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Status and trends of honu, or green sea turtles (Chelonia mydas), in the Papahānaumokuākea Marine National Monument.

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Residing in the most geographically isolated island chain on the planet, the Hawaiian green sea turtle population was recently designated as a Distinct Population Segment (DPS) under the U.S. Endangered Species Act. One of 11 global DPSs, the Central North Pacific population is a "closed" population, with almost no movement of individuals into or out of the region. For 45 years, the population's primary nesting habitat on the islets of Kānemiloha‘i or French Frigate Shoals in the Papahānaumokuākea Marine National Monument has been monitored by NOAA Fisheries’ Marine Turtle Biology and Assessment Program. This long-term tagging study has produced a wealth of information about the status and trends of Hawai‘i's nesting females. For example, the data indicate that approximately 96% of the population nests at French Frigate Shoals, with >50% occurring on the islet called East Island (“East”), and a 3.2% annual increase in nesting female abundance on East over several decades. There remains, however, limited data to assess this population’s resilience to the potential effects of climate change. Currently, our research foci are (1) determining where mating and nesting will occur following the erosion of East Island following the impact of Hurricane Walaka at the end of 2018, (2) hatching success, (3) incubation temperature (for hatchling sex-ratio), (4) genetic sampling (for operational and breeding sex-ratios), and (5) satellite telemetry with fine scale habitat use sensors (for internesting behavior and foraging connectivity). Results from these projects serve as the foundation for understanding the population’s resilience to climate change.