



What is CORIOLIX

Software solution for:

1. Remote Participation

- Real-time data from ship to shore

2. Data Quality

- Real-time evaluation, flagging, notification

3. Systems Integration & Config. Control

- Control distributed & existing system components
- Automated and manual logging



CORIOLIX

Cruise Observations
Real-time Interface &
Open Live Information eXchange



What is CORIOLIX

CORIOLIX integrates operation and management of:

- Data Acquisition
 - Manages configuration and state
- Data Processing
 - Performs real-time and delayed/batch processing
- Data Storage & Management
 - Annotates data, logs system configuration, performs replication
- Data Access
 - Offers multiple modes (File Download, Real-Time Streaming, API Polling)
 - And multiple standards (ASCII, JSON, OpenDAP, netCDF, OGC, MQTT)
 - Supports role-based access



CORIOLIX

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Who's used, is using, or is soon using CORIOLIX?

CORIOLIX in the ARF:

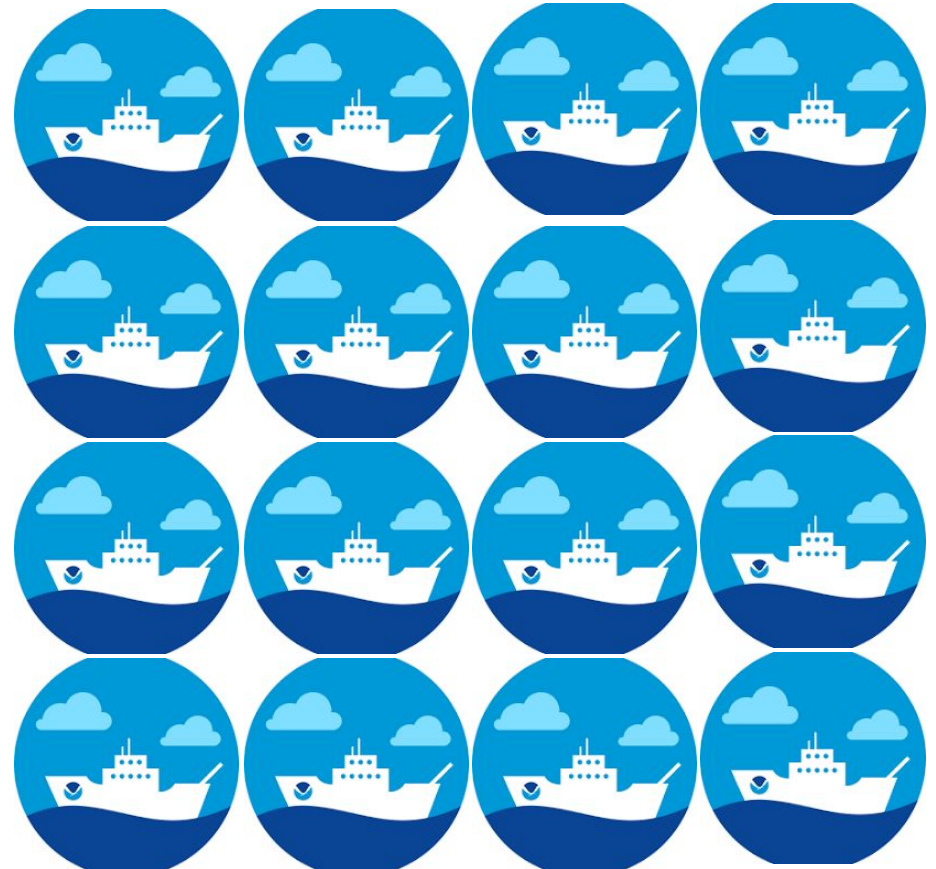
R/V Oceanus (Retired 2021)

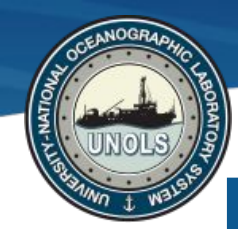
1. R/V Endeavor (online)
<https://coriolix.ceoas.oregonstate.edu/endeavor>
2. R/V Point Sur (online)
<https://coriolix.ceoas.oregonstate.edu/ptsur>
3. R/V Sikuliaq (online)
<https://coriolix.sikuliaq.alaska.edu>
4. R/V Savannah (Coming online November 2024)
5. RCRV Taani (online in lab now)
6. RCRV Narragansett Dawn (not too far away)
7. RCRV Mason (somewhat further)

We hope to add more than one new UNOLS ship/year

SIO's Roger Revelle is the next UNOLS vessel for CORIOLIX!

CORIOLIX at NOAA (2025): 15 ships + 1 Weather Station





How can CORIOLIX serve the RCRV and the ARF?

Development of CORIOLIX was funded under the RCRV MREFC project.

- This allowed us freedom to work with future RCRV operators but limited us from working (spending RCRV \$) with other users.

Restrictions on working with vessels outside the RCRV project scope was identified as a risk for CORIOLIX.

- Launching new technology requires early adopters and a record of performance.
- Larger (Global Class) vessels present more complicated use cases to develop for.

With support from the marine technical teams of RCRV future operators and the Sikuliaq, a Tech Services proposal was submitted for a pilot specialized service.

- Funded in 2023, renewed in 2024



CORIOLIX : The ARF Specialized Service

- Who** OSU staff (about 1.5 FTE total) and 4 ARF ships currently
- What** ^ see slide title 😊
- When** 2023 pilot project, renewed in 2024!
- Where** Most setup is performed remotely, but we also do vessel visits (budget for one ship visit per year)
- Why**
 - Enable real-time & distributed workflows
 - Scientific, Operational, Educational
 - Leverage integrations with other programs/systems
 - R2R, SAMOS, NOAA / Acquisition, Config Control

