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Title: Statistical Analysis for Satellite Index-Based Insurance to define Damaged Pasture Thresholds
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1. GENERAL COMMENTS

The article is very organized and structured. Making reading easier The language used is quite appropriate and the graphs and tables help to interpret the results so that none of them is left over

The result that follows from this article seems very reasonable to me. In general, the use of percentiles to set damage thresholds is a more reliable method than the use of the mean and standard deviation, which would only be justified if the distribution of the index followed a Normal law. The authors show how the assumption of Normality is not very reasonable

In addition, the article highlights the ability of insurance based on indices to verify the effects of crop or livestock losses, except table 2 that I think is redundant since it is known that the intervals go from 8 to 8 days and it is not clearly specified what is #samples, which apparently is the most relevant of the table

2. SPECIFIC COMMENTS

In this study authors applied a simple filtering method based on the Hue-Saturation-Lightness (HSL). It is necessary to determine if there is any reason to explain why they apply this type of filter to reduce noise and not others.

There is information that is not clear although I suppose that the number of samples comes out of using 16 years and every day of the year a series, that would total 96 series for each period of 8 days in which the year has been divided. I suppose that some intervals have less data (series) because the atmospheric conditions of some days have prevented to obtain the complete sample. But in each sample, how many observations are we talking about? Or, instead of samples, was it meant to indicate observations? This point is important to calibrate the chi-squared test that is very sensitive to the number of observations of the sample to which you want to adjust. (There are other contrasts of goodness of fit that depending on the sample size could be more justified).

It is not clear that when checking the goodness of fit of each distribution which is the threshold p-value (α) that has been chosen to consider that the RV variables follow the theoretical distributions that are being considered in each period.

Figure 5 shows the percentage of adjusted intervals for each candidate distribution. Is that correct? Is there any relationship between the season and the number of intervals that fit correctly for each type of distribution? That is not mentioned in the article. Are the authors satisfied with the results? In other words, the proportion of times that can be correctly adjusted to a type of distribution seems appropriate. What is the proportion from which you consider that percentage is satisfactory? It seems that what they want to present mainly is that the Normal distribution is not the one that best fits. When establishing the GEV distribution as an alternative, they have not statistically evaluated the differences between a GEV distribution and other triparamétricas (Generalized Pareto, Normal Log, Generalized Logistics, ...). I suppose that the justification may be due to the fact that the final solution they recommend is that it is a quantile of the RV that determines whether there is a drought or not.

In the results I am struck by the difference obtained in the parameters of the GEV distribution between close intervals, for example between 35 and 36 in the first the probability of obtaining a value below 0.257 is 0.1898, while in the second is 0.2857. Can you explain that difference.

3. TECHNICAL CORRECTIONS

- In figure 3 it is necessary to define the axis of abscissa, it is assumed that it is the date, varying in the 16 years that are collected from the information (January 2002 - december 2017), but it is not specified.
- Table 2 should be reduced, only the number of samples per interval should be specified and clarify in the text that the intervals go consecutively from 8 to 8 days, indicating the start intervals of each season (winter, spring, autumn).