

**SCIENCE TEACHERS ABOARD RESEARCH SHIPS! SETTING SAIL JULY 18-22,  
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An amazing opportunity presented itself to three motivated teachers during the summer of 2011 and that was to partake in the Hawaii Ocean Time Series. On July 18<sup>th</sup>, three teaching colleagues arising from Hawaii and California set out with the research cadre from the University of Hawaii, Manoa and the crew of the Kilo Moana with their destination Aloha Station. Little did they all know what lay ahead for one and all.

Expertly led by Jim Foley, the three teachers became familiarized with their vessel one inch at a time. With safety as a paramount consideration, a drill soon occurred complete with life jacket and survival suit donning. This was followed by a life boat simulation which provided cast and crew with the needed information to engage in safety practices while aboard. A ship board tour of the vessel occurred in various installments throughout the voyage. From stem to stern, all members of the outing became familiarized with their surroundings and the various functioning of the ship.

Labor and time saving devices were not only explained but also practiced by teacher, crew and researchers alike. Such tools as the capstan which provided hoisting capability was an eye opener to use and maintain. In order to attach loads, teachers were inserviced on and then practiced knot tying on some of the most common nylon ropes. The bowline soon became the most popular knot and all members were thinking about it and running it through their mind day and night to be prepared when it became time to jump into action.

The investigations of the sea were perhaps the most memorable parts of the voyage and the depths that our team was reaching were truly awe inspiring. The rosette or CTD provided the most comprehensive measurements of Conductivity, Temperature and Depth or pressure for the team. Each new depth reached was a journey itself. From 1000 all the way to 4500 meters the information was logged and interpreted by scientist and teacher alike and that was a very validating experience. Our teacher team actually led the Styrofoam cup lowering activity to which many of the researchers also partook. We all speculated on what the cups would end up looking like and it was eye opening to see the perfect miniatures arise from depths.

Other physical science activities were informative to us as burgeoning researchers. The oxygen presence as derived from HCl titration methods and hand drop methods provided two compare and contrast experiences for our team. Using probes to determine pH, salinity and temperature were also informative processes and placing all that input on our lab sheets highlighted the abundance of data obtained.

On the biological side of the experience, the net tows provided our teams with information below the surface. The plankton and zooplankton readings and categorizations demonstrated life below the surface at varying depths. The diversity of the findings and our accompanying dichotomous identification and sketching provided a living reminder of the life forms abundant in the Pacific Ocean depths.

Our continued investigation of the ship from bow to stern allowed us to see the opportunities for students within the field of oceanography. We were part of the research crew but were also given special insight into the workings of the engine room, the controls and the bridge. In each instance the experts provided us with tours and were on hand to answer questions about the conditions and the requirements of their positions.

The conditions under which we as visiting educators were hosted were extraordinary. We were made to feel a part of a research team that was providing powerful, important data for research purposes. The posting of this data in real time to the HOT SOEST websites fully reinforced the experience in which we were partaking.

The accommodations aboard the Kilo Moana were comfortable and everyone was more than hospitable as we struck up conversations around the boat. The meals that the boat's chef provided were beyond all expectations. Spanning the continuum from substantial to culinary extravaganza we feasted on multiple courses for each and every meal with extensive pick me up snacks in between.

STARS was one of the most rewarding personal and professional staff development opportunities in which I have partaken. It was a learn-by-doing experience immersed in scientific protocol and practice that validated the discoveries within the scientific community and made me feel privileged to be an educator.