

Underway data from multiple cruises in the Gulf of Maine, Cape Cod Bay, Bay of Fundy, Georges Bank, and Sargasso Sea from 2004-2010 (ALEX-GoME project)

Website: <https://www.bco-dmo.org/dataset/3359>

Version: 19 July 2011

Version Date: 2011-07-19

Project

» [Investigations of Alexandrium fundyense dynamics in the Gulf of Maine](#) (ALEX-GoME)

Contributors	Affiliation	Role
McGillicuddy, Dennis J.	Woods Hole Oceanographic Institution (WHOI)	Principal Investigator, Contact
Kosnyrev, Olga	Woods Hole Oceanographic Institution (WHOI)	Co-Principal Investigator, Contact, Data Manager
Gegg, Stephen R.	Woods Hole Oceanographic Institution (WHOI) BCO-DMO)	BCO-DMO Data Manager

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Dataset Description

BCO-DMO Note: Although the status of these data has been set to Final and Validated, they have not been QC'ed 27March2013

Multi year underway data 2003-2010
These data include version 2 data as submitted.

Version 2 NOTES: Version 2 means that Data set has been updated in part of the new data added: (1) 2010 cruises; (2) Previously unavailable Whole cell counts from the previous cruises; and (3) Previously unavailable data for Underway stations (mostly date, location).

Data files newly created or updated in this version are indicated with "_v2" in file names.
(BCO-DMO Note: for original files as contributed)

Date of creation: 5/12/2011.

Matlab code used for data merging: GM_read_alex_nuts_BTL_v2.m

Sometimes all the data in the Underway file is unavailable at the time but is known to be sampled.
In this case the file is still presented but empty (headers only).

No data reported for the following cruises:

- 2003/OC391
- 2005/OC412
- 2005/TI096
- 2005/TI105
- 2005/TI112
- 2006/TI171

- 2006/TI177
- 2006/TI180
- 2006/TI184
- 2006/TI185
- 2008/TI326
- 2010/EN476
- 2010/OC460
- 2010/OC467

Data not sampled or lost are indicated with NaN.

Data not yet available, but that might be contributed in the future are indicated with the "waiting" flag=-9.99.

Funding:

The cruises from 2003-2004 were supported by NOAA grant NA160P2785 (MERHAB).

The cruises from 2005-2010 were jointly funded:

NSF grant OCE-0430724 and NIEHS grant 1P50-ES01274201 (Woods Hole Center for Oceans and Human Health)

NOAA grant NA06NOS4780245 (GOMTOX)

Data Processing Description

BCO-DMO Processing/Edits

- Generated from data in original file "GOM_GB_nuts_TS_Alex_v2.tar.gz" contributed by Olga Kosnyrev

- Awk routine "GoMEunderway2csv.awk" generated to convert bottle ".txt" files to BCO-DMO .csv files

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Data Files

File
Underway_Data.csv (Comma Separated Values (.csv), 59.39 KB) MD5:815b66492c03a7d1661678d8a0e362e9 Primary data file for dataset ID 3359

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Parameters

Parameter	Description	Units
station	Underway station numbers are indicated with ".1" and ".3" which mean: ".1" - UW between CTD stations; ".3" - UW at the CTD location.	x.x
date	date (GMT)	YYYYMMDD
time	time (GMT)	HHMM
lon	Station longitude (West is negative)	decimal degrees
lat	Station latitude (South is negative)	decimal degrees
depth_nominal	nominal depth	m
Alex	Number of Alexandrium fundyense cells	cells/L
Alex_Live	Number of live Alexandrium fundyense cells	cells/L
Flag	Flag "NOTE" values and meaning: 1 - regular data; 2 - Alex multiple samples averaged; 3 - Nuts multiple samples averaged; 4 - Alex and Nuts multiple samples averaged; 5 - Alex Live multiple samples averaged	integer
cruise_id	Official cruise id	text

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Deployments

OC447

Website	https://www.bco-dmo.org/deployment/58064
Platform	R/V Oceanus
Start Date	2008-05-28
End Date	2008-06-04
Description	<p>The research objective is synoptic mapping of Alexandrium fundyense, hydrography, and velocity in the coastal current from Cape Cod to Bay of Fundy. The planned activities include CTD casts, drifter deployments, and water pumping. Scientific personnel: Dr. Dennis McGillicuddy, Chief Scientist, Woods Hole Oceanographic Institution Dr. Valery Kosnyrev, Woods Hole Oceanographic Institution Ms. Olga Kosnyreva, Woods Hole Oceanographic Institution Mr. Keston Smith, Woods Hole Oceanographic Institution Mr. Bruce Keafer, Woods Hole Oceanographic Institution Mr. Kerry Norton, Woods Hole Oceanographic Institution Dr. Bibiana Gomez Crespo, IIM/CSIC, Spain Dr. Luciano Fernandes, Woods Hole Oceanographic Institution Ms. Stacey Lee, Woods Hole Oceanographic Institution Dr. David Townsend, University of Maine Ms. Maura Thomas, University of Maine Mr. Nathan Rebuck, University of Maine Ms. Rachel Gettings, University of Maine Mr. Morgan Brunbauer, University of Maine Dr. Jefferson Turner, University of Massachusetts Dartmouth Mr. Peter Milligan, University of Massachusetts Dartmouth Ms. Meribeth Ratzel , Cape Cod Community College Dr. Laurence Anderson, Woods Hole Oceanographic Institution Mr. Alexander Dorsk, Woods Hole Oceanographic Institution WHOI cruise planning synopsis Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Methods & Sampling Note: 1 "-9.99" value in these data</p> <p>Processing Description Note: 1 "-9.99" value in these data</p>

OC445

Website	https://www.bco-dmo.org/deployment/58677
Platform	R/V Oceanus
Start Date	2008-04-28
End Date	2008-05-05
Description	The research objective is synoptic mapping of Alexandrium fundyense, hydrography, and velocity in the coastal current from Cape Cod to Georges Bank. The planned activities include CTD casts, drifter deployments, and water pumping. Scientific personnel: Dr. Dennis McGillicuddy, Jr., Chief Scientist, Woods Hole Oceanographic Institution Dr. Valery Kosnyrev, Woods Hole Oceanographic Institution Mr. Keston Smith, Woods Hole Oceanographic Institution Mr. Bruce Keafer, Woods Hole Oceanographic Institution Mr. Kerry Norton, Woods Hole Oceanographic Institution Dr. Bibiana Gomez Crespo, IIM/CSIC, Spain Dr. Luciano Fernandes, Woods Hole Oceanographic Institution Ms. Stacey Lee, Woods Hole Oceanographic Institution Dr. David Townsend, University of Maine Ms. Maura Thomas, University of Maine Mr. Nathan Rebeck, University of Maine Dr. Jefferson Turner, University of Massachusetts Dartmouth Mr. Peter Milligan, University of Massachusetts Dartmouth Ms. Meribeth Ratzel, Cape Cod Community College Mr. Artur Palacz, University of Maine Dr. Laurence Anderson, Woods Hole Oceanographic Institution Ms. Katherine Libera, Woods Hole Oceanographic Institution Ms. Erin Dupuis, Woods Hole Oceanographic Institution Mr. Alexander Dorsk, Woods Hole Oceanographic Institution WHOI cruise planning synopsis Cruise information and original data are available from the NSF R2R data catalog.

EN448

Website	https://www.bco-dmo.org/deployment/58689
Platform	R/V Endeavor
Start Date	2008-06-27
End Date	2008-07-03
Description	<p>Methods & Sampling Note: Date/Time mostly -9.99, Lat/Lon -9.99 (set to "nd")</p> <p>Processing Description Note: Date/Time mostly -9.99, Lat/Lon -9.99 (set to "nd")</p>

EN451

Website	https://www.bco-dmo.org/deployment/58690
Platform	R/V Endeavor
Start Date	2008-08-07
End Date	2008-08-13
Description	<p>Methods & Sampling Note: Date/Time in these data are all "-9.99"</p> <p>Processing Description Note: Date/Time in these data are all "-9.99"</p>

EN456

Website	https://www.bco-dmo.org/deployment/58686
Platform	R/V Endeavor
Start Date	2008-10-14
End Date	2008-10-22
Description	<p>Methods & Sampling Note: One Time in these data is "-9.99"> %R/V ndeavor N456-cyst cruise %Live counts recorded at each cyst station %No live counts at suspended cyst stations %Order of sampling %designated cyst station # 1 Area II_26 2 Area II_23 3 Area II_21 4 Area II_16B 5 Area II_14 6 Area II_13B 7 Area II_12 8 Area II_11 9 91 10 90 11 89 12 88 13 87 14 86 15 85 16 84C 17 83 18 82 19 81 20 80 21 79 22 78 23 77 24 76 25 75 26 74 27 73 28 72 29 71 30 70 31 69 32 68 33 67 34 66 35 65 36 64 37 63 38 62 39 61 40 60 41 59 42 58 43 57 44 56 45 56B 46 56C 47 56D 48 56E 49 55 50 54 51 53 52 52 53 51 54 48 55 47 56 44 57 43 58 42 59 41 60 40 61 39 62 38 63 38B 64 38C 65 37 66 36 67 35 68 34 69 33 70 32B 71 31B 72 29B 73 28 74 27 75 26 76 25B 77 24B 78 23 79 22 80 21B 81 17 82 15 83 18 84 18D 85 14 86 13 87 19M 88 12M 89 12B 90 11 91 10 92 9 93 8 94 7 95 6 96 5 97 4 98 3 99 2 100 1</p> <p>Processing Description Note: One Time in these data is "-9.99"</p>

TI303

Website	https://www.bco-dmo.org/deployment/58692
Platform	R/V Tioga
Start Date	2008-05-15
End Date	2008-05-16

TI313

Website	https://www.bco-dmo.org/deployment/58708
Platform	R/V Tioga
Start Date	2008-06-16
End Date	2008-06-17

TI314

Website	https://www.bco-dmo.org/deployment/58709
Platform	R/V Tioga
Start Date	2008-06-18
End Date	2008-06-19

OC402

Website	https://www.bco-dmo.org/deployment/58679
Platform	R/V Oceanus
Start Date	2004-05-18
End Date	2004-05-28
Description	<p>MERHAB - Synoptic mapping of Alexandrium fundyense, hydrography, and velocity in the coastal current offshore of Casco and Penobscot Bays WHOI cruise planning synopsis Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Methods & Sampling Note: Date/Time in these data are all "-9.99"</p> <p>Processing Description Note: Date/Time in these data are all "-9.99"</p>

TI098

Website	https://www.bco-dmo.org/deployment/58694
Platform	R/V Tioga
Start Date	2005-06-03
End Date	2005-06-03
Description	<p>Methods & Sampling Note: Time in these data are all "-9.99"</p> <p>Processing Description Note: Time in these data are all "-9.99"</p>

TI100

Website	https://www.bco-dmo.org/deployment/58695
Platform	R/V Tioga
Start Date	2005-06-09
End Date	2005-06-10
Description	<p>Methods & Sampling Note: Time in these data are all "-9.99"</p> <p>Processing Description Note: Time in these data are all "-9.99"</p>

TI102

Website	https://www.bco-dmo.org/deployment/58696
Platform	R/V Tioga
Start Date	2005-06-15
End Date	2005-06-15
Description	<p>Methods & Sampling Note: Time in these data are all "-9.99"</p> <p>Processing Description Note: Time in these data are all "-9.99"</p>

TI103

Website	https://www.bco-dmo.org/deployment/58697
Platform	R/V Tioga
Start Date	2005-06-16
End Date	2005-06-17
Description	Methods & Sampling Note: Time in these data are all "-9.99" Processing Description Note: Time in these data are all "-9.99"

TI109

Website	https://www.bco-dmo.org/deployment/58699
Platform	R/V Tioga
Start Date	2005-06-28
End Date	2005-06-29
Description	Methods & Sampling Note: Time in these data are all "-9.99" Processing Description Note: Time in these data are all "-9.99"

TI181

Website	https://www.bco-dmo.org/deployment/58704
Platform	R/V Tioga
Start Date	2006-05-17
End Date	2006-05-18
Description	Methods & Sampling Note: Time in these data are all "-9.99" Processing Description Note: Time in these data are all "-9.99"

TI191

Website	https://www.bco-dmo.org/deployment/58707
Platform	R/V Tioga
Start Date	2006-06-29
End Date	2006-06-30

OC425

Website	https://www.bco-dmo.org/deployment/58681
Platform	R/V Oceanus
Start Date	2006-06-06
End Date	2006-06-17
Description	Synoptic mapping of Alexandrium fundyense, hydrography, and velocity in the coastal current from Cape Cod to the Bay of Fundy WHOI cruise planning synopsis Cruise information and original data are available from the NSF R2R data catalog.

OC440

Website	https://www.bco-dmo.org/deployment/58682
Platform	R/V Oceanus
Start Date	2007-10-08
End Date	2007-10-18
Description	<p>GOMTOX: Dynamics of Alexandrium fundyense distributions in the Gulf of Maine: an observational and modeling study of nearshore and offshore shellfish toxicity, vertical toxin flux, and bloom dynamics in a complex shelf sea. The main scientific research objective is to determine the interannual and interdecadal distribution of Alexandrium fundyense (red tide) cysts in the Gulf of Maine and Bay of Fundy and onto Georges Bank as time permits. This will be the 3rd annual cyst survey onboard the R/V Oceanus. At each station, a Craib Corer will be deployed to sample surficial bottom sediments (top 3cm). Cores will be sectioned and processed on the way to each station. Science activities planned include Craib coring and CTD casts. Scientific personnel: Mr. Bruce Keafer, Chief Scientist, Woods Hole Oceanographic Institution Mr. Kerry Norton, Woods Hole Oceanographic Institution Mr. Scott McCue, Woods Hole Oceanographic Institution Ms. Lauren Heinen, Woods Hole Oceanographic Institution Ms. Hannah Blossom, Woods Hole Oceanographic Institution Dr. Luciano Fernandes, Woods Hole Oceanographic Institution Mr. Valery Kosnyrev, Woods Hole Oceanographic Institution Mr. Patrick Curran, Sea Education Association Mr. Dane Percy, University of Massachusetts-Dartmouth Ms. Murielle LeGresley, Fisheries and Oceans Canada Ms. Heather McCrae, Woods Hole Oceanographic Institution Mr. Christopher Hunt, University of New Hampshire Mr. Shawn Shellito, University of New Hampshire Ms. Bryn Warren, Northeastern University guest student Ms. Theresa Hattenrath, State University of New York Mr. Alexander Dorsk, Woods Hole Oceanographic Institution WHOI cruise planning synopsis Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Methods & Sampling Note: Time in these data are all "-9.99" %OC440 live counts "%October 8-18, 2007" %counts started 4 days into the cruise after detection of Alexandrium by Luciano %Order of sampling cyst station # 1 29B 2 28 3 27 4 26 5 25B 6 24B 7 23 8 22 9 21- B 10 17 11 18 12 18D 13 19M 14 12M 15 12B 16 11 17 10 18 9 19 8 20 7 21 6 22 5 23 3 24 2 25 1 26 14 27 15 28 T-1 29 T-2 30 T-3 31 T-4 32 T-5 33 T-6 34 T-7 35 T-8 36 T-9 37 T-10 38 T-11 39 T-12 40 LegII_UNH2 41 LegII_st 01 42 LegII_Taylor 3 43 LegII_Taylor 4 44 LegII_Taylor 2 45 LegII_Taylor 1 46 LegII_Taylor 5 47 LegII_Taylor 6 48 LegII_Taylor 7B 49 LegII_Taylor 8 50 LegII_st 09 51 LegII_st 10 52 LegII_st 11 53 LegII_st 12 54 LegII_st 12B 55 LegII_st 13 56 LegII_st 13B 57 LegII_st 14 58 LegII_st 15 59 LegII_st 16 60 LegII_st 17 61 LegII_st 18 62 LegII_st 19 63 LegII_st 20 64 LegII_st 21 65 LegII_T-13 66 LegII_T-14 67 LegII_st 22 68 LegII_st 23 69 LegII_st 24 70 LegII_st 25 71 LegII_st 26 72 LegII_st 27 73 LegII_st 28 74 LegII_st 28B 75 LegII_st 28C 76 LegII_UNH3 77 LegII_st 29 78 LegII_st 29B 79 LegII_st 30</p> <p>Processing Description Note: Time in these data are all "-9.99"</p>

Website	https://www.bco-dmo.org/deployment/58687
Platform	R/V Endeavor
Start Date	2007-05-17
End Date	2007-06-01
Description	<p>Methods & Sampling Note: Some Dates/Times in these data are "-9.99"</p> <p>Processing Description Note: Some Dates/Times in these data are "-9.99"</p>

TI383

Website	https://www.bco-dmo.org/deployment/58711
Platform	R/V Tioga
Start Date	2009-07-12
End Date	2009-07-12

TI386

Website	https://www.bco-dmo.org/deployment/58712
Platform	R/V Tioga
Start Date	2009-07-19
End Date	2009-07-23

OC467

Website	https://www.bco-dmo.org/deployment/58685
Platform	R/V Oceanus
Start Date	2010-07-29
End Date	2010-08-06
Description	<p>Synoptic mapping of Alexandrium fundyense, hydrography, and velocity in the coastal current from Cape Cod to Georges Bank, Cape Cod to Bay of Fundy. OC467 is one of the GOMTOX project cruises to study the dynamics of Alexandrium fundyense distributions in the Gulf of Maine. GOMTOX is an observational and modeling study of nearshore and offshore shellfish toxicity, vertical toxin flux, and bloom dynamics in the Gulf of Maine, a complex shelf sea region. WHOI cruise planning synopsis Cruise information and original data are available from the NSF R2R data catalog</p>

EN437

Website	https://www.bco-dmo.org/deployment/58688
Platform	R/V Endeavor
Start Date	2007-06-27
End Date	2007-07-06
Description	<p>Methods & Sampling Note: 1 data point with time of "-9.99"</p> <p>Processing Description Note: 1 data point with time of "-9.99"</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	EDDIES project 2005 Survey 1 cruise Funded by: NSF OCE-0241310 Original cruise data are available from the NSF R2R data catalog

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Project Information

Investigations of *Alexandrium fundyense* dynamics in the Gulf of Maine (ALEX-GoME)

Coverage: Gulf of Maine

Investigations of *Alexandrium fundyense* dynamics in the Gulf of Maine

Project Summary

Harmful algal blooms, commonly called "red tides" or HABs, are a serious economic and public health problem throughout the world. In the U.S., the most serious HAB problem is [paralytic shellfish poisoning \(PSP\)](#), a potentially fatal neurological disorder caused by human ingestion of shellfish that accumulate toxins as they feed on dinoflagellates of the genus *Alexandrium*. These organisms cause human illness and death due to PSP, repeated shellfish harvest quarantines, and the mortality of fish and marine mammals. This phenomenon, which affects thousands of miles of U.S. coastline and numerous fisheries resources, has expanded dramatically in the last two decades, especially in the Gulf of Maine. ECOHAB-GOM is a project that addresses several fundamental issues regarding *Alexandrium* blooms in the Gulf of Maine: 1) the source of the *Alexandrium* cells that appear in the fresh water plumes in the western Maine coastal current (WMCC); 2) *Alexandrium* cell distribution and dynamics in the eastern Maine coastal current (EMCC); and 3) linkages among blooms in the WMCC, the EMCC and on Georges Bank. Utilizing a combination of numerical modeling, hydrographic, chemical, and biological measurements, moored and drifting current measurements, and satellite imagery, we are working to characterize the structure, variability and autecology of the major *Alexandrium* habitats in the Gulf of Maine.

Summary of Data Sources by Year

2003 - [MERHAB](#) (McGillicuddy)

2004 - [MERHAB](#)

2005 - [WHCOHH](#) (Stegeman)

2006 - NOAA Rapid Response (Anderson) / [WHCOHH](#)

2007 - [GOMTOX](#) (Anderson) / [WHCOHH](#)

2008 - [GOMTOX](#) / [WHCOHH](#)

2009 - [GOMTOX](#) / [WHCOHH](#)

2010 - [GOMTOX](#) / [WHCOHH](#)

Summary of Funding Sources by Years

The cruises from 2003-2004 were supported by NOAA grant NA160P2785 (MERHAB).

The cruises from 2005-2010 were jointly funded:

NSF grant OCE-0430724 and NIEHS grant 1P50-ES01274201 (Woods Hole Center for Oceans and Human Health)

NOAA grant NA06NOS4780245 (GOMTOX)

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Funding

Funding Source	Award
National Oceanic and Atmospheric Administration (NOAA)	NA06NOS4780245 (GOMTOX)
National Institute of Environmental Health Sciences (NIEHS)	1P50-ES01274201
NSF Division of Ocean Sciences (NSF OCE)	OCE-0430724
National Oceanic and Atmospheric Administration (NOAA)	NA160P2785 (MERHAB)

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