Alaska Department of Transportation & Public Facilities

Division of Facilities Services
November 30,2018 Earthquake Response

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Emergency Response Process

- Initial Response – Concurrent Action
  - Facility users secured their buildings
  - Establish Command and Control Center
  - Inspections with consultants
- Secondary Response
  - Inspections with volunteers
  - Inspections with Public Facilities Staff

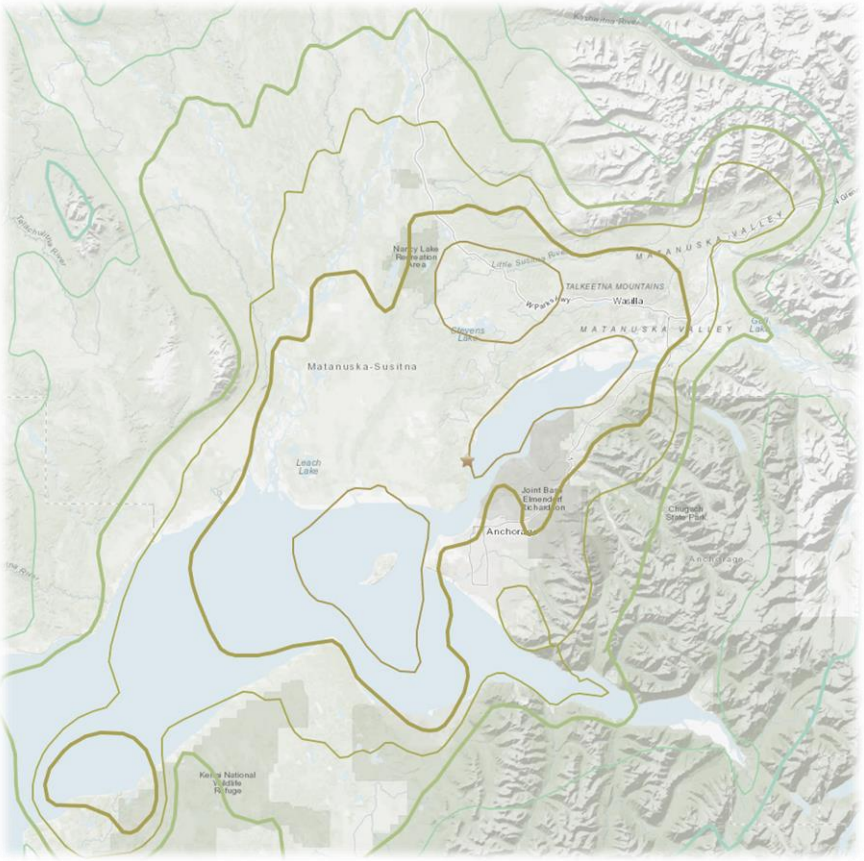
DOT&PF Aviation Building

Command and Control Center

Division of Facilities Services
provides for the design, construction, maintenance and care of state facilities

- **Immediate Actions**
  - Team safety check
  - Established Facilities ICS Response Team, Center & 24-hr Operations
    - Support from Anchorage, Fairbanks and Juneau personnel
    - Operations, Safety, Design & Construction disciplines
  - Initial rapid assessments

- **Prioritizing Facility Evaluations**
  - Based on affected intensity zones – VII, VI, V
  - Beginning with critical facilities in highest zones
  - Occupied and critical facilities prioritized first
    - Such as Atwood Building, McLaughlin Youth Center, API

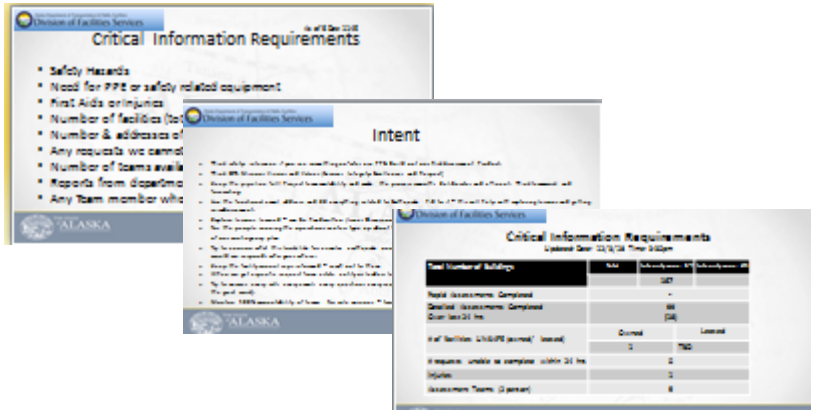


USGS Image
https://earthquake.usgs.gov/earthquakes/eventpage/ak20419010/map

Command and Control Center

Daily engagement with State Facilities Council and Stakeholders to coordinate observations, inspections, testing and immediate safety needs

- **Internal Update Briefs**
  - Safety Hazards and needed equipment
  - Facility inspection metrics
  - Teams deployment schedule
  - Assistance requirements



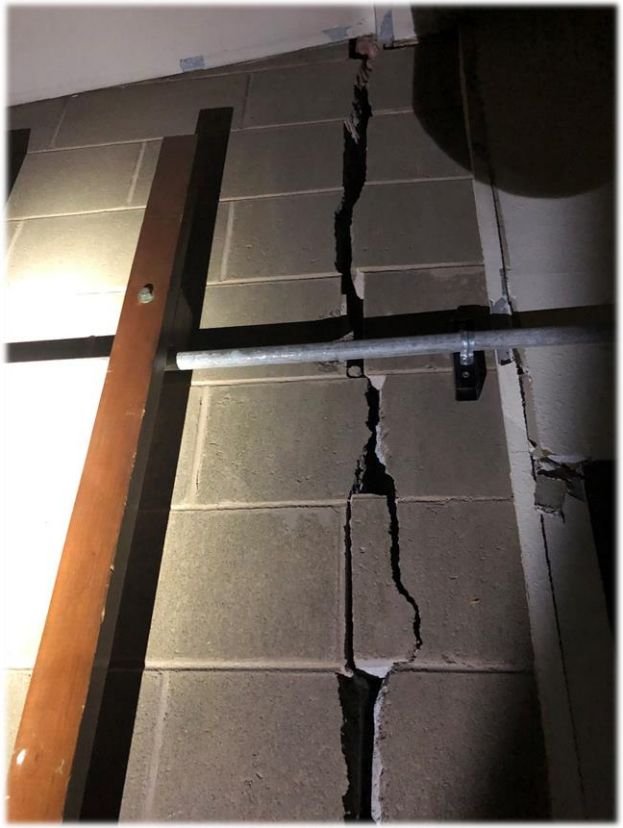
- **Stakeholder Briefs**
  - Daily briefs to State Facilities Council and DOT&PF HQ
  - Reporting on progress and status of inspections

Department	Building Description	Street Address	Town	USGS Intensity	Inspection Status	Placard Status	Date Complete/scheduled	Notes
02 - DOA	Linny Pacillo Parking Garage	517 West 7th Ave.	Anchorage	7	Complete	Green	12/2/2018	
02 - DOA	Robert B. Attwood Building	550 West 7th Ave.	Anchorage	7	Complete	Green	12/2/2018	
02 - DOA	Geological Materials Center	3651 Penland Parkway	Anchorage	7	Complete	Green	12/3/2018	
02 - DOA	Surplus Property Wharehouse/Office	2400 Viking Drive	Anchorage	7	Complete	Green	12/3/2018	
02 - DOA	Palmer State Office Building	515 East Dahlia Avenue	Palmer	6	Complete	Green	12/3/2018	
06 - HSS	Alaska Veterans & Pioneers Home	250 E. Fireweed	Palmer	6	Complete	Green	12/1/2018	
06 - HSS	Mat-Su Youth Facility	581 Springer Loop Road	Palmer	6	Complete	Green	12/1/2018	
06 - HSS	Anchorage Pioneer Homes	923 W. 11th Avenue	Anchorage	7	Complete	Green	12/2/2018	
06 - HSS	Alaska Psychiatric Institute	3700 Piper Street	Anchorage	7	Complete	Green	12/2/2018	
06 - HSS	McLaughlin Youth Facility	2600 Providence Drive	Anchorage	7	Complete	Green	12/2/2018	
06 - HSS	Anchorage Public Health Lab	5455 Dr. Martin Luther King Jr. Drive	Anchorage	7	Complete	Amber	12/4/2018	Sprinkler offline in 30% of the building
09 - DMVA	Anchorage R&R Station		Anchorage	7	Complete	Green	12/7/2018	
09 - DMVA	Alcantra Armory Complex		Wasilla/Palmer	7	Complete	Green	12/7/2018	Multiple buildings
09 - DMVA	Building 57503 Recuitnig & Retention		JBER	7	Complete	Green	12/7/2018	
09 - DMVA	Building 47430 Hangar 1		JBER	7	Complete	Green	12/7/2018	
09 - DMVA	Building 47433 Hangar 2		JBER	7	Complete	Green	12/7/2018	

Inspections with Consultants

Day of Earthquake

- Governor's declaration of disaster
- Determine Contracting Method
- Identify critical facilities for day 1 inspection
  - Occupied 24/7
    - McLaughlin Youth Center
    - Alaska Psychiatric Institute
  - Potentially significant hazard to the public
    - Atwood Building
- Complete day 1 inspections
- Prioritize buildings for inspection the following day



DNR – Eagle River Forestry Building

Inspections with Consultants

Days After

- Determined priority list
  - Facilities that are occupied 24/7
  - Critical facilities for essential operations
  - Regularly occupied facilities/offices
  - Storage and other unoccupied facilities.
- Assign buildings for inspection
- Coordinate with building owners for access
- Monitor progress
- Prioritize buildings for inspection the following days

CMU damage at Wasilla Police Station (Above) and at Whitney Road Warehouse (Below)

ACT-20 Trained Volunteers

Alaskan Volunteers -

Coordination provided by the Structural Engineering Association of Alaska (SEAA) and the Anchorage Chapter of the American Society of Civil Engineers (ASCE-Anchorage)

- California Office of Emergency Services (CalOES) registry used to find volunteers
- SEAA & ASCE contacted DOT&PF and other agencies and offered support for inspection efforts
- 27 in state volunteers

Some of the volunteer teams preparing for work on JBER

ACT-20 Trained Volunteers

Out of State Volunteers -

Coordination provided by the Alaska State Division of Homeland Security and Emergency Management and DOT&PF staff

- CalOES registry used to find volunteers, negotiated efforts for volunteers with inter-state agreements
- 4 from California
- 3 from North Carolina

Janos found moose sign

Inspection Outcome

- Key Stats
  - 360 buildings in 13 days
    - Consultants: 155
    - Public Facilities Staff: 29
    - Volunteers: 176
  - 27 buildings per day
  - 10 teams in field
- Outcome
  - 3 buildings designated “yellow”
    - DFS Annex
    - DOT&PF Aviation Building,
    - DNR Forestry Building
  - Remainder “green”
  - None “red”

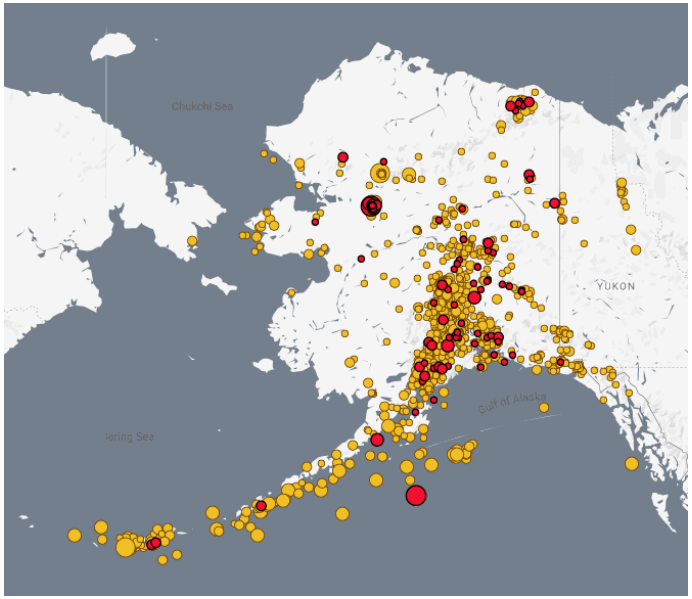
DOT&PF Annex Building

When to Respond?

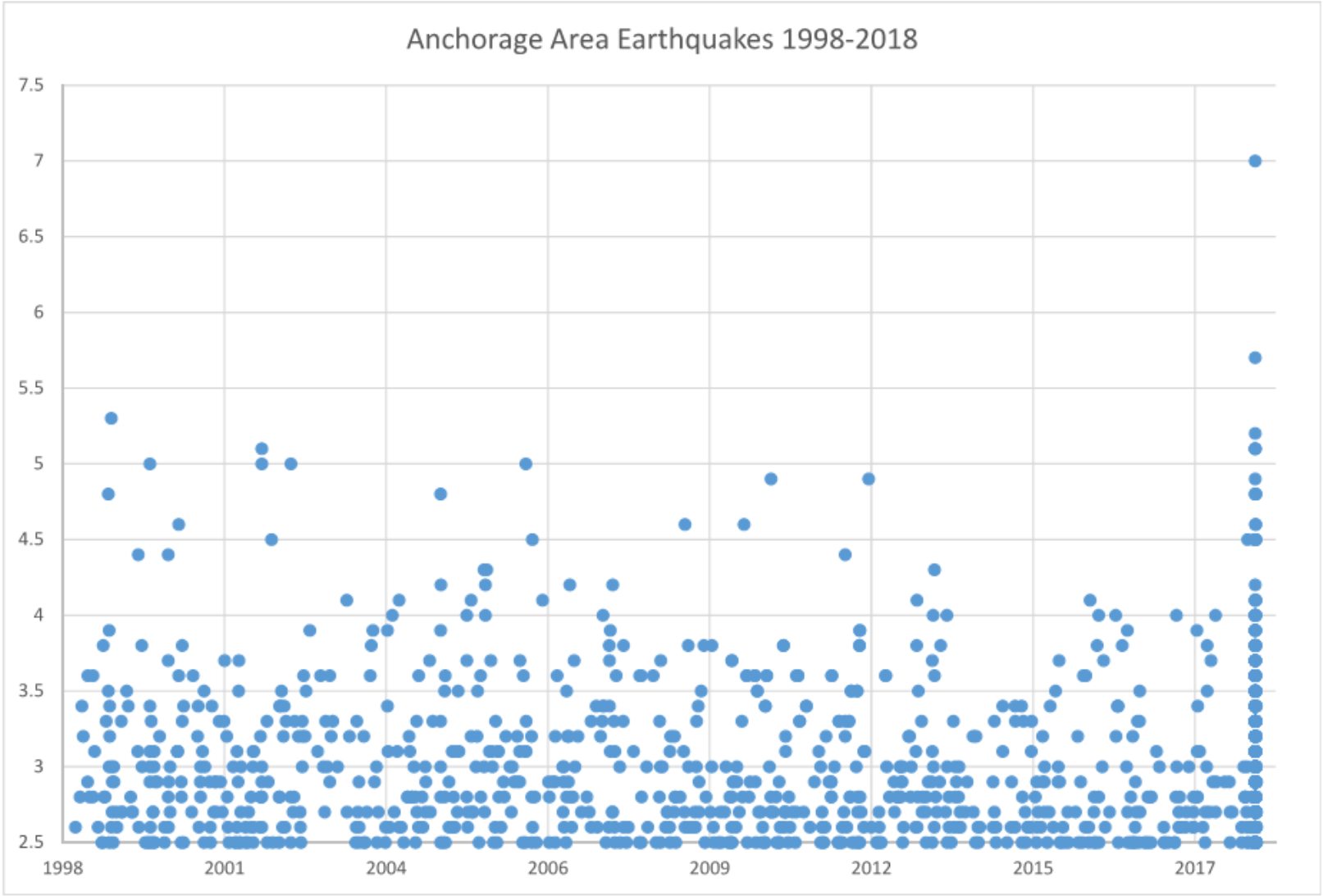
Evaluating Seismic Events

- Local area data spanning 20 years
- Understanding Magnitude & Intensity
- Seismic Event Response Flowchart
  - Authorities consulted
  - USGS Shakemap Background
  - 1964 and 2018 Event Maps

Seismic Events in the last 2 weeks



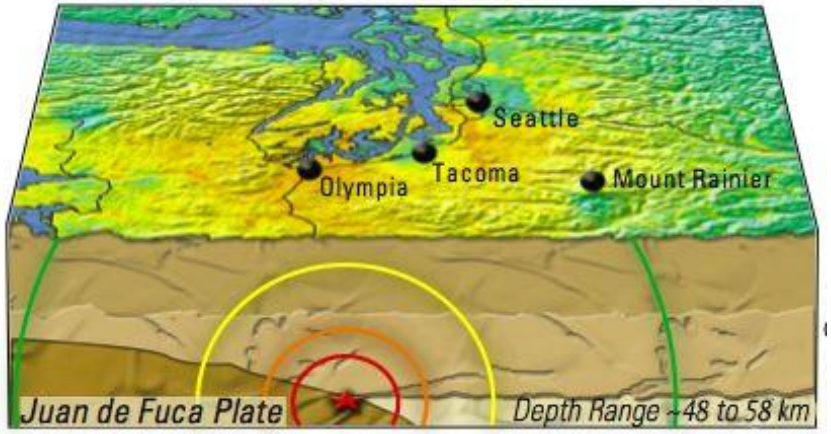
Initial Data



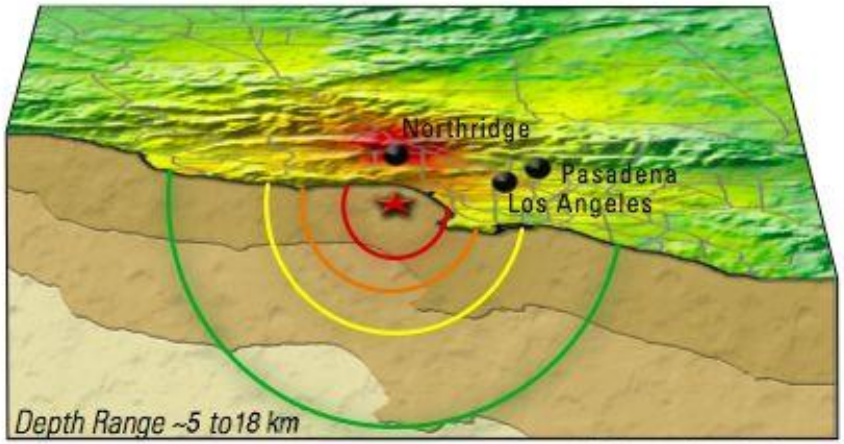
Magnitude versus Intensity

- **Magnitude**
  - Total energy released by source
  - Common Richter Scale (ML) based on wave amplitude
  - Determined by instrument

- **Intensity**
  - Strength of shaking at a certain location
  - Modified Mercalli Intensity Scale (I to X)
  - Factors: geology, rupture direction, duration, distance from epicenter, etc.
  - Determined from effects on people, structures, the environment

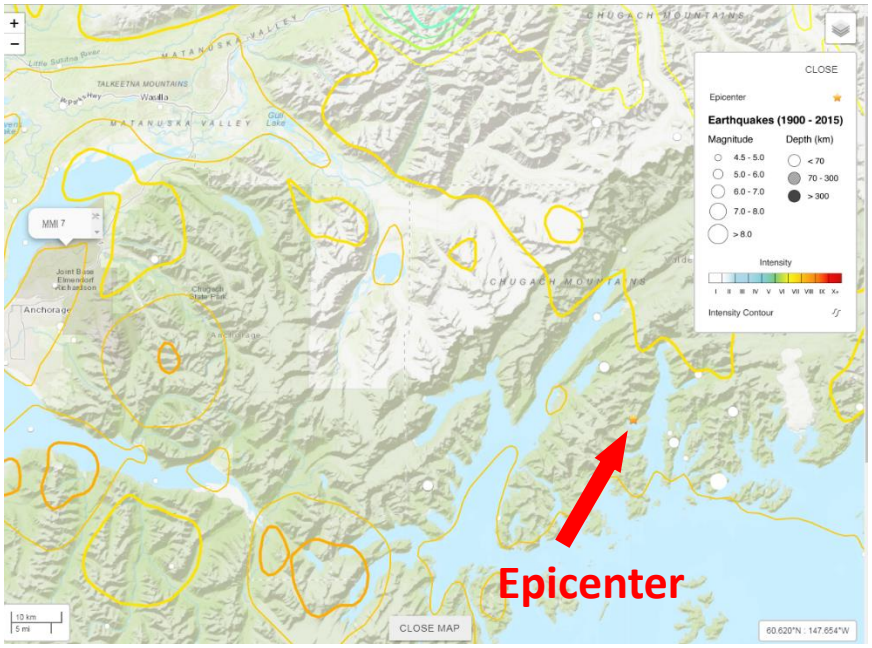


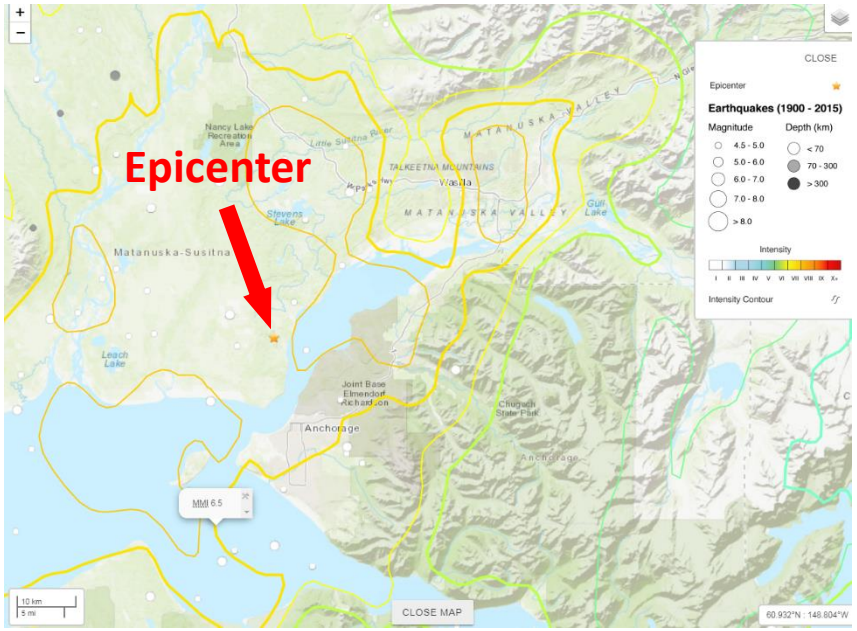
Nisqually



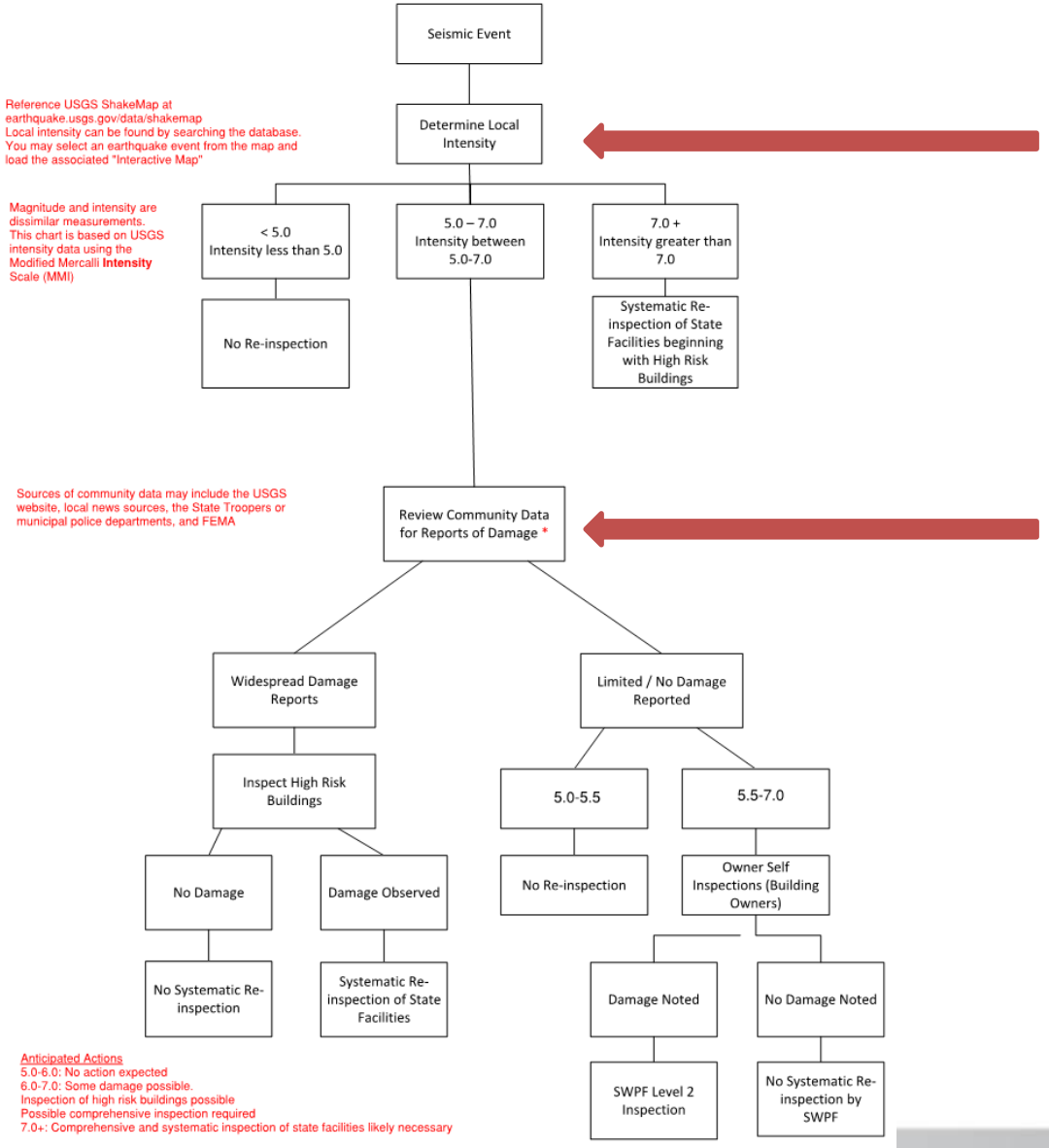
Northridge

1964 and 2018 Event Maps





Seismic Response Flow Chart



Intensity Determination

Community Data / Reports of Damage

Questions and Comments?