

# ***Interactive comment on “Soil Atterberg limits of different weathering profiles of the collapsing gullies in the hilly granitic region of south China” by Yusong Deng et al.***

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REVISION Paper: se-2016-152 Title: Soil Atterberg limits of different weathering profiles of the collapsing gullies in the hilly granitic region of south China Corresponding author: Chongfa Cai Reviewer: Fernando A.L. Pacheco

OUTLINE AND GENERAL APPRECIATION This study presents an assessment of soil Atterberg limits in weathering profiles of four collapsing gullies located in a hilly region of South China, relating them to various soil physic-chemical properties. Atterberg limits are shown to vary along the profiles, being followed by concomitant variations of some soil properties (e.g., positive correlation with SOM, clay content, CEC; negative correlation with sand content). The study is very interesting, being well written and

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organized. It is also well documented and merits publication in Solid Earth as it fits well in the scope of this journal. However, a fundamental issue needs to be addressed before the manuscript is ready for publication. See details below.

**CONCERNS** There are no control sites in this study, which is a serious weakness of this study. To be used as indicators of collapsing gullies, the characteristics of weathering profiles (Atterberg limits, soil properties) need to be assessed in control hillsides as well, i.e. hillsides not affected by collapsing gullies. Only the characteristics that are found statistically different between the unaffected and affected hillsides can be used as indicators. This has not been checked by the authors and must be accomplished in the revised version. In its present form, the Atterberg and/or soil properties profiles and can eventually be used to interpret the causes of collapsing gullies, but are not able to indicate a profile to distinguish among gully-affected and gully-unaffected hillsides.

**RECOMMENDATION** Major revision 24 December 2016

Kind regards, Fernando A.L. Pacheco

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