EDDIES project data inventory of all expected contributions collected during the R/V Oceanus OC404-01 cruise in the Sargasso Sea in 2004 (EDDIES project)

Website: https://www.bco-dmo.org/dataset/3008
Version: 21 March 2008
Version Date: 2008-03-21

Project
» Eddies Dynamics, Mixing, Export, and Species composition (EDDIES)

Program
» Ocean Carbon and Biogeochemistry (OCB)

Contributors	Affiliation	Role
McGillicuddy, Dennis J.	Woods Hole Oceanographic Institution (WHOI)	Lead Principal Investigator
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Dataset Description

EDDIES project data inventory, including all expected contributions

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Data Files

File
INVENTORY.csv (Comma Separated Values (.csv), 43.81 KB) MD5:a563bbdad30a458dde3329f58a364012 Primary data file for dataset ID 3008

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Parameters

Parameter	Description	Units
Cruise_Type	cruise type or common name	dimensionless
Cruise_ID	cruise designation code	dimensionless
Name_ChiefSci	name of Chief Scientist	dimensionless
date_start	start date of cruise per UNOLS	YYYYMMDD
date_end	end date of cruise per UNOLS	YYYYMMDD
Niskin	flag indicating Niskin data	y | n
Measurement	type of measurement	dimensionless
PI_name	name of principal investigator	dimensionless
co_PI_name	name of co-principal investigator	dimensionless
Contributed	flag - have data been contributed p = preliminary	dimensionless
QA	flag - is data final	y | n
on_system	flag - is data in database y = in OCB database n = not available yet L = link to local resource R = link to remote resource	y | n | L | R
Status	comments on status or link to data	dimensionless

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Deployments

OC404-01

Website	https://www.bco-dmo.org/deployment/57956
Platform	R/V Oceanus
Report	http://ocb.whoi.edu/EDDIES/CRUISES/2004/OC404-1_Draft_Cruise_Report.pdf
Start Date	2004-06-11
End Date	2004-07-03
Description	EDDIES 2004 Survey 1 cruise Funded by: NSF OCE-0241310 Original cruise data are available from the NSF R2R data catalog (Cruise DOI: 10.7284/900337)

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Project Information

Eddies Dynamics, Mixing, Export, and Species composition (EDDIES)

Website: http://science.whoi.edu/users/olga/eddies/EDDIES_Project.html

Coverage: Sargasso Sea

The original title of this project from the NSF award is: Collaborative Research: Impacts of Eddies and Mixing on Plankton Community Structure and Biogeochemical Cycling in the Sargasso Sea".

Prior results have documented eddy-driven transport of nutrients into the euphotic zone and the associated accumulation of chlorophyll. However, several key aspects of mesoscale upwelling events remain unresolved by the extant database, including: (1) phytoplankton physiological response, (2) changes in community structure, (3) impact on export out of the euphotic zone, (4) rates of mixing between the surface mixed layer and the base of the euphotic zone, and (5) implications for biogeochemistry and differential cycling of carbon and associated bioactive elements. This leads to the following hypotheses concerning the complex, non-linear biological regulation of elemental cycling in the ocean:

H1: Eddy-induced upwelling, in combination with diapycnal mixing in the upper ocean, introduces new nutrients into the euphotic zone.

H2: The increase in inorganic nutrients stimulates a physiological response within the phytoplankton community.

H3: Differing physiological responses of the various species bring about a shift in community structure.

H4: Changes in community structure lead to increases in export from, and changes in biogeochemical cycling within, the upper ocean.

Publications

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Program Information

Ocean Carbon and Biogeochemistry (OCB)

Website: http://us-ocb.org/

Coverage: Global

The Ocean Carbon and Biogeochemistry (OCB) program focuses on the ocean's role as a component of the global Earth system, bringing together research in geochemistry, ocean physics, and ecology that inform on and advance our understanding of ocean biogeochemistry. The overall program goals are to promote, plan, and coordinate collaborative, multidisciplinary research opportunities within the U.S. research community and with international partners. Important OCB-related activities currently include: the Ocean Carbon and Climate Change (OCCC) and the North American Carbon Program (NACP); U.S. contributions to IMBER, SOLAS, CARBOOCEAN; and numerous U.S. single-investigator and medium-size research projects funded by U.S. federal agencies including NASA, NOAA, and NSF.

The scientific mission of OCB is to study the evolving role of the ocean in the global carbon cycle, in the face of environmental variability and change through studies of marine biogeochemical cycles and associated ecosystems.

The overarching OCB science themes include improved understanding and prediction of: 1) oceanic uptake and release of atmospheric CO2 and other greenhouse gases and 2) environmental sensitivities of biogeochemical cycles, marine ecosystems, and interactions between the two.

The OCB Research Priorities (updated January 2012) include: ocean acidification; terrestrial/coastal carbon fluxes and exchanges; climate sensitivities of and change in ecosystem structure and associated impacts on biogeochemical cycles; mesopelagic ecological and biogeochemical interactions; benthic-pelagic feedbacks on biogeochemical cycles; ocean carbon uptake and storage; and expanding low-oxygen conditions in the coastal and open oceans.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-0241011
NSF Division of Ocean Sciences (NSF OCE)	OCE-0241399
NSF Division of Ocean Sciences (NSF OCE)	OCE-0241310
NSF Division of Ocean Sciences (NSF OCE)	OCE-0241023
NSF Division of Ocean Sciences (NSF OCE)	OCE-0241340

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