

AK-LTOP MOCNESS tow zooplankton abundance and biomass from R/V Alpha Helix, R/V Wecoma multiple cruises in the Northeast Pacific from 1997-2004 (NEP project)

Website: <https://www.bco-dmo.org/dataset/3111>

Data Type: Cruise Results

Version: 1

Version Date: 2009-04-29

Project

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

Program

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

Contributors	Affiliation	Role
Coyle, Kenneth Q	University of Alaska Fairbanks (UAF)	Principal Investigator
Copley, Nancy	Woods Hole Oceanographic Institution (WHOI) BCO-DMO	BCO-DMO Data Manager

Abstract

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Coverage

Spatial Extent: N:60.7973 E:-144.1596 S:58.046 W:-149.4913

Temporal Extent: 1997-10-13 - 2004-10-08

Dataset Description

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

All data are for 1 meter-square nets, 5 mm mesh, oblique hauls.

Acquisition Description

GLOBEC 2000: Gulf of Alaska Long-Term Observation Program

T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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*.

This information was last updated on September 22, 2000.

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Parameters

Parameter	Description	Units
year	year, reported as YYYY, e.g. 1995	YYYY
cruise_id	cruise designation; name	text
tow	Tow number.	dimensionless
sta_id	Station identification.	dimensionless
net	Net number.	dimensionless
lat	latitude, in decimal degrees, North is positive, negative denotes South	decimal degrees
lon	longitude, in decimal degrees, East is positive, negative denotes West	decimal degrees
depth_min	minimum depth of net sampling	meters
depth_max	maximum depth during net sampling	meters
month_local	Month of year, local time.	mm (01 to 12)
day_local	Day, local time.	dd (0 to 31)
yrday_local	Local day and decimal time, as 326.5 for the 326th day of the year, or November 22 at 1200 hours (noon).	dimensionless
date_local	Local month, day and year.	mm/dd/yyyy
time_local	Time of day, local time, using 2400 clock format.	HHMM
vol_filt	volume of water filtered	meters ³
species	A binomial that consists of a genus name followed by the species name of an organism.	text
stage	Organism life history stage.	text
NODC_code	Taxonomic group or entity code, a ten digit number based on the NODC Taxonomic List.	dimensionless
abundance	number of the specific taxa/group counted	number per meter ³
biomass	wet weight of a specific taxa/group identified	grams/meter ³

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Instruments

Dataset-specific Instrument Name	MOCNESS1
Generic Instrument Name	MOCNESS1
Dataset-specific Description	5 mm mesh
Generic Instrument Description	The Multiple Opening/Closing Net and Environmental Sensing System or MOCNESS is a family of net systems based on the Tucker Trawl principle. The MOCNESS-1 carries nine 1-m ² nets usually of 335 micrometer mesh and is intended for use with the macrozooplankton. All nets are black to reduce contrast with the background. A motor/toggle release assembly is mounted on the top portion of the frame and stainless steel cables with swaged fittings are used to attach the net bar to the toggle release. A stepping motor in a pressure compensated case filled with oil turns the escapement crankshaft of the toggle release which sequentially releases the nets to an open then closed position on command from the surface. -- from the MOCNESS Operations Manual (1999 + 2003).

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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
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Platform	R/V Alpha Helix
Start Date	1998-03-08
End Date	1998-03-15
Description	<p>Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitlege (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</p>

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HX205

Website	https://www.bco-dmo.org/deployment/57504
Platform	R/V Alpha Helix
Start Date	1998-03-31
End Date	1998-04-07
	<p>Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K.</p>

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HX208

Website	https://www.bco-dmo.org/deployment/57505
Platform	R/V Alpha Helix
Start Date	1998-05-07
End Date	1998-05-14
	<p>Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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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	<p>Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX215

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

Description

and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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

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HX217

Website	https://www.bco-dmo.org/deployment/57509
Platform	R/V Alpha Helix
Start Date	1999-03-14
End Date	1999-03-21
	<p>Cruise information and original data are available from the NSF R2R data catalog.</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX218

Website	https://www.bco-dmo.org/deployment/57510
Platform	R/V Alpha Helix
Start Date	1999-04-12
End Date	1999-04-19
Description	<p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX219

Website	https://www.bco-dmo.org/deployment/57511
Platform	R/V Alpha Helix
Start Date	1999-05-06
End Date	1999-05-13
	<p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-</p>

Description

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hbatchelder@coas.oregonstate.edu College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064

HX223

Website	https://www.bco-dmo.org/deployment/57512
Platform	R/V Alpha Helix
Start Date	1999-08-26
End Date	1999-09-02
	<p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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)</p>

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Month	Sampling	Physical	Rationale	Biological	Rationale	CTD	Nutrients	Zoo	Fish	Winds	Disch	Strat	March	X	X	X	D	S	L	W	Zooplankton																																					
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 follows GLOBEC guidelines and uses gear types and techniques similar to those in the Oregon LTOP that is also a part of the NEP-GLOBEC program. Most of the research will be conducted from the R/V Alpha Helix. Fish sampling will be done from a chartered trawler in July, August, and October. Both vessels will work together during these cruises so that the fishing charter can verify fish targets detected on the acoustics array towed from the Alpha Helix. This information was last updated on September 22, 2000. Maintained by: Hal Batchelder
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Website	https://www.bco-dmo.org/deployment/57513
Platform	R/V Alpha Helix
Start Date	1999-10-05
End Date	1999-10-12
Description	<p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX228

Website	https://www.bco-dmo.org/deployment/57515
Platform	R/V Alpha Helix
Start Date	2000-03-07
End Date	2000-03-15
	Original cruise data are available from the NSF R2R data catalog Acquisition Description Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (all at University of Alaska, Fairbanks), T. Royer (Old Dominion University) This project is to conduct the Gulf of Alaska Long-Term

Description

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HX230

Website	https://www.bco-dmo.org/deployment/57516
Platform	R/V Alpha Helix
Start Date	2000-04-18
End Date	2000-04-26
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

Description

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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	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX234

Website	https://www.bco-dmo.org/deployment/57518
Platform	R/V Alpha Helix
Start Date	2000-08-13
End Date	2000-08-23
	Original cruise data are available from the NSF R2R data catalog
	<p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, 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</p>

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hbatchelder@coas.oregonstate.edu College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064

HX237

Website	https://www.bco-dmo.org/deployment/57519
Platform	R/V Alpha Helix
Start Date	2000-10-03
End Date	2000-10-11
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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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	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitlege (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</p>

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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
	Original cruise data are available from the NSF R2R data catalog
	Acquisition Description
	Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-

Description

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HX243

Website	https://www.bco-dmo.org/deployment/57524
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx243cr.pdf
Start Date	2001-05-04
End Date	2001-05-14
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, 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</p>

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HX246

Website	https://www.bco-dmo.org/deployment/57526
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx246cr.pdf
Start Date	2001-06-28
End Date	2001-07-09
Description	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, 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</p>

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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
	Original cruise data are available from the NSF R2R data catalog

Acquisition Description

Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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

Description

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 follows GLOBEC guidelines and uses gear types and techniques similar to those in the Oregon LTOP that is also a part of the NEP-GLOBEC program. Most of the research will be conducted from the R/V Alpha Helix. Fish sampling will be done from a chartered trawler in July, August, and October. Both vessels will work together during these cruises so that the fishing charter can verify fish targets detected on the acoustics array towed from the Alpha Helix. This information was last updated on September 22, 2000. Maintained by: Hal Batchelder
[\[hbatchelder@coas.oregonstate.edu\]](mailto:hbatchelder@coas.oregonstate.edu) College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064

HX252

Website	https://www.bco-dmo.org/deployment/57529
Platform	R/V Alpha Helix
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/hx252cr.pdf
Start Date	2001-10-09
End Date	2001-10-18
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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updated on September 22, 2000. Maintained by: Hal Batchelder
[\[hbatchelder@coas.oregonstate.edu\]](mailto:hbatchelder@coas.oregonstate.edu) College of Oceanic & Atmospheric
Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-
4500; FAX 541-737-2064

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
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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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	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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;</p>

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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
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (all at University of Alaska, Fairbanks), T. Royer (Old Dominion University) This project is to conduct the Gulf of Alaska Long-Term</p>

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HX262

Website	https://www.bco-dmo.org/deployment/57534
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx262cr.pdf
Start Date	2002-07-19
End Date	2002-07-27
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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)</p>

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Website	https://www.bco-dmo.org/deployment/57535
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx263cr.pdf
Start Date	2002-08-13
End Date	2002-08-22
Description	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX267

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

Description

and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. 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

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[\[hbatchelder@coas.oregonstate.edu\]](mailto:hbatchelder@coas.oregonstate.edu) College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064

HX269

Website	https://www.bco-dmo.org/deployment/57538
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx269cr.pdf
Start Date	2003-03-04
End Date	2003-03-13
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

Description

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HX270

Website	https://www.bco-dmo.org/deployment/57539
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx270cr.pdf
Start Date	2003-04-01
End Date	2003-04-10
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

Description	<p>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 follows GLOBEC guidelines and uses gear types and techniques similar to those in the Oregon LTOP that is also a part of the NEP-GLOBEC program. Most of the research will be conducted from the R/V Alpha Helix. Fish sampling will be done from a chartered trawler in July, August, and October. Both vessels will work together during these cruises so that the fishing charter can verify fish targets detected on the acoustics array towed from the Alpha Helix. This information was last updated on September 22, 2000. Maintained by: Hal Batchelder hbatchelder@coas.oregonstate.edu College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064</p>
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HX272

Website	https://www.bco-dmo.org/deployment/57541
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx272cr.pdf
Start Date	2003-05-23
End Date	2003-06-01

Original cruise data are available from the NSF R2R data catalog

Acquisition Description

Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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

Description

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 follows GLOBEC guidelines and uses gear types and techniques similar to those in the Oregon LTOP that is also a part of the NEP-GLOBEC program. Most of the research will be conducted from the R/V Alpha Helix. Fish sampling will be done from a chartered trawler in July, August, and October. Both vessels will work together during these cruises so that the fishing charter can verify fish targets detected on the acoustics array towed from the Alpha Helix. This information was last updated on September 22, 2000. Maintained by: Hal Batchelder [\[hbatchelder@coas.oregonstate.edu\]](mailto:hbatchelder@coas.oregonstate.edu) College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064

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
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

Description

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during these cruises so that the fishing charter can verify fish targets detected on the acoustics array towed from the Alpha Helix. This information was last updated on September 22, 2000. Maintained by: Hal Batchelder
[\[hbatchelder@coas.oregonstate.edu\]](mailto:hbatchelder@coas.oregonstate.edu) College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064

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
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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-</p>

Description	<p>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 follows GLOBEC guidelines and uses gear types and techniques similar to those in the Oregon LTOP that is also a part of the NEP-GLOBEC program. Most of the research will be conducted from the R/V Alpha Helix. Fish sampling will be done from a chartered trawler in July, August, and October. Both vessels will work together during these cruises so that the fishing charter can verify fish targets detected on the acoustics array towed from the Alpha Helix. This information was last updated on September 22, 2000. Maintained by: Hal Batchelder [hbatchelder@coas.oregonstate.edu] College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064</p>
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HX281

Website	https://www.bco-dmo.org/deployment/57545
Platform	R/V Alpha Helix

Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx281cr.pdf
Start Date	2004-03-19
End Date	2004-03-27
Description	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX283

Website	https://www.bco-dmo.org/deployment/57547
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx283cr.pdf
Start Date	2004-05-03
End Date	2004-05-12
	Original cruise data are available from the NSF R2R data catalog Acquisition Description Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Haldorson, R. Hopcroft, K.

Description

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,

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[\[hbatchelder@coas.oregonstate.edu\]](mailto:hbatchelder@coas.oregonstate.edu) College of Oceanic & Atmospheric Sciences Oregon State University Corvallis, OR 97331-5503 phone: 541-737-4500; FAX 541-737-2064

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
	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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HX292

Website	https://www.bco-dmo.org/deployment/57550
Platform	R/V Alpha Helix
Report	http://globec.who.edu/nep/reports/cgoa_cruises/hx292cr.pdf
Start Date	2004-09-30
End Date	2004-10-08
Description	<p>Original cruise data are available from the NSF R2R data catalog</p> <p>Acquisition Description</p> <p>Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-Term Observation Program T. Weingartner, L. Halderson, R. Hopcroft, K. Coyle, T. E. Whitledge (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</p>

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W0307A

Website	https://www.bco-dmo.org/deployment/57615
Platform	R/V Wecoma
Report	http://globec.whoi.edu/nep/reports/cgoa_cruises/w0307acr.pdf
Start Date	2003-07-05
End Date	2003-07-14
	Acquisition Description Dataset description MOCNESS catch data - zooplankton species abundance and biomass, 1997 - 2004 all data are for 1 meter-square nets, 5 mm mesh, oblique hauls. Acquisition description GLOBEC 2000: Gulf of Alaska Long-

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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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