

Niskin bottle sample ID log from R/V Oceanus OC404-01, OC404-04, OC415-01, OC415-03 cruises in the Sargasso Sea, 2004-2005 (EDDIES project)

Website: <https://www.bco-dmo.org/dataset/3051>

Version: final

Version Date: 2007-05-24

Project

» [Eddies Dynamics, Mixing, Export, and Species composition](#) (EDDIES)

Program

» [Ocean Carbon and Biogeochemistry](#) (OCB)

Contributors	Affiliation	Role
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Dataset Description

PI: Dennis McGillicuddy
of: Woods Hole Oceanographic Institution (WHOI)
dataset: Niskin bottle sample ID log
platform: R/V Oceanus

Methodology: data were recovered from original sample cast log sheets

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Parameters

Parameter	Description	Units
sta	station number	dimensionless
bot	Niskin bottle number	dimensionless
depth_n	sample depth, nominal	meters
temp_bot	temperature, Niskin	degrees Celsius
SID_He	sample ID, Helium	alphanumeric
SID_Ox1	sample ID, oxygen O2-1	alphanumeric
SID_Ox2_3	sample ID, oxygen O2-2 and O2-3	alphanumeric
SID_H3	sample ID, 3H	alphanumeric
SID_DIC_Alk	sample ID, DIC/Alkalinity	alphanumeric
SID_TOC_TON	sample ID, TOC/TON	alphanumeric
SID_salts	sample ID, salinity	alphanumeric
SID_nuts	sample ID, Nutrients	alphanumeric
SID_bact	sample ID, bacteria	alphanumeric
SID_FRRF	sample ID, FRRF	alphanumeric
SID_POC_PON	sample ID, POC/PON	alphanumeric
SID_HPLC	sample ID, HPLC	alphanumeric
SID_chla	sample ID, chlorophyll-a	alphanumeric
SID_Fcyt	sample ID, flow cytometry	alphanumeric
SID_DOP	sample ID, DOP	alphanumeric
SID_NP	sample ID, N/P	alphanumeric
SID_d15N	sample ID, delta 15-N	alphanumeric
SID_PrPhyto	sample ID, pres. phyto.	alphanumeric
comments	comments and notes	dimensionless
SID_Ox2	sample ID, oxygen O2-2	alphanumeric
SID_Ox3	sample ID, oxygen O2-3	alphanumeric
SID_NH4	sample ID, ammonium	alphanumeric
SID_FcytNP	sample ID, flow cytometry, N/P	alphanumeric
SID_DNA	sample ID, ammonium	alphanumeric
SID_DIC	sample ID, DIC Radiocarbon	alphanumeric

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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	<p>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)</p> <p>Methods & Sampling PI: Dennis McGillicuddy of: Woods Hole Oceanographic Institution (WHOI) dataset: Niskin bottle sample ID log dates: 12 June 2004 to 03 July 2004 (20040612-20040703) location: N: 37.934 S: 29.777 W: -68.703 E: -58.754 project/cruise: EDDIES/OC404-1 2004 Survey 1 platform: R/V Oceanus Methodology: data were recovered from original sample cast log sheets Change history: YYMMDD 060522: received original Excel file from EDDIES Project Office; added to OCB database by Cyndy Chandler, OCB DMO OCB DMO Note: the original Excel file has additional comments regarding sampling; original Niskin sample log sheets were also scanned, and are available as PDF format files</p>

OC404-04

Website	https://www.bco-dmo.org/deployment/57961
Platform	R/V Oceanus
Report	http://ocb.whoi.edu/EDDIES/CRUISES/2004/OC404-4_Draft_Cruise_Report.pdf
Start Date	2004-07-25
End Date	2004-08-12
Description	<p>EDDIES project 2004 Survey 2 cruise Funded by: NSF OCE-0241310 Original cruise data are available from the NSF R2R data catalog</p> <p>Methods & Sampling PI: Dennis McGillicuddy of: Woods Hole Oceanographic Institution (WHOI) dataset: Niskin bottle sample ID log dates: 26 July 2004 to 11 August 2004 (20040726-20040811) location: N: 31.942 S: 29.958 W: -66.603 E: -59.450 project/cruise: EDDIES/OC404-4 2004 Survey 2 platform: R/V Oceanus Methodology: data were recovered from original sample cast log sheets Change history: YYMMDD 060609: received original Excel file from EDDIES Project Office; added to OCB database by Cyndy Chandler, OCB DMO 070524: added sample ID data for station 68 OCB DMO Note: the original Excel file has additional comments regarding sampling; original Niskin sample log sheets were also scanned, and are available as PDF format files</p>

OC415-01

Website	https://www.bco-dmo.org/deployment/57962
Platform	R/V Oceanus
Report	http://ocb.whoi.edu/EDDIES/CRUISES/2005/OC415_Draft_Cruise_Report_050722.pdf
Start Date	2005-06-20
End Date	2005-07-15
Description	<p>EDDIES project 2005 Survey 1 cruise Funded by: NSF OCE-0241310 Original cruise data are available from the NSF R2R data catalog</p> <p>Methods & Sampling PI: Dennis McGillicuddy of: Woods Hole Oceanographic Institution (WHOI) dataset: Niskin bottle sample ID log dates: 20 June 2005 to 15 July 2005 (20050620-20050715) location: N: 40.753 S: 28.733 W: -70.546 E: -61.920 project/cruise: EDDIES/OC415-1 2005 Survey 1 platform: R/V Oceanus Methodology: data were recovered from original sample cast log sheets Change history: YYMMDD 060609: received original Excel file from EDDIES Project Office; added to OCB database by Cyndy Chandler, OCB DMO OCB DMO Note: the original Excel file has additional comments regarding sampling; original Niskin sample log sheets were also scanned, and are available as PDF format files</p>

OC415-03

Website	https://www.bco-dmo.org/deployment/57965
Platform	R/V Oceanus
Report	http://ocb.whoi.edu/EDDIES/CRUISES/2005/OC415-3_CrRptDraft_091405.pdf
Start Date	2005-08-07
End Date	2005-08-26
Description	<p>EDDIES project 2005 Survey 2 cruise Funded by: NSF OCE-0241310 Original cruise data are available from the NSF R2R data catalog</p> <p>Methods & Sampling PI: Dennis McGillicuddy of: Woods Hole Oceanographic Institution (WHOI) dataset: Niskin bottle sample ID log dates: 07 August 2005 to 25 August 2005 (20050807 - 20050825) location: N: 33.064 S: 29.279 W: -69.409 E: -63.165 project/cruise: EDDIES/OC415-3 2005 Survey 2 platform: R/V Oceanus Methodology: data were recovered from original sample cast log sheets Change history: YYMMDD 060609: received original Excel file from EDDIES Project Office; 060627: added to OCB database by Cyndy Chandler, OCB DMO 060811: depths corrected for stas 60, 61 and 67 per EDDIES Project office OCB DMO Note: the original Excel file has additional comments regarding sampling; original Niskin sample log sheets were also scanned, and are available as PDF format files (Aug 2006 versions)</p>

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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)	unknown EDDIES NSF OCE

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