**Supplementary Material**

Here we have provided extra figures, tables and explanations for a robust view of the results and interpretations we have reported in the main manuscript.

Exclusion of Outlier Landslides from the Roughness–Age Model

Two dated landslides, May Creek (359 cal yr BP) and Schmitz Park E (7390 cal yr BP), were excluded from the final roughness–age calibration because their surface roughness values deviated substantially from the expected trend. Both slides returned anomalous values (0.011 m^{-1} and 0.020 m^{-1}, respectively) and their inclusion degraded model performance (R^2 declined from 0.88 to 0.38).

We attribute this discrepancy to the small size of the landslides relative to the scale of analysis. The May Creek landslide has a mapped area of ~16,000 m^2 and the Schmitz Park E landslide ~13,900 m^2, making them among the smallest dated deposits in the dataset. During surface roughness calculation, further buffering was required to exclude deposit flanks, toes, gullies, and anthropogenic modifications. These steps substantially reduced the effective area used in roughness computation, leaving only a limited portion of each deposit to represent overall morphology.

Given that roughness metrics are most robust when calculated across broad, representative areas of landslide deposits, we interpret the anomalous results for May Creek and Schmitz Park E as artifacts of insufficient sample area rather than true departures from the roughness–age relationship. For this reason, both were excluded from the final model calibration but are reported here for completeness.
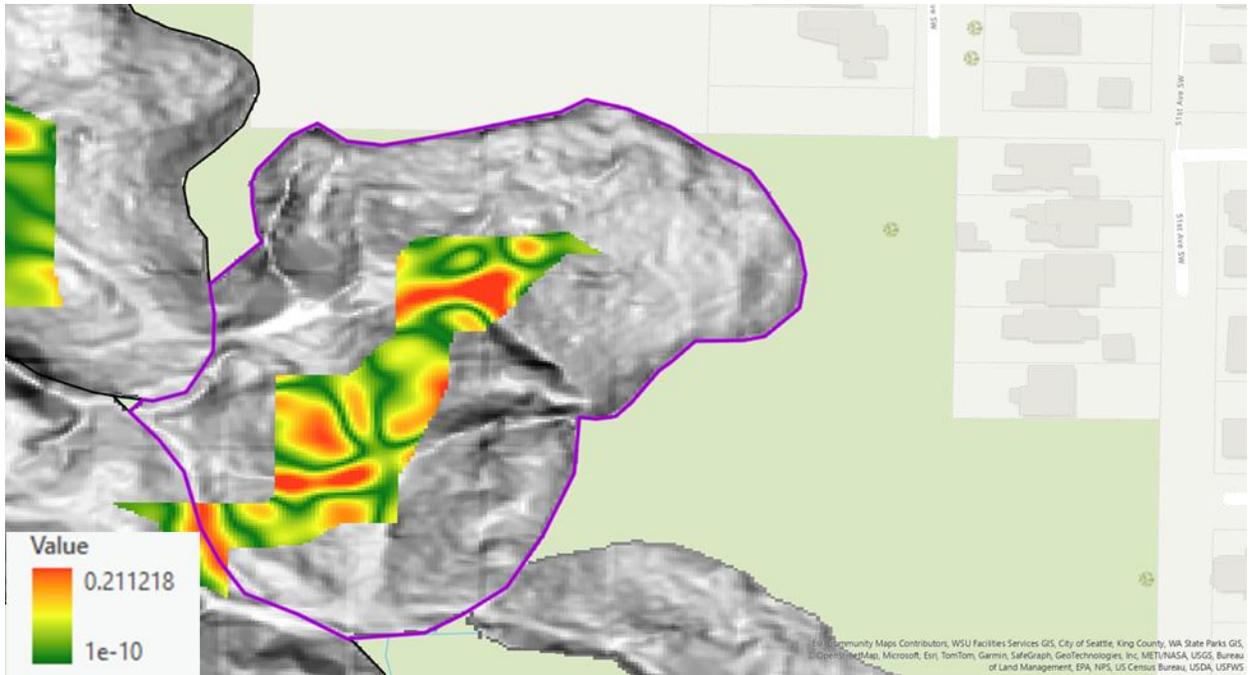
S1: Schmitz Preserve East landslide shown in purple outline, overlain with the computed roughness surface after buffering and excluding landslide toe, flanks and gullies. Base map: Esri (Community Maps Contributors, USGS, King County GIS, etc.) | Powered by Esri.

S2: Extent of May Creek landslide deposit overlain by the computed roughness surface after buffering and excluding landslide toe, flanks and gullies. Base map: Esri (Community Maps Contributors, USGS, King County GIS, etc.) | Powered by Esri.

$$y = 68284e^{-218.9x}$$
$$R^2 = 0.6383$$
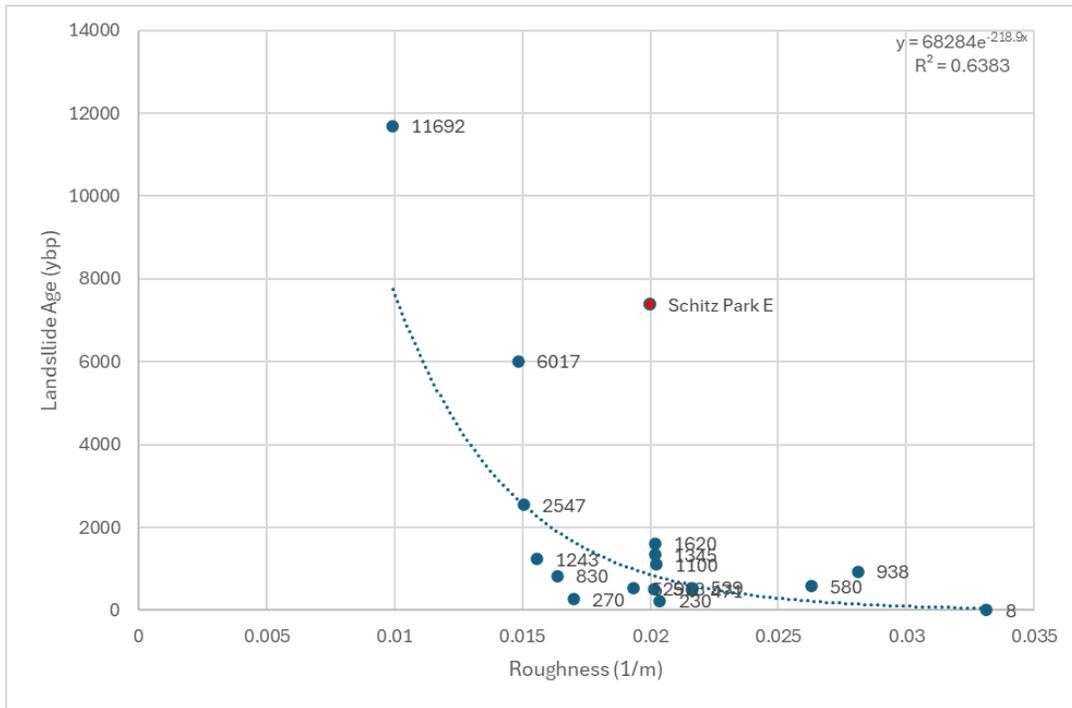
S3: Sensitivity analysis showing the influence of Schmitz Park E roughness on the Age-roughness model.

$$y = 27272e^{-179.1x}$$
$$R^2 = 0.375$$
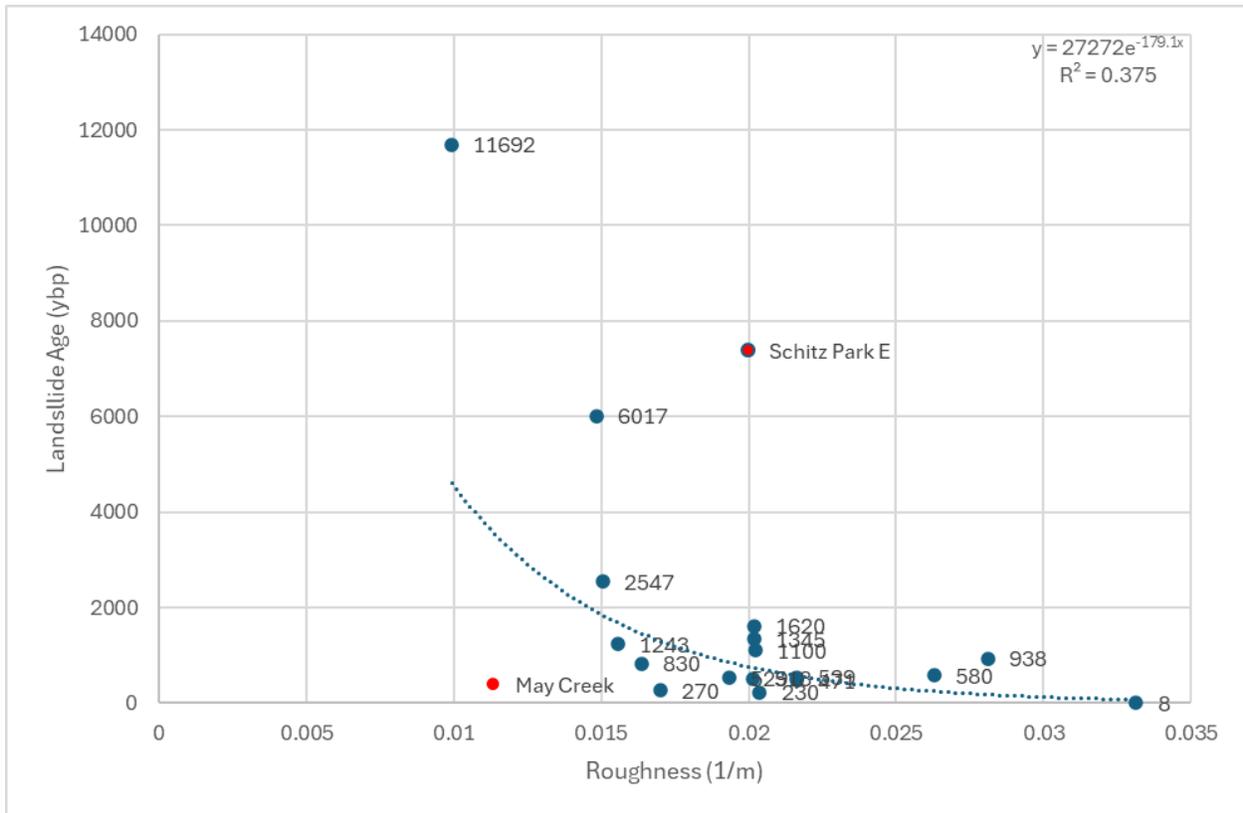
S4: Sensitivity analysis showing the influence of May Creek and Schmitz Park E roughness on the Age-roughness model.

Table S1: Age-Roughness Calibration Dataset

Landslide Name	Mean_CWT (1/m)	Landslide Caliberated Age	SD	Source
HammaHamma	0.02023	1027	0.5	Black et al. (2023)
Carbon_River 01	0.021637	539	16	This study
Carbon_River 05	0.021637	471	29	
Lynch_Creek	0.019336	529	15	
Marshel_R06	0.028103	938	19	
Marshel_R07	0.015066	2547	54	
Marshel_R08	0.016994	270	16	
Oso	0.033125	8	0.5	Oso Landslide
Headache Creek	0.014852	6017	130	LaHusen et al. (2016)
Smoothest one	0.00994	11692	286	
Rowan	0.020146	518	64	
Skaglund	0.020377	230	79	Booth et al. (2017)
Unamed landslide (Booth et al 2017)	0.015563	1243	53	
younger krause	0.026294	580	45	

North Issaquah Slide	0.016362	830	80	Herzig et al. (2023)
Norway Hill	0.020187	1345	45	
Norway Hill	0.020187	1620	80	
Schitz Park E	0.02	7390	70	Schitz Park E (Excluded)
May Creek	0.011357	396	58	May Creek (Excluded)
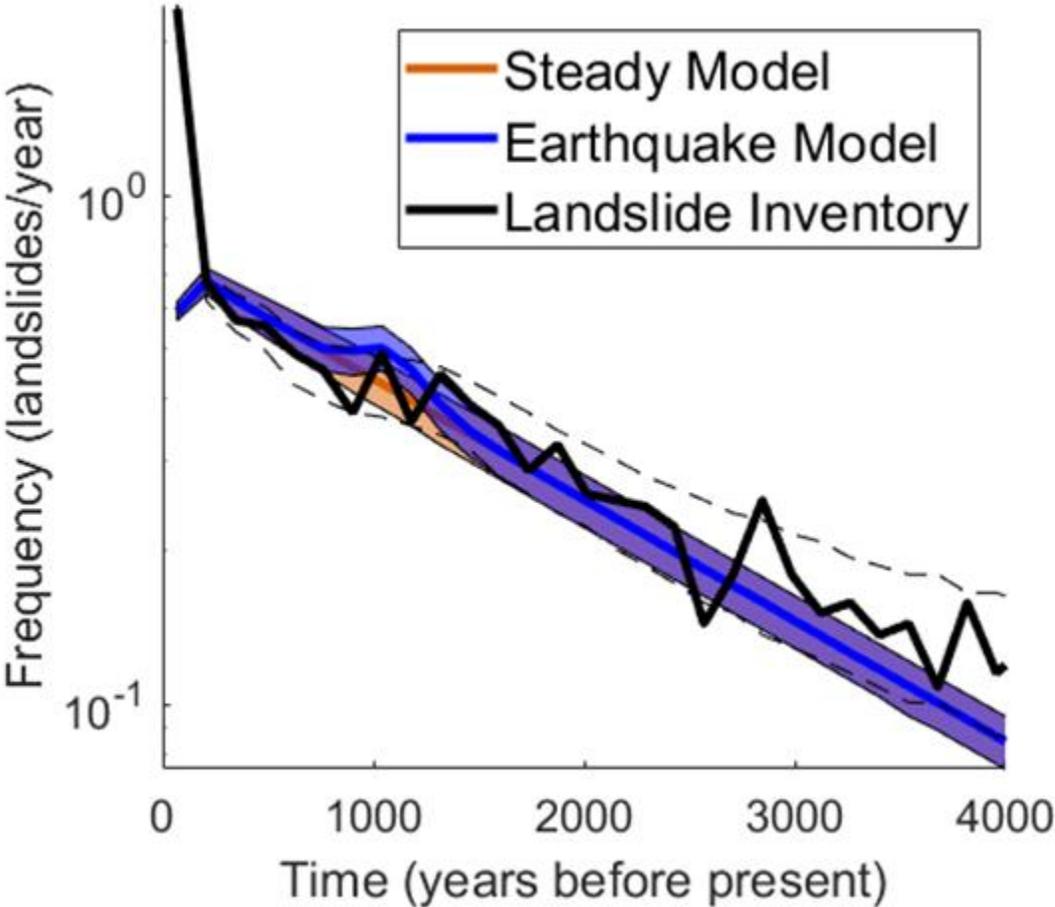
S5: TFZ Single earthquake model with landslide pulse at 1100ybp. RMSE for EQ and Steady state models are   0.0414 and 0.0399
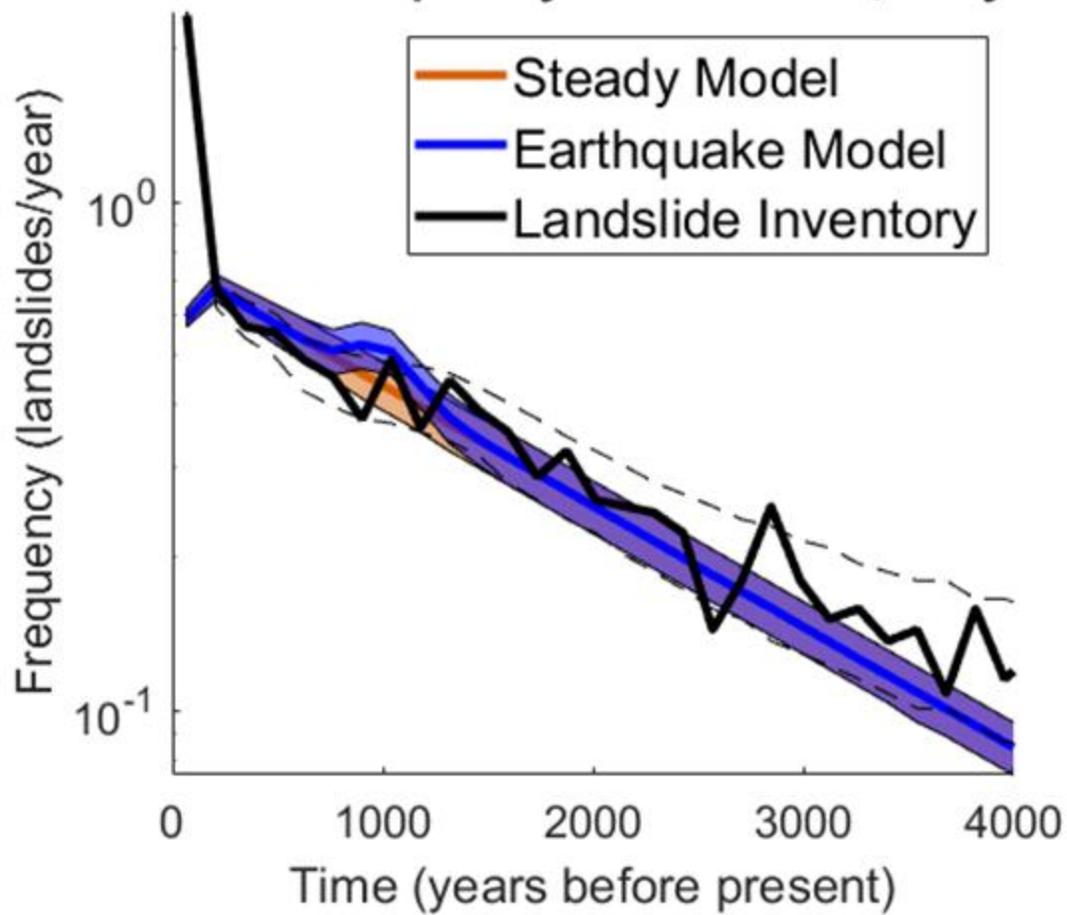
S6: Seattle fault Single earthquake model with landslide pulse at 1027 ybp. RMSE for EQ and Steady state models are 0.0427 and 0.0399
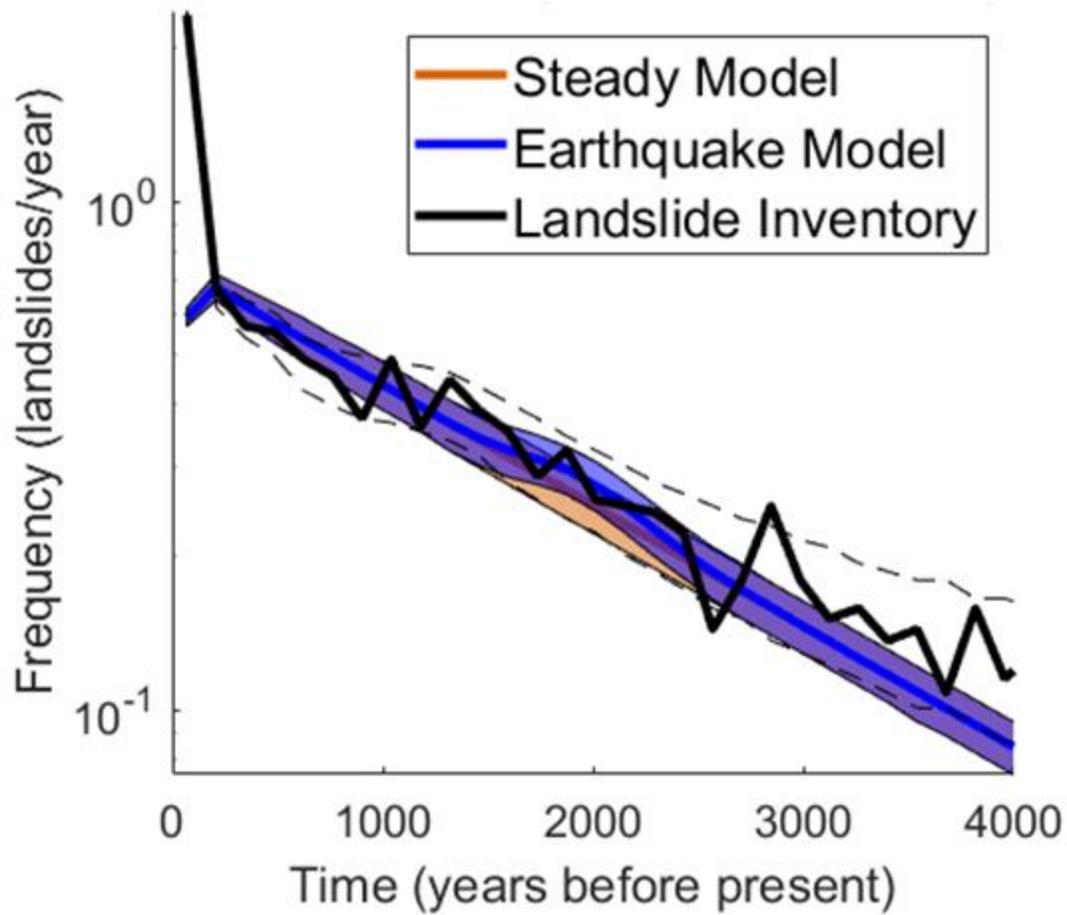
S7: DDMFZ Single earthquake model with landslide pulse at 2000 ybp.RMSE for EQ and Steady state models are 0.0391 and 0.0399,
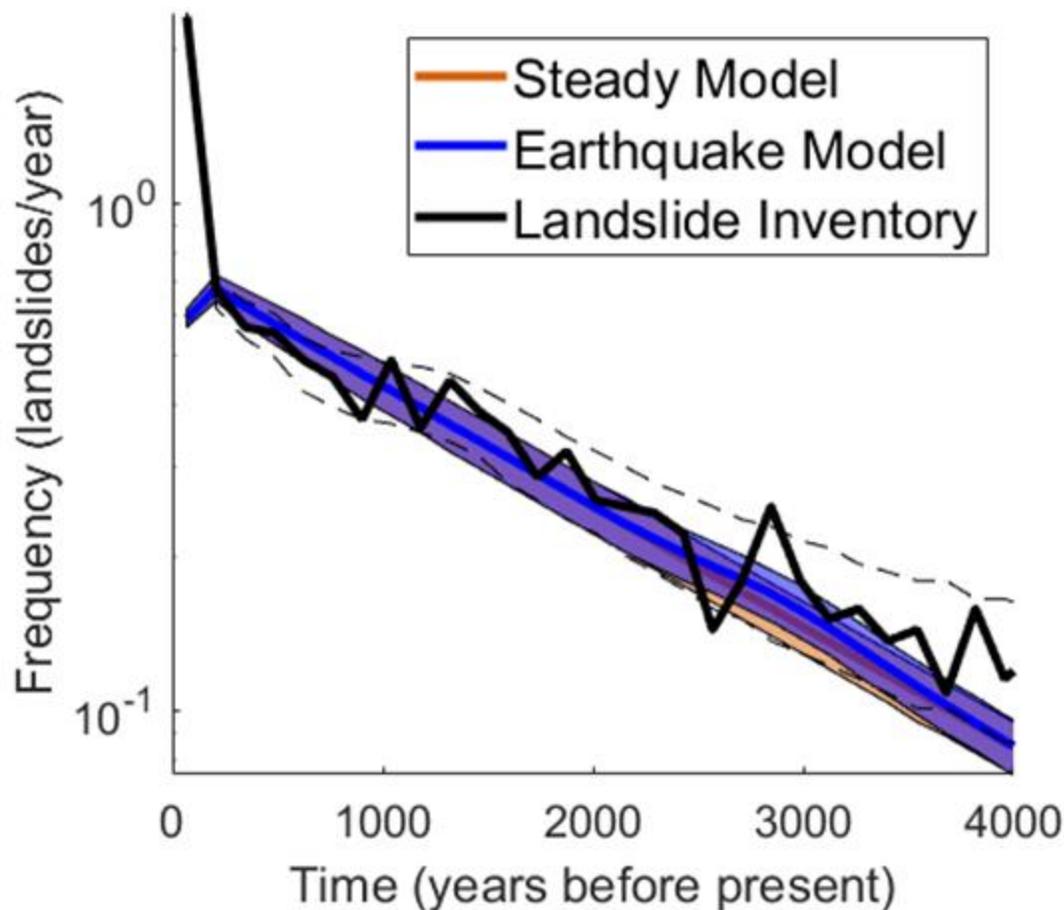
S8: SWIFZ Single earthquake model with landslide pulse at 3000 ybp. RMSE for EQ and Steady state models are 0.0390 and 0.0399

Effect of Bin sizes on the landslide history model.
To evaluate the sensitivity of our landslide frequency model to bin size and assess the stability of model performance under different temporal resolutions, we explored the effects of varying bin widths on the fit of our multi-fault landslide history model. The purpose of this analysis was twofold: first, to understand how aggregation scale influences the detection of temporal clustering, and second, to determine an optimal balance between resolution and statistical noise when comparing earthquake-triggered and steady-state scenarios.

Figures S9 through S12 illustrate the results of applying the multi-fault model using 50-, 100-, 150-, and 200-year bins, respectively. As the bin size decreases, finer-scale variability becomes more pronounced, which increases the apparent fluctuations in the observed landslide frequency curve. Under these conditions (e.g., 50-year bins, Fig. S9), the earthquake model slightly outperforms the steady-state model (RMSE: 0.0484 vs. 0.0491), suggesting that the

sharper temporal clustering introduced by earthquakes is better captured at higher resolution. However, this improvement comes with increased noise and less stable background trends.

Conversely, as bin size increases (e.g., 200-year bins, Fig. S12), temporal variability in the observed record smooths out, resulting in a closer alignment with the steady-state model (RMSE: 0.0321 vs. 0.0347), which assumes a long-term average rate of landsliding modulated only by preservation decay. While this may reflect the underlying baseline process, it can also obscure transient peaks associated with seismic events.

Among these scenarios, the 100-year bin width (Fig. S10) presents a compelling compromise: it retains sufficient temporal resolution to resolve broad-scale landslide clustering while minimizing short-term noise. This intermediate bin size enhances the visual and statistical correspondence between the earthquake model and observed landslide frequency (RMSE: 0.0397 vs. 0.0399), preserving the signature of multi-fault seismic triggering without overfitting to stochastic variability. For this reason, we selected 100-year bins as the standard temporal resolution in our primary model evaluation.
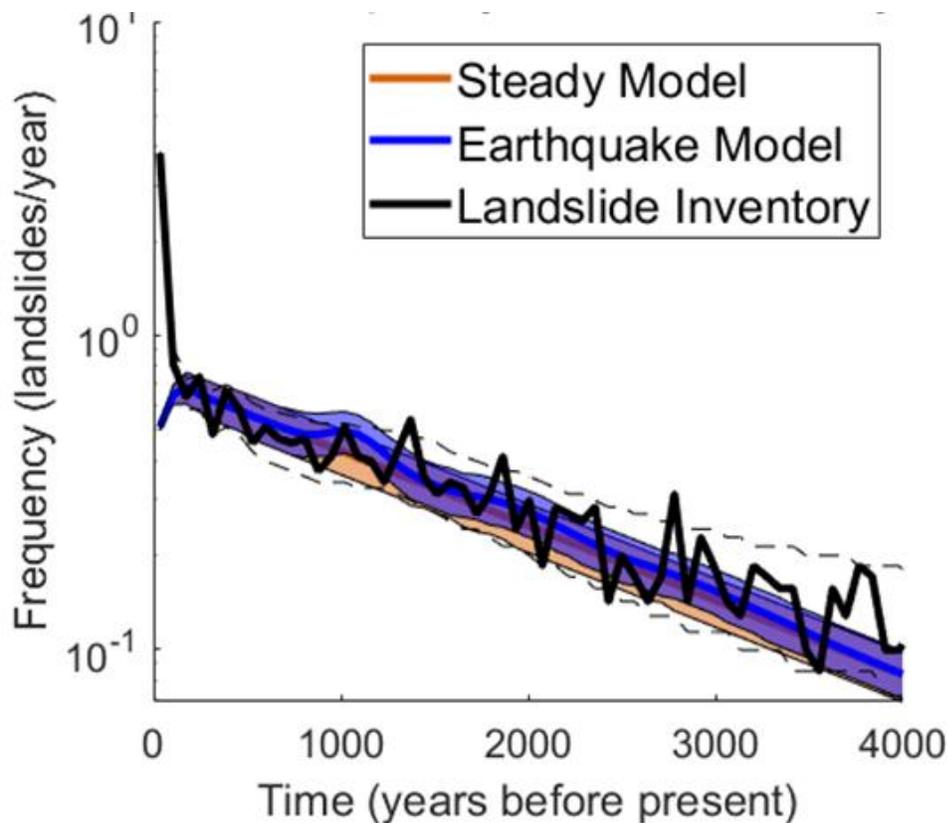
S9: Multifault landslide history model with 50-yr bin width (RMSE for EQ and Steady state models are   0.0484 and 0.0491)
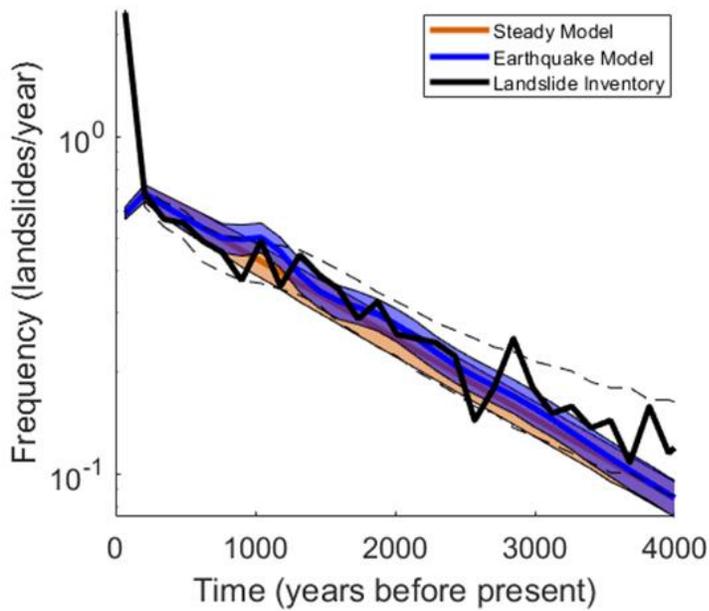
S10: Multifault landslide history model with 100-yr bin width .(RMSE for EQ and Steady state models are 0.0397 and   0.0399)
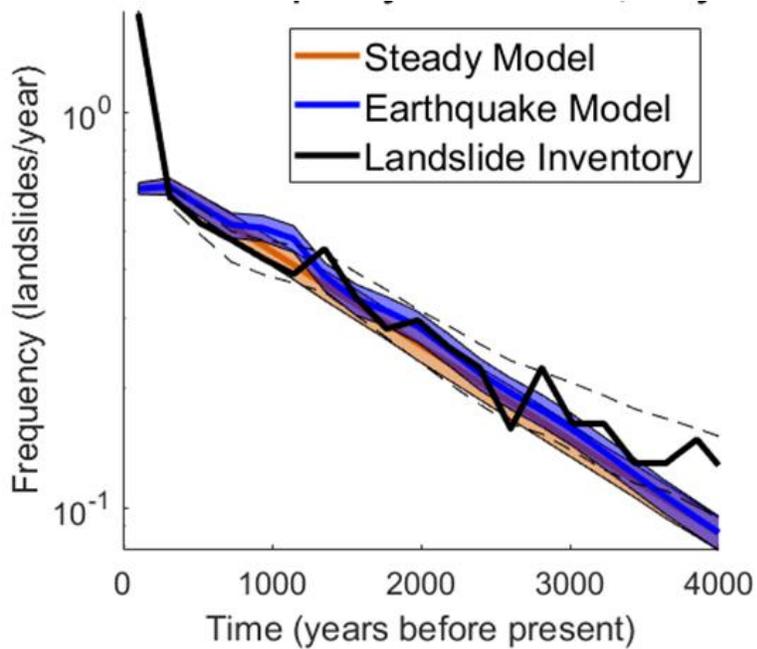
S11: Multifault landslide history model with 150-yr bin width .(RMSE for EQ and Steady state models are 0.0384 and   0.0366)
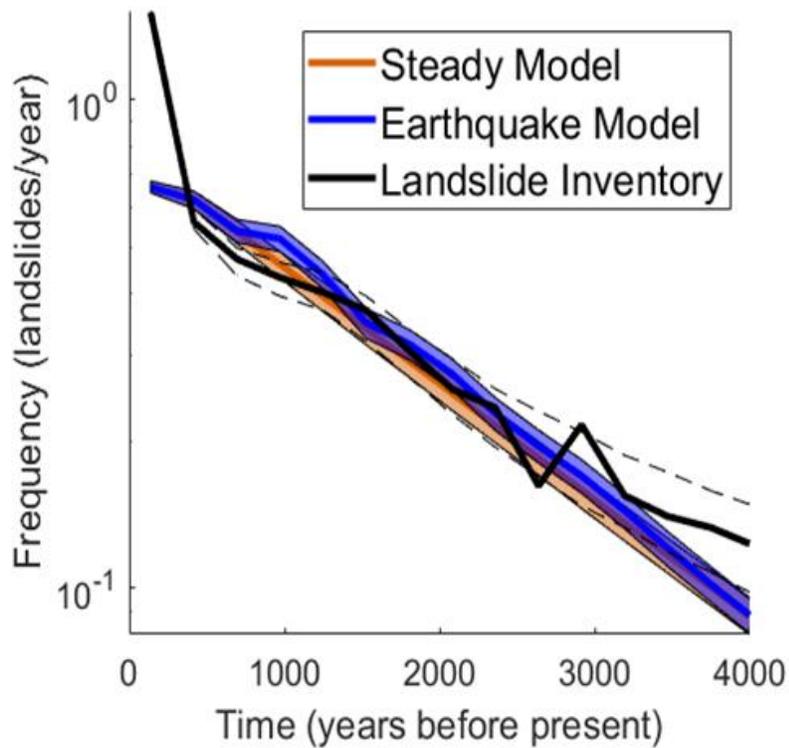
S12: Multifault landslide history model with 200-yr bin width .(RMSE for EQ and Steady state models are 0.0347 and 0.0321).

Spatial Analysis
Here, we have provided the tabulated results of Frequency ratio spatial analysis for the four fault zones.

Table S2: Frequency ratio results for the TFZ

300-600					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	22	0.258824	0.135338	1.912425
2	10	13	0.152941	0.145458	1.051444
3	15	9	0.105882	0.150682	0.702688
4	20	26	0.305882	0.241121	1.268582

5	25	15	0.176471	0.327401	0.539005

600-900

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	15	0.230769	0.135338	1.705134
2	10	8	0.123077	0.145458	0.846133
3	15	7	0.107692	0.150682	0.7147
4	20	13	0.2	0.241121	0.829458
5	25	22	0.338462	0.327401	1.033784

900-1200

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	10	0.263158	0.135338	1.944451
2	10	5	0.131579	0.145458	0.904583
3	15	6	0.157895	0.150682	1.047868
4	20	7	0.184211	0.241121	0.763974
5	25	10	0.263158	0.327401	0.803779

1200-1500

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	10	0.217391	0.135338	1.606285
2	10	8	0.173913	0.145458	1.195622

3	15	5	0.108696	0.150682	0.721358
4	20	9	0.195652	0.241121	0.811426
5	25	14	0.304348	0.327401	0.929588
1500-1800					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	11	0.229167	0.135338	1.693293
2	10	6	0.125	0.145458	0.859354
3	15	4	0.083333	0.150682	0.553041
4	20	12	0.25	0.241121	1.036822
5	25	15	0.3125	0.327401	0.954488
1800-2100					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	2	0.074074	0.135338	0.547327
2	10	3	0.111111	0.145458	0.76387
3	15	1	0.037037	0.150682	0.245796
4	20	13	0.481481	0.241121	1.996843
5	25	8	0.296296	0.327401	0.904996
2100-2400					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR

1	5	4	0.142857	0.135338	1.055559
2	10	3	0.107143	0.145458	0.736589
3	15	4	0.142857	0.150682	0.948071
4	20	9	0.321429	0.241121	1.333057
5	25	8	0.285714	0.327401	0.872675

2400-2700

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	6	0.193548	0.135338	1.430112
2	10	3	0.096774	0.145458	0.665306
3	15	5	0.16129	0.150682	1.070403
4	20	6	0.193548	0.241121	0.802701
5	25	11	0.354839	0.327401	1.083806

2700-3000

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	1	0.066667	0.135338	0.492594
	10	2	0.133333	0.145458	0.916644
2	15	3	0.2	0.150682	1.3273
3	20	3	0.2	0.241121	0.829458
4	25	6	0.4	0.327401	1.221745

3000-3300					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	2	0.083333	0.135338	0.615743
2	10	1	0.041667	0.145458	0.286451
3	15	4	0.166667	0.150682	1.106083
4	20	7	0.291667	0.241121	1.209626
5	25	10	0.416667	0.327401	1.272651
3300-3600					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	1	0.041667	0.135338	0.307871
2	10	3	0.125	0.145458	0.859354
3	15	4	0.166667	0.150682	1.106083
4	20	7	0.291667	0.241121	1.209626
5	25	9	0.375	0.327401	1.145386
3600-3900					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	3	0.15	0.135338	1.108337
2	10	2	0.1	0.145458	0.687483
3	15	2	0.1	0.150682	0.66365

4	20	8	0.4	0.241121	1.658915
5	25	5	0.25	0.327401	0.76359

Table S4: TFZ FR/Distance to fault statistics

Interval	Slope	R-squared	p-value
300-600	-0.05059	0.55013	0.151326
600-900	-0.02719	0.293703	0.345424
900-1200	-0.04844	0.614603	0.116551
1200-1500	-0.03475	0.591957	0.128243
1500-1800	-0.026	0.240877	0.401186
1800-2100	0.038966	0.214018	0.432715
2100-2400	0.004614	0.026384	0.794099
2400-2700	-0.0111	0.088742	0.626395
2700-3000	0.027422	0.426508	0.232104
3000-3300	0.04474	0.681359	0.085216
3300-3600	0.040506	0.749157	0.057979
3600-3900	0.005639	0.011199	0.865512

Table S5: Frequency ratio results for the SFZ

300-600					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	12	0.141176	0.123845	1.13994204
2	10	23	0.270588	0.202064	1.33912196
3	15	27	0.317647	0.223094	1.42382687
4	20	14	0.164706	0.23686	0.6953722
5	25	9	0.105882	0.214137	0.49446113
600-900					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	15	0.192308	0.123845	1.55280566
2	10	19	0.24359	0.202064	1.20550835
3	15	19	0.24359	0.223094	1.09187103
4	20	14	0.179487	0.23686	0.75777739
5	25	11	0.141026	0.214137	0.65857714
900-1200					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	13	0.164557	0.123845	1.32872991
2	10	27	0.341772	0.202064	1.69140611
3	15	12	0.151899	0.223094	0.68087361

4	20	17	0.21519	0.23686	0.90851069
5	25	10	0.126582	0.214137	0.59112793

1200-1500					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	13	0.168831	0.123845	1.36324237
2	10	21	0.272727	0.202064	1.34970791
3	15	17	0.220779	0.223094	0.98962474
4	20	17	0.220779	0.23686	0.93210837
5	25	9	0.116883	0.214137	0.54583371

1500-1800					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	11	0.150685	0.123845	1.21671896
2	10	14	0.191781	0.202064	0.94910967
3	15	20	0.273973	0.223094	1.22805971
4	20	17	0.232877	0.23686	0.9831828
5	25	11	0.150685	0.214137	0.70368516

1800-2100					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	11	0.23913	0.123845	1.93088008

2	10	14	0.304348	0.202064	1.50619578
3	15	14	0.304348	0.223094	1.36421415
4	20	5	0.108696	0.23686	0.45890246
5	25	2	0.043478	0.214137	0.20303959
2100-2400					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	13	0.288889	0.123845	2.33265917
2	10	10	0.222222	0.202064	1.099762
3	15	6	0.133333	0.223094	0.59765572
4	20	6	0.133333	0.23686	0.56292035
5	25	4	0.088889	0.214137	0.41510317
2400-2700					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	12	0.266667	0.123845	2.15322385
2	10	8	0.177778	0.202064	0.8798096
3	15	6	0.133333	0.223094	0.59765572
4	20	8	0.177778	0.23686	0.75056047
5	25	4	0.088889	0.214137	0.41510317
2700-3000					

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	2	0.044444	0.123845	0.35887064
2	10	4	0.088889	0.202064	0.4399048
3	15	12	0.266667	0.223094	1.19531145
4	20	5	0.111111	0.23686	0.46910029
5	25	3	0.066667	0.214137	0.31132738

3000-3300

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	5	0.09434	0.123845	0.76175372
2	10	6	0.113208	0.202064	0.56025611
3	15	12	0.226415	0.223094	1.01488708
4	20	4	0.075472	0.23686	0.31863416
5	25	2	0.037736	0.214137	0.17622304

3300-3600

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	6	0.25	0.123845	2.01864736
2	10	5	0.208333	0.202064	1.03102687
3	15	5	0.208333	0.223094	0.93383707
4	20	6	0.25	0.23686	1.05547566

5	25	2	0.083333	0.214137	0.38915922
3600-3900					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	5	0.151515	0.123845	1.22342264
2	10	14	0.424242	0.202064	2.09954563
3	15	7	0.212121	0.223094	0.95081592
4	20	6	0.181818	0.23686	0.76761866
5	25	1	0.030303	0.214137	0.14151244

Table S6: SFZ FR/Distance to fault statistics

Time Interval (ybp)	Slope	R-squared	P-value
300–600	-0.0387	0.5664	0.1421
600–900	-0.0447	0.9667	0.0026
900–1200	-0.0452	0.5961	0.1261
1200–1500	-0.041	0.9183	0.0102
1500–1800	-0.0198	0.5224	0.1678
1800–2100	-0.0901	0.9473	0.0052
2100–2400	-0.0874	0.7705	0.0504
2400–2700	-0.0721	0.6834	0.0843
2700–3000	-0.0013	0.0008	0.9635

3000–3300	-0.0283	0.4407	0.2218
3300–3600	-0.0647	0.7567	0.0552
3600–3900	-0.0699	0.5974	0.1254

Table S7: Frequency ratio results for the SWIFZ

300-600					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	11	0.141026	0.096029	1.468566
2	10	9	0.115385	0.122695	0.940421
3	15	12	0.153846	0.168934	0.910686
4	20	29	0.371795	0.279155	1.33186
5	25	17	0.217949	0.333187	0.654133
600-900					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	9	0.138462	0.096029	1.441865
2	10	9	0.138462	0.122695	1.128506
3	15	10	0.153846	0.168934	0.910686
4	20	20	0.307692	0.279155	1.102229
5	25	17	0.261538	0.333187	0.78496

900-1200					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	9	0.109756	0.096029	1.142942
2	10	10	0.121951	0.122695	0.993941
3	15	21	0.256098	0.168934	1.51596
4	20	19	0.231707	0.279155	0.830032
5	25	23	0.280488	0.333187	0.841833
1200-1500					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	8	0.123077	0.096029	1.281658
2	10	10	0.153846	0.122695	1.253895
3	15	11	0.169231	0.168934	1.001755
4	20	17	0.261538	0.279155	0.936895
5	25	19	0.292308	0.333187	0.877308
1500-1800					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	3	0.06383	0.096029	0.664689
2	10	10	0.212766	0.122695	1.73411
3	15	11	0.234043	0.168934	1.385406

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
4	20	12	0.255319	0.279155	0.914616
5	25	11	0.234043	0.333187	0.702436
1800-2100					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	6	0.133333	0.096029	1.388462
2	10	3	0.066667	0.122695	0.543355
3	15	6	0.133333	0.168934	0.789262
4	20	15	0.333333	0.279155	1.194081
5	25	15	0.333333	0.333187	1.000439
2100-2400					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	3	0.075	0.096029	0.78101
2	10	8	0.2	0.122695	1.630064
3	15	8	0.2	0.168934	1.183892
4	20	8	0.2	0.279155	0.716449
5	25	13	0.325	0.333187	0.975428
2400-2700					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	4	0.108108	0.096029	1.12578

2	10	7	0.189189	0.122695	1.541952
3	15	4	0.108108	0.168934	0.639942
4	20	10	0.27027	0.279155	0.968174
5	25	12	0.324324	0.333187	0.9734
2700-3000					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	0	0	0.096029	0
2	10	5	0.217391	0.122695	1.771808
3	15	5	0.217391	0.168934	1.28684
4	20	8	0.347826	0.279155	1.245998
5	25	5	0.217391	0.333187	0.65246
3000-3300					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	2	0.058824	0.096029	0.612557
2	10	6	0.176471	0.122695	1.438291
3	15	9	0.264706	0.168934	1.566916
4	20	9	0.264706	0.279155	0.948241
5	25	8	0.235294	0.333187	0.706192
3300-3600					

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	2	0.111111	0.096029	1.157052
2	10	6	0.333333	0.122695	2.716773
3	15	4	0.222222	0.168934	1.315436
4	20	1	0.055556	0.279155	0.199014
5	25	5	0.277778	0.333187	0.833699
3600-3900					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	5	0.208333	0.096029	2.169472
2	10	2	0.083333	0.122695	0.679193
3	15	3	0.125	0.168934	0.739933
4	20	7	0.291667	0.279155	1.044821
5	25	7	0.291667	0.333187	0.875384

Table S8: SWIFZ FR/Distance to fault statistics

Time Interval (ybp)	Slope	R-squared	P-value
300-600 ybp	-0.02475	0.346314	0.296549
600-900	-0.0268	0.720329	0.069006
900-1200	-0.01532	0.183707	0.471478

1200-1500	-0.02251	0.917459	0.010325
1500-1800	-0.01488	0.064102	0.681113
1800-2100	-0.00251	0.003569	0.923984
2100-2400	-0.0105	0.050689	0.715782
2400-2700	-0.01757	0.180136	0.4763
2700-3000	0.015582	0.032654	0.771177
3000-3300	-0.00606	0.012426	0.858366
3300-3600	-0.06329	0.290925	0.348175
3600-3900	-0.04445	0.328443	0.312495

Table S9: Frequency ratio results for the DDMFZ

300-600					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	21	0.724138	0.364821	1.984912
2	10	3	0.103448	0.220796	0.468524
3	15	1	0.034483	0.158338	0.21778
4	20	3	0.103448	0.139533	0.741387
5	25	1	0.034483	0.116511	0.29596
600-900					
OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR

1	5	18	0.692308	0.364821	1.897663
2	10	4	0.153846	0.220796	0.69678
3	15	2	0.076923	0.158338	0.485816
4	20	2	0.076923	0.139533	0.551288
5	25	0	0	0.116511	0

900-1200

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	17	0.73913	0.364821	2.026007
2	10	3	0.130435	0.220796	0.590748
3	15	1	0.043478	0.158338	0.274592
4	20	1	0.043478	0.139533	0.311597
5	25	1	0.043478	0.116511	0.373168

1200-1500

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	30	0.75	0.364821	2.055801
2	10	5	0.125	0.220796	0.566133
3	15	1	0.025	0.158338	0.15789
4	20	3	0.075	0.139533	0.537505
5	25	1	0.025	0.116511	0.214571

1500-1800

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	21	0.65625	0.364821	1.798826
2	10	2	0.0625	0.220796	0.283067
3	15	3	0.09375	0.158338	0.592088
4	20	4	0.125	0.139533	0.895842
5	25	2	0.0625	0.116511	0.536428

1800-2100

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	8	0.421053	0.364821	1.154134
2	10	4	0.210526	0.220796	0.953488
3	15	0	0	0.158338	0
4	20	7	0.368421	0.139533	2.640378
5	25	0	0	0.116511	0

2100-2400

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	2	0.5	0.364821	1.370534
2	10	1	0.25	0.220796	1.132267
3	15	0	0	0.158338	0

4	20	1	0.25	0.139533	1.791685
5	25	0	0	0.116511	0

2400-2700

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	7	0.5	0.364821	1.370534
2	10	0	0	0.220796	0
3	15	1	0.071429	0.158338	0.451115
4	20	5	0.357143	0.139533	2.55955
5	25	1	0.071429	0.116511	0.613061

2700-3000

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	0	0	0.364821	0
2	10	1	0.5	0.220796	2.264533
3	15	0	0	0.158338	0
4	20	1	0.5	0.139533	3.58337
5	25	0	0	0.116511	0

3000-3300

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	0	0	0.364821	0

2	10	0	0	0.220796	0
3	15	1	0.333333	0.158338	2.105202
4	20	2	0.666667	0.139533	4.777826
5	25	0	0	0.116511	0

3300-3600

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	4	0.8	0.364821	2.192855
2	10	0	0	0.220796	0
3	15	0	0	0.158338	0
4	20	0	0	0.139533	0
5	25	1	0.2	0.116511	1.716571

3600-3900

OBJECTID_1 *	Distance (Km)	Frequency	Landslide Ratio	Area ratio	FR
1	5	5	0.714286	0.364821	1.957906
2	10	1	0.142857	0.220796	0.64701
3	15	0	0	0.158338	0
4	20	1	0.142857	0.139533	1.02382
5	25	0	0	0.116511	0

Table S10: DDMFZ FR/Distance to fault statistics

Time Interval (ybp)	Slope	R-squared	P-value
300-600 ybp	-0.0621	0.460561	0.207816
600-900	-0.07882	0.780822	0.046806
900-1200	-0.0717	0.582094	0.13351
1200-1500	-0.07422	0.571023	0.13955
1500-1800	-0.03824	0.264054	0.375789
1800-2100	-0.01243	0.008208	0.884805
2100-2400	-0.04163	0.161568	0.502351
2400-2700	0.020892	0.027141	0.791193
2700-3000	0.026377	0.015629	0.841242
3000-3300	0.095557	0.128358	0.553791
3300-3600	-0.01905	0.019312	0.823631
3600-3900	-0.07078	0.469668	0.201598