

## ***Interactive comment on “On the potential causes of the recent Pelagic Sargassum blooms events in the tropical North Atlantic Ocean” by Sandrine Djakouré et al.***

### **Anonymous Referee #1**

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This manuscript investigated the potential causes of the recent Pelagic Sargassum bloom events in the tropical North Atlantic Ocean by exploring the links between environmental factors and Sargassum bloom. The data of sea surface temperature, wind stress, climate indices, river discharges and nutrient load were presented and the authors conclude that the combined effect of warmer SSTs and the increase of nitrate and phosphate continental inputs from the Amazon River leads to the recent Pelagic Sargassum bloom.

This study provides interesting and useful information on the reasons that cause golden tides in the tropical North Atlantic Ocean and the topic fits Biogeosciences very well.

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There are however a few points that I feel the authors need to attend to before this manuscript could be considered suitable for publication.

### Specific comments

1. Genus and species name must be italic. 2. I cannot understand “90 % of *Sargassum natans* and 10 % of the *Sargassum fluitans* (Hernandez, 2011).” at line 4 page 2. 3. Temporal change cannot be seen based on the description above at line 10 page 2. 4. A reference is needed for lines 13-14 page 2. 5. I cannot see the reason why some units, such as  $\text{moles km}^{-2} \text{ year}^{-1}$ , are italic. 6. “Indeed, it has been shown that an increase in temperature, from 23°C to 29°C has no effect on the palatability of *Sargassum filipendula* but increases the rate of consumption (O’Connor, 2009; Endo et al., 2013).” at line 5 page 9, this sentence is very abrupt and impenetrable. 7. The language needs to be improved by a native English speaker. 8. The Results section usually does not include citations. 9. To facilitate the analysis of the link between environmental factors and *Sargassum* bloom, a plot of occurrence and/or coverage of *Sargassum* bloom in recent years is essential. 10. The authors conclude that the Amazon River nutrient input rather than discharge is well linked to the blooms and mass strandings events of *Sargassum*. The inconsistency between nutrient input and discharge from the Amazon River needs to be explained in the discussion section.

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