AVHRR Sea Surface Temperature Archive Web Site with data from satellites NOAA-12, NOAA-16, and NOAA-14 covering the Northeast Pacific Ocean and the Gulf of Alaska (NEP project)

Website: https://www.bco-dmo.org/dataset/2336
Version: 2007-05-14
Version Date: 2011-05-05

Project
» U.S. GLOBEC Northeast Pacific (NEP)

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

Contributors	Affiliation	Role
Strub, Ted	Oregon State University (OSU-CEOAS)	Principal Investigator
Allison, Dicky	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

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Dataset Description

NEP AVHRR Sea Surface Temperature Archive Web Site
At this website, one can view satellite fields over the regions of interest to the U.S. GLOBEC North-East Pacific (NEP) program (http://zanclopus.biol.berkeley.edu/lab/globec/globec.html). Funding to create and maintain this web site is provided by NSF (Ocean Sciences - Biological Oceanography) and NASA (Earth Science Enterprise - Biological Oceanography).The viewable satellite fields will eventually include:
(1) Sea Surface Temperature (SST) from the NOAA AVHRR sensors over three regions - the California Current System (CCS), the coastal Gulf of Alaska (CGOA) and the entire NE Pacific, (NEP) with 1km, 3km and 9km resolutions;
(2) surface pigment concentrations from the SeaWiFS sensor over the CCS and CGOA with 4km resolution;
(3) gridded surface height fields from altimeters over the entire NEP and specific regions, with resolutions to be determined by requests for specific applications.

At present, only AVHRR SST data are available: 9-km resolution Pathfinder fields over the entire NEP and 1-3km resolution fields over the CCS (see below). Actual access of the data is through anonymous ftp at ftp://pisco.oce.orst.edu/ebc To read more about the ftp site: AAGBCREADME.TXT

Other environmental data of interest to U.S. GLOBEC NEP researchers (coastal winds, temperatures, sea levels, upwelling indices, etc)., are available on the website maintained by the Pacific Environmental Fisheries Laboratory (http://www.pfeg.noaa.gov/index.html).

Methods & Sampling

All images from dates earlier than July 1, 2005 have been processed and navigated by Ocean Imaging of Solana

Beach, CA. Images dated July 1, 2005 and later are generously provided by Dave Foley of NOAA Pacific Fisheries Environmental Laboratory.

Data Processing Description

Images are mapped to a simple rectangular grid, so each pixel represents a constant area in degrees longitude and latitude. The images begin in the northwest corner and are stored top down. Element (1,1) is the north west corner, element (1,512) is the north east corner, element (512,1) is south west and (512,512) is south east.

There are usually 2 AVHRR satellites passing over the west coast of N. America, making available 2 - 4 images per day for any given area. After July 1, 2005, more than 3-4 images may be present since any data capture with data in the area of interest is included.

For the old-style EBC California current images described under 3., only images which were judged to contain useful cloud-free areas are archived; rarely do all images from a given day meet this criterion.

For images dated earler than July 1, 2005: When the coast is visible, Ocean Imaging is supposed to be correcting the navigation to within 1 pixel using known coastal points, although some of the images have larger errors. These are often cloudy or foggy near the coast, making an exact determination of the coast location difficult.

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Data Files

File
nepsst.csv (Comma Separated Values (.csv), 144 bytes) MD5:479255cfedb334c6fec738ba13e92120 Primary data file for dataset ID 2336

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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 image was taken (UTC)	
year	Year when image was taken (UTC)	
status	Status of image, e.g. unprocessed, unnavigated, navigated	
yrday_utd	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. Used to measure the Sea Surface Temperature (SST) data.
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).

Dataset-specific Instrument Name	Altimeters
Generic Instrument Name	Altimeter
Dataset-specific Description	gridded surface height fields from altimeters over the entire NEP and specific regions, with resolutions to be determined by requests for specific applications.
Generic Instrument Description	An instrument that measures height above a fixed surface. The data can be used to map ocean-surface topography and generate gridded surface height fields.

Dataset-specific Instrument Name	Sea-viewing Wide Field-of-view Sensor
Generic Instrument Name	Sea-viewing Wide Field-of-view Sensor
Dataset-specific Description	surface pigment concentrations from the SeaWiFS sensor over the CCS and CGOA with 4km resolution
Generic Instrument Description	The Sea-viewing Wide Field-of-view Sensor (SeaWiFS), a polar satellite rotating around the Earth 14 times per day, is operated and maintained by the US National Aeronautics and Space Administration (NASA) to provide quantitative data on global ocean bio-optical properties. The NASA/DAAC at Goddard Space Flight Center (GSFC) produces binned data and images as the final SeaWiFS data products. For more information refer to SeaWiFS Project Homepage.

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Deployments

NOAA-12-NEP

Website	https://www.bco-dmo.org/deployment/57693
Platform	NOAA-12
Start Date	1991-05-14
Description	**Methods & Sampling** All Images from dates earlier than July 1, 2005 have been processed and navigated by Ocean Imaging of Solana Beach, CA Images dated July 1, 2005 and later are generously provided by Dave Foley of NOAA Pacific Fisheries Environmental Laboratory. **Processing Description** Images are mapped to a simple rectangular grid, so each pixel represents a constant area in degrees longitude and latitude. The images begin in the northwest corner and are stored top down. Element (1,1) is the north west corner, element (1,512) is the north east corner, element (512,1) is south west and (512,512) is south east. There are usually 2 AVHRR satellites passing over the west coast of N. America, making available 2 - 4 images per day for any given area. After July 1, 2005, more than 3-4 images may be present since any data capture with data in the area of interest is included. For the old-style EBC California current images described under 3., only images which were judged to contain useful cloud-free areas are archived; rarely do all images from a given day meet this criterion. For images dated earler than July 1, 2005: When the coast is visible, Ocean Imaging is supposed to be correcting the navigation to within 1 pixel using known coastal points, although some of the images have larger errors. These are often cloudy or foggy near the coast, making an exact determination of the coast location difficult.

NOAA-16-NEP

Website	https://www.bco-dmo.org/deployment/58842
Platform	NOAA-16

NOAA-14-NEP

Website	https://www.bco-dmo.org/deployment/58843
Platform	Unknown Platform

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Project Information

U.S. GLOBEC Northeast Pacific (NEP)

Website: http://nepglobec.bco-dmo.org

Coverage: Northeast Pacific Ocean, Gulf of Alaska

Program in a Nutshell

Goal: To understand the effects of climate variability and climate change on the distribution, abundance and production of marine animals (including commercially important living marine resources) in the eastern North Pacific. To embody this understanding in diagnostic and prognostic ecosystem models, capable of capturing the ecosystem response to major climatic fluctuations.

Approach: To study the effects of past and present climate variability on the population ecology and population dynamics of marine biota and living marine resources, and to use this information as a proxy for how the ecosystems of the eastern North Pacific may respond to future global climate change. The strong temporal variability in the physical and biological signals of the NEP will be used to examine the biophysical mechanisms through which zooplankton and salmon populations respond to physical forcing and biological interactions in the coastal regions of the two gyres. Annual and interannual variability will be studied directly through **long-term observations** and detailed **process studies**; variability at longer time scales will be examined through **retrospective analysis** of directly measured and proxy data. Coupled **biophysical models** of the ecosystems of these regions will be developed and tested using the process studies and data collected from the long-term observation programs, then further tested and improved by hindcasting selected retrospective data series.

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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
NSF Division of Ocean Sciences (NSF OCE)	OCE-0000900
NSF Division of Ocean Sciences (NSF OCE)	OCE-9711344
National Oceanic and Atmospheric Administration (NOAA)	unknown NEP NOAA

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