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## Reply on RC1

Chloe Brimicombe

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Author comment on "GC Insights: Storming the news media, the reporting of weather hazards during Northern Hemisphere Summer 2021" by Chloe Brimicombe, Geosci. Commun. Discuss., <https://doi.org/10.5194/gc-2021-27-AC1>, 2021

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News coverage of extreme weather events, Thank you for your helpful comments, they imbalances in which events receive the most were beneficial in improving my manuscript. attention, and to the extent to which climate change is mentioned in that reporting, makes for a thoughtful, timely, and important contribution. Yet, in my opinion, more work is needed to articulate why the findings matter, more detail is needed on the methods, and as a result, I recommend that the paper be returned to the author for revision. To that end, I have outlined below some suggestions that I hope will help the author improve the manuscript.

Simply put, the article seeks to understand the extent to which news reporting of extreme weather events (e.g. droughts, heatwaves, floods, storms etc) mirrors the occurrence of these events. To do this, the author focused on the summer of 2021, in the Northern hemisphere, and conducted a media analysis (from June 1<sup>st</sup> to August 25<sup>th</sup> 2021) using the search engine Google to ascertain the amount of coverage each event received, and the extent to which climate

Thank you this is a good summary of the manuscript.

change featured in that coverage. The paper finds that the majority of news articles focused on 'storms', and the fewest articles focused on heatwaves, yet this trend is almost reversed when considering mentions of climate change.

**Context**

Thank you – I agree and will update this in the introduction.

The analytical thrust of the manuscript revolves around the media being an important actor in the communication of hazards/risks to people (policymakers, business, citizens etc). But this needs to come through more strongly. Part of this is based on the – now discredited theory – that information leads to understanding, agreement, and then action (see Porter & Evans 2020). Whatever the reason, the role of the media needs to be explained better (and also acknowledge it is not an objective, value-free, actor).

“The media is a key actor in communicating climate change and has a moral obligation to report all aspects of the climate emergency to highlight in this case the risk of extreme weather and what action is being taken”

Related to the above, a stronger case is needed on why unbalanced reporting of extreme weather events is a problem. For instance, people may be left unprepared for one risk over another, money and resources may be invested in one problem compared to another, or invisible risks continue to persist until they reach a critical tipping point. Without that fuller discussion, the reader is left pondering: so what if floods are reported more than heatwaves?

Thank you – I agree, I plan to update this in the first paragraph with “The bias in reporting of hazards and climate change leads to an attention and material resource deficit, not fully recognising or addressing the risk”

The manuscript identifies some really interesting trends in the reporting of extreme

Thank you – I agree and will update to aid the reader.

weather events, but the reader has to hunt to find them, and importantly, understand why they matter. On this, I think some simple, quick, revisions to the text would improve its impact considerably:

· Quantify, perhaps in a table, the number of extreme weather events (drought, heatwaves, floods etc), that have occurred in the northern hemisphere between June and August 2021. This will serve as a point of comparison for the number of news articles written on each event. If there were 30 heatwaves reported, and 5 floods, but the reporting is skewed towards floods this would make the point clearly. Moreover, include details in that table about countries affected, economic loss, and lives lost.

I agree and will reference the reporting from the emergency events database (EM-DAT) although under-reporting heatwaves (Brimicombe et al 2021, Earth's Future). And also my recent blog post in Carbon Brief on The extreme weather during the same time-period.

· Quantify the data! Rather than saying that storms were reported most, you could say "nearly two-thirds of all news-articles focused on storms (n=39.6m/60.51m, 65%)". This helps the reader to understand what exactly the differences are.

I agree and will reformat the results i.e. "Storms were featured in 43% of news media articles"

· Much of the focus, at least implicitly, is on heatwaves but why these events matter does not come through strongly in the text. Build that case, and explain why an imbalance in reporting is a problem.

As above I from the outset will make this clearer.

· One finding that I think deserves more space to be discussed is the extent to which news articles attribute climate change to the extreme weather events. I think the author needs to tease out: (a) why is it important for journalists to link extreme weather events and climate change together; and (b) why are certain weather events attributed more often to climate change than others. That withstanding, it's important that the author acknowledges the full limits of this type of analysis. Just because 'climate change' was mentioned in the news article does not mean it was attributing it to extreme weather events, but this is a quick method for headline results.

As above – the media has a moral obligation to communicate the climate emergency. The science agrees that extreme weather is increasing with climate change.

This study is a quick short study to highlight what aspects of climate change in terms of extreme weather get the most media attention. A further analysis would be beneficial to explore in detail the communication of extreme weather. – This will be added to the manuscript.

## Methods

For me, the methods section was the weakest part of the manuscript. If a supplementary material can be included with the paper this might help by providing a place to include more detail. It was unclear why the analysis ran from 1<sup>st</sup> June to 25<sup>th</sup> August, and not the end of that August. Surely, this can be fixed. On top of that, I was a little sceptical of the results from Google. How exactly were articles relating to only the "northern hemisphere" included in the search? I could not find that function in 'advanced search', rather the selection of countries. Irrespective of this, how did the author distinguish between news articles that reported on extreme weather events that happened between June-August 2021 and articles that were published in that timeframe that discussed extreme weather events in general (not ones related to June-August 2021)?

Thank you – I will update the results for 1<sup>st</sup> June to the 31<sup>st</sup> August. I also plan to revise the search criteria to remove duplicate media results.

Google is used here to demonstrate that even with basic search tools that allow us to practice open science, the difference in attention and the bias in the reporting of weather hazards and climate change is strongly evident.

How were articles treated that focused on primarily on one weather event but mentioned others too? Or articles that were written in the northern hemisphere but primarily discussed events from the southern hemisphere? In total, 60.51 million news articles were published in a 13-week period, in the northern hemisphere. These results seem high. Are there duplications in these results? Are all the results from news outlets? What happens when keywords are used in news articles but don't refer to the extreme weather (e.g. stormed to victory)? Given the availability of newspaper databases, such as Nexis or Newswires, it seems odd to use a fairly blunt tool like Google where the possibility for erroneous results is high.

As above – updating the search query has reduced the number of articles returned and made this quick method more robust. I plan to make it clearer as above that the scope of this piece is to highlight attention rather than delve into how climate change is communicated with extreme weather, which I think is a worthy additional piece of research.

This was missing from the current manuscript. What is the next step for future researchers to continue and build upon this research?

As above – I agree and will add this.

· Line 8, "however, hazards become subject to newsworthiness" does not make sense. Perhaps a word or two is missing.

Thank you I will update this to:

*"However, hazards become subject to how newsworthy they can be presented as."*

· The abstract should be rewritten to reflect what the paper found.

Thank you I will change the abstract to:

*"The news media has been identified as one of the ways weather hazard risk can be communicated. However, hazards become subject to how newsworthy they can be presented as. Here, using a Google Search of media articles it is presented that during Northern Hemisphere Summer 2021 the attention of articles is on storms and flooding. But, articles on heatwaves and drought have the highest mention of climate change. Overall, the media is not sufficiently reporting weather extremes risk and their links to climate change."*

- Replace Figure 1. Instead, order the extreme weather events in a single line, terms of news coverage from left to right, highest to lowest (storms 10x the size of droughts etc). Each event should be a circle that is proportionate in size to the others (biggest to smallest). Underneath do the same again but this time do this for climate change mentions. You will have two lines of proportionately sized circles that readers will be able to quickly understand. Also increase the size of the font so that it matches the main body of the text.

I agree and will adapt the figure to make the inresults even clearer to the reader.
- Some minor typographic errors with inconsistencies in capitalisation of some extreme weather events and not others. Just be consistent and keep them all lowercase.

Thank you – I will make sure to proof read the revised manuscript.

In summary, I enjoyed reading this manuscript and simply ask the author to offer a stronger, more critical, hook for the piece, explain better what the findings mean, and address the concerns over the methods.

Thank you – your comments have been beneficial and I hope that with their addition the outcome of the research will be clearer and stronger.