Review BGD *Methane distribution and oxidation around the Lena Delta in summer 2013* by Bussmann et al.

Bussmann et al. present data from a measurement campaign in September 2013 in the coastal area close to the Lena river delta where river water and polar water mix. The activity (qPCR) and the abundance of methanotrophic bacteria was investigated and statistically compared to methane concentrations and physico-chemical parameters in order to determine environmental controls of MOX. Three water masses (river, mixed and polar) were defined previous to statistical analyses. This manuscript employs primers developed by Tavormina et al., which were even improved since the last publications by these authors. The use of these primers to investigate the methanotrophic marine community is quite new and I think that this is the strongest point of this manuscript. Conventional primers often don't cover the marine diversity. I enjoyed reading the manuscript since it is clearly written and everything is well-explained and a wide-range of literature is being put in context with the results of the presented study. There are, however, quite a few formatting/language mistakes. More importantly, I'm missing a more conclusive discussion (see below). If the remarks below can be addressed, most importantly the discussion, this manuscripts presents a solid addition to the current scientific pool of MOX studies and is suitable for publication in BG.

General remarks:
1) Did you try to analyze the data statistically without grouping it into different water masses? What are the results then? Or maybe set the salinity borders differently?

2) It would be interesting to do qPCR with sediments samples from the river and coastal area. Especially for the 'outlier station' where authors hypothesize that part of the community got resuspended due to stormy weather. Was this done?

3) The discussion is quite descriptive. I'm missing a more in-depth analysis of the results. For example, the third paragraph of 4.2 is very descriptive. What are the possible reasons that these communities are limited by different factors? Why is the riverine community more diverse? Due to stability? My opinion is that for the MS to be published in BG a less descriptive Discussion part is crucial.

4) A wide range of statistical data is presented. It would be better to discuss the most important findings to avoid confusion of the reader.

Several small remarks, also with regard to formatting/language mistakes:
-please check upper/lower case of chemical formulas/mathematical formulas
-abstract line 11: biological "way" sounds a bit strange. Maybe biological sink?
-abstract line 21: riverine, not rivine
-abstract, line 22: "..riverine water TO (not AND).."
-abstract line 17: "..a median OF 28 nM.."
-line 44: hydrate not hydrated
-several times you write 'according to/XX to (XX et al, 1998)'. Please put the parentheses at the right place.

-2.2 why are you using different chemicals (H2SO4 and NaOH) to kill samples for methane analyses for sediment and water samples.

-if you're sampling sediments with a grab sampler for methane analyses, is there not a lot of methane lost on the way up to the ship?

-line 199: remove the 'than'

-line 238: herEby

-if you're correlating MOX to CH4: how can you be sure that's possible since MOX=CH4*k. Isn't what you're calculating then just assessing if k is much smaller than the CH4 concentration (which it generally is).

-line 311: "..seemed to be.."? or there was none?

-line 324: degradation processes? You mean methanogenesis in the sediments?

-line 334 and after: I can't really follow your explanations. Could you rephrase/shorten/write it clearer. I might have missed something but I did not get your point.

-4.2: there was recently a paper published in BG about MOX in coastal environments (Baltic Sea, Eckernförde Bay). Would be good to include it.

-line 356: "..fractional turnover rateS.."

-line 375: "..but more..": what do you mean? More than no correlation? Please rewrite.

-line 380: what's the different from dormant MOB to not active MOB? Do you mean dormant, for instance as endospores? Please write more clearly. Like this, it reads like a repetition from line 376.

-line 403 and 407: limited or influenced? I would prefer a clearer way of writing this.

-line 433: where was Graves et al., 2015 measuring fluxes?

-line 437: did Sapart et al. not measure atmospheric fluxes? Graves et al., 2015 also measured atmospheric methane.

-line 439: remove the ":"

-line 443: what is ESAS?

-line 447: change than to then (also at other places in the MS, please double-check)

-line 451: there was recently a paper published in BG about MOX in coastal environments (Baltic Sea, Eckernförde Bay). Might be interesting to compare the two.

-Figures made with Ocean Data View: Make sampling spots more visible! It would be better not to use the mode where two data-points merge together (interpolation) since there are so few data points.

-Figures: check lower/uppercase

-Table 5: there is not a very good coverage for shelf seas (eg North-Am. Coast, Baltic Sea)! I enjoy this table and it would be good to extend it a bit.