Spatiotemporal distribution of nearshore fish communities using data from the NOAA Fisheries Nearshore Fish Atlas of Alaska

Globally, studies support the paradigm that shallow, inshore (‘nearshore’) habitats provide nursery, migratory, and feeding grounds for numerous marine and estuarine fish species. In Alaska, studies agree that community structure is strongly related to seasonality and can differ among regions and years. Spatial variability can be significant at multiple scales from the local to the regional level. Individual studies often link variability in structure to changing physiochemical conditions and flux of freshwater input. In the past few years, Alaskan studies have compared nearshore fish communities between two regions, while no studies have looked across three or more regions. The NOAA Fisheries Nearshore Fish Atlas of Alaska (NFA) is a unique dataset that combines fish survey data (taxonomy, abundance, and size) conducted over multiple decades and from all regions of Alaska (the Arctic, Bering Sea, Aleutian Islands, and Gulf of Alaska). Here, I focus on a singular gear type (beach seines) which allows for comparison of a similar type of nearshore fish community. By combining data from many projects, I examine the spatiotemporal breadth of the NFA dataset. Where possible, this research aims to test the results of individual studies to see if findings are transferrable amongst locales and across time periods. Analysis of such a large dataset also provides opportunity to define appropriate groupings of samples in space and time, either by testing known groups or defining new ones. This research would not be possible without the contributions to the NFA from numerous researchers and projects over the years.