

**TITLE:** ADCP (Acoustic Doppler Current Profiler) time-series data, 2010-2012, stations C1, C2, C3. (CHAOZ: Chukchi Sea Acoustics, Oceanography, and Zooplankton)

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**-Similar contact information for data questions (if different than above)**

SAME AS ABOVE and

Data/documentation/metadata: Peggy Sullivan [peggy.sullivan@noaa.gov](mailto:peggy.sullivan@noaa.gov)

**FUNDING SOURCE INFORMATION:**

The CHAOZ study was initiated and supported by the U.S. Department of Interior, Bureau of Ocean Energy Management (BOEM), Alaska Outer Continental Shelf Region, Anchorage, Alaska, through an Interagency Agreement between BOEM and the National Marine Mammal Laboratory (Inter-Agency Agreement Number M09PG00016 (AKC 083)), as part of the BOEM Alaska Environmental Studies Program.

**DATA SET OVERVIEW:**

**-Introduction or abstract**

These Acoustic Doppler Current Profiler (ADCP) time-series data sets, consist of zonal current (U) and meridional current (V) measurements from moored instruments at 3 stations in the Chukchi Sea (C1, C2, C3). Instruments were deployed on year-long moorings from the *F/V Alaskan Enterprise* in August, 2010 and from *F/V Mystery Bay* in August, 2011 during late-summer CHAOZ research cruises. The cruise was funded by DOI Bureau of Ocean Energy Management (BOEM) through the NOAA National Marine Mammal Laboratory. Mooring operations on this cruise were managed by EcoFOCI personnel from NOAA/PMEL. ADCP data were processed at NOAA/PMEL/EcoFOCI using standard techniques. Missing data are listed as 1.0e+35.

data contacts: Phyllis Stabeno, Peggy Sullivan.

**-Time period covered by the data:**

2010, 10ckp1a: August 29, 2010 to August 25, 2011  
2010, 10ckp2a: August 29, 2010 to August 23, 2011  
2010, 10ckp3a: August 31, 2010 to August 22, 2011  
2011, 11ckp1a: October 6, 2011 to August 21, 2012  
2011, 11ckp2a: August 24, 2011 to August 21, 2012

2011, 11ckp3a: August 26, 2011 to August 22, 2012

**-Missing Data value:** 1.0e+35

**-Physical location of the measurement or platform (latitude/longitude/elevation)**

Instruments were on Moorings in the Chukchi Sea at stations C1, C2 and C3 off the coast of Alaska near Icy Cape. Platform latitude, longitude and instrument depths are as follows:

mooring	year	Station	Instrument*	depth	latitude (N)	longitude (W)
10ckp1a	2010	C1	ADCP	33 m	70° 50.334'	163° 11.803'
10ckp2a	2010	C2	ADCP	34 m	71° 13.178'	164° 14.971'
10ckp3a	2010	C3	ADCP	35 m	71° 49.548'	165° 58.527'
11ckp1a	2011	C1	ADCP	36 m	70° 50.328'	163° 11.630'
11ckp2a	2011	C2	ADCP	32 m	71° 13.282'	164° 14.470'
11ckp3a	2011	C3	ADCP	36 m	71° 49.486'	165° 58.514'

\*instrument defined below

**-Citation:** Berchok, C.L., J.L. Crance, E. Garland, J.A. Mocklin, P.J. Stabeno, J.M. Napp, B. Rone, A.H. Spear, M. Wang, and C.W. Clark. 2015. Chukchi Offshore Monitoring In Drilling Area (COMIDA): Factors Affecting the Distribution and Relative Abundance of Endangered Whales. Draft Final Report, OCS Study BOEM 2015-xxx. National Marine Mammal Laboratory, Alaska Fisheries Science Center, NMFS, NOAA, 7600 Sand Point Way NE, Seattle, WA 98115-6349.

**-Any World Wide Web address references**

2010 Cruise Report:

[http://www.pmel.noaa.gov/foci/operations/2010/1AE10/CHAOZ2010\\_CruiseReport.pdf](http://www.pmel.noaa.gov/foci/operations/2010/1AE10/CHAOZ2010_CruiseReport.pdf)

2011 Cruise Report:

[http://www.pmel.noaa.gov/foci/operations/2011/1MB11/CHAOZ2011\\_CruiseReport.pdf](http://www.pmel.noaa.gov/foci/operations/2011/1MB11/CHAOZ2011_CruiseReport.pdf)

NOAA/NMML overview and quarterly reports for CHAOZ:

<http://www.afsc.noaa.gov/nmml/cetacean/chaoz.php>

**INSTRUMENT DESCRIPTION:**

**-Brief text describing the instrument with references**

Data were collected from Teledyne RD Instruments 600 kHz Workhorse Sentinel ADCP (Acoustic Doppler Current Profiler) instruments, and were deployed near bottom at < 50m depths.

**-Figures (or links), if applicable**

Instrument details from the Teledyne RDI web site:

<http://www.rdinstruments.com/sen.aspx>

[http://www.rdinstruments.com/datasheets/wh\\_sentinel.pdf](http://www.rdinstruments.com/datasheets/wh_sentinel.pdf)

**-Table of specifications (i.e. accuracy, precision, frequency, etc.)**

Teledyne RD Instruments data sheet for Workhorse Sentinel ADCP

[http://www.rdinstruments.com/datasheets/wh\\_sentinel.pdf](http://www.rdinstruments.com/datasheets/wh_sentinel.pdf)

## **DATA COLLECTION and PROCESSING:**

### **-Description of data collection**

ADCP (Acoustic Doppler Current Profiler) deployments are simple subsurface moorings consisting of an RDI Workhorse ADCP in a syntactic foam float, an acoustic release, and an anchor constructed from a railroad wheel, all connected using 3/8 inch chain. The ADCP is moored within ten meters of the bottom. Moorings were deployed once each year in late summer, then recovered the following year and data dumped to a field laptop.

### **-Description of derived parameters and processing techniques used**

No derived parameters.

### **-Description of quality control procedures and Processing**

Data are processed using recommended software from the manufacturer along with recent calibrations. CTD casts at deployment and recovery, and are used to correct time-series variables. If data are at all questionable, tidal analysis is used to find the amplitudes of major tidal components of current meter data and these are compared to known components in the near proximity as a quality check of velocity data. Time series values are visually inspected for singleton spikes which are removed when appropriate. Missing data value for all variables is 1.0e+35. Instruments are setup so that the midpoint of the sampling interval falls on an even hour. If the sampling start time could not be set to an even hour, or if the clock drifted, data are later interpolated to begin on an even hour and be evenly spaced with initial even delta-t in time.

## **DATA FORMAT:**

### **-Data file structure, format and file naming conventions (e.g. column delimited ASCII, NetCDF, GIF, JPEG, etc.)**

Data files are 7-column, comma-separated text files with a 1-line header.

Filenames contain mooring name, which is repeated in column 1, and designate instrument wcp (Workhorse Sentinel ADCP, Teledyne RD instruments) and vel for velocity (example: ecofoci\_10ckp1a\_wcp\_vel.txt).

### **-Data format and layout (i.e. description of header/data records, sample records)**

#### **List of Variables with Short Name and Units (included in header) and grid definition**

Column headers: datafile name (enhanced), geographic location, depth, and U and V data.

The datafile column, column 1, contains mooring name with year, data bin, and bin depth as yrMooring\_binxxx\_xm, or 10ckp1a\_bin002.7m.

Mooring name example (column 1, part 1): 10ckp1a where 10=2010, ck=Chukchi, p=ADCP data, 1=C1 station, a=1<sup>st</sup> adcp mooring at location for the year.

Date-Time format (column 2): dd-mmm-yyyy hr:mm:ss (e.g., 30-Aug-2010 11:00:00)

### **-Description of flags, codes used in the data, and definitions**

Missing data are denoted by 1.0e+35.

## **DATA REMARKS:**

**-Software compatibility (i.e. list of existing software to view/manipulate the data)**

Files are simple text with comma-separated values and a 1-line header. Each file has multiple depth bins in sections within the file. Data are useable in Excel, and any software that will intake csv values.

**REFERENCES:**

**-List of documents cited in this data set description**

**Instrument references:**

<http://www.rdinstruments.com/sen.aspx>

[http://www.rdinstruments.com/datasheets/wh\\_sentinel.pdf](http://www.rdinstruments.com/datasheets/wh_sentinel.pdf)

**Data collection and project information:**

EcoFOCI project at NOAA/PMEL:

<http://www.ecofoci.noaa.gov/>

EcoFOCI data-collection information

[http://www.ecofoci.noaa.gov/efoci\\_dataDescription.shtml](http://www.ecofoci.noaa.gov/efoci_dataDescription.shtml)

2010 Cruise Report:

[http://www.pmel.noaa.gov/foci/operations/2010/1AE10/CHAOZ2010\\_CruiseReport.pdf](http://www.pmel.noaa.gov/foci/operations/2010/1AE10/CHAOZ2010_CruiseReport.pdf)

2011 Cruise Report:

[http://www.pmel.noaa.gov/foci/operations/2011/1MB11/CHAOZ2011\\_CruiseReport.pdf](http://www.pmel.noaa.gov/foci/operations/2011/1MB11/CHAOZ2011_CruiseReport.pdf)

NOAA/NMML overview and quarterly reports for CHAOZ:

<http://www.afsc.noaa.gov/nmml/cetacean/chaoz.php>

**METADATA INFORMATION:**

Metadata format is based on UCAR/NCAR - Earth Observing Laboratory template formulated for CADIS (Cooperative Arctic Data and Information Service) in 2008 with consideration of IPY 2007-08 metadata profile. The format and information fields support extraction of ISO-standard metadata (ISO-19115) and DIF-formatted metadata.

**VERSIONS:**

Data version: 0

Metadata version: 1