

ELECTRONIC SUPPLEMENT

Probabilistic warning times for earthquake ground shaking in the San Francisco Bay Area

Richard M Allen, University of California Berkeley. Email: rallen@berkeley.edu

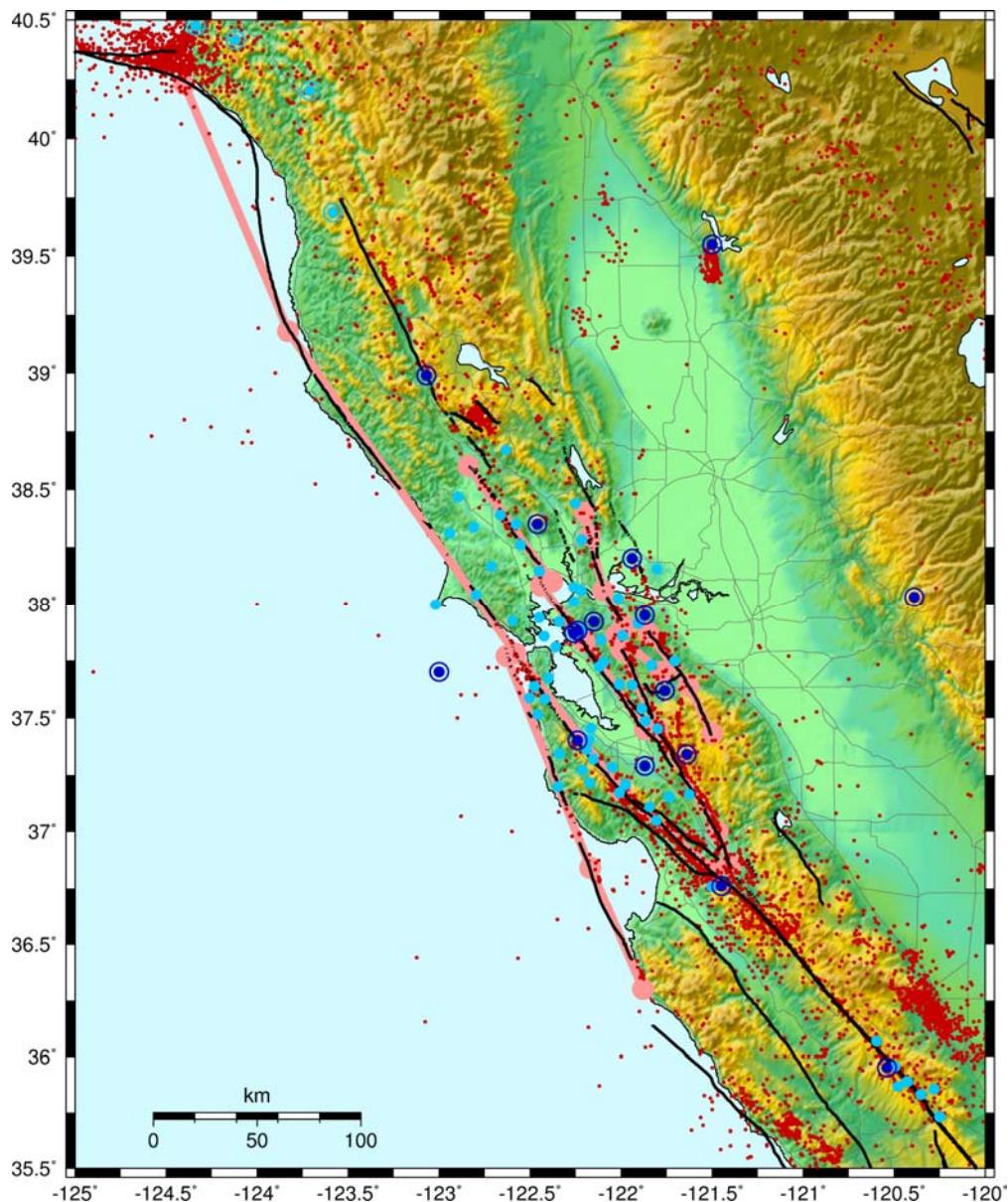


Figure ES1. Map of the study region showing mapped faults (bold black lines) and the location of earthquakes with magnitude greater than 3 since recording began (red dots). Existing continuous broadband stations operated by UC Berkeley (dark blue) and the U.S. Geologic Survey (light blue) are shown with circles for broadband velocity seismometers and dots for accelerometers. The fault segments identified by the Working Group on California Earthquake Probabilities (WGCEP, 2003) are shown with pink dots at the ends of segments joined by broad pink lines.

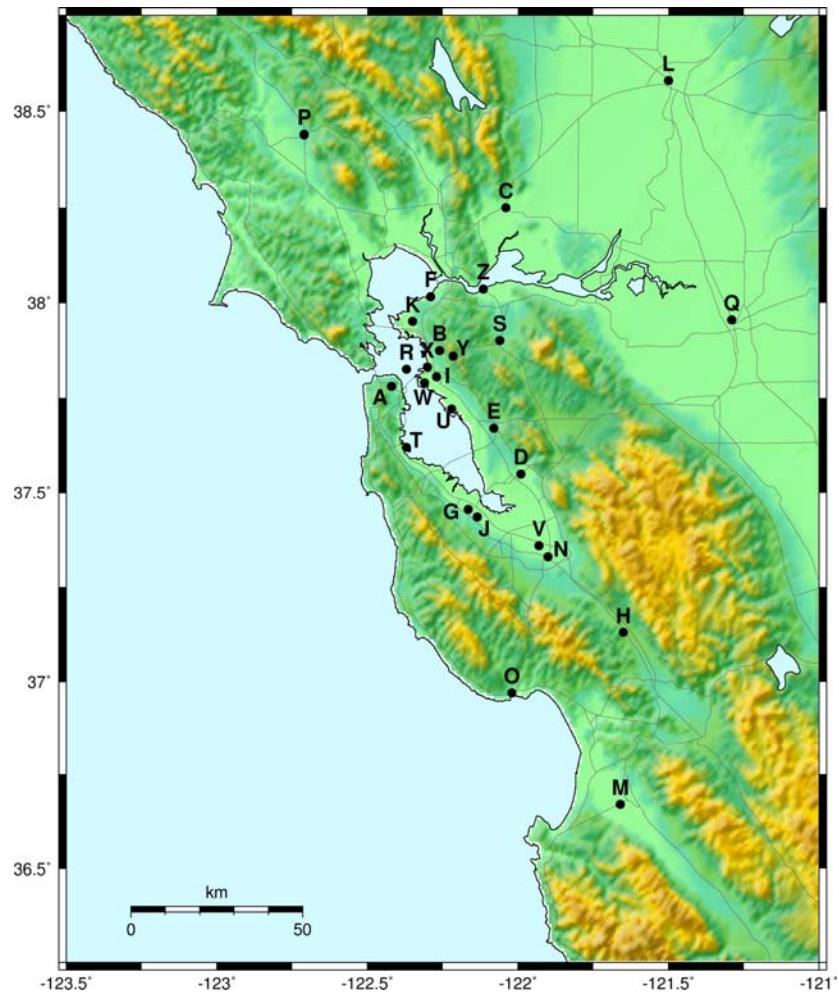


Figure ES2. Index map showing all locations for which warning time probability density functions are included in Figure ES3. Letters are the same as the numbering in Figure ES3 and correspond to the following locations.

	Cities		Cities		Airports
A	San Francisco	K	Richmond	T	SFO (San Francisco)
B	Berkeley (UC)	L	Sacramento	U	OAK (Oakland)
C	Fairfield	M	Salinas	V	SJC (San Jose)
D	Fremont	N	San Jose		
E	Hayward	O	Santa Cruz		
F	Hercules	P	Santa Rosa		Other
G	Menlo Park	Q	Stockton	W	Alameda Naval Air Station
H	Morgan Hill	R	Treasure Island	X	Emeryville Interchange
I	Oakland	S	Walnut Creek	Y	Caldecott Tunnel
J	Palo Alto			Z	Martinez Rt 680 crossing

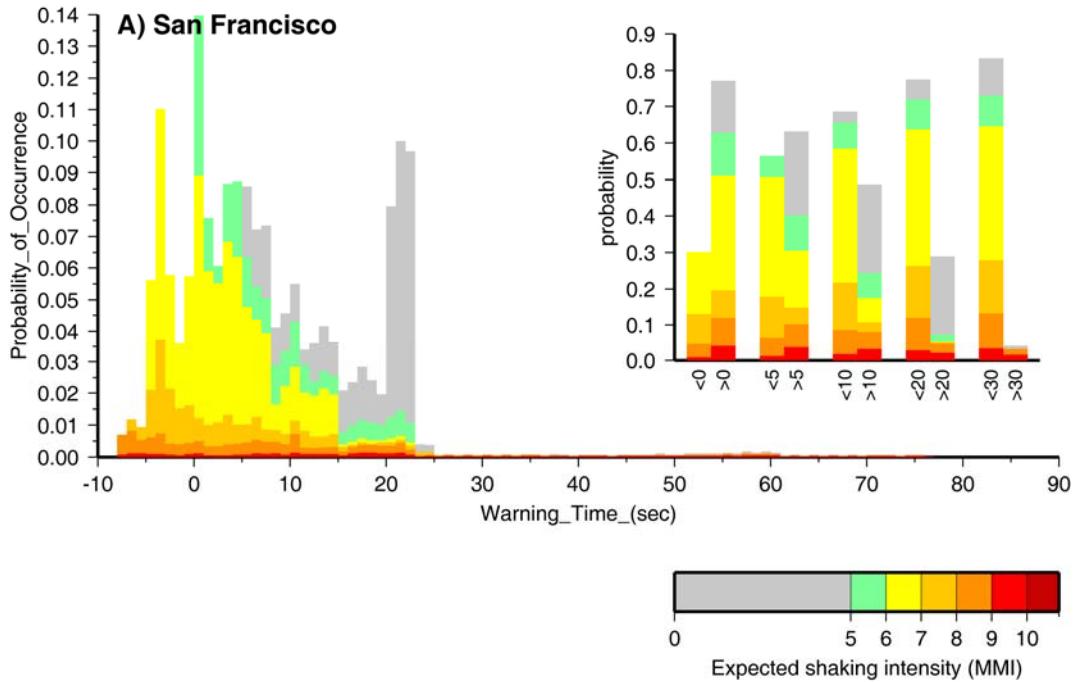


Figure ES3. Warning time probability density functions (WTPDF) for 26 locations in northern California. The locations are shown on the index map (Figure ES2) along with letters referring to panels within Figure ES3.

Large charts: The warning times for all likely earthquakes are shown on the scale ranging from -10 sec to 90 sec, where negative warning times mean no warning is possible. Earthquakes are in 1 sec bins and the vertical axis shows the total probability of one or more earthquakes occurring before 2032 for which a given warning time is possible. The color represents the estimated intensity of ground shaking for each event. Damage is unlikely for MMI < V (grey); MMI > IX means violent shaking likely to cause serious damage to buildings (red).

Inset charts: Probability that one or more earthquakes will occur by 2032 for which more or less than 0, 5, 10, 20 and 30 sec warning time could be available. The color indicates the intensity of ground shaking expected.

Panels A-S: Selected cities in northern California

Panels T-V: Airports

Panels W-Z: Sites of engineering interest

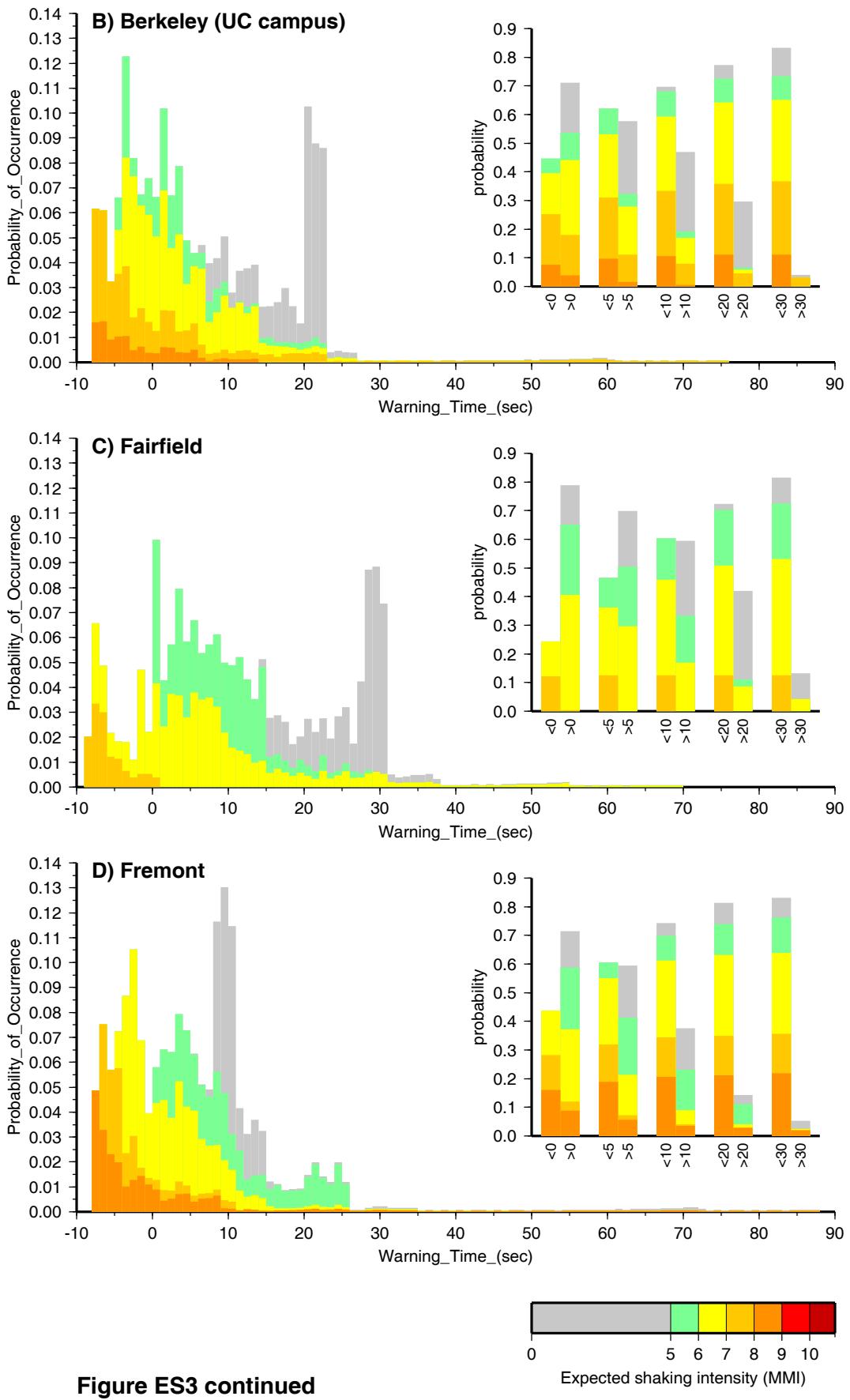


Figure ES3 continued

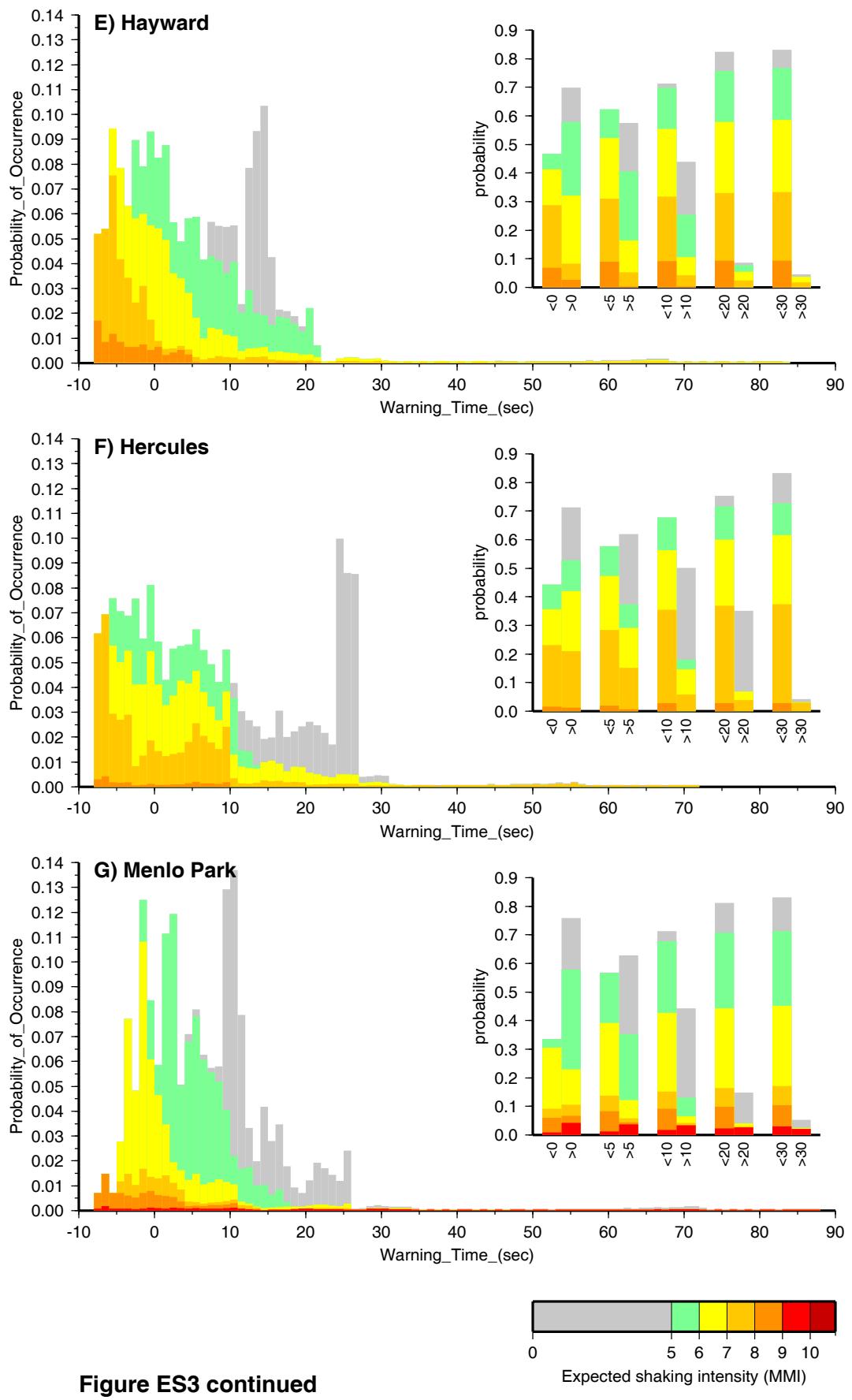


Figure ES3 continued

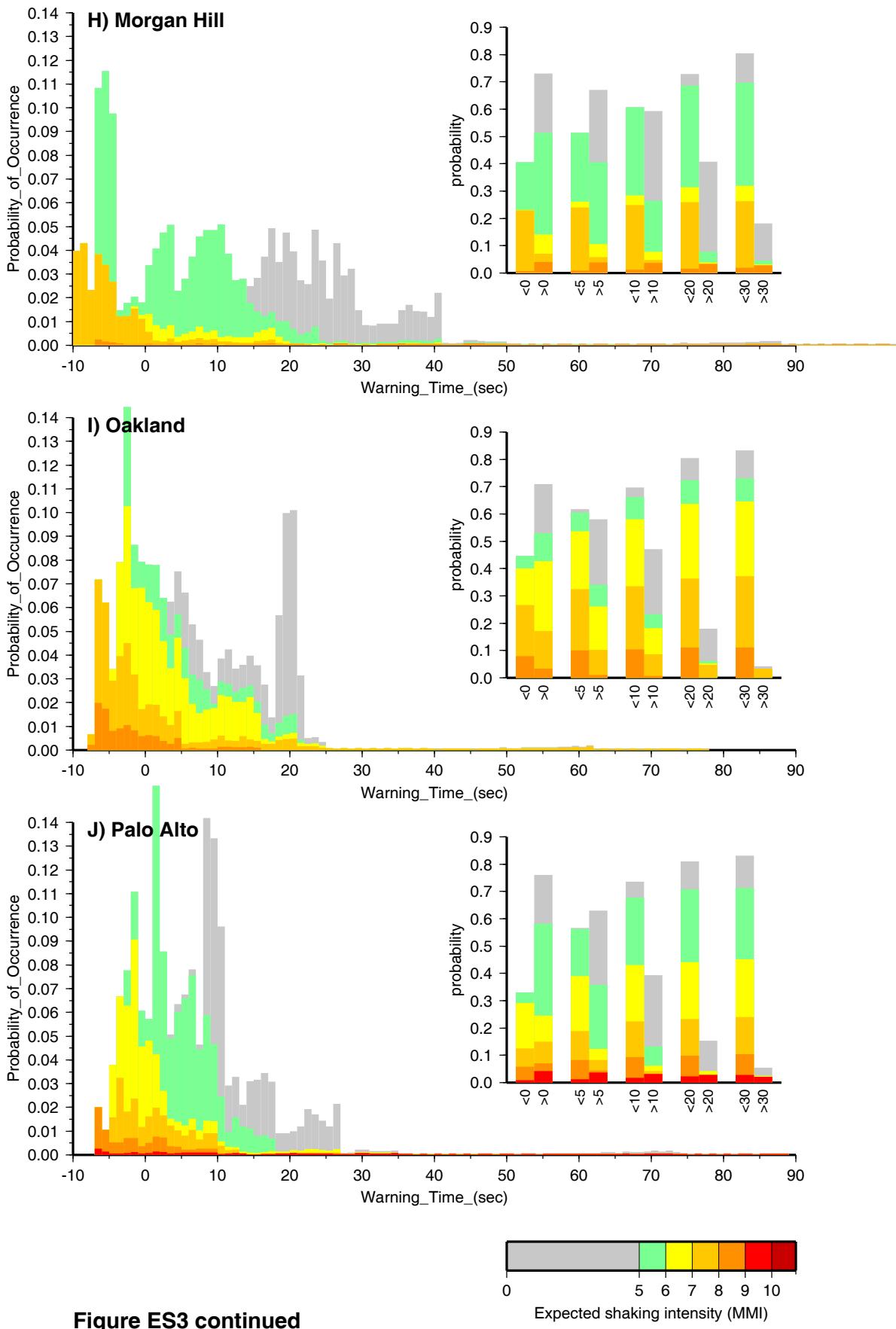


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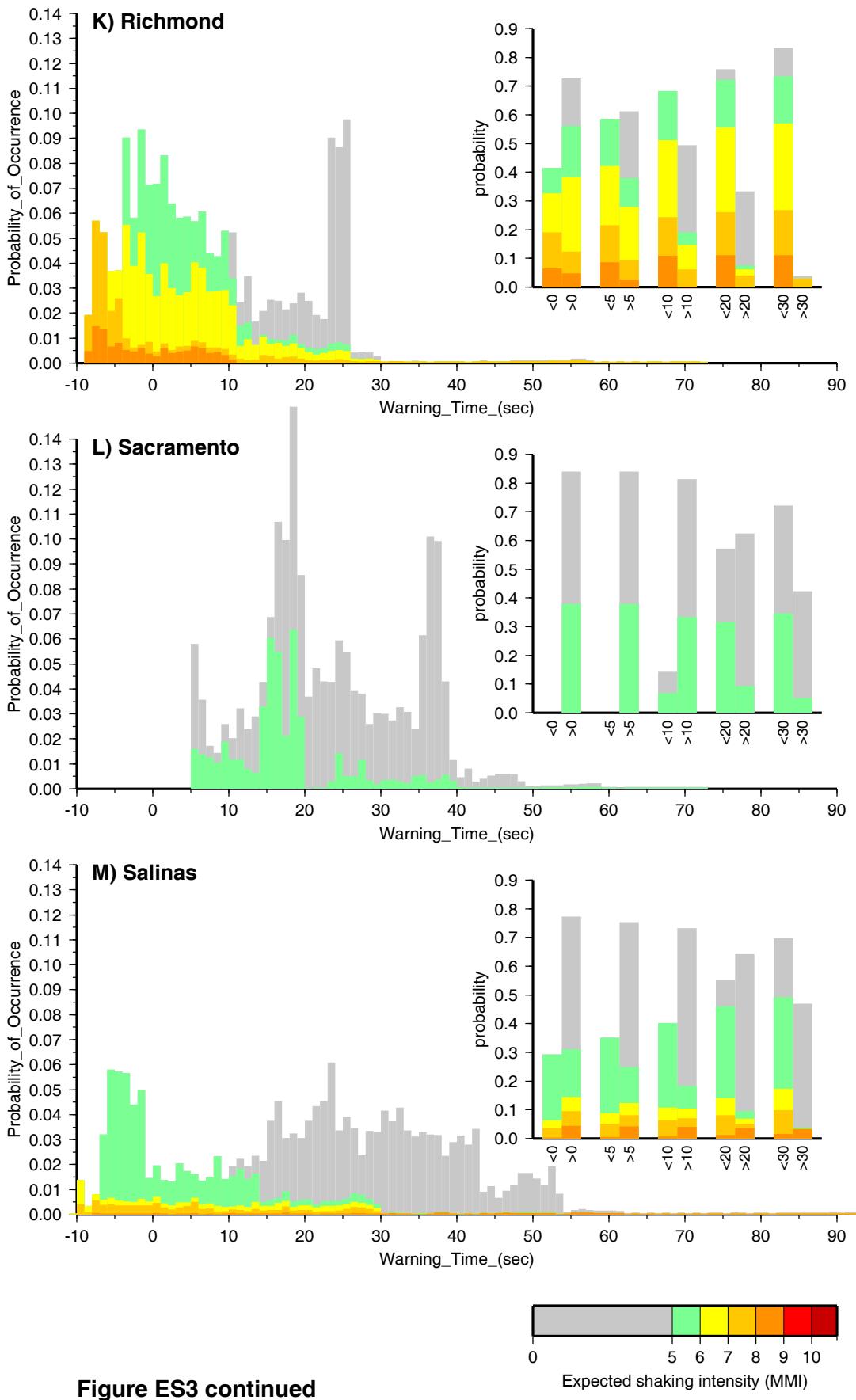


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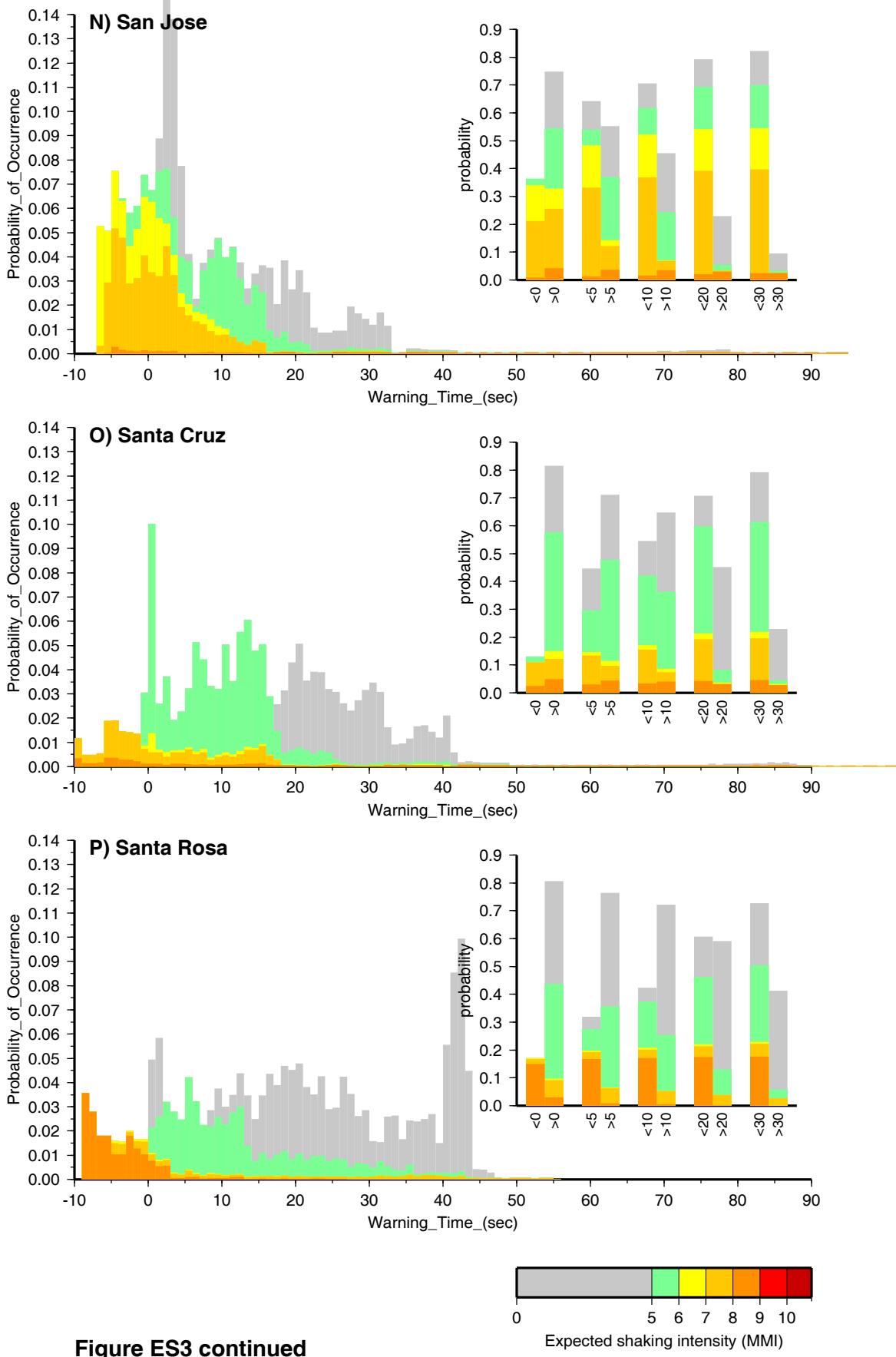


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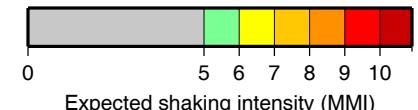
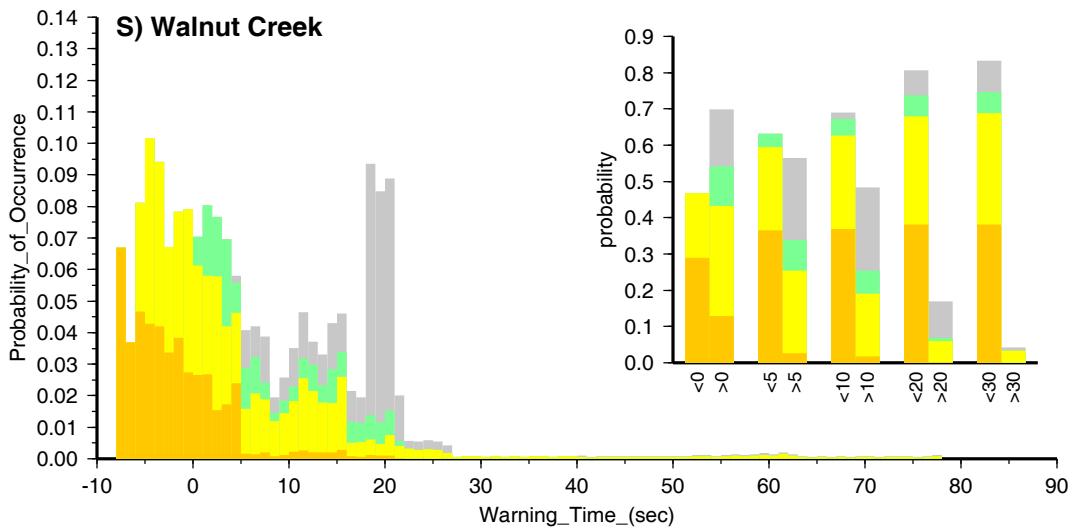
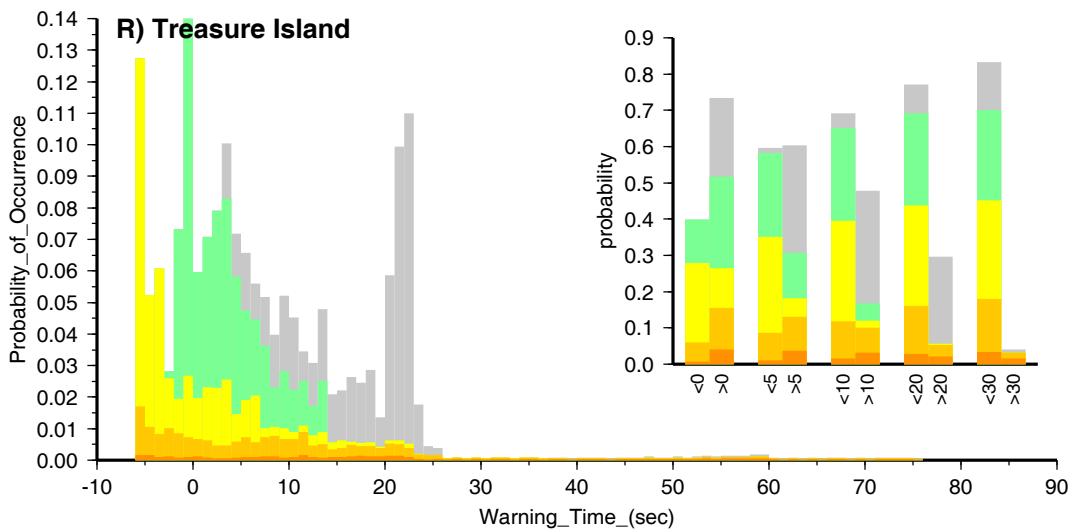
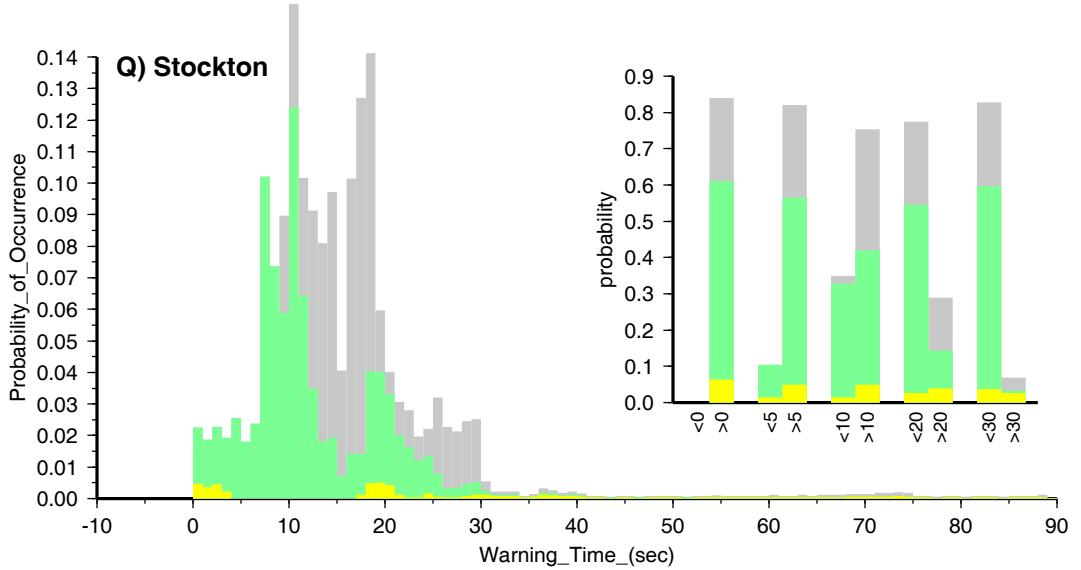


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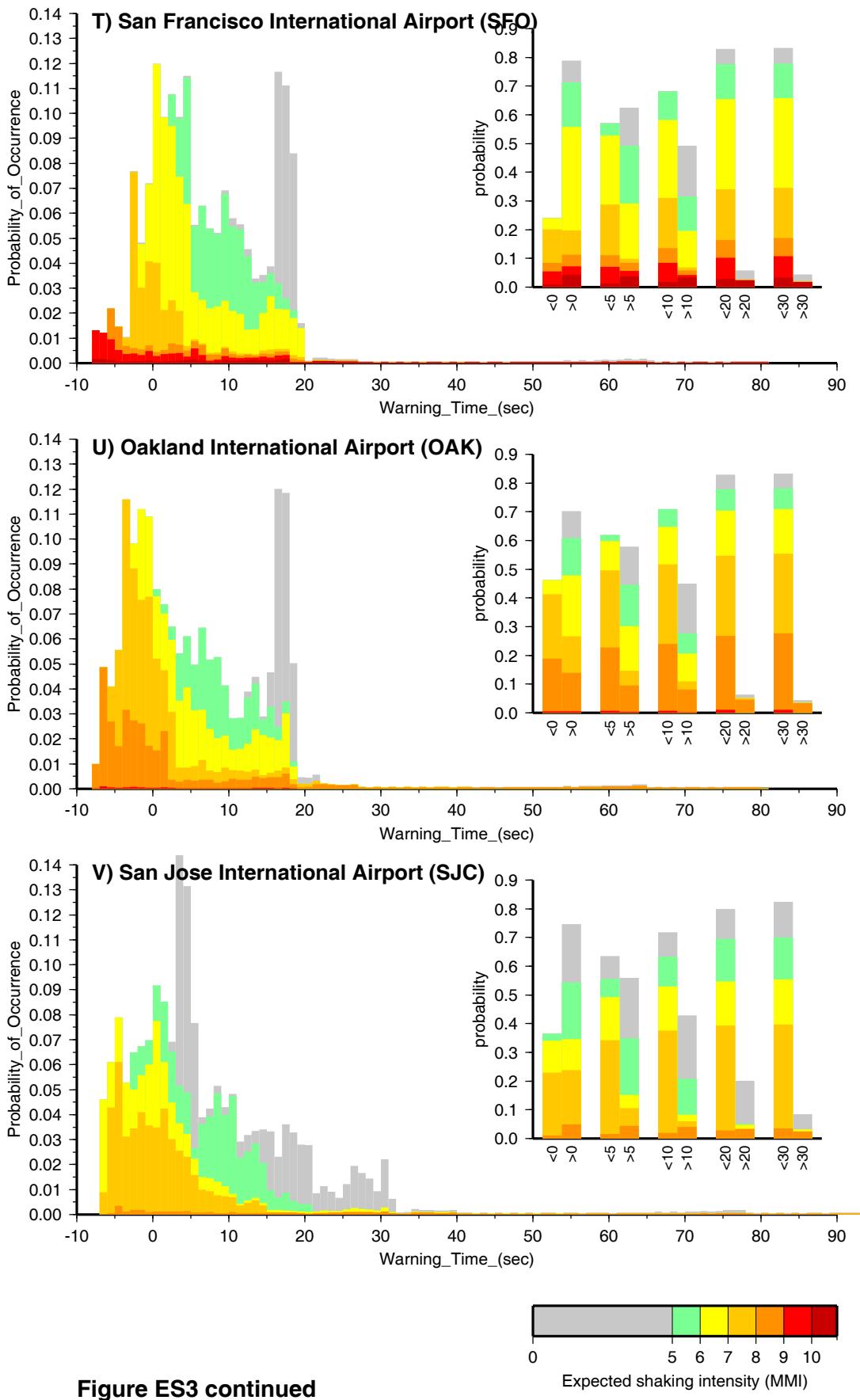


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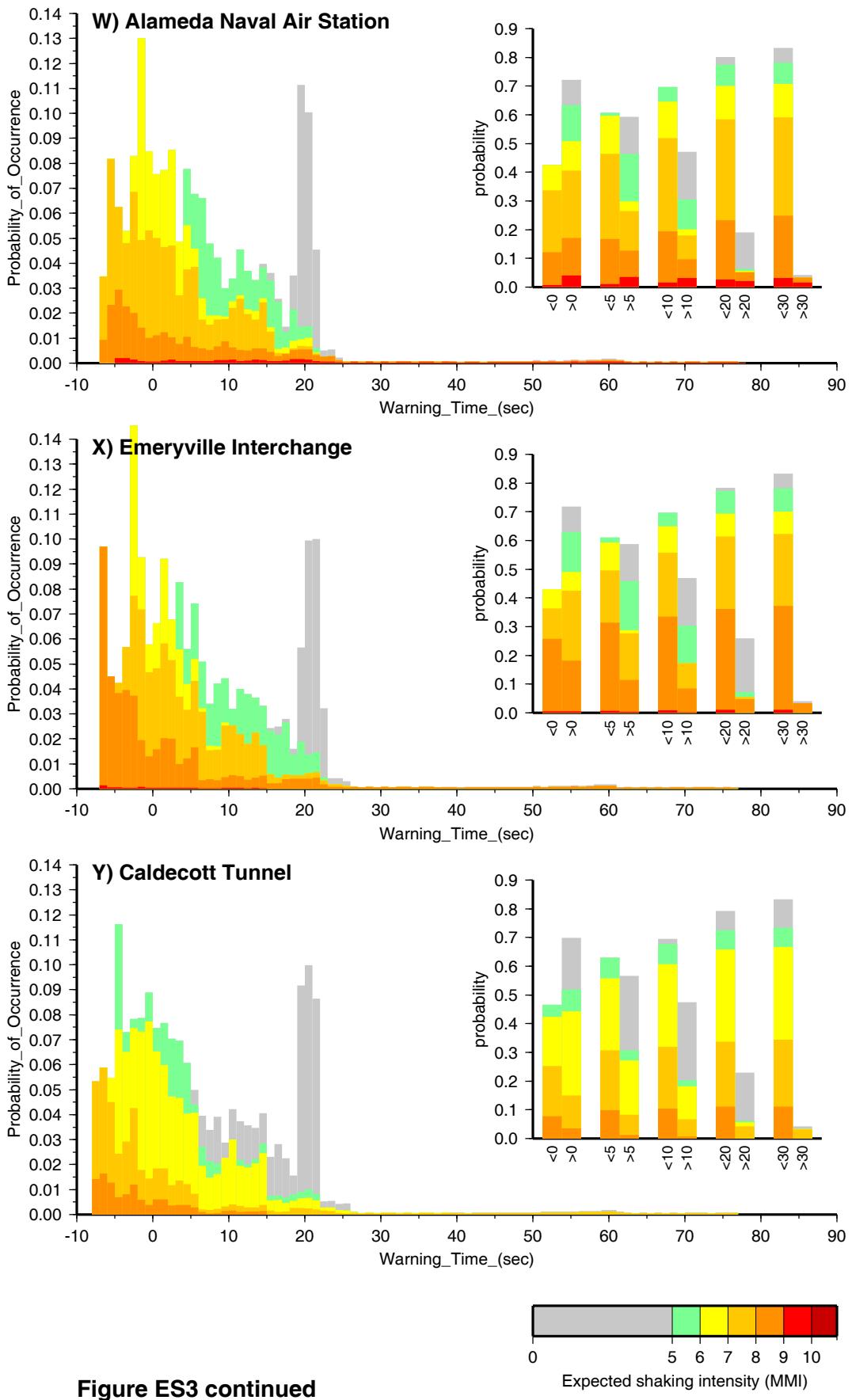


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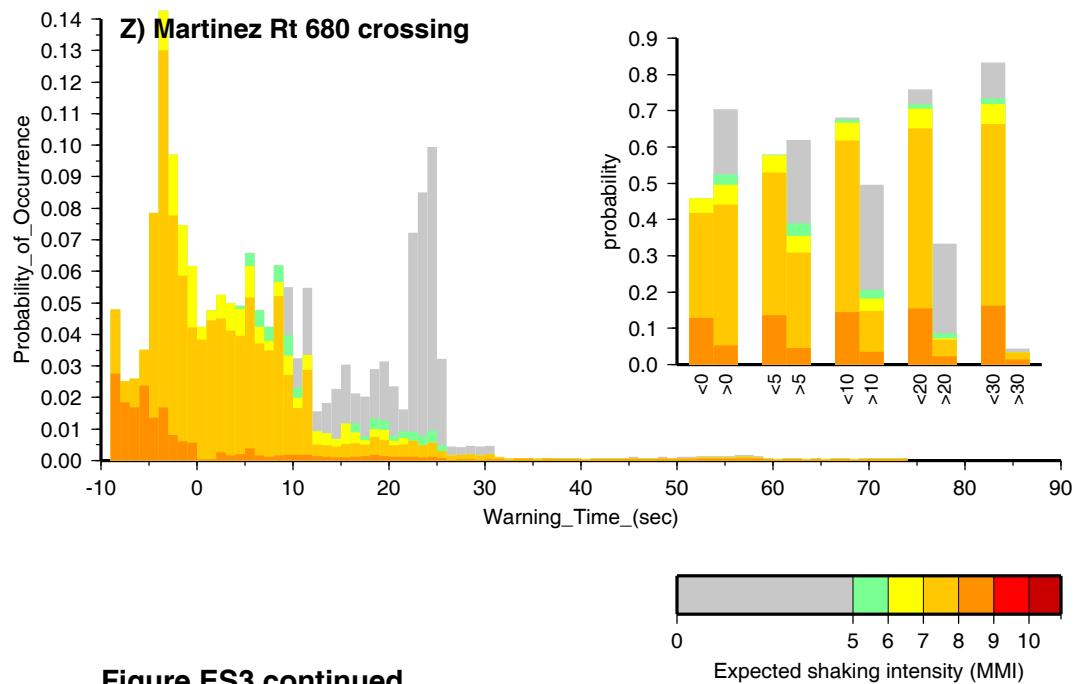


Figure ES3 continued