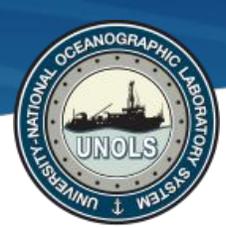




# RCRV Program: CORIOLIX / Datapresence

2020 UNOLS Meeting Webinar Series: Instrumentation & Data Facilities  
Monday October 19<sup>th</sup>, 2020





# Introduction

This presentation will provide background on the data presence components of the RCRV project.

I intend to convey, with examples from the *Instrumentation & Data Facilities* problem space, that the RCRV project is:

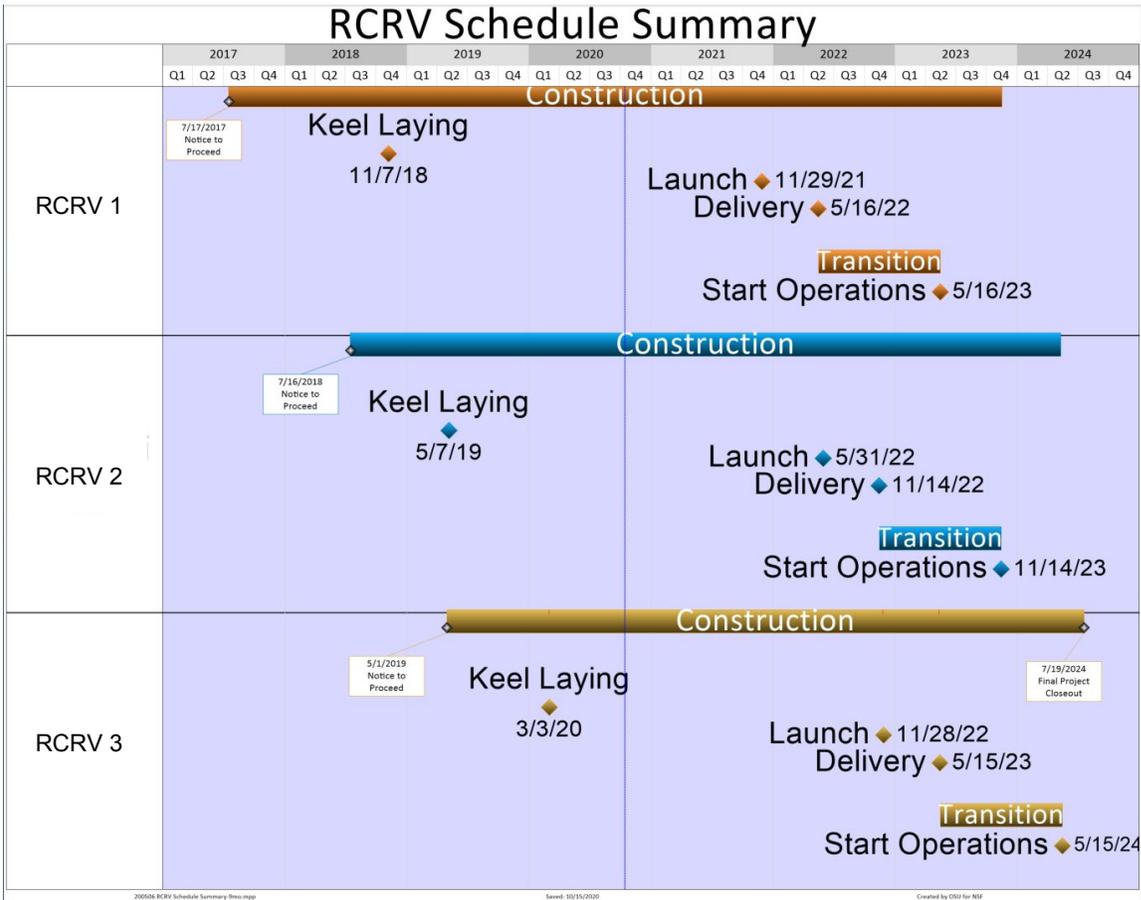
1. **Delivering** – a robust research platform with a comprehensive suite of instrumentation
2. **Forward looking** – in key areas like remote access and participation, & shoreside support
3. **Working toward consistent outcomes** – through engagement/alignment with:
  - ARF support partners (R2R, SAMOS, MAC, HSN, UHDAS)
  - Regional data providers & operators of research infrastructure (OOI)
  - others (NASA, NOAA)
4. **Continuously improving** – working with our Operating Institution partners
  - live deployments: *Oceanus*, *Endeavor*, and *Point Sur*





# The Regional Class Research Vessel Project

### RCRV Schedule Summary



RCRV Transition to Ops Coordinator, Daryl Swensen will provide a thorough update on the RCRV project on 11/4/20

**Project Sponsor:** NSF

**Project Management:** OSU

**Design:** Glostén

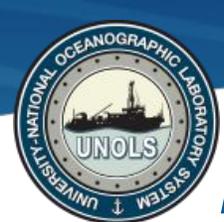
**Shipyard:** Gulf Island Shipyard, Houma, LA

**OI1:** Oregon State University

**OI2:** East Coast Oceanographic Consortium

**OI3:** Gulf Coast Oceanographic Consortium





# RCRV – Datapresence & Engineering Support Center Staff

*Your design, construction, transition, and operations support team*



**Katie Watkins-Brandt**  
Sensor Systems Engineer

**Joined the project: 2011**

Developed the underway sensor suite design, specification & procurement  
Excels at instrument configuration, installation, maintenance, & procedures



**Jasmine Nahorniak**  
Assistant Datapresence Systems Engineer

**Joined the project: 2015**

Lead CORIOLIX developer  
Wide ranging skill set - from data management to UI design



**Chris Romsos**      Datapresence  
Systems Engineer

**Joined the project: 2015**

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





# Our Mission

**Primary Responsibility:** To develop and deliver data presence capabilities for RCRV

**Datapresence Defined:** The suite of technologies that enable remote data interactions

- **DATA PRESENCE** = **Data** (shipboard observations) + **Presence** (remote participation)

**Datapresence Provides:**

- *Mitigation of resource limits* – remote participation mitigates berthing & computing limits

**CORIOX Provides:**

- *Planning tools* - inherit from UNOLS pre-cruise planner, provide route & waypoint planning
- *Situational awareness (from ship & shore)* - view current status of instrumentation, subscribe to receive conditional alerts, view cruise data in geospatial context
- *Streamlined workflows* - integrate event logging, provide both data services & UI access
- *Outreach pipeline* - provide contextual numeric information to the classroom
- *Maintenance & Management* - sensor history, notification & tracking, data quality



# Supporting Technology: Instrumentation

Present in the ARF & New RCRV instrumentation

## Flowthrough

- TSG (SBE-45 w/SBE-38 remote temp.)
- Transmissometer (C-Star)
- Fluorometer (WETStar)
- pCO<sub>2</sub> (Apollo SciTech AS-P3)
- Dissolved Oxygen (SBE-43)
- Nitrate (SUNA V2)

## MET/Atmospheric

- Weather Stations (PTU300 & WXT 536)
- 2D Anemometers x2
- Pyranometers x2 (SMP-21)
- Pyrgeometers x2 (SGR-4)
- PAR x2 (QSR and QCR)
- Rain Gauge (50202)
- Atmospheric Gases (G2401)

## CTD

- CTD Profiler (911plus with dual temperature & conductivity cells)
- Fluorometer (ECO-FL-RTD)
- pH (SBE-18)
- Dissolved Oxygen (SBE-43)
- PAR x2 (QSP and QCP)
- Altimeter (VA-500)
- Hyperspectral Radiometer (HyperOCR)
- Custom CTD Frame

## Acoustic & Other

- Wave Radar (WaMos)
- Fisheries Sonar Suite (EK-80)
- 12kHz x2 (Airmar/Knudsen)
- ADCP- 75kHz (Sentinel V)
- ADCP- 300kHz (Ocean Surveyor)
- Shallow Multibeam (EM2040)
- Deep Multibeam (EM304)
- Hydrophone x4 (DT-513F)
- Sound Velocity Probe (SVP-70)



# Supporting Technology: Satellite Communications

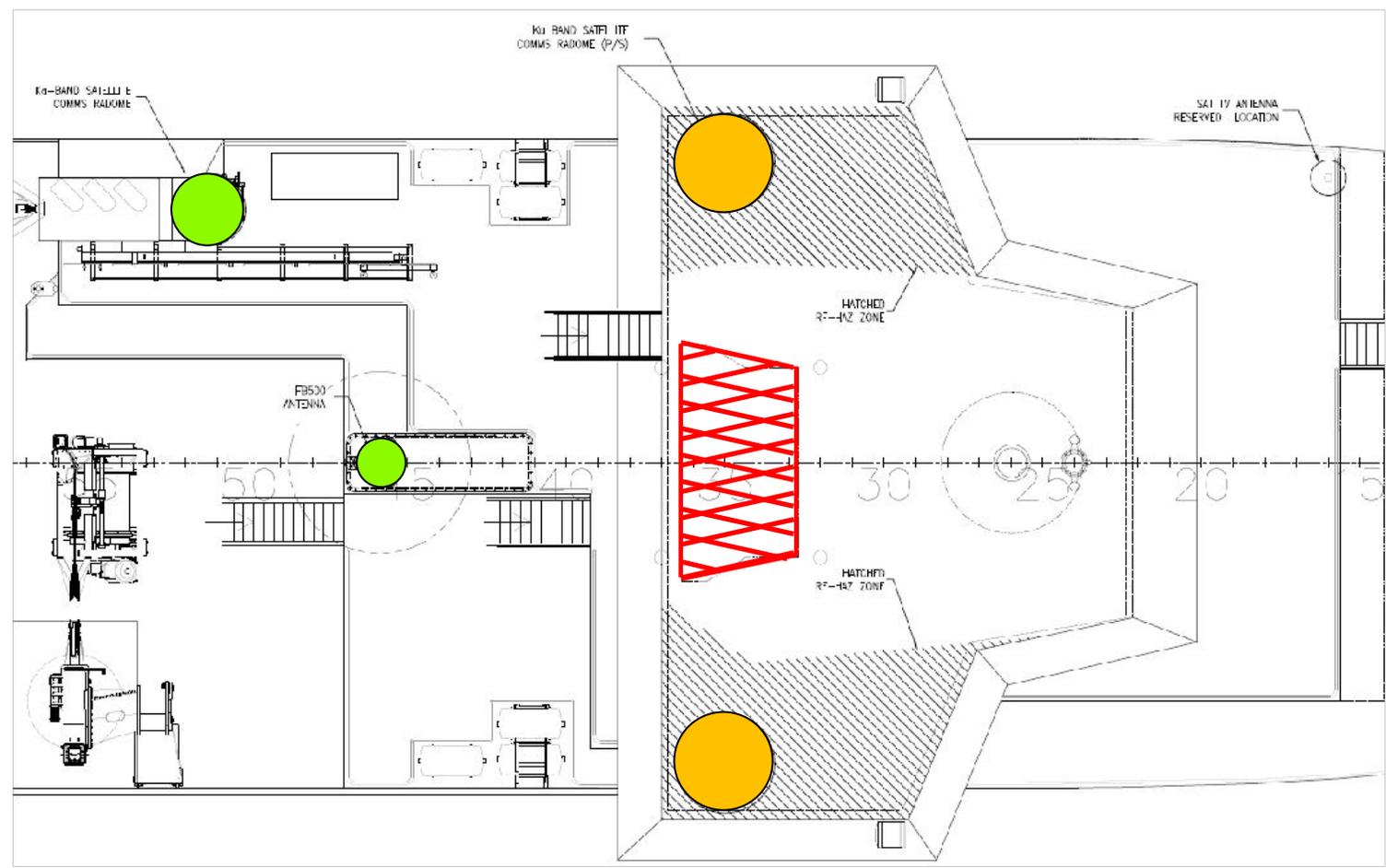


Figure 2 - Plan view showing antenna locations

## Primary System (color: gold)

2 antenna system (port & starboard)

- Mitigates mast blockage
- 1.5m dual band Ku/Ka antennas
- Provides range of power & service options

## Secondary System (color: green)

1 antenna system (+ 1 mgmt. antenna)

- 1m Ka band (+ FBB500)

2 standalone SatCom systems provide a range of options for application specific or failover config. requirements.

# Datapresence Technology Integration

**CORIOPIX: Cruise Observations Real-time Interface & Open Live Information eXchange**

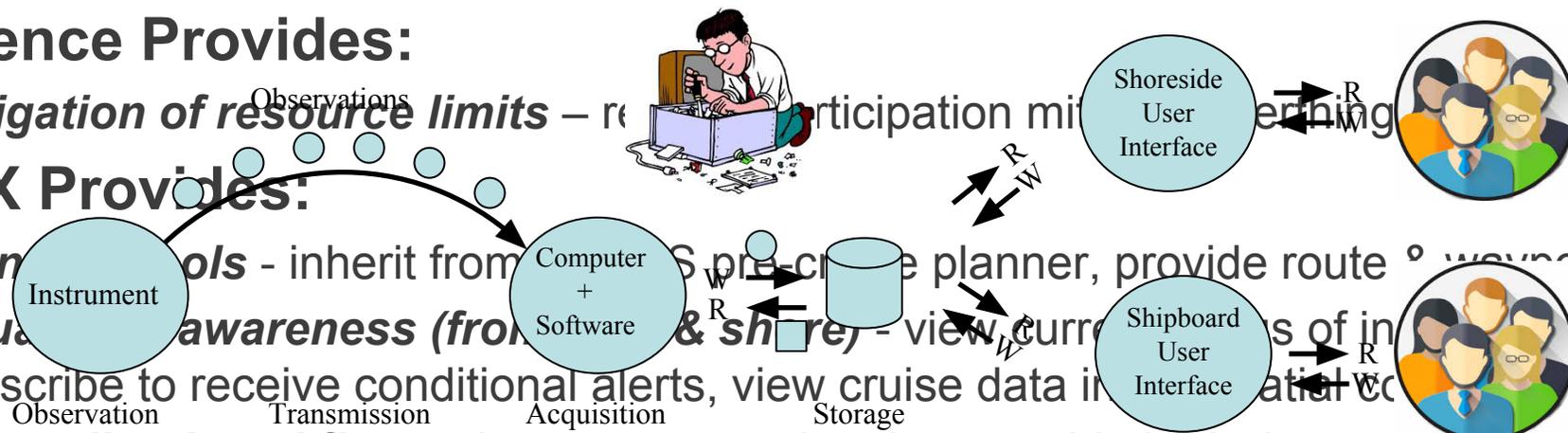
A software implementation for datapresence.

## Datapresence Provides:

- **Mitigation of resource limits** - reduce participation limits

## CORIOPIX Provides:

- **Plan tools** - inherit from **OpenRVDAS** pre-cruise planner, provide route & waypoint planning
- **Situational awareness (from ship & shore)** - view, current status of information, subscribe to receive conditional alerts, view cruise data in real time
- **Streamlined workflows** - integrate event logging, provide both data services & UI access
- **Outreach pipeline** - provide contextual numeric information to the classroom
- **Maintenance & Management** - sensor history, notification & tracking, data quality





# CORIOLIX examples: Planning tools

Depth is less than 40 m. .... At port in Newport, Oregon.

## CORIOLIX *RV Oceanus - shore*

~ ATTENTION: YOU ARE VIEWING A DEMONSTRATION SITE FOR THE RCRV CORIOLIX SYSTEM ~  
[more info](#)

This integration is important because:

- Removes duplication of onboarding effort
- Reduces introduction of errors/conflict
- Metadata is required and used for other system functionality

Current Time  
Fri Oct 16 2020 23:46:43 UTC

---

Last Data Received  
Fri Oct 16 2020 23:46:41 UTC  
44.62568° N, -124.04481° E  
Depth 0.0 m

### Cruise List

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

This button queries the UNOLS Cruise Planner for the latest cruise and participants information.

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

Cruise	Ports	Personnel	Links
<b>OC2009B</b> <b>Collaborative Research: Persistent Presence in the Ocean Interior: Developing a Low-power, Autonomous System for Geo-referenced Navigation</b>	This project seeks to test a one-way travel time ultra-short baseline (OWTT-USBL) navigation system capable of providing accurate positioning at depths up to 6000m. The receiver will be installed ...	Jakuba, Michael ( <i>Chief Sci.</i> )	<a href="#">Cruise Plan</a> <a href="#">Participants</a> <a href="#">Stations</a> <a href="#">Cruise Data</a> <a href="#">Event Log</a>
Nov. 10, 2020 Nov. 21, 2020	Newport, OR, USA Newport, OR, USA		
<b>CANCELLED - OC2004B</b> <b>S-MODE: Submesoscale Ocean Dynamics</b>	UPDATE (C. Golden   03.19.2020   1140) Due to 30 day UNOLS fleet stand down, R/V Oceanus will not conduct operations Mar-Apr, 2020. Cruise has been rescheduled for Oct-Nov, 2020. 9/10/2020 - Cru ...	Farrar, John ( <i>Chief Sci.</i> )	<a href="#">Cruise Plan</a> <a href="#">Participants</a>
Oct. 23, 2020 Nov. 7, 2020	Alameda, CA, USA Newport, OR, USA		



# CORIOLIX Example: Situational Awareness - State of Systems



Cruise Charts Sensor Plots **Status** Sensors Data Documents Cruises My Account About

Depth is less than 40 m. .... At port in Newport, Oregon. .... Depth is less than 35 m. .... Depth is less than 85 m. .... Depth is less than 78 m. .... Depth is less than 38 m or PAR is greater than 43.

## CORIOLIX *RV Oceanus - shore*

~ ATTENTION: YOU ARE VIEWING A DEMONSTRATION SITE FOR THE RCRV CORIOLIX SYSTEM ~  
[more info](#)

### Sensor Status

#### Ocean Sensors

Chla Fluorescence	0.169 V	Light Attenuation	0.26 V	Salinity - TSG
Water Temperature - Forward	18.30 °C	Water Temperature - Hull	14.98 °C	

#### Navigation

Vessel Speed - GNSS	0.00 knots	Vessel Course - GNSS	188.00 °True	Vessel Heading - Gyro
---------------------	------------	----------------------	--------------	-----------------------

#### Meteorological Sensors

Air Temperature - Stbd	16.30 °C	Air Pressure - Stbd	1023.5 hPa	Air Relative Humidity - Stbd
IR Radiation	-13.8 W/m <sup>2</sup>	SW Radiation	158.1 W/m <sup>2</sup>	Wind Speed
True Wind Speed	3.84 knots	True Wind Direction	284.60 °	True Winds u

Depth is less than 40 m. .... At port in Newport, Oregon.
☰

### CORIOLIX

*RV Oceanus - shore*

~ ATTENTION: YOU ARE VIEWING A DEMONSTRATION SITE FOR THE RCRV CORIOLIX SYSTEM ~  
[more info](#)

**Current Time**  
Sun Oct 18 2020  
23:38:24 UTC

---

**Last Date Received**  
Sun Oct 18 2020  
23:38:22 UTC  
44.82568° N,  
-124.04481° E  
Depth 0.0 m

#### New Event

Event	
Cruise ID	<input type="text"/>
Event Number/ID	<input type="text"/>
Asset	CTD <input type="text"/> <small>If Other, enter details here:</small>
Event Type	Deployment & Recovery <input type="text"/> <small>If Other, enter details here:</small>
Station Name	<input type="text"/>
Notes	<input type="text"/>
Participants	<input type="text"/>
Entered By (Initials)	<input type="text"/>

#### Sub-Events

Type	Details		
Start	Date/Time (UTC)	<input type="text"/>	
	Now	<input type="text"/>	
Subevent Depth (m)	Latitude (°N)	Longitude (°E)	Water Depth (m)
	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Sea State	Cloud %	
Notes	<input type="text"/>		
	<input type="text"/>		

Current Time  
23:43:22 UTC  
-----  
Data Received  
23:43:20 UTC  
124.04479° E  
Depth 0.0 m

Warning inactive

15.31 °C

0.00 m

0.4730 V

173.00 °

-0.97 knots

# CORIOLIX Example: Situational Awareness

[Cruise Charts](#) | [Sensor Plots](#) | [Status](#) | [Sensors](#) | [Data](#) | [Documents](#) | [Cruises](#) | [My Account](#) | [About](#)

Depth is less than 40 m. .... At position Newport, Oregon. .... Depth is less than 35 m. .... Depth is less than 85 m. .... Depth is less than 78 m. .... Depth is less than 38 m or PAR is greater than 43.

**CORIOLIX** *RV Oceanus - shore*

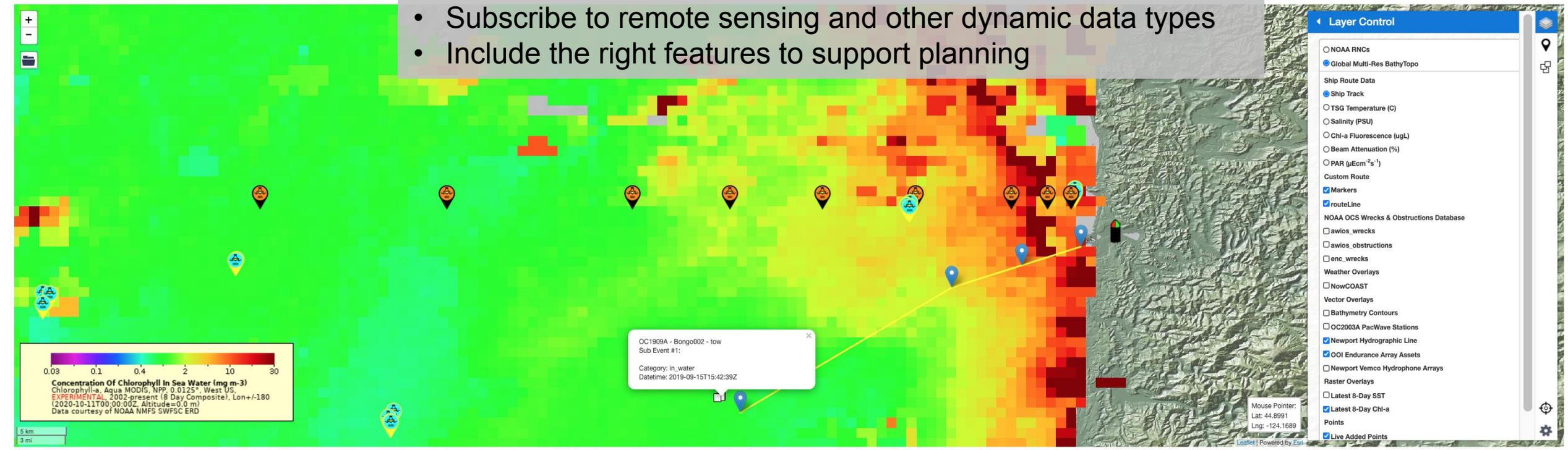
~ ATTENTION: YOU ARE VIEWING A DEMONSTRATION SITE FOR THE RCRV CORIOLIX SYSTEM ~  
[more info](#)

- Provide access to local cache of curated content (e.g GMRT)
- Identify & plot regional infrastructure (e.g. OOI)
- Plot cruise specific geospatial data identified pre-cruise
- Subscribe to remote sensing and other dynamic data types
- Include the right features to support planning

Current Time  
 Fri Oct 16 2020 21:54:11 UTC

Last Data Received  
 Fri Oct 16 2020 21:54:10 UTC  
 44.62569° N, -124.04481° E  
 Depth 0.0 m

## Cruise Chart



For more information, please contact the R-DESC (RCRV Datapreence and Engineering Support Center).  
 This project was funded by the National Science Foundation.



# CORIOPIX Example: Scientific Data Workflows

## Documented

Navigation: Sensors, **Data**, Documents, Cruises, My Account, About

**CORIOPIX RV Oceanus - shore**

Current Time: Sat Oct 17 2020 20:51:26 UTC

Last Data Received: Sat Oct 17 2020 20:51:25 UTC

44.62567° N, -124.04479° E

Depth 0.0 m

more info

**Data Structure**

Data are available for download at native resolution, high resolution (1 Hz), or in temporal bins.

**Native Unmodified Data:** These unmodified data messages are provided at the native resolution as collected by the sensor. The time of collection is prepended to each data message. No quality control has been performed.

**High Resolution Data:** These data are provided at high resolution (1 Hz or below). Timestamps and data frequencies vary between sensors. Preliminary quality flags are included.

**Binned Data:** These data are provided in temporal (e.g. one-minute) bins. The mean and accompanying statistics are provided. Preliminary quality flags are included.

**Native Unmodified Data**

All sensor data received by CORIOPIX are archived as ASCII flat files, one file per sensor per day. The unmodified raw messages (strings) are stored at the native resolution collected by the sensor. The format of the strings varies by sensor. Each message string is prepended with the UTC timestamp of receipt. No quality control has been performed on these data. These datasets are delivered to R2R after every cruise for long-term archive. These native resolution data files are also available to end-users for download.

**High Resolution (1 Hz or below) Data**

**Data Download Page:** High Resolution Data Download

For real-time applications, a subset of sensor data are extracted and stored within CORIOPIX. These searchable datasets are available at 1 Hz resolution or below. The collection timestamps and data values are unmodified. Preliminary quality control flags are provided as an additional field.

**Binned Data**

**Data Download Page:** Binned Data Download

**Binning Method**

Data are binned using an (unweighted) mean over a set time interval. Statistics are also captured (std, min, max, num, spotval) and made available to the end-user.

Circular data (such as heading or wind direction) are averaged using

## Access: For humans (occasionally)

**CORIOPIX RV Oceanus - shore**

Current Time: Sat Oct 17 2020 20:53:48 UTC

Last Data Received: Sat Oct 17 2020 20:53:46 UTC

44.62567° N, -124.04479° E

Depth 0.0 m

more info

**Data Download : Binned**

One-Click: **Download Data**

WARNING: File size can exceed 10 MB/day.

Cruise:  
Start Date:  
End Date:  
Chief Scientist:

Download the entire CORIOPIX binned dataset for the latest cruise. Data are provided as one-minute bins in CSV files.

Customized: **Download Customized Data**

Customize your dataset using the options below.

Temporal Resolution:

Date Range:

Data Format:

Show Data Access URLs

**Flowthrough**

<input checked="" type="checkbox"/>	Select/Deselect All		
<input checked="" type="checkbox"/>	Attenuation (M)	Transmissometer	primary
<input checked="" type="checkbox"/>	Conductivity (S m-1)	Thermosalinograph	primary
<input checked="" type="checkbox"/>	Fluorescence (V)	Fluorometer	primary
<input checked="" type="checkbox"/>	Salinity (-)	Thermosalinograph	primary
<input checked="" type="checkbox"/>	Temperature (degrees_C)	Thermometer - Forward Intake	primary
<input checked="" type="checkbox"/>	Temperature (degrees_C)	Thermosalinograph	primary
<input checked="" type="checkbox"/>	Temperature (degrees_C)	Thermometer - Hull	primary

**Meteorological**

<input checked="" type="checkbox"/>	Select/Deselect All		
<input checked="" type="checkbox"/>	Infrared Irradiance (W m-2)	Radiometer	primary
<input checked="" type="checkbox"/>	PAR (W m-2)	PAR sensor	primary
<input checked="" type="checkbox"/>	Pressure (mbar)	Met Station - Starboard	primary
<input checked="" type="checkbox"/>	Relative Humidity (%)	Met Station - Starboard	primary
<input checked="" type="checkbox"/>	Shortwave Irradiance (W m-2)	Radiometer	primary

## Access : For machines (multiple times)

**CORIOPIX RV Oceanus - shore**

Current Time: Sat Oct 17 2020 20:54:03 UTC

Last Data Received: Sat Oct 17 2020 20:54:02 UTC

44.62567° N, -124.04480° E

Depth 0.0 m

more info

**Data Download : Binned**

One-Click: **Download Data**

WARNING: File size can exceed 10 MB/day.

Cruise:  
Start Date:  
End Date:  
Chief Scientist:

Download the entire CORIOPIX binned dataset for the latest cruise. Data are provided as one-minute bins in CSV files.

Customized: **Download Customized Data**

Customize your dataset using the options below.

Temporal Resolution:

Date Range:

Data Format:

Show Data Access URLs

**Data URLs**

[https://coriolix.ceas.oregonstate.edu/oceanus\\_erddap/erddap/tabledap/binned\\_default\\_flow\\_rolling.csv?datetime\\_center=latitude,longitude,parameter\\_07,parameter\\_06,parameter\\_05,parameter\\_04,parameter\\_03,parameter\\_02,parameter\\_01&datetime\\_center=2020-10-17T00:00:00&datetime\\_center=2020-10-17T23:59:59&orderBy\('datetime\\_center'\)](https://coriolix.ceas.oregonstate.edu/oceanus_erddap/erddap/tabledap/binned_default_flow_rolling.csv?datetime_center=latitude,longitude,parameter_07,parameter_06,parameter_05,parameter_04,parameter_03,parameter_02,parameter_01&datetime_center=2020-10-17T00:00:00&datetime_center=2020-10-17T23:59:59&orderBy('datetime_center'))

[https://coriolix.ceas.oregonstate.edu/oceanus\\_erddap/erddap/tabledap/binned\\_default\\_met\\_rolling.csv?datetime\\_center=latitude,longitude,parameter\\_12,parameter\\_11,parameter\\_10,parameter\\_09,parameter\\_08,parameter\\_07,parameter\\_06,parameter\\_05,parameter\\_04,parameter\\_03,parameter\\_02,parameter\\_01&datetime\\_center=2020-10-17T00:00:00&datetime\\_center=2020-10-17T23:59:59&orderBy\('datetime\\_center'\)](https://coriolix.ceas.oregonstate.edu/oceanus_erddap/erddap/tabledap/binned_default_met_rolling.csv?datetime_center=latitude,longitude,parameter_12,parameter_11,parameter_10,parameter_09,parameter_08,parameter_07,parameter_06,parameter_05,parameter_04,parameter_03,parameter_02,parameter_01&datetime_center=2020-10-17T00:00:00&datetime_center=2020-10-17T23:59:59&orderBy('datetime_center'))

**Metadata URLs**

[https://coriolix.ceas.oregonstate.edu/oceanus\\_erddap/erddap/info/binned\\_default\\_flow\\_rolling/index.csv](https://coriolix.ceas.oregonstate.edu/oceanus_erddap/erddap/info/binned_default_flow_rolling/index.csv)

[https://coriolix.ceas.oregonstate.edu/oceanus\\_erddap/erddap/info/binned\\_default\\_met\\_rolling/index.csv](https://coriolix.ceas.oregonstate.edu/oceanus_erddap/erddap/info/binned_default_met_rolling/index.csv)

[https://coriolix.ceas.oregonstate.edu/oceanus\\_erddap/erddap/info/binned\\_default\\_nav\\_rolling/index.csv](https://coriolix.ceas.oregonstate.edu/oceanus_erddap/erddap/info/binned_default_nav_rolling/index.csv)

**Flowthrough**

<input checked="" type="checkbox"/>	Select/Deselect All		
<input checked="" type="checkbox"/>	Attenuation (M)	Transmissometer	primary

Potential Client Software





# CORIOLIX Example: Maintenance and Management

### Sensor Info.

**CORIOLIX RV Oceanus - shore**

ATTENTION: YOU ARE VIEWING A DEMONSTRATION SITE FOR THE RCRV CORIOLIX SYSTEM

#### Anemometer

Overview | Plots

Data: Spreadsheet | Download

Data Collection Specs: Native Data Feed | Native Data Format | Data Rates | Data Storage & Access | Time Source

Parameters & Flags: Parameters | Quality Flags

Physical Sensor Specs: Operating Limits | Physical Status | Vessel Installation Location

Maintenance & Support: Sensor Log | Calibration & Maintenance | User Guides & Documents | Ownership | Vendor Support

#### Overview

Summary		General Description	
Type	Anemometer	Measures wind speed and direction.	
Vendor	Gill Instruments Ltd.	Parameters <a href="#">Add New</a>	
Model	Wind_Observer_II	Wind Direction (Uncorrected) (degrees): (Edit)	
S/N	1033	Wind Speed (Uncorrected) (nautical miles per hour)	
CORIOLIX ID	anem001		
R2R Device ID	None		
Class	Atmospheric		
Location	Met Mast		
Condition	excellent		
Configuration	default		
Sample Rate	1.0 Hz		
UDP Port	30300		
Enabled	True		

#### Plots

|| Wind Speed (Uncorrected): 13.7600 nautical miles per hour || Wind Direction (Uncorrected): 209.0000 degrees ||

Time Interval (minutes): 30

### Data Collection Specs

**Native Data Feed** Edit

Signal Type  
Communication Type

**Serial Details**

Baud Rate 9600  
Parity N  
Stop Bits 1  
Byte Size 8  
Timeout (s) 5

**Ethernet Details**

MAC Address  
IP Address  
Protocol

**Native Data Format** Edit

Native Data Description  
Native Data Type  
Sample Data Message  
Message PyPI Format  
NMEA0183  
NMEA2000

**Data Rates** Edit

Native Sample Rate 1.0 Hz  
Shipboard Network Packet Rate None Hz  
Ship to Shore Rate 1.0 Hz

**Data Storage & Access** Edit

Ethernet Distribution IP Address  
Port 30300  
Packet Size None

Archive to Database True  
Transmit Real-time Data to Shore True

Time Source Edit  
Source

### Parameters & Flags

Add New

Quantity	Wind Direction (degrees) Edit	Wind Speed (knots) Edit
Plot Color		
Parameter Full Name	Wind Direction (Uncorrected)	Wind Speed (Uncorrected)
Parameter Short Name	Wind Direction	Wind Speed
Parameter Standard Name	wind_to_direction	wind_speed
SAMOS Designator		
SAMOS Data Category		
Description		
Derived	False	False
ICOS Category	Wind	Wind
Units	degrees (degrees)	nautical miles per hour (knots)
Data Type	double	double
Global Minimum Value	0.0 degrees	0.0 knots
Global Maximum Value	360.0 degrees	13.0 knots
Local Minimum Value	None degrees	None knots
Local Maximum Value	None degrees	None knots
Lower Detection Limit	0.0 degrees	0.0 knots
Saturated Value	999999.9 degrees	999999.9 knots
Bad Data Value	999999.9 degrees	999999.9 knots
Resolution	None degrees	None knots
Accuracy	+/- None degrees	+/- None knots
Precision	0.01 degrees	0.01 knots
Binning Type	circular	linear
Online Display Format	8.4f	6.4f
Logging Modes		
Send to Shore	True	True
<b>Quality Flags*</b>		
Flag 0	OUT_OF_GLOBAL_RANGE	OUT_OF_GLOBAL_RANGE
Flag 1	UNUSED	UNUSED
Flag 2	UNUSED	UNUSED
Flag 3	UNUSED	UNUSED
Flag 4	UNCALIBRATED	UNUSED
Flag 5	UNUSED	UNUSED
Flag 6	UNUSED	UNUSED
Flag 7	UNUSED	UNUSED
Flag 8	UNUSED	UNUSED
Flag 9	UNUSED	UNUSED
Flag 10	UNUSED	UNUSED

**Quality Flags\***

Quantity	Wind Direction (degrees) Edit	Wind Speed (knots) Edit
Plot Color		
Parameter Full Name	Wind Direction (Uncorrected)	Wind Speed (Uncorrected)

### Physical Sensor Specs

**Operating Limits** Edit

Input Power None - None V  
Analog Output None - None  
Operating Flow Rate None - None ml s-1  
Ideal Flow Rate None ml s-1  
Operating Depth None - None m  
Operating Temperature None - None degree\_C  
Lamp Life None days  
Response Time None seconds

**Physical Status** Edit

Current Location  
Current Status  
Physical Condition excellent  
Physical Configuration default  
Software Version  
Software Configuration  
Sensor Use Level primary  
Enabled True

**Vessel Installation Location** Edit

Vessel  
Vessel Location Met Mast  
Nearest Benchmark  
Distance From Bow None meters  
Distance From Centerline None meters  
Waterline Distance None meters  
Sensor Orientation vertical  
Zero Line Reference None  
Receives Filtered Water False

### Maintenance & Support

**Sensor Log** Edit

Date (UTC)	Submitter	Event Type
Oct 07 2020 18:59:14	Nahorniak, Jasmine	sensor specs update
Oct 07 2020 18:59:14	Nahorniak, Jasmine	sensor specs update
Oct 07 2020 18:59:14	Nahorniak, Jasmine	sensor specs update
Oct 07 2020 18:59:14	Nahorniak, Jasmine	sensor specs update

### Sensor Specifications

Depth is less than 40 m. .... At port in Newport, Oregon.

**CORIOLIX RV Oceanus - shore**

ATTENTION: YOU ARE VIEWING A DEMONSTRATION SITE FOR THE RCRV CORIOLIX SYSTEM

Current Time  
Sat Oct 17 2020 21:05:23 UTC

Last Data Received  
Sat Oct 17 2020 21:05:22 UTC  
44.62568° N, -124.04478° E  
Depth 0.0 m

#### Anemometer

Overview | Native Data Feed | Native Data Format | Parameters | Operating Limits | Documents | Ownership | Current Physical Status | Installation Location | Data Rates | Data Storage & Access | Time Source | Calibration & Maintenance

#### Sensors

Add New Sensor

- 06-CTDBPN106 - OOI CTD (S/N)
- 07-VEL3DC108 - OOI Velocity (S/N)
- Anemometer (S/N 1033)
- Echosounder (S/N unknown)
- Fluorometer (S/N FLRTD-425)
- GNSS (S/N unknown)
- Gyrocompass (S/N unknown)
- Met Station - Bow (S/N G0820117)
- Met Station - Starboard (S/N C2610002)
- OOI - OR Shelf Benthic Node CTD (S/N 16-7248)
- OOI - OR Shelf Benthic Node Point Velocimeter (S/N 5157)
- PAR sensor (S/N 20128)
- Radiometer (S/N PIR27521F3; P5P29099F3; RAD211)
- Rain Gauge (S/N 342)
- Speedlog (S/N)
- Thermometer - Forward Intake (S/N 0607)
- Thermometer - Hull (S/N 0048)
- Thermosalinograph (S/N 0361)
- Transmissometer (S/N CST-1032DR)
- True Winds - Main Mast (S/N 1.0)

#### Overview

** Sensor ID:	anem001 ** Warning: Modifying this field will result in a new sensor entry. Example: thermo523698 The convention is a 6 character prefix followed by a 6 digit S/N. This is a unique identifier for the sensor.
* Sensor Name:	Anemometer Example: Thermometer - Hull This text will appear in the sensor drop-down list.
* Class:	Atmospheric (anemometer, barometer, ...)
* Type:	Anemometer
* Vendor:	Gill Instruments Ltd.
* Model:	Wind_Observer_II Example: SBE 48
* Serial Number:	1033 Example: 1000135 A unique sensor ID provided by R2R.
R2R Device ID:	
* Description:	Measures wind speed and direction.

**Native Data Feed**

Signal type:  
Comm type:  
Serial Details: Baud Rate: 9600

Sensor Config.





# Working Toward Consistent Outcomes:

## Engagement Activities & Outcomes:

Activities that help ensure smooth vessel transition to operations (for all parties)

<b>Activity</b>	<b>Date</b>	<b>Outcome</b>
Survey of Datapresence	2015	Planning and scoping document, identification of requirements
RVTEC	2016 ->	Presenting on technical approach to datapresence and progress
NOAA ERD	2017	Integration of NOAA ERDDAP product and remote sensing subscriptions
GMRT	2017 ->	Local hosting of curated geophysical content on CORIOLIX
OOI integration	2018	Demo of shipboard connection to regional infrastructure with CORIOLIX
R2R Workshop	2020	Virtual workshop on RCRV sensors, data workflow, QA/QC and more
UHDAS	ongoing	Consultation on centerboard deployment of ADCPs and hardware
URI Inner Space Center	ongoing	Mobile Telepresence Unit specification
HSN	ongoing	Consultation on SatCom equipment and commissioning
OBPS/R2R	ongoing	Development of shipboard Best Practice documents



# Continuous Improvement:

## CORIOLIX Vessel Test Deployments

- *Oceanus* – 2016
  - *Endeavor* – 2019
  - *Point Sur* – 2020
- 
- Tested synchronization and messaging technologies
  - Prototyped UI and Event Log
  - Collected performance data
  - Worked through various setup and config. Issues

## Science Seawater System Design

- *Diaphragm Pumps* - to maintain particle integrity
- *Automated Filtration System* - to allow for a filtered seawater signal to monitor access/assist capabilities
- *Sensor manifold* – w/variable flow rate + cleanout (air/pickle)

## Operational Opportunities

### Shoreside Support

- Real-time Flagging
- Built-in alert system



note

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## Visit Us:

Scan the QR code at right –

Or, follow either url below –

<https://datapresence.coas.oregonstate.edu/demo/>

<https://tinyurl.com/w794wga>

