2000 AVHRR images for the US-GLOBEC Georges Bank Program from the NOAA-14, NOAA-15, and NOAA-16 satellites in the Georges Bank and Gulf of Maine areas (GB project)

Website: https://www.bco-dmo.org/dataset/2440
Version: 2000-12-31
Version Date: 2012-08-08

Project
» U.S. GLOBEC Georges Bank (GB)

Program
» U.S. GLOBal ocean ECosystems dynamics (U.S. GLOBEC)

Contributors	Affiliation	Role
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Dataset Description

AVHRR SST Images Satellite-derived AVHRR SST images for the US-GLOBEC Georges Bank Program study domain (combined Gulf of Maine & Georges Bank area):

39.114 - 45.504 degree North latitude, 63.510 - 72.156 degree West longitude,

1 October 1993 - 2003.

Data Provider: Dr. J. J. Bisagni, Department of Estuarine & Ocean Sciences, University of Massachusetts/Dartmouth, 200 Mill Rd., Suite 325 Fairhaven, MA 02719 508-910-6328. E-mail: jbisagni@umassd.edu.

Summary of Satellites Available, by Year

Year	Satellite
1993	NOAA-11
1994	NOAA-11 (January - September), NOAA-9 (September - December)
1995	NOAA-9, NOAA-14
1996	NOAA-14
1997	NOAA-14
1998	NOAA-14
1999	NOAA-14, NOAA-15 (starting in December)
2000	NOAA-14, NOAA-15 (January - July), NOAA-16 (October - December)
2001	NOAA-14 (mostly bad, use NOAA-15), NOAA-15 (October - December), NOAA-16
2002	NOAA-14 (still mostly bad, use NOAA-15), NOAA-15 (January - October), NOAA-16
2003	NOAA-16, NOAA-17

Notes

- The image aspect ratio is now correct. The images should be square. This problem within the IDL engine was solved November 2007 by switching to the ferret application to generate the images.
- Images are 512 X 512 pixels, possess a resolution of 1.4 km and are displayed as .GIF images.
- The archive "switches" from NOAA-11 to NOAA-9 during September 1994 due to the NOAA-11 failure in September 1994.
- Starting in 1994, all NOAA-9, -12 and -14 overpasses are remapped to the above domain and added to the archive on a daily basis.
- At the end of each month, all the month's images are precision navigated to within 1-2 pixels (1.4-2.8 km). NOAA-12 and -14 data are then saved to tape and deleted, due to calibration problems with NOAA-12 and -14 and to conserve disk space.
- During the initial data acquisition time, images from the current month may possessed navigation errors of up to 3-5 pixels or more in the X and/or Y directions.
- Starting August 2002, images from NOAA-17 ("b") became available. They seem to have replaced the NOAA-14 ("f") images.
- The colorbar used is derived from so-called Pete's Palette, or pete24, and converted to an equivalent palette in the ferret scheme. (See petespalette.spk.

Additional Information About Image Processing

All daily NOAA-11 Advanced Very High Resolution Radiometer satellite passes from 1 October 1993 on (generally 2 passes per day) have been remapped (earth-located) to our Georges Bank/Gulf of Maine "standard" region (given below) in a Mercator projection. Our standard region is bounded by:

- 39.114 - 45.504 degree North latitude, and
- 63.510 - 72.156 degree West longitude.

Precision navigation of each image to within 1 or 2 pixels has begun with the image file names receiving a ".nav" file extension when navigation is completed. Be aware that "un- navigated" images (".rmp" file extension) may possess navigation errors of up to 6 or 7 pixels in the meridional and/or zonal directions. Note that only ".nav" files are being served here at this time.

Daily remapping and weekly backups of these data will continue until after completion of the GLOBEC and Gulf of Maine field programs are completed. Each of these images are in University of Miami XDR04 format, consisting of an 8-bit, 512 X 512 pixel binary image, preceded by three 512-byte header records. The size of each image file (in uncompressed form) is ~250K bytes.

Up until July 2012, these images were uncompressed and converted from DSP compressed files to gif images via the ferret application for display by your favorite browser, such as Firefox, Internet Explorer, and Safari. Starting July 29, 2012, the gif images were served from files converted to gif images in a batch operation by Kent Gardner at UMass/Dartmouth and served online without using ferret.

The center latitude is 42.309 degrees North and the center longitude
is 67.830 degrees West. The slope and Y-intercept for converting the 8-bit image byte values to SST in degrees Centegrade are 0.125 and 0, respectively.

The equation information (slope + intercept) are IDENTICAL for both the OI and realtime images, with SSTs going from 0 through 31.875 degrees Centigrade.

XBrowse Software

Near real-time, daily, satellite-derived sea surface temperature (SST) data, which cover Georges Bank and the Gulf of Maine were also available for browsing over the Internet in the Xbrowse format. However, this software is no longer available.

DODS/OPeNDAP System

These images are no longer viewable via DODS which has been replaced by OPeNDAP. The images cannot be viewable via OPeNDAP either, since the University of Miami's DSP format is no longer supported.

Downloading the image

You can capture the gif image as most browsers have that capability. In addition, you can download the DSP compressed file for your onw use using the link on the web page. Please contact Dr. James Bisagni directly.

Last edited: August 8, 2012

Methods & Sampling

Satellite-derived AVHRR SST images for the US-GLOBEC Georges Bank Program study domain, 39.114 - 45.504 degree North latitude, 63.510 - 72.156 degree West longitude, 1 October 1993 - 2003.

Data Processing Description

At the present time all daily NOAA-11 Advanced Very High Resolution Radiometer satellite passes from 1 October 1993 on (generally 2 passes per day) have been remapped (earth-located) to our Georges Bank/Gulf of Maine "standard" region (given below) in a Mercator projectio. Our standard region is bounded by:

- 39.114 - 45.504 degree North latitude, and
- 63.510 - 72.156 degree West longitude.

Precision navigation of each image to within 1 or 2 pixels has begun with the image file names receiving a ".nav" file extension when navigation is completed. Be aware that "un- navigated" images (".rmp" file extension) may possess navigation errors of up to 6 or 7 pixels in the meridional and/or zonal directions. Note that only ".nav" files are being served here at this time.

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Data Files

File
avhrr_2000.csv (Comma Separated Values (.csv), 1.28 KB) MD5:81745f34f4b533bce7394e73b08213b4 Primary data file for dataset ID 2440

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Parameters

Parameter	Description	Units
images	Satellite number	
description	Description of satellite	
contributor	Name of contributor providing the image(s)	
color_bar	Link to legend showing color of image and water temperature	
month	Month, with 1 meaning January when imagewas taken (UTC)	
year	Year when image was taken (UTC)	
status	Status of image, e.g. unprocessed, unnavigated, navigated	
yrday_utc	Year day image was taken, with1 being January 1 (UTC)	
day	Day of the month image was taken (UTC)	
time	Time of day image was taken (UTC)	

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Instruments

Dataset-specific Instrument Name	Advanced Very High Resolution Radiometer
Generic Instrument Name	Advanced Very High Resolution Radiometer
Dataset-specific Description	Advanced Very High Resolution Radiometer (AVHRR). Carried aboard the National Oceanic and Atmospheric Administration`s (NOAA) Polar Orbiting Environmental Satellite series, the AVHRR sensor is a broad-band, 4- or 5-channel scanning radiometer, sensing in the visible, near-infrared, and thermal infrared portions of the electromagnetic spectrum. Additional description.
Generic Instrument Description	"The AVHRR instrument consists of an array of small sensors that record (as digital numbers) the amount of visible and infrared radiation reflected and (or) emitted from the Earth's surface" (more information).

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Deployments

NOAA-14-GB

Website	https://www.bco-dmo.org/deployment/57689
Platform	NOAA-14
Start Date	1994-12-30
End Date	2007-05-23
Description	NOAA Satellites **Methods & Sampling** Satellite-derived AVHRR SST images for the US-GLOBEC Georges Bank Program study domain, 39.013 - 45.429 degree North latitude, 63.487 - 72.164 degree West longitude, 1 October 1993 - present day. **Processing Description** At the present time all daily NOAA-11 Advanced Very High Resolution Radiometer satellite passes from 1 October 1993 on (generally 2 passes per day) have been remapped (earth-located) to our Georges Bank/Gulf of Maine "standard" region (given below) in a Mercator projectio. Our standard region is bounded by: 39.013 - 45.429 degree North latitude, and 63.487 - 72.164 degree West longitude. Precision navigation of each image to within 1 or 2 pixels has begun with the image file names receiving a ".nav" file extension when navigation is completed. Be aware that "un- navigated" images (".rmp" file extension) may possess navigation errors of up to 6 or 7 pixels in the meridional and/or zonal directions. Note that only ".nav" files are being served here at this time. Daily remapping and weekly backups of these data will continue until after completion of the GLOBEC and Gulf of Maine field programs are completed. Each of these images are in University of Miami XDR04 format, consisting of an 8-bit, 512 X 512 pixel binary image, preceded by three 512-byte header records. The size of each image file (in uncompressed form) is ~250K bytes. These images are uncompressed and converted from Xbrowse to gif images via the DODS and IDS systems for display by your favorite browser, such as Internet Explorer or Netscape.

NOAA-15-GB

Website	https://www.bco-dmo.org/deployment/57690
Platform	NOAA-15
Start Date	1998-05-13
Description	NOAA Satellites **Methods & Sampling** Satellite-derived AVHRR SST images for the US-GLOBEC Georges Bank Program study domain, 39.013 - 45.429 degree North latitude, 63.487 - 72.164 degree West longitude, 1 October 1993 - present day. **Processing Description** At the present time all daily NOAA-11 Advanced Very High Resolution Radiometer satellite passes from 1 October 1993 on (generally 2 passes per day) have been remapped (earth-located) to our Georges Bank/Gulf of Maine "standard" region (given below) in a Mercator projectio. Our standard region is bounded by: 39.013 - 45.429 degree North latitude, and 63.487 - 72.164 degree West longitude. Precision navigation of each image to within 1 or 2 pixels has begun with the image file names receiving a ".nav" file extension when navigation is completed. Be aware that "un- navigated" images (".rmp" file extension) may possess navigation errors of up to 6 or 7 pixels in the meridional and/or zonal directions. Note that only ".nav" files are being served here at this time. Daily remapping and weekly backups of these data will continue until after completion of the GLOBEC and Gulf of Maine field programs are completed. Each of these images are in University of Miami XDR04 format, consisting of an 8-bit, 512 X 512 pixel binary image, preceded by three 512-byte header records. The size of each image file (in uncompressed form) is ~250K bytes. These images are uncompressed and converted from Xbrowse to gif images via the DODS and IDS systems for display by your favorite browser, such as Internet Explorer or Netscape.

NOAA-16-GB

Website	https://www.bco-dmo.org/deployment/57691
Platform	NOAA-16
Start Date	2000-09-21
Description	NOAA Satellites **Methods & Sampling** Satellite-derived AVHRR SST images for the US-GLOBEC Georges Bank Program study domain, 39.013 - 45.429 degree North latitude, 63.487 - 72.164 degree West longitude, 1 October 1993 - present day. **Processing Description** At the present time all daily NOAA-11 Advanced Very High Resolution Radiometer satellite passes from 1 October 1993 on (generally 2 passes per day) have been remapped (earth-located) to our Georges Bank/Gulf of Maine "standard" region (given below) in a Mercator projectio. Our standard region is bounded by: 39.013 - 45.429 degree North latitude, and 63.487 - 72.164 degree West longitude. Precision navigation of each image to within 1 or 2 pixels has begun with the image file names receiving a ".nav" file extension when navigation is completed. Be aware that "un- navigated" images (".rmp" file extension) may possess navigation errors of up to 6 or 7 pixels in the meridional and/or zonal directions. Note that only ".nav" files are being served here at this time. Daily remapping and weekly backups of these data will continue until after completion of the GLOBEC and Gulf of Maine field programs are completed. Each of these images are in University of Miami XDR04 format, consisting of an 8-bit, 512 X 512 pixel binary image, preceded by three 512-byte header records. The size of each image file (in uncompressed form) is ~250K bytes. These images are uncompressed and converted from Xbrowse to gif images via the DODS and IDS systems for display by your favorite browser, such as Internet Explorer or Netscape.

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Project Information

U.S. GLOBEC Georges Bank (GB)

Website: http://globec.whoi.edu/globec_program.html

Coverage: Georges Bank, Gulf of Maine, Northwest Atlantic Ocean

The U.S. GLOBEC Georges Bank Program is a large multi- disciplinary multi-year oceanographic effort. The proximate goal is to understand the population dynamics of key species on the Bank - Cod, Haddock, and two species of zooplankton (*Calanus finmarchicus* and *Pseudocalanus*) - in terms of their coupling to the physical environment and in terms of their predators and prey. The ultimate goal is to be able to predict changes in the distribution and abundance of these species as a result of changes in their physical and biotic environment as well as to anticipate how their populations might respond to climate change.

The effort is substantial, requiring broad-scale surveys of the entire Bank, and process studies which focus both on the links between the target species and their physical environment, and the determination of fundamental aspects of these species' life history (birth rates, growth rates, death rates, etc).

Equally important are the modelling efforts that are ongoing which seek to provide realistic predictions of the flow field and which utilize the life history information to produce an integrated view of the dynamics of the populations.

The U.S. GLOBEC Georges Bank Executive Committee (EXCO) provides program leadership and effective communication with the funding agencies.

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Program Information

U.S. GLOBal ocean ECosystems dynamics (U.S. GLOBEC)

Website: http://www.usglobec.org/

Coverage: Global

U.S. GLOBEC (GLOBal ocean ECosystems dynamics) is a research program organized by oceanographers and fisheries scientists to address the question of how global climate change may affect the abundance and production of animals in the sea.

The U.S. GLOBEC Program currently had major research efforts underway in the Georges Bank / Northwest Atlantic Region, and the Northeast Pacific (with components in the California Current and in the Coastal Gulf of Alaska). U.S. GLOBEC was a major contributor to International GLOBEC efforts in the Southern Ocean and Western Antarctic Peninsula (WAP).

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Funding

Funding Source	Award
National Oceanic and Atmospheric Administration (NOAA)	unknown GB NOAA
NSF Division of Ocean Sciences (NSF OCE)	OCE-9806376

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