Merged biological observations from bottle samples from R/V Atlantis II cruises AII-119-4, AII-119-5 in the North Atlantic in 1989 (U.S. JGOFS NABE project)

Website: https://www.bco-dmo.org/dataset/2600
Version: January 14, 2003
Version Date: 2003-01-14

Project
» U.S. JGOFS North Atlantic Bloom Experiment (NABE)

Program
» U.S. Joint Global Ocean Flux Study (U.S. JGOFS)

Contributors	Affiliation	Role
Ducklow, Hugh W.	Marine Biological Laboratory Ecosystems Center (MBL - Ecosystems)	Principal Investigator
Sieracki, Michael E.	Virginia Institute of Marine Science (VIMS)	Principal Investigator
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Dataset Description

Merged biological observations from several investigators, bottle samples

Methods & Sampling

Hugh Ducklow - Bacteria production and abundance

Michael Sieracki - Cyanobacteria, phototrophic, heterotrophic nanoplankton

Diane Stoecker - Ciliates, tintinnids, copepods

Peter Verity - Heterotrophic dinoflagellates

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Data Files

File
biology.csv(Comma Separated Values (.csv), 56.23 KB) MD5:91717eb6ac57d637b17fce54eedfc5d8 Primary data file for dataset ID 2600

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Parameters

Parameter	Description	Units
year	year as YYYY	dimensionless
event	event number from event log	dimensionless
sta	station number from event log	dimensionless
cast	cast number	dimensionless
bot	bottle number	dimensionless
press	pressure	decibars
ciliates_pl_o	abundance plastidic oligotrich ciliates, submitted by Stoecker	cells/liter
ciliates_pl_o_C	biomass of plastidic oligotrich ciliates, submitted by Stoecker	nanograms C/liter
ciliates_npo	abundance of non plastidic oligotrich ciliates, submitted by Stoecker	cells/liter
ciliates_npo_C	biomass of non plastidic oligotrich ciliates, submitted by Stoecker	nanograms C/liter
tint	abundance of tintinnids, Stoecker	cells/liter
tint_C	biomass of tintinnids, Stoecker,	micrograms C/liter
mesodin	abundance of Mesodinium, Stoecker	cells/liter
mesodin_C	biomass of Mesodinium, Stoecker	nanograms C/liter
ciliates_oth_oli	abundance of other oligotrich ciliates, submitted by Stoecker	cells/liter
ciliates_oth_oli_C	biomass of other oligotrich ciliates, submitted by Stoecker	nanograms C/liter
ciliates_oth_no	abundance of other non oligotrich ciliates, submitted by stoecher	cells/liter
ciliates_oth_no_C	biomass of other non oligotrich ciliates, submitted by Stoecker	nanograms C/liter
copepod_na	abundance of copepod nauplii, Stoecker	cells/liter
copepod_oth	abundance of other copepods, Stoecker	cells/liter
foram	abundance of Foraminifer,	Stoecker
sticho	abundance of Sticholonche, Stoecker	cells/liter
holotricha	abundance of Holotricha,	Stoecker
dino_het	abundance of heterotrophic dinoflagellates submitted by Stoecker	cells/liter
dino_het_C	biomass of heterotrophic dinoflagellates submitted by Stoecker	micrograms C/liter
dino_het_lt20	abundance of heterotrophic dinoflagellates, lt 20 microns, submitted by Verity	cells/milliliter
dino_het_lt20_biov	mean biovolume of heterotrophic dinoflagellates, lt 20 microns, Verity	microns/milliliter
dino_het_biov_sd	mean biovolume standard deviation of heterotrophic dinoflagellates, lt 20 microns, submitted by Verity	
hnp_num	number of cells counted and measured of heterotrophic nanoplankton, Sieracki	
hnp	abundance of heterotrophic nanoplankton, submitted by Sieracki	cells/milliliter

hnp_cellv	average cell biovolume heterotrophic nanoplankton, submitted by Sieracki	cubic microns/cell
hnp_biov	biovolume per sample volume of heterotrophic nanoplankton, submitted by Sieracki	microns/milliliter
hnp_C	biomass of heterotrophic nanoplankton, submitted by Sieracki	micrograms C/liter
pnp_num	number of cells counted & measured of phototrophic nanoplankton, Sieracki	
pnp	abundance of phototrophic nanoplankton, submitted by Sieracki	cells/milliliter
pnp_cellv	average cell biovolume phototrophic nanoplankton, submitted by Sieracki	cubic microns/cell
pnp_biov	biovolume per sample volume of phototrophic nanoplankton, submitted by Sieracki	microns/milliliter
pnp_C	biomass of phototrophic nanoplankton, submitted by Sieracki	micrograms C/liter
bact_cyan_num	number of cells counted & measured of cyanobacteria, submitted by Sieracki	
bact_cyan	abundance of cyanobacteria, Sieracki	cells/milliliter
bact_cyan_cellv	average cell biovolume cyanobacteria, submitted by Sieracki	cubic microns/cell
bact_cyan_biov	biovolume per sample volume of cyanobacteria, submitted by Sieracki	microns/milliliter
bact_cyan_C	biomass of cyanobacteria, Sieracki	micrograms C/liter
thy_incorp	thymidine incorporation, Ducklow	picomoles/liter/hour
leuc_incorp	leucine incorporation, Ducklow	picomoles/liter/hour
bact_het_mic	heterotrophic bacteria abundance, microscopy, Ducklow	cells/milliliter

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Instruments

Dataset-specific Instrument Name	Niskin Bottle
Generic Instrument Name	Niskin bottle
Generic Instrument Description	A Niskin bottle (a next generation water sampler based on the Nansen bottle) is a cylindrical, non-metallic water collection device with stoppers at both ends. The bottles can be attached individually on a hydrowire or deployed in 12, 24, or 36 bottle Rosette systems mounted on a frame and combined with a CTD. Niskin bottles are used to collect discrete water samples for a range of measurements including pigments, nutrients, plankton, etc.

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Deployments

AII-119-4

Website	https://www.bco-dmo.org/deployment/57737
Platform	R/V Atlantis II
Start Date	1989-04-17
End Date	1989-05-11
Description	early bloom cruise; 17 locations; 60N 21W to 46N 18W **Methods & Sampling** PI: 1) Hugh Ducklow 2)Michael Sieracki 3)Diane Stoecker 4)Peter Verity of: 1) Horn Point Environmental Laboratory 2) Virginia Institute of Marine Science 3) Woods Hole Oceanographic Institute 4) Skidaway Institute of Oceanography dataset: Merged biological measurements from above Investigators dates: April 20, 1989 to June 06, 1989 location: N: 59.7418 S: 46.25 W: -20.81 E: -17.6433 project/cruise: North Atlantic Bloom Experiment/Atlantis II 119, leg 4 ship: R/V Atlantis II Methodology Bacteria (Ducklow) Additional sampling and analytical methodology (Ducklow) Microplankton (Sieracki, Stoecker, Verity) Protozoa (Stoecker) PI-Notes For Michael Sieracki's measurements: ug C/l = biomass, calculated as um3/ml*F where F is a biovolume to carbon conversion factor. F=200 fgC/um3 DMO note: The Data Management Office has changed the units of the parameters "tint_C" from nanograms to micrograms C/liter and "bact_het_mic" from cells/liter*10^9 to cells/milliliter. All organism counts reported by Diane Stoecker were for organisms greater than 20 microns.

AII-119-5

Website	https://www.bco-dmo.org/deployment/57738
Platform	R/V Atlantis II
Start Date	1989-05-15
End Date	1989-06-06
Description	late bloom cruise; 31 locations; 61N 22W to 41N 17W **Methods & Sampling** PI: 1) Hugh Ducklow 2)Michael Sieracki 3)Diane Stoecker 4)Peter Verity of: 1) Horn Point Environmental Laboratory 2) Virginia Institute of Marine Science 3) Woods Hole Oceanographic Institute 4) Skidaway Institute of Oceanography dataset: Merged biological measurements from above Investigators dates: April 20, 1989 to June 06, 1989 location: N: 59.7418 S: 46.25 W: -20.81 E: -17.6433 project/cruise: North Atlantic Bloom Experiment/Atlantis II 119, leg 4 ship: R/V Atlantis II Methodology Bacteria (Ducklow) Additional sampling and analytical methodology (Ducklow) Microplankton (Sieracki, Stoecker, Verity) Protozoa (Stoecker) PI-Notes For Michael Sieracki's measurements: ug C/l = biomass, calculated as um3/ml*F where F is a biovolume to carbon conversion factor. F=200 fgC/um3 DMO note: The Data Management Office has changed the units of the parameters "tint_C" from nanograms to micrograms C/liter and "bact_het_mic" from cells/liter*10^9 to cells/milliliter. All organism counts reported by Diane Stoecker were for organisms greater than 20 microns.

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Project Information

U.S. JGOFS North Atlantic Bloom Experiment (NABE)

Website: http://usjgofs.whoi.edu/research/nabe.html

Coverage: North Atlantic

One of the first major activities of JGOFS was a multinational pilot project, North Atlantic Bloom Experiment

(NABE), carried out along longitude 20° West in 1989 through 1991. The United States participated in 1989 only, with the April deployment of two sediment trap arrays at 48° and 34° North. Three process-oriented cruises where conducted, April through July 1989, from R/V *Atlantis II* and R/V *Endeavor* focusing on sites at 46° and 59° North. Coordination of the NABE process-study cruises was supported by NSF-OCE award # 8814229. Ancillary sea surface mapping and AXBT profiling data were collected from NASA's P3 aircraft for a series of one day flights, April through June 1989.

A detailed description of NABE and the initial synthesis of the complete program data collection efforts appear in: Topical Studies in Oceanography, JGOFS: The North Atlantic Bloom Experiment (1993), Deep-Sea Research II, Volume 40 No. 1/2.

The U.S. JGOFS Data management office compiled a preliminary NABE data report of U.S. activities: Slagle, R. and G. Heimerdinger, 1991. U.S. Joint Global Ocean Flux Study, North Atlantic Bloom Experiment, Process Study Data Report P-1, April-July 1989. NODC/U.S. JGOFS Data Management Office, Woods Hole Oceanographic Institution, 315 pp. (out of print).

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Program Information

U.S. Joint Global Ocean Flux Study (U.S. JGOFS)

Website: http://usjgofs.whoi.edu/

Coverage: Global

The United States Joint Global Ocean Flux Study was a national component of international JGOFS and an integral part of global climate change research.

The U.S. launched the Joint Global Ocean Flux Study (JGOFS) in the late 1980s to study the ocean carbon cycle. An ambitious goal was set to understand the controls on the concentrations and fluxes of carbon and associated nutrients in the ocean. A new field of ocean biogeochemistry emerged with an emphasis on quality measurements of carbon system parameters and interdisciplinary field studies of the biological, chemical and physical process which control the ocean carbon cycle. As we studied ocean biogeochemistry, we learned that our simple views of carbon uptake and transport were severely limited, and a new "wave" of ocean science was born. U.S. JGOFS has been supported primarily by the U.S. National Science Foundation in collaboration with the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the Department of Energy and the Office of Naval Research. U.S. JGOFS, ended in 2005 with the conclusion of the Synthesis and Modeling Project (SMP).

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Funding

Funding Source	Award
National Science Foundation (NSF)	unknown NABE NSF

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