**Title:** CHONe\_EF-13\_ChuJ\_Hypoxia\_Temporal\_betadiversity. A Canadian Healthy Oceans Network Ecosystem Function Project, EF-13.

**File:** CHONe\_EF-13\_Chu\_hypoxia\_timeseries.xlsx

**Data collection dates:** 2012-February to 2013-May

**Data collection location:** Saanich Inlet, Vancouver Island, British Columbia, Canada (48° 39.06’N, 123° 29.15’W)

**Description**: Data are animal counts and summarized environmental measurements collected from a stationary, still camera deployment, tethered to the Ocean Networks Canada (ONC) VENUS observatory. Data were collected as part of a PhD dissertation (Chu).

**Associated Publication:** Chu JWF, Curkan C, Tunnicliffe V. Drivers of temporal beta diversity of a benthic community in a seasonally hypoxic fjord.

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**Data background and organization:**

Data columns for each row entry are related to the time stamp associated with the image file. Each column is an image metadata variable, water column property, or species count. The initial camera deployment was programmed to take four images (doublets at two different camera field of views) at a 30 minute interval and near-bottom water column properties at minute intervals (hereafter, RAW data). Because of technical issues, large data gaps exist in the RAW data. The entire RAW imagery time series consisted of n = 70,206 photos. Only a subset (n=1,573) was completely analyzed for the associated publication (hereafter, final time series).

*Environmental data -* Final time series environmental data (oxygen, temperature, backscatter) were calculated from summarizing the RAW sensor data up to the time stamp associated with the first image taken at each SEQUENCE time point. For the first sampling point in the final time series, the data were calculated from the 12 hour period preceding the time stamp associated with SEQUENCE = 1.

*Biological data* *–* Final time series biological data are either presence-absence or count data for species observed in each image. Data for SEQUENCE 818-825 were analyzed for species counts but not included in the final statistical analyses because a temperature anomaly skewed the sensors measuring the water column properties.

***Column header information:***

|  |  |
| --- | --- |
| **Name** | **Description** |
| IMAGEID | Sequential image number from the entire RAW imagery time series |
| SEQUENCE | The final time series consists of n=817, irregularly-spaced sampling time points. SEQUENCE refers to the sequential sampling time point with which the image is associated in the final time series. |
| file | Original file name when downloaded from ONC web portal. |
| filesize | file size of image (bytes) |
| flashed | 1 = camera strobe fired during image capture0 = camera strobe did not fire during image capture (i.e., technical issue) |
| Year | year of timestamp associated with image file |
| Month | month of timestamp associated with image file |
| Day | day of timestamp associated with image file |
| hour | hour of timestamp associated with image file |
| sec | second of timestamp associated with image file |
| timestamp | hh:mm:ss **UTC** timestamp associated with image file |
| Noon\_midnight | 0 = image was taken at approximately noon **local** time1 = image was taken at approximately midnight **local** time |
| View | 0 = image was taken pan left1 = image was taken pan right |
| visrank | Visibility ranking: 1 = < 25% of the image was clearly visible, 2 = 25-50%, 3 = 50-75% and 4 = > 75 % |
| Area\_m2 | Field of view area (m2) of the image |
| *Environmental data* |
| o2mlL\_mean | mean oxygen calculated from RAW data in concentration units ml L-1 |
| o2mlL\_std | standard deviation of oxygen value calculated from RAW data in concentration units ml L-1 |
| o2mlL\_min | minimum oxygen value measured from RAW data in concentration units ml L-1 |
| o2mlL\_max | maximum oxygen value measured from RAW data in concentration units ml L-1 |
| o2kpa\_mean | mean oxygen calculated from RAW data and integrated with CTD data to calculate oxygen partial pressure in units of kPa |
| o2kpa\_std | standard deviation of oxygen calculated from RAW data and integrated with CTD data to calculate oxygen partial pressure in units of kPa |
| o2kpa\_min | minimum oxygen measured from RAW data and integrated with CTD data to calculate oxygen partial pressure in units of kPa |
| o2kpa\_max | maximum oxygen measured from RAW data and integrated with CTD data calculate oxygen partial pressure in units of kPa |
| temp\_mean | mean temperature (°C) calculated from RAW CTD data |
| temp\_std | standard deviation of temperature (°C) calculated from RAW CTD data |
| temp\_min | minimum temperature (°C) measured from RAW CTD data |
| temp\_max | maximum temperature (°C) measured from RAW CTD data |
| beam1\_mean | mean backscatter intensity (counts) from the Aquadopp current meter |
| beam1\_std | standard deviation of backscatter intensity (counts) from the Aquadopp current meter |
| beam1\_min | minimum backscatter intensity (counts) from the Aquadopp current meter |
| beam1\_max | maximum backscatter intensity (counts) from the Aquadopp current meter |
| **Biological data** |
| bacteria | presence (1) – absence (0)of *Beggiatoa* spp. mats |
| euphausiids | presence (1) – absence (0) of *Euphausia superba* |
| chaetognaths | presence (1) – absence (0) of chaetognaths |
| amphipods | presence (1) – absence (0) of amphipods |
| herring | presence (1) – absence (0) of Pacific herring *Clupea pallasii* |
| copepods | presence (1) – absence (0) of copepods |
| wormtubes | presence (1) – absence (0) of worm tubes built by polychaetes |
| diatomdump | presence (1) – absence (0) of settling diatom blooms |
| lyopsetta | counts of *Lyopsetta exilis* |
| engsole | counts of *Parophrys vetulus* |
| rocksole | counts of *Lepidopsetta bilieneata* |
|  doversole | counts of *Microstomus pacificus* |
| plainfinmidshipman | counts of *Porichthys notatus* |
| eelpout | counts of *Lycodopsis pacifica* |
| prickleback | counts of *Plectobranchus evides* |
| pollock | counts of *Theragra chalcogramma* |
| poacher | counts of *Xeneretmus latifrons* |
| hake | counts of *Merluccius productus* |
| lingcod | counts of *Ophiodon elongatus* |
| sculpin | counts of *Myoxocephalus polyacanthocephalus* |
| quillback | counts of *Sebastes maliger*  |
| greenstripe | counts of *Sebastes elongatus* |
| skate | counts of *Raja rhina* |
| redrockfish | counts of red *Sebastes* sp. |
| snakeprickleback | counts of *Lumpenus sagitta* |
| munida | counts of *Munida quadrispina* |
| munida\_recruit | counts of juvenile recruits of *Munida quadrispina* |
| Spotprawn | counts of *Pandalus platyceros* |
| Pinkshrimp | counts of *Pandalus jordani* |
| Humpback | counts of *Pandalus hypsinotus* |
| Spitontocaris | counts of *Spirontocaris sp.(*cf. *sica)* |
| Dungeness | counts of *Metacarcinus magister* |
| Tanner | counts of *Chionoectes bairdi* |
| tancrab | counts of decorator crab sp. |
| callianassid | counts of *Neotrypaea californiensis* |
| metridium | counts of *Metridium farcinem* |
| ballsponge | counts of *Aaptos simplex* |
| fingersponge | counts of *Homaxinella amphispicula* |
| octopus | counts of *Octopus rubescens* |
| brittlestar | counts of brittlestar sp. |
| ascidian | counts of *Ascidia* sp. |
| Tubeworm\_red | counts of emergent infaunal tubeworm with red crown morphotype |
| Tubeworm\_white | counts of emergent infaunal tubeworm with white crown morphotype |
| Tubeworm\_bigred | counts of emergent infauna tubeworm with big red crown morphotype |
| Polychaete | counts of emergent large polychaete morphotype |
| Bivalve | counts of emergent bivalve sp. |
| Nudibranch\_gold | counts of *Dirona pellucida* |
| Thinworm\_yellow | counts of emergent infaunal polychaete, yellow morphotype |
| Thingworm\_white | counts of emergent infaunal polychaete, white morphotype |
| Thinworm\_orange | counts of emergent infaunal polychaete, orange morphotype |
| Thingworm\_red | counts of emergent infaunal polychaete, red morphotype |
| Thickworm\_purple | counts of emergent infaunal polychaete, purple morphotype |
| Thickworm\_white | counts of emergent infaunal polychaete, white morphotype |
| Spaghettiworm | counts of Terebellidae polychaete |
| fuzzyredworm | counts of emergent infaunal polychaete, fuzzy red morphotype |