



## European Model First Predicted Irma's Fla. Track on West Coast

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The European model for hurricane forecasting first predicted early Saturday that Irma would land on the western coast of Florida early Sunday — leading U.S. meteorologists to update their predictions and fueling a debate ranging since Superstorm Sandy over which model was most reliable.

"This now is what the European model is predicting, CNN meteorologist Chad Myers told Anderson Cooper in his Irma report about 2:30 p.m. on Saturday. "It has been working better than the American model — at least for this storm — is doing."

That model had Irma leaving Cuba and traveling about eight miles west of Key West, Fla., eventually making landfall just south of Tampa.

"Irma doesn't know that there's an American model or European model," Myers cautioned. "It's going to do what it wants to do."

As of late Saturday, the European model had Irma gaining strength to become a Category 4 hurricane and making landfall early Sunday near Tampa:

The United States uses the Global Forecast System, or GFS, run by National Centers for Environmental Prediction at the National Oceanic and Atmospheric Administration (NOAA).

It had predicted as recently as Friday that Irma would hit Miami and track up the East Coast, bringing high winds and heavy rains as far as North Carolina.

The European model, by contrast, had Irma slamming through the middle of Florida before changing to the western portion of the state.

The Saturday change by the European model led NOAA to revise its forecasts.

While both models are used by the National Hurricane Center in Miami, which is part of the National Weather Service, the discrepancy has heightened a longstanding debate over which is most accurate.

"Not surprisingly, it was the European forecast model that first sniffed out the storm's actual track," Houston meteorologist Eric Berger wrote last week on [ArsTechnica.com](http://ArsTechnica.com) about Hurricane Harvey.

"As early as Thursday, Aug. 24, the model forecast a move inland near Victoria, [Texas], a stalling out over the weekend, and a southeastern drift that brought the storm back over the Gulf of Mexico by Sunday or Monday.

"This is very close to what actually unfolded over the next five days," Berger said.

Harvey hit Texas on Aug. 25 and dumped more than 40 inches of rain over Houston and other parts of East Texas over four days.

The flooding destroyed hundreds of thousands of homes, displaced more than 30,000 residents and prompted more than 17,000 rescues.

The European model was developed by the **European Centre for Medium-Range Weather Forecasts**, established in 1975 with support from 22 nations. Four others have since joined the consortium.

Based in Reading, United Kingdom, the center operates one of the largest supercomputer complexes in Europe and the world's largest archive of numerical weather prediction data.

Its forecasting model is formally called "the ECMWF model."

In October 2012, the European model suggested seven days before the GFS model that Superstorm Sandy would land on the East Coast.

Slamming New York and New Jersey on Oct. 29, 2012, Sandy ultimately caused nearly 150 deaths \$70 billion in damage.

The same model also predicted the intensity and track of the Nor'easter that affected the region a week after Sandy.

By contrast, the GFS was off by several miles on Sandy — and meteorologists have since put more faith in Europe's efforts.

"The European model is the best forecasting system in the world for several reasons, most notably because the European modeling center has invested heavily in their model," Berger said in the ArsTechnica.com piece.

"It has the most advanced computer hardware and has devised the best system to assimilate real-time meteorological observations into its model for future runs.

"This means the model runs start with the most accurate initial conditions," he said.

But the GFS was upgraded this year — shortly before the start of the hurricane season — despite balking by forecasters at the Hurricane Center, **Mashable** reported in March.

They complained that simulations showed that the upgrades proved less accurate than the current GFS system.

"In short, their argument is that no upgrade is better than a bad upgrade," Andrew Freeman reported for Mashable, "and that if the upgrade goes forward as planned, forecasts will suffer.

"This could put millions of coastal residents in the path of a hurricane at risk, depending on the forecast error," he said.

The changes had been approved earlier by National Weather Service officials, Freeman reported.

Ryan Maue, a research meteorologist at the Cato Institute in Washington, slammed NOAA's Environmental Prediction operation as understaffed and poorly funded versus the European operation.

"NOAA and the National Weather Service are stretched a mile and an inch deep in some places for all of the responsibilities that they have," Maue told Berger for an [ArsTechnica.com](https://www.ars-technica.com) report published Friday.

"If we want to focus on having the best weather forecast in the world, we should focus on having the best weather forecast."