

## ***Interactive comment on “Improving arable land heterogeneity information in available land cover products for land surface modelling using MERIS NDVI data” by F. Zabel et al.***

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1.General comments: The article contains a very important topic – How to improve arable land heterogeneity information in land use classifications and as a result: The quantification of the hydrological impact (L.E) of this heterogeneity by using a hydrological model. For me, the article is very useful and worth publishing. However, there are some suggestions and questions to improve the structure and understanding of the article.

2.Specific comments: First a general question concerning the land use classifica-

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tions CLC 2000 and CLC Switzerland 1990: What about their currency, especially of CLC1990?

I also suggest splitting up chapter 2.3 into three sub-chapters as mentioned by T. Avelan. For chapter 2 -LAI, NDVI usage- a short description of both quantities would be desirable, also to understand how the NDVI “works” and how it can provide information about the different photosynthetic activities of different crop types. Furthermore, the criteria for changes in NDVI (Fig. 5, 0.1 thresholds) should be explained.

And finally, I totally agree with the former statement: The comparison to the original CLC2000 is missing in Fig. 8 and 9 to really get a feeling for the improvements (because that the new approach gives an “averaged” line with values between maize and winter wheat is not that surprising.)

Conclusions could be more detailed.

3.Technical corrections: I suggest removing formulas 1-4. It would be enough to describe it in the text instead of using such a source code.

Abbreviations have to be consistent, see DEM, SRTM: use the same order, first the word, then the abbreviation in brackets.

Fig. 3: shown are “bimonth”, the explanation is missing in the text at this time, only in Fig. 4. (Why did you use bimonth? Is it also possible with monthly or current data e.g. from MODIS?)

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