Hurricane Edouard right environment for drone test (Update)

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Hurricane Edouard was the perfect environment to test new data-collecting drones because the storm was strong, had a well-defined eye and never threatened land, U.S. government scientists said Thursday.

Four drones called Coyotes—shaped like thin missiles with retractable wings—were launched into the hurricane this week, even as Edouard had 115 mph (185 kph) winds far out in the Atlantic. The drones collected data from parts of the storm that were too low for a hurricane hunter plane to safely fly in.

Researchers had been hoping for this type of hurricane to test the drones' durability.

"The stars lined up," said Joe Cione of the National Oceanic and Atmospheric Administration's Hurricane Research Division in Miami. "It was strong, we knew where it was going, we had a deployment point where we could get in and out easily."

Researchers hope the drones will help them better understand what makes some storms strengthen while others fizzle. Having that information while a storm is still far offshore could help officials better plan for evacuations or storm surge risks.

It was the first time that the drones have been dropped into a hurricane. The 3-foot (0.9-meter)-long, 7-pound (3.2-kilogram) devices stayed in the hurricane for up to an hour, transmitting temperature, pressure and

wind observations before falling to the ocean. The drones are covered with sensors and have a small motor on them. They are maneuvered by computer software. They can be used only once.

Scientists also drop canisters filled with electronics to transmit data as they fall to the ocean, but they remain airborne for only a few minutes. Cione said those devices deliver snapshots compared to the lengthy transmissions sent back by the drones.

National Hurricane Center forecasters and other scientists will spend months analyzing the data transmitted by the drones. The preliminary results were potential game changers, Cione said.

One drone followed air currents through the storm. Another drone launched into Edouard's calm eye was directed into the intense eyewall in a maneuver that Cione likened to merging onto a busy highway.

"There's no other device that can do that," he said by phone from Bermuda, where the drone-bearing hurricane hunter flights originated. "It orbited the eyewall, and we've never measured anything like that."

Some technical kinks with the communications systems need to be worked out and funding needs to be secured before the drones can become a regular part of the hurricane hunter operations. Cione hopes to secure funding to test a few more drones next year.

NOAA got a handful of the drones this year to test during the peak of hurricane season, thanks federal funding after Hurricane Sandy.

On Thursday, Edouard weakened to a tropical storm as it moved into colder waters.