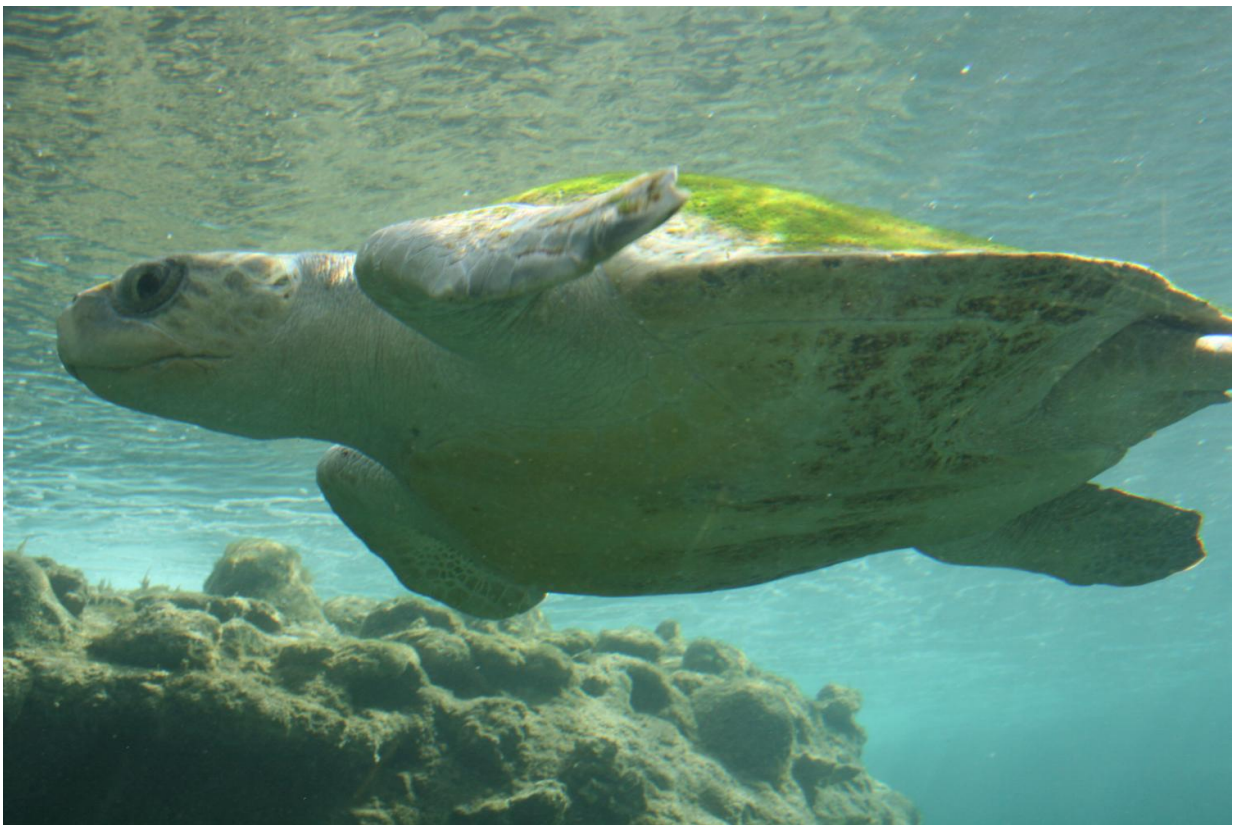


New study finds genetic evidence that magnetic navigation guides loggerhead sea turtles

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An olive ridley sea turtle, a species of the sea turtle superfamily. Credit: Thierry Caro/Wikipedia

New research from the University of North Carolina at Chapel Hill

provides valuable insight into the navigation and nesting behaviors of loggerhead sea turtles that could inform future conservation efforts. Loggerhead sea turtles that nest on beaches with similar magnetic fields are genetically similar to one another, according to a new study by UNC-Chapel Hill biologists Kenneth J. Lohmann and J. Roger Brothers.

The study will publish in the journal *Current Biology* on April 12.

Key takeaways include:

- Magnetic fields are the strongest predictor of genetic similarity among nesting loggerhead sea turtles, regardless of the geographic proximity or environmental traits of nesting beaches.
- The findings support previous research from Lohmann and Brothers, which indicated that adult loggerhead sea turtles use magnetic fields to find their way back to the [beach](#) where they themselves hatched. The new research implies that sometimes the turtles mistakenly nest at a different beach with a similar [magnetic field](#), even if that beach is geographically far away from the beach on which they hatched - like on the opposite coast of Florida.
- Conservation efforts should note the importance of a beach's magnetic [field](#) for attracting loggerhead sea turtles. Sea walls, power lines and large beachfront buildings may alter the magnetic fields that turtles encounter.

"Loggerhead sea turtles are fascinating creatures that begin their lives by migrating alone across the Atlantic Ocean and back. Eventually they return to nest on the beach where they hatched - or else, as it turns out, on a beach with a very similar magnetic field," said Kenneth Lohmann, professor of biology in the College of Arts and Sciences at UNC-Chapel Hill. "This is an important new insight into how sea turtles navigate during their long-distance migrations. It might have important

applications for the conservation of sea [turtles](#), as well as other migratory animals such as salmon, sharks and certain birds."

Lohmann and Brothers are available for interviews if you'd like to arrange a time to learn more.

Provided by University of North Carolina at Chapel Hill

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