

Reviewer #2

In this study, the authors present the current state and over time development of Diversity, Equity, and Inclusion (DEI) in the cloud physics community by considering two different data sets: metadata of 6,987 published papers between 1970 and 2020, and the survey responses from 198 participants. This research is significant for the advancement of the geosciences as it helps identify areas that need improvement. However, there are some issues with the framing of certain aspects, including the terminology used. Therefore, my general comments align with the Rev1.

We would like to thank Reviewer 2 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.

General comments:

- **Underrepresented instead of the word minority or marginalised:** Minority means that the smaller number or part. As Rev1 mentioned, minorities differ from region to region. It is important to note that labelling the global south as a minority is a Western-centric viewpoint. The groups considered in this context are not smaller in number; they are underrepresented, overlooked, or lacking visibility. Additionally, "marginalised" implies insignificance or a peripheral status, which also doesn't adequately convey the issue at hand.

A/ Thank you for pointing this out. Considering this comment and the comments from Reviewer #1 and Reviewer #4, we have modified the text replacing "minority" and "marginalized" with "historically excluded".

- **Terminology tropical scientists/countries:** The term "tropical" carries connotations that could present an "exotic" portrayal, which is not appropriate here. I completely agree with Rev1. Additionally, framing a comparison of "tropical countries" with so-called global north is a false dichotomy. One is defined by economic and historical factors under neo-colonial structures, while the other is geographical.

A/ We agree with the reviewer that the terminology implemented may not be appropriate for the discussion. We have replaced the term "tropical scientist" by "scientist working in a tropical country". Please see our reply to question 1 for Reviewer #1 for modifications made to the manuscript.

- The gender analysis presented is binary and fails to include non-binary and transgender individuals. This omission is not addressed in the paper. Although the potential for misgendering due to the algorithm is acknowledged, it still contains uncategorized

(gender-blind) names. Furthermore, such gender-inferencing algorithms often struggle with the accuracy of non-Western names.

I will try to elaborate on what I mentioned in the general comments by giving specific examples from the first couple of pages, which are valid throughout the entirety of the paper.

A/ We appreciate the discussion on this limitation of the study. Please see our reply to question 3 for Reviewer #1 for further reference and modifications made to the manuscript.

line 46: "... minority representation..." This gap exists for any underrepresented group, not just minorities. You might not be a minority, but underrepresented, you might be a minority if you are looking from a Western lens. We are great in numbers, but our work or existence is not represented or acknowledged.

A/ The sentence was changed as follows. Lines 46-50: "Although various programs, policies, and inclusive environments are being developed to address issues such as gender inequality in academia (Ranganathan et al., 2021; Bernstein, 2024), many gaps in other historically excluded groups such as Hispanic, black, indigenous communities, scientists with disabilities, and LGBTQIA+ scientists still remain (Bernard and Cooperdock, 2018; NCSES, 2019; Gewin, 2020; Odekunle, 2020; Berhe et al., 2022; Marin-Spiotta et al., 2023)."

line 65: same issue here with the use of minorities

A/ The term "minorities" was changed to "historically excluded groups"

line 70: Women are underrepresented but larger in number, exactly like the scientists from the so-called global south. They are underrepresented, and there is a lack of acknowledgement.

A/ We agree. The sentence was changed as follows. Lines 70-71: "Geosciences are among the least diverse fields, in which historically excluded groups are exposed to systemic biases that prevents them from equal progress and recognition compared to their more privileged counterparts"

line 81: In the cited paper, this is mentioned as "USA, UK, ... However, these are not necessarily the most collaborative countries, if measured by their proportion of collaborative output... The analysis provided evidence that countries rated high in terms of scientific development were more likely to collaborate." This does not necessarily mean low income with low scientific development.

A/ The sentence was changed as follows. Lines 84-85: "are less likely to cooperate with countries with low scientific development."

line 86&96: Egypt and South Africa are not situated in the tropics but the subtropics. When comparing these regions with the global north, framing it as a dichotomy could be misleading, aka a false dichotomy. Additionally, the term "tropical" carries connotations that could present an "exotic" portrayal, which is not appropriate here.

A/ Line 96 was deleted and the sentence from line 86 was modified for clarity. Lines 89-90: "The existing collaboration networks mentioned by Wagner (2005) and Gazni et al. (2012) highlight the limited connections between Global North and Global South research groups"

line 189: Latitude range includes Australia, which is considered to be a "global north" country. If the intention is to analyse underrepresentation, this could lead to misrepresentation in the analysis. Although the countries are highlighted later in the table, it would be beneficial to clarify this point earlier on.

A/ We agree with the Reviewer. The sentence was modified for clarity. Lines 209-211: "For a country to be considered tropical in this study, at least 50% of its inhabitants need to live in the tropics, i.e., between 23.5° N and 23.5° S and be considered a low-income country, with the exception of Taiwan, Singapore, and Hong Kong (See Table 1)."