Risk remains low despite rise in global shark attacks

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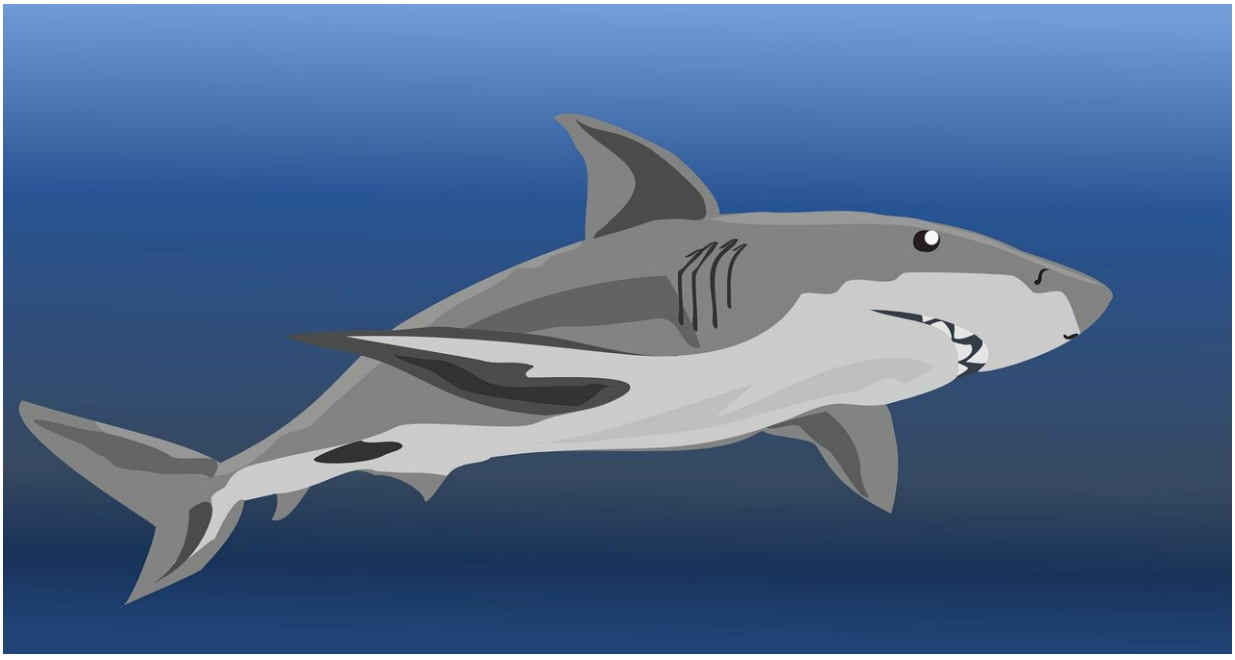

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Sharks have always struck at the heart of people's most primal fears of the ocean. Cue: JAWS theme song. However, a new study led by LSU Department of Oceanography & Coastal Sciences Assistant Professor Stephen Midway shows that although the number of shark attacks has increased over time, the rate of attack is low and the risk of being attacked by a shark is highly variable across the globe. Midway and his

collaborators conducted the first statistical analysis of shark attacks worldwide using data collected over a 55-year period from 1960 to 2015 from the International Shark Attack File housed in the Florida Museum of Natural History at the University of Florida.

A spate of shark attacks in North Carolina in 2015 made Midway, whose expertise is in fish ecology, curious about whether these events were unprecedented or normal, numerically speaking.

"I was curious what the likelihood of shark attacks is in a certain number of years at different places around the world. While shark attacks are often reported in numbers, we factored in the regional human populations to determine the rate of shark attacks worldwide. I think this information could contribute to a more scientifically grounded discussion about sharks in general and help with the management and conservation of them," said Midway, who is the lead author of the study published today in *PLOS ONE*.

Midway and colleagues applied time series models to shark attacks that occurred in 14 countries and further investigated specific regions within three countries that had the highest number of shark attacks—the U.S., Australia and South Africa. They found that shark attack rates, although extremely low, have doubled over the past 20 years in highly populated regions including the East Coast of the U.S. and Southern Australia.

"As development increases along the coast and in beach communities, more residents and tourists frequent these waters. With more people in the water, the chance for a shark attack increases. However, I must stress the fact that not all places across the globe saw an increase. And even in the places where we saw an increase, the chances were still one in several million," Midway said.

For example, from 1960 to 2015, there were 1,215 reported shark

attacks in the U.S. Most of these encounters resulted in minor skin injuries akin to a dog bite. But, about 24, or roughly 2 percent, were fatal over the 55-year period.

"Humans have always demonized sharks because they are elusive and live in an environment that's not native to us—the sea," said George Burgess, director emeritus at the University of Florida and a co-author on this study. "We would like people to know that these shark attack events need to be put into perspective whenever they occur. This study helps us step back and look at the big picture."

Other studies have shown that year-over-year variation in the number of shark attacks is often the result of a combination of several factors. For instance, the increased number of attacks in North Carolina in 2015 is now thought to be the result of a combination of factors including a very warm summer, changes in prey distribution and increased numbers of beachgoers.

"We ought to think of the risk of a shark attack like we would think of the risk of a car accident. For example, we don't assess our personal risk of getting into a car accident by the national statistics on car accidents year over year. We think about our specific car, the weather, the road conditions and other very local factors," Midway said.

Other variations include the number of people in the water and the type of water activity conducted at specific locations. Therefore, shark monitoring measures and management activities can be implemented at the local level to further lower the risk of shark attacks.

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