

GOMECC-2 Research Cruise

July 21, 2012 – August 13, 2012

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“My Experience as a Marine Science Undergraduate on a NOAA Research Cruise”

Day 1: July 19, 2012

After a ten hour drive from the coast of Mississippi, Sumit Chakraborty and I finally made our way to St. Petersburg, Florida. We had to meet with Alina Corcoran at the Florida Fish and Wildlife Conservation Commission to pick up some supplies for the flow cytometry, DNA, and microscopy water samples. Alina showed me around some of the labs inside the facility with the gigantic, fancy microscopes. I foresee the cruise as being a wonderful learning experience and adventure for me. Hopefully, I will have a better understanding of whether I am in the correct line of work or not. Tonight will be the first time I have ever stayed in a hotel room without my family, and this is the longest amount of time that I will be away from them. Thankfully, my family is being supportive and is excited for me!

Day 2: July 20, 2012

Driving through the congested streets was an interesting experience because Miami is the largest city I have ever been to. Gaining access to the port was an eventful experience to say the least, but we were able to get on the ship to set up all the equipment in the main lab. I am trying to get more aquatinted with all the lab equipment we will be using during the cruise. At the present time, I feel a bit lost with the whole process. We will be leaving the Port of Miami at noon tomorrow, and will be performing a trial run shortly after. Sumit, Marc, and I went to dinner with Dr. Michelle Wood in Miami tonight. We enjoyed our meals during a beautiful sunset. I cannot wait to see the open water. The fact that I am able to participate in such important research on the Ronald H. Brown is exciting! I am grateful that I am working with such a great group of scientists and crew members, but I am starting to feel a little homesick. I am sure all those homesick feelings will soon melt away with all the work to keep me busy.

Day 3: July 21, 2012

The day started out well, but soon went sour due to seasickness. We had to practice our man overboard, fire, and abandon ship drills. The water off the coast of Miami is much different than the water I am used to back at home. We are deploying our first CTD in a few days. I feel like the underdog of the cruise because I am an undergrad with plenty to learn. I believe that I will gain some knowledge from my fellow scientists.

Day 4: July 22, 2012

It only took me three days to figure out that I would not have time for makeup. I am feeling much better today and the view is amazing. We have now made our way off the coast of Tampa, Florida. Around three o'clock this afternoon, we deployed our test CTD. I am still nervous because I am trying to do everything right, but I am sure I will figure it out soon...trial and error, right?

Day 5: July 23, 2012

These first few days have been laid-back, which I heard is not usually the case on most research cruises. We had a long transit before actually reaching our first official CTD station. According to Dr. Rik Wanninkhof's updates, we should arrive there at approximately six o'clock tonight. We will be taking samples for seven different parameters: DNA, HPLC pigments, filter pads, flow cytometry, (TSM) total suspended matter, (POC) particulate organic carbon, and microscopy samples. Our CTD station summary sheets contain: latitude, longitude, time the CTD started, time the CTD ended, bottom depth, target depths, and CTD salinity. The next couple of days we will be extremely busy filtering and taking water samples. Today I have had time to just sit on deck and enjoy the beautiful mass of water surrounding us. Feeling the sea breeze whirl past me and listening to the sounds of the waves reminds me all over again of why I wanted to pursue a career in Marine Science. Every facet of the ocean interests me in some way, and I hope that one day I will be able to pass all of my knowledge on to unseasoned oceanographers.

Day 6: July 24, 2012

Today was a crash course in the lab. Sumit was up all night, and I am running on about four hours of sleep. We collected various numbers of samples from all eleven casts non-stop. The weekly report sent out by Rik and Leticia Barbero stated that we had sampled for thirty-six hours straight. Although the day was hectic, I feel as if I accomplished something. All in the name of science! Tomorrow will be a day of well needed rest for everyone aboard the ship. I was able to call my family on my cellular phone today, and hearing from all of my loved ones was fantastic. A hefty sea turtle swam past the ship, and I was excited because the turtle was the first sign of life I have seen on the cruise.

Day 7: July 25, 2012

My sleep was interrupted by the fire alarm this morning! I jumped out of bed, grabbed all my survival gear, and ran down three flights of stairs to the main lab. On the way down one of the stair cases, my life jacket strap wrapped around the handrail. I was in panic mode, so I kept fumbling with the strap before finally freeing myself from the staircase. When reaching the lab, I discovered that I was the only person in my pajamas and one of the only people with all the survival gear in hand. At least I was prepared for anything. I am making a few rookie mistakes, but I am much more comfortable with the work we are doing now. The other scientists participating in the cruise are measuring several variables. Some of the variables they are working with are: pH, oxygen, salinity, nutrients, alkalinity, and several others throughout the water column.

Day 8: July 26, 2012

Today has been another quite day on the ship. We are working on our data sheets, paperwork, and emailing our families. Station twelve starts tomorrow around five or six in the morning. While eating lunch in the galley, I spoke to Esa Peltola from AOML. He is measuring organic carbon on this cruise. I sat with Mark Pickett, the C.O. of the ship at dinner tonight, and he offered me some words of encouragement for my future endeavors.

Day 9: July 27, 2012

We will be extremely busy with the Tampa, Florida transect today. The first station of the day, station number twelve, is the deepest one we have sampled from so far. The CTD will go down to 3,200 meters and will take approximately four hours.

Day 10: July 28, 2012

I worked twenty-two hours straight last night and today, but all the hard work pays off. Today was the first time Sumit left me alone in the lab. I was worried about doing everything correctly, but everything went fine. We found out that the guys upstairs are allowing us to stop in the Dry Tortugas for a couple hours tomorrow morning! The plan is to use the two smaller rescue boats onboard to shuttle everyone out to the island. I was actually reading about the island and Fort Jefferson before I left for the cruise, so I am overjoyed with the fact that we are going.

Day 11: July 29, 2012

The Dry Tortugas was the most amazing place I have ever seen. Paul Chamberlain and I explored Fort Jefferson before meeting everyone at the beach. All the corals and tropical fish were swimming around us. I saw a parrot fish, two barracudas, pinfish, crabs, a couple snappers, and a variety of other fishes. The beach was comprised of a mixture of sand and shell and coral fragments. Corals colonized the entire wall around the fort.

Day 12: July 30, 2012

The ship had its weekly fire, abandon ship, and man overboard drills today. Shortly after the drills, we had a hazardous spills presentation by Elizabeth Kretovic, the Executive Officer on the ship. They were discussing how to handle chemical, oil, or any other type of spill. At three o'clock this afternoon we will be starting our third transect off the coast of Florida. I assume we will have another busy night ahead of us.

Day 13: July 31, 2012

I have only slept about two hours in the past thirty-six hours. Exhaustion has set in, so I cannot even write about everything we did today. The Georgia transect is quickly approaching, so we all need to get some rest.

Day 14: August 1, 2012

We have started our fourth transect off the coast of Georgia. In the next two days, we will be sampling from eleven stations. The first station starts around five o'clock tonight. I slept for almost thirteen hours last night, and I feel rejuvenated and ready to work again. Here we go.

Day 15: August 2, 2012

The Georgia transect has lasted from five o'clock yesterday evening and should end around midnight tonight. I asked Clay Norfleet, the ship's electrical technician, to look at my broken camera. The news was not pleasant, and my camera is officially dead. At least I have all the pictures from the first week of the cruise.

Day 16: August 3, 2012

We have a whole day before we get to our next transect. The work hours have been crazy on this cruise, but I do not mind the work. Sumit informed me that most research cruises are not as hectic as this one. He said that the GOMECC-2 cruise is one of the more intense cruises he has been on.

Day 17: August 4, 2012 & Day 18: August 5, 2012

Today I went with a small group of the other scientist to visit the bridge of the ship. The view from the bridge was amazing! A gigantic Carnival Cruise ship was passing our port side while we were there. I stayed in the bridge talking about all the instruments and getting to know everyone for almost an hour before dinner. Some of the guys working on the ship were fishing off the back of the boat, and they caught a large Wahoo fish. The stations along the North Carolina transect were all fairly deep, so the transect took two days to complete.

Day 19: August 6, 2012

We are finishing the last couple of stations on the North Carolina transect this morning. While waiting for breakfast, I noticed a beautiful rainbow across the sky. All the scientists are lethargic and can be found sleeping in various spots around the ship. I am so thankful that I was able to come on the cruise because the hands-on experience is invaluable. Everyone on the ship has been helpful, and they welcome us to engage in their work.

Day 20: August 7, 2012

A large shark swam alongside the ship while we were taking samples from the CTD off the coast of New Jersey. I cannot help but notice that the temperatures of the water samples we are filtering are much cooler than before. The New Jersey transect seemed to go over more smoothly than some of the other transects. I believe the reason for this is that we had a steady pace between stations.

Day 21: August 8, 2012

I looked over the plan for the next transect. We will have sixteen stations over the course of three days. This transect is going to be crazy, but most of them will take approximately five hours to complete. Since we have so much time between the stations, we can take naps between them. I have realized that your days on the ship revolve around sleep and mealtimes. Two cheerful dolphins were following behind the ship last night around midnight. The sunset at sea is one of the most beautiful sights I have ever witnessed. Bold-colored ribbons of red, pink, and orange shades filled the afternoon sky.

Day 22: August 9, 2012

While processing samples this morning, Clay informed the people in the main lab that a pair of Mahi Mahi were circling the ship. I ran up to the bow of the ship, and two brightly-colored, magnificent fish were swimming off the starboard side. A pod of Pilot Whales showed up less than a half a mile from the ship. I was so excited because I have never seen a whale in the wild. Around midnight, I went to the bow to see the night sky. Ten shooting stars passed by within the half hour I was watching.

Day 23: August 10, 2012

Regina Easley, a PhD student from St. Petersburg, Florida, offered to show me how to use the spectrophotometer. The blank "cell" is placed in the machine and a minute amount of lead is added to the cell. Once the machine finishes the run, a graph of the wavelengths will automatically be displayed on the computer screen. The carbonate ion in the water sample is measured using the spectrophotometer. Each cell is run three times to eliminate as much bias as possible, and a standard deviation of the actual carbonate will be accepted.

Day 24: August 11, 2012

Our next station will start around ten o'clock tonight, so I have had time to reflect on my experience. I feel so lucky to have met all these great people. Everyone has been friendly and helpful. I had a great conversation with Aaron Colohan, a Commissioned Officer, about my future. He gave me some words of advice about making history instead of reading about it. Knowing that I am missing my family, he tried to make me feel better about being away from home. He reminded me to concentrate on the opportunities I am providing for myself and my family, and that I am truly trying to make the world a better place for my loved ones. Several others have offered words of encouragement, and they were all greatly appreciated. I am beginning to realize that I did choose the right career path for myself. Mr. Charles Meador, my advisor and professor from the University of Southern Mississippi, tried to get me mentally prepared for the cruise. He told me that I will have a much better understanding of whether Marine Science is right for me or not once the cruise is completed. Mr. Charles was correct.

Coming on the ship the first day, I was not confident in my ability to be a Marine Scientist, but I am honestly proud of myself and ready to get to work!

Day 25: August 12, 2012

As I was eating breakfast this morning, Bruce Cowden, the Chief Boatswain, informed me that we had Humpback Whales on our port side about two miles from the vessel off the coast of New Hampshire. I ran to the bridge to get a better view, but the fog had already crept in. I did see a few splashes. Somehow, during the four hours I was asleep, I missed the pod of Pilot Whales that swam right up to the ship. Luckily, Paul caught them on video.

Day 26: August 13, 2012

Well, the end of the cruise has arrived. My mood is bittersweet because I loved being on the cruise, but I cannot wait to see my family and horses. My time on the Ronald H. Brown and working with NOAA has been amazing. I want to thank all the scientists and crew for making my first research experience so enjoyable. A special thanks to Rik, Michelle, Leticia, and Sumit for being patient with me while I was trying to figure everything out. As an undergrad, I was treated with the same respect as the more seasoned scientists. We made it to the Boston port around three o'clock this afternoon. Seeing everyone go their separate ways is sad, but hopefully I will work with some of them in the future. Yong-Rae Kim, from USF, had kind parting words for me. He told me that I am going to make a wonderful oceanographer and wished me luck in my last semester of school. I hope he knows how much I appreciated his compliment.

Until next time,

Madalyn Meaker