

THE HEAT IS ON

Species feeling the effects of climate change



Leatherback Sea Turtle

Dermochelys coriacea

Region:

Oceans

Area affected:

Eastern Pacific

Climatic change:

Higher temperatures

Impact:

Reproductive changes

ABOUT THIS SPECIES

Leatherback sea turtles are found throughout the tropical and temperate oceans of the world. They get their name from their top shells, which are leathery and have several parallel ridges. (The shells of other sea turtle species consist of hard, bony plates.) Leatherbacks are also the largest turtle in the world, capable of growing to 6.5 feet long and a weight of 2,000 pounds. Leatherbacks spend most of their lives in the open ocean, migrating long distances and feeding mainly on soft-bodied prey, like jellyfish, which they grasp and swallow using the many tooth-like projections that line their jaws and esophagus. They nest on sandy beaches in tropical regions around the world. The largest nesting areas are in northern South America and West Africa, but they also nest on the West Coast of the United States and in the Caribbean Islands. Females lay about 100 eggs at a time in shallow, covered depressions, from which the hatchlings emerge about two months later.

DESCRIPTION OF IMPACT

All sea turtles have temperature-dependent sex determination, meaning that the incubation temperature of the nest determines the sex of each hatchling. Eggs exposed to higher temperatures at the top of the nest or in darker sand produce females; cooler incubation temperatures produce males. Climate warming poses a threat to sea turtles because it can skew sex ratios toward more females and fewer males. **Higher temperatures at leatherback nesting grounds have also been linked to increased mortality in eggs and hatchlings.** On beaches in Costa Rica, fewer eggs developed and fewer hatchlings successfully dug out of the nest in years with warmer temperatures and less precipitation than in years with cooler temperatures and more moisture.

References

Tomillo, P.S. et al. 2012. Climate driven egg and hatchling mortality threatens survival of Eastern Pacific leatherback turtles. *PLoS ONE* 7(5): e37602. <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0037602>

NOAA Fisheries. Leatherback Turtle (*Dermochelys coriacea*) (profile). <http://www.fisheries.noaa.gov/pr/species/turtles/leatherback.html>



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