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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Landscape scale remediation reduces concentrations of suspended sediment and associated nutrients in alluvial gullies of a Great Barrier Reef catchment: evidence from a novel intensive monitoring approach" *by* Nicholas J. C. Doriean et al.

Anonymous Referee #3

Received and published: 11 August 2020

GENERAL REMARKS The reviewed manuscript refers to the interesting topic on remediation measures used to decrease the negative impact of gully erosion. Such studies are highly needed, especially when they are carried out in one of the most valuable area around the world as the Great Barrier Reef. I appreciate that Authors tested different monitoring methods and evaluated them. These findings may be useful in other areas characterized by dispersive soils and intense short rainfall events.

In my opinion this manuscript fits to the scope of Hydrology and Earth System Sciences journal. The methods are clearly presented (some minor remarks are marked below). The results and conclusions are generally clear, concise, and well-structured. Although, I think that this section can be improved. It would be great to see some comparison of remediation measures used in this study with studies from other regions. The figures are readable and they correspond well with the data presented in supplement.

In order to improve the quality of the paper, I include below some minor remarks.

DETAILED REMARKS

Lines 1-4 Please, consider shortening the title.

Lines 20-21 I suggest to include some information on methods to the abstract. Now you just wrote that novel monitoring network was used without any details.

INTRODUCTION

Can you refer also to the studies on remediation measures in other areas, not only in the GBR catchments?

Line 54 Slacking or slaking?

METHODS

Line 95 I'm confused. You wrote in the text that you used two gullies in the study, whereas in Figure 1 you marked three remediated gully catchments and one control gully catchment. Were these three gully catchments treated as one? Can you mark them together for instance with the same colour line or somehow marked them as one site?

Lines 120-129 I suggest to include some photos from the study area. I know that you present several photos in the supplement, but I think that some of them should be in the manuscript, e.g.., control gully, remediated gully before and after remediation.

Lines 187-192 Did you analyse the whole soil profiles or did you only take samples from the topsoil/subsoils? At which depth did you take samples? Why did you put this subsection (2.4.3. Soil sampling and analysis) into section 2.4. Monitoring methods? I suppose that you did these analyses only once and PSD in soils wasn't monitored.

Line 194 Which samples? I suppose that suspended sediments, but it should be clarified.

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