

Marine Fisheries Report Yukon River Panel March 2009

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Marine Fisheries Report

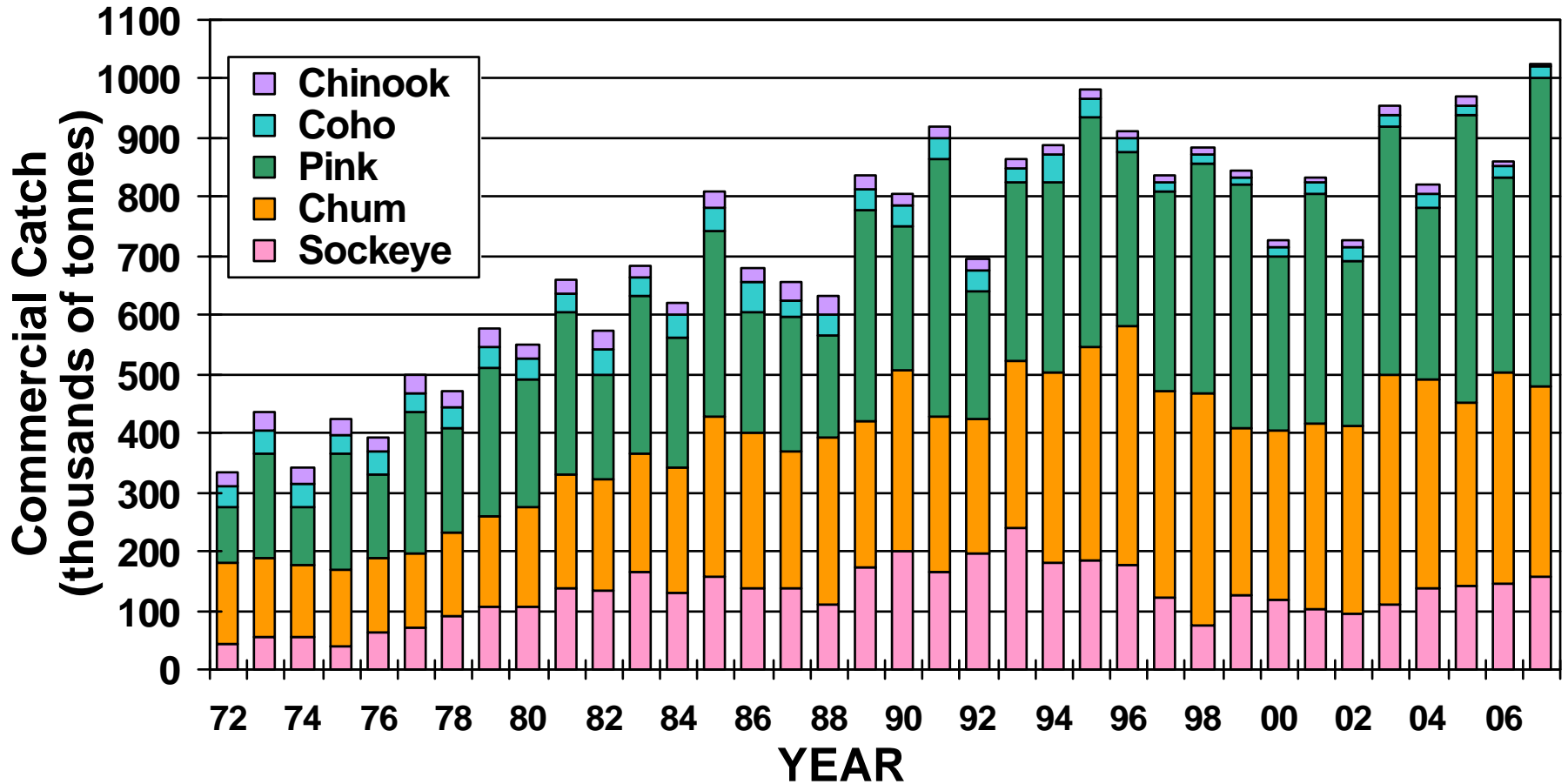
Marine Fisheries review

- Pacific salmon harvest
- Illegal high seas salmon fishing
- Salmon bycatch

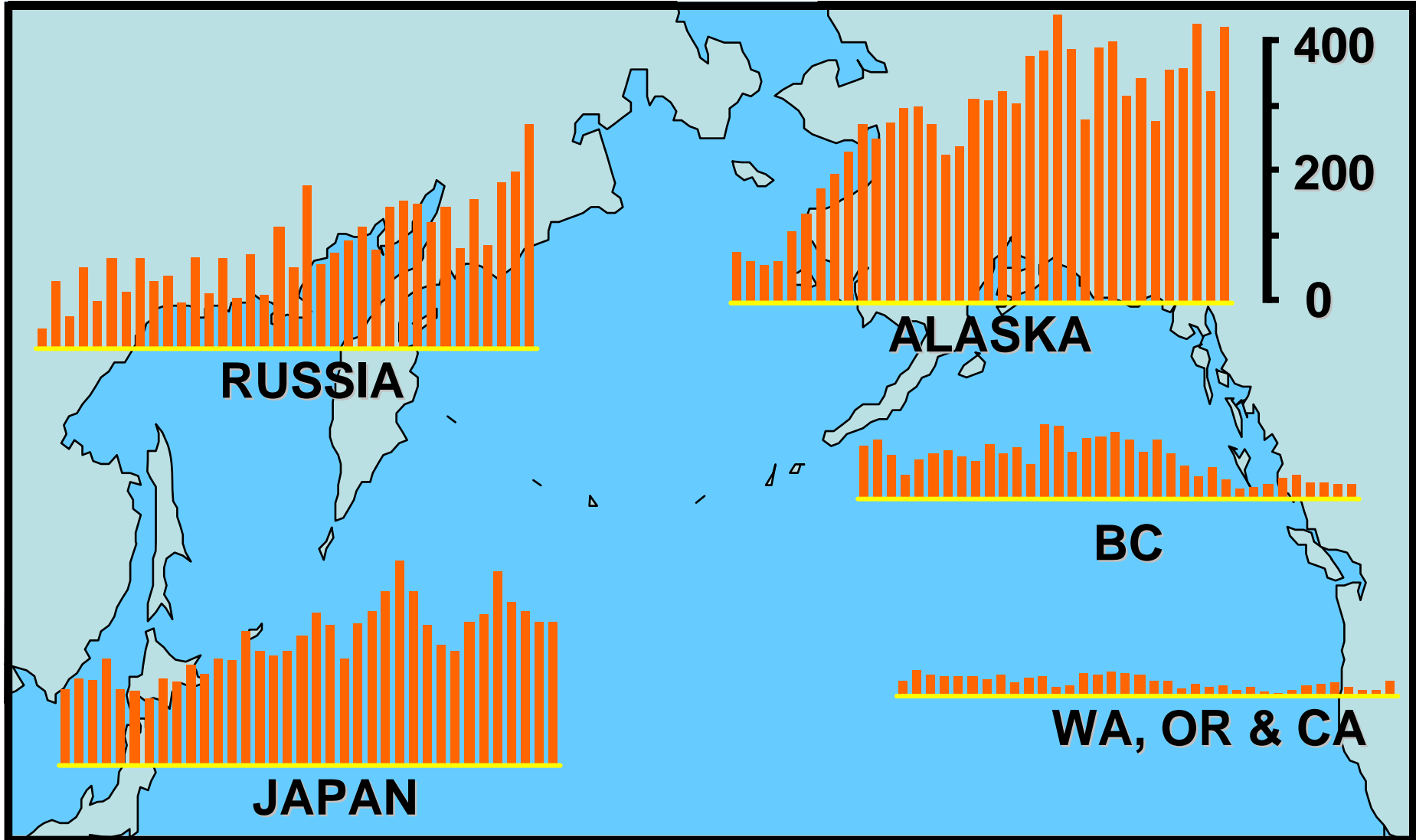
Status and outlook for the Bering Sea

Marine Research Update

Annual commercial Pacific salmon catch (in metric tons) by species, 1972-2007 (NPAFC 2008)



Annual commercial catch of Pacific salmon (in thousand tonnes) by regions, 1972-2007 (NPAFC 2008)



High Seas Driftnet Moratorium Enforcement

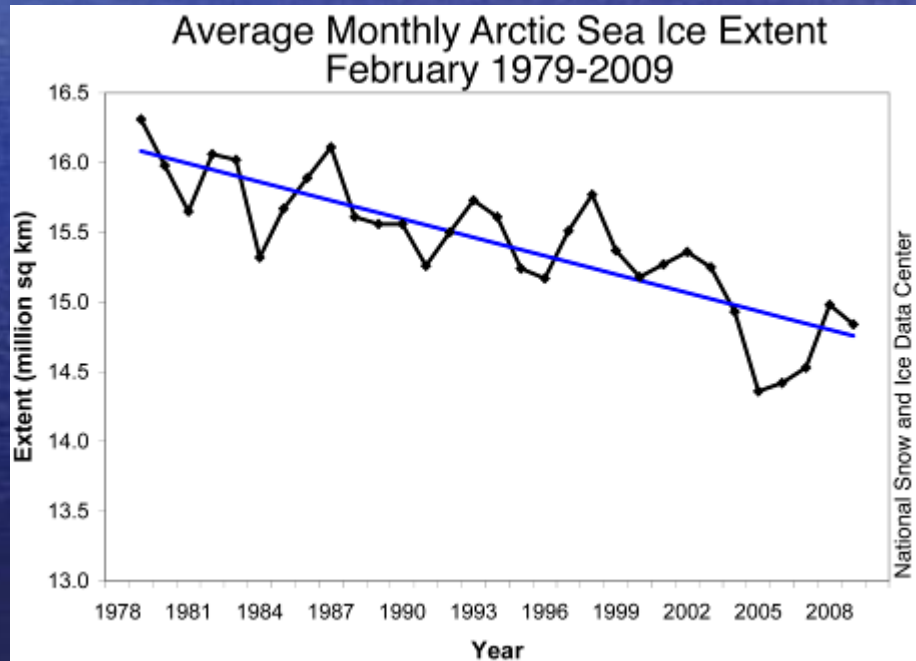
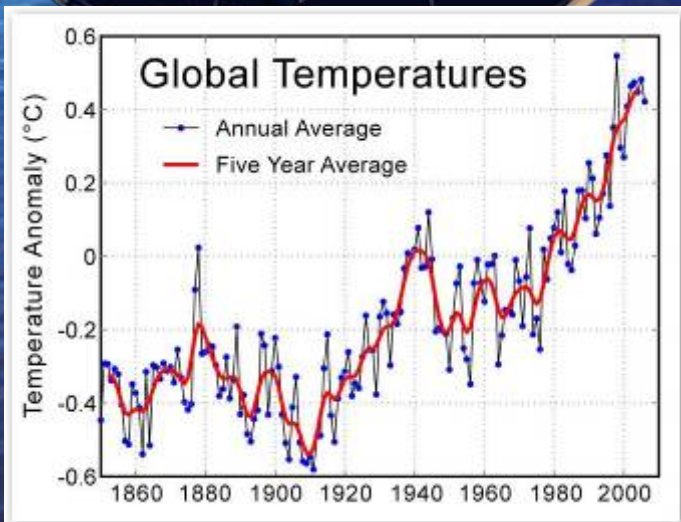
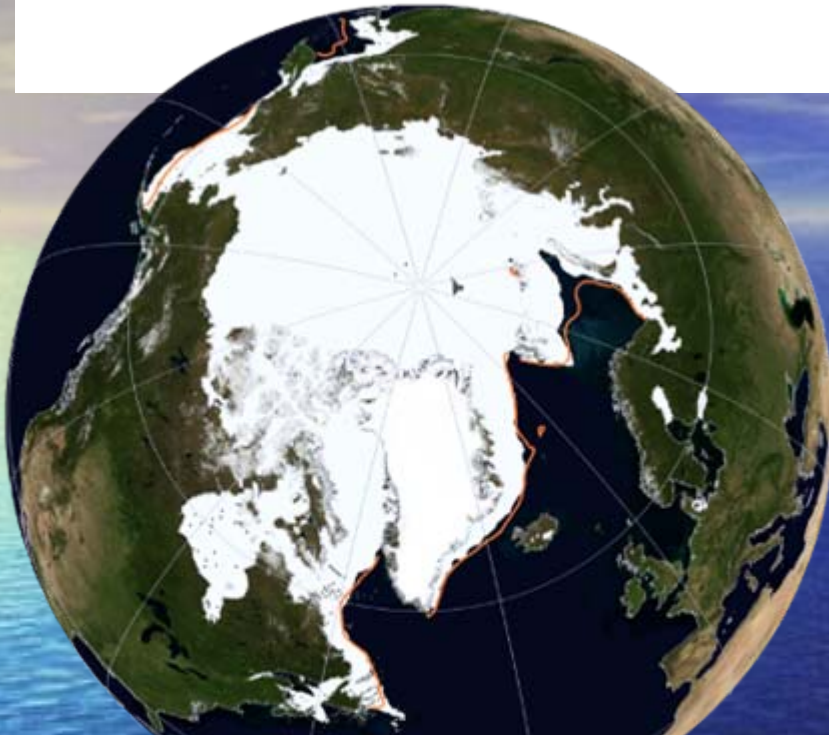


Status and Outlook

- Winter 09

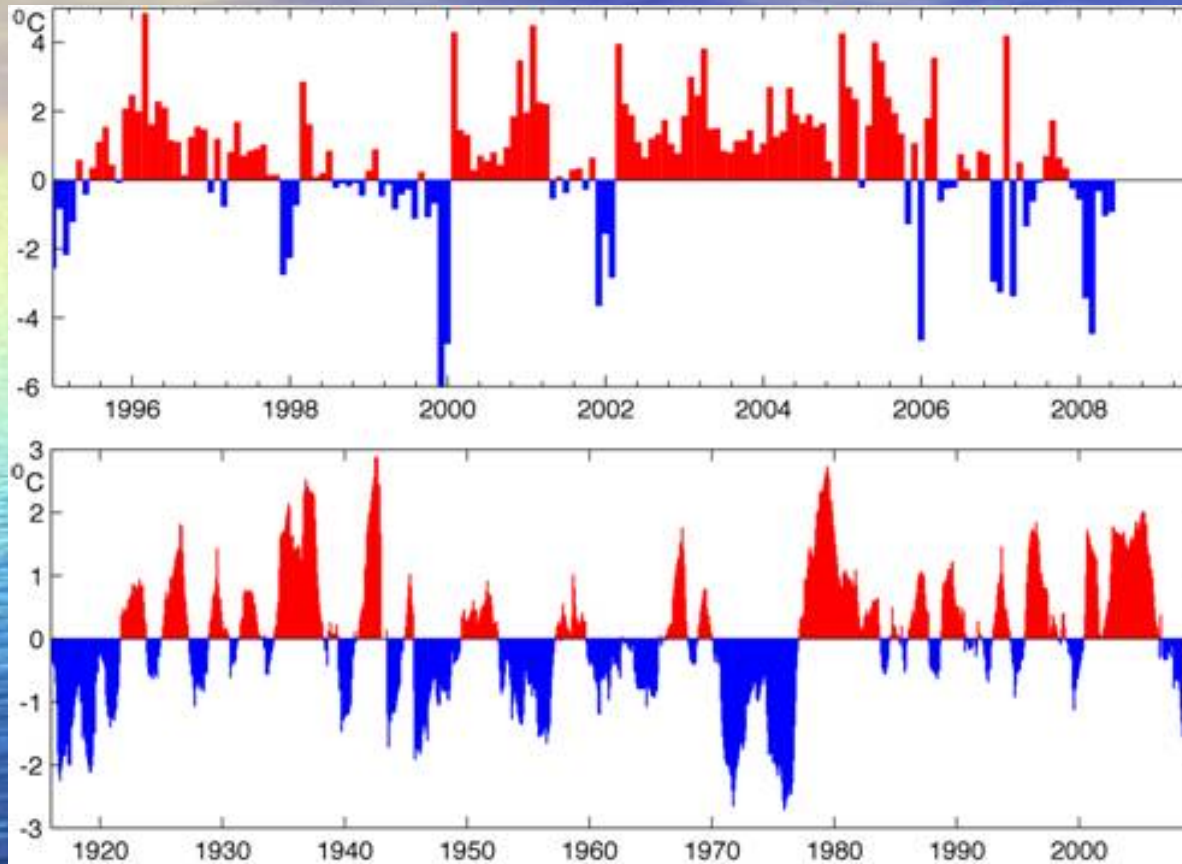
Arctic sea ice continues to thin over the pole

National Snow and Ice Data Center / NASA Earth Observatory



National Snow and Ice Data Center

Status of the Bering Sea



Despite long term warming in the Arctic, 2008 was the 3rd year consecutive year of colder than average temperatures in the Bering Sea

Air temperature anomalies on St Paul Island:
top: raw data. Bottom: smoothed

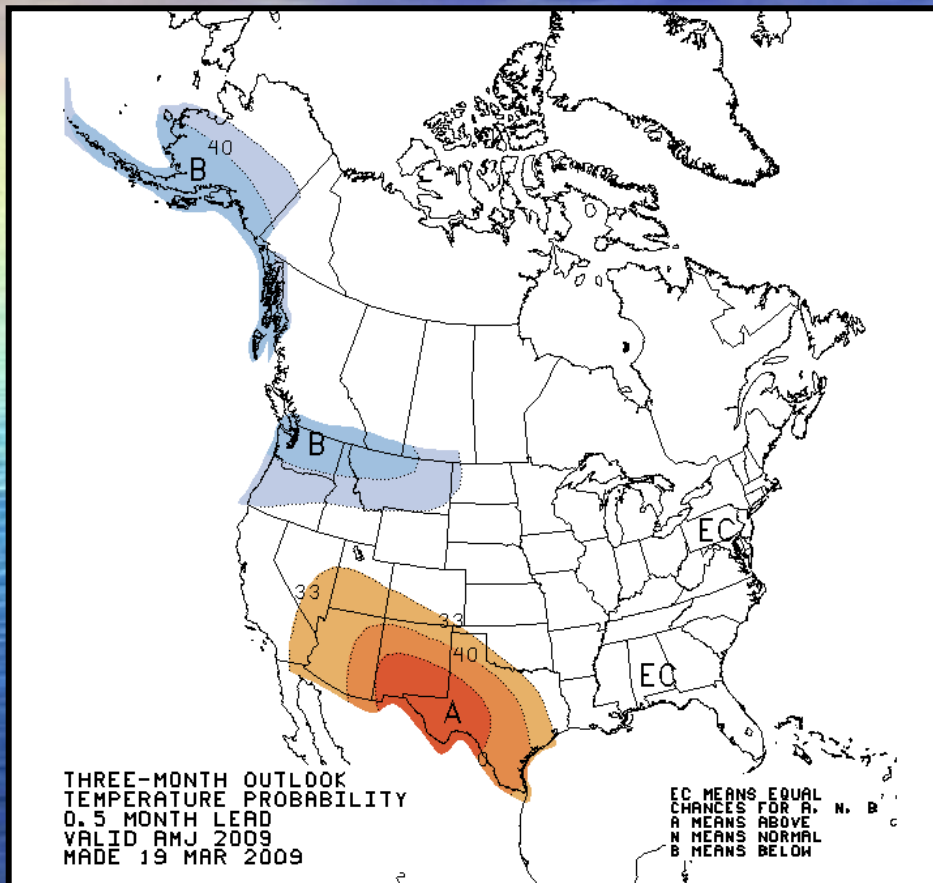
Status of the Bering Sea



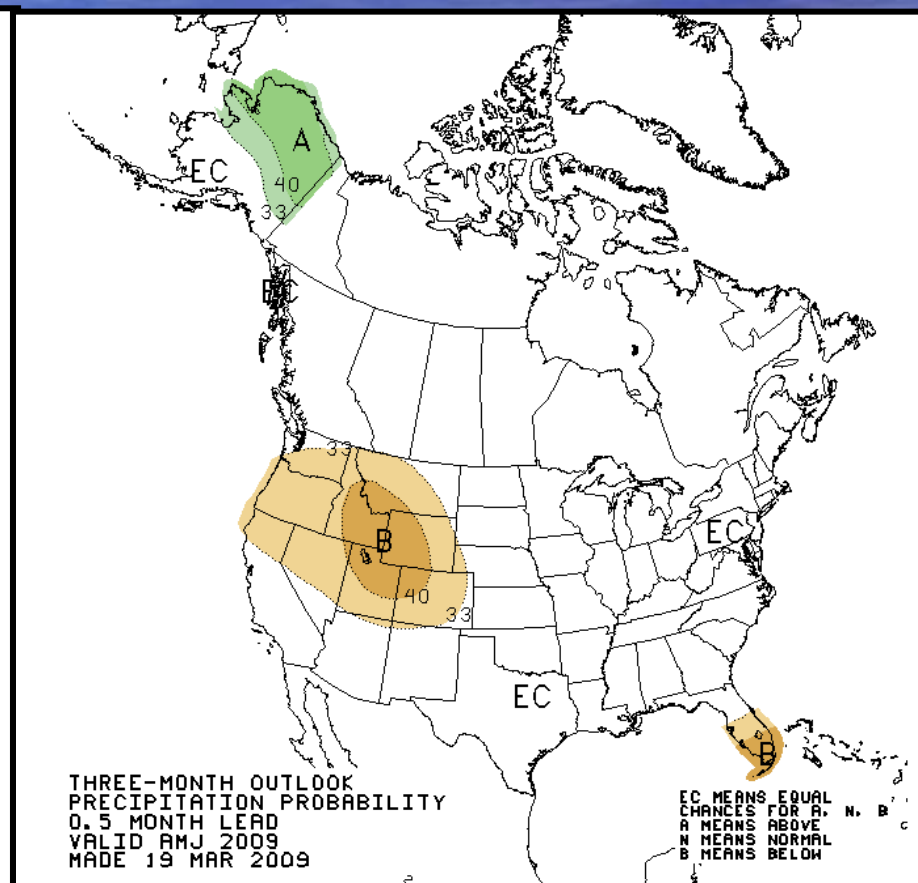
The cold summer in the Bering Sea resulted in extensive ice coverage in the winter of 2008-2009.

Outlook for April - June 2009

NOAA Climate Center



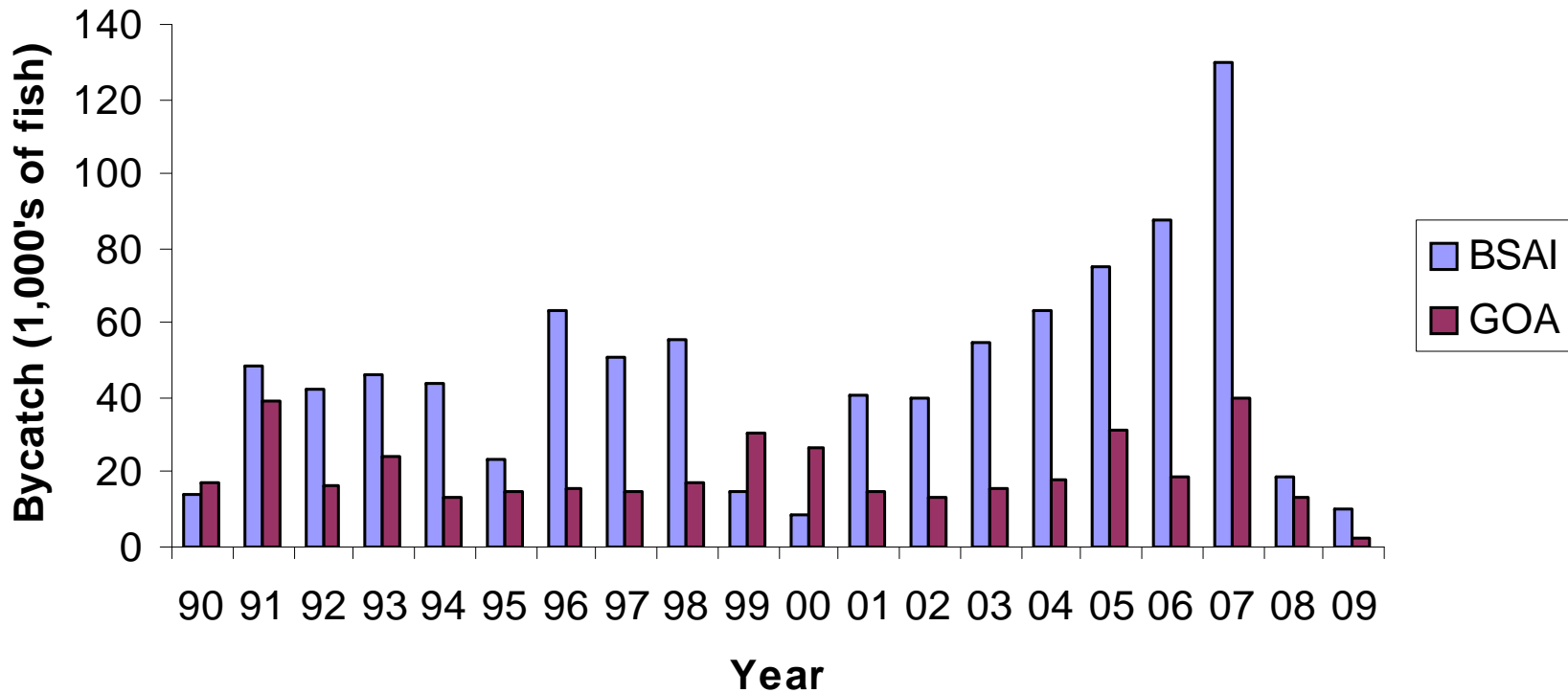
Temperature



Precipitation

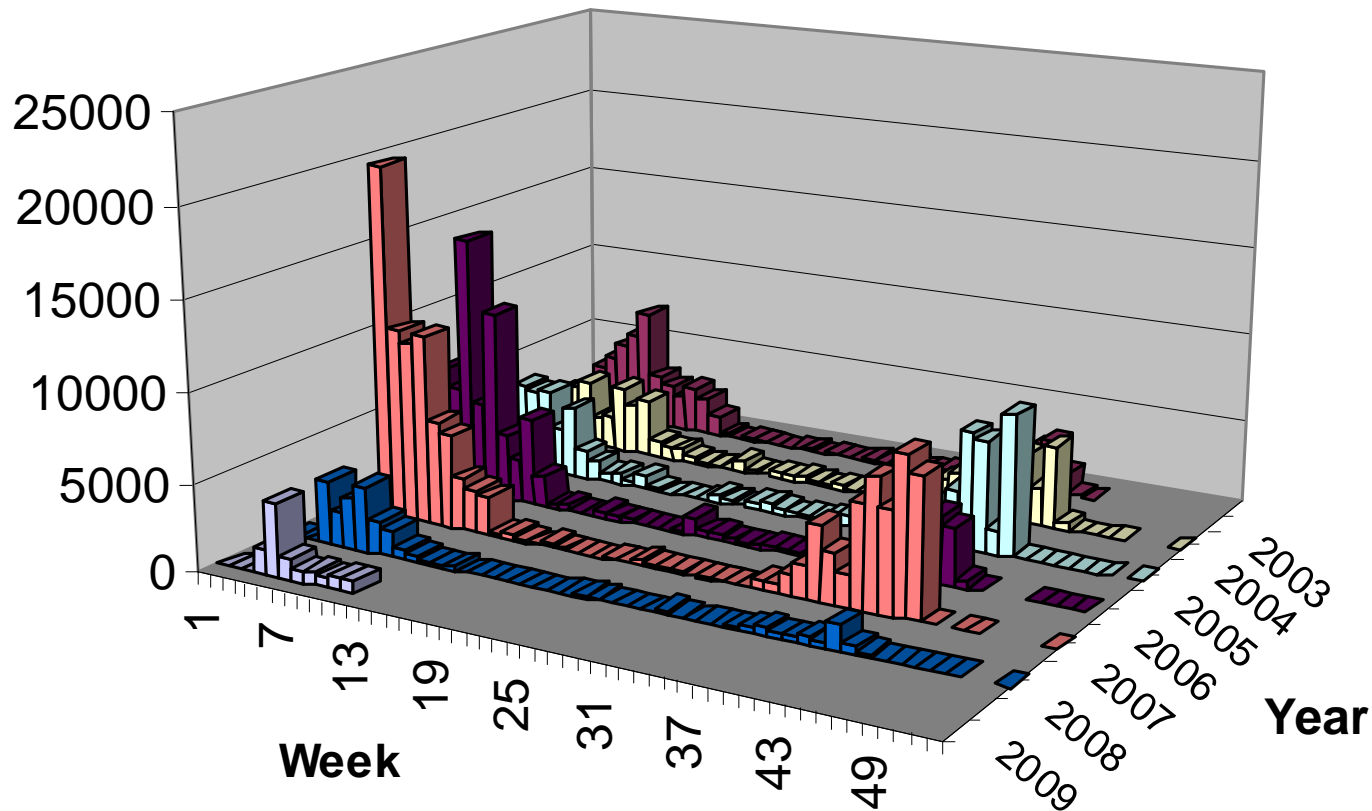
Bycatch update

**Chinook Bycatch in Bering Sea Aleutian Islands (BSAI)
and Gulf of Alaska (GOA) Groundfish Fisheries
(updated on Mar 14, 2009)**



Bycatch update

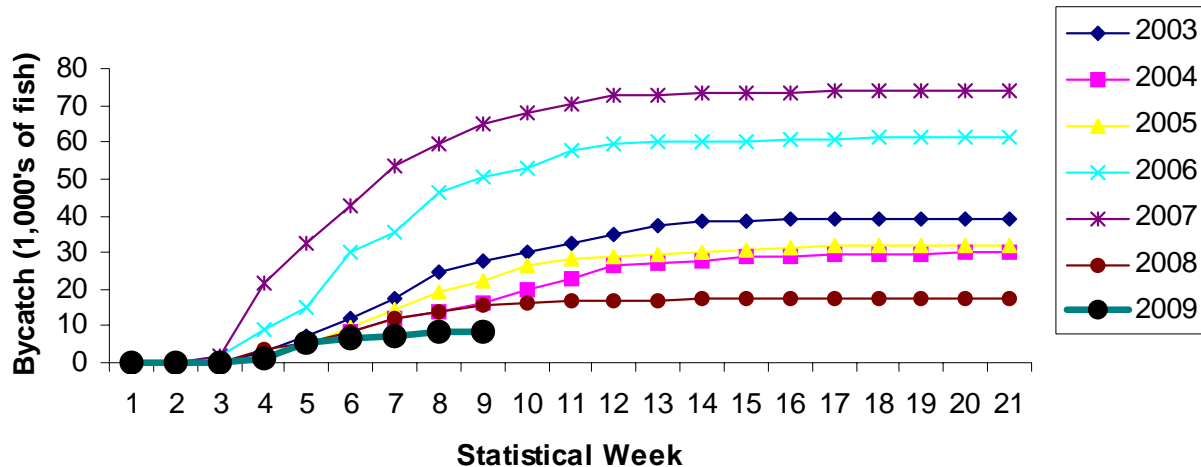
Chinook Bycatch in Bering Sea Aleutian Islands (BSAI) by week



Bycatch update

Cummulative Weekly Chinook Salmon Bycatch in the Bering Sea Aleutian Islands Groundfish Fisheries

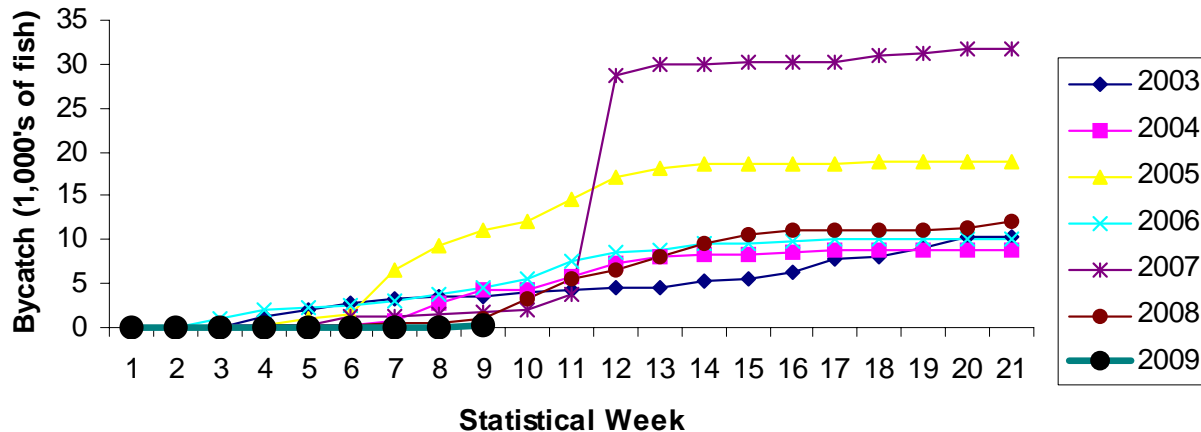
(updated on Mar 14, 2009)



'A' season cumulative Chinook bycatch

Cummulative weekly Chinook Salmon Bycatch in Gulf of Alaska Groundfish Fisheries

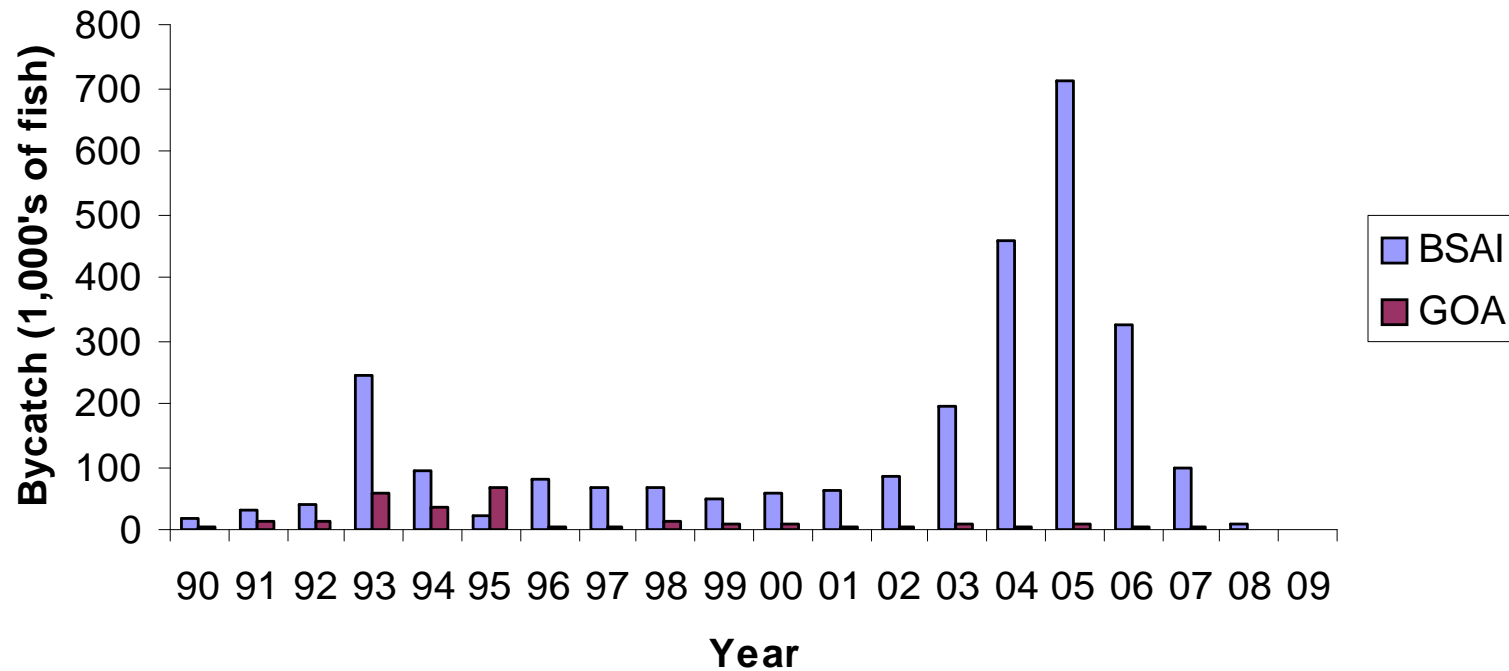
(updated on Mar 14, 2009)



By stat week 9
79% of pollock quota taken in BSAI

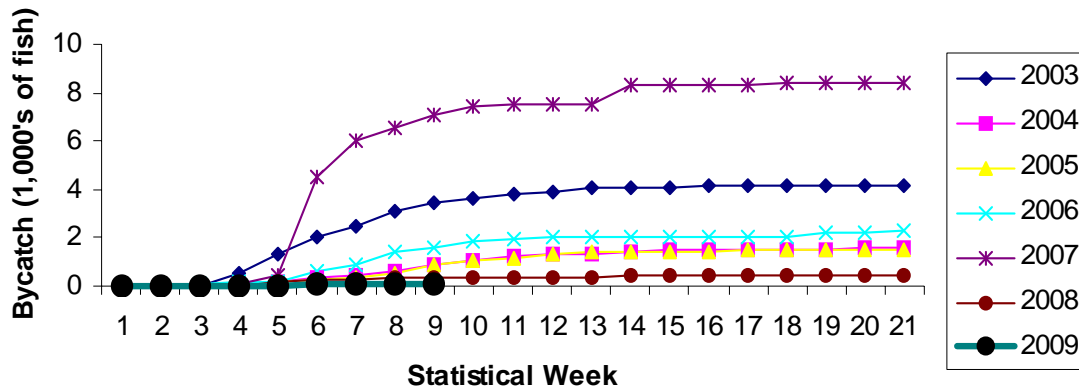
Bycatch update

**Non-Chinook Bycatch in Bering Sea Aleutian Islands (BSAI) and Gulf of Alaska (GOA) Groundfish Fisheries
(updated on Mar 14, 2009)**



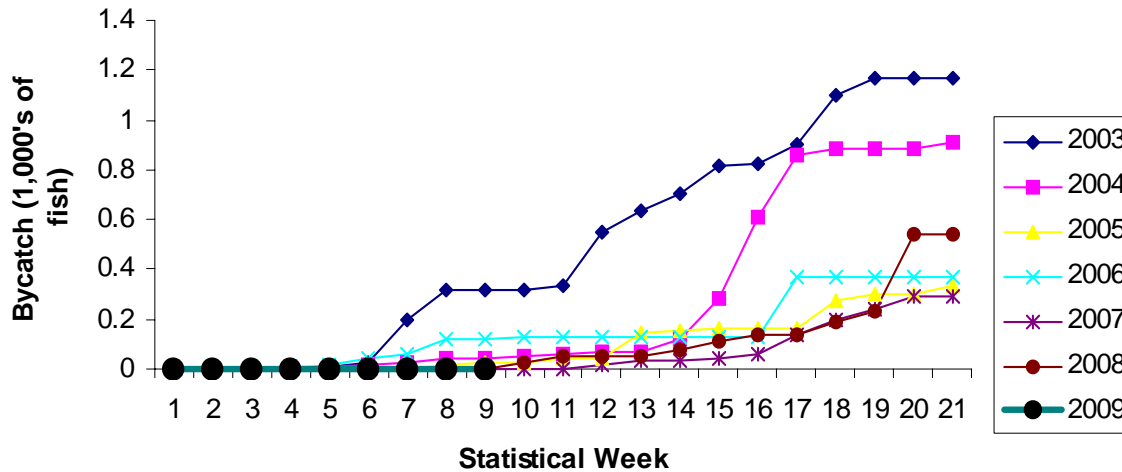
Bycatch update

Cummulative weekly Non-Chinook Bycatch in the Bering Sea and Aleutian Islands Groundfish Fisheries
(updated on Mar 14, 2009)



'A' season
cumulative
chum bycatch

Cummulative weekly Non-Chinook Bycatch in the Gulf of Alaska Groundfish Fisheries
(updated on Mar 14, 2009)



Salmon Research



Distribution and Abundance



Age and Stock Structure



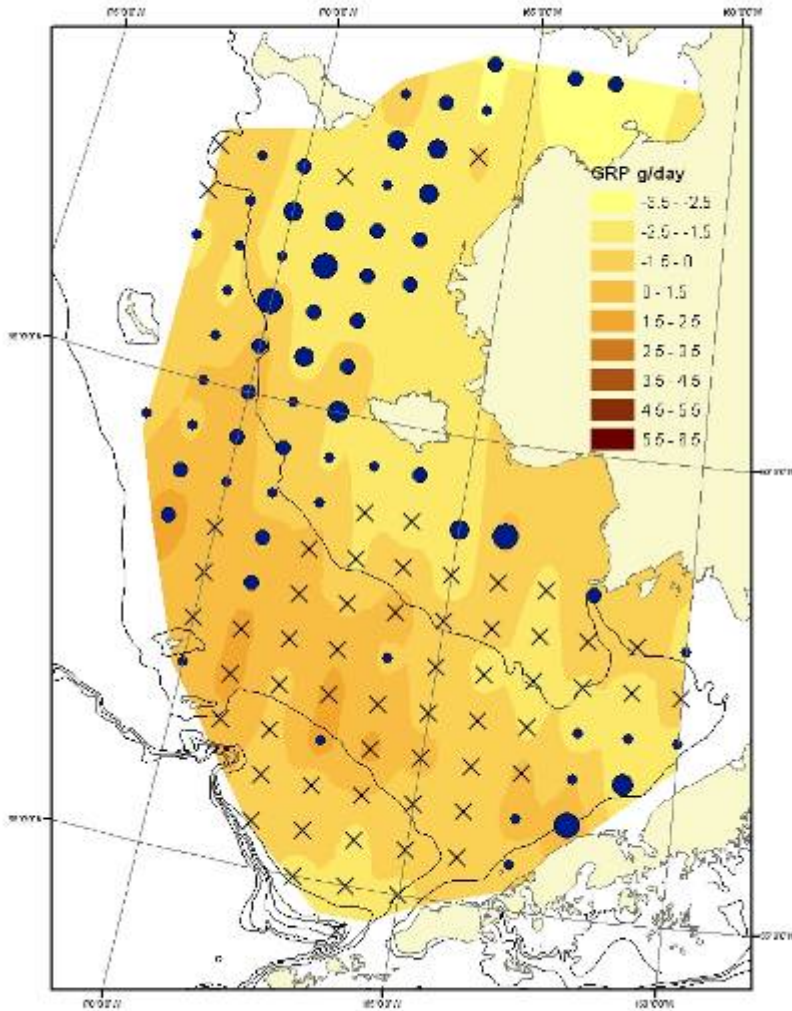
Feeding Ecology and Growth



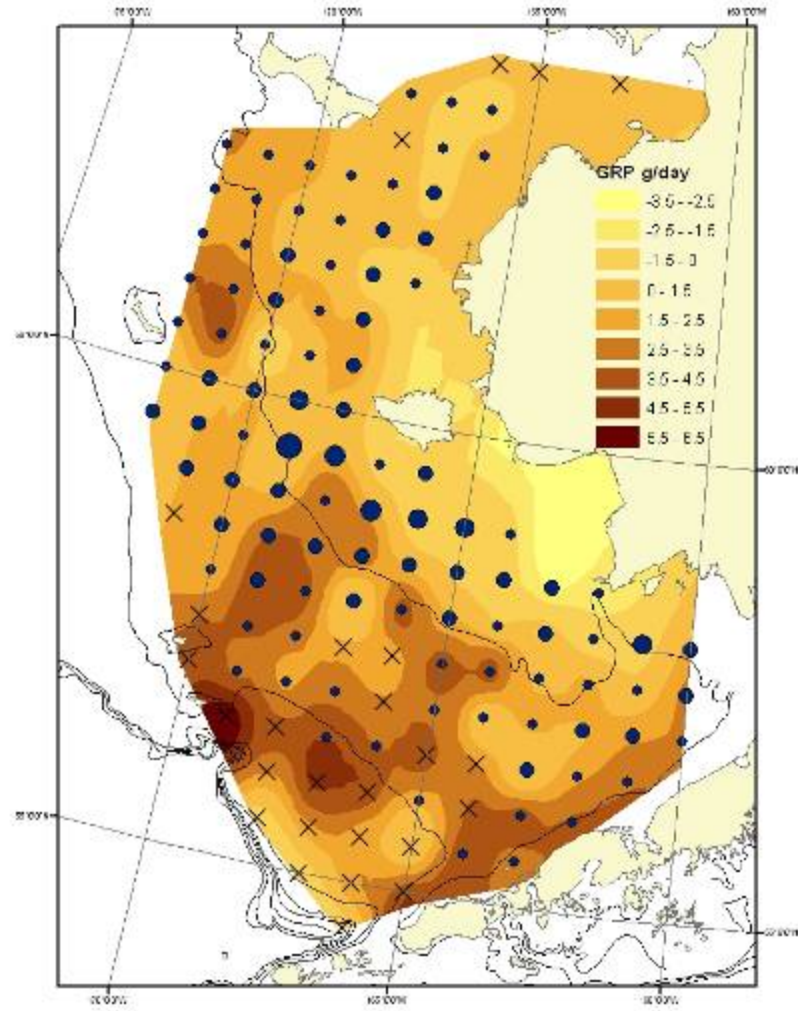
Synthesis and Bioenergetics

Juvenile Chum Salmon Growth Rate Potential (grams/day)

Cold Years



Warm Years



R/V TINRO
(Russian BASIS)



Loss of sea Ice and Juvenile Salmon

F/V Sea Storm (US BASIS)



- Loss of sea ice is associated with higher sea surface temperatures in the Chukchi Sea and northern Bering Sea shelf
- Juvenile pink & chum salmon were larger and their growth potential was higher in the Chukchi Sea relative to the Bering Sea during the extensive loss of sea ice in 2007
- Genetic origins of juvenile Chum salmon in the Chukchi Sea were estimated to be primarily from Kotzebue Sound and the Gulf of Anadyr (Russia).

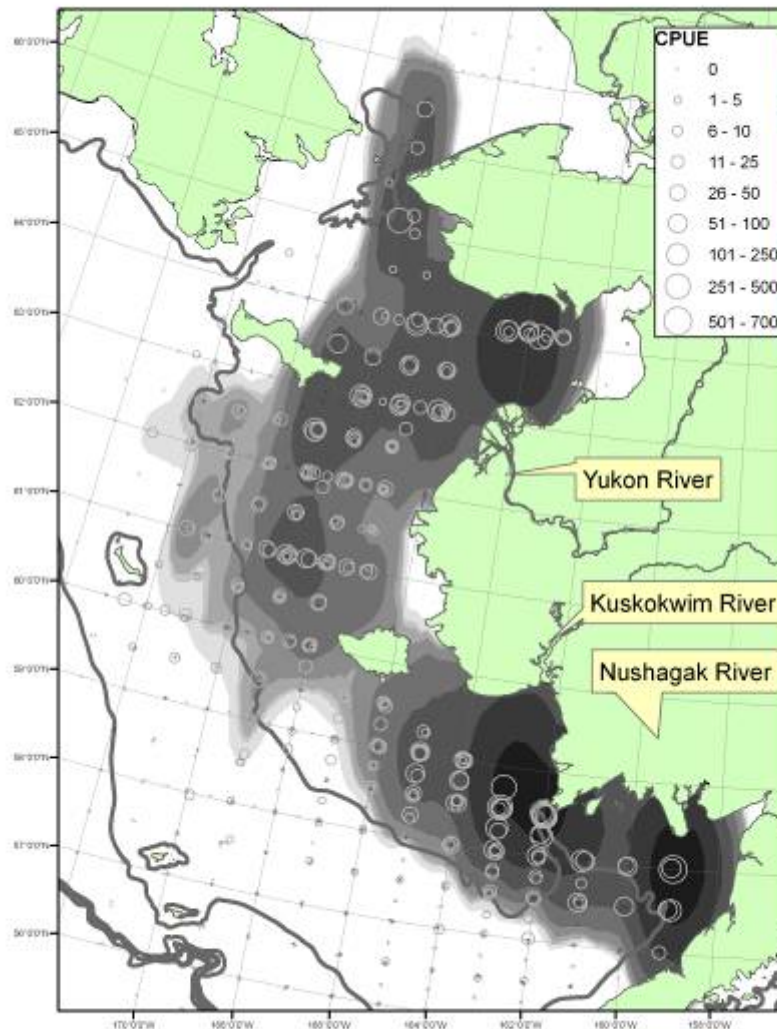
R/V Kaiyo maru
(Japan BASIS)



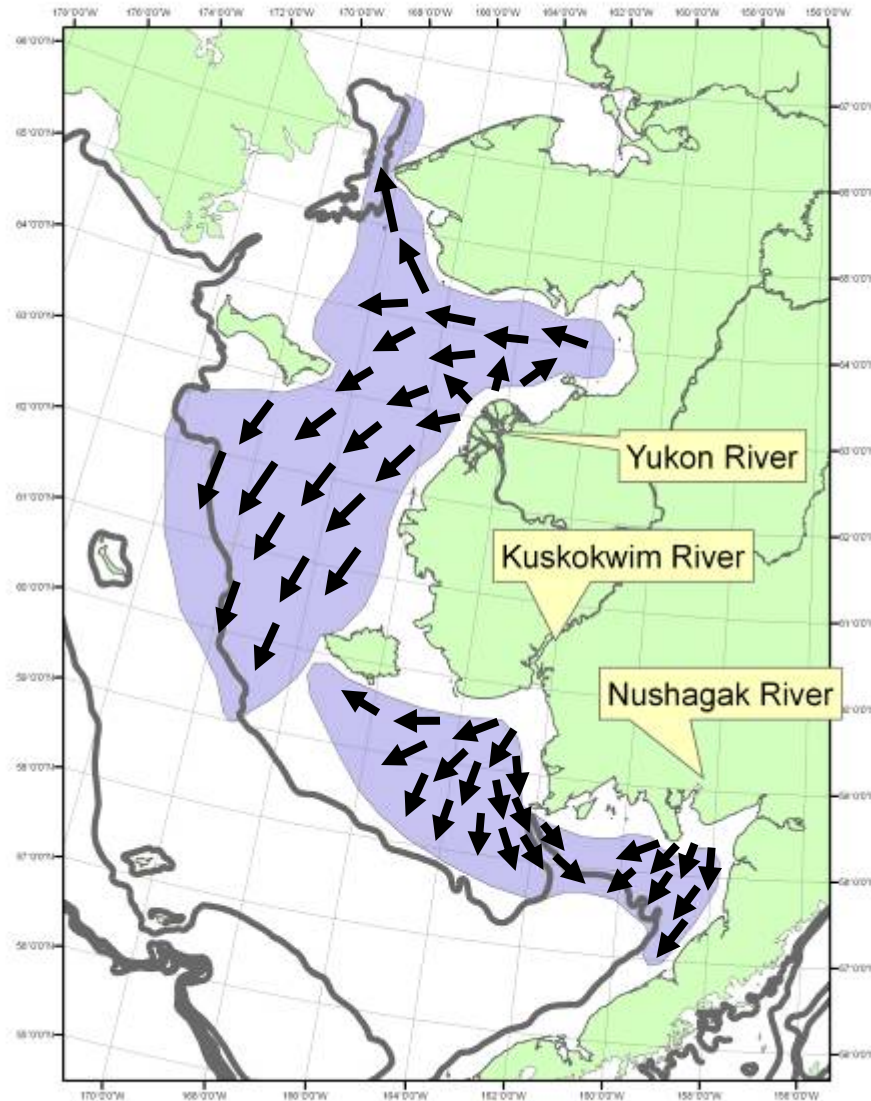
F/V Northwest Explorer (US BASIS)



Marine distribution of Western Alaska juvenile Chinook



Conceptual migration routes of Western Alaska juvenile Chinook



Depth Stratified Abundance Indices for Juvenile Chinook Salmon (US BASIS)

