Nat. Hazards Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/nhess-2019-11-RC2, 2019

Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Significance of substrate soil moisture content for rockfall hazard assessment" *by* Louise M. Vick et al.

Mark Eggers (Referee)

mark.eggers@psm.com.au

Received and published: 22 April 2019

This is a great paper; a good story with some simple but excellent conclusions which are of significance to the assessment of rock fall. The manuscript itself could do with some revisions to add to the robustness of the paper. See the 'tracked changes' and comments in the attached supplement. In summary the main areas recommended for revision/extra discussion include:

1. Explanation of the term 'dry' in context of this study 2. Some figures showing the topography/slope morphology and mapped terrain types of the two sites would help characterise the physical setting of the study areas 3. Clarify where the Carey et al 2014 natural moisture content (NMC) data comes from relative to the Rapaki

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Bay site especially with respect to physical setting so the reader can understand if these results are useful in making assumptions about natural moisture content at the time of the earthquake/rock fall event 4. Explain why sampling and testing was not carried out at Rapaki Bay and instead from another site on the other side of the hill 5. Explain why disturbed rather than undisturbed samples were used for the direct shear strength testing 6. Discuss the sample preparation (eg remoulding/recompaction etc) and testing (eg any pre-shearing etc) methods used for the direct shears 7. Discuss the limitations of the remoulded direct shears in assessing in-situ shear strength of loess 8. Given these limitations, while the change of shear strength with NMC trend appears to be a very reasonable finding, should some caution be noted in the paper about the correlation presented between the cohesion values obtained with NMC if there is some uncertainly about these results being representative of the in-situ shear strength? 9. Some simple graphs of the NMC test results and monthly rainfall data would help illustrate the differences and similarities across the sites

Please also note the supplement to this comment:
https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2019-11/nhess-2019-11-RC2-supplement.zip

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