



NOAA Teacher at Sea
Miriam Hlawatsch
Onboard NOAA Ship NANCY FOSTER
July 29 – August 10, 2007

NOAA Teacher at Sea: Miriam Hlawatsch

NOAA ship NANCY FOSTER

Mission: Lionfish Survey

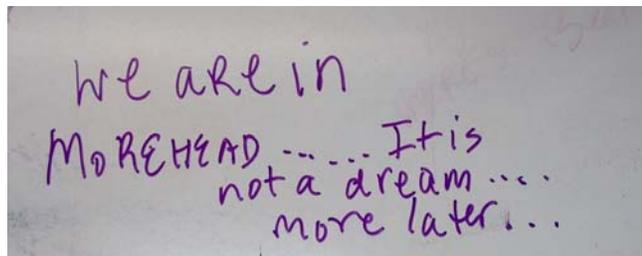
Days 8 & 9: Monday & Tuesday, August 6 & 7, 2007

Location: Coast Guard Station, Ft. Macon and Morehead City Port, NC

Personal Log

Bad news... late Sunday night the ship's main computer, the **Integrated Vessel Monitoring and Control** system failed. The IVMC functions as the *brain* of the ship—monitoring engineering related systems such as propulsion, ship's power, fire main, tank levels, alarms, etc. CDR James Verlaque returned NANCY FOSTER to the Ft. Macon Coast Guard Station.

We awoke to find the mission on hold—so, for two days; I became a *Teacher in Port*. At one point during our stay, NANCY FOSTER was relocated from the Coast Guard station to the state port in



The science team awoke to this notice on Monday, August 6th.



CDR James Verlaque supervises as ENS Marc Weekley docks NOAA ship NANCY FOSTER in the Morehead City port.



NOAA divers, Thor Dunmire and Roger Mays analyze air supply tanks during our stay in the Morehead City port.

Morehead City. To everyone's delight, we learned we would be underway again at 0900 hours, August 8th. As most of the scientists live nearby, they returned to their homes and

jobs at the NOAA research facility in Beaufort, NC. The ship was very quiet while they were away...

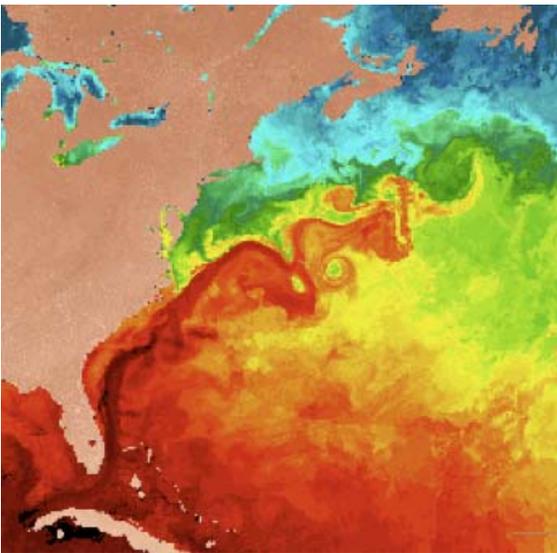
Science Log

Objective #6: Deploy and retrieve temperature sensors...

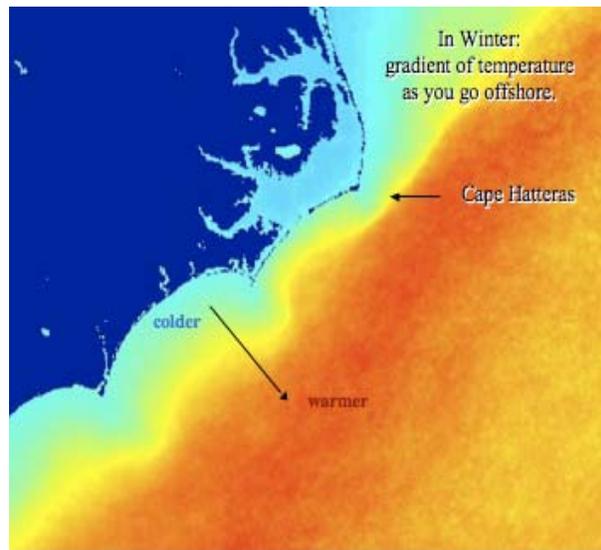
Understanding that lionfish are tropical and their survival is dependent upon temperature, Chief Scientist Paula Whitfield continues to collect data to answer questions regarding the role temperature plays in lionfish distribution in North Carolina waters. Along the North Carolina shelf, temperature in waters deeper than 90 feet are moderated year round by the warm Gulf Stream current. Data collected from surveys on this research cruise suggest lionfish are not found in high numbers in water shallower than 90 feet.

Laboratory studies have revealed lionfish will not tolerate temperatures below 11°C (52°F) and it appears they stop eating at temperatures below 16°C (61°F). Lionfish will die at 10°C (50°F).

To better understand the role temperature plays in limiting lionfish distribution, temperature sensors were deployed along the seafloor to monitor seasonal bottom water temperatures. Sensors deployed during the 2006 mission were retrieved and will be analyzed. New sensors are being deployed during this mission and will be retrieved in 2008.



How do the warm waters of the Gulf Stream contribute to lionfish distribution along the southeastern coast of the US?



Gulf Stream winter temperature gradient for Onslow Bay, NC.



Chief Scientist Paula Whitfield