We want to thank the reviewers for their thorough examination of the manuscript and dataset. Below you can find our detailed reply to the extra comments by Reviewer #2 which helped us in erasing the last shortcomings.
Please note, that these comments also affected the dataset itself (extra columns for particulate organic matter) and the Supplementary files. The updated dataset is presently under revision at BCO-DMO, the corresponding DOI has however already been provided and updated in the manuscript, too.

Reviewer Comment #1:

Lines 140–141 (Table 1): Not all time-series stations measure the same type of particles. Some of them measure the concentrations of total particles, while others only measure organic particles. Therefore, it's not reasonable to use total particulate carbon (TPC), nitrogen (TPN), or phosphorus (TPP) to describe particulate measurements across different stations. For example, CVOO measures POC, PON, and POP rather than TPC, TPN, and TPP. Likewise, the authors need to label particulate measurements with the correct names in Figure S10 for different time-series stations.

Reply to Comment #1:

After consultation with the PIs of CVOO, we agree that particulate matter measured at CVOO should not be represented as total particulate matter but as exclusively organic particulate matter. We have updated figures, tables and the manuscript accordingly. We have also included the reason for this distinction to the measured particulate at ALOHA and CARIACO in line 618 – 622, which "also point to the readers the difference between total particulate matter and particulate organic matter" (see Reviewer comment #3).

Reviewer Comment #2:

Line 280 (Figure 2): The authors cannot do any offset analysis with particulate data since GLODAP has no particle data. In this case, the authors should consider updating this schematic with two scenarios, one for GLODAP core variables and the other for other EOVs.

Reply to Comment #2:

Since all offsets are linked to GLODAP, we feel only confident in showing offsets to QC'ed data, i.e., to the core parameters of GLODAP.

Reviewer Comment #3:

Line 523 (Figure 3) and Line 786 (Table 6): It may work better to use "TPC (POC)", "TPN (PON)", and "TPP (POP)" in the subplot titles and column names. The authors should double-check their descriptions/discussion about particles throughout the manuscript and also point to the readers the difference between total particulate matter and particulate organic matter. This is important so that the users can use the data correctly.

Reply to Comment #3:

We have updated the Figure and Table accordingly. However, we haven't changed the subtitles, but instead have added extra sentences in the figure/table captions. All instances in the manuscript have been checked, as well, and are consistent (total particulate matter for ALOHA and CARIACO; particulate organic matter for CVOO).

Reviewer Comment #4:

Lines 1048–1049: How do the authors define "BGC non-EOVs" here? Some of the future measurements to include can also be BGC Essential Ocean Variables. In my comment from the last round, I suggest including measurements such as DON or sediment trap flux in future work. Here, the authors generally categorized those as the BGC non-EOVs. I don't think it's accurate. For example, sediment trap particle fluxes, such as POC, $CaCO_3$, and biogenic silica flux, are included in the particulate matter EOV summarized by GOOS. Although DON is currently not listed as one of the EOVs, it belongs to dissolved organic matter in general and can also be used as dissolved nutrients in the nutrient-depleted subtropical gyre (e.g., Letscher et al., 2016). This reviewer is not very satisfied with the response to this comment from the last round. Suggest rephrasing this sentence with more accurate definitions.

Reply to Comment #4:

We have specified the present focus defined by **bottle** BGC EOVs (line 132) and added an extra sentence about the possible extension towards sediment traps derived data (line 133 – 134).