



CASE STUDY

Louisville Airport Keeps Winter Operations Running with Proactive Weather Intelligence

The “Snow Boss” at Louisville’s International Airport uses radar, hourly and 15-day forecasts, and direct access to meteorologists to keep airport operations safely running on time.

ABOUT LOUISVILLE MUHAMMAD ALI INTERNATIONAL AIRPORT

As the busiest air cargo hub in North America, and Top 5 in the world, Louisville Muhammad Ali International Airport (SDF) supports commercial passenger airlines and UPS Worldport. Winter weather creates constant pressure to keep airfield operations moving safely without disrupting operations to ensure life-saving goods and people can get to where they need to be.

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THE CHALLENGE

Keeping Airfield Operations Running During Winter Weather

Bill DeGraw, Director of Airfield and Grounds Maintenance, is known across the airport as the “Snow Boss.” He is responsible for leading winter operations from December through March and keeping the airways and runways safely moving.

While Louisville averages six to seven winter storms each season, every event requires careful coordination. Passenger and cargo operations run around the clock, with UPS Worldport

making overnight operations especially critical. Winter precipitation can shift between rain, snow, and freezing rain, directly affecting staffing, equipment deployment, and runway treatment decisions.

Crews need clear visibility into when conditions will begin and what type of precipitation to expect so they can plan and respond accordingly.

“Knowing what weather conditions to expect changes our methods and procedures,” DeGraw said. “Whether it’s freezing rain or dry snow, we adjust how we treat the runways and taxiways so we’re using the right approach for each weather event.”

PREPARING BEFORE THE STORM

The operations team continuously monitors DTN radar and hourly forecasts to understand when precipitation will begin, what type of precipitation to expect, and how conditions may evolve. This visibility allows crews to report ahead of a storm, stage equipment, and select the right treatment strategy based on expected conditions.

“As we see snow possibly coming on the horizon, we can start watching it and make sure we’re prepared before the storm arrives,” DeGraw said.

The team adjusts its approach depending on the forecast. When freezing rain is expected, crews pre-treat runways and taxiways before precipitation begins. If a colder, drier snow is forecast, they may avoid pre-treatment so wind can help keep snow from accumulating and reduce slush.

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KEEPING THE AIRFIELD MOVING

DTN radar and hourly and 15-day forecasts provide the visibility needed to act early, while access to meteorologists offers added support when conditions are unclear.

“The radar is very good, and we pair it with the hourly forecast, so we know when precipitation is expected and whether we’ll be dealing with rain, freezing rain, or snow,” DeGraw said. “That helps us prepare with confidence.”

That preparation directly affects how the airport performs during active weather.

When unusual conditions develop, the team can connect directly with DTN meteorologists to validate forecasts and gather additional insight before making operational decisions. This additional expertise helps confirm what the team is seeing and provides deeper insight into developing weather events.

“Because we can determine when a storm is expected to arrive, we typically bring in our snow crews an hour beforehand,” DeGraw said. “They can get their equipment ready and proactively manage snow and ice as it arrives.”



SUCCESS MEANS NO DELAYS

For the Snow Boss and his team, success is defined by keeping aircraft moving safely and on time. Since DeGraw joined Louisville Muhammad Ali International Airport nearly 10 years ago, the airport has never completely closed because of a snowstorm, maintaining operations even during significant winter weather.

With earlier visibility into changing winter weather conditions, the airport prepares before storms arrive rather than reacting after conditions deteriorate. Crews are positioned ahead of storms, treatment strategies adapt to expected precipitation, and the airport maintains safer conditions across runways, taxiways, and ramp areas while helping minimize weather-related delays for both passenger and cargo operations.

“If planes can arrive and depart without delays caused by runway conditions, we’ve accomplished our goal,” DeGraw said.

