

Interactive comment on “Stochastic downscaling of precipitation in complex orography: a simple method to reproduce a realistic fine-scale climatology” by Silvia Terzago et al.

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Stochastic downscaling of precipitation in complex orography: a simple method to reproduce a realistic fine-scale climatology This paper explains a simple method to introduce realistic fine-scale precipitation patterns into the downscaled fields, with the objective of producing downscaled data more suitable for climatological and hydrological applications – and important – AS WELL FOR EXTREME EVENTS STUDIES. The strong points of this publication are that the authors can explain how to attain a significant improvement of the precipitation distribution with their suggested downscaling procedure. Of particular interest are the figures 4 and 5 with the PDFs and the

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‘weights’. In my opinion this publication merits in any case a publication, mainly because a clear description of the procedures and a well suited data bases using the very dense Swiss precipitation network. The paper is well written, the structure is clear (and as it should be) and the authors mention the necessary and useful references. The only two points, which I would recommend to improve, is 1) to say a little bit more about the improvements by their method in the different seasons. Often, in winter, spring and fall the improvement is larger than in summer. Have the authors made a similar experience and can they show how the improvement of the downscaling depends on season? 2) To discuss shortly the inflation topic. There was somewhat a discussion about this topic in the last years. Typically, in a gridded model, small precipitation amounts are over-estimated, large precipitation amounts under-estimated. This underestimation of large precipitation events in the original gridded field leads to an inflation of the downscaled precipitation which may be a problem. It would be a good idea when the authors could explain how they tackled this problem. Additionally: A question about the used stations: In the text, the authors say that they used also the stations of the daily gauges, but in Fig. 1 there are only the automated ones. Perhaps, the authors should explain this a little bit clearer.

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