

**Chief Scientist Training
Workshop
R/V Blue Heron**



The Large Lakes Observatory and its mission:

- Research institute, founded in 1994
- Mission:
 - Graduate program in oceanography, research dedicated to the science of inland seas
 - Undergraduate education, in partnership with UMD departments



The Large Lakes Observatory and its mission:

- Interdisciplinary – Biology, Chemistry, Physics and Geology
- Focus on oceanographic research methods applied to inland seas
- Global perspective: large lakes of the world



The Large Lakes Observatory and its mission:



R/V Blue Heron

- 78' former Grand Banks fishing trawler



R/V Blue Heron



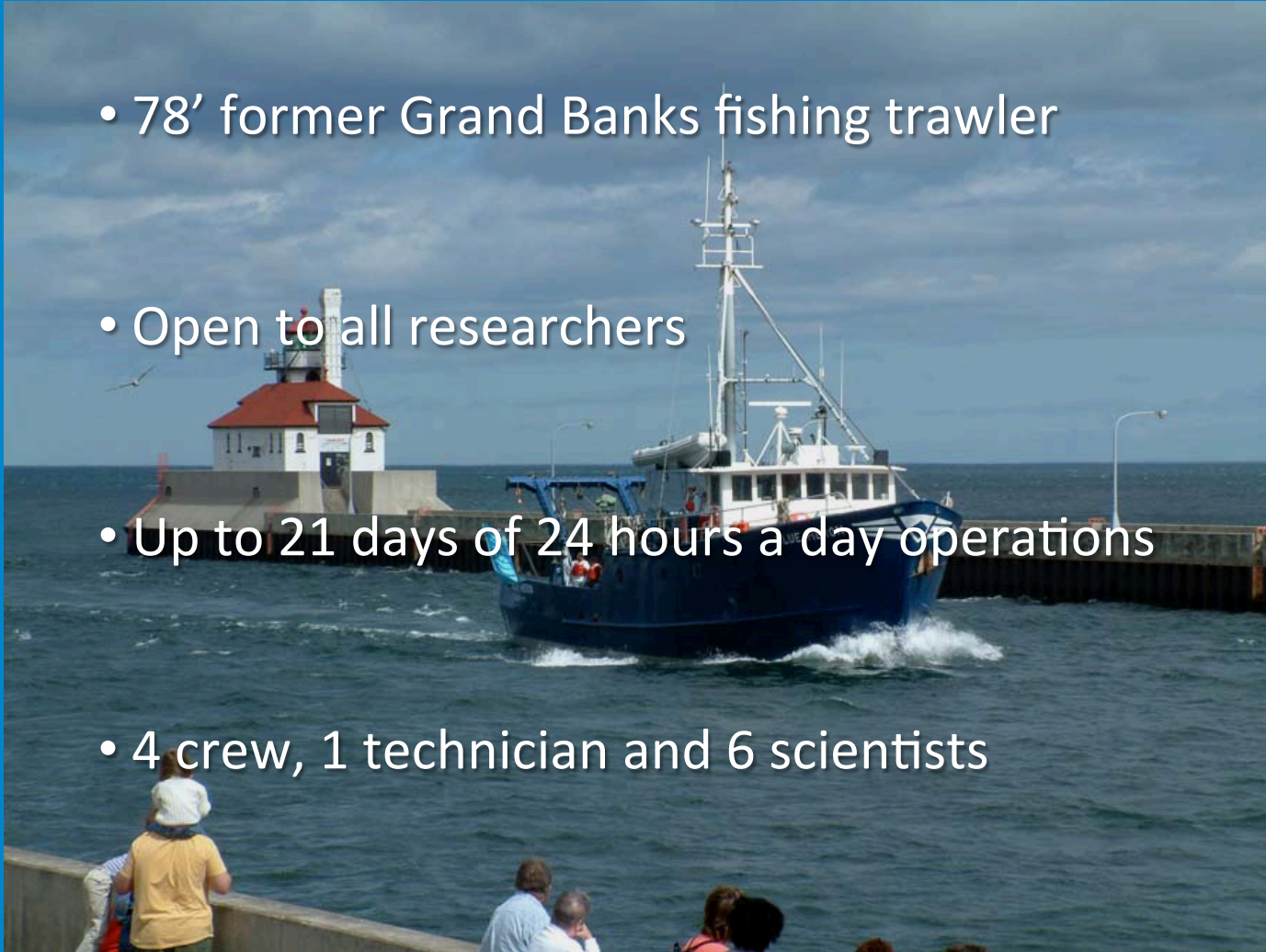
Bob Baker and the F/V Fairtry



USCG aerial photo

R/V Blue Heron

- 78' former Grand Banks fishing trawler
- Open to all researchers
- Up to 21 days of 24 hours a day operations
- 4 crew, 1 technician and 6 scientists

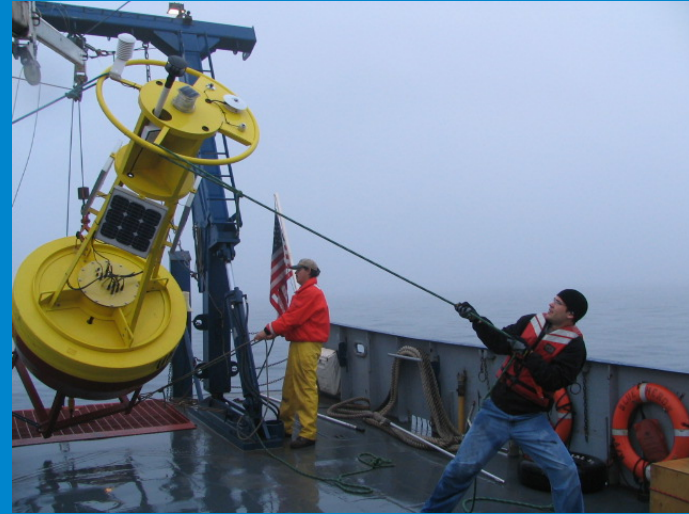


R/V Blue Heron



- Travels on all of the Great Lakes
- Users/Funding from: NSF, NOAA (SeaGrant, GLOS), LCCMR, DNR, Great Lakes Fishery Commission, etc.

Not only has a research mission,



But also serves an education/
outreach mission



Marine Operations

- Scheduling
- Budgets
- Compliance
- Personnel
- Cruises
- Outreach



Bi-Annual Inspection

- NSF/Naval Architects
- Two days but many weeks of prep.
- Covers
 - a. Safety
 - b. Habitability
 - c. Propulsion
 - d. Scientific gear
 - e. Etc.....

VESSEL INSPECTION REPORT R/V BLUE HERON



23-24 September 2014

prepared for:



NATIONAL SCIENCE FOUNDATION
4201 Wilson Boulevard • Arlington, VA 22230

prepared by:



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[860] 536-0009 • <http://www.jmsnet.com> • jms@jmsnet.com

Shipyard dry-docking



Pre-cruise Planning

Research Vessel

BLUE HERON

Cruise Planning Manual

**Large Lakes Observatory
University of Minnesota, Duluth**

http://www.d.umn.edu/llo/docs/plan_man.pdf

Pre-cruise Planning

5. Instrumentation

- a. Knudsen Model 320/R Echo Sounder with 28 kHz transducer, analog and digital output to computers in dry lab, wet lab and pilot house
- b. RDI Acoustic Doppler Current Profiler, 150 kHz
- c. TSS POS-MV 320 Motion Referencing Unit (Inertial with twin differential GPS)
- d. SeaBird Model 911 plus CTD (deck unit) with D.O. sensor, pH/ORP sensor, fluorometer, CDOM, transmissometer, PAR sensor, and altimeter.
- e. Seabird 32 Carousel with 12 8-liter bottle capacity
- f. Reson Sea Bat Model 7101 Multi-Beam Sonar, 240 kHz, 511 beams, 150 deg swath width, with side scan.
- g. Triaxus towed vehicle with 911+ CTD, fluorometer, transmissometer, D.O. sensor, PAR sensor and optical plankton counter (OPC).
- i. Underway sea surface water data with a SBE38 thermistor, fluorometer and transmissometer.

8. Other Available Instrumentation

- a. Niskin bottles: 12 8-liter and 6 5-liter
- b. Ocean Instruments Multi-Corer
- c. Heavy Piston corer
- d. Kullenberg Piston corer
- e. Benthos gravity corer
- f. Plankton nets
- g. Geopulse High Resolution Seismic Reflection Profiling System (1-3 kHz)
- h. Bolt Model 600B airguns with 1, 5, 10 and 40" chambers
- i. Edgetech Side Scan/CHIRP system.
- j. 60' Stauffer midwater trawl with a trawl sonar system.
- k. bbe FluoroProbe III
- l. Satlantic ISUS V3 Nitrate analyzer

In the Blue Heron shared-use equipment pool

Equipment from other vessels...

Pre-cruise Planning

R/V BLUE HERON CRUISE PLAN

1. Date: 7/31/2008
2. Principal Investigator:
3. Chief Scientist:
4. Phone/Fax:
5. Cruise Title:
6. Requested date and time of loading:
7. Requested date and time of departure from port: 6:55 A.M. on
SAFETY LECTURE AND FIRE DRILL WILL START ONCE THE ENTIRE SCIENCE PARTY IS ASSEMBLED ON THE MAIN DECK 10 MINUTES PRIOR TO DEPARTURE – SHIP WILL NOT LEAVE THE DOCK PRIOR TO COMPLETION OF THE LECTURE AND DRILL
8. Requested date and time of return to port: 5:00 P.M. on
9. Requested date and time of off-loading:
YOU MUST OFF-LOAD WITHIN 24 HOURS OF RETURNING TO PORT
10. Are you planning on working in Canadian waters? No
11. If you are planning on working in Canadian waters, do you have the necessary clearances? No
12. **Attach** track chart showing station locations and coordinates, as per instructions on page 2 of the cruise manual. Please give coordinates in decimal minutes: DD° mm.ddd'
13. Please provide detailed information on each station's activities. Attach separate sheets if necessary. Please estimate time on each station:
14. List the equipment and gear that will be brought aboard. For large items give the size and weight. Attach separate sheets if necessary:

Pre-cruise Planning

RV Blue Heron Medical Information

Submission of this form constitutes acknowledgement that you have no physical defects or ailments which would prevent the performance of duties at sea for extended periods of time. There is limited medical service available on board. The crew and technical staff have been trained in first aid and UMN subscribes to a 24 hour phone and email medical advisory service called MedAire. While filling out the form, please provide all information you would want emergency response personnel both on board and at MedAire to know about you if you are incapacitated. THIS INFORMATION WILL BE KEPT CONFIDENTIAL with the Chief Scientist, Master, and shore personnel that need to know. The form will be destroyed by shredding at the end of the sailing season.

If you use prescription and/or over the counter medications bring enough medication to last the duration of the cruise.

Please provide your doctor's contact information so that the crew and/or shoreside MedAire professional can interact with them if necessary during an emergency at sea:

Doctor's full name: _____ Phone number: _____

It is strongly recommended that you consult with your doctor regarding the advisability of participating on the cruise prior to boarding the ship.

Emergency Contact (spouse/parent/etc.): _____ Phone number: _____

yes no Do you have any food allergies or dietary restrictions? If yes, enter them below and inform the Chief Scientist
☐ ☐ so the information can be incorporated into the Cruise Planning Form.

yes no Do you use any medicines regularly? If yes, list them below. Including where they are stored and rules for
☐ ☐ dosage and administration if you are incapacitated. Also ensure that you have a sufficient supply for the
entire trip, including potential unexpected delays.

yes no Do you have any medical conditions that could flare up and require prompt administration of special medica-
☐ ☐ -tions or other therapies? For example, diabetes, heart problems, ulcers, asthma, etc. If yes, please describe:

yes no Do you have any conditions that might lead to sudden unconsciousness or loss of motor control or normal
☐ ☐ coordination? For example, epilepsy or fainting spells. If yes, please describe:

yes no Do you have any impairments of normal coordination and agility? For example, an artificial limb or partial
☐ ☐ paralysis. If yes, please describe:

yes no Do you have any uncorrectable impairments of normal sensory perception (sight, hearing, etc.). If yes,
☐ ☐ please describe:

yes no Have you received any medical advice, pertinent to the time you are scheduled to be at sea, to the effect
☐ ☐ that you should not travel far away from full medical care facilities? If yes, please describe:


Pre-cruise Planning

Long lead time items

Use of the Radioisotope van


Users must go through U of Minn. training




**UNIVERSITY OF MINNESOTA**
Driven to Discover™

myU > One Stop >

Search U of M Web sites

Department of
Environmental
Health & Safety

Radiation Safety

What's Inside **Services** **Contact Us** **Campuses**

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[Radiation Protection](#) >

[Research Safety](#) >

[Shipping](#) >

Home > Radiation Protection > Radioactive Materials > **Radioactive Material Training**

Radioactive Material Training

All University of Minnesota faculty, staff, and students who require access to areas where radioactive materials are used or stored must complete the on-line training module, [Radiation Safety Orientation](#). This module serves as a prerequisite to the training listed below.

Anyone who requires authorization to use or handle radioactive materials must also successfully complete the on-line training module, [Radiation Safety for Radioactive Material Users](#).

Upon successful completion of this on-line training an individual will be authorized to work under a Radioactive Materials permit at the University provided they have completed and documented specific protocol and lab orientation. The ["Record of Training"](#) form may be used to document this initial orientation and the annual refresher training that is required.

The Radiation Protection Division (RPD) offers annual in-person training as a part of its audit processes. The RPD

Pre-cruise Planning

Long lead time items

Travel into Canadian water

Minimum of 3 months prior

The screenshot displays the U.S. Department of State website. The header includes the Department of State logo, the text "U.S. DEPARTMENT OF STATE" and "DIPLOMACY IN ACTION", and a search bar. Below the header is a navigation menu with links to "SECRETARY KERRY", "MEDIA CENTER", "BLOG", "TRAVEL", "CAREERS", "BUSINESS", "YOUTH & EDUCATION", and "MyStateDepartment". A secondary navigation bar lists various policy areas: "ABOUT STATE", "POLICY ISSUES", "COUNTRIES & REGIONS", "ECONOMICS, ENERGY & ENVIRONMENT", "ARMS CONTROL & INTERNATIONAL SECURITY", "CIVILIAN SECURITY & DEMOCRACY", "PUBLIC DIPLOMACY & PUBLIC AFFAIRS", and "ASSISTANCE & DEVELOPMENT". The main content area is titled "Research Application Tracking System (RATS)" and includes a breadcrumb trail: "Home » Under Secretary for Economic Growth, Energy, and the Environment » Bureau of Oceans and International Environmental and Scientific Affairs » Fisheries, Marine Conservation, Ocean and Polar Affairs » Oceans and Polar Affairs » Marine Scientific Research Authorizations » Research Application Tracking System (RATS)". The text on the page explains that RATS is an online data management system for the Office of Ocean and Polar Affairs (OPA) to manage the marine scientific research consent regime. It states that applicants must obtain a RATS username and password from OPA and that research data and reports are not available for public reference until after the research has been conducted. A section titled "Guidance to All Applicants" lists several requirements: applicants should consult with scientists from the coastal State(s); the chief scientist or sponsoring organization should seek coastal State consent through OPA in a timely fashion; applications must be received by the coastal State no later than six months prior to the expected starting date of the research, though many coastal States accept applications with less than six months' lead time, but not less than three months; a file number will be assigned to the application and provided to the applicant; and all files uploaded to RATS must be in Portable Document Format (.pdf) with concise and appropriate file names.

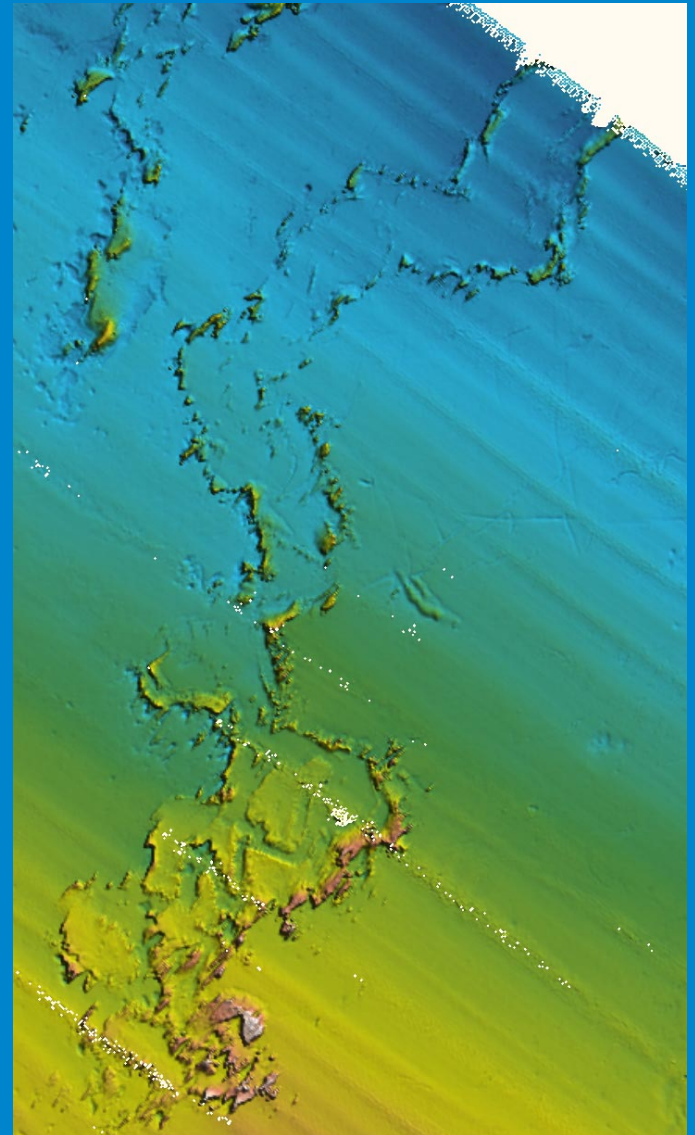
Pre-cruise Planning

Long lead time items

Use of specialized equipment


Multibeam – used elsewhere

Triaxus – also used elsewhere, but also complex



Post cruise obligations

Post cruise assessment

**University-National Oceanographic Laboratory System**

SEARCH PUBLIC RECORDS USER HOME FORMS LOG OUT

Suggestions/Request Help Frequently Asked Questions < Back

Create New Post Cruise Assessment Report

UNOLS Post-Cruise Assessment Report Form
Revised July 2011

This assessment of the research cruise you just participated in is part of a program to evaluate how well vessels and personnel of the academic research fleet are supporting the scientific objectives of the research community, and to identify areas that may need better support or guidance to improve the success of future projects. We do not require that you rate yourself while filling out this form, but allow you the opportunity to make comments if you wish.

Information provided in this form will be used by:

- Operating Institutions, Ship's Crew, and Technical Support Personnel - To make improvements to equipment and procedures on their vessels.
- UNOLS Office - To track the overall performance of the academic research fleet.
- Funding Agencies - To assess areas that require more attention.
- Yourself - To make constructive suggestions for improvement that will benefit future research projects for yourself and your colleagues and to let ship operators know what they are doing well.

Please complete the following form. When finished, clicking "submit" at the bottom of this form will generate an email, which will be sent to:

- UNOLS office
- Marine Operations Office of the ship you were embarked on
- PI for the project
- Facilities Program Managers at the Federal Funding Agencies
- You will also receive a copy of the completed evaluation by email.

The research vessels operators, federal funding agencies and UNOLS expect and very much appreciate your honest feedback. Thank you for participating in our quality improvement program. To learn more about this program go to: http://www.unols.org/issues/quality/Quality_of_Service.html.

Please do not use tabs or line breaks in your comments as it hinders the ability of the UNOLS office to import your information. Thank you.

* = Required field

Cruise Information:			
Ship:	Blue Heron	Area of Operations:	GL04
Cruise Dates:	7/8/2014 - 7/8/2014	Chief Scientist:	Richard D. Ricketts, UMN_LLO
Cruise Number:			
PIs and Funding Agencies:			
PI #1:	Richard D. Ricketts, UMN_LLO	Funding Agency:	INSTUMNDALLO
Type of Work:	testing	Grant Number:	
Ship Personnel:			
(Unknown and 'None' are acceptable answers)			
Master:		Marine Technician:	
Completer's Information:			
Name of person completing the form:	Richard Douglas Ricketts	Completer's Position on this Cruise:	Please Select *
Completer's Institution:	University of Minnesota, Duluth - Large Lakes Observatory	Completer's email:	ricketts@d.umn.edu

http://strs.unols.org/public/diu_pre_pcar.aspx

Post cruise obligations

R2R – Rolling Deck to Repository

Rolling Deck to Repository (R2R)

Home About R2R ▾ Cruise Catalog QA Dashboard News Contact Us Internal ▾

Catalog Status
(In Service) Vessels: **26**
Cruises: **3593**
Archived Files: **16098395**
July 29, 2014

News

- R2R in InterRidge 2013 Newsletter
01/27/2014
- R2R at 2013 AGU Meeting
12/09/2013
- R2R in UNOLS 2013 Newsletter
12/06/2013
- R2R in Journal of Ocean Technology
10/21/2013
- R2R joins 2013 UNOLS Training Cruise
10/20/2013
- R2R at 2013 EGU Meeting
04/08/2013

[more](#)

Overview

With their global capability and diverse array of sensors, the U.S. academic research fleet is an essential mobile observing platform for ocean science. Data collected on every expedition are of high value, especially given the high costs and increasingly limited resources for ocean exploration. The Rolling Deck to Repository (R2R) program aims to develop comprehensive fleet-wide management of underway data to ensure preservation of and access to our national oceanographic research data resources.

R2R provides is a central gateway through which underway data from oceanographic expeditions will be routinely cataloged and securely transmitted to national long-term archives including the National Geophysical Data Center (NGDC) and National Oceanographic Data Center (NODC). Data submission will be established through vessel operators rather than individual science parties.

```
graph LR
    RV[RESEARCH VESSELS] -- "data + documentation" --> R2R[R2R]
    R2R -- "assessment + feedback" --> RV
    R2R -- "data + documentation" --> AC[ASSEMBLY CENTERS]
    R2R -- "data + documentation" --> LTA[LONG-TERM ARCHIVES]
    R2R -- "fleet catalog + standard cruise products" --> FC[ ]
    AC -- "synthesis, editing, integration" --> LTA
    LTA -- "curation + dissemination" --> LTA
```

R2R will provide essential data documentation for each expedition, and tools to improve documentation of the wide array of shipboard data acquisition activities typical of modern expeditions. Protocols will be developed for post-cruise quality assessment of priority underway data types and feedback to operators. Quality assessment of meteorological data will be implemented in near-real-time in partnership with the SAMOS program.

<http://www.rvdata.us/>

Cruise Catalog | Rolling Deck to Repository (R2R)

www.rvdata.us/catalog

Search results - Google D... SIO_Data_management_2... www.nsf.gov/pubs/2011... Cruise Catalog | Rolling...

Supported by: NSF | NOAA | ONR | SOI

Rolling Deck to Repository (R2R)

Home About R2R Cruise Catalog QA Dashboard News Contact Us Internal

Catalog Status
(In Service) Vessels: 26
Cruises: 6012
Archived Files: 21520586
February 10, 2016







































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News

- R2R at 2015 AGU Meeting 12/15/2015
- 2015 UNOLS Council/ Annual Meeting 12/04/2015
- RV Falkor joins R2R Program 05/08/2015
- R2R joins EarthCube GeoLink project 12/18/2014
- R2R at 2014 AGU Meeting 12/15/2014

more

 Alpha Helix (retired)	 Atlantic Explorer	 Atlantis	 Blue Heron
 Cape Hatteras (retired)	 Clifford A. Barnes	 Corwith Cramer	 Endeavor
 Eltanin (retired)	 F.G. Walton Smith	 Falkor	 Healy
 Hugh R. Sharp	 Ka'imikai-O-Kanaloa	 Kilo Moana	 Knorr (retired)
 Laurence M. Gould	 Marcus G. Langseth	 Maurice Ewing (retired)	 Melville (retired)
 Moana Wave (retired)	 Nathaniel B. Palmer	 New Horizon (retired)	 Oceanus
 Okeanos Explorer	 Pelican	 Point Sur	 Robert C. Seamans
 Robert D. Conrad (retired)	 Robert Gordon Spruiell	 Roger Revelle	 Ronald H. Brown
 Savannah	 Sikuliaq	 Thomas G. Thompson	 Vema (retired)
 Thomas Washington (retired)	 Wecoma (retired)		

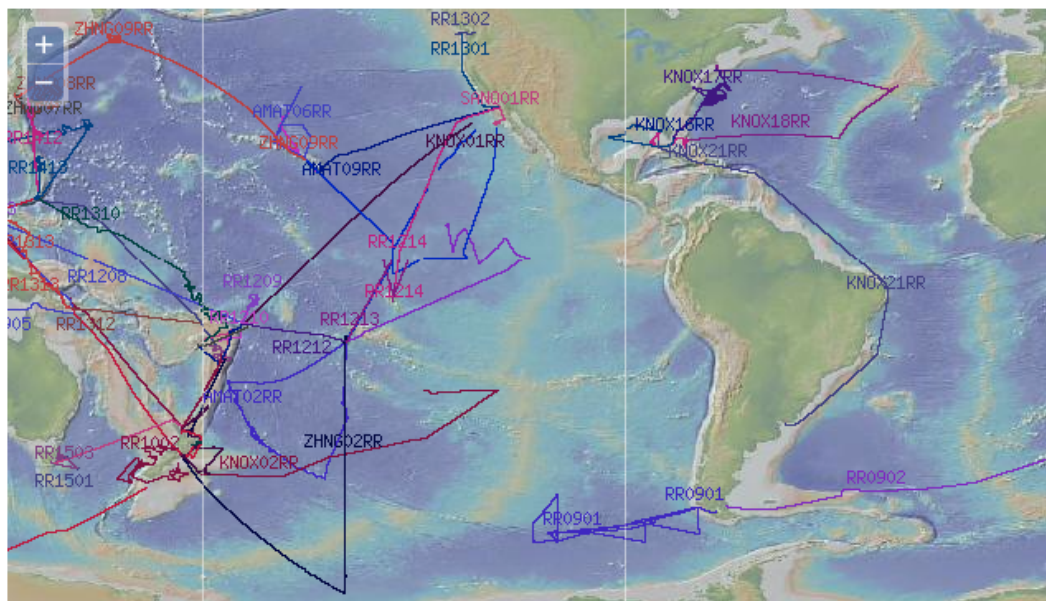
Go to "http://www.rvdata.us/"

www.rvdata.us

R2R Cruise Catalog

R2R Team: Suzanne Carbotte, LDEO, Bob Arko, LDEO, Karen Stocks, SIO, Cyndy Chandler, WHOI, Shawn Smith, FSU

Cruise Catalog: Roger Revelle



Operator: Scripps Institution of Oceanography

Cruise ID (Click for Details)	Start Date	Start Port	End Date	End Port
Summary				
RR1509	2015-06-20	Napier, New Zealand	2015-06-30	Napier, New Zealand
Project: Hikurangi Ocean Bottom Investigation of Tremor and Slow Slip (HOBITSS) (Info 🔗)				
Chief: Wallace, Laura (UTIG)				
RR1508	2015-05-19	Auckland, New Zealand	2015-06-17	Napier, New Zealand
Project: Subduction Thrust Investigation of New Zealand using Geothermics and Seismics (STINGS) (Info 🔗)				
Chief: Harris, Robert (OSU)				
RR1507	2015-04-21	Auckland, New Zealand	2015-05-14	Auckland, New Zealand
Project: Collaborative Research: Geochemical effects on the functional microbial community dynamics of hydrothermal deposits along the Eastern Lau Spreading Center				

(261 cruises)



What you need to know about R2R as a chief scientist

- You are not responsible for submitting routine underway data to a repository.
- Post-cruise you will receive an email asking you to release data – you can decline (and we'll ask again periodically.) R2R does not release data publicly without permission.
- After you release, you can point people to R2R if they ask you for underway data. You can use the standard products & QC dashboard.

