

# National Seismic Hazard Model

## Regional results summarised

Te Taura Matapae Pūmate Rū i Aotearoa  
**NSHM** The New Zealand National Seismic Hazard Model  
 A GNS Science Led Research Programme

*E mahi ana me*  
 In collaboration with



Ngā hoa tuku pūtea  
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MINISTRY OF BUSINESS,  
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 HĪKINA WHAKATUTUKI

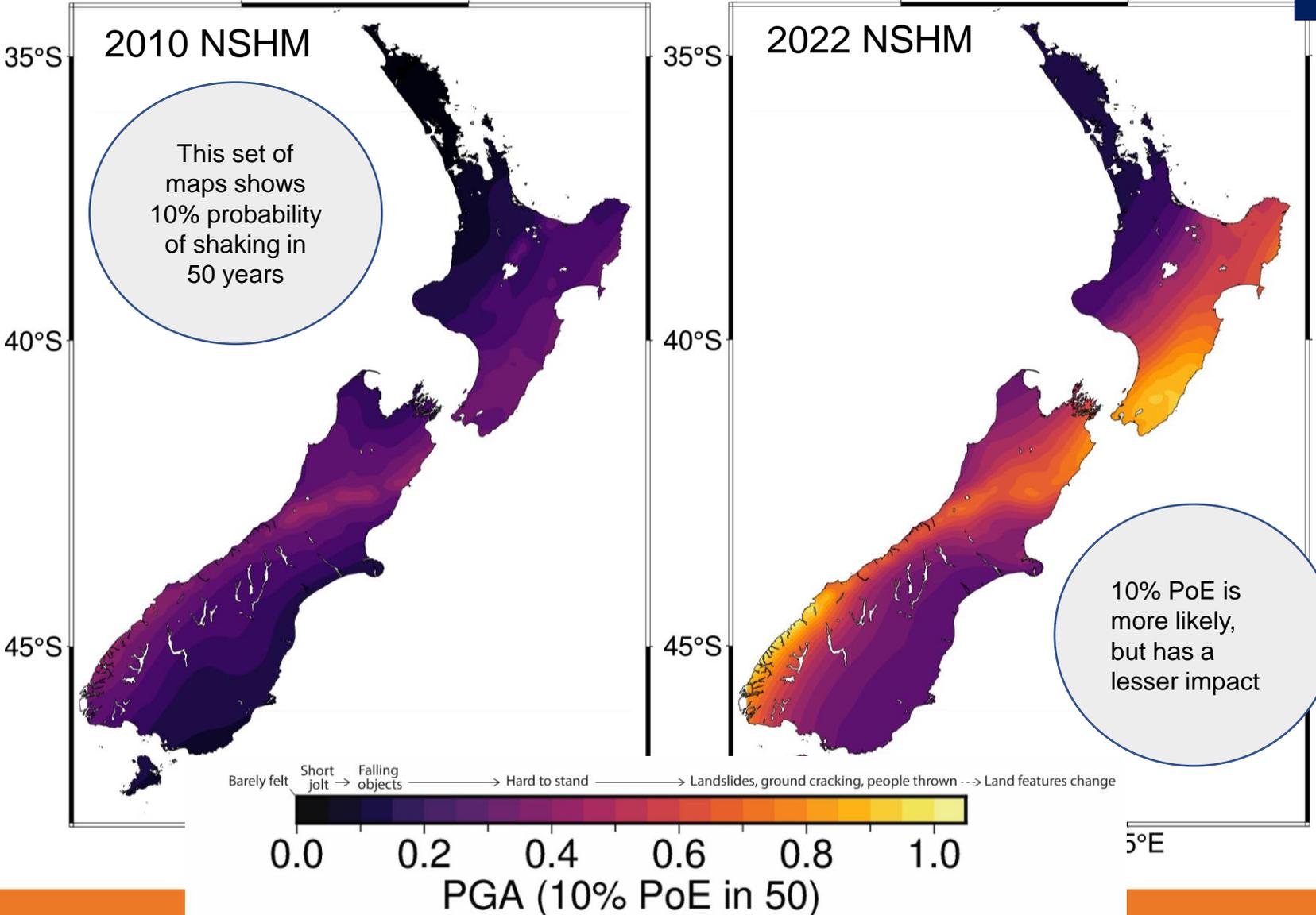
Toka Tū Ake **EQC**

# Comparison of 2010 and 2022 PGA Hazard Maps

PGA: 10% Probability of Exceedance in 50 years

*One of many possible comparisons – not intended to illustrate full results.*

When all parameters are considered the range of change of the forecast hazard across New Zealand is from almost no change, to more than double – with an average increase of about 50% or more



Location	2010 PGA(g)	2022 PGA(g)
Kerikeri	0.01	.12
Auckland	0.05	0.13
Tauranga	0.13	0.24
Gisborne	0.31	0.65
Hamilton	0.09	0.16
Napier	0.29	0.64
New Plymouth	0.12	0.21
Whanganui	0.19	0.49
Wellington	0.32	0.82
Nelson	0.18	0.47
Blenheim	0.27	0.68
Christchurch	0.17	0.42
Greymouth	0.25	0.42
Dunedin	0.1	0.26
Invercargill	0.12	0.32

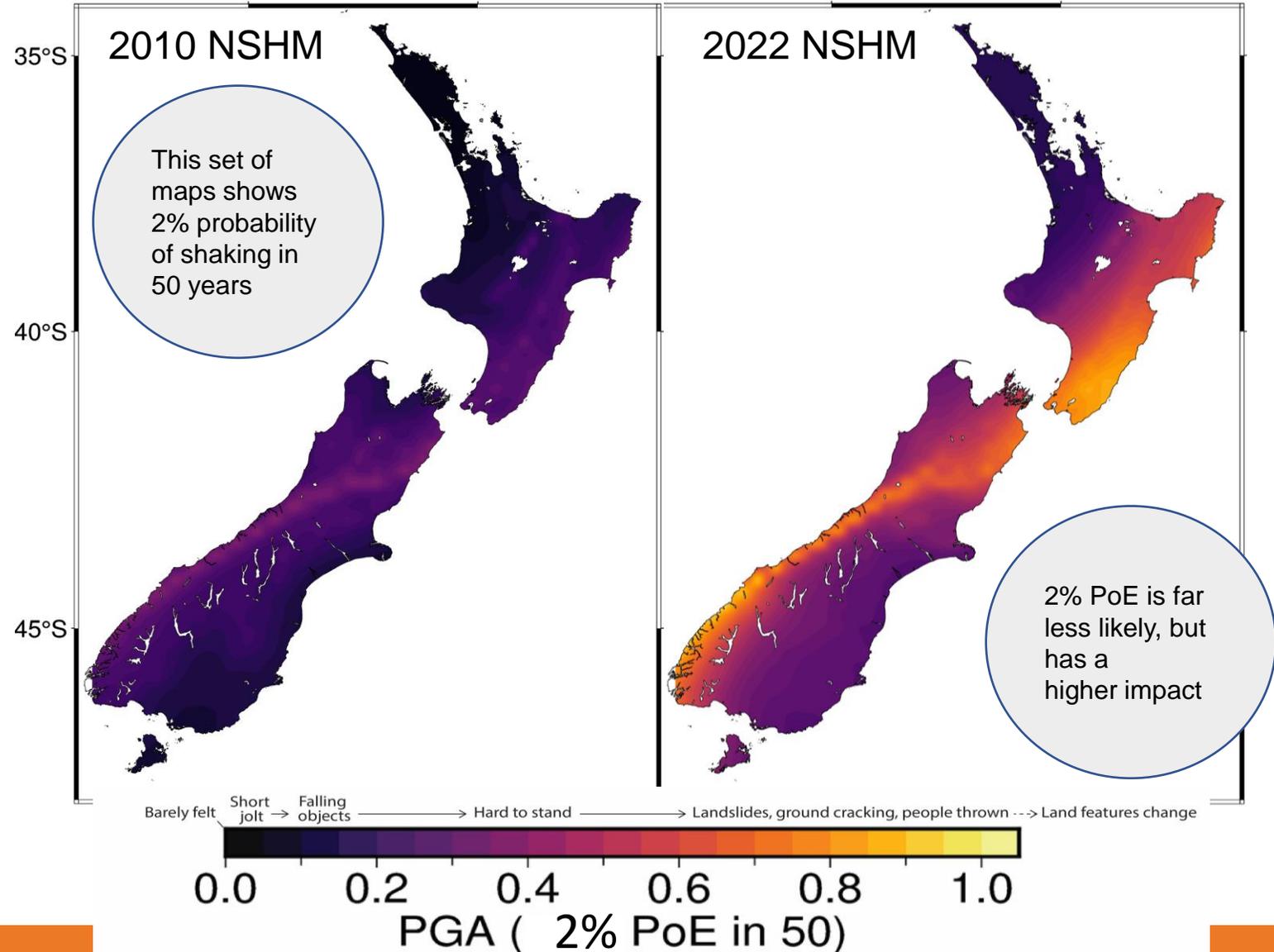
Example values for Vs30=250m/s

# Comparison of 2010 and 2022 PGA Hazard Maps

PGA: 2% Probability of Exceedance in 50 years

*One of many possible comparisons – not intended to illustrate full results.*

When all parameters are considered the range of change of the forecast hazard across New Zealand is from almost no change, to more than double – with an average increase of about 50% or more



Location	2010 PGA(g)	2022 PGA(g)
Kerikeri	0.07	0.27
Auckland	0.11	0.28
Tauranga	0.21	0.46
Gisborne	0.48	1.22
Hamilton	0.16	0.33
Napier	0.49	1.2
New Plymouth	0.21	0.42
Whanganui	0.29	0.87
Wellington	0.52	1.42
Nelson	0.28	0.85
Blenheim	0.43	1.2
Christchurch	0.27	0.73
Greymouth	0.37	0.76
Dunedin	0.23	0.5
Invercargill	0.2	0.57

Example values for Vs30=250m/s

# Range of hazard change

The curves show the range of forecast hazard change from previous hazard modelling, to what we know from the 2022 NSHM.

Across New Zealand, increased change ranges from almost no change (1 times) to more than double (2.5+). Nationally, the average change is 50% or more.

Change varies within a region, as different locations show varying shaking estimates. That is why every region has a range of related results.

