



**PRELIMINARY CRUISE REPORT  
2007-034 KNORR Cruise KN192-5**

U.S. Dept. of State CRUISE No.:	2007-034 KNORR
SHIP NAME:	R/V Knorr
OPERATING INSTITUTE OR AGENCY:	Woods Hole Oceanographic Institution
PROJECT TITLE:	Cobalt and Iron in the South Atlantic Ocean
CRUISE DATES (INCLUSIVE):	November 14 to December 13, 2007

CHIEF SCIENTIST:	
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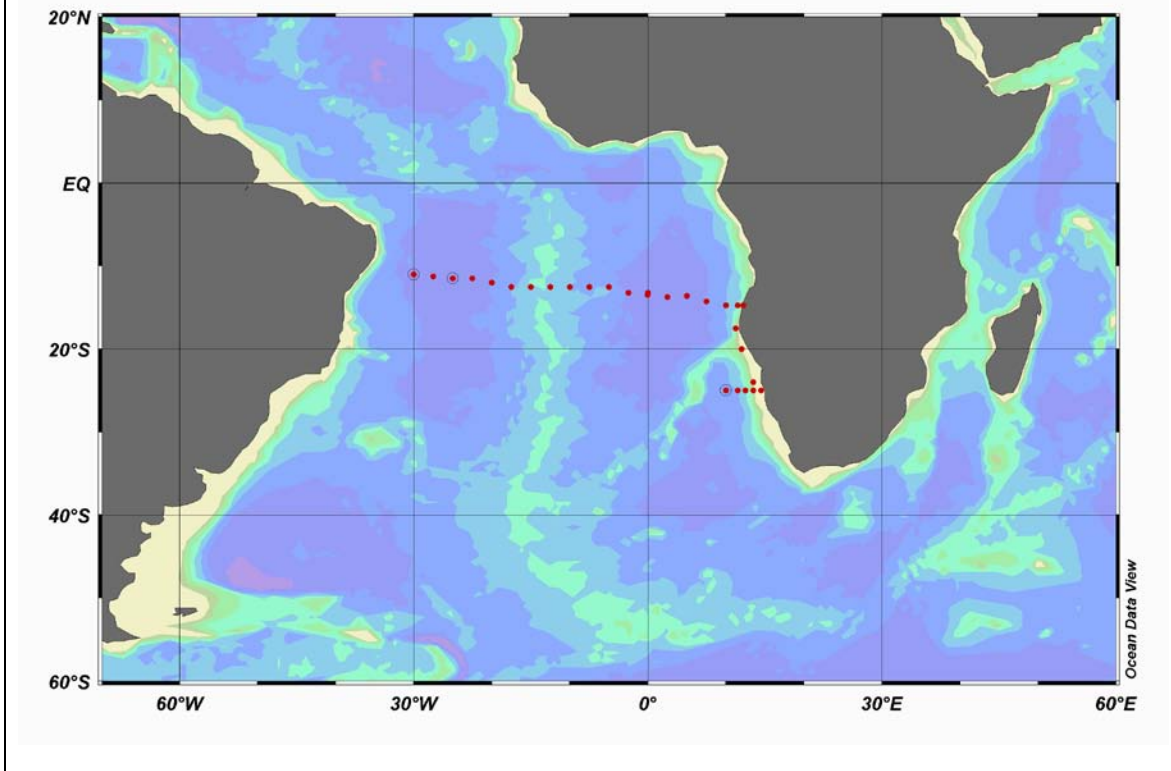
CLEARANCE COUNTRIES:	Namibia and Angola
FOREIGN PARTICIPANTS:	none

DESCRIPTION OF SCIENTIFIC PROGRAM(include page-sized chartlet showing cruise track):

The South Atlantic subtropical gyre and Benguela Upwelling region were sampled for chemistry and biological properties relating to the trace metal nutrition and phytoplankton diversity and productivity. Specifically cobalt and iron dissolved seawater concentrations will be measured and related to the abundance of cyanobacteria including nitrogen fixers and eukaryotic phytoplankton. The phytoplankton of the Benguela Upwelling region were also examined for whether their growth was iron or cobalt limited. 27 stations were conducted throughout this region collecting the water chemistry and biological samples for these analyses (see attached chartlet). Iron and cobalt analyses will be conducted using inductively coupled plasma mass spectrometry and cathodic stripping voltammetry electrochemical methods, and the sample preparation and analyses are technically demanding. As a result it will take some time to generate data from the cruise samples: we project to have this work done by June 2009.

CoFeMUG 2007 cruise  
 November – December 2007  
 South Atlantic subtropical gyre and Benguela upwelling region

Map showing location of 27 station positions where sampling was done during the cruise.



SCHEDULE OF DATA DELIVERY:	
Data Description	Date of Expected Delivery to Dept. of State
Trace metal concentrations in seawater, cobalt total, cobalt speciation, and dissolved iron	June 2009
Water column hydrographic (temperature, conductivity, depth, oxygen, fluorescence) and water column nutrient data (nitrate, phosphate, silicic acid)	June 2009

## CoFeMUG - South Atlantic 2007 Cruise participant list

1. Mak Saito\*
2. Abigail Noble (Saito/WHOI)
3. Alysia Cox (Saito/WHOI)
4. Whitney Krey (Delong/Saito/MIT/WHOI)
5. Carl Lamborg ([clamborg@whoi.edu](mailto:clamborg@whoi.edu)/WHOI)
6. Phoebe Lam ([pjlam@whoi.edu](mailto:pjlam@whoi.edu) WHOI)
7. Chad Hammerschmidt ([chammerschmidt@whoi.edu](mailto:chammerschmidt@whoi.edu), Wright State)
8. Caitlin Frame ([cframe@whoi.edu](mailto:cframe@whoi.edu), WHOI/Casciotti Student)
9. Tyler Goepfert ([tgoepfert@whoi.edu](mailto:tgoepfert@whoi.edu) Webb/Saito)
10. Jill Sohm [sohm@usc.edu](mailto:sohm@usc.edu)
11. Maria Intermaggio
12. Jack DiTullio ([leep@cofc.edu](mailto:leep@cofc.edu) U. Charleston)
13. Peter Lee (DiTullio U. Charleston)
14. Sarah Riseman (DiTullio U. Charleston)
15. Amanda McLenan ([amanda.mclennon@gmail.com](mailto:amanda.mclennon@gmail.com), DiTullio U. Charleston)
16. Mike Seracki (Bigelow)
17. Nicole Poulton (Bigelow)
18. Juan Alba, [juanalba@usp.br](mailto:juanalba@usp.br) (Bigelow)
19. Jane Heywood (Bigelow)
20. Gabrielle Rocab ([rocap@whoi.edu](mailto:rocap@whoi.edu), U. Washington)
21. Emily Nahas ([enahas@u.washington.edu](mailto:enahas@u.washington.edu))
22. Michele Wrable ([mlw22@u.washington.edu](mailto:mlw22@u.washington.edu))
23. Bob Morris ([rmorris@lifesci.ucsb.edu](mailto:rmorris@lifesci.ucsb.edu))
24. Christian Frazar (Chris - U. Washington) Morris lab
25. Jason Hilton (Zehr, UCSC)
26. Reserved for Angolan Observer
27. Reserved for Angolan Observer

### Collecting GEOTRACES-compliant samples for:

1. Laura Robinson (Pa Th isotopes)
2. Bob Anderson (Pa Th isotopes - intercalibration)
3. Olivier Rouxel (Se and Fe isotopes)
4. Karen Casciotti (N isotopes)
5. Ben Reynolds (Si and Fe isotopes)
6. Chris Measures (Al)
7. Kristin Buck (FeL)