

Reviewer #1

This manuscript presents an important and timely assessment of diversity, equity, and inclusion (DEI) in the cloud physics community, combining a metadata analysis of 6,987 peer-reviewed papers (1970–2020) with a community survey of 198 respondents. The topic is highly relevant, and the effort to integrate quantitative and qualitative perspectives is commendable. However, several conceptual and structural issues limit the manuscript's clarity and impact in its current form. In particular, the terminology used to describe researchers from the Global South, the framing of gender analysis, and the interpretation of small-sample survey results require substantial revision. Addressing these concerns would considerably strengthen the analytical rigor, inclusivity, and global sensitivity of the paper.

We would like to thank Reviewer 1 for the constructive suggestions, which helped us to improve the manuscript. Specific answers are given in blue text and manuscript modifications related to the Reviewer's comments are given in green text. Line numbers correspond to the revised manuscript without tracked changes.

Major Comments

1. **Terminology – “Tropical Scientists”**: In my opinion, the use of the term “tropical scientists” is highly problematic. I find it both unnecessary and ill-considered that the authors have chosen to introduce a new label that lacks conceptual grounding and adds no clarity to the discussion. As someone working within this geographic zone, I find this terminology technically inaccurate and, frankly, counterproductive—it conflates latitude with social and institutional realities, and risks exoticizing researchers from the Global South. In my view, this framing reflects a misunderstanding of the issue it seeks to address. Established terms such as Global North/South, high-, middle-, or low-income countries (as defined by the UN or World Bank), or developed/developing countries—though imperfect—are far more appropriate, as they rest on recognized metrics and are widely understood in academic and policy contexts. I strongly recommend removing the term entirely and clarifying the distinction between tropical study sites and researchers from the Global South, which are not interchangeable categories.

A/ We agree with the reviewer that the term “tropical scientist” is not completely appropriate and we thank you for the suggestion to replace it with “Global south” or “low-income countries”. However, we decided to replace it with “scientist working in a tropical country”. Although “Global south” and “low-income countries” could work, neither of these terms align with the purpose of why we were interested in scientists working in tropical countries in our study. We added the following paragraph to walk the audience through our thinking process of why we study “scientists working in the Tropics” and how it relates to studying historically marginalized populations.

Lines 96-107: “In this study, we explore the regional representation bias of collaborations in the cloud physics community for scientists living/working in tropical countries, i.e. within the latitudes of 23.5° N and 23.5° S. Multiple studies show that this region is one of the least studied in the field (Yakobi-Hancock et al., 2013, Petter and Wright, 2015; Kanji et al., 2017; Irish et al., 2017; Welti et al., 2020; Metcalfe et al., 2025). For example, input observations are often calculated rather than sampled for the Tropics in studies that evaluate the role of aerosols and cloud formation in climate models (e.g., Cesana et al., 2023; De Vera et al., 2024). The overlooked observations from tropical countries is a perpetuation of the historical marginalization of the region and its populations, based on historical legacies of colonialism, natural resources extractivism, and slavery (Rini, 2020; Pereira and Tsikata, 2021; Atilas and Rojas-Paez, 2022; Feijo and Orre, 2024; Meyfroidt et al., 2024), and that today the effects of this history are still present in scientific practices (Godrie, 2025; Arosoaie et al., 2026). Therefore, this study not only focuses on the biases based on the location of scientists, but expands the discussion to evaluate the overall state of DEI in scientific spaces in the cloud physics community”.

2. **Use of “Minorities” vs “Marginalized”:** The manuscript frequently uses the term “minorities.” Given the global context of the study, where numerical minorities may differ by region, the term “marginalized” would be more appropriate and inclusive. It emphasizes systemic disadvantage rather than numerical representation. This change would also align better with the ethical framing of equity in the paper’s conclusion.

A/ We thank the reviewer for pointing this out and agree. Considering this comment and the comments from Reviewer #2 and Reviewer #4, we have modified the text replacing “minority” and “marginalized” with “historically excluded”.

3. **Gender Analysis and Non-Binary Representation:** The gender analysis appears to be strictly binary (men/women). While this may have been constrained by data availability (e.g., use of genderize.io), the discussion section should at least acknowledge and briefly discuss the exclusion of trans and non-binary individuals. For instance, the authors could note the limitations of algorithmic gender inference, and mention issues such as misgendering, the use of dead names in publication records, and the broader underrepresentation of trans scientists in the geosciences. This would strengthen the inclusivity and awareness reflected in the DEI framing.

A/ Section 2.2.2 was modified as follows:

Lines 201-206: “It is important to note that genderize.io assigns a binary (female or male) gender based on the person’s first name. This can only be a good approximation, as names cannot always be used to infer the gender (e.g., Sebo, 2021; Lockhart et al., 2023; Marty et al., 2023). Critically, the binary gender assumption inherent in this methodology reinforces cisgender normativity and erases non-binary and possibly also trans identities. While being aware of these important limitations, the superficial approach necessitated by the quantitative analysis of the large amount of data cannot avoid them.”

We also added the following text to Section 3.1:

Lines 251-258: “The methodology used in the metadata analysis to assign gender to authors (genderize.io) assumes a gender binary, risking the misclassification of non-binary and gender-diverse individuals. We acknowledge this as a limitation of the present study that could have introduced a gender exclusion bias. As shown by the results in the survey described in section 3.2, at least three respondents self-identified outside of the gender-binary system, which shows the active participation of non-binary individuals in the cloud physics community. In section 3.3, we expanded the discussion on the experiences related to gender in the cloud physics community. Future metadata analysis should incorporate self-identification methods to include non-binary genders. For example, Son and Bell (2022) analyzed publications in which individuals self-identify their gender during manuscript submission.”

4. **Survey Interpretation and Sample Size Limitations:** The metadata analysis is the stronger and more robust component of the paper. However, the survey-based results (N=198) present significant limitations when further divided by gender, country, and ethnicity. When broken down into subcategories, the sample size per group, in my opinion, becomes too small for reliable interpretation or for drawing broad conclusions about regional or demographic patterns. I suggest restructuring the Results section so that the metadata analysis comes first—forming the backbone of the findings—followed by the survey results as complementary qualitative insight. The discussion could then focus on how these two strands inform each other, rather than treating both as equally representative.

A/ Thank you for this suggestion. We have reorganized the paper accordingly.