

# Longtrack near-surface observations from R/V Atlantis II, R/V Endeavor cruises All-119-4, All-119-5, EN198 in the North Atlantic (U.S. JGOFS NABE project)

**Website:** <https://www.bco-dmo.org/dataset/2568>

**Version:** final

**Version Date:** 1996-04-19

## Project

» [U.S. JGOFS North Atlantic Bloom Experiment](#) (NABE)

## Program

» [U.S. Joint Global Ocean Flux Study](#) (U.S. JGOFS)

Contributors	Affiliation	Role
<a href="#">Broenkow, William</a>	Moss Landing Marine Laboratories (MLML)	Principal Investigator
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## Table of Contents

- [Dataset Description](#)
  - [Methods & Sampling](#)
- [Data Files](#)
- [Parameters](#)
- [Instruments](#)
- [Deployments](#)
- [Project Information](#)
- [Program Information](#)
- [Funding](#)

## Dataset Description

Longtrack near-surface observations

## Methods & Sampling

**PI:** William Broenkow  
**of:** Moss Landing Marine Laboratories  
**dataset:** longtrack near-surface observations, Moss Landing  
**dates:** April 18, 1989 to June 07, 1989  
**location:** N: 63.675 S: 38.667 W: -24.468 E: -17.642  
**project/cruise:** North Atlantic Bloom Experiment cruises

Ref: JGOFS North Atlantic Bloom long track and vertical profiling results.  
W.W. Broenkow, R.E. Reaves and M.A. Yarbrough MLML Tech Pub 90-1

[ [table of contents](#) | [back to top](#) ]

## Data Files

## File

### **longtrack\_All-119-4.csv**(Comma Separated Values (.csv), 402.46 KB)

MD5:1b51a0fd809569e411c45012152d9af5

version April 19, 1996  
Longtrack near-surface observations - Iceland to the Azores  
R/V Atlantis II Cruise 119 Legs 4 and 5  
North Atlantic Bloom Experiment  
William Broenkow  
MOSS LANDING MARINE LABORATORY

Note: Flow through system operated with reduced flow.  
Many start-up problems were encountered.  
Fluorometer scales change frequently, not logged properly.  
Heating in flow-through plumbing is evident in temperature  
- error up to 1.5 C.  
Salinity agrees with CTD profiles; precision +/- 0.05 PSU.

Ref: JGOFS North Atlantic Bloom long track and vertical profiling results.  
W.W. Broeknow, R.E. Reaves and M.A. Yarbrough MLML Tech Pub 90-1

### **longtrack\_All-119-5.csv**(Comma Separated Values (.csv), 456.92 KB)

MD5:b63bfeb72b063d125a20ca72524be73d

version April 19, 1996  
Longtrack near-surface observations - Iceland to the Azores  
R/V Atlantis II Cruise 119 Legs 4 and 5  
North Atlantic Bloom Experiment  
William Broenkow  
MOSS LANDING MARINE LABORATORY

Note: Flow through system operated with reduced flow.  
Many start-up problems were encountered.  
Fluorometer scales change frequently, not logged properly.  
Heating in flow-through plumbing is evident in temperature  
- error up to 1.5 C.  
Salinity agrees with CTD profiles; precision +/- 0.05 PSU.

Ref: JGOFS North Atlantic Bloom long track and vertical profiling results.  
W.W. Broeknow, R.E. Reaves and M.A. Yarbrough MLML Tech Pub 90-1

### **longtrack\_EN198.csv** (Comma Separated Values (.csv), 176.35 KB)

MD5:4cc9f270b22077a60410ee290059a9ef

version April 18, 1996  
Longtrack near-surface observations  
Iceland to 60 N Station and return. 3264 data points.  
William Broenkow  
MOSS LANDING MARINE LABORATORY  
R/V Endeavor Cruise 198  
North Atlantic Bloom Experiment

Please see Documentation Link for parameter definitions and units

Note: Data logging by LiCor data logger with 5 minute averaging - some  
one minute averaging during times of vertical optical profiling.  
Positions added and interpolated by time from SAIL -loop records.

Ref: JGOFS North Atlantic Bloom long track and vertical profiling results.  
W.W. Broeknow, R.E. Reaves and M.A. Yarbrough MLML Tech Pub 90-1

[ [table of contents](#) | [back to top](#) ]

## Parameters

Parameter	Description	Units
year	year as YYYY	dimensionless
cruise	cruise designation	dimensionless
leg	leg of cruise (4 or 5)	dimensionless
lat	Latitude	decimal degrees
lon	Longitude	decimal degrees
date	Date	yyyymmdd
time	Time of day	GMT decimal hours
yrday	Day of Year, 1989, assigned by U.S.JGOFS DMO, Jan 1 noon = 1.5	decimal day of year
sal	Salinity	PSU
temp	Temperature	degrees C
fluor	Rescaled Fluorescence 685 nm	approx. mg/m <sup>3</sup> chlorophyll
par_Ei	Incident PAR 400-700 nm Irradiance	umole/sec/m <sup>2</sup>
par_Eo	Incubator PAR Scalar Irradiance	umole/sec/m <sup>2</sup>

[ [table of contents](#) | [back to top](#) ]

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## Instruments

<b>Dataset-specific Instrument Name</b>	Fluorometer
<b>Generic Instrument Name</b>	Fluorometer
<b>Generic Instrument Description</b>	A fluorometer or fluorimeter is a device used to measure parameters of fluorescence: its intensity and wavelength distribution of emission spectrum after excitation by a certain spectrum of light. The instrument is designed to measure the amount of stimulated electromagnetic radiation produced by pulses of electromagnetic radiation emitted into a water sample or in situ.

<b>Dataset-specific Instrument Name</b>	LiCor Underwater Spectrial Quantum Sensor
<b>Generic Instrument Name</b>	LI-COR LI-193 PAR Sensor
<b>Generic Instrument Description</b>	The LI-193 Underwater Spherical Quantum Sensor uses a Silicon Photodiode and glass filters encased in a waterproof housing to measure PAR (in the 400 to 700 nm waveband) in aquatic environments. Typical output is in micromol s <sup>-1</sup> m <sup>-2</sup> . The LI-193 Sensor gives an added dimension to underwater PAR measurements as it measures photon flux from all directions. This measurement is referred to as Photosynthetic Photon Flux Fluence Rate (PPFFR) or Quantum Scalar Irradiance. This is important, for example, when studying phytoplankton, which utilize radiation from all directions for photosynthesis. LI-COR began producing Spherical Quantum Sensors in 1979; serial numbers for the LI-193 begin with SPQA-XXXXX (licor.com).

[ [table of contents](#) | [back to top](#) ]

## Deployments

### All-119-4

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57737">https://www.bco-dmo.org/deployment/57737</a>
<b>Platform</b>	R/V Atlantis II
<b>Start Date</b>	1989-04-17
<b>End Date</b>	1989-05-11
<b>Description</b>	<p>early bloom cruise; 17 locations; 60N 21W to 46N 18W</p> <p><b>Methods &amp; Sampling</b>  PI: William Broenkow of: Moss Landing Marine Laboratories dataset: longtrack near-surface observations, Moss Landing dates: April 18, 1989 to June 07, 1989 location: N: 63.675 S: 38.667 W: -24.468 E: -17.642 project/cruise: North Atlantic Bloom Experiment/Atlantis II 119, leg 5 ship: Atlantis II Note: Flow through system operated with reduced flow. Many start-up problems were encountered. Fluorometer scales change frequently, not logged properly. Heating in flow-through plumbing is evident in temperature - error up to 1.5 C. Salinity agrees with CTD profiles; precision +/- 0.05 PSU. Ref: JGOFS North Atlantic Bloom long track and vertical profiling results. W.W. Broeknow, R.E. Reaves and M.A. Yarbrough MLML Tech Pub 90-1</p>

### All-119-5

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57738">https://www.bco-dmo.org/deployment/57738</a>
<b>Platform</b>	R/V Atlantis II
<b>Start Date</b>	1989-05-15
<b>End Date</b>	1989-06-06
<b>Description</b>	late bloom cruise; 31 locations; 61N 22W to 41N 17W  <b>Methods &amp; Sampling</b> PI: William Broenkow of: Moss Landing Marine Laboratories dataset: longtrack near-surface observations, Moss Landing dates: April 18, 1989 to June 07, 1989 location: N: 63.675 S: 38.667 W: -24.468 E: -17.642 project/cruise: North Atlantic Bloom Experiment/Atlantis II 119, leg 5 ship: Atlantis II Note: Flow through system operated with reduced flow. Many start-up problems were encountered. Fluorometer scales change frequently, not logged properly. Heating in flow-through plumbing is evident in temperature - error up to 1.5 C. Salinity agrees with CTD profiles; precision +/- 0.05 PSU. Ref: JGOFS North Atlantic Bloom long track and vertical profiling results. W.W. Broeknow, R.E. Reaves and M.A. Yarbrough MLML Tech Pub 90-1

## EN198

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57739">https://www.bco-dmo.org/deployment/57739</a>
<b>Platform</b>	R/V Endeavor
<b>Start Date</b>	1989-06-28
<b>End Date</b>	1989-07-07
<b>Description</b>	post bloom cruise; 7 locations; 63°N 25°W to 59°N 14°W  <b>Methods &amp; Sampling</b> PI: William Broenkow of: Moss Landing Marine Laboratories dataset: longtrack near-surface observations, Moss Landing dates: June 28, 1989 to July 7, 1989 location: N: 63.826 S: 59.29 W: -24.206 E: -14.901 project/cruise: North Atlantic Bloom Experiment/Endeavor 198 ship: Endeavor Note: Data logging by LiCor data logger with 5 minute averaging - some one minute averaging during times of vertical optical profiling. Positions added and interpolated by time from SAIL -loop records. Ref: JGOFS North Atlantic Bloom long track and vertical profiling results. W.W. Broeknow, R.E. Reaves and M.A. Yarbrough MLML Tech Pub 90-1

[ [table of contents](#) | [back to top](#) ]

## 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 were 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).

[ [table of contents](#) | [back to top](#) ]

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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).

[ [table of contents](#) | [back to top](#) ]

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## Funding

Funding Source	Award
National Science Foundation (NSF)	<a href="#">unknown NABE NSF</a>

[ [table of contents](#) | [back to top](#) ]