Minor revisions by Editor:
Public justification (visible to the public if the article is accepted and published):
Dear authors,

The manuscript has much improved since the previous submission. However, there are still some issues that must be accounted for. Most of these are of technical nature, but not all. My comments are listed below:
Dear Editor,
Thank you very much for your comments. We have adjusted the manuscript according to your suggestions. You will find our point by point responses below.

L81 Temperature and salinity what precision/accuracy? Was the ferry box calibrated?
I guess the salinity values are on the practical salinity scale. If yes, please mention this.
AC: Yes, salinity is on PSU. We have added this and the accuracy to the manuscript. The accuracy for the FerryBox is 0.1 °C for temperature and 0.02 PSU for salinity (Petersen et al., 2011). The Ferrybox was cleaned and the system was checked prior to the cruise. Salinity is occasionally checked using discrete samples, which is considered sufficient for gradients in near-shore investigations (personal comm. Y. Voynova). The salinity and temperature data were noted at time of sampling and used for measuring TA and DIC. In addition, we complemented our data with salinity and temperature data observed during Rijkswaterstaat monitoring during May at the stations Vliestroom, Dantziggat and Terschelling 10, showing values in the same range.

L110 „VKI SW4.1B (NOx, NO2 and NH4) and VKI SW4.2B (Si and PO4)“ Any more info on these standards? Manufacturer?
AC: These are Eurofins standards. We have added the manufacturer info in the manuscript.
L111 What is a maximum standard deviation?
AC: The maximum standard deviation is the highest standard deviation of all samples measured for each parameter.

L128 “with salinities showing only minor differences varying from 28 to 33” I think differences is the wrong word here, it should be variation. And values between 28 and 33 is not minor.
AC: We have changed it into “smaller variation”.
L185 Use symbol for omega
AC: Done.

Fig. 4b The scale for salinity is too large. It prohibits to see any variation, as can be seen in all other sub-panels of this figure. The labels with 3 digits are not correct considering the salinity data given in the tables.
AC: We have changed the panel scale to 2 digits.

Again Fig. 4: The distribution of data points of pH, calcite and aragonite looks strange. It is necessary to provide the uncertainty of these variables, preferentially in the methods section.
AC: Thank you for highlighting this. We have checked the data again and detected an output error in R. We have corrected the pH plot, which matches the omega plot now. We added reported uncertainties for the calculated parameters by Millero et al. (1993) and Orr et al. (2018).

L310 TA generation is not observed in a strict sense, but rather deduced.
AC: We have changed “observed” into “deduced”.
L310 “The observed TA generation of 7.6 µmol TA kg-1 h-1 and the silicate increase of 1.4 µmol Si L-1 h-1 indicated an excess of TA” It is not clear what this sentence wants to convey. What is the excess, excess of what?
AC: This means an observed excess of TA compared to Si. We have added this to make it clearer.

L311 “A given TA:Si ratio of 2:1” This needs some explanation, i.e., what ratio, why can you use it? Is the mentioned ratio well constrained? Generally this is not the case; there is quite some variability in such ratios.
AC: We have clarified and softened this sentence.

L317 “in the water column”, instead of: “in the overlying water”
AC: Done.
L317 delete: clearly
AC: Done.
L325 delete: both
AC: Done.
L326 The figure says 1.89, not 1.87
AC: Done.

L325-327 “The correlation of DIC and TA reveals an excess of released DIC compared to TA (Fig. 5a), as indicated by the slope of 1.87, while we observed an increase in DIC (ΔDIC) almost twice as high as in TA (ΔTA).” This sentence can be much shorter. The first part essentially says the same as the second part. I think here the use of excess is confusing.
AC: We have rephrased this sentence to reduce it in length.

L327-326 “The high ΔDIC points to high aerobic OM degradation and remineralization, resulting in high CO2 production.” I think this is not correct here. A slope of about 2 is just the normal case when CaCO3 is involved.
AC: A slope of 2 only indicates CaCO3 involvement if the ratio used for the calculation is TA:DIC. In our case, this would lead to a ratio of 0.5 as we observed almost twice as much DIC than TA. Here, we used the ratio of DIC:TA. So we defined the ratio in the opposite way. As a support for the CO2 production, we have also added the pCO2 values.

L339 It is more correct to write a ΔDIC:ΔTA ratio.
AC: Done.
L341 delete: potential
AC: Done. And also in the following lines.
L341 … of the observed ΔDIC during the tidal cycle … (add explanation that ΔDIC is from this source)
AC: Done.

L342 “ … the expected Redfield ratio of C:N (6.6) …” I do not assume that this ratio is expected. This ratio is quite variable. Please provide a reference that this ratio is valid in this region.
AC: For this estimation we have chosen the theoretical expected ratio of marine C:N. Hickel (1980) studied the seasonality of seston composition in the northern Wadden Sea and observed a clear seasonality suggest a strong impact on the SPM composition during summer including minimum C:N ratios during summer of 7.5 (Mol/Mol) and 14 in winter. Given that both refractory SPM and fresh OM contribute to the overall composition of SPM during summer is safe to assume that fresh OM part of SPM has a C:N ratio close to Redfield.

L361 “in the water column”, instead of: “in the overlying water”
AC: Done.
L365 “We support their findings of lowered TA generation by denitrification in late spring and early summer.” You did not prove lowered TA generation, you actually only deduced it based on results from other scientists in their papers. The sentence cannot be included as is.
AC: We deleted this sentence.

L387 “the northern and the western parts of the Wadden Sea” Please be more specific, which parts do you mean?

AC: We added a more specific description.

L414 Table B1 What exactly are rounded up values? How were they rounded up and why? Why not just give the data as they were measured. For oceanographic purposes it is strange to give salinity by only one digit. Even a ferry box must be able to measure it with greater precision. For the other parameters the number of digits seems to be ok.
Same for Table B2
AC: We changed salinity back to 2 digits. We removed the "rounded up" to prevent confusion. It only meant that some of the values were rounded to 2 digits.

L424 The data policy of Ocean Science and of almost all other serious journals states that the data should be available as FAIR data. The policy (https://www.ocean-science.net/policies/data_policy.html) says: "If the data are not publicly accessible at the time of final publication, the data statement should describe where and when they will appear, and provide information on how readers can obtain the data until then." Where and when will the data be published?
AC: We included the transect data in the Appendix that all used data are now presented in the study.

Thank you and best regards
Mario