

Response to Community Comments

Dear Chenxi Shi,

Sincerely thank you for your comments on the manuscript, they are very helpful in this endeavor. I will respond to each of these comments point-by-point in the document below.

Thanks again for your support of this process.

Best wishes,

Yuqing Wang (on behalf of the author team)

Question 1: P2, L32: The combination of OWIs and SAR for flood mapping is indeed common, but what is the difference between the two and what are the advantages of OWIs?

Response 1: Sincerely thank you for your comments, it has been very helpful in improving the quality of my manuscript. The difference between the two is that SAR's recognition of water is not as ideally accurate as optical images, which is an advantage of OWIs. I have modified the manuscript accordingly as follows.

Page32, Line34:

However, SAR struggles to identify water with the same accuracy as optical images (Cho and Qi, 2022).

Question 2: P3, L83, 84: This paragraph could be merged with the previous one.

Response 2: Thanks to your suggestion, I have revised the manuscript accordingly by merging these two paragraphs.

Question 3: P8, Fig. 2(b) Swamp and Vegetation colors are not easily distinguishable and need to be modified.

Response 3: Sincerely thank you for your suggestions. I have made changes to the images in the manuscript as follows.

Page8, Line171-174:

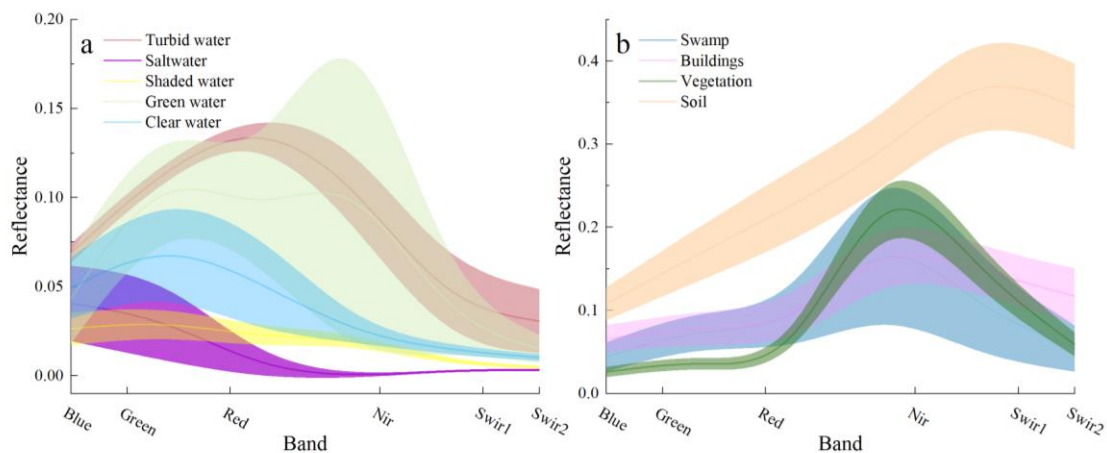


Figure 1: Spectral figures of reflectance of various features. (a) Spectral curves for 5 types of water. (b) Spectral curves from swamps, buildings, vegetation, and soil. The center line is the

mean value of the reflectance and the surrounding bands are the standard deviation of the reflectance.

Question 4: P9, once again, Fig3 has some colors very close together, make changes.

Response 4: Thank you sincerely for reading the manuscript. I made changes to the Figure3 accordingly.

Page9, Line183:

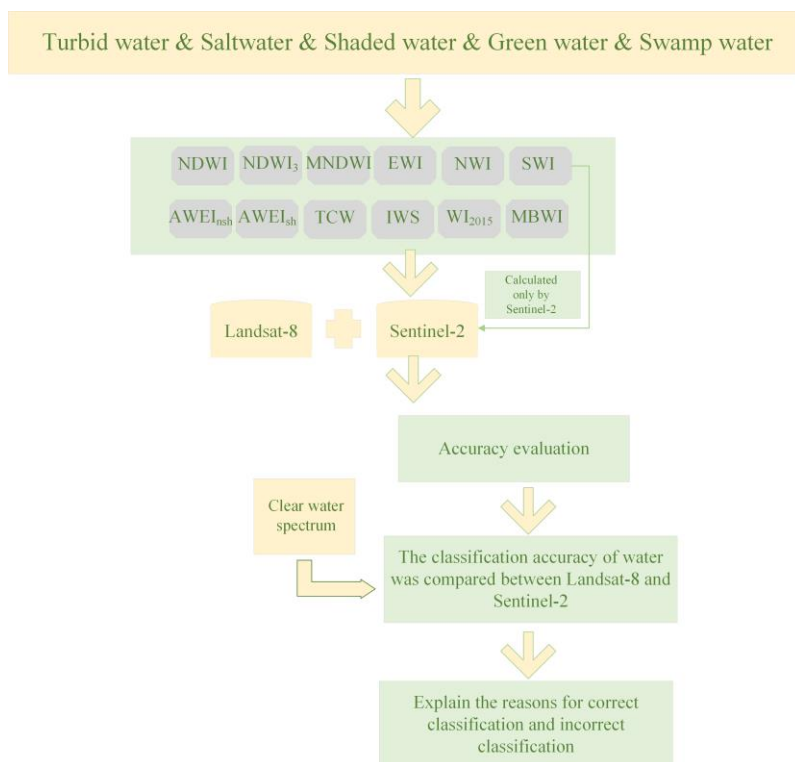


Figure 2: The overall workflow of this study.

Question 5: The Discussion includes "Explanation of the phenomenon" and "Drawbacks"; the author should add a related parties with future research.

Response 5: Sincere thanks for your suggestions, which have enriched the content of my manuscript. Regarding future research, I think the nodes of change in the applicability of OWIs can be explored in conjunction with water quality studies. The results of this paper can also be validated in the context of floods and droughts. I have modified the manuscript accordingly as below.

Page19-20, Line380-384:

4.3 Prospect

Future research could focus on studying water quality changes and identifying specific water quality parameters where the applicability of OWIs varies across different contexts. The goal is to further enhance the automation of water mapping in extreme situations. Additionally, exploring OWI applicability in flood and drought disasters would validate the findings of this study and contribute to the advancement of OWI development.

Question 6: The Conclusions are short and could usefully be augmented to emphasize the significance of the work.

Response 6: Thank you for your suggestions, I recognize your point of view. I have made further additions to the manuscript.

Page20, Line398-399:

At the same time, this work can provide experience in timely and accurate monitoring of water resources in the event of disasters, saving time in the selection of methods.