METADATA

1. Introduction

There are five types of data that were collected during the field programs supported under Phase-II of the mapping initiative. We refer to these and CTD (conductivity and temperature depth) profiles, moored CTDs (to measure time series of near bottom salinity and temperature), two types of moored ADCPs (time series of the vertical profile of current, and wave parameters), and moored CTD time series. These data were used to develop and evaluate the model used to create maps of bottom temperature and shear stress. The data and metadata standards for each of these are described in the following sections.

2. Moored RDI ADCP Data

Dataset Originator: *James O'Donnell (james.odonnell@uconn.edu); Kay Howard Strobel (kay.howard-strobel@uconn.edu)*

Publication Date: *31-Aug-21*

Dataset Title: *Eastern LIS Circulation*

Online Linkage: *None*

Abstract: *The circulation in the eastern part of Long Island Sound is highly variable in both space and time due to the complex bathymetry and coastal geometry. Since the water motion determines the shear stress on the sediments and benthos, the temperature and salinity, and the transport of material and organisms, it has a major impact on coastal ecology. The current data described here were obtained using two types of instruments deployed on the bottom of the Sound on a tripod frame in the spring of 2017 at stations labeled (SOW1, EID2, and WID3). In the winter of 2017-18 five stations were used (SOW1, EID2, WID3, WFW4, and SFW5). In the springs 2 MHz Nortek AQD (https://www.nortekgroup.com/products/aquadopp-profiler-2-mhz) was mounted 0.75 m above the seabed and oriented in a downward direction and a Teledyne RDI "Workhorse Sentinel" ADCP (http://www.teledynemarine.com/workhorse-sentinel-adcp/?BrandID=16) was positioned 1.5 m above the seafloor and oriented to profile towards the surface. In the winter only the RDI ADCPs were used. Both instruments log data in "machine-readable format that can be further processed by the manufacturer's software to ASCII files. MATLAB was then used create NETCDF files.*

Dataset purpose: *The data was used in the development and testing of the model used to map temperature and bottom stress.*

Time period of content: Spring 2017: SOW1 (March 30-June 7), EID2 (28 March-June 8th); Winter 2017-18: SOW1 (March 30-June 7), EID2 (28 March-June 8th) WID3, WFW4, and SFW5

Dataset Status: *Complete*

Update Frequency: *None*

Theme Keywords: *Long Island Sound, Vertical Current Profiles*

Access Constraints: *None*

Use Constraints: *None*

Point of Contact: *James O'Donnell, University of Connecticut; james.odonnell@uconn.edu; (860) 992-2499*

Dataset Credit: *James O'Donnell (james.odonnell@uconn.edu); Kay Howard Strobel (kay.howard-strobel@uconn.edu); LISMARC II*

Data Quality Considerations: None

Attribute accuracy: *Research quality*

Completeness: *Complete*

Positional accuracy: Location was recorded at the beginning of the instrument deployment. Ship drift during the collection of data (30-60s) may be several tens of meters

Process Steps: *Teledyne-RDI software package "Velocity v1.7.22"*

Attributes:

Mooring name
Deployment date
Recovery date
Latitude
Longitude
Latitude units
Longitude units
Magnetic declination
Water depth
Water depth units
Water depth method
Transducer height
Transducer height units
ADCP freq
ADCP freq units
Sample freq
Samples per burst
ADCP serial no.
History
PI
Processed by
Pings per ensemble
Cell size m
Blank distance m
Corr threshold
Height
    Units='m'
    Long name = 'bin height above seabed (m)'

note = 'bin heights include transducer height'
axis = 'Z'
Time
Standard name = 'time'
Units = 'days since midnight January 1, 4713 EST'
Calendar = 'julian'
Time zone = 'EST'
Axis = 'T'
Depth
Units = 'm'
Long name = 'total water depth'
Standard name = 'sea floor depth below sea surface'
Note = 'water depth includes transducer height and ADCP pressure'
Number
Units = 'bursts'
Long name = 'burst number'
Pitch
Units = 'deg'
Standard name = 'platform pitch angle'
Roll
Units = 'deg'
Standard name = 'platform pitch angle'
Heading
Units = 'deg'
Standard name = 'platform orientation'
convention = 'magnetic'
Pitch_st
Units = 'deg'
Roll_std
Units = 'deg'
Heading
Units = 'deg'
Temp
Units = 'C'
Long name = 'water temperature'
Salt
Units = 'PSU'
Long name = 'salinity'
Note = 'constant used, not measured'
Press
Units = 'Deca-Pascals'
Long name = 'pressure'
Note = 'pressure at transducer, relative to 1 atm. 1DPa ~ 1mm water'
Press st
Units = 'deca-Pascals'
Long name = 'pressure'
East vel
Units = 'm/s'

Standard name = 'eastward_sea_water_velocity'
Convention = 'true (rotated for magnetic declination)'

North vel
Units = 'm/s'
Standard name = 'northward_sea_water_velocity'
Convention = 'true (rotated for magnetic declination)'

Vert vel
Units = 'm/s'
standard_name = 'upward_sea_water_velocity'

Error vel
Units = 'm/s'
Long_name = 'error velocity'

Corr
Range = [0 255]
Long_name = 'normalized echo autocorrelation'

Status
Long_name = 'status flag'
Note = '0 is good, 1 is bad'

Intens
Range = [0 255]
Long_name = 'echo intensity'
Units = 'counts'

Perc
Long_name = 'percent of ensembles'

Metadata reference: james.odonnell@uconn.edu; (860) 992-2499