Irene forecasts on track; not up to speed on wind
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WASHINGTON --
Hurricane Irene was no mystery to forecasters. They knew where it was going.

But what it would do when it got there was another matter.

Predicting a storm's strength still baffles meteorologists.

Every giant step in figuring out the path highlights how little progress they've made on another crucial question: How strong?

Irene made landfall Saturday morning at Cape Lookout, N.C. — a bull's-eye in the field of weather forecasts.

It hit where forecasters said it would and followed the track they had been warning about for days.

By last Monday night, five days before Irene first hit the East Coast, the hurricane center figured the storm would come ashore around the North Carolina/South Carolina border.

By Tuesday night, they predicted it would rake the coast. And on Friday morning — 24 hours before landfall — they had the storm's next-day location to within 10 miles or so.

Twenty years ago, 24-hour forecasts were lucky if they got it right within 100 miles and the average 36-hour forecast within 146 miles.

With Irene, that was about the accuracy of the five-day forecast. There are two reasons for the steady improvement in forecasts:

Better computer models and better data to go into those models.

With Irene, the National Oceanic and Atmospheric Administration spent extra money with jet flights and weather balloons across the country to get far more data than usual

and it paid off in even better forecasts, said Max Mayfield, retired director of the hurricane center.

On the negative side, the forecast after Irene hit the Bahamas had it staying as a Category 3 and possibly increasing to a Category 4.

But it weakened and hit as a Category 1 storm and stayed that way up the coast until it faded into a tropical storm by the time it reached New York City.

"We're not completely sure how the interplay of various features is causing the strength of a storm to change," said Bill Read, current director of the hurricane center.

Georgia Tech meteorology professor Judith Curry said one of the main problems is that the giant global computer models that do so well forecasting the track require large-scale data.

The keys to intensity changes are usually too small for big computer models, she said.