

CSC's NOAA Weather Wire Service Team — Ready Come Rain or Shine



CSC gets weather data to citizens and first responders fast.

The Client: National Oceanic and Atmospheric Administration (NOAA)

Whether it's the weather forecast on your local news station or a tornado warning issued by the National Weather Service, millions of Americans rely on the information that flows through the National Oceanic and Atmospheric Administration's (NOAA) Weather Wire Service (NWS).

The NWS, operated and maintained by CSC's Networks and Communication Solutions (NCS) business unit in the Telecom division, is the primary medium for collecting and disseminating weather and agricultural data — including tornado, flash flood, and severe weather warnings — to the general public, government agencies, and businesses.

The Challenge: Collection and Dissemination of Weather Data

To provide complete weather reporting, 24 hours a day, for the entire United States, NOAA has a wide range of weather information to collect. In fact, over 8,000 products must be gathered daily from 141 weather forecast offices and special centers throughout the country, including Alaska, Hawaii, and Puerto Rico. The products included severe weather warnings and watches, local forecasts, and information on local agriculture, travel, air quality, space weather, and recreation.

Moreover, this data has to be processed and broadcast back out to customers throughout the United States — within seconds. These customers include first responders such as state police and emergency management personnel — people who know that when severe weather threatens, seconds mean the difference between life and death.

CSC's NOAA Weather Wire Service Team

Applying CSC Experience

To address this challenge, CSC brought 20 years of experience in weather telecommunications, science, and technology support to the table. CSC's team accepted total performance responsibility for the project and designed, developed, and implemented a robust, satellite-based system that includes dual master earth stations and a fully redundant central control facility. NOAA's original system was earth-based, slow, and relied on land lines and nodes around the country. CSC put satellites into play, creating a faster, more reliable system —one that's actually less expensive for NOAA's customers to use.

Data from around the country are now funneled via satellite into 20 different Weather Forecast Offices, then in turn funneled to CSC's central control facility in Chantilly, Virginia. The data is processed and prioritized using massive weather databases and distributed back out to NWWWS customers via C-band satellite, Ku-band satellite, Internet, or e-mail notifications. Customers receive precisely targeted data — information for just their local area, for a tri-state region, or for the whole United States, depending on their preference. The amazing part? The severe weather data completes this entire circuit and reaches customers, anywhere in the United States, in less than 10 seconds.

Delivering Results That Count

CSC's performance on the Weather Wire contract has been outstanding, enabling the NWWWS to maintain 99.9 percent system availability. In addition, CSC NWWWS delivers 98 percent of severe weather warnings within 10 seconds, and 99.8 percent within 30 seconds. That means that critical weather data is available to the people who needed it, when they need it — everyone from TV and radio stations, to construction and utility companies, to first responders such as state police and federal and state emergency management officers.

All told, with CSC's help, NWWWS provides timely, correct data to over 500 clients, including 75 government agencies.

As CSC's NWWWS program manager puts it, "NOAA's mission is saving lives and saving property. When you hear about severe weather and preventing deaths caused by flash floods, tornadoes, and hurricanes, the National Weather Wire Service is at the forefront when it comes to getting the data out and warning the public as quickly as possible. It's important work and it's what we do."

Learn More

For more information on how we use our experience to help you deliver results, visit us on the Web at www.csc.com.

SPAS Gives FAA Safety Inspectors One-Stop Access to Critical Data



CSC keeps aircraft safety data accurate, accessible, and navigable.

The Client: The Volpe National Transportation Systems Center

Every day, the FAA's 3,500 Flight Standards Aviation Safety Inspectors must answer one important question: Is this flight safe? To make sure the answer is "yes," they monitor the performance of aircraft to ensure that everything surrounding the operation of a flight is working as it should be, and that the safety standards set by the FAA are followed.

The inspectors' work involves everything from spot checks at airports and aircraft repair stations to regular surveillance inspections of aircraft to monitor safety standards, maintenance, and compliance with FAA regulations.

The Challenge: Accurate, Accessible Data

The inspectors work from 110 locations in the United States, Europe, and the Far East and oversee 125 major domestic carriers, 525 foreign carriers, and more than 6,000 other small planes. To do their job well, they need access to 38 different data sources, including information about past inspections and maintenance issues; comprehensive data on accidents; credit reports; and information about hundreds of different engines and aircraft models.

For the inspectors to succeed — and for safety to be ensured — this data must be accurate; it must be easy to find; and it must be accessible from anywhere in the world.

SPAS Gives FAA Safety Inspectors One-Stop Access to Critical Data

Applying CSC Experience

Since 1997, CSC has provided full life-cycle support for the FAA Safety Performance Analysis System (SPAS), an automated information system that simplifies the task of the safety inspectors by integrating and analyzing safety data from numerous aviation-related government and commercial databases. Working closely with government personnel at the John A. Volpe National Transportation Systems Center's Aviation Safety Division in Cambridge, Massachusetts, a small CSC team of eight supports SPAS end to end, from requirements analysis to implementation and operations.

SPAS provides the safety inspectors several key benefits:

- Quick, one-stop access to safety data
- Automation of routine tasks
- Web-based system accessible from anywhere in the world

CSC's team also vets the data to ensure that it is more comprehensive and of higher quality than the data that was previously available. They do this by integrating disparate data; by analyzing it systematically; by flagging areas of interest through the application of trend analysis as well as traditional Web-based query and browsing capabilities; and by providing easy cross-referencing to different data sources.

Delivering Results That Count

The SPAS system has won accolades throughout the government. The FAA Administrator publicly cited the project as an example of how government "can do things right" — a rare endorsement of the system's performance and the joint Volpe Center–CSC team's successful partnership with the FAA.

On the ground, the CSC team's careful screening and sorting of data enable FAA inspectors to accomplish in 15 or 20 minutes what used to take them 2 weeks of exhaustive effort to complete. SPAS allows them to give up digging for data and instead focus on analyzing data to ensure aviation safety.

The end result? Knowing that aircraft around the world — everything from commercial flights to crop dusters to mail carriers — are safer.

Learn More

For more information on how we use our experience to help you deliver results, visit us on the Web at www.csc.com.