



Rolling Deck to Repository: Linking Data Across the Research Fleet

Curators Meeting - April 25-27, 2017 (Corvallis)



Mission

Stewardship of environmental sensor data routinely acquired by U.S. academic research vessels

Services:

- Publish master cruise catalog
- Document, preserve, disseminate original field datasets
- Assess quality of selected data types
- Create post-field data products
- Support at-sea event logging

Supported by:

NSF , ONR, NOAA, SOI, UNOLS



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)



Nathaniel B. Palmer



Neil Armstrong



New Horizon (retired)



Oceanus



Okeanos Explorer



Pelican



Point Sur



Polar Sea



Robert C. Seamans



Robert D. Conrad (retired)



Robert Gordon Sproul



Roger Revelle



Ronald H. Brown



Sally Ride



Savannah



Sikuliaq



Thomas G. Thompson



Vema (retired)



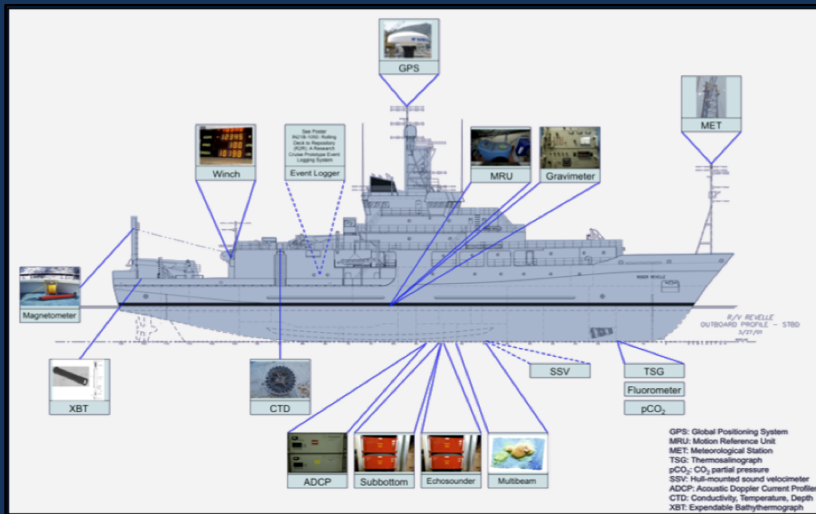
Thomas Washington (retired)



Wecoma (retired)



Sensor Types



Geophysics:

Echosounder
Gravimeter
Magnetometer
Multibeam

Meteorology:

Anemometer
Barometer
Hygrometer
Radiometer
Rain Gauge
Temperature

Oceanography:

ADCP
CTD
Fluorometer

:

Nutrients
Oxygen
pCO₂
pH
Temperature
Transmissometer
TSG
Wave Radar
XBT/XCTD

Navigation:

Camera
GNSS/INS
Gyrocompass
Speedlog

:



Partnerships

*Growing number of
DataONE nodes
that hold marine data:*



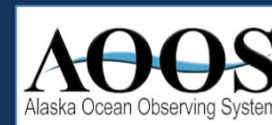
*NSF - Supported
Federation of
Data Repositories*



NCEI



LTER Sites



R2R

:



(cont.)

Partnerships



EarthCube

SeaView project: Create thematic data collections , organized+formatted.

Collaborators

CCHDO

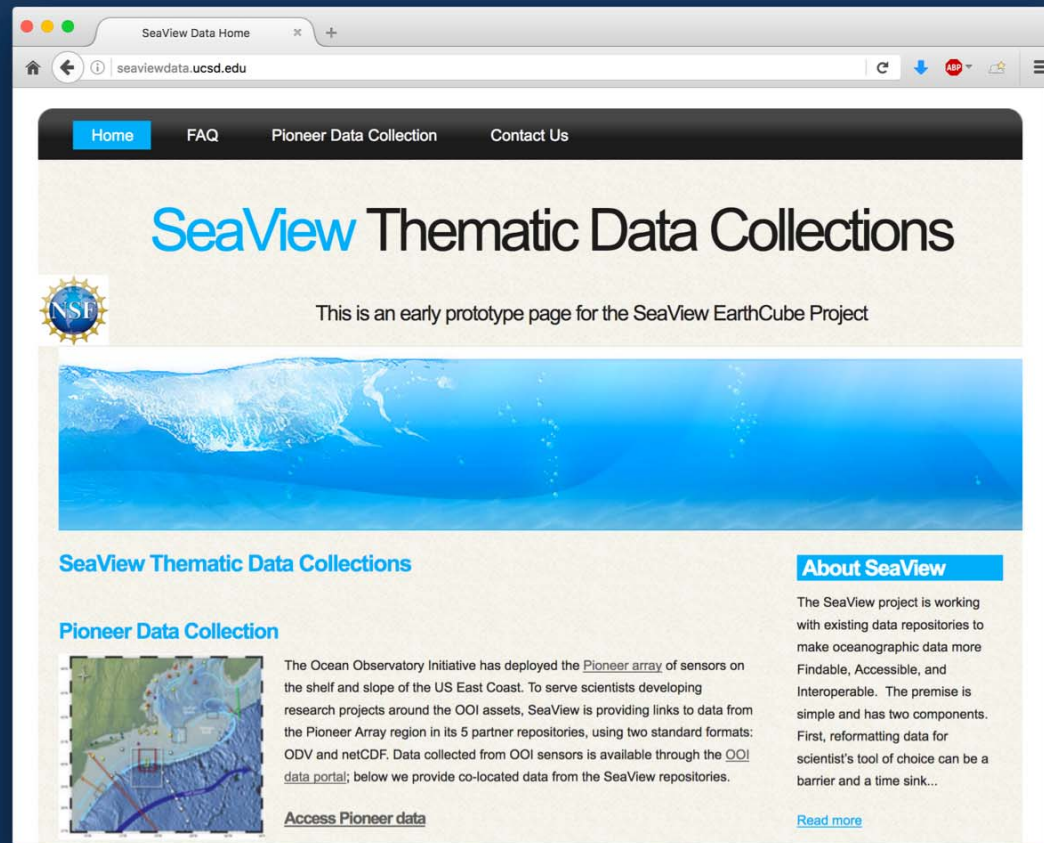
BCO-DMO

* R2R

OOI

OBIS

K.Stocks ,Lead



<https://eos.org/articles/unifying-ocean-data-into-one-searchable-set>

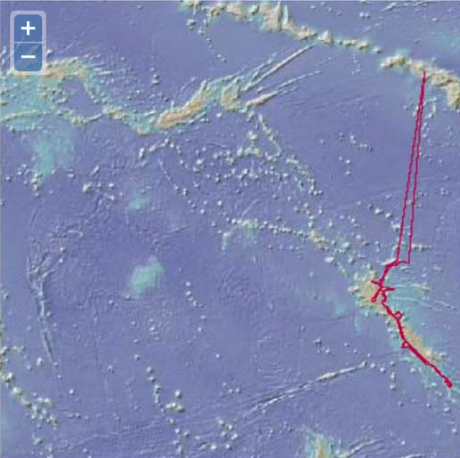


Cruise Catalog: MGL1208 | www.rvdata.us/catalog/MGL1208

Home

Cruise Catalog: MGL1208

Cruise DOI: [10.7284/903777](https://doi.org/10.7284/903777)



Operator: Lamont-Doherty Earth Observatory
Vessel: Marcus G. Langseth

Cruise ID	Start Date	Start Port
MGL1208	2012-04-30	Honolulu, Hawaii

Details

Project: Coring the Line Islands Ridge for Pale

SCIENCE PARTY

Lynch-Stieglitz, Jean	Scientist, Chief
Castro, Victor	Scientist
Hovan, Steven	Scientist
Lyle, Mitchell	Scientist
Murray, Richard	Scientist
Pockalny, Robert	Scientist
Polissar, Pratiqva	Scientist

FILE MANIFEST

UNDERWAY DATA SETS (ORIGINAL FIELD DATA)

Device Type	Make-Model [Location]	Files	DOI	Quality Assess	Download
adcp	Hawaii UHDAS	List	10.7284/107716		NCEI Link
ctd	Sea-Bird SBE-19	List	10.7284/105190		R2R Link
expendableprobe	Sippican MK21	List	10.7284/105178		R2R Link
gnss	C&C C-Nav 2000	List	10.7284/105192		R2R Link
gnss	C&C C-Nav 3050	List	10.7284/105189	Report	R2R Link
gravimeter	Bell BGM-3	List	10.7284/105193	Report	R2R Link
gyrocompass	Kongsberg Simrad GC80	List	10.7284/105183		R2R Link
ins	Kongsberg Seapath 200	List	10.7284/105182		R2R Link
metstation	RM Young 26700	List	10.7284/105180		R2R Link
multibeam	Kongsberg EM122	List	10.7284/105179	Report	NCEI Link
pco2	LDEO pCO2	List	10.7284/105184		R2R Link
singlebeam	Knudsen 3260	List	10.7284/105188	Report	NCEI Link
tsg	Sea-Bird SBE-21	List	10.7284/105185		R2R Link
winch	Lebus CTD	List	10.7284/105186		R2R Link

R2R PRODUCTS (POST-FIELD PROCESSED)

RELATED DOCS

Science Cruise Report
Operations Report

FUNDING AWARDS

PUBLICATIONS

Lyle, M., et al. (2016), Dynamic carbonate sedimentation on the Northern Line Islands Ridge, Palmyra Basin, *Mar. Geol.* 379, pp. 194-207, DOI: [10.1016/j.margeo.2016.06.005](https://doi.org/10.1016/j.margeo.2016.06.005).

Lynch-Stieglitz, J., et al. (2015), Glacial-interglacial changes in central tropical Pacific surface seawater property gradients, *Paleoceanography* 30(5), pp. 423-438, DOI: [10.1002/2014PA002746](https://doi.org/10.1002/2014PA002746).

RELATED DATA

Index to Marine and Lacustrine Geological Samples (Info)	Samples
System for Earth Sample Registration (Info)	Samples

Cruise Catalog

- Vessel ID
- Cruise ID+Title
- Trackmap
- Program,Campaign
- Dates+Ports
- Science Party
- File Manifest
- Underway Data
- QA Reports
- Products
- Related Cruises
- Publications
- Funding
- Related Data



(cont.)

Cruise Catalog

Cruise

Dynamic carbonate sedimentation on the Northern Line Islands Ridge, Palmyra Basin

Marine Geology
Volume 379, 1 September 2016, Pages 194–207

Dynamic carbonate sedimentation on the Northern Line Islands Ridge, Palmyra Basin

Mitchell Lyle^a, Robert Pockalny^a, Pratigya Polissar^a, Jean Lynch-Stieglitz^a, Samantha Bova^a, Ann G. Dunlea^a, Heather Ford^a, Jennifer E. Hertzberg^{a,1}, Steven Hovan^a

<http://doi.org/10.1016/j.margeo.2016.06.005>

Highlights

- Recent MGL1208 survey of Line Islands Ridge evaluates sedimentation on LIR.
- LIR and its apron add 5% to the equatorial Pacific carbonate province.
- Channels on LIR result from active erosion of pelagic carbonates to LIR apron.
- Strong currents on northern LIR forms foraminiferal sand waves in Palmyra Basin.
- Up to 1.3 km of sediment has accumulated since the late Cretaceous despite erosion.

Journal Article

Samples

Jean Lynch-Stieglitz

ORCID ID
<http://orcid.org/0000-0002-9353-1972>

Other IDs
Scopus Author ID: 6603963528

Works (67)

The Atlantic Meridional Overturning Circulation and Abrupt Climate Change
Annual Review of Marine Science
2017-01-03 | Journal-article
DOI: 10.1146/annurev-marine-010816-060415
Source: CrossRef Metadata Search

Dynamic carbonate sedimentation on the Northern Line Islands Ridge, Palmyra Basin
Marine Geology
2016-09 | Journal-article
DOI: 10.1016/j.margeo.2016.06.005
Source: CrossRef Metadata Search

Researcher Profile

Cruise Catalog: MGL1208

Cruise DOI: 10.7284/903777

UNDERWAY DATA SETS (ORIGINAL FIELD DATA)

Device Type	Make/Model	Location	Files	DOI	Quality Assess	Download
atdp	Hawaii UNDAAS		Link	10.7284/107716	NCEI	Link
cld	Sea-Bird SBE-19		Link	10.7284/105190	R2R	Link
expendedprobe	Sippican MK21		Link	10.7284/105178	R2R	Link
gms	CAC C-New 2000		Link	10.7284/105192	R2R	Link
gms	CAC C-New 3050		Link	10.7284/105189	Report	Link
gravimeter	Bell BGM-3		Link	10.7284/105193	R2R	Link
gyrocompass	Kongsberg Simrad GC80		Link	10.7284/105183	R2R	Link
ins	Kongsberg Seaswath 200		Link	10.7284/105182	R2R	Link
metabath	RH Young 26700		Link	10.7284/105180	R2R	Link
multibeam	Kongsberg EM122		Link	10.7284/105179	Report	Link
psd2	LDEO pC02		Link	10.7284/105184	R2R	Link
singlebeam	Knudsen 3260		Link	10.7284/105188	Report	Link
tng	Sea-Bird SBE-21		Link	10.7284/105185	R2R	Link
winch	Larus CTD		Link	10.7284/105186	R2R	Link

R2R PRODUCTS (POST-FIELD PROCESSED)

RELATED DOCS

Science Cruise Report

Operations Report

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PUBLICATIONS

Lyle, M., et al. (2016) Dynamic carbonate sedimentation on the Northern Line Islands Ridge, Palmyra Basin, Mar. Geol. 379, pp. 194-207. DOI: 10.1016/j.margeo.2016.06.005

Lynch-Stieglitz, J., et al. (2015) Global interglacial changes in central tropical Pacific surface seawater property gradients, Paleoceanography 30(5), pp. 423-438. DOI: 10.1002/2014PA002265

RELATED DATA

Index to Marine and Lacustrine Geological Samples (IMLGS)

System for Earth Sample Registration (Info)

Samples for Cruise MGL1208

NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION


Index to Marine and Lacustrine Geological Samples (IMLGS)

44 Samples/Holes from MGL1208 are in the Index

Repository Link	Ship/Platform	R2R Data Link	Sample Data Link	Device	Latitude	Longitude	Water Depth (m)	Collection Date	IGSN Link
LDEO	Marcus G. Langseth	MGL1208	MGL1208-01	core, piston	21.1995	-158.52517	2960	20120430	DSR00054C
LDEO	Marcus G. Langseth	MGL1208	MGL1208-01	corer, trigger wt.	21.1995	-158.52517	2960	20120430	DSR00054D
LDEO	Marcus G. Langseth	MGL1208	MGL1208-02	core, gravity	8.2044	-160.12913	1349	20120504	DSR00054E
LDEO	Marcus G. Langseth	MGL1208	MGL1208-03	core, gravity	5.70367	-161.2385	2088	20120505	DSR00054F
LDEO	Marcus G. Langseth	MGL1208	MGL1208-04	core, gravity	6.34033	-161.027	1866	20120506	DSR00054G
LDEO	Marcus G. Langseth	MGL1208	MGL1208-05	core, gravity	6.3405	-161.02733	1863	20120506	DSR00054H
LDEO	Marcus G. Langseth	MGL1208	MGL1208-06	core, gravity	6.408	-161.0075	2371	20120506	DSR00054I
LDEO	Marcus G. Langseth	MGL1208	MGL1208-07	core, gravity	6.39813	-160.7686	3163	20120506	DSR00054J
LDEO	Marcus G. Langseth	MGL1208	MGL1208-08	core, piston	6.398	-160.76872	3163	20120507	DSR00054K
LDEO	Marcus G. Langseth	MGL1208	MGL1208-08	corer, trigger wt.	6.398	-160.76872	3163	20120507	DSR00054L



Cruise Search

- Vessel
- Cruise ID
- Dates
- Program
- Campaign
- **Partner** 
- WESN
- Institution
- Person

www.rvdata.us/search

Cruise Search

Vessel: (ANY)

Cruise: (quick select of recent cruises from the last ~three years) (ANY)

Dates: 1950 01 01 From 2020 12 31 To

Program: (broad community initiative, typically decadal-scale or greater) (ANY)

Campaign: (series of closely-related cruises for a single project) (ANY)

Partner: (repository that holds additional content related to a cruise) (ANY)

- BCO-DMO (Biological & Chemical Oceanography Data Management Office)
- CCHDO (CLIVAR and Carbon Hydrographic Data Office)
- ECL (EarthChem Library)
- IMLGS (Index to Marine and Lacustrine Geological Samples)
- MGDS (Marine Geoscience Data System)
- OBSIP (Ocean Bottom Seismograph Instrument Pool)**
- SAMOS (Shipboard Automated Meteorological and Oceanographic System)
- SEASAR (System for Earth Sample Registration)
- USAP-DC (United States Antarctic Program Data Center)

N: 88
W: -180 E: 180
S: -76

Person: (science party member, observer, or vessel technician) (ANY)

Institution: (ANY)

Search **Reset**

www.rvdata.us/search/result

Search Result

Search Again

Query = Ocean Bottom Seismograph Instrument Pool (OBSIP)
Number of Cruises = 93

Cruise ID	DOI	Vessel	Depart Date	Port	Arrive Date	Port
MGL1610	10.7284/907099	Langseth	2016-10-23	Arica	2016-12-09	Arica
MGL1601	10.7284/906652	Langseth	2016-01-04	Porto Grande	2016-02-25	Porto Grande
MGL1521	10.7284/906516	Langseth	2015-11-18	Piraeus	2015-12-16	Iraklion
OC1510A	10.7284/906665	Oceanus	2015-10-07	Newport	2015-10-18	Newport
TN331	10.7284/906264	Thompson	2015-10-01	Newport	2015-10-15	Newport
OC1508B	10.7284/906267	Oceanus	2015-08-26	Port Hueneme	2015-09-02	Newport
RR1509	10.7284/902022	Revelle	2015-06-20	Napier	2015-06-30	Napier
MGL1408	10.7284/904085	Langseth	2014-09-15	Norfolk	2014-10-22	Norfolk
OC1409A	10.7284/900721	Oceanus	2014-09-07	Newport	2014-09-26	Newport
OC1408A	10.7284/900719	Oceanus	2014-08-09	Newport	2014-08-13	Newport
OC1407B	10.7284/900718	Oceanus	2014-07-24	Newport	2014-08-06	Newport
OC1407A	10.7284/900717	Oceanus	2014-07-10	Newport	2014-07-19	Newport
TN312	10.7284/900991	Thompson	2014-06-22	Newport	2014-07-06	Seattle

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



Data Syntheses

Key metric of success is volume of data contributed to global synthesis products.

Current:

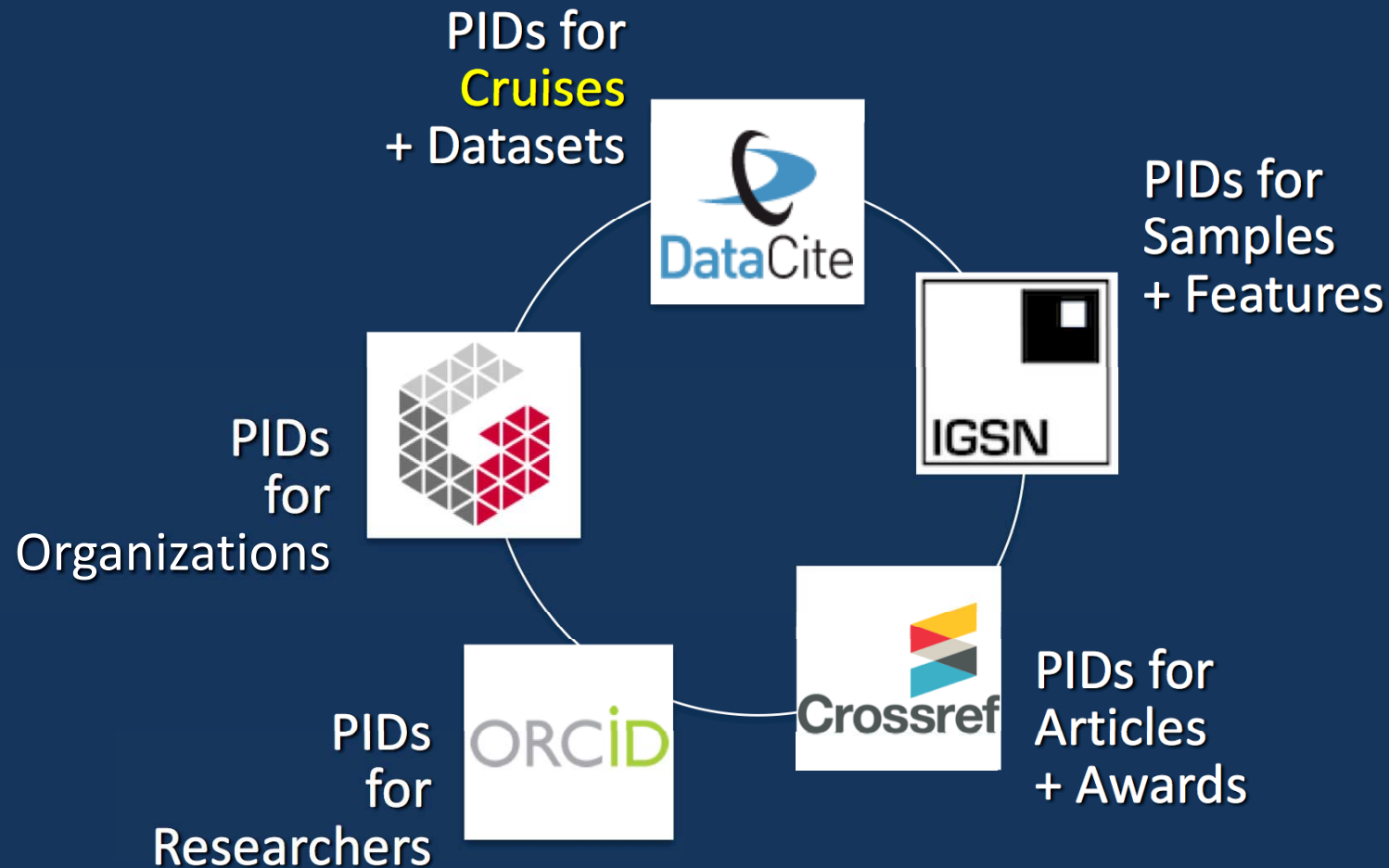
- Global Multi-Resolution Topography (GMRT)
- Int'l Comprehensive Ocean-Atmosphere Data Set (ICOADS)

On Deck:

- NCEI Multibeam Bathymetry Mosaic/Subsets
- World Ocean Database - CTD/XBT
- Global Ocean Currents Database (GOCD)
- Global Thermosalinograph (TSG) Synthesis



The Future: Persistent Identifiers



(cont.)

Persistent Identifiers

Motivation: The 3 R's

- Reproducibility - what journals want
- Reuse - what funders want
- Recognition - what scientists want



Persistent Identifiers *(cont.)*

Example
“Cruise” DOI
for
MGL1208

Identifier Details

ABOUT THE IDENTIFIER

Identifier: doi:10.7284/903777
Identifier as URL: <https://doi.org/10.7284/903777>

ABOUT THE IDENTIFIED OBJECT

Location (URL): <http://www.rvdata.us/catalog/MGL1208>
Creators: Rolling Deck to Repository [DOI=10.17616/R39C8D]
Title: Cruise MGL1208 on RV Marcus G. Langseth
Publisher: Rolling Deck to Repository (R2R) Program
Publication year: 2015
Language: en
Resource type: Event/Field_expedition
Description [Abstract]: Coring the Line Islands Ridge for Paleocceanographic Research
Contributors: Lynch-Stieglitz, Jean [ORCID=0000-0002-9353-1972] [ProjectLeader] [Georgia Institute of Technology]; Lamont-Doherty Earth Observatory [Producer]; National Science Foundation [DOI=10.13039/100000001] [Funder]
Dates: 2012-04-30/2012-05-26 [Collected]
Alternate identifiers: <http://data.rvdata.us/id/cruise/MGL1208> [URL]
Related identifiers: 10.1002/2014PA002746 [DOI] [IsReferencedBy]
Version: 1
Geolocations: Honolulu, Hawaii/Honolulu, Hawaii; [box -161.65709 -.36953 -155.89175 21.31648]

★ Next step:
Add IGSNs



(cont.)

Persistent Identifiers

- Field Deployments
 - Ocean Observing Initiative (OOI) will reuse R2R's Cruise DOIs
 - Int'l Ocean Discovery Program (IODP) will publish DOIs for expeditions
 - Continental Drilling Office (CSDCO) will publish DOIs for projects
- Persons and Organizations
 - R2R has mapped 740+ ORCID IDs and 540+ GRID IDs



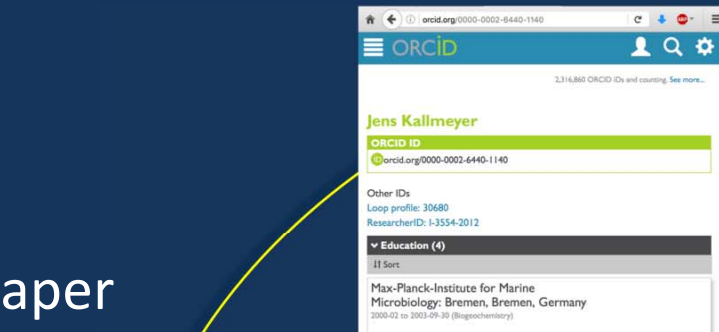
Persistent Identifiers (cont.)

ORCID

Cruise @R2R

Award @NSF

Paper



ORCID iD: 0000-0002-6440-1140

Other IDs:
Loop profile: 30680
ResearcherID: I-3554-2012

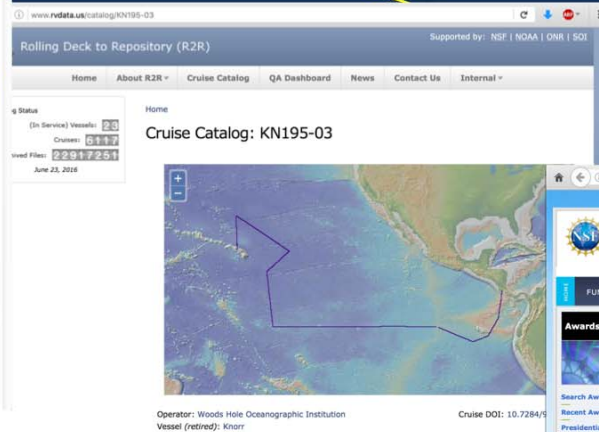
Education (4)
Max-Planck-Institute for Marine Microbiology, Bremen, Germany
2000-01 to 2003-09-30 (Biogeochemistry)



Aerobic Microbial Respiration in 86-Million-Year-Old Deep-Sea Red Clay

Hans Ray^{1,*}, Jens Kallmeyer², Rishi Ram Adhikari², Robert Pockalny³, Bo Barker Jørgensen¹, Steven D'Hondt¹

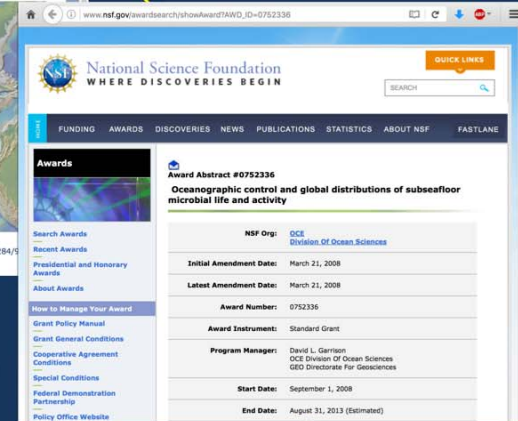
Science 18 May 2012;
Vol. 336, Issue 6083, pp. 922-925
DOI: 10.1126/science.1219424



Rolling Deck to Repository (R2R)

Cruise Catalog: KN195-03

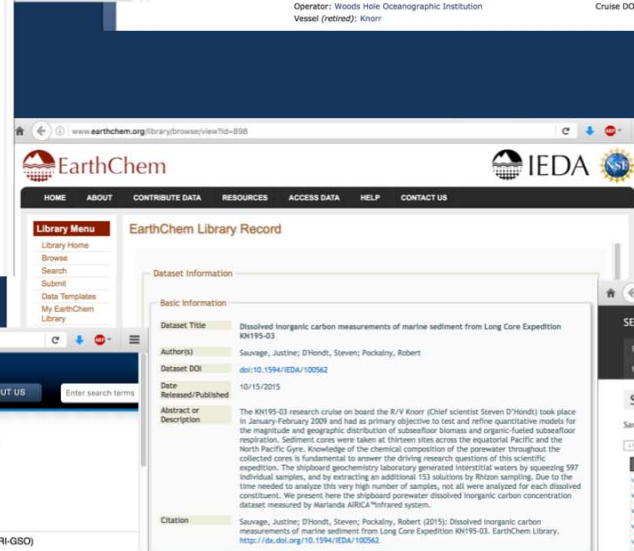
Operator: Woods Hole Oceanographic Institution
Vessel (retired): Knorr



Award Abstract #0752336
Oceanographic control and global distributions of subsurface microbial life and activity

NSF Org: OCE Division Of Ocean Sciences

Initial Amendment Date: March 21, 2008
Latest Amendment Date: March 21, 2008
Award Number: 0752336
Award Instrument: Standard Grant
Program Manager: David L. Garrison
Start Date: September 1, 2008
End Date: August 31, 2013 (Estimated)



EarthChem Library Record

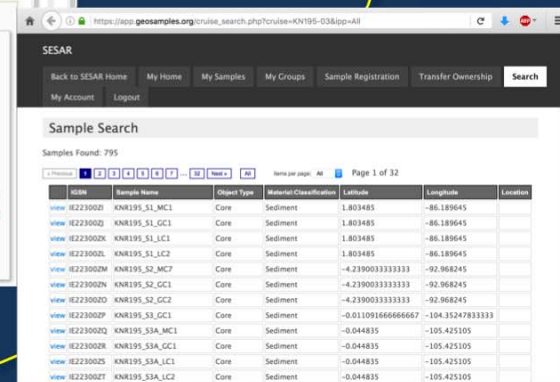
Dataset Title: Dissolved inorganic carbon measurements of marine sediment from Long Core Expedition KN195-03

Author(s): Saurage, Justine; D'Hondt, Steven; Pockalny, Robert

Dataset DOI: doi:10.1594/IEDA/100562

Date Released/Published: 10/15/2015

Citation: Saurage, Justine; D'Hondt, Steven; Pockalny, Robert (2015): Dissolved inorganic carbon measurements of marine sediment from Long Core Expedition KN195-03. EarthChem Library. <https://doi.org/10.1594/IEDA/100562>



SESAR

Sample Search

Samples Found: 795

ID	Sample Name	Object Type	Material Classification	Latitude	Longitude	Location
view 8223002	KN195_S1_MC1	Cone	Sediment	1.803485	-86.189645	
view 8223002	KN195_S1_GC1	Cone	Sediment	1.803485	-86.189645	
view 8223002	KN195_S1_LC1	Cone	Sediment	1.803485	-86.189645	
view 8223002	KN195_S1_LC2	Cone	Sediment	1.803485	-86.189645	
view 8223002	KN195_S2_MC7	Cone	Sediment	-4.239003333333	-92.968245	
view 8223002	KN195_S2_GC1	Cone	Sediment	-4.239003333333	-92.968245	
view 8223002	KN195_S2_GC2	Cone	Sediment	-4.239003333333	-92.968245	
view 8223002	KN195_S3_GC1	Cone	Sediment	-0.011091666666667	-104.35247833333	
view 8223002	KN195_S3A_MC1	Cone	Sediment	-0.044835	-105.421510	
view 8223002	KN195_S3A_GC1	Cone	Sediment	-0.044835	-105.421510	
view 8223002	KN195_S3A_LC1	Cone	Sediment	-0.044835	-105.421510	
view 8223002	KN195_S3A_LC2	Cone	Sediment	-0.044835	-105.421510	

Dataset @ECL

Samples @SESAR

Dataset @BCO-DMO



Next Steps

1. Work with Repositories (both Samples and Data) to enhance their standard operating procedures:



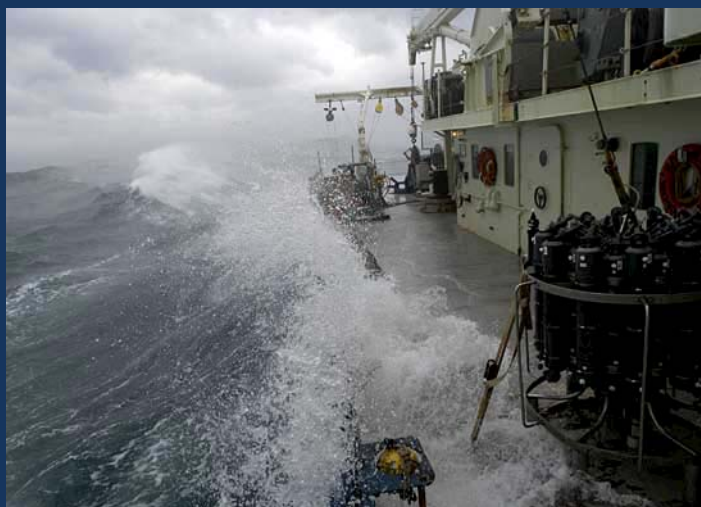
- Link Samples to Deployment IDs
 - R2R Cruises
 - IODP Expeditions
 - CSDCO Projects
 - (etc.)



- Link Datasets to Sample IDs
- Links Researchers to ORCID IDs

2. Work with Publishers to link Datasets +Samples to Papers





info@rvdata.us

