

# Wave motion data from the Wave Glider AUV Honey Badger from June to November of 2015 collected during a Eastern North Pacific Ocean deployment (MAGI project)

**Website:** <https://www.bco-dmo.org/dataset/654033>

**Version:**

**Version Date:** 2016-06-05

## Project

» [Long Duration AUVs as tools to explore Mesoscale feature aggregate interactions \(MAGI\)](#) (MAGI)

Contributors	Affiliation	Role
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## Table of Contents

- [Coverage](#)
- [Dataset Description](#)
  - [Methods & Sampling](#)
  - [Data Processing Description](#)
- [Data Files](#)
- [Parameters](#)
- [Instruments](#)
- [Deployments](#)
- [Project Information](#)
- [Funding](#)

## Coverage

**Spatial Extent:** N:29.47909 E:-144.82668 S:19.99672 W:-156.05396

**Temporal Extent:** 2015-06-01 - 2015-11-02

## Dataset Description

These data from the Datawell BV's wave motion sensor (MOSE) include wave height, period, and direction. The MOSE sensor was included on the AUV Honey Badger deployment in the North Pacific Ocean from June to November of 2015 which passed the ocean time-series station ALOHA.

For more information on project MAGI and a description of Honey Badger, see: <http://oceanview.pfeg.noaa.gov/MAGI/>

Additional support was provided by the PacX Challenge from Liquid Robotics, Inc.

## Methods & Sampling

The AUV Honey Badger is a Wave Glider(R) (model SV2) from Liquid Robotics. It was deployed from the Island of Hawaii in May of 2015 as part of Mesoscale Features Aggregate Interactions (MAGI) project.

For more information on project MAGI and a description of Honey

Badger, see: <http://oceanview.pfeg.noaa.gov/MAGI/>

## Data Processing Description

These data are raw telemetry data obtained through the Wave Glider management system at Liquid Robotics, International.

For more information about this software please see the Liquid Robotics Software Page:

<http://www.liquid-robotics.com/platform/software/>

BCO-DMO Data Manager Processing Notes:

- \* added a conventional header with dataset name, PI name, version date
- \* modified parameter names to conform with BCO-DMO naming conventions
- \* blank values replaced with no data value 'nd'
- \* Values of "NaN" and "nan" changed to "nd"
- \* Latitude and longitude were rounded to 5 decimal places from 12
- \* This data version 2017-06-05 is an update of the 2016-08-16 as it includes a longer date range in the data. Extended from start date 2015-10-17 to start date 2015-05-28. This data version also fills in gaps in the data as well

[ [table of contents](#) | [back to top](#) ]

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## Data Files

File
<b>mose.csv</b> (Comma Separated Values (.csv), 512.68 KB) MD5:c09707ac1c73941e2fa527c3044b6c38 Primary data file for dataset ID 654033

[ [table of contents](#) | [back to top](#) ]

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## Parameters

Parameter	Description	Units
ISO_DateTime_UTC	ISO timestamp based on the ISO 8601:2004(E) standard in format YYYY-mm-ddTHH:MM:SS[.xx]Z (UTC)	unitless
lat	Latitude	decimal degrees
lon	Longitude; west is negative	decimal degrees
wave_height	Average wave height	meters
average_wave_period	Average wave period	seconds
dominant_wave_period	Dominant wave period	seconds
wave_direction	Average wave direction; 0-360 from true north	degrees from true north
number_averaged_spectra	Number of spectra averaged	per individual
number_of_samples_per_spectrum	Number of samples per spectra	per individual
number_of_sample_gaps	Number of sample gaps	per individual

[ [table of contents](#) | [back to top](#) ]

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## Instruments

<b>Dataset-specific Instrument Name</b>	MOSE Wave Motion Sensor
<b>Generic Instrument Name</b>	Wave recorder
<b>Generic Instrument Description</b>	Instrument that measures water column surface wave parameters including height, period, direction and energy spectra.

[ [table of contents](#) | [back to top](#) ]

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## Deployments

### HoneyBadger2015

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/653275">https://www.bco-dmo.org/deployment/653275</a>
<b>Platform</b>	AUV Honey Badger
<b>Start Date</b>	2015-10-31
<b>End Date</b>	2015-11-04
<b>Description</b>	The AUV Honey Badger is a Wave Glider(R) (model SV2) from Liquid Robotics. It was deployed from the Island of Hawai'i in May of 2015 as part of Mesoscale Features Aggregate Interactions (MAGI) project. The trackline is in the North Pacific Ocean and passes the ocean time-series station ALOHA. For more information on project MAGI and a description of Honey Badger, see: <a href="http://oceanview.pfeg.noaa.gov/MAGI/">http://oceanview.pfeg.noaa.gov/MAGI/</a>

[ [table of contents](#) | [back to top](#) ]

## Project Information

### Long Duration AUVs as tools to explore Mesoscale feature aggregate interactions (MAGI) (MAGI)

**Coverage:** Eastern N. Pacific central gyre

#### *NSF award abstract:*

Remote areas of the ocean are difficult to sample for short-lived or episodic features. This project will use a new sampling platform, the Wave Glider, and provide a continuous presence in the central North Pacific gyre. The six month duration of the mission will allow repeated sampling as well as spatial coverage previously unavailable. This mission will incorporate phytoplankton specific sensors as well as a set of optical sensors that will provide information on distribution, physiology and aggregation of a unique diatom-nitrogen fixing cyanobacterium symbiosis. When completed, this program will have generated the first data sets that follow these diatom blooms over extended periods in the region. Access to this instrumentation was facilitated by the PacX challenge, an international competition to produce high quality research from long-duration autonomous vehicles in the North and South Pacific Ocean. As a result of winning that competition, the principal investigator has been awarded the use of 6 months of the Honey Badger Wave Glider time in 2014. The Wave Glider is a wave-powered surface vessel capable of extended duration missions. In order to maximize this the principal investigator will outfit the glider with advanced sensors to quantify zones of intense diatom activity and aggregation along mesoscale features in the Pacific (Project MAGI: Mesoscale feature-AGregate Interactions).

Note: This project is funded by an NSF RAPID award.



The Honey Badger Team, image courtesy of Tracy Villareal



Honey Badger, image courtesy of Tracy Villareal

[ [table of contents](#) | [back to top](#) ]

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## Funding

Funding Source	Award
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-1430048</a>

[ [table of contents](#) | [back to top](#) ]