



The Vaia storm: taking stock and looking ahead
Aula Magna, Campus of Agripolis, Legnaro
October 30th 2019

Climate change and impacts on flood and landslide hazards: the Vaia storm

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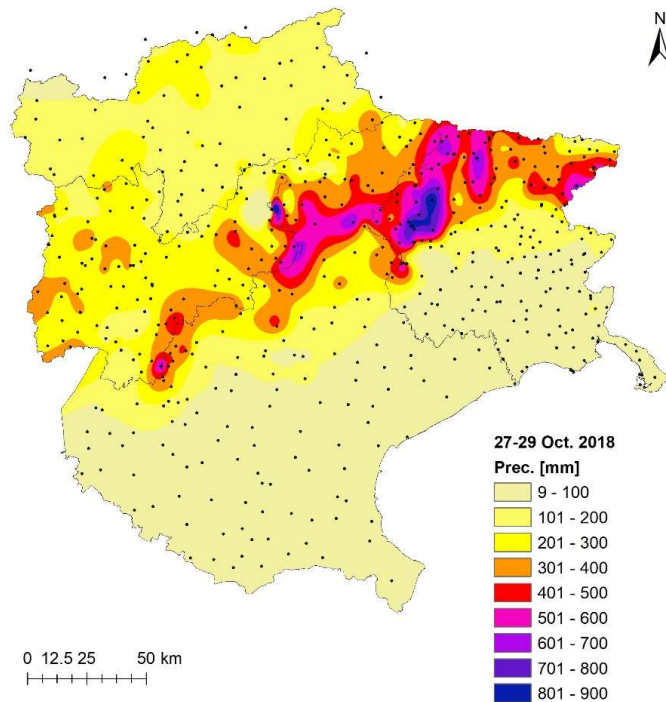
- 1. The Vaia storm: a new paradigm?**
- 2. Rainfall structure and severity**
- 3. Flood peaks and area control**
- 4. Changes in floods: seasonality and trends**
- 5. Changes in landslides**
- 6. Conclusions**



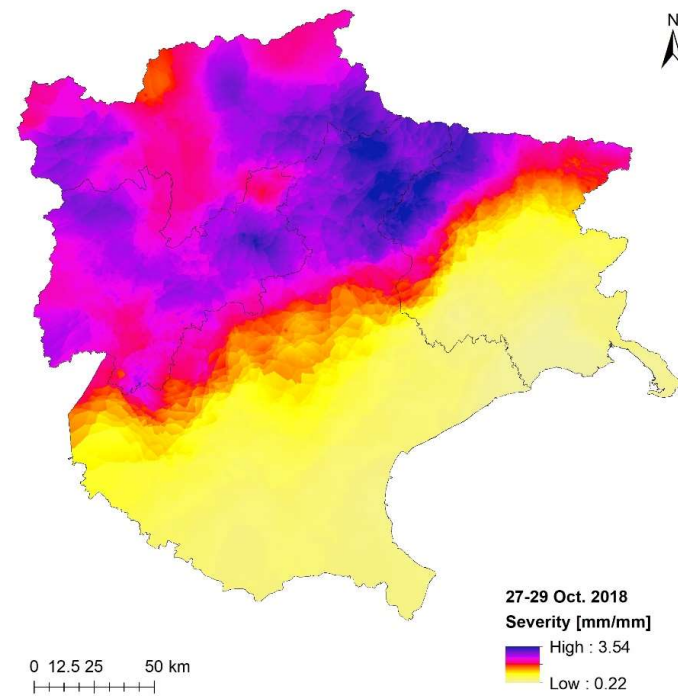
Da: Veneto in ginocchio: Maltempo ottobre/novembre 2018.
Regione Veneto, 2018



ACCUMULATIONS



NORMALISED ACCUMULATIONS

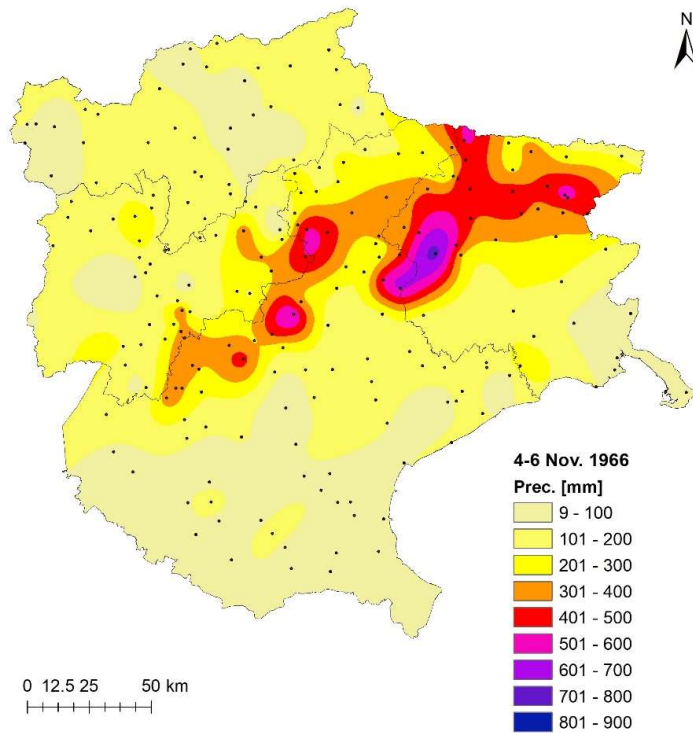




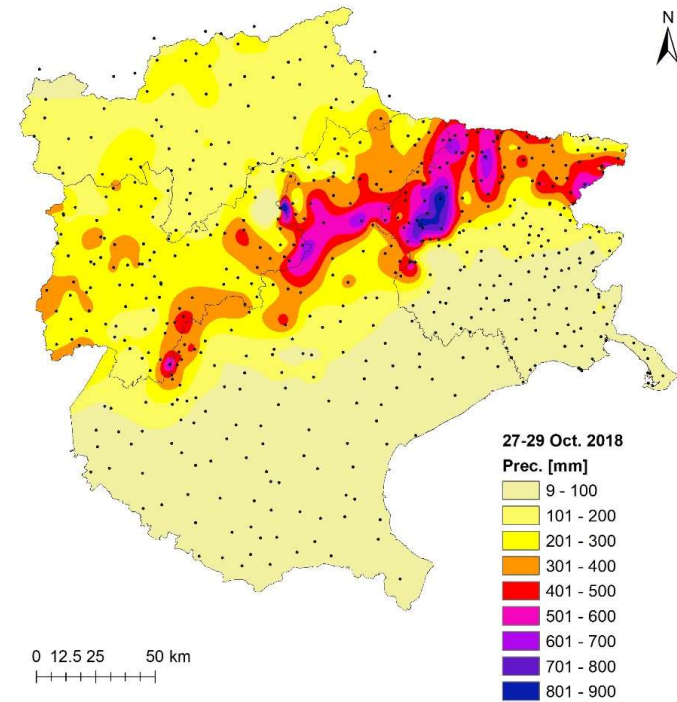
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RAINFALL ACCUMULATIONS: COMPARISON 2018-1966

1966



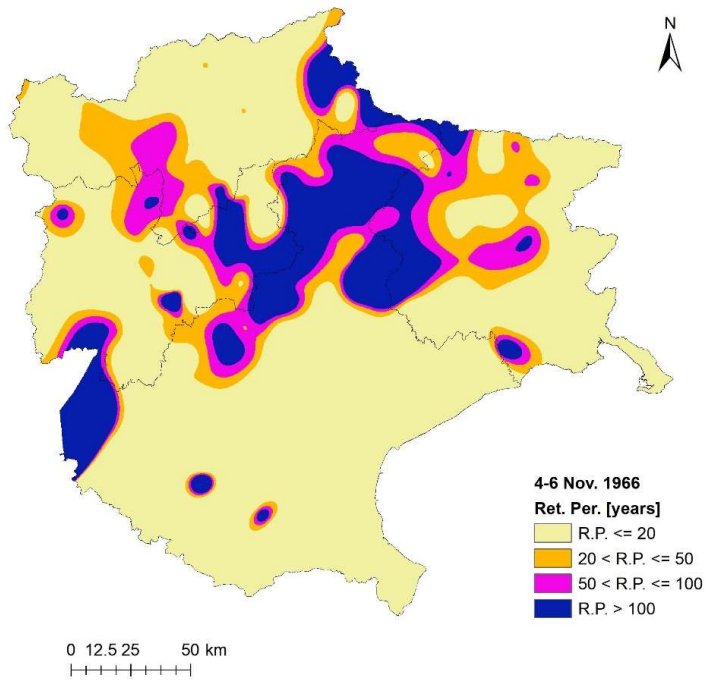
2018



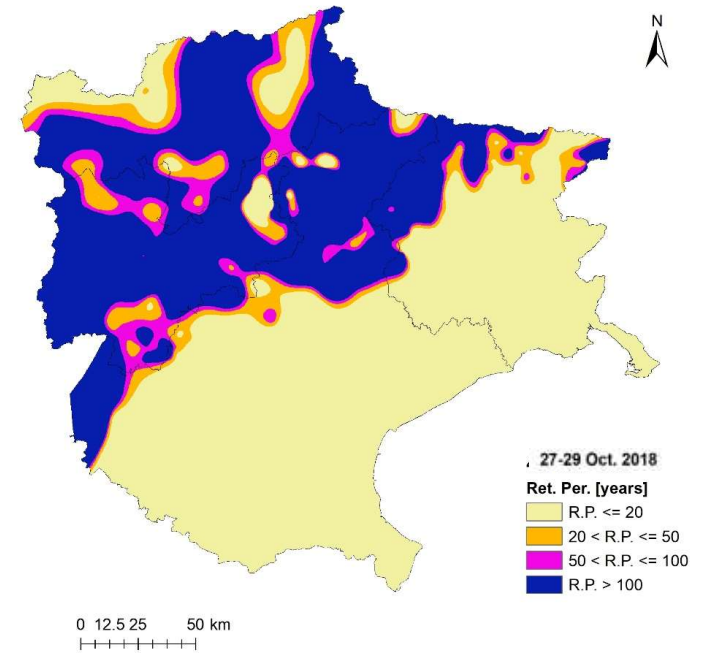


RAINFALL SEVERITY: COMPARISON 2018-1966

1966



2018



Diapositiva 7

M1

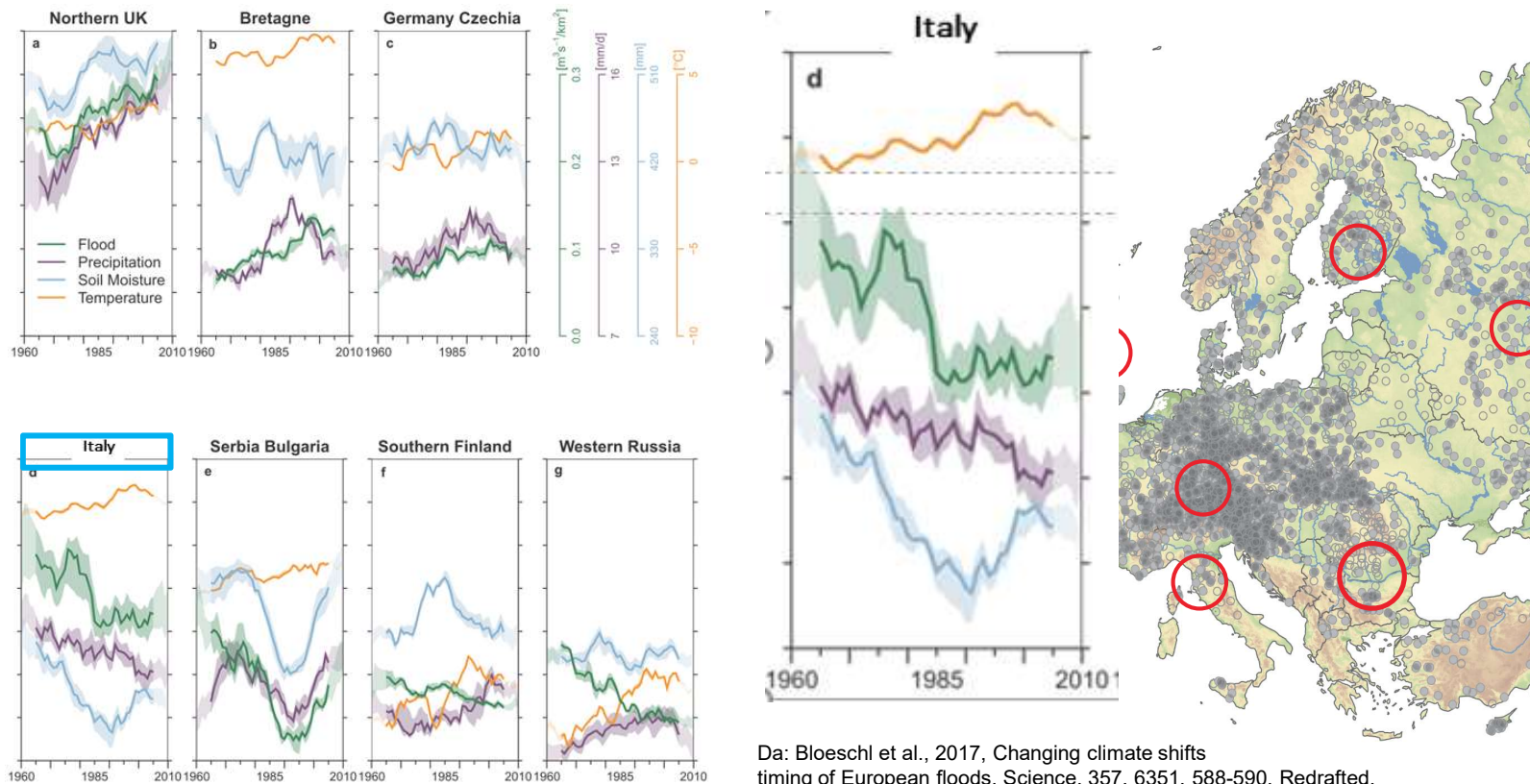
Marco; 26/10/2019



Rio Rotian, Dimaro, Trentino 2 novembre 2018



CHANGES IN FLOOD REGIMES: EUROPE 1950-2010

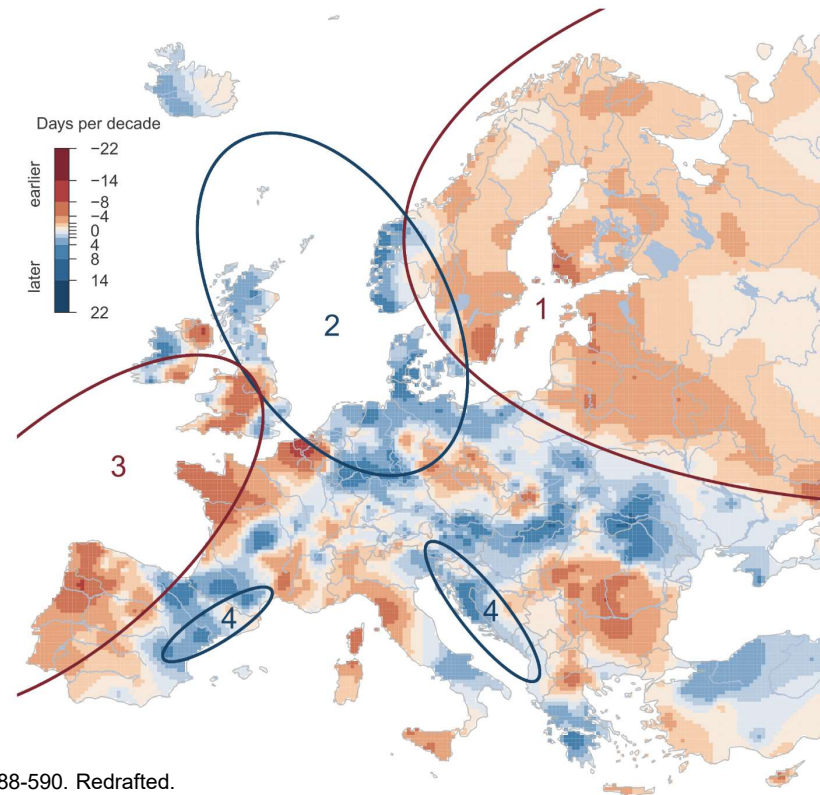


Da: Bloeschl et al., 2017, Changing climate shifts timing of European floods. *Science*, 357, 6351, 588-590. Redrafted.



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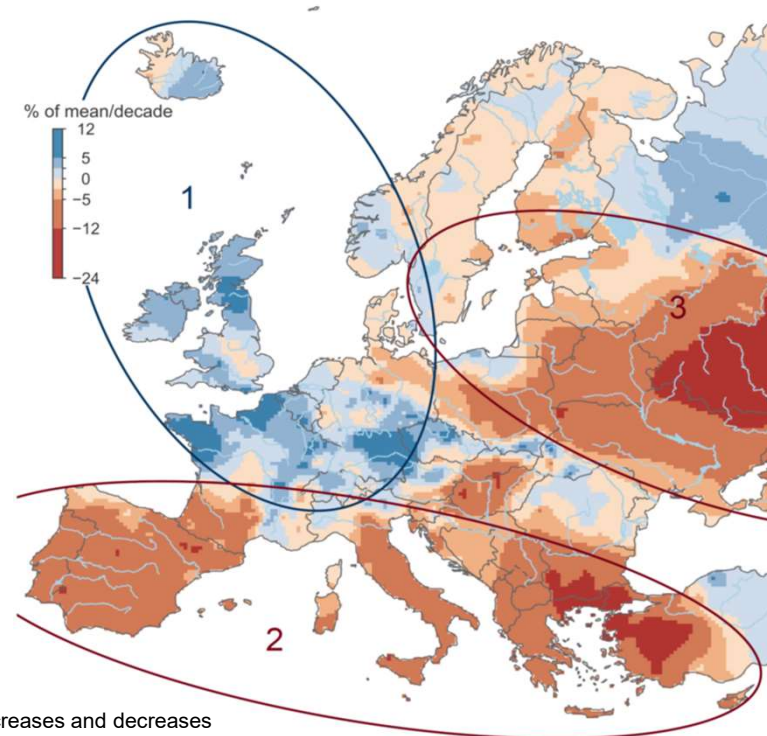
FLOOD SEASONALITY IS CHANGING



Da: Bloeschl et al., 2017, Changing climate shifts timing of European floods. *Science*, 357, 6351, 588-590. Redrafted.



TRENDS IN FLOOD PEAKS

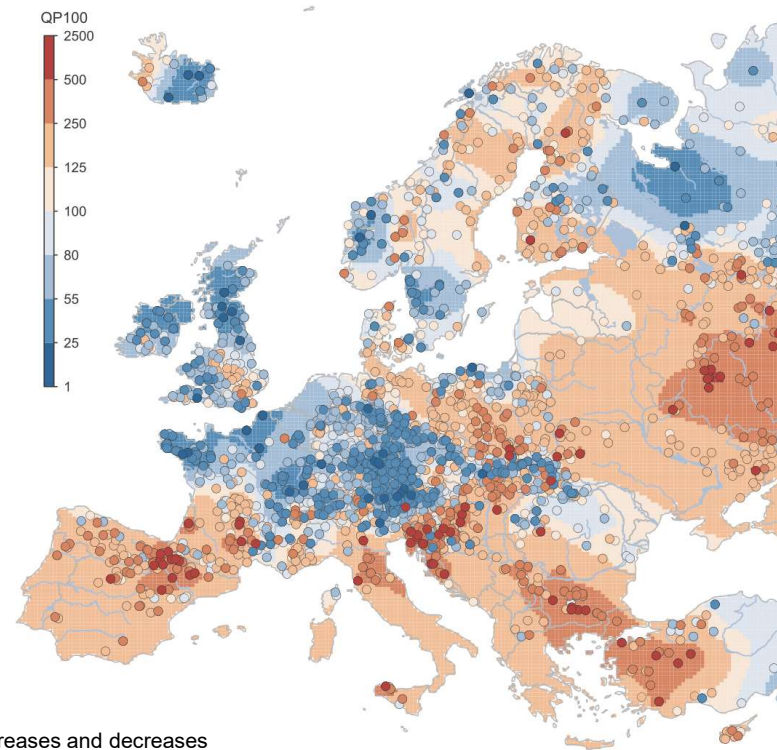


Da: Bloeschl et al., 2019, Changing climate both increases and decreases European floods. Nature. Redrafted.



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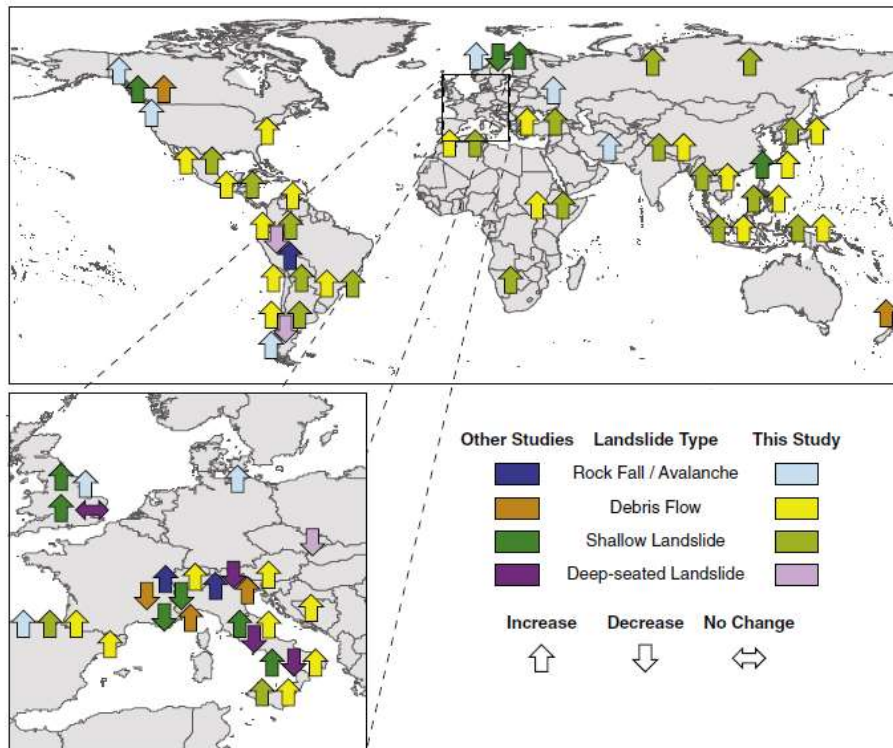
TRENDS IN FLOOD SEVERITY



Da: Bloeschl et al., 2019, Changing climate both increases and decreases European floods. Nature. Redrafted.



CHANGES IN LANDSLIDES/DEBRIS FLOWS



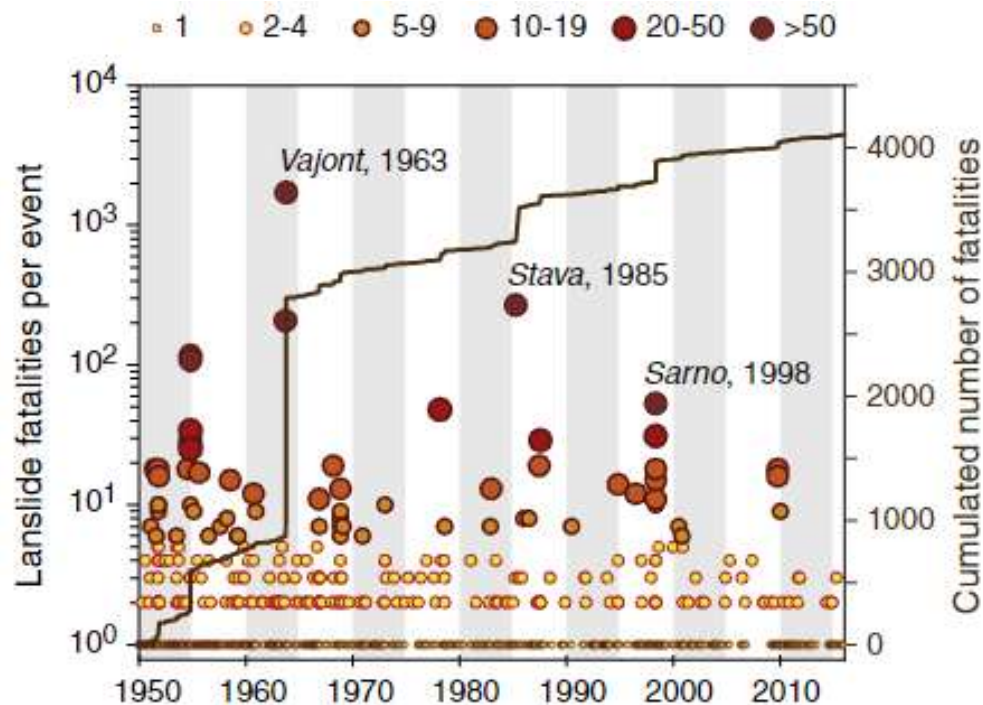
General areas of expected variations in the abundance or activity of four landslide types, driven by the projected climate change.

Dark colours are projections from the literature and light colours are projections from Gariano and Guzzetti, 2016.

- Da: Gariano and Guzzetti, 2016: Earth-Science Reviews 162 (2016) 227–252



CHANGES IN LANDSLIDES/DEBRIS FLOWS



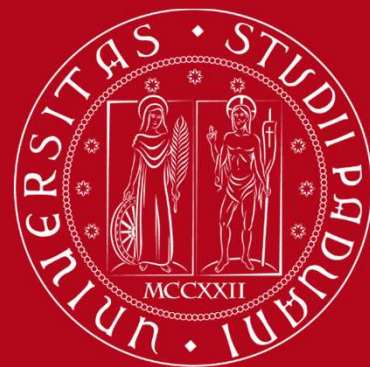
Temporal distribution of fatal landslides in Italy between 1950 and 2015 with an indication of the magnitude of the events, measured by the number of fatalities (dead and missing persons), shown in six classes. The place and year of the three largest events is given.

- Da: Gariano and Guzzetti, 2016: Earth-Science Reviews 162 (2016) 227–252



THANK YOU

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