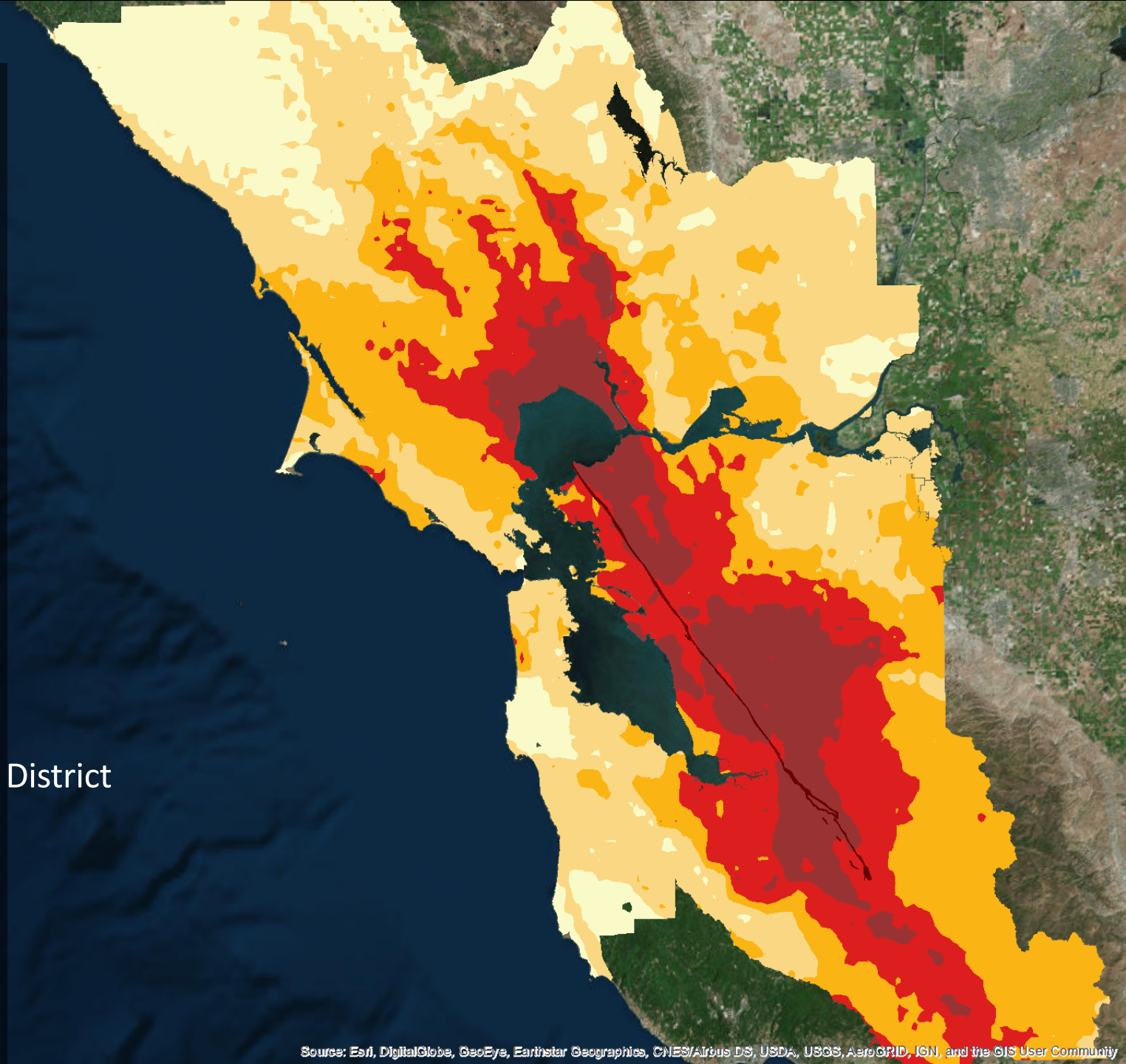
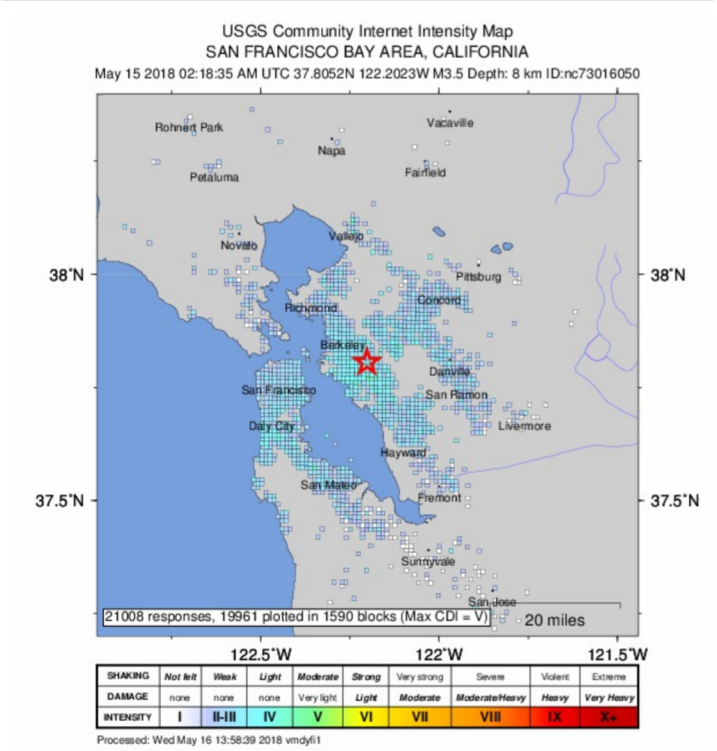
SCIENCE APPLICATION FOR RISK REDUCTION

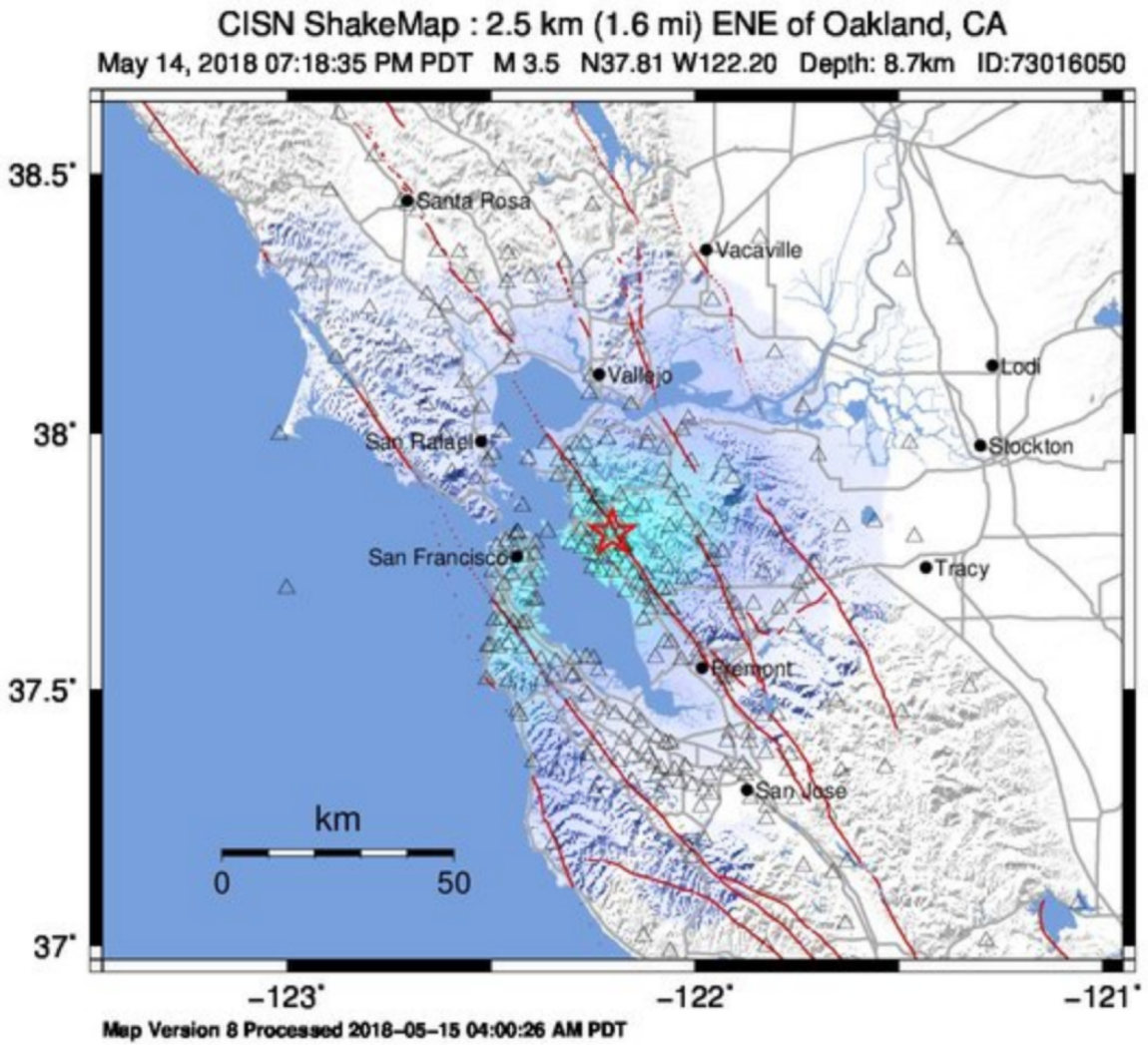
HAYWIRED

+ Dale Cox / USGS
+ Laurie Johnson / Laurie Johnson Consulting
+ Serge Terentieff / East Bay Municipal Utility District

USGS
science for a changing world







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)	*<0.1*	*0.5*	*2.4*	*6.7*	*13*	24	*44*	83	>156
PEAK VEL.(cm/s)	<0.07	0.4	1.9	5.8	*11*	*22*	*43*	*83*	*>160*
INSTRUMENTAL INTENSITY	I	II–III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Wald, et al.; 1999

HAYWIRED

Business, Consumer Services and Housing Agency
Alfred E. Alquist Seismic Safety Commission
U.S. Geological Survey

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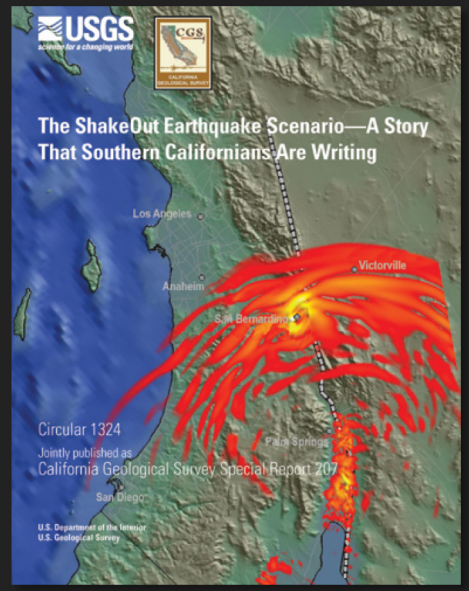
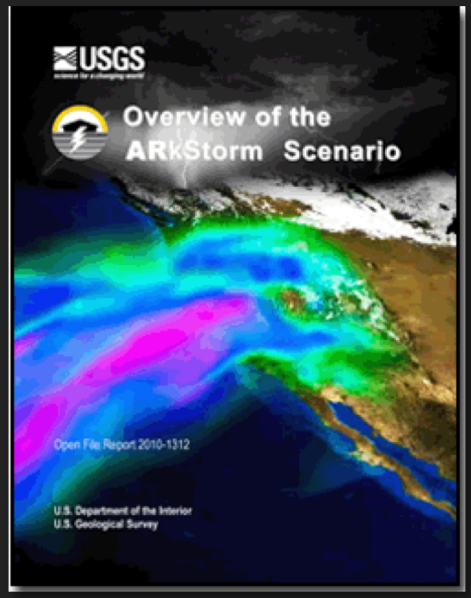
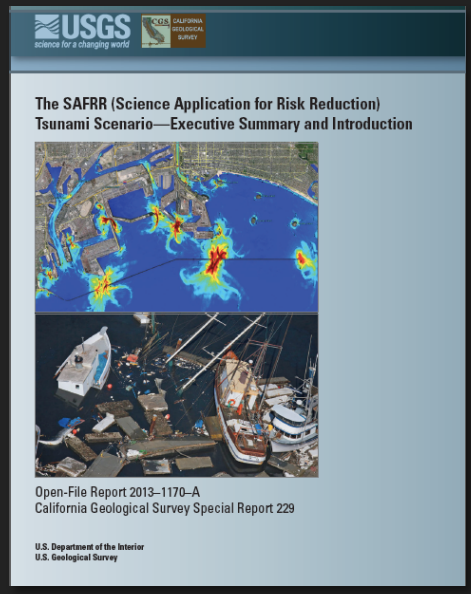
Principles of a Scenario

1. A single, large but plausible event
2. An event we need to be ready for
3. Integrate across many disciplines
4. Use best hazard science
5. Consensus among leading experts
6. Create study with community partners
7. Results presented in products that fit the user, not the scientist







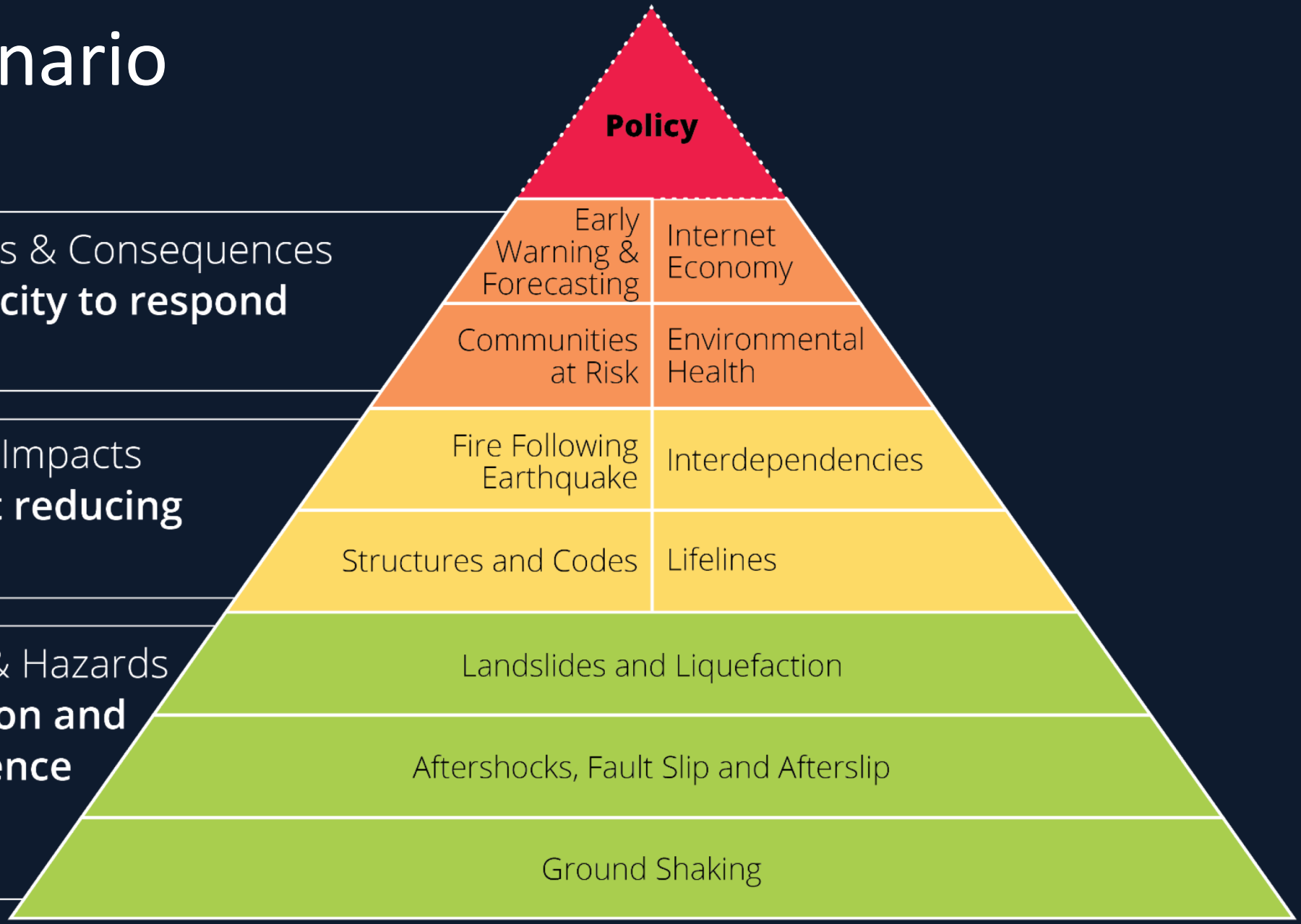
HayWired Scenario

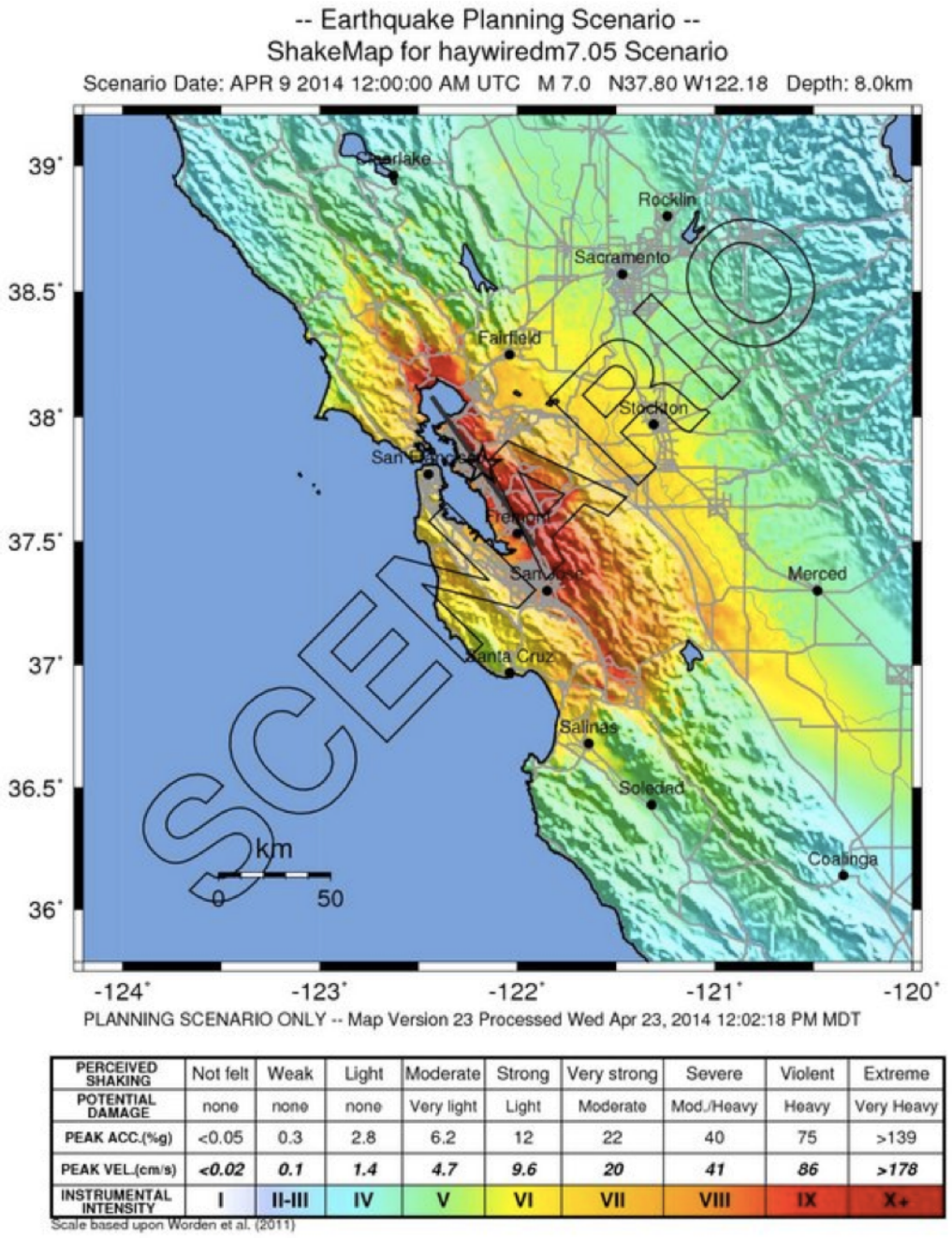
Process Introduction

PHASE III: Social Sciences & Consequences
Build community capacity to respond and recover.

PHASE II: Engineering & Impacts
Inform decisons about reducing earthquake risk.

PHASE I: Earth Science & Hazards
Improve communication and use of earthquake science





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. (2011)

HayWired Scenario

Objectives w/ Local Govt Partners

- Advance knowledge, inform action reduce earthquake risks.
- Help built community capacity to respond and recover.
- Improve understanding of earthquake early warning.
- Educate about building code performance and public perception.
- Facilitate conversations about utility lifeline restoration interdependencies.

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