From November 3rd through December 5th 2010, I participated in *Atlantis* cruise AT18-02. I was incredibly impressed by the professional precision with which the entire *Atlantis* and *Alvin* crews worked. They work with a sense of pride and are always eager to assist, even showing a great deal of scientific understanding. The food was great, the crew was hospitable, and we got a ton of great work accomplished. Huge thanks go out to the *Atlantis* crew and the *Alvin* team for making this cruise an incredible success!

The daily schedule of the cruise consisted of an *Alvin* dive during the day (during which time nothing else can go in the water), and subsequently water and sediment sampling during the night. We thus collected samples throughout the early part of the night, followed by sample processing and analysis throughout the night and the next morning.

On November 12th, I was honored to be chosen to dive in *Alvin* at Red Crater, which was promised to be one of the most interesting sites of all we would study. At 6:30 the night before, I attended a pre-dive meeting with the scientists who just got out of *Alvin* from that day's dive, the chief scientist, and the *Alvin* crew. During this meeting, we reviewed the dive plan and the crew began configuring *Alvin* accordingly. I woke up at 6:30 am the next morning to prepare for my dive and grabbed a quick breakfast (you want to limit your food and liquid intake in preparation for the eight hours aboard *Alvin).* Out on deck, the *Alvin* crew was preparing for the dive, and by 8:00 am, we were in the water and descending to the depths of the Gulf of Mexico.

Our site was in approximately 2300 m of water. Our dive was the first time anyone has ever been to this location in a submersible. The remotely-operated vehicle (ROV) *Jason* visited this site a few years ago, but it is an incredible feeling to know that my eyes were the first of anyone to have ever seen this section of seafloor.

It took about an hour and a half to descend to the bottom, and a similar time to ascend back up. We had a rigorous dive plan, as that was the only scheduled dive for this site, so we collected push cores, brine fluids, niskin bottles, macrofauna (mussels and urchins), and measured water composition with a mass spectrometer. Our 4 ½ hours of bottom time flew by and before I knew it, we were headed back to the ship. The site was absolutely amazing! I almost felt like I was in a space ship exploring the surface of some other planet. Words cannot describe the feeling of wonderment sitting there looking out at this landscape, knowing just how little we understand about how the bottom of the ocean works.

After a first-time *Alvin* diver gets out of *Alvin* back on deck, it is tradition that your scientific colleagues celebrate your first dive by dumping buckets of iced seawater on you. I'm pretty sure they enjoyed that particular celebration more than I did…!

Some people wonder whether the expense and safety concerns are worth it to continue with the *Alvin* program. I can now say that it is absolutely necessary for the advancement of ocean research. Being able to be on the seafloor with the human eye, watching, observing, and thinking about what is happening is an invaluable commodity to the scientific community. The

conversations we had about the processes occurring at the dive site while we were on the bottom we quite fruitful, and I certainly learned more about the site during those 4 hours than I ever thought. I hope that more young investigators can experience *Alvin* and appreciate the scientific benefit that she affords.

-Richard Peterson, Research Scholar
Coastal Carolina University