

NODC Electronic Data Documentation Form

NOAA FORM 24-13
(Revised 9/2001)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE
NATIONAL OCEANOGRAPHIC DATA CENTER
SSMC-3 FOURTH FLOOR, 1315 EAST WEST HWY
SILVER SPRING MD 20910-3282

FORM APPROVAL PENDING

This form should accompany all data submissions to the National Oceanographic Data Center. Section 1, Contributor Identification, must be completed when the data are submitted. It is highly desirable for NODC to also receive the remaining pertinent descriptive information about the submitted data at that time. Please include any relevant reports, publications, or other supporting documentation that assist in describing data collection, analysis, and format specifics.

SECTION 1. CONTRIBUTOR IDENTIFICATION

(PLEASE COMPLETE INFORMATION ABOUT WHO IS SENDING THE DATA TO NODC.)

1. Name of contributor Dr. David Kadko	5. Telephone 305-421-4721
2. Organization/Institution name Rosenstiel School of Marine & Atmospheric Science - University of Miami	6. Email dkadko@rsmas.miami.edu
3. Mailing address RSMAS-MAC 4600 Rickenbacker Cswy	7. FAX 305-421-4689
4. City Miami State/Province FL Zip/Postal Code 33149 Country USA	8. Other contact methods/information enter other contact information, if needed

SECTION 2. DATA COLLECTOR IDENTIFICATION

(PLEASE COMPLETE INFORMATION ABOUT WHO COLLECTED THESE DATA.)

1. Name of data collector Robert T. Letscher	5. Telephone 305-421-4727
2. Organization/Institution name Rosenstiel School of Marine & Atmospheric Science - University of Miami	6. Email rletscher@rsmas.miami.edu
3. Mailing address RSMAS-MAC 4600 Rickenbacker Cswy	7. FAX 305-421-4689
4. City Miami State/Province FL Zip/Postal Code 33149 Country USA	8. Other contact methods/information enter other relevant contact information

SECTION 3. GENERAL DATASET DESCRIPTION
(PLEASE COMPLETE GENERAL INFORMATION ABOUT THESE DATA.)

1. Dataset Title (if applicable) (may be sent in an included ASCII text file named "abcTITLE.TXT" where abc are your initials)
 Polarstern ARKXXIII/3 biogeochemical and isotopic tracers

2. Dataset Abstract (please provide a brief description of the contents of the dataset) (may be sent in an included ASCII text file named "abcABSTRACT.TXT" where abc are your initials)
 This dataset includes chemical analyses of dissolved organic carbon, total dissolved nitrogen, nitrate, total alkalinity, $\delta^{18}\text{O}$, and ^{228}Ra , ^{226}Ra collected from surface waters (~10 m) as part of the water sampling program aboard FS Polarstern expedition ARKXXIII/3 to the Arctic Ocean during August-October 2008.

3. Dataset Purpose (please provide a brief statement about the purpose for collecting these data) (may be sent in an included ASCII text file named "abcPURPOSE.TXT" where abc are your initials)
 The degree of transfer and interaction between nearshore shelf waters with offshore open-ocean waters were investigated using analyses of radium isotopes ^{228}Ra , ^{226}Ra along with the influence of river runoff and sea ice melt freshwater using analyses of stable oxygen isotope ^{18}O of water. The fate of land-derived carbon and nitrogen delivered to the Arctic Ocean via rivers was investigated coupling measurements of dissolved organic carbon and nitrogen species with the isotopic tracers.

4. Dataset collection dates
 August 24, 2008
 First day of data collection
 October 5, 2008
 Last day of data collection

5. Dataset location
 Northernmost Latitude 81
 Southernmost Latitude 69.5
 Easternmost Longitude -127
 Westernmost Longitude -127
 Ocean/sea area names 114
 Arctic Ocean, Chukchi Sea, East Siberian Sea

6. Platform(s) used to collect these data
 Platform name(s) and type(s)
 Icebreaker ship - FS Polarstern

7. Instruments used to collect these data
 Instrument(s)
 Ship's hull-mounted surface seawater intake

8. Parameters measured
 Parameters
 Temperature, salinity, nitrate, total alkalinity, dissolved organic carbon, total dissolved nitrogen, $\delta^{18}\text{O}$, $^{228}\text{Ra}/^{226}\text{Ra}$

9. Project name(s)
 Polarstern ARKXXIII/3 - Isotope Tracer Analyses

10. Original cruise name(s)
 ARKXXIII/3

11. Volume of data transferred (in bytes)
 65,024

12. Filenames in data submission
 ARK XXIII/3 surface data DOM_TA_O18_Ra.xls

SECTION 4. SCIENTIFIC CONTENT OF DATASET
(PLEASE COMPLETE SPECIFIC INFORMATION ABOUT THESE DATA.)

Include enough information concerning the manner of observation, instrumentation, analysis, and data reduction techniques to make them understandable to future users. Furnish the minimum documentation considered relevant to each data type. Documentation will be retained 'as is' as a permanent part of the data and will be available for future users. Equivalent information already available may be substituted for this section of this form (i.e., publications, reports, and README files containing descriptions of observational and analytical methods).

NAME OF MEASURED PARAMETER	UNIT OF MEASURE USED FOR PARAMETER	OBSERVATION METHOD AND INSTRUMENT USED (TYPE & MODEL	ANALYTICAL METHOD AND LABORATORY PROCEDURES USED (INCLUDING MODIFICATIONS)	DATA PROCESSING TECHNIQUES (WITH FILTERING AND AVERAGING)
Temperature	degress Celsius	Ship's hull-mounted thermo- salinometer	N/A	N/A
Salinity	psu	Ship's hull-mounted thermo- salinometer	N/A	N/A
Nitrate	μmol/kg	Ship's hull-mounted seawater intake line at depth of ~10 meters	Vanadium (III) reduction of NO ₃ + NO ₂ to NO, method of Braman and Hendrix (1989) with a Sievers 280i NOA analyzer	Standard dilution calibration, detection limit = 0.1 μmol/kg, precision = +/- 0.1 μmol/kg
Total Alkalinity	μmol/kg	Ship's hull-mounted seawater intake line at depth of ~10 meters	Two-point potentiometric titration with HCl	Precision = +/- 0.2 μmol/kg
DOC	μmol/kg	Ship's hull-mounted seawater intake line at depth of ~10 meters. Filtered through 0.7 μm GF/F.	High temperature catalytic oxidation with NDIR CO ₂ detection using a Shimadzu TOC-V analyzer	Standard dilution calibration, precision = +/- 2 μmol/kg
TDN	μmol/kg	Ship's hull-mounted seawater intake line at depth of ~10 meters. Filtered through 0.7 μm GF/F.	High temperature catalytic oxidation with chemi- luminescent NO _x detection using a Shimadzu Total Nitrogen Measuring Unit	Standard dilution calibration, precision = +/- 0.2 μmol/kg
δ18O	‰	Ship's hull-mounted seawater intake line at depth of ~10 meters	Water equilibration system attached to a Europa GEO mass spectrometer	precision = +/- 0.08 ‰
228Ra/226Ra	Activity Ratio (dimensionless)	Ship's hull-mounted seawater intake line at depth of ~10 meters. Filtration of 200 liters onto Mn-coated acrylic fibers stored in sealed Petri dishes.	Subsequent analysis of radium daughter activities using gamma ray spectrometry with germanium detection.	precision for each sample given in subsequent column

SECTION 5. DATA FORMAT OF DATASET**(PLEASE COMPLETE SPECIFIC INFORMATION ABOUT THE FORMAT OF THESE DATA.)**

Include enough information concerning the format of these data to make them understandable to future users. Furnish at least the minimum documentation considered relevant for your data. Documentation will be retained 'as is' as a permanent part of the data and will be available for future users. Equivalent information already available may be substituted for this section of this form (i.e., publications, reports, and README files containing descriptions of the data format). At a minimum, please include the following information:

1. Media type on which data were submitted (e.g., FTP, exabyte tape, etc.)

FTP

2. Name of included file that contains specific record layout, if applicable, including:

FIELD NAME, POSITION FROM 0 MEASURED IN (BITS, BYTES, ETC.), LENGTH (NUMBER, UNITS), ATTRIBUTES, USE AND MEANING

N/A

3. Brief description of file organization

Data provided in Microsoft Excel spreadsheet format. File type ".xls"

4. Record type(s)

enter record type descriptions, as appropriate

5. Data format information contact person

Name Robert T Letscher

Email rletscher@rsmas.miami.edu

Telephone 305-421-4727

Address RSMAS-MAC
4600 Rickenbacker Cswy
Miami, FL 33149 USA

SECTION 6. INSTRUMENT CALIBRATION**(PLEASE COMPLETE SPECIFIC CALIBRATION INFORMATION ABOUT INSTRUMENTS USED TO COLLECT THESE DATA.)**

Include enough information about instrument calibration to make it understandable to future users. Furnish the minimum documentation considered relevant for each instrument. Documentation will be retained 'as is' as a permanent part of the data and will be available for future users. Equivalent information already available may be substituted for this section of this form (i.e., publications, reports, and README files containing descriptions of observational and analytical methods).

1. Name of included file that contains specific calibration details, if applicable, including:

INSTRUMENT TYPE (MFR., MODEL#), DATE OF LAST CALIBRATION, LAST CALIBRATED BY (NAME, ORGANIZATION), INSTRUMENT CALIBRATED AT (FIXED INTERVALS/BEFORE USE/AFTER USE/BEFORE AND AFTER USE/ONLY AFTER REPAIR/ONLY WHEN NEW/OTHER (SPECIFY)/INSTRUMENT NOT CALIBRATED

enter name of file submitted to NODC containing calibration detail information