We thank you for your careful review and constructive feedback on the manuscript. Below we present responses (in regular font italics) to your comments (**in bold**).

Minor suggestions:

1. Line 24: Delete "remote sensing".

Thank you. We agree, we have done this.

2. Line 69: "water itself" please note that bbw is different between fresh water and seawater, so need to clarify this statement here.

Thank you for this point. We have edited the sentence to clarify this.

3. Line 74: "Torrecilla and others", I think it should be Torrecilla et al.

We thank the reviewer for this comment. This has been changed to Torrecilla et al., 2011 to follow the style guidelines.

4. Lines 94-111: this summary of current and historical missions is not relevant to this manuscript, could be simply a few citations or reference. Also note that some of the missions are/were not designed for aquatic environments.

We thank the reviewer for the comment. We agree that some of the missions are not directly geared toward aquatic remote sensing, though note that research scientists and operational data managers are opportunistic in use of available sensor data. For example, a robust set of aquatic remote sensing algorithms and products have been developed using Landsat data, a sensor primarily aimed at land remote sensing. For this reason, we provided details on key potentially useful high spectral resolution sensors for interested readers. We have edited the paragraph to reduce the amount of text and narrow the overview of sensors to those especially suited towards high spectral resolution aquatic remote sensing.

5. Line 126: note that Lin et al (2018) have presented a hyperspectral AOP/IOP dataset for the PACE mission.

Lin, J., Lee, Z., Ondrusek, M., & Liu, X. (2018). Hyperspectral absorption and backscattering coefficients of bulk water retrieved from a combination of remote-sensing reflectance and attenuation coefficient. Optics Express, 26(2), 157-177

We thank you for this information. The references listed were an example and not meant to be completely exhaustive. We have added the provided reference in the introduction as suggested.

6. Line 146: "provided at 1 nm resolution". This could be misleading, as the spectral resolution of many radiometers, including HyperPro is ~10 nm. Suggest to change resolution to interval, as it is a simple interpolation of data from much coarser resolution, so not really measurement at 1 nm resolution. This is especially true for bbp, which were usually measured at 6 or 9 bands.

We thank you for this point. We agree that for some data sets, the providers or we interpolated data to integer nm format. We have thus changed "resolution" to "interval" as advised.

7. Line 257: "the spectral region 380–800 nm with a resolution of 3.3 nm" From the document of Satlantic, the spectral resolution is about 10 nm, also the sampling interval is 3.3 nm.

We thank you for this comment. For clarity, we reworded the sentence as advised listing first the resolution, then the sampling interval.

8. Line 265: "a common spectral resolution every 2 nm". Again, it is necessary to be very careful about "resolution", and I think here it is simply a spectral interval of 2 nm for display, not really measured at 2 nm spectral resolution.

We thank you for this comment. We have changed the sentence as recommended.

9. Lines 326-328: "The above-water remote-sensing reflectance spectra were corrected, following the surface correction algorithm of Gould et al. (2001), using the average absorption at 412 nm and the derived spectral scattering shape (Gould et al., 1999)." Suggest to double check and re-word this approach, as it is not clear how average absorption at 412 nm and derived spectral scattering shape can be used to correct surface reflectance in Rrs measurement.

We have revised and added some additional text to briefly describe the steps followed in the Gould et al. 2001 method.

10. "The in situ dataset has been stored and is provided free of charge at the PANGAEA data archive and publisher for Earth and Environmental Science (https://doi.pangaea.de/10.1594/PANGAEA.902230) as detailed in Section 3" This has been presented earlier, which can be deleted here.

We thank the reviewer for this point. We have removed the redundant sentence.