

INCUBATION TEMPERATURE AND HATCHING SUCCESS OF GREEN TURTLE (*CHELONIA MYDAS*) NESTS IN TORTUGUERO, COSTA RICA

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Studies on incubation temperature of sea turtle nests focus on its role in sex determination of the embryo; however, extreme incubation temperatures can also be lethal to the developing embryo, a concept less studied in literature. Therefore, it is important to investigate this gap in knowledge, especially in the face of global warming and climate change. For almost two decades now, the Sea Turtle Conservancy (STC) has been collecting data on hatching success of sea turtle nests in Tortuguero, Costa Rica. From 2010 to 2016, STC has estimated an average of 80.54% hatching success for green turtle (*Chelonia mydas*) nests, ranging from 68.76% to 89.48%. Other data being collected includes nest zone (i.e. location of a nest on the beach relative to the amount of sunlight it gets throughout the day), nest depth, and clutch size. Although temperature plays a critical role in the success of sea turtle nests, no data has been collected yet for this parameter. This study investigates the effect of incubation temperature on the hatching success of *C. mydas* nests in Tortuguero. Between August 24, 2017 and September 27, 2017, 35 Hobo pendant temperature data loggers were deployed within a 5-mile stretch of beach monitored by STC in Tortuguero to record the incubation temperatures of *C. mydas* nests during the 2017 nesting season. Data loggers for measuring the mean sand temperature in the absence of nests were also deployed semi-randomly to examine the relationship between nest incubation temperature and sand temperature. A set of three data loggers were placed within each mile, with one data logger buried in the sand at each nest zone (i.e. vegetation, border, open). Retrieval of all data loggers were done during nest excavations. The data collected will be used to determine the mean incubation temperature of *C. mydas* nests and the mean sand temperature in the study area. The hatching success of studied nests will be assessed to examine its relationship with nest incubation temperature. If incubation temperature can explain hatching success, then extreme global temperatures could have a negative impact on nesting populations of *C. mydas* in the region, warranting conservation action. The presentation of this project at the 38th Annual Symposium on Sea Turtle Biology & Conservation has been made possible with the support of the International Sea Turtle Society.