1. Introduction

- Aim of the study: individuate the areas affected by landslides triggered by the October 30 2016 earthquake
- Study area: Visso/MA, Central Italy
- Multispectral satellite images (Sentinel 2) analysis carried out in Google Earth Engine
- Distinguish anthropogenic changes in land-use (e.g., construction of buildings, crop rotation) in the time period from landslide areas

2. Methods

- Multispectral images analysis:
  - Selection of the images avoiding clouds and the seasonal shadowing effect of the hills due to steep terrain, guaranteeing the same solar elevation (July 11, 2015, July 10, 2017)
  - Correction of the images displacement
  - Analysis of 7 bands on always illuminated by the Sun, always in shadow and reference areas
  - Calculation of the ratio between the two images selected
- ArcGIS software
  - Creating a slope map from DEM
  - Combine radiance coefficient to slope angle to distinguish anthropogenic changes in the land-use

3. Images selection

4. Bands analysis

5. Ratio

6. Combining band ratio and slope angle

7. Results

8. Conclusion

References

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Landslides in Central Italy identified from Sentinel 2 multispectral imaging time series analysis with Google Earth Engine

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