Scientists from NOAA’s AOML participated in the 2017 PIRATA Northeast Extension (PNE) and Saharan Dust AERosols and Ocean Science Expeditions (AEROSE) cruise aboard the NOAA Ship Ronald H. Brown from February 19 to March 25. The Pilot Research Moored Array in the Tropical Atlantic (PIRATA) is a three-party project involving Brazil, France, and the United States (U.S. component led by scientists at NOAA’s AOML and PMEL) to monitor the upper ocean and near surface atmosphere in the Tropical Atlantic, a region known for strong climate variations with impacts on rainfall rates and storm strikes for the surrounding regions of Africa and the Americas and on the generation of Atlantic hurricanes. AEROSE is an internationally recognized series of field campaigns led by scientists at Howard University and NOAA/NESDIS and designed to explore African air mass outflows and their impacts on climate, weather, and environmental health. PNE and AEROSE scientists have a teamed up on many research cruises over the past twelve years in the Tropical Atlantic, and these annual cruises provide an opportunity for graduate students to gain valuable field experience.

Caption 0:

Scientists preparing the CTD (conductivity temperature depth) frame for the PIRATA Northeast Extension cruise.

Caption 1:

Scientists and crew preparing the winch cable used to lower the CTD frame from the sea surface down to several thousands of meters below the surface and collect data.

Caption 2:

Scientists drawing samples from Niskin bottles on the CTD frame to measure salinity and dissolved oxygen content of the seawater.

Caption 3:

Full science party.

Caption 4:

Two ships meet at sea. The R/V Thalassa meets the R/V Ronald H. Brown and conduct simultaneous CTD casts.

Caption 5:

Scientist and crew member waiting for a small boat launch.

Caption 6:

Scientists and crew members greeting the R/V Thalassa via small boat.

Caption 7:

Scientist deploying a surface drifting buoy. [couldn’t decide which was best]

Caption 8:

Scientist deploying a surface drifting buoy. [couldn’t decide which was best]

Caption 9:

Scientist deploying a surface drifting buoy. [couldn’t decide which was best]

Caption 10:

Scientists deploying an Argo profiling float.

Caption 11:

Scientist deploying an eXpendable BathyThermograph probe.

Caption 12:

Scientists and crew members recovering an underwater glider.

Caption 13:

Scientists and crew members recovering an underwater glider.

Caption 14:

Scientist launching an AEROSE radiosonde.

Caption 15:

Many scientists are needed to launch an AEROSE ozonesonde.

Caption 16:

Surface floats waiting to be deployed as part of PNE moored buoys.

Caption 17:

A PNE mooring about to be recovered after being at sea for 15 months.

Caption 18:

Surface floats get covered with African dust and marine life while at sea.

Caption 19:

Scientist “riding the buoy” to replace a rain gauge sensor on a Brazilian PIRATA mooring.

Caption 20:

Attaching instruments below the surface buoy where they will collect data for a year.