



Ground motion observations from the 14 Nov 2016 Mw7.8 Kaikoura Eq and insights from broadband simulations

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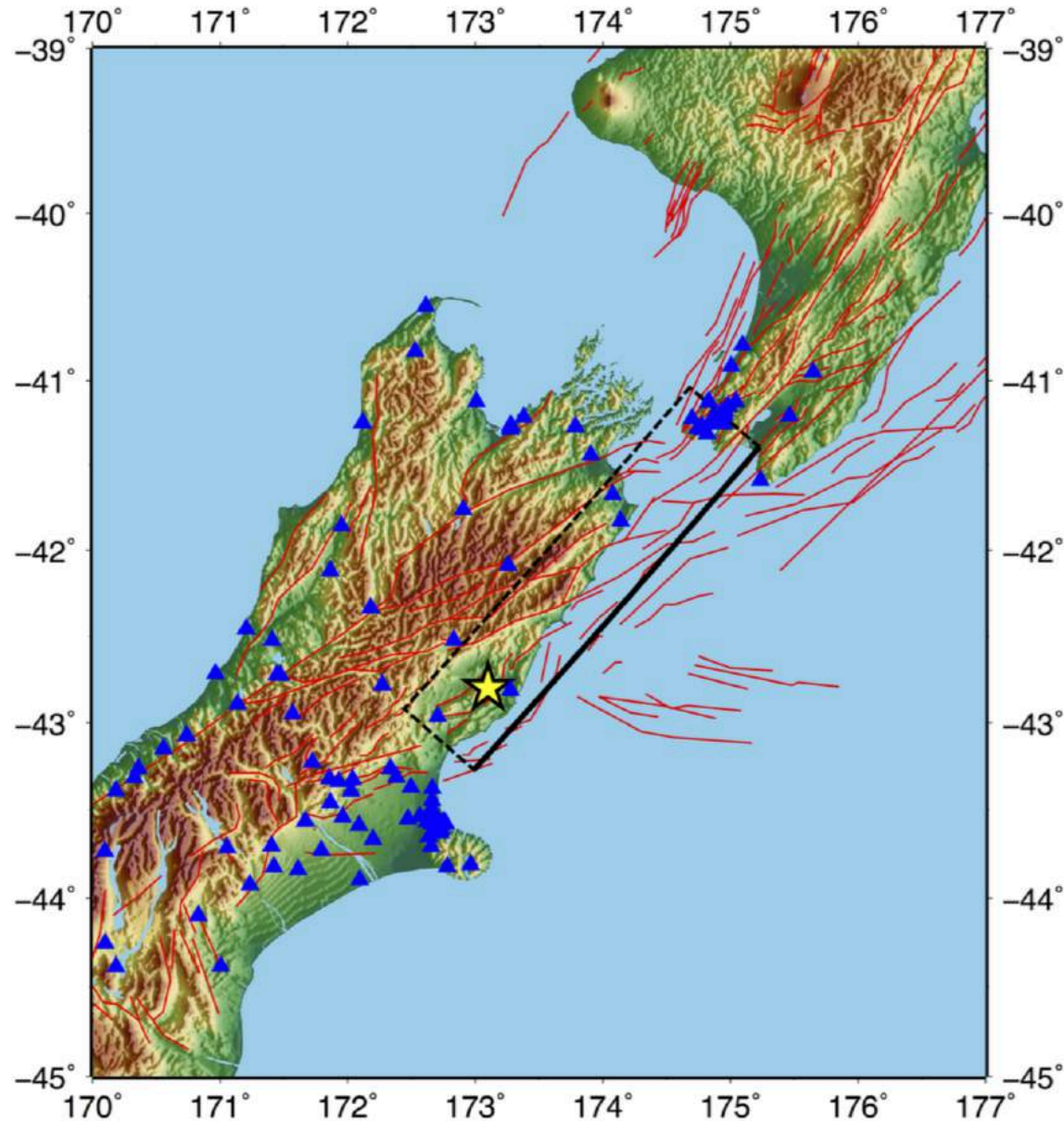
Information 24-48hrs post event

USGS single source model

Several strong motion records missing



QuakeCoRE
NZ Centre for Earthquake Resilience





Alpine Fault

Wairau Fault

Awatere Fault

Clarence Fault

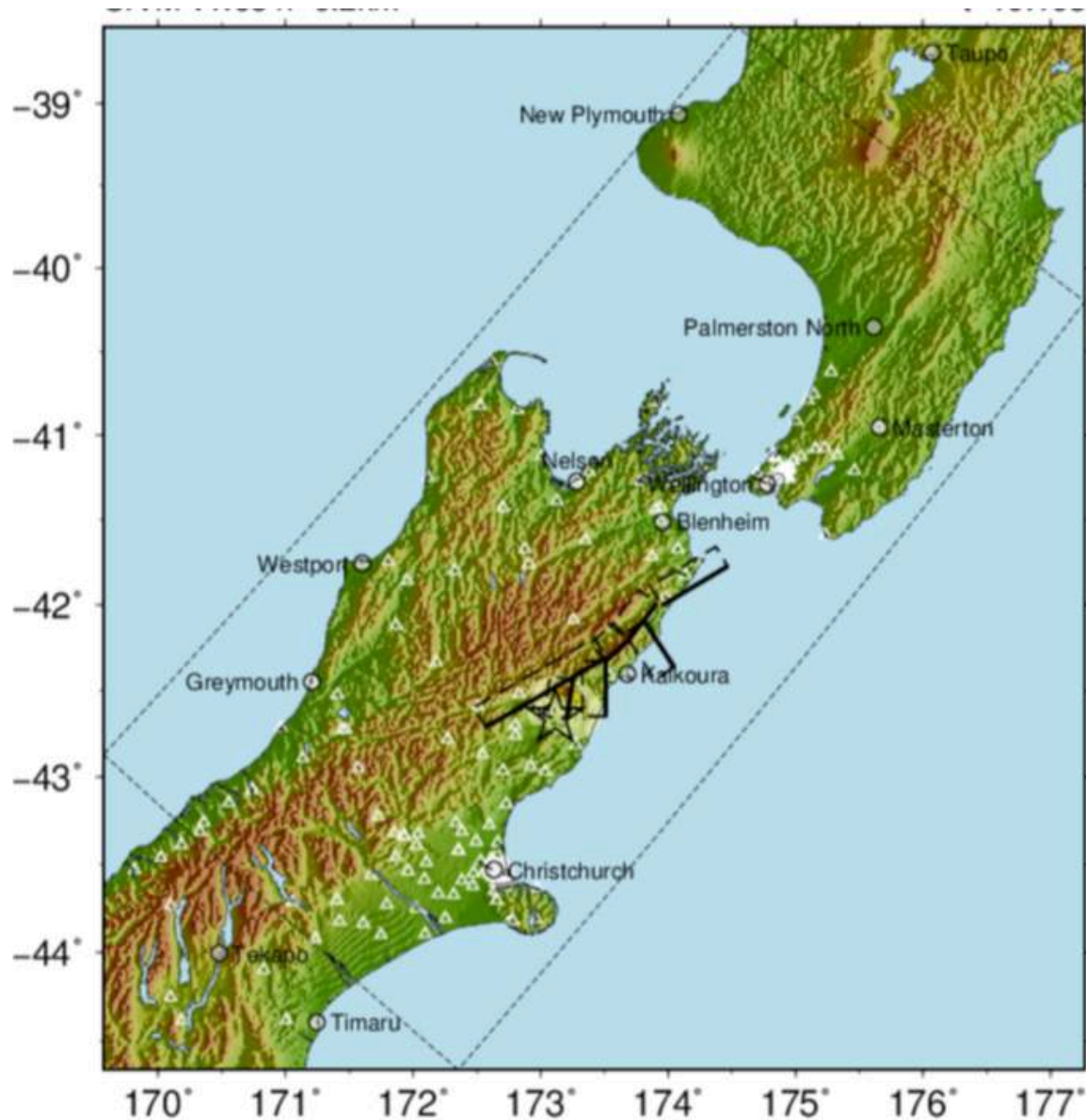
Kekerengu Fault

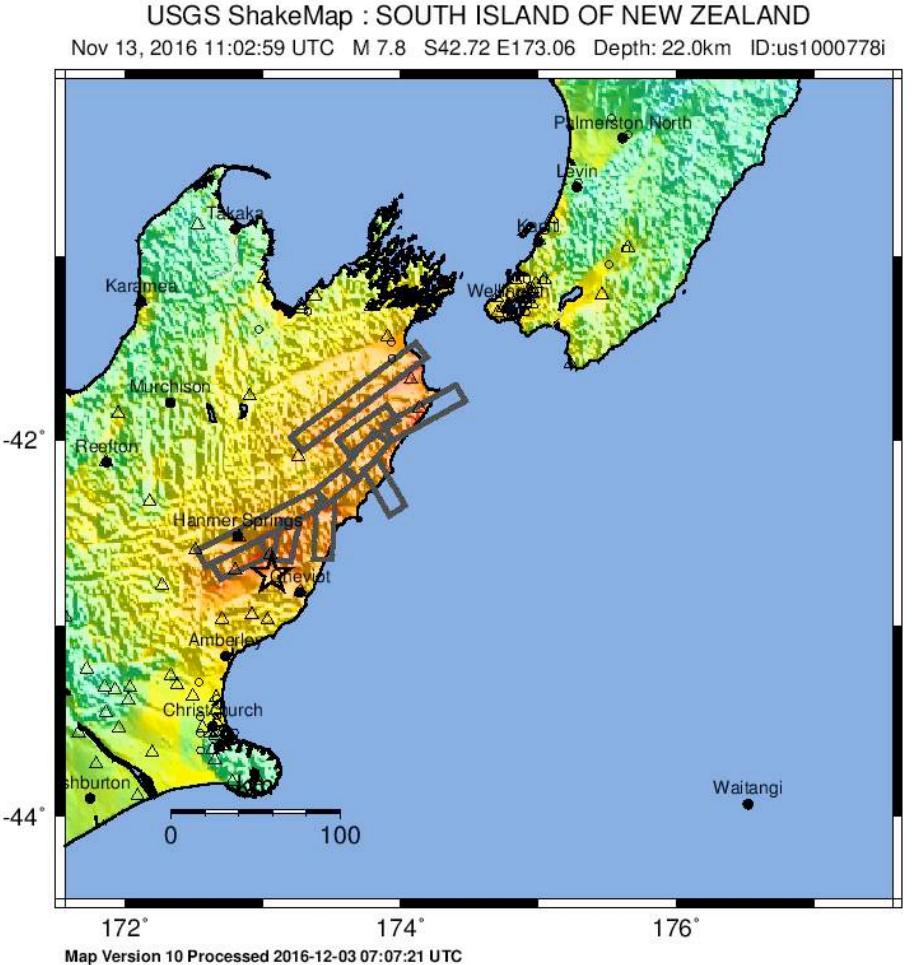
Hope Fault

Source model from Ian Hamling (GNS)



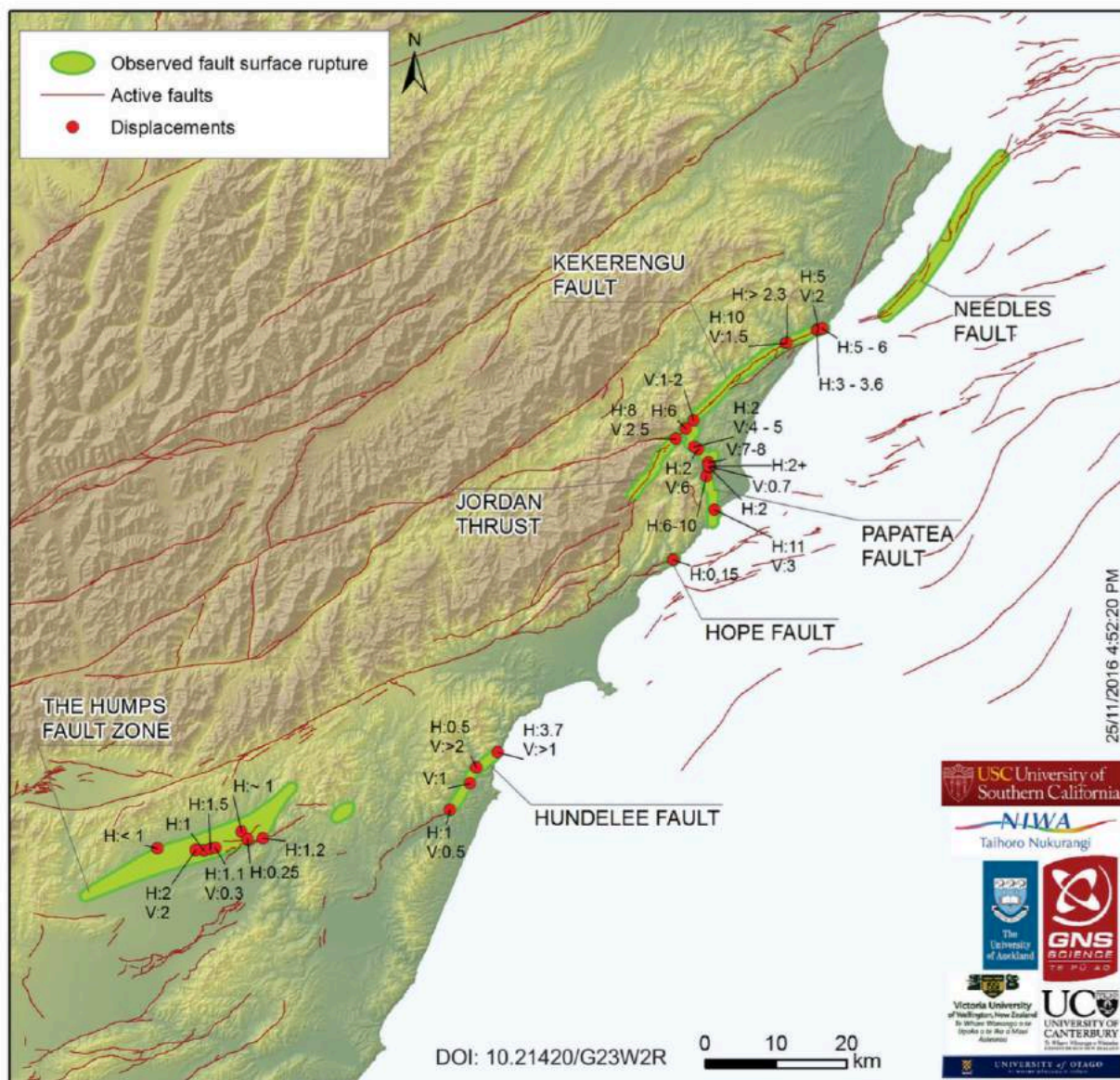
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PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	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)



KAIKOURA EQ Response Spectra

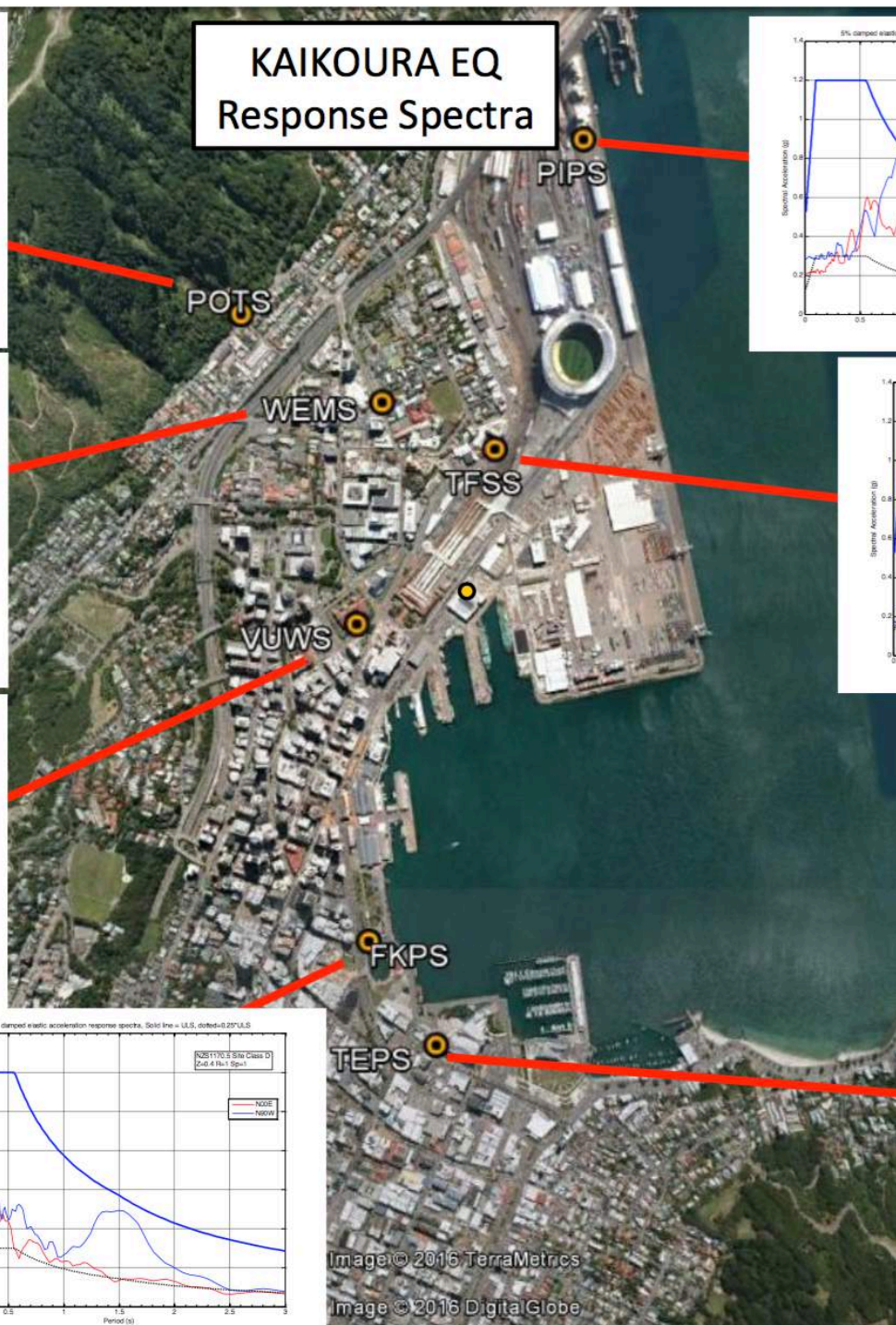
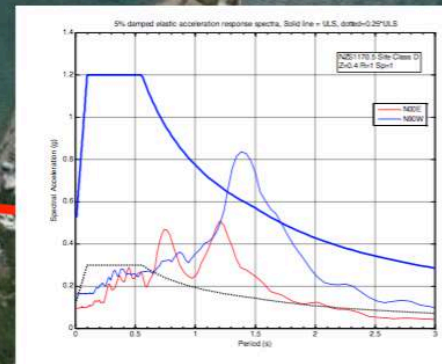
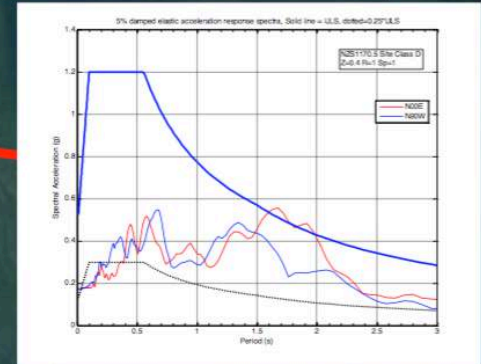
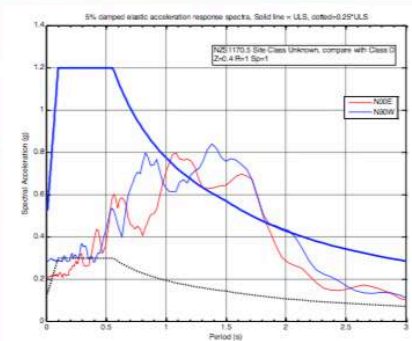
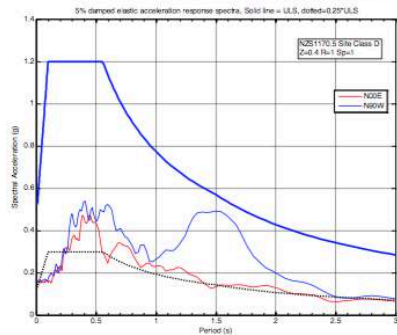
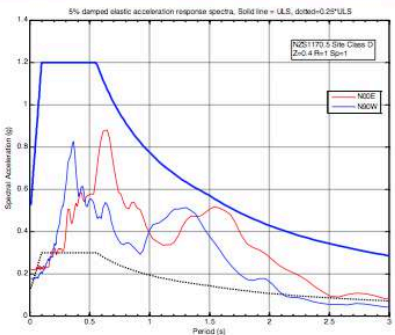
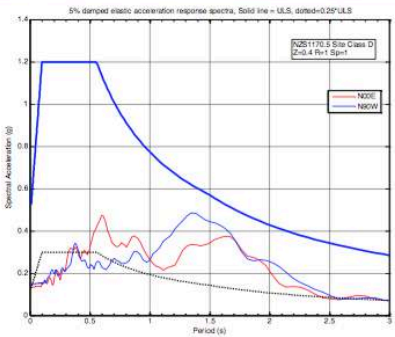
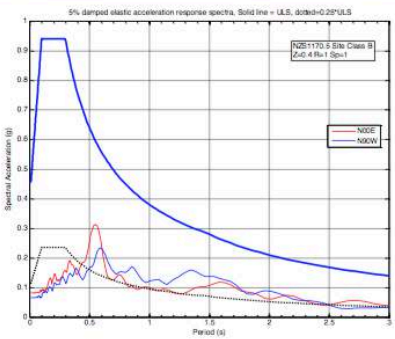
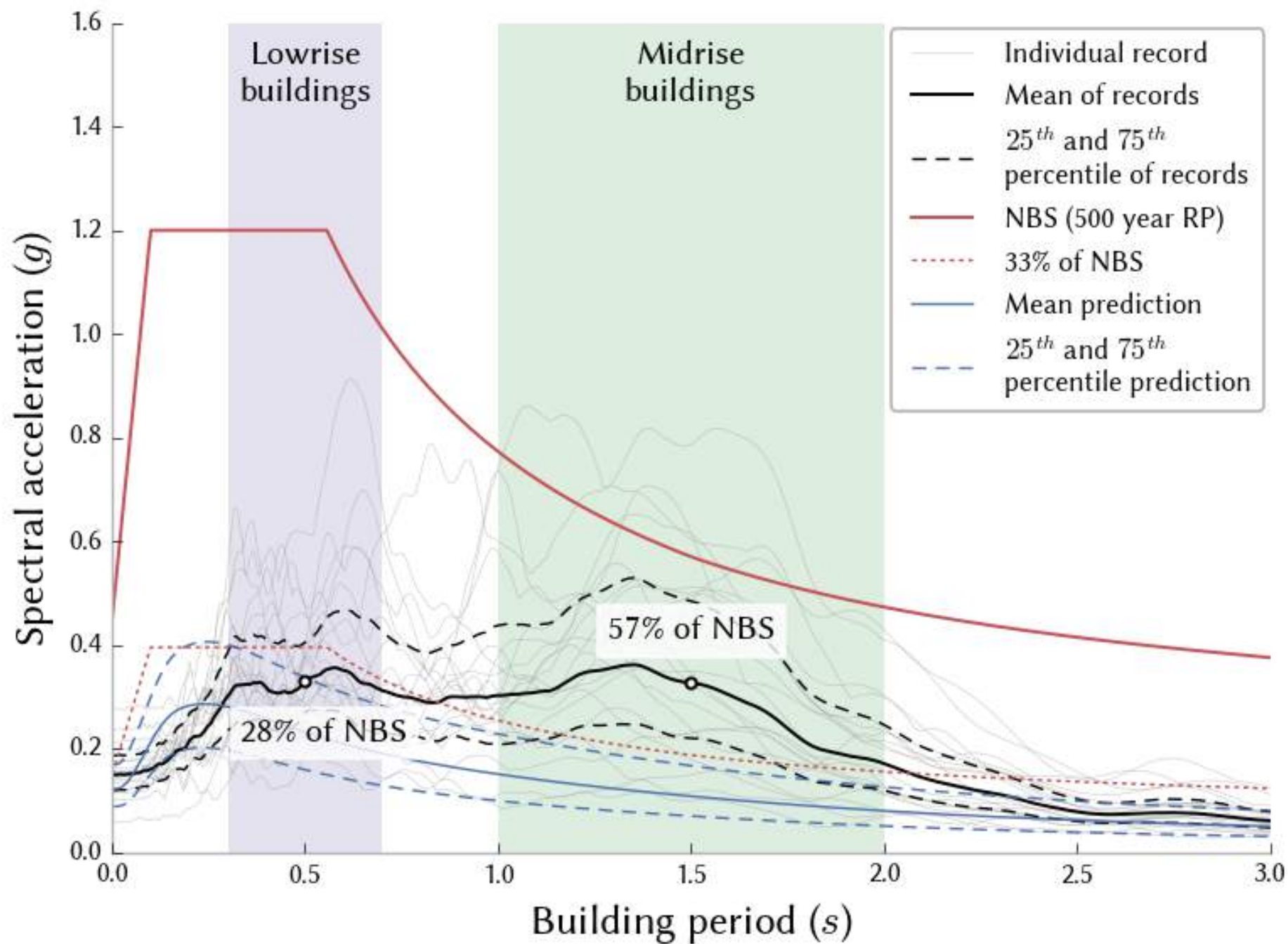
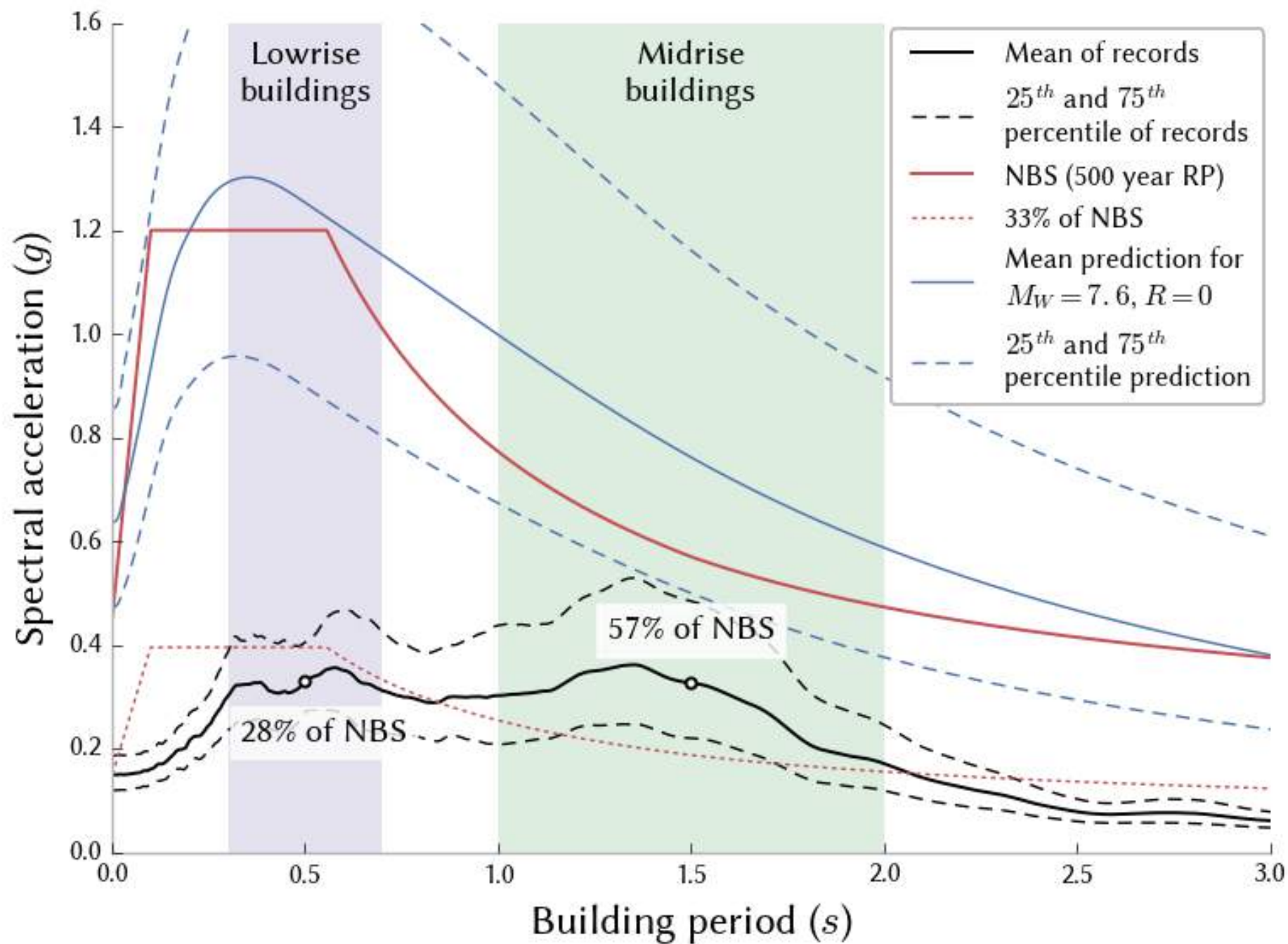


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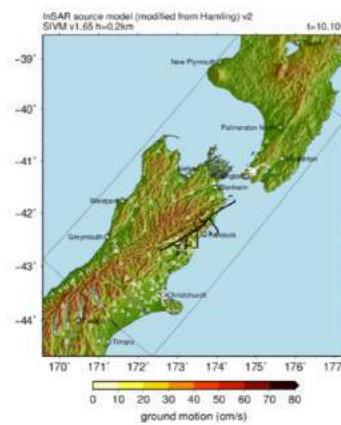
Image © 2016 DigitalGlobe

Google earth





video of simulation



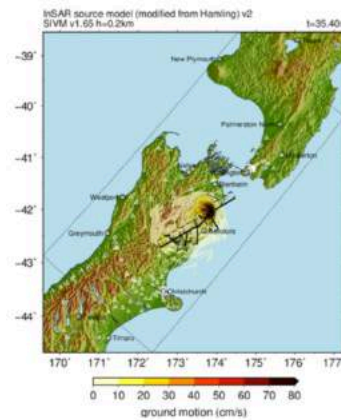
(a)



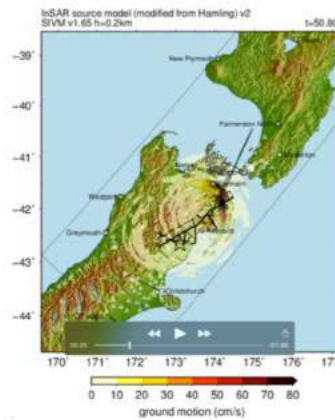
(b)



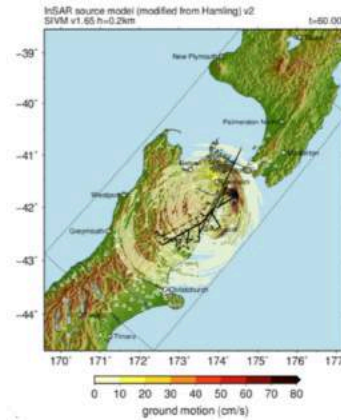
(c)



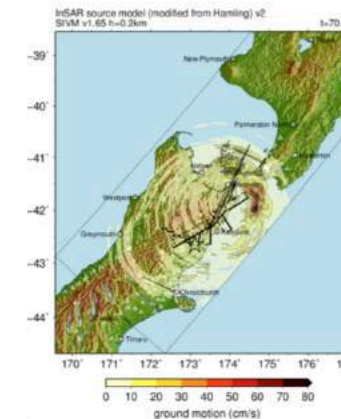
(d)



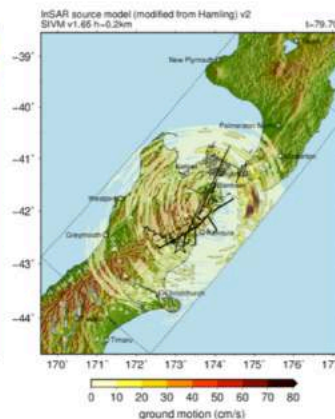
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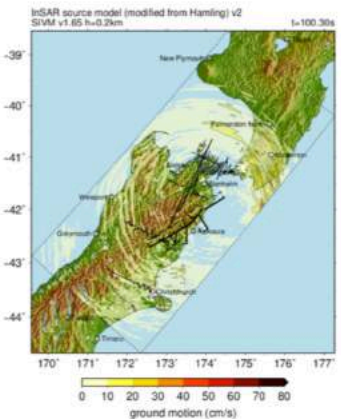
(f)



(g)

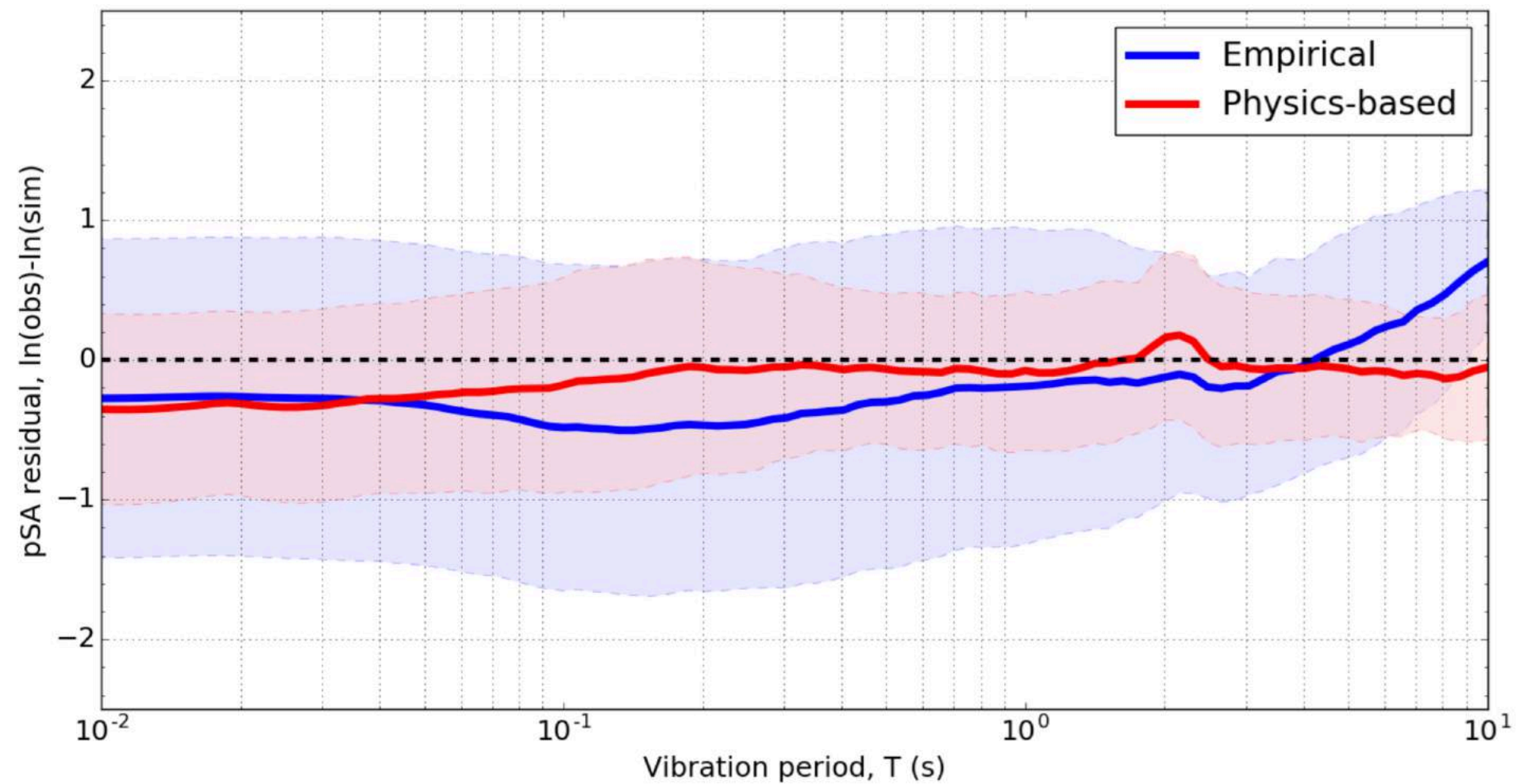


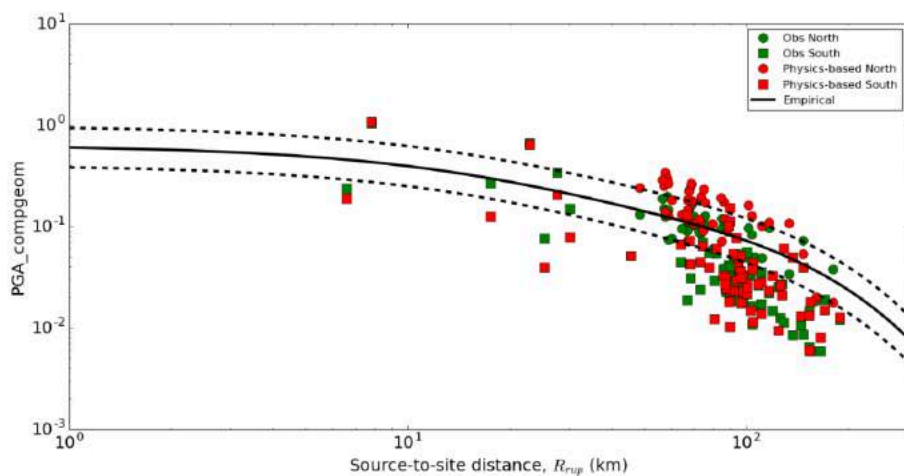
(h)



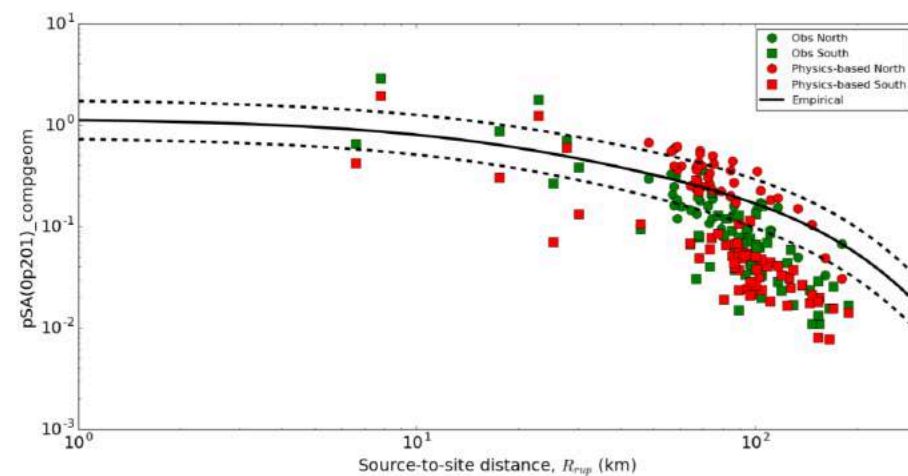
(i)



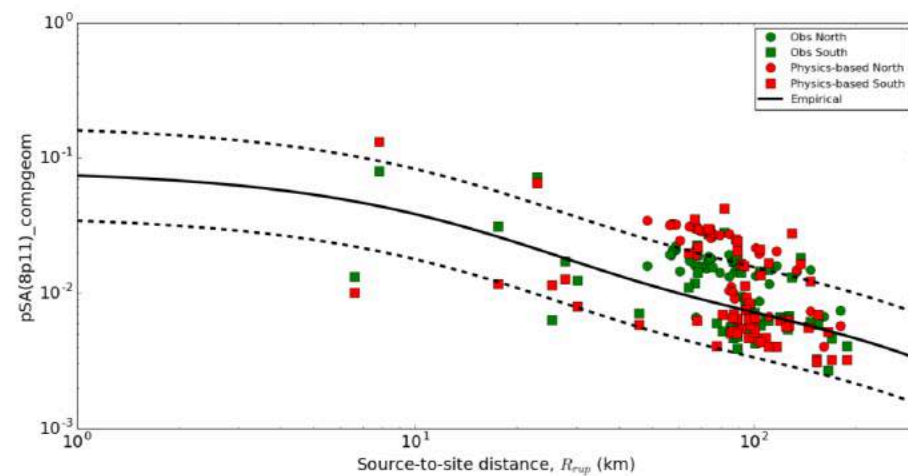
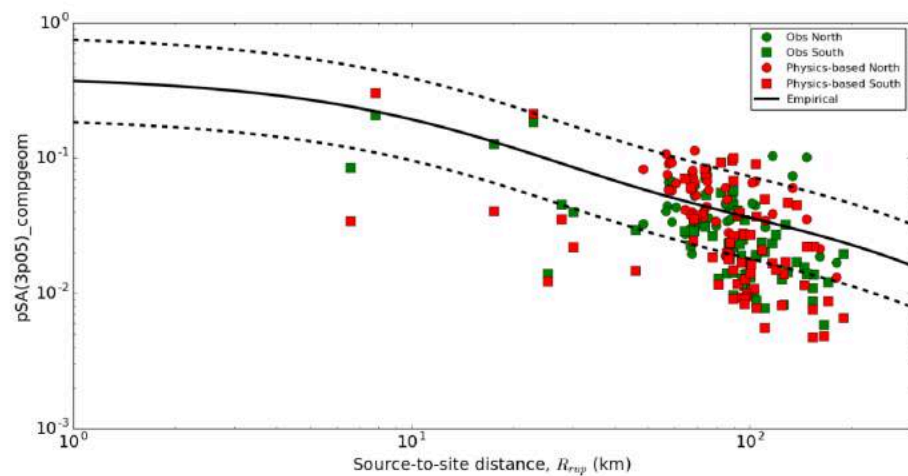


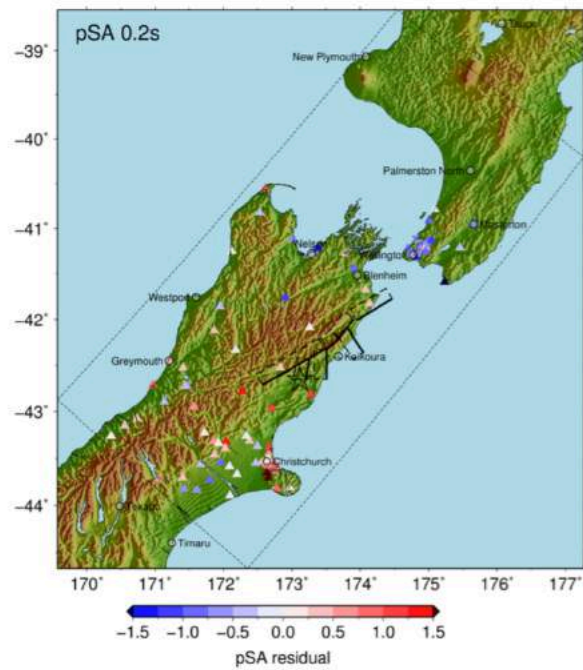


(a)

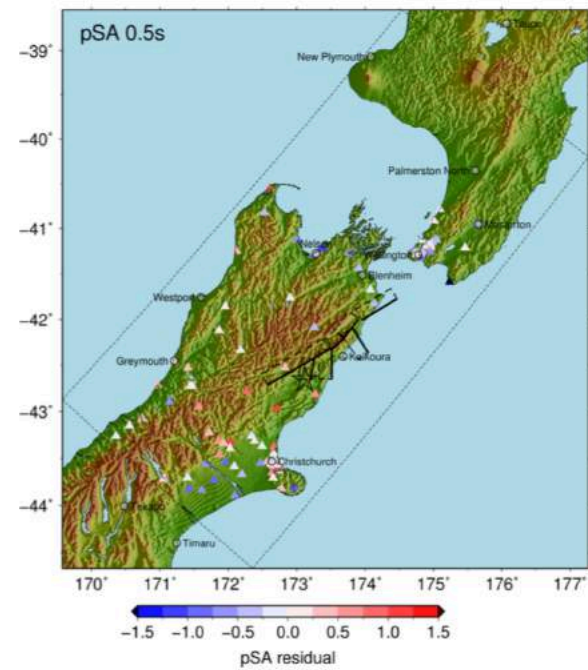


(b)





(a)



(b)

