Hurricane Hunter

To help warn people of an approaching hurricane, Shirley Murillo flies straight into the eye of the storm!

By Siobhán McGowan

Shirley Murillo is a scientist who studies hurricanes.

When Hurricane Andrew reached land in August 1992, it had wind speeds of 177 miles per hour. South Florida got hit hard. The hurricane literally blew away entire blocks of homes. More than 25,000 houses were destroyed. More than 100,000 were damaged. Sixty-five people died

in the disaster. Shirley Murillo and her family in Miami were lucky; the brunt of the storm missed them. But Shirley never forgot the experience. In fact, it sparked an interest in storm science. “I was intrigued by the power that nature can hold,” she recalls.

To learn more, Shirley interned at the National Oceanic and Atmospheric Administration (NOAA) while she was still in high school. This organization specializes in climate and the weather. After her internship, Shirley continued her studies in college and graduate school, where she earned degrees in meteorology. Today, Shirley is a research meteorologist. Her job is to hunt hurricanes!

How to Hunt a Hurricane

Before Shirley can track a hurricane, she needs to monitor the conditions that cause these deadly storms.

Hurricanes form over the Atlantic Ocean in the summer and early fall. During this time, the warm air temperatures cause the ocean to heat up. Over time, some of the water evaporates, or changes from a liquid to a vapor. This warm vapor rises into the air above. Eventually, this causes tropical-storm

clouds to form. As the storm travels, it continues to collect warm ocean vapors, causing the storm to increase in size and speed. When wind speeds reach 74 miles per hour, the storm becomes a hurricane.

A hurricane's powerful winds can knock down trees and destroy homes.

At this point, Shirley gets out of the lab from where she's been monitoring these conditions. Then she boards a plane and flies right smack into the coming storm to study it.

Into the Storm

So, what's it like flying into a hurricane? "It's a once-in-a-lifetime experience!" Shirley exclaims. "You feel like you're on a roller coaster—for 10 hours. The most turbulence is experienced in the eyewall." The eyewall is a ring of clouds that circles the center, or eye, of a hurricane. The highest wind speeds occur there. But the center itself is calm. "It's an amazing sight to see," Shirley marvels. "It's almost like being in the center of a football stadium where

the seats surrounding you are made out of clouds. You look above and you can see the bluest color of sky. If you look below, you see the ocean rolling with huge waves crashing."

The hurricane hunters' planes are equipped with special radar, computers, and instruments to take measurements.

"We also use an instrument called the GPS Dropwindsonde, which we drop into the storm," Shirley explains. As the instrument descends through the hurricane toward the surface of the ocean, it creates a 3-D profile of the storm. Every half second, it reports the temperature, wind speed, wind direction, humidity, air pressure, and location. This data is immediately transmitted to Shirley up in the plane. It's also sent by satellite back to the National Hurricane Center (NHC) on the mainland. Meteorologists call it "nowcasting" because they're forecasting weather events in real time.

Although satellites and radars can track a hurricane, "nothing can replace the type of data we gather straight from the storm," Shirley states. "The information shows us how

it's changing or intensifying." That information allows NOAA to warn everyone in the hurricane's path as early as possible. The earlier people know about the hurricane, the more steps they can take to protect themselves and their property.

Good Advice

Are you curious—and brave—enough to fly into stormy weather too? Shirley has some grounded advice to help you get started. "Talk to people in the field," she says. "Interview someone as part of a school project. And consider an internship, like I did. It will give you a picture of what meteorology is like as a day-to-day career."

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