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activity), greatest in the western (0.82), and intermediate in the eastern (0.73; area of least O&G activity) GoM. Black Terns, a North American inland breeding migrant, comprised ~1/3 of all individual birds observed, and were most numerous in the central region, particularly in the footprint of the Mississippi River plume. Audubon's Shearwater, a Caribbean and Bahamian breeder, was observed regularly throughout the GoM across the annual cycle. Sooty Tern, an abundant breeder in the southern GoM and Caribbean, was commonly observed in spring and fall, and most numerous in the east. Ongoing analyses will characterize seabird distribution in relation to oceanography and O&G activity, and subsequently combine seabird data with survey data for marine mammals and sea turtles to provide the most extensive multi-taxa assessment of higher marine vertebrates in the GoM to date. These results will inform future O&G planning on the U.S. Outer Continental Shelf, further refine existing oil spill risk assessment models, and will be used to reduce or mitigate potential impacts from O&G activities on seabirds.

O –Tracking

1A-O-65: Spatial overlap and effect of fishing effort on the foraging behavior of the Great Shearwater (Ardenna gravis) on the Argentine Continental Shelf

Authors: Jesica Paz[1], Robert Ronconi[2], Juan Seco Pon[1], Sofía Copello[1], Peter Ryan[3], Marco Favero[1]
[1]South Carolina Cooperative Fish and Wildlife Research Unit and Department of Forestry and Environmen, [2]U.S. Fish and Wildlife Service, Gulf Restoration Team, [3]Terra Mar Applied Sciences, LLC, [4]U.S. Geological Survey South Carolina Cooperative Fish and Wildlife Research Unit, Clemson University

Fishing is the main economic activity in waters of the Argentinian Continental Shelf (ACS). Various seabird species attend trawlers and longliners seeking food facilitated by the fishing operation as well as discards and offal as a byproduct of the catch and processing. During the austral spring, large numbers of Great Shearwaters (GSH, *Ardenna gravis*) forage over the ACS. This species has been registered interacting with longliners targeting skates or toothfish *Dissostichus eleginoides*, ice-chilling and freezer trawlers that target hake *Merluccius hubbsi* and has high rates of bycatch in coastal pelagic trawlers targeting anchovy *Engraulis anchoita*. This study analyzes the overlap between the distributions of adult (2009-2010 period) and immature (2006, 2008-2009, 2009-2010 periods) GSHs and a range of fishing fleets, as well as assessing the effect of fishing effort on shearwater foraging behavior. The database comprised fisheries effort for 9 fleets, and 21 GSH tracked by satellite telemetry. The tracking data were analyzed with switching state-space models (SSSM) to infer behavior (transitory or foraging) at each location. The overlap was analyzed using the UDOI index (no overlapping = 0, complete overlap UDOI ≥ 1), while the effect of fisheries on foraging behavior was analyzed using GLMM (individual identity as random factors). The largest overlap for all years and age pooled was observed with the pelagic trawlers (UDOI ≥ 0.45), demersal coastal fleets (≥ 0.32), and ice-trawlers target hake (≥ 0.25). For immatures ice-trawlers target hake (2006 and 2008-2009 periods), freezer longiners (2006) and coastal demersal trawlers (2009-2010 period) were the fisheries that showed positive effect in the foraging behavior (i.e. foraging was most likely with increased fishing effort), while for adults ice-trawlers target hake was the only fishery with effect significantly positive. This preliminary analysis as a proxy of risk of interaction constitutes the basis for further studies to define areas and times of higher sensitivity for shearwaters attending fisheries.

1A-O-66: Artificial intelligence for the generation of synthetic seabirds foraging trajectories

Authors: Amédée Roy[1], Sophie Lanco-Bertrand[1], Ronan Fablet[2]
[1]Institut de Recherche pour le Développement (IRD), [2]IMT Atlantique