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Interactive comment on "TAMSAT-ALERT v1: A new framework for agricultural decision support" *by* Dagmawi Asfaw et al.

Anonymous Referee #2

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General comments:

This paper highlights an interesting approach to modeling and predicting yield. Overall, the paper is good and has useful information on the new TAMSAT ALERT model and an example of the model in action. The resulting work shows that TAMSAT ALERT can be useful in identifying links between the forecasts and the yield outcomes.

1. In the abstract, the example of Northern Ghana shows that predictions of rainfall and temperature are of limited use to decision makers, but is not followed up in the paper. Specifically, the paper walks through using different data within the TAMSAT ALERT but does not explain why different datasets were used. It would be useful to know if the mean temperature and precipitation forecasts that are issued are incorporated into the model.

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2. It seems like this paper might be highlighting an issue of scale- local forecasts may be of more benefit than large, country-wide forecasts. In the conclusion, the benefit of TAMSAT ALERT may also be providing guidance on the design of forecast products (page 24, line 36). Since this may be a secondary use, it might be important to include that at the top of the paper (in both the abstract and the introduction).

3. The target audience of all other early warning platforms are mentioned, but TAMSAT-ALERT's target audience is not mentioned. Perhaps this should be included (page 2 line 22).

Specific comments: 1. The first sentence of the introduction needs a citation (page 1, line 27). My suggestion would be Muller, Cramer, Hare, Lotze-Campen, 2011, "Climate Change Risks for African Agriculture", Proceedings of the National Academy of Sciences. In this paper they talk about naturally high levels of climat variability, reliance on rain-fed agriculture, and limited capacity to cope with climate variability makes Sub-Saharan Africans notably vulnerable.

2. The different platforms available for early warning on the 2nd paragraph of the introduction (pages 1-2) should probably have citations and links for them. Within that comment- the IRI platform is "IRI/LDEO Climate Data Library", and the maprooms are "IRI Climate an Society Maproom"

3. Under the Model Specification, Point 1 (page 4 lines 13-16), the type of data that ALERT can use is not specified. Must it be converted from .csv to .txt? What is the delimiter? Can it accept geotifs or netCDF files?

4. Although TAMSAT-ALERT is designed to be flexible to different inputs, it might be important to include the spatial resolution of TAMSAT precipitation data in this paper, since it seems logical that TAMSAT precipitation data may be one of the most logical inputs?

5. The first time ECDF is mentioned (empirical cumulative distribution function) is on

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page 5 line 21, and it is not designated an acronym when it is first mentioned. However, later in the paragraph, (line 22), it is mentioned by acronym. Perhaps the acronym should be designated immediately after the first mention or the acronym on line 22 should be replaced with the name since ECDF is not used again in the paper.

6. On Figure 2 (page 7), there is a pre-existing map of Ghana: this might be a useful figure to include where Tamale is, since this is the example mentioned immediately on page 8 (line 10).

7. On Figues 11e, 12e, 13e, 14e, and 15e - the probability of low yield is at 100%, but the 100% has been cut down to 10. That number should either be scrubbed off or should be 100% and completely visible.

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