

# Rolling Deck to Repository (R2R) Program

## Mission:

Stewardship of routinely-acquired  
environmental sensor data  
+documentation from U.S. academic  
research fleet

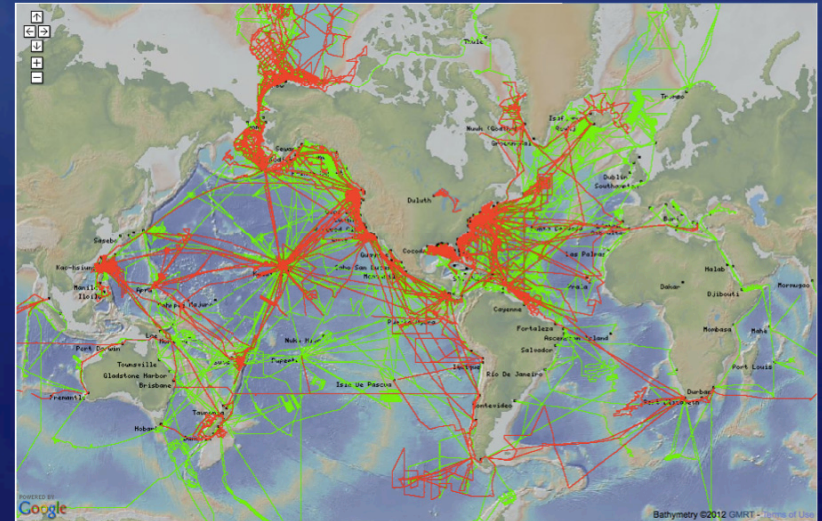
## Funding:

NSF GEO Ocean+Polar Divisions  
ONR

## Services:

- Publish master cruise catalog
- Organize, archive, and disseminate data+documentation
- Assess data quality
- Create post-processed and/or quality-controlled data products
- Support at-sea event logging

As of November 2014:  
3,703 Cruises  
17.5M Files Archived



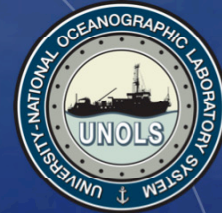
- New cruises since R2R launch in 2009
- Additional/ legacy cruises



Lamont-Doherty Earth Observatory  
COLUMBIA UNIVERSITY | EARTH INSTITUTE



Program Team  
(LDEO, FSU, SIO, WHOI)



Academic  
Fleet Office



International  
Partners

# R2R Partners



Fleet  
Operators



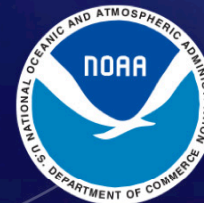
Disciplinary  
Data Systems



IEDA



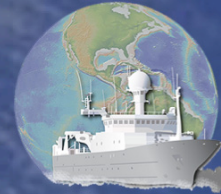
Geoinformatics  
Community



National  
Data Centers



# Program Team



## Institutional Leads

R.Arko, LDEO Tech. Director  
S.Carbotte, LDEO Lead PI  
C.Chandler, WHOI  
S.Smith, FSU  
K.Stocks, SIO Prog. Coordinator

## Staff Updates

Thank you: A.Sweeney  
Welcome: C.Olson

## Questions and comments

[info@rvdata.us](mailto:info@rvdata.us)  
<http://rvdata.us/contact>

## Team Members present this week:

R.Arko, D.Clark, V.Ferrini, C.Nobre,  
S.Smith, K.Stocks, L.Stolp

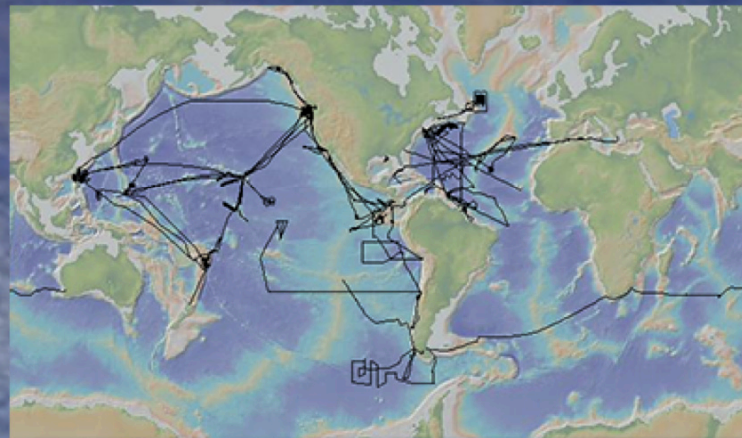


# Past Year

- Cataloged +archived data packages for 437 new cruises from 22 vessels  
*Poster: Clark et al.*
- Produced quality-controlled navigation for 328 new cruises
- Assessed quality of 530 multibeam data sets to date
- Produced quality-controlled geophysical profiles (MGD77T files) for 92 cruises to date
- Produced routine quality-controlled near-real-time MET/TSG (SAMOS) for 10 university vessels  
*Poster: Smith et al.*
- Supported EventLogger deployment on 60+ cruises to date
- Operationalized quality assessment and post-processing of CTD profiles  
*Poster: Nobre et al.*



# Past Year <sup>(cont.)</sup>

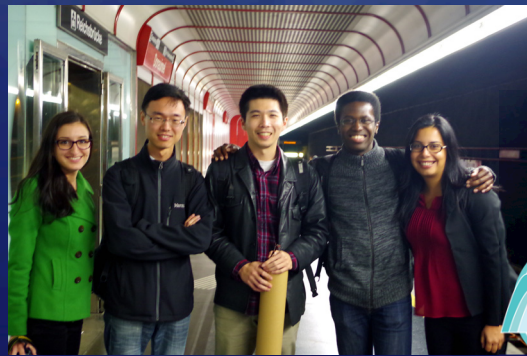


Data  
Synthesis



IEDA

As of 2014, R2R has contributed 100+ multibeam cruises to the GMRT global bathymetry compilation



Workforce  
Development



R2R student fellows work with EU+AU developers on interoperable data systems

Office of Response and Restoration

Environmental Response Management Application (ERMA)

ERMA<sup>®</sup> is an online mapping tool that integrates both static and real-time data, such as Environmental Sensitivity Index (ESI) maps, ship locations, weather, and ocean currents, in a centralized, easy-to-use format for environmental responders and decision makers.

ERMA enables a user to quickly and securely upload, manipulate, export, and display spatial data in a Geographic Information System (GIS) map.

Developed by NOAA and the University of New Hampshire<sup>®</sup> with the U.S. Environmental Protection Agency, U.S. Coast Guard, and U.S. Department of Interior, ERMA provides environmental resource managers with the data necessary to make informed decisions for environmental response.

Learn how to [reference ERMA in a bibliography](#)<sup>®</sup>.

Here, ERMA displays sampling locations in the Gulf of Mexico for the NOAA Mussel Watch Program, which monitored contaminant levels from *Mussels* before and after the *Macondo* well blow-out in 2010 (well site shown in yellow). Source: NOAA.

US Academic Fleet

Vessel location as Acorn/GeoRSS Simple feed via R2R Program

<b>Atlantic Explorer</b>
MMSI:303591000 ICES:33H4 IMO:8120014 Radio:W0C9417
<b>Atlanta</b>
MMSI:367241000 ICES:33AT IMO:9105798 Radio:KAGP
<b>Endeavor</b>
MMSI:303471000 ICES:32EV IMO:7604300 Radio:WCE5083
<b>F.G. Walton Smith</b>
MMSI:367020910 ICES:33HA IMO:8964501 Radio:W0C2922
<b>Katimil-La-Kanilag</b>
MMSI:303165000 ICES:33K0 IMO:7682233 Radio:W8N4310
<b>Kilo Moana</b>
MMSI:365650000 ICES:33K8 IMO:8229037 Radio:WDA7827
<b>Knorr</b>
MMSI:367246000 ICES:31N6 IMO:738618 Radio:KCEJ
<b>Laurence M. Gould</b>
MMSI:368138000 ICES:33LG IMO:9137337 Radio:W0C7445
<b>Metville</b>
MMSI:366764000 ICES:318M IMO:7386911 Radio:W0C8
<b>New Horizon</b>
MMSI:303273000 ICES:32NM IMO:7728211 Radio:W0W8
<b>Odyssey</b>
MMSI:367977000 ICES:33DC IMO:7603617 Radio:W0AQ

Enviro  
Response



R2R provides GeoRSS feed with ship positions + cruise catalog links to ERMA



# 2014-19 Work Plan

## 1. Routine Operation

- Upload, breakout, stage, release, and archive cruise data packages
- Populate R2R Catalog and standard publication services
- Assess quality of selected data types including annual reports to technicians
- Create post-processed and/or quality-controlled data products for shiptrack navigation, geophysical profiles, real-time MET/TSG (SAMOS), and CTD profiles
- Support at-sea EventLogger in network and laptop modes



# 2014-19 Work Plan <sup>(cont.)</sup>

## 2. Improve /extend services

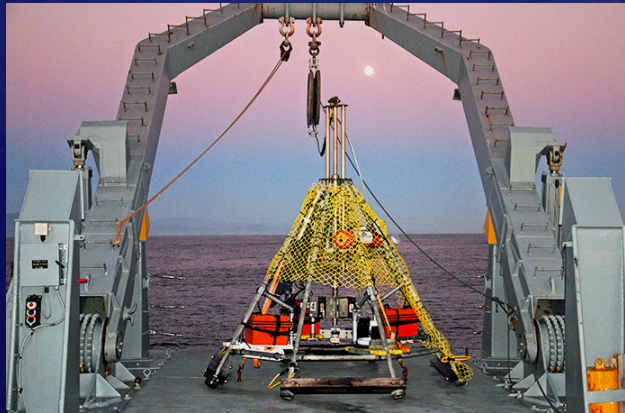
- Break out additional post-cruise data sets: Met, TSG, Flowmeter, Fluorometer, pCO<sub>2</sub>, Transmissometer
- Launch new Web site with map/keyword search features etc
- Operationalize Vessel Device Editor
- Operationalize at-sea EventLogger +develop training materials
- Recruit additional vessels to SAMOS
- Operationalize QA for CTD and ADCP; develop new QA for Subbottom and Fluorometer
- Develop microserver to support both R2R EventLogger and science party apps
- Release portable code to generate Nav products
- Operationalize CTD post-processing; upgrade MGD77T files with Subbottom shotpoints
- Support rescue of legacy cruise data



# 2014-19 Work Plan <sup>(cont.)</sup>

## 3. Feedback

- Present results at science community meetings
- Annual working meetings with NOAA R2R Team and Data Centers
- Convene R2R Advisory Panels in 2015 and 2017



*(Photo: Ellen Roosen, WHOI)*





# Related Efforts



1. Ocean Data Interoperability Platform (ODIP) work with European and Australian data managers



2. NSF EarthCube Council of Data Facilities, Technical Governance, and “Building Block” projects



3. Prototype development toward NOAA Cruise Catalog



Thank you.

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