Response to Reviewer 2 Comments-Fire-506030

Abstract

Point1: Line 25-29: Does the "Participatory and Intercultural Fire Management Network" encompass the "common declaration and next steps", or does it have a separate function? Please clarify this in the abstract.

Response 1: Thank you for your comment. "Participatory and Intercultural Fire Management Network" encompassed the "common declaration and next steps" during the workshop. We rewritten the sentence (see lines 26-30). I hope it is clearer now.

Introduction

Point 2: Overall the introduction is well-written. It may be useful to include more context about the case study of interest here – possibly the current approach to fire management, describing the different groups and how they interact or what their current role is in fire management. Some of this information is in the results and discussion but would be more appropriate here. Also, a couple of the comments on the introduction with regards to word choice should be considered throughout the manuscript (e.g., integration, stakeholders, etc.).

Response 2: Thank you for your recommendation. We moved some paragraphs of results and discussion sections to a new framework section (1.1. lines 90-221) in the Introduction. It comprises more information about environmental and historical background of fire management in the Central Guiana Shield region. We think it is much clearer now, specially to potential unfamiliar readers about fire manangement situation in the region.

Point 3: Line 38: "as well as **to** control wildfire spread"?

Response 3: Ok, thanks. We changed it.

Point 4: Line 39: start new sentence with "Representing" (or "These practices represent…")

Response 4: Ok, thanks. We changed it. We used the second option.

Point 5: Line 41: Perhaps it would be beneficial here to highlight that there is "growing scientific evidence" **as recognized by** the academic and organizational/governmental communities – Indigenous communities have long understood that their practices are achieving multiple values such as the protection of biological and cultural diversity.

Response 5: Ok, thanks for your suggestion. We modified the text.

Punto 6: Line 45: What constitutes a "traditional" community? And how are they distinct from Indigenous communities? It may be worth clarifying this, particularly since "traditional" is used in the abstract to describe Indigenous practices.

Response 6: Thanks for the question. We referred to local (non-Indigenous) communities that maintain "traditional" practices (or inherited practices and knowledge systems that they are part of cultural traditions). The Indigenous are the original settlers of a given region that maintain an early culture. The term local communities, in general, refers to groups that have settled, occupied or colonized the area more recently. In Latino America, frequently local communities inherited

the culture from former Indigenous communities. This makes difficult distinguish between both type of communities, because of the level of acculturation and miscegenation that Indigenous are suffering. Nevertheless, to make clearer the meaning, we added the word "non-Indigenous" between local and communities' words.

Point 7: Line 46: perceived as a threat by whom?

Response 7: We added to the text: "*by Protected Areas (PA) administrators, fire-fighters' bodies and policy makers".*

Point 8: Line 50: change "fire occurrence, as it has been…" to "fire occurrence; as has been reported in recent mega fire events, even the most sophisticated…"

Response 8: Ok, thank you. I changed it.

Point 9: Line 53: I would argue that it isn't just Indigenous knowledge that has an important role to play, but Indigenous peoples and their practices. This is clear in the following sentences and I realize within your manuscript that this is not your intention, but be careful about using language that confines Indigenous peoples' contribution only to knowledge that can complement scientific knowledge – Indigenous peoples, practices and knowledge are valid in their own right. See *Boesky and Maru (2011) Ecology & Society* for discussion of difficulty with seeing knowledge "integration" as a purely technical problem. It may be worth considering whether "integration" is the right term to use for what is being accomplished in this case study.

Response 9: Thank you for your comment and *the* very interesting review article suggestion for the discussion. We changed this part of the sentence to: "*Traditional Indigenous knowledge and practices…*" We also changed dramatically the discussion incorporating your suggested and other interesting references about the limitations and obstacles that appeared during integration process. Specifically, we debated the risks of basing the integration process only on knowledge exchange and what were the ideal terms selected by the Indigenous representatives to describe this process. We also added some reflections and learnings acquired during the workshop in Conclusion section, related to these aspects.

Point 10: Line 59: Perhaps it is a difference of political context, but in Canada Indigenous peoples are not considered another "stakeholder." That term can imply that they only have a very current interest in management practices (such as a recreational park user), rather than a group with a long history of use and potentially contested rights to land ownership.

Response 10: In our context, the researchers include Indigenous peoples as another "stakeholder". However, we were not happy neither to include Indigenous peoples in the term. We decided to separate both terms along the text.

Point 11: Line 65: Did this workshop or the larger project have the aim of "developing a case for integrating…"? Please clarify.

Response 11: Ok, thanks. We modified the text in order to show that "developing a case for integrating…"? refers to the general aim of the project. This workshop was just one of several workshops we have carried on during these years. The footnote at the end of the sentence provides a link to the project information so it helps the readers to have a better understanding.

Point 12: Line 77: Please be consistent about "workshop" vs "meeting".

Response 12: Ok, thanks for the comment. After reviewing the meaning of both type of events, we concluded that workshop was the most appropriated term to describe the activity. We adopted this term along the paper.

Point 13: Line 78: Change to "historical and modern worldviews"

Response 13: Ok, thanks. I changed it.

Materials and methods

Point 14: The data collection methods are clear, but this section is missing (1) a theoretical framework and (2) data analysis methods. For (1), Is the framework transformative (social-justice oriented) or pragmatic (problem-oriented)? What is motivating this analysis? If problem-oriented, how was this particular problem identified and by whom? Was convening the workshop an attempt to solve this problem? For (2), were the audio/video recordings transcribed and coded? Was it an inductive or deductive process? Did community members have input into the results/themes the authors developed?

Response 14: Ok, thanks for these comments. We accomplished a detailed description of all the items requested in your comment about Methodology section. Please, review it (lines 221-320).

Point 15: Line 92: Line spacing changes.

Response 15: Ok, thanks. I fixed it.

Results

Point 16: It would be helpful if each of these sections provided 1-2 high-level sentences that summarize the findings for that particular section. E.g., commonalities, differences, whose opinions were considered, etc.

Response 16: We reorganized Results section. We started the Section explaining the general results relative to the workshop dynamic and we synthetized and pointed the most significant results in the rest of sub-sections. Additionally, we made an exhaustive analysis of the results in the discussion that will help to their interpretation. We think with these changes the results obtained are clearer now. Nevertheless, we considered inappropriate to extend even more the paper after the addition of the new introductory framework section and extended discussion and conclusion sections.

Point 17: Line 133: Were these themes actually questions that were asked directly of participants? Or did they emerge through analysis of the raw data? This could be clarified in the methods section above.

Response 17: Ok, thanks for your comment. They emerged through analysis of the data. It was clarified in the methodology section lines: 280 – 288 and 314-320. See also lines 376 – 382 in Results Section.

Section 3.1

Point 18: Was there any indication that these practices had changed through time? Was the role of fire always the same? Perhaps this was not part of your analysis, but it would be interesting to know the continuity of these practices.

Response 18: Thanks for your comment. In the concerns section (lines 599-683), there are Indigenous testimonies about the main changes to what they considered traditional fire practices in their territories. There was also a very interesting discussion, proposed by Pemón representatives, about the necessity to adapt fire practices due to the climate and vegetation changes. Unfortunately, there is not enough space in the paper to include an exhaustive discussion around this topic.

Point 19: Line 185: "use fire to ??? tortoises"? I think there is a word missing here.

Response 19: Yes, thank you. Sorry, I deleted some words of the sentence involuntarily. The sentence now is complete.

Point 20: Line 207-208: Did the other two Indigenous groups not indicate this was the case?

Response 20: Only Pemón Indigenous group expressed it during its presentation. However, we also included the Guyanese and Brazilian Indigenous groups in the sentence, because it is also an important aspect of their culture.

Section 3.2

Point 21: Line 250: This says that the PCIV Brigades are mostly comprised of Indigenous Pemón members – were the people participating as hydroelectric company representatives also Pemón? How might these different identities even within one individual shape participants views of the role of fire? (Something to be addressed in the Discussion).

Response 21: Very interesting question. Non-Indigenous directives of Hydroelectric company PCIV's program and Indigenous members of PCIV Brigades participated both at the Parupa workshop. With respect to the PCIV Indigenous brigades, we discussed their positions and identities assumed during the workshop, in the discussion section. However, since this paper presents a general outlook of the Workshop we chose not to expand in a much-detailed way on this particular topic.

Point 22: Line 285-299: This seems like background information that is more suitable for the introduction or the discussion – unless I am mistaken it is not a result that was gleaned from the study data.

Response 22: Yes, we agree. It was moved to the background section in Introduction.

Section 3.3

Point 23: Line 505-511 and Figure 6: How was this process developed? Was this Figure an outcome of the deliberations of what the process should be between group members? Was the desire to "negotiate a common path" something that was imposed by the facilitators or was this also identified as a need by the participants? Some of the words are also cut out of the Figure.

Response 23: The figure 6 was changed to figure 3 and it was moved to the first part of the Results section. See lines 295-320 and 376-382 for the explanation about the deliberation process and Figure 3 construction. The discussion section added a more detailed analysis of the overall process of deliberation and in conclusion, we included the main reflections and lessons learned during the workshop. We also improved the visibility of the image of Figure 3.

Section 3.4

Point 24: Line 540: Change "adscription" to "affiliation" or "identity"?

Response 24: Ok, thank you. We changed it.

Pont 25: Line 575-578: This should be moved to the discussion.

Response 25: Ok, thank you. We moved it.

Point 26: Line 587: Sentence too long. Please revise.

Response 26: Ok, thank you. We eliminated it (a similar explanation was in other paragraph of the same section).

Point 27: Line 604-607: If there were discrepancies, who did they come from? What were some of the remaining concerns?

Response 27: Ok, thank you. It was a mistake, we changed discrepancies to worries.

Discussion

Point 28: In the results, the authors present four major themes that emerged from the workshop. The Discussion clearly contrasts the importance of Indigenous fire practices (theme 1) against the prevailing "zero fire" policies (theme 2) held by governmental institutions. They then describe the different concerns of fire management (theme 3) and how important the inclusion of Indigenous perspectives are for future co-management (theme 4). These lessons could be considered in more detail against the context/in the literature of changing governance frameworks – what is it that today (in contrast to the colonial perspectives of the last 500 years) that is allowing for a participatory platform to emerge?

Response 28: Thank you very much for this comment. We reformulated the discussion section including new references (considering those recommended by you and others) and a deeper analysis of participatory platform development opportunities. We also included a section of lessons learned in the Conclusion section.

Point 29 However, it remains unclear what criteria were used to determine whether the workshop platform met the two goals outlined in Line 81-85. From my reading, it seems clear that the workshop provided a valuable process for deliberation and sharing of perspectives, yet the focus in the results is not *how the process unfolded and associated lessons* but rather the content of the discussions. There are mentions of conflict and commonalities, but no discussion as to how these were overcome and whether all groups were equally satisfied with the process and outcomes. Furthermore, it remains unclear whether this process "led to concrete actions towards integrating Indigenous fire knowledge." The Indigenous representatives seemed to demand a co-management arrangement, but to what extent was that supported by other participants? Did the *process of discussion in this workshop* support this perspective or undermine it? I think the authors should consider whether the aim of this manuscript is to highlight the results of the content of the workshop, and analyse it for common themes (that are then discussed in the context of historical governance) or to focus on the two goals in the beginning and focus more on the process that emerged from the workshop itself (as described in the abstract). Eg.., how did the creation of the Participatory and Intercultural Fire Management Network come about? What was it about the workshop *specifically* that enabled the development of co-created ideas of the future of fire management and how does this compare to other participatory processes (about fire or natural resources management) elsewhere? The conclusions really contain the important contribution of this work and should be expanded upon in the discussion.

Response 29: Thank you for your observations and recommendations. As it was mentioned before, we prepared a new discussion expanding the topics included in conclusion and all the topics and questions you requested to us. We analyzed and discussed the participatory process that emerged from the workshop and made explicit some lessons learned during this experience. From the many different emergent issues, we chose to expand on some of them (i.e. concerns about the Indigenous fire knowledge and practices current use and transmission, among other) since, in our opinion, they are of high priority for a new fire policy framework in the region.

Conclusions

Point 30: Line 796: There are many other studies that highlight both similar and different elements for collaboration with Indigenous communities – see co-management literature and *Ban et al (2018) Nature Ecology & Evolution* for a start.

Response 30: Thank you for this recommendation. The paper was very helpful for analysis and comparison with other participatory process that included Indigenous communities.

Point 31: Box 1: Did this declaration come specifically out of the workshop described in the manuscript? Or how does this relate to the process within the workshop?

Response 31: We improved the text to clarify this point. The declaration was decided and written with all the participants, during the last day of the workshop, with the purpose of making visible the agreements reached to the rest of Indigenous communities, government authorities and academics in the region and public in general (see lines 1056-1062 in the discussion section and also in the abstract lines 26-30 and Response 1).