



**NOAA Teacher at Sea
Scott Donnelly
Onboard NOAA Ship McARTHUR II
April 20 – 27, 2008**

NOAA Teacher at Sea: Scott Donnelly

NOAA Ship McARTHUR II

Mission: Biological and Chemical Characterization of the Oregon Continental Shelf (OCS)

Date: Monday, April 21, 2008

Weather Data from the Bridge

Sunrise: 0620

Sunset: 2010

	WIND	SEAS	PRECIPITATION
AM:	SW 10-15 kts, G25 kts	WSW 4-7ft	Rain showers
PM:	SW 5-10 kts	SW 3-6ft	Same

Legend: G = gusts, kts = knots

Science and Technology Log

With childlike anticipation and excitement I waited for the McARTHUR II to be freed from its berth and be given the freedom to sail towards the ocean world ruled by Neptune, the god of water and sea in Roman mythology. The time had finally arrived and with the captain's decision

we pulled away from the dock, turned 180°, and set "sail" due west to where the water worlds of the Columbia River and Pacific Ocean collide.

After exiting the Columbia and entering the Pacific, the McARTHUR II would turn south and set a heading toward the first sampling station located about nine miles offshore due west of Cape Falcon. ETA (Estimated Time of Arrival) is early afternoon. In the meantime I enjoyed the rugged, coastal scenery of the far southwestern tip of the state of Washington on the northern shore of the Columbia



Cape Disappointment Lighthouse where the mighty Columbia River collides with the Pacific Ocean

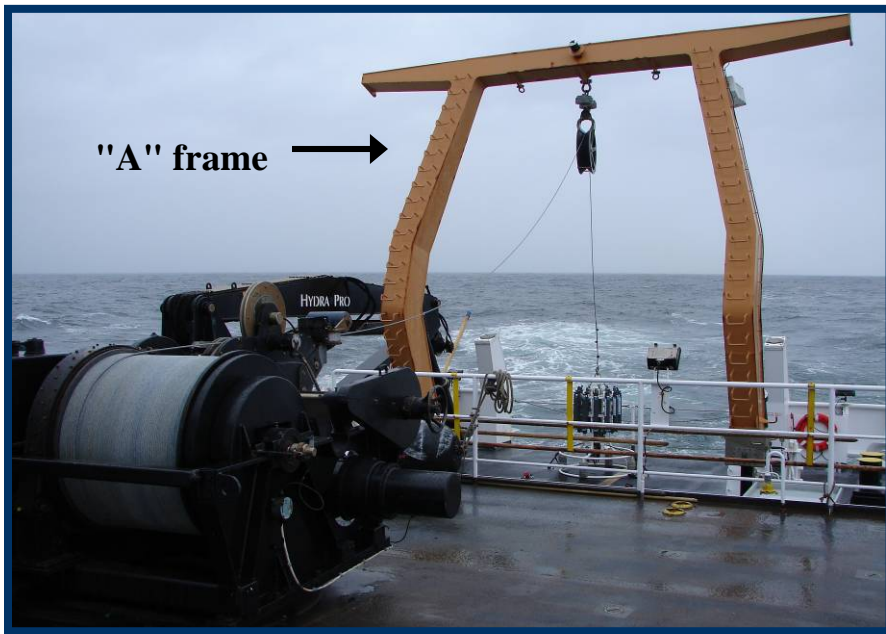
of the far southwestern tip of the state of Washington on the northern shore of the Columbia

River. Before long I was officially an ocean mariner. An important question was soon to be answered: How long would it take for me to obtain my sea legs?

It was time to get to work. Before reaching the first sampling site the science team met in the lounge to try on thermal survival suits to determine if they fit properly. It was cumbersome putting on the heavy red suit; I looked liked the cartoon character Gumby (but red rather than green) but it gave me a bit of peace of mind. Hopefully, that's the last I'll see of that suit. Next, we met on the ship's fantail (back lower working deck of the ship). The Chief Bos'n discussed shipboard operations that are carried out on and safety issues associated with the fantail, the working section of the ship. Hardhats and a working vest are mandatory. We then learned how to operate the "A" frame that aids in deployment and retrieval of the heavy, bulky CTD platform, how to properly attach the Niskin bottles' cables to the triggering latch at the top of the CTD, and lastly how to correctly deliver the water collected inside the Niskin bottles to a sample container for analysis in the ship's wet lab.

From the fantail we moved to the main deck on the starboard side aft of the ship's middle section to learn how to deploy, retrieve, and collect samples from the four types of zooplankton nets, each of which also requires recording certain kinds of data about the cast. I'll discuss biological sampling in more detail later. Admittedly, when it was all done I was a bit overwhelmed but figured that after a station or two when I developed a rhythm and familiarity with the equipment and time scale for collecting samples, I would get the hang of it.

It was 1500 (3pm) and the McARTHUR II had rendezvoused with the first nearshore sampling site about 10 miles west of Cape Falcon ($45^{\circ}46'N$, $124^{\circ}10'W$). Preparations were complete and now it was time to begin 24 hour non-stop operations. I put on rain gear and rubber boots, found



Winch (foreground left) and "A" frame (background) used to deploy and retrieve the CTD platform

some dry gloves, and adjusted my hardhat and workvest. With that, Bob Sleeth and I made our way to the "A" frame to prepare for the first CTD deployment.

Personal Log

My first full day at sea. We departed early morning on schedule from the Astoria dock. As expected we met rough waters where the Columbia River and Pacific Ocean meet. The day was overcast as is typical for this region of the U.S. this time of year, and cold. It snowed

during the trip out to sea. Along the Columbia I was treated to the gorgeous coastal cliffs of Cape Disappointment to the north and the snow capped mountains south of Astoria.

The swells subsided once the McARTHUR II reached water depths >200 feet. I've been out to sea for over twelve hours now and I've experienced no signs of sea sickness though the waters have been relatively calm. I am still earning my "sea legs" but I suppose by cruise's end I won't run into the hallway walls, the hallway water fountain, or my bed as often.

The overcast, gray skies ruined any chance in witnessing a marine sunset. I was still energized and excited like a kid on a "candy high" when I crawled into my lower bunk bed at 1900 (7pm). With my first shift complete I looked forward to my second shift at 0100 (1am). I figured though that I wouldn't sleep with it being a new environment, new sounds, new smells, and the ship pitching and rolling. For the next five hours I went back and forth between sleep and semi-sleep where you're relaxed but at the same time fully aware of the surroundings.

Half past midnight I rolled out of bed, got dressed, and went to the dry lab to prepare for the 0100 to 0500 shift.