In the Eye of the National Hurricane Center

by Carollyne Hutter

Along the coast of Africa, heavy thunderstorms are concentrating into tropical clusters. Across the ocean in Miami, Florida, meteorologists at the National Hurricane Center are using satellites to watch these storms develop and organize. These storm clusters, often called easterly waves, could be the beginning of a hurricane that will strike the United States.

The National Hurricane Center puts together prediction information on these deadly storms to help protect lives and property. It tracks weather in the Atlantic Ocean, Caribbean Sea, and Eastern Pacific Ocean. It provides advisories and alerts — called tropical storm and hurricane watches — for the United States and the Caribbean countries.

Uh oh. . . The disturbance has moved across the ocean and into the Caribbean. It has grown into a tropical storm that is headed to the coast of Florida. Once the storm reaches tropical storm status (winds of 40 miles per hour or more), the National Hurricane Center names the storm "Tropical Storm Ted." Names for tropical storms and hurricanes are names commonly used in North and South America. They alternate between male and female names.

Hurricane Hunters

To get a closer look at Ted, the center sends airplanes into the storm. The pilots and scientists onboard are called "Hurricane Hunters." They can determine the location, strength, and movement of the storm. They report their findings by satellite to the National Hurricane Center. The planes carry dropsondes, which are cylindrical tubes with parachutes attached that carry instruments and radio equipment. A dropsonde measures air pressure, temperature, humidity, and wind speed.

The National Hurricane Center also gets information about the storm from weather stations, ships, and buoys. When storms are about 100 miles off shore, coastal weather radars provide important data.

The information and data from all these sources are fed into a computer to create models. These models predict the path and the strength of storms.

Danger Alerts!

The winds of Tropical Storm Ted are whipping around faster, and the National Hurricane Center has issued storm watches. It recommends that several coastal forecast offices be prepared to issue local warnings. Radio stations, television, and the Internet all broadcast these warnings. The National Weather Service also broadcasts the warnings on its own NOAA radio, as well as on Facebook and Twitter.

The winds are now 75 mph, and Ted is officially a hurricane. Once a storm is within 36 to 48 hours of landfall, the National Hurricane Center goes into high gear to communicate its forecasts and

HURRICANES

Hurricanes start as tropical thunderstorms. The warm ocean water and the warm air above feeds the tropical storm through the process called convection. The counterclockwise winds suck large amounts of moist air toward the center of the storm. This creates an "eye wall." The eye wall is where the air is then rapidly forced up into the atmosphere.

Because the atmosphere gets colder higher up, the air condenses from water vapor into cloud droplets. Those droplets either become rain droplets or go straight to ice crystals through a process called sublimation.

This whole process gives off energy that speeds up the winds and further develops the storm. The storm grows bigger as it gets caught in the spinning air. Dark clouds are pulled into the storm, causing the storm to whirl faster. Because the clouds are so high and thick, along with carrying tons of water, they block the sun and look dark for those of us on the ground.

Hurricanes can last for up to a week and range in width from 100 miles to 300 miles. What is strange about hurricanes is that in the center of them, called "the eye," is calm. As the eye passes overhead, it can fool people into thinking the hurricane is over.

Scientists use a scale of 1 to 5 to describe the strength of a hurricane. Category 1 is the weakest hurricane, with winds between 74 mph and 95 mph. This type of hurricane causes some damage to small buildings and trees. At the other end of the scale is a Category 5 hurricane. The wind speed is over 155 mph. This type of hurricane can destroy cities and towns.

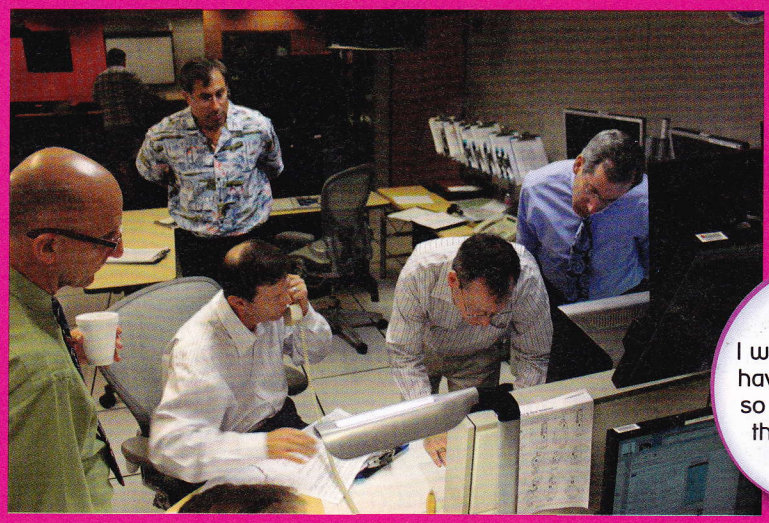
warnings to the public.

Because Hurricane Ted is heading toward land, towns along the coast are asking the people who live there to evacuate. Before they go, the people board up their houses to protect them from wind and flying objects.

OFF-SEASON

Hurricane season is from June 1 to November 30. It's an intense, exciting job for the meteorologists at the National Hurricane Center during this period. Tropical storms and hurricanes have to be watched 24 hours a day, so the meteorologists are always working.

All year-round, scientists at the National Hurricane Center research hurricanes. They study data from all sources. These scientists want to understand hurricanes better, so they can improve their forecasts. Better forecasts can help save lives and properties.



BREE
When there is ice on the ground I would have a sleigh that has a little heater on the bottom to melt the ice and snow so that people could walk on a clean sidewalk.

RYAN
I would build sleds that have a sail and rudder so that on snowy land they could be sailed over the snow.