

Interactive comment on “Downscaling climate change scenarios for apple pest and disease modeling in Switzerland” by M. Hirschi et al.

Anonymous Referee #1

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General comments

This paper aims at estimating the impact of climate change on apple codling moth and fire blight at specific locations in Switzerland. This is a very well written paper, with relevant illustrations and relevant discussion and conclusions. I could not however provide an assessment of the part dedicated to the modelling of apple pest and disease, as these topics are not familiar to me. However, the part dedicated to building the appropriate climate inputs to such modelling as well as the interpretation of results and presentation are definitely of good quality and relevance. I therefore recommend this article for publication in Earth System Dynamics, after some minor corrections detailed below.

Specific comments

C314

- P.496, L.7: Could you add some comments about the possible (or not) use of dynamical downscaling?
- P.497, L.20: I think it would be appropriate to have here a “data” section where all available observations (meteorological but also about codling moth and fire blight) would be described once for all (instead of for example in figure legends)
- P.498, L.25: It would be relevant to have somewhere a listing of what analyses are available as a supplementary material and what is directly available in the paper. This could be detailed either here or at the beginning of the “results” section.
- P.499, L.29: the reference Fischer et al. (2011) was unfortunately not available at the moment of review.
- P.501, L.1: The calibration period should definitely be specified and commented here (cf. Also the comment on a “data” section).
- P.510, L.2-3: “the increase in the potential risk..” This is not very clear on the graph? Probably because of the color palette?
- Fig.6: It would have been very nice to have here the whole set of RCM-GCM combinations. That would have helped to discuss the evolution of risks commented P.510, L.3-10.

Technical corrections

- Fig.3, bottom row (and also Fig. 8): the x-axis is not correctly positioned and makes the figure a bit difficult to read at first. The zero value should be aligned with the first bar of the histogram.

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