

Event Focused Research Breakout Session 3: Japan Earthquake

Questions

- What new questions raised by these events require basic research?
- What new data are available as a result of these events?
- What unique aspects of these events require the development of a focused research program?
- What are the important lessons from these larger than expected events for the U.S., Japan and New Zealand?



Japan and NZ Earthquakes RAPID and Research Needs Workshop
Arlington, VA Feb 9 and 10, 2012



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What makes the East Japan Earthquake important for the US?

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- Cascading disasters (earthquake, tsunami, NPP, failure or inefficiencies of infrastructure and social services)



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- Can this happen in the US and are we prepared?
- If not, what do we need to do to resilient?



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There is a clear need and unique opportunity to carry out broad-based programs of coordinated and collaborative basic research needed to evaluate vulnerability of our large urban areas to potentially catastrophic natural events, and to improve resilience.

Goal: Creating a more resilient America in the face of earthquakes and other natural disasters



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Eastern Japan Earthquake provides extraordinary context within which to do this

- ❖ Shaken area well prepared due to high seismicity
- ❖ Lots of high quality data for many issues of interest
- ❖ Highly qualified and interested researchers and stakeholders to collaborate with US and NZ counterparts
- ❖ While there are significant differences, Japan and the US are both advanced industrial countries that share many of the same vulnerabilities and strengths (in the broadest sense) .



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A campaign to achieve this goal would include:

- ❖ Development of framework for which to judge and quantify resilience in both broad and narrow terms.
- ❖ A holistic and balanced approach
- ❖ Best science available for understanding and quantifying hazards, the response of the built environment and infrastructure networks and of economic, social, health, and other systems to these hazards and the ability of a region to recover rapidly, and the effectiveness of strategies for improving resilience
- ❖ Broad based contributions from researchers from many NSF directorates, including engineering, behavioural sciences, geosciences (including oceanography), computer and information science, etc.



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This can easily be extended to include information and participation related to other catastrophic earthquakes, such as New Zealand and Chile

Will need more efforts by NSF and the community to develop scope of these efforts

One large projects, vs combination of coordinated large and moderate sized projects. (no desire for a large number of independent and uncoordinated projects)



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Possible Theme:

Preparing for the BIG ONE

A large subduction zone or other earthquake in the Pacific Northwest

Many high tech industries, critical facilities, potential for tsunami and other cascading disasters, large affected areas, etc.

Assessing vulnerability, and improving resilience of America.

Involves

- Many disciplines in a coordinated manner
- Countries
- Other areas of the US



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