Cruise Data Reciprocal Linking Between SAMOS and R2R

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Introduction

The Rolling Deck to Repository (R2R) program provides US academic fleet-wide management of underway data to ensure preservation of, and access to, our national oceanographic research assets. R2R maintains the de facto cruise catalog for the academic fleet and deposits data in long-term public archives. Data from each cruise are submitted directly to R2R by the vessel operator, rather than by the science party. Assessment of underway meteorological data within R2R is implemented in near-real time in partnership with the Shipboard Automated Meteorological and Oceanographic System (SAMOS) initiative. The SAMOS initiative has been collecting, quality-evaluating, distributing, and archiving underway meteorological and oceanographic observations since 2005.

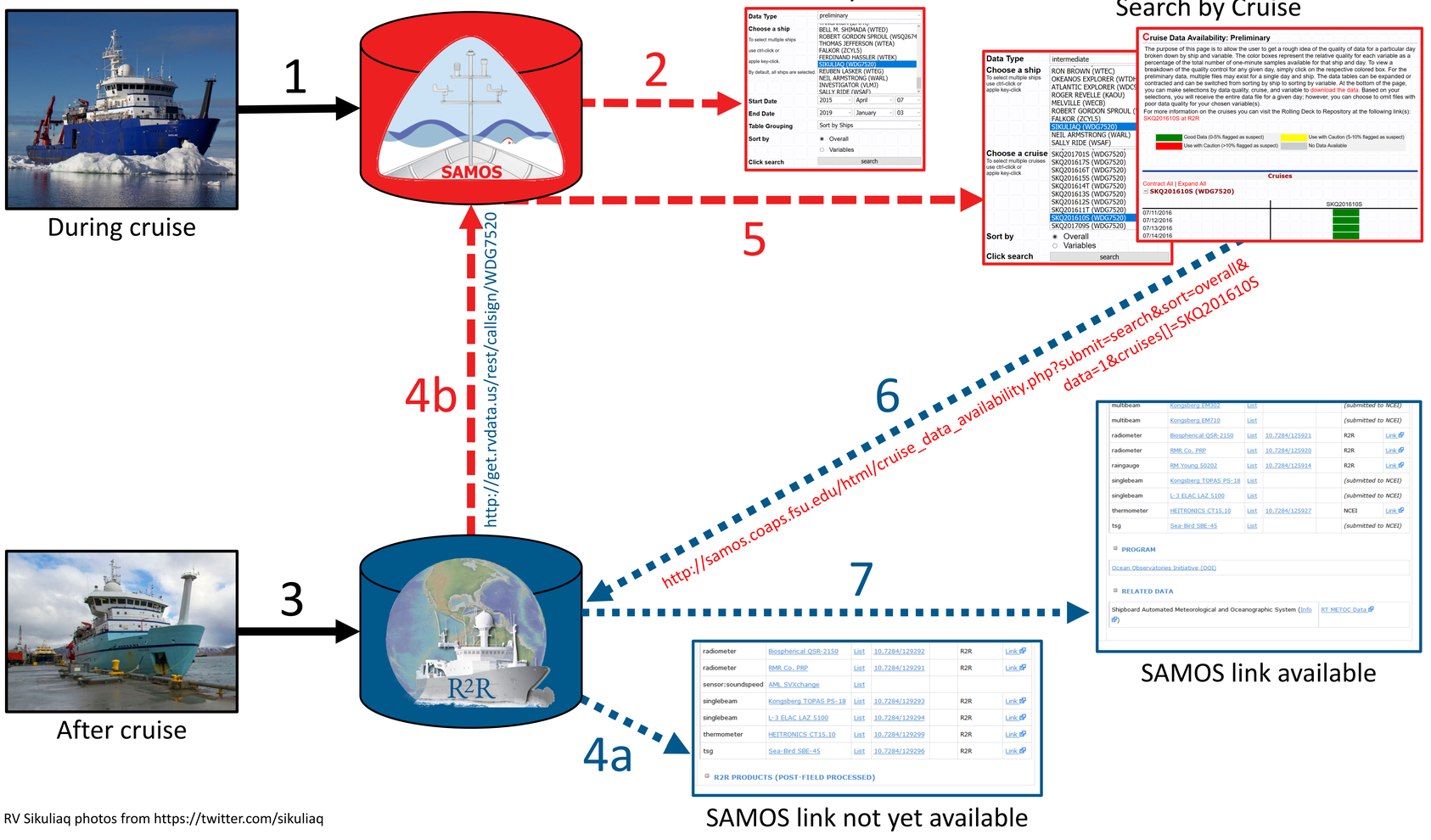
Reciprocal Links

To connect near-real time SAMOS data to cruises defined in the R2R cruise catalog and their relevant data and products, an automated reciprocal linking system is established between the two programs to provide URLs to their respective data download web pages. This reciprocal linking allows for SAMOS data to be organized and searched by cruise, improving the discoverability and usability of the data. On R2R's end, the linking provides users easy access to quality-evaluated data and metadata that are relevant to select cruises.

The SAMOS-to-R2R link is created after the SAMOS system parses cruise information from the R2R cruise catalog web service. The R2R-to-SAMOS link is displayed when R2R successfully resolves the URL for the SAMOS data download page for a given cruise.

2018/2019 Revamp

- R2R (http://www.rvdata.us/)
  - New JSON web service for cruise catalog
  - Query based on RV name or call sign
  - Automatic hiding/displaying of SAMOS link on cruise page
- SAMOS (http://samos.coaps.fsu.edu/html/index.php)
  - Parse JSON rather than XML web service
  - Query based on call sign rather than pulling entire catalog
  - Improved error logging
  - Cruise page throws 404 error if data is not available for given cruise, indicating that R2R should hide SAMOS link



RV Sikuliaq photos from https://twitter.com/sikuliaq

Linking Workflow

1) During cruise, 1-minute averaged meteorological, thermosalinograph, and navigational data submitted to SAMOS in near-real time for processing, quality control

2) Data is immediately available on SAMOS website, searchable by date

3) After cruise, full temporal resolution data submitted to R2R and logged in cruise catalog. R2R data types: http://www.rvdata.us/about/datatypes

4a) Data available on R2R website (but no SAMOS link yet)

4b) SAMOS queries R2R web service for cruises (daily cron job)

5) Cruise information ingested into SAMOS database, data searchable by cruise on website

6) R2R checks for existence of SAMOS cruise download page

7) R2R displays link to SAMOS cruise download page once available

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