

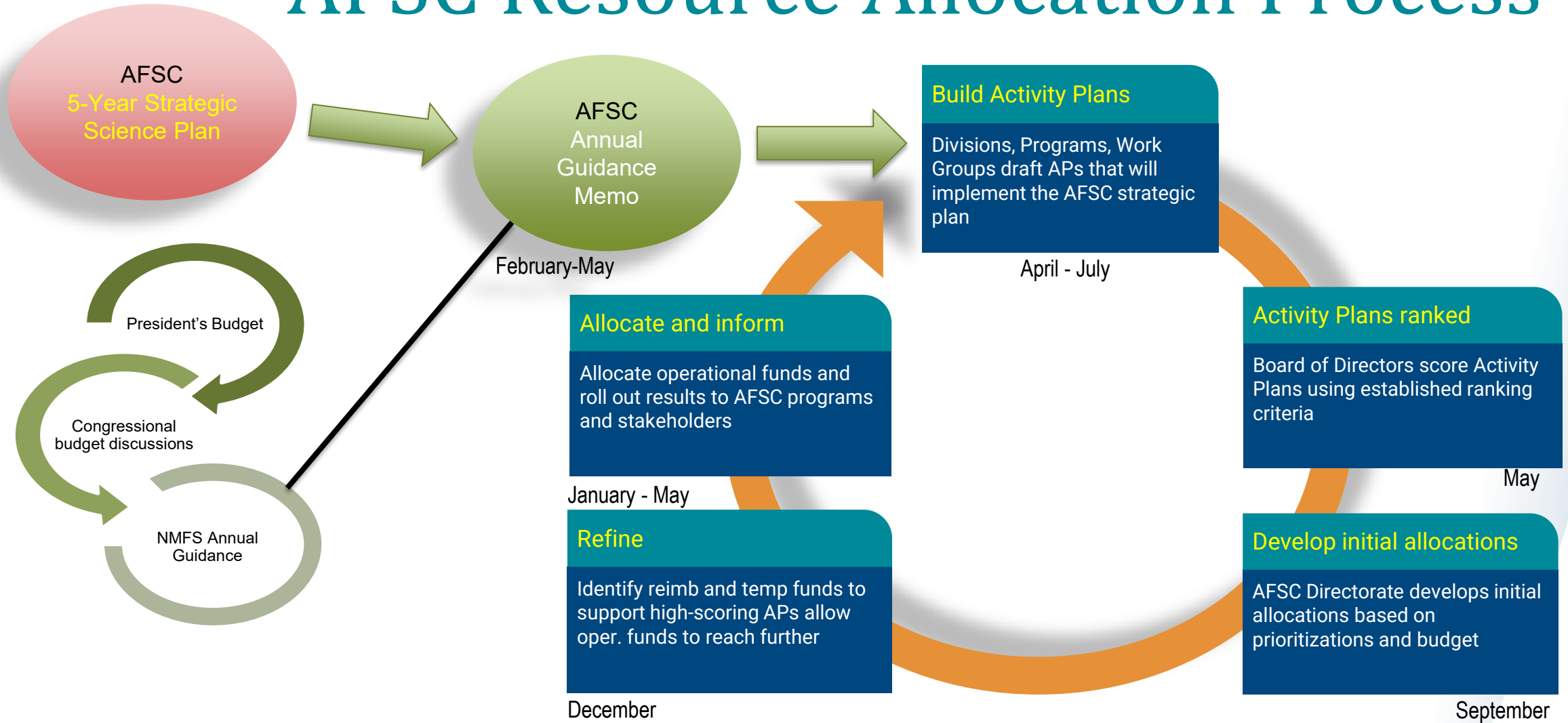


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Alaska Fisheries
Science Center

B4 State of the Center Report

*Jamal Moss, Alaska Fisheries Science Center
North Pacific Fishery Management Council Meeting
October 2026*

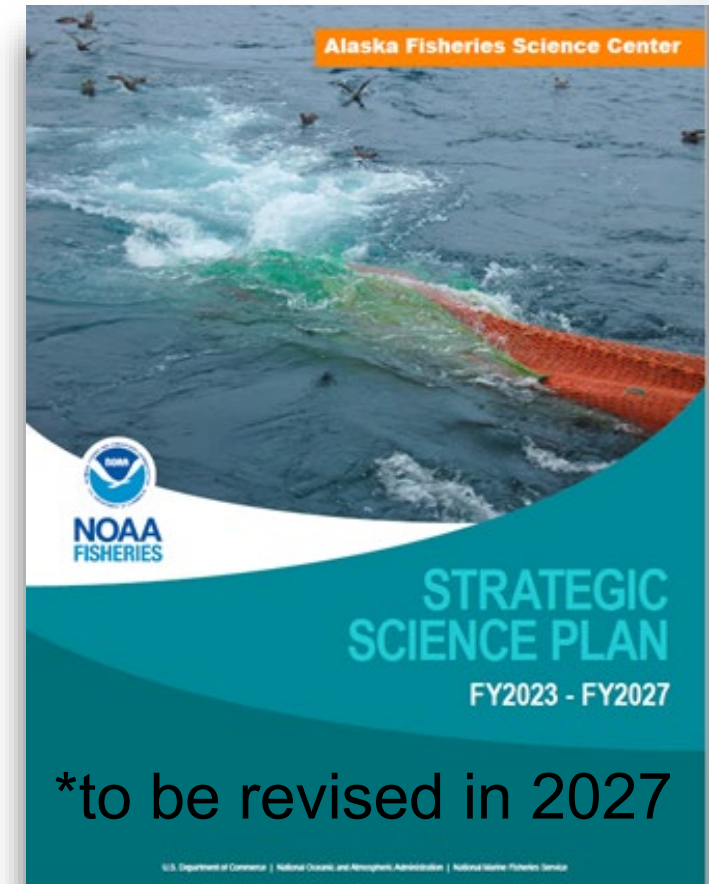
AFSC Resource Allocation Process



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AFSC Strategic Science Plan

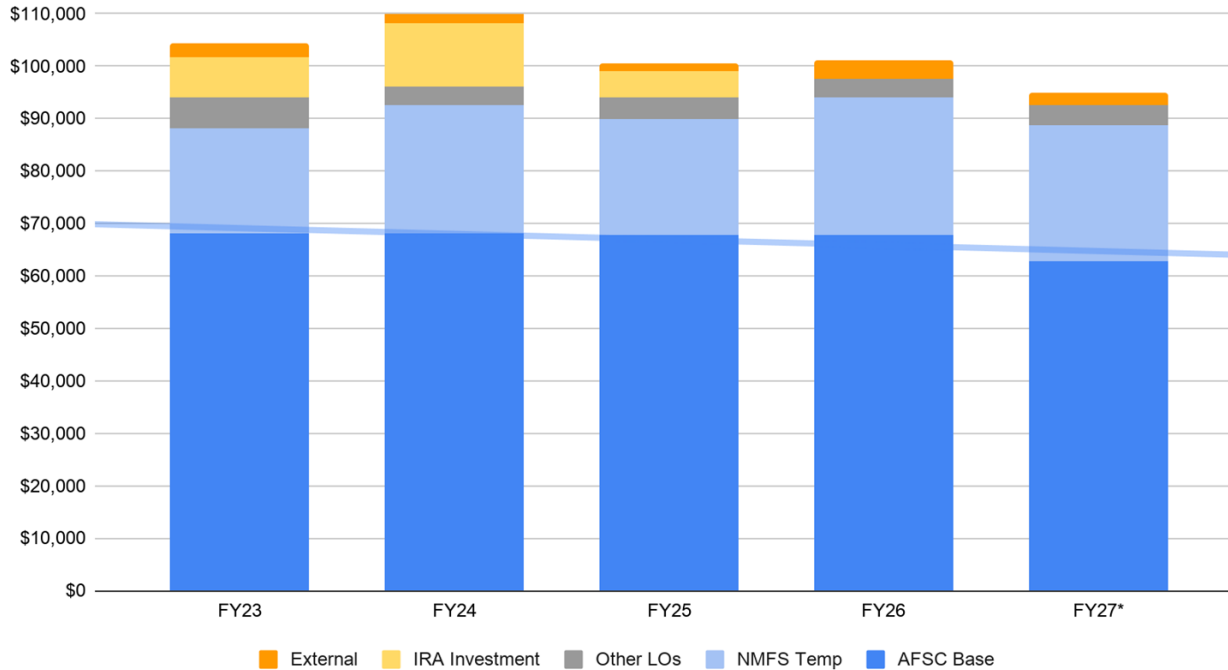
- Aligned to advance NOAA mission
 - **Goal 1:** Monitor and assess fish, crab, and marine mammal populations, fisheries and marine ecosystems.
 - **Goal 2:** Monitor and predict climate impacts on living marine resources.
 - **Goal 3:** Advance new initiatives and innovations.



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2027 Budget Update

AFSC Funding Profile (FY23-FY27)



- FY27* CR “flat” funding profile
- Resources available support our facilities and highest priority surveys
- Multiple NMFS funding prioritization efforts underway
- Expect additional funding to support other high priority science
- Planning on continued “flat” funding for FY28; will scenario plan for alternative budget scenarios (President’s Budget Request; Congressional Markups)



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2026 Staffing Updates

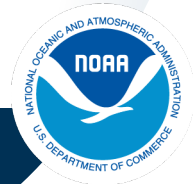
Dr. Braeden Van Deynze joined the AFSC as the new Economic and Social Science Research (ESSR) Program Manager on September 21st. Previously the first Natural Resource Economist for the Washington Department of Fish and Wildlife, Dr. Van Deynze established an agency-wide economics program and led research on recreation-demand, shoreline restoration economics, and bioeconomic analysis of fishing gears. He holds a Ph.D. in Agricultural, Food, and Resource Economics from Michigan State University and bachelor's degrees in economics and biology from Gonzaga University.



Coming Soon

The AFSC is expecting to onboard the following positions in early Fiscal Year 2027:

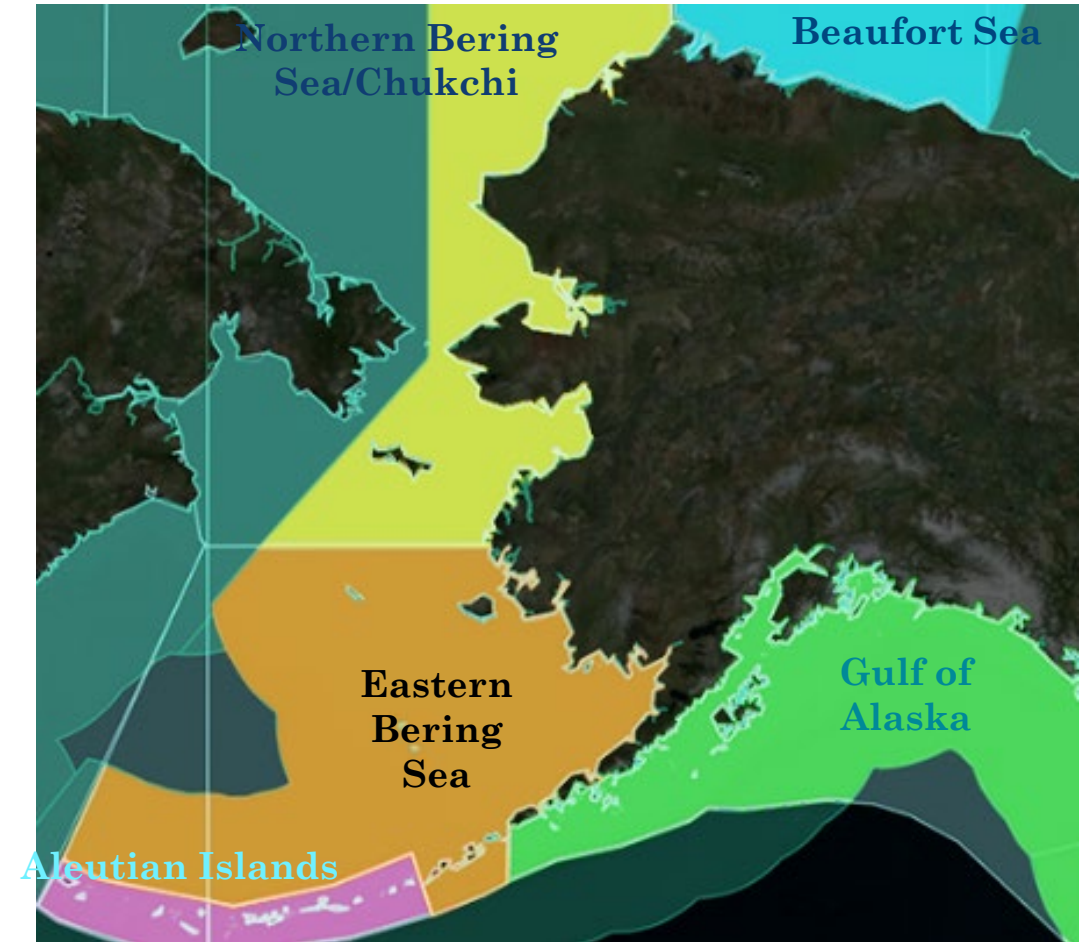
- **Supervisory Research Fishery Biologist** to lead our Age and Growth Program;
- **Supervisory Research Fishery Biologist** to lead our Shellfish Assessment Program;
- **Bioinformatics Specialist** to support our Genetics program;
- **2 Fishery Biologists** to support fishery-dependent data collection (observers and EM);
- **1 Fishery Biologist** to support fishery-independent surveys;
- **Administrative Management Specialist**; and a
- **Grants Management Specialist**.



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2027 Research and Fieldwork Plans

- Planning and Prioritizing scheduled mission-critical surveys
- Continuing Survey Modernization efforts
- Advancing other mission-critical research
 - UxS survey augmentation
 - Seafloor-mounted echosounder moorings
 - 'Omics advances for stock/species composition (e.g. eDNA)
 - NBS IERP
 - Stock Assessment Prioritization
 - Ecosystem Science Prioritization
- Preparing for strong El Nino
- Alaska Communication Priorities



● **Alaska EEZ = 1.5 million nm²**

● **5 Large Marine Ecosystems**

Survey Priorities

Reliable surveys support assessments and timely responses to rapid stock changes

AFSC prioritization framework

Stock priorities

Mandates and Council/stakeholder needs, economic and community value, ecological importance and mortality pressures

Data priorities

Abundance indices, representative age/length samples, maturity, recruitment, ecosystem data for assessments, ESPs, risk tables and management

Core and ecosystem surveys

Bottom trawl, acoustics and longline surveys, complemented by ecosystem observations

SSC recommendations (Feb 2026)

Protect continuity

Retain areal coverage and core biological sampling when effort must be reduced

Make losses and consequences explicit

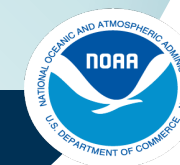
Track planned/completed, partial, missed and “no longer planned” surveys. Explain causes, retained/lost data, replacements, and species-specific uncertainty and management consequences.

Learn from past survey reductions

Assess likely ABC/TAC, stock-status and socioeconomic impacts using quantitative and qualitative evidence.

AFSC Fisheries Surveys Prioritized (1-12)

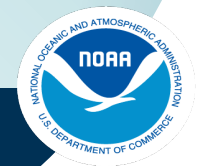
Survey	Platform	AFSC Priority/ NSDA Tier	LME	FY26 Status	FY27 Planning
GAP-SAP Eastern Bering Sea Bottom Trawl_Summer	AFSC Charter	1/1	BS	Completed	Planning Underway
GAP Aleutian Island Bottom Trawl_Summer	AFSC Charter	2/1	AI	Completed	Not Scheduled, Biennial Survey
MACE Puget Sound Gear Trials Acoustic Trawl_Winter	NOAA Ship	3/1	NA	Completed	Planning Underway
MACE Shelikof Strait Pollock Acoustic Trawl_Winter	NOAA Ship	4/1	GOA	Completed	Planning Underway
MESA Gulf of Alaska & Eastern Bering Sea & Aleutian Islands Longline_Summer	AFSC Charter	5/1	BS, GOA, AI	Completed	Planning Underway
MACE Eastern Bering Sea Pollock Acoustic Trawl_Summer	NOAA Ship	6/1	BS	Completed	Not Scheduled, Biennial Survey
GAP-SAP Northern Bering Sea Bottom Trawl_Summer	AFSC Charter	7/1	BS	Not Scheduled, Survey Modernization Fieldwork	Planning Underway
EMA Northern Bering Sea Ecosystem Surface Trawl_Fall	AFSC Charter	8/3	BS	Completed	Planning Underway
MACE Shumagin/Sanak Pollock Acoustic Trawl_Winter	NOAA Ship	9/2	GOA	Completed	Planning Underway
EMA Eastern Bering Sea Juvenile Fish_Fall	NOAA Ship	10/3	BS	Completed	Not Scheduled, Biennial Survey
EcoFOCI Eastern Bering Sea Ichthyoplankton_Spring	NOAA Ship	11/3	BS	Completed, Reduced DAS	Not Scheduled, Biennial Survey
EcoFOCI Eastern Bering Sea & Gulf of Alaska Moorings_Spring	NOAA Ship	12/3	BS, GOA	Completed	Planning Underway



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AFSC Fisheries Surveys Prioritized (13-24)

Survey	Platform	AFSC Priority/ NSDA Tier	LME	FY26 Status	FY27 Planning
EcoFOCI Eastern Bering Sea & Gulf of Alaska Moorings_Fall	NOAA Ship	13/3	BS, GOA	Completed	Planning Underway
EMA Southeast Alaska Coastal Monitoring_Summer	State Ship	14/2	GOA	Completed	Planning Underway
MACE Kenai/PWS Pollock Acoustic Trawl_Winter	NOAA Ship	15/2	GOA	Not Scheduled, No DAS Allocation	Not Scheduled, Vessel Availability
MESA Gulf of Alaska Sablefish Tagging_Summer		16/3	GOA	Completed	Planning Underway
FBEP Kodiak Nearshore Fish Survey small boat_Summer	Small Boat	17/2	GOA	Completed	Planning Underway
SAP Bristol Bay Red King Crab Pot_Winter	Industry Charter	18/3	BS	Cancelled by Industry Partner	Planning Underway
RECA Prince William Sound Humpback Whale Abundance & Fecundity Index_Fall	AFSC Charter	19/2	GOA	Completed	Planning Underway
GAP Gulf of Alaska Bottom Trawl_Summer	AFSC Charter	NS/1	GOA	Not Scheduled, Biennial Survey	Planning Underway
EcoFOCI Gulf of Alaska Ichthyoplankton_Spring	NOAA Ship	NS/3	GOA	Not Scheduled, Biennial Survey	Planning Underway
MACE Bogoslof Pollock Acoustic Trawl_Winter	NOAA Ship	NS/2	BS	Not Scheduled until 2028	Not Scheduled until 2028
EcoFOCI Western Gulf of Alaska Juvenile Fish_Fall	NOAA Ship	NS/3	GOA	Not Scheduled, Biennial Survey	Planning Underway
EcoFOCI Northern Bering Sea IERP_spring	NOAA Ship	NS/3	BS	Not Scheduled, IERP Fieldwork	Planning Underway



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Survey Modernization Efforts in 2026

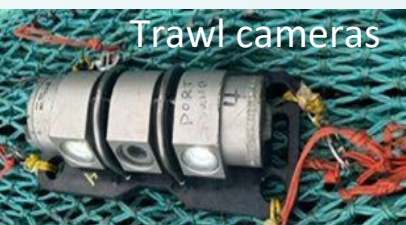
Groundfish Assessment Program

Flume tank



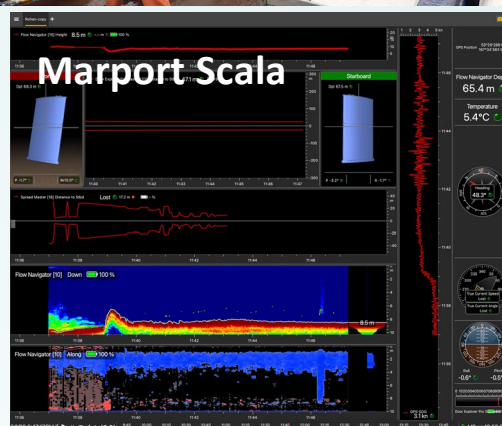
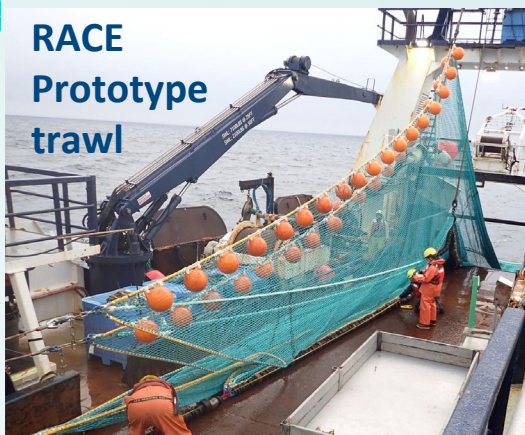
Flume tank evaluation of prototype bottom trawl

Sea trials with prototype trawl



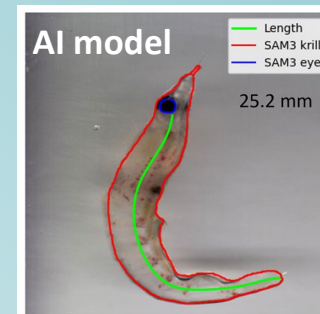
Modernized haul data acquisition system

RACE Prototype trawl

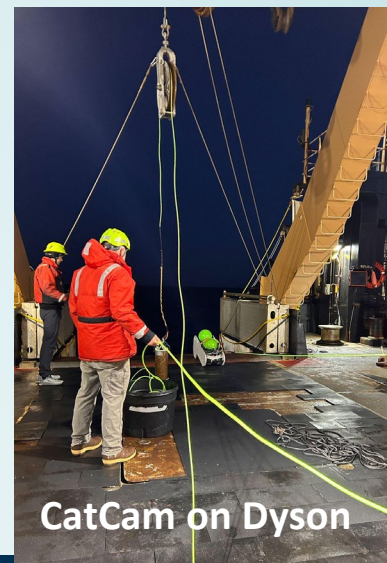


Midwater Assessment & Conservation Engineering Program

Modernizing krill sampling & estimates



CatCam towed camera for untrawlable habitats



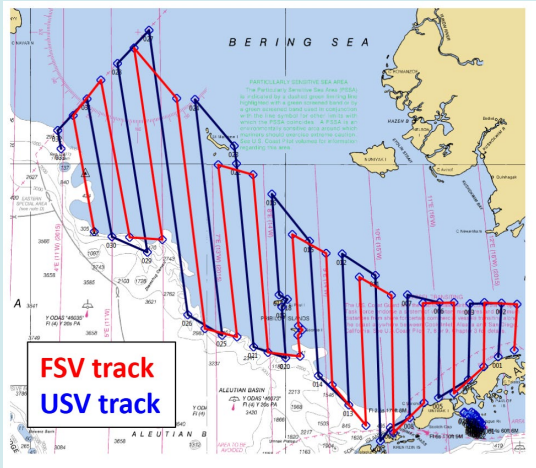
Survey Modernization Efforts Expected in 2027

Long-endurance Uncrewed Surface Vehicles

DriX O-16 will collect data to evaluate performance

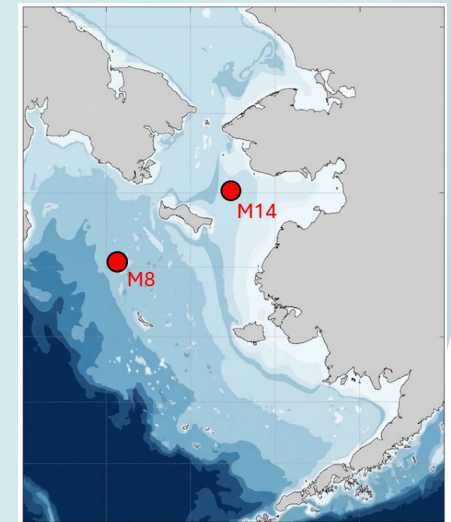


Proposal (pending) to test shore-launched USVs to work in tandem with NOAA ships for acoustic-trawl surveys (AFSC, NWFSC, SWFSC, UW)



Seafloor-mounted echosounder moorings *Under Northern Bering Sea Integrated Research Program*

Project to evaluate the seasonal movement of fish and zooplankton between the Eastern and Northern Bering Seas



2 moorings deployed in August 2026 in the Northern Bering Sea. Will retrieve in August 2027 and 2 new moorings will be deployed

Continuing development of 'Omics technologies

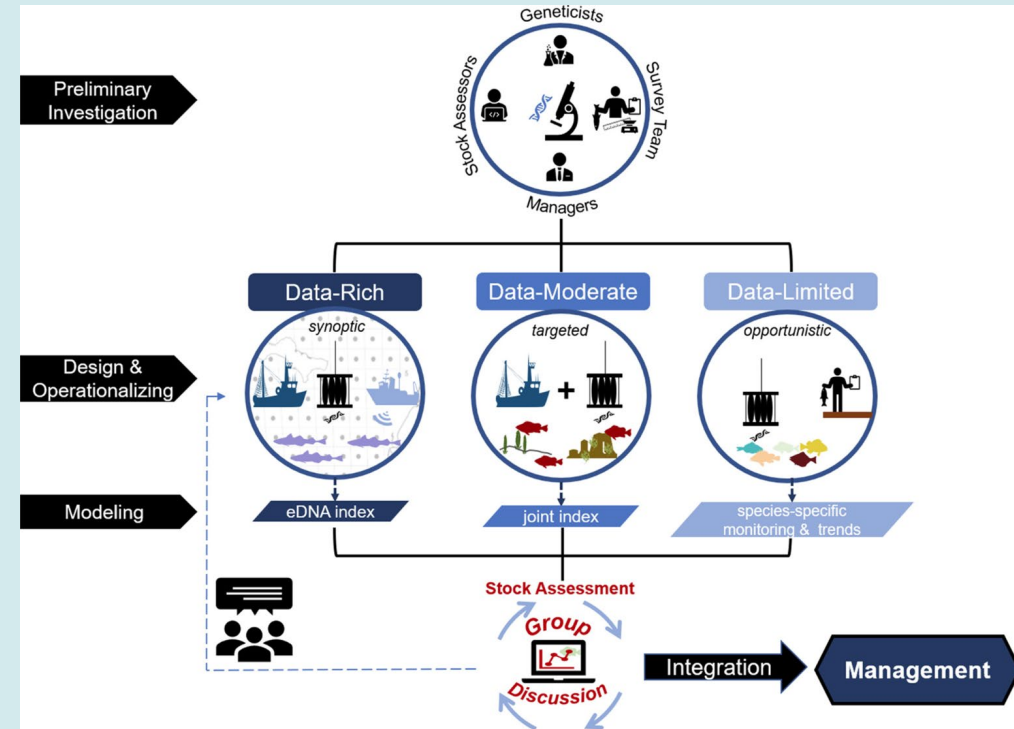
Focus on eDNA and epigenetic aging

eDNA for species distribution and abundance

- eDNA collected on southern and northern Bering Sea ecosystem surveys, joint model developed to understand species distribution, abundance, and range shifts, data integrated into ESR
- Developing eDNA survey in 2027 geared towards untrawlable habitat and comparison with bottom trawl

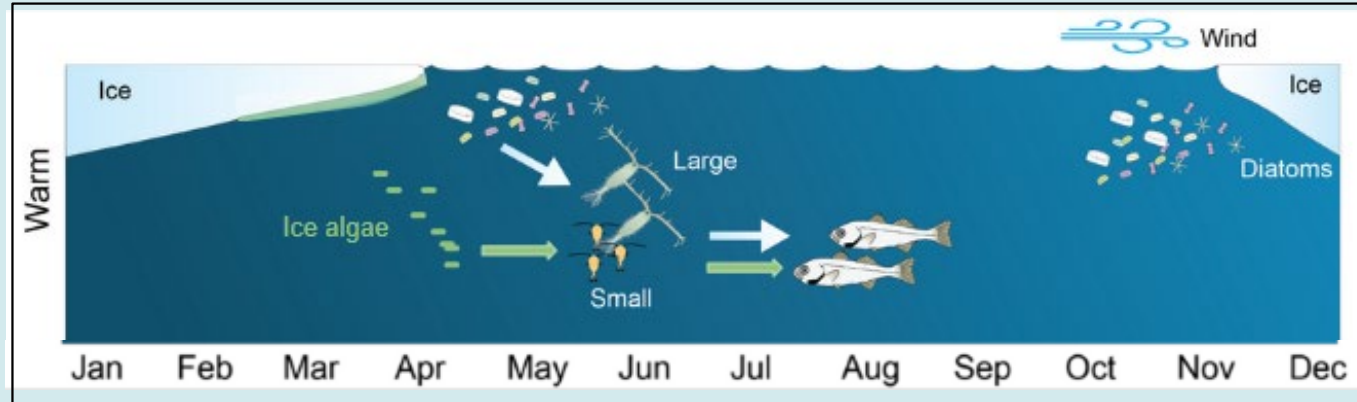
Epigenetic aging for groundfish

- Working with age and growth group to develop and validate epigenetic aging clocks for multiple groundfish species
- Preliminary clock developed for POP, developing high-throughput panel for efficient analysis in 2027
- Clocks for sablefish and other rockfish species in development



Northern Bering Sea IERP: Lower Trophic Levels

Impacts of sea ice loss on lower trophic level productivity in the Northern Bering Sea



2027 Operations

Spring ice algae sampling (Savoonga community partners)

Spring Mooring Survey (May, 24 DAS, Shimada):

- Deploy NBS moorings, sediment traps, pop-up floats, eDNA instruments, glider

IERP Survey (June, 21 DAS, Shimada):

- CTDs: T, S, O, Nutrients, eDNA
- Phyto-, zoo-, ichthyoplankton distribution, species composition, nutritional value.

NBEST Survey (Sept., 28 DAS, NW Explorer) - CTDs, zoop, beam trawls, surface trawls



Northern Bering Sea IERP: Upper Trophic Levels

Food-web effects on species distribution and interactions

Augments and leverages existing NBS surface and bottom trawl surveys

Food-web pathways

How sea-ice loss changes energy reaching fish, crab and marine mammals

Growth and survival

Food limitation, predation and their effects on juvenile fish and crab

A changing northern Bering Sea

Shifts in seasonal arrivals, species ranges and the region's role as juvenile habitat

Fisheries relevance

Models of salmon survival, groundfish–crab interactions and northward expansion



Fish surveys and food-web sampling



Seabird & mammal surveys



Sea-ice energy pathways

Stock Assessment Prioritization (update)

In 2017 and 2023 AFSC–SSC stock assessment prioritization developed in partnership with the NPFMC

Prioritization based on 5 core theme's

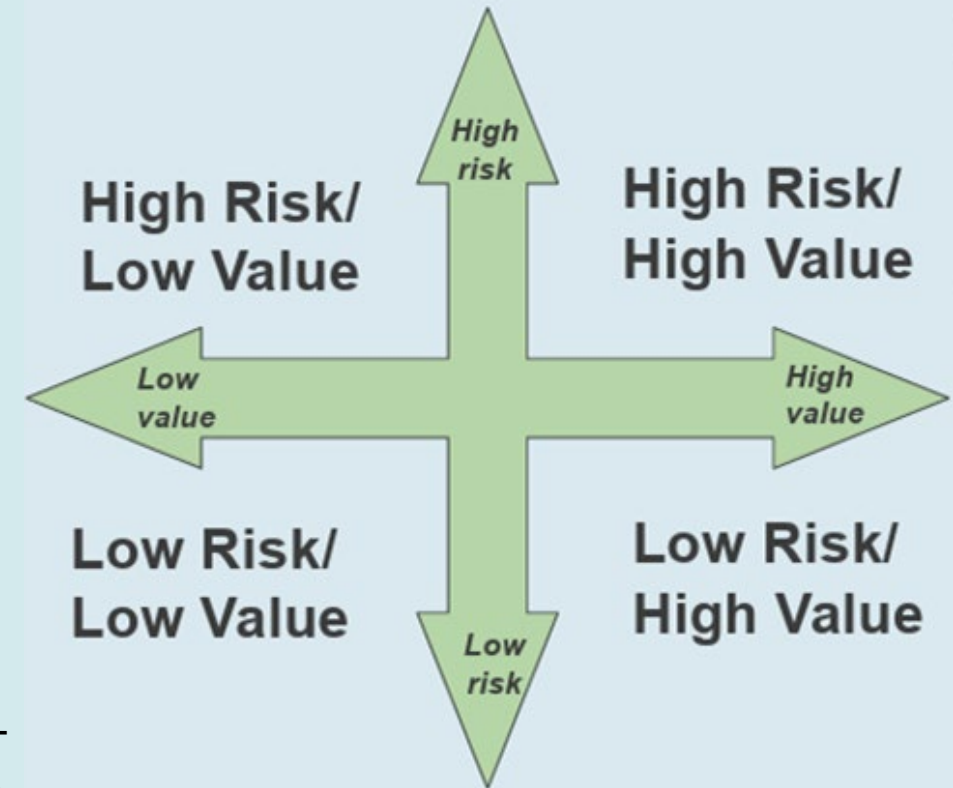
Fishery importance, stock status, ecosystem importance, assessment information, and stock biology (Methot, 2015; Hollowed et al, 2017)

Efficiencies gained through assessment frequency (1, 2, or 4 years), catch reports, harvest projections, and update assessments

Prioritization is an iterative process intended to deliver timely and efficient state-of-the-art stock assessment advice

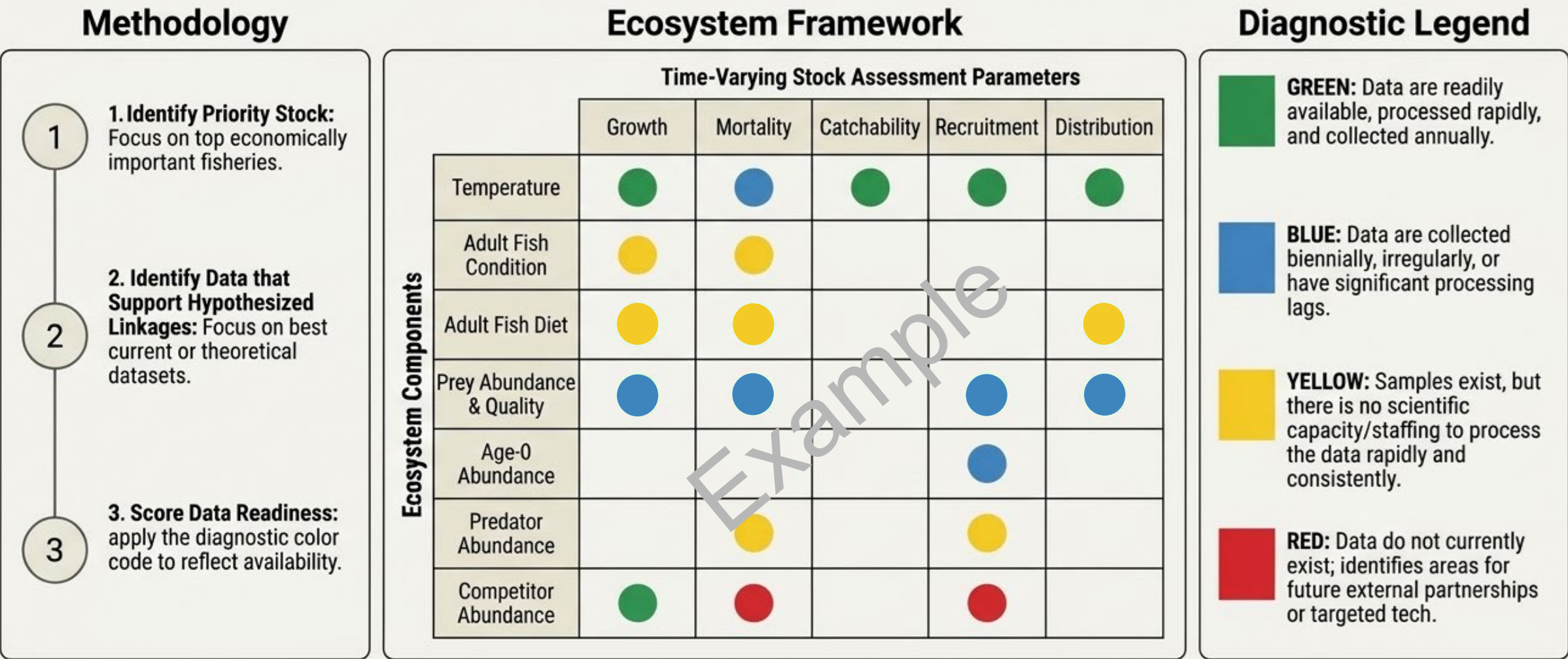
SSC recommends that future prioritization need not occur only on a 5-year schedule... changes to this schedule may be considered on a case-by-case basis as the need arises (Feb 2023)

Current prioritization is aligned with the NMFS risk/value matrix



Prioritizing Ecosystem Science for EBFM

A scalable framework that maps ecosystem metrics against time-varying parameters in stock assessments to identify ecosystem information needed to understand each stock-specific process.



AFSC's Ecosystem Framework

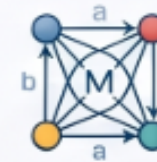
Supports multiple existing EBFM efforts

		Time-Varying Stock Assessment Parameters				
		Growth	Mortality	Catchability	Recruitment	Distribution
Ecosystem Components	Temperature	●	●	●	●	●
	Adult Fish Condition	●	●			
	Adult Fish Diet	●	●			●
	Prey Abundance & Quality	●	●		●	●
	Age-0 Abundance				●	
	Predator Abundance		●		●	
	Competitor Abundance	●	●		●	



1. ESPs (Ecosystem & Socioeconomic Profiles)

Standardizes data organization for Ecosystem Profiles



2. DSEM MODELS (Dynamic Structural)

Quantitatively links ecosystem data to an assessment parameter



3. RISK TABLES

Structures contextual ecosystem data for annual catch recommendations



4. AFSC STRATEGIC PLANNING

Supports science, survey, and staffing prioritization

Implementation Status:

Where are we now?



Greenland Turbot

We have completed turbot and have both process and science take-homes from seeing that through to the end.

COMPLETED



GOA Pollock & EBS Pollock

We have partially completed GOA pollock and EBS pollock.

IN PROGRESS

8

STOCKS

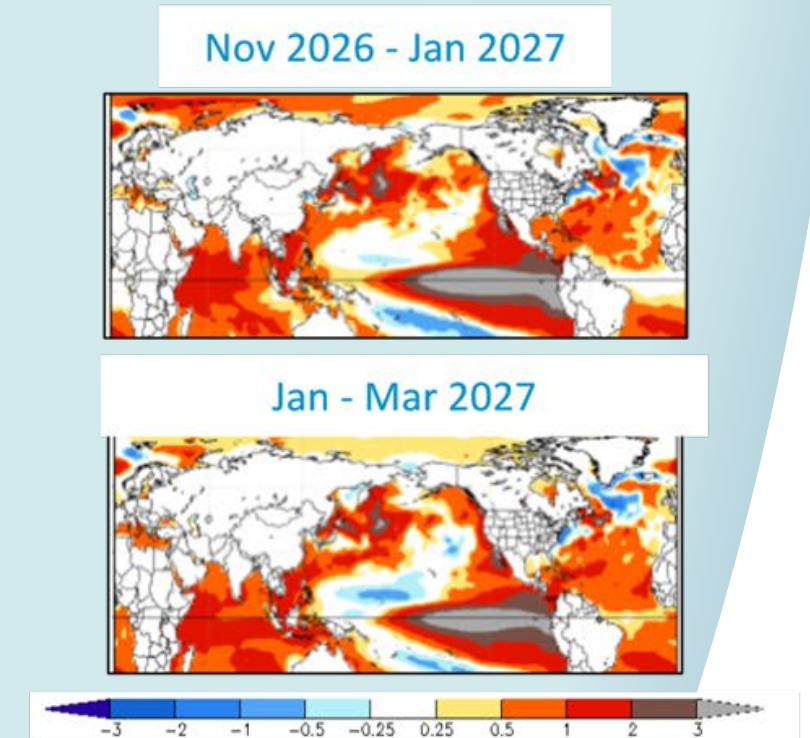
Original Request

The REFRESH Team was asked to complete the effort for 8 priority stocks.

TARGET SCOPE

90% Chance of a Very Strong El Niño Fall & Winter 2026/2027

- 69% chance of being strongest since 1950
- Past 'very strong' El Niño's: 1982/1983, 1997/1998, 2015/2016
- Impact on Alaskan waters is less predictable but expect:
 - GOA: surface warming, incr. circulation, prey limitations on seabirds & marine mammals, groundfish distribution shifts
 - EBS & AI: uncertain effects but potential for lagged surface warming
- EBS, AI, and GOA entering El Niño event from a 2026 winter/spring/summer of relatively lower heat content



SST anomaly projections from
National Multi-Model
Ensemble (NOAA Climate
Prediction Center)

NOAA Fisheries Alaska Communication Priorities

● Ask

- Stakeholders have urged NOAA Fisheries to be more proactive in communicating the integrity of our science and the Council process.

● Goal

- Communicate that NOAA Fisheries and the North Pacific Fisheries Management Council use an ecosystem-based approach backed by sound science to manage Alaska fisheries with integrity and guided by the Magnuson-Stevens Act.

● Approach

- Web stories, leadership messages, MSA-50 national campaign, stakeholder engagements, & external media.



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Thank You!

