REFEREE 2 COMMENTS

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Lessons from the 2018-2019 European droughts: A collective need for unifying drought risk management

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This is a very interesting article whose ultimate goal is to advocate the creation of a European Drought Framework Directive. For this, it is based on the analysis of the results of a survey carried out in all European countries. The supplementary material offers a series of figures that show the existence of a deep work that supports the results of the article. However, there are some aspects that are not clear enough and that I explain below.

Section 1.3

This section is focused on the introduction of the 2018 and 2019 droughts in Europe. Authors speak about a “summer drought” that would mean that it only lasted three months approximately. What kind of drought definition are you using here? It is not clear here that if these summer droughts refer only to a negative precipitation anomaly plus a positive temperature anomaly on summer or are they a consequence of those factors plus previous bad hydrometeorological conditions? However, in section 3 you introduce four indexes to characterize these two drought periods and it is possible to see that it is probably the same event, that started in winter 2018. In order to avoid any misunderstanding, I would suggest avoiding the expression “summer drought” here or introduce an explanation here.

Section 2. Data

The calculus of SPI, fAPAR, SM and LFI require data on precipitation, temperature, …. Which is the data source that have you used? And the resolution? Or are these indexes provided directly by EDO?

L. 156-164 and Table 1. The criteria used to build Table 1 and classify the category of the drought should be justified and clarified. Does exist any previous reference to justify it? To be considered into a specific category, would be necessary that the three indexes would have the same or a similar value (SPI, fAPAR, SM)? What about the different SPI indexes? Do you select the worst?

L. 167. Which criteria have you used to select the national representatives of each country? Do you consider that it constitutes a representative sample of stakeholders? What about citizens? Have do you applied any test to validate this sample from the point of view of a sociological approach?

L. 175. The sentence “National representatives of each country were selected” should be moved to the end of the previous paragraph (L.174)

Section 3

See comments about Figure 1 at the end of my evaluation.

L. 188. How do you use the SPI-3, SPI-6, SPI-9 and SPI-12 to define a drought? Do you apply each one to each month?

L.220-L.225. I consider that it is not necessary to explicit the name of all the countries affected by the drought when it is possible to synthesize it with the only reference to the Balcanic Peninsula. It is to say, the text “In south- eastern Europe, winter 2018/2019 precipitation deficits were detected across much of the Balkan Peninsula, i.e., Croatia, Albania, Slovenia, North Macedonia, Montenegro and Hungary, as well as in Slovakia. Serbia was already affected by the summer drought in 2018, which persisted throughout the winter. In Ukraine, Moldova and Romania, the 2018 event was moderate in the second half of the year and further rainfall deficits accumulated during winter, which led to rising soil moisture deficits from summer 2019 to the end of 2020”, could be replaced by “In south-eastern Europe, winter 2018/2019 precipitation deficits were detected across much of the Balkan Peninsula. In Ukraine, Moldova and Romania, the 2018 event was moderate in the second half of the year and further rainfall deficits accumulated during winter, which led to rising soil moisture deficits from summer 2019 to the end of 2020”.

L. 227. See my comments about Figure 2.

Discussion

L. 342-354. Why do you introduce here a paragraph about some meteorological/climatic conditions related with some droughts in some parts of Europe? There is not any connection with the previous sections, neither with the subject of the paper. I would propose to delete them because it only offers a very partial image.

L. 359. It would be useful to build a figure that could corroborate the sentence “In general, the hazard severity perceived by the surveyed stakeholders corresponded well with the hazard severity monitored by the EDO”. It is not easy to compare Figure 1 with Figure 6. You can create a graph x/y, Perceived/monitored.

L. 387. Add a parenthesis before Fig.

L. 390. Delete the initials of the name in the reference “Hervás-Gámez, C., & Delgado-Ramos, F.,”

Figures

The quality of figures is not good. The main problem lays in the labels.

Figure 1. Years 2018 and 2019 placed at the left side can be deleted. It is enough to write it in the legend of the figure. Delete the text into the figure (“Proportion of country….”). This figure

has been built by you or is from EDO? What about “The timing of MAX is indicated by the number of the 10-day interval”? Any reference to MAX neither to 10-day interval is included in the main text. Why have you selected those months and SPI accumulated values? (i.e. October, SPI-9).

Figure 2. It is not needed to write the capital letters to identify each country. As far as I understand the information about the main water usage is provided by the people interviewed? The results really caught my attention. Would it be possible to check if that perception is correct? Why there are no data for Spain? Following the text there is enough information.

Figure 4. Although the legend says “Perception of climate change effect on drought management in Europe shown as percentage of participants in pie charts responding to question”, only Figure 4b shows pie charts.