



Rolling Deck to Repository (R2R)

Current Status and New Developments

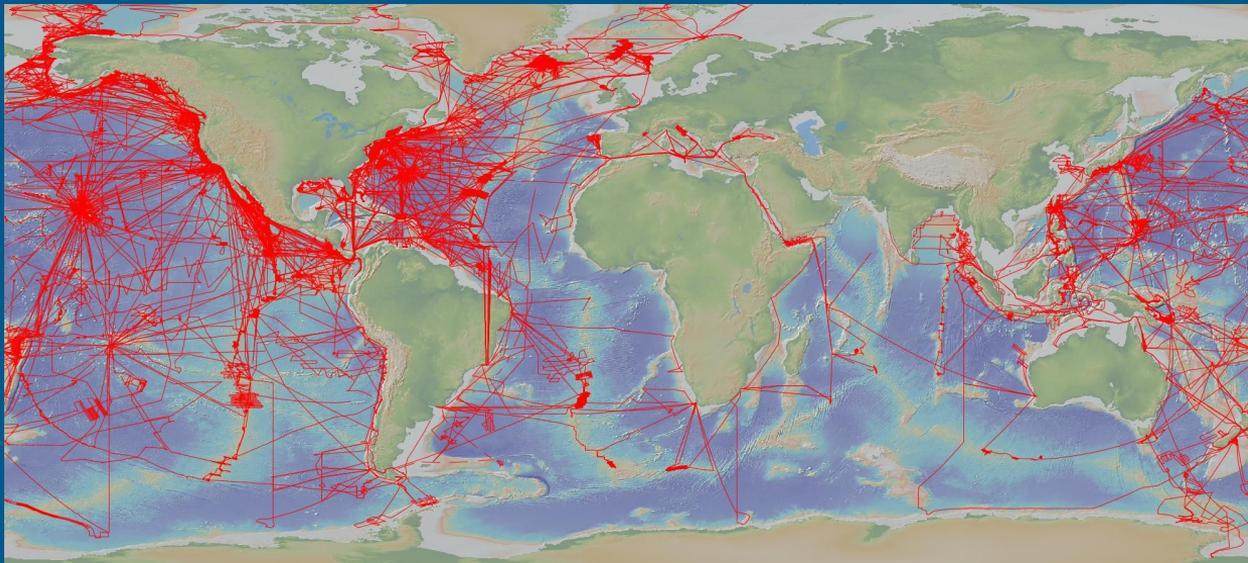
S. O'Hara, D. Clark, R. Hudak, E. Miller, C. Olson, N. Shane, S. Smith, K. Stocks, L. Stolp, R. Uribe, V. Ferrini, S. Carbotte
LDEO, FSU, SIO, WHOI

R2R Services

- Publish master cruise catalog
- Organize, archive, and disseminate original underway data and documents
- Assess data quality
- Create post-field data products
- Support at-sea event logging

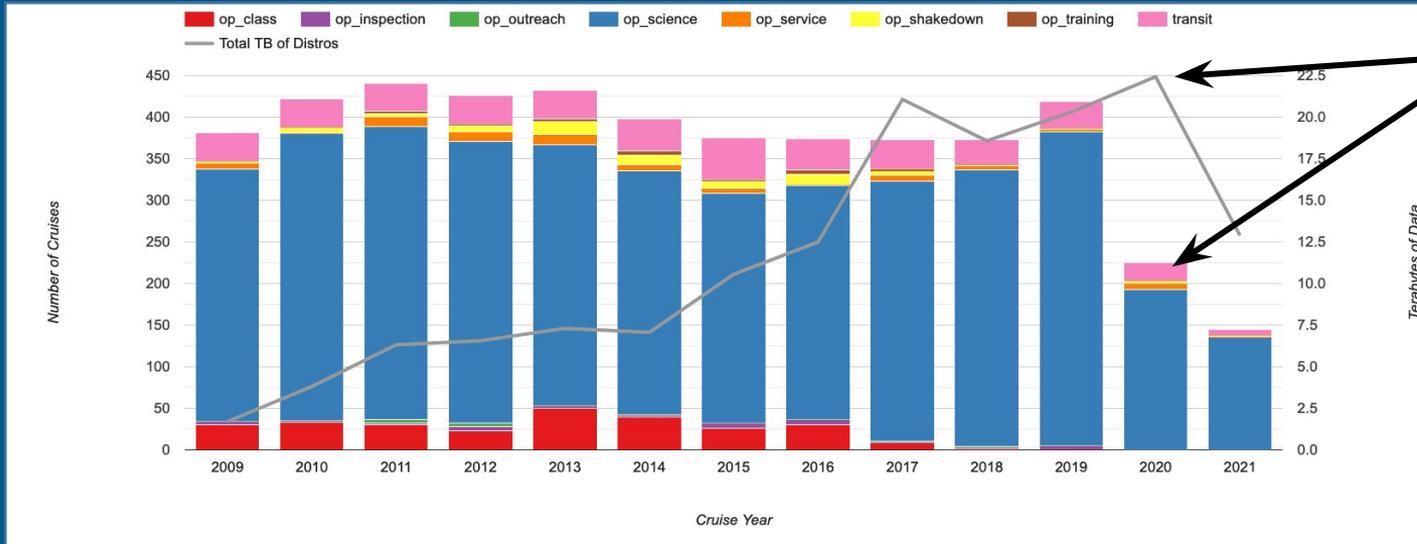


Data You Contribute Circles the Globe



R2R makes data collected on your vessel available free to all via the web.

Cruises & Data Volumes at R2R



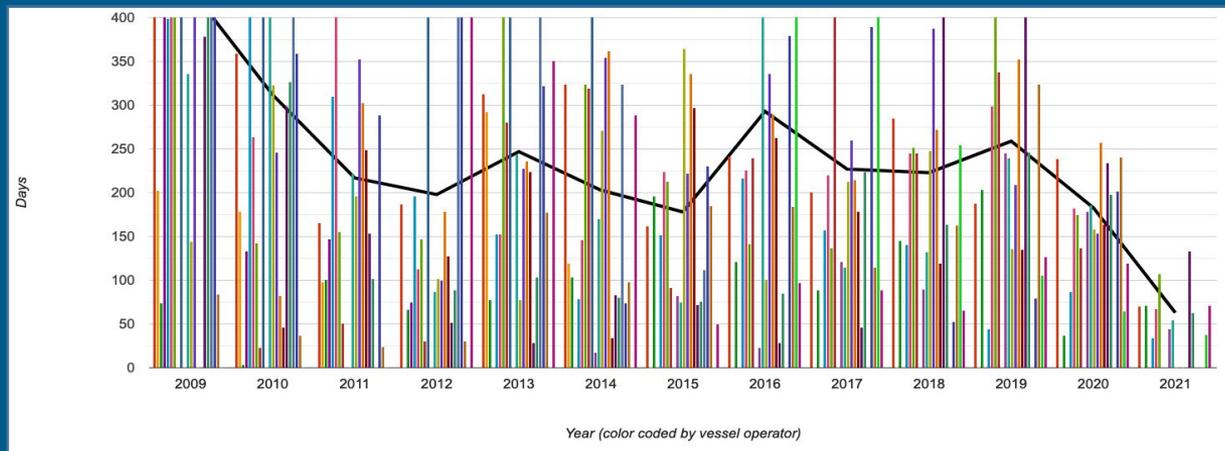
Annual volume of data continued to increase though number of cruises dropped due to COVID-19 quarantine.

Cruises are identified as having a scientific focus unless identified otherwise by the operator.

When Do Operators Send Data to R2R?

Most operators still average over 6 months for delivering cruise data.

What can we do to get data to R2R faster?



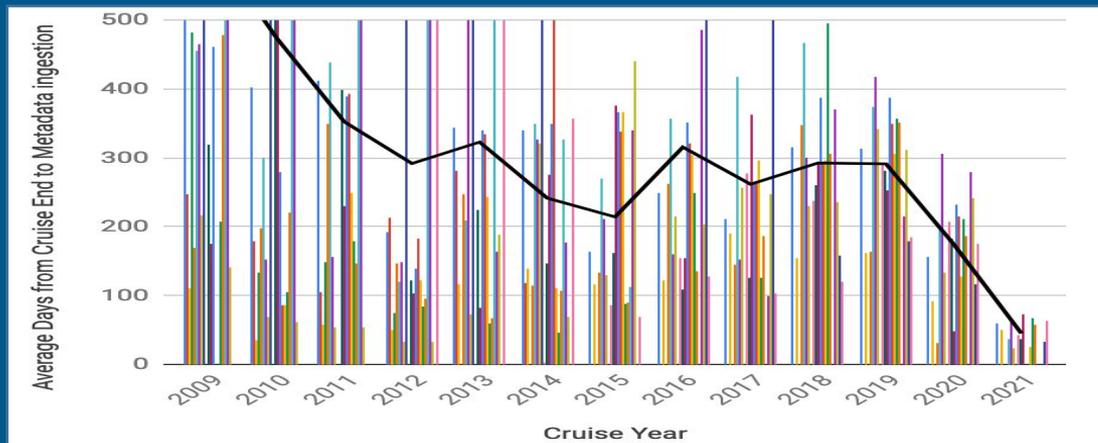
Black line is average number of days after end of cruise till data arrives at R2R by operator.

Colored lines show average number of days by operator.

Reach out to R2R to discover the best way to send your data.
We have a wide range of options.

When Do Operators Send Metadata to R2R?

The average time for R2R to receive and ingest cruise metadata is over 6 months after a cruise. We hope to be able to harvest cruise information from the MFP in the future, but what can we do now to receive metadata faster?



Black line is average number of days from end of cruise till cruise metadata is ingested into R2R.

Colored lines show average number of days by operator.

Operators are currently required to provide metadata using the UNOLS cruise personnel manifest, but R2R will read any standard format with the same information.

How Does Data Get to R2R?

R2R accepts data and metadata using many methods.

- Globus
- Sftp
- Cloud downloads
- USB drives via mail
- Email
- Dropbox
- ...

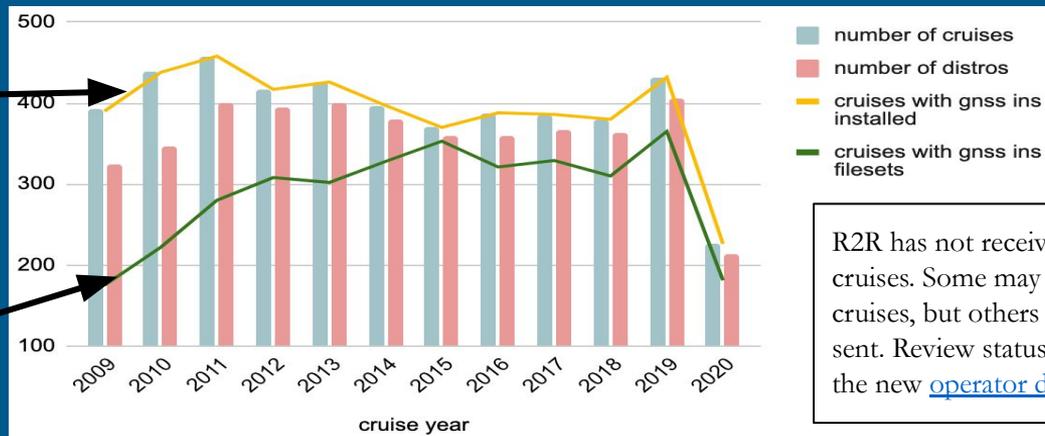
Reach out to R2R to discover the best way to send your data and metadata.
We will help to find a solution that works for you.

Navigation is Important - Include it in your data

Data collection has improved, but we can do better.

Vessels that have GNSS and/or INS devices installed

Cruise that have GNSS and/or INS file sets identified



R2R has not received distros for all cruises. Some may be non-science cruises, but others may still need to be sent. Review status of your cruises on the new [operator dashboard](#).

All vessels have GNSS and/or INS systems installed, but raw data is not always logged or identified in the directory structure. All cruises that collect data should log full resolution, raw navigation. Be sure R2R knows how to find your primary, for-science navigation data within the cruise distro.

Best Practices for File Naming

R2R has recently received invalid or inconsistent file/directory names from operators. These issues can cause problems in processing, cause missing data in file sets or delay handling of an entire cruise distro.

Please remember some basic rules when naming and organizing your data.

- Keep the same naming and directory structure for all cruises. Notify R2R if changed.
- Include a cruise identifier in names to keep the file unique when it is removed from the distro; SR1901_001.hex is better than ctd_001.hex..
- Remember names are case sensitive; FILE.dat is different than file.dat
- Names should not include spaces, commas, &, |, * or other special characters
- Visit <https://www.rvdata.us/community/ship-operators/directory-structure> for more information

NCEI will only accept files without ‘special’ characters and ones that can be read on a linux system.
Files that don’t meet this requirement cannot be archived!

Extracting Documentation from Cruise Distros

R2R plans to start extracting documentation from the cruise distros along with the data files in coming season. These documents will be organized, archived and available to download on the R2R website to make the data more usable by the science community.

Examples of documents to include in your cruise distros:

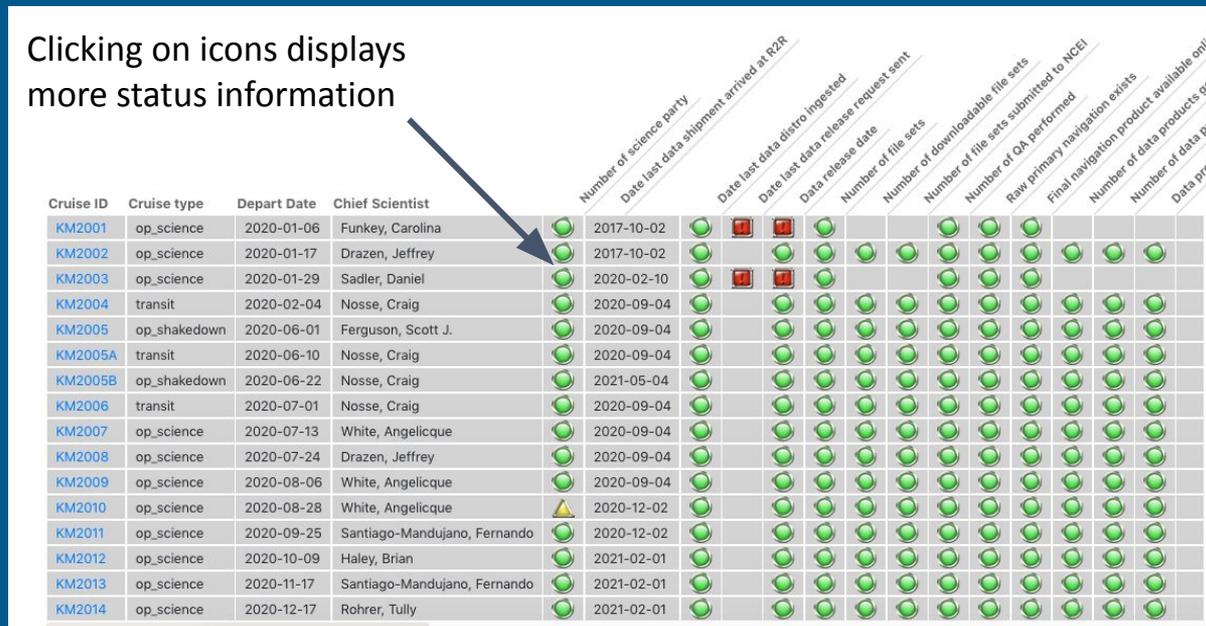
- Technical or science reports
- Calibration or configuration documents
 - CTD calibration and configuration files (xmlcon and vendor documents)
 - Gravimeter calibration - PFPE laptop files (like gt_S219_20211004_194430.pdf, ...)
 - Deployment information for devices like magnetometers if not in event logger
 - Vendor documents (make/model/software info, underway flow through devices, CASIUS, patch tests, ...)
- Any document that will help users in the future: ship survey, event logs, reports, ...
- And more

New R2R Vessel Operator Dashboard

The dashboard makes it easy to review the status of all cruises for a vessel by year.

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

Clicking on icons displays more status information



Cruise ID	Cruise type	Depart Date	Chief Scientist	Status	Number of science party	Date last data shipment arrived at R2R	Date last data distro ingested	Date last data release request sent	Data release date	Number of file sets	Number of downloadable file sets	Number of file sets submitted to NCEI	Raw primary navigation exists	Final navigation product exists	Number of data products	Data prod
KM2001	op_science	2020-01-06	Funkey, Carolina	🟢	2017-10-02	🟢	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2002	op_science	2020-01-17	Drazen, Jeffrey	🟢	2017-10-02	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2003	op_science	2020-01-29	Sadler, Daniel	🟢	2020-02-10	🟢	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2004	transit	2020-02-04	Nosse, Craig	🟢	2020-09-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2005	op_shakedown	2020-06-01	Ferguson, Scott J.	🟢	2020-09-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2005A	transit	2020-06-10	Nosse, Craig	🟢	2020-09-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2005B	op_shakedown	2020-06-22	Nosse, Craig	🟢	2021-05-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2006	transit	2020-07-01	Nosse, Craig	🟢	2020-09-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2007	op_science	2020-07-13	White, Angelicque	🟢	2020-09-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2008	op_science	2020-07-24	Drazen, Jeffrey	🟢	2020-09-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2009	op_science	2020-08-06	White, Angelicque	🟢	2020-09-04	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2010	op_science	2020-08-28	White, Angelicque	🟡	2020-12-02	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2011	op_science	2020-09-25	Santiago-Mandujano, Fernando	🟢	2020-12-02	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2012	op_science	2020-10-09	Haley, Brian	🟢	2021-02-01	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2013	op_science	2020-11-17	Santiago-Mandujano, Fernando	🟢	2021-02-01	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
KM2014	op_science	2020-12-17	Rohrer, Tully	🟢	2021-02-01	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢

Go to https://www.rvdata.us/operator_dash or access from the 'For Ship Operators' section in the community pulldown menu at <https://www.rvdata.us/>

R2R - Looking Forward

- Improving cruise and data search functionality on web site
- Handling documentation from cruise distros
- Working with UNOLS to harvest cruise metadata from MFP
- Exploring better ways to exchange device metadata
- Exploring near-real time data streams
- Suggestions?

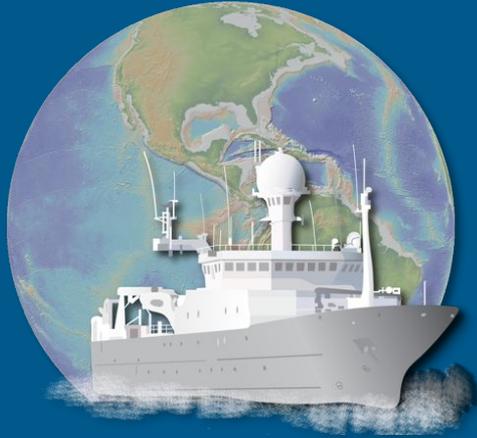


Want to Join R2R ?

R2R is looking for someone interested in managing people and data at LDEO. Work with R2R team, ship operators, NCEI, NSF and help design the future of R2R.

- Intermediate Systems Analyst (Bachelor's degree in Computer or Data Science, Math or Engineering, Earth or Marine Science and/or its equivalent and a minimum of 2-4 years of experience with marine or other earth science data acquisition and/or data analysis)
<https://opportunities.columbia.edu/en-us/job/517631/intermediate-systems-analyst>
- Associate Research Scientist/Research Scientist (Ph.D. in Earth Science, Computer Science, Math or Engineering with 2 years of related experience with marine science data)
<https://academic.careers.columbia.edu/#/83445>

Questions, Comments, Suggestions?



Contact us:

- Email info@rvdata.us
- Visit www.rvdata.us
-  [@R2RData](https://twitter.com/R2RData)

Acknowledgements



Providing access to and ensuring
the preservation of national
oceanographic research data.

