Supporting Information for

**Could road constructions be more disastrous than an earthquake in terms of mass movement?**

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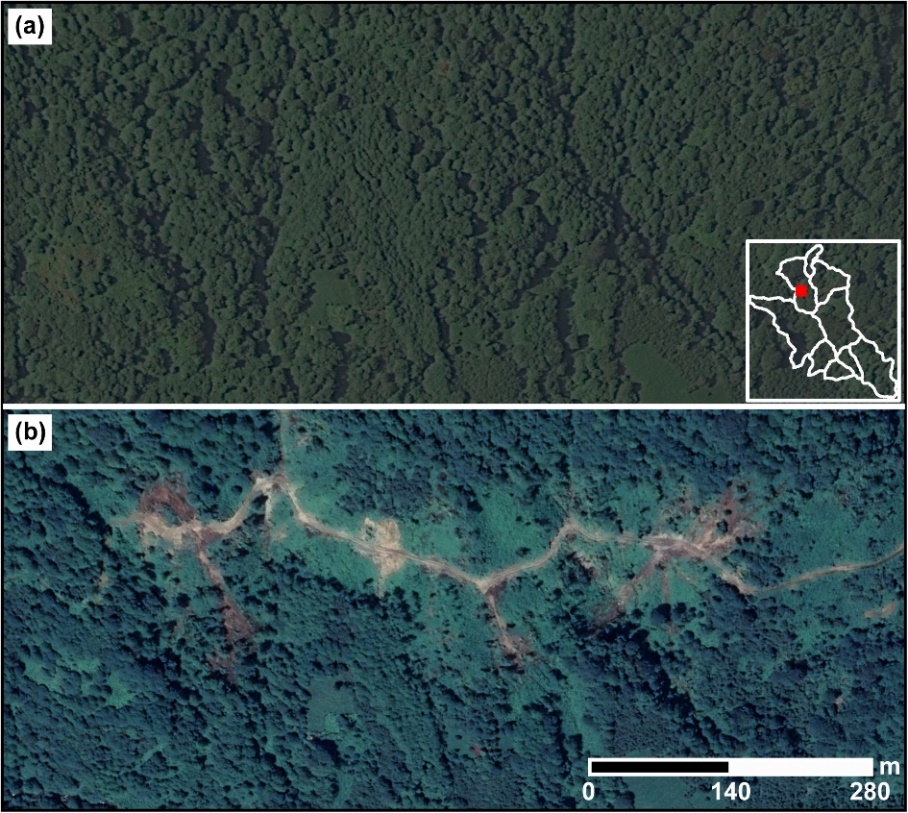
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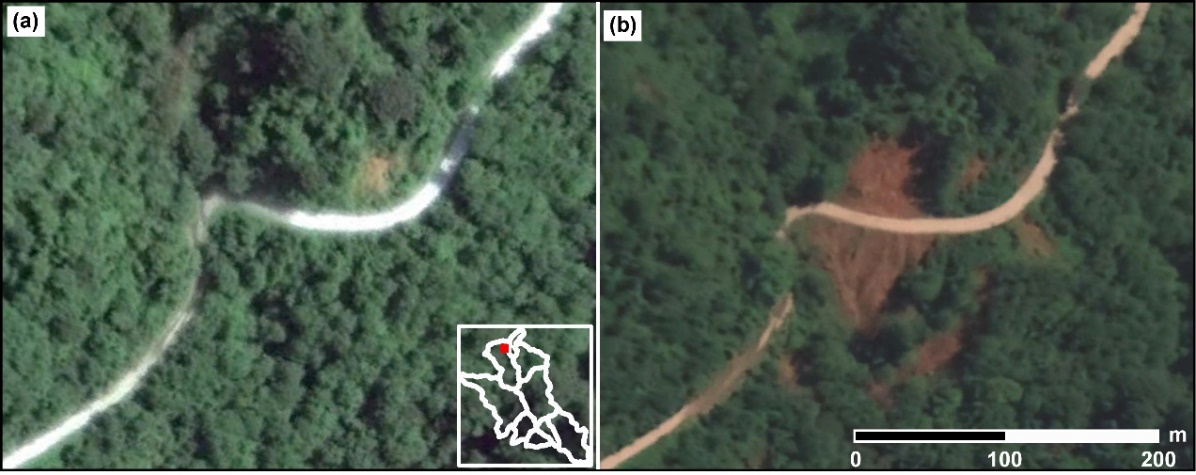
3USRA, Universities Space Research Association, Columbia, MD, USA

4Istanbul Technical University, Eurasia Institute of Earth Sciences, Istanbul, Turkey

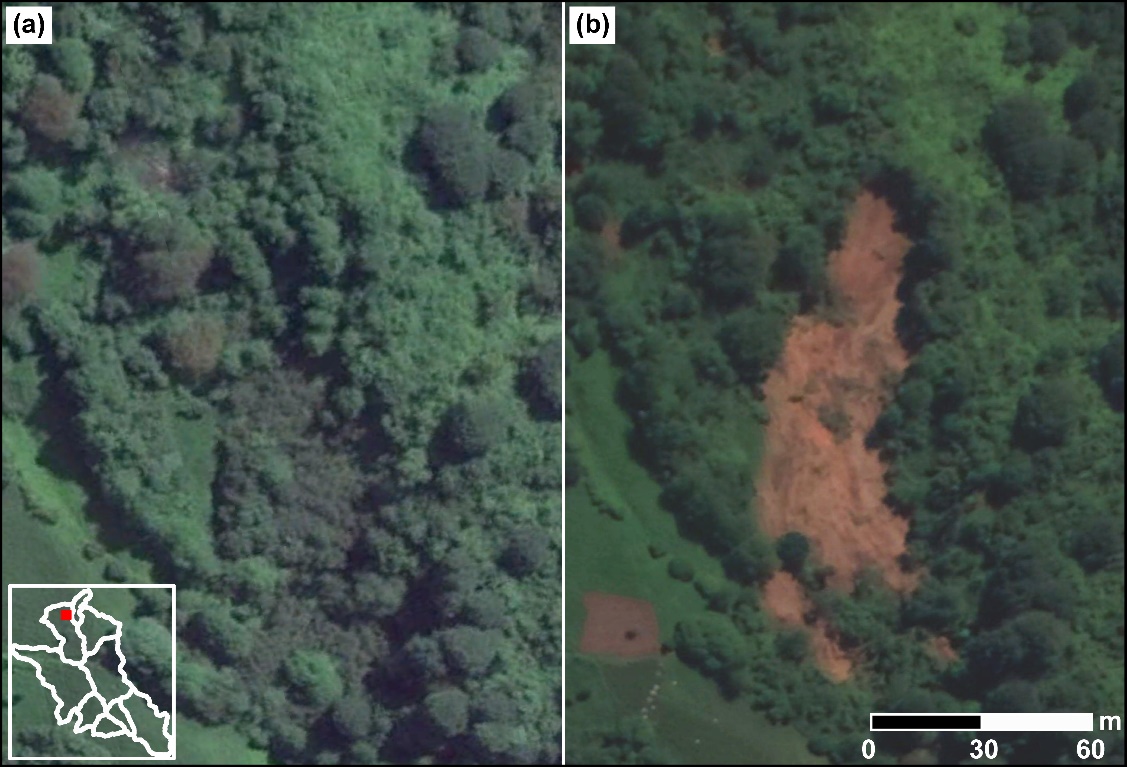
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**Fig. S1** Google Earth scenes showing the pre- and post- road expansion conditions at a selected site (41º 16ʹ 24ʺ N and 41º 17ʹ 51ʺ E) representing the mass movements categorized as *Others*. The examined the segment of the road constructed between 10th September 2013 – 3rd September 2014. Landslides occurred between 18th November 2017 – 27th May 2018 and 20th March 2019 – 21st May 2019. The location of these mass movements is given at the lower right of the panel (a).



**Fig. S2** Google Earth scenes showing the pre- and post- landslide views at a selected site (41º 18ʹ 20ʺ N and 41º 20ʹ 14ʺ E), representing the mass movements that occurred along an existing road (i.e., *Pre-2010*). Mass movements occurred between 3rd November 2016 – 16th April 2017. The location of these mass movements is given in the lower right of the panel (a).



**Fig. S3** Google Earth scenes showing the pre- and post- landslide landscape at a selected site (41º 18ʹ 20ʺ N and 41º 17ʹ 58ʺ E) representing the mass movements triggered by natural agents (i.e., *No Road*). The landslide occurred between 17th July 2016 – 9th September 2016. The location of the landslide is given in the lower left of the panel (a).

**Table S1.** The satellite scenes used to create multi-temporal road and landslide inventories.

|  |  |  |
| --- | --- | --- |
| Source | Acquisition date | ID |
| RapidEye-5 | 09.25.2009 | 3758023\_2009-09-25\_RE5\_3A |
| 3758223\_2009-09-25\_RE5\_3A |
| 3758123\_2009-09-25\_RE5\_3A |
| 3758122\_2009-09-25\_RE5\_3A |
| RapidEye-5 | 11.09.2010 | 3758122\_2010-11-09\_RE5\_3A |
| 3758122\_2010-11-09\_RE5\_3A |
| 3758223\_2010-11-09\_RE5\_3A |
| 3758123\_2010-11-09\_RE5\_3A |
| RapidEye-3 | 10.21.2011 | 3758023\_2011-10-21\_RE3\_3A |
| 3758122\_2011-10-21\_RE3\_3A |
| 3758123\_2011-10-21\_RE3\_3A |
| 3758223\_2011-10-21\_RE3\_3A |
| RapidEye-5 | 05.29.2012 | 3758023\_2012-05-29\_RE5\_3A |
| 3758122\_2012-05-29\_RE5\_3A |
| 3758123\_2012-05-29\_RE5\_3A |
| 3758223\_2012-05-29\_RE5\_3A |
| RapidEye-2 | 06.26.2013 | 3758223\_2013-06-26\_RE2\_3A |
| 3758122\_2013-06-26\_RE2\_3A |
| 3758123\_2013-06-26\_RE2\_3A |
| RapidEye-2 | 09.10.2013 | 3758223\_2013-09-10\_RE2\_3A |
| 3758023\_2013-09-10\_RE2\_3A |
| 3758122\_2013-09-10\_RE2\_3A |
| 3758123\_2013-09-10\_RE2\_3A |
| RapidEye-4 | 09.12.2013 | 3758223\_2013-09-12\_RE4\_3A |
| 3758023\_2013-09-12\_RE4\_3A |
| 3758123\_2013-09-12\_RE4\_3A |
| RapidEye-1 | 07.11.2014 | 3758023\_2014-07-11\_RE1\_3A |
| 3758123\_2014-07-11\_RE1\_3A |
| 3758122\_2014-07-11\_RE1\_3A |
| RapidEye-3 | 09.03.2014 | 3758023\_2014-09-03\_RE3\_3A |
| 3758123\_2014-09-03\_RE3\_3A |
| 3758122\_2014-09-03\_RE3\_3A |
| 3758223\_2014-09-03\_RE3\_3A |
| RapidEye-3 | 05.20.2015 | 3758023\_2015-05-20\_RE5\_3A |
| 3758122\_2015-05-20\_RE5\_3A |
| 3758123\_2015-05-20\_RE5\_3A |
| 3758223\_2015-05-20\_RE5\_3A |
| RapidEye-3 | 09.03.2015 | 3758023\_2015-09-03\_RE1\_3A |
| 3758122\_2015-09-03\_RE1\_3A |
| 3758123\_2015-09-03\_RE1\_3A |
| 3758223\_2015-09-03\_RE1\_3A |

**Table S1.** (Continued)

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| --- | --- | --- |
| Source | Acquisition date | ID |
| PlanetScope | 07.17.2016 | 20160717\_042959\_0d05\_3B |
| 20160717\_042759\_0c41\_3B |
| 20160717\_042800\_0c41\_3B |
| 20160717\_042801\_0c41\_3B |
| 20160717\_042955\_0d05\_3B |
| 20160717\_042956\_0d05\_3B |
| 20160717\_042957\_0d05\_3B |
| 20160717\_042958\_0d05\_3B |
| RapidEye-3 | 07.17.2016 | 3758023\_2016-07-17\_RE1\_3A |
| 3758123\_2016-07-17\_RE1\_3A |
| 3758122\_2016-07-17\_RE1\_3A |
| 3758223\_2016-07-17\_RE1\_3A |
| PlanetScope | 09.06.2016 | 20160906\_080327\_1\_0c65\_3B |
| 20160906\_080324\_0c65\_3B |
| 20160906\_080325\_0c65\_3B |
| 20160906\_080326\_0c65\_3B |
| 20160906\_080327\_0c65\_3B |
| PlanetScope | 09.08.2016 | 20160908\_071431\_0d06\_3B |
| 20160908\_071430\_1\_0d06\_3B |
| 20160908\_071430\_0d06\_3B |
| PlanetScope | 09.09.2016 | 20160909\_071400\_0e20\_3B |
| 20160909\_071358\_0e20\_3B |
| 20160909\_071359\_0e20\_3B |
| PlanetScope | 10.11.2016 | 20161011\_114552\_0d06\_3B |
| 20161011\_114552\_1\_0d06\_3B |
| 20161011\_114553\_0d06\_3B |
| PlanetScope | 10.22.2016 | 20161022\_072604\_0c19\_3B |
| 20161022\_072605\_0c19\_3B |
| 20161022\_072606\_0c19\_3B |
| PlanetScope | 11.03.2016 | 20161103\_090136\_0c0b\_3B |
| 20161103\_090135\_0c0b\_3B |
| 20161103\_090134\_1\_0c0b\_3B |
| 20161103\_090134\_0c0b\_3B |
| PlanetScope | 04.16.2017 | 20170416\_083914\_0c46\_3B |
| 20170416\_083914\_1\_0c46\_3B |
| 20170416\_083915\_0c46\_3B |
| PlanetScope | 06.09.2017 | 20170609\_072127\_0e30\_3B |
| 20170609\_072128\_0e30\_3B |
| 20170609\_072129\_0e30\_3B |
| PlanetScope | 07.26.2017 | 20170726\_072148\_0e30\_3B |
| 20170726\_072146\_0e30\_3B |
| 20170726\_072147\_0e30\_3B |
| PlanetScope | 09.04.2017 | 20170904\_072029\_103d\_3B |
| 20170904\_072030\_103d\_3B |
| 20170904\_072031\_103d\_3B |

**Table S1.** (Continued)

|  |  |  |
| --- | --- | --- |
| Source | Acquisition date | ID |
| PlanetScope | 09.18.2017 | 20170918\_071932\_0f42\_3B |
| 20170918\_071933\_0f42\_3B |
| 20170918\_071934\_0f42\_3B |
| PlanetScope | 10.19.2017 | 20171019\_072318\_0e26\_3B |
| 20171019\_072319\_0e26\_3B |
| 20171019\_072320\_0e26\_3B |
| PlanetScope | 11.18.2017 | 20171118\_072437\_0f4e\_3B |
| 20171118\_072438\_0f4e\_3B |
| 20171118\_072439\_0f4e\_3B |
| PlanetScope | 05.27.2018 | 20180527\_073042\_1025\_3B |
| 20180527\_073041\_1025\_3B |
| 20180527\_073040\_1025\_3B |
| PlanetScope | 06.28.2018 | 20180628\_073245\_0f17\_3B |
| 20180628\_073244\_0f17\_3B |
| 20180628\_073243\_0f17\_3B |
| RapidEye-3 | 07.24.2018 | 3758122\_2018-07-24\_RE2\_3A |
| 3758123\_2018-07-24\_RE2\_3A |
| PlanetScope | 08.27.2018 | 20180827\_073416\_0f15\_3B |
| 20180827\_073415\_0f15\_3B |
| 20180827\_073414\_0f15\_3B |
| PlanetScope | 09.25.2018 | 20180925\_071315\_103f\_3B |
| 20180925\_071314\_103f\_3B |
| 20180925\_071313\_103f\_3B |
| PlanetScope | 10.07.2018 | 20181007\_071157\_0f33\_3B |
| 20181007\_071156\_1\_0f33\_3B |
| 20181007\_071156\_0f33\_3B |
| 20181007\_071155\_0f33\_3B |
| PlanetScope | 11.09.2018 | 20181109\_073629\_1038\_3B |
| 20181109\_073628\_1038\_3B |
| 20181109\_073627\_1038\_3B |
| PlanetScope | 03.20.2019 | 20190320\_073854\_1035\_3B |
| 20190320\_073853\_1035\_3B |
| 20190320\_073852\_1035\_3B |
| PlanetScope | 05.21.2019 | 20190521\_063655\_100d\_3B |
| 20190521\_074307\_0f3f\_3B |
| 20190521\_074306\_0f3f\_3B |
| 20190521\_074305\_0f3f\_3B |
| 20190521\_063656\_100d\_3B |
| PlanetScope | 06.11.2019 | 20190611\_074120\_0f35\_3B |
| 20190611\_074119\_0f35\_3B |
| 20190611\_074118\_0f35\_3B |
| 20190611\_073955\_1021\_3B |
| 20190611\_073954\_1021\_3B |
| 20190611\_073953\_1021\_3B |

**Table S1.** (Continued)

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| --- | --- | --- |
| Source | Acquisition date | ID |
| PlanetScope | 07.02.2019 | 20190702\_074207\_1024\_3B |
| 20190702\_074206\_1024\_3B |
| 20190702\_073441\_0e20\_3B |
| PlanetScope | 08.04.2019 | 20190804\_103007\_0f02\_3B |
| 20190804\_103006\_0f02\_3B |
| 20190804\_074420\_0f4e\_3B |
| PlanetScope | 09.25.2019 | 20190925\_075817\_42\_106e\_3B |
| 20190925\_074355\_0f35\_3B |
| 20190925\_074354\_0f35\_3B |
| PlanetScope | 10.02.2019 | 20191002\_061504\_100d\_3B |
| 20191002\_074426\_0f15\_3B |
| 20191002\_074425\_0f15\_3B |
| 20191002\_061505\_100d\_3B |
| PlanetScope | 11.09.2019 | 20191109\_074234\_1025\_3B |
| 20191109\_074233\_1025\_3B |
| 20191109\_074232\_1025\_3B |
| PlanetScope | 11.14.2019 | 20191109\_074234\_1025\_3B |
| 20191109\_074233\_1025\_3B |
| 20191109\_074232\_1025\_3B |
| PlanetScope | 04.13.2020 | 20200413\_074533\_1001\_3B |
| 20200413\_074532\_1001\_3B |
| 20200413\_074531\_1001\_3B |
| 20200413\_074530\_1001\_3B |
| PlanetScope | 04.17.2020 | 20200417\_054549\_0f4d\_3B |
| 20200417\_054548\_0f4d\_3B |
| 20200417\_054547\_0f4d\_3B |
| PlanetScope | 05.12.2020 | 20200512\_074305\_64\_106b\_3B |
| 20200512\_075632\_32\_105c\_3B |
| PlanetScope | 06.06.2020 | 20200606\_075039\_1026\_3B |
| 20200606\_075038\_1026\_3B |
| 20200606\_075037\_1026\_3B |
| PlanetScope | 07.07.2020 | 20200607\_074232\_100c\_3B |
| 20200607\_074230\_100c\_3B |