

POLES APART. CAN THE BEHAVIOUR OF SIMILAR MARINE PREDATORS BE USED TO PREDICT CLIMATE-RELATED RESPONSES ACROSS POLAR ENVIRONMENTS?

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Antarctic (*Arctocephalus gazella*, AFS) and northern (*Callorhinus ursinus*, NFS) fur seals exhibit similar morphology and life histories, while occupying similar niches in the sub-Antarctic and sub-Arctic respectively. Both species have a wide latitudinal range in breeding and winter distributions and utilize a range of oceanic to coastal environments. They exhibit a 4-mo. summer lactation, feed on mesopelagic fish and squid during the breeding season, and spend much of the year in pelagic environments making long-distance migrations. Their foraging behaviour has been correlated with changes in oceanographic conditions for several sites (e.g. Iles Kerguelen and The Pribilofs) and can change rapidly with concurrent environmental variability. Continental shelf slope regions and frontal zones are important foraging areas for lactating females of both species. AFS are influenced by the position of the Antarctic Polar Frontal Zone, while some NFS females utilise eddy features and upwelling zones in summer and make trans-Pacific migrations to the central North Pacific Transition Zone (NPTZ) and to upwelling zones off California in the winter. Centers of breeding for both species are undergoing climate related changes that likely influence foraging, reproductive success, and population trends. The Pribilof Island NFS populations are currently declining, while the majority of AFS populations appear to be stable or increasing. Satellite tracking studies have identified oceanographic features and regions important to foraging fur seals but have primarily focused on breeding adults and the winter migrations of females. Studies of younger age classes and winter behaviour have until recently been limited by device size. The objectives of this study are three-fold: 1) to review and compare the published data on foraging patterns of different age and sex classes of the two species, across sites (high and low latitudes), in relation to concurrent environmental and habitat parameters (i.e. bathymetry, sea surface temperature and sea surface height); 2) identify foraging behaviours and characteristics of marine zones common and/or exclusive to both species; and 3) to compare these results to recent studies on post-weaning dispersal and survival of juveniles. Given the morphological and ecological similarities between NFS and AFS we hypothesise that their response to marine conditions may also be similar. However, given the different population trajectories of the two species we hypothesize that factors influencing post weaning dispersal, distribution and survivability to be different.