *Infrastructure Planning*
- *Who is your state's Floodplain Cooperating Technical Partner?*

GRANT OPPORTUNITIES

- BRIC
 - Building Resilient Infrastructure and Communities
- HMGP
 - Presidentially-declared disasters
- HMGP-Post Fire
 - Post fire disaster (FMAG) declaration
 - Post fire and post fire flood are first priority
 - After priority, any hazard statewide

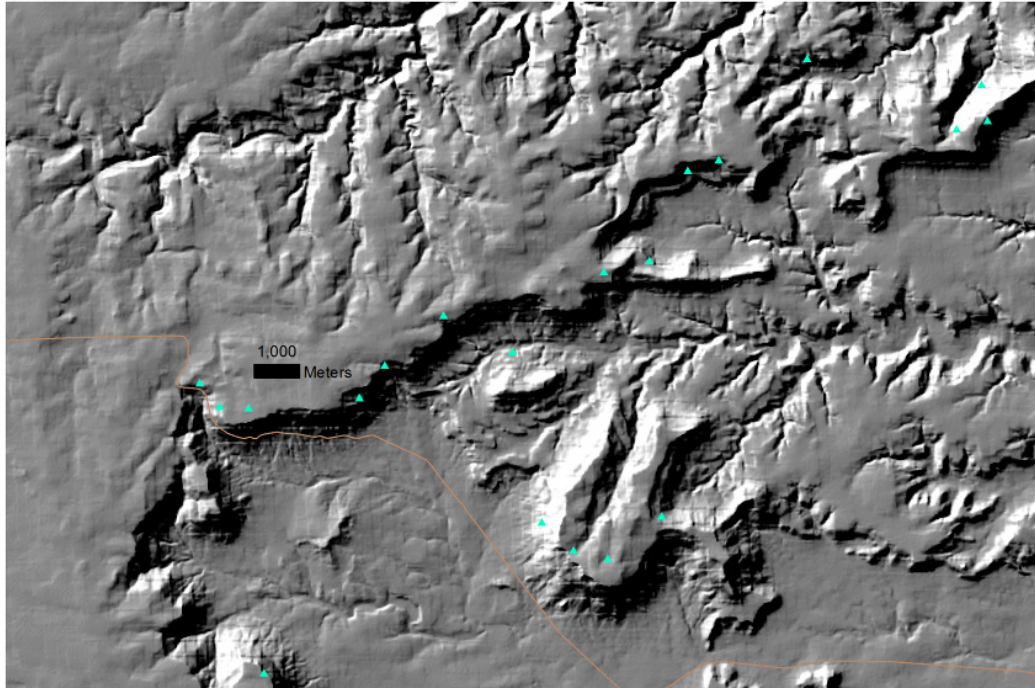
HOW TO BE CREATIVE

Hazard Mitigation Assistance grants have many rules, requirements, restrictions, and nuances.

Work with your SHMO to hack the system.

PLANNING MONEY FOR RISK AND SUSCEPTIBILITY MAPPING

Example of input data – digitized into ARC GIS by EDAC and available at <https://rgis-data.unm.edu/rgisportal>



Legend

▲ Mapped rock falls

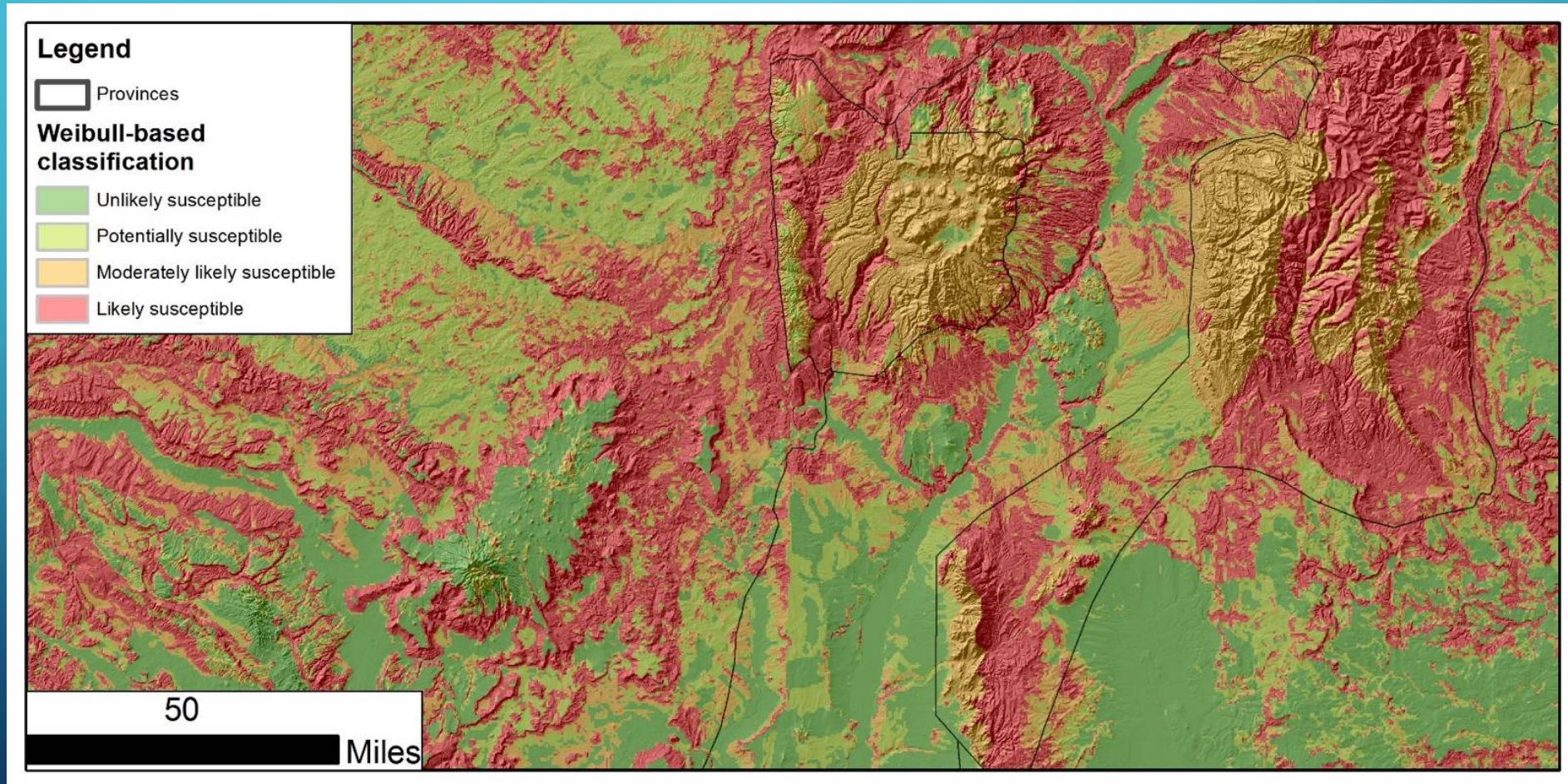
Example of Cardinali et al (1990) mapped rockfalls

0 1.25 2.5 5 7.5 10 Miles

1:100,000

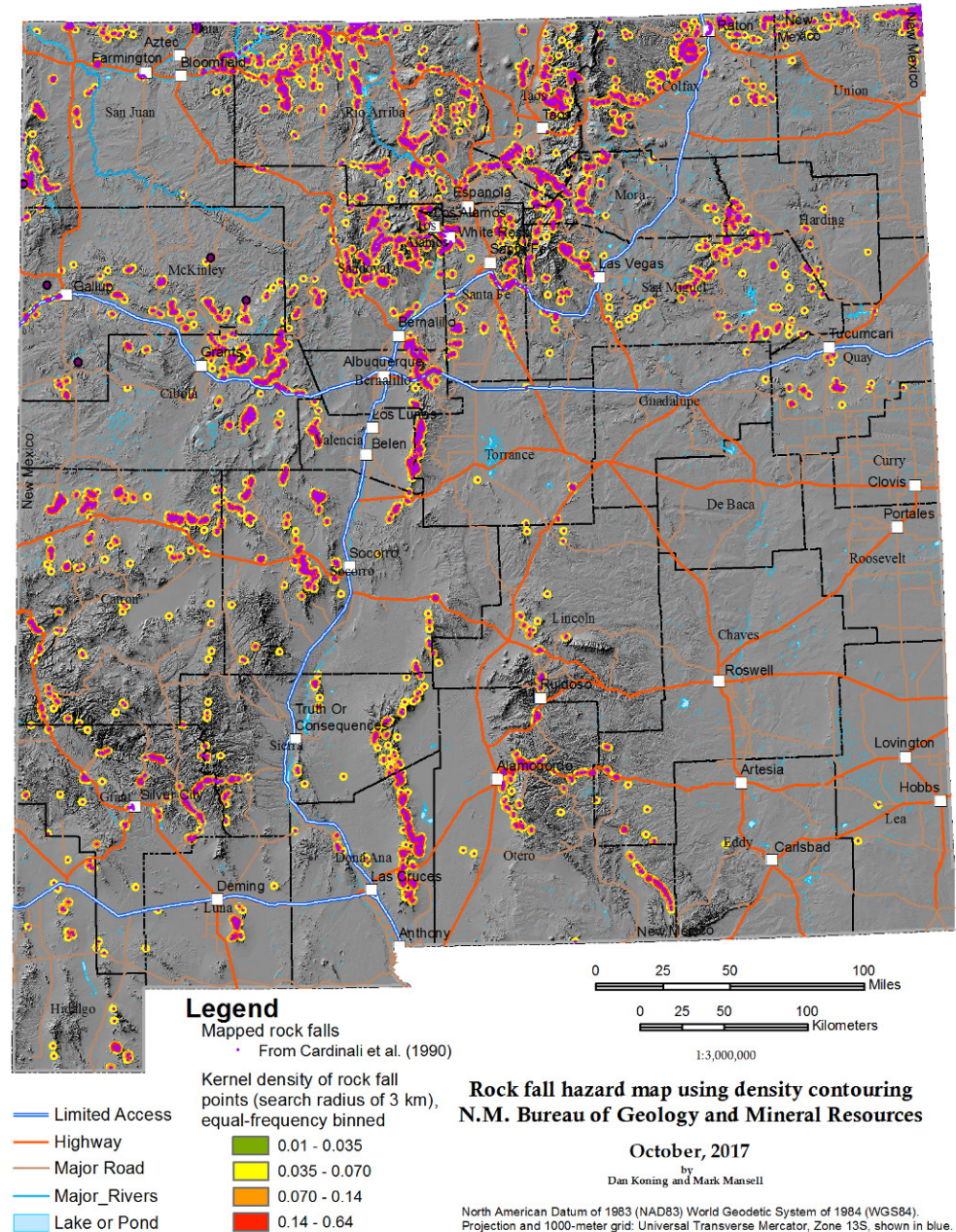
Susceptibility
*the propensity of features
inherent in the landscape
to produce a hazard.*

LANDSLIDE SUSCEPTIBILITY MAP

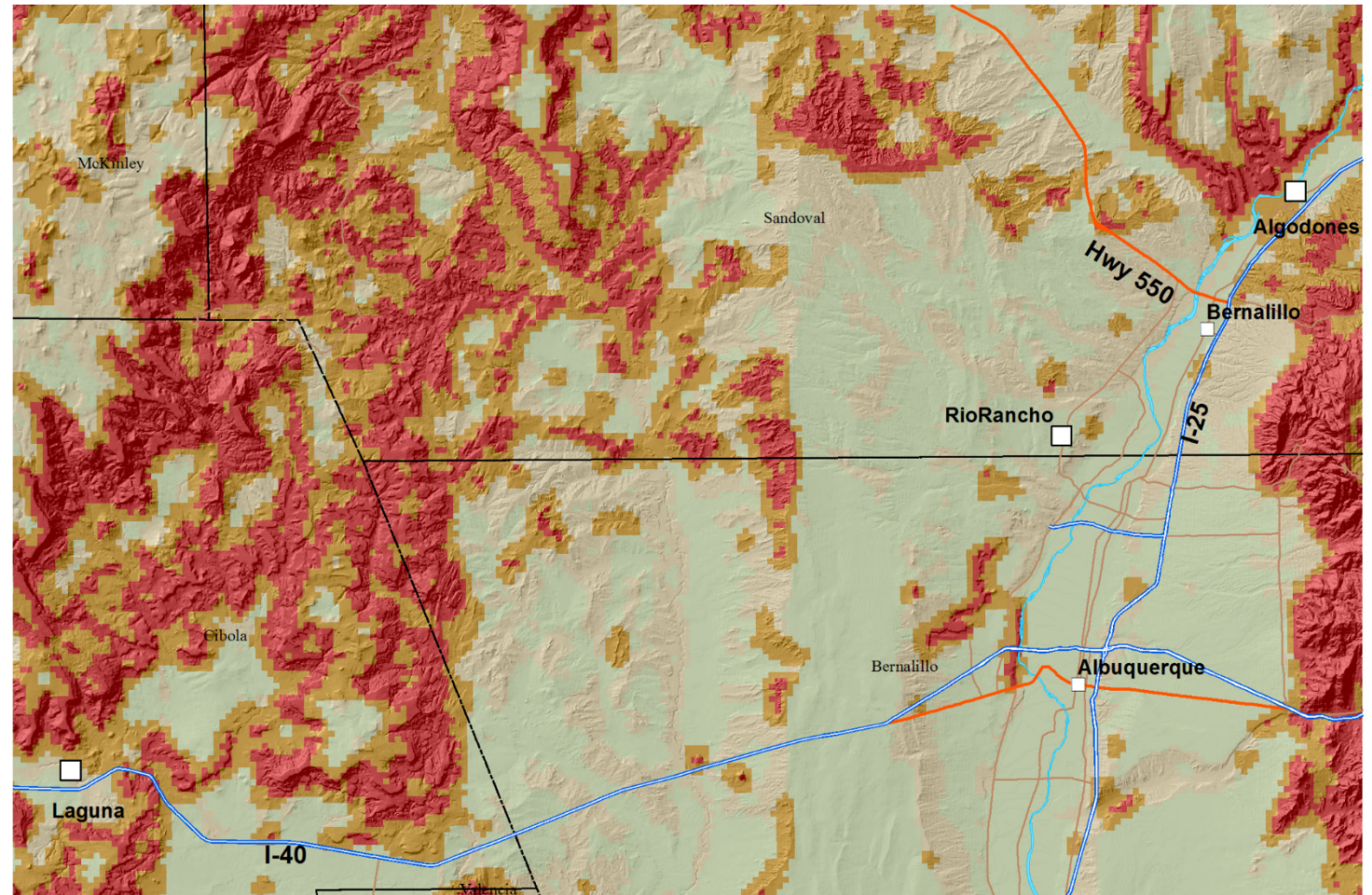


ROCK FALL POINT DENSITY MAP

- Calculated point densities using the kernel density function (ARC spatial analyst tool)
- Output is a 500x500 m grid size raster at 1:750,000 scale.



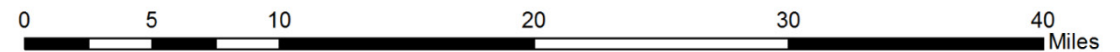
ROCK FALL



Legend

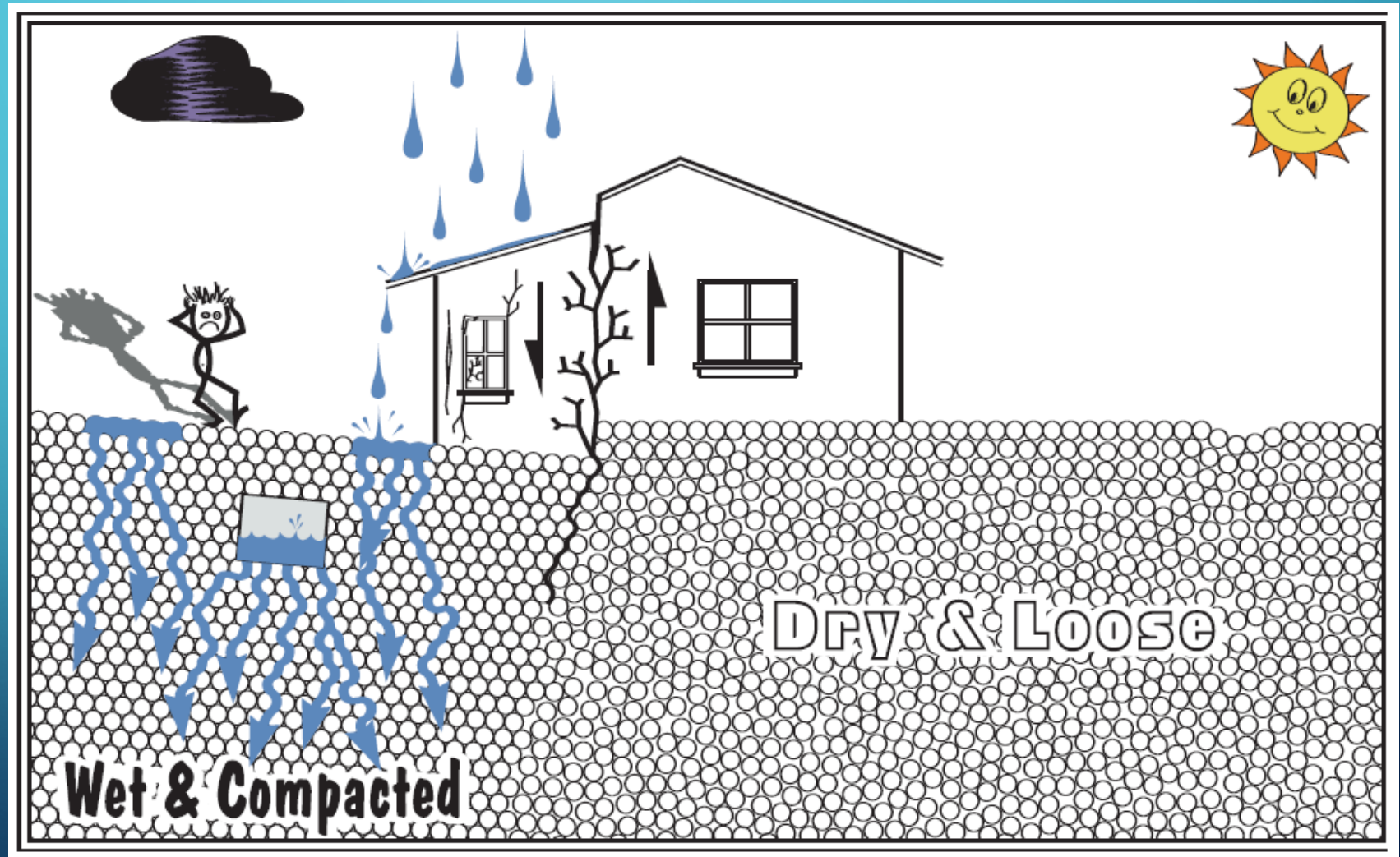
- Unlikely Susceptible
- Potentially Susceptible
- Moderately likely
- Likely Susceptible

Example of planning a pipeline/transportation corridor



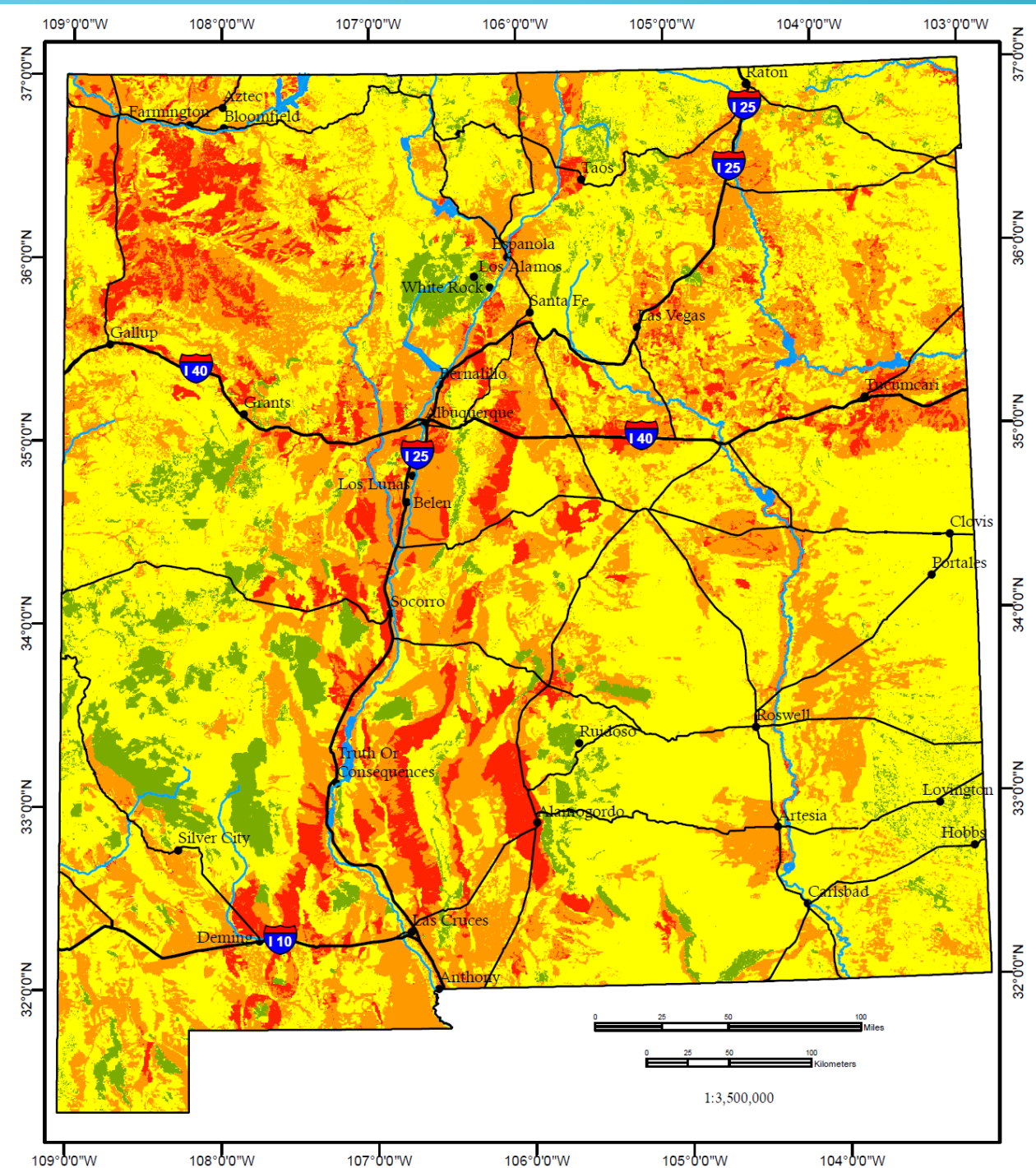
1:400,000

COLLAPSIBLE SOILS



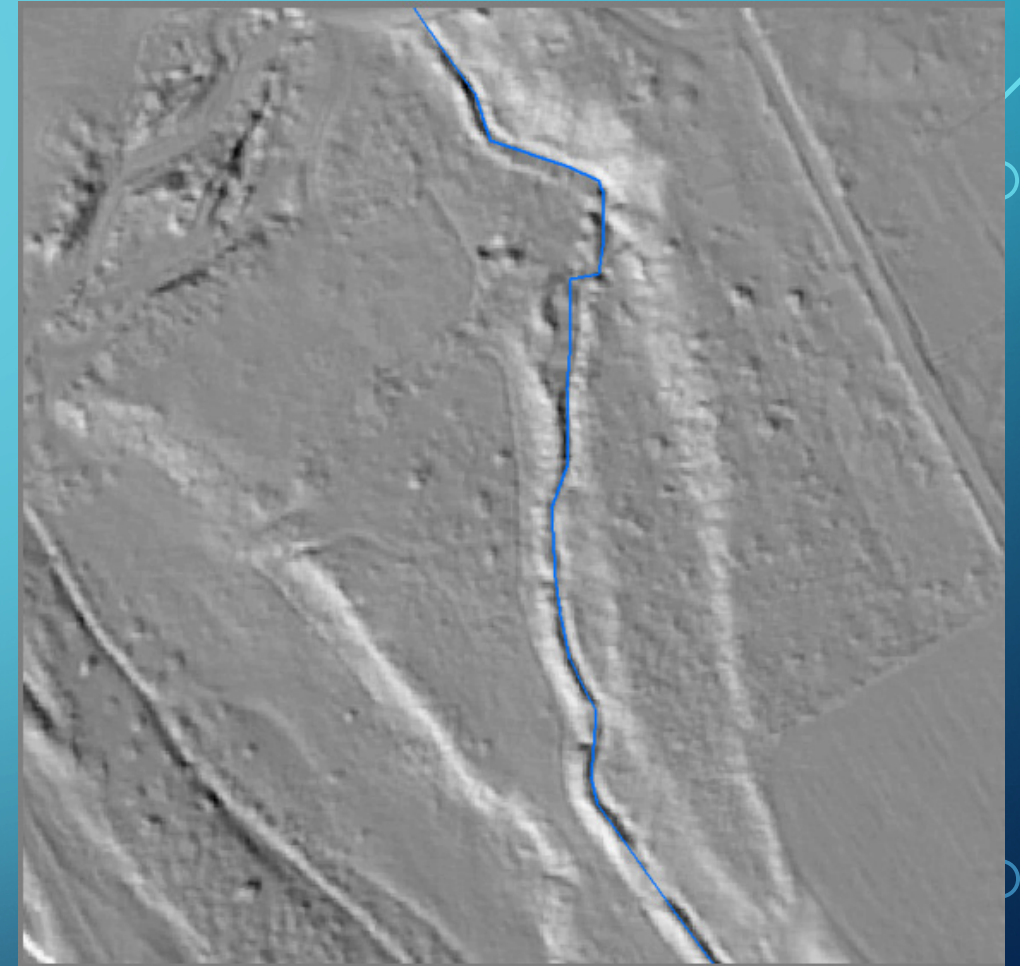
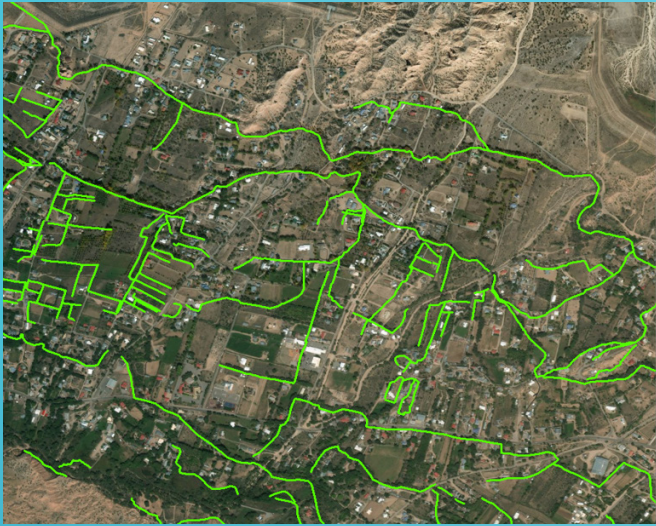
COLLAPSIBLE SOILS

- Non-zero susceptibility throughout the state.
- Mountainous, wet areas have low susceptibility (< 1.5)
- Most of state has low moderate susceptibility (1.5 to 2.5)—worth checking.
- Alluvial fans, weakly clay-cemented sandstone, and eolian deposits have high moderate susceptibility to high susceptibility—need to check and to incorporate into planning.



ACEQUIA MAPPING





REGULAR PROJECT PIGGIE-BACKING

- “Regular” construction and land disturbance project applications submitted under any HMA grant require a Benefic Cost Analysis (BCA)
- If the project has a BCA greater than 1.0, the project is eligible.
- For example: a \$1 million dollar project with a Benefit Cost Ratio of 1.5 has a cost tolerance of \$1,500,000. The project could go over budget by \$500,000 and still be eligible.
- Add an outreach, education, mapping, or other normally restricted type of project to your construction project.
- As long as you still meet BCA, your project as a whole is still eligible.

HOW TO BE CREATIVE LEVERAGE JOINT INTERESTS

Join forces with your local State Floodplain Coordinator, Manager, or Floodplain program!

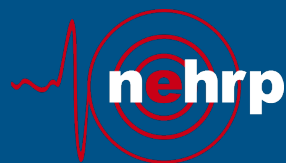
- Push for better Building Codes that take multi-hazard risks into consideration.
- Establish yourself with the State Emergency Operations Center (The SFC will get extra points on their state tiered assessment for this).
- Find areas to “signal boost” with colleges focused on other hazards.

The background is a blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural networks, with lines and small circles representing nodes.

THANK YOU!



FEMA



NATIONAL EARTHQUAKE PROGRAM MANAGERS MEETING

Briefing on the National
Mitigation Planning Program

Jenny Burmester, FEMA

National Mitigation Planning
Program Manager

Amanda Siok, FEMA R10

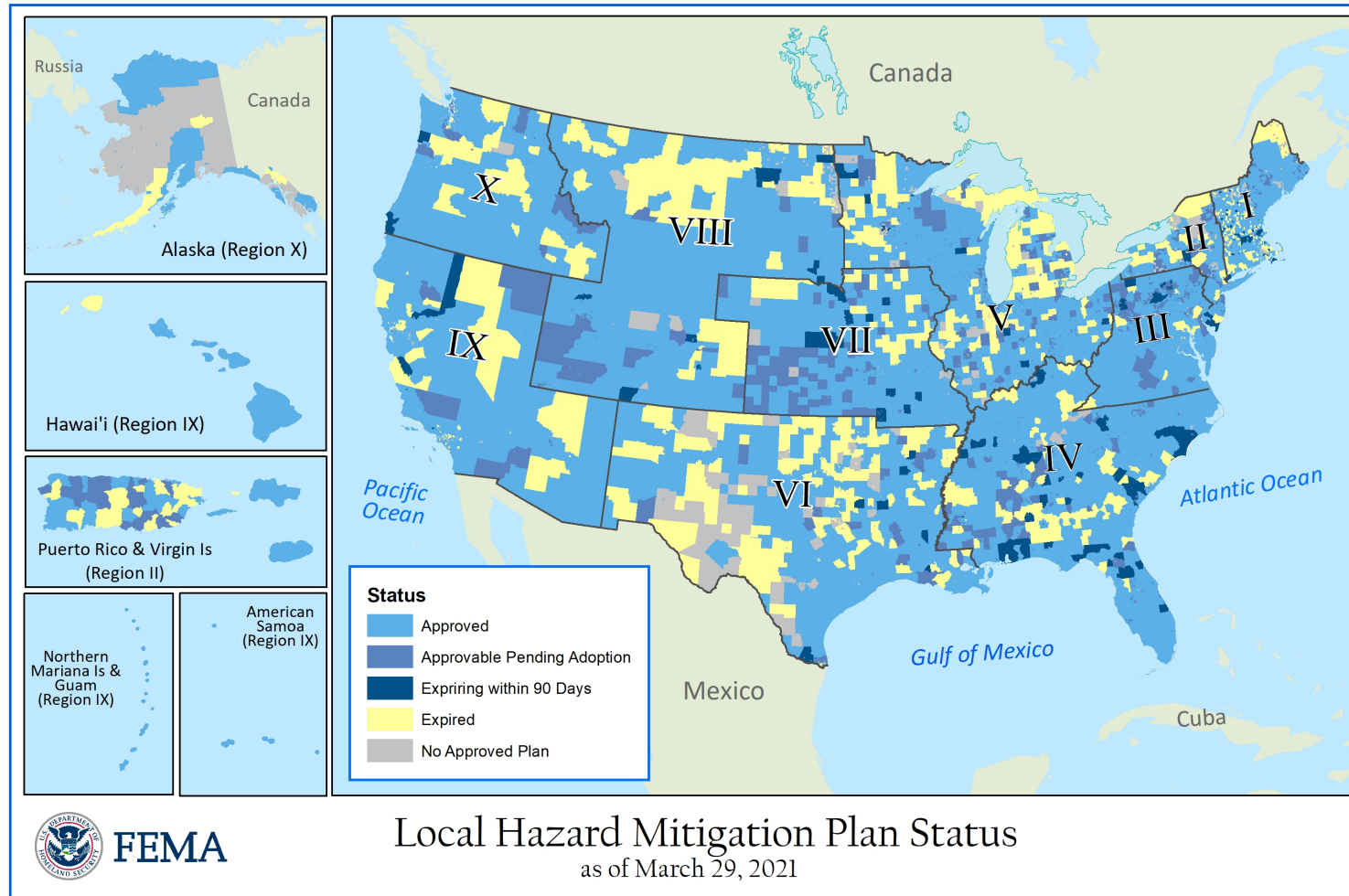


Overview

- Celebrating Success!
- Planning is the Foundation for Resilience
- Themes Organizing Mitigation Planning Advancements
- Plan to Action – Engage, Integrate, Implement
- Resources



Celebrating Success - 20 Years since DMA 2K



Planning is the Foundation for Resilience

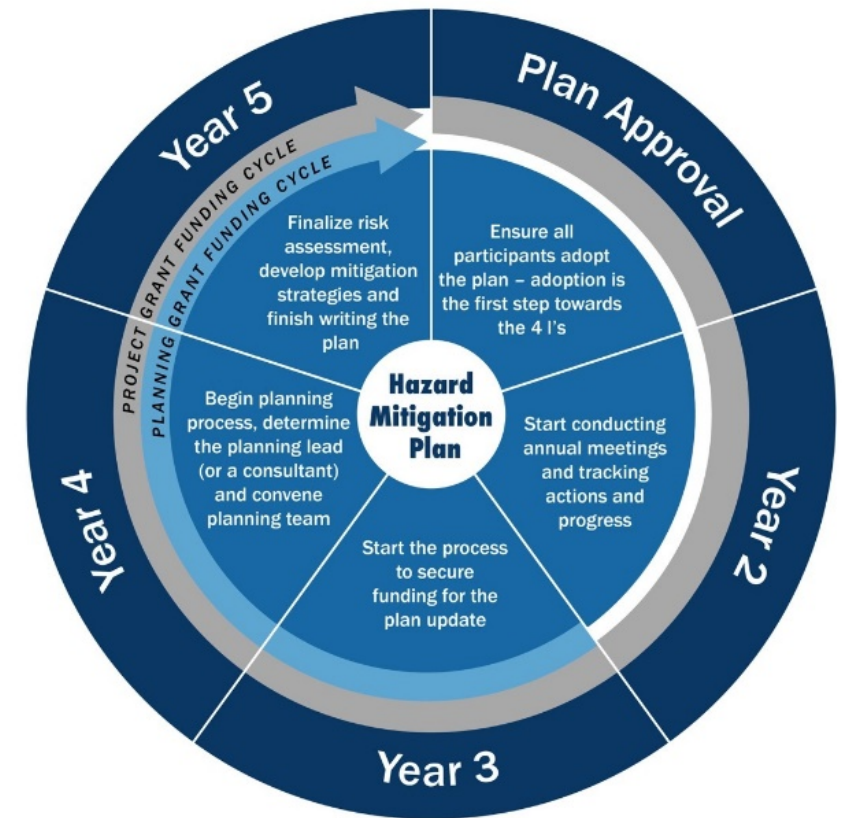


Themes Organizing Mitigation Planning Advancements



Plan to Action – Engage, Integrate, Implement

- National Mitigation Investment Strategy calls for the whole community to invest in mitigation
- FEMA Assistance – PA C-G, FMAG, HMGP, FMA, BRIC, HHPD
- HUD Community Block Development Grant (CDBG)-Disaster recovery (DR) and Mitigation (MIT)
- Private Sector Investments – Lifelines, Infrastructure, Utilities, etc.

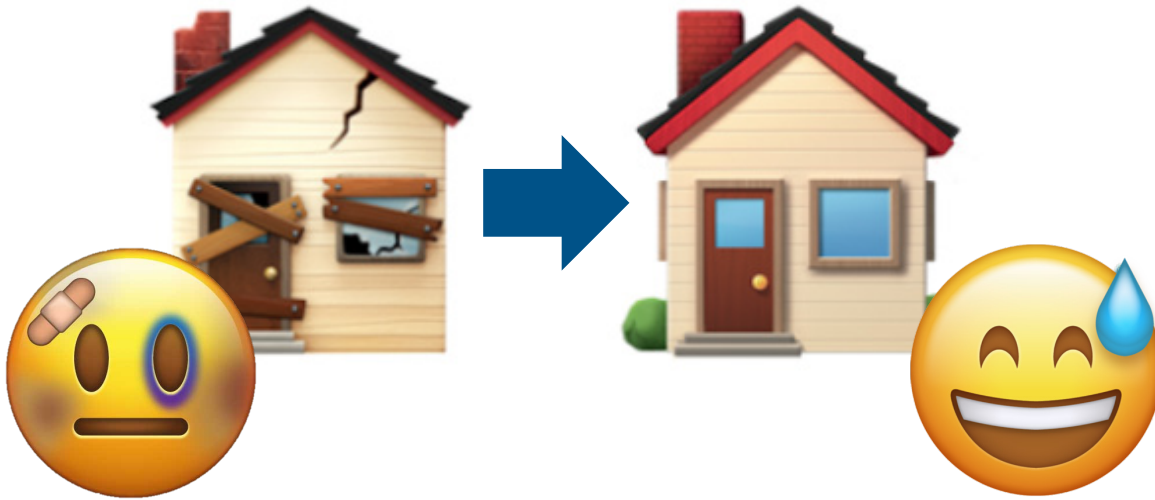


Resources for Mitigation Planning

- [FEMA Mitigation Planning Website](#)
- [Laws, Regulations, and Policies](#)
 - ❖ State Mitigation Plan Review Guide (March 2015)
 - ❖ Local Mitigation Plan Review Guide (English) (October 2011) / Guía de Revisión del Plan Local de Mitigación (Octubre 2011)
 - ❖ Tribal Mitigation Plan Review Guide (December 2017)
- [Plan Status](#) – Interactive Map, Enhanced States, Program Administration by States (PAS)
- [Training](#) – Independent study, in-person, and virtual for state, local, and tribal mitigation planning as well as foundational and advanced topics



Intent of Hazard Mitigation Plans:



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Identify

Identify what is vulnerable to natural hazards

- People
- Structures/Infrastructure/Lifelines
- Environment

Strategize

Describe what the community wants to do to reduce vulnerabilities

- Plan for FEMA Grant applications
- Develop phased approaches to mitigation
- Collaborate and develop partnerships

HAZARD MITIGATION PLANNING

State

Local (Cities, Counties, Special Districts)

Tribal

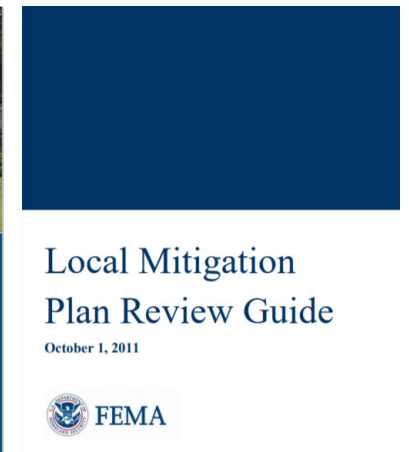
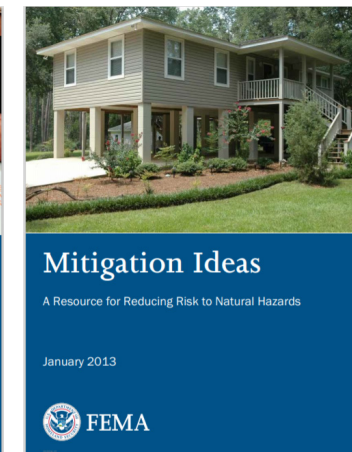
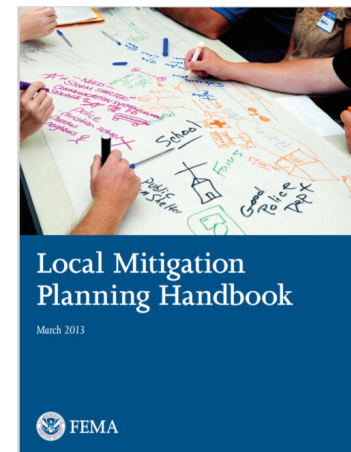
Goal: Understand vulnerabilities and determine how they will be reduced or eliminated.

Requirements:

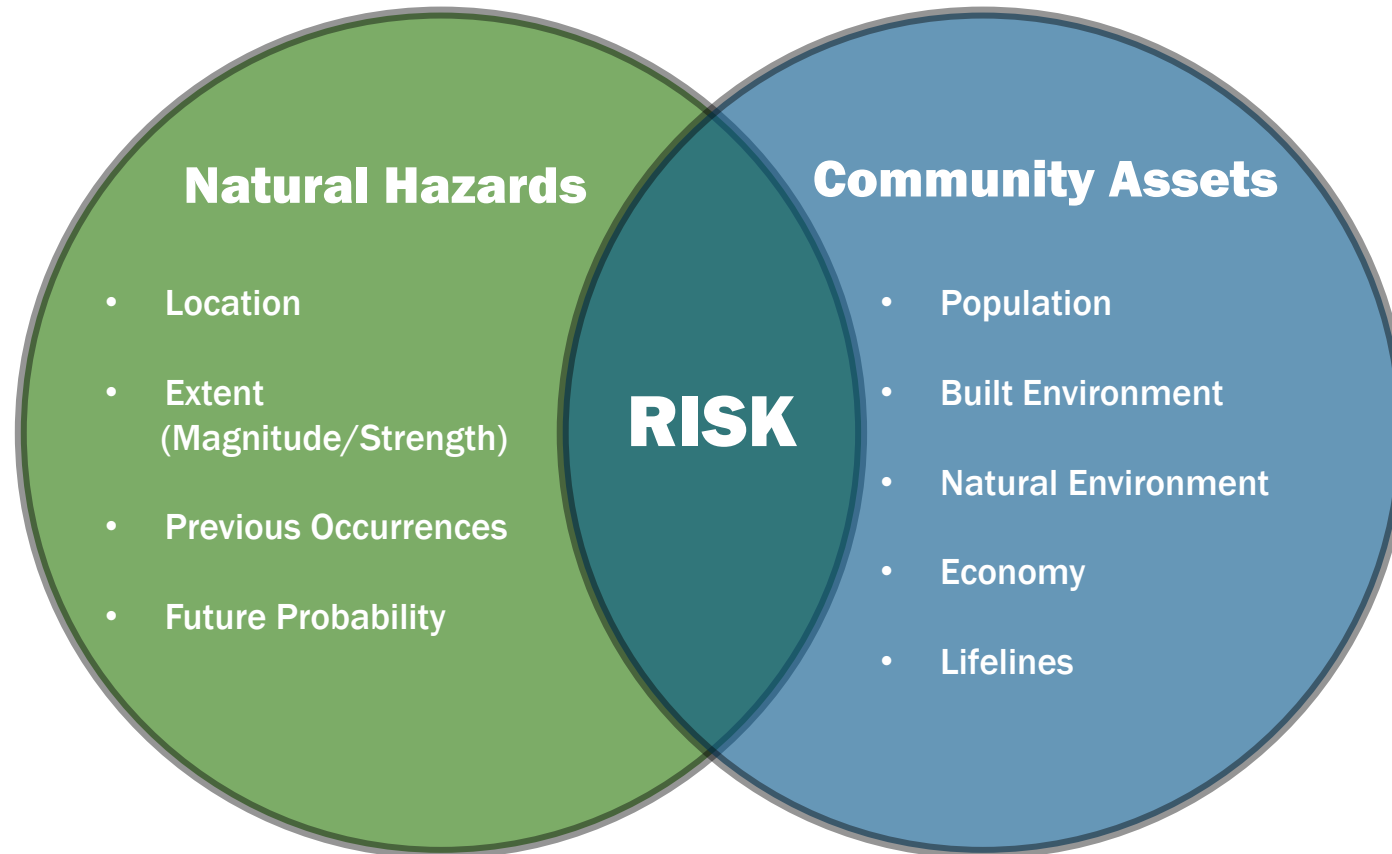
- Inclusive planning process
- Risk Assessment
- Mitigation Strategy

Cycle:

- Updated every five years
- Annual State Mitigation Consultation Meeting

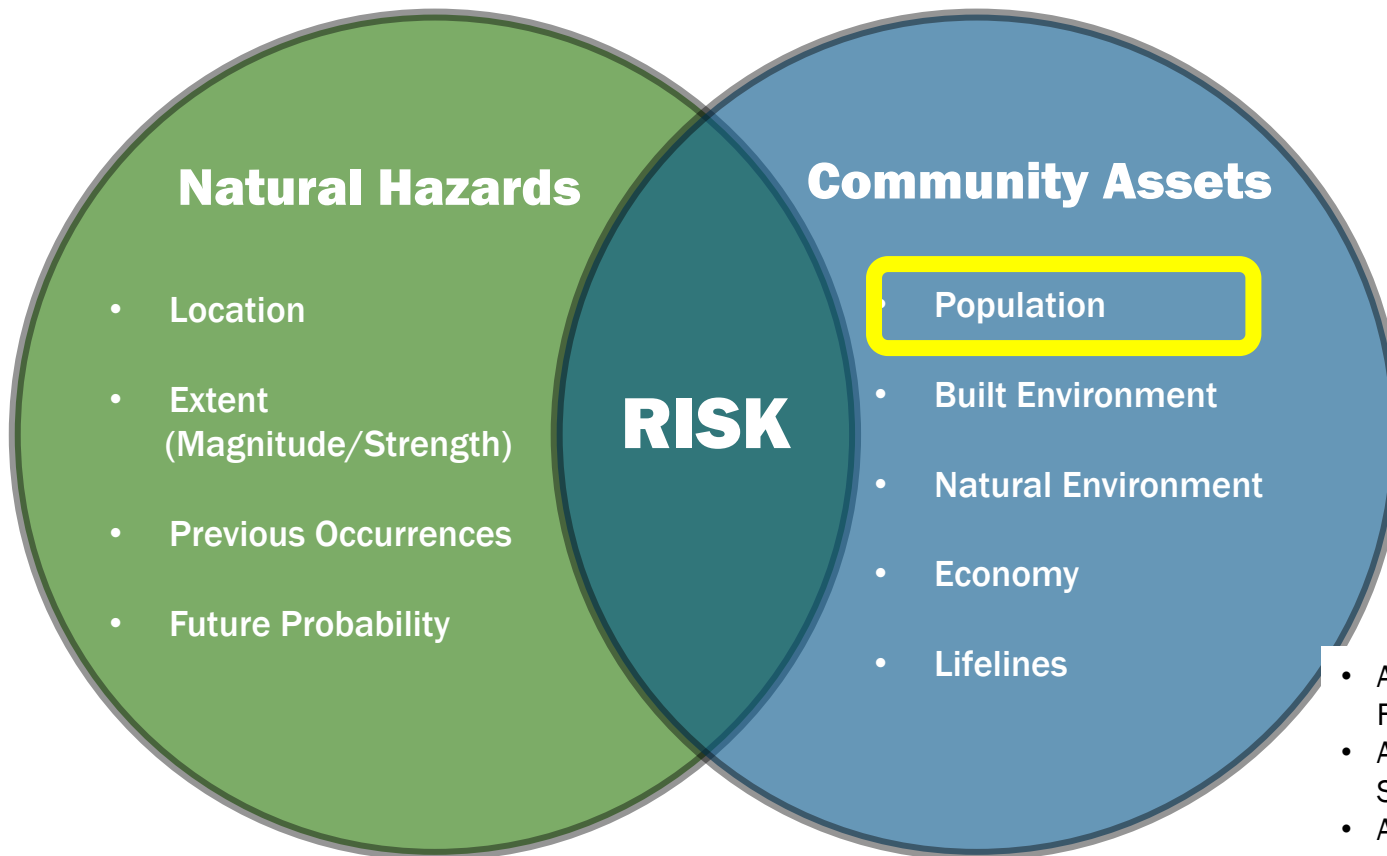


Risk Assessment



FEMA

Risk Assessment: Identify then Strategize



Census:

- Demographics
- Income Disparity
- Housing

Local Data:

- Public Health and Social Programs
- Building Occupants

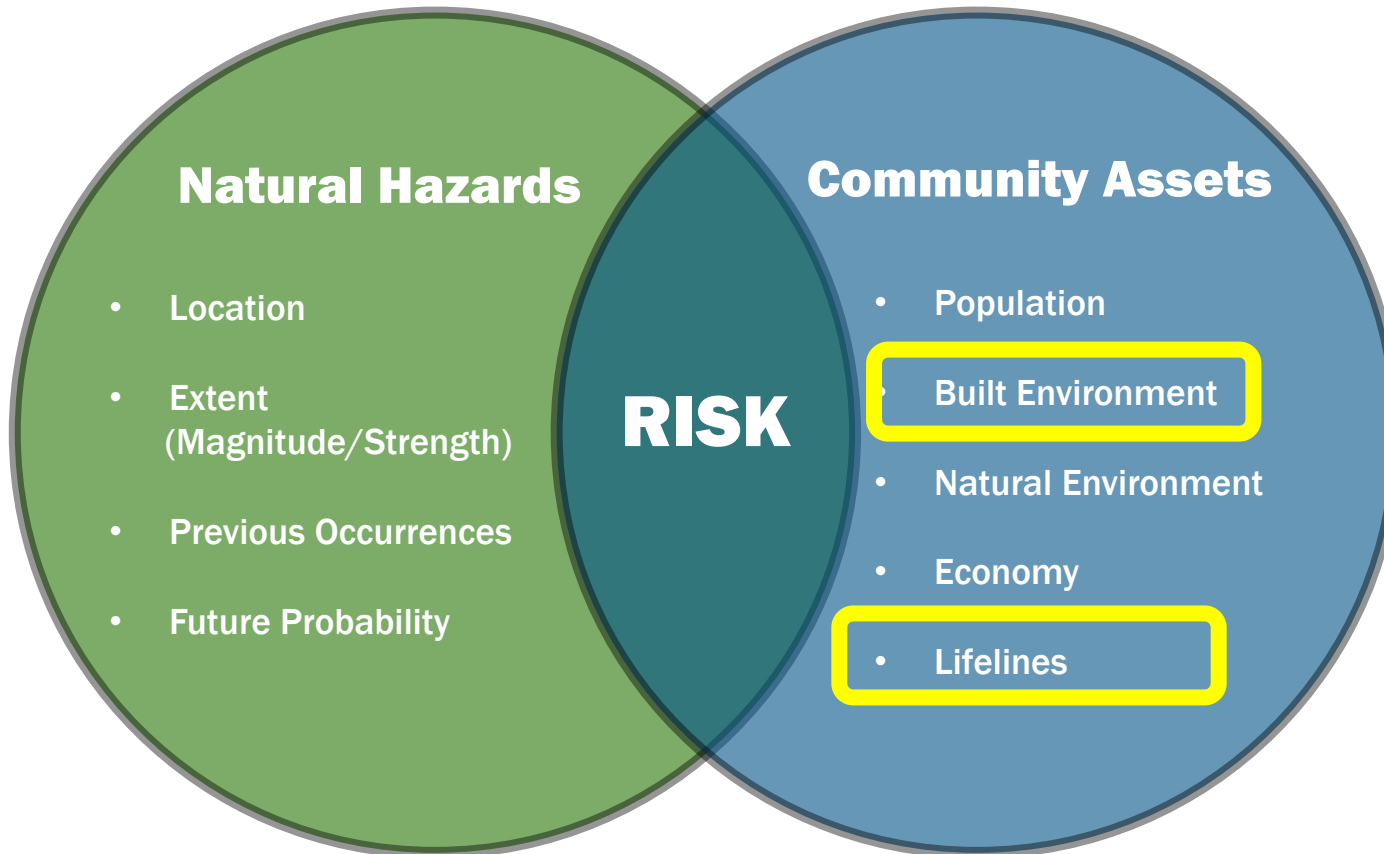
- Access to Affordable, Healthy Food
- Access to Health and Human Services
- Access to Park and Natural Resources
- Access to Safe and Efficient Transportation
- Affordable, Safe, Quality Housing
- Community and Public Safety

- Early Childhood Development
- Equitable Law and Justice System
- Equity in Government Practices
- Family Wage Jobs and Job Training
- Healthy Built and Natural Environments
- Quality Education
- Strong, Vibrant Neighborhoods



FEMA

Risk Assessment: Identify then Strategize (2)



Current Sources:

- Assessors Data
- GIS Overlay
- Should Include Building Codes and Performance Levels
- **Seismic Concerns:**
 - URM
 - Soft-Story
 - Non-Ductile Concrete



FEMA



**HMA ELIGIBLE
PLANNING RELATED
ACTIVITIES:**

RISK ASSESSMENTS

**STRENGTHENING
MITIGATION
STRATEGIES**

PLAN INTEGRATION



HAZARD MITIGATION PLANS HAVE REGULATORY TEETH



HAZARD MITIGATION PLANS

- Basis for State to provide technical assistance and to prioritize project funding.
- 44 CFR 201.6/7



PUBLIC ASSISTANCE

- To receive 406 funds, must have approved Hazard Mitigation Plan
- Restoration of damaged facilities: Must be built to minimum standards
- 44 CFR 206.221
- Public Assistance Required Minimum Standards Policy (Ch 2-Section VII.B.2.)



HAZARD MITIGATION ASSISTANCE (HMA)

- To be eligible, required to have approved Hazard Mitigation Plan.
- Technical Evaluation Criteria:
 - Mandatory code adoption requirement (2015 or 2018 IBC/IRC)
 - BCEGS Rating of 1-5.
- Building Code and Planning activities eligible under Capability and Capacity-Building (C&CB)

Strategize

Data

Planning

Projects

Resilience

- Vulnerable Building Inventories (URM, Soft-Story, RVS Results, etc) should be analyzed in Mitigation plans
- Code improvements & Retrofit Programs are sound mitigation strategies
- BRIC and HMGP can fund development and analysis of vulnerability data and mitigation strategies

NEHRP funds + Mitigation Plans = BRIC Projects

NEHRP Scope Ideas:

- Develop vulnerable building (and occupant) inventories
- Public validation of vulnerable buildings
- Track and guide seismic mitigation strategies in your state
 - Turn them into BRIC applications
 - Leverage existing processes and funding to implement
- Seek public input on Retrofit Programs
- Manage/Implement Retrofit Program

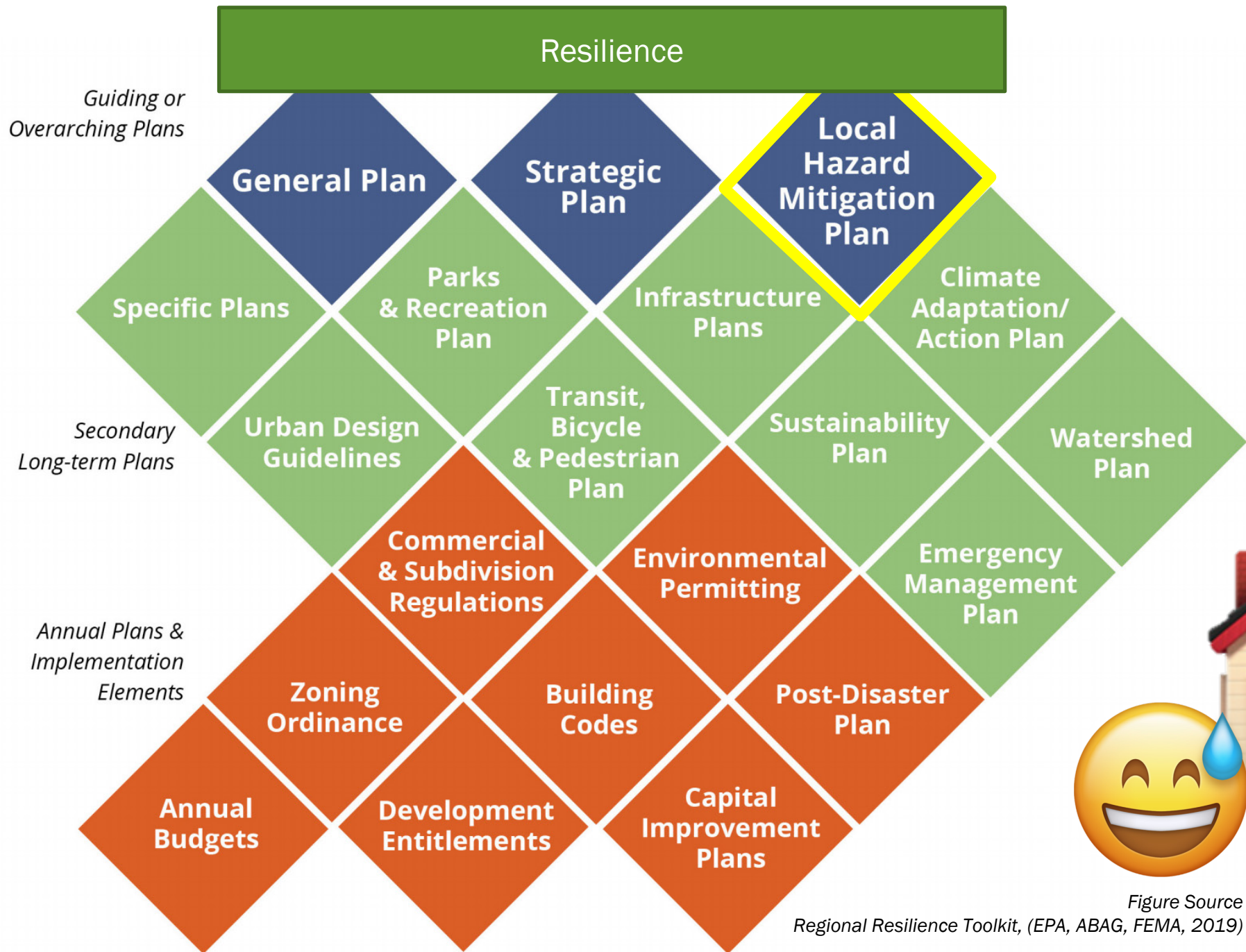


Figure Source
Regional Resilience Toolkit, (EPA, ABAG, FEMA, 2019)

Questions?

Jennifer Burmester
FEMA Mitigation Planning

Amanda Siok
FEMA Earthquake Program

Thank you!



FEMA

State Update Presentations

- Idaho – Susan Cleverly
- Illinois – Scott Gauvin
- Indiana – Allison Curry
- Kentucky – Steve Brukwicki



2021 NATIONAL EARTHQUAKE PROGRAM MANAGERS MEETING

--- BREAK ---

Please RETURN to the meeting promptly @ 1:50PM

Cecil H. Whaley, Jr. NEPM Award



Cecil H. Whaley, Jr.
Tennessee Emergency Management Agency

Award Criteria & Selection

- State Earthquake Program Manager w/3 + years in program
- Spirit of collaboration, innovation, advocacy for NEHRP & program
- Nominated by NEPM Committee



Patrick Sheehan, TEMA Director



Department of
Military

TEMA

Memorial Award: Cecil H. Whaley, Jr.



Cecil H. Whaley, Jr.
April 8, 1947 – March 19, 2020



Memorial Award: David Jackson



David P. Jackson
December 11, 1974 – August 15, 2020



Cecil Whaley Award Criteria & Selection

- State Earthquake Program Manager w/3 + years in program
- Spirit of collaboration, innovation, advocacy for NEHRP & program
- Nominated by NEPM Committee



Cecil Hobert Whaley, Jr.
April 8, 1947 – March 19, 2020

And the 2021 recipient is.....

2021 Cecil H. Whaley, Jr. Award Recipient



Althea Rizzo, PhD
Oregon Div. of Emergency Management



Microsoft Teams Platform for NEPM



Brian Blake
Central U.S. Earthquake Consortium

www.EQProgram.net

EQPROGRAM.NET

an online resource for state earthquake program managers...

- Home
- EQ Program Resources ▾
- EQ Program Contacts ▾
- NEPM Meeting ▾
- About

Welcome to EQprogram.net!



Thanks for visiting EQprogram.net! Intended to be used by State Earthquake Program Managers and their associates, this site will aim to better prepare for and mitigate against earthquakes, as directed by the [National Earthquake Hazards Reduction Program \(NEHRP\)](#).

We will try to maintain an up-to-date, informative website for various earthquake program partners to collaborate, exchange information, and strengthen partnerships. To make suggestions or comments on features you would like to see on this website, please email info@eqprogram.net. Please bookmark this site and come back often to receive the latest earthquake program updates and news.

Latest Earthquake Program News...

2019 NEPM Meeting set for April 23-26, 2019
January 30, 2019 By EQProgram

Quick Links

- ★ [2021 NEPM Meeting](#)
- ★ [State Program Contacts](#)
- ★ [USGS – Did You Feel It?](#)
- ★ [National Earthquake Conference](#)

NATIONAL EARTHQUAKE CONFERENCE



Join Us
for the
World's Largest
Earthquake Drill.

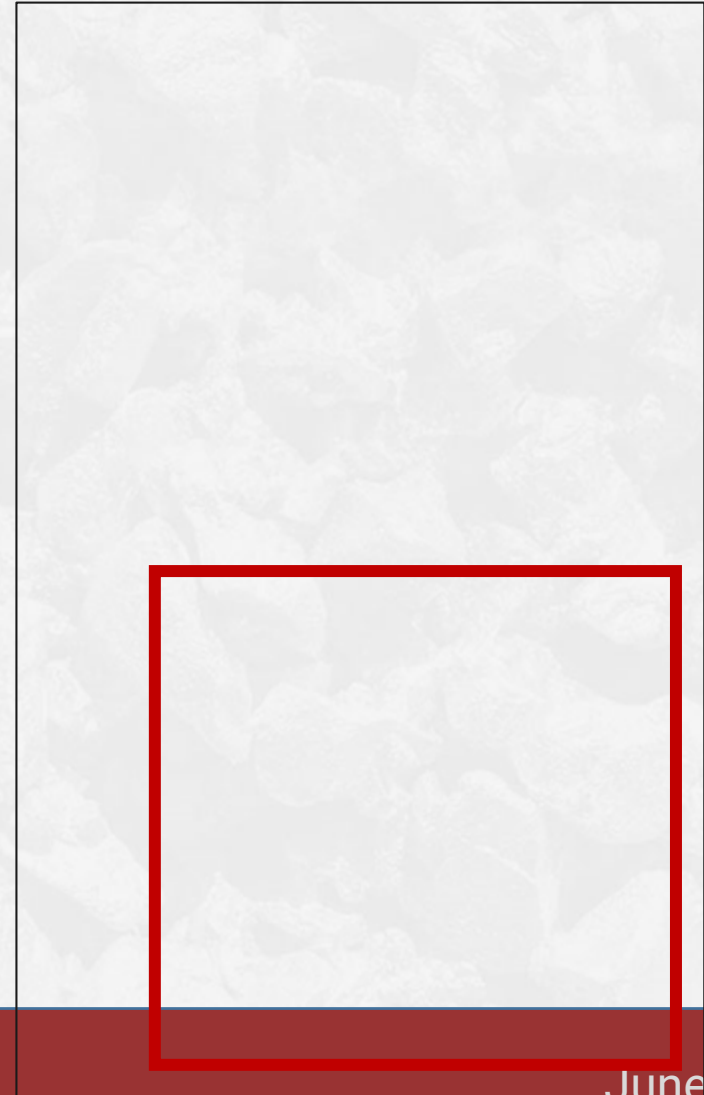
Recent Earthquakes

- ★ M 5.5 - northern Qinghai, China June 16, 2021
- ★ M 5.8 - 7 km S of Palu, Indonesia June 16, 2021
- ★ M 5.4 - 14 km SSE of Nueva Concepción, Guatemala June 16, 2021
- ★ M 5.2 - 11 km SSW of Hualien City, Taiwan June 16, 2021
- ★ M 5.3 - Kermadec Islands region June 16, 2021
- ★ M 4.5 - 36 km SW of Jipijapa, Ecuador June 16, 2021
- ★ M 4.5 - 263 km S of Kawalu, Indonesia June 16, 2021

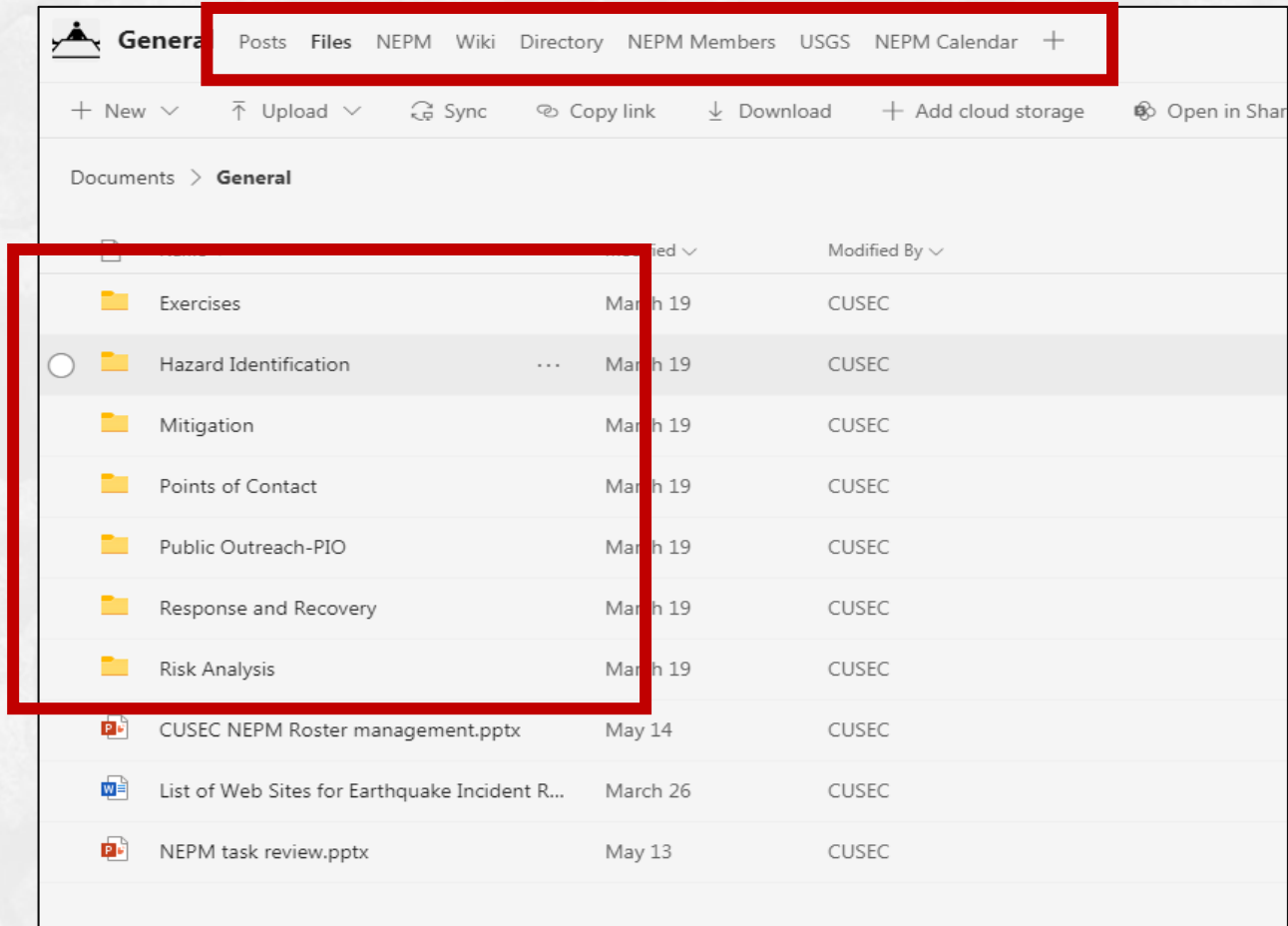


Teams – Info Sharing & Collaboration

- Teams → Collaboration platform
- Repository, Info Sharing & Archive
- External Resources
- Group/Topic Chat & meetings



Teams – Repository for NEPM Community



- Plans, maps, templates
- Outreach materials
- Best practices
- Tools

Teams Info Sharing – Past Geo-Events

The screenshot displays the Microsoft Teams interface for the 'Central U.S. Earthquake Consortium' team. The left sidebar shows the 'Teams' list with 'Archive of past incidents' selected. The main area displays the 'Archive of past incidents' channel, showing three folders: 'Anchorage, Alaska 2018', 'Magna, Utah 2020', and 'Sparta, NC 2020'. A right-hand panel shows a detailed view of the 'Magna, Utah 2020' folder, listing files like 'Utah URM Mitigation...', 'Utah- The UGS Respon...', and 'Utah Earhquake.jpeg'.

Teams List (Left Sidebar):

- Activity
- Chat
- Calendar
- 2021 NEPM Meeting (NEPM Community)
- Your teams
- CUSEC
- NEPM Community
- General
- 2021 NEPM Meeting
- Archive of past incidents**
- Earthquake Program 101
- NEPM Calendar of Events
- NEPM Meeting Archives
- Shake Out
- TEMA Logistics (PowerBI deployme...)

Archive of past incidents Channel (Main Area):

Files: Alaska Nov 2018

Archive of past incidents

- Anchorage, Alaska 2018 (16 minutes ago)
- Magna, Utah 2020 (17 minutes ago)
- Sparta, NC 2020 (16 minutes ago)

Magna, Utah 2020 Folder (Right Panel):

- Utah URM Mitigation... (About a minute ago)
- Utah- The UGS Respon... (14 minutes ago)
- Utah Earhquake.jpeg (14 minutes ago)

Name	Modified	Modified By
Field Pics	14 minutes ago	CUSEC
fema_wasatch-front-urm-risk-reduction-str...	A few seconds ago	CUSEC
Utah Earhquake.jpeg	14 minutes ago	CUSEC

Example: M7.1 2018 Anchorage Earthquake

[illegible]

M 7.1 - 14k NNW of Anchorage, Alaska
 2018-11-30 17:29:29 (UTC) | 61.346°N 149.955°W | 46.7 km depth

Interactive Map  Contributed by AK ²	Regional Information  Contributed by AK ²	Felt Report - Tell Us!  Responses Contribute to citizen science. Please tell us about your experience. Citizen Scientist Contributions	Did You Feel It? VIII  Community Internet Intensity Map Contributed by US ⁶	ShakeMap VIII  Estimated Intensity Map Contributed by ATLAS ⁴	PAGER  Estimated Economic Losses Estimated Fatalities Contributed by
Ground Failure  Landslide Estimate Significant area affected Little or no population exposed Liquefaction Estimate Significant area affected Limited population exposed Contributed by US ⁶	Origin  Review Status REVIEWED Magnitude 7.1 mw Depth 46.7 km Time 2018-11-30 17:29:29 UTC Contributed by AK ²	Moment Tensor  Fault Plane Solution Contributed by US ⁶	Finite Fault  Cross-section of slip distribution. Contributed by US ⁶	Tsunami  U.S. Tsunami Warning System To view any current tsunami advisories for this and other events please visit https://www.tsunami.gov/ NOAA	View Nearby Seis...  @ Three W... Search Radius 250.0 km Magnitude Range ≥ 4.0 ANSD Com...

Tectonic Summary

The November 30, 2018 M 7.1 earthquake near Anchorage, Alaska, occurred as the result of normal faulting at a depth of about 40 km. Focal mechanism solutions for the event indicate slip

Teams - NEPM Contact Directory

The screenshot displays the NEPM Roster web application. On the left, a table lists State Earthquake Program Managers. On the right, a map of the United States shows FEMA regions. A legend on the right side of the map identifies the regions and symbols for NEPM State contacts and FEMA Regional Headquarters. A pop-up window shows details for the selected state, Arkansas.

State	Earthquake Program Manager	Phone	e-mail
Alabama	La Tonya Stephens	205-280-2200	latonya.stephens@ema.alabama.gov
Alaska	James Benzschawel	(907) 428-7034	james.benzschawel@alaska.gov
American Samoa	Mulivanu Aiumu	(684) 699-0414	m.aiumu@asdhs.as.gov
Arizona	Michael Conway	(520) 209-4146	fmconway@email.arizona.edu
Arkansas	Hilda Booth	(501) 683-6700	eq@adem.arkansas.gov
British Columbia	Robert White	(604) 660-2421	robert.white@gov.bc.ca
California	Rachel Sierer-Wooden	(916) 845-8510	Rachel.SiererWooden@caloes.ca.gov
Colorado	Karen Berry	(303) 384-2640	kaberry@mines.edu
Connecticut	Ian Alexander	(860) 529-6893	ian.alexander@ct.gov
Delaware	Stephanie Baxter	(302) 831-1576	steff@udel.edu
Florida	Miles Anderson	(850) 413-9816	miles.anderson@em.myflorida.com
Georgia	Ginger Martin	(404) 635-7202	ginger.martin@gema.ga.gov

Legend

- States
- Federal Emergency Management Agency Regional Headquarters
- NEPM State contacts
- FEMA Regions
 - Region I
 - Region II
 - Region III
 - Region IV

NEPM_State_contactsMAP

State: Arkansas
Earthquake Program Manager: Hilda Booth
Phone: (501) 683-6700
e-mail: eq@adem.arkansas.gov

Teams – Annual Meeting Archive



NEPM Meeting Archives Posts Files Wiki 2021 Meeting Info +

+ New ▾ ↑ Upload ▾ Sync Copy link Download + Add

NEPM Meeting Information

Name ▾
2020 NEPM Meeting
2019 NEPM Meeting
2018 NEPM Meeting
2017 NEPM Meeting
2004 NEPM-St. Louis
2005 Indianapolis, IN
2006 Salt Lake, UT
2007 Pigeon Forge, TN
2008 Seattle, WA
2009 Boston, MA

Presentations

Name ▾
2020.03.02_NEPM_Agenda_DRAFT
2020_NEPM_Meeting_Notes.pdf
Screen Shot 2021-03-23 at 9.18.4

February 25	COSEC
February 25	COSEC
February 25	COSEC

2 WEEKS READY

**Oregon Geological Hazard Program
2020 National Earthquake Program Managers
Meeting
San Diego, CA**

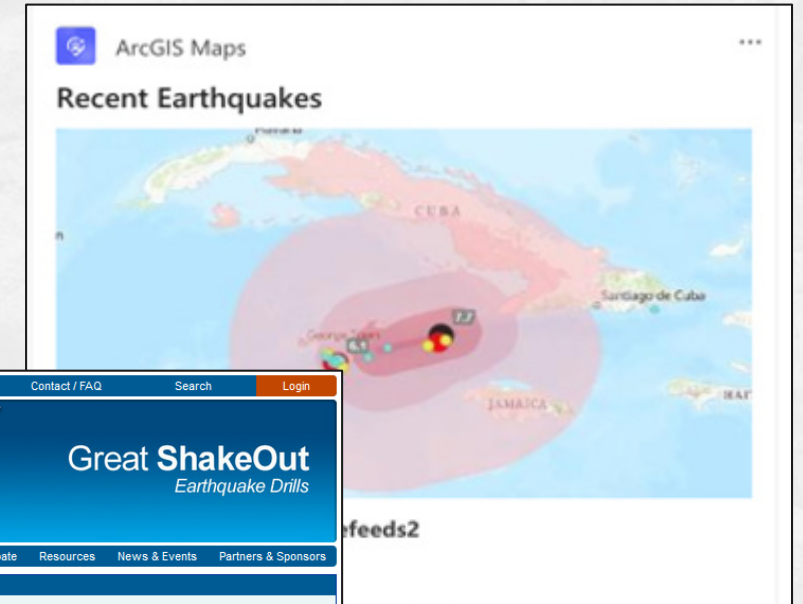
Althea Rizzo
Geological Hazards Program Coordinator

Teams – Integration

- External Sites
 - FEMA NEHRP Pubs
 - EQPM “101” Class
 - ShakeOut Resources
 - QuakeSmart
 - EERI Clearinghouse
- USGS Earthquake Feeds
- V-BEOC / COP Integration



The screenshot shows the Great ShakeOut website's Participant Search page. The header includes navigation links like Home, ShakeOut Regions, Other Languages, Contact / FAQ, Search, and Login. The main content area is titled 'PARTICIPANT SEARCH PAGE' and includes a link to 'Go back to your profile page' and a link to 'Download the Great ShakeOut Recruitment Guide and Calling Script (PDF)'. Below this, it lists 'You last searched for' with three categories: Central U.S. (TN), Central U.S. (MS), and Central U.S. (KY), all with at least 1000 participants. The search section is divided into two columns: '1. Search for organizations by category' and '2. OR Search for organizations by name'. The first column has dropdowns for Category (All Categories), in (Central U.S.), in the state of (All states), and with at least (Example: 150) participants. The second column has a text input for Name of organization, dropdowns for in (Central U.S.), in the state of (All states), most recently registered in (2020), and sorted by (Number of participants).



Stay Tuned!



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Partner Presentations

- Applied Technology Council (ATC)
- Cascadia Region Earthquake Workgroup (CREW)
- Central U.S. Earthquake Consortium (CUSEC)
- Earthquake Engineering Research Institute (EERI)



2021 NATIONAL EARTHQUAKE PROGRAM MANAGERS MEETING

--- BREAK ---

Please RETURN to the meeting promptly @ 3:15PM CDT

State Update Presentations

- Mississippi – Jasmine Johnson-Divinity
- Missouri – Jeff Briggs
- Montana – Mike Stickney
- Oregon – Althea Rizzo



2021 NATIONAL EARTHQUAKE PROGRAM MANAGERS MEETING

--- OPEN DISCUSSION // END OF DAY 2 ---

Please RETURN to the meeting at 12:00PM CDT tomorrow