

Author comment: addendum to AC1

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Authors: Howard Dryden and Diane Duncan

Since posting our reply to Referee 1 (AC1), we have completed a full re-analysis of the survey's image archive, prompted by both referees' questions about the reliability of the automated particle classification. This addendum corrects the statements in AC1 that the re-analysis supersedes, because we would rather flag them ourselves than leave them standing.

What was done. The image pipeline used for the first version of the preprint had not been preserved in runnable form and its output could not be reproduced. We rebuilt the analysis as a deterministic, fully documented pipeline: a curation stage that classified every one of the 1,495 archived frames as a sample micrograph or not (270 were excluded with a logged reason each, including duplicate frames, screen captures, photographs of scale bars and of printed documents), detection and sizing of every particle above 20 μm in the 1,225 curated micrographs, classification by stated rules, and individual visual inspection of every object of 250 μm and above. The scripts, per-image output, curation list and station tables are published as version 2 of the data record (<https://doi.org/10.5281/zenodo.21477682>) and every number in the revised manuscript can be reproduced from them end to end.

What changes relative to AC1.

1. AC1 quoted the original inventory of 51,547 sized and classified particles. The curated, reproducible figure is 34,609 particles across 317 station-level sampling events (122.5 litres). The pervasiveness result is unchanged: black carbon at 92% of stations, microplastic particles at 94%, phytoplankton at 87%.
2. AC1 discussed the 44 image-derived zooplankton objects. The re-analysis could not locate them in the archived images, and every candidate in the animal size range proved on inspection not to be an animal. The 44 is withdrawn in the revised manuscript. The corrected result is stronger than the original claim: no zooplankton was confirmed in any filter sample, and the surface zooplankton measurement rests entirely on the net tow, in which the animals are stained, photographed and individually identifiable.
3. AC1 quoted a median plastic-fibre length of 204 μm from the original sizing. The re-derived value from the deposited per-particle output is 188 μm ; the mesh-comparison argument made in AC1, that most particles reported here would pass a 270 μm CPR silk, is unaffected and slightly strengthened.
4. AC1 stated phytoplankton presence at 81.8% of stations with a median of 10 per litre. The curated figures are 87% presence and a median of 25 per litre across stations where the class is present. The point that the same sampled volume

abundantly detected phytoplankton while detecting no animals stands with more force than before.

None of the physical or oceanographic arguments in AC1, on the net tow, the mesh sizes, the surface comparison against the Tara Pacific datasets, the deployment and contamination questions, is affected by the re-analysis; the net-tow result is untouched. The revised manuscript (version 2) states all corrected figures and discloses the re-analysis in its Sections 2.2, 2.3 and 2.7.

Howard Dryden and Diane Duncan GOES Foundation, Seahorse Point Nature Laboratory, Bocas del Toro, Panama