



Simulations powered by The Weather Company

Real Weather. Real Simulations. Real Results.

Contact defense@weather.com for more information

Company & Purpose

This solution brings real-world weather into simulation, training both autonomous systems and human operators under the conditions they'll face in theater. Powered by the **world's most accurate forecast**¹, it delivers mission-critical realism, at a **global** scale: wind shear, icing, fog, and turbulence, rendered directly in Unreal environments. **Real Results:** As DoD expands autonomy and modernizes training, this solution de-risks operations and sharpens decision-making by making weather a controlled variable, not an afterthought. Train like you'll fight, with the atmosphere as it actually is.

 ¹ForecastWatch, [Global and Regional Weather Forecast Accuracy Overview 2021-2024](#), commissioned by The Weather Company

Product Description & Use Cases

This solution injects real-time global weather conditions into synthetic environments through its Unreal Plugin. Highly detailed visual elements like realistic clouds and precipitation alongside non-visual factors such as winds and turbulence can impact objects following the laws of physics. The software's unique ability to search for specific weather events and situations allows military personnel to train against countless weather scenarios they might encounter during actual missions.



Designed for today's operational needs, it supports:

Training and Readiness: immersive, risk-free exposure to operational weather

Mission Planning and Rehearsal: simulate routes with the actual forecast at the target locations

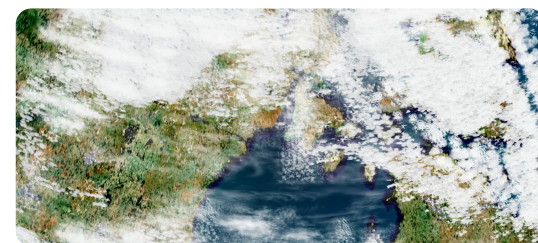
Equipment and Systems Testing: validate autonomous systems and sensors

Joint Force Weather Planning: enable consistent weather simulation across service branches

From autonomy validation to crew prep, this solution ensures every rehearsal reflects the real-world atmosphere so forces can train, plan, and test as they'll operate.

Customers & Partners

This solution is purpose-built for defense simulation and mission planning, supporting manned and unmanned platforms, from fighters and ISR to ground vehicles and troop maneuvers. Our strategic partners include leading defense innovators who field cutting-edge technologies to dominate the battlespace and enable tactical overmatch across any domain.



Real Weather. Real Advantage.

TRL 8 (Combat-Ready and Proven)

Real 3D Weather Integration:

Delivers physics-aware, globally accurate weather for 50 vertical levels up to 3.5km resolution directly into simulation environments - visual and impactful, beyond static "synthetic" conditions

Mission-Speed Performance:

Optimized for real-time rendering in high-fidelity, fast-paced training and planning applications - no latency, no bottlenecks

Forecast & Historical Flexibility:

Seamlessly toggles between future-state forecasting and high-resolution historical replays for scenario training

Cross-Domain Platform Support:

For manned and unmanned air, ground, maritime systems, joint-force simulation and planning

Plug-and-Train Architecture:

Starting with Unreal, rapid integration into major simulation engines minimizing development lift while maximizing operational impact



***Turn weather
from an enemy to an ally.***