



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	American Chemical Science Journal
Manuscript Number:	2014_ACSj_11705
Title of the Manuscript:	Physico-chemical characterization of Lagoon of the Indians in Macapá-AP-Brazil
Type of the Article	Original Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
The aim of the paper was to present a first chemical-physical characterization of the Lagoon of Indians. In my opinion the submitted manuscript hit the mark. The paper presented was very improved in the newly submitted revision although a more accurate revision of English language is recommended (line 92-93 is in Portuguese; line 147; some sentences in the final part of Results should be rephrased). The experimental design looks appropriate but still criteria adopted for choosing sampling stations remain unclear. Some information about stations presented in the Results section (presence of a buffalo cattle near station 4 (see line 165), a higher number of houses near station 3 (see line170) and apparently in station 2 (see line 207)) can be reported into Material Methods, in description of sampling site. Additionally one or more reference station(s) should be considered for future studies. Results are very interesting. Authors should explain why they preferred a non-parametric method (Kruskal-Wallis) in comparisons among sampling stations. Table 2 is very informative but decimal notation should be uniformed (use always “.” also in TSS and Nitrate) The low DO concentration is explained with oxidation by decomposing organic matter but I suggest to deeply analyse the relationships between DO and BOD which are well correlated in dry season but not in the wet one. The value of BOD in line 163 is attributed at station 4 but, in Table 2, it is referred to station 2. In Line 175 and 177 definitions of nitrification and denitrification are very confusing because, apparently, denitrification is intended as conversion of nitrite to nitrate. In the following lines authors discuss the NH₄⁺ concentration but, in my opinion, the effect of red-ox potential in sediment should be considered too, mainly in systems with very low concentration of DO. Sediment red-ox potential could also shed light on data of dissolved iron. Authors reported the mean depth of the whole lagoon in dry and wet season but differences in depth of sampling station could explain variation in parameters more affected by sediment fluxes. In line 188 the term “values” is, probably, missing. Data of turbidity, colour, TSS are probably covariant. Some kind of observation (even personal observation of operators during the sampling campaign) about hydrology or water-flow could help in disclosing differences among sampling station and describing the spatial variability. Once again I would invite the Authors to deeply debate the relationships between DO, dissolved iron, dissolved manganese and colour and the anthropogenic pressures on the lagoon. In conclusion I retain the manuscript original and very interesting and I suggest accepting the manuscript after minor revision and a professional language screening.	The descriptions presented in the results section (lines 165, 170 and 207) were placed there because they fit as possible causes of the results obtained, therefore, the decision of the authors dispose of these data in the discussion. The choice of statistical tests (t-test and Kruskal-Wallis) was conducted according to suggestions of previous reviewers. The data without normal distribution which requires non-parametric test. The decimal notation used follows confidence interval (significant values) for each analysis and/or equipment used, therefore, standardization can make the data presented unreliable. In relation to NH₄ + sediment data are unavailable, but in general, the OD values are low compared to standards (EPA and CONAMA) and water volume significantly influences the parameters analyzed, as evidenced in the study. The remaining corrections were performed as suggested