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**Tracking the Hurricane’s Path – an Unsolved Challenge**

@@ Supercomputers, satellites and the expertise of several hurricane forecasters predicted the destructive path Hurricane Hugo would follow, giving people plenty of time to flee the South Carolina coast. But hurricane tracking remains an uncertain science. Forecasters at the National Hurricane Center used computer models to track Hugo's path into Charleston, S.C. ``All the world's knowledge about meteorological conditions and forecasting changes in those conditions is embodied in those models,'' said Thomas Pyke, head of National Oceanic and Atmospheric Administration's satellite service. Pinpointing the exact point of Hugo's landfall was difficult, but forecasters said Friday that the landfall was predicted in time for evacuation. ``Overall, I think the tracking models gave us a very good idea where Hugo would be so officials in South Carolina could act in a timely manner,'' said research meteorologist Colin McAdie.

@@ The real forecasting problem with Hugo was predicting the intensity of the storm, which was upgraded to a Category 4 hurricane just hours before it slammed into Charleston. ``It is very difficult to predict changes in intensity because we don't have very reliable computer models for that,'' McAdie said. ``We really need to improve on our forecasting ability of strength.'' The hurricane specialists were surprised by the last-minute increase in wind speed, which was reported to them by Air Force reconnaissance. Hurricane specialist Gil Clark, who has tracked hurricanes for 35 years, said that a couple of decades ago, the only forecasting tools were reports from aircraft or ships. ``We had no radar or satellites then, so needless to say our forecasts were less accurate,'' Clark said.

@@ In the late 1960s, the weather service began using satellites to obtain a global weather picture. Information from the satellite is used to improve the accuracy of the large-scale models that television viewers see every night. Using the information from the satellite, supercomputers at the National Meteorological Center in Suitland, Md., send information to the hurricane center where a tracking model constantly changes to account for current weather conditions and the position of the hurricane. To determine the track of the storm, the forecasters analyze supercomputer predictions, satellite data, the history of similar storms and the current path of the hurricane. Then they make an educated guess about the landfall. Meteorology professor Kerry A. Emmanuel of the Massachussetts Institute of Technology criticizes the current forecasting system. ``Congress and the American people are suffering from the collective delusion that our data problems have been solved by satellites and that just isn't true,'' Emmanuel said. Satellites can give a ``pretty picture,'' he said, but not enough information about the wind and temperatures that affect a hurricane's path. ``Most of the information actually used to predict hurricanes comes from flying airplanes into the hurricane, and they do a very good job,'' Emmanuel said. Forecasters say the accuracy of satellite pictures is improving every year so long-range forecasting should become more precise. ``We have to remember that those models used are only guidance products,'' Pyke said, ``and that it's ultimately the job of the forecaster to predict the storm's path.''

What was the only forecasting tools in the past?

Graphic calculators.

Satellites.

Supercomputers

**reports from aircraft or ships.**

Is the mission of tracking Hurricane path is certain?

Yes, due to advanced technology exist in this field.

Yes, but it’s not certain how long before it will be tracked.

**No, hurricane tracking remains an uncertain science**

Yes, due to a very good satellite.

Is the people who were in a danger zone from Hurricane Hugo, knew it before it strikes?

No, the forecasters predict the wrong path of the Hurricane.

**Yes, they have plenty of time to flee the South Carolina coast.**

No, it was a big surprise that nobody forecast.

Yes, but it was just shortly before the Hurricane strikes so they didn’t have chance to escape.