

In Situ Gross/Net Oxygen production and respiration rates from R/V Thomas G. Thompson TT043, TT049 cruises in the Arabian Sea in 1995 (U.S. JGOFS Arabian Sea project)

Website: <https://www.bco-dmo.org/dataset/2521>

Version: July 25, 1996

Version Date: 1996-07-25

Project

» [U.S. JGOFS Arabian Sea](#) (Arabian Sea)

Program

» [U.S. Joint Global Ocean Flux Study](#) (U.S. JGOFS)

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Dataset Description

In situ gross/net oxygen production and respiration rates

Methods & Sampling

See Platform deployments for cruise specific documentation

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Parameters

Parameter	Description	Units
sta	station number, from event log	
sta_std	Arabian Sea standard station identifier	
gross_integ_prod	integrated gross O2 production	mmol/m ² /day
net_integ_prod	integrated net O2 production	mmol/m ² /day
integ_respir	integrated O2 respiration rates	mmol/m ² /day
event	event number, from event log	
cast_type	cast type, from event log	
depth	sample depth	meters
gross_O2	gross oxygen production	uM/day
gross_std_error	standard error for gross O2 production	
net_O2	net oxygen production	uM/day
net_std_error	standard error for net O2 production	
O2_respir	oxygen respiration rates (gross - net)	uM/day

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Instruments

Dataset-specific Instrument Name	Niskin Bottle
Generic Instrument Name	Niskin bottle
Dataset-specific Description	CTD/Niskin Rosette bottles were used during cruise ttn-049.
Generic Instrument Description	A Niskin bottle (a next generation water sampler based on the Nansen bottle) is a cylindrical, non-metallic water collection device with stoppers at both ends. The bottles can be attached individually on a hydrowire or deployed in 12, 24, or 36 bottle Rosette systems mounted on a frame and combined with a CTD. Niskin bottles are used to collect discrete water samples for a range of measurements including pigments, nutrients, plankton, etc.

Dataset-specific Instrument Name	Trace Metal Bottle
Generic Instrument Name	Trace Metal Bottle
Dataset-specific Description	Trace Metal (TM) Rosette bottles were used during cruise ttn-043 and ttn-049.
Generic Instrument Description	Trace metal (TM) clean rosette bottle used for collecting trace metal clean seawater samples.

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Deployments

TT043

Website	https://www.bco-dmo.org/deployment/57704
Platform	R/V Thomas G. Thompson
Report	http://osprey.bcodmo.org/datasetDeployment.cfm?ddid=2580&did=353&flag=view
Start Date	1995-01-08
End Date	1995-02-05
Description	<p>Purpose: Process Cruise #1 (Late NE Monsoon)</p> <p>Methods & Sampling PI: Michael Bender (Princeton University) and Mary-Lynn Dickson (University of Rhode Island) dataset: In Situ Gross/Net Oxygen production and Respiration rates dates: January 11, 1995 to January 30, 1995 location: N: 19.1669 S: 9.9986 W: 57.9939 E: 67.1673 project/cruise: Arabian Sea/TTN-043 - Process Cruise 1 (Late NE Monsoon) ship: Thomas Thompson</p>

TT049

Website	https://www.bco-dmo.org/deployment/57710
Platform	R/V Thomas G. Thompson
Start Date	1995-07-17
End Date	1995-08-15
Description	<p>Methods & Sampling PI: Michael Bender (Princeton University) and Mary-Lynn Dickson (University of Rhode Island) dataset: In Situ Gross/Net Oxygen production and Respiration rates dates: July 21, 1995 to August 09, 1995 location: N: 19.1986 S: 9.9964 W: 57.9976 E: 67.1716 project/cruise: Arabian Sea/TTN-049 - Process Cruise 4 (Middle SW Monsoon) ship: Thomas Thompson</p>

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Project Information

U.S. JGOFS Arabian Sea (Arabian Sea)

Website: <http://usjgofs.whoi.edu/research/arabian.html>

Coverage: Arabian Sea

The U.S. Arabian Sea Expedition which began in September 1994 and ended in January 1996, had three major components: a U.S. JGOFS Process Study, supported by the National Science Foundation (NSF); Forced Upper Ocean Dynamics, an Office of Naval Research (ONR) initiative; and shipboard and aircraft measurements supported by the National Aeronautics and Space Administration (NASA). The Expedition consisted of 17 cruises aboard the R/V Thomas Thompson, year-long moored deployments of five instrumented surface buoys and five sediment-trap arrays, aircraft overflights and satellite observations. Of the seventeen ship cruises, six were allocated to repeat process survey cruises, four to SeaSoar mapping cruises, six to mooring and benthic work, and a single calibration cruise which was essentially conducted in transit to the Arabian Sea.

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Program Information

U.S. Joint Global Ocean Flux Study (U.S. JGOFS)

Website: <http://usjgofs.whoi.edu/>

Coverage: Global

The United States Joint Global Ocean Flux Study was a national component of international JGOFS and an integral part of global climate change research.

The U.S. launched the Joint Global Ocean Flux Study (JGOFS) in the late 1980s to study the ocean carbon cycle. An ambitious goal was set to understand the controls on the concentrations and fluxes of carbon and associated nutrients in the ocean. A new field of ocean biogeochemistry emerged with an emphasis on quality measurements of carbon system parameters and interdisciplinary field studies of the biological, chemical and physical process which control the ocean carbon cycle. As we studied ocean biogeochemistry, we learned that our simple views of carbon uptake and transport were severely limited, and a new "wave" of ocean science was born. U.S. JGOFS has been supported primarily by the U.S. National Science Foundation in collaboration with the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the Department of Energy and the Office of Naval Research. U.S. JGOFS, ended in 2005 with the conclusion of the Synthesis and Modeling Project (SMP).

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Funding

Funding Source	Award
National Science Foundation (NSF)	unknown Arabian Sea NSF

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