

**2<sup>nd</sup> Review for the manuscript: "Exploring the CO<sub>2</sub> Fugacity along the East Coast of South America aboard the Schooner Tara" by Olivier et al.**

**Time devoted to this review:** 5 hours.

**Reviewer:**

Marcos Fontela (IIM-CSIC)

I'm happy to see that the authors put in significant effort to evaluate all reviewer's suggestions, not only mine. I'm feel overall satisfied with the changes and the responses. I honestly think that the revised version is improved compared to the original one. Data product is clearer now. That was my main concern considering the journal we are dealing with. Figures are also improved.

I would like to see this article accepted after minor edits and technical corrections are done.

In the last lecture of the manuscript I only did the following annotations:

This citation could be added to lines 57 and/or 80 and/or 86 and/or 90  
<https://bg.copernicus.org/articles/7/1587/2010/>

Other useful cites: <https://link.springer.com/article/10.1007/s00267-015-0630-x>

Sentence ending in line 95 "sparse (CITATION?)." I miss a citation here.

Table 1. Buenos Aires arrival date is missing. From August (08) to November (11) there are 3-months, not 4 as you say later in the conclusions.

Line 648 (tracked version): The temporal resolution of "fCO<sub>2</sub> measurements every minute" is mentioned here for the first time. This should be introduced earlier in the methods or results section, not in the conclusions.

Line 649 (tracked version): The dataset spans a four-month period but is not continuous. The conclusions should explicitly state the total number of days and hours with valid observations to clarify the temporal coverage.

Line 650 (tracked version): The inclusion of the standard deviation here is not informative, as it is inflated by the high values from the Amazon River plume.

Line 656 (tracked version): I would replace "*heart of the plume*" with "*core of the plume*" (?) to avoid physiological metaphors.