

Journal 17

1. 262200Z January 05
 2. Position: Lat: 45-00.0S, LONG: 150-00.0W
 3. Course: On Station
 4. Speed: 11.4 kts
 5. Distance:104.7 NM
 6. Steaming Time: 09H 12M
 7. Station Time: 14H 48M
 8. Fuel: 2,582 gals
 9. Sky: Cu, Ac 3
 10. Wind: 280-T, 18 Kts.
 11. Sea: 280-T, 3-4 Ft
 12. Swell: 280-T, 5-7 Ft
 13. Barometer: 1005.7 mb
 14. Temperature: Air: 17.0 C, Sea: 13.9 C
 15. Equipment Status: Normal
 16. Comments: none
- MASTER, R/V ROGER REVELLE

Weather is starting to get a little rocky out here and definitely colder, most of us are wearing sweatshirts, jacket and long pants....Dr Measures is still holding out in shorts, but has made the concession of a sweatshirt!

Dr. Chris Sabine from NOAA/PMEL...my students will remember the nice folks at PMEL? Among other things they make Tsunami detection buoys! Check out their website at : www.pmel.noaa.gov for more information and great education tools.

Chris got a message today from Revelle's sister ship the R/V Ron Brown. Ron Brown is owned and operated by NOAA and is presently in the Atlantic doing the opposite leg of this research cruise. Their cruise is A16S (note that ours is P16S, so now you have figured out that the P and the A stand for Pacific and Atlantic) but they started from the Antarctic and are heading North. They sent us a cruise report and some pictures of their CTD casts...the ice berg in the background is pretty awesome! So I am posting that below. We hope we will have some equally spectacular pictures soon.

Hi all,
Appended below is a message from the chief scientist aboard the Ron Brown that is doing a cruise for this same program in the South Atlantic right now. They started in the south and are working their way up to 5S to meet up with the A16N line run in 2003. We will be crossing paths with them today, so you can send your greetings to them as we pass. I have also included, for your enjoyment, the first cruise report so you can see what we have to look forward to as we move south.

Cheers,
Chris Sabine

-----Original Message-----

Hi Chris-

This is out plan of the day

26 January 2005 - Wednesday (local = GMT+3)

0630 - 0950 Transit

0945 _ 1420 Station #35 45 S

1420 _ 1750 Transit

1750 _ 2220 Station #36 44.5 S

2220 _ 0150 Transit

We'll be waving at you (10,000 miles away) sometime this afternoon.
SST@45 S = 12.5 C. (when you have felt 0 C, 12.5 feels warm!)

All the best.

Rik

Chief Scientist Report #2

CLIVAR/CO2 A16S

R/V Ron Brown

Rik Wanninkhof (NOAA/AOML)

Scott Doney (WHOI)

Jan. 23rd, 2005

The science on the CLIVAR/CO2 cruise A16S started in earnest a week ago when

we arrived at the first station of the transect at 31 W, 60 S.

Icebergs surrounded us and the winds were howling at over 30 knots so the

small back-up CTD package was deployed. Everyone was eager for samples at

the southern anchor point of the line, and two casts had to be taken.

Even

with two casts, only a total of 16 depths were sampled and water was in short supply. The next several stations saw worsening sea states such

that

the "small package" continued to be used.

Frustrations mounted when groups found the bottles emptied by the samplers

before them, and accusations of using too much rinse water started to fly.

We decided to measure the sample volume of the "nominal" 4-liter bottles on

the small package and discovered that our esteemed colleagues in Seattle

obviously had some problems converting to a metric volume unit; the claimed

4-L bottles held little more than 3 liters.

On the station at 58 S there were problems with the winch used for the smaller package, and along with improving weather conditions, the decision

was made to deploy the primary system. It contains all the physical and bio-optical sensors need to meet the science goals of the project and has the capacity to carry six times more water from depth to the surface than the back-up. The primary package has been used successfully ever since.

The leg through Scotia Sea was uneventful, though it was a bit chilly for those collecting water from the sample bottles on the deck. In addition to the on-going presence of icebergs, the surface waters at the southern most station were near the freezing point of freshwater, and there was a well formed temperature minimum in the subsurface where temperatures were less than -1.0 deg. Centigrade. A temperature minimum layer of one sort or another extended all the way to 49S. Below the temperature minimum. we collected samples from cold dense waters flowing north from the Antarctic Weddell Sea. The transient tracers show features indicative of different ventilation patterns at different depths. All the in the water instruments and shipboard chemical measurement systems performed well.

At the north end of the Scotia basin there was a dense sampling schedule up and over the shelf of South Georgia Island, with stations as close to 10 miles apart to capture the boundary features. An 8-hour steam around South Georgia Island provided a welcome break. There was a strong interest by many to make a stop on the island to pay homage to Shackleton, but the chief scientists did not relent. Instead the scientific party and crew spent the afternoon on deck watching the snow capped peaks and glaciers on the rugged island in the distance. The sea was teeming with life with penguins, large albatrosses, seals, and an occasional whale. Those who did not venture on deck were glued to the monitor showing a precipitous drop as surface water CO2 levels to below 200 ppm, suggest that the coastal water around the island was indeed quite biologically productive. Once off the shelf we have settled in a routine of 4-hour stations every 30 nautical miles reoccupying the line of SAVE/HYDROS program in the 1990s.

The juxtaposition of technology used on this cruise is striking, ranging from water capture methods that have not changed much over the past 40-year to state-of-the-art in situ sensors for currents, temperature, salinity, particles and oxygen. It means that at one moment we are observing oxygen concentrations at 3 miles depth on a computer monitor and then a few hours later we are on deck trying, with hands numb from cold, to clip a piece of monofilament line on to the bottle tripping mechanism.

A real change on these cruises is the availability of Internet to stay in contact with colleagues on shore. The many computers on the ship at networked. A special feature on this cruise is that the ship has an internal science Internet page. The page produced by our onboard data manager, Frank Delahoyde from Scripps, provides real-time display of the depth of the CTD package so that the scientists can estimate when to be ready to sample. It has data and cruise descriptions of the past cruises in this area. All preliminary data is sent to Frank who merges the data and provides a variety of visual quality control tools to check our data. Much of the painstaking quality checks can now be done at sea, and problems can be diagnosed and remedied rapidly. When we get back on shore, this preliminary data will be posted to the community at large. This is a wholesale change from the past where all investigators held onto their data for (at least) two years. Having a sophisticated system for data management and quality control on board has alleviated much of the resistance of oceanographers in the early sharing of their data.

Twenty six stations down and a hundred or so to go.

Pictures.



2. The CTD package coming on-board. Bringing the 1700 lbs package on board requires careful coordination between bridge, winch operator and line handlers. Chief survey technician Shannahoff shown in this picture has led every recovery thus far



. Sampling around the CTD package. A strict pecking order of sampling is maintained with every parameter sampled in a particular sequence depending on contamination and degradation.

A16S Shipboard Website Not logged in 2 members online Log In

[Main Site](#) > [A16S](#) > [Hydro](#)

A16S 2005 R/V Brown

News

Jan 12, 2005
[A16S Shipboard Website open for business](#)

Recent Posts

There are no posts.

Cruise Reports

No cruise reports are currently available.

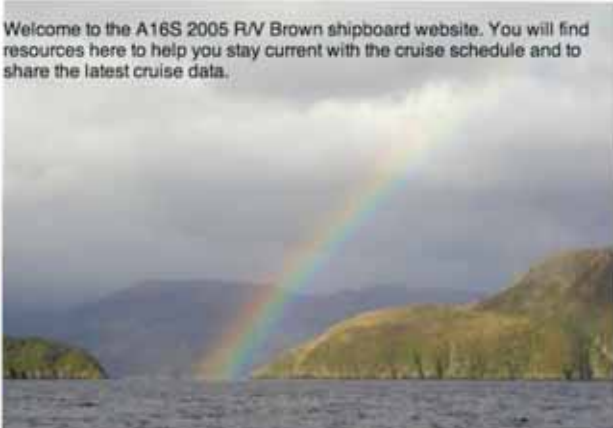
Current Station Status

23-Jan-2005 (2005023) 15:24:45
49 30.3874 S 33 40.2980 W

On Station 026

Wire Out: 4571.0 meters

Welcome to the A16S 2005 R/V Brown shipboard website. You will find resources here to help you stay current with the cruise schedule and to share the latest cruise data.



Hydro Data

[Cruise Track](#)
[Station Waypoints](#)
[Cast Events](#)
[Water Sample Data](#)
[CTD Data](#)

Resources

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3. The front page of the science web page on the ship that facilitates communication, and data quality control.

We have a webpage like this for the internal ship network and I will try to send a copy next time.

On Tuesday, Feb 1 we will have a broadcast with Dr. Sabine and he will explain what PMEL's role is in the CLIVAR study.

Here is a map with the P16S and the A16S cruises , note that they are the colored section at the bottom of each line.

