

Biogeosciences Discuss., author comment AC2
<https://doi.org/10.5194/bg-2021-347-AC2>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Reply on RC2

Jenny Choo et al.

Author comment on "Spatial and temporal dynamics of suspended sediment concentrations in coastal waters of the South China Sea, off Sarawak, Borneo: ocean colour remote sensing observations and analysis" by Jenny Choo et al., Biogeosciences Discuss., <https://doi.org/10.5194/bg-2021-347-AC2>, 2022

Dear reviewer,

Thank you for your comments and suggestions. These are addressed as follows:

- **In abstract, 'our findings' is not suitable use in writing abstract.**

Reply: Received with thanks for the comment. The phrase 'our findings' is replaced as follows:

Line 25: **Study** on temporal TSS variation...

Line 30: Furthermore, a **study** on the contribution of river discharge to the TSS distribution showed...

Line 34: **Results** showed a progressively decreasing pattern...

- **Line 113: Suggested to change the phrase 'this paper' to 'this study'.**

Reply: Received with thanks for the suggestion. The phrase has been edited to 'this study'.

- **Line 160: Avoid the use of first person pronouns in the manuscript**

Reply: Noted with thanks for the suggestion. The sentence is edited and rephrased as follows:

'In this study, the southwestern part of Sarawak's coastal regions (Fig. 2), (between 1.9° N, 161 109.65° E and 2.8° N, 111.5° E) was studied, which comprise...'

- **Line 268: Check format of writing**

Reply: Noted with thanks for the suggestion. The format of the writing has been edited accordingly.

- **Line 294-296: Please provide some information about this study area. What is**

the land use and current situation in this basin.

Reply: Thank you for the suggestion. Additional information about the study area is added under 'Section 2.1 Area of study', from lines 160-175, which reads as follows:

"Rajang river basin consists in tidally influenced river channel which splits into a northwest (Igan, Lassa and Paloh) and a southwest (Rajang, Belawai) Rajang river delta (Staub et al., 2000). The Rajang river basin drains a dominant area ($>50,000\text{km}^2$) of sedimentary rocks (Milliman and Farnsworth, 2013; Staub et al., 2000) extending from Belaga to Sibu, with major peatland areas converted into oil palm plantations (Gaveau et al., 2016) as its river flows into the South China Sea (Milliman and Farnsworth, 2013). Major settlements along the Rajang river comprise of Kapit and Kanowit town areas, as well as Sibu city, with a total population size of about 388,000 inhabitants (Department of Statistics, 2020). Lupar and Saribas rivers, respectively, comprise a catchment area size of approximately 6500 and 1900 km^2 (Lehner et al., 2006). Situated at the southwest side of the Rajang catchment, Lupar and Saribas rivers surround the Maludam National Park, which is Sarawak's remaining biggest single patch of peat swamp forest (Sarawak Forestry Corporation, 2022). Adjacent to Lupar river mouth is the Sadong river, with an approximate catchment area size of 3500 km^2 (Kuok et al., 2018). Sadong river runs about 150 km and flows through oil palm plantations (Staub and Esterle, 1993). "

- **Line 425: Is there any data for the rainfall event related to monsoon season? With reference to the highlighted sentence, "This observation may potentially be caused by the lag between the time of rainfall events occurring during NE monsoon periods and TSS release entering the coastal river regions."**

Reply: Noted with thanks on the comment. The rainfall events are generally reported on an annual basis. Reference to the annual trends of rainfall in Sarawak can be found in Sa'adi et al. (2019). As such, the Global Precipitation Measurement (GPM) satellite datasets (<https://gpm.nasa.gov/data/IMERG>) were retrieved to extract the monthly precipitation values (mm). In this study, the monthly precipitation values for each Lupar and Rajang river basins were extracted to evaluate the effect of precipitation in relation to TSS concentrations at the corresponding river mouths. Hence, the discussion on rainfall events occurring during the NE monsoon periods is drawn from the GPM estimates, as plotted in Figure 8a for the case of the Lupar river basin, where NE monsoon periods are highlighted in the blue background in the plot.

- **Line 508: 'From our findings, discrepancies between TSS estimates and river discharge were identified in...'. The phrase 'our findings' was highlighted.**

Reply: The phrase 'our findings' is omitted, and the sentence is restructured as follows: "Discrepancies between TSS estimates and river discharge were identified in...".