Additional Questions from the November 2019 AGI Webinar:
Improving Earthquake Resiliency Through the Use of Post-Earthquake Clearinghouses

What sorts of facilities do you find for your field clearinghouse locations on such short notice?

For the South Napa Earthquake, the clearinghouse was located at a California Department of Transportation maintenance facility. For the Ridgecrest Earthquake Sequence, we were located at the Ridgecrest Community center. In both instances, the location was secured through state agencies. Because the California State Office of Emergency Services is the Chair of the clearinghouse in California, they are in a position to coordinate with other state agencies who may have facilities available near the earthquake area.

Most commonly, field clearinghouses have been located in local or state government buildings. Examples:

- Idaho, when exercising their Clearinghouse Plan, coordinated with the Idaho Dept. of Transportation to use one of their satellite facilities.
- The California Ridgecrest clearinghouse was located in the Kerr McGee Building
  100 W California Avenue

A component of a state clearinghouse plan should be to pre-identify potential locations based on multiple key considerations. A few fast thoughts:

- Stability of the structure
    - Avoid structures such as -
        - URMs
        - Pre-2000 construction (unless retrofitted)
            - Note - 2000 is specified as that is the year ICC came into existence. Prior to 2000, there were multiple building code organizations/publications. Those organizations combined in 2000, creating a standardized, much more universal system.
            - Note – a "rapid evaluation" tool which could be used to determine some measure of seismic safety is located at https://www.fema.gov/media-library-data/1426210695633-d9a280e72b32872161efab26a602283b/FEMAP-154_508.pdf
- Power
    - Also consider back-up power where possible
- Potable water
- Communication capabilities and capacity
    - It doesn't do any good if the structure is located in a cell phone dead area and hard lines are down
- Ease of access
    - Gov't buildings, unless excused by being on the National Historic Register, are required to be ADA compliant. Consider that some field researchers or clearinghouse staff may have access considerations.
    - A large parking lot is very helpful
        - Especially if more than one operation is being carried out at the same structure. Example -

    - If the earthquake has rec'd a Presidential Disaster Declaration, FEMA and the state may wish to operate a Disaster Recovery Center to assist the impacted local people.
- Ability to secure the building, if required

For EERI, what are the limitations in using the photos from the clearinghouse? I.e. in publications, presentations, etc. Are they licensed for that type of use?

All photos posted on the virtual clearinghouse websites are available for non-commercial use with attribution to the photographer and EERI.

Does functional recovery refer to the time it will take for a structure to get functional again (i.e., fixed) or if the structure will be usable and safe after having endured an earthquake?

Functional recovery, when referring to a structure (such as a school or hospital), refers to the ability of that structure to either sustain its designed capability during or via "just in time" measures after an event. Example:

- Even if a community hospital building is completely undamaged after an earthquake, it cannot return to full functionality until power is restored. If the building is damaged, a "just in time" measure would be to have it repaired in parallel and at the same time as power restoration.

Please also consider a larger concept of "functional recovery." Buildings such as hospitals and schools are part of the overarching community. Restoring the capability of the structure helps the functional recovery of the entire community.

Some processes to support the functional recovery considerations for a community could include:

- Identifying the key resources and critical structures within and which support the community at-large
- Identify and understand the hazards facing the community
- Evaluate the key resources and critical structures against the hazard
    - Identify potential levels of event impact
        - Example - Will the building be functioning after a M6 earthquake or will it suffer structural failure? If structural failure, potentially how much?
    - Identify how fast the building needs to come back to full functionality after an event
    - Re-occupancy considerations
    - Take a look at cascading impacts versus direct impacts which could affect the structure
        - Example – If a power substation is destroyed but the hospital is intact, the hospital is not fully functional

More information about functional recovery is available in the EERI white paper available here: https://www.eeri.org/2019/08/new-white-paper-from-eeri-provides-framework-for-functional-recovery/.

Who ran the HAZUS models?

HAZUS was run by FEMA for Ridgecrest and Anchorage.

How do Earthquake clearinghouses solve the problem of researchers' rights to data in terms of publications?

The clearinghouse encourages participants to share data openly and quickly in order to improve post-earthquake investigations. In general, participants are very willing to share their data. Participants maintain copyright of their data, but by sharing with the clearinghouse they understand that it will be publicly available for use with attribution.