



## Supplement of

## Storm-triggered landslides in the Peruvian Andes and implications for topography, carbon cycles, and biodiversity

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Tables

#	year	day-month	Landsat	% visibility
1	1988	22-Jun	5	68
2	1988	25-Jun	5	79
3	1989	27-Jul	5	78
4	1990	02-Oct	5	77
5	1991	01-Jul	5	79
6	1991	17-Jul	5	77
7	1992	30-Apr	5	47
8	1993	04-Jun	5	77
9	1994	25-Jul	5	63
10	1995	09-May	5	72
11	1996	12-Jun	5	76
12	1996	17-Jul	5	76
13	1997	18-Aug	5	56
14	1998	04-Jul	5	63
15	1999	21-Jun	5	75
16	1999	07-Jul	5	77
17	2000	23-Jun	5	74
18	2001	09-May	5	59
19	2002	20-May	7	53
20	2003	19-May	5	66
21	2004	18-Jun	7	59
22	2004	13-Aug	7	59
23	2004	05-Aug	5	66
24	2005	15-Jul	7	60
25	2006	15-May	7	72
26	2007	22-Aug	7	66
27	2007	26-May	5	66
28	2007	06-Aug	7	60
29	2008	06-Jun	7	69
30	2009	19-Aug	5	64
31	2010	06-Aug	5	74
32	2011	06-Jun	5	52
33	2011	02-Sep	7	44
24	2012	02-Jul	7	48

Table S1: Landsat images used and visibility

		Area affected by	% of valley	% visibility
		landslides	affected by	in Landsat
Rank	Year	(km²)	landslides	imagery
1	2010	0.752	0.502	74
2	1995	0.344	0.230	72
3	2007	0.327	0.218	66
4	2001	0.196	0.131	59
5	2003	0.132	0.088	66
6	1991	0.120	0.080	79
7	2004	0.119	0.080	66
8	2009	0.115	0.077	64
9	2012	0.110	0.073	48
10	2011	0.106	0.071	52
11	1999	0.087	0.058	77
12	1998	0.078	0.052	63
13	2008	0.072	0.048	69
14	1996	0.059	0.039	76
15	2005	0.046	0.030	60
16	2000	0.044	0.029	74
17	2006	0.040	0.027	72
18	1993	0.036	0.024	77
19	1988	0.026	0.017	79
20	1994	0.016	0.011	63
21	2002	0.013	0.009	53
22	1990	0.003	0.002	77
23	1997	0.001	0.001	56
24	1989	0.000	0.000	78
25	1992	0.000	0.000	47

Table S2: Interannual landslide variability and Landsat image visibility





Figures S1: Soil carbon stocks and soil depth over various slopes derived from Shuttle Radar Topography Mission (STRM) (Gibbon et al., 2010; Farr et al., 2007). Soil stocks are consistent over a range of hillslopes, with no strong dependence on slope angle, suggesting that the plot-level data on soil stocks for the Kosñipata Valley may not be strongly based by selective topographic position.

Supplementary references

- Farr, T. G., Rosen, P. A., Caro, E., Crippen, R., Duren, R., Hensley, S., Kobrick, M., Paller, M., Rodriguez, E., Roth, L., Seal, D., Shaffer, S., Shimada, J., Umland, J., Werner, M., Oskin, M., Burbank, D., and Alsdorf, D.: The Shuttle Radar Topography Mission, Rev. Geophys., 45, RG2004, 10.1029/2005RG000183, 2007.
- Gibbon, A., Silman, M. R., Malhi, Y., Fisher, J. B., Meir, P., Zimmermann, M., Dargie, G. C., Farfan, W. R., and Garcia, K. C.: Ecosystem carbon storage across the grassland-forest transition in the high Andes of Manu National Park, Peru, Ecosystems, 13, 1097-1111, 10.1007/s10021-010-9376-8, 2010.