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Geoscientific Model Development Discussions

Interactive comment on "MeteoIO 2.4.2: a preprocessing library for meteorological data" *by* M. Bavay and T. Egger

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> The paper itself does not necessarily break new ground, but the software appears to be of high quality and the discussion in this paper should benefit the scientific community

The reviewer rightly mentions that our paper does not necessarily break new ground, however we tried to highlight the strengths of our approach (based on current best practice software development methods as well as our own vision of extreme programing applied to scientific software) and show how this can significantly improve the quality and the effectiveness of scientific models as well as improve maintenance and collaboration. Moreover, by comparing MeteoIO to competing libraries and software (as recommended by the reviewer), we have also better shown the originality of our ap-

proach.

> There appear to be some other papers on MeteoIO that are not cited in this paper

The reviewer remarked that there seem to be some other papers about MeteoIO that have not been cited. These other references are all short abstracts about posters or talks presented at conferences and were only cited because a paper such as the current one was lacking. We therefore believe that there is no need to cite these abstracts (which have also all been submitted by the current authors).

> Discussion of specific competing libraries or software

This discussion has been included

> The beginning of section 5 mention that certain numerical models [...] rely on MeteoIO. Can you cite some of these [...]

This has been included

> Using a 2006 laptop that is very underpowered compared to modern systems for the results section limits the usefulness of the results

The benchmarks have been redone on a 2014 computer except the time-evolution of the performances of MeteoIO across versions. This test is used to show the relative evolution of MeteoIO and therefore the insights gleaned form it are relatively independent of the hardware that is used.

> The results section also seemed fairly minimal. Additional tests to more thoroughly show the effectiveness of the library to perform a variety of tasks would help.

New results have been included that cover the range of data requirements of various models (single point, single year simulation to distributed, long time period simulation). A new plot has been created (see below) and a paragraph describing it. However, the evaluation of the scientific quality of the results will be left to an upcoming paper since this will represent a very large amount of material.

> HPC - The paper mentions using MeteoIO for hpc a few times

We have removed it, since lots of work took place in this area in the last few months making the previous HPC setup obsolete. This topic might then be covered in another paper when enough material would become available.

> Section 5.1 - This section seems overly detailed

The section about user evaluation has been shortened by removing the graph and only describing the results in the text. Moreover, more data has been collected while the paper was in review.

> Technical corrections: The wording at beginning of section 2.4 should be changed [...]. Can you provide details on size of files and amount of data used for figure 11?

We have rephrased section 2.4 and provided the requested information as well as properly label Figure 12. More generally, we have provided the file sizes for all the benchmarks.

Interactive comment on Geosci. Model Dev. Discuss., 7, 3595, 2014.

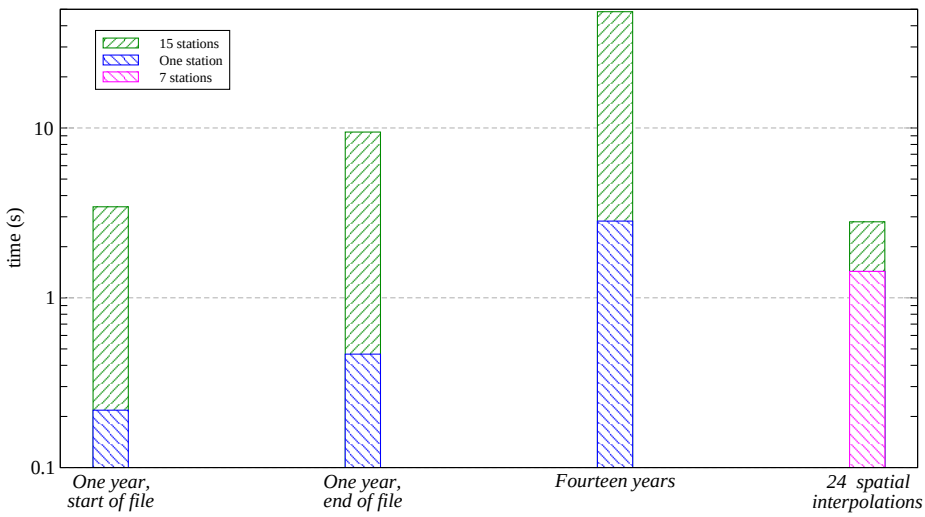

Fig. 1. data scenarios benchmarks