GENERAL COMMENTS

The subject of the paper "*A coupled human-natural system to assess the operational value of weather and climate services for irrigated agriculture*" is of direct interest to the Journal of Hydrology and Earth System Sciences. Authors introduce and apply a framework in the context of measuring the operational value of weather and climate services (WCs). The validation of the usefulness of the WCs to the final users is a much needed step towards the realization of these services.

Regarding the different aspects of the HESS journal:

1	Does the paper address relevant scientific questions within the scope of HESS?	YES
2	Does the paper present novel concepts, ideas, tools, or data?	YES
3	Are substantial conclusions reached?	YES
4	Are the scientific methods and assumptions valid and clearly outlined?	YES (see technical comments)
5	Are the results sufficient to support the interpretations and conclusions?	YES
6	Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)?	YES (I also encourage the authors to share the code/data)
7	Do the authors give proper credit to related work and clearly indicate their own new/original contribution?	YES
8	Does the title clearly reflect the contents of the paper?	YES
9	Does the abstract provide a concise and complete summary?	YES
10	Is the overall presentation well structured and clear?	YES
11	Is the language fluent and precise?	YES
12	Are mathematical formulae, symbols, abbreviations, and units correctly defined and used?	YES
13	Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated?	YES (see technical comments)
14	Are the number and quality of references appropriate?	YES
15	Is the amount and quality of supplementary material appropriate?	#

SPECIFIC COMMENTS

1. One of my concerns is the limited duration of the analysis period (2001-2005). Why authors didn't extend the analysis beyond 2005. Is it due to the limited data availability? If yes, it would be also interesting to see similar results for a longer time period even for less forecast products.

2. Assuming that instead a single forecast product, a large ensemble developed by the combination of several products could outperform the forecast quality or the result to better decisions compared to single products?

3. Another subject that could also be discussed is the limitations and/or assumptions of the study. I think that a limitations section should be added in the paper in order to summarize the main simplifications or assumptions considered in the work. For example the determinant yield factor is the water availability no matter the agricultural treating of the farmers during the cultivation period. Maybe such a section could also include some references to works in which they have been treated in other way.

Considering these and the fact that the scientific significance and quality are excellent, my suggestion to the editors would be to accept after minor revision in the context of my specific and technical comments. I am listing a number of suggestions in the form of technical comments that will improve the presentation of the study.

TECHNICAL COMMENTS

P4 – Study site section: since you are dealing with end-user services it would be nice if you include more information, a short description of the users (total number of farmers, average farm extent, etc.).

P4 – L9: Here you mention 40% for maize while in Fig. 1 shows 74%.

P5 – L2: you could also say that climate change has exacerbated the severity of the extreme events (drought/heat wave).

P5 – L5: what about 2001? Judging from Fig. 4 2001 was even drier than 2003 and 2005 (also in Fig. 6 for the April to August precipitation).

P5 – L26: add cross reference for Table 1.

P9 – L5: Why do you set the resolution to 250m? Is this resolution adequate for representing the spatial detail of the crops/properties?

P9 – L25: Does this model take into account the behavioral dependency on the preceding year? Meaning that the farmers' decision is affected for example from a "previous (i-1) dry year" and as a result the potentially optimistic decision of year i would be more pessimistic?

P12 – Table1: the products listed here are single member experiments or there is a number of realizations?

P13 – Figure 4: You could also add total precipitation and average temperature for each year (row) on the right part of the figure (on the left from the legend).

P15 – Figure 6: it would be easier to read if you place the legend of each product on the corresponding sub-plot. Otherwise you could arrange the legend in similar order as the subplots because it is hard to detect. It would be also helpful if you could highlight the dry years.

P16 – Figure 7: The differences are hard to distinguish. You could plot the anomalies instead or adjust the range of the temperature axis (for example from 17 to 23ºC). Again it would be also helpful if you could highlight the dry years.

P18 – Figure 8: You could use a continuous line for the deterministic simulation.

P23 – Line 32: remove the space from "f armers"