



CASE STUDY | MAY 2025

## Horizon AI HIRES Nails Early Rain Signal for Derby Weekend

During one of the most celebrated weekends in Louisville, getting the forecast right—early—is everything. The Kentucky Derby isn't just a horse race; it's a multi-day, city-wide event that attracts national media attention, tens of thousands of attendees, and millions of viewers around the world.

WAVE-TV, Louisville's NBC affiliate, turned to Climavision's Horizon AI HIRES model for a high-resolution forecast with the accuracy and lead time needed to deliver critical weather information—before anyone else could.

### The Challenge

Major outdoor events like the Kentucky Derby demand precise, early insight into potentially disruptive weather. While global models offer general rain signals, they lack the detail and consistency needed to make confident forecasts.

WAVE-TV needed a forecast they could trust—with enough lead time to build coverage, update viewers, and prepare the community. But most high-resolution models do not extend far enough in advance to be useful beyond a 3-day forecast ahead of Derby weekend. That's where Horizon AI HIRES stood out.

**Climavision**

### WAVE-TV used Climavision's Horizon AI HIRES

- The model was the first to accurately forecast rain for Derby weekend.

### HIRES predicted storm timing 7 days out

- HIRES provided an impressive lead time, beating global and other high-res models.

### The early insight helped WAVE-TV lead local coverage

- Early and accurate insights like these help build viewer trust.

### This accuracy has critical value for other industries as well.

- Early and accurate insights from HIRES benefit commodity traders and electric utilities.

## The Solution: Horizon AI HIRES

Climavision's Horizon AI HIRES is a 2km resolution numerical weather prediction (NWP) model with forecast range up to 7 days out. It blends proprietary observational data and enhanced data assimilation to deliver highly accurate, hyperlocal forecasts across the U.S.

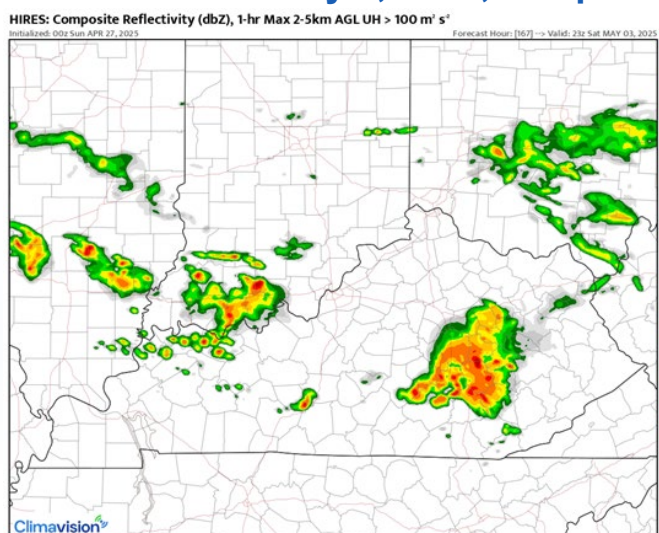
On April 27 at 00Z (8 PM EDT April 26), HIRES was the first to show a line of storms approaching Louisville—aligned almost exactly with the scheduled Derby post time. Indications for rain continued consistently throughout subsequent model runs leading up to Derby Day.

## Observed Results

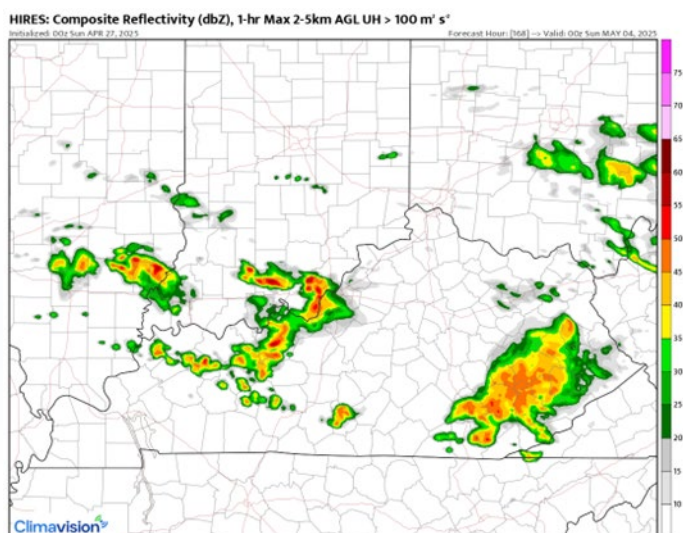
The HIRES model's early forecast was impressively close:

- Rain and storms did affect the region during the race window
- Observed radar confirmed moderate to heavy rainfall in eastern Kentucky and storm development near Louisville
- Horizon AI HIRES outperformed other models in both timing and localization—despite being issued 7 days prior

### Forecast for May 3, 2025, at 7 pm



### Forecast for May 3, 2025, at 8 pm



## The Broadcast Impact

Armed with this early signal, WAVE-TV was able to:

- Get ahead of other local stations with the first public messaging about race-time rain
- Visualize potential storm impacts in their broadcast graphics
- Build audience trust through confident, accurate storytelling

Even as other models remained inconsistent, Horizon AI HIRES helped WAVE-TV anchor their Derby forecast with clarity and authority—days in advance.

## Why It Matters Beyond Broadcast

Although this forecast was exclusive to WAVE-TV, it demonstrates the broader value of high-resolution, 7-day-range forecasting across weather-sensitive industries.

Imagine the advantage for:

- Utilities preparing for potential outages or storm-related load shifts
- Energy traders responding to early warnings of cloud cover or wind changes that affect renewables and demand

In an environment where lead time and precision drive performance, Horizon AI HIRES is more than a broadcast tool—it's a forecasting breakthrough.

## Early Insights Are Critical

WAVE-TV didn't just cover the weather—they led it. With Climavision's Horizon AI HIRES, they saw disruptive weather first, delivered it to their audience with confidence, and differentiated their coverage during one of the year's biggest weather-sensitive events.

For broadcasters and beyond, this case proves: when the stakes are high, the right, advanced forecast can make all the difference.



## About Climavision

Climavision is a well funded, Louisville-based startup, rebuilding climate technology from the ground up and combining terrestrial sensors with space-based observations. Our team of renowned meteorologists, leading scientists, and passionate weather enthusiasts are changing weather forecasting as we know it by uncovering the clearest, most accurate picture of weather intelligence. Our offerings put next-generation climate technology to work to fundamentally change weather forecasting.

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