Editor's report on "Statistical Analysis for Satellite Index-Based Insurance to define Damaged Pasture Thresholds" - Juan José Martín-Sotoca et al.

The authors present an analysis of satellite index based distributions across the growing season as a basis for defining pasture damage. The topic is very relevant not only to the journal but also within the broader context of agricultural insurances in a changing climate. Overall the research is well presented and structured.

The reports of three reviewers document major shortcomings in the current manuscript. The interactive comments in reply to the reviews do not always reflect the call for revision sufficiently; nor do the suggested changes in the manuscript. Some comments deserve better attention and subsequent changes should be reflected in the manuscript. In my opinion, the authors have enough data and experience to deal with the comments in a better way so that the resulting manuscript will attract a larger audience.

The following major points will require the authors' attention prior to publication:

1. All three reviewers question the selection of the GEV distribution and call for additional statistical metrics to justify this decision. The authors may wish to consider the use of relative quality estimators as additional statistical metrics to compare the different distribution models and corroborate the current results.
2. Reviewer 3 calls for a literature review in the introduction (with additional references) on NDVI distribution functions and limitations to the use of the normal distribution. Unfortunately these issues have not been addressed in the interactive comments, but will definitely help the formulation of discussion points.
3. The manuscript lacks a separate discussion section: the authors should consider a split between results and discussion. A separate dedicated section will help formulate strengths and weaknesses of the study such as temporal, spatial and spectral scales, the representativeness for a wider area and applicability to another environment. This section is necessary to place the research in a larger context and relate the findings to other research.
4. On a more technical level, the following description may be added to address Reviewer 1's comments on atmospheric correction. "Each MOD09A1 pixel contains the best possible L2G observation during an 8-day period as selected on the basis of high observation coverage, low view angle, the absence of clouds or cloud shadow, and aerosol loading." However, certain observations were removed from further analysis, and therefore the question remains on what basis these observations were removed.
5. I have serious concerns with respect to the (colour) filtering technique which seems to remove all NDVI values below 0.2-0.25. This removal needs further explanation (or even exploration) in view of the proposed extreme value distributions.
6. The mean NDVI profile presented in Figure 4 is very informative. However, an indication of inter-quartile range would be even more informative, for instance in the form of a box plot. The characterization of this seasonal variation and its explanation in agronomic terms seems crucial for the general understanding of the manuscript. The authors have the data to undertake this analysis.

The above points need careful revision and therefore I propose a major revision.