Cruises are identified as science expeditions unless identified otherwise by the operator.

Annual volume of data continued to increase though number of cruises dropped due to COVID-19 pandemic.
Time to delivery of cruise distros from operators

Improving average (~6 months) for delivering cruise data.

Black line = average # days after cruise end.
Colored lines show average # days by operator.
2020/2021 Developments: USAP Ships

OPP funding for management of USAP ships *Palmer* and *Gould* via R2R going forward
- Includes funds for migration of older cruises from the MGDS.

R2R fileset breakout, registration and publication complete for expeditions going back to 2010/2011 for Palmer/Gould.

Full suite of underway device filesets on cruise distros now managed (~ doubles USAP ship collection archived).

Processing for older cruises (back to 1992/1998 for Palmer/Gould) will continue in coming year.
**New R2R Vessel Operator Dashboard**

Review the status of all cruises for a vessel by year.

Colored lamps allow quick evaluation of status and help identify consistent problems.

Go to [https://www.rvdata.us/operator_dash](https://www.rvdata.us/operator_dash) or access from the ‘For Ship Operators’ section in the community pulldown menu at [https://www.rvdata.us/](https://www.rvdata.us/)
Near-real-time QA/C of Navigation

Proof of concept:

- R2R tests will be run every hour with quality flags and centroid data produced for every minute of data
- Near real time checks will be developed to run on existing CORIOLIX data services
- Code will be part of R2R public repository for navigation qa hosted on GitHub

Proof of concept was done in collaboration with R-DESC and production code is currently under development
Development of Best Practice Documentation for Underway Devices

Collaborating with the RCRV team and IODE Ocean Best Practices System
• Focus is on best practices for technicians

Active Working Groups:
• EK-80 Fisheries Sonar Suite, led by Kristin Beem and Rebecca Hudak
  • Focus on calibrating an EK80, what features to run for best data
• General Flowthrough System, led by Shawn Smith
  • Focus on flowthrough system components (intakes, pipes, pumps, etc.), not connected instruments
• CTD Profiler, led by Laura Stolp and Rebecca Hudak
  • Organizing the 100s of documents from OBPS and other Institutes, working with oxygen BP group
• SBE-43 Oxygen Sensor, led by Gabe Matthias
• ADCP, led by Jules Hummon
System Security

- Cybersecurity plan *(Trusted CI)*
  - Information Asset Inventory *(software, hardware, workflows, people)*
  - Enhanced Workflow Documentation
- Next generation R2R hardware and software
  - Hardware consolidation, software upgrades
- Change in offsite deep archiving
  - AWS to FSU-RCC same $ but allows for egress without extra charge
Looking Forward

- Improving cruise and data search functionality on web site
- Working with UNOLS to harvest cruise metadata from MFP
- Improve methods for more automated exchange device metadata
- Exploring near-real time data streams

Join R2R team (@LDEO)

Associate Research Scientist https://academic.careers.columbia.edu/#/83445