# CTD profiles from R/V Pluteus cruises in Coos Bay, Oregon during 2014 and 2015 (Storm larvae project)

**Website**: https://www.bco-dmo.org/dataset/564944
**Version**: validated
**Version Date**: 2015-08-28

**Project**
» Spawning During Storms and the Subsequent Dispersal and Settlement of Coastal Invertebrate Larvae (Storm larvae)

| Contributors | Affiliation | Role |
|---|---|---|
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## Dataset Description

CTD data from cruises during 2014 and 2015 to study spawning during storms and subsequent dispersal and settlement of invertebrate larvae.

### Methods & Sampling

These data were obtained from ship-based CTD profiling, using one of several different CTD sensors (the actual sensor brand and serial number are included in each datafile header, i.e. RBR or SeaBird). The time, location, and general conditions were noted and a CTD cast was taken from the vessel.

### Data Processing Description

The data are parsed into upcast and downcast data. Then, we bin average the downcast profiles into 1-meter bins. The CTD samples at least 6 Hz, so many measurements go into each 1 m data value. The 1-meter, bin averaged data are reported here.

**DMO notes:**
metadata in header taken to compose toplevel file and units information put in parameter metadata
standardized headers to include PI, project and version date
for 2015 data, changed -999 to 'nd'

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## Data Files

| File |
| --- |
| **CTD_storm_spawn_rs.csv** (Comma Separated Values (.csv), 297.02 KB)<br>MD5:37aedad10104d189abcf5011cd526c28<br>Primary data file for dataset ID 564944 |

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## Parameters

| Parameter | Description | Units |
|---|---|---|
| year | year | time |
| platform | ship name | text |
| CTD | CTD cast number | filename |
| date_local | date in local time | two digit day; three letter month; four digit year |
| time_local | time of day in local time; includes seconds | HH:MM:SS |
| ISO_DateTime_Local | date and time including seconds reformatted to ISO8601 standards; added by DMO | ISO format |
| lat | the latitude of the CTD cast; North is positive | decimal degrees |
| lon | the longitude of the CTD cast; West is negative | decimal degrees |
| depth | the depth of the CTD measurement | meters |
| temp | water temperature from the CTD | degrees centrigrade |
| sal | water salinity | PSU |
| cond | conductivity from the CTD | milliSiemens/centimeter |
| fluor | fluorescence | grams per liter (usually mg/meter cubed) |
| turbidity | turbidity | Nephelometric Turbidity Units (NTU) |
| O2_mg_L | dissolved oxygen measured in milligrams per Liter | mg per liter |

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## Instruments

| | |
|---|---|
| **Dataset-specific Instrument Name** | RBR_CTD |
| **Generic Instrument Name** | CTD Richard Brancker Research |
| **Dataset-specific Description** | Used for Ship-Based CTD profiling in 2014. |
| **Generic Instrument Description** | The RBR Conductivity, Temperature and Depth instrument: http://www.rbr-global.com/products/ct-and-ctd-loggers/rbrconcerto-ctd |

| | |
|---|---|
| **Dataset-specific Instrument Name** | CTD Seabird |
| **Generic Instrument Name** | CTD Sea-Bird |
| **Dataset-specific Description** | Used for Ship-Based CTD profiling in 2015. |
| **Generic Instrument Description** | A Conductivity, Temperature, Depth (CTD) sensor package from SeaBird Electronics. This instrument designation is used when specific make and model are not known or when a more specific term is not available in the BCO-DMO vocabulary. Refer to the dataset-specific metadata for more information about the specific CTD used. More information from: http://www.seabird.com/ |

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## Deployments

**Pluteus2014**

| | |
|---|---|
| **Website** | https://www.bco-dmo.org/deployment/614689 |
| **Platform** | R/V Pluteus |
| **Start Date** | 2014-01-16 |
| **End Date** | 2014-02-24 |

**Pluteus2015**

| | |
|---|---|
| **Website** | https://www.bco-dmo.org/deployment/614988 |
| **Platform** | R/V Pluteus |
| **Start Date** | 2015-01-13 |
| **End Date** | 2015-02-11 |

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## Project Information

**Spawning During Storms and the Subsequent Dispersal and Settlement of Coastal Invertebrate Larvae (Storm larvae)**

**Coverage**: Coastal waters of Coos Bay, OR

The study will address four questions concerning invertebrate spawning on the US West Coast: 1) Which nearshore benthic invertebrates spawn during winter? 2) What conditions are associated with spawning events? (Preliminary data lead the PIs to predict that most spawning will occur during periods of large waves and coastal downwelling.) 3) What is the pattern of dispersal of these winter-spawned larvae in the coastal ocean? 4) How do variations in ocean conditions during pelagic development affect delivery of larvae to the shore?

Water will be sampled daily from the seawater intake for the Oregon Institute of Marine Biology marine laboratory in Coos Bay, OR. Water is pumped at high tide when the intake samples coastal ocean water. Early larval stages will be identified by genetic barcoding and a visual ID key will be developed from individuals raised in the lab. Time series analysis will be used to test for the effects of oceanographic parameters (e.g., temperature, salinity, Chl-a, wind stress, and wave data) on spawning events indicated by the sudden appearance of zygotes or embryos. Following a spawning event, oceanographic cruises in the coastal ocean will follow the dispersal and pelagic development of the larvae and relate their distribution to coastal hydrodynamics. Using daily samples from the seawater system and settlement collectors at intertidal sample sites, the PIs will monitor the abundance of late stage larvae in the near-shore and settlement in the intertidal zone. These time series will be compared to hydrographic parameters to identify conditions favoring the maintenance of larvae in the waters adjacent to the coast and the delivery of larvae to the shore.

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## Funding


| Funding Source | Award |
|---|---|
| NSF Division of Ocean Sciences (NSF OCE) | OCE-1259603 |


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