Trace metal concentrations from MLML TM-GoFlo Kevlar casts from RVIB Nathaniel B. Palmer and R/V Roger Revelle cruises in the Southern Ocean, 1997-1998 (U.S. JGOFS AESOPS project)

Website: https://www.bco-dmo.org/dataset/2735
Version: February 5, 2002
Version Date: 2002-02-05

Project
» U.S. JGOFS Antarctic Environment and Southern Ocean Process Study (AESOPS)

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

Contributors	Affiliation	Role
Coale, Kenneth H.	Oregon State University (OSU)	Principal Investigator, Principal Investigator
Johnson, Kenneth S.	Moss Landing Marine Laboratories (MLML)	Co-Principal Investigator
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Dataset Description

Trace metal concentrations from MLML TM-GoFlo Kevlar casts

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Data Files

File

trace_metals_KIWI6.csv (Comma Separated Values (.csv), 6.70 KB)
MD5:7a65e47e6e37425b1f6abf01ba0e1686

version: February 5, 2002 (previous version: March 25, 1999)
PI: Kenneth Coale, Ken Johnson
of: Moss Landing Marine Laboratory (MLML)
dataset: Trace metals, from MLML TM-GoFlo Kevlar casts
project/cruise: AESOPS KIWI06, APFZ Survey cruise 1
ship: R/V Roger Revelle

DMO note:
Each station profile is a composite of several casts as can be seen in the event numbers that make up the profile.

trace_metals_KIWI8.csv (Comma Separated Values (.csv), 8.39 KB)
MD5:ac77336e3fd2365019c95ecc6d0f3fe2

version: February 5, 2002 (previous version: March 25, 1999)
PI: Kenneth Coale, Ken Johnson
of: Moss Landing Marine Laboratory (MLML)
dataset: Trace metals, from MLML TM-GoFlo Kevlar casts
project/cruise: AESOPS KIWI08, APFZ Survey cruise 2
ship: R/V Roger Revelle

DMO note:
Each station profile is a composite of several casts as can be seen in the event numbers that make up the profile.

trace_metals_NBP-96-04A.csv (Comma Separated Values (.csv), 9.79 KB)
MD5:13ee76fded8195bf13f4a86812e2a70b

version: February 5, 2002 (previous version: March 25, 1999)
PI: Kenneth Coale, Ken Johnson
of: Moss Landing Marine Laboratory (MLML)
dataset: Trace metals, from MLML TM-GoFlo Kevlar casts
project/cruise: AESOPS/NBP96-4A, Ross Sea Process 1 cruise
ship: R/V Nathaniel B. Palmer

DMO note:
Each station profile has been assembled from several casts as can be seen by the event numbers that make up the profile.

trace_metals_NBP-97-01.csv (Comma Separated Values (.csv), 11.17 KB)
MD5:be791d6fa8607296e20d415f351930df

version: February 5, 2002 (previous version: March 25, 1999)
PI: Kenneth Coale, Ken Johnson
of: Moss Landing Marine Laboratory (MLML)
dataset: Trace metals, from MLML TM-GoFlo Kevlar casts
project/cruise: AESOPS/NBP97-1, Ross Sea Process 2 cruise
ship: R/V Nathaniel B. Palmer

DMO note:
Each station profile has been assembled from several casts as can be seen by the event numbers that make up the profile.

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Parameters

Parameter	Description	Units

sta_name	station name, unique station identifier within AESOPS	
event	event number from event log	
lat_n	nominal latitude (negative = south)	decimal degrees
lon_n	nominal longitude (negative = west)	decimal degrees
depth_n	nominal sample depth	meters
Al_part_gt0.4_leach	aluminium, particulate gt0.4 microns in the leachable fraction	nano moles/kilogram
Al_part_gt0.4_refrac	aluminium, particulate gt0.4 microns in the refactory fraction	nano moles/kilogram
Al_part_gt0.4_sum	aluminum, particulate gt0.4 microns; sum of leach and refactory fractions	nano moles/kilogram
Cd_part_gt0.4_leach	cadmium, particulate gt0.4 microns in the leachable fraction	pico moles/kilogram
Cd_part_gt0.4_refrac	cadmium, particulate gt0.4 microns in the refactory fraction	pico moles/kilogram
Cd_part_gt0.4_sum	cadmium, particulate gt0.4 microns; sum of leach and refactory fractions	pico moles/kilogram
Cd_diss_lt0.4	cadmium, dissolved lt0.4 microns	pico moles/kilogram
Co_part_gt0.4_leach	cobalt, particulate gt0.4 microns in the leachable fraction	pico moles/kilogram
Co_part_gt0.4_refrac	cobalt, particulate gt0.4 microns in the refactory fraction	pico moles/kilogram
Co_part_gt0.4_sum	cobalt, particulate gt0.4 microns; sum of leach and refactory fractions	pico moles/kilogram
Co_diss_lt0.4	cobalt, dissolved lt0.4 microns	pico moles/kilogram
Cu_part_gt0.4_leach	copper, particulate gt0.4 microns in the leachable fraction	nano moles/kilogram
Cu_part_gt0.4_refrac	copper, particulate gt0.4 microns in the refactory fraction	nano moles/kilogram

Cu_part_gt0.4_sum	copper, particulate gt0.4 microns; sum of leach and refactory fractions	nano moles/kilogram
Cu_diss_lt0.4	copper, dissolved lt0.4 microns	nano moles/kilogram
Fe_part_gt0.4_leach	iron, particulate gt0.4 microns in the leachable fraction	nano moles/kilogram
Fe_part_gt0.4_refrac	iron, particulate gt0.4 microns in the refactory fraction	nano moles/kilogram
Fe_part_gt0.4_sum	iron, particulate gt0.4 microns; sum of leach and refactory fractions	nano moles/kilogram
Fe_diss_lt0.4	iron, dissolved lt0.4 microns	nano moles/kilogram
Mn_part_gt0.4_leach	manganese, particulate gt0.4 microns in the leachable fraction	nano moles/kilogram
Mn_part_gt0.4_refrac	manganese, particulate gt0.4 microns in the refactory fraction	nano moles/kilogram
Mn_part_gt0.4_sum	manganese, particulate gt0.4 microns; sum of leach and refactory fractions	nano moles/kilogram
Mn_diss_lt0.4	manganese, dissolved lt0.4 microns	nano moles/kilogram
Ni_part_gt0.4_leach	nickel, particulate gt0.4 microns in the leachable fraction	nano moles/kilogram
Ni_part_gt0.4_refrac	nickel, particulate gt0.4 microns in the refactory fraction	nano moles/kilogram
Ni_part_gt0.4_sum	nickel, particulate gt0.4 microns; sum of leach and refactory fractions	nano moles/kilogram
Ni_diss_lt0.4	nickel, dissolved lt0.4 microns	nano moles/kilogram
Zn_part_gt0.4_leach	zinc, particulate gt0.4 microns in the leachable fraction	nano moles/kilogram
Zn_part_gt0.4_refrac	zinc, particulate gt0.4 microns in the refactory fraction	nano moles/kilogram
Zn_part_gt0.4_sum	zinc, particulate gt0.4 microns; sum of leach and refactory fractions	nano moles/kilogram

Zn_diss_lt0.4	zinc, dissolved lt0.4 microns	nano moles/kilogram
sta	station number from event log	

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Instruments

Dataset-specific Instrument Name	Trace Metal GoFlo
Generic Instrument Name	GO-FLO Teflon Trace Metal Bottle
Generic Instrument Description	GO-FLO Teflon-lined Trace Metal free sampling bottles are used for collecting water samples for trace metal, nutrient and pigment analysis. The GO-FLO sampling bottle is designed specifically to avoid sample contamination at the surface, internal spring contamination, loss of sample on deck (internal seals), and exchange of water from different depths.

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Deployments

NBP-96-04A

Website	https://www.bco-dmo.org/deployment/57718
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/p1.html
Start Date	1996-10-02
End Date	1996-11-08
Description	Ross Sea Process Study 1 **Methods & Sampling** PI: Kenneth Coale and Ken Johnson of: Moss Landing Marine Laboratory (Johnson) Oregon State University (Coale) dataset: Trace metal concentrations from MLML TM-GoFlo Kevlar casts dates: October 20, 1996 to November 05, 1996 location: N: -76.4227 S: -78.0177 W: 169.0855 E: -175.9077 project/cruise: AESOPS/NBP-96-4A - Ross Sea Process 1 Cruise ship: R/V Nathaniel B. Palmer Methodology: Johnson, K.S., R.M. Gordon and K.H. Coale, 1997. What contols dissolved iron concentrations in the worlds ocean? Marine Chemistry; 57:137-161 DMO Note: The event numbers in this data set are NOT arranged in ascending order, from beginning to end of cruise, as is normally the case. The principal investigators have assembled the data into depth descending profiles at nominal geographic locations. As a result, each profile is a composite of several bottle casts (events). PI Notes: leachable particulate = two hour 25% Acetic acid digestion refractory particulate = total digestion of remaining material

NBP-97-01

Website	https://www.bco-dmo.org/deployment/57720
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/p2.html
Start Date	1997-01-13
End Date	1997-02-11
Description	Ross Sea Process Study 2 **Methods & Sampling** PI: Kenneth Coale and Ken Johnson of: Moss Landing Marine Laboratory (Johnson) Oregon State University (Coale) dataset: Trace metal concentrations from MLML TM-GoFlo Kevlar casts dates: January 13, 1997 to February 07, 1997 location: N: -73.9972 S: -78.0422 W: 163.3867 E: -176.0511 project/cruise: AESOPS/NBP-97-1 - Ross Sea Process 2 Cruise ship: R/V Nathaniel B. Palmer Methodology: Johnson, K.S., R.M. Gordon and K.H. Coale, 1997. What contols dissolved iron concentrations in the worlds ocean? Marine Chemistry; 57:137-161 DMO Note: The event numbers in this data set are NOT arranged in ascending order, from beginning to end of cruise, as is normally the case. The principal investigators have assembled the data into depth descending profiles at nominal geographic locations. As a result, each profile is a composite of several bottle casts (events). PI Notes: leachable particulate = two hour 25% Acetic acid digestion refractory particulate = total digestion of remaining material

KIWI6

Website	https://www.bco-dmo.org/deployment/57724
Platform	R/V Roger Revelle
Report	http://usjgofs.whoi.edu/aesops/RRs1.html
Start Date	1997-10-20
End Date	1997-11-24
Description	Polar Front Survey I. Additional information about this cruise can be found at https://usjgofs.whoi.edu/aesops/aboutrr6.html **Methods & Sampling** PI: Kenneth Coale and Ken Johnson of: Moss Landing Marine Laboratory (Johnson) Oregon State University (Coale) dataset: Trace metal concentrations from MLML TM-GoFlo Kevlar casts dates: October 24, 1997 to November 18, 1997 location: N: -57.0013 S: -62.341 W: -170.6933 E: -168.1587 project/cruise: AESOPS/KIWI06, APFZ Polar Front Survey cruise 1 ship: R/V Roger Reville Methodology: Johnson, K.S., R.M. Gordon and K.H. Coale, 1997. What contols dissolved iron concentrations in the worlds ocean? Marine Chemistry; 57:137-161 DMO Note: The event numbers in this dataset are NOT arranged in ascending order, from beginning to end of cruise, as is normally the case. The principal investigators have assembled the data into depth descending profiles at nominal geographic locations. As a result, each profile is a composite of several bottle casts (events). PI Notes: leachable particulate = two hour 25% Acetic acid digestion refractory particulate = total digestion of remaining material

KIWI8

Website	https://www.bco-dmo.org/deployment/57726
Platform	R/V Roger Revelle
Report	http://usjgofs.whoi.edu/aesops/RRs2.html
Start Date	1998-01-08
End Date	1998-02-08
Description	Polar Front Survey II. Additional information about this cruise can be found at https://usjgofs.whoi.edu/aesops/aboutrr8.html **Methods & Sampling** PI: Kenneth Coale and Ken Johnson of: Moss Landing Marine Laboratory (Johnson) Oregon State University (Coale) dataset: Trace metal concentrations from MLML TM-GoFlo Kevlar casts dates: January 16, 1998 to January 29, 1998 location: N: -60 S: -67.7872 W: -170.1133 E: -170.0833 project/cruise: AESOPS/KIWI08, APFZ Polar Front Survey cruise 2 ship: R/V Roger Reville Methodology: Johnson, K.S., R.M. Gordon and K.H. Coale, 1997. What contols dissolved iron concentrations in the worlds ocean? Marine Chemistry; 57:137-161 DMO Note: The event numbers in this dataset are NOT arranged in ascending order, from beginning to end of cruise, as is normally the case. The principal investigators have assembled the data into depth descending profiles at nominal geographic locations. As a result, each profile is a composite of several bottle casts (events). PI Notes: leachable particulate = two hour 25% Acetic acid digestion refractory particulate = total digestion of remaining material

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Project Information

U.S. JGOFS Antarctic Environment and Southern Ocean Process Study (AESOPS)

Website: http://usjgofs.whoi.edu/research/aesops.html

Coverage: Southern Ocean, Ross Sea

The U.S. Southern Ocean JGOFS program, called Antarctic Environment and Southern Ocean Process Study (AESOPS), began in August 1996 and continued through March 1998. The U.S. JGOFS AESOPS program focused on two regions in the Southern Ocean: an east/west section of the Ross-Sea continental shelf along 76.5°S, and a second north/south section of the Southern Ocean spanning the Antarctic Circumpolar Current (ACC) at ~170°W (identified as the Polar Front). The science program, coordinated by Antarctic Support Associates (ASA), comprised eleven cruises using the R.V.I.B Nathaniel B. Palmer and R/V Roger Revelle as observational platforms and for deployment and recovery of instrumented moorings and sediment-trap arrays. The Ross-Sea region was occupied on six occasions and the Polar Front five times. Mapping data were obtained from SeaSoar, ADCP, and bathymetric systems. Satellite coverage was provided by the NASA SeaWiFS and the NOAA/NASA Pathfinder programs.

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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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