

Title: Relationships between timing of migration and environmental correlates for five species of sharks common in the Western North Atlantic Ocean.

Short description:

Many species of fish, including sharks, demonstrate consistent seasonal movements between summer and winter habitats, where a majority of individuals depart summer or winter habitat within a short period of time and begin their seasonal migration (north in spring and south in fall). Both oceanic and coastal species of sharks undergo fairly consistent migrations each year, with some moving hundreds of miles along the coastline, some moving thousands of miles far offshore and some moving across the open ocean between island groups. Although species share this common behavior, they differ greatly in ecosystems occupied, vagility, diet and trophic level occupied, rate of movement, reproductive cycles, life history traits and consistency of migrations among demographic groups within a species. The student working on this project would use acoustic and satellite telemetry data for five species of sharks tagged along the US East Coast to characterize patterns of departure, migration and arrival between winter and summer habitats and investigate relationships among oceanographic and other environmental features (temperature, salinity, day length, productivity, prey availability) to develop explanatory models that relate timing of the onset of migration with potential environmental cues used by sharks to "decide" when to leave and to describe variability among species in terms of timing of migrations and putative mechanisms that explain migration patterns.

Project: Conducted in person, although portions could be online.

Desired skills: Experience with data management and analyses. Duties will also include tagging sharks aboard a small research vessel and ability to tolerate sometimes unfavorable conditions on a boat.

Graduate student mentor: Colby Kresge

Prospective students may contact you? Yes