

HADES-K - Navigation Track Images from R/V Thomas G. Thompson TN309 from the Kermadec Trench adjacent to New Zealand; 2014 (HADES project)

Website: <https://www.bco-dmo.org/dataset/625920>

Version: 02 November 2015

Version Date: 2015-11-02

Project

» [Controls on Hadal Megafaunal Community Structure: a Systematic Examination of Pressure, Food Supply, and Topography](#) (HADES)

Contributors	Affiliation	Role
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Coverage

Spatial Extent: N:-32.85 E:-177.654 S:-35.905 W:-179

Temporal Extent: 2014-04-11 - 2015-05-08

Dataset Description

HADES-K - Deployments and NEREUS Navigation Images (links to .pdf files)

Methods & Sampling

Images were generated by Tim Shank

Data Processing Description

BCO-DMO Processing Notes

- Approximate Start/End Dates and Times added from HADES deployment log
- Approximate center point of dive track added from imagery

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Data Files

File
HADESK_Nav_Images.csv (Comma Separated Values (.csv), 1.02 KB) MD5:1a8cad48ceafaf36d77fa49c919654f7
Primary data file for dataset ID 625920

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Parameters

Parameter	Description	Units
Image_Descriptor	Description of image file	text
Date_Start	Start Date of Dive (on bottom)	YYYYMMDD
Time_Start	Start Time of Dive (on bottom)	HHMM
Date_End	End Date of Dive (off bottom)	YYYYMMDD
Time_End	End Time of Dive (off bottom)	HHMM
Latitude	Approximate latitude center point of navigation track (South is negative)	decimal degrees
Longitude	Approximate longitude center point of navigation track (West is negative)	decimal degrees
Image_File	Link to image file	text

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Deployments

TN309

Website	https://www.bco-dmo.org/deployment/536488
Platform	R/V Thomas G. Thompson
Start Date	2014-04-10
End Date	2014-05-20
Description	Original data are available from the NSF R2R data catalog

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Project Information

Controls on Hadal Megafaunal Community Structure: a Systematic Examination of Pressure, Food Supply, and Topography (HADES)

Website: <http://www.whoi.edu/hades/>

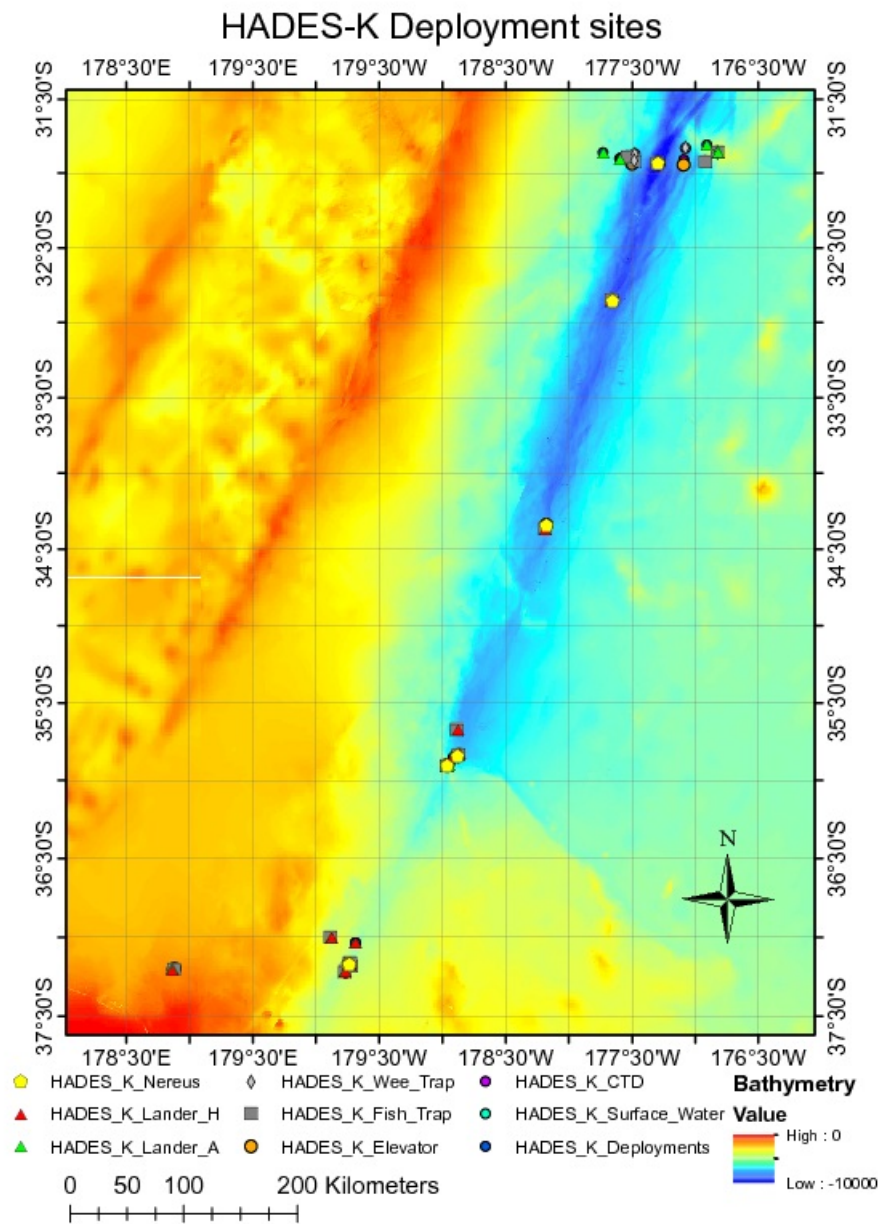
Coverage: Kermadec Trench adjacent to New Zealand: approximately 37 12.75 S and 178 51.43 E to 31 51.29 S and 176 49.07 W

Extracted from the NSF award abstract:

Severe technical challenges associated with the extremes of hydrostatic pressure have prevented major advances in hadal ecological studies, and relegated hadal systems to among the most poorly investigated habitats on Earth. Through this project, Hadal Ecosystems Studies (HADES) program, PIs will determine the composition and distribution of hadal species, the role of hadal pressures (piezolyte concentrations, enzyme function under pressure), food supply (distribution of POC with the abundance and biomass of trench organisms, and metabolic rates/energetic demand), and depth/topography (genetic divergence and spatial connectivity of populations) have on impacting deep-ocean community structure. This project will examine these factors using the world's first full-ocean depth hybrid remotely operated vehicle (HROV) in conjunction with the only full-ocean depth imaging lander (Hadal-Lander). This project will provide the first seafloor data and samples in one of the world's best, yet little known trenches- the Kermadec Trench (SW Pacific Ocean).

Megafaunal community structure and the relationship between POC and benthic bacterial biomass will be examined as a function of depth and location by systematic high-definition imaging and sediment/faunal sampling transects from abyssal to full trench depths both along and perpendicular to the trench axis. Population genetic approaches will provide levels of genetic divergence and evolutionarily independent lineages to assess the role of depth and topography in trenches and their adjacent abyssal plain in promoting the formation of species. Physiological constraints will be investigated by examining in-situ respiration of selected fauna and tissue concentrations of such protein stabilizers as trimethylamine oxide (TMAO), and the structural adaptations of macromolecules.

Image of NEREUS Deployment Sites. [click on the image to view a larger version]



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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1131620
NSF Division of Ocean Sciences (NSF OCE)	OCE-1130712
NSF Division of Ocean Sciences (NSF OCE)	OCE-1130494

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