Research News

Blue sharks use ocean eddies as fast-tracks to food

Swirling currents mark fish-filled ocean twilight zone

Blue sharks follow swirling currents called ocean eddies to find food.

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Blue sharks use large, swirling ocean currents known as eddies to fast-track their way to food in the twilight zone -- a layer of the sea between 200 and 1,000 meters deep, according to new research (/cgi-bin/good-bye?https://www.pnas.org/content/early/2019/08/05/1903067116) by scientists at the Woods Hole Oceanographic Institution (/cgi-bin/good-bye?https://www.whoi.edu/press-room/news-release/blue-sharks-use-eddies-for-fast-track-to-food/) and the University of Washington. The results show that animals can read subtle ocean cues and follow them to where food is concentrated.

The findings were published in the journal *Proceedings of the National Academy of Sciences*.

The research revealed that blue sharks spent a good portion of their days using these whirling pockets of warm water to find prey. Camrin Braun, a University of Washington marine ecologist and lead author of the study, says the behavior of the blue sharks was similar to that of white sharks the team tracked in a study last year.

However, the two species had different preferences when it came to water temperature. White sharks, which are warm-blooded animals, used a combination of warm- and cold-water eddies to locate food in the twilight zone, while blue sharks -- a cold-blooded species -- relied exclusively on warm-water eddies.

"Blue sharks can’t regulate their body temperature internally to stay warmer than the ambient seawater like white sharks can," said Braun. "We think that’s why they show a clear preference for warm-water eddies."

"This finding came out of research focusing on how the physics of ocean eddies organizes biological activity," says Mete Uz, a program director in NSF’s Division of Ocean Sciences <https://www.nsf.gov/awardsearch/showAward?AWD_ID=1558809&HistoricalAwards=false> , which funded the research. "The ocean may appear to our eye as a vast, featureless expanse, but the animals that live in it know how to read subtle cues and follow them to where their food is concentrated."

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