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Discussions

Interactive comment on "Large-scale application of the flood damage model Railway Infrastructure Loss (RAIL)" *by* Patric Kellermann et al.

Anonymous Referee #2

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The paper addresses a highly relevant topic regarding flood damage modeling for the Railway infrastructure loss. The authors apply the RAIL model, which was proposed in a former study, to the railway network in the Austrian Mur River catchment.

The empirically derived RAIL model is an interesting damage model that connects the damage classes with standardized repair costs. Both the structural damage and the resulting repair costs caused by three flood scenarios were estimated on two different spatial scales (the catchment level and the operational level). The expected annual damage was calculated for each operational section.

The analysis has shown that the RAIL model is basically capable of identifying and localizing risk hot spots at larger spatial scales. One of the advantages of the paper is that the findings were cartographically mapped. The limitations of the flood dam-

age model RAIL and associated uncertainties are discussed. The question of climate change impact on flood risk is also briefly addressed by the authors.

The structure of the paper is logical and meets international standards. The description of the data and the methods used as well as of the results obtained is clear and sufficiently complete. The authors give an adequate overview of the literature with appropriate list of the references.

The paper is acceptable with minor corrections as follows:

1) All the maps (figure 2-4) should include some geographical information, i.e. the names of settlements and rivers. This information would be helpful for international audience not familiar with Austrian railway network.

2) The captions of the figures 3 and 4 are too long.

3) The heading of paragraph 3.1 should begin with a capital letter.