

Identifying Vegetation in Arid Regions Using Object-based Image Analysis with RGB-only Aerial Imagery

In this manuscript, authors proposed to only use RGB aerial imagery to retrieval the properties of vegetation with the object-based image analysis approaches. However, the structure of this paper is well organized and paper presentation is relatively clear. However, there are still some issues that need to be done before a possible publication.

1. From the authors' perspective, RGB images are easily available at a large scale. As a result, investigating the performance of only using RGB images to retrieval the vegetation indices is promising. However, with the development of sensor techniques, hyperspectral imagery also becomes available largely and openly. How to make a trade-off between RGB and hyperspectral image for vegetation indices should be emphatically analyzed and discussed in the introduction part. Therefore, some advanced RGB, multispectral, and even hyperspectral data analysis works should be cited and introduced, e.g., [1-3]
2. As shown in Figure 2, several techniques are jointly used. The reviewer was wondering which technique is playing a more important role in final results. Therefore, an experimental discussion and analysis should be given.
3. To evaluate the effectiveness and superiority of the proposed framework, more state-of-the-art compared methods are strongly suggested.
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References

- [1] An Augmented Linear Mixing Model to Address Spectral Variability for Hyperspectral Unmixing. **IEEE Transactions on Image Processing**, 28(4) (2019): 1923-1938.
- [2] Remote sensing approaches for monitoring mangrove species, structure and biomass: opportunities and challenges, **Remote Sensing**, 11(3) (2019): 230.
- [3] CoSpace: Common Subspace Learning from Hyperspectral-Multispectral Correspondences. **IEEE Transactions on Geoscience and Remote Sensing**, 2019, 57(7): 4349-4359.