

Interactive comment on “Landslide risk zoning in Ruijin, Jiangxi, China” by Xiaoting Zhou et al.

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Overall comments This is a very good paper that illustrates the potential of the Random Forest approach for landslide risk mapping. The research approach is very sound and all factors that affect landslide susceptibility have been taken into consideration. The results are impressive with very high success of the prediction model. The paper is well written, well structured and in good English. Even though the research method relies on the use of high-level statistics, it can be understood by any land resource scientist with only a summary background in statistics. The methodological flowchart is very transparent.

Specific questions/comments: 1) I would suggest to pay attention to the following points: 2) Line 76-77: replace "the" by "important" 3) Line 79: replace "geological and meteorological" by "geological, soil and meteorological" 4) Line 84: replace "land

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resource" by "land cover" 5) Lines 85-86: move reference "Qin and Liu (2018)" directly after "ore mineralization" 6) Line 96: "RF algorithm has been rarely applied". Not that rarely apparently, e.g. references Zhang et al. and Pourghasemi and Kerle. 7) Figure 1. I would recommend a wider scale of colors, for instance from green to brown: the range of elevation is from less than 70 m to more than 1200 m. Currently the figure inadequately captures this high range. 8) In Figures 3c, 5b and 5c one does not see any magmatic veins, so why include it in the legend? 9) Given the high range in elevation, I recommend adding a figure with the spatial distribution of either annual rainfall or of the period with the most intensive rainfall. 10) I think it is necessary to indicate the process by which values of the different resource factors (such as river and stream buffers, lithological classes, fault buffers, sand percentages, etc.) were converted into risk scores. I guess by 'expert judgement', but who were the experts? The authors or land users or both groups? 11) Lines 231-232: "forest cover was assigned a value of 1-2" Is it 1 or 2, 1.5 or are there two subclasses of forest cover, one with risk score 1 and another with score 2? 12) Line 236: how are NDVI values converted in risk scores? 13) Areas with slopes $<1-5^\circ$ are considered to be 'non-risk' areas. But a slope angle of 5° is nearly a 10% slope, and that is quite substantial. In the area where I live 15% of all landslides are in the slope class 8-10%. Please confirm that the slope range $1-5^\circ$ is not too wide, e.g. by noting the presence/absence of actual landslides in that slope range. 14) Could you explain what would have been the consequence of setting NT to 100 instead of 300? Figure 6 indicates that OOB error is already fairly stable at $NT=100$.

Technical corrections: Lines 134-137: rephrase and simplify the two sentences, as they are currently somewhat confusing. What you want to say is (1) that landslides are more likely on bare land as compared to vegetated areas, (2) slope cuts and excavations for roads and housing exacerbate the risk. Line 194: replace "160-120 m" by "60-120 m". Lines 261 and 353: replace "realistic" by "actual"

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