

**Collaborative Research: Downscaling global climate projections to the ecosystems of the Bering Sea with nested biophysical models The NPZ Model**

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Initial results from the Nutrient-Phytoplankton-Zooplankton (NPZ) model developed through the Bering Ecosystem Study (BEST) are presented. This modeling effort is a fundamental element of an integrated program to develop a forecast system for predicting the effects of future climate change on the ecosystem of the Bering Sea. Specifically, the integrated modeling effort aims to test the hypothesis that Climate-induced changes in physical forcing of the Bering Sea will modify the availability and partitioning of food for all trophic levels of the shelf ecosystem through bottom-up processes. The NPZ model simulates the lower trophic levels that form the basis of the marine food chain and is coupled to a higher trophic level model (FEAST) and the physical ocean model (ROMS). The integrated suite of models will be used to produce a series of multi year forecasts for the Bering Sea ecosystem given alternative Intergovernmental Panel on Climate Change (IPCC) climate forcing scenarios.