SCEC Statewide California Earthquake Center

Lessons learned from communicating about the 2008 ShakeOut Scenario

Mark Benthien
Director for Public Education and Preparedness
Statewide California Earthquake Center @ USC
Executive Director, Earthquake Country Alliance

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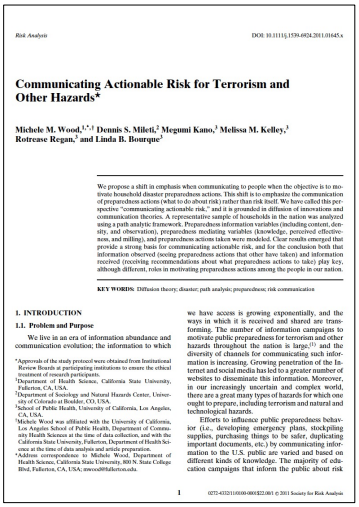
FRAMEWORK

Research Basis for ShakeOut Scenario and Drill Communication

Communicating Actionable Risk for Terrorism and Other Hazards

Michele M. Wood, Dennis S. Mileti, Megumi Kano, Melissa M. Kelley, Rotrease Regan, and Linda B. Bourque

Risk Analysis, 2011



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Communicating Actionable Risk for Terrorism and Other Hazards*

Michele M. Wood,[1,*,†] Dennis S. Mileti,[2] Megumi Kano,[3] Melissa M. Kelley,[3] Rotrease Regan,[3] and Linda B. Bourque[3]

We propose a shift in emphasis when communicating to people when the objective is to motivate household disaster preparedness actions. This shift is to emphasize the communication of preparedness actions (what to do about risk) rather than risk itself. We have called this perspective "communicating actionable risk," and it is grounded in diffusion of innovations and communication theories. A representative sample of households in the nation was analyzed using a path analytic framework. Preparedness information variables (including content, density, and observation), preparedness mediating variables (knowledge, perceived effectiveness, and milling), and preparedness actions taken were modeled. Clear results emerged that provide a strong basis for communicating actionable risk, and for the conclusion both that information observed (seeing preparedness actions that other have taken) and information received (receiving recommendations about what preparedness actions to take) play key, although different, roles in motivating preparedness actions among the people in our nation.

KEY WORDS: Diffusion theory; disaster; path analysis; preparedness; risk communication

1. INTRODUCTION

1.1. Problem and Purpose

We live in an era of information abundance and communication evolution; the information to which we have access is growing exponentially, and the ways in which it is received and shared are transforming. The number of information campaigns to motivate public preparedness for terrorism and other hazards throughout the nation is large,[1] and the diversity of channels for communicating such information is increasing. Growing penetration of the Internet and social media has led to a greater number of websites to disseminate this information. Moreover, in our increasingly uncertain and complex world, there are a great many types of hazards for which one ought to prepare, including terrorism and natural and technological hazards.

Efforts to influence public preparedness behavior (i.e., developing emergency plans, stockpiling supplies, purchasing things to be safer, duplicating important documents, etc.) by communicating information to the U.S. public are varied and based on different kinds of knowledge. The majority of education campaigns that inform the public about risk

[*] Approvals of the study protocol were obtained from Institutional Review Boards at participating institutions to ensure the ethical treatment of research participants.
[1] Department of Health Science, California State University, Fullerton, CA, USA.
[2] Department of Sociology and Natural Hazards Center, University of Colorado at Boulder, CO, USA.
[3] School of Public Health, University of California, Los Angeles, CA, USA.
[†] Michele Wood was affiliated with the University of California, Los Angeles School of Public Health, Department of Community Health Sciences at the time of data collection, and with the California State University, Fullerton, Department of Health Science at the time of data analysis and article preparation.
* Address correspondence to Michele Wood, Department of Health Science, California State University, 800 N. State College Blvd, Fullerton, CA, USA; mwood@fullerton.edu.

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FRAMEWORK

Four outcomes for what most motivates action

1. People see and hear consistent information about what to do frequently, in many forms, and from many sources
2. People see others like themselves getting prepared (social cues)
3. People talk with others like themselves about potential losses and how to reduce them (social milling)
4. When informing about consequences, always include how to reduce losses

ShakeOut has worked to put these findings into practice

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OUTCOME 1

Consistent information across formats and sources

Shared messaging

Audiences encountered the scenario repeatedly through different messengers and media.

We gave up being the sole source of the message.

What we've done

- Shared scenario information to partners, developed it with them, and enabled them to communicate it
- Created resources others could adapt and use
- Shared 14 location-based perspective ground motion animations (localized the risk, also highlighted value of ShakeAlert)
- Worked with ArtCenter - student PSAs, *Preparedness Now*
- Delivered hundreds of presentations

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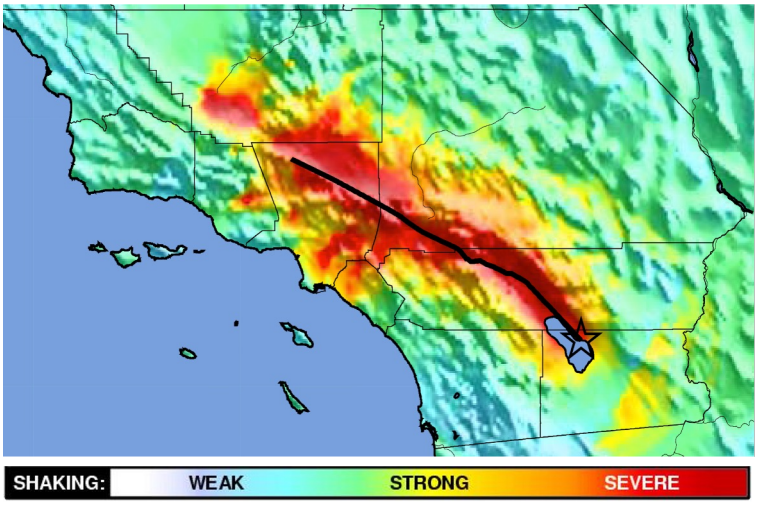
A Possible "Big One" (M7.8)

- Southernmost San Andreas
- 180 mile rupture
- Magnitude 7.8
- 100 seconds of fault rupture
- Shaking for over 2 minutes in some places
- Dr. Lucy Jones (USGS) led many scientists, engineers, and others to create a scenario of what will happen.



ShakeOut.org/scenario

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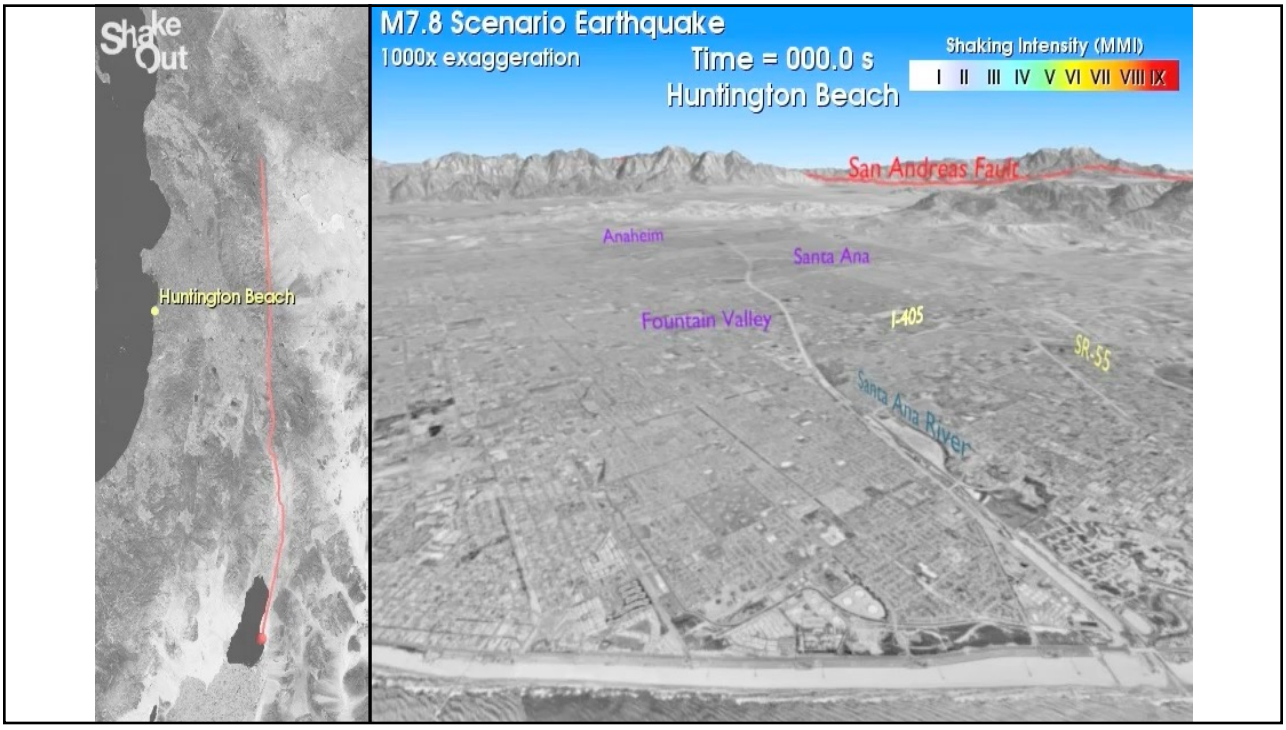

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Safety Guidance in 18 Languages

EarthquakeCountry.org/languages

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OUTCOME 2

Social cues

People learn from people like themselves

Preparedness becomes more credible when audiences can see that peers and familiar organizations are already taking action.

Visible action by peers often carries more weight than instructions from an expert.

What we've done

- Requested and shared photos of people and organizations preparing (now via social media)
- Highlighted mitigation and planning underway
- Provided participant lists that made activity visible
- Encouraged others to create and share their own examples of their activities and messaging

Lessons learned from the 2008 ShakeOut Scenario 4

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Everyone Can ShakeOut

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OUTCOME 3

Social milling

People make sense of risk together

Discussion helps people interpret information, consider it along with other knowledge, and decide what to do.

Communication continues after the presentation ends.

What we've done

- Workshops to seek input before and after the scenario was released
- Hundreds of other meetings and presentations
- Participation from governments, utilities, businesses, and community groups
- Local engagement through organizations such as CVDPN

Lessons learned from the 2008 ShakeOut Scenario 5

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OUTCOME 4

Consequences paired with ways to reduce losses

Describe the consequences

- Use the scenario to make risk concrete
- Explain what the large estimates mean
- Connect regional science to nearby hazards

Show how to reduce them

- Pair consequences with practical action
- Share the Seven Steps to Earthquake Safety
- Adapt guidance for local communities and sectors
- Create messaging to share with elected officials to encourage action

The goal is informed concern plus confidence that actions will make a difference

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ShakeOut Scenario "Disaster Equation"

300,000 buildings significantly damaged
Widespread infrastructure damage
1,600 large fires
$213+ billion damages
270,000 displaced persons
50,000 injuries
1,800 deaths

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Seven Steps To Earthquake Safety

BEFORE

1. Secure Your Space

2. Plan To Be Safe

3. Organize Supplies

4. Minimize Financial Hardship

DURING

5. Drop, Cover, and Hold On

6. Improve Safety

AFTER

7. Reconnect and Restore

EarthquakeCountry.org/sevensteps **Terremotos.org/sietepasos**

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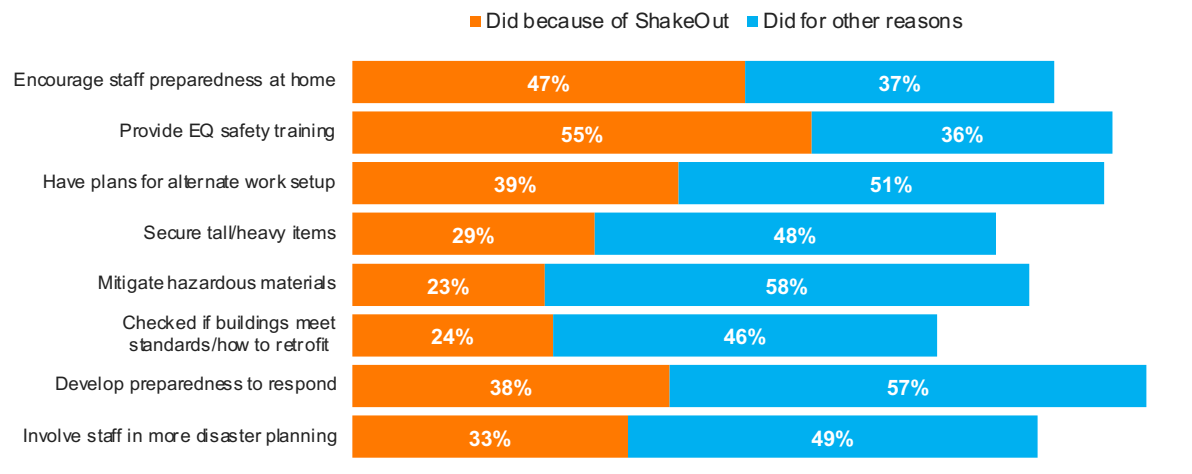
Preparedness

What did organizations do to increase preparedness? (Includes education sector)
(N=2456)



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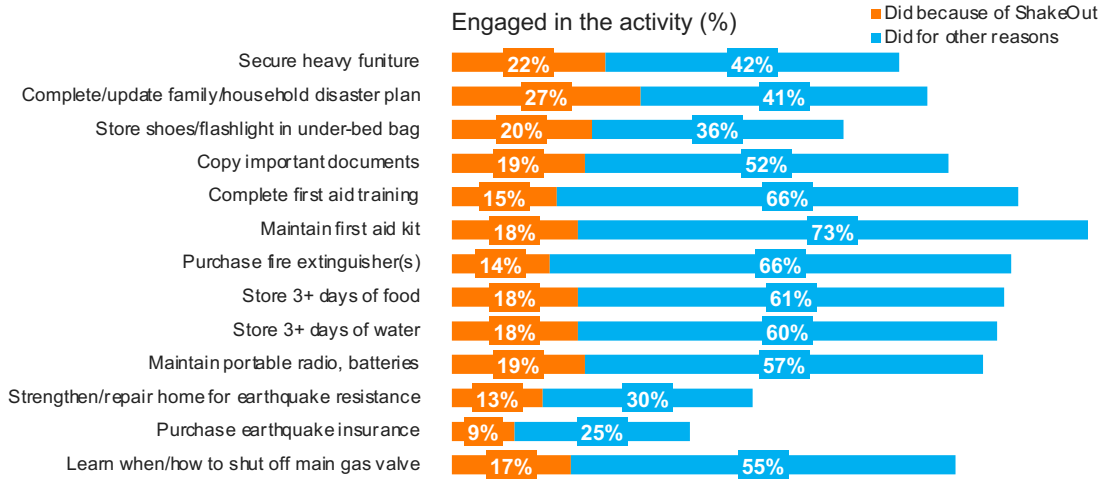
Preparedness

What did individuals and households do to increase preparedness?
(N=3253)



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Suggestions for SOS2.0 engagement

- Hold new discussion exercises around what has changed since 2008 and what remains unfinished
- Adapt sessions by county, sector, and community
- Invite people and organizations to share what they did with the original scenario – presentations, white papers, videos, testimony, etc.
- Use workshops, webinars, breakout groups, and adapt tools such as the Hayward Fault toolkit
- Be mindful to not focus everyone (again) on this scenario as our only concern

Consistent information. Visible action.
Shared meaning. Practical ways to reduce loss.

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