CCTF Members:
Co-chair: Diana Stram (NPMFC): diana.stram@noaa.gov
Co-chair: Kirstin Holsman (NMFS- AFSC) : kirstin.holsman@noaa.gov
Lauren Divine (Aleut Community of Saint Paul Island)
Scott Goodman (Natural Resources Consultants/BS Fisheries Res. Foundation)
Jason Gasper (NMFS-Regional Office)
Mike LeVine (Ocean Conservancy)
Steve Martell (SeaState)
Brenden Raymond-Yakoubian (Sandhill Culture Craft)
Jeremy Sterling (AFSC Marine Mammal Lab)
Todd Loomis (Ocean Peace, Inc.)
The goal of the Climate Change Module is to facilitate the Council’s work towards climate-ready fisheries management that helps ensure both short- and long-term resilience for the Bering Sea.
Objective 1. Collate:
Evaluate the mechanisms and processes through which climate change information is currently included in the fishery management process, identify gaps, and help create opportunities to increase the inclusion of available information.

Objective 2. Synthesize:
Synthesize information about long-term climate change impacts and scenarios and help create pathways for inclusion of that information in the fishery management process.

Objective 3. Communicate:
Identify potential management tools and actions for consideration by the Council that could help increase resilience and adaptation to climate change impacts.
CCTF MEETINGS TO DATE

- January 2020: spin up meeting and update to Council bodies (Ecosystem Committee, SSC/AP/Council)
- February 2020 CCTF meeting 2:
  - Initial development of framework and proposed process
  - Initial draft of work plan
  - Update to FEP (March meeting)
- December 2020 CCTF meeting 3
- May 2021 CCTF meeting 4
  - Workplan approved by Council
- January 2022 meeting 5 (part 1)
- March 2022 meeting 5 (part 2)
CCTF TIMELINE

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Update on Meeting 5 (part 1)

- January 2022: 3 day meetings and breakout sessions
  - Some work on Miro boards to ID connections with case studies for snow crab, pollock and YFS
  - Next focused work on 3 sections of Climate readiness report (break into subgroups)
    - Management Overview
    - Knowledge Base Overview
    - SAFE report review for climate change information
  - Outlined sections of all 3 and assigned ‘homework’ for sub-groups for Meeting 2 review and synthesis
    - Draft Climate Synthesis report for review and comment for Council meeting
Update on meeting 5 (part 2) and plans for April review

- Mar 14-16 2022
  - CCTF Meeting link: https://meetings.npfmc.org/Meeting/Details/2853
  - 2 day half day meeting with time for sub-groups to work in the afternoons after each meeting on sections

- Initial plan (then modified) was Climate Readiness Synthesis (rough draft) for April review
Day 1

8:00 - 8:30 Welcome, review agenda and objectives: Overall Plan
8:30 - 9:15 Status updates from each group:
   Review Climate readiness synthesis update by group [nominate one person to talk through update issues, problems, where they are at] with objective to spend the afternoon with your subgroup offline working to finalize a draft
9:15 - 10:15 Adaptation discussion
   ● Review of IPCC report - fisheries relevant pieces for us to consider [Holsman]
   ● What to plan for or think about in terms of part B adaptation measures to discuss on day 2
10:15 - 10:30 Break
10:30 - 11:30 Ecosystem Matrix as a potential framework to be adopted/modified for CCTF
11:30 - 11:45 Public comment
11:45 - 12:00 Wrap up and prep for day 2

Afternoon to work offline with your subgroups to finalize Climate Readiness synthesis reports for Tuesday. To be posted by Diana by COB to eAgenda for review and revisions by CCTF
Day 2 March 16 8-1:15 AK time

8:00 - 8:30 Welcome, review agenda, and tasks for the day
8:30 - 9:15 Review by group of draft Climate Readiness synthesis; online editing as needed
9:15 - 9:30 Break
9:30 - 10:30 Discussion (will take public comment during remainder of agenda within the CCTF discussion)
  ● How would you characterize the current state of climate readiness?
10:30 - 11:30 Brainstorming session - future directions and investments
  ○ What are future climate readiness measures that are needed?
  ○ What can increase climate readiness and resilience in the near future?
  ○ What can increase climate readiness and resilience long term?
11:30 - 12:30 Prioritization of future actions based on effectiveness and feasibility
  ○ What are some high feasibility options from above?
  ○ What are some high effectiveness options from above?
  ○ What are the top 3 options for immediate action?
12:30 - 1:00 Wrap up
Discussions by CCTF

- EcoMatrix (CCTF minutes pages 2-3)
  - Council request for CCTF to review stakeholder EcoMatrix put forward in public testimony
  - Comments and concerns listed in minutes and focused on the following:
    - Connections between elements in matrix, transparency of data and connections, data selection methodology, range of potential outcomes, application of this as a tool, overlap with existing efforts (e.g. ESPs)
    - General support for concept but requires further development and data references to connections proposed

- Future directions and considerations (CCTF minutes pages 3-4)
  - Plan to finish up Climate Readiness Synthesis (next slides)
  - Following that move to Objectives 2 and 3 in future planning
    - Brainstorming session of ideas moving forward
Updated Planning

- CCTF meeting 6 in August
- Plan Team review September
- Full Climate Readiness Synthesis for October
Climate Readiness Synthesis (2022)

Assessment of climate change readiness & near term actions to increase readiness
Climate Readiness Synthesis (2022)

Assessment of climate change readiness & near term actions to increase readiness
Progress to date by section

## Section 1: Management Process

### Completed/remaining: Section 1 Management
- **Ranking Table**
- **Policy and management framework overview**
  - Include assessment of current climate change readiness or information
    - Table of management tools
- Include near-term / low hanging fruit actions, modifications to advance climate readiness

### Management Measures

<table>
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<tr>
<th>Types of actions</th>
<th>Special Area Management</th>
<th>Quota Programs</th>
<th>Seasonal Allocations in Regulation</th>
<th>Gear/Vessel/Retention Restrictions</th>
<th>TAC Adjustments/Exchanges</th>
<th>Data Integration</th>
<th>Industry-led Measures</th>
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<td>Protects critical habitat (e.g., skate nurseries, coral areas)</td>
<td>IFQ/CDQ/A-80/AFA, P-cod LAPP groundfish allocations</td>
<td>Most seasons are SSL protection measures, some are halibut avoidance</td>
<td>Small boat fisheries in State waters (e.g., ≤58 ft state GHL)</td>
<td>TAC and allocations specified in regs (e.g., Al pollock, state-water cod)</td>
<td>SeaState and other industry led coordination</td>
<td>Cooperative bycatch monitoring and notification</td>
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<td>Bycatch control/protectio</td>
<td>Halibut CDQ</td>
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- CC adaptation attributes (strengths)
- CC maladaptive attributes (weaknesses)
- Opportunities for improvement
Completed/remaining: Section 2 SAFE review

- Fill in Ranking Table
- Include assessment of current climate change readiness or information
  - Review 18 search terms for ESRs, crab, and groundfish SAFE documents
    - 2021 (4,000+ pages)
    - ESR
    - SAFE
      - Intro
      - Pollock
      - Sablefish
      - P. cod
      - Forage
      - YFS
    - SAFE crab
      - Intro
      - RKC
      - Snow crab
    - GPT mins
      - Oct GPT
      - Dec GPT
      - Sept CPT
      - May CPT
  - Synthesize results
    - 2021
    - 2020
    - 2019
- Include near-term / low hanging fruit actions, modifications to advance climate readiness
Section 3: Knowledge & Information

Progress to date by section

Completed/remaining: Section 3 Information sources

☐ Fill in Ranking Table (see example below)

- Include assessment of current climate change readiness or information
  - x IKTK
    - Mostly done, needs trimming
  - ___ Industry
    - Needs more
  - ___ Agency (e.g. monitoring surveys/research, etc.)
    - Partially done, needs more
  - ___ Other (NGO, university, etc.)
    - Needs to be created
- ___ Include near-term / low hanging fruit actions, modifications to advance climate readiness.
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- **GPT & CPT discussion:** Jul 2022

**Intersessional Events:**

- Development of framework and draft plan: Jul 2019
- Workplan revised and updated: Oct 2019