Ocean Science
Discussions

Open Access

EGU

Interactive
comment

Interactive comment on "Monitoring of seasonally variability and movement of suspended sediment concentration along Thiruvananthapuram coast using OLI sensor" *by* Bismay Ranjan Tripathy et al.

Bismay Ranjan Tripathy et al.

pavan.jamia@gmail.com

Received and published: 16 August 2018

Thank you for your email dated (25 June 2018) enclosing your comments. We sincerely apologize for the great time it has taken us to respond to these comments and hope that a revised version of the manuscript will still be considered by you. We have carefully reviewed the comments and have revised the manuscript accordingly. Our responses have given in a point-by-point manner below. Changes to the manuscript are shown in green colour.

Ans: Of course, there are different methods and models were used for SSC, but each model has merits and demerits and also site-specific suitability. The present paper

Printer-friendly version

Discussion paper

is aimed to generate a modelling of suspended sediment concentration using specific data namely Landsat 8 – OLI. The result derived from this model highly correlated to sediment deposition / erosion at the beach face (another part of research study completed) and compared to other models, the algorithm used in this study has proved as better one for OLI image analysis as per this concern. The significance of this study is generic algorithm used for OLI data analysis for SSC estimation.

Q: Root Mean Square Error or something like that to demonstrate that the model applied to your study site is feasible and reasonable. Ans: RMSE calculation may not necessary for this algorithm based SSC estimation.

Q: Line 63: Wavelength between 0.5 and 0.8m.Those is wrong. They should be 0.5 and 0.8 micrometer Ans: The statement has been updated with wavelength of 0.5 μm and 0.8 μm .

Q: Line 196: Extraction of suspended sediments: The authors used the existing model to extract Suspended sediments so What is the original?. Just applying the existing algorithm is not novel and cannot be called the Research article. Ans: It is the first attempt to generate a model for SSC using OLI image analysis. The authors have not used the existing algorithm. The novelty of the research is the construction of new model and its effectiveness in analyzing suspended sediments concentration.

Q: Line 219: The authors estimated significant wave height but did not describe how to estimate it and which model to calculate the wave propagation. It is very important. Ans: Estimation of Significant Wave Height is the another concept, in this present study, the output has derived using three datasets like wave energy (kJ/km2), mean significant wave height (m), sea water density (g/m3) and acceleration due to gravity (m/s2).

Q: Line 249 and 251: In order to monitoring the seasonal variability and movement of suspended sediment, only one time of the post-monsoon and pre-monsoon does't meaning. You cannot say this picture which can be a representative for a whole season.

Ans: SSC variability has been estimated at a particular day of two seasons (pre and post monsoons) that are the reprehensive time for maximum coastal hydrodynamic events as per the historical observation of tide, wave and wind datasets. Therefore the image acquired on or relative periods are used for SSC estimation at seasonal variability scale.

All the above justification have been already included in upload file and highlighted in red colour.

Please also note the supplement to this comment:
https://www.ocean-sci-discuss.net/os-2017-86/os-2017-86-AC4-supplement.pdf

Interactive comment on Ocean Sci. Discuss., https://doi.org/10.5194/os-2017-86, 2018.