Rolling Deck to Repository (R2R): R2R Eventlogger: Community-wide Recording of Oceanographic Cruise Science

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rvdata.us

Abstract

Methods used by researchers to track science events during a science research cruise - and to note when and where these occur - varies widely. Handwritten notebooks, printed forms, watch-keeper logbooks, data-logging software, and customized software have all been employed. The quality of scientific results is affected by the consistency and care with which such events are recorded and integration of multi-cruise results is hampered because recording methods vary widely from cruise to cruise.

The Rolling Deck to Repository (R2R) program has developed an Eventlogger system that will eventually be deployed on most vessels in the academic research fleet. It is based on the open software package called ELOG (http://midas.psi.ch/elog/) originally authored by Stefan Ritt and enhanced by our team. Lessons have been learned in its development and use on several research cruises. We have worked hard to find approaches that encourage cruise participants to use tools like the eventlogger. We examine these lessons and several eventlogger datasets from past cruises. We further describe how the R2R Science Eventlogger works in concert with the other R2R program elements to help coordinate research vessels into a coordinated mobile observing fleet.

Making use of data collected on different research cruises is enabled by adopting common ways of describing science events, the science instruments employed, the data collected, etc. The use of controlled vocabularies and the practice of mapping these local vocabularies to accepted oceanographic community vocabularies helps to bind shipboard research events from different cruises into a more cohesive set of fleet-wide events that can be queried and examined in a cross-cruise manner. Examples of the use of the eventlogger during multi-cruise oceanographic research programs along with examples of resultant eventlogger data will be presented. Additionally we will highlight the importance of vocabulary use strategies to the success of the Eventlogger use by the research community.

In the future, the R2R Science Eventlogger will run on a dedicated "plugable" linux computer installed on each research vessel network. Best practice documents supporting increased consistency for underway instrument data collection, quality assessment of underway instrument data, and other useful capabilities made available on this common shipboard server platform will begin to provide a common set of web-services and science software tools for the "fleet-observatory".

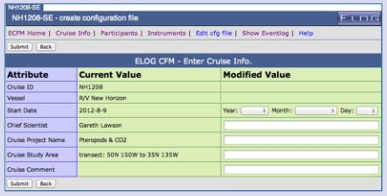
http://rvdata.us/

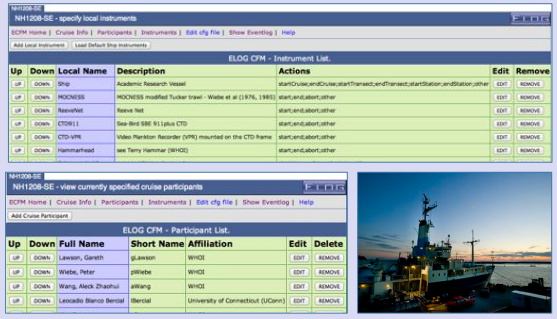
The Rolling Deck to Repository Project acknowledges support from the NSF Oceanographic Instrumentation and Technical Services (OITS) Program.

1 Register to use it

http://www.rvdata.us/contact/elog

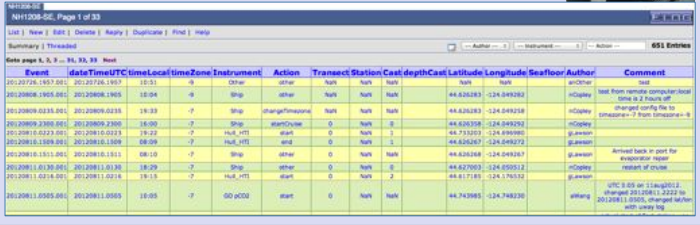
2 Configure it before Cruise



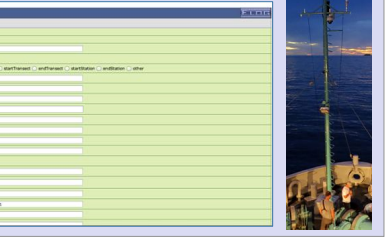


3 Use it during Cruise

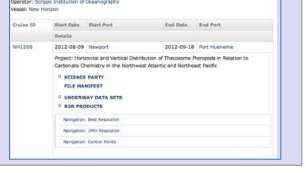
The full log of sampling events can be viewed during cruise.



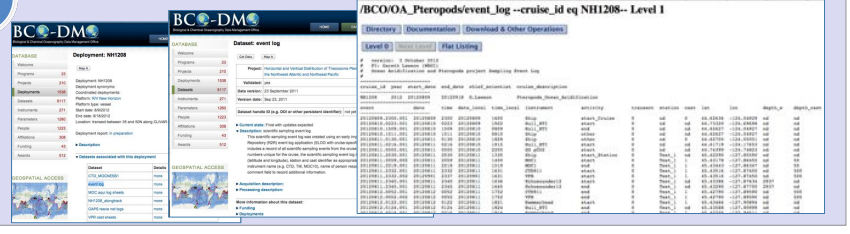
Sampling events are recorded during the cruise. New events (see below) can be entered using a browser client running on any networked device.



4 Cruise data in R2R Catalog



5 Integrate R2R products into repositories



Elogger Cruises

		Chief Scientist	Affiliation	Type of Cruise
R/V Atlantic Explorer	AE1211	David Black	Stony Brook	
R/V Atlantis	AT18-06	Peter Lemmond	WHOI	EM122 Trials
	AT18-12	Scott Nooner	LDEO	Geodetic Surveys/ Jason
	AT18-13	None	WHOI	Transit
	AT18-14	Ginny Edgecomb	WHOI	
	AT19	Craig Lee	UW	LATMIX2 Multiship Project
R/V Cape Hatteras	CH0511	Jim Ledwell	WHOI	LatMix1 Multiship Project
R/V Endeavor	EN484	Gareth Lawson	WHOI	CTD/MOC
	EN487	Gareth Lawson	WHOI	CTD/MOC
	EN494	Tom Sanford	URI	LatMix1 Multiship Project
	EN502	Cindy Lee	UW	CTD
	EN513	David Black	Stony Brook	CTD
	EN520	David Black	Stony Brook	CTD
R/V Knorr	KN200-02	Dave Herbert	URI	Hydrographic Survey
	KN200-04	Craig Lee	UW	Hydrographic Survey
	KN203-04	Craig Lee	UW	Hydrographic Survey
	KN205	Jody Klymak	UVIC	LatMix2 Multiship Project
	KN207-01	Benjamin Van Mooy	WHOI	CTD, Sediment Traps
	KN207-02	Kay Bidle	Rutgers	CTD
	KN207-03	Charles Langmuir	Harvard	Rock Sampling
	KN208	John Toole	WHOI	Moorings
	KN209-01	Ray Schmitt	WHOI	Jason
R/V Langseth	MGL1211	Suzanne Carbotte	LDEO	CASCADIA Multiship Project
R/V Melville	MV1108	Peter Lonsdale	SIO	Multibeam
	MV1206	Anne Trehu	OSU	OBS
R/V New Horizon	NH1208	Gareth Lawson	WHOI	CTD/MOC
R/V Oceanus (WHOI)	OC462	Chris Oberhaus	NOAA	Dart Mooring
	OC467	Dennis McGillicudy	WHOI	CTD/Floats
	OC468-02	Joseph Montoya	GIT	CTD/MOC
	OC471-04	Craig Lee	UW	LatMix1 Multiship Project
	OC473	Gareth Lawson	WHOI	CTD/MOC
	OC475	Bob Weller	WHOI	OOI/CGSN Mooring
	OC476-01	Steven Maganini	WHOI	Carbon Transport/ CTD/Moorings
R/V Oceanus (OSU)	OC1206A	Juan Pablo Canales	WHOI	CASCADIA Multiship Project
	OC1209A	Anne Trehu	OSU	OBS
R/V Rafael	RA12003	Seth Ackerman	USGS	
R/V Thomas Thompson	TN268	Deb Kelley	UW	OOI/RSN Cable
	TN274	Douglas Wiens	WUSTL	Passive Seismics
	TN286			OOI
Shoreside Server	SS-00001	Cindy Sellers	WHOI	LatMix1 Multiship Project

It Takes a Team
Students
Technicians
Researchers
Data Managers