Traction Winch readings from MOCNESS tows from NOAA Ship Ronald H. Brown RHB0603 in the Sargasso Sea and Southeast North Atlantic Ocean from April 2006 (CMarZ_2004-2010 project)

Website: https://www.bco-dmo.org/dataset/3002
Version:
Version Date: 2010-11-01

Project
» Census of Marine Zooplankton-2004-2010 (CMarZ_2004-2010)

Program
» Census of Marine Life (CoML)

Contributors	Affiliation	Role
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Dataset Description

The data from the traction winch on the NOAA ship Ronald H. Brown were recorded by the shipboard data acquisition system (SCS).

The traction winch was used off the fantail for the 1-m^2 MOCNESS and the 10-m^2 MOCNESS.

Any questions should be directed to the CMarZ Data Management Office.

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Data Files

File
traction_winch.csv (Comma Separated Values (.csv), 8.96 MB)   MD5:f31a0569c8bb3c64e91759644c320ea3   Primary data file for dataset ID 3002

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Parameters

Parameter	Description	Units
date_gmt	date, Greenwich Mean Time	
time_gmt	time of day, reported in GMT time, 24 hour clock	
lat	latitude; north is positive	decimal degrees
lon	longitude; east is positive	decimal degrees
cog	course over the ground from satellite	true degrees
sog	Speed over ground	knots (nautical miles per hour)
gyro_compass	ship's heading	degrees
winch_tension	tension on the winch	pounds
winch_mwo	winch payout, often abbreviated MWO	meters
winch_rate	rate of payout or pullback	meters per minute
yrday_gmt	GMT day and decimal time, as 326.5 for the 326th day of 1995, or November 22, 1995 at 1200 hours (noon).	
month_gmt	month of year, GMT time , i.e. 01-12	
day_gmt	day on month, GMT time e.g. 22.	
year	year, e.g. 2009.	

Instruments

Dataset-specific Instrument Name	Traction Winch
Generic Instrument Name	Traction Winch
Generic Instrument Description	The traction winch, as it pertains to marine deep water applications, is the primary component of a system designed to provide a significant tractive or load-bearing effort to subsea cable or umbilical. Conventional traction winch systems utilize two sheaves with multiple cable grooves to apply this tractive effort via elliptically reeving cable around the two sheaves. Advancements in sampling instrument packages and vehicles to perform more complex, intervention tasks at greater depths have placed greater demands on the cables and umbilicals linking them to the surface. The traction winch system was designed to address the challenges associated with increased wire or cable tension. (information is from Chapter 11 'Double Drum Traction Winch Systems for Oceanographic Research', in the HANDBOOK OF OCEANOGRAPHIC WINCH, WIRE AND CABLE TECHNOLOGY, 3rd Edition, 2001, Editor, John Bash, http://www.unols.org/publications/winch_wire_handbook__3rd_ed/)

Deployments

RHB0603

Website	https://www.bco-dmo.org/deployment/57686
Platform	NOAA Ship Ronald H. Brown
Report	http://www.cmarz.org/CMarZ_RHBrown_April06/Cruise_Report/working.htm
Start Date	2006-04-10
End Date	2006-04-30

Project Information

Census of Marine Zooplankton-2004-2010 (CMarZ_2004-2010)

Website: http://www.cmarz.org/

Coverage: Global ocean

The Census of Marine Zooplankton (CMarZ) is a field project of the Census of Marine Life (see www.CoML.org). CMarZ is working toward a taxonomically comprehensive assessment of biodiversity of animal plankton throughout the world ocean. The project goal is to produce accurate and complete information on zooplankton species diversity, biomass, biogeographical distribution, genetic diversity, and community structure by 2010. Our taxonomic focus is the animals that drift with ocean currents throughout their lives (i.e., the holozooplankton, Fig. 1). This assemblage currently includes ~6,800 described species in fifteen phyla; our expectation is that at least that many new species will be discovered as a result of our efforts. The census encompasses unique marine environments and those likely to be inhabited by endemic and undescribed zooplankton species.

Program Information

Census of Marine Life (CoML)

Website: http://www.coml.org/

Coverage: global

The Census of Marine Life is a global network of researchers in more than 80 nations engaged in a 10-year scientific initiative to assess and explain the diversity, distribution, and abundance of life in the oceans. The world's first comprehensive Census of Marine Life - past, present, and future - will be released in 2010.

The stated purpose of the Census of Marine Life is to assess and explain the diversity, distribution, and abundance of marine life. Each plays an important role in what is known, unknown, and may never be known about what lives in the global ocean.

First, diversity. The Census aims to make for the first time a comprehensive global list of all forms of life in the sea. No such unified list yet exists. Census scientists estimate that about 230,000 species of marine animals have been described and reside in jars in collections in museums of natural history and other repositories. Since the Census began in 2000, researchers have added more than 5600 species to the lists. They aim to add many thousands more by 2010. The database of the Census already includes records for more than 16 million records, old and new. By 2010, the goal is to have all the old and the new species in an on-line encyclopedia with a webpage for every species. In addition, we will estimate how many species remain unknown, that is, remain to be discovered. The number could be astonishingly large, perhaps a million or more, if all small animals and protists are included. For comparison, biologists have described about 1.5 million terrestrial plants and animals.

Second, distribution. The Census aims to produce maps where the animals have been observed or where they could live, that is, the territory or range of the species. Knowing the range matters a lot for people concerned about, for example, possible consequences of global climate change.

Third, abundance. No Census is complete without measures of abundance. We want to know not only that there is such a thing as a Madagascar crab but how many there are. For marine life, populations are being estimated either in numbers or in total kilos, called biomass.

To complete the context, it is important to understand the top motivations for the Census of Marine Life. Most importantly, much of the ocean is unexplored. Most of the records in its database are for observations near the surface, and down to 1000 meters. No observations have been made in most of the deep ocean, while most of the ocean is deep.

Another important issue is that diversity varies in space. Marine hot spots, like the rain forests of the land, exist off for large fish off the coasts of Brazil and Australia. The goal is to know much more about marine hot spots, to help conserve these large fish. Their abundance and thus their diversity is changing, especially for commercially important species. Between 1952 and 1976, for example, fishermen and their customers emptied many areas of the ocean of tuna.

The Census has evolved a strategy of 14 field projects to touch the major habitats and groups of species in the global ocean. Eleven field projects address habitats, such as seamounts or the Arctic Ocean. Three field projects look globally at animals that either traverse the seas or appear globally distributed: the top predators such as tuna and the plankton and the microbes. The projects employ a mix of technologies. These include acoustics or sound, optics or cameras, tags placed on individual animals that store or report data, and genetics, as well as some actual capture of animals. The technologies complement one another. Sound can survey large areas in the ocean, while light cannot. Light can capture detail and characters that sound cannot. And genetics can make identifications from fragments of specimens or larvae where pictures tell little.

This mix of curiosity, need to know, technology, and scientists willing to investigate the unexplored and undiscovered will result in a Census of Marine Life in 2010 that provides a much clearer picture of what lives below the surface around the globe. Several reasons make such a report timely, indeed urgent. Crises in the sea are reported regularly. One recent study predicted the end of commercial fishery globally by 2050, if current trends persist. Better information is needed to fashion the management that will sustain fisheries, conserve diversity, reverse losses of habitat, reduce impacts of pollution, and respond to global climate

change. Hence, there are biological, economic, philosophical and political reasons to push for greater exploration and understanding of the ocean and its inhabitants. Indeed, the United Nations Convention on Biological Diversity requires signatories to collect information on living resources, but, as yet, no nation has a complete baseline of such information. The Census of Marine Life's global network of researchers will help to fill this knowledge gap, providing critical information to help guide decisions on how to manage global marine resources for the future.

[Text copied from the CoML web site, November 5, 2008]

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Funding

Funding Source	Award
NOAA Ocean Exploration	unknown CMarZ_2004-2010 NOAA OEP

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