Come hype or high water, one N.J. forecaster got it right

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Tropical Storm Hermine was slowly making its way up the East Coast late last Saturday morning when the National Hurricane Center put out a bulletin:

"DANGEROUS STORM SURGE EXPECTED ALONG THE COAST FROM VIRGINIA TO NEW JERSEY."

A few hours later, Governor Christie declared a state of emergency for most of the Jersey Shore.

But in his laboratory at Stevens Institute in Hoboken, Alan Blumberg looked at his computer screen and shrugged.

His complex computer modeling showed no major threat to the Jersey Shore or to the flood-prone sections of the Hackensack, Passaic and Hudson rivers.

The veteran oceanographer told a reporter at the time that Hermine was "a lot of hype." The storm, he said, would cause nothing more than some rough surf and a little beach erosion.

Blumberg was right. It would take more than 24 hours before the National Hurricane Center would agree with him and lift its warning for New Jersey.

Along with his 18-member team at Stevens' Davidson Laboratory monitoring the region's coastal waterways, Blumberg has become essential in forecasting weather threats to New Jersey and New York City. He gained notice four years ago when he said Superstorm Sandy would inundate New York City, Hoboken and the Meadowlands two days before they were deluged with a historic tidal surge.

“Our forecast for the storm surge that hit the Battery was a foot short," he said of New York's southernmost point. “The government models were 2½ feet short. But I still don't want to be a foot short again.

Today Blumberg’s forecast stretches out to 78 hours and is bolstered by a network of ocean and river monitors purchased with some of the $15 million the lab received after its work on Sandy. Officials at the Port Authority, Hoboken and elsewhere rely on him.

“When there is a storm, he is the person we call," Hoboken Mayor Dawn Zimmer said this week. “We have a lot of trust in him."

The son of an Army engineer who worked on the Panama Canal, Blumberg spent much of his childhood swimming and boating on both the Atlantic and Pacific oceans — sometimes in the same day. He studied physics at Farleigh Dickinson University before pursuing a doctorate at Johns Hopkins. It was there that his boyhood fascination with the sea was rekindled when he began researching how the oceans move. He spent almost a decade at Princeton University helping to create a groundbreaking computer model that can simulate the way an ocean moves under a number of conditions.

Blumberg joined Stevens' Davidson Laboratory in 2002 when it was focused almost solely on evaluating and designing ships, yachts and even submarines. He came in with the goal to develop a state-of-the-art marine forecast system that would help protect New York and North Jersey's coastal waterways from storms.

But nothing prepared Blumberg for the sheer might of Sandy. While many meteorologists were focusing on New Jersey's 141 miles of coastline, Blumberg was concerned about Sandy pushing a wall of water into New York Harbor at high tide. His forecast said Sandy
would inundate the Meadowlands two days before Moonachie, Little Ferry and other communities were deluged.

Blumberg and his colleagues were featured on “Good Morning America,” the Weather Channel, Fox News and other national outlets before, during and after Sandy.

Sandy “made people aware of the kind of natural devastation an urban area like ours can suffer,” he said. “It was our Katrina.”

Sandy proved beneficial for the Davidson lab with a huge influx of grants and partnerships. Blumberg’s team expanded and now consists of colleague Nickitas Georgas, a coastal engineering expert, along with 10 staff members and a rotation of eight doctoral students.

The $15 million allowed them to buy and install more than two dozen water monitors throughout the region’s waterways that can report everything from temperature to wave height to salinity every few minutes. It allowed them to unveil a revamped website in December that incorporates real-time data from their water monitors along with dozens more from the federal government.

Most of all, it allowed Blumberg and his staff to develop a better forecasting system using 125 atmospheric and ocean models to gauge how bad a flood threat like Hermine can become.

Last Saturday, the National Hurricane Center sent out several bulletins saying Hermine would push so much water toward New Jersey that it would cause “life-threatening inundation.” Other forecasters were more cautious, saying Hermine’s projected path had been difficult to track as it slowly made its way over the ocean.

Blumberg’s model told him the opposite — that the storm would be too far east to cause major flooding.

The National Hurricane Center was also having trouble with one of its key storm surge models because of poor wind data. Blumberg’s model had no such problems.

Blumberg and his colleagues spent part of the weekend at the Port Authority’s Emergency Command Center in Jersey City monitoring the storm and briefing officials on their findings. Hoboken officials were also in constant contact with Blumberg, with memories of the $100 million in damage that Sandy caused the city.

Hoboken had Public Works crews and firefighters on call to possibly move their equipment to higher ground. Barricades were ready to block off traffic from flood-prone streets. But Blumberg assured Zimmer that Hoboken, like the rest of New Jersey’s river communities, was going to be OK.

“I really don’t know why the governor declared a state of emergency,” he said on Saturday afternoon as others waited for the storm to unleash its fury. “You’re going to have high winds and high waves along the coast. Maybe some minor flooding, if that.”

Sunday morning arrived with sunshine, moderate wind and a rough surf that didn’t stray inland. Many meteorologists faced backlash on social media from Jersey Shore merchants who said their forecasts drove customers away from the beaches on an all-important holiday weekend.

Blumberg sympathizes with his colleagues at the National Weather Service for whom he has great respect. But he says they should upgrade their storm and ocean forecast modeling.

“We can’t predict the future, but we can quantify risk,” he said. “We’re doing it pretty well here.”

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