

## ***Interactive comment on “SACRA – global data sets of satellite-derived crop calendars for agricultural simulations: an estimation of a high-resolution crop calendar using satellite-sensed NDVI” by S. Kotsuki and K. Tanaka***

**S. Kotsuki and K. Tanaka**

kotsuki.water@gmail.com

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Dear HESS Editorial Board and Reviewers

We would like to submit Author Comments of our manuscript entitled “SACRA-Global data sets of satellite-derived crop calendars for agricultural simulations: An estimation of a high-resolution crop calendar using satellite-sensed NDVI [doi:10.5194/hessd-12-1329-2015]” submitted to Hydrology and Earth System Sciences. First of all, we would like to express here our deepest gratitude to the two anonymous referees for

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their invaluable and constructive suggestions. All of suggestions and comments are helpful and insightful for revising the manuscript. We apologize for some parts of our manuscript confused the referees. A detailed one-by-one response to each comment is shown in Supplement. In summary, two anonymous referees are concerned about two issues:

1. Additional experiments The two referees suggested us to perform additional discussion by comparing our crop calendar (CC) with previous studies. Following the suggestion, we will perform two further experiments. Firstly, we will add the discussion about difference between the satellite-derived cropping intensity and climate-derived cropping intensity (e.g., Zabel et al. 2014). Secondly, we will compare the estimated sowing dates with model-based crop calendar (e.g. Hanasaki et al. 2008; Waha et al. 2012). Those two experiments would be interesting to see the characteristic of our CC compared to the agroecological optimum.

2. Difficulties with understanding the paper The two referees pointed out that our first draft contains some difficulties with understanding paper. Some of them were due to language and style, while others were rather due to a too unspecific description of the approach. The referees kindly gave us many specific comments and proposals. Following the suggestion, we are going to revise the equations, figures, tables, and structure, accordingly. Also, we will revise the use of English by native check. We will add four appendices to supplement the methods to determine dominant crop, two CC parameters (NDVI<sub>pl</sub> and NDVI<sub>hv</sub>), multiple cropping, and NDVI-Filled and NDVI-Crop.

We are going to revise our manuscript thoroughly according to the above directions (see Supplement for details). After this, we sincerely believe that revised manuscript will be up to satisfying both referee's comments.

Sincerely yours,

Shunji KOTSUKI (On behalf of my co-authors)

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## References

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Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/12/C1242/2015/hessd-12-C1242-2015-supplement.pdf>

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Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, 12, 1329, 2015.