Update of the San Diego-Tijuana Earthquake Scenario

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EERI

The Earthquake Engineering Research Institute is a national, nonprofit, technical society of engineers, geoscientists, architects, planners, public officials, and social scientists. EERI members include researchers, practicing professionals, educators, government officials, and building code regulators.

EERI Vision and Role

EERI's Vision:

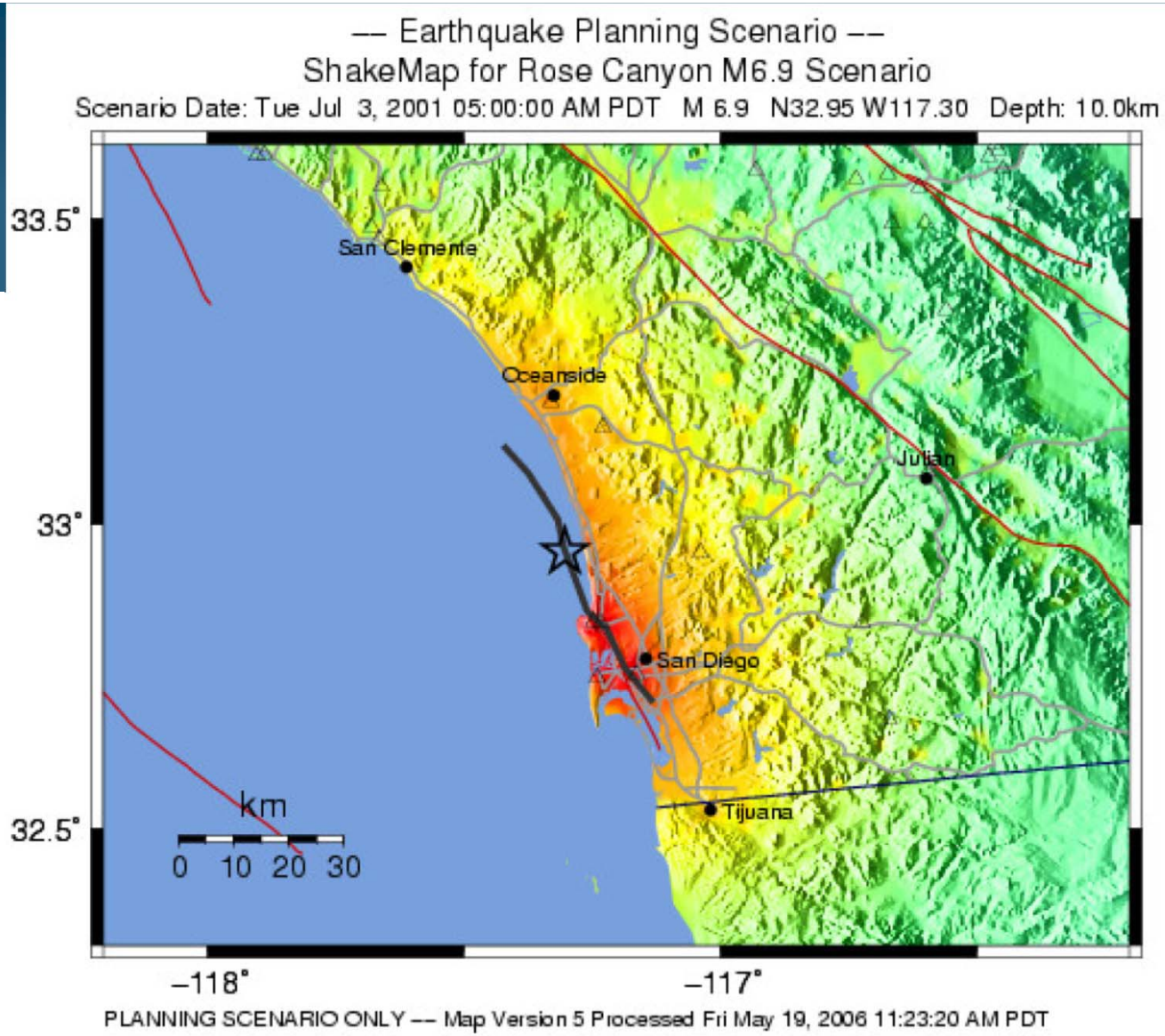
A world in which potential earthquake losses are widely understood and for which prudent steps have been taken to address those risks.

EERI's Role:

EERI is a leader in earthquake investigations and in the dissemination of earthquake risk reduction information both in the US and globally in cooperation with its international partners.

California Geological Survey
Department of Conservation

HAZUS Loss Estimation for California Scenario Earthquakes 2005 and 2009



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18–34	34–65	65–124	>124
PEAK VEL.(cm/s)	<0.1	0.1–1.1	1.1–3.4	3.4–8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Economic losses ($M)

- Buildings related: 9,771
- Transportation system: 183
- Utility system: 456

Social impact (number of people)

- Casualties
  - 2 am: 12
  - 2 pm: 51
  - 5 pm: 57
- Shelter requirement
  - Displaced households: 5,117
  - Short-term shelter needs: 3,253

California Department of Conservation
Division of Mines and Geology
Special Publication 100

Planning Scenario for a Major Earthquake San Diego – Tijuana Metropolitan Area 1990

What is a Planning Scenario?

- An earthquake scenario is a planning tool that helps us understand earthquakes and plan for the future
- A successful scenario tells the story of a defined earthquake and its specific impacts. It draws the reader in by incorporating familiar aspects of the community that they can readily recognize

The scenario project begins with the question:

What can be done now to minimize damages from a catastrophic earthquake?

Why Conduct A Scenario?

- Collective problem solving
- Identifying flaws and strengths in our system
- Serving as an advocacy tool
- Engaging and informing stakeholders and community decision makers
- Testing and training

The ultimate goal of a scenario is to reduce earthquake risk:

- Minimize deaths, injuries and human suffering
- Reduce economic losses
- Decrease downtime

Challenge

- Engage stakeholders
- Stakeholders need to:
  - Believe in the plan
  - Take ownership of the plan
  - Take responsibility for change

Stakeholders

- Elected officials/decision makers
- Community planners
- First responders
- Public health and medical professionals
- Engineers, geologists, scientists, and other earthquake professionals and organizations
- Utilities/infrastructure
- School and hospital communities
- Media
- Political champions
- Private business community

Next steps:

- Define schedule and timeline
- Secure funding
- Form binational workgroups:
  - Geology, seismology, geotechnical
  - Buildings, infrastructure, lifelines
  - Emergency response, social and economic impacts
  - Losses estimation

We need your participation and support

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Visit our website:

http://sandiego.eeri.org/