The UNOLS Fleet – 2015 Operations at Sea

By Kelsey Brown

R/V *Atlantic Explorer*

R/V *Atlantic Explorer* spent the majority of 2015 in Bermuda and the Sargasso Sea. From February until the end of June, the ship conducted time series and hydrostations, collecting data on the hydrology of the surrounding area. Bacterioplankton sampling took place in Bermuda during the first week of July, and the ship stayed around Bermuda for the rest of the summer. In fall 2015 cruises were conducted off the U.S. east coast before returning to Bermuda in November. The NSF and Navy are the sources of funding for this year, and there were a total of 157 operational days.

R/V *Atlantis*

R/V *Atlantis* had several spring cruises to the west of Chile in the Eastern Tropical South Pacific as well as operations in the Argentine Basin. After maintenance in Woods Hole it continued work in May on the OOI Pioneer Array on the Northeast Shelf in the Atlantic. Following dives in the Gulf of Mexico during the summer months, *Atlantis* traveled to Greenland and continued work there in the fall before heading back to the NE Shelf. In 2015 there were two cruises that utilized HOV *Alvin* and AUV *Sentry*. There were 285 operational days with cruise support from NSF and NASA, as well as one day from Navy for an Alvin engineering dive.

R/V *Blue Heron*

R/V *Blue Heron* worked on Lake Superior during the spring, summer and fall seasons in 2015. With several sources of funding, including NSF, NOAA, State, and the University of Minnesota, the ship had 40 days of operation. In August, a Chief Scientist Training Workshop took place on the *Blue Heron*. There was LCCMR and GLOS project work in October.

R/V *Clifford A. Barnes*

Based out of Seattle, R/V *Barnes* has been all over Washington in 2015. In the spring, the ship worked in Hood Canal, Puget Sound, Elwa River, Whidbey Bay, Elliot Bay, and Lake Washington. In July it spent a few days back in Puget Sound before heading to Tacoma for two days in the middle of July. After an NSF Inspection in August, *Barnes* continued work in Puget Sound for September. There were 50 total days scheduled for this ship, and it received cruise funding from NOAA, NSF, and the University of Washington.

R/V *Endeavor*

R/V *Endeavor* worked in the Atlantic in 2015. In the spring, *Endeavor* conducted operations along the Mid-Atlantic Ridge, Equatorial Atlantic, George's Bank, and off Puerto Rico and in the Gulf of Mexico. Its summer was spent off Iceland, before returning for operations off Florida and in the Chesapeake Bay during the fall. There were 251 operational days, and the funding sources included DOE, GOMRI, the Navy, NOAA, NSF, and RI State.

R/V *Walton Smith*
R/V *Walton Smith* operated around Florida in 2015. After some maintenance during February and March, the ship had operations in the Florida Straits and South of Florida to work on, mainly, the South Florida Ecosystem Restoration Research (SFER) and Surveying. From the end of August until the first week of September, it worked on the Pulley Ridge project in the Gulf of Mexico, before traveling back to Florida and the Straits for the fall season. The projects were funded by Navy, NOAA and NSF; and there were 112 operational days.

R/V *Hugh R. Sharp*
R/V *Hugh Sharp* started 2015 in the Hudson River and Delaware Bay then had operations off coastal New Jersey waters during the spring months. In the summer the ship traveled to Georges Bank for the NEFSC Scallop Survey, followed by more surveying in the Northern Atlantic. Afterwards, Sharp worked in the Bahamas and then returned to the New Jersey coast, Delaware Bay, and George's Bank. Fall operations included work in the Gulf Stream and Delaware and Maryland coasts. Funding sources included NSF, Navy, USGS, NOAA, and the DOE. There were 185 operational days.

R/V *Kilo Moana*
R/V *Kilo Moana* began 2015 in the shipyard from January until the end of March. The remainder of the spring season was spent in Hawaii, conducting several operations at Station Aloha (North of Hawaii) and south of Oahu. This was followed by work farther south in the Pacific. The majority of work this year took place at Station Aloha, and the ship continued to work around Hawaii into the fall, including recovering seamounts along the Hawaiian ridge. The NSF, University of Hawaii, and NOAA have funded projects with 191 scheduled days total.

R/V *Marcus Langseth*
R/V *Langseth* received maintenance work in the spring season as well as at intervals of the summer. The ship conducted work on the US Extended Continental Shelf, mapping and traveling up along the East Coast. In the fall 2015, the ship sailed to Santorini, Greece for work until the middle of December. The ship was funded by USGS, NOAA, and NSF with a total of 194 days.

R/V *New Horizon*
R/V *New Horizon* ship worked off the US West Coast during spring 2015. After completing some work along the California coast, the ship traveled to the San Diego trough to continue its operations. Operations included 48 days with funding from NSF, NOAA, and other sources. The ship was retired from UNOLS service in 2015.

R/V *Oceanus*
R/V *Oceanus* had a busy year with 214 days of work scheduled. It traveled all over the California and Oregon coasts throughout the year, starting in the NW and Oregon coast

before traveling south to California in the summer. Locations include the Oregon coast, Monterey Bay, Guaymas Basin, Point Sal, Southern California Bight, and Cascadia. Squid CO_2 tolerance was tested in Guaymas Bay in June, and in August the ship spent time off the Oregon coast to test the methylmercury concentrations of fog water. Work continued throughout the fall off the NW U.S. Coast. The funding sources included ACOE, NOAA, the Navy, NSF, and the State.

R/V *Pelican*

In the spring 2015 R/V *Pelican* traveled along the northern Gulf of Mexico, retrieving moorings, conducting studies on sediment traps and the Gulf's chemistry, as well as studying deep carbon pathways. The summer was spent working on several academic studies, such as ones concerning reefs, bioluminescence, sulfur cycling, and plumes. Some sites of the studies include the Louisiana-Texas shelf, Pulley Ridge, and the Florida Escarpment. The fall schedule consisted of more studies taking place in the Gulf of Mexico. There were 200 operating days in 2015 and the funding sources are extensive; BOEM, GOMRI, LUMCON, Navy, NOAA, NSF, State of LA, USGS, and other sources.

R/V *Robert Gordon Sproul*

The R/V *Robert G. Sproul* worked along the San Diego Trough; in the waters off Del Mar, CA; at the Nine Mile Bank while examining a warm water anomaly off of Central California; and along the Patton Escarpment in the summer. The fall months followed a similar schedule, and the ship traveled between San Diego and San Clemente Island in October before more operations in Southern California. There were 69 operational days on *Sproul*, and funding was provided by EPA, the University of California, Navy, NSF, and other sources.

R/V *Roger Revelle*

R/V *Revelle* started work in Australia this year. After work in the Tasman Sea during the spring season, it traveled to the Havre Volcano in New Zealand before continuing on to the East Lau Spreading Center (ELSC) at the Tonga ridge. Work was conducted in New Zealand during the summer months, and the *Revelle* moved to the Bay of Bengal for the fall. Work continued in Palau in the West Pacific before moving to the shipyard in December. There were 306 operational days and Navy and NSF are funding its cruises.

R/V *Savannah*

R/V *Savannah* worked along the East Coast Continental Shelf for the majority of 2015. In the spring it concentrated on the North Carolina Capes, the South Atlantic Bight, the shelf along the South Carolina Coast as well as between North Carolina and Florida. In the summer it moved to the inner shelf, and for work in Chesapeake Bay in September to October before heading to Jacksonville, Florida. There were 177 operational days supported by Navy, NOAA, NSF, institution, the State of Georgia, and other sources.

R/V *Sikuliaq*

In the spring 2015 R/V *Sikuliaq* worked in the West Pacific before traveling north to southern Alaska. Operations took place around Dutch Harbor before going to the shipyard in Seward, Alaska. The ship had operations at Umnak Island and in the Canada Basin during the summer. In the fall *Sikuliaq* traveled to the Beaufort Gyre before heading back to Alameda, California, for maintenance. There were 234 days, and the University of Alaska Fairbanks, Navy, and NSF were the funding sources.

R/V *Thompson*

R/V *Thompson* has conducted operations all along the west coast of Canada and the US. In spring 2015, the ship worked along the Equatorial Pacific, on the California coast south of San Francisco, and offshore Alaska. The summer months were spent on the Hydrate Ridge, the Axial Seamount, the Endeavor Ridge, and in the Gulf of Alaska. The fall included operations in Cascadia and on the Puget Sound. Thompson had 275 operational days, and the University of Washington, NOAA, NSF, and others were funding sources.

Summary – In 2015, the Fleet supported a total of 2,980 operations days.