

NOAA Ship Ronald H. Brown A16N Leg 1 Weekly Scientific Report 01
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49.5°N, 20°W
10:00 a.m., Sunday, August 11, 2013 (local time & date)
17.8 degC (64 degF)
Winds 10 knots from S
Beginning Station 034

We have begun a 22-day cruise on NOAA's global-class research ship Ronald H. Brown for the NSF and NOAA-sponsored US Global Ocean Carbon and Repeat Hydrography Program. This cruise is part of a 2-leg transect of the North Atlantic, principally along 20°W, commonly called "A16N" by oceanographers. The Ronald H. Brown began the Repeat Hydrography cruise from Iceland and will make port stops in Madeira, Portugal and Natal, Brazil. The cruise will sample from the surface to the bottom of the ocean approximately every 30 minutes of latitude, measuring a large suite of ocean parameters important for understanding the global ocean/climate system and the associated physical oceanography, carbon cycle, marine biogeochemistry and ecosystems variations with climate change and variability. The cruise also has a trace metal team making profiles every one degree of latitude. Our CTD, hydrographic, ocean carbon, tracer, and underway measurements repeat those from previous cruises in 1989 (on the R/V Oceanus), in 1993 (on NOAA ship Malcolm Baldrige) and in 2003 (on the Ronald H. Brown), enabling comparisons from the different years of the full section.

The loading for this cruise was conducted largely in Charleston July 11-15. The departure from Charleston was delayed by two days due to two mechanical issues with the ship (a lube oil pump for the starboard shaft and the air conditioning units). The ship left Charleston July 18. Technicians and several parts were waiting in Iceland for their arrival. Repairs proceeded smoothly and the lube oil pump and both air conditioning units were deemed operational (although the second air conditioning unit will need more parts and an estimated 4-day repair in Madeira). The ship left promptly on Saturday, August 3 at 8 am.

At the time this report is being written we have completed 32 stations and our current location is 49°30' N and 20° W. If everything goes smoothly as it is now (*), we are expecting to arrive in Funchal on August 23. Along with CTD casts and LADCP measurements, we have been sampling water for CFC, Oxygen, nutrients, discrete pCO₂, dissolved inorganic carbon, pH, total alkalinity, trace metals, helium, tritium, C14, δ15N, colored dissolved organic matter, and salinity. On average, we have been doing 200-240 samples per station. We have also deployed five drifters, at 62°N, 60°N, 55°N, 52°N, and 50°N. Due to bad weather and high swell between 8/07 and 8/08, we had to skip two trace metal casts

(stations 22 and 25), while the main rosette casts were still successfully performed.

We have with us nine graduate and undergraduate students in our total complement of 30 scientists. One of our participants is a Dade County Public School highschool teacher named Monica Mejia who has a blog about our trip. You can follow us at:

http://teachers.dadeschools.net/mmejia/ERFS_AgroEcology/NOAA_A16N_Trip/NOAA_A16N_Trip.html

Our cruise has gotten some attention in the Icelandic media. July 31st we hosted Ambassadors to Iceland from the United States (Luis E. Arreaga), England (Stuart Gill) and Norway (Dag Holter). Staff of the embassies from Germany and Russia were also present. They were given a tour of the ship, ship life and an introduction to the CLIVAR GO-SHIP Repeat Hydrography / Carbon Dioxide Program. News of this tour appeared in local press and the Ambassador of the United States's web page at the links below.

<http://www.ruv.is/frett/einn-milljardur-i-leidangur>

<http://www.ruv.is/sarpurinn/frettir/04082013/einn-milljardur-i-leidangur>

<https://www.facebook.com/media/set/?set=a.10151607135764576.1073741843.98008554575&type=1>

The following are two photos from Iceland: one of the Ronald H. Brown in port as viewed from the beautiful Reykjavik National Music and Conference Center and the other of icebergs in the Jökulsárlón lagoon overlooking Iceland's largest glacier, Vatnajökull.



