



CORIOLIX



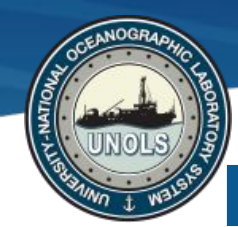
Cruise Observations Real-time Interface & Open Live Information eXchange

Jasmine Nahorniak & Chris Romsos

Regional Class Research Vessel Program - Oregon State University

October 24, 2023





RCRV Datapresence & Engineering Support Center



Chris Romsos Datapresence
Systems Engineer

2015 -

Lead for Datapresence and RCRV Cyberinfrastructure
Background – marine geology, fisheries, geographic info systems



Jasmine Nahorniak
Assistant Datapresence Systems Engineer

2015 -

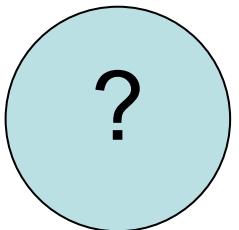
Lead CORIOLIX developer
Background – ocean optics data processing and management, UI design



James Caison
Design Specialist

2022 -

Leading Video and sensor systems integrations
Background – Marine & Technical Services



TBD: Position Open
Data Systems Specialist

2023 –

Manage CORIOLIX installations on vessels



CORIOLIX : Demo Outline

Public Components

- Ship/Shore Websites
- Sensor Information
- Sensor Status & Plots
- Data Processing & Flags
- Data Access
- Cruise Tools

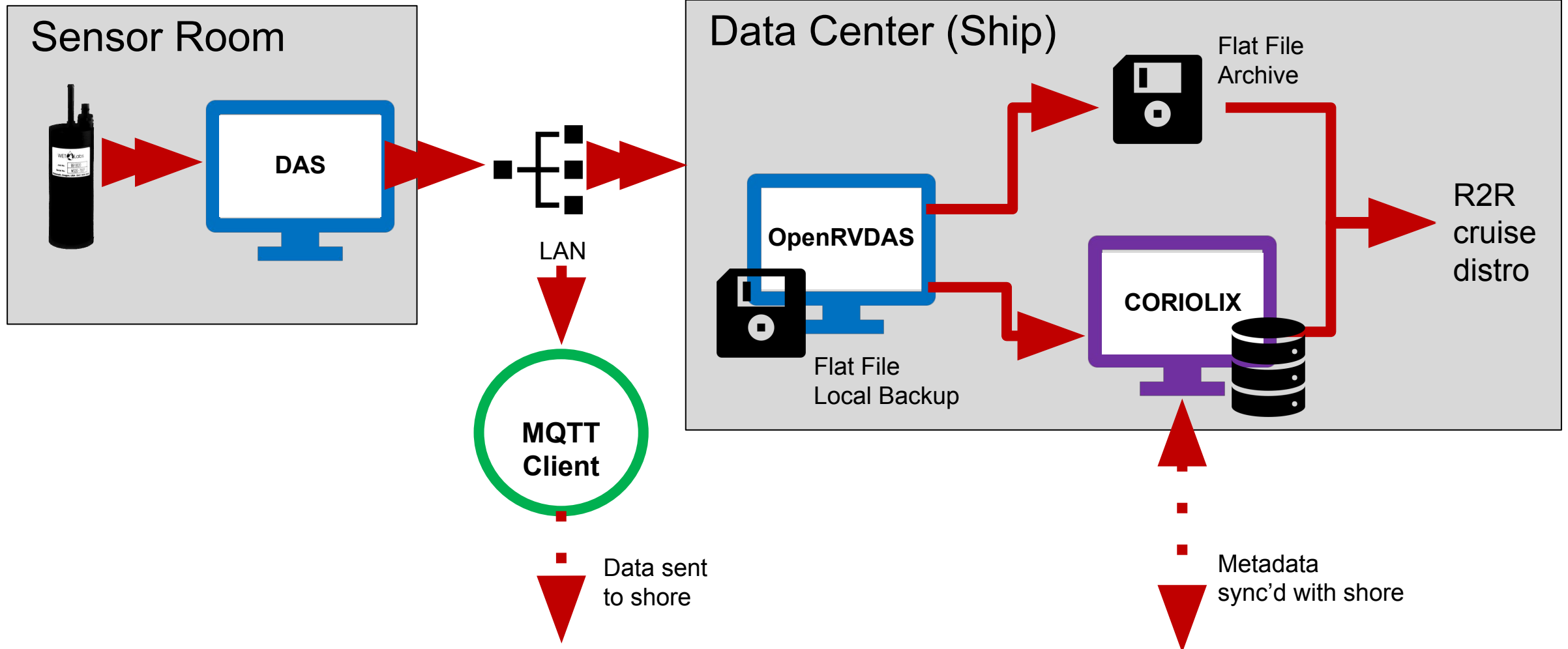
Configuration & Maintenance

- User Accounts
- Alerts
- Sensor Maintenance Support
- Adding a New Sensor
- System Health
- OpenRVDAS

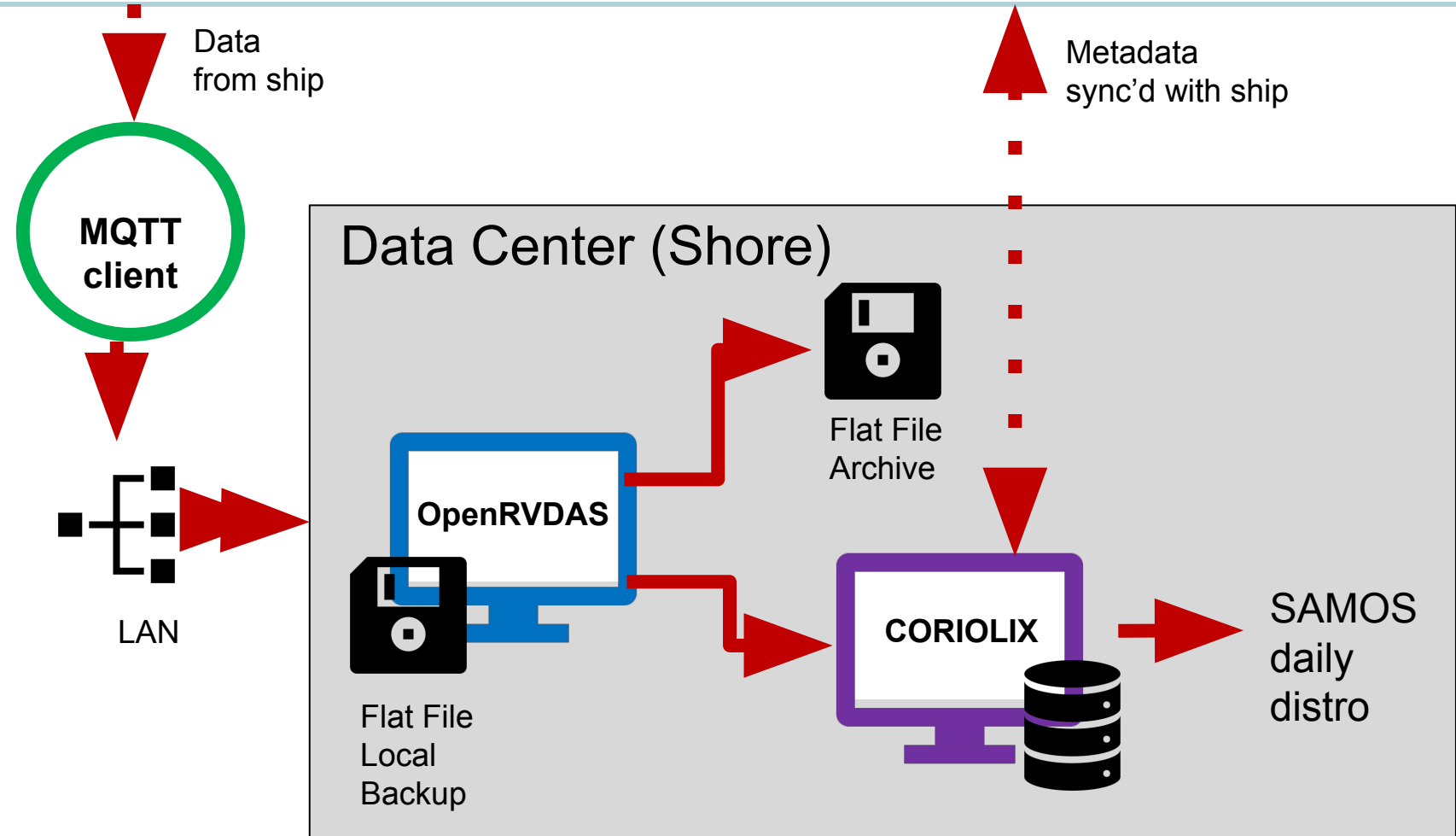
Moving Forward

- Vessel Support Plans
- Feedback

Shipside Overview



Shoreside Overview





URL for Today's Demo



CORIOLIX R/V Endeavor
Public shore-side website

<https://coriolix.ceoas.oregonstate.edu/endeavor/>



Start of Live Demo



CORIOLIX

Cruise Observations
Real-time Interface &
Open Live Information eXchange



SCIENCE FROM SHIP TO SHORE

A real-time system supporting oceanographic research

- real-time data access & visualization*
- maintenance and event logs*
- quality controlled data*
- remote participation*
- notification services*



Where to start?

Sensor Status

Monitor sensor systems for real-time state of health

Time-series

View real-time data from shipboard sensors

Cruise Chart

Visualize underway data on a map; review and plan cruise tracks

Create Account

Create & manage your account

Data Access

Access real-time data and data products via download or 3rd party client tools

Documents

Catalog and explore manuals, calibration files, and other metadata



Remote Participation



Sensor Status

status ok
mild warning
medium warning
severe warning
inactive

Flowthrough

Conductivity 0 S/m Wet Lab Thermosalinograph - SBE21	Fluorescence 0.1026 v Wet Lab Thermosalinograph - SBE21	Salinity 0.8709 Wet Lab Thermosalinograph - SBE21	Sound Velocity 1482.97 m/s Wet Lab Thermosalinograph - SBE21
Temperature 17.80 degrees_C Thermometer - Hull	Temperature 19.87 degrees_C Wet Lab Thermosalinograph - SBE21	Temperature 20.73 degrees_C Wet Lab Thermosalinograph - SBE21	

Navigation

COG 252.20 degrees_true Bridge GNSS	COG 163.00 degrees_true Bridge GNSS	Heading 158 degrees Starboard Side Gyrocompass	Latitude 41.4925 degrees Bridge GNSS
Latitude 41.4925 degrees Bridge GNSS	Longitude -71.4186 degrees Bridge GNSS	Longitude -71.4186 degrees Bridge GNSS	Point None Bridge GNSS
Point None Bridge GNSS	SOG 0.00 knots Bridge GNSS	SOG 0.10 knots Bridge GNSS	

Atmospheric

Air Temperature 28.20 degrees_C Bow Met Stn Air temperature and relative humidity	Air Temperature 14.40 degrees_C National Weather Service - 2 Minute Average	Infrared Irradiance 337.0 W/m2 Starboard Side Radiometer	Latitude 41.4925 degrees National Weather Service - 2 Minute Average
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Sensor Details & Logs

	Sensor Name	Class	Type	Model	S/N	Sensor ID	Vessel Location	Use Level	Enabled	Port(s)	Status	Last Cal	Send To Shore	Current Location	Vessel
1	Details Data Air temperature and relative humidity	Atmospheric	Met Station	Young 41382 relative humidity and temperature probe	035269	airtrh035269	Bow Met Stn		False	None 16000	in use	Jan 18, 2023	True	installed	Endeavor
2	Details Plots Data Air temperature and relative humidity	Atmospheric	Met Station	RM Young 41372 hygrometer	032565	airtrh032565	RM Young		True	17011 16000	not in use	Dec 08, 2022	True	repair/calibration	Endeavor
3	Details Plots Data Air Temperature and Relative Humidity	Atmospheric	Met Station	Young 41382 relative humidity and temperature probe	028928	airtrh028928	Above Pilothouse		True	17006 16000	in use	Dec 08, 2022	True	installed	Endeavor
4	Details Data Altimeter psa-916	OverTheSide	Altimeter	unknown	50483	alt050483									
5	Details Data Altimeter psa-916	OverTheSide	Altimeter	unknown	1017	alt001017									
6	Details Data Altimeter psa-916														
7	Details Data Altimeter psa-916														
8	Details Data Anemometer														
9	Details Data Anemometer														
10	Details Data Anemometer	Atmospheric	Anemometer	unknown	unknown	anemo000									
11	Details Data Anemometer	Atmospheric	Anemometer	RM Young 05103 Wind Monitor 10A anemometer	unknown	anemo201									
12	Details Data Anemometer	Atmospheric	Anemometer	WindSonic	unknown	anemo101									
13	Details Data Anemometer	Atmospheric	Anemometer	unknown	unknown	anemo000									
14	Details Data Anemometer	Atmospheric	Anemometer	Gill Windsonic anemometer	unknown	anemo103									
15	Details Data Anemometer	Atmospheric	Anemometer	RM Young 05103 Wind Monitor 10A anemometer	unknown	anemo202									
16	Details Data Anemometer	Atmospheric	Anemometer	unknown	unknown	anemo000									
17	Details Data Anemometer	Atmospheric	Anemometer	unknown	unknown	anemo000									
18	Details Data Anemometer	Atmospheric	Anemometer	WindSonic	unknown	anemo104									
19	Details Data Anemometer	Atmospheric	Anemometer	WindSonic	unknown	anemo102									
20	Details Plots Data Anemometer Windsonic	Atmospheric	Anemometer	Gill Windsonic anemometer	08460054	anemo460									
21	Details Plots Data Anemometer Windsonic	Atmospheric	Anemometer	Gill Windsonic anemometer	17040018	anemo040									
22	Details Plots Data Anemometer Windsonic	Atmospheric	Anemometer	Gill Windsonic anemometer	1520099	anemo520									
23	Details Plots Data barometer	Atmospheric	Barometer	Barometer	14707	baro01470									
24	Details Plots Data barometer	Atmospheric	Barometer	Barometer	1729	baro00172									



CORIOLIX



RV Endeavor

Home Login Cruise Tools ▾ Cruise Chart Sensor Plots ▾ Status ▾ **Sensors ▾** Data ▾ Documents Settings ▾ My Account ▾ About ▾

Air temperature and relative humidity

Data Collection Specs: [Native Data Feed](#) | [Native Data Format](#) | [Data Processing](#) | [Data Rates](#) | [Data Storage & Access](#) | [Time Source](#)

Parameters

Physical Sensor Specs: [Operating Limits](#) | [Physical Status](#) | [Vessel Installation Location](#)

Maintenance & Support: [Sensor Log](#) | [Calibration & Maintenance](#) | [Calibration Files](#) | [User Guides & Documents](#) | [Ownership](#) | [Vendor Support](#)

Summary

Type	Met Station
Vendor	R.M. Young Company
Model	RM Young 41372 hygrometer
S/N	032565
ID Prefix	hygrom
CORIOLIX ID	airrh032565
Class	Atmospheric
Location	RM Young
Condition	
Configuration	
Native Sample Rate	1.0 Hz
UDP Port(s)	17011 16000
Enabled	True



Data Collection Specs: [Native Data Feed](#) | [Native Data Format](#) | [Data Processing](#) | [Data Rates](#) | [Data Storage & Access](#) | [Time Source](#)
Parameters

Physical Sensor Specs: [Operating Limits](#) | [Physical Status](#) | [Vessel Installation Location](#)

Maintenance & Support: [Sensor Log](#) | [Calibration & Maintenance](#) | [Calibration Files](#) | [User Guides & Documents](#) | [Ownership](#) | [Vendor Support](#)

General Description

RM Young air temp and relative humidity sensor

Data Collection Specs

Native Data Feed	
Signal Type	Analog
Communication Type	
Serial Details	Baud Rate

[Feedback](#)



Air temperature and relative humidity Plots

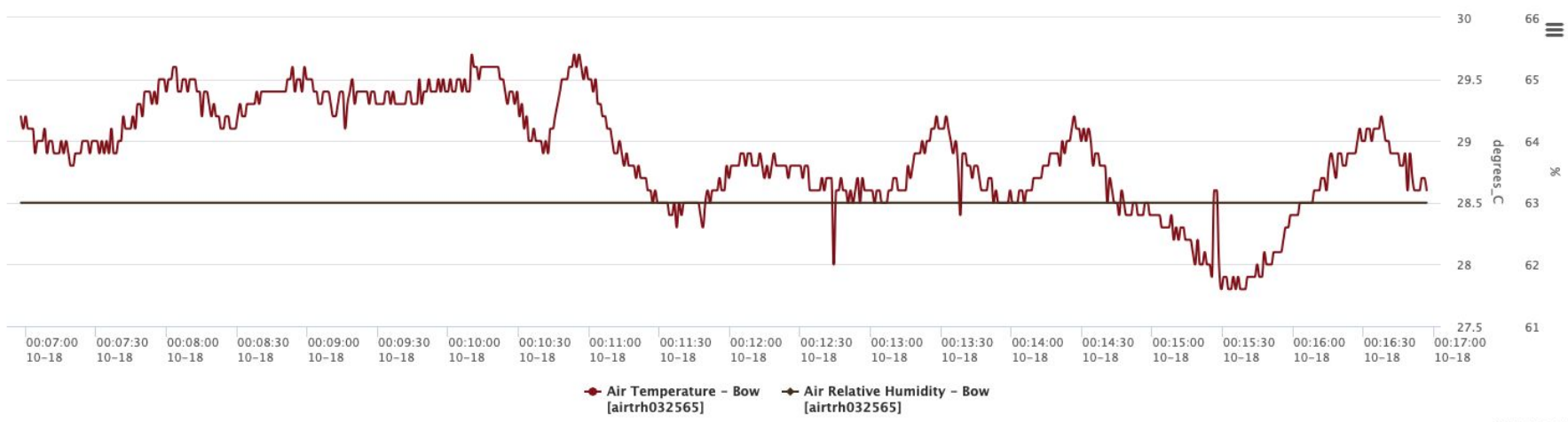
Model	RM Young 41372 hygrometer
Location	RM Young
S/N	032565
CORIOLIX ID	airrh032565

Plot Settings

Time Interval to Plot: minutes [Update Chart](#)

Plot Refresh Interval: [every 10 minutes](#)

Plot A



Highcharts.com



Feedback



Air temperature and relative humidity Data

[Real-time Data](#) | [Recent Data](#) | [Data Download](#)

Model	RM Young 41372 hygrometer
Location	RM Young
S/N	032565
CORIOLIX ID	airrh032565

Real-time Data

Datetime	Parameter	Value	Units
Oct 18 2023 19:25:11 UTC	Air Temperature	22.20	degrees_C
Oct 18 2023 19:25:11 UTC	Relative Humidity	64.00	%

Recent Data

This table displays the most recent 10 records of data collected prior to the webpage being loaded. To update the data shown, refresh your browser page. Older data may be accessed using the data download tool below. The corrected time is the time after subtracting sensor-specific temporal offsets such as response time and residence time. A summary of flag descriptions is available on the [Quality Flags](#) page.

Date	Time (UTC)	Corrected Time (UTC)	Flags	Air Temperature (degrees_C)
Oct 18 2023	19:24:53.370	19:24:53.370	222121222222222222222222222222	23.20
Oct 18 2023	19:24:52.356	19:24:52.356	222121222222222222222222222222	23.40
Oct 18 2023	19:24:51.340	19:24:51.340	222121222222222222222222222222	23.40
Oct 18 2023	19:24:50.325	19:24:50.325	222121222222222222222222222222	23.30

[Feedback](#)



Parameter Details

	Parameter	Sensor	IOOS Category	Standard Name	Units
1	Details Plots Air Temperature	airtrh028928 : Air Temperature and Relative Humidity : Young 41382 relative humidity and temperature probe : 028928	Meteorology	XXXXXXXX	degrees
2	Details Plots Air Temperature	airtrh032565 : Air temperature and relative humidity : RM Young 41372 hygrometer : 032565	Meteorology	XXXXXXXX	degrees
3	Details Plots Air Temperature	nws101 : National Weather Service - 2 Minute Average : unknown : 2MINAVG	Meteorology	XXXXXXXX	degrees
4	Details Altitude	gnss101 : GNSS : unknown : unknown	Location	XXXXXXXX	m
5	Details Plots COG	gnss000428 : GNSS : unknown : unknown			
6	Details Plots COG	gnss102 : GNSS : unknown : unknown			
7	Details Conductivity	tsg000085 : TSG : unknown : unknown			
8	Details Plots Conductivity	tsg000198 : TSG : unknown : unknown			
9	Details Plots Conductivity	tsg001741 : TSG : unknown : unknown			
10	Details Conductivity	tsg002205 : Thermosalinograph - SBE21 : Sea-Bird SBE 21 Thermosalinograph : 2205	Other	XXXXXXXX	S/m
11	Details Conductivity	tsg003231 : Thermosalinograph - SBE21 : Sea-Bird SBE 21 Thermosalinograph : 3231	Other	XXXXXXXX	S/m
12	Details Plots Depth 12 kHz	echowell000101 : Echosounder : Knudsen Chirp 3260 : unknown	Bathymetry	XXXXXXXX	m
13	Details Depth 12 kHz	echowell000102 : Echosounder : unknown : unknown	Bathymetry	XXXXXXXX	m
14	Details Plots Depth 3.5 kHz	echowell000101 : Echosounder : Knudsen Chirp 3260 : unknown	Bathymetry	XXXXXXXX	m
15	Details Depth 3.5 kHz	echowell000102 : Echosounder : unknown : unknown	Bathymetry	XXXXXXXX	m
16	Details Plots Fluorescence	tsg001741 : Thermosalinograph - SBE21 : Sea-Bird SBE 21 Thermosalinograph : 1741	Biology	XXXXXXXX	V
17	Details Fluorescence	tsg002205 : Thermosalinograph - SBE21 : Sea-Bird SBE 21 Thermosalinograph : 2205	Biology	XXXXXXXX	V
18	Details Fluorescence	tsg003231 : Thermosalinograph - SBE21 : Sea-Bird SBE 21 Thermosalinograph : 3231	Biology	XXXXXXXX	V
19	Details Heading	gnss101 : GNSS : unknown : unknown	Location	XXXXXXXX	degrees
20	Details Plots Heading	gyro101 : Gyrocompass : Sperry Marine MK37 series gyrocompasses : unknown	Location	XXXXXXXX	degrees
21	Details Plots Infrared Irradiance	radiom000101 : Radiometer : Eppley Precision Infrared Radiometer Pyrgeometer : PIR35116F3; PSP35149F3	Meteorology	XXXXXXXX	W/m2
22	Details Infrared Irradiance	radiom000102 : Radiometer : Eppley Precision Infrared Radiometer Pyrgeometer : PIR30606F3; PSP30600F3	Meteorology	XXXXXXXX	W/m2
23	Details Plots Latitude	gnss000428 : GNSS : Furuno Navigator GP90 and GP90D Global Positioning System receivers : 4400-0428	Location	ALATZZ01	degrees

	Global Range	Local Range	Plot IDs										
Units	Min	Max	Min	Max	Plot Color	Plot Type	Sensor	Group	Combination	Enabled	Vessel	Processing Symbol	Table
degrees_C	-50.0	50.0	None	None	 	time series	A	A		True	Endeavor	air_temperature	metstn_stbd
degrees_C	-50.0	50.0	None	None	 	time series	A	A		True	Endeavor	air_temperature	sensor_float_7
degrees_C	-20.0	50.0	None	None	 	time series	A	A		True	Endeavor	air_temperature	sensor_float_6



Vendor/Manufacturer List

	Vendor/Manufacturer	Support Email	Support Phone	Website
1	Bell Aerospace			
2	Biospherical Instruments Inc.	support@biospherical.com	+1 619 686 1888	http://www.biospherical.com
3	Furuno Electric Co., Ltd.	GPSsupport@furuno.com	+1 360 834 9300	https://www.furunousa.com/en/
4	Gill Instruments Ltd.	murree.sims@gillinstruments.com	+44 (0)1590 613548	http://gillinstruments.com
5	Knudsen Engineering Ltd.	support@knudseneng.com	+1 613 267 1165 x 0	https://knudseneng.com
6	Kongsberg Maritime	km.support@kongsberg.com	+47 33 03 24 07	http://www.km.kongsberg.com
7	KROHNE, Inc.	info@krohne.com	+1 800 356 9464 x 1301	https://us.krohne.com
8	Oceaneering International, Inc.	cnavsupport@oceaneering.com	+1 713 329 4500	http://www.oceaneering.com
9	RMR Co.	info@rmrco.com	+1 631 374 2537	http://www.rmrco.com
10	R.M. Young Company	service@youngusa.com	+1 231 946 3980	http://www.youngusa.com
11	Sea-Bird Scientific (Satlantic)	techsupport@seabird.com	+1 902 492 4780	http://satlantic.com
12	Sea-Bird Scientific (Sea-Bird Electronics)	techsupport@seabird.com	+1 425 643 9866	http://www.seabird.com
13	Sea-Bird Scientific (WET Labs)	service@wetlabs.com	+1 541 929 5650 x 215	http://wetlabs.com
14	Simrad (Northstar)		+1 800 628 4487	https://www.simrad-yachting.com
15	Sperry Marine	service.us@sperry.ngc.com	+1 504 371 8365	http://www.sperrymarine.com
16	The Eppley Laboratory, Inc.	info@eppleylab.com	+1 401 847 1020	http://www.eppleylab.com/
17	Trimble Inc. (Ashtech)			https://www.trimble.com
18	Turner Designs	support@turnerdesigns.com	+1 877 316 8049 x 167	http://www.turnerdesigns.com
19	Vaisala	helpdesk@vaisala.com	+1 888 824 7252	http://www.vaisala.com



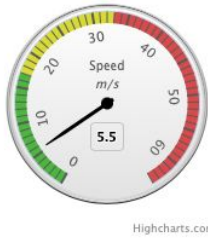
Meteorological Station

- Flowthrough
- Met Station**
- Navigation
- Combination
- Customizable

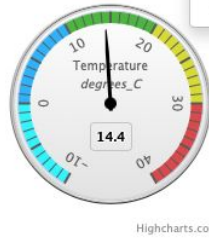
True Wind Direction



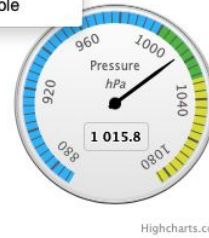
True Wind Speed



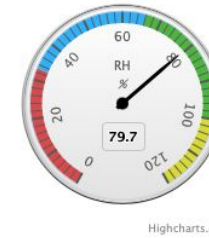
Air Temperature



Barometric Pressure



Relative Humidity



Plots

Time Interval to Plot: minutes

Plot Refresh Interval:

Plot A



◆ Air Temperature - NWS [nws101]
 ■ Air Temperature - Bow [airtrh028928]
 ▲ Air Temperature - Bow [airtrh032565]
 ▲ Sea Surface Temperature - NWS [nws101]

[Feedback](#)



Customizable Plots

Date Range

YYYY-MM-DD HH:MM:SS

Start Date 10/03/2023 23:23:58 UTC

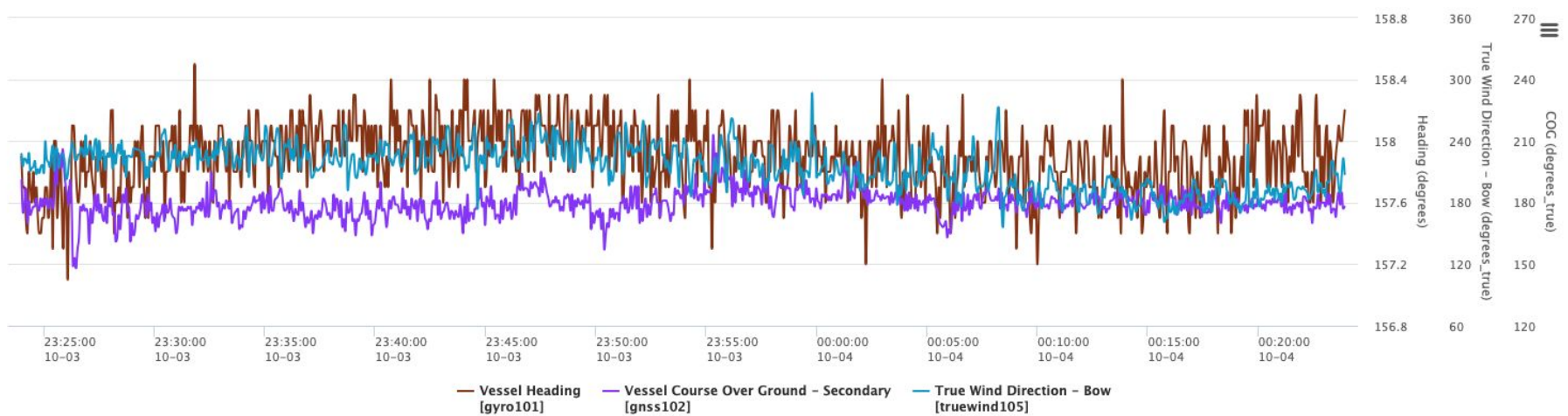
End Date 10/04/2023 00:23:58 UTC

[Update Plot](#) Loaded.

Parameters to Plot

- 1: Gyrocompass heading (degrees)
- 2: GNSS heading (degrees_true)
- 3: True Winds True Wind Direction - Bow (degrees_true)
- 4:

- Flowthrough
- Met Station
- Navigation
- Combination
- Customizable**



Highcharts.com



Data Visualization

- Time-Series Plots
- Flowthrough
- Meteorological
- Navigation
- Combination
- Custom

Data Access

- Data Structure
- Quality Flags
- Long-term Archive (R2R)
- Data Download
- Full Resolution
- Binned Data

Science Party Tools

- Cruise & Participants Lists
- Event Log

Sensor Maintenance

- Sensor Status
- Sensor Details & Logs
- Parameter Details
- Vendor/Manufacturer List
- Documents
- Status Alerts

[Feedback](#)

Quality Flags

Overview

Every data value provided by CORIOLIX is accompanied by a set of quality flags. These flags are a combination of automated and manually-assigned flags. A brief summary of the flags are provided below for quick reference. Complete details may be found in the CORIOLIX QA/QC Manual.

CORIOLIX quality flags are based on IOOS QARTOD quality control flag conventions. QARTOD is the Quality-Assurance/Quality Control of Real-Time Oceanographic Data, a set of manuals by the U.S. Integrated Ocean Observing System (IOOS). The CORIOLIX flag set includes some of the key flags defined in QARTOD, plus a few additional flags such as "Port Status Test". More information about QARTOD flags is available here:

U.S. Integrated Ocean Observing System, 2020. Manual for the Use of Real-Time Oceanographic Data Quality Control Flags, Version 1.2. 24 pp. <https://doi.org/10.25923/w8y6-d298>

Flag Set Format

The CORIOLIX quality flag set is a string of 30 digits. Each digit in the string may take values of 0 (not applicable), 1 (pass), 2 (unknown), 3 (suspect), 4 (fail), or 9 (missing). The position of the digit within the flag set indicates which flag test it represents.

An example quality flag set might be:

```
111231143222222222222222222222
```

The above quality flag set indicates that the the Gap Test (the leftmost digit, in position 0) passed (1), however the Spike Test (the digit in position 7) failed (4).

Flag Changes

QA/QC happens at various stages throughout the data lifecycle. As a consequence, quality flags may change throughout a cruise.

Combined Flags

During data processing, such as temporal binning, it is sometimes necessary to combine the flags from different data points. In the case of binning, quality flags representing the binned data are a composite of all of the flags from that bin. To generate the combined flag set, the largest value found in each flag position is used.

For example:

```
Flag Set 1 111144000022222222111100000000
```

```
Flag Set 2 121122000033222222114400000000
```

```
Flag Set 3 321122000033222222114400000000
```

```
Combined 321144000033222222114400000000
```

- Data Structure
- Quality Flags**
- Download : Binned Data
- Download : High Resolution Data
- Direct Access

Direct Access Overview

===== Web Services =====

REST API Access

ERDDAP Access

===== Software Clients =====

Python Tools

Matlab Tools

R Tools

ArcGIS Tools





Document List

▼ Category	▼ Title	▼ Version	▼ Author	▼ Date	▼ Cruise	▼ Sensor Model	▼ Sensor
vessel_icon	Endeavor icon						
image	Endeavor logo						
brochure	EPLAB PIR Brochure		The Eppley Laboratory, Inc.			Eppley Precision Infrared Radiometer Pyrgeometer	
application_note	Eppley PSP Application Note	2RA-A	Campbell Scientific, Inc.	Jan 01 2001		Eppley Precision Infrared Radiometer Pyrgeometer	
user_manual	Eppley PSP Instruction Manual	6/92	Campbell Scientific, Inc.	Jun 01 1992		Eppley Precision Infrared Radiometer Pyrgeometer	
instruction_sheet	Eppley PSP Instruction Sheet		The Eppley Laboratory, Inc.	May 01 2006		Eppley Precision Infrared Radiometer Pyrgeometer	
brochure	Gill Multi-Plate Radiation Shield Brochure	1/98	R.M. Young Company	Jan 01 1998		Young 41382 relative humidity and temperature probe	
brochure	Gill Multi-Plate Radiation Shield Brochure	1/98	R.M. Young Company	Jan 01 1998		RM Young 41372 hygrometer	
sensor_image	Gill Multi-Plate Radiation Shield Photo		R.M. Young Company			RM Young 41372 hygrometer	
sensor_image	Gill Multi-Plate Radiation Shield Photo		R.M. Young Company			Young 41382 relative humidity and temperature probe	
instruction_sheet	Gill Pressure Port Model 61002 Instruction Sheet	REV B01271	R.M. Young Company				baro014707
brochure	Gill WindSonic Brochure	Issue 6	Gill Instruments Ltd.	Jan 01 2018		Gill Windsonic anemometer	
drawing	Gill WindSonic Mounting Brackets		Gill Instruments Ltd.	Jan 01 2016		Gill Windsonic anemometer	
sensor_image	Gill WindSonic Photo		Gill Instruments Ltd.			Gill Windsonic anemometer	
user_manual	Gill WindSonic User Manual	Issue 25	Gill Instruments Ltd.	Feb 01 2017		Gill Windsonic anemometer	
brochure	Knudsen 320B/R Brochure		Knudsen Engineering Ltd.				echowell00
sensor_image	Knudsen 320B/R Photo		Knudsen Engineering Ltd.				echowell00
brochure	Model 05103 Brochure	11/05	R.M. Young Company	Nov 01 2005		RM Young 05103 Wind Monitor 10A anemometer	
sensor_image	Model 05103 Photo	11/05	R.M. Young Company	Nov 01 2005		RM Young 05103 Wind Monitor 10A anemometer	
instruction_sheet	Model 05103 Wind Monitor Instructions	M111215	R.M. Young Company			RM Young 05103 Wind Monitor 10A anemometer	
instruction_sheet	Model 41003 Instruction Sheet	REV C01211	R.M. Young Company			RM Young 41372 hygrometer	
instruction_sheet	Model 41003 Instruction Sheet	REV C01211	R.M. Young Company			Young 41382 relative humidity and temperature probe	
instruction_sheet	Model 41372/43372 Instructions	REV 04-00	R.M. Young Company	Apr 01 2000		RM Young 41372 hygrometer	
instruction_sheet	Model 41372/43372 Instructions	REV 04-00	R.M. Young Company	Apr 01 2000		Young 41382 relative humidity and temperature probe	



Vocabularies & Codes

This site utilizes a number of standard vocabularies and code lists.

Device Types (General Sensor Class)

Vocabulary Name	Device Type
Vocabulary URL	https://www.rvdata.us/about/technical-details/vocabularies/device-type
Vocabulary Year	2021
Host Name	The Rolling Deck to Repository (R2R) program
Host URL	https://www.rvdata.us

Devices (Sensor Models)

Vocabulary Name	SeaVoX Device Catalogue (L22)
Vocabulary URL	http://vocab.nerc.ac.uk/collection/L22/current/
Vocabulary Year	2021
Maintainer	SeaDataNet and MarineXML Vocabulary Content Governance Group
Host Name	The NERC Vocabulary Server (NVS), National Oceanography Centre - British Oceanographic Data Centre (BODC)
Host URL	https://vocab.nerc.ac.uk

Parameters

Vocabulary Name	BODC Parameter Usage Vocabulary (P01)
Vocabulary URL	http://vocab.nerc.ac.uk/collection/P01/current/
Vocabulary Year	2021
Host Name	The NERC Vocabulary Server (NVS), National Oceanography Centre - British Oceanographic Data Centre (BODC)
Host URL	https://vocab.nerc.ac.uk

Sensor Manufacturers

Vocabulary Name	SenseOcean Device Developers and Manufacturers Vocabulary (L35)
Vocabulary URL	http://vocab.nerc.ac.uk/collection/L35/current/
Vocabulary Year	2022
Host Name	The NERC Vocabulary Server (NVS), National Oceanography Centre - British Oceanographic Data Centre (BODC)
Host URL	https://vocab.nerc.ac.uk

Event Log Processes



Cruise List

[Cruise List](#)
[Add New Cruise](#)
[Cruise Event Log](#)

The information presented here was extracted from the [Marine Facilities Planner](#). To update cruise information, or add a new cruise, please visit the MFP.

 This button queries the Marine Facilities Planner for the latest cruise information.

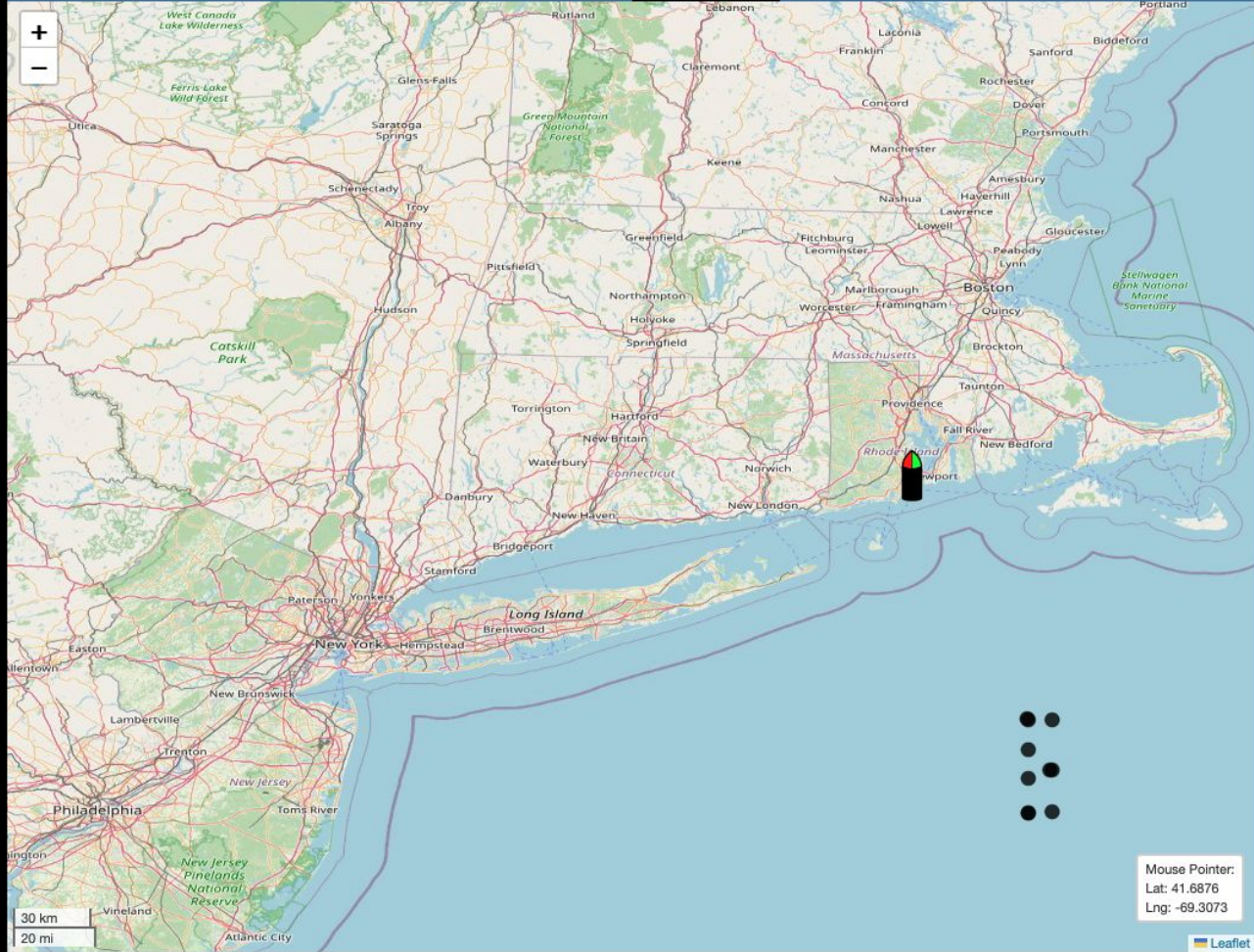
 WARNING: This button adds a cruise to CORIOLIX only. It does not add a new cruise to the Marine Facilities Planner.

Cruise	Ports	Personnel	Links
EN712_Taylor Gulf Penobscot Hg			
Nov. 2, 2023, noon Nov. 7, 2023, 1 p.m.	Narragansett, Rhode Island, US Narragansett, Rhode Island, US	Vivien Taylor (<i>Chief Sci.</i>)	Cruise Plan Participants Stations Cruise Data Event Log
EN711_Smith Rhode Island Teachers at S...			
Oct. 13, 2023, 4 p.m. Oct. 17, 2023, midnight	Narragansett, Rhode Island, US Narragansett, Rhode Island, US	David Smith (<i>Chief Sci.</i>)	Cruise Plan Participants Stations Cruise Data Event Log
EN709_Foukal Transport and fate of the Labrador Coastal Current			
Sept. 3, 2023, noon Sept. 28, 2023, 8 p.m.	Woods Hole, Massachusetts, US Narragansett, Rhode Island, US	Nicholas Foukal (<i>Chief Sci.</i>)	Cruise Plan Participants Stations Cruise Data Event Log
EN707_Taylor Gulf Penobscot Hg			
Aug. 18, 2023, noon Aug. 24, 2023, noon	Narragansett, Rhode Island, US Narragansett, Rhode Island, US	Vivien Taylor (<i>Chief Sci.</i>)	Cruise Plan Participants Stations Cruise Data Event Log
EN706_Sosik LTER: Linking pelagic community structure with ecosystem dynamics, Northeast US shelf			



RV Endeavor CORIOLIX

- Home
- Login
- Cruise Tools
- Cruise Chart
- Sensor Plots
- Status
- Sensors
- Data
- Documents
- Settings
- My Account
- About



Stations & Assets

The list of stations and assets presented in this sidebar is generated by querying for stations and assets using the bounding box of the map view. Below is a list of assets.

 stations

Mouse Pointer:
Lat: 41.6876
Lng: -69.3073



Data Visualization

Data Access

Science Party Tools

Sensor Maintenance

Time-Series Plots

Data Structure

Cruise & Participants Lists

Sensor Status

Feedback



Alerts List

Alert Definition: An alert is a message delivered in real-time each time the alert condition is either met (becomes true) or stops being met (becomes false).

Users may subscribe to existing alerts or create their own custom alerts. A list of available alerts follows below. Alerts are delivered using the method(s) chosen in your user account p

[Create New Value Alert](#)
[Create New Temporal Alert](#)
[Create New Proximity Alert](#)

[Subscribe to Selected Alerts](#)

Alert status: ■ ok ■ mild ■ medium ■ severe

Value Alerts

Select all user alerts

<input type="checkbox"/> Depth is less than 5 meters	Edit	■
<input type="checkbox"/> Endeavor Air Temp Below Zero	Edit	■
<input type="checkbox"/> Risk of Freezing	Edit	■

Proximity Alerts

Select all proximity alerts

<input checked="" type="checkbox"/> At port in Narragansett, Rhode Island.	Edit	■
<input type="checkbox"/> At port in Newport, Oregon.	Edit	■
<input type="checkbox"/> At port in Seward, Alaska.	Edit	■
<input type="checkbox"/> Within 4 km of mooring CE01ISSP.	Edit	■
<input type="checkbox"/> Within 4 km of mooring CE02SHBP.	Edit	■
<input type="checkbox"/> Within 4 km of station MB30.	Edit	■
<input type="checkbox"/> Within 4 km of station MB40.	Edit	■
<input type="checkbox"/> Within 4 km of station NH03.	Edit	■
<input type="checkbox"/> Within 4 km of station NH05.	Edit	■
<input type="checkbox"/> Within 4 km of station NH10.	Edit	■
<input type="checkbox"/> Within 4 km of station NH15.	Edit	■

Temporal Alerts

Select all temporal alerts

Sensor Alerts

Select all sensor alerts

<input type="checkbox"/> Air temperature and relative humidity 032565 Bow Met Stn data last collected more than 15 minutes ago.	Edit	■
<input type="checkbox"/> Air Temperature and Relative Humidity 289828 Above Pilothouse data last collected more than 15 minutes ago.	Edit	■
<input type="checkbox"/> Anemometer unknown Bow data last collected more than 15 minutes ago.	Edit	■

jasmine.nahorniak@oregonstate.edu

[My Profile](#)

[My Alerts](#)

[Change My Password](#)

[Logout](#)



Sensor Details & Logs

[Add New](#)

								▼ Sensor Name ▲	▼ Class ▲	▼ Type ▲	▼ Model ▲	
1	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Air temperature and relative humidity	Atmospheric	Met Station	Young 41382 relative humidity and temperature probe
2	Details	Plots	Data	Edit	Duplicate	Log	ChangelD	Delete	Air temperature and relative humidity	Atmospheric	Met Station	RM Young 41372 hygrometer
3	Details	Plots	Data	Edit	Duplicate	Log	ChangelD	Delete	Air Temperature and Relative Humidity	Atmospheric	Met Station	Young 41382 relative humidity and temperature probe
4	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Altimeter psa-916	OverTheSide	Altimeter	unknown
5	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Altimeter psa-916	OverTheSide	Altimeter	unknown
6	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Altimeter psa-916	OverTheSide	Altimeter	unknown
7	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Altimeter psa-916	OverTheSide	Altimeter	unknown
8	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	unknown
9	Details		Data	Edit	Duplicate	Log	ChangelD	Delete				
10	Details		Data	Edit	Duplicate	Log	ChangelD	Delete				
11	Details		Data	Edit	Duplicate	Log	ChangelD	Delete				
12	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	WindSonic
13	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	unknown
14	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	Gill Windsonic anemometer
15	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	RM Young 05103 Wind Monitor 10A anemometer
16	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	unknown
17	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	unknown
18	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	WindSonic
19	Details		Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer	Atmospheric	Anemometer	WindSonic
20	Details	Plots	Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer Windsonic	Atmospheric	Anemometer	Gill Windsonic anemometer
21	Details	Plots	Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer Windsonic	Atmospheric	Anemometer	Gill Windsonic anemometer
22	Details	Plots	Data	Edit	Duplicate	Log	ChangelD	Delete	Anemometer Windsonic	Atmospheric	Anemometer	Gill Windsonic anemometer
23	Details	Plots	Data	Edit	Duplicate	Log	ChangelD	Delete	barometer	Atmospheric	Barometer	Barometer
24	Details	Plots	Data	Edit	Duplicate	Log	ChangelD	Delete	barometer	Atmospheric	Barometer	Barometer

[Details](#)
[Plots](#)
[Data](#)
[Edit](#)
[Duplicate](#)
[Log](#)
[ChangelD](#)
[Delete](#)

[Feedback](#)



Sensor Specifications

Air temperature and relative humidity

[Overview](#) | [Native Data Feed](#) | [Native Data Format](#) | [Data Processing](#) | [Parameters](#) |

[Operating Limits](#) | [Documents](#) | [Ownership](#) |

[Current Physical Status](#) | [Installation Location](#) | [Data Rates](#) |

[Data Storage & Access](#) | [Time Source](#) | [Calibration & Maintenance](#) | [Calibration Files](#) |

<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	
Overview	
* Sensor ID:	airth032565
* Sensor Name:	<input type="text" value="Air temperature and relative humidity"/> Example: <i>Thermometer - Hull</i> This text will appear in the sensor drop-down list.
* Class:	Atmospheric (anemometer, barometer, ...) ▾
* Type:	Met Station ▾
* Prefix:	hygom: Hygrometer ▾
* Vendor:	R.M. Young Company ▾
* Model:	<input type="text" value="RM Young 41372 hygrometer"/> ▾ Tip: Type one of more characters to quickly navigate the dropdown list.
* Serial Number:	<input type="text" value="032565"/>
* Description:	<input type="text" value="RM Young air temp and relative humidity sensor"/>
Native Data Feed	
Signal type:	Analog ▾
Comm type:	----- ▾
Serial Details:	Baud Rate: ----- ▾ Parity: ----- ▾



Sensor Log

Air temperature and relative humidity (S/N 032565)

 Datetime:

 Activity:

 Details:

sensor specs update | Clarke, Bonny | 2023-10-12 12:58 UTC

location_text changed from [Bow Met Stn] to [RM Young]

sensor specs update | Clarke, Bonny | 2023-10-12 12:58 UTC

current_status changed from [in use] to [not in use]

sensor specs update | Clarke, Bonny | 2023-10-12 12:58 UTC

current_location changed from [installed] to [repair/calibration]

sensor specs update | Nahorniak, Jasmine | 2023-08-01 22:20 UTC

time_source changed from [vessel_time_server] to []

sensor specs update | Nahorniak, Jasmine | 2023-08-01 22:20 UTC

model changed from [] to [RM Young 41372 hygrometer]

sensor specs update | Nahorniak, Jasmine | 2023-08-01 22:20 UTC

sensor_prefix changed from [] to [metstn]

sensor specs update | Nahorniak, Jasmine | 2023-06-20 15:42 UTC

transmit_port changed from [None] to [17011]

sensor specs update | Nahorniak, Jasmine | 2023-06-20 15:42 UTC

transmit_ip changed from [] to [192.167.0.255]

sensor specs update | Nahorniak, Jasmine | 2023-06-20 15:42 UTC

enabled changed from [False] to [True]

new sensor | Clarke, Bonny | 2023-05-23 18:48 UTC

Initial submission of sensor metadata.

Sensors

Air temperature and relative humidity (S/N 035269)

Air temperature and relative humidity (S/N 032565)

Air Temperature and Relative Humidity (S/N 028928)

Altimeter psa-916 (S/N 50483)

Altimeter psa-916 (S/N 1017)

Altimeter psa-916 (S/N 1017)

Altimeter psa-916 (S/N 50483)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer (S/N unknown)

Anemometer Windsonic (S/N 08460054)

Anemometer Windsonic (S/N 17040018)

Anemometer Windsonic (S/N 1520099)

barometer (S/N 14707)

barometer (S/N 1729)

Central Pylon SBE32-24 (S/N 175)

Central Pylon SBE32-24 (S/N 48)

Central Pylon SBE32-24 (S/N 48)

Conductivity sbe04-01 (S/N sbe04-01)

Conductivity sbe04-01/0 (S/N sbe04-01/0)

Conductivity sbe04-02 (S/N 1446)

Conductivity sbe04-02-0 (S/N 864)

Conductivity sbe04-02-0 (S/N 618)

Conductivity sbe04-199 (S/N 199)

Conductivity sbe04c (S/N 2469)

Conductivity sbe04c (S/N 2822)

Conductivity sbe04c (S/N 1749)

Conductivity sbe04c (S/N 3220)

Conductivity sbe04c (S/N 2459)

Deck unit SBE 11 (S/N 427)

Deck unit SBE 11 (S/N 426)

Deck unit SBE 11 (S/N 557)

Echosounder (S/N unknown)

Echosounder (S/N unknown)

Fluorescence flrtd (S/N 492)



CORIOLIX Data Settings

NOTE: These settings apply to the CORIOLIX instances on both the ship and shore.

Edit	
General	
Message to Display	
Message Severity	1
Data Logging	
Data Privacy Level	public
Send Real-time Data from Ship to Shore	True
Logging Mode	underway
Custom Bin Interval	600 seconds
Data Storage Duration	
Raw Flat Files (Local Archive) <i>Recommended: 180 days or longer</i>	1000 days
Backup Raw Files (Short-Term) <i>Recommended: 30 - 45 days</i>	5 days
Online Data (Fast Access) <i>Recommended: 30 - 45 days</i>	30 days
Online Data (Slower Access) <i>Recommended: 180 days</i>	1000 days
Binned Data <i>Recommended: 90 days</i>	365 days



Data Visualization

Time-Series Plots
 Flowthrough
 Meteorological
 Navigation
 Combination

Data Access

Data Structure
 Quality Flags
 Long-term Archive (R2R)
 Data Download
 Full Resolution

Science Party Tools

Cruise & Participants Lists
 Event Log

Sensor Maintenance

Sensor Status
 Sensor Details & Logs
 Parameter Details
 Vendor/Manufacturer List
 Documents

[Feedback](#)



CORIOLIX System Management

- [Flowthrough Configuration](#)
- [CTD Package Configuration](#)
- [Data Management](#)
- [Account Management](#)
- [System Management](#)

CORIOLIX management options are available to administrative users only.
 NOTE: These actions ONLY affect the local CORIOLIX instance (i.e. either ship or shore, not both).

[Refresh CORIOLIX](#)

Typical refresh runtime: 60 seconds.

It is recommended that CORIOLIX be refreshed when any of the following has occurred:

- sensor added, edited, removed, enabled or disabled
- parameter added, edited, or removed
- database table added, modified, or removed

A refresh will perform the following tasks:

- Step 1: update sensor alert configurations
- Step 2: update the ERDDAP datasets
- Step 3: update the pgagent jobs (rolling tables, alerts)
- Step 4: update table triggers (rolling, lastobs)
- Step 5: update the sensor status webpage
- Step 6: update and restart the central OpenRVDAS processes
- Step 7: update and restart the aer OpenRVDAS processes
- Step 8: update and restart the per OpenRVDAS processes
- Step 9: update and restart the btr OpenRVDAS processes
- Step 10: update and restart ERDDAP
- Step 11: restart the binning



Data Visualization

[Time-Series Plots](#)
[Flowthrough](#)
[Meteorological](#)
[Navigation](#)
[Combination](#)

Data Access

[Data Structure](#)
[Quality Flags](#)
[Long-term Archive \(R2R\)](#)
[Data Download](#)
[Full Resolution](#)

Science Party Tools

[Cruise & Participants Lists](#)
[Event Log](#)

Sensor Maintenance

[Sensor Status](#)
[Sensor Details & Logs](#)
[Parameter Details](#)
[Vendor/Manufacturer List](#)
[Documents](#)

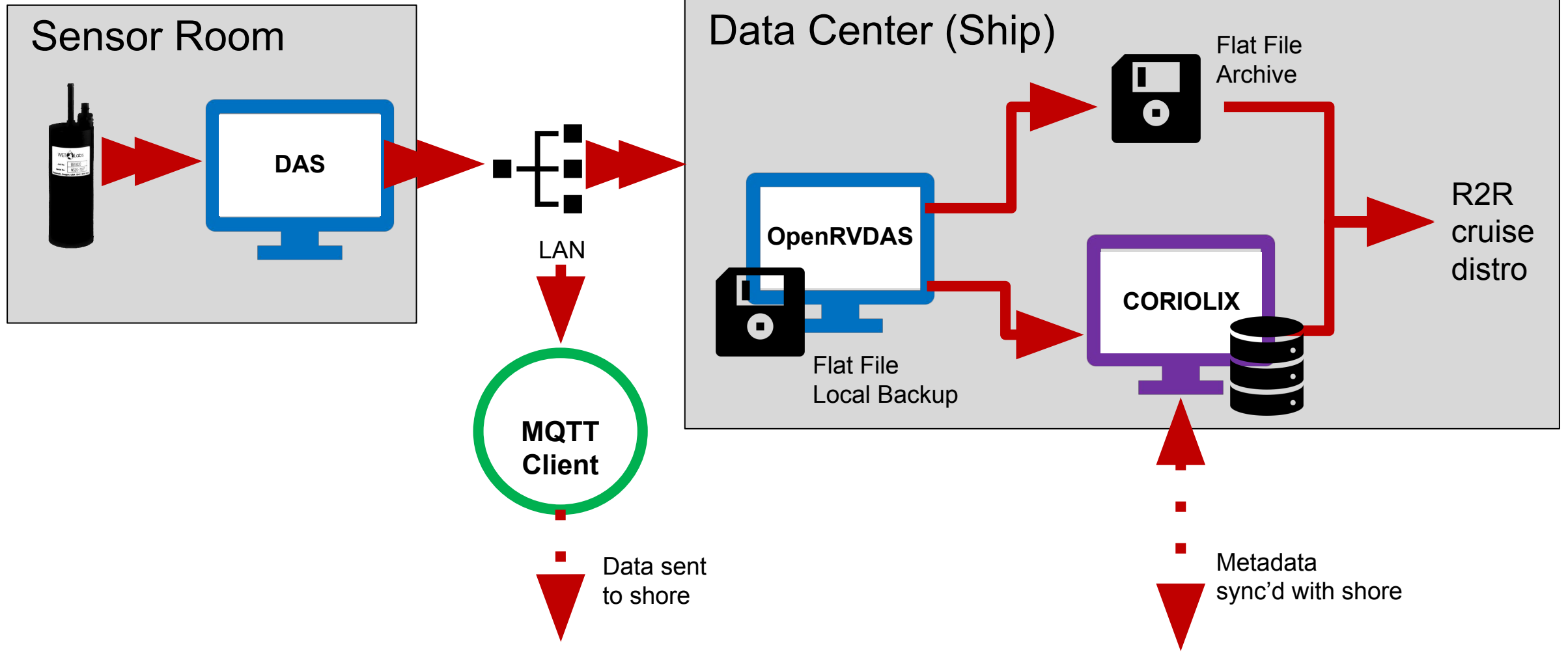
[Feedback](#)



End of Live Demo



Shipside Overview





OpenRVDAS Role

OpenRVDAS Functions

Example

Reads Reads UDP data from port X

Writes Saves a backup of the raw data

Transforms Prepends timestamp and sensor ID

Writes Saves annotated data for R2R

Parses Parses data message using regex

Transforms Calibrates and processes the data
Calculates corrected timestamp
Calculates flags

Writes Inserts data into the CORIOLIX database

Distributes Broadcasts processed data via UDP

1472

2022-12-01T00:00:02.167231Z fluoro001640 1472

`['^(?P<chl_raw>\d+)$']`
 $(1472 - 86) * 0.0194 = 26.89 \text{ ug/L}$
 2022-12-01T00:00:00.567231Z
 222124222222222222222222222222222222

NOTE: *The OpenRVDAS configuration files are auto-generated from information in CORIOLIX (sensor IDs, UDP ports, etc.).*

CORIOLIX : Public URLs



CORIOLIX R/V Endeavor (shore-side)
<https://coriolix.ceoas.oregonstate.edu/endeavor/>



CORIOLIX R/V Point Sur (shore-side)
<https://coriolix.ceoas.oregonstate.edu/ptsur/>



CORIOLIX R/V Sikuliaq (shore-side)
<https://coriolix.sikuliaq.alaska.edu>



Vessel Support Plans for 2023 & 2024



Vessel	Support Type	Funding
R/V Taani	New installation	NSF (RCRV)
R/V Savannah	New installation	NSF (ARF Special Service)
NOAA testbed	New installation	NOAA/CIMERS
R/V Sikuliaq	Enhanced support	NSF (ARF Special Service)
R/V Endeavor	Continued support	NSF (RCRV)
R/V Point Sur	Continued support	NSF (RCRV)
R/V Gilbert R. Mason	Content development	NSF (RCRV)
R/V Narragansett Dawn	Content development	NSF (RCRV)



Feedback

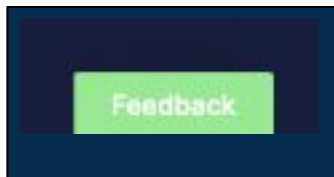
Suggestions for improvements and new features are always welcome!

Feedback Options

A) Email

r-desc@lists.oregonstate.edu

B) “Feedback” button found on every CORIOLIX page



R-DESC alumni

Katie Watkins-Brandt

Datapresence Student Employees

Shivani Wanjara
Sean Marty
Matthew Zakrevsky
Jack Stevenson
Ian Black
Anna Hughes
Shobana Chandrasekaran
Kyle Buffington
Mina M. Ho

Datapresence Student partners

Hannah Hadi

Datapresence Contractors

Steve Foley
Webb Pinner
David Pablo Cohn

Vessels & Crew

Oceanus
Endeavor
Point Sur
Sikuliaq

OSU

Kyle Cole (SMILE)
Renee O'Neill (SMILE)
Adam Talamantes (SMILE)
Tracy Crews (Oregon Sea Grant)



OSU CEOAS

OSU Ship Operations
Research Computing Support
Reimers Lab
Angel White
Maria Kavanaugh
Martechs:
Andrew Woogen
Jonah Winters
Kristin Beem
Brandon D'Andrea
Alex Wick
Emily Shimada
Kate Kouba
Croy Carlin
Michael Tepper-Rasmussen
Sam Richards
Tyler Peterson

Major Facilities

OOI (OSU)
TrustedCI

R2R/SAMOS

Suzanne Carbotte (R2R)
Dru Clark (R2R)
Rebecca (Becca) Hudak (R2R)
Suzanne O'Hara (R2R)
Chris Olson (Scripps)
Karen Stocks (R2R)
Laura Stolp (R2R)
Shawn Smith (SAMOS)
Kristen Briggs (SAMOS)
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William Fanning (ECOC URI, RCRV SOC)
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Derek Sutcliffe (URI ISC)
John Meyer (HSN)
Kevin Walsh (HSN)

Standard Vocabularies

Gwen Moncoiffe (NERC)
Beiko Maas (MFP)
Alice Doyle (UNOLS)

CORIOLIX Acknowledgements

Regional Class Research Vessel Program- Oregon State University

October 24, 2023



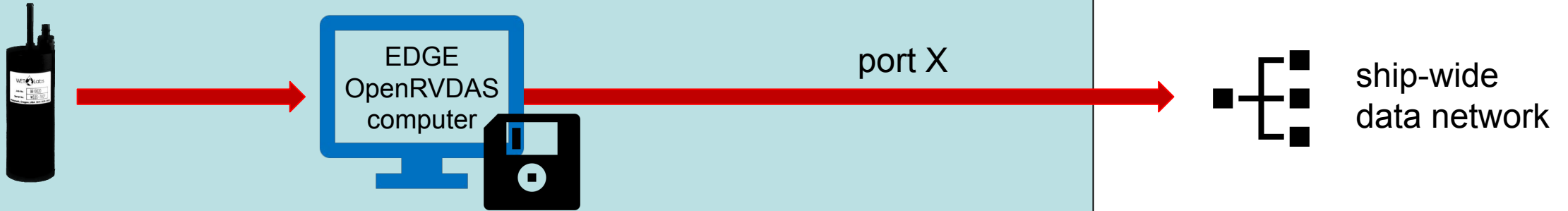


Extra Slides



First Stop: Edge OpenRVDAS

Bow Thruster Room



Sensor

Outputs serial data

Edge OpenRVDAS

Handles numerous sensors local to that space

Reads serial data

Prepends sensor ID

Prepends timestamp

Saves local copy as emergency backup

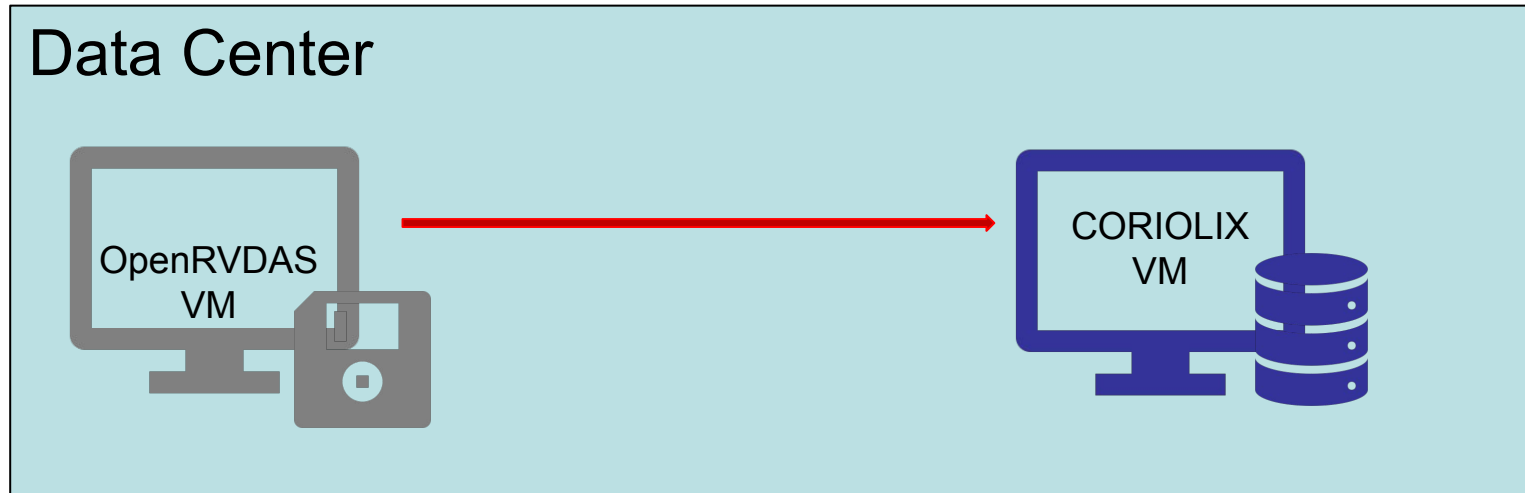
Outputs UDP data to port X

1472

2022-12-01T00:00:02.167231Z fluoro001640 1472

NOTE:

The OpenRVDAS configuration files are auto-generated from information in CORIOLIX (sensor IDs, COM ports, etc.).



CORIOPIX VM

Hosts CORIOPIX website

Stores data in database tables

Stores sensor metadata

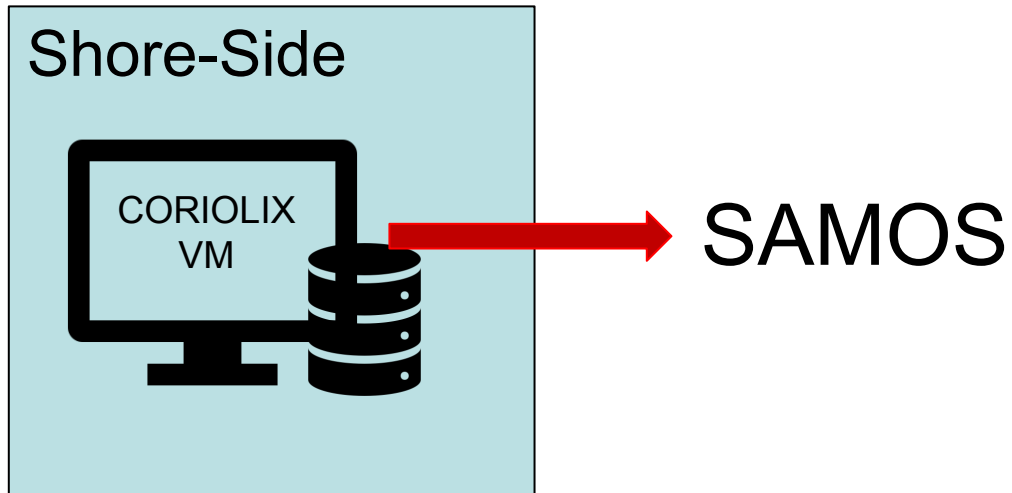
Bins data into one-minute averages

Provides data access

Delivers alerts

	datetime_center [PK] timestamp with time zone	latitude double precision	longitude double precision	parameter_01 jsonb
1	2022-12-01 05:59:00+00	44.62614365	-124.050316866667	{\"a\": [0.0009888022659370374, 0.000099...
2	2022-12-01 05:58:00+00	44.62613628333333	-124.050308816667	{\"a\": [0.0009744486132731237, 0.000099...
3	2022-12-01 05:57:00+00	44.62614316666667	-124.0503171	{\"a\": [0.0009814484021433817, 0.000084...
4	2022-12-01 05:56:00+00	44.62614181666667	-124.050315016667	{\"a\": [0.0009903275117609076, 0.000084...
5	2022-12-01 05:55:00+00	44.62613585	-124.050313566667	{\"a\": [0.0010002020845502757, 0.000099...

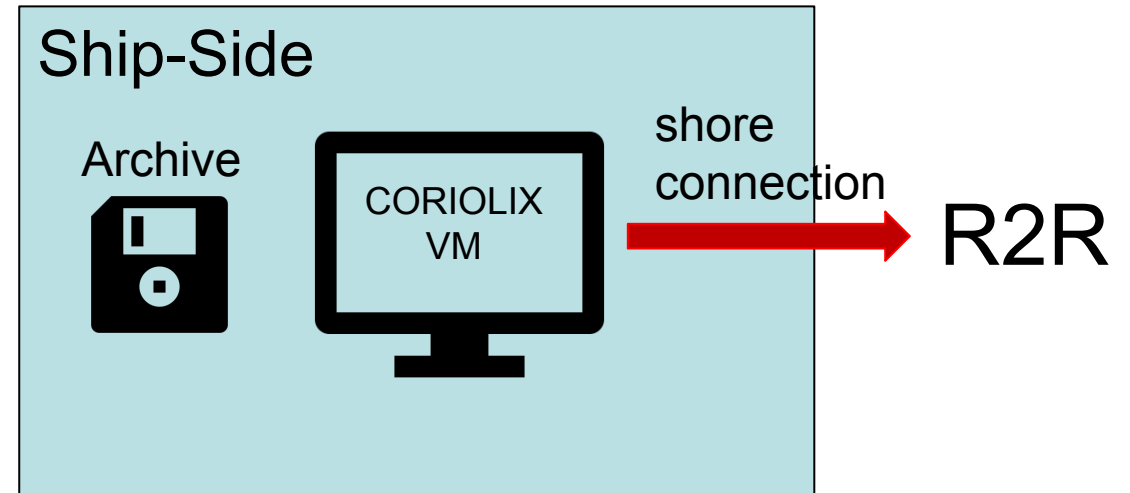
Long-Term Archives



Shore-Side CORIOLIX VM

Daily, delivers a custom daily data file to SAMOS.

Files are auto-generated from a subset of one-minute binned data.



Ship-Side CORIOLIX VM

At end of cruise, packages raw files from archive and delivers to R2R with metadata (over shore connection). Large datasets are delivered separately.