

Time Series of nutrients and CTD data from R/V John N. Cobb SECM cruises in southeastern Gulf of Alaska from 1997-2006 (NEP project)

Website: <https://www.bco-dmo.org/dataset/3762>

Version: 2010-02-24

Project

» [U.S. GLOBEC Northeast Pacific](#) (NEP)

Program

» [U.S. GLOBal ocean ECosystems dynamics](#) (U.S. GLOBEC)

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|-------------------------------------|--|------------------------|
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Dataset Description

Note: This dataset is identical to [SECM_nutrients_points](#), however, this version is configured so that the data can be plotted as a time series in the MapServer interface (data for individual cruises cannot be mapped). To map the data by cruise number, see [SECM_nutrients_points](#).

Nutrient data collected in conjunction with juvenile salmon studies in the Gulf of Alaska from 1999-2005 by the Southeast Coastal Monitoring Project. Measurements include settling volume, displacement volume, composition of taxa.

Methods & Sampling

The CTD data were collected with a Sea-Bird1 SBE 19 Seacat profiler to 200 m or within 10 m of the bottom. Surface (3-m) temperature and salinity data were collected at 1-minute intervals with an onboard thermosalinograph (Sea-Bird SBE 21).

Surface (bucket) and 20-m (Niskin bottle) water samples were taken once at each station for later nutrient and chlorophyll analysis.

To quantify ambient light levels, light intensities ($W \cdot m^{-2}$) were recorded at each station with a Li-Cor Model 189 radiometer.

To quantify relative water clarity, the CTD was used in lieu of a Secchi disk; depth measurements (m) were made by observing the visual disappearance of the CTD following deployment.

One shallow vertical haul (20-m) was made at each station (except three at ABM) with a 50-cm, 243-micron mesh NORPAC net.

One deep vertical haul (to 200 m or within 10 m of bottom) was made at ABM and the Icy Point stations with a 57-cm, 202-micron mesh WP-2 net.

One double oblique bongo haul was made at stations along the Icy Strait and Lower Clarence Strait transects and at ABM to a depth of 200 m or within 20 m of the bottom, using a 60-cm diameter tandem frame with 505-micron and 333-micron mesh nets. A VEMCO ML-08-TDR time-depth recorder was used with the oblique bongo hauls to record the maximum sampling depth of each haul. General Oceanics model 2031 or Rigosha flow meters were placed inside the bongo and deep conical nets for calculation of filtered water volumes.

Also see related SECM datasets:

[station data](#)

[ctd](#)

[zooplankton](#)

[fish catch data](#)

[fish length and stomach contents](#)

Station Codes:

| station | locality |
|---------|---------------------------|
| ABM | Auke Bay Monitor |
| CS A-D | Cross Sound |
| ED A-D | Cape Edward |
| FPR | False Point Retreat |
| IP A-D | Icy Point |
| IS A-D | Icy Strait |
| LC A-D | Lower Clarence |
| LFC | Lower Favorite Channel |
| MC A-D | Middle Clarence |
| TK G-I | Taku Inlet transect |
| UC A-D | Upper Chatham Strait |

Data Processing Description

Surface water samples were taken at each station for later nutrient and chlorophyll analysis contracted to the Marine Chemistry Laboratory at the University of Washington School of Oceanography.

Use constraints: User must read and fully comprehend the metadata prior to use. User must acknowledge the Originator when using the data set as a source. User must share data products developed using the source data set with the Originator. Data should not be used beyond the limits of the source scale.

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Data Files

| File |
|--|
| secm_nuts.csv (Comma Separated Values (.csv), 61.59 KB) MD5:47a593a91cfd02bf8b4e91302f646371 |
| Primary data file for dataset ID 3762 |

Parameters

| Parameter | Description | Units |
|--------------|---|--------------------|
| chl_a | chlorophyll | mg/m ³ |
| day_local | day of month | integer |
| depth_ctd | CTD wire out | meters |
| depth_nuts | depth that nutrients water sample was taken normally @ surface (0m); 2005 has 20m samples | meters |
| depth_secchi | depth that CTD disappears | meters |
| depth_w | water depth | meters |
| haul_id | haul number | integer |
| lat_haul | latitude at start of haul; North is positive; negative denotes South | decimal degrees |
| lat | latitude for station; North is positive; negative denotes South | decimal degrees |
| light | light level at surface | watts/meter square |
| lon_haul | longitude at start of haul; East is positive; negative denotes West | decimal degrees |
| lon | longitude at station; East is positive; negative denotes West | decimal degrees |
| month_local | month of year | 1-12 |
| NH4 | ammonium | nd |
| NO2 | nitrites | nd |
| NO3 | nitrates | nd |
| phaeo | phaeopigment | mg/m ³ |
| PO4 | phosphates | nd |
| region | Northern (NSE) or Southern SE Alaska (SSE). | text |
| sal | salinity at 3 m depth | parts per thousand |
| SiO4 | silicate; Si(OH) ₄ | nd |
| station | station code; see table above | text |
| temp | temperature at 3 m depth | degrees Celsius |
| time_local | time of day; local time; using 2400 clock format | HHmm |
| year | year of sampling | YYYY |
| yrday_local | local day and decimal time; as 326.5 for the 326th day of the year; or November 22 at 1200 hours (noon) | jjj.ddd |
| cruise_id | cruise identification: jc=John Cobb; next two numbers = year; last 2 numbers = cruise # ('x' means cruise # is not known) | text |

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

SECM

| | |
|--------------------|--|
| Website | https://www.bco-dmo.org/deployment/58037 |
| Platform | R/V John N. Cobb |
| Report | http://globec.whoi.edu/globec-dir/reports/secm/ |
| Start Date | 1997-05-20 |
| End Date | 2006-08-29 |
| Description | Periodic salmon, zooplankton, nutrient sampling over a 10 year period. No cruise numbers are provided. The John N. Cobb is a 29-m research vessel with a main engine of 325 horsepower and a cruising speed of 10 knots. |

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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 |
|--|----------------------------------|
| National Oceanic and Atmospheric Administration (NOAA) | unknown NEP NOAA |
| National Science Foundation (NSF) | unknown NEP NSF |

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