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NEWS From GEORGIA TECH'S ENGINEERING EXPERIMENT STATION

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GEORGIA TECH STORM STUDY

MAY IMPROVE PREDICTIONS

For Immediate Release

Hurricane David caught Easterners and weather forecasters by surprise with its unexpected fury after it was supposed to be just about rained out.

Researchers at Georgia Tech believe they may be able to improve the predictability of those kinds of summer storms by using a new monitoring device to study a number of thunderstorms and hurricanes.

The device, developed by Tech's Engineering Experiment Station, is called a millimeter wave radiometer. It is an ultra sensitive receiver that records a storm's emitted and reflected energy. Tech has programmed the radiometer to record even the almost infinitesimal amounts of energy emitted by moisture inside a storm.

The radiometer is currently being flown in a NASA research aircraft at altitudes of 60,000 feet. From this altitude the radiometer can monitor stretches of atmosphere eight to ten miles wide. Over the course of an hour the plane's movement could allow the radiometer to scan as many as 5,000 square miles of atmosphere.

The intent, however, is eventually to place the radiometer in a satellite. Then even the largest storms could easily be monitored.

The radiometer records data electronically onto a magnetic tape. This tape is later played back on a small screen, much the same as videotape is played on a television screen. The images shown resemble a satellite weather map as seen on television. By studying the information that appears on the

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screen, researchers can determine a storm's temperature and its moisture content.

"In time, we believe that the radiometer will be developed to the point that it will help to predict more accurately than ever a storm's potential size and strength," says Jim Schuchardt, manager of the Georgia Tech group that is developing the radiometer.

Schuchardt says that the radiometer can be used in many other weather applications. "Right now the concentration is on studying severe storms," he said. "But down the line we see the radiometer investigating weather fronts and frost development, as well as thunderstorms."

The radiometer is currently being flown out of Homestead Air Force Base in Florida on data-gathering flights over the Atlantic Ocean and the Gulf of Mexico. It has previously monitored severe storms in Oklahoma and Texas.

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