

AK-LTOP CalVET Net Tow counts and biomass collected from multiple cruises from the Northeast Pacific, 1997-2001 (NEP project)

Website: <https://www.bco-dmo.org/dataset/3009>

Data Type: Cruise Results

Version: 1

Version Date: 2009-02-26

Project

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

Program

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

Contributors	Affiliation	Role
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Abstract

AK-LTOP CalVET Net Tow counts and biomass collected from multiple cruises from the Northeast Pacific, 1997-2001.

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Coverage

Spatial Extent: N:60.537 E:-144.0538 S:58.095 W:-149.4756

Temporal Extent: 1997-10-10 - 2004-10-07

Dataset Description

CalVET catch data - zooplankton species abundance and biomass, 1997 - 2004

Updated July 2008.

All data are for 149 micron CALVET tows, 25.4 cm ring diameter, vertical hauls.

Resources:

[Marine Ecosystem Monitoring in the Northern Gulf of Alaska](#) web site

[GAK1 Time Series](#) web site

[cruise reports](#) web site

Acquisition Description

GLOBEC 2000: Gulf of Alaska Long-Term Observation Program

T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitley (all at University of Alaska, Fairbanks), T. Royer (Old Dominion University)

This project is to conduct the Gulf of Alaska Long-Term Observation Program (GOA-LTOP) as part of Phase II of the Northeast Pacific (NEP) GLOBEC program. The GOA shelf supports a rich ecosystem that includes many commercially important fisheries. The basis for this productivity is enigmatic for the GOA shelf is deep, forced by downwelling-favorable winds, and fed by a massive nutrient-poor coastal freshwater discharge. Both the winds and the freshwater discharge are intimately linked to the strength and position of the Aleutian Low. The GOA ecosystem experiences substantial physical and biological changes on decadal and interannual time scales. Although some of these changes are correlated with various climatic indices a mechanistic understanding of climate change and ecosystem response is unavailable. The generic goal of this LTOP is to understand and quantify temporal (seasonal and interannual) and spatial (cross- and along-shelf) variations in the thermohaline, chemical, and biological properties and relationships of this shelf. Our proposal supports GLOBEC goals

that will help: 1) retrospective studies interpret historical data, 2) design a cost-effective long-term monitoring program, 3) provide the seasonal and interannual context for concurrent mesoscale and process studies, and 4) provide boundary conditions and data sets for model evaluation. This 5-year project entails 4 field years and a fifth year for data analyses and synthesis. The field effort involves seven, 9-day interdisciplinary cruises/year in the northern GOA. The study area encompasses the 220-km long, Seward Line (sampled in the 1970s) that extends across the shelf and slope and high resolution sampling of the Alaska Coastal Current (ACC), upstream, downstream, and within Prince William Sound. The ACC is an important shelf habitat for yoy salmon migrating from nursery areas in the sound and into the GOA. The sampling effort (Table A) is year-round and motivated by seasonally significant physical and biological events affecting yoy pink salmon.

Table A. Sampling schedule and rationale for GOA-LTOP. (Key for Winds, Discharge and Stratification: S=strong; M=moderate; W=weak; D=downwelling winds; U=upwelling winds; V=variable; L=low; H=high) Deep water moves onshore during the July-August upwelling period.

Month	Sampling				Physical Rationale			Biological Rationale
	CTD	Nutrients	Zoo	Fish	Winds	Disch	Strat	
March	X	X	X		D S	L	W	Zooplankton migrate from depth (at shelfbreak); transported inshore.
April	X	X	X		D M	L-M	W V	Phytoplankton bloom
May	X	X	X		D M- W	M	M V	Maximum oceanic copepod biomass.
July	X	X	X	X	D/U W	M-H	S	Maximum zooplankton abundance; YOY salmon enter shelf.
August	X	X	X	X	D/U W	M-H	S	Maximum YOY salmon abundance on shelf.
October	X	X	X	X	D S	H	H	YOY salmon on shelf.
December	X	X	X		D S	M	M	Fall-winter pre-conditioning for spring nutrients, small zooplankton.

The sampling protocol followed GLOBEC guidelines and used gear types and techniques similar to those in the Oregon LTOP that was also a part of the NEP-GLOBEC program. Most of the research was conducted from the R/V *Alpha Helix*. Fish sampling was done from a chartered trawler in July, August, and October. Both vessels worked together during these cruises so that the fishing charter could verify fish targets detected on the acoustics array towed from the *Alpha Helix*.

Parameters

Parameter	Description	Units
cruise_id	cruise identifier, e.g. hx281 is R/V Alpha Helix cruise 281	dimensionless
year	year, e.g. 2004.	dimensionless
station_name	GAK, Gulf of Alaska HB,Hogan Bay Line HE,Hinchinbrook Entrance Line KIP, Knight Island Passage MS, Montegue Strait Line PWS, Prince William Sound	dimensionless
station	consecutive station number	dimensionless
yday_local	local day and decimal time, as 326.5 for the 326th day of the year, or November 22 at 1200 hours (noon)	dimensionless
month_local	numerical month of year, local time	dimensionless
day_local	numerical day of month, local time	dimensionless
time_local	time of day, local time, using 2400 clock format (HHMM)	dimensionless
lat	latitude, in decimal degrees, north is positive	decimal degrees
lon	longitude, in decimal degrees, east is positive	decimal degrees
depth_w	sonic depth, in meters	meters
depth_cast	maximum depth of cast (tow)	
species	a binomial that consists of a genus name followed by the species name of an organism	dimensionless
stage	organism life history: AF, adult female AM, adult male AN, adult non-specified (??) bracts, of siphonophore C1, copepodite stage 1 C2, copepodite stage 2 C3, copepodite stage 3 C4, copepodite stage 4 C5, copepodite stage 5	dimensionless
abundance	number of the specific taxa/group counted per meter ³	number per cubic meter
biomass_g	wet weight of a specific taxa/group identified	grams wet weight per cubic meter

vol_filt	volume of water filtered during the tow.	
phylum	phylum, organism taxonomic level	dimensionless
subphylum	One of the levels in the taxonomic system of classification	dimensionless
class	One of the levels in the taxonomic system of classification	dimensionless
subclass	One of the levels in the taxonomic system of classification	dimensionless
order	order, organism taxonomic level	dimensionless
infraorder	One of the levels in the taxonomic system of classification	dimensionless
family	Family. One of the levels in the taxonomic system of classification; typically ends in 'ae'.	dimensionless

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Instruments

Dataset-specific Instrument Name	CalVet
Generic Instrument Name	CalVet
Dataset-specific Description	149 micron CALVET tows, 25.4 cm ring diameter, vertical haul
Generic Instrument Description	The California Cooperative Oceanic Fisheries Investigations (CalCOFI) Vertical Egg Tow device is a type of vertical net tow. Note that mesh sizes may vary.

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Deployments

HX201

Website	https://www.bco-dmo.org/deployment/57502
Platform	R/V Alpha Helix
Start Date	1997-10-10
End Date	1997-10-17

HX203

Website	https://www.bco-dmo.org/deployment/57503
Platform	R/V Alpha Helix
Start Date	1998-03-08
End Date	1998-03-15
Description	Cruise information and original data are available from the NSF R2R data catalog.

HX205

Website	https://www.bco-dmo.org/deployment/57504
Platform	R/V Alpha Helix
Start Date	1998-03-31
End Date	1998-04-07
Description	Cruise information and original data are available from the NSF R2R data catalog.

HX208

Website	https://www.bco-dmo.org/deployment/57505
Platform	R/V Alpha Helix
Start Date	1998-05-07
End Date	1998-05-14
Description	Cruise information and original data are available from the NSF R2R data catalog.

HX211

Website	https://www.bco-dmo.org/deployment/57506
Platform	R/V Alpha Helix
Start Date	1998-07-10
End Date	1998-07-17
Description	Cruise information and original data are available from the NSF R2R data catalog.

HX215

Website	https://www.bco-dmo.org/deployment/57507
Platform	R/V Alpha Helix
Start Date	1998-10-02
End Date	1998-10-09
Description	Cruise information and original data are available from the NSF R2R data catalog.

HX217

Website	https://www.bco-dmo.org/deployment/57509
Platform	R/V Alpha Helix
Start Date	1999-03-14
End Date	1999-03-21
Description	Cruise information and original data are available from the NSF R2R data catalog.

HX218

Website	https://www.bco-dmo.org/deployment/57510
Platform	R/V Alpha Helix
Start Date	1999-04-12
End Date	1999-04-19

HX219

Website	https://www.bco-dmo.org/deployment/57511
Platform	R/V Alpha Helix
Start Date	1999-05-06
End Date	1999-05-13

HX223

Website	https://www.bco-dmo.org/deployment/57512
Platform	R/V Alpha Helix
Start Date	1999-08-26
End Date	1999-09-02

HX225

Website	https://www.bco-dmo.org/deployment/57513
Platform	R/V Alpha Helix
Start Date	1999-10-05
End Date	1999-10-12

HX228

Website	https://www.bco-dmo.org/deployment/57515
Platform	R/V Alpha Helix
Start Date	2000-03-07
End Date	2000-03-15
Description	Original cruise data are available from the NSF R2R data catalog

HX230

Website	https://www.bco-dmo.org/deployment/57516
Platform	R/V Alpha Helix
Start Date	2000-04-18
End Date	2000-04-26
Description	Original cruise data are available from the NSF R2R data catalog

HX231

Website	https://www.bco-dmo.org/deployment/57517
Platform	R/V Alpha Helix
Start Date	2000-05-17
End Date	2000-05-25
Description	Original cruise data are available from the NSF R2R data catalog

HX234

Website	https://www.bco-dmo.org/deployment/57518
Platform	R/V Alpha Helix
Start Date	2000-08-13
End Date	2000-08-23
Description	Original cruise data are available from the NSF R2R data catalog

HX237

Website	https://www.bco-dmo.org/deployment/57519
Platform	R/V Alpha Helix
Start Date	2000-10-03
End Date	2000-10-11
Description	Original cruise data are available from the NSF R2R data catalog

HX239

Website	https://www.bco-dmo.org/deployment/57521
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx239cr.pdf
Start Date	2001-03-02
End Date	2001-03-13
Description	Original cruise data are available from the NSF R2R data catalog

HX241

Website	https://www.bco-dmo.org/deployment/57522
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx241cr.pdf
Start Date	2001-04-03
End Date	2001-04-14
Description	Original cruise data are available from the NSF R2R data catalog

HX243

Website	https://www.bco-dmo.org/deployment/57524
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx243cr.pdf
Start Date	2001-05-04
End Date	2001-05-14
Description	Original cruise data are available from the NSF R2R data catalog

HX246

Website	https://www.bco-dmo.org/deployment/57526
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx246cr.pdf
Start Date	2001-06-28
End Date	2001-07-09
Description	Original cruise data are available from the NSF R2R data catalog

HX248

Website	https://www.bco-dmo.org/deployment/57528
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx248cr.pdf
Start Date	2001-07-30
End Date	2001-08-08
Description	Original cruise data are available from the NSF R2R data catalog

HX252

Website	https://www.bco-dmo.org/deployment/57529
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx252cr.pdf
Start Date	2001-10-09
End Date	2001-10-18
Description	Original cruise data are available from the NSF R2R data catalog

HX254

Website	https://www.bco-dmo.org/deployment/57531
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx254cr.pdf
Start Date	2002-03-04
End Date	2002-03-13
Description	Original cruise data are available from the NSF R2R data catalog

HX257

Website	https://www.bco-dmo.org/deployment/57532
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx257cr.pdf
Start Date	2002-04-05
End Date	2002-04-14
Description	Original cruise data are available from the NSF R2R data catalog

HX258

Website	https://www.bco-dmo.org/deployment/57533
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx258cr.pdf
Start Date	2002-04-30
End Date	2002-05-09
Description	Original cruise data are available from the NSF R2R data catalog

HX262

Website	https://www.bco-dmo.org/deployment/57534
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx262cr.pdf
Start Date	2002-07-19
End Date	2002-07-27
Description	Original cruise data are available from the NSF R2R data catalog

HX263

Website	https://www.bco-dmo.org/deployment/57535
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx263cr.pdf
Start Date	2002-08-13
End Date	2002-08-22
Description	Original cruise data are available from the NSF R2R data catalog

HX267

Website	https://www.bco-dmo.org/deployment/57536
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx267cr.pdf
Start Date	2002-10-01
End Date	2002-10-10
Description	Original cruise data are available from the NSF R2R data catalog

HX269

Website	https://www.bco-dmo.org/deployment/57538
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx269cr.pdf
Start Date	2003-03-04
End Date	2003-03-13
Description	Original cruise data are available from the NSF R2R data catalog

HX270

Website	https://www.bco-dmo.org/deployment/57539
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx270cr.pdf
Start Date	2003-04-01
End Date	2003-04-10
Description	Original cruise data are available from the NSF R2R data catalog

HX272

Website	https://www.bco-dmo.org/deployment/57541
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx272cr.pdf
Start Date	2003-05-23
End Date	2003-06-01
Description	Original cruise data are available from the NSF R2R data catalog

HX276

Website	https://www.bco-dmo.org/deployment/57543
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx276cr.pdf
Start Date	2003-08-13
End Date	2003-08-22
Description	Original cruise data are available from the NSF R2R data catalog

HX279

Website	https://www.bco-dmo.org/deployment/57544
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx279cr.pdf
Start Date	2003-10-08
End Date	2003-10-16
Description	Original cruise data are available from the NSF R2R data catalog

HX281

Website	https://www.bco-dmo.org/deployment/57545
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx281cr.pdf
Start Date	2004-03-19
End Date	2004-03-27
Description	Original cruise data are available from the NSF R2R data catalog

HX283

Website	https://www.bco-dmo.org/deployment/57547
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx283cr.pdf
Start Date	2004-05-03
End Date	2004-05-12
Description	Original cruise data are available from the NSF R2R data catalog

HX286

Website	https://www.bco-dmo.org/deployment/57548
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx286cr.pdf
Start Date	2004-06-27
End Date	2004-07-05
Description	Original cruise data are available from the NSF R2R data catalog

HX292

Website	https://www.bco-dmo.org/deployment/57550
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx292cr.pdf
Start Date	2004-09-30
End Date	2004-10-08
Description	Original cruise data are available from the NSF R2R data catalog

W0307A

Website	https://www.bco-dmo.org/deployment/57615
Platform	R/V Wecoma
Report	http://globec.who.edu/nep/reports/cgoa_cruises/w0307acr.pdf
Start Date	2003-07-05
End Date	2003-07-14

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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-0109078
National Oceanic and Atmospheric Administration (NOAA)	unknown NEP NOAA

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