

From Heat to High Winds: Comprehensive Monitoring for Allegiant Stadium

Client: Allegiant Stadium, Las Vegas Raiders

Location: Las Vegas, NV

Weatherstem Partner Since 2020

Challenge

From the earliest stages of design and construction, Allegiant Stadium leadership knew weather monitoring would be essential to operations. While Las Vegas is known for dry weather, the extreme heat, poor air quality episodes, dust storms, and occasional high winds present real challenges for a venue that welcomes tens of thousands of fans at a time.

Tailgating safety and environmental awareness were also growing priorities as the stadium prepared for full-capacity events.

Solution

In 2020, Allegiant Stadium partnered with Weatherstem to implement a high-resolution weather monitoring system customized for stadium operations. The installation grown to include:



Roof-Level Wind Monitoring – Track wind data to safely operate the retractable window and prevent equipment strain.



Parking Area Weather Station – Monitors tailgate areas for heat, wind, and sudden weather changes.



Air Quality Monitoring – Added to expand the partnership and enhance health and safety operations during wildfire season or dust events.



Live Weather Data – Real-time insights on temperature, humidity, wind and air quality—accessible via desktop and mobile.



Custom Alerts – Automated notifications sent to stadium personnel when conditions exceed safe thresholds.



Seamless Integrated with Operations – Supports real-time decision-making for event scheduling, emergency planning, and fan safety protocols.



Results

The Weatherstem system has become an essential tool in Allegiant Stadium's daily operations and event-day playbooks.

- ✓ **Roof Safety** – Operators rely on roof-level wind data to make safe, timely decisions—minimizing risk and mechanical wear to the retractable window.
- ✓ **Tailgating Readiness** – Real-time ground conditions help staff manage crowd safety in parking lots and respond quickly to changing weather.
- ✓ **Environmental Health Awareness** – Air quality sensors provide early warnings during poor air conditions, helping to protect fans and staff.
- ✓ **Operational Efficiency** – With reliable, site-specific data, departments coordinate more effectively and mitigate weather disruptions.

In Their Words

“Allegiant Stadium contracted with Weatherstem during the construction of our venue in 2020 to design and implement a weather monitoring/alerting system. High heat, poor air quality episodes, lightning, and strong winds are amongst the notifications our crew rely upon daily as part of our safety operations—and these are provided reliably and in real-time by the Weatherstem platform.

Allegiant Stadium Operations Team