

**INDIVIDUAL NEST SITE SELECTION IN HAWKSBILL TURTLES  
WITHIN AND BETWEEN NESTING SEASONS**

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*Abstract* – We recorded 410 nest locations from 150 individual nesting hawksbill turtles (*Eretmochelys imbricata*) on the Northeastern Brazilian coast during eight nesting seasons in the summers of 2006/2007 to 2013/2014. A selected group of 27 individuals were recorded in at least two nesting seasons and nested at least twice in each season, however 20 were seen in three nesting seasons and 6 in four nesting seasons. We analyzed repeatability within and between nesting seasons from different microhabitats, such as open sand and vegetation and also for nesting site distances from: current water line, highest spring tide, vegetation line and position along the beach. The average beach stretch that females nested within the 4.2 km of extension was 1830 +/- 1030 m. We found that that repeatability decreased as a function of time, for three of the four nesting distance parameters and also for the microhabitat preference. Repeatability p-values increased once we moved into a larger interval within season, or when we included several seasons. More specifically, we found repeatability decay using distance from the vegetation line as well as microhabitat,

and a tendency for decay related to spring tide line and position along the beach. For microhabitat selection within season, we found repeatability, however, when we checked the between season case, our results contrasted from others rookeries, where nesting hawksbill turtles maintained its inter-seasonal nesting preferences. As the study site presents a very dynamic beach (i.e. strong erosion is in course and tide regime reach up to x m), we suggest that changes in repeatability may indicate a behavioral plasticity, which means that sea turtles may be sensitive to the current environmental conditions and may be able to select the best location to lay their eggs taking into account the physical aspects of a nesting area.