



NOAA Teacher at Sea
Linda Armwood
Onboard NOAA Ship FAIRWEATHER
April 25 – May 5, 2005

Mission: Hydrography

Day 4: Friday, April 28, 2006

Weather Data from Bridge

Visibility: 10 nautical miles (nm)

Wind direction: 190 °

Wind speed: 13 kt

Sea wave height: 1 ft.

Swell waves dir: 310

Swell waves height: 2 ft.

Seawater temp: 7.3

Sea level pressure: 1012.4mb

Present weather: Mostly cloudy

Temperature: °C~ 6.5dry/5.0wet

Science and Technology Log

The project's first priority for the day was to get the tide gauge installed and to set tidal benchmarks. The tides party consisted of three onshore crews: the reconnaissance and planning team; the benchmark recovery and installation team; and the dive and install team. I was assigned to the dive and install team boat in order to observe the divers install the tide gauge. I did not observe the underwater installation below the pier; however, the secure installation



of the above water equipment was a major undertaking! The tide gauge installation involves the proper placement of the following items:

- satellite antenna
- gps antenna
- hydro gauge
- solar panel
- 12-volt battery
- nitrogen cylinder
- nitrogen regulator

NOAA Teacher at Sea, Linda Armwood, took this photo of NOAA divers preparing to install a tide gauge at Noyes Island, AK while on her cruise aboard the NOAA Ship FAIRWEATHER.

- bubbler tubing and
- orifice



Ensign Matthew Glazewski of NOAA Ship FAIRWEATHER drills to establish a benchmark on Noyes Island, AK.

I assisted in drilling with the benchmark recovery and installation team. The historic benchmark was located about 15 feet from the low water line and the next four benchmark locations were set at 200 feet apart from one another in somewhat of a straight line from the historic benchmark. Benchmarks are important because they represent permanent marks of the land leveling system. The tidal gauge will automatically read water



The Tidal Party of the NOAA Ship FAIRWEATHER recovered this historic benchmark on Noyes Island, AK.

pressure which it then converts to depth every six minutes over the next 30 days in order to determine the constituents of the tide-generating force. Determining these constituents allows the survey technicians to form possible hypotheses

related to ranges, heights, rates and future directions of tides.

Personal Log

At the time of this writing, the weather was as stated above; however, during the tides party the weather was miserable with intermittent showers of sleet followed by sunshine and overcast. The kindness extended to the crew by the Noyes' Island caretaker will be remembered.

Question of the Day

Environmental Science and Geospatial Semester Students

Give some possible non-human factors that may have an effect on the decision-making of tide gauge location.

Mrs. Armwood