Temperature loggers (HOBO) placed in two locations off the coast of the West coast of Leyte, the Philippines , 2012-2019.

Website: https://www.bco-dmo.org/dataset/862415
Data Type: Other Field Results
Version: 2
Version Date: 2023-03-06

Project
» RAPID: Mega-typhoon impacts on the metapopulation resilience of coral reef fishes (Reef Fish Resilience)

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Abstract
Temperature loggers (HOBO) placed in two locations (HOBO1: 10.74373, 124.78668, HOBO2: 10.74364, 124.78665) off the coast of the West coast of Leyte, the Philippines , 2012-2019.

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Coverage

Spatial Extent: **N**:10.74373 **E**:124.78668 **S**:10.74364 **W**:124.78665
Temporal Extent: 2012 - 2017

Methods & Sampling

Two HOBO temperature loggers were set and replaced annually 2012-2019 at two locations, HOBO1 (10.74373, 124.78668), HOBO2 (10.74364, 124.78665), off the coast of the West coast of Leyte, the Philippines. Loggers were recovered and swapped annually.

The two devices took readings 15 minutes apart, and each took readings every 30 minutes, for a combined reading every 15 minutes. The loggers are spaced 10.5 m apart in a NW orientation. They are 80m offshore and tethered to the seafloor at a depth of ~4m (varies with tide).

Issue Report: The 2014 loggers were never recovered due to being displaced by Typhoon Yolanda. There are no data from 2014 in this dataset.

There are gaps in the temperature in this dataset that mark times when the loggers started and stopped, which can be seen as null values in the "Temp" column in the data table.

Data Processing Description

BCO-DMO Data Manager Processing Notes:
* Data Version 1: individual csv files collected into file bundles and added to the datset in the "Data Files" section. They could not be combined into one table for this dataset due to inconsistency amongst the files in temperature (C or F) and time zones.
* Dataset version 2 [2023-03-06] replaces dataset version 1. Version 2 includes a combined data table with consistent time zone and formatting across the entire dataset. The original hobo files are still attached in addition to the combined table.

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Data Files

File
Temperature Loggers filename: temp_loggers.csv (Comma Separated Values (.csv), 14.20 MB) MD5:bed56b28f36c37a6a93d41e2bc582a0d This is the main data table for this dataset and combines data from several hobo temperature loggers. Date and time are provided in consistent timezones and formats across the entire data table. See "Parameters" section for detailed column information.

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Supplemental Files

File
Hobo Logger csv files filename: temperature_logger_files.zip (ZIP Archive (ZIP), 1.07 MB) MD5:34297cb9886ecb7c57a05436961b906f CSV files from hobo loggers (by year and site) which contain deployment and manufacturer-specific information in the file headers. See file headers for individual parameters since time zone varies amongst the files, and they will be either temperature in C or F. The serial number of the instrument is also contained in the file header.

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Parameters

Parameter	Description	Units
DateTime_local	local time in GMT+08:00	unitless
ISO_DateTime_UTC	Date and time (UTC) in ISO 8601 format	unitless
Temp	temperature. Null values in this column are due to gaps in the temperature in this dataset when the loggers started and stopped a set of logger data.	degrees Celsius
LoggerName	name of the data file, which includes the year, sometimes the month, and the name of the logger	unitless
LGR_SN	serial number of the temperature logger	unitless
SEN_SN	serial number of the temperature sensor	unitless
Lat	Latitude	decimal degrees
Lon	Longitude	decimal degrees
CouplerDetached	Records when the logger was dettached from a computer. (indicated by value "Logged")	unitless
CouplerAttached	Records when the logger was attached to a computer. (indicated by value "Logged")	unitless
HostConnected	Records when the logger was connected to a host on a computer. (indicated by value "Logged")	unitless
Stopped	Records when a logger stopped recording. (indicated by value "Logged")	unitless
EndOfFile	Records the end of a logger record. (indicated by value "Logged")	unitless

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Instruments

Dataset-specific Instrument Name	HOBO U22-001 Water Temp units
Generic Instrument Name	Temperature Logger
Dataset-specific Description	(4) HOBO U22-001 Water Temp units, Version Number: 1.06, Manufacturer: Onset Computer Corporation, Device Memory: 65536
Generic Instrument Description	Records temperature data over a period of time.

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Project Information

RAPID: Mega-typhoon impacts on the metapopulation resilience of coral reef fishes (Reef Fish Resilience)

Coverage: West coast of Leyte Island, Visayas, Philippines

Description from NSF award abstract:
When Typhoon Haiyan hit the Philippines it had sustained winds of 305 to 315 kph and was the strongest storm ever to make landfall. Storms are one of the most important disturbances to coral reef ecosystems. Previous research has primarily emphasized that habitat recovery is important for the recovery of reef fish communities after disturbance. We understand little, however, about the role of larval dispersal in mediating species responses to disturbance. Reef fish function as metapopulations connected by larval dispersal among reefs, and larval connectivity is therefore a critical process for their dynamics. A field site directly in Typhoon Haiyan's path provides an ideal opportunity to address the role of larval dispersal during recovery. Over the course of four field seasons (2008 to 2013), nearly two thousand clownfish were surveyed along 20km of coastline. Clownfish possess the same basic life history as most reef fish (sedentary adults and pelagic larvae), but are sufficiently rare and visible that genetic parentage methods can be used to follow larval dispersal. This study site is therefore a unique location in which to understand the metapopulation impacts of a massive storm. This project will focus on three hypotheses: 1) Habitat destruction determines the short-term impacts of storms disturbance, 2) Metapopulation processes shape recolonization after disturbance, and 3) Disturbance allows rare competitors to increase in abundance. The project will address these questions with a combination of fixed and random transects to assess reef habitat and reef fish abundance and diversity, as well as detailed, spatially explicit surveys of anemones and clownfish. Genetic mark-recapture and parentage methods with yellowtail clownfish will pinpoint the origin of new recruits that recolonize the reef post-typhoon.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1430218

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