

## ***Interactive comment on “A metadata template for ocean acidification data” by L.-Q. Jiang et al.***

**L.-Q. Jiang et al.**

liqing.jiang@noaa.gov

Received and published: 12 February 2015

We thank Ms. Yan Yang for her excellent comments, which we believe have significantly improved the metadata template.

Below are our responses to them one-by-one:

(1) One of the main goals of this metadata template is to enable ocean acidification data sets are easily discoverable. But it is hard to achieve this goal if no standard vocabularies describing the variables are defined. For example, the respiration rate can be also expressed as oxygen consumption rate. When one searches for “respiration rate” data, one would also need to search for “oxygen consumption”. So it is important to make sure that the variable names are defined consistently in the metadata. I would be happy to share the vocabulary that is used by the OA-ICC, even though it is work in

C6

progress, if that is useful.

Responses: We agree with Ms. Yang on the importance of controlled vocabularies. Here at the National Center for Environmental Information (formerly National Oceanographic Data Center), we maintain controlled vocabularies for not only “variable” (as mentioned by the reviewer), but also many other groups of terms, including “observation type”, “instrument”, “investigator”, and “platform”, etc. Table 1 in the paper lists some of the selected controlled vocabulary terms for the ocean acidification variables.

In response to this comment, we have added a new term called “Controlled vocabulary name” to the “variable metadata section” (Table 2). “Climate and Forecast Name” is removed, due to the infrequent use. We dedicated a new paragraph (Section 3.1.1) in the text to the importance of controlled vocabularies. We also mentioned the controlled vocabulary efforts led by OA-ICC.

(2) Carbonate chemistry variables can be calculated using different sets of constants or different software. Information on the calculation method should be included in the metadata to maintain comparability.

Responses: Excellent comment! We added a new term called “Calculation method, software, and parameters” to all variables.

(3) In perturbation experiments, seawater carbonate chemistry can be manipulated by different techniques, such as adding strong acids and bases, bubbling gas or adding of  $\text{CO}_2 - 3$  and/or  $\text{HCO}_3^-$ . The method used could be recorded in the metadata.

Responses: Excellent suggestion! We added a new term called “Manipulation methods” to the carbon variables, i.e., Dissolved inorganic carbon, Total alkalinity, pH,  $\text{pCO}_2$  (autonomous), and  $\text{pCO}_2$  (discrete).

(4) For experimental data, the geographical location from which the organisms have been sampled from also needs to be recorded, not just document the water collection coordinates.

C7

Responses: Excellent suggestion! We added a new term called “Location of the organism collection” to the template.

(5) Information on the life stage of specimens could be included in the metadata.

Responses: Excellent suggestion. We added a term called “Life stage of the biological subject” to all variables except the carbon variables.

---

Interactive comment on Earth Syst. Sci. Data Discuss., 8, 1, 2015.