



## **Shark-tracking technology demonstrated on Outer Cape**

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Makers of balloons designed to locate great whites return to show off new design.

WELLFLEET — The idea of a line of camera-equipped balloons floating high over the beaches of the Outer Cape watching out for sharks below always had a bit of that defense-of-the-realm, Battle of Britain kind of appeal. That was never more true than on Saturday when the Miami-based company Altametry traded in the spherical weather balloon it used in its last Cape demonstrations for a redesigned model that looked like those vintage barrage balloons.

With dozens of onlookers in the parking lot at Maguire Landing at Lecount Hollow, Altametry vice-president Joseph Ciampa played out the carbon fiber line from a hand spool and the white balloon with blue tail fins quickly soared to 300 feet above the beach. It was the wind that played havoc with the round balloons when they tried them on Cape beaches in 2017, making them hard to keep on station and low to the beach.

**[- Read more about the great white sharks off Cape Cod](#)**

But the redesigned balloon fared much better Saturday. The cigar shape and tail fins steadied it, explained Ciampa, in what was a strong south wind of 30-plus mph, and the balloon remained nearly overhead throughout the test. Despite the wind, there was little tension on the line, hardly more than a kite.

In August 2017, Altametry, which specializes in security and disaster monitoring using its high-definition cameras and balloons, conducted a series of tests at Outer Cape beaches as part of a \$10,000 pilot project paid with \$7,000 in donations to the Atlantic White Shark Conservancy and a \$3,000 grant from Altametry. The results looked promising, conservancy president Cynthia Wigren said at the time.

Wellfleet beach supervisor Suzanne Grout Thomas was also impressed by those images, but towns have balked at the price. They are in a holding pattern on adopting any new shark detection or deterrence technologies until they get the results of a \$50,000 study by the Woods Hole Group, commissioned by the six Lower Cape towns and the Cape Cod National Seashore. The results are anticipated to be released at the end of September.

Altametry was one of the detection technologies analyzed in the study, company founder and CEO John Ciampa said Saturday. He said the new units would cost between \$12,000 and \$19,000 each, depending on the camera.

Joseph Ciampa said the coverage is about a mile in either direction. The company has used a Secchi disk in Buzzards Bay and demonstrated 6 feet of penetration into murky water, but the water Saturday was a nearly opaque, café au lait color from sand dragged off the beach by heavy seas.

Unlike most drones whose batteries last 15 to 20 minutes, the camera batteries on the balloons last five hours and can utilize a power cable to remain in flight for days.

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John Ciampa said the technology has the potential to expand in its applications. He envisioned a line of balloons along the Outer Cape feeding into a central location and utilizing software that could analyze images without human input and recognize the sharks distinctive swimming pattern. An alarm would trigger a technician who could remotely zoom in with a camera and verify. Sharks could be tracked, handed off from balloon to balloon, as they progressed along the coast, Ciampa said.

But the shark recognition algorithm has yet to be developed, although other companies have been working on that for years.

The training only takes a couple of hours, requires no special skills and could be run by lifeguards, Joseph Ciampa said.

Massachusetts Division of Marine Fisheries shark researcher Gregory Skomal sits on Altametry's board of directors and is working with a balloon now, said John Ciampa. Company personnel were on the Cape this past week to train Skomal and other staff and contacted the Cape Cod Ocean Community group with an offer to conduct the demonstration Saturday for its members.

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