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SCIENCE

Snowstorm's Forecast Was Mostly Right, Even if It Felt Wrong in New York

By HENRY FOUNTAIN JAN. 27, 2015

In the wake of the blizzard that wasn't, New Yorkers on Tuesday were asking how the weather forecasters could have been so wrong.

The answer, the forecasters say — and they are backed up by atmospheric scientists who do not have any reason to be defensive — is that they were not so wrong. Computer models predicted that the storm would become extremely powerful, which it did, but the intensification occurred 50 to 100 miles east of where the preferred model predicted it would.

The models "were all on board with this idea that parts of the Northeast would get this wild storm," said Todd Miner, a meteorologist with AccuWeather in State College, Pa. "But as always, the devil is in the details."

"There was always a question of how far west blizzard conditions would extend," he added. In this case, the model that was favored by most forecasters showed New York City falling within the western boundary, when actually it ended up outside it.

The nation's forecaster in chief, Louis Uccellini, the director of the National Weather Service, acknowledged that there were problems with his agency's forecast but said that was not unusual. "There were aspects of this forecast

that were very good," he said at an afternoon news conference. "There were aspects of this forecast that were not good. The point is, that's true with any system."

Of course, the definition of "good" and "not good" is all in the eyes of the beholder. What can seem accurate for a forecaster can feel like a blown call to people who are affected. There is also the inevitable head-scratching from those who wonder, given the advanced state of technology in so many aspects of our lives, how predictions of historic blizzards can fizzle so quickly.

"In the big picture, this was not a bad forecast," said Adam Sobel, an atmospheric scientist at Columbia University, who agreed that the meteorologists were not too far off. "But if you sit in New York City, this was a bust."

One of the difficulties with forecasting major storms, Dr. Sobel said, is that a small error in predicting the path of the storm can cause a much larger error in impact. "The bigger the event, the bigger the bust potential," he said.

In this storm, the predicted snowfall gradients — charts showing how much would accumulate where — were very steep. "So a little bit of track error means a big snowfall error," he said.

Mr. Miner pointed out that in this storm, the distance between an area that was swamped with snow and one that received little more than a glorified dusting was often small — as little as 30 miles. Parts of eastern Nassau County, on Long Island, for example, got as much as 18 inches, while parts of New York City received only four.

Dr. Uccellini said that all forecasts had some degree of uncertainty, and that as a result of this storm, the Weather Service would become "more aggressive" in making that clear to the public and to government officials. He said that before the storm, he tried to convey the uncertainty of the forecast to emergency planners and other officials.

"But clearly this is not enough," he said.

In choosing which computer model to rely more heavily on, most meteorologists went with one developed in Europe rather than one built by the Weather Service and other institutions in the United States. In this case, the American model turned out to be correct.

The European model has in recent years developed a reputation for being correct more often, on average, than the

American one. The European model's reputation was especially burnished during Hurricane Sandy — it predicted the storm's formation before the American model did.

But David Robinson, an atmospheric scientist at Rutgers University, said that just because the European model was more correct on average did not mean that it always would be right. He likened it to baseball players.

"It's as if the Euro is considered the all-star and the U.S. is considered a good, solid, everyday player," Dr. Robinson said. "But in any given game, the solid regular guy might get the hit while the all-star doesn't."

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