Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., referee comment RC1
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Comment on hess-2021-112

Anonymous Referee #1

Referee comment on "A comparison of tools and techniques for stabilising unmanned aerial system (UAS) imagery for surface flow observations" by Robert Ljubičić et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2021-112-RC1, 2021

I have read and reviewed the manuscript titled "A comparison of tools and techniques for stabilising UAS imagery for surface flow observations" submitted to *Hydrology and Earth System Sciences*. I have written a long soliloquy on the debate about what term should be used for the U in UAS. It boils down to this – the journal has a right to set its standards, and if the authors disagree with those standards (which they could have known before submission) they should not have chosen to submit their paper to a journal they so vehemently disagree with. I also think there are several flaws in the logic of the linguist who defends the original term, and I think examples and evidence they use to support their argument are unsound in some ways. Read below for more context.

The text is well-written and I have only minor comments, which are included in the edited .pdf. In general I think the paper is very important and desperately needed given the proliferation of UAS-based hydraulic measurements. I recommend the paper be published basically as is, but I would like the authors to consider the comments I have made. I don't need to see the paper returned with my comments formally addressed, but I think they could help the authors. The authors have produced quality work here, and I hate to see a dispute about a single word prevent the publication of this work.

On the "U" in UAS

On the topic of "unmanned" vs "uncrewed" or some similar work such as unoccupied (or indeed a term like "Remotely Piloted Aircraft System": the authors agree that this would be a minor change but feel uncomfortable with it and think that keeping "unmanned" would lead to better consistency and visibility. There are many publications that refer to uncrewed, unoccupied, RPAS, or something different. I think the argument of visibility/recognizability and consistency is therefore not all that sound. Either the particular name/term does not matter – because many people have published with many names, and we can figure out what they are talking about regardless of the first term – or it has not been decided yet. For example, "Remotely Piloted Aircraft" has been published in titles going back to the 1980s (Tomlins, 1983). That being said, "unmanned" is probably

the dominant term – and something I have published with. I understand and respect the opinion of the linguist on the author list, but I have heard dissenting opinions from other people I respect. After hearing that perspective from these individuals (who have more knowledge and experience about the issue than I), I would have changed my past use of the term.

While the language of the linguist is passionate, I have a few problems with their logic. I am not sure I follow the idea that changing the term is a "very minor change" (a statement signed by all authors), yet the linguist can also claim "I am convinced though that this path has only one possible end - the complete destruction of quality science.". Is it a minor change or is it the destruction of science as we know it? I also find this statement troubling and confusing: "Tomorrow we may be demanded to declare that the Sun rotates around the Earth to avoid certain people feeling excluded or discouraged by the fact that they are not the centre of everything. I may be very upset with the results of Milgram experiment but my emotional personal reactions to these results do not make them untrue or less valuable". First, there are many issues with the Milgram Experiment, and Milgram himself is very controversial. The experiment was not sound science. It is not the place to get into it here but using the Milgram Experiment as an example of something "true" that people might begin to disagree with is ridiculous as that experiment has very little to do with reproducible, "quality science". Second – do the authors really think changing a few letters in a term has anything to do with people thinking they are the center of everything? The linguist is equating using (or preferring, or mandating) gender-neutral terms as akin to denial of basic science. I do not clearly see the connection, and this seems over-dramatic. Words are meant to be fluid and change – something the linguist should certainly understand better than I. Have changing words led to people becoming flat-earthers or science deniers? If the linguist is passionately arguing that this could happen, I think they need to provide evidence – stronger evidence than is provided.

I am more than willing to be proven wrong (and am not an expert on this in any way), but I am not aware of a scientific consensus (or indeed, individual studies) that show preference or mandating of gender-neutral terms has led to rejection of science. In fact, the linguist states "…2018 Brown University removed their paper on rapid-onset gender dysphoria when they heard "concerns that the conclusions of the study could … invalidate the perspectives of members of the transgender community."" On the website they included, however, there are numerous explanations that the real concern about the Brown University paper was just as much about data and methodology. For example: "Given the concerns about research design and methods — not the controversial nature of the subject — the University decided to stop featuring this news story on its news site." On the PLOS website with the formal notice of correction (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0214157), it is stated that "The Materials and methods section was updated to include new information and more detailed descriptions about recruitment sites and to remove two figures due to copyright restrictions. Other than the addition of a few missing values in Table 13, the Results section is unchanged in the updated version of the article.". *The results were not changed.* There are *over 3000 words* that detail the changes made to the article, which range from changing the quantitative analysis to addresses limitations and biases. I think reducing the cause for the paper's change (not removal, as the linguist claims) to the idea that the study could invalidate the perspectives of the transgender community is dubious at best and is disingenuous at worst. My interpretation could be incorrect, but I hardly think that is an example of how the slippery slope of changing to a gender-neutral term will lead to the destruction or science and to people believing the Sun rotates around the Earth.

Again, I do not think the linguist is fundamentally "wrong". I just think that their "slippery slope" argument is too dramatic and not backed up sufficiently with evidence. Do the authors honestly think that we will reach a dystopian point where papers are rejected due to lack of transgender citations? This is patently ridiculous – and I know it was meant to be an example of a ridiculous endpoint, but it reads as fearmongering. I understand that my point – that it does not seem like a big deal to change it to something more inclusive – can also be used to argue that leaving it as is will not hurt anyone. But ultimately, I do not see the "destruction of quality science" as a potential endpoint of inclusivity. No, I do not want to ban the word "man" and I understand the linguist's arguments.

At the end of the day, if *HESS* has a policy that they do not want to use unmanned – and they do, as the linguist pointed out with a link to the EGU website (https://blogs.egu.eu/geolog/files/2021/01/Promoting-inclusive-language-v2.pdf) – and the authors feels so strongly and passionately that this policy will erode the very foundation of science…why did they submit a paper to *HESS*? Why would they publish in and support a journal they so passionately disagree with?

Science is never completely free of judgement, opinion, biases, politics…and that includes words. Words have baked-in meaning, and the idea that science is (or can/should be) left "pure" and untainted by other parts of society is not realistic. *People* decide what is funded, what is published, what is acceptable, what is not. I agree that whatever term is used is very minor. Would using "uncrewed" potentially make a tiny, minor increase in inclusivity? Sure, just as pouring a bottle of water into a lake increases its volume. Does removing the term "unmanned" reduce the quality of science? I do not think it does – at the very least the authors have not demonstrated that it does. If we all pour water into a lake for many years, we can raise the level. So why not do our part and try to increase inclusivity? If we change the meaning of numbers so that 2+2 = 5 because people are uncomfortable with the number 4, the result is the destruction of quality science. If we change a term that some perceive to limit inclusivity…I think science will go on. I believe it is possible to be inclusive without causing the end of science as we know it.

Reference

Tomlins, G. F. (1983). Some considerations in the design of low cost remotely-piloted aircraft for civil remote sensing applications. The Canadian Surveyor, 37(3), 157-167.

Please also note the supplement to this comment:
https://hess.copernicus.org/preprints/hess-2021-112/hess-2021-112-RC1-supplement.pdf