



# North Pacific Fishery Management Council

Simon Kinneen, Chair | David Witherell, Executive Director  
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Ms. Adrienne Antoine  
COCA Program Manager  
NOAA OAR Climate Program Office  
1315 East-West Highway, Suite 1100  
Silver Spring, MD 20910  
VIA EMAIL: [adrienne.antoine@noaa.gov](mailto:adrienne.antoine@noaa.gov)

Dear Ms. Antoine:

On behalf of the North Pacific Fishery Management Council (Council), I am providing this letter in support of a research proposal submitted to NOAA's Coastal and Ocean Climate Applications program competition 8: "Fisheries and Climate Program: Understanding Climate Impacts on Fish Stocks and Fisheries to Inform Sustainable Management." The research proposal is for the Alaska Climate Integrated Modeling Project Phase 2: Building Pathways to Resilience Through Evaluation of Climate Impacts, Risk, and Adaptation Responses of Marine Ecosystems, Fisheries, and Coastal Communities in the Bering Sea, Alaska.

The North Pacific is currently experiencing significant changes in ocean conditions. Recent monitoring of oceanographic and biological parameters indicate that unprecedented ecological conditions are currently being observed, especially on the Bering Sea shelf and in the northern Bering Sea. For example, the absence of the cold pool (bottom temperatures below 2° C) in 2018 in the Bering Sea appears to have caused major changes in the distribution of commercially important species, including pollock and Pacific cod. The Council has initiated several projects to address changing ocean conditions, including a Bering Sea Fishery Ecosystem Plan that establishes a framework for the Council's continued progress towards ecosystem-based fishery management (EBFM) of the Bering Sea fisheries, effected through research projects (Action Modules) to address Council priorities. One of the Council's first projects identified through this framework is to address the effects of climate change on fish, fisheries, and the Bering Sea ecosystem, and develop considerations for fishery management. The Council project leverages ongoing research to highlight key vulnerability and climate-resilience information for the public and Council.

Since 2015, the Council has been providing input to the Alaska CLimate Integrated Modeling (ACLIM) phase 1 project, which is a comprehensive, multi-year, interdisciplinary effort to characterize and project climate-driven changes to the Eastern Bering Sea ecosystem. Council members, advisors, staff, and stakeholders have participated in numerous workshops and presentations on the research project. We are excited to support this second phase of the ACLIM project which focuses on developing actionable, integrated scientific advice to support climate-informed EBFM. This proposal dovetails well with the Council's existing initiatives and research interests, so that the scientific modeling and research will be able to match closely to the Council's management needs. We are optimistic that advancing this area of research can lead to increased understanding of the possible management choices that the Council faces with respect to changing species distributions, changes in productivity of managed species, and the implications of other climate-driven changes in ecosystem structure and carrying capacity.

The North Pacific Council has repeatedly emphasized that funding for process studies, along with surveys, is a critical ongoing need and among the highest priorities for research identified by the Council. Without this monitoring and research to inform stock assessments and ecosystem understandings, the Council will face increased uncertainty and have fewer tools to consider management resiliency in the face of changing conditions and will be hindered in the ability to address potential future impacts of management decisions. The Council fully supports this research proposal to develop next-generation modeling to support climate resilience, and we greatly appreciate your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Witherell', with a stylized flourish at the end.

David Witherell  
Executive Director

cc: Simon Kinneen, Council Chair, [simon@nsedc.com](mailto:simon@nsedc.com)  
Anne Hollowed, NOAA Fisheries, [anne.hollowed@noaa.gov](mailto:anne.hollowed@noaa.gov)