

Proposed General Metadata Requirements

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1. Supplemental Information (reported for each cruise)

- Platform (e.g., ship name)
- Principal investigator
- User Observation # (e.g., station #, cast #, bottle #)
- Institution –Project
- Units

2. Proposed Metadata Requirements Specific of Measurement (auxiliary metadata)

2.1 Auxiliary Information (reported for each observation)

- Geographical position
- Date/Time
- Depth

2.2 Salinity

- method description
- analyzer
- drift corrected or not/if yes, method
- sample replicated or not/if yes, results
- estimate of the overall precision and accuracy of the data, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset
- responsible investigator

2.3 Dissolved Oxygen

- method description
- analyzer
- blank corrected or not/if yes, method
- sample replicated or not/if yes, results
- estimate of the overall precision and accuracy of the data, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset
- responsible investigator

2.4 Nutrients (Si, NH₃, NH₄, NO₂, NO₃, PO₄)

- method description
- analyzer
- corrected or not/if yes, method
- sample replicated or not/if yes, results
- estimate of the overall precision and accuracy of the data, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset
- responsible investigator

2.5 CO₂ Parameters

2.5.1 Partial pressure of CO₂ in surface seawater

- type of equilibrator
- size of equilibrator (total volume)
- water flow rate
- headspace gas flow rate
- vented equilibrator?
- Analysis method
- manufacturer of calibration gases
- concentration of calibration gases
- calibration frequency
- measurement frequency for air measurements
- measurement frequency for water measurements
- measurements averaged before reporting? if so, how many points and over what time period?
- description of sensor calibration, e.g., temperature, pressure
- depth of seawater intake below sea surface
- location of air intake
- types of CO₂ concentration data reported
- corrections made to the CO₂ data prior to reporting
- corrections made to the temperature data before reporting
- corrections made to the pressure data prior to reporting
- estimate of the overall precision and accuracy of the CO₂ air data, and why
- estimate of the overall precision and accuracy of the CO₂ water data, and why
- estimate of the overall precision and accuracy of the temperature data, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset

2.5.2 Total dissolved inorganic carbon

- technique for standardization
- sample volume
- data corrected using CRM?
- magnitude of CRM correction
- # CRM analyzed
- batch numbers of CRMs
- information on CRM analysis, e.g. QC plots for CRMS
- field replicate information, number and statistics
- poisoning correction (dilution concentration applied or not)
- volume of poison added
- estimate of the overall precision and accuracy, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset

2.5.3 Total Alkalinity

- curve fitting method
- type of titration - Gran, single point titration
- CRM used?
- CRM offset
- CRM scale, e.g., Millero or Dickson scale
- sample volume
- cell type, open or closed
- blank correction made?
- magnitude of blank correction
- estimate of the overall precision and accuracy, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset

2.5.4 pH

- pH scale
- method description, e.g., if electrometric, what brand of electrode
- calibration information
- in situ temperature
- temperature of analysis
- is reported data temperature-normalized?
- in situ pressure from which sample was drawn
- estimate of the overall precision and accuracy, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset

2.5.5 Discrete pCO₂

- analysis method, e.g., large or small vol GC, LICOR, etc.
- volume of sample
- volume of headspace
- measurement temperature
- temperature normalization for reported data?
- Method of temperature correction
- variable reported, e.g., fCO₂, xCO₂, pCO₂
- dry or wet gas
- standard gas concentrations
- frequency of standardization
- field replicate information, number and statistics
- conc of headspace gas CO₂
- dilution correction for poison
- preservation/storage method
- estimate of the overall precision and accuracy, and why
- bibliographic citations to publications describing the method
- bibliographic citation or other published work describing this dataset

2.6 Chlorophyll-a

- analysis method
- analyzer
- extraction method
- standard
- filter

2.7 Primary Production

- analysis method
- cultivation method
- cultivation time
- analyzer
- water sampling depth

(end of document)