

Supercomputer-maker advances weather forecasts

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When you pull up the weather forecast on your smartphone or check online to see if a storm is coming tomorrow, you likely have a Seattle company to thank for the predictions.

Supercomputer company Cray recently signed another big contract to provide computing power to another major [weather](#) center. Under the agreement, Cray's technology will power weather forecasts from the Swiss Federal Office of Meteorology and Climatology.

Cray now estimates it produces weather forecasting in more than 60 percent of the world's large weather centers, including the United Kingdom's national [weather service](#), Germany's national meteorological service and the U.S. National Weather Service through the National Oceanic and Atmospheric Administration.

The company, which has 1,300 employees worldwide, including 130 in Seattle, has been growing at an accelerated pace in the past few years, thanks largely to big government contracts for supercomputers. The company is expecting about \$715 million in revenue this year, up from \$561.6 million in 2014.

In the U.S., Cray won a \$25 million contract with NOAA earlier this year, after Congress allocated more funds to the agency after Hurricane Sandy in 2012. The first set of supercomputers arrived this summer, and another upgrade will come this fall, NOAA communications director Ciaran Clayton said.

"That means we can provide better resolution for forecasts and have them go further out than five days in time," she said.

It should make it easier for people to plan vacations, for retail stores to know what clothes to stock and for agencies to plan for extreme conditions, she said.

Cray's technology makes sense of weather-forecasting simulations, which are large, complex calculations, Chief Strategy Officer Barry Bolding said. The technology creates models, which turn into the forecasts we see on the news and online.

Generally, Cray's computers are used mainly in research capacities by government agencies - to simulate nuclear explosions, for example.

But the computing company also generates analytics for a Major League Baseball team - Bolding couldn't disclose which one - to run simulations on pitcher/hitter matchups.

The [company](#) also competes to be named the world's fastest supercomputer. Its Titan model placed second in July, losing first place to China's Tianhe-2.

Partnering with the Swiss government gives Cray a chance to showcase its CS-Storm cluster supercomputer, the first time such a computer has been used by a major [national weather service](#). The computer allows the agency to take a detailed look at local weather patterns, such as thunderstorms and tornadoes.

Much as Google Earth has such high resolution you can see a car parked in a driveway, the CS-Storm can show a clear model of micro weather patterns.

"In the Swiss Alps, this is really important," Bolding said. "Weather features are very localized."

That's similar to the Puget Sound region and its numerous microclimates in islands and the city, he said.

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