

Climate Readiness/Climate Planning

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Crab Plan Team
May 2025

Brief overview of:

- NPFMC climate-related activities
- Climate Change Task Force (CCTF)
- Climate-informed harvest control rules (HCR) activities

Recent NPFMC climate-related activities

NPFMC

- ❑ BS FEP Climate Change Task Force (CCTF)
- ❑ Climate Scenario Workshop
- ❑ SSC workshops

National

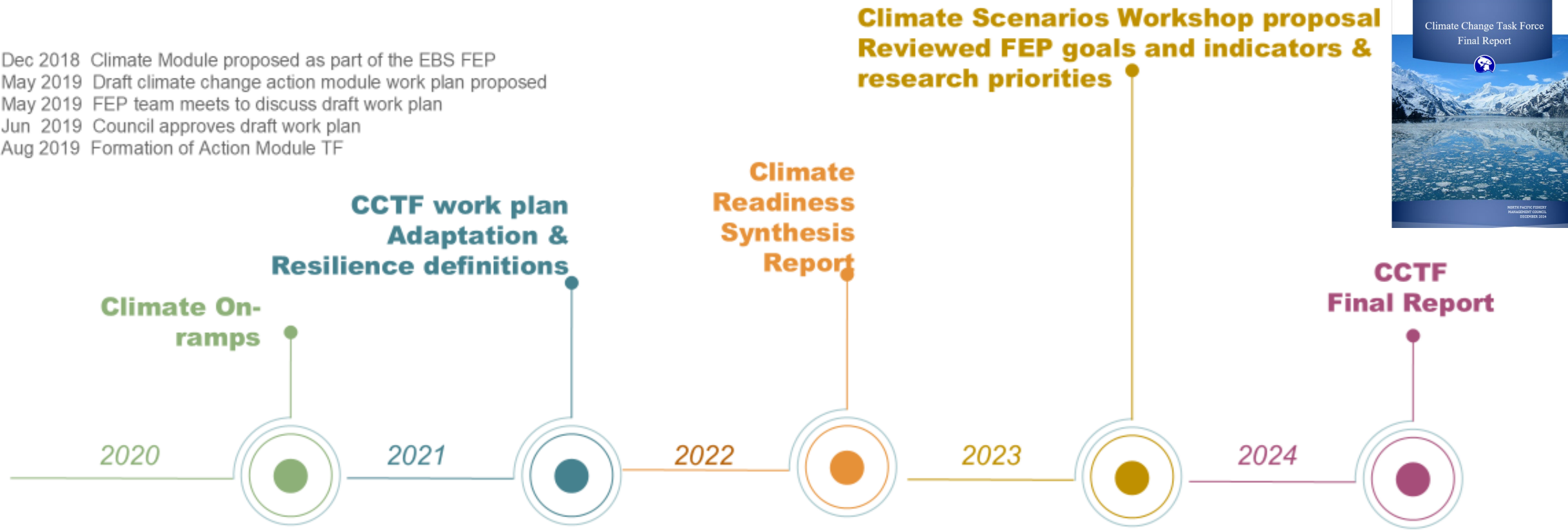
- ❑ NOAA Changing Ecosystems and Fisheries Initiative (CEFI)
- ❑ National SSC meetings (SCS)

Recent NPFMC climate-related activities

- ❑ **BS FEP Climate Change Task Force (CCTF): Final report, 2024**
 - ❑ Council Action December 2024
 - ❑ Council motion to establish a Climate Workplan
- ❑ **Climate Scenario Workshop**
 - ❑ Report in October 2024, no action (awaiting CCTF report)
- ❑ **SSC workshops**

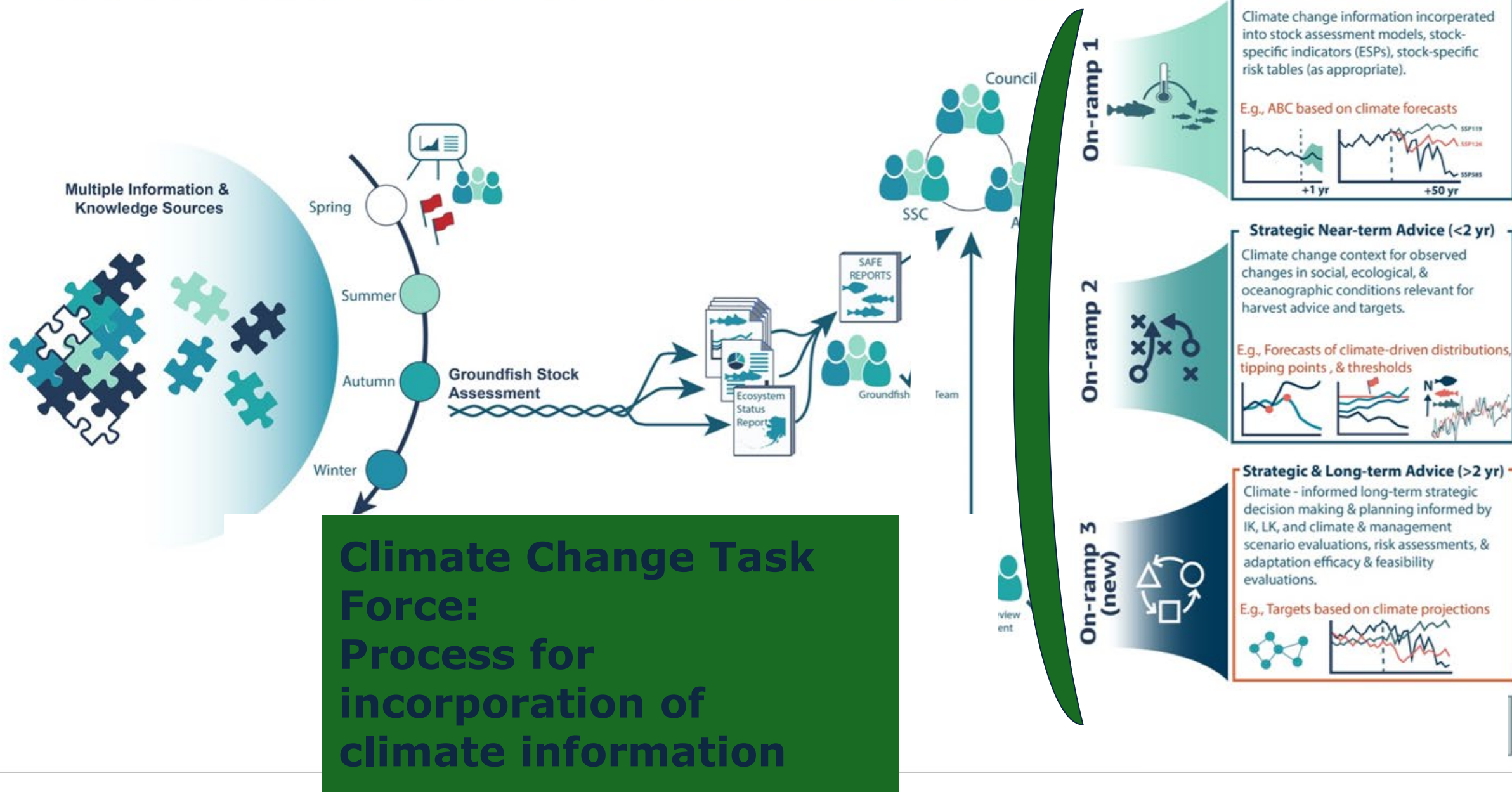
Process for developing a Climate resilience work plan

Dec 2018 Climate Module proposed as part of the EBS FEP
May 2019 Draft climate change action module work plan proposed
May 2019 FEP team meets to discuss draft work plan
Jun 2019 Council approves draft work plan
Aug 2019 Formation of Action Module TF

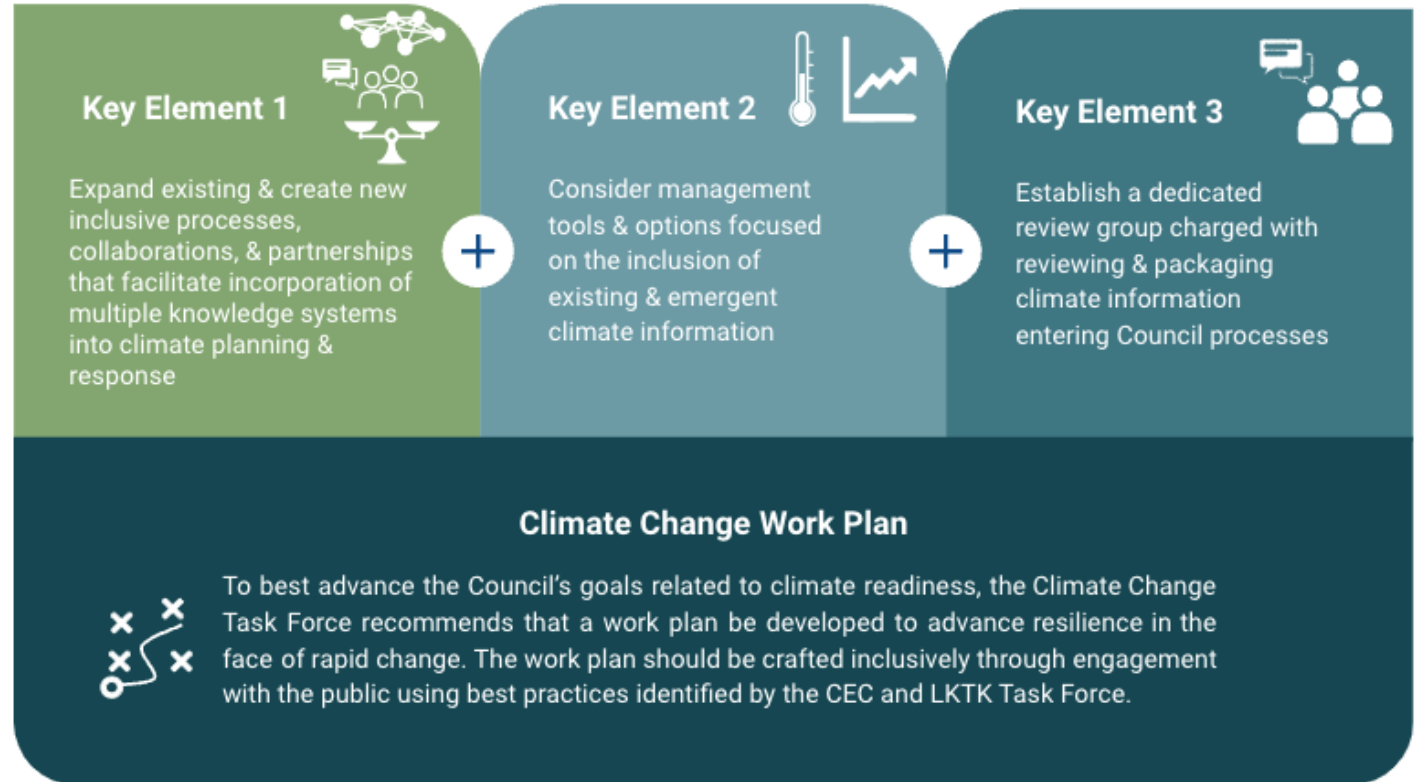
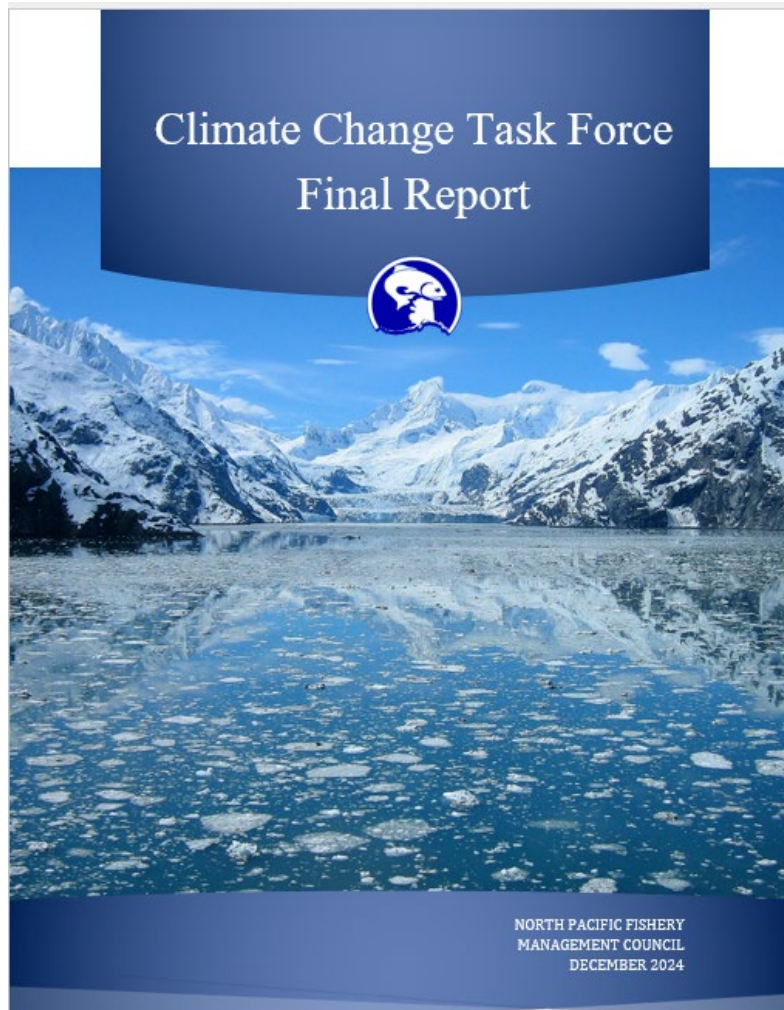


- Council initiates Climate Change Task Force 2019
 - 5 year focus
- CCTF recommendations formed the basis of the Council's Climate work plan December 2024
 - Council previously received reports on Climate Scenarios Workshop (no recommendations) and our SSC's recommendations stemming from SSC National workshop Fall 2024

Climate-informed fisheries management: Proposed “on-ramps” and existing coordination

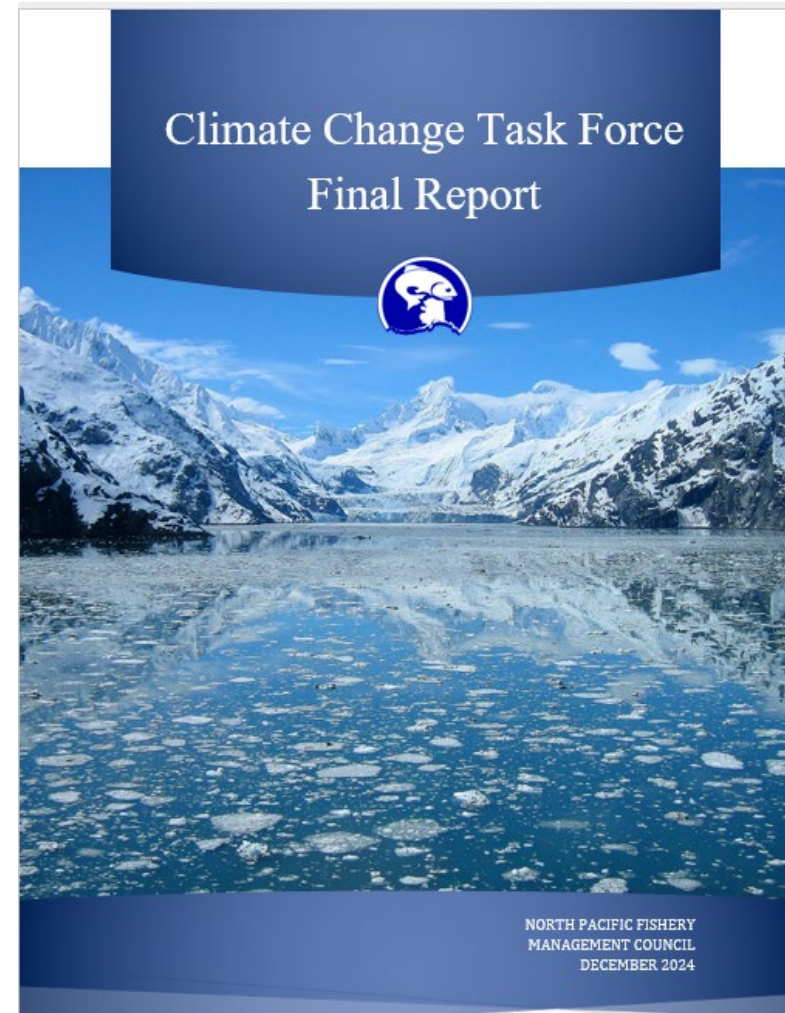


Final Report and CCTF recommendations December 2024



Key Element 2

Consider management tools & options focused on the inclusion of existing & emergent climate information



https://www.npfmc.org/wp-content/uploads/Climate-Change-Task-Force-final-report-_Feb2025.pdf

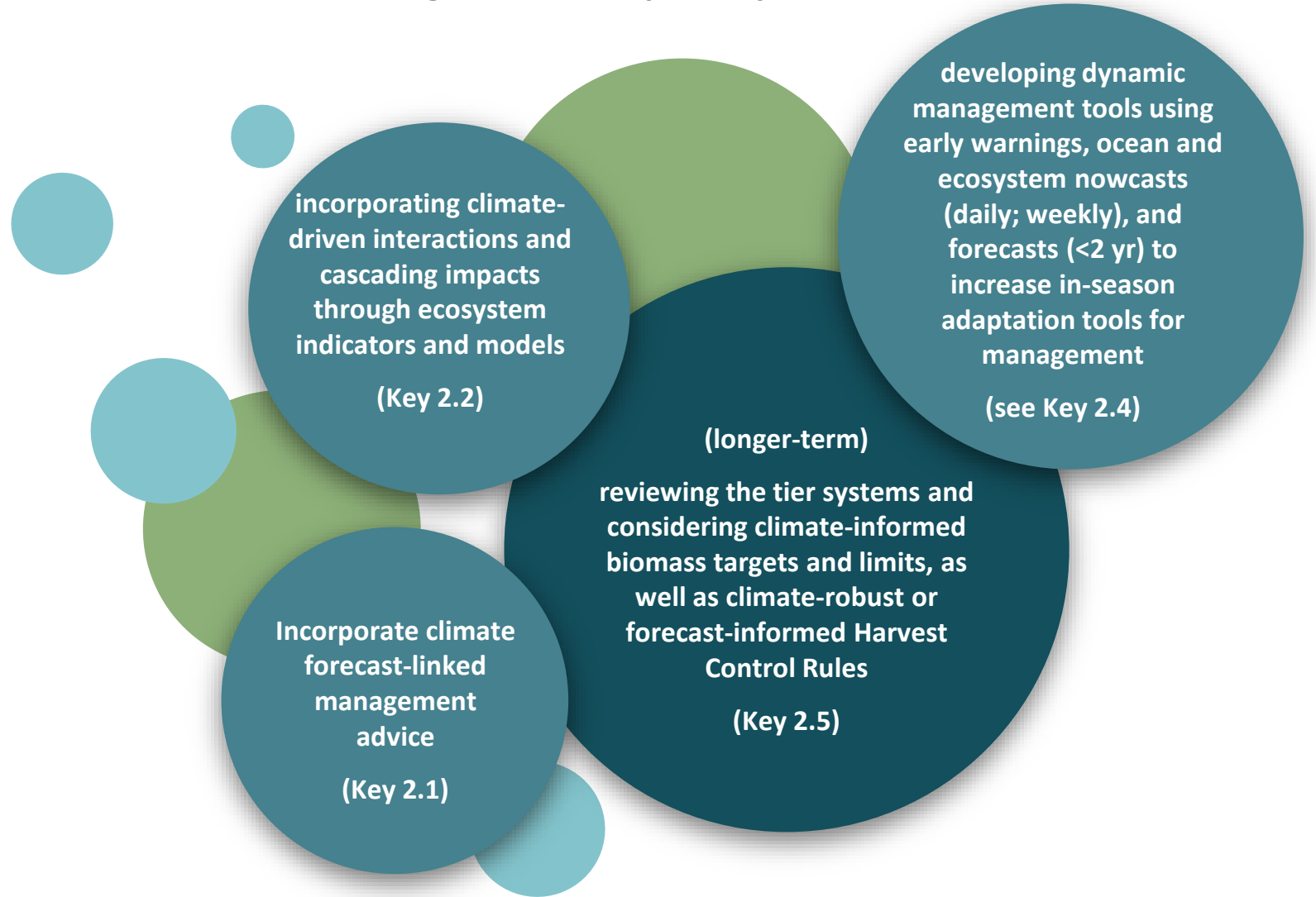
Key Element 2



Consider management tools & options focused on the inclusion of existing & emergent climate information

The CCTF recommends a work plan that initiates both implementation of near-term priorities and start processes to explore the longer-term priorities

High Priority Key Elements



10 Key elements identified, 4 prioritized

Council Action December 2024 to adopt a Climate Workplan

Key Element 1



Expand existing & create new inclusive processes, collaborations, & partnerships that facilitate incorporation of multiple knowledge systems into climate planning & response



Key Element 2



Consider management tools & options focused on the inclusion of existing & emergent climate information



Key Element 3



Establish a dedicated review group charged with reviewing & packaging climate information entering Council processes

Climate-robust/forecast-informed
HCRs and biomass targets

Climate Change Work Plan



To best advance the Council's goals related to climate readiness, the Climate Change Task Force recommends that a work plan be developed to advance resilience in the face of rapid change. The work plan should be crafted inclusively through engagement with the public using best practices identified by the CEC and LKTK Task Force.

Council Action December 2024 to adopt a Climate Workplan

Key Element 1



Expand existing & create new inclusive processes, collaborations, & partnerships that facilitate incorporation of multiple knowledge systems into climate planning & response



Key Element 2



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Key Element 3



Establish a dedicated review group charged with reviewing & packaging climate information entering Council processes

Key Element 3 to be addressed through Council Ecosystem Committee

Climate Change Workplan



To best advance the Council's goals related to climate readiness, the Climate Change Task Force recommends that a work plan be developed to advance resilience in the face of rapid change. The work plan should be crafted inclusively through engagement with the public using best practices identified by the CEC and LKTK Task Force.

Recent NPFMC climate-related activities

National

- ❑ **NOAA Changing Ecosystems and Fisheries initiative (CEFI)**
 - ❑ NPFMC staff and NMFS RO staff added to Alaska Climate/CEFI Team (ACT)
- ❑ **National SSC meetings (SCS)**
 - ❑ SCS8 outcomes and NPFMC related focus

SCS8 Workshop Theme:

Applying ABC Control Rules in a Changing Environment

Goal: Provide actionable guidance on how to best support Councils in the management of fisheries, specifically the application of ABC control rules, in a changing environment.

3 sub-themes:

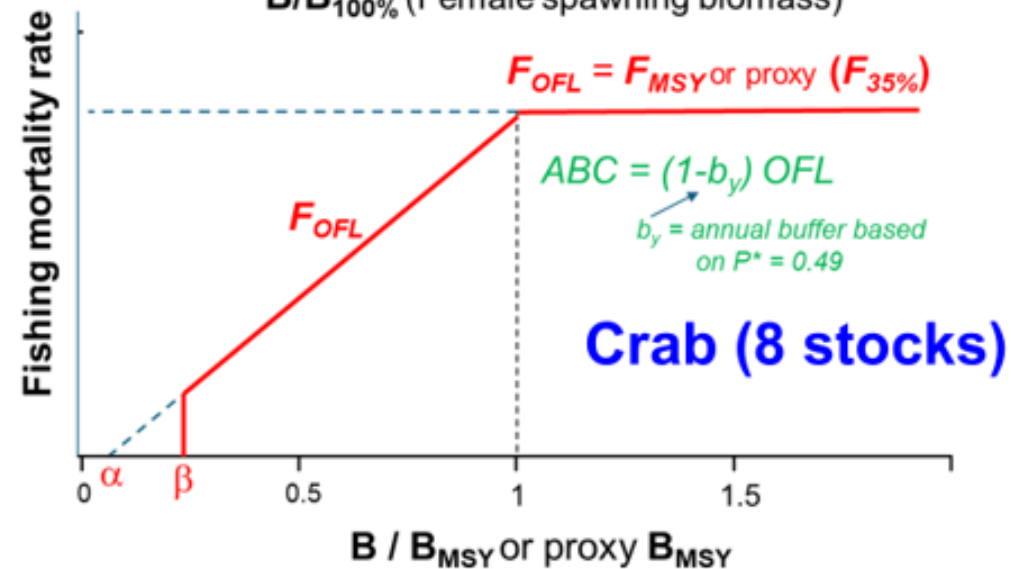
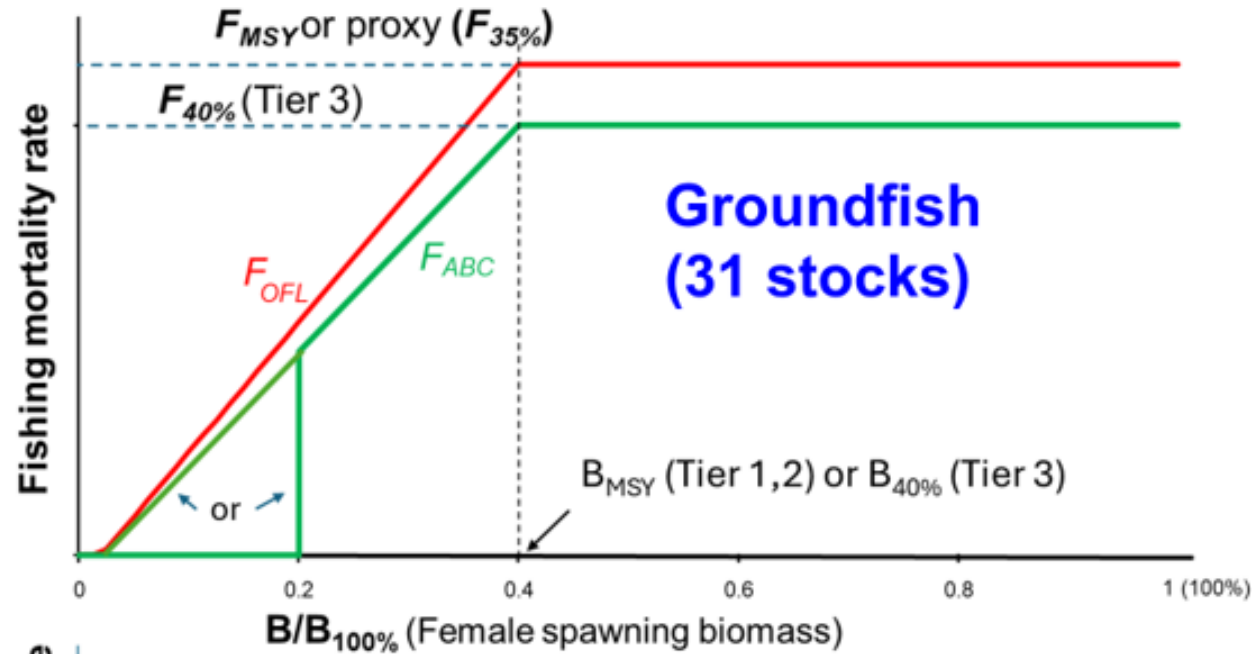
1. Advances in ecosystem science and assessment to inform ABC control rules in a dynamic environment
2. Application of social science to achieve management goals under dynamic conditions
3. Adaptation of reference points, control rules, and rebuilding plans in a changing environment

Plans stemming from SCS8 and CCTF final report

- SSC HCR workshop June 2025
 - NPFMC SCS8 priority -> previously noted by Plan Teams 2023-2024
 - Council motion October 2024
 - Recommendation by CCTF in final report
 - Council motion for Climate Work Plan December 2025
- SSC: Socio-economic considerations in TAC-setting
 - December 2023 SSC request, document posted to December 2024 agenda, highlighted in NPFMC SCS8 report
 - October 2024 Council motion
 - ~~June 2025~~ Timing TBD SSC to discuss opportunities to improve the communication and use of available economic and social information in the management process



Model-based Control Rules

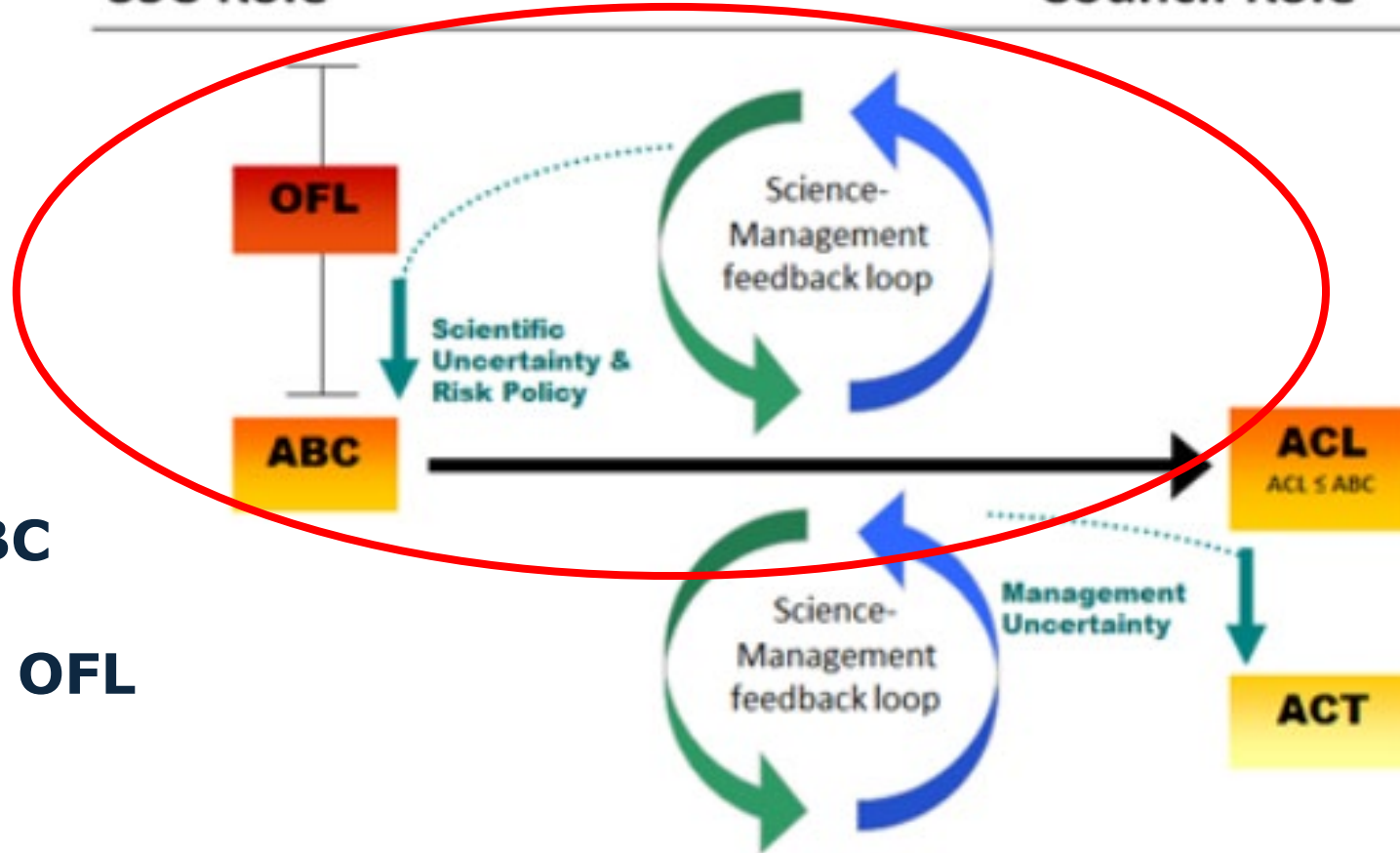


Considerations on revising harvest control rules to be more climate resilient

- ❑ Identify available flexibility and/or lack thereof in current groundfish and crab tier systems
- ❑ Identify recent issues by stock with the application of current system
- ❑ Compile existing literature and ACLIM/GOACLIM results to help inform sensitivity of stocks to HCR shapes compared with biological reference points and/or fishing rate modifications
 - ❑ Council would need to weigh in on policy objectives (including **risk tolerance**) in modification of HCRs or reference levels

SSC Role

Council Role



NPFMC $ACL = ABC$

For Crab $ABC = OFL$

Related roles of the regional fishery management councils and their Scientific and Statistical Committees in translating scientific information into recommendations for annual catch limits.

OFL – Overfishing limit
ABC – Acceptable biological catch

ACL – Annual catch limit
ACT – Annual catch target

Risk Policy (ABC setting)

For Crab defined during Amd 36 for ABC control rule ($P^* = 0.49$)

- Risk policy that $ABC = OFL$.
 - But practically speaking never used → annually varying buffers
- Should risk policy be reconsidered in light of CPT discussion of buffers and annually varying ABCs?

For groundfish: risk tables and periodic $ABC < \max ABC$

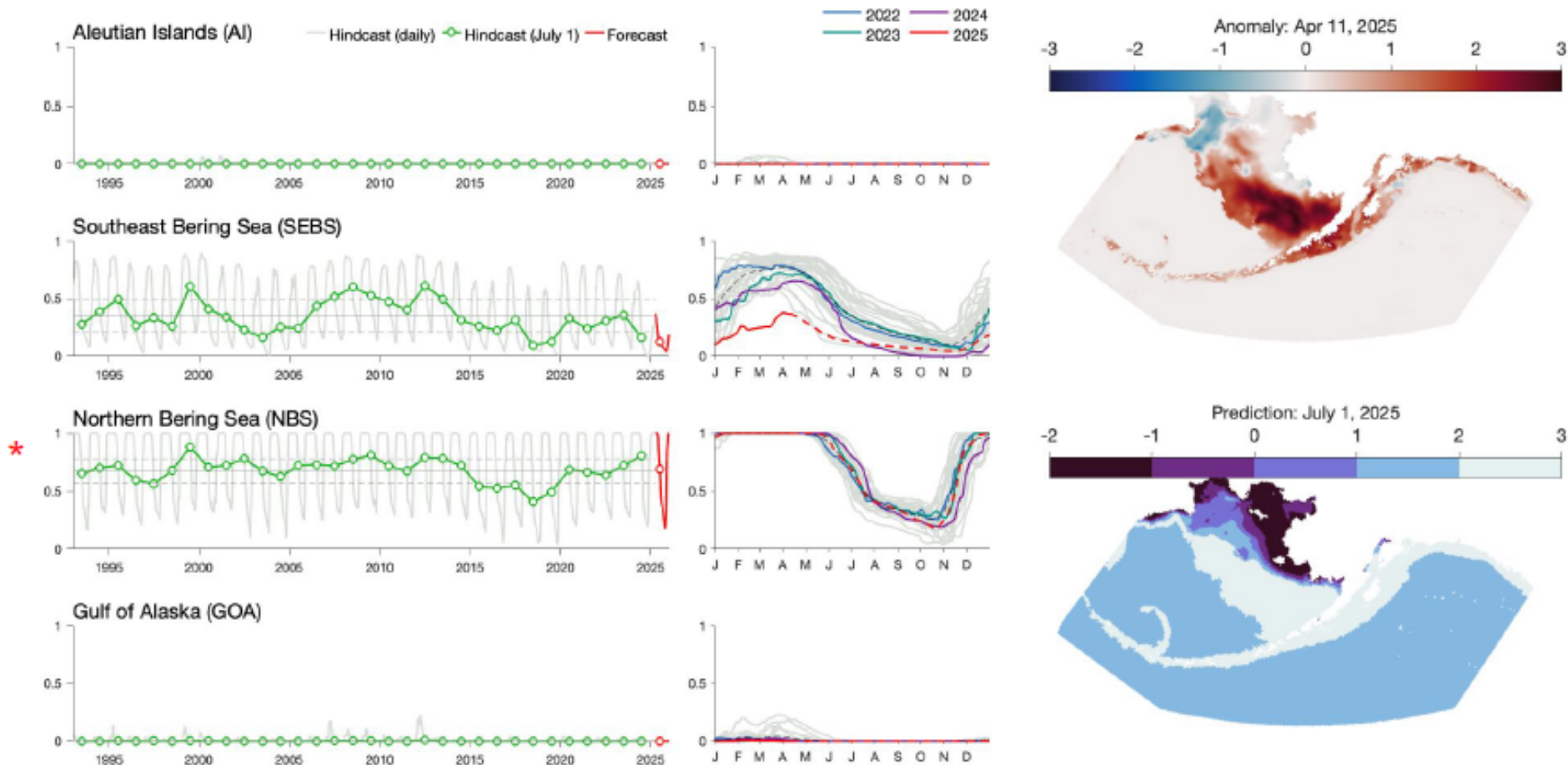
- Risk policy by Council in $\max ABC$ HCR superseded by periodic adjustments below $\max ABC$
- Further consideration of revised HCR

Additional Climate considerations in June: BRIEF 2025 MOM6 update

K. Kearney

~~EBS ROMS NPZ~~ MOM6-NEP hindcast/forecast update

2°C cold pool index



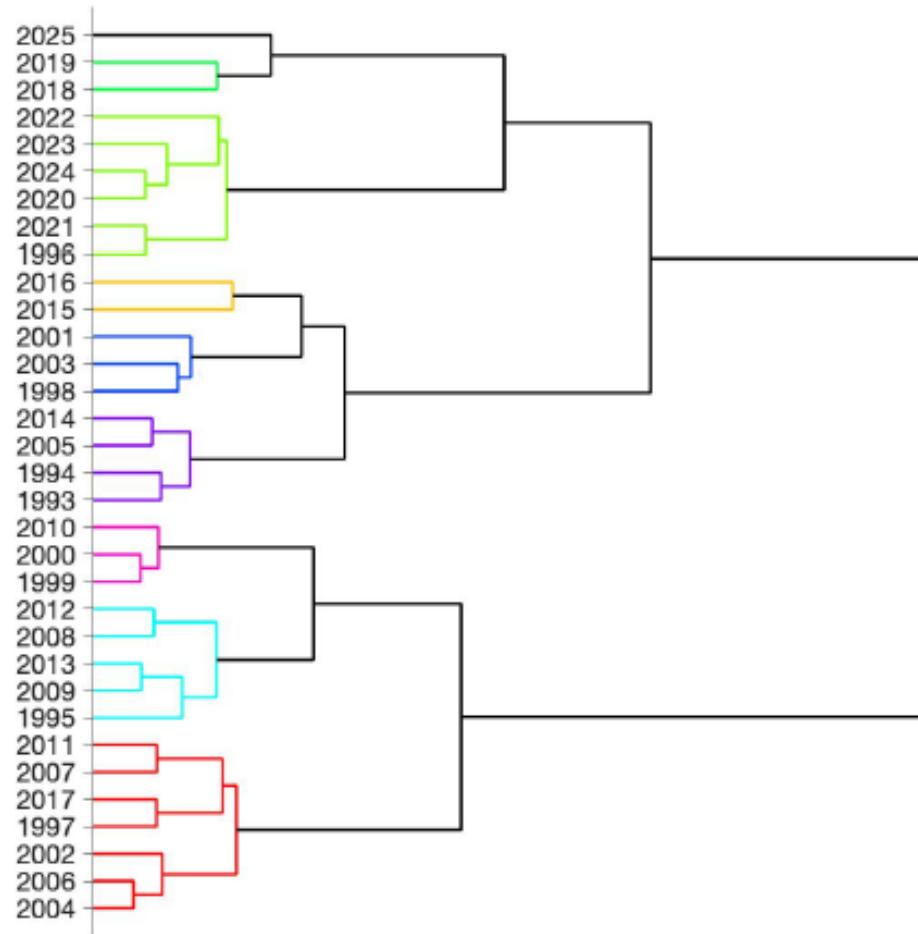
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What year(s) are similar?

Based on April 11 surface/bottom temps...

None! Most dissimilar year in the simulation

Closest cluster: 2018, 2019



Moving forward

SSC workshop on HCRs June 2025

- ---> Work plan for discussion paper for Plan Team/SSC/AP/Council review October 2025
- [Overview](#) of workshop online

Continued consideration of other aspects of Council's Climate workplan



HCR Workshop Schedule

8am-12pm
June 4

Session 1:

2. Overview of workshop goals and objectives, current groundfish and crab Tiers, and harvest control rules and their potential flexibility under the Council's fishery management plans (FMPs) (*Diana Stram*)
3. Update on HCR considerations and simulations to date, based on ACLIM/GOACLIM work and related analyses (*Kirstin Holsman/Anne Hollowed*)
4. Questions and panel discussion on Session 1

Session 2:

5. Invited issue-specific 'lightning talks' (note titles may change)
 - a. MOM6 projections for Bering Sea: *Kelly Kearney (AFSC)*
 - b. Application of HCRs under snow crab population decline: *Cody Szuwalski (AFSC)*
 - c. Stock recruitment influence on HCRs: *Paul Spencer (AFSC)*
 - d. Determining productivity related to EBS Pollock: *Jim Ianelli (AFSC)*
 - e. Pacific Sardine HCR: *Chris Free (UCSB)*
6. Questions and panel discussion on Session 2

Session 3:

7. Cap discussion
 - a. GOACLIM 2 modeling tools for exploring HCRs: *Carey McGilliard (AFSC)*
 - b. Overview of analyzing OY cap in GOA: *Alberto Rovellini (UW)*
 - c. Methodology on TAC modeling to explore cap alternatives: *Alberto Rovellini (UW) and Jim Ianelli (AFSC)*
8. Questions and panel discussion on Session 3

Public comment session

9. Public comment on all sessions

Next steps

10. SSC-only discussion: recommendations on a workplan and terms of reference



Thank You!