

COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

LAMONT-DOHERTY EARTH OBSERVATORY

DRAFT STANDARD FORM C

FINAL CRUISE REPORT

OFFICE OF MARINE OPERATIONS

P.O. Box 1000 61 Route 9W Palisades, New York 10964 845-365-8428 Fax 845-365-8424

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Cruise name/number:	NOAA GO-SHIP 13.5 / MGL24-02
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Authorizations:

Coastal State	Authorization Document	National Participant(s)
Ghana	GA/0577/0036	None
Bouvet Island (Norway)	23/8911	None
South Africa	CDESA/2024/08	None
Cabo Verde	13/CD.IMP/2023	None

Scientist in charge of reporting:

Name:	Zachary Erickson
Country/Nationality:	US /US
Affiliation:	NOAA /PMEL
Address:	7600 Sand Point Way NE, Seattle, WA 98115, USA
Telephone:	+1 (206) 526-6862
Email:	zachary.k.erickson@noaa.gov
Website (for CV and	https://www.pmel.noaa.gov/people/dr-zachary-erickson

Brief description of scientific objective:

This cruise is part of the decadal re-occupation of select NOAA hydrographic transects to determine natural and man-made changes in chemical and physical properties in the ocean under auspices of the international program Global Ocean Ship-based Hydrographic Investigations Program GOSHIP (www.go-ship.org). The focus of this particular cruise is to determine the changes in anthropogenic CO₂, distributions and fluxes in the eastern South Atlantic since the last occupation in 2010 as part of the CLIVAR/CO₂ program. Decadal variations of CO₂ tracer, oxygen, and temperature distributions are strongly influenced by climate change and natural processes. The repeat hydrography cruises are the only means to obtain climate quality data to study changes and impacts in the ocean. This research is co-sponsored by the USA agencies NOAA and NSF. Clearance to conduct research in South Africa, Norway, Ghana and Cape Verde waters on Columbia University-owned vessel R/V Marcus G. Langseth (part of US Academic Research Fleet) requested. Water samples will be collected at the stations indicated on the map from the 24-bottle rosette at each station, from surface to bottom and analyzed for salinity, oxygen, nutrients, dissolved inorganic carbon, total alkalinity, pCO₂, pH, and other parameters. Surface measurements of salinity, temperature, oxygen, alkalinity, pCO₂ and other parameters will be made at regular intervals all along the cruise track.

Data collected from this cruise, as well as the cruise report, can be found in the CCHDO database at <https://cchdo.ucsd.edu/cruise/33H320240201>. Any further technical reports will be present there. The data collected is publicly available and we anticipate it will be used in several data analysis projects on an ongoing basis.

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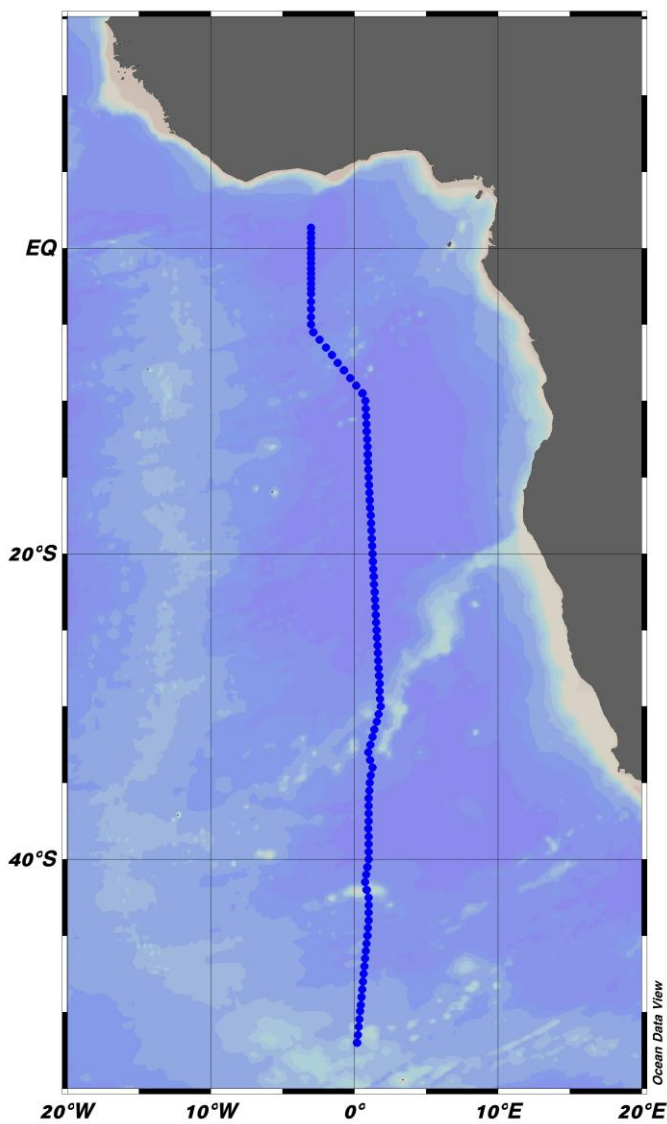
Update on anticipated dates for delivery of final results:

Data collected from this cruise, as well as the detailed cruise report, can be found in the CCHDO database at: <https://cchdo.ucsd.edu/cruise/33H320240201>.

Any further technical reports will be present there. The data collected is publicly available and we anticipate it will be used in several data analysis projects on an ongoing basis.

Append image or URL illustrating the route of the platform, locations where measurements were taken, and actual cruise track:

Figure 1: Map of R/V Langseth ship track with locations of the 112 sampling stations. Ship began in Cape Verde Islands to start of northern end of GO-SHIP A13.5 transect line in Ghana and returned to Cape Town, South Africa after completing southward transect. Please see cruise report for additional details.



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