

# National Ocean Observing System to see marine animal migration, adaptation strategies

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For the first time, data from electronic tags attached to marine animals will be incorporated into the U.S. Integrated Ocean Observing System (IOOS), a NOAA-led national partnership committed to enhance our ability to collect, deliver, and use ocean information.

The addition of this biological component will help scientists better understand how [marine animals](#) move with the flow of tides and currents and provide insight into how they may alter their behavior or migration patterns in response to climate change.

"Data from these animals are transforming the way scientists study our waters and opening up new data sources," said Zdenka Willis, U.S. IOOS director. "With the broader science community becoming more engaged and linking to IOOS, we will be able to provide information more readily to the state and federal officials who need it most."

"The vastness of the ocean limits our ability to observe," said Barbara Block, Prothro professor of marine sciences at Stanford University.

"This technology is leading to profound advancements in our understanding of these animals and how they interact with the ocean. This knowledge translates to a better understanding of our planet and emerging issues on climate change."

Scientists began widely using marine animal tagging technology in the

1990's on tuna, sharks, [sea turtles](#), seals, whales, salmon, squid and crustaceans, among others. Sensors track the animals over long distances for multiple years, collecting valuable data below the surface from remote and difficult to reach environments where conventional oceanographic sensing techniques are technically or economically unfeasible.

However, data are collected in different ways for varying applications. A major challenge is to better synchronize the many different tagging programs and improve data sharing to the broader ocean science community.

"The animal tagging community has made great strides in data sharing, collection and analysis, but we want to create a stronger bridge among these scientists and other ocean observers," said Churchill Grimes, Ph.D., director of NOAA Fisheries' Santa Cruz Laboratory.

Block and Grimes joined IOOS and other federal, state and academic scientists this week in Santa Cruz, Calif., to establish a framework for integrating biological observations to the IOOS, which is expected to begin as early as this fall.

Provided by NOAA

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