

**PLEASE NOTE: The metadata update system currently exhibits odd behavior when attempting to edit any but the last metadata version listed under any single variable (note multiple metadata versions are not always listed in chronological order). If you are editing an existing metadata block and you notice a "blue box" come up (similar in appearance to the one on p. 14 of this document) make your changes in the original grey box as intended and simply ignore the blue box entirely; once you've logged out the blue box will disappear. Pressing either "cancel" or "add variable" in the blue box may result in the loss of any edits made in the grey box. Note that if you are adding a *new* metadata block, rather than editing an existing one, this caution does not apply and you should use the blue box as described in this document. WE DO APOLOGIZE FOR THE INCONVENIENCE, AND ARE WORKING ON THE PROBLEM! When in doubt, email us ([samos@coaps.fsu.edu](mailto:samos@coaps.fsu.edu)) your edits and we can input them for you.**

## **SAMOS Online Metadata System Walk-through Tutorial**

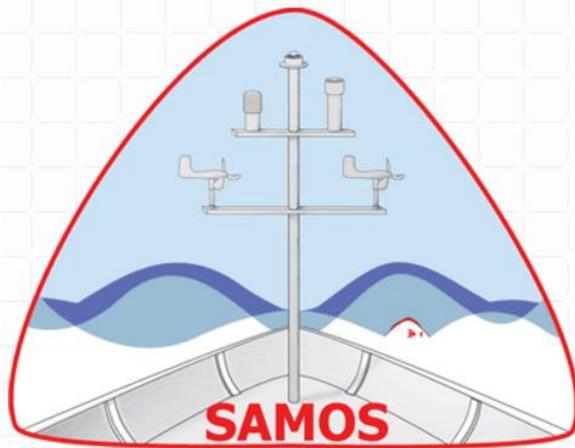
**(NOTE: a step-by-step example created by a shipboard technician, suitable for saving and generalizing to any SAMOS instrument metadata change, follows this summary)**

PART TWO: the SAMOS operator

A SAMOS operator might choose to follow the steps outlined in part one as a simple way to keep tabs on the performance of his instruments. In addition, an operator may at any time choose to check their most recently submitted SAMOS data file and/or the preliminary quality (i.e. automated processing results) of that data by utilizing the SAMOS JSON-based web services. These options can be accessed by first visiting the main page and choosing Data Access:

# SAMOS

Shipboard Automated Meteorological and Oceanographic System



- [About](#)
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- [Literature](#)
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Welcome. The SAMOS initiative provides routine access to accurate, high-quality marine meteorological and near-surface oceanographic observations from research vessels and select voluntary observing ships.

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And then choosing Web Services from the Data Access page:

## Data Access

Please choose a page from the following list:

- [Access Data by Date](#) Search and download data for all SAMOS ship by vessel and date range.
- [Access Data by Cruise](#) Search and download observations by R2R cruise identifiers. This page may take up to 30 seconds to load as there are a lot of cruises to index.
- [Access Data - THREDDS](#) Access preliminary, intermediate, or research-quality SAMOS netCDF files via our THREDDS catalog
- [View Data Map](#) Plot cruise tracks of each ship on a satellite map over a selected period of time
- [Web Services](#) ← Web Services
- [Additional RV data](#) Additional RV data
- [SAMOS Parameters](#) View a list of meteorological and oceanographic parameters that the initiative seeks to obtain from vessels
- [Metadata Portal](#) Access ship metadata database
- [User Metadata Tutorial](#) SAMOS Online Metadata System Walk-through tutorial. The document provides instruction on accessing cruise track maps, vessel and instrument metadata, data, and quality control statistics from the SAMOS web interface. [[pdf](#)]

From here users may choose to view either Preliminary File information, which by default will show the last file received for all active ships (i.e. a good way to check if your ship's most recent submission was received at the SAMOS Data Center), or

Preliminary Quality information, which by default will show automated flag percentages for all parameters present in the most recent file submission, again for all active ships.

## Web Services

### JSON services

- **Preliminary File**  The Preliminary File service can be used to retrieve data for the last file received from ships. By default, the service displays data for all active ships.  
*Available functions:*
  - [ships](#) (specify which ship(s) to display data for)
  - [pretty](#) (displays in human-readable format)  
[View Usage Guide](#)
  
- **Preliminary Quality**  The Preliminary Quality service is used to retrieve quality information for the most recent days of data received from ships.  
*Available functions:*
  - [ships](#) (specify which ship(s) to display data for)
  - [days](#) (specify number of previous days to receive information for)
  - [pretty](#) (displays in human-readable format)  
[View Usage Guide](#)

To obtain additional options, such as narrowing the request to a single ship and recasting the output in a more user friendly format, the user may instead click the “View Usage Guide” button in either category. For example, clicking “View Usage Guide” under Preliminary Quality would allow the SAMOS operator onboard the NOAA vessel *Fairweather* to see the preliminary quality of any *Fairweather* SAMOS data files received within the last three days, in easy-read format, by doing the following, as shown below: Choose the correct ship, toggle a checkmark in the box for Pretty, and fill in “3” for the number of days, then click “Add Options” (to load the options into the query) and finally click “View” (output not shown).

## Web Services

The **JSON Preliminary Quality** service is used to retrieve quality information for the most recent days of data received from ships.

By default, it displays this information for all active ships.

These functions are available to specify data you need:

- [ships](#) (specify which ship(s) to display data for)
- [days](#) (specify number of previous days to receive information for; "0" indicates today only; default value is 10, which is today plus 10 days prior)
- [pretty](#) (displays in human-readable format)

Note that this JSON service will not display any data for a particular ship if there has been no recent data received in the number of days specified. To check dates that we have data from a ship, check the ship on the [Data Availability](#) page.

### Generate Your Request:

This form can be used to generate your request. You can then view the data. Additionally, if you need to reuse this same request in the future, you can copy and save the generated URL.

For this multi-select box, use Ctrl-click or Cmd-click to select multiple ships.

ATLANTIC EXPLORER (WDC9417)  
ATLANTIS (KAQP)  
AURORA AUSTRALIS (VNAA)  
BELL M. SHIMADA (WTED)  
ENDEAVOR (WCE5063)  
**FAIRWEATHER (WTEB)**  
FALKOR (ZCYL5)  
FERDINAND HASSLER (WTEK)  
GORDON GLUNTER (WTEO)  
HEALY (NEPP)

Pretty (View Human-Readable Version)

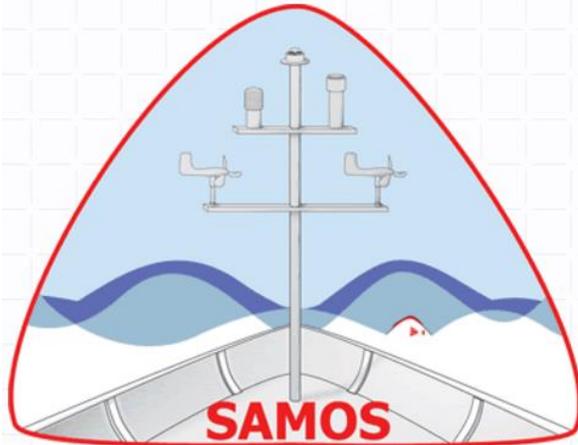
Number of days

Whenever data quality problems are observed (either by SAMOS data analysts or by SAMOS operators), vessel and instrument metadata are important tools for diagnosing a problem and finding a solution. For this reason we strongly emphasize the need for complete, accurate, up-to-date information about the instruments in use. Digital imagery of the ship itself and of the locations of instruments on the ship is also highly desirable, as it is often beneficial in diagnosing flow obstruction issues. As a SAMOS operator, it is important to note that metadata (vessel and/or instrument) should be updated whenever new instruments are added or changes are made to existing instruments (for example moving an instrument or performing a calibration). Inputting and modifying both vessel and instrument metadata are easy tasks that the SAMOS operator can perform via the internet at any time, provided the ship exists in the database and has been assigned "original time units" by a SAMOS associate at COAPS. In order to use the online system, the SAMOS operator will need to be assigned a unique login and password for his ship, which is obtained by contacting [samos@coaps.fsu.edu](mailto:samos@coaps.fsu.edu). With a login and password in hand, the following steps outline the methods for inputting and updating metadata. **PLEASE NOTE: Due to archive accession constraints at the National Centers for Environmental Information (NCEI), all SAMOS Designators must be alphanumeric, with no blank spaces allowed.**

The database can be accessed by revisiting the main page and choosing Ship Recruiting:

# SAMOS

Shipboard Automated Meteorological and Oceanographic System



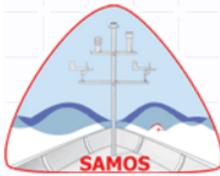
- About
- Accuracy
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- ⇒
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Welcome. The SAMOS initiative provides routine access to accurate, high-quality marine meteorological and near-surface oceanographic observations from research vessels and select voluntary observing ships.

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(or by navigating directly to the Ship Recruiting page, located at <http://samos.coaps.fsu.edu/html/nav.php?s=4>), and then choosing Metadata Interface:



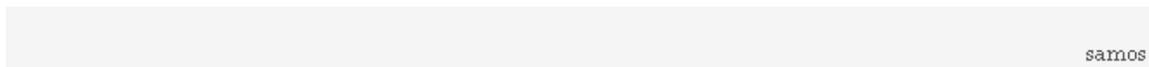
**SAMOS**  
Shipboard Automated Meteorological and Oceanographic System

## Ship Recruiting

Please choose a page from the following list:

- [Mission](#) Read about the objectives of the SAMOS Initiative and how the initiative plans to achieve these goals. The objectives can only be achieved through a close partnership with vessel operators and marine technicians.
- [Desired Data](#) View a list of meteorological and oceanographic parameters that the initiative seeks to obtain from vessels.
- [Benefits to Vessel](#) How will participation in SAMOS benefit your vessel operations and data stewardship?
- [Partnership with GOSUD](#) A recent workshop has outlined plans for a data exchange with the Global Ocean Surface Underway Data Pilot Project.
- [Steps to Participation](#) What are the steps to having your vessel(s) participate in the SAMOS Initiative?
- [Metadata Interface](#)  Ship operator interface to add/modify metadata for their institution's vessels. Login required. [Instructions here](#).
- [Metadata Subscription](#) If you would like a subscription account, please contact [samos@coaps.fsu.edu](mailto:samos@coaps.fsu.edu)

The user will then be directed to log in, using their group's username and password (please contact [samos@coaps.fsu.edu](mailto:samos@coaps.fsu.edu) to obtain a username or for misplaced passwords):



Please enter the following:

Login:

Password:

samos

Once logged in, the SAMOS operator chooses to modify either Vessel or Instrument Metadata..

a. Select Vessel Metadata

user ship related

## Edit Metadata

Ships for user op\_noaa:

Ship Name	Call Sign	Vessel Metadata	Instrument Metadata
DAVID STAR JORDAN	WTDK	<a href="#">[modify]</a>	<a href="#">[modify]</a>
FAIRWEATHER	WTEB	<a href="#">[modify]</a>	<a href="#">[modify]</a>
GORDON GUNTER	WTEO	<a href="#">[modify]</a>	<a href="#">[modify]</a>
HENRY B. BIGELOW	WTDF	<a href="#">[modify]</a>	<a href="#">[modify]</a>
HI'IALAKAI	WTEY	<a href="#">[modify]</a>	<a href="#">[modify]</a>
KA'IMIMOANA	WTEU	<a href="#">[modify]</a>	<a href="#">[modify]</a>
MILLER FREEMAN	WTDM	<a href="#">[modify]</a>	<a href="#">[modify]</a>
NANCY FOSTER	WTER	<a href="#">[modify]</a>	<a href="#">[modify]</a>
OSCAR DYSON	WTEP	<a href="#">[modify]</a>	<a href="#">[modify]</a>
RAINIER	WTEF	<a href="#">[modify]</a>	<a href="#">[modify]</a>
RON BROWN	WTEC	<a href="#">[modify]</a>	<a href="#">[modify]</a>

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This metadata form provides Vessel Information (such as call sign and home port location), Contact Information for the home institution and shipboard technicians (as well as any other important persons), Vessel Layout, which details ship dimensions and allows for the uploading of digital imagery, and Data File Specification, which refers to the file format and file compression associated with SAMOS data transmission. On this page, all an operator would need to do is fill in the appropriate information and click "submit." For example, let us assume operator op\_noaa desires to add a digital image to his vessel's metadata. Assuming the desired image is located on his native computer, he would merely need to click "Browse" to find the image he wants, fill in a Date Taken (if known) and choose an Image Type from the dropdown list, and then click "Submit" at the bottom of the page:

Vessel Layout	
Dimensions (meters)	Digital Imagery and Schematics
Length <input type="text" value="65.5"/>	Select an image to upload: <input type="text" value="C:\Documents and Settings\..."/> <input type="button" value="Browse..."/>
Breadth <input type="text" value="12.8"/>	Select the date taken and the photo's type. (Select other to enter a type not listed.)
Freeboard <input type="text" value="2.5"/>	IMO # <input type="text" value="006621636"/> Date Taken <input type="text" value="Today"/> <input type="button" value="..."/> Image Type <input type="text" value="Schematic - Side v"/>
Draught <input type="text" value="5.5 / 9.1"/>	Enter a date.
Cargo Height <input type="text" value="N/A"/>	

Data File Specification <input type="button" value="[Add]"/>			
Date Valid: <input type="text" value="01/15/2007"/> <input type="button" value="..."/> to <input type="text" value="Today"/> <input type="button" value="..."/> <input type="text" value="[Today]"/>			
File Format	Format Version	File Compression	Email Data Sent From
<input type="text" value="SAMOS"/>	<input type="text" value="001"/>	<input type="text" value="-SELECT-"/> <input type="button" value="v"/>	<input type="text" value="xxxxxx.xxxxxx.xxxxxx@nl"/>

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When editing Vessel Metadata, it is important to remember that submitting any new information will overwrite any existing information. The user should therefore take special care not to accidentally overwrite a valid field, for example the vessel Draught field. However, adding an image, as previously demonstrated, will not overwrite any existing images. This is true even if a duplicate Image Type is selected. The only way to remove an image is to contact SAMOS database personnel at COAPS. In any case, other than the addition of photos, Vessel Metadata does not often change. Additionally, except in the incidental case of Data File Specification (shown in image), changes are not date-tracked. Regarding the Date Valid field in the Data File Specification section, this date window maps to the File Format, Version, and Compression properties; it is not intended to capture the date Vessel Metadata changes were made by the SAMOS operator.

b. Select Instrument Metadata

(NOTE: a step-by-step example created by a shipboard technician, suitable for saving and generalizing to any SAMOS instrument metadata change, follows this summary)

user ship related

## Edit Metadata

Ships for user op\_noaa:

Ship Name	Call Sign	Vessel Metadata	Instrument Metadata
DAVID STAR JORDAN	WTDK	<a href="#">[modify]</a>	<a href="#">[modify]</a>
FAIRWEATHER	WTEB	<a href="#">[modify]</a>	<a href="#">[modify]</a>
GORDON GUNTER	WTEO	<a href="#">[modify]</a>	<a href="#">[modify]</a>
HENRY B. BIGELOW	WTDF	<a href="#">[modify]</a>	<a href="#">[modify]</a>
HI'IALAKAI	WTEY	<a href="#">[modify]</a>	<a href="#">[modify]</a>
KA'IMIMOANA	WTEU	<a href="#">[modify]</a>	<a href="#">[modify]</a>
MILLER FREEMAN	WTDM	<a href="#">[modify]</a>	<a href="#">[modify]</a>
NANCY FOSTER	WTER	<a href="#">[modify]</a>	<a href="#">[modify]</a>
OSCAR DYSON	WTEP	<a href="#">[modify]</a>	<a href="#">[modify]</a>
RAINIER	WTEF	<a href="#">[modify]</a>	<a href="#">[modify]</a>
RON BROWN	WTEC	<a href="#">[modify]</a>	<a href="#">[modify]</a>

sam os

Adding and editing instrument (or parameter) metadata follow a slightly different procedure. The first step for the SAMOS operator is to identify which parameter he wishes to add or modify. Let us first consider the case of modifying a parameter already in use. Let us assume that a pressure sensor has been moved and user op\_noaa wants to update the metadata for that parameter to reflect the new location. He would toggle a check in the box for *atmospheric pressure*, resulting in an expansion bar at the bottom of the screen:

<input type="checkbox"/> <i>*air temperature</i>	<input type="checkbox"/> air temperature 2	<input type="checkbox"/> air temperature 3
<input checked="" type="checkbox"/> <i>*atmospheric pressure</i>	<input type="checkbox"/> atmospheric pressure 2	<input type="checkbox"/> atmospheric pressure 3
<input type="checkbox"/> ceiling height	<input type="checkbox"/> cloud base height	<input type="checkbox"/> <i>*conductivity</i>
<input type="checkbox"/> conductivity 2	<input type="checkbox"/> dew point temperature	<input type="checkbox"/> dew point temperature 2
<input type="checkbox"/> <i>*earth relative wind direction</i>	<input type="checkbox"/> earth relative wind direction 2	<input type="checkbox"/> earth relative wind direction 3
<input type="checkbox"/> <i>*earth relative wind speed</i>	<input type="checkbox"/> earth relative wind speed 2	<input type="checkbox"/> earth relative wind speed 3
<input type="checkbox"/> high cloud type	<input type="checkbox"/> <i>*latitude</i>	<input type="checkbox"/> long wave atmospheric radiation
<input type="checkbox"/> long wave atmospheric radiation 2	<input type="checkbox"/> <i>*longitude</i>	<input type="checkbox"/> low cloud type
<input type="checkbox"/> low/middle cloud amount	<input type="checkbox"/> middle cloud type	<input type="checkbox"/> net atmospheric radiation
<input type="checkbox"/> net atmospheric radiation 2	<input type="checkbox"/> photosynthetically active atmospheric radiation	<input type="checkbox"/> photosynthetically active radiation 2
<input type="checkbox"/> <i>*platform course</i>	<input type="checkbox"/> platform course 2	<input type="checkbox"/> <i>*platform heading</i>
<input type="checkbox"/> platform heading 2	<input type="checkbox"/> <i>*platform relative wind direction</i>	<input type="checkbox"/> platform relative wind direction 2
<input type="checkbox"/> platform relative wind direction 3	<input type="checkbox"/> <i>*platform relative wind speed</i>	<input type="checkbox"/> platform relative wind speed 2
<input type="checkbox"/> platform relative wind speed 3	<input type="checkbox"/> <i>*platform speed over ground</i>	<input type="checkbox"/> platform speed over ground 2
<input type="checkbox"/> platform speed over water	<input type="checkbox"/> platform speed over water 2	<input type="checkbox"/> precipitation accumulation
<input type="checkbox"/> precipitation accumulation 2	<input type="checkbox"/> precipitation accumulation 3	<input type="checkbox"/> present weather
<input type="checkbox"/> rain rate	<input type="checkbox"/> rain rate 2	<input type="checkbox"/> rain rate 3
<input type="checkbox"/> <i>*relative humidity</i>	<input type="checkbox"/> relative humidity 2	<input type="checkbox"/> relative humidity 3
<input type="checkbox"/> <i>*salinity</i>	<input type="checkbox"/> salinity 2	<input type="checkbox"/> <i>*sea temperature</i>
<input type="checkbox"/> sea temperature 2	<input type="checkbox"/> sea temperature 3	<input type="checkbox"/> short wave atmospheric radiation
<input type="checkbox"/> shortwave atmospheric radiation 2	<input type="checkbox"/> specific humidity	<input type="checkbox"/> specific humidity 2
<input type="checkbox"/> time	<input type="checkbox"/> total cloud amount	<input type="checkbox"/> ultra violet atmospheric radiation
<input type="checkbox"/> ultra violet atmospheric radiation 2	<input type="checkbox"/> visibility	<input type="checkbox"/> wet bulb temperature
<input type="checkbox"/> wet bulb temperature 2		

**Key:**  
 ship does not have variable  
 ship has variable  
 variable has modifications needing approval  
 variable is new and needs approval  
 \*italic = variable has incomplete metadata

### MILLER FREEMAN's Variables

Expand to view or modify the ship's variables.

[\[Show All\]](#) [\[Hide All\]](#)

only show variables for the date

**+ atmospheric pressure**

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Clicking over the "+" for atmospheric pressure opens the list of metadata fields associated with that parameter. The first step is to identify to the system which version (i.e. range of dates for which the listed metadata values are valid for the instrument) of the parameter metadata is being modified. (In most cases that will be the current version; however, it should be noted that occasionally there are multiple versions listed, as in this case, and a previous version needs to be edited retrospectively. For clarity, though, we will only be modifying the most recent in this example.) This identification is accomplished by filling in the sequestered set of Designator and Date Valid fields (located at the bottom below the metadata name, e.g., atmospheric pressure in the example below.) to exactly match those of the desired version metadata and then clicking "Add/Modify." Note that because we are modifying the most recent version, we choose our dates to match 01/31/2008 to today, instead of 01/17/2007 to 01/30/2008:

### MILLER FREEMAN's Variables

Expand to view or modify the ship's variables.

[\[Show All\]](#) [\[Hide All\]](#)

only show variables for the date Today  [Today]

atmospheric pressure			
Designator	BARO	Date Valid	01/17/2007 to 01/30/2008
Descriptive Name	Original Units	Instrument Make & Model	Last Calibration
atmospheric pressure	millibar	A.I.R.	
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
at sensor height	measured		
Height	Average Method	Averaging Time Center	Average Length
4.9	average	time at end of period	60
Sampling Rate	Data Precision		
atmospheric pressure			
Designator	BARO	Date Valid	01/31/2008 to Today
Descriptive Name	Original Units	Instrument Make & Model	Last Calibration
atmospheric pressure	millibar	Vaisala	Nov 2007
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
adjusted to sea level	measured	19.2 m	1 m
Height	Average Method	Averaging Time Center	Average Length
8.8	average	time at end of period	60
Sampling Rate	Data Precision		
1 sec			
[Add/Modify] variable with:			
Designator	BARO	Date Valid	01/31/2008 to Today

If the identification procedure is successful, there will be a "Submit New Changes" button visible in the desired version metadata area. User op\_noaa must first close out the current metadata version (so the previous data is still associated with the correct information) and then initiate a new version. To close out the current version, the user would change the Date Valid field in the metadata area to reflect the last date the

metadata displayed for an instrument was associated with at the old location and then click "Submit New Changes." (Note the first version, i.e. with Dates Valid 01/17/2007 to 01/30/2008, is left untouched):

atmospheric pressure			
Designator	BARO	Date Valid	01/17/2007 to 01/30/2008
Descriptive Name	Original Units	Instrument Make & Model	Last Calibration
atmospheric pressure	millibar	A.I.R.	
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
at sensor height	measured		
Height	Average Method	Averaging Time Center	Average Length
4.9	average	time at end of period	60
Sampling Rate	Data Precision		
Designator	BARO	Date Valid	01/31/2008 to 03/28/2010 [Today]
Descriptive Name	Original Units	Instrument Make & Model	Last Calibration
atmospheric pressure	millibar	Vaisala	Nov 2007
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
adjusted to sea level	measured	19.2 m	1 m
Height	Average Method	Averaging Time Center	Average Length
8.8	average	time at end of period	60
Sampling Rate	Data Precision		
1 sec			
[Submit New Changes]			
[Add/Modify] variable with:			
Designator	BARO	Date Valid	01/31/2008 to Today [Today]

The user then initiates a new version by filling in the sequestered set of Designator (must be alphanumeric, with no spaces) and Date Valid fields to reflect the new period for the new or altered metadata, beginning at the date the instrument was relocated, and once again clicking "Add/Modify":

atmospheric pressure			
Designator	BARO	Date Valid	01/17/2007 to 01/30/2008
Descriptive Name	Original Units	Instrument Make & Model	Last Calibration
atmospheric pressure	millibar	A.I.R.	
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
at sensor height	measured		
Height	Average Method	Averaging Time Center	Average Length
4.9	average	time at end of period	60
Sampling Rate	Data Precision		
Designator	BARO	Date Valid	01/31/2008 to 03/28/2010
Descriptive Name	Original Units	Instrument Make & Model	Last Calibration
atmospheric pressure	millibar	Vaisala	Nov 2007
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
adjusted to sea level	measured	19.2 m	1 m
Height	Average Method	Averaging Time Center	Average Length
8.8	average	time at end of period	60
Sampling Rate	Data Precision		
1 sec			
[Add/Modify] variable with:			
Designator	BARO	Date Valid	03/29/2010 to Today

\*It is crucial to note that Valid Dates cannot overlap for a single Designator, so if an instrument is moved in the middle of the day (and the Designator is not to be changed), the SAMOS user must decide which day is to be considered the "last" day at the old location, i.e. the day of the change or the day before the change. If the day of the change is considered the last day, then the new version must be made effective as of the day after the change. Likewise, if the day before the

change is considered the last day, then the new version becomes effective as of the day of change. Let us assume the technician moved the instrument on 03/28/2010 and user op\_noaa chose to consider that the last valid date for the old information, as demonstrated in the preceding figure.

Once "Add/Modify" is clicked, a new set of fields opens up for the BARO parameter. All op\_noaa need do at this point is recreate the parameter metadata entry, of course taking care to fill in the new location information, and click "Add Variable":

Designator	BARO	Date Valid	01/31/2008 to 03/28/2010
Descriptive Name		Original Units	Instrument Make & Model
atmospheric pressure		millibar	Vaisala
Last Calibration		Nov 2007	
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
adjusted to sea level	measured	19.2 m	1 m
Height	Average Method	Averaging Time Center	Average Length
8.8	average	time at end of period	60
Sampling Rate	Data Precision		
1 sec			
Designator	BARO	Date Valid	03/29/2010 to Today [Today]
Descriptive Name		Original Units	Instrument Make & Model
atmospheric pressure		millibar	Vaisala
Last Calibration		Nov 2007	
Mean SLP Indicator	Observation Type	Distance from Bow	Distance from Center Line
adjusted to sea level	measured	30m	0m
Height	Average Method	Averaging Time Center	Average Length
15m	average	time at end of period	60
Sampling Rate	Data Precision		
1 sec			
[Cancel] [Add Variable]			
[Add/Modify] variable with:			
Designator		Date Valid	Today to Today [Today]

Adding an entirely new parameter follows only the latter part of these instructions: by simply choosing a parameter (for example short wave atmospheric radiation), clicking the "+" on the expansion bar, and entering either a new or not currently in use Designator (must be alphanumeric, with no spaces) and any Date Valid window:

<input type="checkbox"/> rain rate 2	<input type="checkbox"/> rain rate 3	<input type="checkbox"/> <i>*relative humidity</i>
<input type="checkbox"/> relative humidity 2	<input type="checkbox"/> relative humidity 3	<input type="checkbox"/> <i>*salinity</i>
<input checked="" type="checkbox"/> <i>*sea temperature</i>	<input type="checkbox"/> sea temperature 2	<input checked="" type="checkbox"/> short wave atmospheric radiation
<input type="checkbox"/> shortwave atmospheric radiation 2	<input type="checkbox"/> specific humidity	<input type="checkbox"/> specific humidity 2
<input type="checkbox"/> <i>time</i>	<input type="checkbox"/> total cloud amount	<input type="checkbox"/> ultra violet atmospheric radiation
<input type="checkbox"/> ultra violet atmospheric radiation 2	<input type="checkbox"/> visibility	<input type="checkbox"/> wet bulb temperature
<input type="checkbox"/> wet bulb temperature 2		

Key:  
 ship does not have variable  
 ship has variable  
 variable has modifications needing approval  
 variable is new and needs approval  
*\*italic = variable has incomplete metadata*

### MILLER FREEMAN's Variables

Expand to view or modify the ship's variables.

[Show All] [Hide All]

only show variables for the date Today [Today]

- short wave atmospheric radiation

[Add/Modify] variable with:
   
 Designator  Date Valid  to

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the user is immediately given the new set of fields, to be filled in as desired:

### MILLER FREEMAN's Variables

Expand to view or modify the ship's variables.

[\[Show All\]](#) [\[Hide All\]](#)

only show variables for the date  to

short wave atmospheric radiation			
Designator	Date Valid		
SW1	03/29/2010 to Today		
Descriptive Name	Original Units	Instrument Make & Model	Last Calibration
short wave atmospheric radia	watts meter-2	Radmeter 2000	3/29/2010
Radiation Direction	Observation Type	Distance from Bow	Distance from Center Line
downwelling	measured	25m	2.5
Height	Average Method	Averaging Time Center	Average Length
12	average	time at end of period	60
Sampling Rate	Data Precision		
0.2	1		
[Cancel] [Add Variable]			
[Add/Modify] variable with:			
Designator	Date Valid		
	Today to Today		

samos

Once an addition or modification to metadata has been submitted, a SAMOS associate at COAPS is automatically notified that approval is needed. Once approved, the new information will be visible to the public, via the Metadata Portal, accessed from the Data Access page as outlined in part one:

## Data Access

Please choose a page from the following list:

■ <a href="#">Access Data by Date</a>	Search and download data for all SAMOS ship by vessel and date range.
■ <a href="#">Access Data by Cruise</a>	Search and download observations by R2R cruise identifiers. This page may take up to 30 seconds to load as there are a lot of cruises to index.
■ <a href="#">Access Data - THREDDS</a>	Access preliminary, intermediate, or research-quality SAMOS netCDF files via our THREDDS catalog
■ <a href="#">View Data Map</a>	Plot cruise tracks of each ship on a satellite map over a selected period of time
■ <a href="#">Web Services</a>	Web Services
■ <a href="#">Additional RV data</a>	Additional RV data
■ <a href="#">SAMOS Parameters</a>	View a list of meteorological and oceanographic parameters that the initiative seeks to obtain from vessels
■ <a href="#">Metadata Portal</a> 	Access ship metadata database
■ <a href="#">User Metadata Tutorial</a>	SAMOS Online Metadata System Walk-through tutorial. The document provides instruction on accessing cruise track maps, vessel and instrument metadata, data, and quality control statistics from the SAMOS web interface. <a href="#">[pdf]</a>

For example, let's say we'd like to see the photo added by `op_noaa` for the *Miller Freeman*. We would simply choose the correct vessel from the dropdown list, choose "ship-specific" for the Type of metadata, and type in a date. (We choose "today" because we want the most up-to-date information.) Once we click "search,"

## Metadata Portal

The SAMOS Data Assembly Center (DAC) has developed a new metadata specification for SAMOS data. The specification was developed with input from members of the Voluntary Observing Ship Climate project (VOSCLIM), the Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM), the National Oceanographic Data Center (NODC), and other programs involved with metadata standards for marine observations. Upon recruitment to the SAMOS initiative, each vessel will be required to complete a series of metadata forms and all pertinent metadata will be stored in a ship profile database at the DAC.

The portal provides access to metadata stored in the database for all ships providing data to the DAC. At present, the vessels listed are participating in the 2005 pilot project. A search tool allows users to select a vessel and whether they are interested in ship-specific, parameter-specific, or digital image metadata. Ship-specific metadata include general information about the vessel, vessel dimensions, and contacts for the original data provider. The parameter-specific metadata lists all measurements being provided by a vessel and allows the user to sub-select information on the variables, units, averaging methods, and instrumentation. Digital imagery includes photos of each vessel and instrument masts and also contains schematics for each vessel.

Additional search tools will be added in the future and suggestions are welcome. Please [contact us](#) if you have any questions.

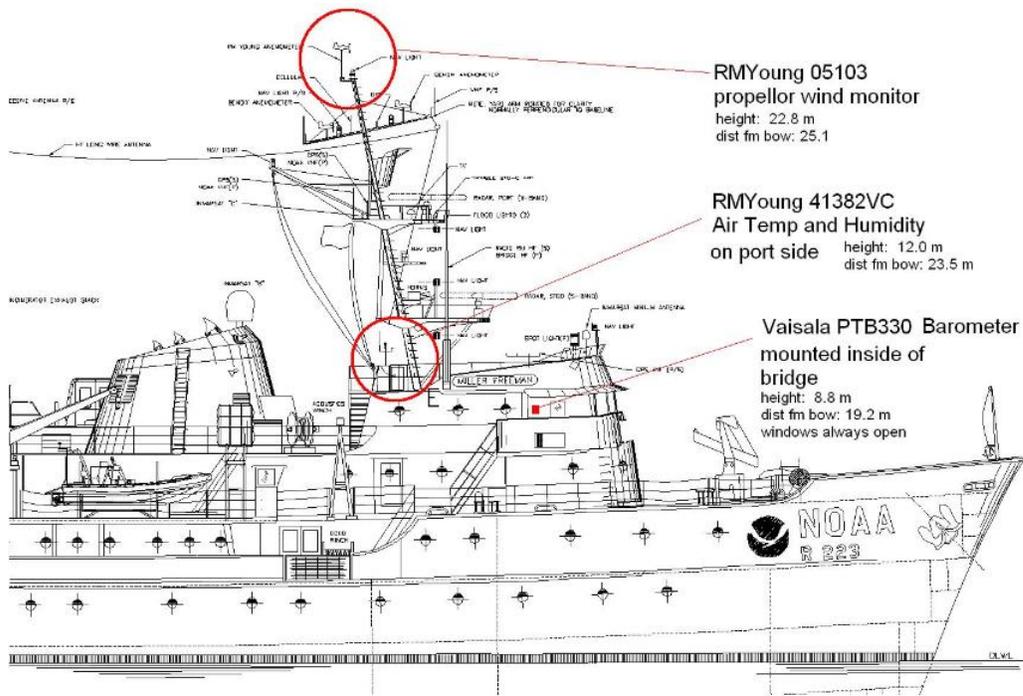
<b>Choose a ship</b>	MILLER FREEMAN (WTDN) ▾
<b>Type of metadata</b>	ship-specific ▾
<b>Type a date</b>	today
	where a valid date is of the form month/day/year, ex: 9/10/04. or a range, 9/10/04 - 9/20/04, you can also enter things like "yesterday"
<b>Click search</b>	<input type="button" value="search"/>

we are directed to a listing of all valid ship-specific information. At the bottom of the page we find the Vessel Layout items, including the newly added photo at the bottom of the Digital Imagery and Schematics scroll list:

Vessel Layout	
Dimensions (meters)	Digital Imagery and Schematics
Length: 65.5 Breadth: 12.8 Freeboard: 2.5 Draught: 5.5 / 9.1 Cargo Height: N/A	 <p>Schematic - Side View</p>

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Clicking on the image itself would give us an enlarged view. In this case, the photo provides details about the locations of three MET sensors:

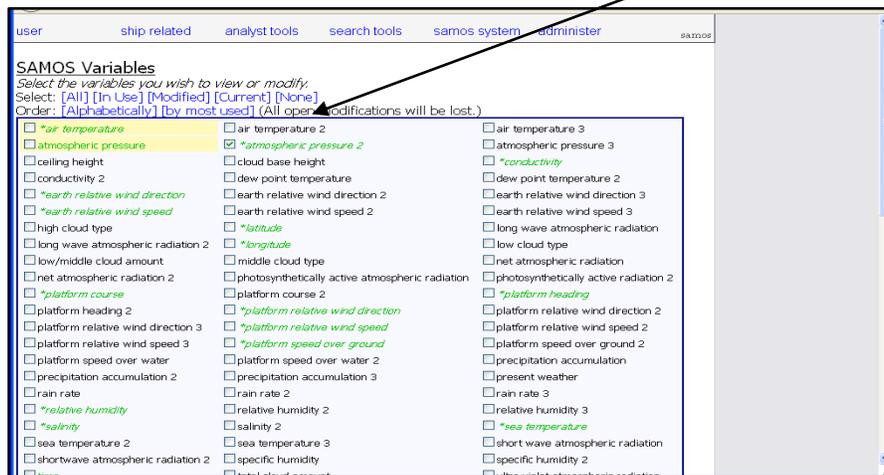


As a SAMOS user becomes familiar with following the metadata modification steps outlined in this section, chores such as adding duplicate sensors, logging sensor relocations, and keeping calibrations up-to-date become straightforward tasks. Naturally, complete and accurate metadata make for better scientific data. (and thus, happier end users!)

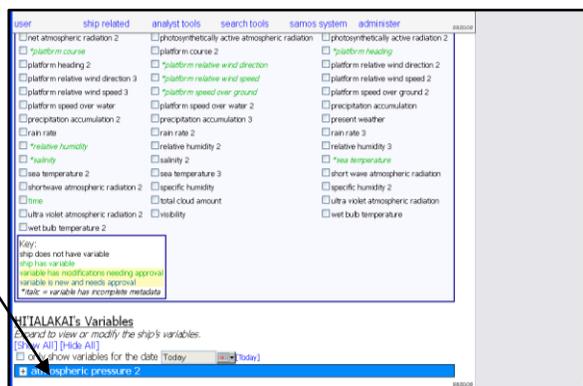
# UPDATING SAMOS METADATA: STEP BY STEP EXAMPLE

(credit: Lauren Fuqua, chief technician for *Hi'ialakai*)

1. Go to: <http://samos.coaps.fsu.edu/html/>
  - a. Click "Ship Recruiting"
  - b. Click "Metadata Interface"
2. Enter login ID and password (case sensitive)
3. You can choose to modify Vessel or Instrument Metadata; you will likely choose Instrument. Vessel Metadata does not often change, other than the addition of photos.
4. Once "Instrument Metadata" is clicked, a box of sensors will appear. You will usually only be dealing with the Green ones (will look different if entering a new sensor).
  - a. Select the sensor you want to Modify by clicking the box to the left of it



5. You will now see that sensor below, highlighted in Blue; click the plus sign to the left to expand the info about that sensor



6. You will now see the current data for that sensor, grayed out at the top (see image below). You are unable to make changes at this point in the grayed out sensor info area.
  - a. If this is a brand new sensor you will only see Designator and Date Valid.
  - b. If changes have already been made to this sensor you will see several sets of data boxes; scroll to the bottom one.

The screenshot shows a web application interface for "HI'IALAKAI's Variables". The interface is divided into several sections. The top section, titled "atmospheric pressure 2", is grayed out and contains fields for "Designator" (V\_Baro), "Date Valid" (07/21/2011 to Today), "Descriptive Name" (atmospheric pressure 2), "Original Units" (millibar), "Instrument Make & Model" (Vaisala PTB 330 digital baror), and "Last Calibration" (20110418). Below this are fields for "Mean SLP Indicator", "Observation Type", "Distance from Bow", "Distance from Center Line", "Height", "Average Method", "Averaging Time Center", and "Average Length". The bottom section, which is not grayed out, contains fields for "Designator" (V\_Baro) and "Date Valid" (07/21/2011 to Today). A callout box labeled "Step 7" points to the "Designator" field in the bottom section. Another callout box labeled "Step 8: Fill in these dates so they match these dates" points to the "Date Valid" field in the bottom section.

7. You first need to let the system know for which sensor you want to change information. In the box that appears at the very bottom (see image above), enter the name of the designator just as it appears in the box next to 'Designator' in the grayed out area.
  - a. For the example above you would enter 'V\_Baro' for atmospheric pressure 2

\* Note that before an updated version of sensor information can be entered, you must first "close out" the existing version. This is accomplished via steps 8 through 11. (The updated information will be entered in steps 12 through 15.)
8. In the bottom "Date Valid" boxes, make the dates match what you see above for the "Date Valid" dates in the grayed out area
  - a. For the example above you would enter 02/01/2011 in the left box and you would click the blue [Today] button to make the right box read Today
  - b. The right box will probably say 'TODAY' by default, and that is likely what you want.

- i. **NOTE:** The word 'Today' in any "Date Valid" entry is a floating date that implies the sensor is currently valid, no matter what day it is. The actual calendar dates mean the sensor starts & stops on the actual dates shown.
  - c. Months are changed using the arrows
  - d. Year is changed by clicking on the year (it will now be highlighted) and then typing in the year you want.
9. Click the [Add/Modify] button (see image below); this should change the text boxes in the data area from gray to white (as in the image below), so that you can now put your cursor in there. If you are unable to make changes in the data area, then the date valid dates and/or designator you entered are incorrect.

The screenshot shows a software interface for editing sensor data. The title bar reads "atmospheric pressure 2". The main form has several sections:

- Designator:** V\_Baro
- Date Valid:** 07/21/2011 to 12/07/2011 [Today]
- Descriptive Name:** atmospheric pressure 2
- Original Units:** millibar
- Instrument Make & Model:** Vaisala PTB 330 digital baror
- Last Calibration:** 20110418
- Mean SLP Indicator:** unknown
- Observation Type:** measured
- Distance from Bow:** (empty)
- Distance from Center Line:** (empty)
- Height:** (empty)
- Average Method:** unknown
- Averaging Time Center:** unknown
- Average Length:** (empty)
- Sampling Rate:** (empty)
- Data Precision:** (empty)

At the bottom, there is a "[Submit New Changes]" button and an "[Add/Modify]" button. Three callout boxes provide instructions:

- Step 9:** Points to the "[Add/Modify]" button.
- Step 10:** Points to the "Date Valid" field, specifically the end date "12/07/2011".
- Step 11:** Points to the "Date Valid" field, specifically the end date "Today".

10. You now want to change the "Date Valid" info in this data box. The "Date Valid" start date (on the left) in this now edit-able area will likely stay the same unless you want to correct a previously entered erroneous start date. More than likely you will only be changing the end date, on the right.
- a. This step simply closes out the current data; letting the system know the start and end dates for which the data on the screen about that sensor are valid. You will probably not change any data here; only the end date.
  - b. You will most likely be entering a calendar date in the right hand "Date Valid" box to close out the existing data for the sensor.

11. Click “Submit New Changes” on the bottom right of the data box (see image above)
  - a. The text boxes in the data entry area should be grayed out again. The background of the dates that you just edited will be yellow (see image below).

atmospheric pressure 2			
Designator	V_Baro	Date Valid	07/21/2011 to 12/07/2011
Descriptive Name	atmospheric pressure 2	Original Units	millibar
Instrument Make & Model	Vaisala PTB 330 digital baror		Last Calibration
20110418		Mean SLP Indicator	unknown
Observation Type	measured	Distance from Bow	
Distance from Center Line		Height	
Average Method	unknown	Averaging Time Center	unknown
Average Length		Sampling Rate	
Data Precision		[Add/Modify] variable with:	
Designator	V_Baro	Date Valid	07/21/2011 to [Today]

Step 11

12. Now you need to choose new “Date Valid” info in the bottom window (see image below). \*Note again that steps 12 through 15 should NOT be performed until the previous set of instrument metadata has been “closed out” for that instrument, via steps 8 through 11.
  - a. This step lets the system know the new valid dates for the new information about this sensor (you will enter the new information in Step 14).
  - b. Make sure the same designator name is in the ‘Designator’ box
  - c. The left box in the Date Valid area will indicate the start date for which the new sensor info is valid. **That start date needs to be at least one day after the end date that was just entered above in Step 10; the valid dates cannot overlap.**
  - d. The right “Date Valid” date will most likely be Today (again, do this by clicking the blue [Today] button to the right of the box; not by putting in today’s date on the calendar).
  - e. Note: If you are seeing X’s over the calendar date you want to select on the left hand “Date Valid” box, change the right hand box to Today first, and you will now be able to change the left box to the date you want.

**Step 12 (c):** This date needs to be at least one day after the date that was just entered here, in step 10

**Step 12 (d):** For this date you will likely select the blue [Today] button

**Step 13:** [Add/Modify] variable with:

**Step 12:** [Add/Modify] variable with:

13. Click the [Add/Modify] button again (see image above)

14. You will now see a new, editable data box at the bottom of the screen that has blue around the sensor info instead of gray.

- Leave the Date Valid area the same
- You can now change the sensor data to reflect updates and add new information. Note that you need to re-enter any existing, correct info about the sensor.
- When finished entering data, select [Add Variable]

**Step 14 (b):** You can now edit the sensor data in front of the blue background. Notice all variables for the sensor are blank; you need to re-enter any correct info as well.

**Step 14:** [Add Variable]

15. You do not need to click [Submit] on the new window that appears (see image below) unless you make any additional changes or corrections immediately after

finishing step 11, for example if you realize you've entered incorrect info or you've accidentally left something out. Otherwise, your new data are now waiting for approval from the SAMOS staff. To prevent anything being changed mistakenly from this point on, you should now close out that sensor window by going to the top window that has all of the sensors listed and un-checking the sensor you just edited. You can now either exit the website or select a new sensor

Designator	ATEMP	Date Valid	12/08/2011	to	Today
Descriptive Name	air temperature	Original Units	degrees (clockwise toward	Instrument Make & Model	Last Calibration
Observation Type	unknown	Distance from Bow	Distance from Center Line	Height	
Average Method	unknown	Averaging Time Center	unknown	Average Length	Sampling Rate
Data Precision					
					[Remove] [Submit]

**Step 15:**  
If all info entered is correct, **DO NOT** select the [Submit] button. Simply close out of SAMOS