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Interactive comment on "Seasonal logging, process response, and geomorphic work" *by* C. H. Mohr et al.

Anonymous Referee #2

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This is a generally well written paper that discusses the use of Quantile Regression Forests (QRFs) as an alternative to sediment rating curves in the calculation of sediment loads. This approach is utilised further in an examination of the effects of seasonal forest logging and associated impacts in a Chilean paired catchment experiment. The approach and subject matter are likely to appeal to a wide audience.

Whilst this is a sound piece of research, I have some concerns about the Discussion as it relates to the relative impacts of the logging techniques used. In particular there appears a lack of any mention of the Best Management Practices (BMPs) or soil conservation measures that were employed during the logging operations. Figure 2 suggests that buffer strips were retained along watercourses but this is not mentioned. Similarly, no indication of the % of the catchments logged is provided. Was the logging mostly

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conducted on the ridges or was it on the lower slopes? What are the catchment slopes or gradients? All of these factors affect soil erosion and sediment delivery potential and the authors ought to address these issues prior to publication of the manuscript.

In addition, the following points should be considered:

- line 11 (abstract): the Q measurements may have been every 3 minutes but it is incorrectly implied that SSC was also measured every 3 min. This ambiguity should be corrected.

- line 20 (abstract): insert 'relative' before 'role'

- line 22 (abstract): 'outperforms' should be changed to 'outperform'

- page 3, line 2: What is meant by 'man-made' forests? I presume these are plantation forests.

- page 4, line 8: Are the authors sure that noone else has used high-frequency Q and SSC time-series data? An Australian example recently did:

Webb AA, Dragovich D & Jamshidi R (2012). Temporary increases in suspended sediment yields following selective eucalypt forest harvesting. Forest Ecology and Management, 283: 96-105. http://dx.doi.org/10.1016/j.foreco.2012.07.017

- page 5, line 2: What is meant by 'in average'? Average what? Is this an average yearly value or some other recurrence interval?

- page 5, line 21: see above comments re Webb et al. (2012). Is 3 min really so unique?

- page 7: Given that QRFs are the focus of the paper, it would be sensible to switch sections 3.2 and 3.3 to bring the QRFs ahead of the SRCs in the methods and results.

page 8, line 16: replace 'for' with 'to'

page 14, line 25: replace 'higher' with 'greater'

page 20, Fig 2 caption: replace 'event-base' with 'event-basis'

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