



STATE OF NEVADA MEETING NOTICE AND AGENDA OFFICE OF THE MILITARY DIVISION OF EMERGENCY MANAGEMENT NEVADA HAZARD MITIGATION WORKING GROUP

Name of Organization: Nevada Hazard Mitigation Working Group

Date and Time of Meeting: September 27, 2021, at 9:00 a.m.

Venue Name/Address: Carson City Sherriff's Office
Ormsby Room
991 E. Musser St.
Carson City, NV

Visual Access: The meeting can be listened to, or viewed live, over the Internet through the Nevada Division of Emergency Management YouTube channel at:
<https://www.youtube.com/channel/UCFGa6exzrZdlqA6PP55kfqq>

Conference Line Access: Conference line #: (669) 219-2599
Meeting ID# 686 738 8625
When prompted for Participant ID, please press #

Current Voting Membership	
Name	Organization
Stephen Aichroth	NV Division of Housing
Solomé Barton	North Las Vegas Emergency Management
Faith Beekman	NV Health and Human Services
Kathy Canfield	Storey County
John Christopherson	NV Division of Forestry
Craig dePolo	NV Bureau of Mines and Geology
Herman Fillmore	Washoe Tribe
Sheryl Gonzales	WNDD
Clair Ketchum	NOAA (Federal)
Andrew Trelease	Southern NV Regional Flood
Lorayn Walser	Governor's Office of Energy
Erin Warnock	NV Division of Water Resources
Melissa Whipple	NV Health and Human Services
Staff	
Samantha Ladich – Sr. Deputy Attorney General	Attorney General's Office
Janell Woodward – NDEM/HS	NV Division of Emergency Management
Mark Shugart – FEMA FIT	FEMA Region IX



STATE OF NEVADA MEETING NOTICE AND AGENDA OFFICE OF THE MILITARY DIVISION OF EMERGENCY MANAGEMENT NEVADA HAZARD MITIGATION WORKING GROUP

This meeting will be video or teleconferenced as specified beginning at 9:00 a.m. The Nevada Hazard Mitigation Working Group ("Working Group") may act on items marked "For Possible Action." Items may be taken out of the order presented on the agenda at the discretion of the Chair. Items may be combined for consideration by the Working Group at the discretion of the Chair. Items may be pulled or removed from the agenda at any time.

Please Note: Witnesses wishing to have their complete testimony/handouts included in the permanent record of this meeting should provide a written or electronic copy to the Working Group administrative support staff. Minutes of the meeting are produced in a summary format and are not verbatim.

1. **CALL TO ORDER AND ROLL CALL** – Chair, Lorayn Walser, Governor's Office of Energy.
2. **PUBLIC COMMENT**– (Discussion Only) – No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments may be limited to 3 minutes per person at the discretion of the Chair. Comments will not be restricted based on viewpoint.

To provide testimony during this period of public comment via telephone, please call in any time after 8:30 a.m. on the day of the meeting by dialing (669) 219-2599. When prompted to provide the Meeting ID, please enter 686 738 8625 and then press #. When prompted for a Participant ID, please press #. When asked to provide public comment, please press *6 to unmute your phone and *6 again when your comments are complete.

Please be advised that the YouTube stream will be between 60-90 seconds behind the live meeting. If you would like to present public comment, please call in using the above number to hear the meeting live.

3. **APPROVAL OF MINUTES** - (Discussion/For Possible Action) – Chair, Lorayn Walser, Governor's Office of Energy. The Working Group will discuss and review the minutes of the June 29, 2021, Working Group meeting. The Working Group may vote to amend and approve the minutes as provided.
4. **OVERVIEW OF OPEN MEETING LAW** - (Discussion Only) – Samantha Ladich, Deputy Attorney General, DEM. Ms. Ladich will provide a brief overview of the open meeting law for the Working Group.
5. **CHIEF'S INTENT OF THE HAZARD MITIGATION WORKING GROUP** – (Discussion Only) – David Fogerson, Chief, Division of Emergency Management/Homeland Security. Chief Fogerson will discuss his intent with the creation of this working group under the powers of the DEM/HS Chief under NRS 414.

6. **CARSON CITY HAZARD PRESENTATION** - (Discussion Only) – Jason Danen, Carson City Deputy Emergency Manager, or his designee, will brief the Working Group on area hazards and City demographics.
7. **CARSON CITY EARTHQUAKE RISK** - (Discussion Only) – Dr. Craig dePolo, Research Geologist, Nevada Bureau of Mines and Geology. Dr. dePolo will brief the Working Group on the Carson City earthquake risk and vulnerability regarding the Basin and Range.
8. **STATE HAZARD MITIGATION PLAN STATUS UPDATE** - (Discussion Only) –Janell Woodward, Mitigation Officer, DEM/HS. Ms. Woodward will provide a status update to the State Hazard Mitigation Plan. The Working Group will discuss the process and update of the plan.
9. **MITIGATION GRANTS UPDATE** - (Discussion Only) – Janell Woodward, Mitigation Officer, DEM/HS – Ms. Woodward will provide an update on mitigation grant opportunities and available funding. The review and ranking forms will be provided to the Working Group for possible discussion.
10. **PUBLIC COMMENT** – (Discussion Only) – No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments may be limited to 3 minutes per person at the discretion of the Chair. Comments will not be restricted based on viewpoint.

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11. **ADJOURN** – (Discussion/For Possible Action)

This is a public meeting. In conformance with the Nevada Public Meeting Law, this agenda was posted or caused to be posted on or before 9:00 a.m. on September 22, 2021, at the following:

Legislative Counsel Bureau, 401 S. Carson Street, Carson City, NV;
Nevada State Emergency Operations Center, 2478 Fairview Drive, Carson City, NV;
Clark County Fire Department, 575 E. Flamingo Road, Las Vegas, NV; Elko County, 569 Court Street, Elko, NV; Carson City Sheriff's Office, Ormsby Room, 911 East Musser Street, Carson City, NV; and

Posted to the following websites:

- Nevada Department of Public Safety's Division of Emergency Management and Homeland Security Public Meeting Notifications/Information Website:
https://dem.nv.gov/DEM/DEM_Public_Meeting_Information/
- Nevada Public Notice Website: www.notice.nv.gov

To navigate to Division of Emergency Management and Homeland Security administered meetings, please do the following:

- Within the Government Column, click **State**.

- Within the Entity Column, select **Office of the Military – Division of Emergency Management.**
- Within the Public Body column, click on the **Nevada Hazard Mitigation Working Group**; results will populate on the page.

We are pleased to make reasonable accommodations for members of the public who are disabled. If special arrangements for the meeting are necessary, or if there is a need to obtain copies of any supporting meeting materials, please notify Janell Woodward, Division of Emergency Management and Homeland Security, at 775-687-0300. 24-hour advance notice is requested. Thank you.



**STATE OF NEVADA
OFFICE OF THE MILITARY
DIVISION OF EMERGENCY MANAGEMENT
MEETING MINUTES
NEVADA HAZARD MITIGATION WORKING GROUP**

Attendance	DATE		June 28, 2021		
	TIME		1:00 p.m.		
	METHOD		Zoom and Teleconference		
	RECORDER		Janell Woodward		
Appointed Voting Member Attendance					
Member Name	Present	Member Name	Present	Member Name	Present
Lorayn Walser– Chair	X	Herman Fillmore	X		
Steven Aichroth	X	Sheryl Gonzales	X		
Solome Barton	X	Clair Ketchum	X		
Faith Beekman	X	Andrew Trelease	X		
Kathy Canfield	X	Erin Warnock	X		
John Christoherson	X	Melissa Whipple	X		
Craig dePolo	X				

Legal/Administrative Staff		
Name	Agency	Present
Samantha Ladich – Senior Deputy Attorney General	Attorney General's Office – DEM/HS DAG	ABS
Janell Woodward – Emergency Management	NDEM/HS	X
Mark Shugart – FEMA FIT	FEMA RIX	ABS

1. CALL TO ORDER AND ROLL CALL

Chair Lorayn Walser, Governor's Office of Energy, called the meeting to order. Roll call was performed by Janell Woodward, DEM/HS. Quorum was established for the meeting.

2. PUBLIC COMMENT

Chair Walser opened the first period of public comment for discussion. There was no public comment.

3. INTRODUCTION OF MEMBERS

Chair Walser requested members of the committee introduce themselves to the Working Group and each member gave their name and their agency. Ms. Woodward requested that each of the members review their contact information and provide any needed corrections to her via email.

4. OVERVIEW OF MITIGATION PROGRAM

Ms. Woodward provided the Working Group with an overview of the State Mitigation Program. The program packet was reviewed with the committee and opportunity for any questions was provided with questions answered.

Topics covered included:

- Introduction
- Legislation
- FEMA State Plan Review Guide
- Nevada Plan Review Tool
- NV hazard mitigation plan status
- Planning
- Grants
- Mitigation Grant report
- Committee information
- Meeting schedule
- Hazard Mitigation Assistance (HMA) grant programs
- Working Group Charter
- Member list

5. FUTURE MEETINGS

Future meetings for the Working Group will be held on a quarterly basis except for any needed special meetings required secondary to mitigation grant cycles. Meeting notices will be posted per the Open Meeting Law requirements and calendar requests will be sent to Working Group members.

6. PUBLIC COMMENT

Chair Walser opened the second period of public comment and there was none.

7. ADJOURN

Chair Walser adjourned the meeting.

The Capital of Earthquake Country: Earthquake Hazards of Carson City and Nevada's Earthquake Message 2021

Craig M. dePolo

Nevada Bureau of Mines and Geology

University of Nevada, Reno

**Carson City
has the
Highest Earthquake Hazard
in the
Basin and Range Province**

What Would the city with the highest earthquake hazard in the BRP be like?

- Experience Damaging Earthquakes
- High Level of Background Earthquakes
- Many late Quaternary Faults
- High rates of activity and short recurrence intervals of paleoearthquakes

Historical Earthquakes that have Strongly Shaken Carson City

<u>Date</u>	<u>Magnitude</u>	<u>Nearest Community</u>	<u>Effects</u>	<u>CC MMI*</u>
Sept. 3, 1857	6.3	Incline Village(?)	unknown	?
March 15, 1860	6.5	Reno(?)	content damage	VI
May 30, 1868	6.0	Virginia City	two eqs?, panic	VI
Dec. 27, 1869	6.4, 6.2	Virginia City	content dam, wall cracks	VI+
June 3, 1887	6.5	Carson City	build. damage, liquef.	VII-VIII
Jan. 27, 1896	5+?	Carson City	cracked walls, fallen plast.	VI+
May 15 1897	5+?	Virginia City?	fallen plaster	VI+
Dec. 20, 1932	7.1	Gabbs	surface rupt., chim. dam.	VI
June 25, 1933	6.0	Wabuska	build. and chim. damage	VI+
July 6, 1954	6.2	Fallon	build. and plaster damage	VI
Dec. 16, 1954	7.1, 6.9	Fallon	build. and plaster damage	VI+

* Modified Mercalli Intensity in Carson City

June 3, 1887

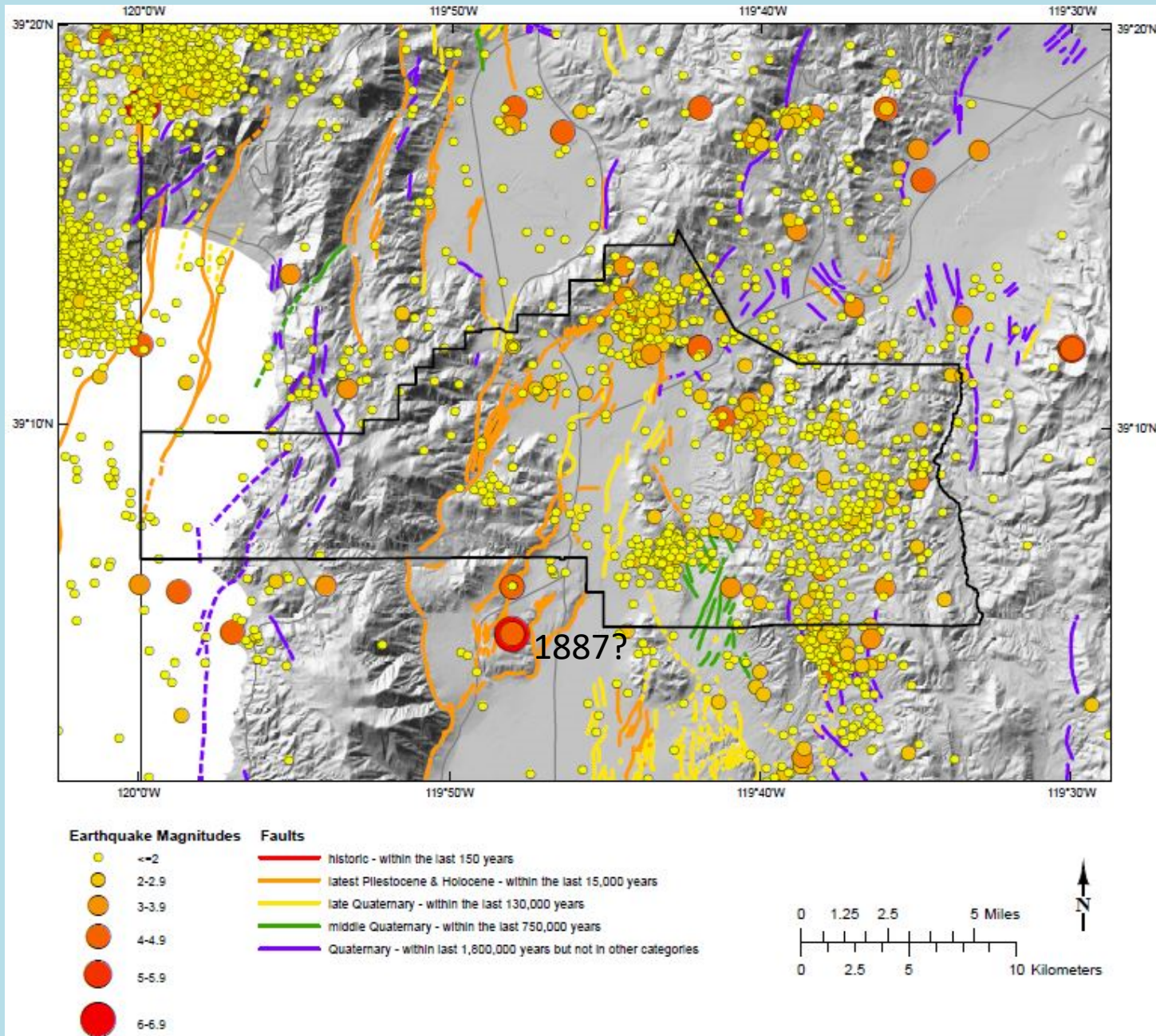
Carson City Earthquake

- No foreshocks. 2:40 a.m. quake
- Difficult to stand; people fled to the safety of the streets; general hysteria.
- All stone and brick buildings showed the effects of the earthquake. Cracked and separated walls, damaged chimneys, fallen plaster, broken windows, glassware, and crockery.
- Genoa badly damaged as well; Glenbrook chimney

1887 Carson City Earthquake

- Liquefaction of the ground occurred in Carson Valley and probably in Eagle Valley.
- Ground offsets in the western flanks of the Virginia Range in Washoe Valley (landslide?). Rock falls in the mountains.
- Earthquake-related fire burns down hotel in Mound House.

Historical Earthquakes 1857 to 2014



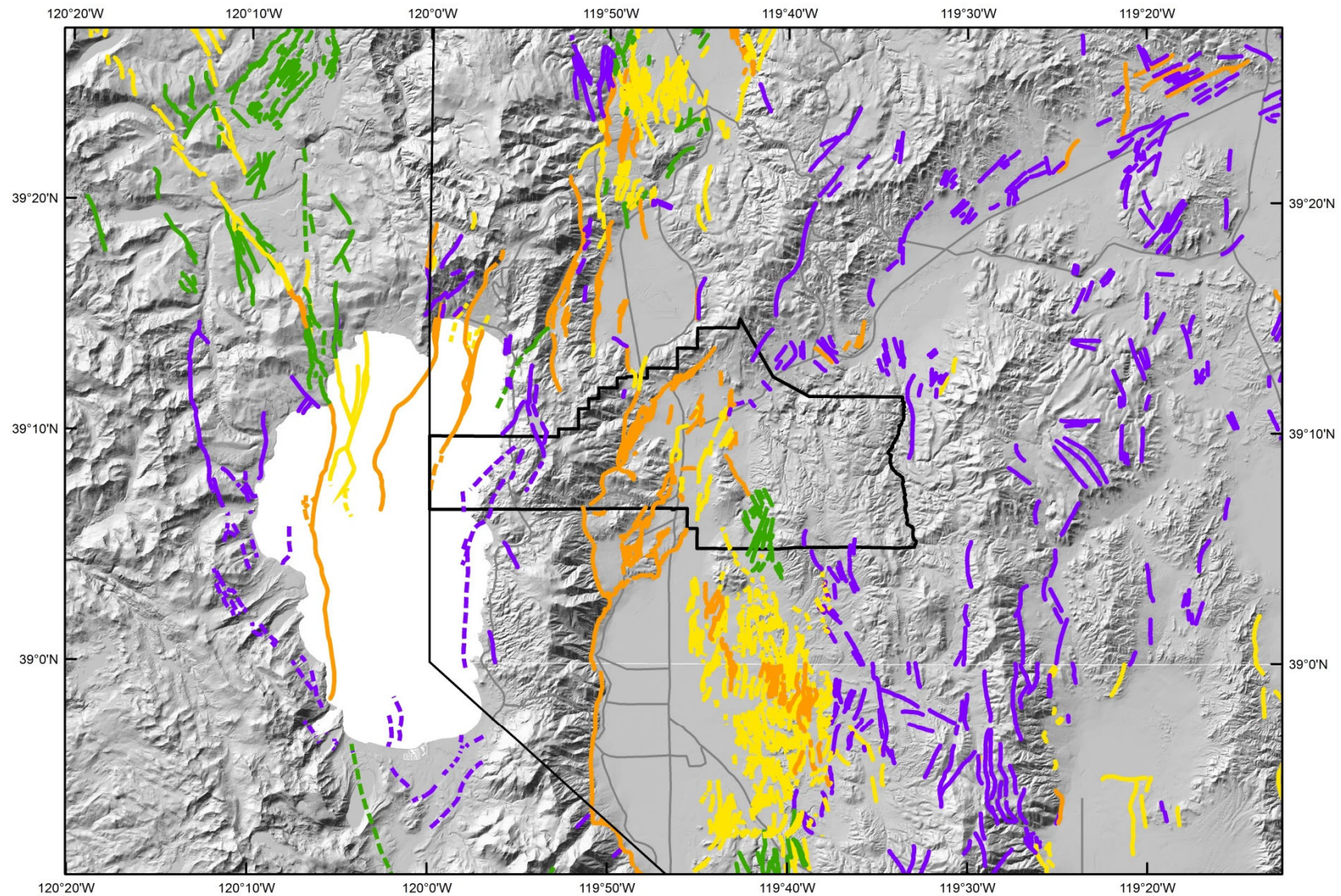
Historical Earthquakes that have Strongly Shaken Carson City

13 to 14 Eqs with Intensity **VI** shaking in **158 years**

On average that is **1 event every 12 years**

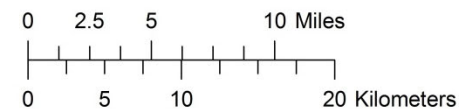
1 earthquake in 158 years with Intensity **VII**

Quaternary Faults



Faults

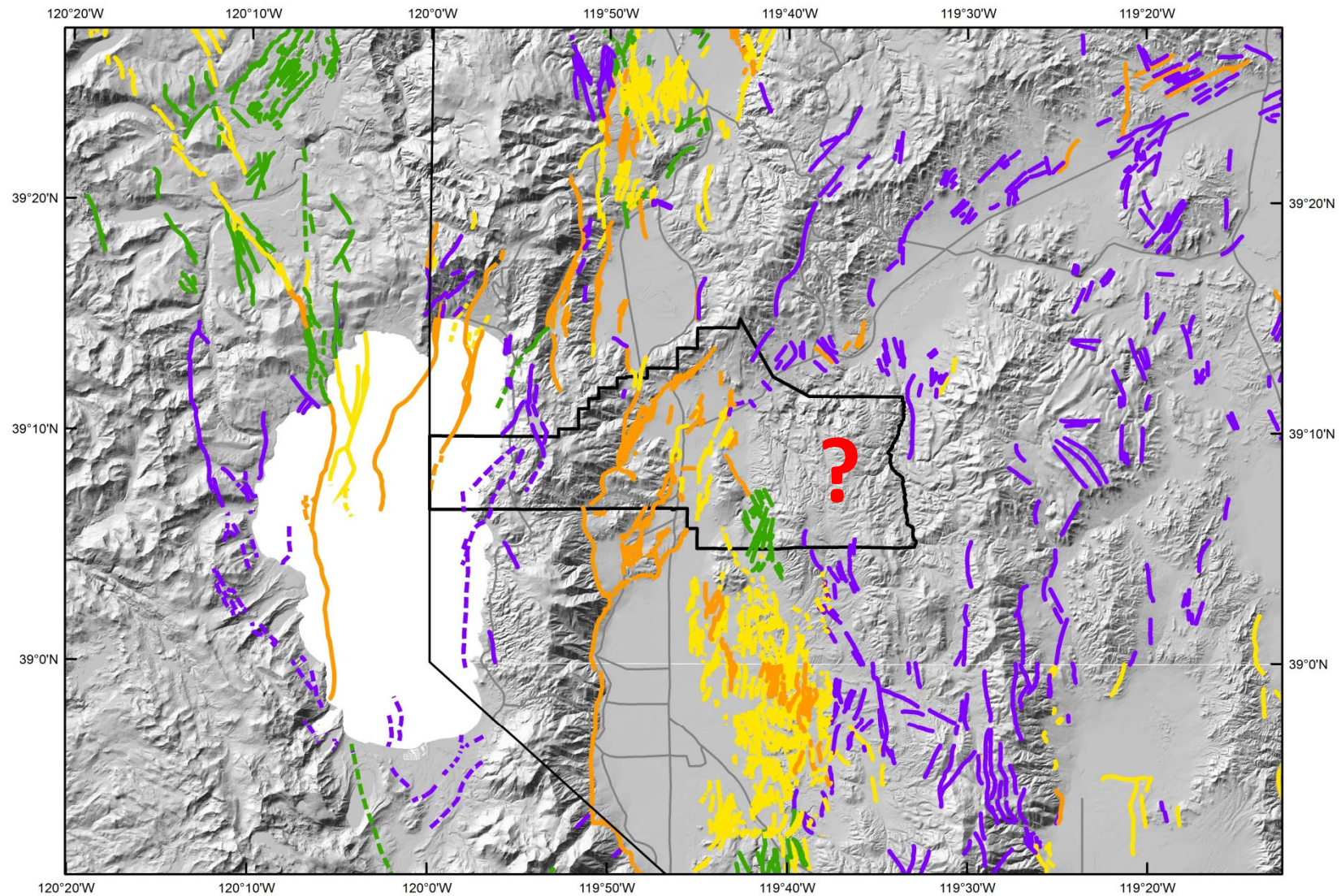
- historic - within the last 150 years, solid
- latest Pliocene & Holocene - within the last 15,000 years, solid
- late Quaternary - within the last 130,000 years, solid
- middle Quaternary - within the last 750,000 years, solid
- Quaternary - within last 1,800,000 years but not in other categories, solid





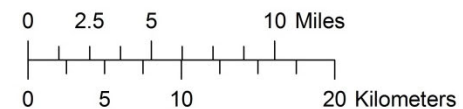
View north – Indian Hills bottom, Carson City mid-upper right

Quaternary Faults

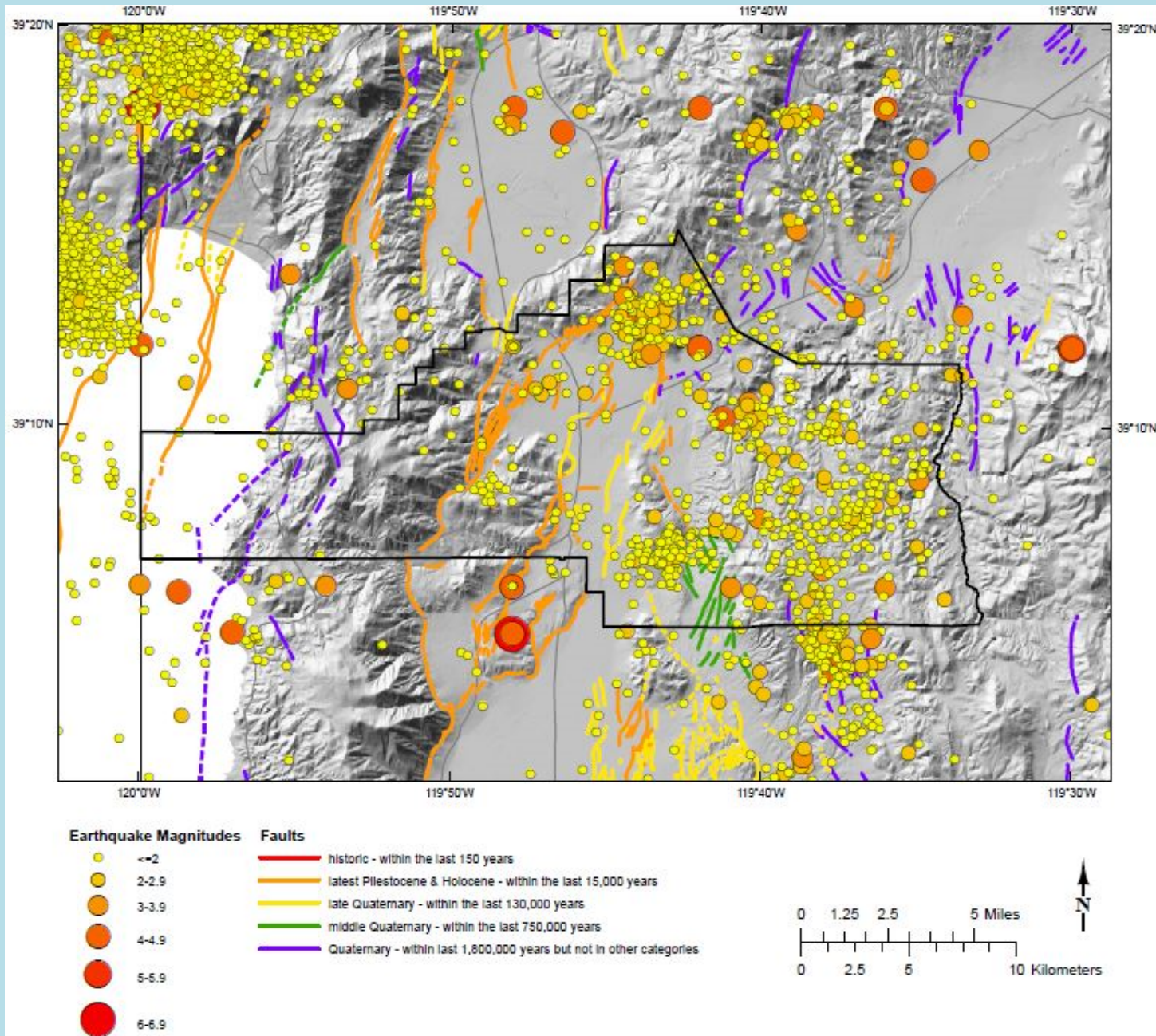


Faults

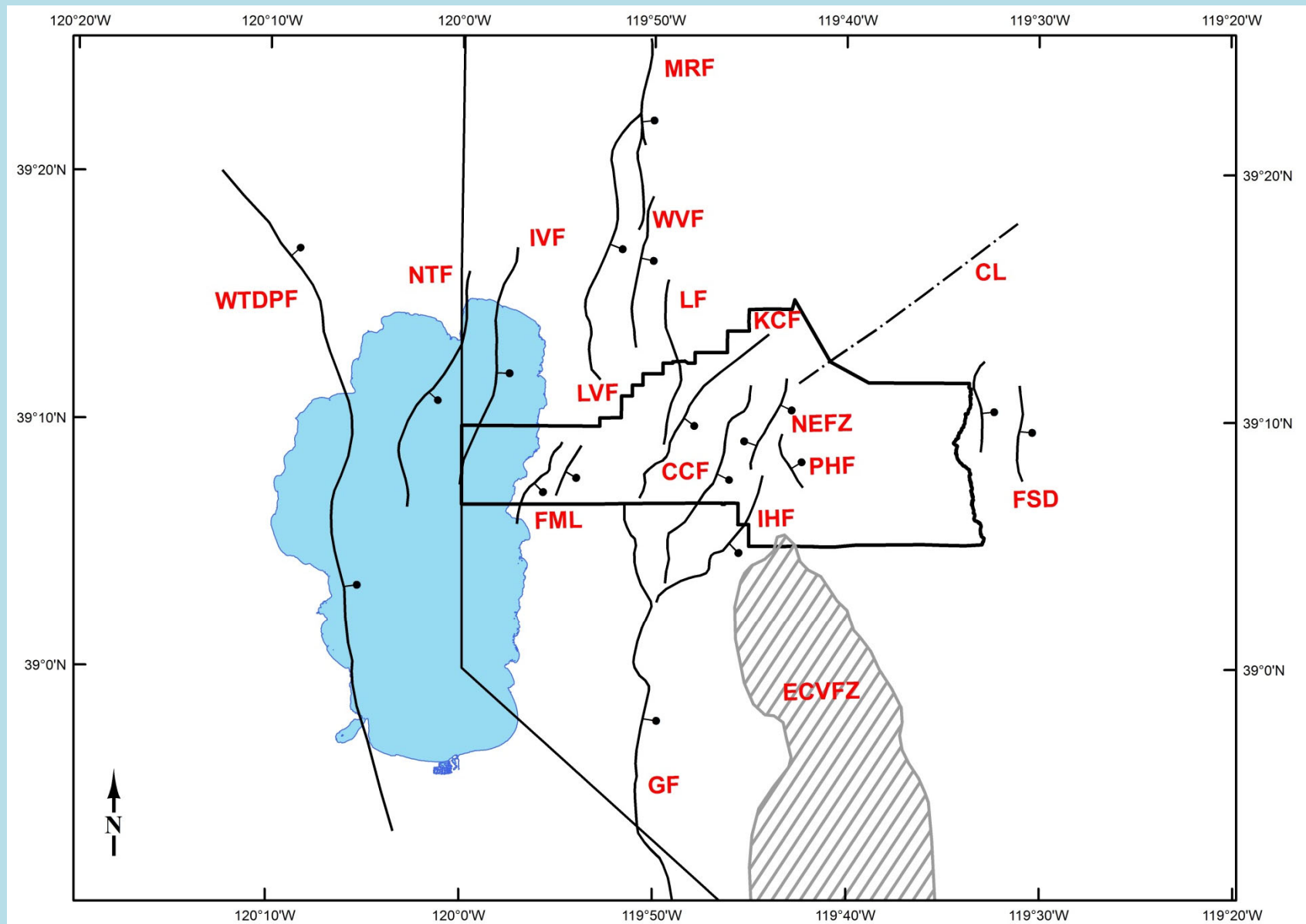
- historic - within the last 150 years, solid
- latest Pleistocene & Holocene - within the last 15,000 years, solid
- late Quaternary - within the last 130,000 years, solid
- middle Quaternary - within the last 750,000 years, solid
- Quaternary - within last 1,800,000 years but not in other categories, solid



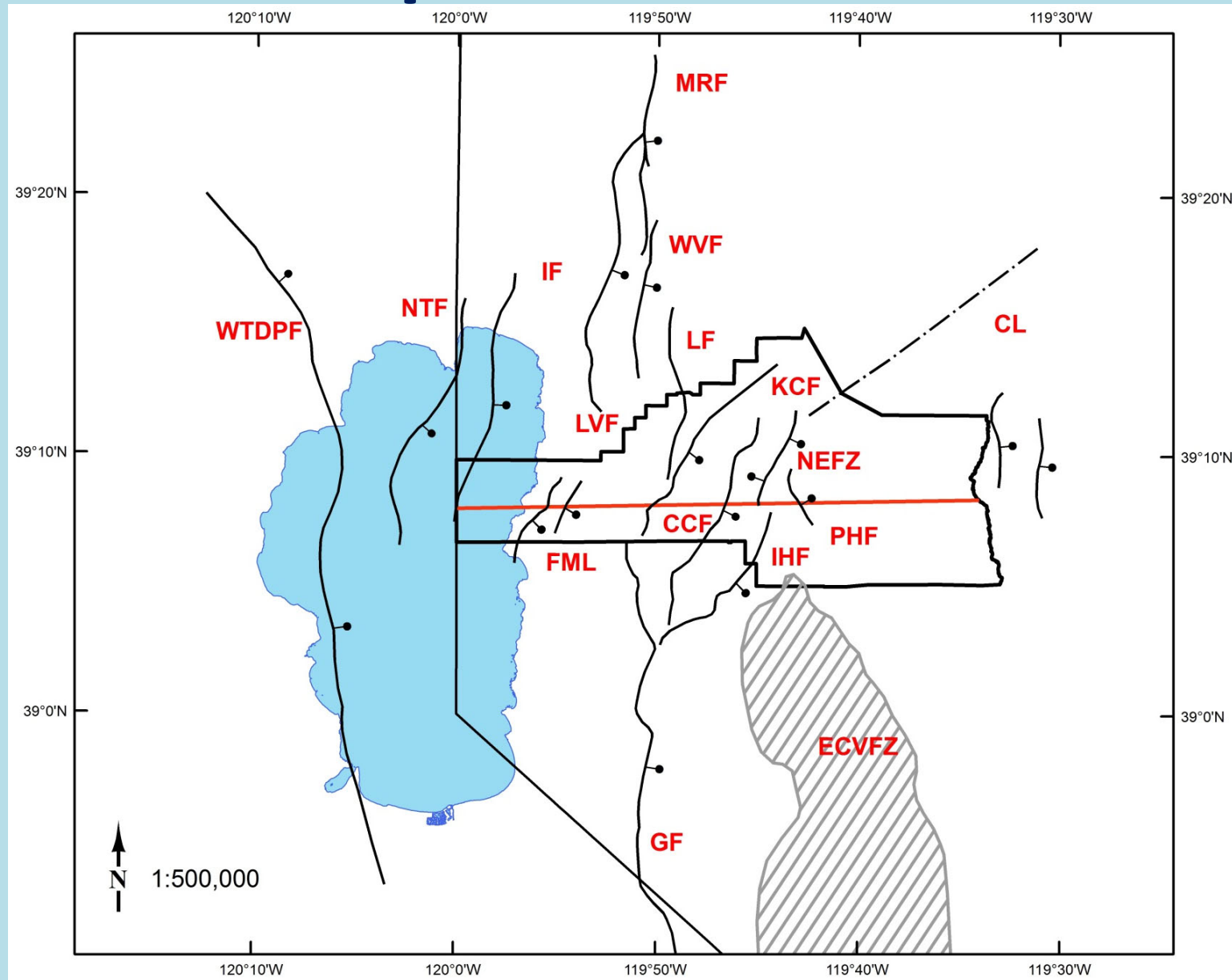
Historical Earthquakes 1857 to 2014



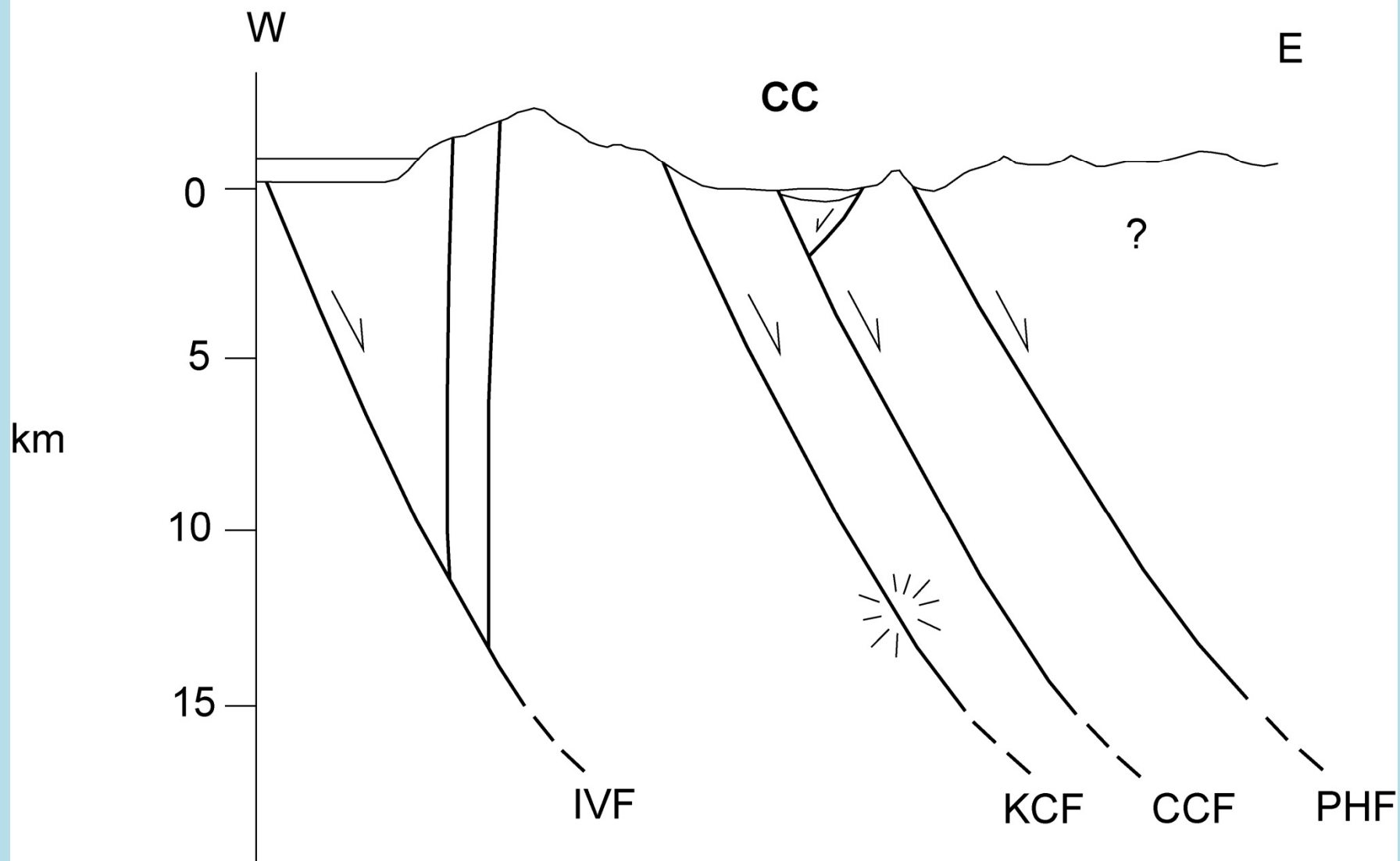
Major Late Quaternary Faults



Down-Dip Extensions of Faults



Carson City Fault Cross Section



Paleoearthquakes in the Carson City Region

	<u>Date</u>	<u>Elapsed Time(y)</u>	<u>Fault</u>	<u>~EQ. Magnitude</u>	<u>Lake Tahoe Tsunami</u>	<u>Comments</u>
	2015 AD	300				
ca	1715 AD	100	Genoa f.	7.2	?	cluster of events
ca	1615 AD	100	Mt. Rose-W.V. f.z.	6.9	?	
ca	1515 AD	100	Incline Village f.	7.0	Yes	
ca	1415 AD	820	E. Carson V. f.z.	6.8	No	
ca	595 AD	210	Kings Canyon f.z.	6.9	?	cluster of events
ca	385 AD	70	Kings Canyon f.z.	6.9	?	
ca	315 AD	100	Genoa f.	7.2	?	
ca	214 AD	19	Mt. Rose-W.V. f.z.	6.9	?	
ca	195 AD	2141	Kings Canyon f.z.	6.9	?	
ca	1946 BC	339	Kings Canyon f.z.	6.9	?	
ca	2285 BC	1000	S.W. Tahoe f.	6.6	Yes	
ca	3285 BC	-	W. Tahoe f.	7.1	Yes	

last 1800 years - Average Recurrence Interval = 250 yr

last 600 years - Average Recurrence Interval = 150 yr

Probabilities of Earthquakes

What is the chance Carson City will experience a strong earthquake in the next 50 years?

2014 National Seismic Hazard Map Data – HAZARD CURVES

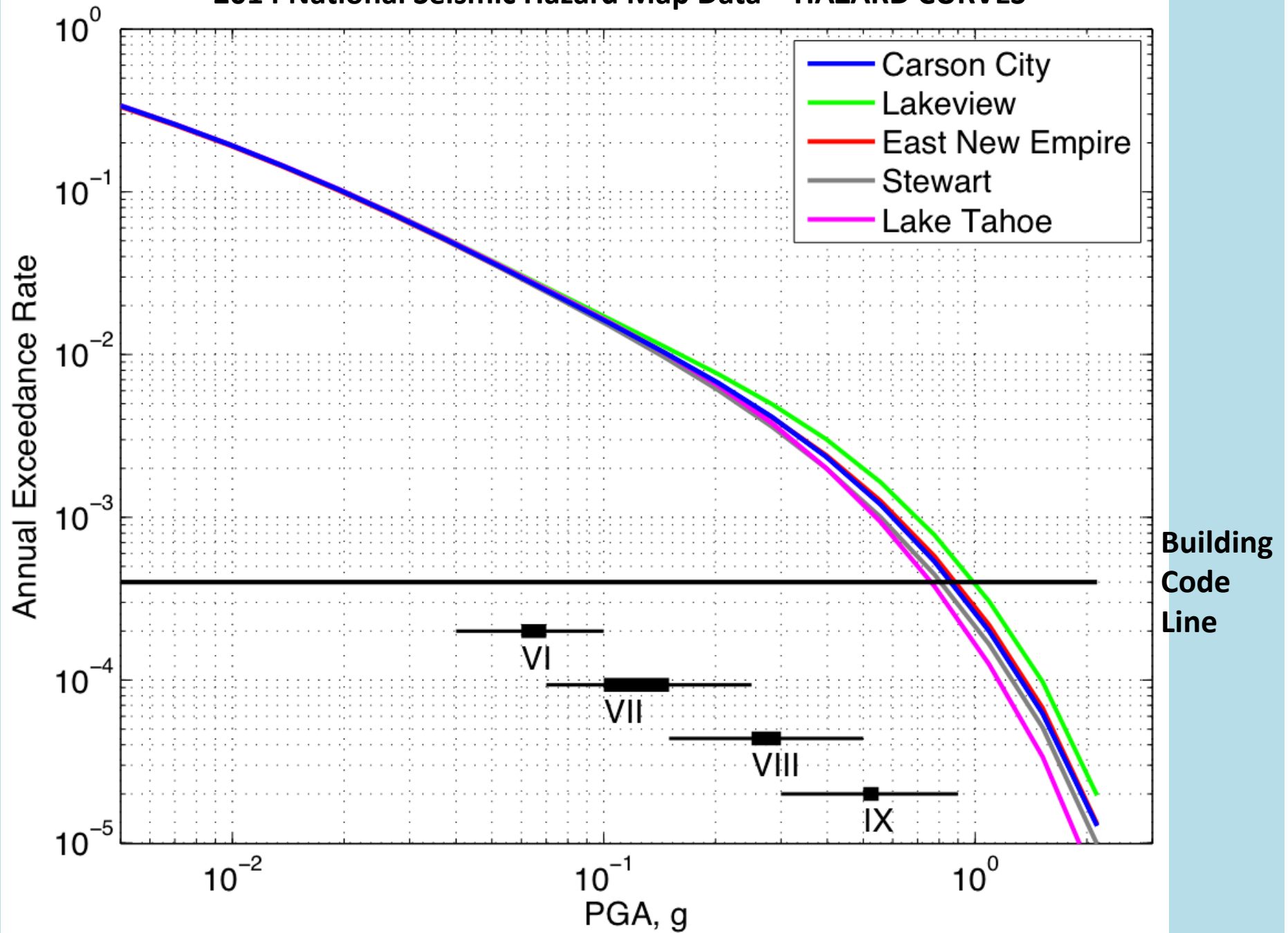


Figure courtesy of Dr. John Anderson, NSL

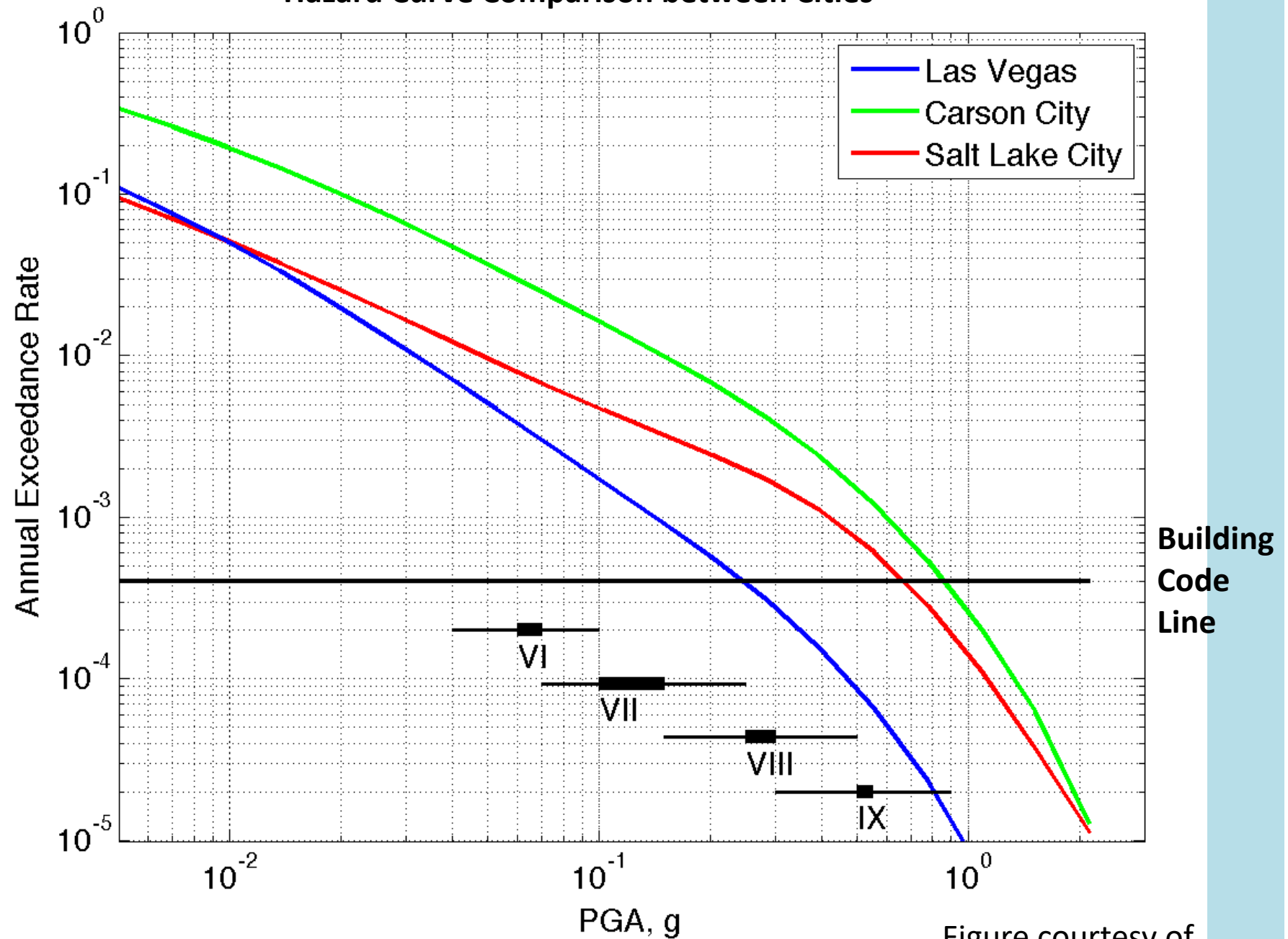
Probability of Earthquake Damage in Carson City within 50 Years

MMI VI	78-79%	cracked walls, people frightened
MMI VII	55-57%	chimney damage, emerg. resp.
MMI VIII	19-25%	building damage, recovery
MMI IX	6-10%	serious reconstruction

MMI = Modified Mercalli Intensity

(These probabilities can be affected by mitigation)

Hazard Curve Comparison between Cities

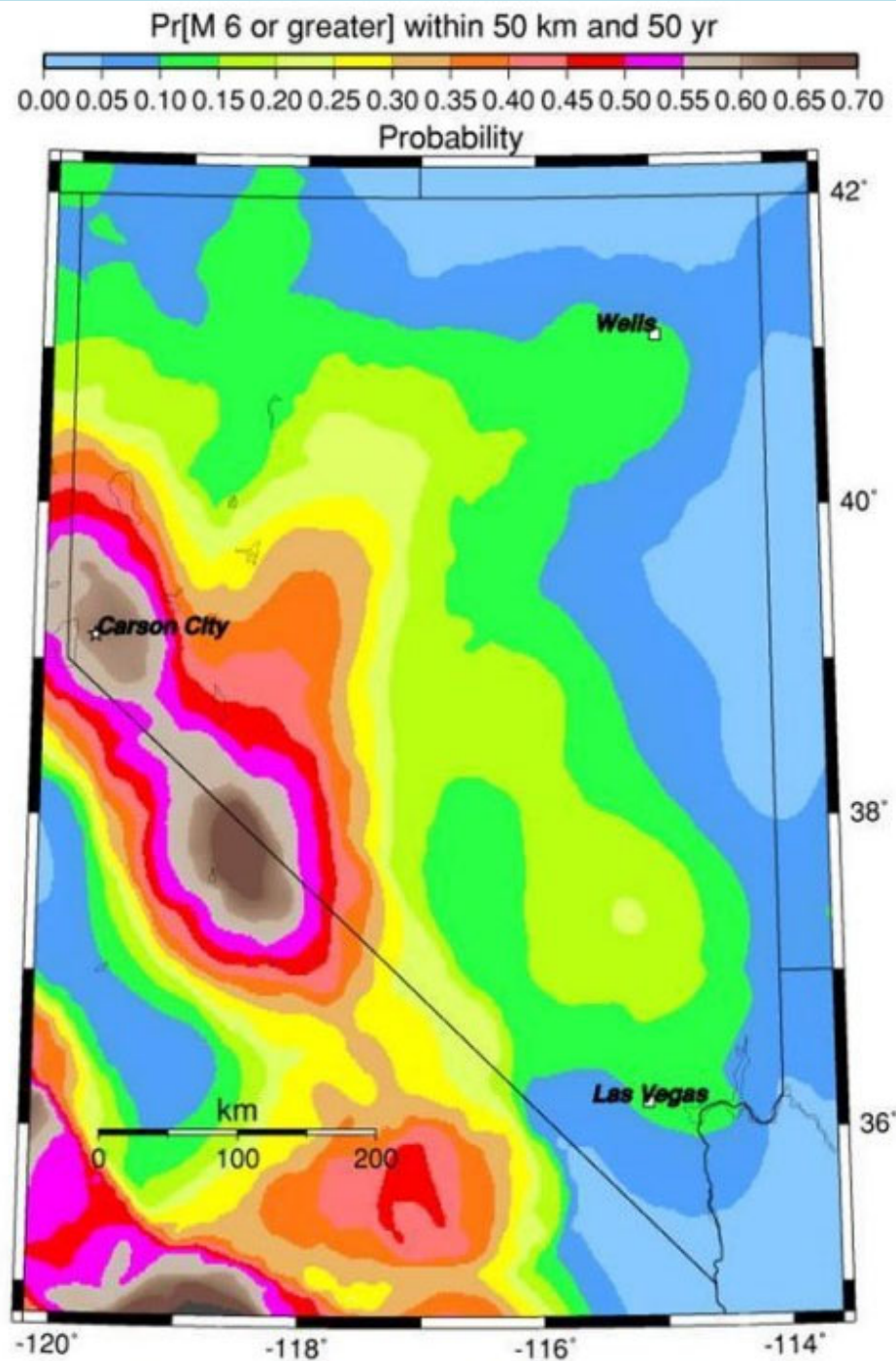


(Shaking Strength $> \rightarrow$)

Figure courtesy of
Dr. John Anderson, NSL

Collateral Earthquake Hazards

- **Rock falls and landslides**
- **Liquefaction**
- **Fire following earthquake**
- **Multiple HAZMAT incidences**
- **Communication failures**
- **Tahoe Tsunami**



Synopsis

- **There is a very serious earthquake hazard in Carson City and it is a matter of time before damaging and potentially deadly shaking occurs.**
- **Carson City has addressed this threat with strong building code requirements, but public awareness and vulnerable buildings remain a challenge.**

Mitigative Steps

- **Drop, Cover, and Hold On; universal message**
- **Keep the earthquake safety message in front of the public; fliers, web site, windows-of-opportunity**
- **Keep up with building codes; seismic provisions**
- **Prioritize URM Building risk; strategies for handling the highest risk buildings**
- **Steady push to mitigate dangerous, high risk buildings**

Volcanoes, Tsunamis, & Landslides

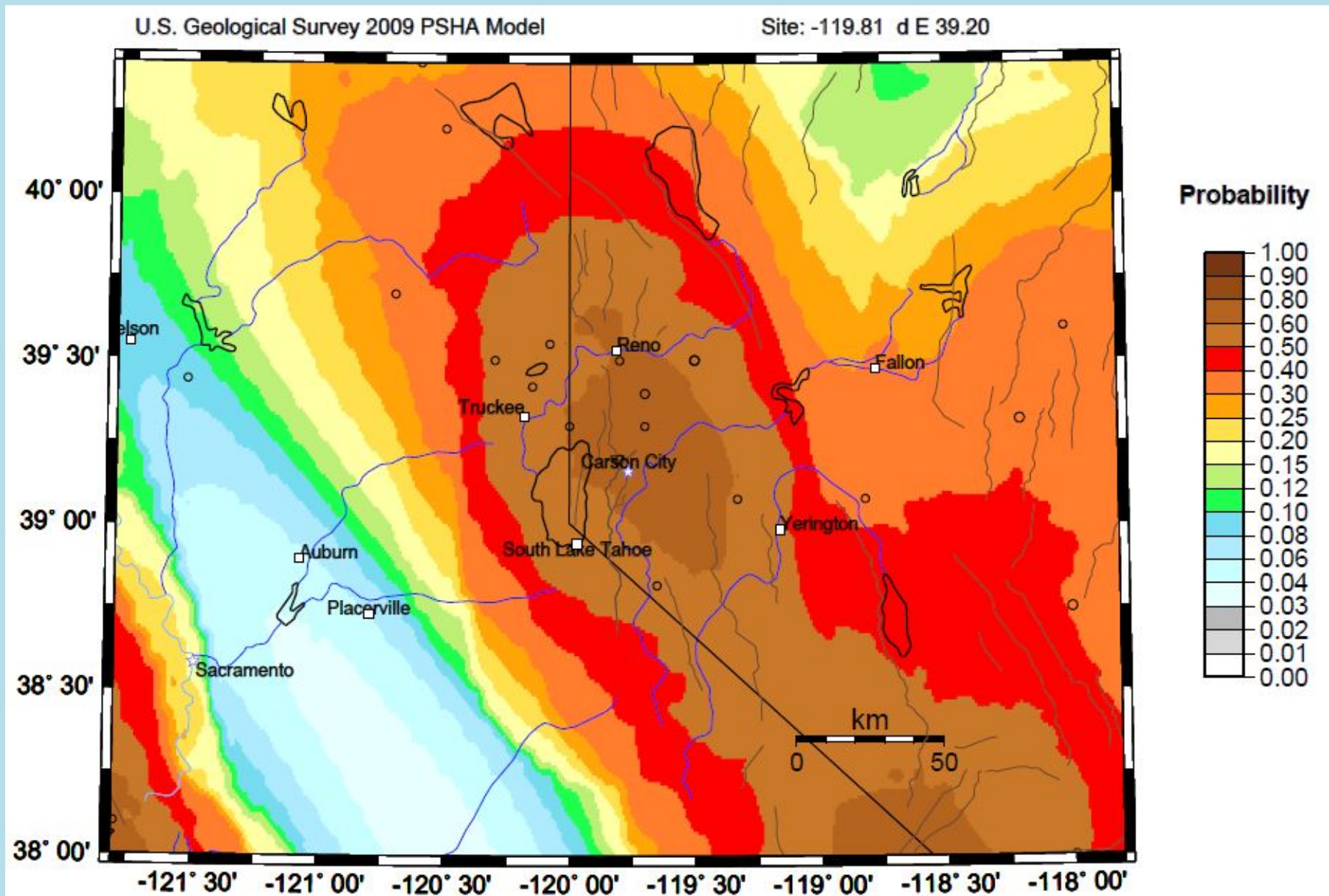
Oh My!

- **Volcanoes:** Lake Tahoe, McClellan Peak; lowish but real; dikes injected at base of crust northern Lake Tahoe.
- **Lake Tahoe Tsunami/ Seiche:** limited exposure to CC. Devise tsunami safety zone (say 50? or 75? ft up; hoping it is something like this; need to study inundation zone); advise lakeside residents to make a safety area.
- **Landslides:** steep terrain; faulted fronts, deep canyons (Kings Canyon, Ash Canyon). Need a map of where landslides have occurred before and estimate potential runout areas if there is risk. New areas as well. Planning to keep critical facilities out of landslide areas.

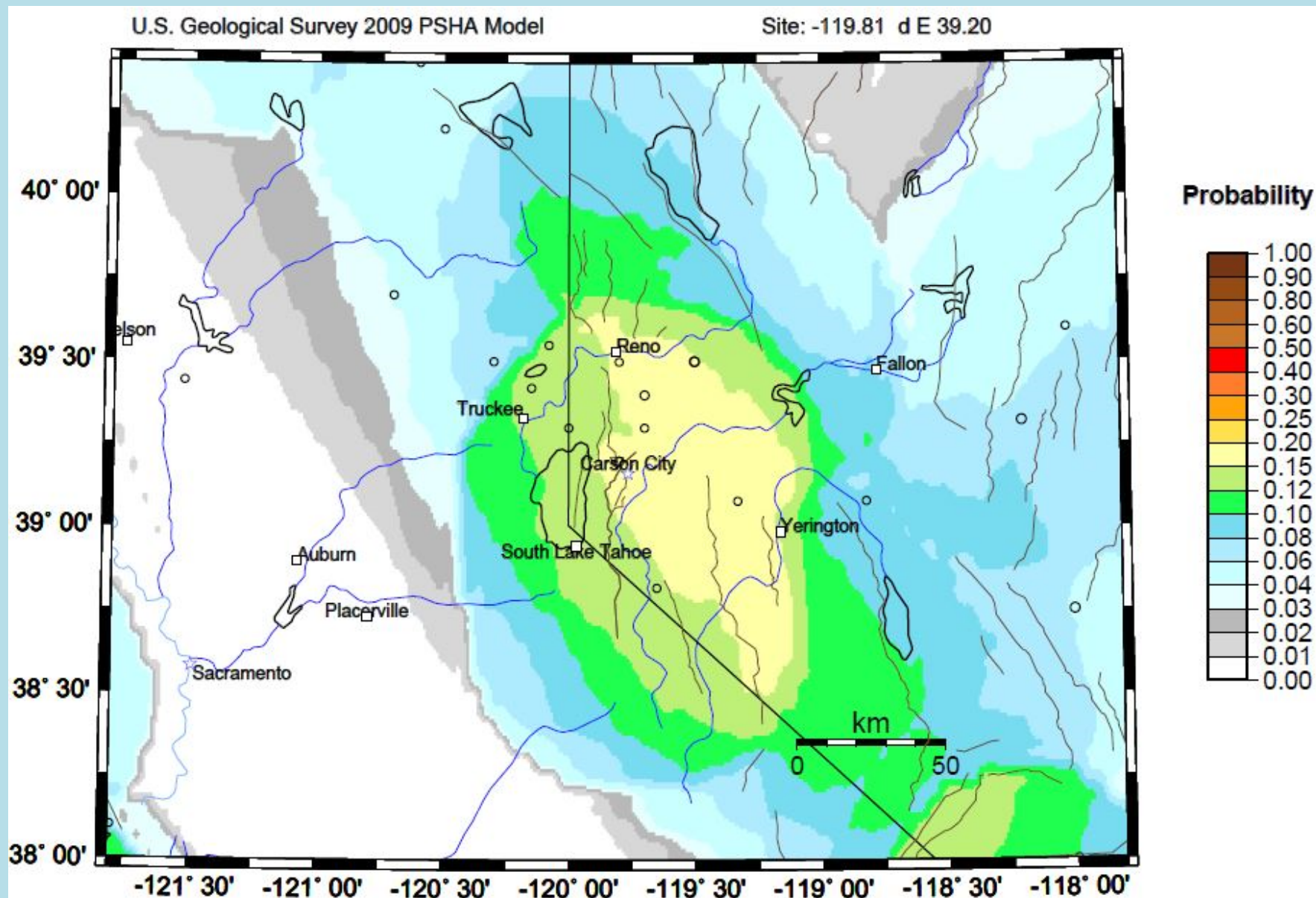
Nevada's Earthquake Message 2021

- **Loss of state guidance**
- **Counties and Cities must pick up the effort**
- **Largest Things Lost:**
 - **Momentum on URM buildings lost; reducing the seismic risk of killer buildings.**
 - **Urban preparedness diminished; look at recent damage from hurricanes in the southeast U.S. for an idea of potential damage/effects.**
 - **Earthquake message not taken to heart; affects actions, people forget quickly, rare disaster.**

Probability of an Earthquake of Magnitude ≥ 6 within 31 Miles – 50 yrs



Probability of an Earthquake of Magnitude ≥ 7 within 31 Miles – 50 yrs



Yellow – Complete, Green is in process

Proposed Hazard Mitigation Planning Update Schedule			
Date	Section #	Item	Responsible Party
April 2019	All	Initial Planning Meeting	Subcommittee
		Identify and contact Other Key Players	Subcommittee
		Status of Local HMPs Grants or Funds to distribute?	DEM DEM
July 2019	Section 4	Update status of mitigation actions	Subcommittee
		Discuss Mitigation Strategy - which hazards to include?	Subcommittee, responsible parties for Hazard Profiles
	Section 3	Discuss expanded Climate Change Section to each hazard profile	Subcommittee, responsible parties for Hazard Profiles
October 2019	Section 3	Update Epidemic	NVHA
		Update Infestation	NDA
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
January 2020	Section 3	Update HAZMAT	NDEP
		Update Terrorism	DEM - Homeland Security
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
April 2020	Section 3	Update Drought	Steph
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
July 2020	Section 3	Update Avalanche	NBMG?
		Update Tsunami/Seiche	NBMG
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
October 2020	Section 3	Update Extreme Heat	NWS
		Update Severe Storm and Extreme Snowfall	NWS
		Update Hail and Thunderstorms	NWS
		Update Tornado	NWS
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
January 2021	Section 3	Update Expansive Soils	NBMG
		Update Land Subsidence and Ground Failure	NBMG
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee

Yellow – Complete, Green is in process

April 2021	Section 3	Update Landslides (possible new info - NSF study with Dr. Sturmer)	NBMG
		Update Volcanoes (should have new info - volcano map)	NBMG
		Update Earthquakes (HAZUS too)	NBMG
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
July 2021	Section 3 Appendix O, P	Update Wildfires Mitigation activities and Public Outreach	NDF Subcommittee
October 2021	Section 3	Update Flood (HAZUS Runs, too)	NDWR
		Update Flooding due to Dam Failure	
		Update Flooding along ditches and canals	
		Ranking of Hazards	Subcommittee
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
January 2022	Section 3	Vulnerability Assessment	Subcommittee
		State Facilities	
		Vulnerability Assessment & Analysis of potential loss (Not just top 3 hazards)	
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
April 2022	Section 4	Review Capability Assessment	Subcommittee
		Update Mitigation Strategy	
July 2022	Section 5	Local Mitigation and Planning	Subcommittee
	Section 6	Plan Maintenance	
	Appendix O, P	Mitigation activities and Public Outreach	Subcommittee
October 2022	Appendices	Review and update remaining appendices	NBMG/DEM/Subcommittee
	Section 2	Update Planning Process	Plan update group
	Section 7	Update Enhanced Plan Criteria (Formally section 8)	Plan update group
January 2023	Section 0	Update Overview of Plan	NBMG/DEM
	Section 8	Finalize References	NBMG
	Entire plan	Review Plan Review Guide. Final edits and updates. Complete Plan Review Guide. Post entire plan for public comment period	Subcommittee

Yellow – Complete, Green is in process

April 2023	Entire plan	Incorporate edits and comments from public feedback. Review	NBMG/DEM/Subcommittee
	Entire plan	Submit to (suspended) NHMPC for review	DEM
July 2023	Entire plan	Submit to FEMA for Review	DEM

Notes and other topics to consider:

- Suggest an updated mitigation plan is proposed by each person or group responsible for the hazard profile update. This mitigation plan should then be reviewed and discussed by the subcommittee prior to hazard profile approval. Unsure if all hazards should be included – this warrants a larger discussion from the subcommittee (see notes for proposed July 2019 meeting)
- The updating party is in the best position to include climate change in each hazard profile. From FEMA: worthwhile activity to assess quantitatively on how climate change will affect certain hazards in Nevada. By having more specific projections, it allows the State of Nevada to be better prepared to mitigate for risk tomorrow, rather than today. If this data doesn't yet exist, consider using the integrated NHMPC to pursue this information.
- Need better coverage for each of the seven sectors outlined in E2 of the Enhanced Plan Checklist. Suggest discussing this in the first planning meeting outlined above (April 2019). These sectors include:
 1. Emergency management
 2. Economic development
 3. Land use/development
 4. Housing
 5. Health/social services
 6. Infrastructure
 7. Natural/cultural resources
- We need to do our own losses avoided studies since we are an enhanced state. This should be easier going forward since we have two examples from the 2017 floods.
- We need to consider and factor in how Nevada will deal with mitigation programs in the event that a catastrophic event occurs. This program needs to be scalable and we should have a plan in place on how Nevada intends to deal with such an event, if one were to occur.
- Consider multi-benefit projects.
- Continue to update and manage the MyHAZARDS/MyPLAN web mapping applications. These are used by local and regional entities in developing or updating their HMPs as well as by the general public. The MyHAZARDS web app is a free, public map designed as a tool for Nevada citizens to use in understanding natural hazards in their communities. There are plans underway to include additional details on hazards as they become available. Local plan coverage was noted as a positive by FEMA. Anything we can do to continue the level of LHMP coverage will benefit the state plan.
- HAZAUS updates need to continue for earthquake and floods. These are fairly large tasks and further training is needed by NBMG to best utilize the HAZUS program. This should be taken into consideration when working on updating the earthquake and flood hazard profiles.
- Throughout the plan update period it would be worthwhile for subcommittee members to submit possible cases for losses avoided studies – i.e. other projects like the Big Dig. The planning committee can then incorporate these instances into the 2023 update.
- Continue to track outreach and mitigation projects from committee and subcommittee members. Especially mitigation projects, as we were scrambling to find examples towards the end of the

Yellow – Complete, Green is in process

update period, and the majority of mitigation examples in Appendix P were data mined. FEMA specifically mentioned that Appendices O and T show a statewide commitment to mitigation.

- General comment: It seems that FEMA regards the NHMPC highly – through the feedback and efforts of the planning and subcommittee, we have been able to prepare a well-organized and complete plan. Through NHMPC's assistance in the selection and prioritization of mitigation grant funding, and supporting local and tribal communities in their planning efforts, FEMA noticed how NHMPC shows that the State is committed to implementing mitigation across the state, let's make sure that this continues during the 2023 update.
- If the NHMPC and Subcommittee are changed or dissolved in any way, there are a multitude of different references to these throughout the HMP. These will all need to be updated. The lists of members of each group are included at least in a few places – these will also need to be removed/addressed/replaced.
- Suggest reviewing the State Mitigation Plan Review Guides (boxes in section referring to DMA) early in the update process. From 2013-2018, these review guides were updated, so it would be good to double check whether or not the plan review guides will be updated by FEMA for 2023.

Feedback from FEMA – 2018 Plan Update

Strengths and Opportunities for Improvement

This section allows FEMA's plan reviewers to provide feedback on the strengths and opportunities for improvement of the State of Nevada's Hazard Mitigation Plan and their mitigation program.

Strengths:

- 1) There is an extraordinary level of detail throughout every section of the plan, providing a truly comprehensive description of the planning process, risk assessment, state capabilities, and mitigation strategy. The effort and time it takes to develop a state hazard mitigation plan can be overwhelming and the individuals responsible for this plan should be commended for their ability to put together such a cohesive document.
- 2) The Nevada Hazard Mitigation Planning Committee (NHMPC) clearly demonstrates that the State of Nevada has an integrated vision for risk reduction that exists outside of a state hazard mitigation plan update (though their support of the update is not to be understated). The NHMPC assists in the selection and prioritization of mitigation grant funding as well as supporting local and tribal communities in their own planning and mitigation endeavors. The coordination of this group, along with its flexibility to hold meetings in local communities rather than one location, shows the State of Nevada is committed to implementing mitigation across all sectors and landscapes. This group and its outcomes is one of the factors directly responsible for Nevada being an enhanced state program.
- 3) In addition to the NHMPC being an effective committee, it is worth acknowledging the high level of integration amongst two important state-administered, federal programs that has directly benefited the State of Nevada. The coordination between the National Flood Insurance Program (NFIP) Coordinator and related Department of Water Resources (DWR) staff with the State Hazard Mitigation Officer (SHMO) and related Division of Emergency Management (DEM) staff is a praiseworthy relationship. These parties have worked together during trainings, workshops, exercises, outreach events, and more. The NFIP, floodplain management, mitigation planning, and mitigation grants all play an important role in risk reduction and by working together and supporting each other's programs, the entire state benefits.
- 4) The State of Nevada has one of the best local hazard mitigation planning coverages in the entire country, which is to be applauded. Every single county has an approved local hazard mitigation plan and within each county, every single incorporated jurisdiction has participated in these efforts. According to the congressionally reported metric for this program, the state has 100% of the population in the state covered by an approved local hazard mitigation plan (the national average hovers around 80%). While the metric is not necessarily important, the meaning behind the number is. This shows that the entire state sees the value in mitigation and that state's staff supports their work through funding, technical assistance, and implementation exercises. This also means that every community in Nevada is eligible for Hazard Mitigation Assistance (HMA) funding, which is a great way to ensure effective use of all mitigation funds as they become available.
- 5) The State of Nevada also goes above and beyond in terms of support and integration with Tribal Nations. State staff has provided mitigation support, whether in planning technical assistance or grant funding for nearly every single tribe in the state. The State of Nevada also explicitly included Tribal Nations and Inter-Tribal Councils in this plan update, as well as direct

coordination in the post-disaster environment in 2017. Including these Tribal Nations shows a commitment to supporting true statewide resiliency.

- 6) The risk assessment for this plan is scientifically valid, thorough, and provides a clear understanding of the natural hazards the State of Nevada faces. There is a large amount of information, but it's synthesized in a way that any user of this plan can make risk based decisions. At the same time, this plan and its online planning tools provides enough detail and specificity so that local governments developing their own hazard mitigation plans can rely on this document as a trusted resource.
- 7) The promotion of building codes and smart growth principles at both the local and state levels is one of the most effective ways to achieve risk reduction. The recognition of this and the work that is happening to support stronger code adoption in relation to seismic safety, flood risk, and wildfire urban interface areas is wonderful to see and directly relates to enhanced mitigation program requirements.
- 8) There has been a lot of change over the several years in the management of the mitigation program in Nevada, which could have posed problems for Nevada's enhanced mitigation program status. At the time of transition for the latest SHMO, several open HMA grants and open disasters were not in compliance with guidance and regulations. The SHMO has resolved all of these issues, complies with all federal requirements, and has provided a solid foundation for future HMA grants managements. HMA staff at FEMA have acknowledged and commended the state for their management of mitigation grant funding.
- 9) It's great to see that even in a post-disaster environment, there is still a focus from the State of Nevada on building back with mitigation in mind, particularly when it comes to 406 Mitigation through the Public Assistance program. It's all too easy to worry about building back as soon as possible, rather than to advocate for resiliency measures in the recovery. The target of 50% of all projects in 2017 to include 406 Mitigation was nearly met with 47%. This is a fantastic outcome and one that should be replicated whenever possible.
- 10) The processes identified to show effective use of mitigation funds is thorough and not only accounts for federal funds, but also state and local funds used for mitigation. The different ways of capturing effective mitigation, through loss avoidance studies post-disaster, regular grants monitoring, and success stories captured at normal engagement meetings (like the NHMPC) is thorough and will surely show that funds being used are making a difference in the safety of the State of Nevada. Appendix O and Appendix T clearly show a statewide commitment to mitigation.

Opportunities for Improvement:

- 1) While the plan met the requirements around consideration of future conditions for the identified natural hazards in the State of Nevada, the assessment was fairly qualitative in nature. This is acceptable, but it might be a worthwhile activity to assess quantitatively on how climate change will affect certain hazards in Nevada. By having more specific projections, it allows the State of Nevada to be better prepared to mitigate for risk tomorrow, rather than today. If this data doesn't yet exist, consider using the integrated NHMPC to pursue this information.
- 2) While the plan explained the participants in the NHMPC, some sectors of the required seven from E2 were not strongly represented. There was an explanation that said staff vacancies were the reason for this, which is acceptable, but consider finding stronger representation for certain sectors such as Housing and Economic Development.
- 3) While the State of Nevada is currently managing their mitigation programs (Hazard Mitigation Assistance Grants, Local Hazard Mitigation Planning Program, etc.) satisfactorily, there is

concern about capacity levels. The State of Nevada thankfully has not had catastrophic events and has not had to manage overwhelming amounts of mitigation funds recently. That possibility is always looming though - take for instance California receiving over half a billion dollars in Hazard Mitigation Grant Program funds in under two years, an all-time high. If mitigation funding were suddenly to increase, will the state be capable of effectively using and managing these funds? Being an enhanced state means that regardless of the conditions and amount of incoming funds, certain performance measures will always need to be met (E1-E9). Does this program have the ability to grow as needed? With the passing of the Disaster Recovery Reform Act there is a real possibility of more mitigation funding becoming available, regardless of disaster activity.

- 4) While all requirements in relation to the risk assessment and mitigation strategy are met, a lot of the focus is on the three high priority hazards of flood, wildfire, and earthquakes. This makes sense as these are clearly the most common and/or most catastrophic events. However, there could be more assessment and in particular, more mitigation actions that support lower priority hazards like drought or severe storms. If the state was interested in an EMAP accreditation or potentially applying for funding for these less common events, there could be a concern that these were not addressed as thoroughly.
- 5) One process to show effective use of mitigation funds in Nevada is completing loss avoidance studies after an event, particularly a major disaster, has occurred. In 2017, there were two opportunities to do this and using resources at the Joint Field Office (JFO) this effort was completed for assessments of both HMA projects and 406 Mitigation projects in the disaster footprint, which is fantastic. It was also great to see that mitigation does work and losses were truly avoided in Nevada according to the study. The opportunity for improvement is that as an enhanced state, the state should be able to complete or lead this effort with or without FEMA assistance. The Joint Field Office is a collaborative space, specifically intended to have the state and federal government work closer together, so while there was nothing wrong with this study, it's simply a consideration in future events.
- 6) With the opportunity to have increased mitigation funding, either from the shifting Pre-Disaster Mitigation (PDM) grant program or Hazard Mitigation Grant Program (HMGP) that now comes after a Fire Management Assistance Grant (FMAG) declaration it would be interesting to see more multi-benefit or creative projects be funded. The State of Nevada has not had overwhelming amounts of funds, so what has been used to date has worked well. This is simply a consideration to use (as applicable) future funds on large scale, multi-benefit projects that are more effective than a typical generator purchase or single home elevation.

2021-2022 TENTATIVE MEETING SCHEDULE

Date	Time	Location	Objective
June 29 Tuesday Northern Nevada/Zoom	1:00	NDEM Executive Conference Room/Zoom meeting	1. Mitigation Orientation
September 2021	TBD	Carson City	1. Overview of Open Meetings 2. Updates to State Plan 3. Earthquake Hazard in Host Area 4. Host County Presentation
December 14, 2021	10 am	Clark County	1. Updates to State Plan 2. County Presentation 3. Grant application presentations 4. Possible special meeting to review BRIC applications/January
March 8, 2022	10 am	Mineral County	1. Updates to State Plan 2. Earthquake Hazard in Host Area 3. Host County Presentation
June 14, 2022	10 am	Elko County	1. Updates to State Plan 2. Earthquake Hazard in Host County 3. Host County Presentation 4. Grant notification

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

Reviewer's

#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
TECHNICAL Criteria						
1	Infrastructure Project	Explains how the project mitigates natural hazard risk to critical physical structures, facilities, and systems that provide support to a community, its population, and its economy.	20		0	
2	Mitigation risk to one or more lifelines	Indicates a project will mitigate risk to at least one of seven community lifelines. A lifeline enables the continuous operation of critical government and business functions, and it is essential to human health and safety or economic security.	15		0	
3	Incorporation of nature-based solutions	Indicate and describe how the project incorporates one or more nature-based solutions. These are sustainable environmental practices that restore, mimic and/or enhance environmental, and social resilience efforts.	10		0	

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

					Reviewer's	
#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
4	<i>Applicant has mandatory building code adoption requirement 2015, 2018 or 2021 IBC and International Residential Code)</i>	Adoption of IBC 2015, 2018, 2021	0	Nevada and its local jurisdictions do not meet this criterion.	0	Nevada and its local jurisdictions do not meet this criterion.
		Adoption of IRC 2015, 2018, 2021		Nevada and its local jurisdictions do not meet this criterion.	0	Nevada and its local jurisdictions do not meet this criterion.
5	<i>Sub applicant has Building Code Effectiveness Grading Schedule Rating (BCEG) 1-5</i>	Commercial and Residential Building Code Effectiveness Grading Schedule Rating 1-5	20		0	

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____
 Project Title: _____

Reviewer's

#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
6	<i>Application Generated from previous FEMA HMA Project Scoping award</i>	Previous FEMA HMA Advance Assistance award or Project Scoping award, High Hazard Potential Dams (HHPD) award, or Department of Homeland Security Cybersecurity & Infrastructure Security Agency's (CISA) Regional Resiliency Assessment Program (RRAP), or the subapplicant is a past recipient of BRIC non-financial Direct Technical Assistance and the previous award is directly related to the current proposal.	10		0	
7	<i>Increased non-federal cost share</i>	Increased Non-federal cost share (=>30%)	5		0	
8	<i>Designation as Economically Disadvantaged Rural Community (EDRC)</i>	Pop =<3,000 individuals, and residents have an average per capita annual income that does not exceed 80% of the national per capita income.	15		0	

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

Reviewer's

#	CRITERIA	Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
QUALITATIVE Criteria					
1	Risk Reduction/Resiliency Effectiveness	35		0	
	0-Not at all 7- Minimally		How will the proposed project reduce risk(s) and to what level?		
	14- Partially		How will the proposed project improve resilience?		
	21- Mostly		Ancillary benefits (water quality, habitat creation, economic opportunity, reduced social vulnerability, cultural resource, public health, mental health, etc.		
	28 – Entirely		Considers multiple hazards?		
	35-Exceeds		How does the project leverage or demonstrate innovation for your community?		

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

					Reviewer's	
#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
2	Climate Change and Other Future Conditions 0- Not at all 4- Minimally 8- Partially 12- Mostly 16 – Entirely 20 -Exceeds	What anticipated future conditions are relevant for the proposed project?	20		0	
		Does the project integrate the consideration of future conditions into design, planning, and operations workflows?				
		How is the project informed by, or connected to, plans and planning efforts and their assessment of future conditions?				

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

Project Title:					Reviewer's	
#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
3	Implementation Measures 0- Not at all 3- Minimally 6- Partially 9- Mostly	Does the application inspire confidence that the project can be successfully completed as designed, given the stated implementation measures?	15		0	
		What potential implementation challenges and obstacles are identified and what solutions are proposed to address these?				
		Are the proposed project costs and schedule realistic? Do they identify and properly address challenges and obstacles?				
		What pre- and post-implementation monitoring strategies are proposed for the project? What are the evaluation elements to measure progress and ensure the project is executed as designed?				

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____
 Project Title: _____

Project Title:					Reviewer's	
#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
	12 – Entirely	What technical and managerial staff and resources are available to successfully implement the project? How will gaps be filled?				
	15-Exceeds	Ae examples of projects completed successfully included demonstrating measures to implement projects effectively?				

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

Project Title:					Reviewer's	
#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
4	Population Impacted 0- Not at all 3- Minimally 6- Partially 9- Mostly 12 – Entirely 15-Exceeds	Explains the meaning of “community-wide” in the context of the project?	25		0	
		Identifies the percent of population who will directly benefit, and how it was calculated?				
		Cascading impact reduction to community lifelines, residents, businesses, public services, infrastructure and natural systems				
		Who are the most vulnerable members of the community where the project is proposed? How will the project minimize negative and maximize positive impacts to disadvantaged members of the community? (reducing risk, or through social, environmental, economic effects).				

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

Reviewer's

#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
5	Outreach Activities 0- Not at all 1 - Minimally 2- Partially 3 - Mostly 4 – Entirely 5 -Exceeds	What was the extent of stakeholder contribution? What activities occurred to invite collaboration from stakeholders?	5		0	
		What information (resiliency goals and outcomes, partnerships opportunities, progress in implementation) will be shared with the public?				
		What support or conflicts emerged through the project planning process? How will conflicts be resolved as the project is implemented?				
		What are the connections between your hazard mitigation plan and local land use requirements? How does the link make your community more resilient?				

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

Project Title:					Reviewer's	
#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
6	Leveraging Partners	What partners (contribute with financing, supporting, and/or promoting the proposed project) were involved in the project design?	15		0	
	0- Not at all					
	5- Minimally					
	10- Partially	How did partners contribute to the application? What partners will contribute to the implementation of the project?				
	15- Mostly	To what extent were non-governmental organizations, including those organizations that represent disadvantaged groups, universities, or other government entities consulted for advice or assistance? How has collaboration with surrounding jurisdictions supported project development?				
	20 – Entirely	To what extent have other federal programs or funding sources been leveraged for the project? To what extent have partners provided funding that increases the non-federal cost share?				

2021 BRIC Application Evaluation Criteria

Subapplicant Name: _____

Project Title: _____

Reviewer's

#	CRITERIA		Points	Location in Application (Section and/or Page #)	Point Allocation	Notes
	25-Exceeds	How have Partnerships increased community resiliency? Do partnerships continue beyond the implementation of the project?				
Total Possible Points				115		
Total Allocated Points				0		

State of Utah

Completely fill out this section for each application:

Applicant:	Total Score:
Reviewed By:	Federal Amount Requested:
Type in the full name of the project:	

Project Type (select only one)	Possible Points	Points	
Seismic	25		
Flood Reduction (drainage, basins, other)	25		
Bank Stabilization	25		
Landslide Acquisition / Demolition	25		
Wildfire	25		
Non-structural seismic	20		
Other (not listed above)	20		
Project Type Total (max 25)	max 25		

Site Vulnerability	Possible Points	Points	Comments
Project is sound mitigation	1 - 10		
Project reduces hazard effects	1 - 10		
Applicant has the capacity to finish the project within the time frame	1 - 10		
Best solution to address the risk	1 - 10		
Project provides loss reduction	1 - 10		
Site Vulnerability Total (max 50)	max 50		

Project Benefits	Possible Points	Points	Comments
Project protects life and/or property	1 - 10		
Project protects critical infrastructure	1 - 10		
Project benefits the community	1 - 10		
Project relates to the local and State mitigation plans	1 - 10		
Project provides a long term solution	1 - 10		
Project Benefits Total (max 50)	max 50		

Other Considerations	Yes/No	Comments
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Is the project application complete and does it include all attachments?	Yes (1 point)	No (0 points)	
Hazard location and resulting problems are clearly described and documented?	Yes (1 point)	No (0 points)	
Does the project have a Benefit Cost Ratio greater than 1.00?	Yes (1 point)	No (0 points)	
Is the Benefit Cost Analysis attached including all supporting documentation?	Yes (1 point)	No (0 points)	
Does the jurisdiction have a current FEMA-approved multi-hazard mitigation plan?	Yes (1 point)	No (0 points)	
Is the Scope of Work narrative complete and clear? (Do you understand what the project is?)	Yes (1 point)	No (0 points)	
Is the jurisdiction committing to provide at least a 25% Match? ("Proposed Non-Federal Share" greater than or equal to 25%)	Yes (1 point)	No (0 points)	
Has work started or Is the Project Complete?	Yes (0 points)	No (1 point)	
Is the Budget detailed, clear and easy to understand? Are the costs reasonable for the proposed activity?	Yes (1 point)	No (0 points)	
Do you think this is a good mitigation project?	Yes (1 point)	No (0 points)	
Other Considerations Total (max 10)	max 10		
Total Points (max 135)	max 135		

Do you have any other comments about this application?	
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