Dissolved iron and aluminum concentrations from CTD casts from R/V Thomas G. Thompson TT045, TT049, TT050, TT053 cruises in the Arabian Sea in 1995 (U.S. JGOFS Arabian Sea project)

Website: https://www.bco-dmo.org/dataset/2554
Version: March 26, 2002
Version Date: 2002-03-26

Project
» U.S. JGOFS Arabian Sea (Arabian Sea)

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

Contributors	Affiliation	Role
Measures, Christopher I.	University of Hawaii (UH)	Principal Investigator
Chandler, Cynthia L.	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

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Dataset Description

Dissolved iron and aluminum concentrations from CTD casts

Methods & Sampling

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Data Processing Description

Measures notes and methods for trace metal concentrations

Notes

1. Iron (Fe) and Aluminum (Al) concentrations are in nmoles/liter 2. The filter column denotes whether or not the sample was filtered, and the filter size used (0 = not filtered; 0.2 = sample passed through 0.2 micron filter

and 5 = sample passed through a 5 micron filter).

Methods

These samples were run using the methods found in: a) Measures, C.I., J. Yuan, and J.A. Resing, 1995. Determination of iron in seawater by flow injection analysis using in-line preconcentration and spectrophotometric detection. Marine Chemistry,50:3-12. b) Resing, J.A. and C.I. Measures, 1994. Fluorometric determination of Al in seawater by flow injection analysis with in-line preconcentration. Analytical Chemistry, 66:4105-4111.

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Parameters

Parameter	Description	Units
event	event number from event log	
sta	station number from event log	
sta_std	Arabian Sea standard station identifier	
cast	cast number from event log	
bot	CTD rosette bottle number	
press	sample depth reported as pressure	decibars
Fe_unfilt	iron concentration, unfiltered	nanomoles/liter
Al_unfilt	aluminum concentration, unfiltered	nanomoles/liter
AlFe_filt_sz	non-zero indicates filter size	microns
Fe_diss_lt0d2	dissolved iron conc.	nanomoles/liter
Al_diss_lt0d2	dissolved aluminum conc.	nanomoles/liter

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Instruments

Dataset-specific Instrument Name	Niskin Bottle
Generic Instrument Name	Niskin bottle
Dataset-specific Description	CTD/Niskin Rosette bottles.
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.

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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
Description	**Methods & Sampling** PI: Christopher Measures of: University of Hawaii dataset: Dissolved iron and aluminum concentrations from CTD casts dates: March 18, 1995 to April 01, 1995 location: N: 19.1666 S: 9.9994 W: 61.4953 E: 67.5679 project/cruise: Arabian Sea/TTN-045 - Process Cruise 2 (Spring Intermonsoon) ship: Thomas Thompson **Processing Description** Measures notes and methods for trace metal concentrations Notes 1. Iron (Fe) and Aluminum (Al) concentrations are in nmoles/liter 2. The filter column denotes whether or not the sample was filtered, and the filter size used (0 = not filtered; 0.2 = sample passed through 0.2 micron filter and 5 = sample passed through a 5 micron filter). Methods These samples were run using the methods found in: a) Measures, C.I., J. Yuan, and J.A. Resing, 1995. Determination of iron in seawater by flow injection analysis using in-line preconcentration and spectrophotometric detection. Marine Chemistry,50:3-12. b) Resing, J.A. and C.I. Measures, 1994. Fluorometric determination of Al in seawater by flow injection analysis with in-line preconcentration. Analytical Chemistry, 66:4105-4111.

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	**Methods & Sampling** PI: Christopher Measures of: University of Hawaii dataset: Dissolved iron and aluminum concentrations from CTD casts dates: July 20, 1995 to August 13, 1995 location: N: 19.883 S: 9.9673 W: 57.2997 E: 68.7507 project/cruise: Arabian Sea/TTN-049 - Process Cruise 4 (Middle SW Monsoon) ship: Thomas Thompson **Processing Description** Measures notes and methods for trace metal concentrations Notes 1. Iron (Fe) and Aluminum (Al) concentrations are in nmoles/liter 2. The filter column denotes whether or not the sample was filtered, and the filter size used (0 = not filtered; 0.2 = sample passed through 0.2 micron filter and 5 = sample passed through a 5 micron filter). Methods These samples were run using the methods found in: a) Measures, C.I., J. Yuan, and J.A. Resing, 1995. Determination of iron in seawater by flow injection analysis using in-line preconcentration and spectrophotometric detection. Marine Chemistry,50:3-12. b) Resing, J.A. and C.I. Measures, 1994. Fluorometric determination of Al in seawater by flow injection analysis with in-line preconcentration. Analytical Chemistry, 66:4105-4111.

TT050

Website	https://www.bco-dmo.org/deployment/57711
Platform	R/V Thomas G. Thompson
Start Date	1995-08-18
End Date	1995-09-15
Description	**Methods & Sampling** PI: Christopher Measures of: University of Hawaii dataset: Dissolved iron and aluminum concentrations from CTD casts dates: August 18, 1995 to September 13, 1995 location: N: 22.4688 S: 9.9991 W: 57.3004 E: 68.7494 project/cruise: Arabian Sea/TTN-050 - Process Cruise 5 (Late SW Monsoon) ship: Thomas Thompson **Processing Description** Measures notes and methods for trace metal concentrations Notes 1. Iron (Fe) and Aluminum (Al) concentrations are in nmoles/liter 2. The filter column denotes whether or not the sample was filtered, and the filter size used (0 = not filtered; 0.2 = sample passed through 0.2 micron filter and 5 = sample passed through a 5 micron filter). Methods These samples were run using the methods found in: a) Measures, C.I., J. Yuan, and J.A. Resing, 1995. Determination of iron in seawater by flow injection analysis using in-line preconcentration and spectrophotometric detection. Marine Chemistry,50:3-12. b) Resing, J.A. and C.I. Measures, 1994. Fluorometric determination of Al in seawater by flow injection analysis with in-line preconcentration. Analytical Chemistry, 66:4105-4111.

TT053

Website	https://www.bco-dmo.org/deployment/57714
Platform	R/V Thomas G. Thompson
Start Date	1995-10-29
End Date	1995-11-26
Description	**Methods & Sampling** PI: Christopher Measures of: University of Hawaii dataset: Dissolved iron and aluminum concentrations from CTD casts dates: October 29, 1995 to November 22, 1995 location: N: 24.3274 S: 10.0855 W: 56.5005 E: 67.1679 project/cruise: Arabian Sea/TTN-053 - Process Cruise 6 (bio-optics) ship: Thomas Thompson **Processing Description** Measures notes and methods for trace metal concentrations Notes 1. Iron (Fe) and Aluminum (Al) concentrations are in nmoles/liter 2. The filter column denotes whether or not the sample was filtered, and the filter size used (0 = not filtered; 0.2 = sample passed through 0.2 micron filter and 5 = sample passed through a 5 micron filter). Methods These samples were run using the methods found in: a) Measures, C.I., J. Yuan, and J.A. Resing, 1995. Determination of iron in seawater by flow injection analysis using in-line preconcentration and spectrophotometric detection. Marine Chemistry,50:3-12. b) Resing, J.A. and C.I. Measures, 1994. Fluorometric determination of Al in seawater by flow injection analysis with in-line preconcentration. Analytical Chemistry, 66:4105-4111.

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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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