THE SAN DIEGO – TIJUANA
EARTHQUAKE SCENARIO PROJECT

PREPARING A REGION FOR EARTHQUAKE DISASTERS

THE ROSE CANYON FAULT ZONE

Extending from offshore of the City of Oceanside through La Jolla and downtown San Diego, past the U.S. – Mexico border adjacent to Tijuana, Mexico, the Rose Canyon Fault is considered to be one of the most active faults near urban areas in San Diego County. A M6.9 earthquake on the Rose Canyon Fault is being utilized to study the effects of this event on the region.

INNOVATIVE REGIONAL SEISMIC RESILIENCY PROJECT

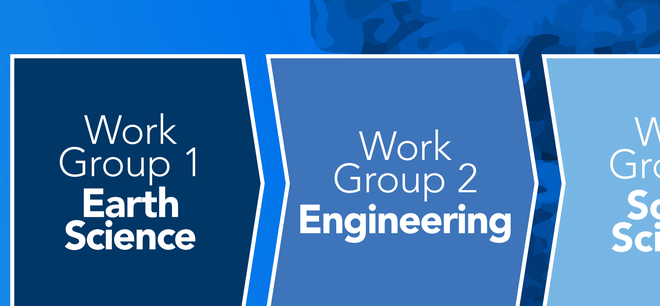
Organized in 2015, the key objective of the earthquake scenario project is a 'call to action' for regional earthquake preparation and mitigation to positively affect the region's disaster resiliency. The scenario report is intended to spur public policy and decision making that improves earthquake awareness, preparedness, and the enhancement of risk management programs. Providing data for community leaders to better understand how and where their population will be impacted, a database will create a rich graphic inventory with demographic and geographic information to serve as a resource for future research, planning, training, and disaster recovery for the region.

CROSS-BORDER COLLABORATION

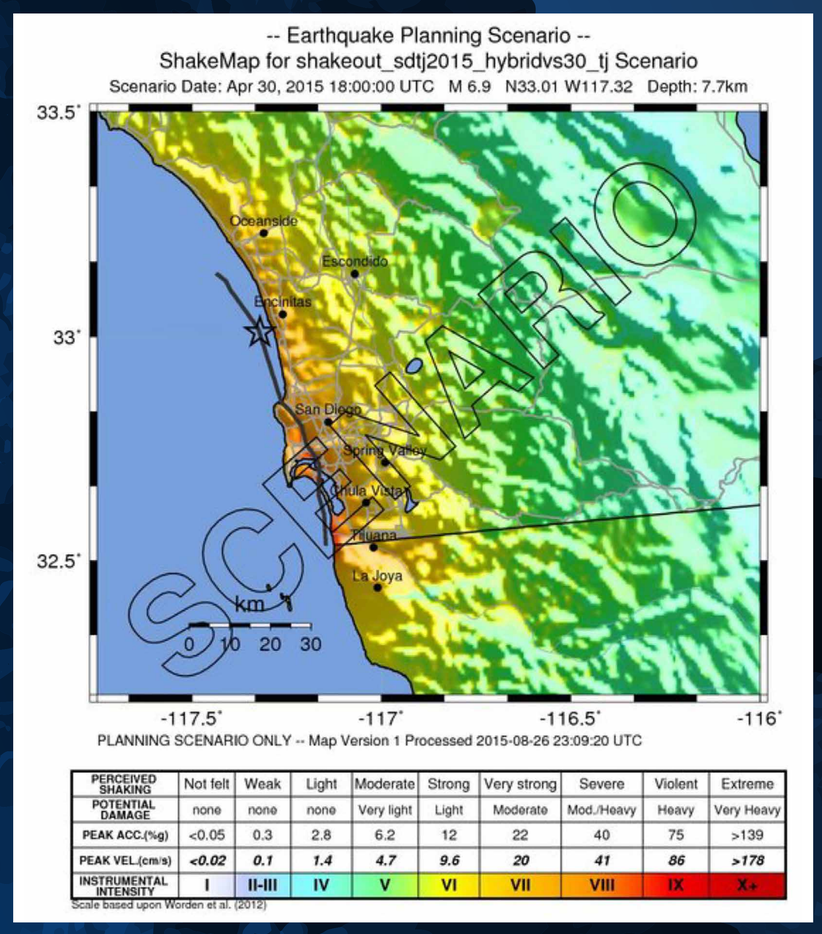
A team of U.S. and Mexico-based engineers, geologists, researchers, and public officials are working collaboratively to investigate cross-border vulnerability from the M6.9 earthquake. Effects of the earthquake are being studied to determine ways to improve disaster resiliency across the region. Loss modeling is being utilized to quantify the effects of the earthquake and inform the work of improving seismic safety policy.

MOVING FROM SCIENCE TO POLICY

Data from focused work groups in earth science, engineering, and socioeconomic impacts provide baseline information for the development of the San Diego-Tijuana Earthquake Scenario Report. This study will describe the impacts expected from a M6.9 earthquake on the Rose Canyon Fault in terms of casualties, damage, losses, and business and lifeline systems disruption. This report is a platform that will help guide future policy, planning, and budget development at the regional and local level in order to implement genuine resiliency.



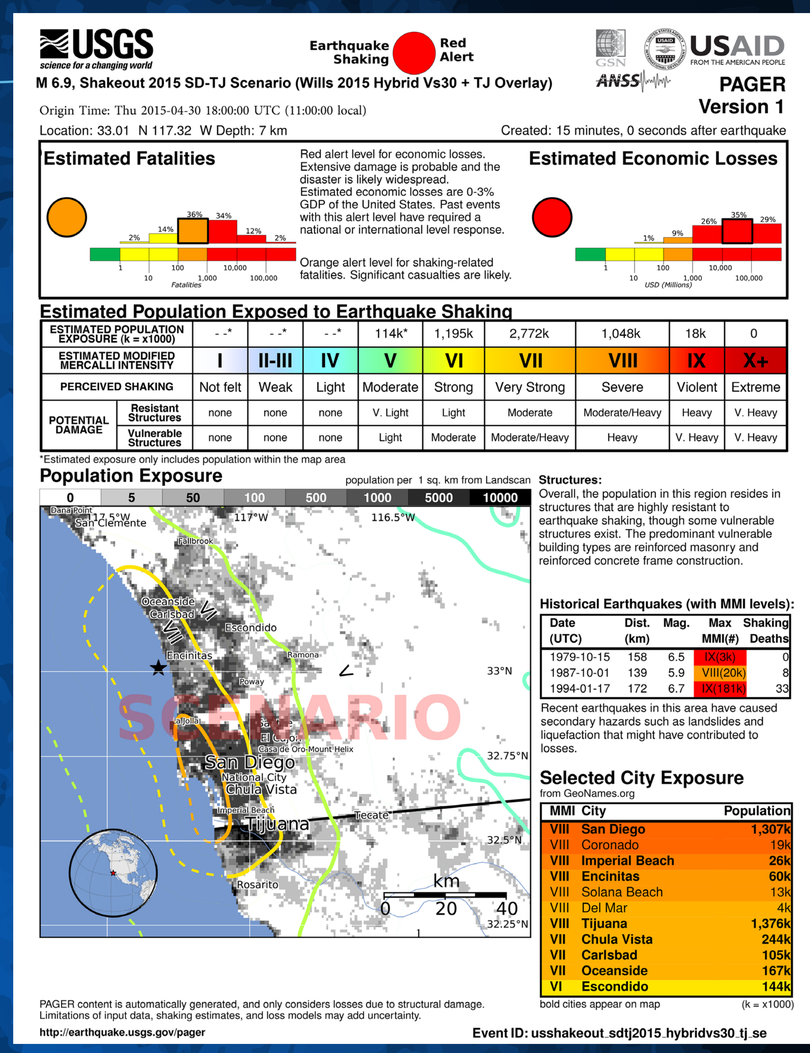
Scenario Working Groups Flow Chart



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	*<0.02*	*0.1*	*1.4*	*4.7*	*9.6*	*20*	*41*	*86*	*>178*
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2012)

The ShakeMap intensity graphic presents Modified Mercalli data where warmer colors correlate to areas of greater damage



The USGS Pager report estimates a high probability of 1,000 to 10,000 fatalities and of $10 billion to $100 billion in estimated economic losses

Scenario Project Workshop (2015)

16TH WORLD CONFERENCE ON EARTHQUAKE ENGINEERING
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The American Institute of Architects