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# *Interactive comment on* "The Malina oceanographic expedition: How do changes in ice cover, permafrost and UV radiation impact biodiversity and biogeochemical fluxes in the Arctic Ocean?" *by* Philippe Massicotte et al.

**Anonymous Referee #1**

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The MALINA bio-optical data set for the Arctic Ocean is a unique asset because it covers both open ocean and shallow, near shore waters around a large Arctic River, an area of high research interest right now. This paper presents a clear summary of the data collected, figures for some variables and a list of all variables measured and the corresponding scientist whose lab carried out the measurements. I downloaded the compiled data file from SEANOE and it is very easy to follow. I confirmed that the raw UVP5 large particulate data and images are available from the Ecotaxa website at Villefranche. I also confirmed that the code for the manuscript and figures is readily



available at the zenodo.org website. ## The article is itself appropriate to support the publication of the MALINA data set. However, I could not find the metadata for each variable listed in Table 1. The manuscript lists the current address of the person(s) shown on Table 1 for each variable in case of questions about the protocol used; however, after a few years, it is very probable that the address will no longer be valid. The text sometimes indicates the published manuscript that describes the sampling protocol used for that variable, but it is not done in a consistent manner for each variable. ## A few examples: the pH sensor was replaced by a CDOM fluorometer on the CTD [L75] - which paper describes that step and any calibration for both sensors? Just a few lines above, Guillot and Gratton 2010 are listed for the rosette data protocols; does this also apply to the CDOM data? [different from section 4.3.2]. Or the LISST-100X protocol (L165, no reference associated in the text). Which reference is the one for nitrification and ammonium regeneration [L315]? Not Ardyna 2017 nor the literature compared with the MALINA results (Ortega-Retuerte 2012, Le Fouest 2013) nor Tremblay 2014 [only inor and org nutrient concentrations and only rates for C and N uptake, not regeneration). Anyhow, this is but a handful of examples. I urge the authors to indicate throughout the text and/or in Table 1 the publication(s) and/or metadata where the respective sampling method details are described for the measurements of every single parameter listed in Table 1. In one place. Instead of having to find it several years later, if one is lucky. This would be a GREAT service to all future data users/chasers! ## With respect to the answers to the following questions: "Are error estimates and sources of errors given (and discussed in the article)? Are the accuracy, calibration, processing, etc. state of the art? Are common standards used for comparison?" These answers are NOT in the current text. They are likely in the MALINA manuscripts which are too many for this reviewer to cross check. I leave this decision to the Editor. The MALINA data set is incredibly significant for Arctic Ocean researchers (empiricists and especially modelers)– it is incredibly unique, of extremely high quality for a field-collected data set and very, very useful, and -I assume- complete. ## The manuscript is sufficient as written to explain the data set, List 1 is superb (though it will be complete with

the associated publication that describes the sampling or analytical protocol used) and the figures are good. Not sure all the figures are necessary; they are one fig showing the spatial distribution of several but not all the variables measured. ## Finally, "By reading the article and downloading the data set, would you be able to understand and (re-)use the data set in the future?" => Absolutely!!

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