documenting fidelity and return migrations—and linking strategies to reproductive success—should be a priority.

ENVIRONMENTAL PREFERENCES AND JURISDICTIONAL DISTRIBUTION OF JUVENILE LOGGERHEADS IN THE EASTERN NORTH PACIFIC*

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While the basin-scale movements of North Pacific loggerheads (*Caretta caretta*) are well documented, habitat use by juveniles recruiting into coastal zones of the eastern North Pacific (ENP), including the exclusive economic zones (EEZs) of Mexico and the United States (U.S.), remains poorly understood. These areas represent critical developmental habitats where turtles encounter dynamic environmental conditions, fisheries interactions, and management frameworks. In this study, we used satellite telemetry data from 53 juvenile loggerheads (2023-2025) to characterize seasonal environmental envelopes based on sea surface temperature (SST) and chlorophyll-a (chl-a). Juveniles were found to occupy waters with a mean SST of 17.4°C (10-90th percentile: 15.4-19.9°C) and mean chl-a concentrations of 0.14 mg/m3 (10-90th percentile: 0.07-0.22 mg/m3). These thresholds were applied to a recent period (2014-2025) of environmental data, an era of anomalously warm ocean conditions, to summarize seasonal patterns of potential loggerhead habitat across jurisdictions. Suitable habitat showed seasonal shifts across EEZs, with 2-31% of the U.S. EEZ and 1-13% of the Mexican EEZ containing environmentally suitable habitat across the year. Overall, the majority of environmentally suitable habitat occurred in ABNJ (86%), compared to within the U.S. (6%) or Mexican (8%) EEZs, underscoring the importance of emerging high seas governance frameworks, such as the biodiversity beyond national jurisdiction treaty, for comprehensive conservation. Together, these findings highlight the transboundary nature of juvenile loggerhead habitat in the ENP and emphasize the importance of adaptive governance strategies to conserve this endangered population in a rapidly changing ocean.

telemetry is a powerful technique to generate high-quality data on animals' locations and a multitude of diving profile parameters. State-space models have evolved over the years and are effective for the estimation of behavioral states. However, for species like the leatherback turtle (*Dermochelys coriacea*), whose prey can move dynamically with the oceanic currents, the definition of behavioral states is not as clear as for other species. Here, we present an innovative approach that integrates telemetry data (horizontal and vertical movements) to more accurately distinguish behavioral states, especially migration and foraging behaviors. During the 2024 nesting season, seven nesting leatherback turtles were instrumented with SPLASH10-F-295 tags from Wildlife Computers in Comboios Beach, Espirito Santo, Brazil. Haulout events, validated by cross-referencing three data sources (i.e., telemetry csv files DDN/DryDeepNeither, FastGPS and HaulOut) were combined with nesting beach patrolling records to inform nesting events. We further used a state-space model to regularize tracks in 6-hour intervals using the package aniMotum, matching the dive profile summaries. Latent behavioral states were estimated using displacement, step length, distance from the coast, turning angle, maximum dive depth and nesting events with a mixed-membership movement model (M4 package) that segments tracks and clusters segments. The proportion distribution within each cluster was inspected for biological interpretability, and those exhibiting similarities were merged, resulting in the estimated latent behavioral states across track segments. Results from M4 were compared with the behavioral index from the move persistence model (aniMotum) using multiple cutoff thresholds. Results demonstrate clearer spatial and temporal delineations of migration and foraging areas from M4 model compared to fixed move persistence index cutoffs. We were able to clearly identify distinct migrating patterns, one mostly over the continental shelf between southeastern Brazil and the Plata River estuary between Uruguay and Argentina, and another in oceanic waters towards Tristan da Cunha. We also identified distinct foraging behaviors based on maximum dive depths, including shallower (within 50 m) and deeper (between 100-800 m). Three foraging areas were delineated: 1) over the southeastern Brazilian continental shelf, between Rio de Janeiro and Santa Catarina states, 2) over the continental shelf around the Plata River estuary, and 3) west of the Tristan da Cunha Island. This methodological advancement provides a scalable and transferable framework for sea turtle research worldwide. Beyond improving the resolution of behavioral studies, it offers practical implications for management, including more precise identification of habitats for protection, potential overlap with threats (e.g., fishing effort, industrial activities), and enhanced capacity to evaluate the effectiveness of conservation measures over time. By combining movement and dive data in a cluster-based framework, our approach goes beyond the binary output of traditional state-space models, identifies multiple behavioral states, clarifies migration routes and foraging hotspots, and directly supports spatial management of leatherback turtles.

SEA TURTLE SURVEYS AND SATELLITE TRACKING IN PEARL HARBOR, O'AHU, HAWAI'I, USA*

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Pearl Harbor is a geographically protected lagoon located on the Hawaiian island of O'ahu. For approximately the past 120 years, Pearl Harbor has been the site of the largest U.S. Joint Air/Navy base in the Pacific Ocean. Despite substantial environmental degradation, Pearl Harbor continues to be a resource rich habitat of important marine species. These include green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles. The Navy is required to manage and protect sensitive biological resources mandated by the Sikes Act of 1960, and has conducted various visual surveys of sea turtles within Pearl Harbor. Although the previous surveys provide important insights into the distribution of these turtles, due to the limitation of their non-capture approach, detailed information on sea turtle movements,

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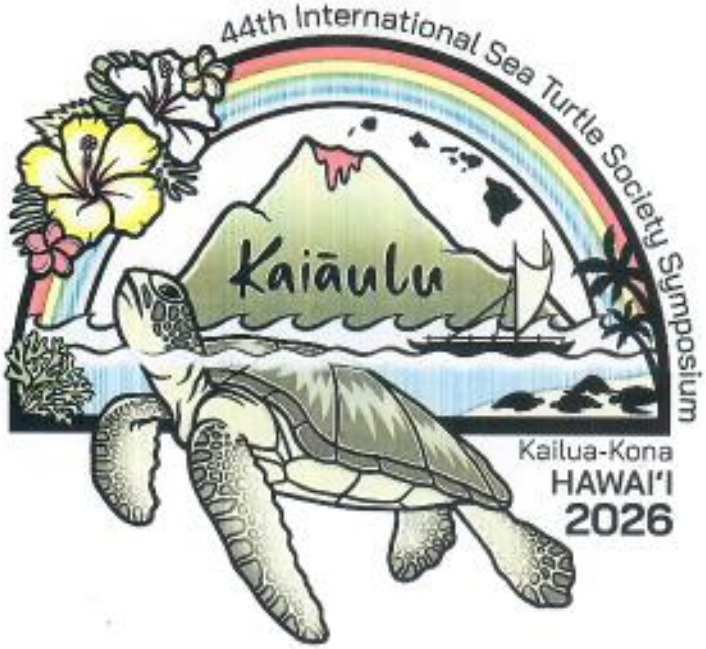

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