

COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

LAMONT-DOHERTY EARTH OBSERVATORY

**DRAFT STANDARD FORM C**

**PRELIMINARY CRUISE REPORT**

OFFICE OF MARINE OPERATIONS

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

# COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

LAMONT-DOHERTY EARTH OBSERVATORY

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

#### Authorizations:

Coastal State	Authorization Document Number	National Participant(s)
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:	<a href="mailto:zachary.k.erickson@noaa.gov">zachary.k.erickson@noaa.gov</a>
Website (for CV and photo):	<a href="https://www.pmel.noaa.gov/people/dr-zachary-erickson">https://www.pmel.noaa.gov/people/dr-zachary-erickson</a>

#### 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](http://www.go-ship.org)). The focus of this particular cruise is to determine the changes in anthropogenic CO<sub>2</sub>, distributions and fluxes in the eastern South Atlantic since the last occupation in 2010 as part of the CLIVAR/CO<sub>2</sub> program. Decadal variations of CO<sub>2</sub> 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, pCO<sub>2</sub>, pH, and other parameters. Surface measurements of salinity, temperature, oxygen, alkalinity, pCO<sub>2</sub> and other parameters will be made at regular intervals all along the cruise track.

#### Update on anticipated dates for delivery of final results:

Metadata:	9 May 2024
Raw Data:	9 May 2024
Processed Data:	23 September 2024
Data Analysis:	
WODC Data Registration (if applicable):	

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

Attached map shows sguo transit from Cabo Verde to start of transect south of Ghana near equator and then water sampling stations (~120) extending to ~52 °S and then transit to Cape Town, South Africa at completion of project.

OFFICE OF MARINE OPERATIONS

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

# COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

LAMONT-DOHERTY EARTH OBSERVATORY



OFFICE OF MARINE OPERATIONS

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

# COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

LAMONT-DOHERTY EARTH OBSERVATORY

OFFICE OF MARINE OPERATIONS

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