Activities performed and samples collected during the cruises from R/V Gulf Challenger GC_GoM_2012-2013 in the Gulf of Maine; Wilkinson Basin and Jeffreys Ledge from 2012-2013 (GoM_Calanus_2012-2013 project)

Website: https://www.bco-dmo.org/dataset/526995
Version: working
Version Date: 2014-08-29

Project
» RAPID: Effect of a Very Low NAO Event on the Abundance of the Lipid-Rich Planktonic Copepod, Calanus finmarchicus, in the Gulf of Maine (GoM_Calanus_2012-2013)

Contributors	Affiliation	Role
Runge, Jeffrey A.	Gulf of Maine Research Institute (GMRI)	Principal Investigator
Thompson, Cameron	Gulf of Maine Research Institute (GMRI)	Contact
Allison, Dicky	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Table of Contents

Dataset Description

Between April 6th 2012 and May 21st 2013, there were 17 deployments on the R/V Gulf Challenger as part of the time series. This dataset table lists the samples taken during each cruise.

Methods & Sampling

See each dataset for the description of the protocol of collection.

Data Processing Description

See each dataset for the protocol of processing.

[table of contents | back to top]

Data Files

File
WBTS_timeseries_log.csv (Comma Separated Values (.csv), 2.63 KB) MD5:5b07431fd394bc0e2062c06d7831fcc4 Primary data file for dataset ID 526995

[table of contents | back to top]

Parameters

Parameter	Description	Units
station	Either the Jeffreys ledge station WB-5 or Wilkinson Basin WB-7	text
site	descriptive text for station	text
lat	latitude	decimal degrees; North is positive
lon	longitude	decimal degrees; West is negative
yrday_local	day of year local time	number
date_local	two digit date local time	mmddyyyy
month_local	two digit month local time	mm
day_local	two digit day local time	dd
year	four digit year	yyyy
numCTDsamps	Number of CTD casts completed and available	number
numChlsamps	Number of water sample filters analyzed for Chlorophyll a and Phaeopigments	number
numFormsamps	Number of net samples preserved in 4% formaldehyde	number
numETOHsamps	Number of net samples preserved in 95% ethanol	number
numCfinsamps	Number of samples analyzed for Calanus finmarchicus abundance	number
numZoopsamps	Number of samples analyzed for zooplankton species composition and abundance	number
cruise_nom	Each deployment has its own cruise ID following this format; GC for R/V Gulf Challenger; followed by the date (mmddyy)	text

[table of contents | back to top]

Deployments

GC_GoM_2012-2013

Website	https://www.bco-dmo.org/deployment/526864
Platform	R/V Gulf Challenger
Report	http://dmoserv3.whoi.edu/data_docs/GoM_Calanus_2012-2013/GoM_WBTS_CruiseReport.docx
Start Date	2012-04-06
End Date	2013-05-21
Description	This deployment is a collection of 17 one-day cruises to two stations in the Gulf of Maine between April 6, 2012 to May 21, 2013.

[table of contents | back to top]

Project Information

RAPID: Effect of a Very Low NAO Event on the Abundance of the Lipid-Rich Planktonic Copepod, Calanus finmarchicus, in the Gulf of Maine (GoM_Calanus_2012-2013)

Coverage: Gulf of Maine: Wilkinson Basin and Jeffrey's Ledge

"The copepod, *Calanus finmarchicus*, is a dominant member of the plankton in the Gulf of Maine, (GoM), despite its location at the southern edge of the species' subarctic range. Wilkinson Basin, one of the three deep basins in the GoM, harbors very high concentrations of the early developmental stages of *C. finmarchicus* in the summer through winter and serves as a source of *C. finmarchicus* to GoM coastal ledges and banks. A recent study based on *C. finmarchicus* habitat characteristics across the North Atlantic predicts that climate-driven change will force the distribution of *C. finmarchicus* northward out of the GoM over the next several decades. However, the oceanographic and life history responses of C. finmarchicus to environmental variability in the Gulf are complex and largely unknown. The research in this RAPID proposal takes advantage of a rare opportunity to test a hypothesis about the control of *C. finmarchicus* abundance in the GoM from climate change related external forcing. The hypothesis states that a distinctly lower *C. finmarchicus* abundance follows, with a two-year lag, the occurrence of a very negative North Atlantic Oscillation (NAO). The specific processes that causally connect low *C. finmarchicus* with the NAO are not known. The research here tests the prediction that *C. finmarchicus* abundance will be very low in Wilkinson Basin in 2012, two years after one of the most negative NAOs on record, dating back to the 1860?s. Field observations in the form of a time series of measurements of hydrography, food availability and *C. finmarchicus* stage abundance will be taken at a fixed station in Wilkinson Basin and in the Maine coastal region, supported by measurements taken on the Scotian Shelf. A research survey, coordinated with a scheduled cruise in the Gulf of Maine in September, 2012, will take additional collections in Wilkinson Basin and throughout the GoM. Frozen and ethanol preserved samples of *C. finmarchicus* will also be collected for population genetic studies. The abundance results will be compared with historical time series and survey data collected over the past two decades, confirming or refuting the expectation of extreme NAO influence on GoM *C. finmarchicus* populations." *(from the Award abstract)*

[table of contents | back to top]

Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1235920

[table of contents | back to top]