NOAA Teacher at Sea
Lisha Lander Hylton
Onboard NOAA Ship DELAWARE II
June 29 – July 11, 2008

NOAA Teacher at Sea: Lisha Lander Hylton
NOAA Ship DELAWARE II
Mission: Surfclam and quahog survey
Geographical area of cruise: Off the coast of the northeastern United States
Date: Monday, June 30, 2008; Station 1

Weather Data from the Bridge

Each day, the ship receives an e-mail about the weather. Following is the e-mail the ship received for today's weather:
Subject:
WEAX/NOAAS DELAWARE II//
From:
"CDO.NMFC_N.002.fct" <cdo.nmfc_n.002.fct@navy.mil>
Date:
Tue, 01 Jul 2008 12:57:31 -0400
To:
CO.Delaware@noaa.gov, OPS.Delaware@noaa.gov
CC:
"Maritime.CDO" <Maritime.CDO@navy.mil>

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UNCLAS //N03144//
MSGID/GENADMIN/NAVMARFCSTCEN NORFOLK VA//
SUBJ/WEAX/NOAAS DELAWARE II//
REF/A/MSG/NOAAS DELAWARE II/301900ZJUN08//
REF/B/WEB/NOAA SHIP TRACKER/011147ZJUN08//
NARR/REF A IS MOVREP. REF B IS NOAA SHIP TRACKER PAGE.//
POC/SHIP ROUTING OFFICER/-/NAVMARFCSTCEN/LOC:NORFOLK VA
/TEL:757-444-4044/EMAIL: MARITIME.SRO(AT)NAVY.MIL//
RMKS/1. METEOROLOGICAL SITUATION AT 011200Z:
LOW PRESSURE OVER QUEBEC WILL RETROGRADE WESTWARD AS A
SECOND LOW FORMS OVER LABRADOR. THE ASSOCIATED COLD FRONT
EXTENDS SOUTHWEST FROM THE GULF OF ST. LAWRENCE ALONG THE
COAST TO NORTHERN FLORIDA. THE TRAILING EDGE OF THE COLD
FRONT WILL SLOWLY DISSIPATE OVER THE WESTERN ATLANTIC. HIGH
PRESSURE OVER THE NORTH CENTRAL ATLANTIC WILL REMAIN
STATIONARY AND INTERACT WITH THE FRONT AS IT MOVES OFF
THE MID-ATLANTIC COAST. ANOTHER LOW PRESSURE SYSTEM FORMING
OVER ONTARIO WILL MOVE EAST-NORTHEAST TOWARDS LABRADOR
THROUGHOUT THE PERIOD.
2. 24 HOUR FORECAST COMMENCING 020000Z FOR YOUR MODLOC
AS INDICATED BY REFERENCES A AND B.
A. SKY, WEATHER: PARTLY CLOUDY TO OCCASIONALLY MOSTLY CLOUDY.
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EXPECT PATCHY COASTAL FOG OVERNIGHT AND EARLY MORNING.
B. VSBY (NM): 7, 1 TO 3 IN PATCHY COASTAL FOG.
C. SURFACE WIND (KTS): SOUTHWEST 5 TO 10, INCREASING 10 TO 15
BY 03/00Z.
D. COMBINED SEAS (FT): SOUTH-SOUTHWEST 3 TO 5, GRADUALLY
ABATING 2 TO 4 BY 02/12Z. SEAS WILL BE LOWER IN PROTECTED WATERS.
3. OUTLOOK TO 48 HOURS: WINDS SOUTHWEST 10 TO 15, INCREASING 18
TO 23 WITH GUSTS TO 28 AFTER 03/12Z. SEAS SOUTH-SOUTHWEST 2 TO 4,
BUILDING 4 TO 6 BY LATE PERIOD. SEAS WILL BE LOWER IN PROTECTED
WATERS.
4. FORECASTER: AG1(SW) JONES//

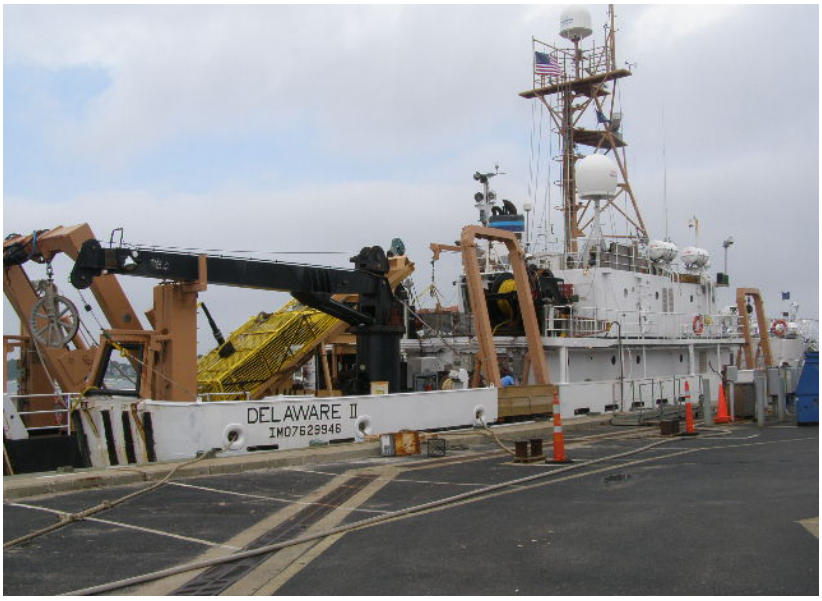
V/R,

Command Duty Officer
Naval Maritime Forecast Center Norfolk

Web Page:
http://www.weather.navy.mil
http://www.nlmoc.navy.smil.mil
PLA:
NAVLANTMETOCCEN NORFOLK VA

Science and Technology Log

Mission



NOAA Ship DELAWARE II at its port in Woods Hole, MA

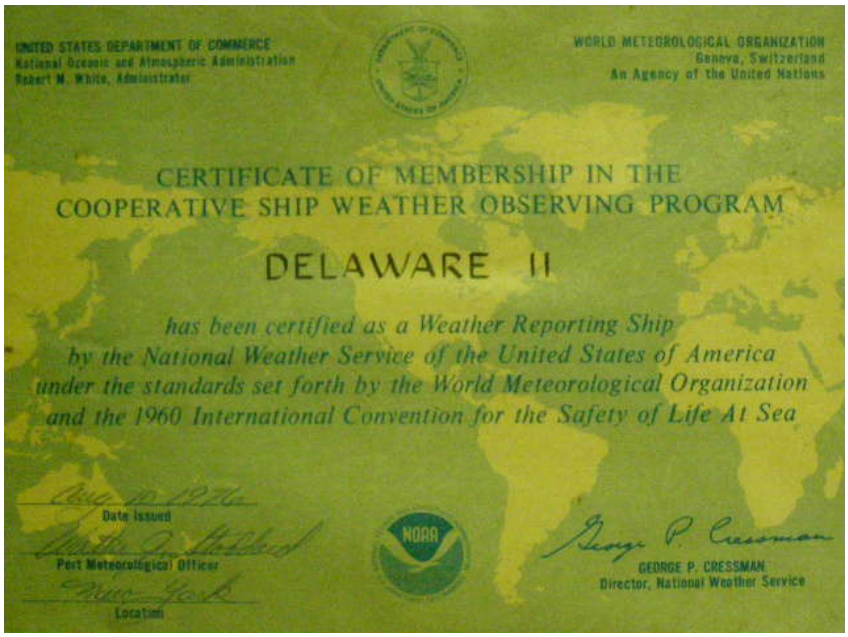
The mission of my trip with NOAA is to provide me (a teacher of third grade students) an extraordinary opportunity to take part in genuine-world experiences being conducted by NOAA in order for me to achieve a clearer insight into pour ocean planet and a superior understanding of NOAA-related careers. With the comprehension that I obtain, I will be able to enter my classroom and instruct lesson plans created on my field study for my students, giving them insight as to how much power they have on their lives and this world we live in.

I will be able to generate lesson plans allowing my students to play a part in maritime activities as we study together, to value the work and expertise that is required to sustain oceanic and atmospheric research. The students' enthusiasm, inquisitiveness and yearning to learn will only heighten with the hands-on, motivational activities that I gain from my research with this NOAA

team. The educational experience that I gain from NOAA will certainly provide for an exceptional setting for knowledge and instruction.

Why Does NOAA Conduct Clam Surveys?

Clams are a very important part of economy and ecology along the eastern United States Coast. NOAA is keeping track (surveying) of clams for the purpose of conserving clams to stabilize fishery industries without wiping out the clam population completely. Clams play a very important part in marine ecosystems; therefore these surveys are helping to maintain stability in the economy and ecology of United States.


UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Robert M. White, Administrator

WORLD METEOROLOGICAL ORGANIZATION
Geneva, Switzerland
An Agency of the United Nations

CERTIFICATE OF MEMBERSHIP IN THE
COOPERATIVE SHIP WEATHER OBSERVING PROGRAM

DELAWARE II

has been certified as a Weather Reporting Ship
by the National Weather Service of the United States of America
under the standards set forth by the World Meteorological Organization
and the 1960 International Convention for the Safety of Life At Sea

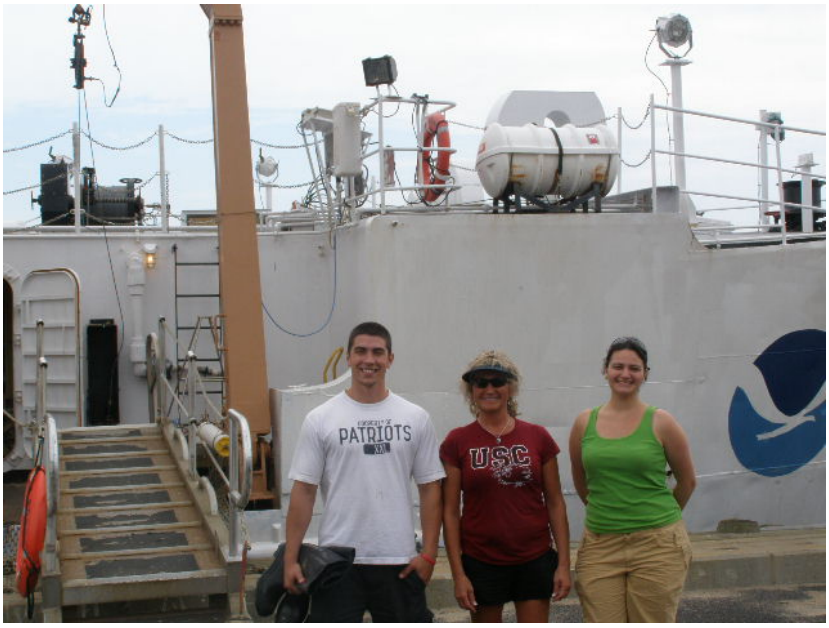
Date Issued
Port Meteorological Officer
Location

GEORGE P. CRESSMAN
Director, National Weather Service

DELAWARE II's Cooperative Ship Weather Observing Program Certificate

Today was our second day at sea. Our ship departed from Woods Hole, Massachusetts yesterday at 3:30 p.m. So that new crewmembers could learn their jobs and responsibilities from our Chief Scientist (Vic Nordahl), we all participated in a "practice" CLAM DREDGE.

On Monday, June 30th – the crew onboard The Delaware II undertook our first clam survey (Station 1). I was on the 12:01 a.m. night crew. I was put in charge of operating the power switch for the clam dredge. The dredge operator (Lino Luis; THE LEAD FISHERMAN) would radio me when the dredge was set into the water, radio me again when he was preparing to dredge "hauling" and then radio me "GIVE ME POWER". At this point, I would check the DEII device, which read the meters of the surface voltage, which



NOAA Teacher at Sea, Lisha Hylton (center), stands in front of the DELAWARE II with some fellow ship mates.

detects the power for the speed of the ship. This machine needs to read between 2.5 and 3.0 knots. Wearing a rubber glove and standing on a rubber mat, I immediately turned the switch on the SURF CLAM CONTROL to "ON". This supplied the dredge with approximately 900 amps (A-C AMPERES) and a voltage of approximately 450 volts. As soon as I turned on the switch, I would radio back to Lino "THE POWER IS ON!" He would radio me back when it was time to turn off the power switch (after the dredger was off the bottom). He would signal to me "Turn the power off". I would turn the switch to off and radio him back "POWER OFF".

Personal Log

Once the clam dredger was hauled onboard the back deck of the ship and the dredger was secured and inspected by Vic Nordahl (Chief Science Researcher), the clam load was released. Wearing protective clothing and hardhats, the crew began to sort the variety of marine animals. Richard Raynes (Gear Specialist) and I were involved in this task. Large buckets were used for this purpose. Broken quahogs were separated from undamaged quahogs. Surfclams went into another bucket. Other living sea creatures like sand dollars, stingrays and sea scallops along with shell fragments and sediment were put into a separate bucket and immediately released back into the ocean. I worked closely with Vic Nordahl and Francine Stroman (Biological Technician) watching, learning and participating in sorting the load and recording data for Station 1 Clam Survey. The clams were weighed and counted (this data imported into a computer system). The second step was measuring the length of the clams on a LIMNOTERRA (a measuring board) and importing this data into the computer system as well. I assisted in the sorting, weighing, counting and measuring. Once the data was stored, the clams were released back into the ocean.

The dredge on the DELAWARE II is big enough for people to stand under and lie on!

There are 3 legs to this research survey. I am on the 1st leg. Some general conclusions will be obtained at the end of the 1st leg from the data we collect. Vic Nordahl (our chief scientist) is going to explain these general conclusions to our team; however, more conclusive evidence of the clam survey will be evident after the 2nd and 3rd leg has been completed.

On my last log, I plan to show evidence of some of the general conclusions our team has made.

Question of the Day

How much does the clam dredge weigh?

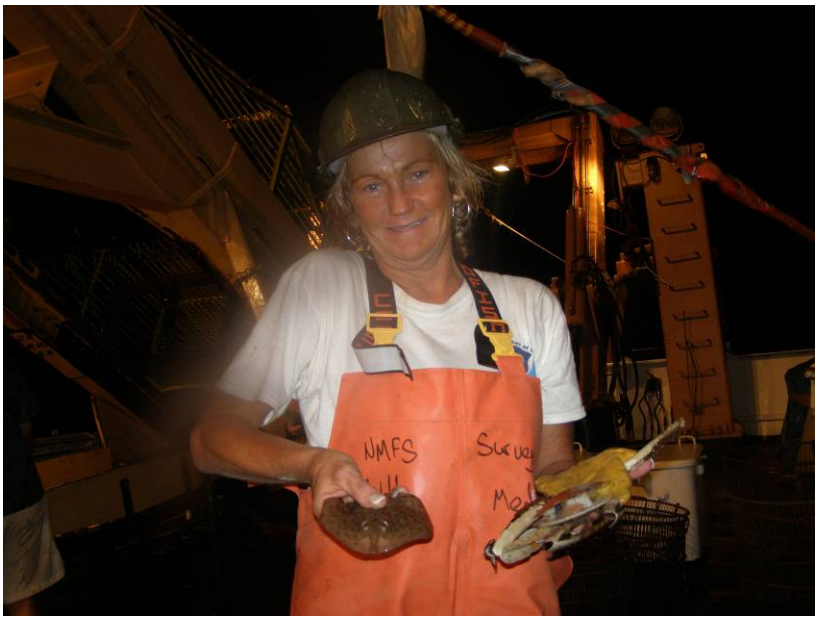
Answer: 9,500 pounds

New Terms/Words/Phrases:

1. Clam Dredge
2. DEII Device
3. Ocean Quahog
4. Surfclam
5. Limnoterra Measure Board

Something to Think About:
How can we conserve and preserve fisheries along the eastern United States coast?

Challenge Yourself:
I would like to pursue a career with NOAA in researching and surveying fisheries along the eastern coast of the United States.



TAS Hylton holds up some interesting specimens that the dredge brought up!

Did You Know That?
The abundance of clams is declining because of 2 factors:

1. Climate change
2. Fishermen are taking more clams than the clam population can reproduce.

ANIMALS SEEN TODAY:
Ocean Quahogs (Mollusca)
Surfclams (Mollusca)
Sand Dollars (Echinoderm)
Annelida Polychaeta
Atlantic Sting Ray (Skate)
Sea Scallops (Mollusca)
Sea Mouse (AnnelidaPolychaeta)