

Interactive comment on “Evolution of soil and plant parameters on the agricultural Gebesee test site: a database for the set-up and validation of EO-LDAS and other satellite-aided retrieval models” by Sina C. Truckenbrodt and Christiane C. Schmullius

Anonymous Referee #1

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General comments

The manuscript describes, with a high level of details, a database of ground measurements of soil and plant parameters and the authors link the importance of such a database with retrievals models for vegetation monitoring. This is certainly a timely paper given (i) the current levels of effort expended on vegetation (and in particular crop) monitoring and (ii) the new era of satellite images that offer new promising perspec-

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tives. The paper contains some interesting material, is reasonably well written and is generally well referenced.

While the basic premise of this paper could be highly relevant, in its present form, the paper is a bit disappointing as it only describes the database, including a few comparisons between parameters. Retrieval models have not been applied using the database and no comparison with existing datasets (those cited in the introduction) has been made to show the added-value of having so many parameters at such a high temporal frequency. To my opinion, major revision would be needed before publication, to add content to this paper.

Specific comments

- Title: I would suggest characterizing the word “evolution”. Authors are referring to seasonality or inter- and intra-annual dynamics - it should appear more clearly in the title

- Introduction: it is well-written if the authors want to show the interest of their database for vegetation monitoring through models retrievals. The authors state that “none of the cited datasets meets the requirements for comprehensive testing and validation of satellite-aided retrieval models that are driven by data assimilation techniques” because “these models require both, data on a large number of vegetation parameters for various crop types and a sufficiently high temporal resolution”. This is clearly true but the logical next step after such an introduction would be to run a model using one of these datasets and the new database and to compare the results

- Study area and site description: if the 2nd paragraph refers to the test site and not to the Thuringian Basin, I would invert the 2nd and 3rd paragraph. If not, the line 16 should be rephrased

- Measurement design of the field campaign & Ground measurements: these two sections are very well written, clear and highly detailed Yet, in section 4, the interest of

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having so many parameters could be highlighted by explaining, for each of them, their relevance / usefulness in vegetation monitoring applications and models retrieval.

- Results: this section is to me the disappointing one. After having described with so many details this huge database, this section fails to convince of its usefulness. Going to the field every week to collect many parameters is a huge work and the authors need to convince that it is worth doing it. The analyses that are presented in sections 5.1 to 5.3 are rather basic and don't reach this objective. I would recommend running a model based on this dataset to show how and to which extent the results are improved when increasing the number of parameters and the temporal frequency. If no comparison is possible with existing datasets (different years, different places), the authors could remove some parameters and some dates to artificially build a dataset similar to those cited in the introduction

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