



T BRUCE APPELGATE JR PHD
ASSOCIATE DIRECTOR
SCRIPPS INSTITUTION OF OCEANOGRAPHY
9500 GILMAN DRIVE
LA JOLLA, CALIFORNIA 92093-0210

SHIP OPERATIONS AND MARINE TECHNICAL SUPPORT
EMAIL: TBA@UCSD.EDU
URL: SCRIPPS.UCSD.EDU/SHIPS
TEL: 858.534.2220

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Preliminary Cruise Report

1. Ship Name: R/V *Roger Revelle* F2015-040
2. Operating Institution: Scripps Institution of Oceanography, University of California San Diego.
3. Cruise Dates: 8 July – 2 August 2015
4. Port of Call: Napier, New Zealand – Colombo, Sri Lanka
5. Area of Operations: A direct transit between Napier (New Zealand) and Colombo (Sri Lanka).
6. Clearance countries: New Zealand and Australia
7. Foreign Participants: None
8. Project Title: Unmonitored Data Acquisition Using Standard Shipboard Instrumentation During Transit of the Ocean.
9. Description of Scientific Program: Standard underway oceanographic instruments aboard the ship were operated in unmonitored, automatic mode for the purpose of providing new, publicly-available data to the world's scientific community. There were no scientific personnel aboard the vessel for the transit, and due to the unmonitored nature of acquisition, all resulting data should be studied carefully by data experts to validate their utility.
10. Data Observations and Samples Collected: Observations were made of subsea currents, subsea current shear, meteorological conditions, sea surface state, near-surface seawater physical properties, trackline bathymetry, swath bathymetry, ocean temperature profiles, and ancillary data as noted below.
11. Schedule for delivery for all data results and reports: This report covers both preliminary and final cruise reporting. All data are delivered electronically via internet FTP protocol as described below.

Data Collected

Only digital data were acquired. No physical samples were taken, and no analog or paper recordings were made of any observations. All information from this project is therefore available electronically.

Meteorological observations: R/V *Roger Revelle* uses an automated underway system that makes measurements of the atmosphere, sea surface state and near-surface seawater physical properties. Data are acquired and digitally stored using the Scripps-developed IMET software package.

Subsea currents: Acoustic Doppler Current Profilers were used to measure subsurface ocean currents while underway, using hull-mounted Teledyne RD-Instruments OS75 and NB150 systems. The data were acquired using the UHDAS software package.

Subsea current shear: The SIO Hydrographic Doppler Sonar Systems was used to measure subsurface current shear using hull-mounted 50kHz and 140kHz sensors.

Echosounders: Knudsen 12kHz and 3.5 kHz hull-mounted singlebeam echosounders were used to record water depth under the hull. The data were acquired using Knudsen software.

Swath bathymetry: A Kongsberg EM122 multibeam echosounder system was operated in an unmonitored automatic mode, with data acquired using Kongsberg SIS software.

Water temperature profiles: Expendable bathythermographs (XBTs) are used to measure the water temperature as a function of depth, typically conducted once per day in support of the multibeam operations. We typically use Sippican-compatible XBT probes deployed using Turo hardware and acquired using Turo software.

Serial instruments: Data from several instruments that serve in ancillary or support roles to primary instruments are automatically recorded. These instruments include satellite positioning systems, motion reference units, and winch/wire monitoring systems.

Delivery to Host Country

All of the data that were acquired are available for distribution to host countries via electronic transfer using the FTP internet protocol.

The FTP site is:

`ftp://clearances: jkluzckaul@sts.ucsd.edu/RR1510`

Username: clearances

Password: jkluzckaul

The site will remain open for 6 months.

This report covers both preliminary and final cruise reporting.

Signed,

A handwritten signature in blue ink, appearing to read "T. Bruce Appelgate Jr.", written in a cursive style.

Dr. T. Bruce Appelgate Jr.