

Particulate Manganese and Aluminum concentration from R/V Thomas G. Thompson TT045 cruise in the Arabian Sea in 1995 (U.S. JGOFS Arabian Sea project)

Website: <https://www.bco-dmo.org/dataset/2551>

Version: March 13, 2002

Version Date: 2002-03-13

Project

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

Program

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

Contributors	Affiliation	Role
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Dataset Description

Particulate Manganese and Aluminum concentrations

Methods & Sampling

PI: George Luther and Brent Lewis
of: University of Delaware
dataset: Particulate Manganese and Aluminum concentrations
dates: March 15, 1995 to April 05, 1995
location: N: 22.485 S: 12.0775 W: 58.0355 E: 67.8925
project/cruise: Arabian Sea/TTN-045, Process cruise #2 (Spring Intermonsoon)
ship: R/V Thomas Thompson

Methods: Landing, W.M. and B.L. Lewis. 1991. Collection, processing and analysis of marine particulate and colloidal material for transition metals. IN: Marine Particles: Analysis and Characterization, (D.C. Hurd and D.W. Spencer, eds.), Geophysical Monograph 63, American Geophysical Union, Washington, D.C., pp. 263-272.

Notes:

1. Particulate Mn and Al concentrations are in nmoles/liter.
2. Samples were collected by pressure filtration under nitrogen directly from the rosette bottles through 144 mm 0.4 micron Nuclepore filters held in Teflon filter sandwiches.

3. "leach" and "refrac" designate "acetic-acid leachable" and "refractory" (microwave digestion with HCl/HNO₃/HF) fractions, respectively.
4. Stations N2-N9 were sampled from the TM rosette. Stations S2-S13 were sampled using University of Washington bottles on the "Monster rosette" (See event log). TM rosette samples were processed on deck. UW bottles were taken into lab and processed in a positive-pressure 2x4 lumber and sheet plastic clean enclosure equipped with a HEPA-filtered clean air supply.

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Data Files

File
manganese_part.csv (Comma Separated Values (.csv), 5.36 KB) MD5:cf5ab3667abf006e7321787b0d7c6af1 Primary data file for dataset ID 2551

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Parameters

Parameter	Description	Units
event	event number, from event log	
sta_std	Arabian Sea standard station identifier	
cast_type	TM = trace metal rosette MR = monster rosette	
sta	station number, from event log	
cast	cast number, from event log	
bot	rosette bottle number	
depth_n	nominal depth	meters
Mn_part_gt0d4_leach	particulate Mn conc. >0.4 microns in the leachable fraction	nanomoles/liter
Mn_part_gt0d4_refrac	particulate Mn conc. >0.4 microns in the refractory fraction	nanomoles/liter
Mn_part_gt0d4_sum	particulate Mn conc. >0.4 microns sum of leach and refractory fractions	nanomoles/liter
Al_part_gt0d4_leach	particulate Al conc. >0.4 microns in the leachable fraction	nanomoles/liter
Al_part_gt0d4_refrac	particulate Al conc. >0.4 microns in the refractory fraction	nanomoles/liter
Al_part_gt0d4_sum	particulate Al conc. >0.4 microns sum of leach and refractory fractions	nanomoles/liter

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Instruments

Dataset-specific Instrument Name	Trace Metal Bottle
Generic Instrument Name	Trace Metal Bottle
Dataset-specific Description	Trace Metal (TM) Rosette bottles
Generic Instrument Description	Trace metal (TM) clean rosette bottle used for collecting trace metal clean seawater samples.

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Deployments

TT045

Website	https://www.bco-dmo.org/deployment/57706
Platform	R/V Thomas G. Thompson
Start Date	1995-03-14
End Date	1995-04-10

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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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