Short Comment 1

Received and published: 13 April 2016
This is an important long Holocene dataset which deserves publishing.
It would be good if the authors could add some explanations to Figure 4 about the significance of the various coloured zones (blue, white, light grey, dark grey). I have not found this in the legend.

I have simplified and added some explications in the figure 4

Another observation concerns the Medieval Climate Anomaly (MCA). The Ca/Ti curve shows a major negative low peak 1200-600 yrs BP (800-1400 AD). Low Ca/Ti values are interpreted as high precipitation, i.e. a wet phase. The MCA therefore was wet, which matches with the authors' statement in line 449 of the manuscript.

This point was slightly modified according the suggestion given by Reviewer 2. The MCA is not "humid", but overall dry and punctuated by short wet periods.

In figure 4, however, the Little Ice Age (LIA) is shown at 1300 AD. This is not the typical timing of the LIA which has its key phase 1400-1850 AD. Looking at this period, the Ca/Ti is high, therefore climate dry. The LIA therefore was dry. This finding could be added to the discussion part of the paper. I would also change the figure so that the LIA is positioned in the right place.

LIA has been replaced. Revising the LIA timing and data I have reached a different conclusion: *"[…] Episodes of enhanced terrigenous inputs (during floods, for instance) are detected by low Ca/Ti ratios that also coincide with low Zr/Rb and low D50 values, indicating general smaller-size terrigenous grains as also suggested by high clay content (Figure 5c). Indeed, after the stabilization of sea-level, only the finest sediment fraction (clay) transported by the river plume reaches the mud belt at the core site. An exception to this pattern is observed for the LIA when quite high Ca/Ti would suggest relatively "dry" conditions (Figure 4c,f). The qualitative observation under the binocular microscope reveals the presence (only in this specific interval) of abundant bryozoans and Elphidium crispum (coastal benthic foraminifer) tests together with rare grains of quartz, which compose the coarser (>63 µm) fraction. The biogenic debris can explain the high Ca content and presence of quartz grain, the peak of Zr/Rb (Figure 4e). The accumulation of this material is maybe due to concomitant occurrence of river floods (Figure 5d) and storms, which might have remobilized coarse material from coastal setting (Bourrin et al., 2015)"*

Short Comment 2

I forgot to mention one observation with regards to the Medieval Climate Anomaly (MCA). As mentioned, the MCA 1100-600 yrs BP is marked by a wet phase (low Ca/Ti). Interestingly, the grain sizes (as measured by D50) has a high peak during this period, i.e. grain sizes has gone up. It therefore seem to me that this wet phase is associated with coarser grains. This is the exact opposite of which has been stated by the authors in line 435 in the manuscript. How does this fit together?
In comparison, the (dry) Little Ice Age (sensu stricto) 600-150 yrs BP has relatively fine-grained strata. It seems to me that at least during MCA times, more rain means more sediment has been transported which was also coarser than usual. When LIA climate was drier, the coarse material

could not be transported so easily and only the mud made it into the offshore core location. What do you think about this scenario?
See previous comment.