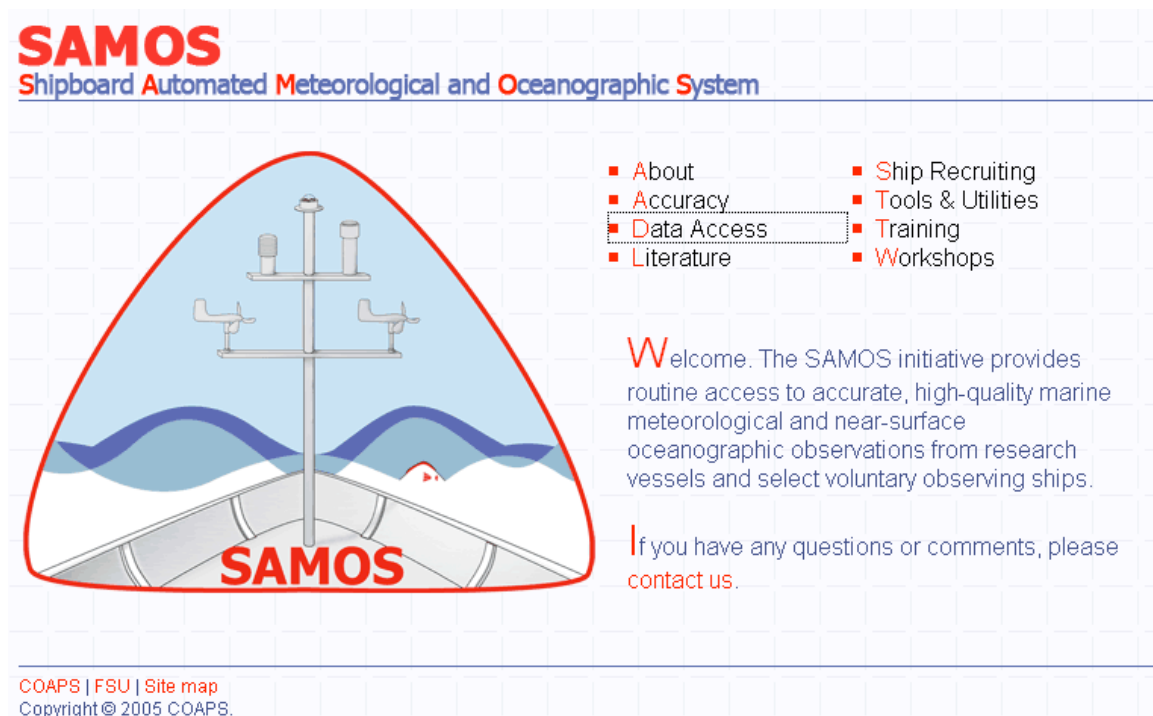


# SAMOS Online Metadata System Walk-through Tutorial

PART 1: the end user

The SAMOS public website can be entered via the main page at <http://samos.coaps.fsu.edu/html/>



**SAMOS**  
Shipboard Automated Meteorological and Oceanographic System

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- Training
- Workshops

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.

If you have any questions or comments, please [contact us](#).

COAPS | FSU | [Site map](#)  
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By choosing the Data Access link (boxed area), the user can access preliminary, intermediate, and research-quality data along with graphical representations of data availability and quality. As an example, consider the user who wants to find 2009 in situ wind and temperature data for the north-polar region. The first step would be to identify which ships frequented this area in 2009. To do so, choose Data Map on the Data Access page:



# SAMOS

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## Data Access

Please choose a page from the following list:

- [Data Availability](#) Time line for available data
- [Data Download](#) Access quality-evaluated shipboard meteorological data
- [Data Map](#) Plot cruise tracks of each ship on a satellite map over a selected period of time
- [Metadata Portal](#) Access ship metadata database
- [SAMOS Parameters](#) View a list of meteorological and oceanographic parameters that the initiative seeks to obtain from vessels
- [Additional RV data](#) Additional RV data

The user highlights a set of ships from the available list (10 ships may be chosen at a time):

## Data Map

To use the data map, select one or more ships from the menu. Then, using either the calendar or the drop-down menus, select a date range. To access the calendar, click the icon next to the start or end selection menus. Since the data takes 10 days to process, please keep this in mind when selecting your end date range. A maximum of 16 ships can be displayed on the map at a single time. Please [contact us](#) if you have any questions.

**Choose a Ship**  
or Multiple Ships  
(ctrl-click or apple key-click)

- ATLANTIS (KAQP)
- DAVID STAR JORDAN (WTD)
- DELAWARE II (KNBD)
- FAIRWEATHER (WTEB)
- GORDON GUNTER (WTEO)
- HEALY (NEPP)
- HENRY B. BIGELOW (WTFD)
- HI'IALAKAI (WTEY)
- KA'IMIMOANA (WTEU)
- KNORR (KCEJ)
- LAURENCE M. GOULD (WCX)
- MCARTHUR II (WTEJ)
- MILLER FREEMAN (WTFM)
- NANCY FOSTER (WTER)
- NATHANIEL PALMER (WBP3)
- OCEANUS (WXAQ)
- OKEANOS EXPLORER (WTD)
- OREGON II (WTDQ)
- OSCAR DYSON (WTEP)
- OSCAR ELTON SETTE (WTE)

**Select a Date**

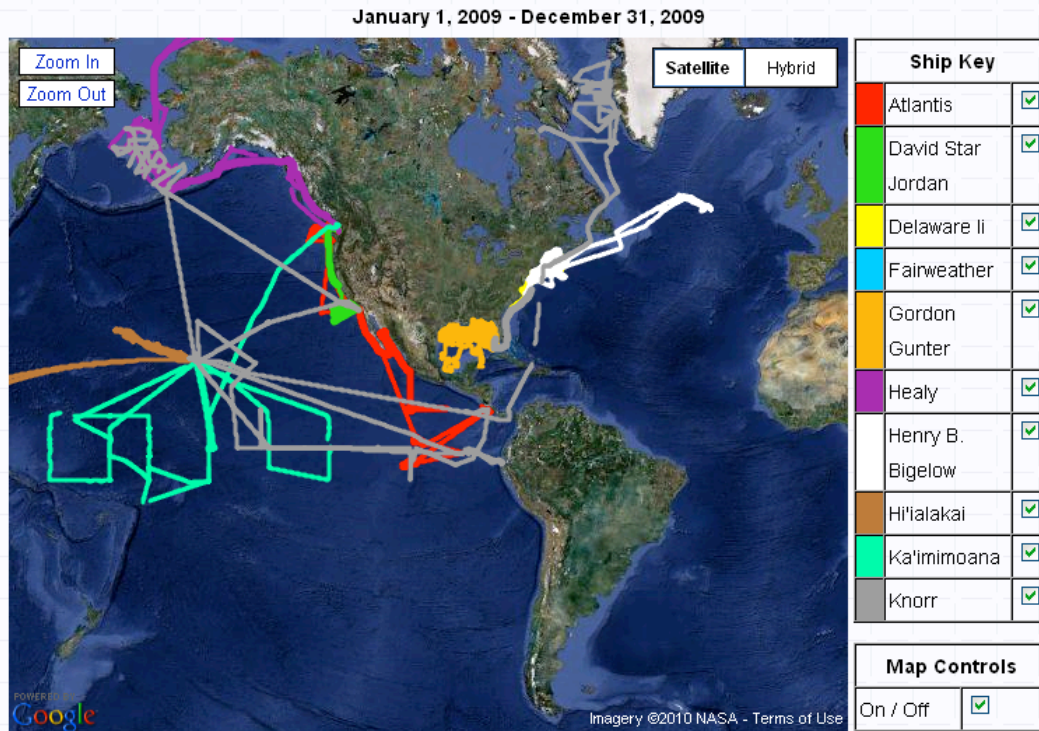
Start: January 1, 2009

End: December 31, 2009

By entering a date range of January 1, 2009 to December 31, 2009 and clicking "search," a map is displayed showing all of the selected ship's tracks for the year 2009:

## Data Map

The purpose of this page is for the user to select ships and date ranges. Then, using Google maps, a track of the ship(s) will be displayed for the selected dates. To view the tracks of other ships or dates, click [here](#). To learn more about the map and ship tracks, please read the [documentation](#).



Now the user can see that both the *Healy* and the *Knorr* cruised in the north-polar region in 2009. The next step might be to see what parameters are available on each ship. Returning to the Data Access page, the user this time selects the Metadata Portal:

## Data Access

Please choose a page from the following list:

- [Data Availability](#)      Time line for available data
- [Data Download](#)      Access quality-evaluated shipboard meteorological data
- [Data Map](#)      Plot cruise tracks of each ship on a satellite map over a selected period of time
- [Metadata Portal](#)      Access ship metadata database
- [SAMOS Parameters](#)      View a list of meteorological and oceanographic parameters that the initiative seeks to obtain from vessels
- [Additional RV data](#)      Additional RV data

and first inputs the proper information for the *Healy*:

## 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>	<input type="text" value="HEALY (NEPP)"/>
<b>Type of metadata</b>	<input type="text" value="parameter-specific"/>
<b>Type a date</b>	<input type="text" value="1/1/09-12/31/09"/>
	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"/>

The result, once "search" is clicked, is an exhaustive list of all parameters available from the *Healy* in 2009:

## Metadata Portal

### HEALY

Expand each of the ship's variables for a detailed view  
[\[Show All\]](#) [\[Hide All\]](#)  
Order: [\[Alphabetically\]](#) [\[netCDF order\]](#)  
[Download PDF](#)

- time
- latitude
- longitude
- platform heading
- platform heading 2
- platform course
- earth relative wind direction
- earth relative wind direction 2
- platform relative wind direction
- platform relative wind direction 2
- platform speed over ground
- platform speed over water
- platform speed over water 2
- earth relative wind speed
- earth relative wind speed 2

A thorough investigation of the list (note: image is truncated) tells the user the *Healy* did in fact provide both wind and temperature data in 2009. (Throughout the online SAMOS system, clicking on a "+" will yield further information; in this case the result would be metadata for the individual parameters.) Now the user will want to know the quality of the wind and temperature data. To find that, he returns once again to the Data Access page and this time chooses Data Availability:


## Data Access

Please choose a page from the following list:

- [Data Availability](#) Time line for available data
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After selecting the *Healy* along with the desired date range and data version (preliminary, intermediate, or research), noting that the default date range will change once a vessel and data version are selected, and then clicking "search":

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## Data Availability

Additional search tools will be added in the future and suggestions are welcome. Upon selecting one or more ships in the below menu, the date fields will automatically update to provide only the timeframe where data is available. For example, the Atlantis has data available starting in May 2005 while the David Star Jordan joined SAMOS a few years later in March 2008. Multiple ships can be selected by holding down the control (CTRL) key. Please [contact us](#) if you have any questions.

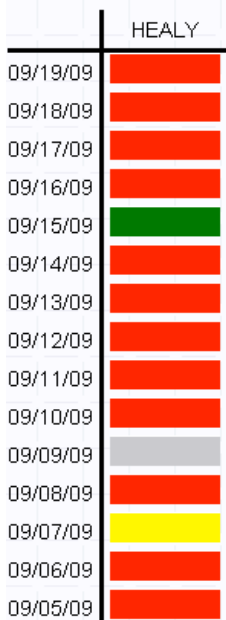
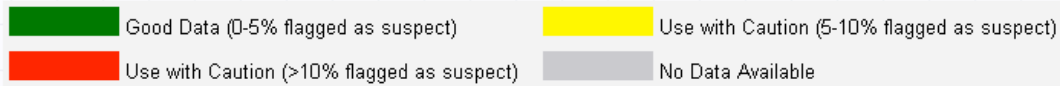
<b>Choose a ship</b>	<div style="border: 1px solid #ccc; padding: 5px;"><ul style="list-style-type: none"><li>ATLANTIS (KAQP)</li><li>DAVID STAR JORDAN (WTDK)</li><li>DELAWARE II (KNBD)</li><li>FAIRWEATHER (WTEB)</li><li>GORDON GUNTER (WTEO)</li><li><b>HEALY (NEPP)</b></li><li>HENRY B. BIGELOW (WTDF)</li><li>HIMALAKAI (WTEY)</li><li>KA'IMIMOANA (WTEU)</li><li>KNORR (KCEJ)</li></ul></div>
To select multiple ships use ctrl-click or apple key-click	
<b>Start Date</b>	2009 January 01
<b>End Date</b>	2009 December 31
<b>Data</b>	research
<b>Click search</b>	<input type="button" value="search"/>

the user arrives at a timeline showing on which days in 2009 the Healy provided data, as well as the overall quality of that data for each calendar day (note: image has been customized):

## Data Availability

The purpose of this page is to allow the user to get a rough idea of the quality of data for a particular day and ship. In some cases multiple files may exist for a single day and ship. In these cases quality is calculated for the overall day, meaning an overall quality for the pieces as a whole are calculated. To see the quality of each piece individually click on the colored box aligning the ship and day desired.

[Click here to download data](#)



Note that the quality representation may overestimate the problems with a given day simply because one bad variable (say all the pressure data are in error due to a sensor failure) may result in a yellow or red quality status for the day. Other data for the day may be fine. As an example, by clicking over the yellow bar for the date 09/07/09 a user can find out more specific information about data quality to determine whether the wind and temperature data might be useful. When the yellow bar is clicked, the user is first directed to a pie chart showing overall quality:

## Data Download w/ Daily QC Statistics

This page contains interactive graphics which, will not work correctly unless your web browser has [Macromedia Flash Player 6](#) or later installed. These graphics respond to mouse clicks on either the pie chart itself or the legend. In some situations once a chart is "drilled down" the only way to return to that level is to use the chart navigation links. For example, once the initial graph, failed qc vs passed qc, is drilled down the only ways of returning to it is by using the chart navigation or by refreshing the page.

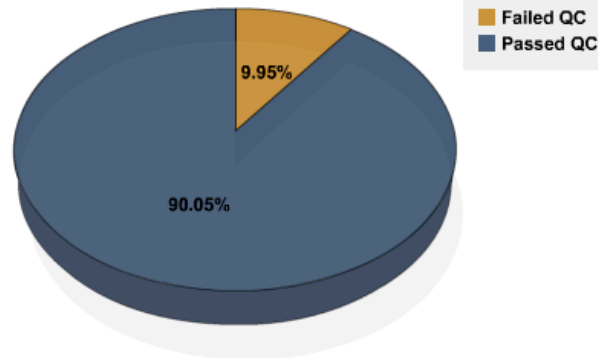
09-07-2009

HEALY

select all

File [download](#) | [view file](#)

Chart Navigation [failed qc vs passed qc](#) | [flag distribution](#) | [a-y flags](#) | [z flags](#)



Compression:

Clicking over the yellow pie slice showing the percentage of data that failed quality control yields a more in-depth look:

## Data Download w/ Daily QC Statistics

This page contains interactive graphics which, will not work correctly unless your web browser has [Macromedia Flash Player 6](#) or later installed. These graphics respond to mouse clicks on either the pie chart itself or the legend. In some situations once a chart is "drilled down" the only way to return to that level is to use the chart navigation links. For example, once the initial graph, failed qc vs passed qc, is drilled down the only ways of returning to it is by using the chart navigation or by refreshing the page.

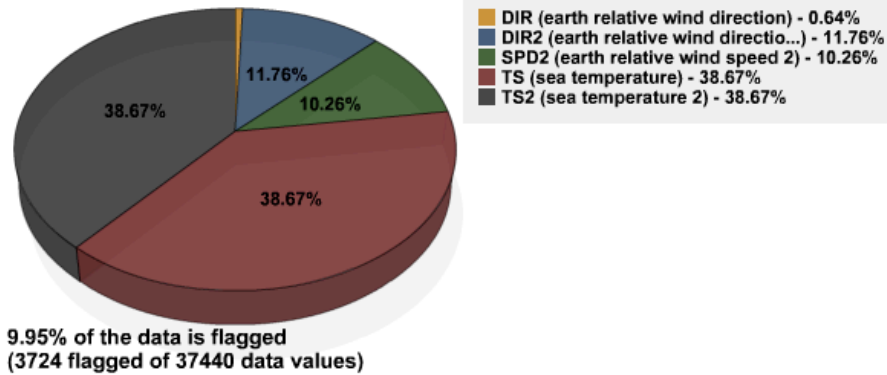
09-07-2009

HEALY

select all

File [download](#) | [view file](#)

Chart Navigation [failed qc vs passed qc](#) | [flag distribution](#) | [a-y flags](#) | [z flags](#)



Compression:

Now the user knows that none of the temperature data was flagged for that day, and thus might be useful for his purposes. The user can also check to see what types of flags were applied to the wind data, as only a portion of the data was flagged and it may also still be usable. By clicking on either the blue pie slice for DIR2 or the "DIR2" line in the grey box, he determines that "caution" flags were applied to a portion of the data:

## Data Download w/ Daily QC Statistics

This page contains interactive graphics which, will not work correctly unless your web browser has [Macromedia Flash Player 6](#) or later installed. These graphics respond to mouse clicks on either the pie chart itself or the legend. In some situations once a chart is "drilled down" the only way to return to that level is to use the chart navigation links. For example, once the initial graph, failed qc vs passed qc, is drilled down the only ways of returning to it is by using the chart navigation or by refreshing the page.

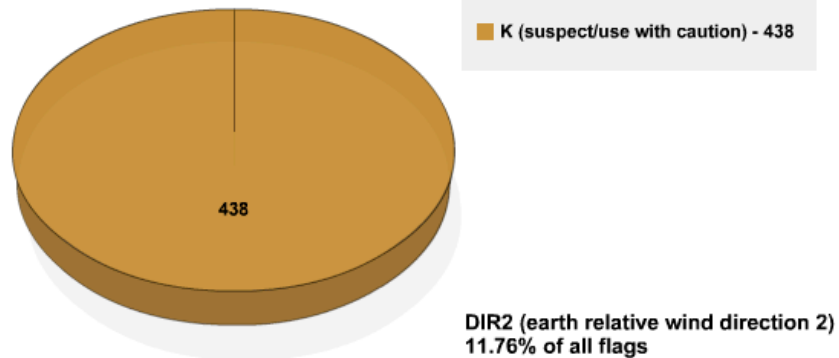
09-07-2009

HEALY

select all

File [download](#) | [view file](#)

Chart Navigation [failed qc vs passed qc](#) | [flag distribution](#) | [a-y flags](#) | [z flags](#)



Compression:  ▼

In this example, the user might repeat these steps to evaluate the quality of the rest of the wind data for 09/07/09. In the end, perhaps he decides the data will be useful to him and now he would like to download the data. There are a couple of ways to accomplish this: By toggling a check mark in the "File" box (as shown above) and choosing the preferred file compression format (".zip" in this case) on this or any of the pie chart pages, the 09/07/09 file is downloaded once "Download selected" is clicked. Alternatively, the user can return to the Data Access page and choose Data Download, where he will have an opportunity to download multiple files at one time:

## Data Access

Please choose a page from the following list:


■ <a href="#">Data Availability</a>	Time line for available data
■ <a href="#">Data Download</a>	Access quality-evaluated shipboard meteorological data
■ <a href="#">Data Map</a>	Plot cruise tracks of each ship on a satellite map over a selected period of time
■ <a href="#">Metadata Portal</a>	Access ship metadata database
■ <a href="#">SAMOS Parameters</a>	View a list of meteorological and oceanographic parameters that the initiative seeks to obtain from vessels
■ <a href="#">Additional RV data</a>	Additional RV data

Let us assume that, after careful consideration of the quality of wind and temperature data from the *Healy* for the period from 09/07/09 to 09/11/09, the user decides he would like to download all available data from that period. By filling in the proper information on the Data Download page:

<b>Choose a ship</b> or multiple ships (ctrl-click or apple key-click), or no ships	<div style="border: 1px solid #ccc; padding: 5px;"><ul style="list-style-type: none"><li>ATLANTIS (KAQP)</li><li>DAVID STAR JORDAN (WTD)</li><li>DELAWARE II (KNBD)</li><li>FAIRWEATHER (WTEB)</li><li>GORDON GUNTER (WTEO)</li><li><b>HEALY (NEPP)</b></li><li>HENRY B. BIGELOW (WTD)</li><li>HII'IALAKAI (WTEY)</li><li>KA'IMIMOANA (WTEU)</li><li>KNORR (KCEJ)</li><li>LAURENCE M. GOULD (WCX)</li><li>MARTHUR II (WTEJ)</li><li>MILLER FREEMAN (WTD)</li><li>NANCY FOSTER (WTER)</li><li>NATHANIEL PALMER (WBP3)</li><li>OCEANUS (WXAQ)</li><li>OKEANOS EXPLORER (WTD)</li><li>OREGON II (WTD)</li><li>OSCAR DYSON (WTEP)</li><li>OSCAR ELTON SETTE (WTE)</li></ul></div>
<b>Type a date</b>	<div style="border: 1px solid #ccc; padding: 5px;">9/7/09-9/11/09</div> <p>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". if nothing is entered, everything is returned (this will take some time)</p>
<b>Sorted by</b>	<div style="border: 1px solid #ccc; padding: 5px;">date collected</div>
<b>Data</b>	<div style="border: 1px solid #ccc; padding: 5px;">research</div>
<b>Click search</b>	<div style="border: 1px solid #ccc; padding: 5px; text-align: center;">search</div>

the user can choose "select all," along with a file compression format, and click "Download selected" to begin the download:

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## Data

	<input checked="" type="checkbox"/> select all
09-11-2009 HEALY	<input checked="" type="checkbox"/> download   <a href="#">view file</a>
09-10-2009 HEALY	<input checked="" type="checkbox"/> download   <a href="#">view file</a>
09-08-2009 HEALY	<input checked="" type="checkbox"/> download   <a href="#">view file</a>
09-07-2009 HEALY	<input checked="" type="checkbox"/> download   <a href="#">view file</a>
Compression	<input type="text" value=".zip"/>
	<input type="button" value="Download selected"/>