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Reply on RC1

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Author comment on "The potential for using video games to teach geoscience: learning about the geology and geomorphology of Hokkaido (Japan) from playing *Pokémon Legends: Arceus*" by Edward G. McGowan and Lewis J. Alcott, Geosci. Commun. Discuss., https://doi.org/10.5194/gc-2022-10-AC1, 2022

Dear Jamie,

Firstly, thank you for your positive comments and we are both delighted that you enjoyed reading our manuscript. Like yourself, I agree that the next paper should take a more physical, statically approach and question students. I do have a draft questionnaire in development, further investigating geology in video games. However, I also see a possibility for this paper to act as the foundation for a second investigation with students playing the game and questioning them before and afterwards. This may take a bit of time to organise, but this manuscript will certainly help to get that ball rolling!

In response to your comments, the following edits have been made to the manuscript:

Abstract: The abstract was broken down to ensure each section was included sequentially as suggested. The overall edited abstract is now tightened up as requested.

Introduction: The last paragraph was reworded so that the project aims and objectives read more distinctly. Whilst the paragraph still remains as one, however, it should now read more sequential.

Methods: Geological and geomorphological features were expanded on to provide specific examples. A summary table (see supplement to reply) has been added. The table includes our (the authors´) initial hypothesis for how each feature found formed, a brief summary of how the real-world feature formed based on literature reviews, a column questioning whether the previous two were similar or not (I.e. were purely game-based interpretations similar to real-world formation), and a final column of the type of geology that feature covers (e.g. volcanology, economic geology etc).

Results: Additional figures have been added to most sections. 3.1 now includes an image showing the distribution of obsidian sources on Hokkaido and an in-game map of the Obsidian Fieldland. 3.5 now includes an in-game image of Lake Valor and a real-world photograph of Lake Kussharo. 3.7 includes an in-game image of Lake Acuity and a photograph of Lake Onuma (similar to 3.5, emphasising the point that it could be easy to mistake the lagoon-like lake to a caldera lake based on in-game visuals). The only section to not have a figure is 3.6. This is due to the large scale of the area (both in-game and on Hokkaido) that is difficult to illustrate, even with a videoclip.

Figure 1 (maps of Hisui and Hokkaido) have had numbers added to them, with each referring to an individual location mentioned within the manuscript, allowing for easy location cross-referencing throughout. All figure captions have been updated to include these Fig 1 numberings.

Discussion: The types of geological topics has now been added throughout the Results section. This should now link to the statement previously found on L307. As mentioned in the Methods response, this has also been added to the summary table as suggested.

The drawbacks of direct comparison of gaming vs reality have been further expanded. This includes a section on over-exaggerated graphics, commonly found within video games.

Conclusion: Similar to the Abstract, the section was broken down and rebuilt to ensure that all sections were properly included and sequentially ordered as requested.

Appendices: A link to Pokémon's official website for Pokémon Legends: Arceus has been added to the Data Availability section. This can help to provide additional information to readers.

Short video clips could be provided, however, as many of these features are static (compared to the moving volcanic hazards in the volcano video game paper from last year), we felt that static screenshots of the features were sufficient and that video clips would not add much further to them. If video clips were to be added, they would largely consist of ´fly-overs', producing 3D visuals of the features.

References: These have been double checked by ourselves. It also appears Jazmin Scarlett (Reviewer 2 also checked the links for many, if not all, references).

Table: See previous notes on Methods section.

Figures: All photographs of Hokkaido were carefully selected from Creative Commons sites and all user requests were followed (e.g. referencing original owners in the Reference List and ensuring no monetary gain from the use of their images).

Technical Comments: All technical comments were individually addressed, including all type errors and additional of words such as ´photograph´ in figure captions. To answer the question of Fig 2b, yes this image is the correct way up. The water of the lake is so blue that is could easily be mistaken as blue skies.

We look forward to hearing back from you and hope that we have correctly addressed all of your comments. We greatly appreciate your feedback to ensure we publish the best manuscript for all to read!

Ed McGowan & Lewis Alcott

Please also note the supplement to this comment:
https://gc.copernicus.org/preprints/gc-2022-10/gc-2022-10-AC1-supplement.pdf