

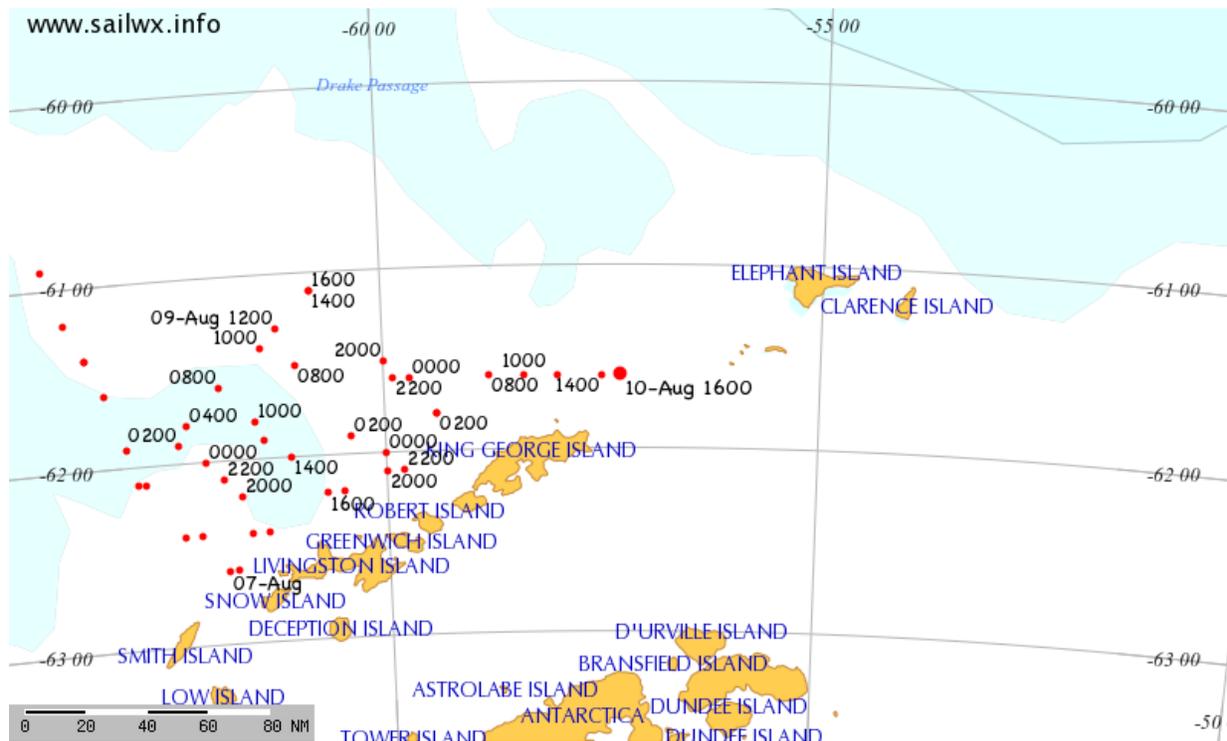


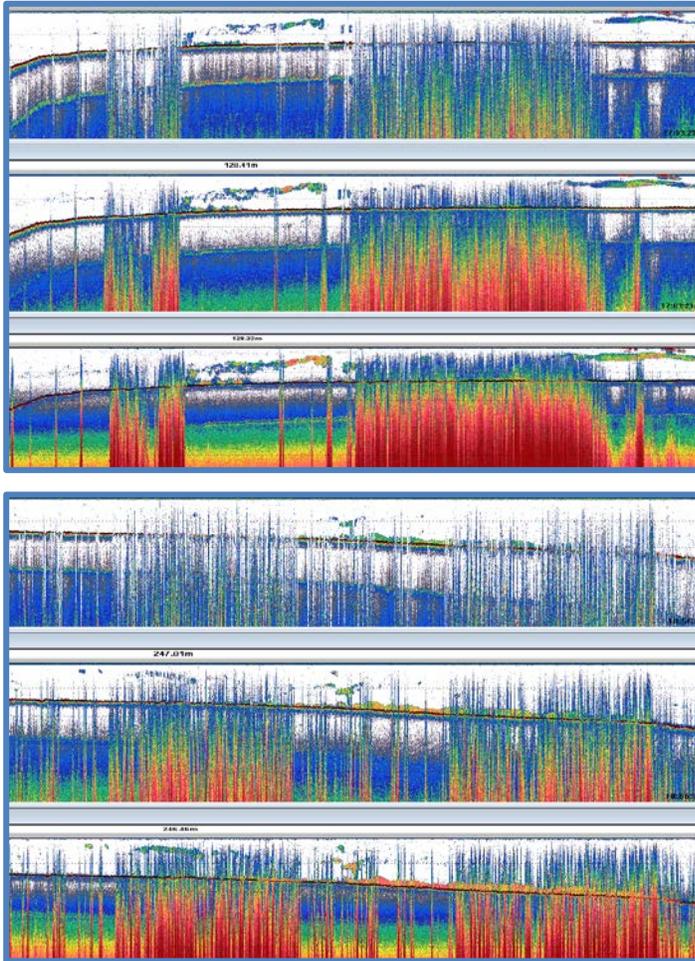
Winter AMLR Oceanographic Survey  
 Weekly Report Number 1  
 August 3-10, 2015

U.S. AMLR 4<sup>th</sup> Consecutive Winter Survey Underway

U.S. AMLR's 4<sup>th</sup> winter ecosystem survey of the Antarctic Peninsula departed Punta Arenas, Chile on August 3, 2015. We began our crossing of the Drake Passage on Tuesday evening (August 4<sup>th</sup>), and the winds built to more than 70 knots during the first six hours of the crossing. Northerly winds and a following sea helped speed the passage across the Drake. We deployed five drifters (with pressure and sea surface temperature instruments) for NOAA's Global Drifter Program, but could not successfully deploy XBTs. Ice, mostly pancake, occurred north of 60 degrees but fortunately was not thick enough to slow our progress.

Fair conditions on the Drake provided an opportunity to sample the offshore zone of the survey area, so the West shelf survey area has been the focus of the sampling this week. We arrived at our first station offshore on the West Shelf on August 6 circa 1800 UTC. Pancake ice was a consistent feature within the survey area, impeding our progress by requiring us to slow to 7 knots for much of the west grid.





Sea ice, while present throughout the survey area, was only thick in nearshore areas and this is where krill larvae (mostly furcilia stages IV to VI) and post larvae were found. The underside of the sea ice, normally dark yellow or brown during previous cruises, was white suggesting less development of algal communities than in previous years. Post-larvae of krill have had white stomachs indicative of heterotrophic feeding. Unfortunately the sea ice is thick enough to impact the development of quantitative acoustic estimates of biomass. Marine mammals and sea birds were also mostly present inshore, but at lower relative densities than in 2013 or 2014.

Figures left show acoustic signals from krill swarms off Cape Shirreff in the water column (upper image) and on the bottom (lower image).

The rather slower transit during the West shelf survey required elimination of three stations on the east side of the West survey area in order to stay on schedule. We have had issues with the CTD (conductivity-temperature-depth) wire requiring re-termination twice, and some challenges with the pressure sensor used to calculate depth of net tows. Both have been resolved at this time. We completed the West shelf on Monday (August 10) at 1100 UTC, and are transiting to the Elephant Island area. We hope to be starting stations 09-08 at 1500 UTC (August 10). The U.S. AMLR vessel research team this season represents collaborations with scientists from Peru, Chile, and two universities (UCSC and OSU). We have also received great support from various NOAA Line Offices including the National Ice Center and the Ocean Prediction Center's Ocean Forecast Branch.

*Submitted by C. Reiss, Chief Scientist, on behalf of the AMLR researchers aboard the RVIB Palmer. Photos provided by AERD researchers Jen Walsh, figures by Christian Reiss and map by SailWX.info.*

