Data Paper

Ryosuke Makabe, Shintaro Takao, Kunio T. Takahashi and Tsuneo Odate. Chlorophyll a and macro-nutrient concentrations during the icebreaker Shirase cruise of the 58th Japanese Antarctic Research Expedition. Polar Data Journal. 2020, 4, p.97–120. https://doi.org/10.20575/00000017.

(Received 7/8/2020; Accepted 8/7/2020)

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1st submission

Editor Start Date: 7/8/2020

Editor Stop Date: 7/27/2020

Reviewer #1 (7/12/2020–7/19/2020)

Reviewer #2 (7/27/2020–7/27/2020)

Reviewer #1: Harada Naomi

This manuscript describes the Chl. a data with other environmental factors collected from the Southern Ocean during the 58th JARE. Open data is very important and valuable for domestic and international community. The raw data should be published as soon as possible after every year JARE's activity. Therefore, this manuscript is publish-worthy in Polar Data Journal. However, many information for observation, analysis and measurement are lack in the current manuscript. The information that it might be obvious to know for biological and other oceanographers have to be written in the manuscript of data paper because some of readers might not be familiar for the oceanography. The manuscript should be revised responding on the following comments.

Comments:

Lines 59–64. The JARE does not get the permission for any observation inside the territorial water and Exclusive Economic Zone of Australia. Therefore, the description of "from Fremantle to Sydney" gives reader to misunderstand the observation area. Authors should describe the specific degree of latitude and longitude of the location of the start and end of observation (outside of the EEZ and territorial water) and also describe the data inside of the EEZ and territorial water are not included in the file. In addition, the data should be carefully opened on the website. If the data which was collected inside of EEZ and territorial water of Australia is included in the file, those data should be deleted from the file.

Line 63: Are 10 stations any special location? If so, please describe the meaning of 10 stations.

Line 68–71: These sentences looks to describe about the underway observation. Am I correct? The underway data looks to collect once a min. Is that a correct? Please add more information in details about the observation.

Line 72–78: Please write more information about the instruments. How much size was the water bottle? 6 litter or 12 litter? How to calibrate the CTD sensor beforehand?

Line 81–82: At what timing surface water was collected for Chl.a? At daily and night time, respectively? Please add that information in the manusciript.

Line 87–88: Why was Chl.a measured by water samples passed through the different size pore filters? The purpose might be to know the Chl.a concentration with different size of phytoplankton. Please add this information in the manuscript.

Line 100–102: How much water was sub-sampled for nutrients measurement onboard? What kind of bottles were utilized for sub-sampling? What instrument were utilized for nutrient measurement on land? Please add more information about the nutrient measurement.

English should be edited by native speaker.

Figure: Figure number is missing after the Fig. 7 (silicic acid concentration) in the pdf file. Please add the figure number in the revised manuscript.

Fig.14b: The order of longitude number on the x axis is opposite with other Figs. 14. Namely, the x axis of Fig.14b starts 104.7 at the left hand and ends 38.3 at the right hand. Please redraw the x axis of Fig.14b with aligning x axis of other Figs.14.

Data file opened at the Arctic Data Archive System (ADS) site: There was no “read me” file as a text. Please add more information about the observation as a text file, e.g., the name of each sensor, error of data (accuracy), how to calibration of sensors, data collection, standard materials etc. Community cannot use the data without the information in detail about the data collection even though the data is opened.

Reviewer #2: Hirawake Toru

Authors described manuscript according to the submission guideline. However, I have some very minor comments.

Abstract

Authors measured PAR and Temperature/Salinity, too.

However, they don't describe these parameters in Abstract.

p4, L71

WETStar is a product of Sea-Bird Scientific (WET Labs was acquired by Sea-Bird).

Is "Planet Ocean Ltd." a local agent of Sea-Bird Sci?

p5, L94

Wako Chemical was acquired by Fuji film.

Figure 2

Coefficient of determination should be presented with a decimal part.

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Authors Response:

Response to reviewer #1;

Comments:

Lines 59–64. The JARE does not get the permission for any observation inside the territorial water and Exclusive Economic Zone of Australia. Therefore, the description of “from Fremantle to Sydney” gives reader to misunderstand the observation area. Authors should describe the specific degree of latitude and longitude of the location of the start and end of observation (outside of the EEZ and territorial water) and also describe the data inside of the EEZ and territorial water are not included in the file. In addition, the data should be carefully opened on the website. If the data which was collected inside of EEZ and territorial water of Australia is included in the file, those data should be deleted from the file.

The data inside of the EEZ had been removed. We added the description.

Line 63: Are 10 stations any special location? If so, please describe the meaning of 10 stations.

10 station was basically set 5° interval along 110°E and 150°E transects. So we did not add any description here.

Line 68-71: These sentences looks to describe about the underway observation. Am I correct? The underway data looks to collect once a min. Is that a correct? Please add more information in details about the observation.

Correct. These information has been added.

Line 72-78: Please write more information about the instruments. How much size was the water bottle? 6 litter or 12 litter? How to calibrate the CTD sensor beforehand?

These information has been added.

Line 81-82: At what timing surface water was collected for Chl.a? At daily and night time, respectively? Please add that information in the manusciript.

"(basically day and night without during the midnight sun)" was added.

Line 87-88: Why was Chl.a measured by water samples passed through the different size pore filters? The purpose might be to know the Chl.a concentration with different size of phytoplankton. Please add this information in the manuscript.

"to determining phytoplankton size composition" was inserted after "size fractionated measurements"

Line 100-102: How much water was sub-sampled for nutrients measurement onboard? What kind of bottles were utilized for sub-sampling? What instrument were utilized for nutrient measurement on land? Please add more information about the nutrient measurement.

These detailed information can be refer to Shimada et al. (2020).

English should be edited by native speaker.

The English in this document has been checked by at least two professional editors, both native speakers of English.

For a certificate, please see: http://www.textcheck.com/certificate/zfKtKf

Figure: Figure number is missing after the Fig. 7 (silicic acid concentration) in the pdf file. Please add the figure number in the revised manuscript.

Added.

Fig.14b: The order of longitude number on the x axis is opposite with other Figs. 14. Namely, the x axis of Fig.14b starts 104.7 at the left hand and ends 38.3 at the right hand. Please redraw the x axis of Fig.14b with aligning x axis of other Figs.14.

Corrected.

Data file opened at the Arctic Data Archive System (ADS) site: There was no “read me” file as a text. Please add more information about the observation as a text file, e.g., the name of each sensor, error of data (accuracy), how to calibration of sensors, data collection, standard materials etc. Community cannot use the data without the information in detail about the data collection even though the data is opened.

Data accuracy can be referred to web site of Sea-Bird Scientific, and the other information suggested here have been added to “Materials and methods”.

Reponse to reviewer #2;

Abstract

Authors measured PAR and Temperature/Salinity, too.

However, they don't describe these parameters in Abstract.

We added the description of these parameters to Abstract.

p4, L71

WETStar is a product of Sea-Bird Scientific (WET Labs was acquired by Sea-Bird).

Is "Planet Ocean Ltd." a local agent of Sea-Bird Sci?

Corrected to Sea-Bird Scientifice

p5, L94

Wako Chemical was acquired by Fuji film.

Corrected to FUJIFILM Wako Pure Chemical Corp.

Figure 2

Coefficient of determination should be presented with a decimal part.

Corrected.

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2nd submission

Editor Start Date: 8/7/2020

Editor Stop Date: 8/7/2020

Editor Comments to the Author:

The author seems to be revise the main text and figures according as recommendations from two referees. However we cannot identify the revised sentences in the ms. therefore it is recommended for author to add the document in which the revised portions are clearly indicated (by using Tracking-ON mode by MS word, etc.). There seems to be no need to conduct the second review process.

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Editorial Office's note

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Original Data

Ryosuke Makabe, Shintaro Takao, Kunio Takahashi, Tsuneo Odate. Chlorophyll a and macro-nutrients concentrations during the ice breaker Shirase cruise of the 58th Japanese Antarctic Research Expedition, 1.00, Arctic Data archive System (ADS), Japan, 2020. https://doi.org/10.17592/001.2020070701.

Postscript by editorial office,

The above Path had been not available. (accessed 2020-10-12)

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