

NOAA Ship Ronald H. Brown A16N Leg 2 Scientific Report 05
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We are currently at Station 103 (13°N; 29°W).

The past 10 days have been difficult.

Late in the evening on September 9, we were forced to divert from the direct path of Hurricane Humberto and lost a considerable amount of time in maneuvering around the storm.

On September 14, the primary CTD/rosette instrument package was lost due to parting of a CTD cable on the forward winch.

During the following several days, the level-winding of the CTD cable on the drum of the aft winch deteriorated, requiring very long cast times and continual adjustments of the winch during the casts. There was concern that the poor winding conditions might require cancellation of the remaining stations on the cruise, since it could cause damage to the cable and risk of loss of the remaining CTD instrument package.

We spent ~ 2.5 days at Station 99 (15°N, 29°W) working on the winches and CTD cables. The corroded cable on the forward winch was un-spooled and discarded. The entire level winding mechanisms on the forward and aft winches were switched, since it appeared that bushings on the aft winch were worn more than those on the forward winch.

In an attempt to improve the cable winding on the aft winch, almost the entire length of cable (~8600 meters) on the aft winch was spooled out into the water. During re-spooling, it appeared that about the outer 1700 m of cable had been damaged during this process and was discarded.

After the completion of these procedures, the remaining cable (~6900 m) on the aft winch appears to be wound on properly and the level winding seems to be significantly improved. Barring additional significant loss, this length of cable should be adequate to complete the section, since the deepest station is < 6000m.

The 3 CTD casts (Sta. 99-101) done from the aft winch following these procedures have gone very well and we are now continuing to proceed southward along the section.

We have lost a significant amount of time due to the hurricane, loss of the CTD/rosette and recent winch/cable problems. With the schedule we have been working with (arrival in Natal, Brazil on 1 Oct.) we would not be able to meet the minimum requirements for a successful completion of the A16N section.

RHB's Captain has discussed this with NOAA ship operations and they have agreed to delay the target arrival date in Natal to late in the day on 3 Oct.

We plan to increase the spacing of the stations between 15°N to 11°N from 30 to about 40 nautical miles to save some time. With the revised schedule and additional days at sea, we may be able to complete the remainder of the A16N section as planned (ending at 6°S), if CTD operations continue to go smoothly.

The measurement groups report that the quality of their data sets are good so far and look forward to getting back to a normal, busy routine of sampling and analysis.