



NOAA
FISHERIES

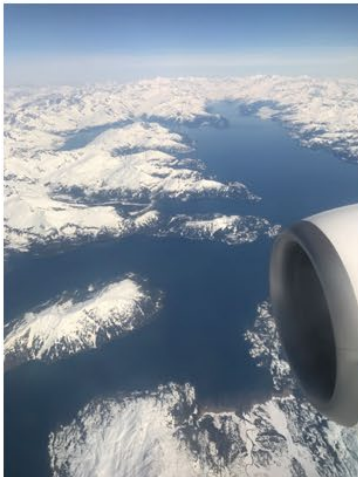
PMEL
Pacific Marine Environmental Laboratory

EcoFOCI 2018 FIELD SEASON REVIEW

Phyllis Stabeno¹, Janet Duffy-Anderson²

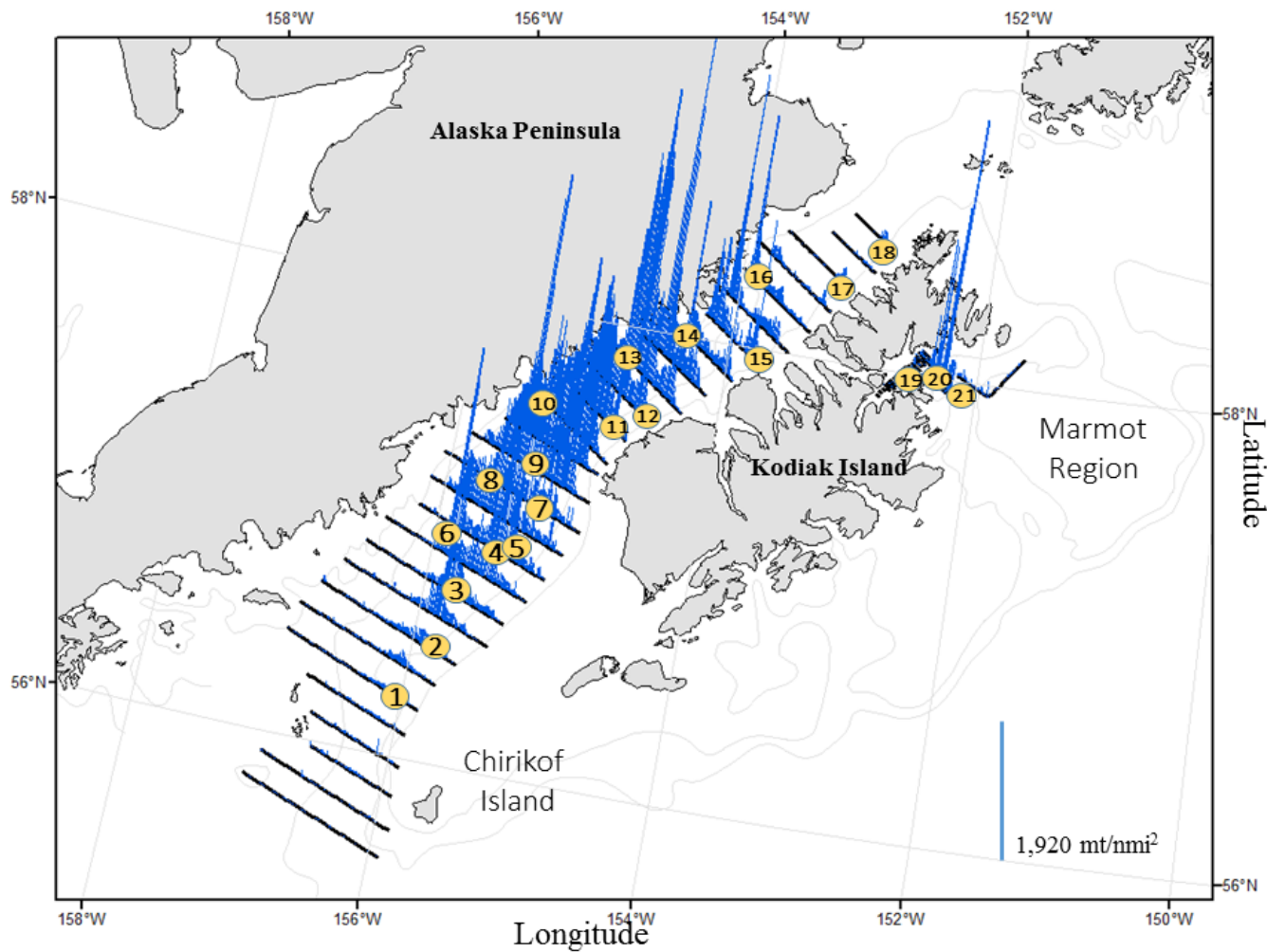
¹NOAA Research - Pacific Marine Environmental Laboratory

²NOAA Fisheries - Alaska Fisheries Science Center

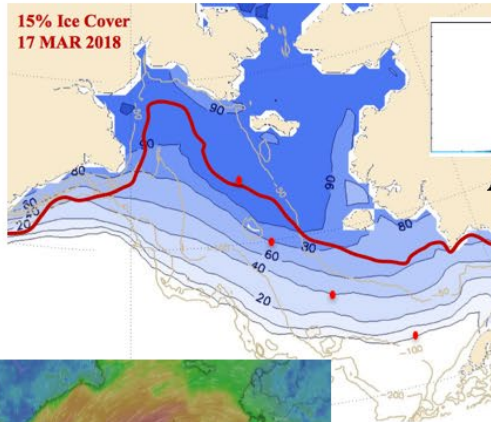
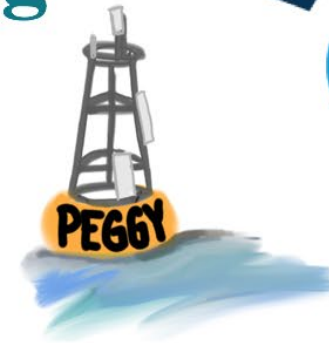


EcoFOCI
Ecosystems & Fisheries-Oceanography Coordinated Investigations

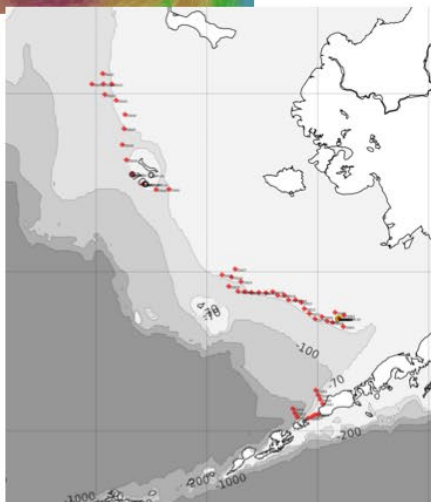
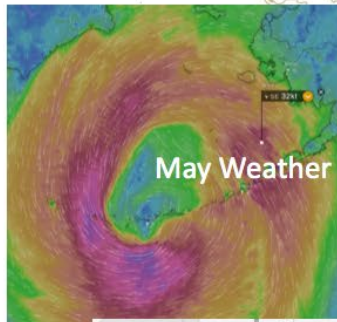
MACE: Pollock Eggs



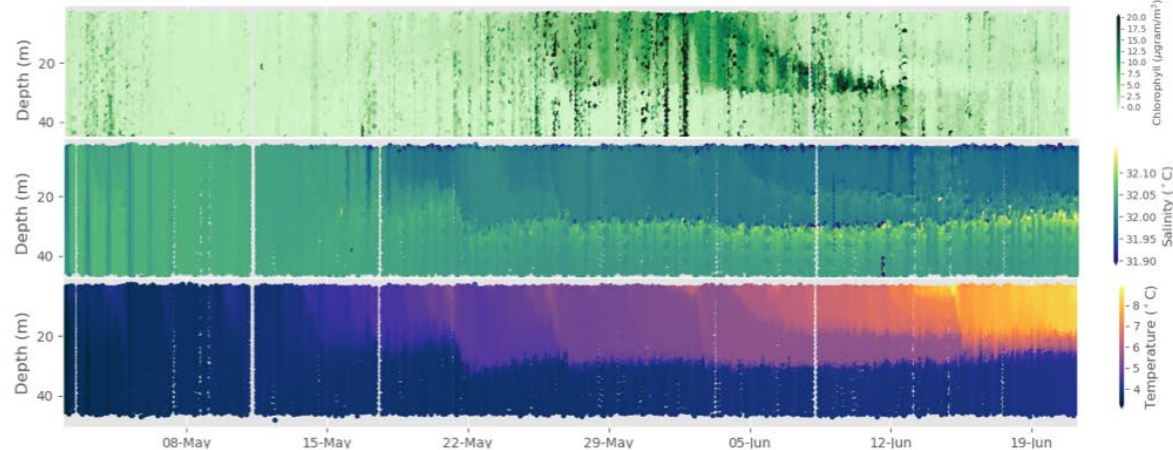
EcoFOCI Spring Mooring



Areal ice cover in the Bering Sea



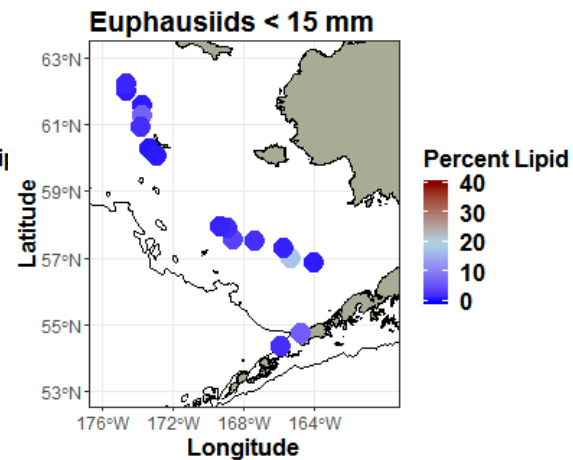
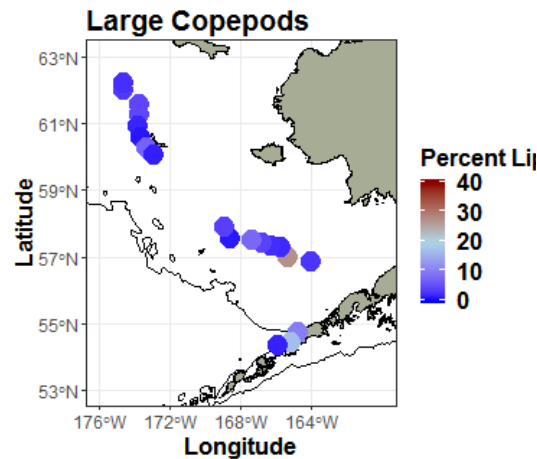
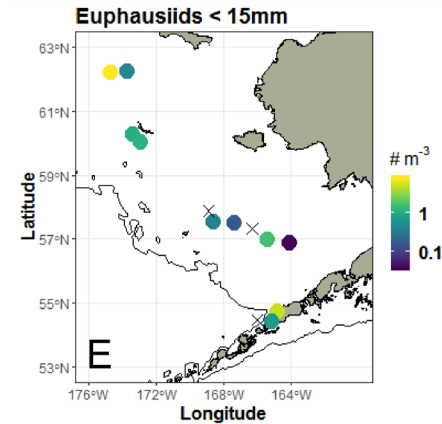
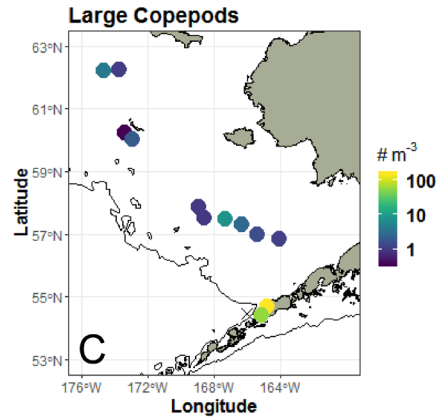
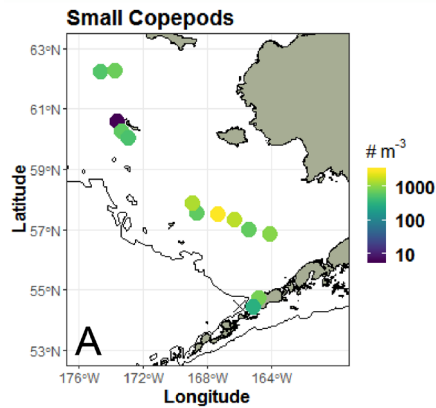
Prawler



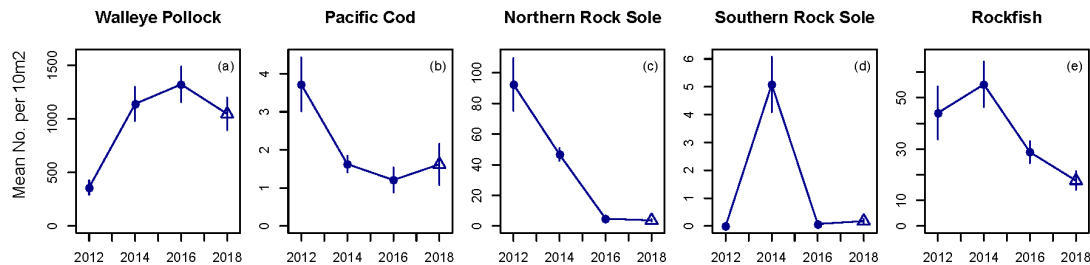
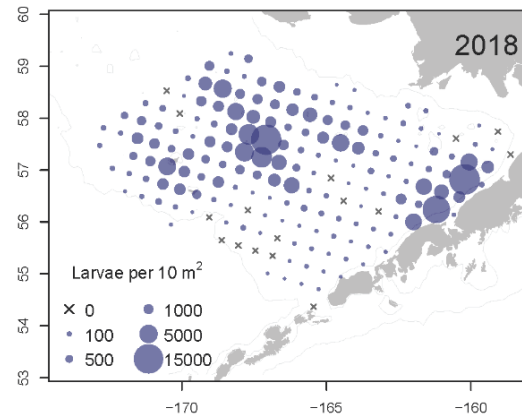
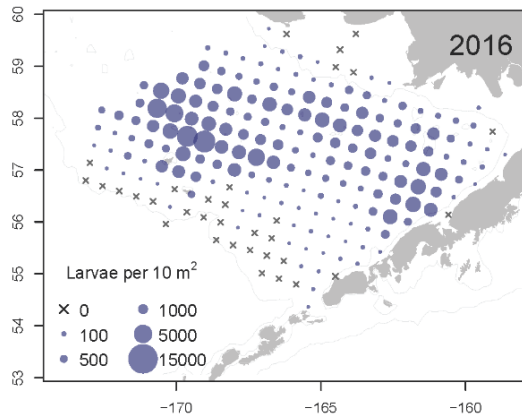
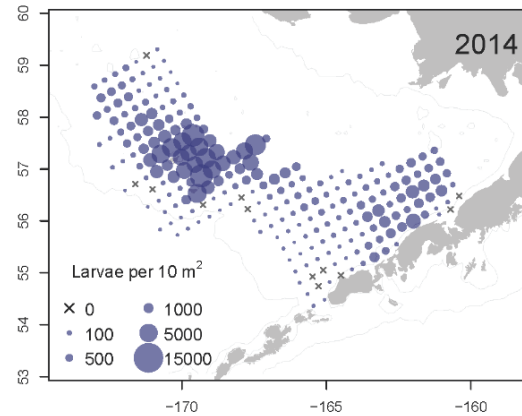
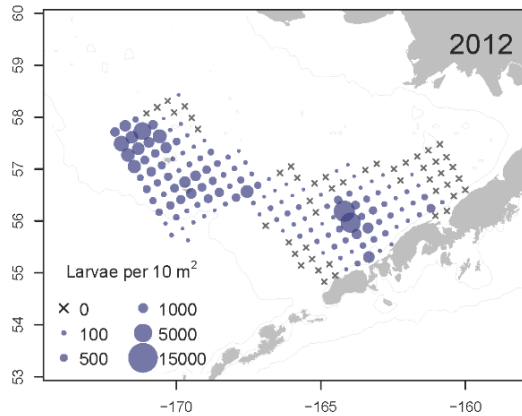
M2 Depth Integrated Heat Content Anomalies



Spring Moorings Zooplankton



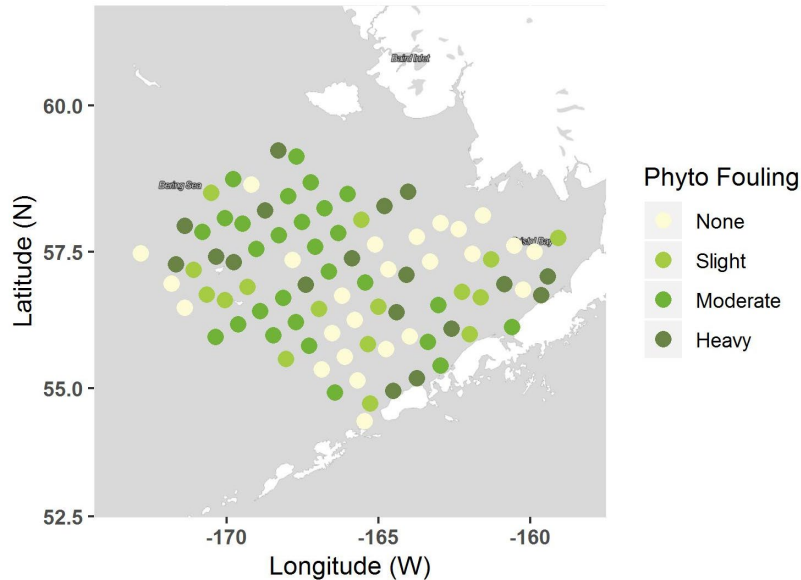
BS Larval Survey - pollock



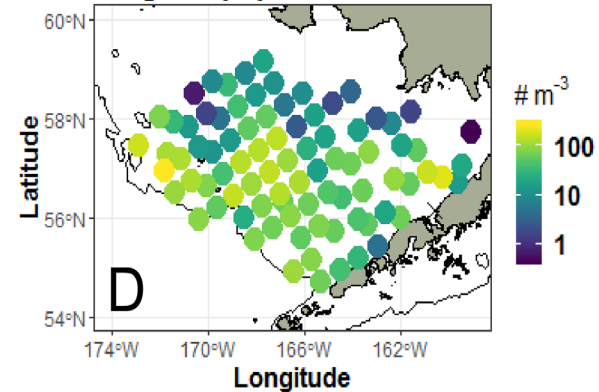
BS Larval Survey



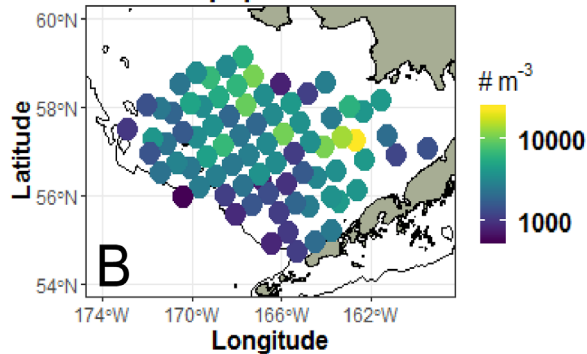
Phytoplankton Fouling (Qualitative) - BS Larval Pollock



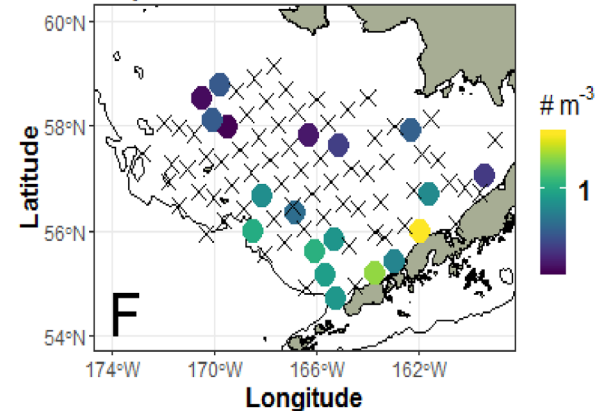
Large Copepods



Small Copepods



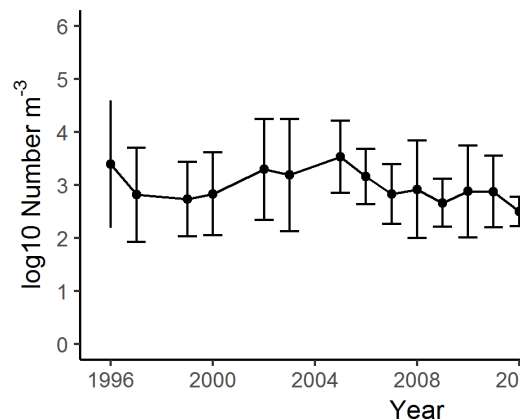
Euphausiids < 15mm



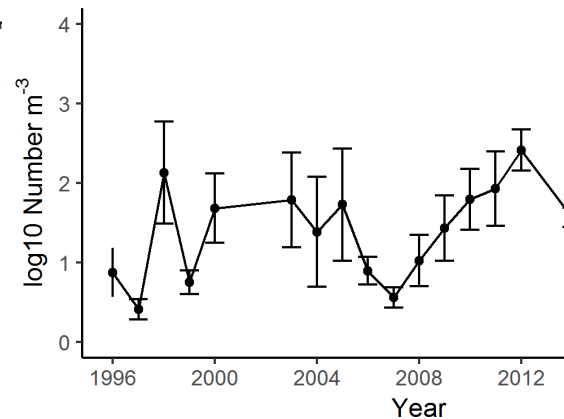
Spring BS Zooplankton Time Series



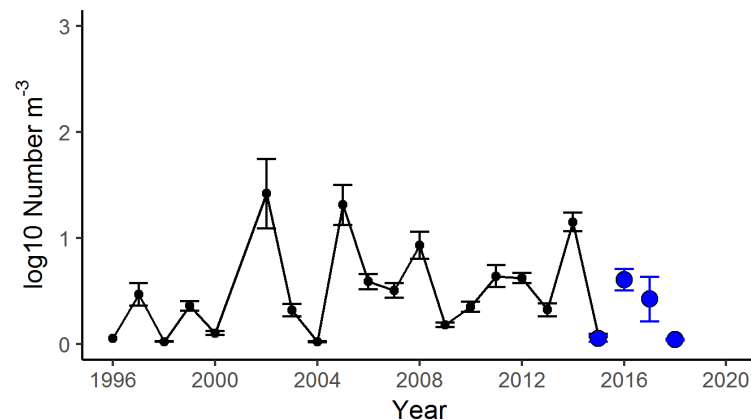
Small Copepods (< 2 mm) - Middle Shelf



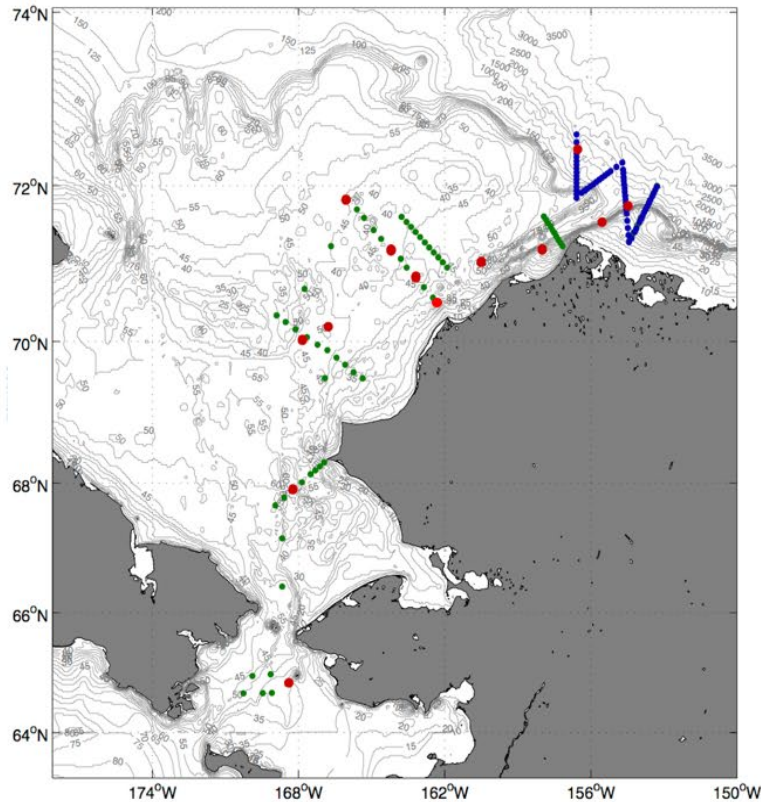
Large Copepods (> 2 mm) - Middle Shelf



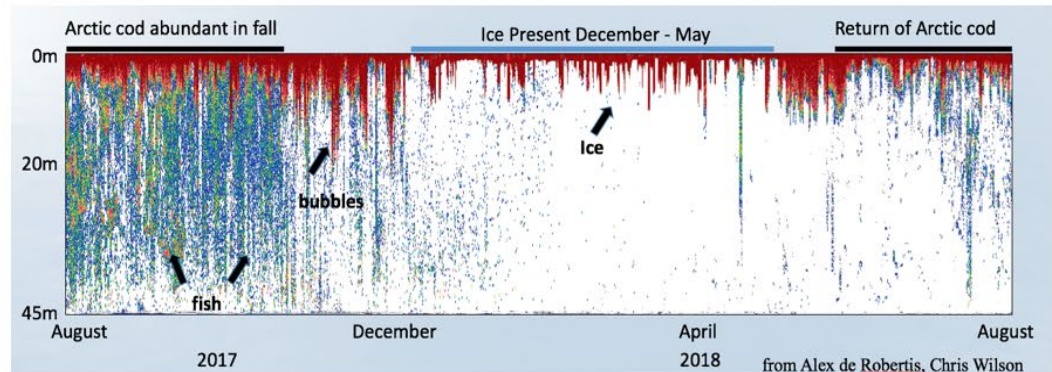
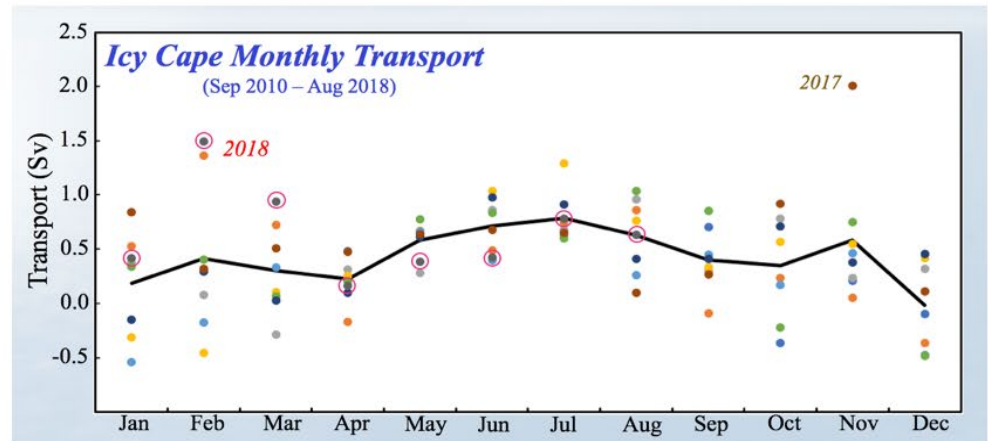
Euphausiids (< 15 mm) - Middle Shelf



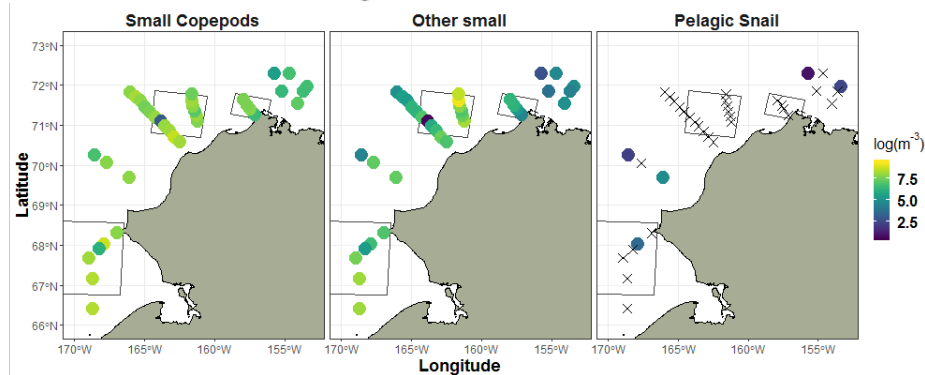
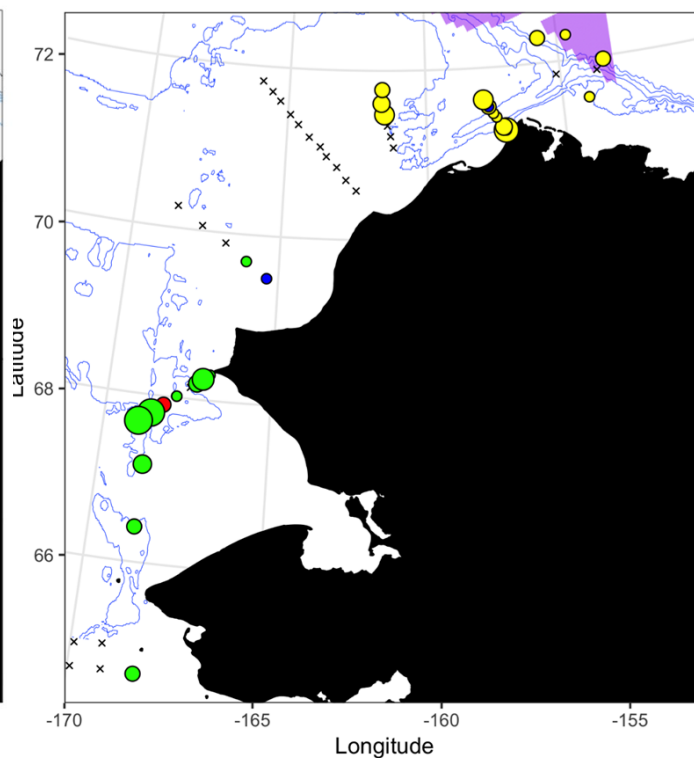
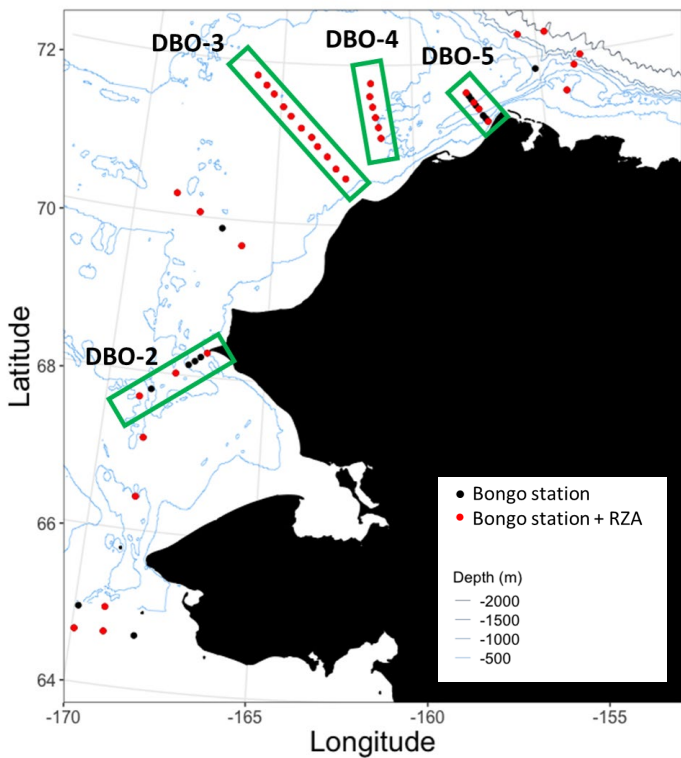
NOAA Arctic DBO-NCIS



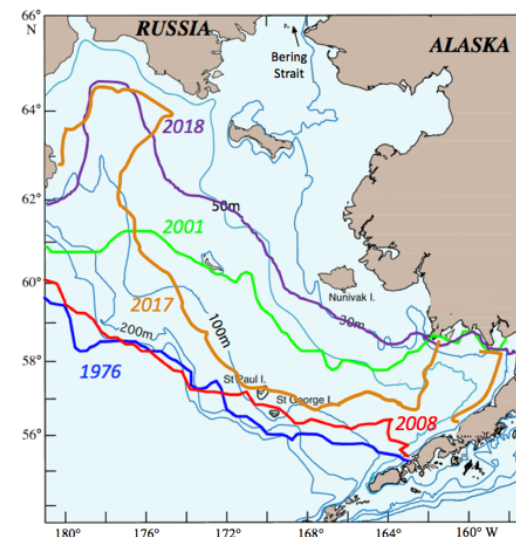
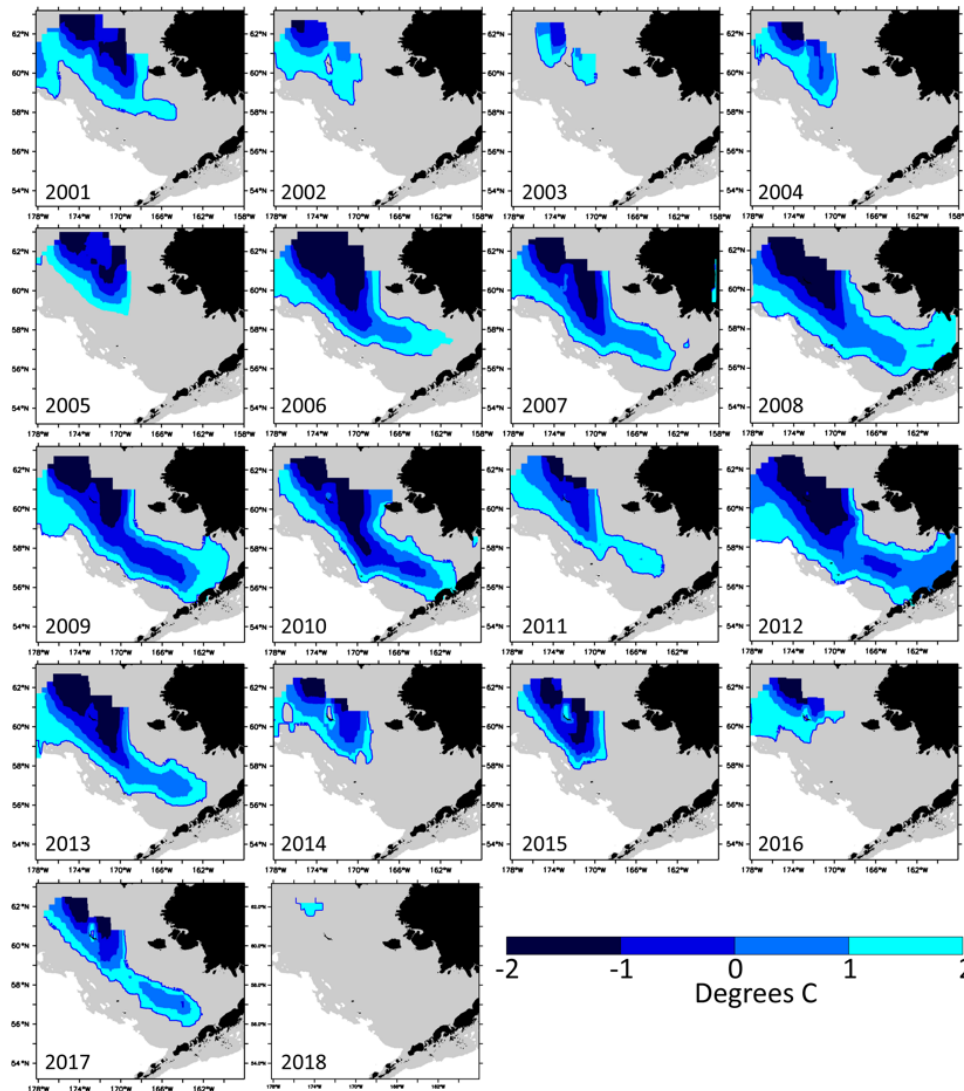
Moorings (●) – 28 Deployed / 26 Recovered
CTDs and zooplankton tows (●)



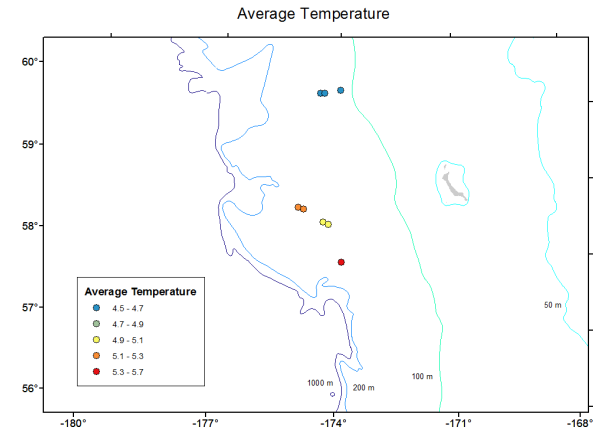
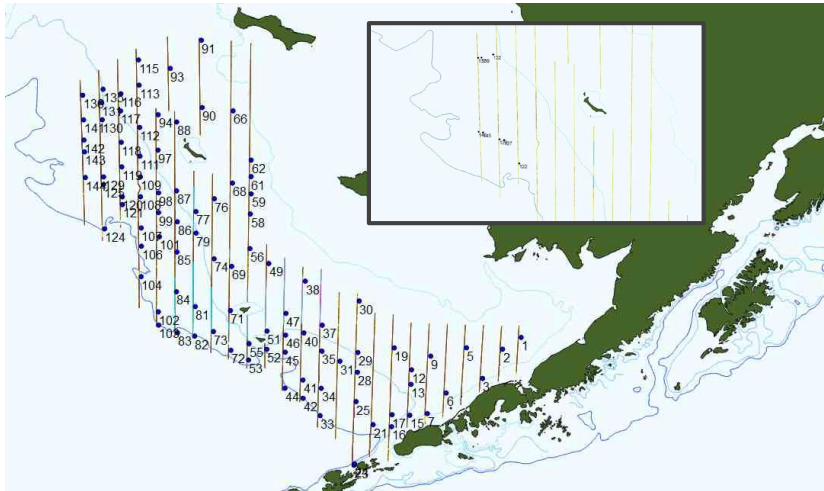
NOAA Arctic DBO-NCIS



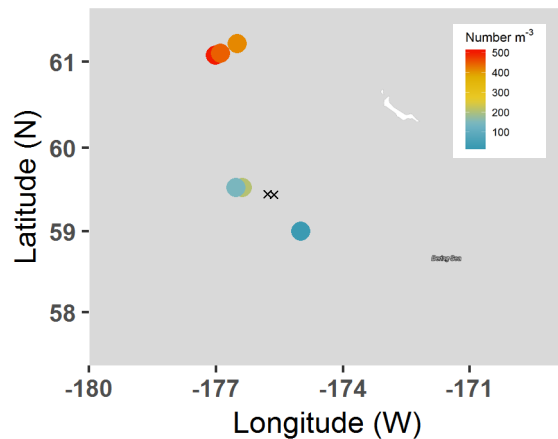
Cold Pool



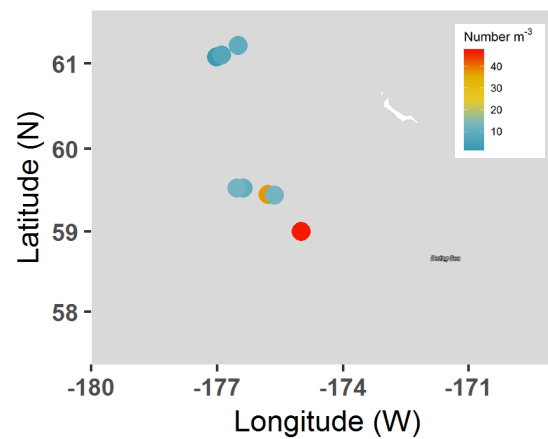
Echo Integration Acoustic Trawl Survey



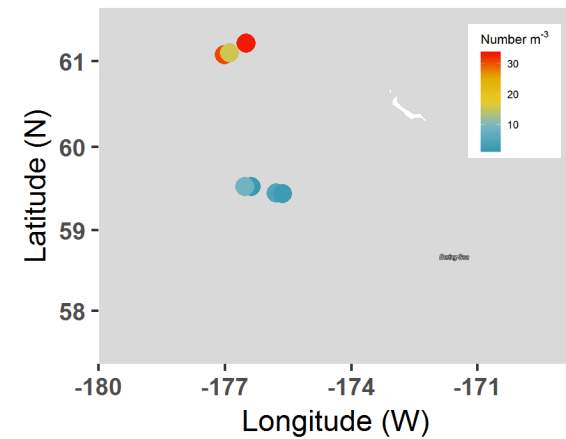
Small Copepods (< 2 mm)



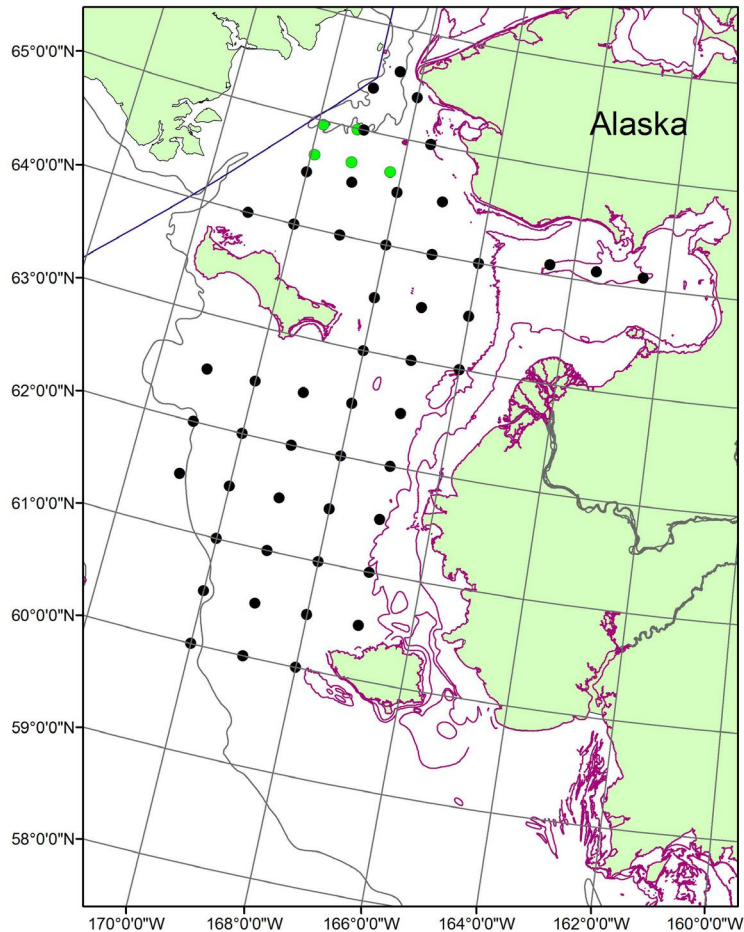
Euphausiids (< 15 mm)



Large Copepods (> 2 mm)

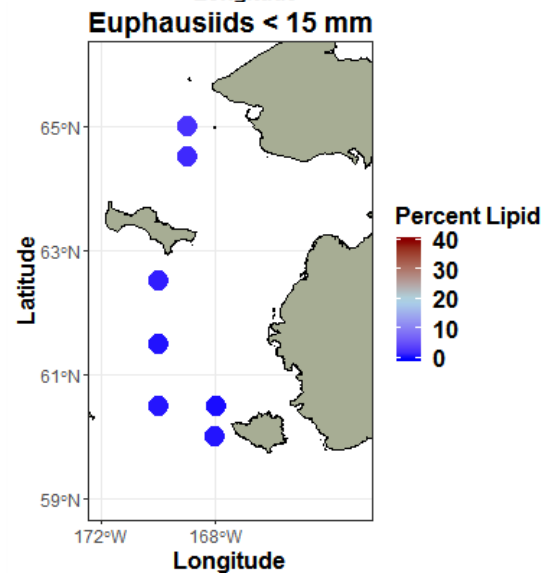
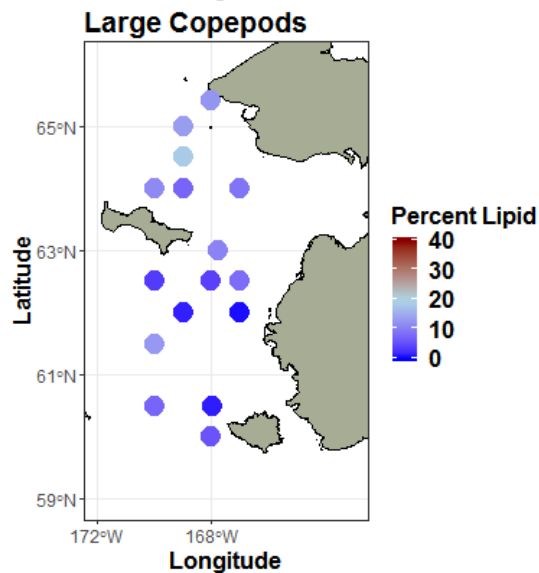
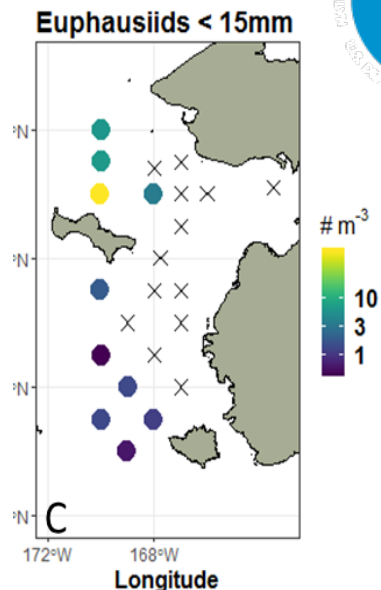
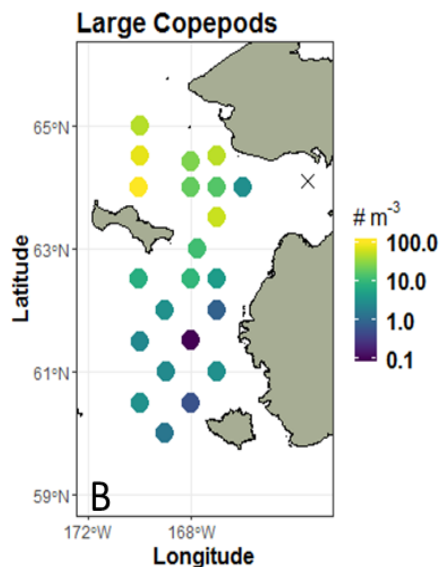
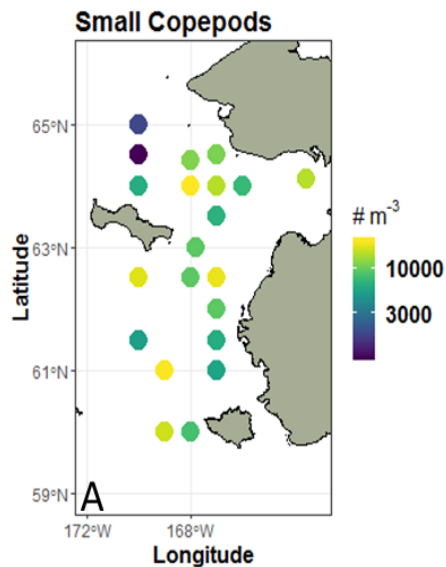


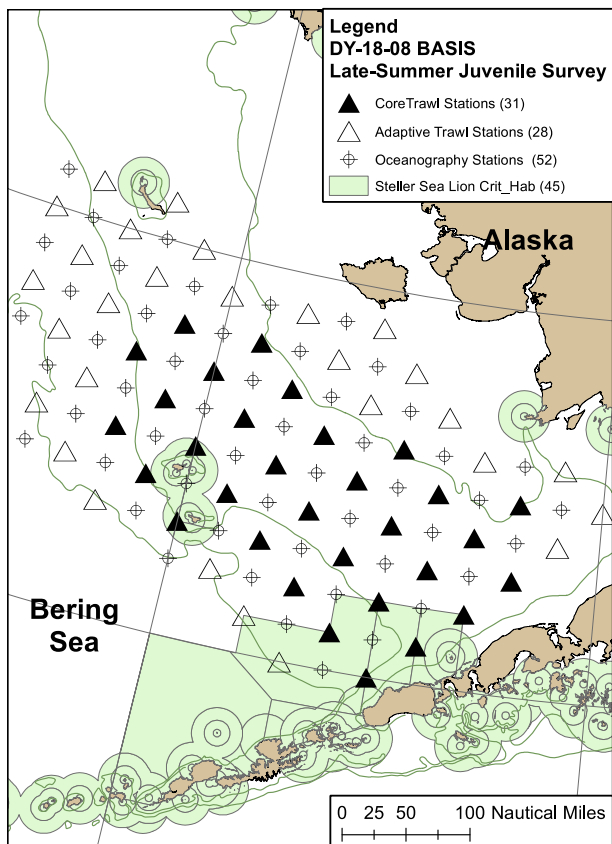
Northern Bering Sea Assessment



Oceanography
Zooplankton
Surface trawling
Acoustics
Energetics

Northern Bering Sea Assessment





Oceanography
Zooplankton
Surface trawling
Acoustics
Energetics

BASIS



Leg 1

	Wt	#
Pacific Herring	691	45981
Pollock	370	158834
Pink Salmon	290	6775
Chum Salmon	258	4395
Salmon Shark	200	1
Chum Salmon	180	50
Pollock	59	141
Capelin	58	5838
Saffron Cod	49	4572
Coho Salmon	44	206
Nine-spine Stickleback	22	13497
Chinook Salmon	19	17
Sockeye Salmon	16	159

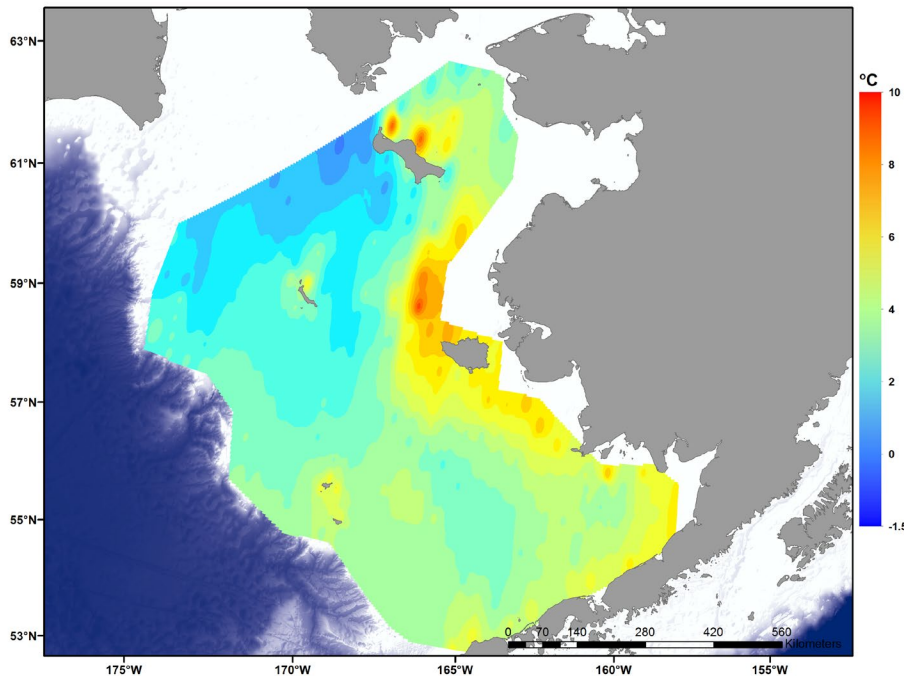
Leg 2

Pollock	779	344787
Pink Salmon	220	2406
Sockeye Salmon	168	1484
Chum Salmon	114	43
Pacific Herring	72	1250
Chum Salmon	66	585
Chinook Salmon	52	9
Coho Salmon	28	61
Sockeye Salmon	15	12
Smooth Lumpsucker	9	1
Atka Mackerel	7	73
Sablefish	6	199

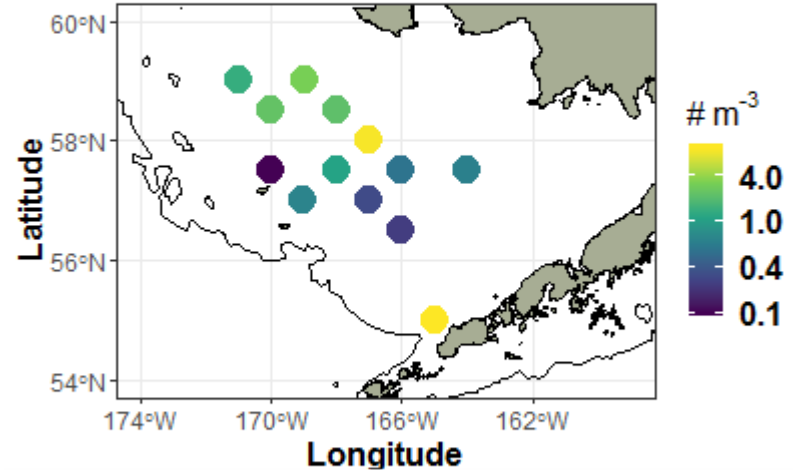
BASIS



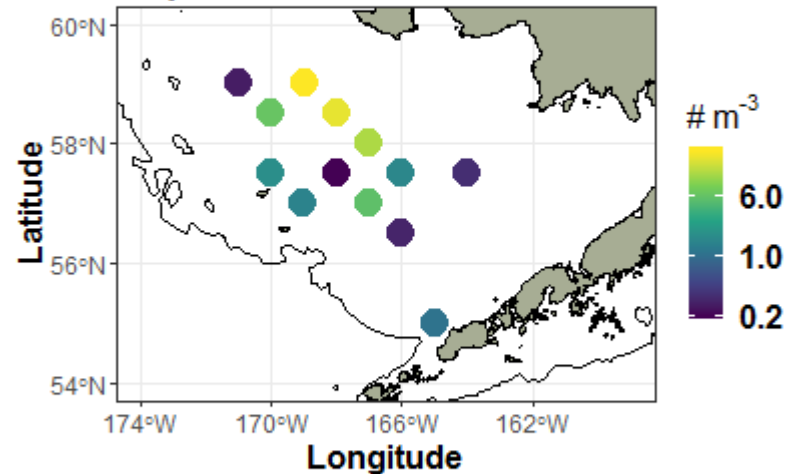
Bottom temperatures – GAP BT Survey

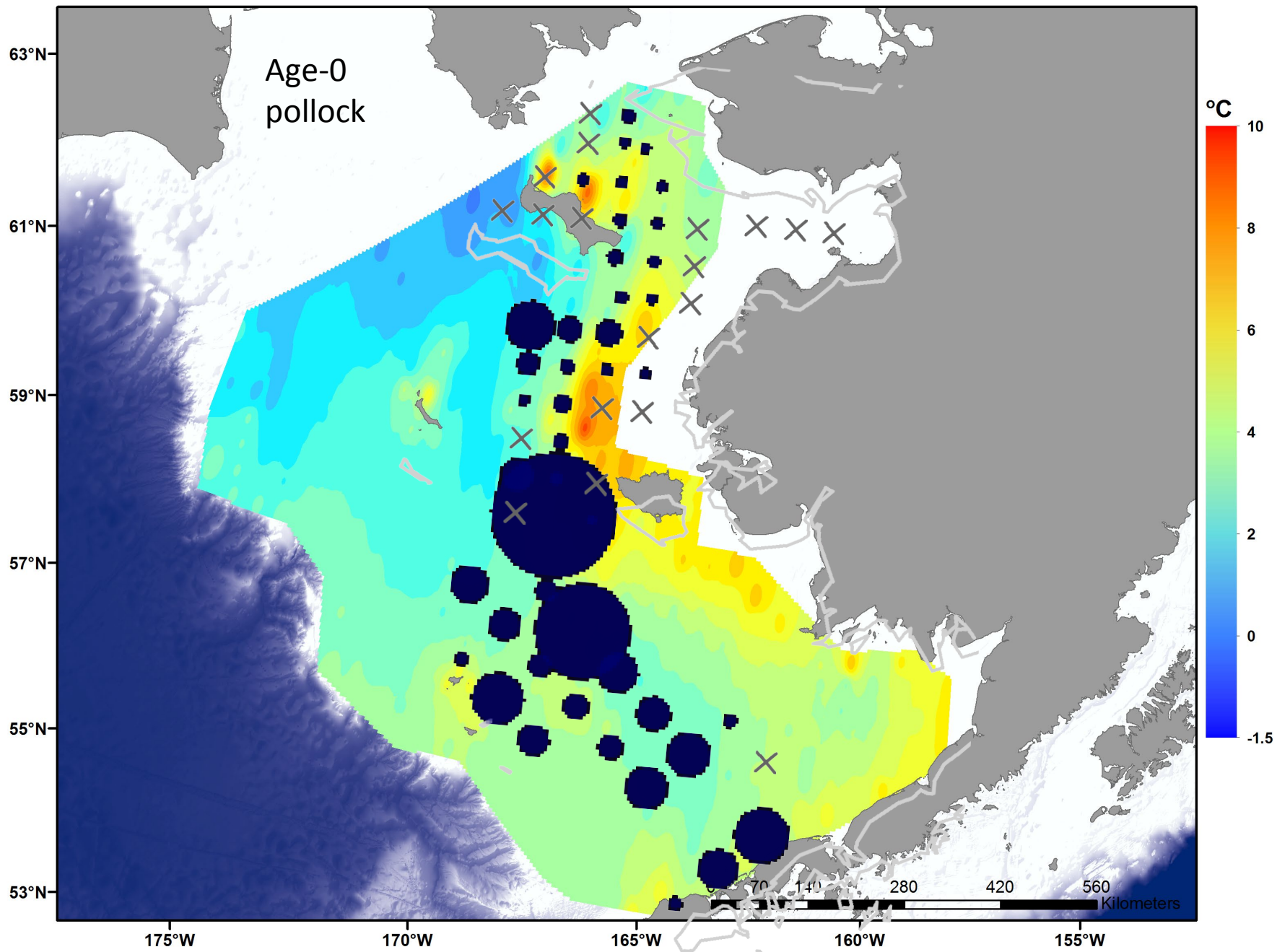


Large Copepods

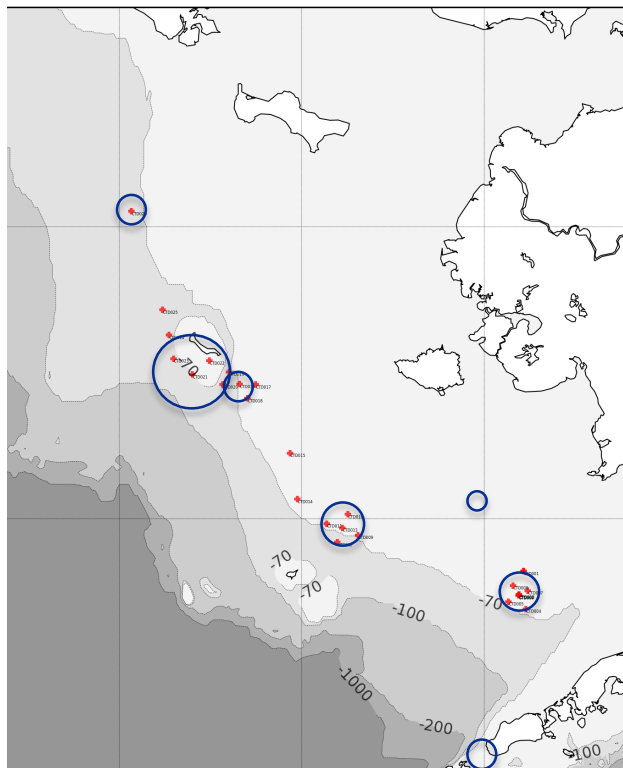


Euphausiids < 15mm

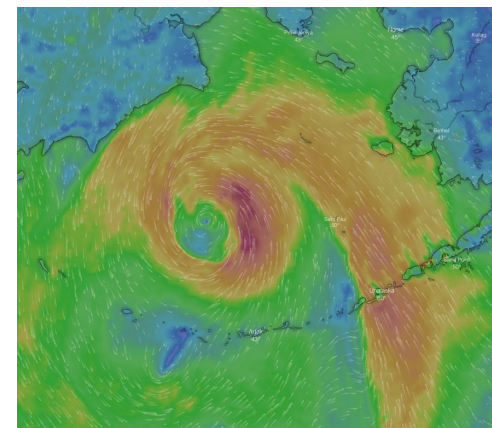
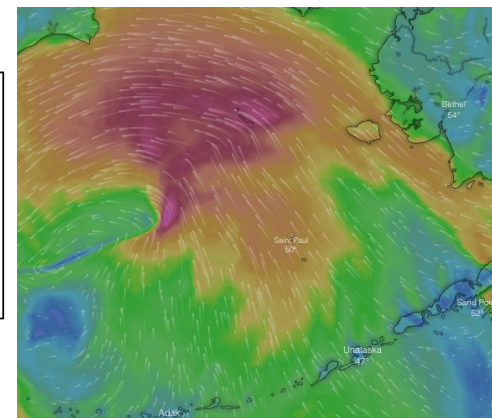
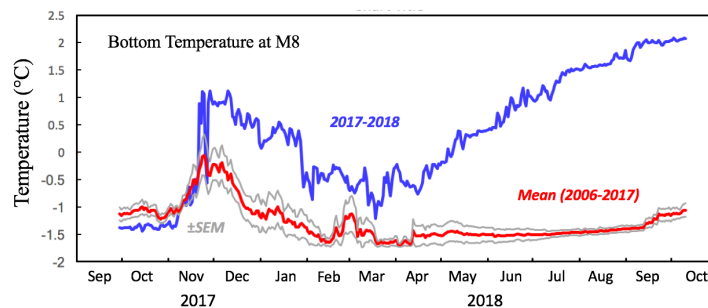




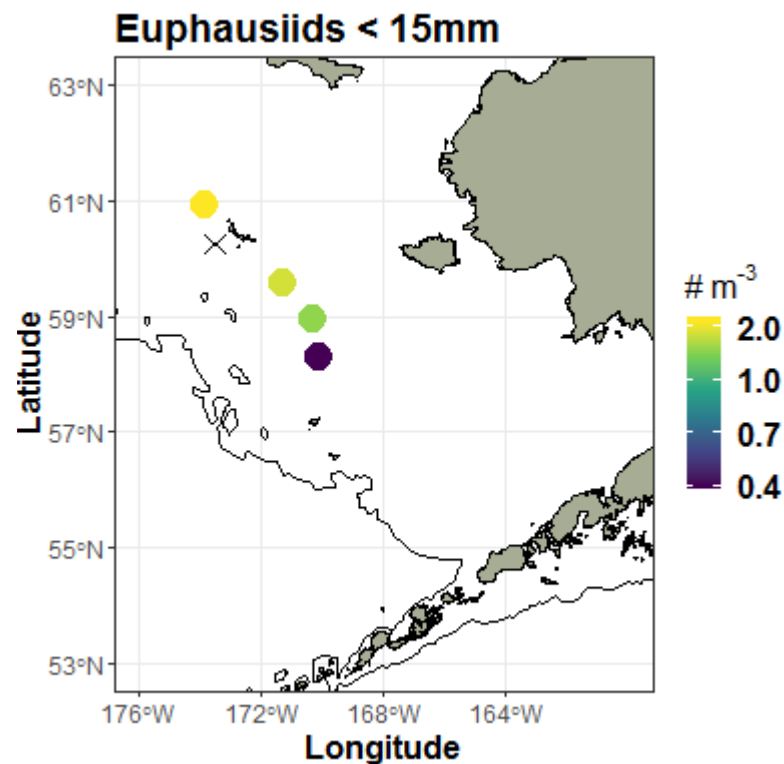
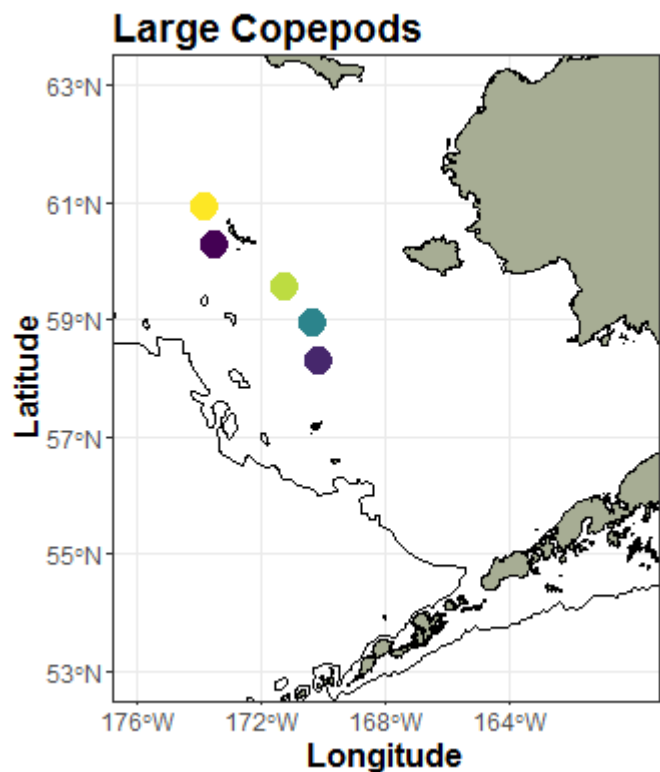
EcoFOCI Fall Mooring



Dutch Harbor – Nome
15 days – 6 weather days
3 major storms
Moorings: recovered 13/
deployed 10



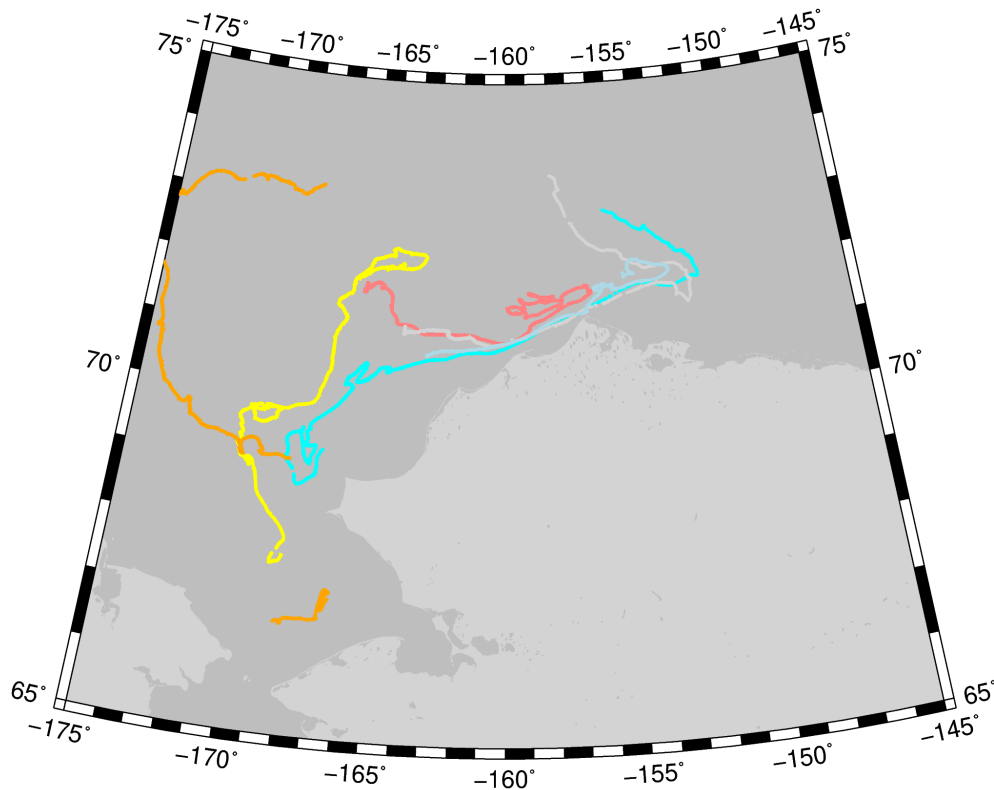
RZA Fall Moorings



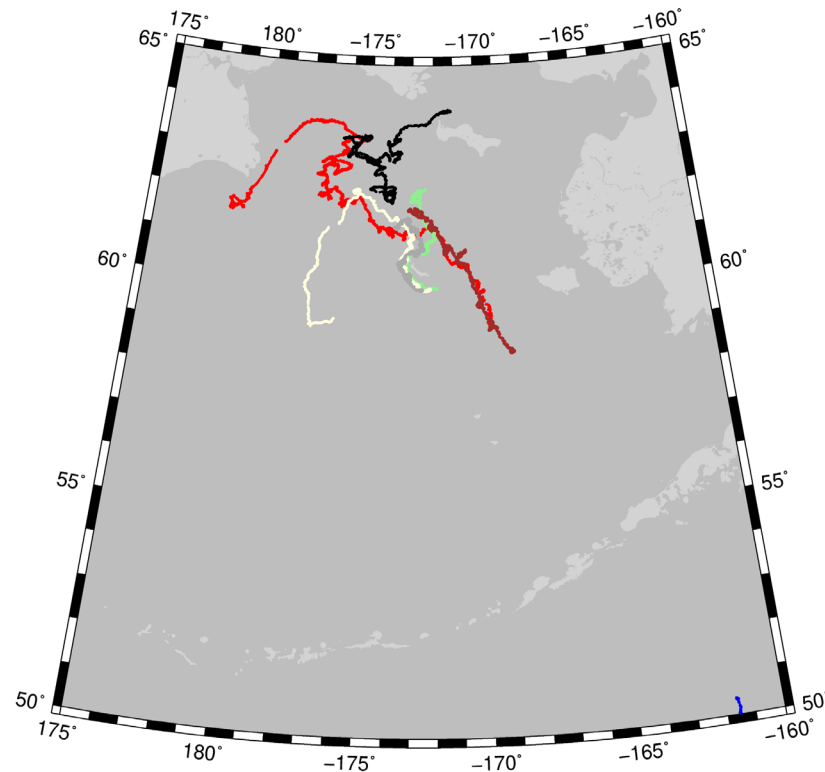
Satellite-tracked Drifters



Chukchi Sea



Bering Sea

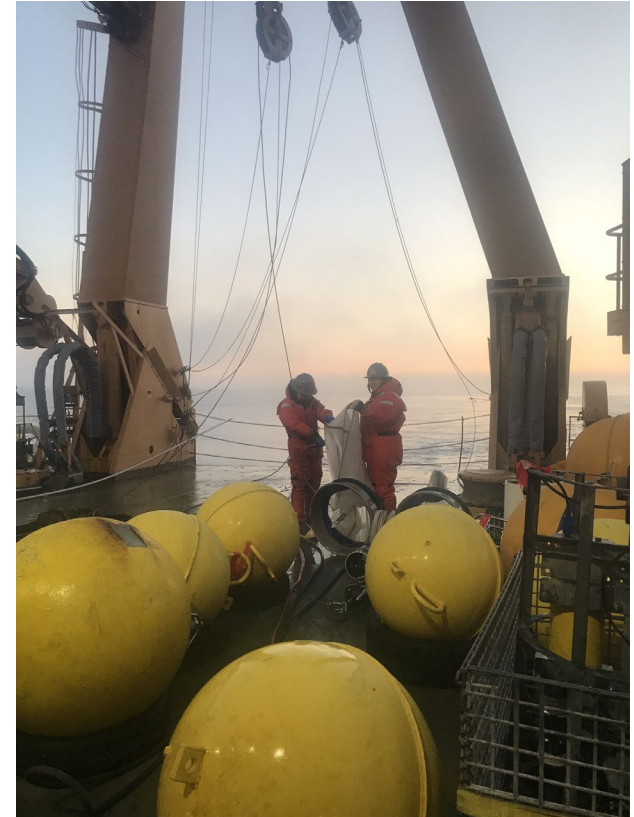


THANK YOU



Alex Andrews (EMA)
Alison Deary (AFSC)
Andrew Diamond (EMA)
Annette Dougherty (AFSC)
Adam Spear (AFSC)
Catherine Berchok (AFSC)
Corey Fugate (RECA)
Colleen Harpold (AFSC)
Calvin Mordy (PMEL)
Dan Cooper (AFSC)
Dave Kimmel (AFSC)
Dan Langis (NOAA Corp./PMEL)
Dave Nicolls (EMA)
Dave Rivera (PMEL)
David Strausz (PMEL)
Ed Farley (EMA)
Esther Goldstein (AFSC)
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Matt Wilson (AFSC)
Morgan Busby (AFSC)
Melanie Paquin (AFSC)
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Peter Proctor (PMEL)
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Sue Moore (OST)
Steve Porter (AFSC)
Sarah Donohoe (NOAA Corps)
Stephanie Grassia (AFSC)
Tanika Ladd (USC)
Todd Miller (AFSC)
Wesley Strasburger (EMA)



NOAA FISHERIES

EcoFOCI
Pacific Marine Environmental Laboratory

ANNOUNCING...

EcoFOCI

ECOSYSTEMS AND FISHERIES-OCEANOGRAPHY COORDINATED INVESTIGATIONS

2018 Fall Seminar Series Line-up



Wednesday, November 7

Dan Cooper

*Research Fisheries Biologist,
NOAA Fisheries*

Northern rock sole recruitment response to winds and temperature in the eastern Bering Sea

Creating environment-recruitment models for short and long-term forecasting of rock sole



Wednesday, November 14

Thew Suskiewicz, Ph.D.

*Postdoctoral Research Fellow, Bigelow Laboratory
for Ocean Sciences*

The return of Maine's kelp forests: patterns, drivers and implications for stakeholders

How intense overfishing on both groundfish and the herbivores has pushed the Gulf of Maine into a novel ecosystem



★ Monday, November 19

Phyllis Stabeno Ph.D.

*Oceanographer,
NOAA Research*

Causes for the record low sea-ice extent in the Bering Sea in 2018

An in-depth look at the driving factors of a warm Bering Sea including ice arrival, extent, and implications



Wednesday, November 28

Darren Pilcher Ph.D.

*Research Scientist, University of Washington Joint Institute for the
Study of Atmosphere and Ocean*

Modeled impact of coastal biogeochemical processes and climate variability on ocean acidification in the Bering Sea

Examination of spatial and temporal variability of the carbon cycle from 2003-2012 and the connection to ocean acidification



Wednesday, December 12

Jens Nielsen Ph.D.

*NRC postdoctoral researcher,
NOAA Fisheries*

Analyses of multispecies ichthyoplankton data along the US west coast as indicators of ecosystem changes

Do different fish larvae communities have shared responses to climatic changes?



Wednesday, December 19

Nissa C. Ferm

*Fisheries Biologist,
NOAA Fisheries*

A New Diet Index: Predicting fish length from diet composition

Predicting fish length from their diet composition gives us an index which tells us about individual fish condition and predator-prey interactions

Except where noted ★

PMEL Oceanographer Room Wednesdays 10am-11 am

NOAA Western Regional Center
Pacific Marine Environmental Lab
7600 Sand Point Way NE
Seattle, WA 98115

All seminars are open to the public and available remotely
For more information please visit:
<https://www.ecofoci.noaa.gov/events-calendar> or contact
heather.tabisola@noaa.gov & sarah.s.donohoe@noaa.gov

Prediction for 2019



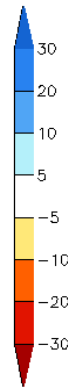
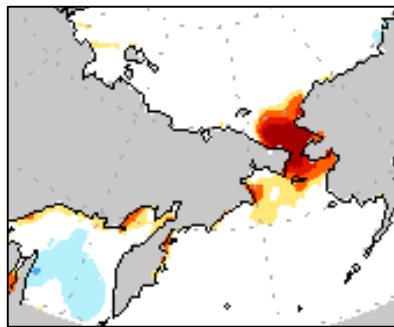
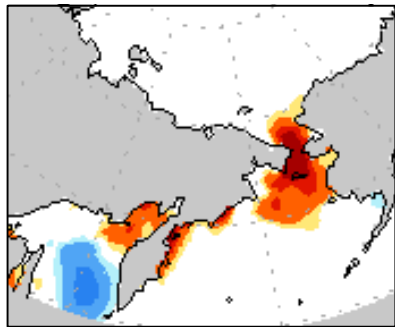
NWS/NCEP/CPO/CFSv2 – Ice predictions



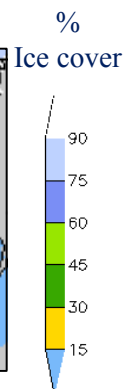
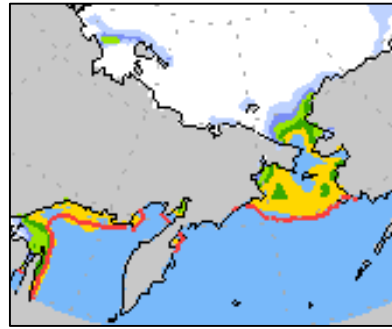
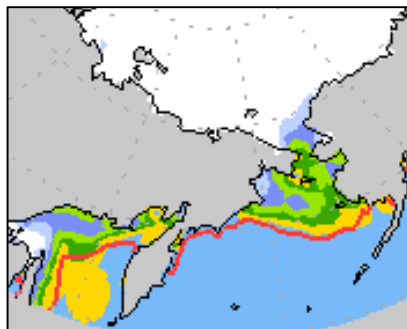
Anomalies

April 2019

May 2019



Means



Red curves are 15% concentration contours of NSIDC 1982–2010 climatology.

Ice October 30



2019 observations

?

Ice will cover the Chukchi
in mid to late November

Kevin Wood

AND FINALLY

FY19 Field Season



Cruise	Cruise Location	Port-Depart	Port-Arrive	DAS	Personnel	Project	Ship & Cruise No.
/Chiniak Mooring	Gulf of Alaska	Kodiak, AK TBD	Kodiak, AK TBD	TBD	Chief Scientist: G. Lebon- 0 (AFSC) ; 0(PMEL) ; 0(ABL)	EcoFOCI	CHARTER TBD /XX19-00
/Gear Trials	Puget Sound	Seattle, WA 1/29/2019	Seattle, WA 1/30/2019	2	Chief Scientist: TBD- 0(AFSC) ; 0(PMEL) ; 0(ABL)	MACE	NOAAS OSCAR DYSON /OMAO- 5410
Spring Mooring Cruise /FOCI Moorings - Bering Sea	Bering Sea	Kodiak, AK 4/19/2019	Dutch Harbor, AK 5/02/2019	14	Chief Scientist: P. Proctor- 2 (AFSC) ; 4(PMEL) G. Lebon or Engineering, S. Grassia, S. Bell, S. Donohoe; 0(ABL)	NPCREP EcoFOCI	NOAAS OSCAR DYSON /DY 19-04
WGOA Ichthyoplankton /EMA-FOCI Larval Groundfish Assessment	Gulf of Alaska	Dutch Harbor, AK 5/05/2019	Kodiak, AK 5/25/2019	21	Chief Scientist: TBD- 4(AFSC) ; 0(PMEL) ; 1(ABL)	NPCREP EcoFOCI EMA	NOAAS OSCAR DYSON /DY 19-05
YOY Pollock /EMA/FOCI Age-0 Groundfish and Salmon Recruitment Processes Leg 1	Gulf of Alaska	Kodiak, AK 8/13/2019	Kodiak, AK 8/26/2019	14	Chief Scientist: TBD- 4(AFSC) ; 1(PMEL) D. Strausz; 1-2(ABL)	EMA EcoFOCI	NOAAS OSCAR DYSON /DY 19-07 Leg 1
YOY Pollock /EMA/FOCI Age-0 Groundfish and Salmon Recruitment Processes Leg 2	Gulf of Alaska	Kodiak, AK 8/29/2019	Dutch Harbor, AK 9/14/2019	17	Chief Scientist: TBD- 4(AFSC) ; 1(PMEL) P. Proctor; 1-2(ABL)	EMA EcoFOCI	NOAAS OSCAR DYSON /DY 19-07 Leg 2
Fall Mooring Cruise /FOCI Moorings - Bering Sea	Bering Sea	Dutch Harbor, AK 9/18/2019	Kodiak, AK 10/08/2019	21	Chief Scientist: G. Lebon- 2 (AFSC) ; 3(PMEL) P. Proctor, S. Grassia, S. Bell, E. Wisegarver; 0(ABL)	EMA EcoFOCI	NOAAS OSCAR DYSON /DY 19-08
Arctic Integrated Ecosystem Survey: MOORINGS Leg 1 /NPRB Arctic IERP	US Arctic: Chukchi Sea	Nome, AK 8/01/2019	Nome, AK 8/22/2019	22	Chief Scientist: G. Lebon- TBD (AFSC) ; 3(PMEL) S. Donohoe, C. Berchok, R. McCabe; 0 (ABL)	NPRB AIERP	OCEAN STARR /OS19-01
Arctic Integrated Ecosystem Survey: TRAWLING Leg 2 /NPRB Arctic IERP	US Arctic: Chukchi Sea	Nome, AK 8/23/2019	Nome, AK 9/10/2019	19	Chief Scientist: TBD- TBD (AFSC) ; 1(PMEL) S. Donohoe; 4(ABL)	NPRB AIERP	OCEAN STARR /OS-19-02
Arctic Integrated Ecosystem Survey: TRAWLING Leg 3 /NPRB Arctic IERP	US Arctic: Chukchi Sea	Nome, AK 9/11/2019	Nome, AK 9/28/2019	18	Chief Scientist: TBD- TBD (AFSC) ; 1(PMEL) D. Strausz; 4 (ABL)	NPRB AIERP	OCEAN STARR /OS19-03
DBO-NCIS Moorings /NOAA Arctic Distributed Biological Observatories- Northern Chukchi Integrated Studies (DBO- NCIS)	US Arctic: Chukchi Sea	Nome, AK 8/05/2019	Nome, AK 8/26/2019	22	Chief Scientist: B. Pickart- 1 (AFSC) ; 1(PMEL) E. Wisegarver ; 0(ABL)	EcoFOCI & ITAE	USCGC HEALY /HL19-00
EGOA SECM Survey /Eastern Gulf of Alaska (EGOA) Southeast Alaska Coastal Monitoring (SECM) Survey	Gulf of Alaska	Sitka, AK TBD	Juneau, AK TBD	TBD	Chief Scientist: TBD- 0(AFSC) ; 0(PMEL) ; 5(ABL)	EMA	CHARTER TBD /XX19-00
EMA/ADFG NBS/ Joint AFSC/ADFG research /EMA/ADFG NBS/ Joint AFSC/ADFG research	US Arctic: Bering Sea	Dutch Harbor, AK TBD	Dutch Harbor, AK TBD	TBD	Chief Scientist: TBD- TBD (AFSC-FOCI) ; 0(PMEL) ; 5-6 (ABL)	EMA	CHARTER TBD /XX19-00
Arctic Shield November 2019 /Arctic Shield : Invitation to Participate FY2020	US Arctic: Chukchi Sea	TBD	TBD	TBD	Chief Scientist: TBD [IF NEEDED for all roles]- TBD (AFSC) ; TBD(PMEL) ; TBD (ABL)	EcoFOCI & ITAE	USCGC HEALY /HL20-01