

## 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.)

<p>1. Name of contributor Paul Blankinship</p>	<p>5. Telephone 919-832-7242</p>
<p>2. Organization/Institution name Leidos</p>	<p>6. Email Paul.R.Blankinship@leidos.com</p>
<p>3. Mailing address 615 Oberlin Road, Suite 100</p>	<p>7. FAX 919-832-7243</p>
<p>4. City Raleigh State/Province North Carolina Zip/Postal Code 27605 Country USA</p>	<p>8. Other contact methods/information</p>

### SECTION 2. DATA COLLECTOR IDENTIFICATION

(PLEASE COMPLETE INFORMATION ABOUT WHO COLLECTED THESE DATA.)

<p>1. Name of data collector Dr. Peter Hamilton, Dr. Kathleen Donohue, Dr. Robert Leben, Dr. Randolph Watts, Dr. Julio Sheinbaum</p>	<p>5. Telephone 919-832-7242</p>
<p>2. Organization/Institution name Leidos</p>	<p>6. Email peter.hamilton@leidos.com</p>
<p>3. Mailing address 615 Oberlin Road, Suite 100</p>	<p>7. FAX 919-832-7243</p>
<p>4. City Raleigh State/Province North Carolina Zip/Postal Code 27605 Country USA</p>	<p>8. Other contact methods/information</p>

**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)

Dynamics of the Loop Current in U.S. Waters

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)

The study design for the in-situ measurements consisted of an array of nine full-depth (or tall) moorings, six near-bottom moorings, and 25 PIES deployed in U.S. waters. The location of the array was determined partly by the location of the Exclusive Economic Zone (EEZ) boundary between the U.S. and Mexico, and an analysis of 19 eddy separations from the altimeter record. Based on these data, the mapping array is centered on the region that has the highest probability of capturing the separation zone between a recently detached LC eddy and the LC, as well as encompassing both the northwest and east sides of an extended LC. The spacing of moorings and PIES was set to resolve the coherence scales of both the upper and lower layers based on previous deepwater studies that showed that length scales in the lower layer tend to be shorter than at the surface. The mapping array was deployed for 2.5 years beginning in April 2009 with the final retrieval in November 2011. The moorings were rotated half way

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 overarching goal of this study is to increase knowledge of the dynamics of the LC in the eastern Gulf of Mexico through a combined analysis of observations and numerical modeling output. Specific objectives are to:

Increase understanding of the causes of the LC incursions into the Gulf,

1. Describe oceanographic conditions leading up to and during eddy shedding, and reattachment and to help understand the dynamics of these processes;

4. Dataset collection dates

04/19/2009

First day of data collection

11/14/2011

Last day of data collection

5 Dataset location

Northernmost Latitude 27 Degrees 00.635' N

Southernmost Latitude 21 Degrees 32.42' N

Easternmost Longitude 88 Degrees 24.455'W

Westernmost Longitude 85 Degrees 03.289'W

Ocean/sea area names

Gulf of Mexico

6. Platform(s) used to collect these data

Platform name(s) and type(s)

Sub-surface moorings, PIES, CMAN stations, NDBC buoys.

7. Instruments used to collect these data

Instrument(s)

RDI ADCP, Aanderaa RCM 7/8 & 11, Hugin, Star-Oddi, MicroCat, SeaCat, InterOcean S4, SeaBird 911+ CTD, PIES, Aquadopps.

8. Parameters measured

Parameters

Profile Currents, currents, Temperature (water), salinity, pressure, profile CTD, PIES (estimate of vertical profiles of temperature, salinity, density and referenced geopotential).

9. Project name(s)

Dynamics of the Loop Current in U.S. Waters

10. Original cruise name(s)

PE09-34, PE11-01, PE11-16, PE12-02, PE12-16, WB10-016

11. Volume of data transferred (in bytes)

1.02 GB

12. Filenames in data submission

See DVD, "LoopCurrent\_Data"

**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)
Currents U/V U (East +, West -) V (North +, South -)	cm/s cm/s	RDI ADCP, S4, RCM-7/8, RCM-11		<ul style="list-style-type: none"> <li>- Linear fill of short gaps (1-4 records)</li> <li>- Patch longer records up to 2 days.</li> <li>- 3-HLP</li> <li>- 40-HLP</li> <li>- Rotate to align with local bathymetry</li> </ul>
Temperature (water)	degrees C	SeaCat, MicroCat, Hurgun, Star-Oddi, ADCP, S4, RCM-7/8, RCM-11		<ul style="list-style-type: none"> <li>- Linear fill of short gaps (1-4 records)</li> <li>- Patch longer records up to 2 days.</li> <li>- 3-HLP</li> <li>- 40-HLP</li> </ul>
Salinity	PSU	SeaCat, MicroCat		<ul style="list-style-type: none"> <li>- Linear fill of short gaps (1-4 records)</li> <li>- Patch longer records up to 2 days.</li> <li>- 3-HLP</li> <li>- 40-HLP</li> </ul>
Temperature, Salinity	degrees C, PSU	PIES (Inverted Echo Sounder with Pressure)		
Temperature, Salinity, Depth	degrees C, PSU	SeaBird 911+ CTD		
NDBC Buoy Station	Met Data			

**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.)

DVD, Data also available online at: [www.saicocean.com](http://www.saicocean.com)

## 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

Each netcdf file has a header describing the data in the file: location, dates, size, type of data, etc.

## 3. Brief description of file organization

DVD            LoopCurrent\_Data  
                  Data  
                  DOCS

## 4. Record type(s)

netcdf format

## 5. Data format information contact person

Name Paul Blankinship

Email Paul.R.Blankinship@leidos.com

Telephone 919-832-7242

Address Leidos  
615 Oberlin Road, Suite 100  
Raleigh, NC 27605

*Paul Blankinship*

**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

All of the moored instruments were serviced and calibrated by their respective original manufacturer prior to deployment.