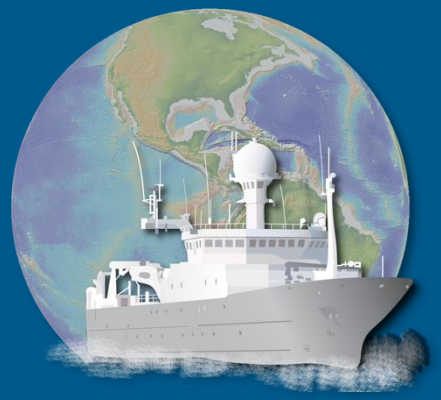


Rolling Deck to Repository (R2R)

Review and Status Update

O'Hara, S, B. Arko, D. Clark, C. Chandler, J. Elya, V. Ferrini, K. McLain, C. Olson, C.Sellers, S. Smith, K. Stocks, L. Stolp, S. Carbotte

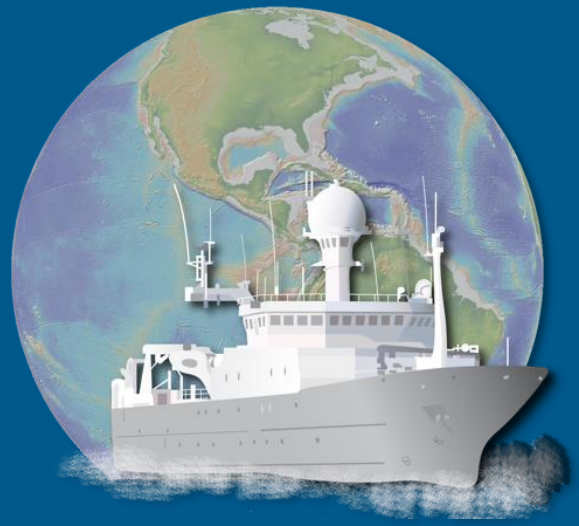
R2R Mission

To ensure the long-term preservation and broad distribution of the environmental sensor data routinely acquired on expeditions of the U.S. academic research fleet

R2R Services

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



Sensor Data Sets at R2R

Geophysics:

- Echosounder* - 1,475
- Gravimeter* - 846
- Magnetometer* - 236
- Multibeam - 1,616

Meteorology:

- Anemometer *- 507
- Barometer *- 231
- Hygrometer *- 293
- Radiometer *- 1,099
- Rain Gauge *- 285

Complex Logging systems:

- Acquisition Systems - 2,453
- Meteorological Stations* - 1,665

Navigation:

- GNSS/INS* - 5,232
- Gyrocompass* - 1,634
- Speed Log* - 362

Engineering:

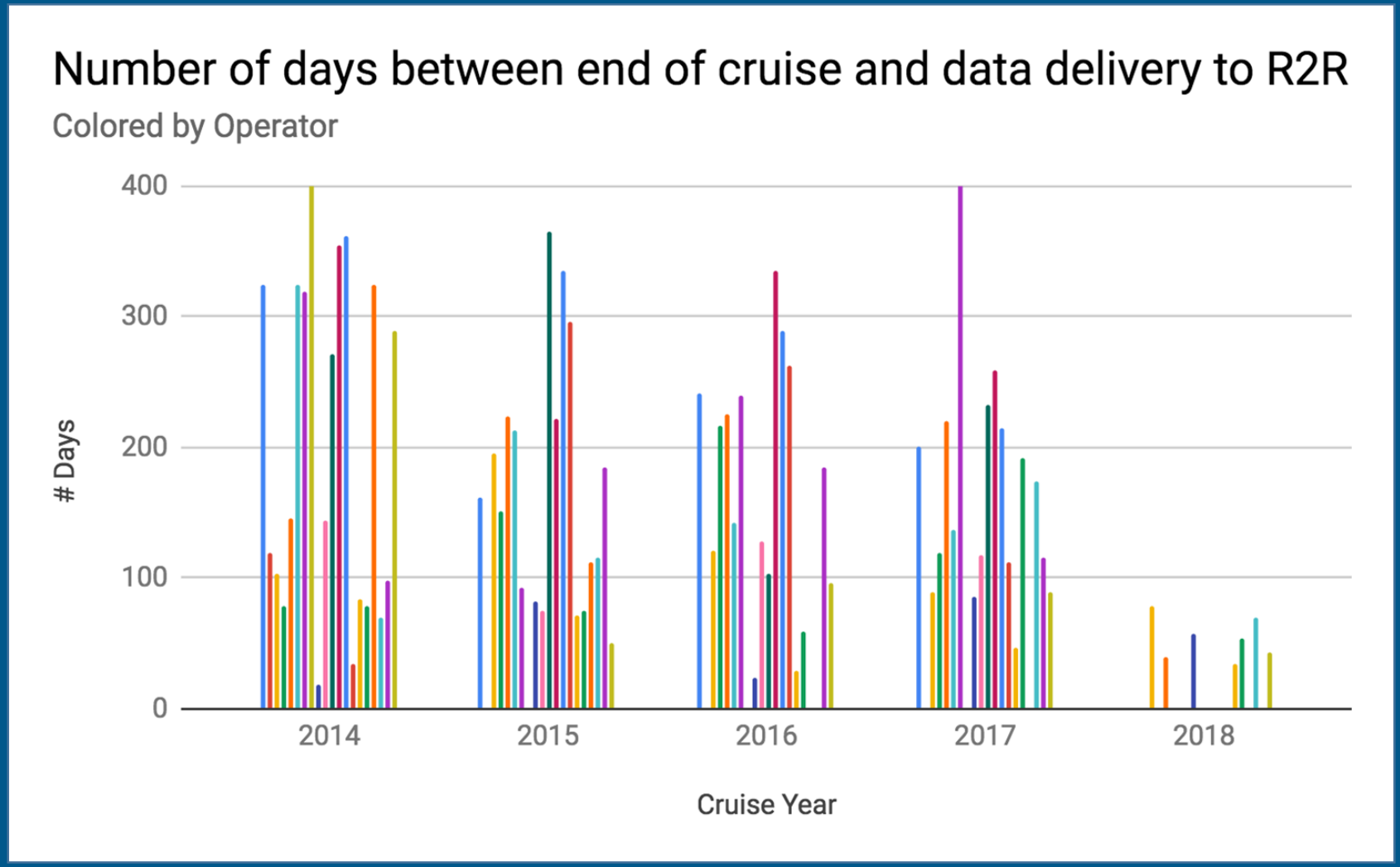
- Winch - 710
- Timeserver - 36
- Flowmeter - 87

Oceanography:

- ADCP - 2,510
- CTD*- 2,034
- Fluorometer - 871
- Oxygen - 20
- pCO2 - 88
- Sound speed - 232
- Temperature *- 490
- Transmissometer - 234
- TSG *-1,508
- XBT/XCTD - 584

Underlined - QA performed by R2R
* - data products generated by R2R
Data - sent to NCEI for archiving

Arrival of Cruise Data at R2R



Some Operators send a full year of data at once, typically early spring.

Best Practice: Data should be sent routinely through the year to optimize

- timely evaluation of problems
- data access for user community

Basic Cruise Metadata

Provided to UNOLS for required annual reports about shipboard participants

	Subject Line:	[WXAQ] Personnel Manifest		
Ship*	OCEANUS			
Cruise ID*	OC1804B			
Cruise Title*	Aquatic Microbiology Laboratory At Sea Experience			
Start Date:*	5-May-18	**End Date:***	5-May-18	
Start Port:*	Newport, OR	**End Port:***	Newport, OR	
Cruise Party Information				
Last Name*	**First Name***	**Institution***	**Role***	**Gender***
Thurber	Andrew	Oregon State Univer	Scientist, Chief	M
McConnell	Kaitlin	Oregon State Univer	Student, Graduate	F
Patel	Akshar	Oregon State Univer	Student, Undergraduate	M
Hergenrader	Vance	Oregon State Univer	Student, Undergraduate	M
Gharib	Lilian	Oregon State Univer	Student, Undergraduate	F
Fridge	Evan	Oregon State Univer	Student, Undergraduate	M
English	Mary	Oregon State Univer	Student, Undergraduate	F
Yates	Deniece	Oregon State Univer	Student, Undergraduate	F
Lust	Taylor	Oregon State Univer	Student, Undergraduate	F

Promptly supplying this information ensures that Operators receive credit for vessel usage.

Metadata may be provided using:

- Standard UNOLS XLS format
- R2R XML format (prototyping with Ocean Exploration Trust)
- Custom designed, consistently used metadata format that provides same, or more, information

Documenting Time Sources

- Fleet wide survey of time servers
  - 12 vessels use time servers
  - 4 vessels do not use time servers
  - 4 vessels did not respond to the surv
- Detailed work with RV Neil Armstrong
  - Parent time source and acquisition software information collected for 22 devices
- All time server information and relationships preserved in database

Time Sources are important! Contact R2R to include your vessel.

Time Sources

Vessel	Device Type	Make	Model
Atlantis	timeserver	OceanWaveS	ES-185E/NTP
Atlantis	timeserver	OceanWaveS	ES-185E/NTP
F.G. Walton Smith	timeserver	Microsemi	SyncServer S200
Healy	timeserver	Microsemi	SyncServ
Healy	timeserver	Microsemi	SyncServ
Hugh R. Sharp	timeserver	Spectracom	SecureSy
Ka`imikai-O-Kanaloa	timeserver	Symmetricom	NTS-100i
Ka`imikai-O-Kanaloa	timeserver	Symmetricom	NTS-100i
Kilo Moana	timeserver	Spectracom	Netclock
Kilo Moana	timeserver	Spectracom	Netclock
Marcus G. Langseth	timeserver	Microsemi	SyncServ
Marcus G. Langseth	timeserver	Symmetricom	TymServe
Neil Armstrong	timeserver	OceanWaveS	ES-185E/
Oceanus	timeserver	Microsemi	SyncServ
Roger Revelle	timeserver	Endrun	Sonoma
Roger Revelle	timeserver	Trimble	SPS351
Sally Ride	timeserver	Endrun	Sonoma
Sally Ride	timeserver	Trimble	BD982
Sikuliaq	timeserver	Microsemi	SyncServ

R2R
ROLLING DECK TO REPOSITORY

Vessel

Oceanus

Device

Device Type: gnss
Device Make: Ashtech
Device Model: ADU5
NOAA Docucomp id:
NERC sensor term: http://vocab.nerc.ac.uk/collection/L22/current/TOOL0389/

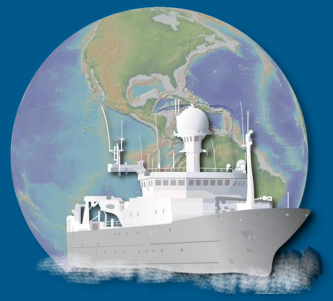
Device Time Source

Make: com.microsemi
Model: SyncServer S350

Format

Fileset processing level: Raw
Fileset format id: 100011
Fileset format description: DAS: NOAA SCS: external clock + NMEA GGA
Fileset format document: format-nav2.txt

- Make and model documented for 19 time servers across 12 UNOLS vessels
- Time source information within the R2R database is linked to individual devices upon Vessels.
- Device format documentation available at



R2R Is Here To Help

Contact us with your questions or comments :

- In person during RVTEC/IMARTECH
- By email: info@rvdata.us

Visit
www.rvdata.us

@R2RData

Acknowledgements

Lamont-Doherty Earth Observatory
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FLORIDA STATE UNIVERSITY 1851

SCRIPPS INSTITUTION OF OCEANOGRAPHY

NSF

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