

last few days before EGU2020: Sharing Geoscience Online

<https://meetingorganizer.copernicus.org/EGU2020/session/37502>

Land cover dynamics and geomorphic processes in hillslope environments: from data acquisition to modelling and management practices

SCAN ME



- This session is designed to cluster the [most recent scientific researches](#) on the analyses, modelling and prediction of soil erosion and landslide processes that are directly linked to land cover dynamics.



Some examples...

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Many thanks to Massimiliano Bordoni
University of Pavia (Italy)

https://www.researchgate.net/profile/Massimiliano_Bordoni

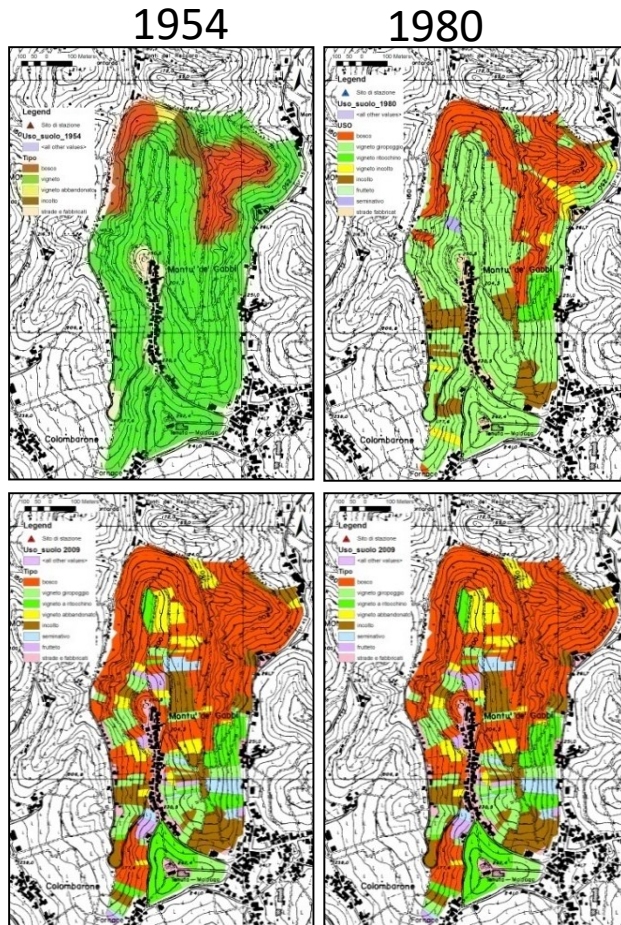
The role of land use (change) in slope stability

- Abandonment of previously cultivated slopes and changes in agricultural practices

Woods Vineyards Abandoned vineyards



Multi-temporal land use changes analysis



The event of 27-28 April 2009 in Oltrepò Pavese

Before

After



References

Persichillo et al. 2017; STOTEN
10.1016/j.scitotenv.2016.09.125.

The role of land use (change) in soil hydrology

References

Bordoni et al. 2017; EM&A

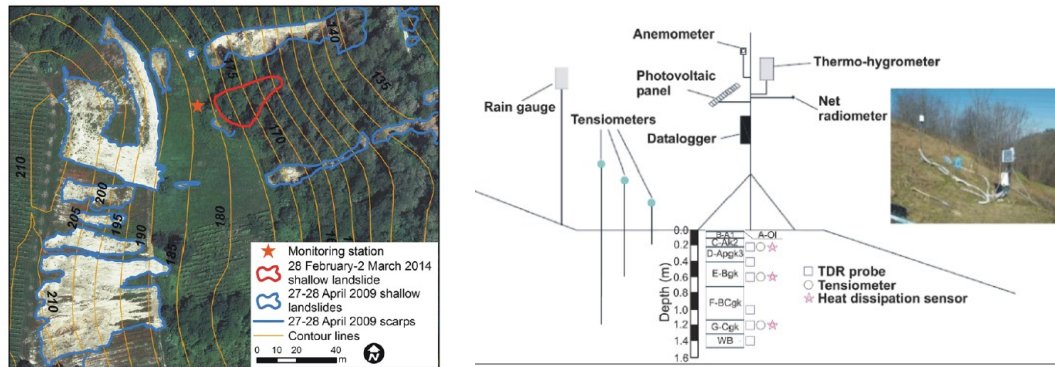
[10.1007/s10666-017-9586-y](https://doi.org/10.1007/s10666-017-9586-y)

Bordoni et al. 2020; BEGE

[10.1007/s10064-020-01783-1](https://doi.org/10.1007/s10064-020-01783-1)

Land cover affects the soil hydrology

Monitoring

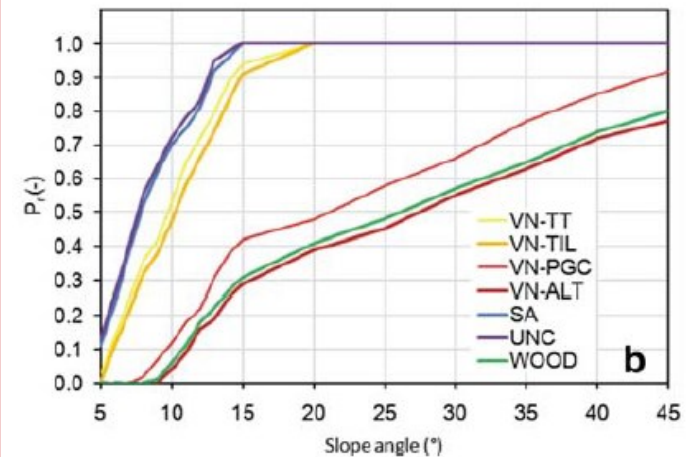
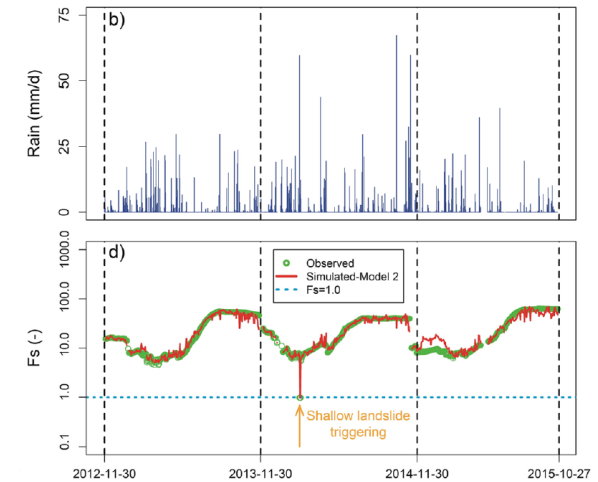


Observing

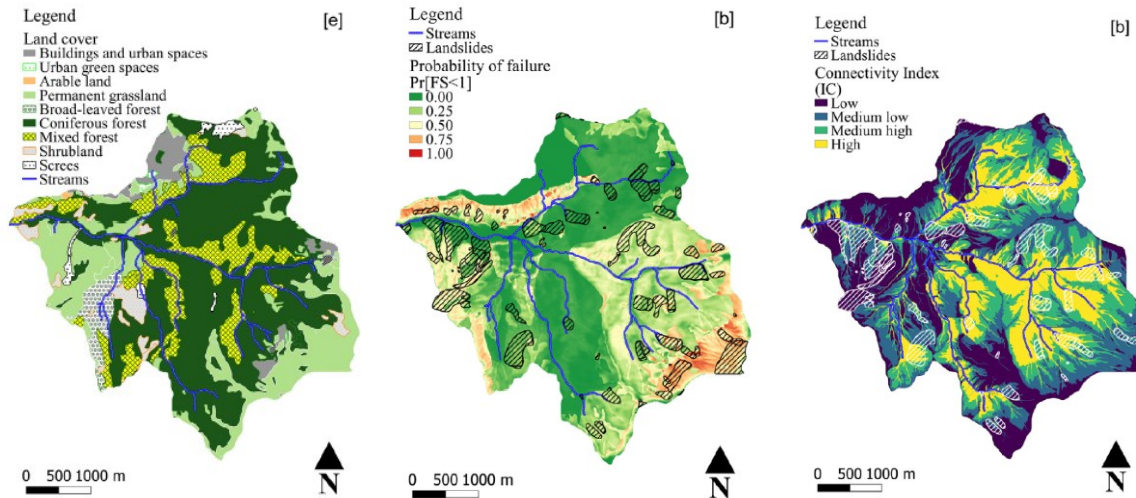


Fig. 5 Analyzed land uses. a Vineyards with total tillage. b Vineyards with tillage. c Vineyards with permanent grass cover. d Vineyards with alternating tillage grass. e Sowed areas. f Shrublands developed in abandoned areas. g Woodlands

Modelling



The role of land use (change) in sediment connectivity

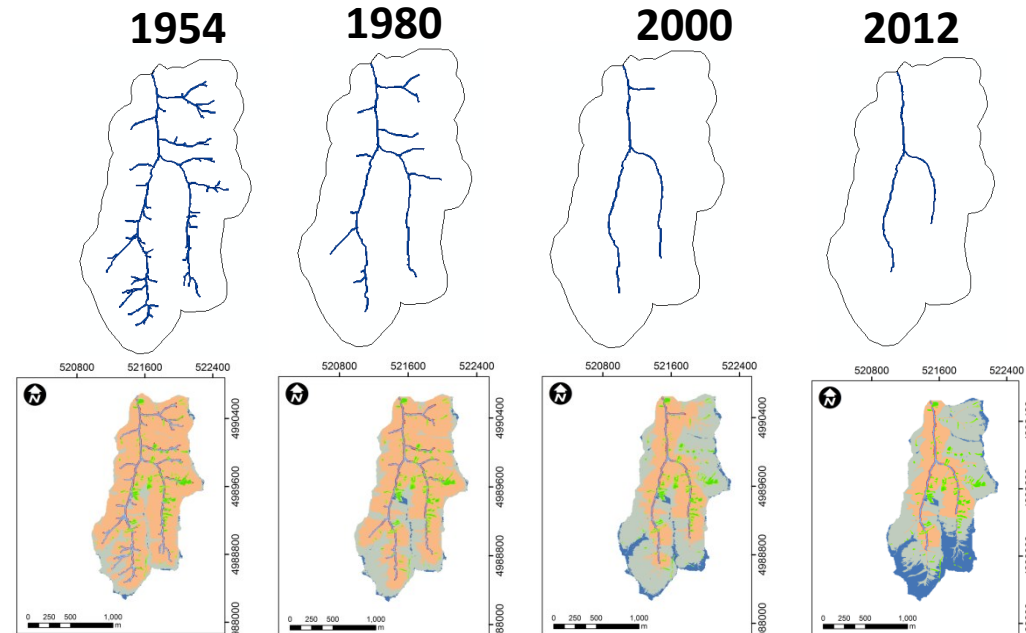


References

Cislaghi & Bischetti (2019); STOTEN
[10.1016/j.scitotenv.2018.10.318](https://doi.org/10.1016/j.scitotenv.2018.10.318)

Sediment connectivity strongly affected by land use

Modifications of sediment connectivity according to land use and drainage network changes



References

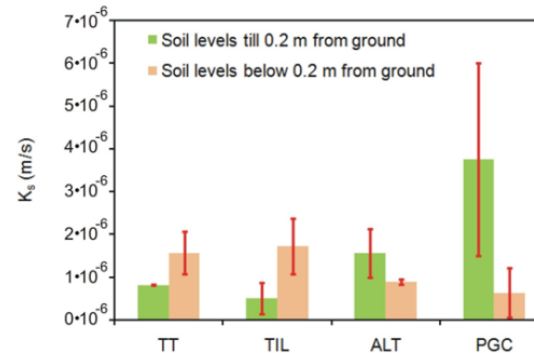
Persichillo et al. 2018; CATENA
[10.1016/j.catena.2017.09.025](https://doi.org/10.1016/j.catena.2017.09.025)

The role of land use (change) in agricultural management

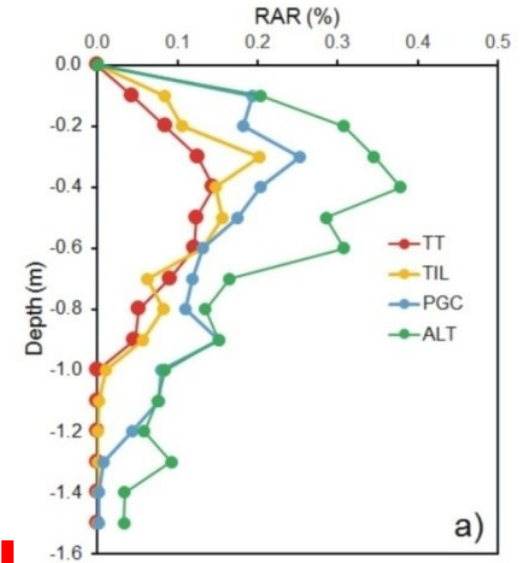
Different agricultural management influences..



soil properties



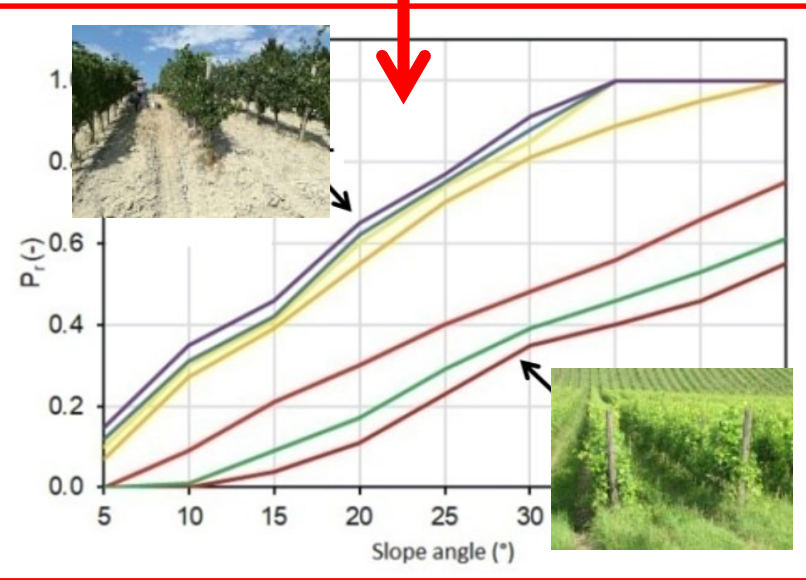
root density



prediction + mitigation activity



landslide susceptibility



References

Bordoni et al. 2019; STOTEN
doi:10.1016/j.scitotenv.2019.07.196

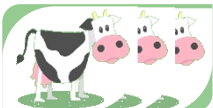
References
Cislaghi et al. 2019; CATENA
10.1016/j.catena.2019.104086

The role of land use (change) in pastures

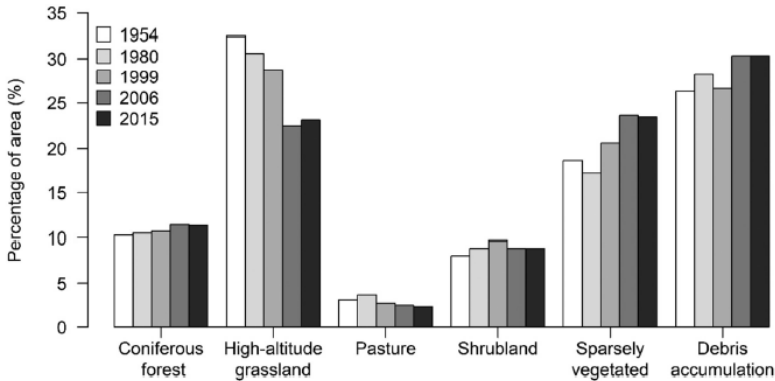
Landslides in grasslands



Pasture management



Over time



Observing soil and root properties

Table 7

Impacts of vegetation coverage on the analysed indicators in the present study: - negative effects, ± negligible effects, + positive effects, ++ very positive effects.

Study sites	Plant diversity	FV	ks	sas	τ_f	Root traits	Bio-mechanical properties of roots
	+	+	+	±	+	++	±
	-	++	±	++	++	+	±
	++	±	±	±	-	±	+
	±	±	±	±	-	±	±
	+	+	+	±	++	++	±
	-	±	-	±	±	+	±

Convener: Dr. Elmar M. Schmaltz

Co-conveners: Dr. Alessio Cislighi, Dr. Stefan Steger

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Announcement

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Dr. Elmar Schmaltz

Co-convener to our session as guest editors

[invite](#)

**the authors to submit a manuscript on
these or related topics, to the special
issue:**

Special Issue

**"Land Cover Dynamics and
Geomorphic Processes in
Hillslope Environments: From
Data Acquisition to Modelling
and Management Practices"**

A special issue of **Water** (ISSN 2073-4441) IF 2.52, Q2



water



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