

Climate Work Plan: 2026

1. Overview of Climate Resilience work plan tracking tool:

This draft Climate Resilience work plan for the BSAI and GOA fisheries reframes the Council's 4 elements (A-D below) from the Council's December 2024 motion into a tracking spreadsheet (Section 2 below) including progress through 2025-2026. Additional details on each of the listed items in the spreadsheet are included in Section 3 for tracking activities from 2025 through 2026. This summary represents staff's efforts to capture Council, Regional Office and AFSC activities that are related to these elements and is not exhaustive of all potential activities that may fall under these elements. It is intended to provide a summary for the Council to track progress of items the Council has initiated, and/or are in progress by Council, AFSC and other staff that relate to specific Elements in the Council's work plan.

It is anticipated that this tracking table will be a living, working document (maintained by Council and AFSC staff) to be updated twice a year with an update to the Council in staff tasking at the December and June Council meetings. Should the Council have feedback (e.g., on the organization of the spreadsheet, level of detail and periodicity of review, etc) staff will revise accordingly prior to the next review. The Council may also add additional elements to the work plan at any time.

1.2 Council motion for Climate work plan

The Elements and bulleted descriptions listed below are from the Council's 2024 motion¹.

Element A

- Incorporate climate-forecast-linked management advice.
 - Incorporate forecasts of climate and ecosystem conditions (+1-2 yrs) in the harvest projections and specifications processes, including through the assessment of maximum allowable catch, ABC and overfishing limit, OFL; as well as climate, ecosystem, and socioeconomic sections of Ecosystem Status Reports (ESRs), and Ecosystem and Socio-economic Profiles (ESPs) that are used in the Risk Tables (i.e., for ABC) and in the context of informing the TAC-setting process.
 - Include climate forecast information and vulnerability assessments in management advice to inform Risk Tables and discussions around ABC or TAC. Climate information on risk could be communicated via updates and expanded climate risk sections of the Annual Community Engagement and Participation

¹ See Council motion on [Climate work plan December 2024](#). Note that Elements have been renumbered A-D for organizational purposes

Overviews (ACEPOs), through an appendix to ESRs, or as a standalone report or assessment.

- Consider climate-forecast linked spatial management measures (e.g., via climate specific species distribution models) to inform apportionments.

Element B

- Incorporate climate-driven interactions and cascading impacts through use of ecosystem indicators and models. Develop and use ecological indicators and multi-species, multi-fleet, or ecosystem models that quantify uncertainty, interactions, and risk across multiple fisheries or species. As part of this effort risk table discussions can be aligned around climate buffers and risks.

Element C

- Consider and incorporate dynamic management tools to increase in-season adaptation capacity. Examples of these kinds of tools include:
 - Using nowcasts (daily; weekly) and forecasts (<2 years) to inform spatial in-season and annual management actions
 - Increase in-season flexibility and responsiveness in harvest measures through incorporation of real-time observations from a broader suite of observations and information

Element D

- Review tier systems, consider climate-informed biomass targets and limits, and climate-robust or forecast-informed harvest control rules.

2.0 Tracking tool for Council work plan

The spreadsheet tracking tool identifies specific efforts organized by each of the key elements in the work plan. Information is included as to the Council product that is anticipated (or as noted already completed) as well as some specific details associated with that product. Also identified are the relevant FMPs associated with each listed item and the lead responsible agency and partners. More detailed descriptions on each item are included in Section 3. Each item is categorized as ‘existing/operational’ (on-going projects), ‘modification to existing’ (on-going projects that have new changes or updates being made currently), ‘new/in development’ (to indicate a project in which work has begun on the project but it is not yet available for review) and ‘completed’ (projects which have been completed by date of tracking review). Projects may also fall under the category of ‘potential’ (planned new project but work has not yet begun), and will be added to the spreadsheet as they move into the ‘new/in development’ phase. Note that where numbering is out of sequence (e.g. A.1 followed by A.4) it is because the projects associated with those numbers (e.g., A.2 and A.3) are listed as ‘potential’ and therefore not included in the tracking timeline presented here.

Key Element	Council Product *	Product Detail*	New, existing, modified	Relevant FMPs	Lead responsibility: Council staff /RO/AFSC
Element A: Incorporate climate forecast linked management advice					
A.1	Create Science Brief; CEFI 1 pager	Climate Science Brief	Summarize new CEFI products, highlight new climate relevant information for the assessment season	Modification to existing	BSAI Groundfish Lead: AFSC, Partners: NPFMC
A.4	Generate MOM6 indices (hindcast + forecast) for annual assessment cycle products	ESR EBS, Risk tables in stock assessments	Indices of cold pool, BT, SST, etc.	Modification to existing	BSAI Groundfish, BSAI Crab Lead: AFSC, Partners: NPFMC
A.5		ESR AI, Risk tables in stock assessments	Indices of cold pool, BT, SST, etc.	New/ in development	BSAI Groundfish, BSAI Crab Lead: AFSC, Partners: NPFMC
A.6		ESR GOA, Risk tables in stock assessments	Indices of cold pool, BT, SST, etc.	New/ in development	GOA Groundfish Lead: AFSC, Partners: NPFMC
A.7		ESPs for BSAI stock assessments	Indices of cold pool, BT, SST, etc.	New/ in development	BSAI Groundfish, BSAI Crab Lead: AFSC, Partners: NPFMC
A.9		Create climate and ecosystem linked assessment BRPs and forecasted ABCs	Multispecies assessment chapter of the BSAI SAFE	Develop CNRG (prev EBS-CEATTLE) linked to MOM6 forecasts for Pollock, pcod, arrowtooth	Modification to existing
A.10	Create climate and ecosystem linked risk evaluations	Develop CNRG (prev EBS-CEATTLE) linked to forecasts of probability of exceeding thresholds in 2, 10, and 50 years for Pollock, pcod, arrowtooth		Modification to existing	BSAI Groundfish Lead: AFSC, Partners: NPFMC
A.11	Climate and NFS informed assessment evaluations	Present results to date that link N fur seal SDMs to CNRG (prev EBS-CEATTLE) within the multispp assessment		New/ in development	BSAI Groundfish Lead: AFSC, Partners: UW
A.12	Create climate and ecosystem linked assessment BRPs and ABC forecasts	Multispecies assessment chapter of the GOA SAFE	Develop CEATTLE (Rceattle) linked to MOM6 forecasts for Pollock, pcod, arrowtooth	New/ in development	GOA Groundfish Lead: AFSC, Partners: NPFMC
A.13	Climate linked EFH models	Next generation EFH dynamic models	EFH spatiotemporal SDMs (STMs) linked to MOM6 variables and forecasts	New/ in development	BSAI Groundfish, GOA Groundfish, BSAI Crab Lead: AKRO, Partners: NPFMC
A.14	Apply SDMs and projections to ESRs, community tailored reports, protected species, and management decision support tools	ESRs, community tailored reports	Applications of SDMs and projections of changes in distribution and access, protected species distribution, and other management decision support tools	New/ in development	BSAI Groundfish, GOA Groundfish, BSAI Crab, GOA Crab, other, Protected species Lead: AFSC, Partners: AKRO, NPFMC
A.17	Serve climate information and interactive tools via the ACE dashboard	Multiple	Phase 1 of the ACE dashboard is live; Phase 2 underway and development of open access code and data, interactive tools, and decision support / reports to be supported	New/ in development	BSAI Groundfish, GOA Groundfish, BSAI Crab, GOA Crab, other, Protected species Lead: AKFIN, AFSC, UW Partners: NPFMC, public

Key Element	Council Product *	Product Detail*	New, existing, modified	Relevant FMPs	Lead responsibility: Council staff /RO/AFSC	
Element B: Incorporate climate-driven interactions and cascading impacts through use of ecosystem indicators and models						
B.6	Link to groundfish, crab, and marine mammal SDMs to MOM6 hindcasts and forecasts for EBS	EBS ESR	Develop climate informed SDMs and management trajectories based on MOM6 linked assessment models for groundfish and crab - provide contribution to the ESR	Modification to existing	BSAI Crab, BSAI Groundfish	Lead: AFSC, Partners: AKRO, NPFMC
B.7	Link to ice seal SDMs to MOM6 hindcasts and forecasts for EBS	EBS ESR (noteworthy or index)	Develop climate informed SDMs and management trajectories based on MOM6 linked assessment models for marine mammals	New/ in development	BSAI Crab, BSAI Groundfish	Lead: AFSC, Partners: AKRO, NPFMC
B.8	Coordination through SDM 6 month meetings and workshops	SDM and EFH updates	Coordination through SDM 6 mo meetings and workshops to facilitate cross pollination & tie into deliverables, reports and the dashboard	Existing/ operational	GOA Groundfish, GOA Crab, BSAI Crab, BSAI Groundfish	Lead: AFSC, Partners: AKRO, NPFMC
Element C: Consider and incorporate dynamic management tools to increase in-season adaptation capacity						
C.1	ACL in-season management authority	Regulatory impact review (RIR)	Analysis of modifying in-season management authority	New/ in development	BSAI Groundfish, GOA Groundfish	Co-leads NPFMC, AKRO
C.2	Stock Assessment Prioritization	ongoing discussions with NPFMC (PT, SSC)	Within typical stock assessment review process, across all stocks as needed	Modification to existing	BSAI Groundfish, GOA Groundfish	Lead: AFSC, Partners: NPFMC
Element D: Review tier systems, consider climate-informed biomass targets and limits and climate-robust or forecast-informed harvest control rules						
D.1	Alternative Harvest Control Rule (HCRs) considerations	Presentation on Tier systems and flexibility within FMPs for Groundfish and Crab FMPs	Presentation at SSC workshop	Completed	BSAI Groundfish, BSAI Crab, GOA Groundfish	Lead: NPFMC, Partners AFSC
D.2		SSC Workshop on HCRs	SSC Workshop June 2025: https://meetings.npfmc.org/Meeting/Details/3093	Completed	BSAI Groundfish, BSAI Crab, GOA Groundfish, GOA Crab	Lead: NPFMC
D.3		Comprehensive discussion paper on risk and uncertainty in Harvest specifications process and considerations for alternative climate-robust HCRs	Discussion paper to be posted May 1 for Ecosystem Committee Review, May 8 and SSC/AP/Council in June 2025	Completed	BSAI Groundfish, BSAI Crab, GOA Groundfish	Lead: NPFMC, Partners AFSC
D.4	Sablefish Project	Sablefish MSE to be presented to Groundfish Plan Teams Sept 2026; ongoing to end of 2026	Publication in CJAS 2025; overview in HCR discussion paper for May 2026	New/ in development	BSAI Groundfish, GOA Groundfish	Lead: UAF partners: AFSC
D.5	Coordination of HCR & ecosystem cap evaluations via simulation - EBS	SSC, PT, and Council + Workshop on HCRs	Climate smart HCR evaluation via simulation testing in coordination with ACLIM	Existing/operational	BSAI Groundfish, BSAI Crab, Protected species	Lead: AFSC, Partners: UW, NPFMC

* See Section 3 with more detailed descriptions of each product or activity and acronyms included in the table

3.0 Details from each 2025-2026 listed Element

Element A

A.1) Climate Science Brief (plus CEFI 1 pager)

A summary of new Changing Ecosystem and Fisheries Initiative (CEFI) products that highlights new climate-relevant information for the assessment season. The Climate Report is delivered annually and informs the groundfish and crab assessment cycles. A [pilot version of the report](#) was presented through the Fall 2024 assessment cycle (no report was generated in 2025 due to the government shutdown).

A.4, A.5, A.6, A.7) MOM6-derived indices for ESRs and ESPs:

Alaska regionally-tailored indices of cold pool, bottom temperature, sea surface temperature, mixed layer depth, Ocean Acidification (OA) and Aragonite Saturation rate, and additional variables are being generated from MOM6 hindcasts and forecasts and being provided publicly for use in various decision support tools including the EBS, AI, and GOA ESRs and to the ESPs in EBS and GOA SAFE chapters to support the annual assessment cycle.

A.9, A.10) Multispecies assessment chapter for the BSAI SAFE

A climate- and ecosystem-linked assessment is being developed using the CNRG (Climate-linked Numbers, Recruitment, and Growth at age) model (previously EBS-CEATTLE) linked to MOM6 forecasts for pollock, Pacific cod, and arrowtooth flounder. Companion outputs include climate- and ecosystem-linked risk evaluations, with forecasts of the probability of exceeding BRP thresholds in 2, 10, and 50 years.

A.11) Climate- and northern fur seal-informed multispecies assessment results

Northern fur seal Species Distribution Models (SDMs) and management trajectories based on MOM6 are being linked to CNRG to inform the multispecies assessment BRPs and other outputs.

A.12) Multispecies assessment chapter for the GOA SAFE

A climate- and ecosystem-linked assessment is being developed using CEATTLE ([Rceattle](#)) linked to MOM6 forecasts for pollock, Pacific cod, and arrowtooth flounder.

A.13) Climate-linked EFH and SDM applications

Next generation EFH dynamic models are being linked to MOM6 variables to describe and map changes in EFH through time for the BSAI, GOA, and Crab FMPs. Applications of these spatiotemporal SDMs as other management decision support tools are under development (e.g., hindcast/forecast/project changes in species distribution and access related to the environment). Updated stock specific EFH information will be presented to the SSC as a next review milestone in 2027. An EFH 5-year review summary report is targeted for 2028/2029.

A.14) Apply SDMs and projections to ESRs, community tailored reports, protected species, and management decision support tools:

Applications of SDMs and projections of changes in distribution and access, protected species distribution, and other management decision support tools are being developed and refined. MOM6-linked SDMs for the BSAI were delivered in 2025, with updates planned for 2026 to support ESRs, community tailored reports, and broader management decision support tools across the BSAI and GOA.

A.17) Serve climate information and interactive tools via the ACE dashboard:

Phase 1 of the [Alaska Climate-Ecosystem \(ACE\)](#) dashboard is live, providing climate information and interactive tools to support multiple Council products. Phase 2 is underway, with development of open access code and data, interactive tools, and user generated reports to be supported through the ACE dashboard.

Element B

B.6, B.7) Link to groundfish, crab, and N fur seal and SDMs to MOM6 hindcasts and forecasts for EBS

Climate-informed SDMs and management trajectories based on MOM6-linked assessment models for various groundfish, crab, and marine mammals are being developed, including linking northern fur seal (NFS) SDMs and population dynamics to MOM6 hindcasts and forecasts. These can inform various Council products including the future (new in 2027 or 2028) Climate Report, ACE dashboard, and NFS and marine mammal sections of the EBS ESR.

B.8) SDM coordination through biannual meetings and workshops:

Coordination through regular SDM working group meetings and workshops facilitates cross pollination across CEFI projects and AKRO and AFSC and ties development into deliverables, reports, and the dashboard.

Element C

C.1) ACL -in-season management authority:

The Council has initiated a [regulatory analysis](#) to provide increased in-season management authority to the National Marine Fisheries Service to prevent overfishing of groundfish stocks. This analysis is scheduled for initial review at the October 2026 Council meeting.

C.2) Trigger mechanisms for modifying schedule for stock assessments:

The AFSC and NPFMC collaboratively implemented stock assessment prioritization processes during 2017 and 2023. Stock assessment definitions were developed to define the types of stock assessment products provided, and the frequency for every stock assessment, with stock assessment products being provided at one, two or four-year increments for all groundfish stock assessments and one, two or three year increments for crab stock assessments. The annual stock

assessment memo provides information on which stocks are expected to have full and update stock assessments, or harvest projection or catch reports in a given year. Information reviewed during Plan Team and SSC meetings may result in a request for the production of a stock assessment earlier than its assigned stock assessment frequency. Generally this would be due to influential new data (survey, etc.) indicating a potential change in stock status. For example, due to a lack of 2025 stock assessments due to the 2025 federal furlough, in 2026 the AFSC responded to a Council motion requesting an updated 2026 assessment for GOA Pacific cod given indications of a stock increase in the 2025 survey data. This assessment was provided at the February 2026 Council meeting for updated specifications for GOA Pacific cod in 2026-2027. Although no new survey data will be available during 2026, an update stock assessment is planned for the fall of 2026 for specifications in 2027-2028.

Element D

D.1) Overview of current Tier systems:

As part of the SSC's HCR workshop (see below) Council staff prepared an [overview of the current groundfish and crab HCRs](#) and the SSC and Council's flexibility to make adjustments and their potential flexibility under the Council's FMPs.

D.2) SSC Workshop on HCRs:

In June 2025 the SSC held a [Harvest Control Rules workshop](#) per Council [request](#). Following this workshop Council, AFSC and UW staff prepared a [synthesis paper](#) on work to date for presentation and feedback from the Groundfish and Crab Plan Teams during the Fall 2025 specifications cycle.

D.3) Comprehensive discussion paper on risk and uncertainty in Harvest specifications process and considerations for alternative climate-robust HCRs:

This paper has been prepared for presentation to the Council's Ecosystem Committee in May 2026 and as an agenda item for review by the SSC, AP and Council in June 2026 and is posted to the Council's [eAgenda](#). Recommendations stemming from these meetings will inform the scope and direction of forthcoming efforts on revisions to current HCRs for groundfish and crab.

D.4) Sablefish management strategy evaluation (MSE):

The Sablefish MSE project was developed to evaluate possible alternative harvest control rules (HCRs) for the management of sablefish, which could address biological and fishery concerns related to cyclical and spasmodic recruitment dynamics, including multiple successive large recruitment events in recent years. These extreme recruitment events precipitated rapid increases in catch quotas, as well as declines in prices as existing markets became saturated. This resulted in substantial concerns amongst stakeholders regarding whether the current management approach was capable of providing positive outcomes under highly variable recruitment conditions, or whether alternative approaches may perform better. Management strategy

evaluation (MSE), a closed-loop simulation approach, was used by researchers at AFSC and UAF to evaluate the performance of various management approaches across three possible future recruitment scenarios. Additional information on the Sablefish MSE is contained in an appendix to the above referenced discussion paper as well as a publication in [Canadian Journal of Fisheries and Aquatic Sciences CJAS 82:1-17\(2025\)](#). Next steps in the project include finalizing the results from the spatially-explicit MSE framework as well as presentations to stakeholders, the Groundfish Plan Teams (September 2026), and any other interested bodies to discuss final results from both the single-area and spatial MSE analyses. The project is expected to conclude in 2026 and no additional future analyses are currently planned.

D.5) Coordination of HCR & ecosystem cap evaluations via simulation - EBS Region

Coordination of evaluations and performance metrics is occurring via workshops and across working groups linked to the CLIM research efforts and via simulation / projection evaluations (in a few cases MSEs); these simulations identify if HCRs (or alternative ABCs or OY caps) can improve future management and fisheries performance (relative to industry ,fisheries and ecosystem council s) and support evaluation of the performance and benefit of alternative HCRs for groundfish and crab under historical and future conditions for the EBS.