Alaska Regional Action Plan 2.0 for Eastern Bering Sea Climate Science

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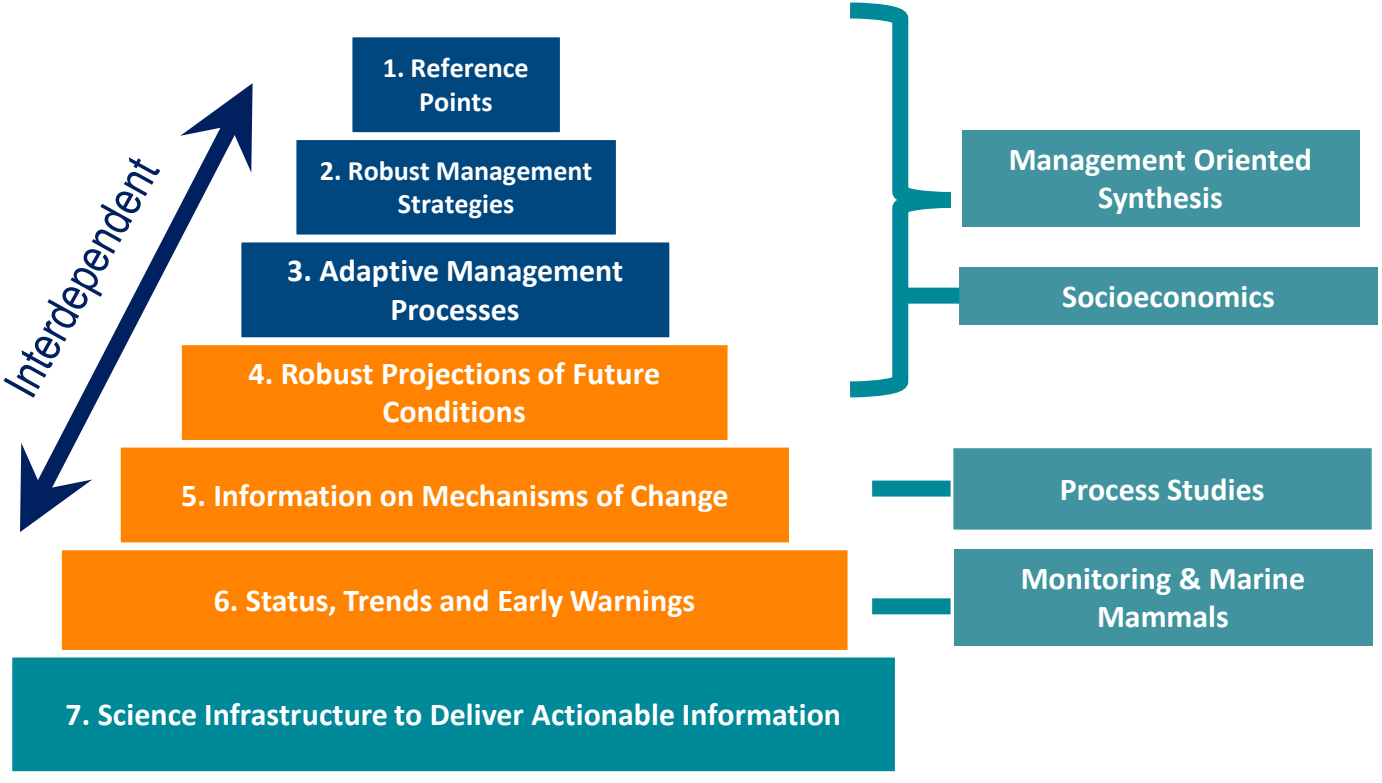
Subject matter sub-lead

- Management Oriented Synthesis (Shotwell)
- Socioeconomics (Haynie)
- Process Studies (Siddon)
- Marine Mammals (Gelatt)
- Monitoring (Barnett)

NOAA Fisheries Climate Science Strategy

https://www.fisheries.noaa.gov/national/climate/noaa-fisheries-climate-science-strategy



Writing Team Project Selection Process

- Sub-leads discuss within subject matter experts
- Sub-leads report back to writing team and develop text for appendix
- Key Action Synthesis based on three broader themes:
  - Invest in Technology
  - Infrastructure
  - Pathways to management including communication
- Full group discussion and review of draft

Climate Research

	Continuing	Post-2016	Gap
Monitoring	10	2	12
Process Studies	6	2	2
Management Oriented Synthesis	4	14	5
Marine Mammals	1		2
Socioeconomics	7	5	4
Total	**28**	**23**	**25**

Emerging Opportunities

- **NOAA's Climate Fisheries Initiative (CFI):**
- **FY22 NOAA Fisheries Survey Infrastructure**
- **Expansion of Moored Observatories to the Northern Bering Sea**
- **OAR eDNA Moorings and Shipboard Measurements (2022-2023)**

Scenarios

- **Scenario 1**, the agency will continue to rely on temporary funding for multiple projects, particularly those that advance NOAA Fisheries' ability to build fishery and climate decision support systems into the future. Lack of sampling in the slope region and irregular sampling in the NBS will reduce the agency's ability to track impacts of climate change on LMRs. Likewise, reduced process studies and intermittent sampling of ichthyoplankton and age-0 pollock populations retard the pace at which mechanistic understanding advances.
- **Scenario 2**, the four FY 2022 initiatives would address key infrastructure (staffing and ship-time) needed to sustainably expand surveys into the Northern Bering Sea and deliver fishery and climate decision support to fishery-dependent communities and managers. The influx of base funding will allow AFSC to grow survey teams to accommodate this new and challenging monitoring need.

Key Gaps in Infrastructure (RAP Levels 5-7)

- Ecosystem data collection –
  - (bloom timing, seasonality, species comp)
  - Microzooplankton community and shifts in species composition and grazing rates
- Expansion of summer acoustic surveys to inner domain
  - Euphausiids
  - Forage fish (juvenile Pollock)
- HABs
- Mechanisms underlying spatial shifts (NBS survey)
- Ocean biogeochemical sampling in NBS (benthic pelagic coupling)
- Climate-mediated demographic vulnerability
- Predator-prey
- Survey frequency for pinnipeds
- Baseline information for cetaceans (ArMAPPS)

Key Gaps in Pathways for Fisheries and Climate Decision Support (RAP Levels 1-4)

- CFI implementation across NOAA
- Communication
- Understanding human community adaptations
- Non-market conservation of BS ecosystem

Key Input from CPT

- Missing projects in Appendix?
- Missing gaps?
- Are key actions complete?