



NOAA Teacher at Sea
Nancy McClintock
Onboard NASA Ship LIBERTY STAR
June 7 – 14, 2006

NOAA Teacher at Sea: Nancy McClintock
NASA Ship: M/V FREEDOM STAR
Mission: South Atlantic MPA's: Pre-closure evaluation of habitat and fish assemblages in five proposed no fishing zones
Day 6: Monday, June 12, 2006

Weather Data from Bridge – AM

Visibility: Fair to poor
Wind direction: ESE
Average wind speed: 7 knots
Wave height: 1-2' SE
Air temperature: 75 °F
Sea temperature: 79 °F
Cloud cover: 100%
Barometric pressure: 10144 mb

Science and Technology Log

The FREEDOM STAR traveled approximately 200 miles during the night toward Port Canaveral, our final destination. Wave height increased and



Mike Nicholas, FREEDOM STAR 2nd Mate, enters the lock at Port Canaveral as Allan Gravina, FREEDOMS STAR Able Bodied Seaman, looks on.



Mark Silverman and Nancy McClintock, NOAA Teachers at Sea, conclude their awesome adventure on the FREEDOM STAR. My memories truly will last a lifetime and I thank NOAA for giving me the opportunity to participate in this excellent program.

then decreased as morning arrived. It will take approximately 15 minutes to go through the lock and then 1-½ hours to travel upriver to the dock at Hanger AF. The FREEDOM STAR is the sister ship of the LIBERTY STAR and they are both used in the recovery of rocket boosters for the NASA Space program. Before leaving the dock, the FREEDOM STAR takes on freshwater that is stored in two tanks totaling 17,000 gallons – this is non-potable water. 5,000 gallons of potable (drinkable) water is stored in a separate tank. Once the FREEDOM STR reaches the dock the wastewater goes through the city purification system before being released into open water. Testing of this water reveals that it is drinkable at this time.

However, it is not used for drinking water. Legally, the wastewater can be released at sea, but the FREEDOM STAR does not do this.

Personal Log

The waves did not reach the expectations of 30 knots and the ship did not rock and roll as much as expected. This morning is very gloomy and much cooler due to the cloud cover. The viewing of Port Canaveral in the distance brings a certain element of excitement, as does going under the drawbridge and entering the lock.

However, I am sad to reach the conclusion of this wonderful adventure. I have many wonderful memories and pictures to keep forever. I thank NOAA for selecting me and giving me this fantastic opportunity to enhance my life and the lives of my students.



The FREEDOM STAR passes beneath the drawbridge as it returns home to Port Canaveral.

Until we meet again...

Nancy

Question of the Day

Answer to yesterday's question:

In 330' of sea water the pressure is equivalent to 10 atmospheres of pressure from the surface to outer space. The fish have difficulty withstanding the increase in pressure and, quite often, do not survive. Fish have swim bladders that help them keep position in the water. When they are brought to the surface from a deep depth, the pressure decrease causes the bladder to expand. Too much expansion kills the fish.

Today's question:

How does it feel to be selected as a NOAA Teacher at Sea and spend six days on a NASA ship in the Atlantic Ocean?



Marta Ribera and Andy David, NOAA scientists, prepare the CTD for deployment. The CTD recorded conductivity, temperature, and depth of the ocean on this cruise.

Today's answer:

This has been one of the best experiences of my life and I can hardly wait to tell everyone about this cruise, the importance of exploring the ocean for scientific purposes, and show my pictures.

Interview with Marta Ribera

NMFS Panama City, GIS/ROV/Deck

Marta was born in Gainesville, Florida and moved to Barcelona, Spain at the age of 3 ½ years. She received an undergraduate degree with major emphasis in General Biology and a minor in Ecology from the Autonomous University of Barcelona. Following a year of graduate work in GIS, Marta received an internship at the National Marine Fisheries Service in Panama City and has been with NMFS for the past three years. On this cruise, Marta oversees the use of the CTDs (Conductivity, Temperature,

Depth) and records all data collected. The larger CTD (valued at \$18,000) is used to record conductivity, temperature, depth, salinity, dissolved oxygen, and clarity of water. A smaller CTD (valued at \$1,800) is placed on the ROV and records pressure, temperature, and depth of the ocean. At the Panama City Lab, Marta also works with multi-beam mapping, GIS, and is conducting a study on juvenile snapper with Stacey Harter. One of her goals is to complete a Master's Degree in GIS applied to Fisheries and Marine Biology. "The best thing about my job is that I love the people with whom I work and nothing is ever the same."

Interview with Mr. Wally Exell

Chief mate and Relief Captain of the M/V FREEDOM STAR

Mr. Exell is the Captain of the FREEDOM STAR for our NOAA cruise. He was born in Bermuda and received his education from the Merchant Marine School in England. Ever since he was young he wanted to go to sea. His love for the sea led him to working with the NASA Missile Retrieving program for the past 24 years. He has been with the FREEDOM STAR for the past 16 years. When at sea, he is on an active duty for 4

hours and then on stand down (on call) for 8 hours. "The best thing about my job is that my work is very unique and interesting and I am honored working with this Program and the great crew."



Captain Wally Exell, FREEDOM STAR, stands outside the bridge visually checking our passage through the lock at Port Canaveral.

Please see Mark Silverman's logs for additional interviews.