Sinansys Validates Quantum-Enhanced Extreme Weather Intelligence to Help Supply Chains Anticipate Disruption
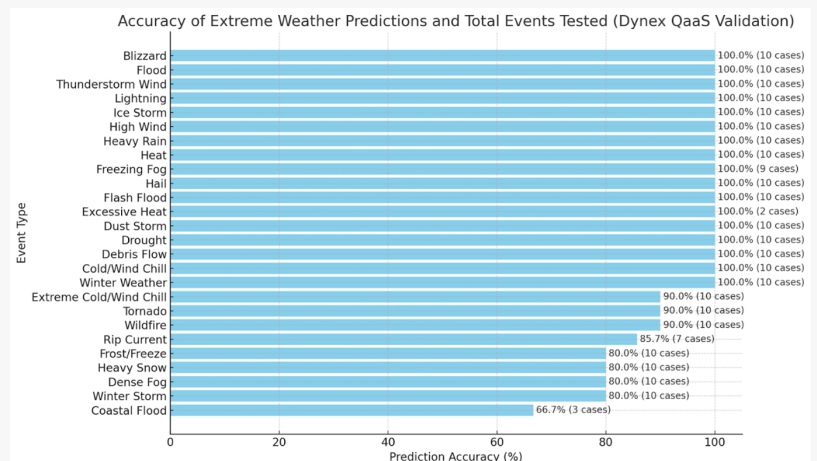
Independent validation across 241 events shows low-noise, event-level forecasting that helps supply chains act earlier on climate disruption.

NEW YORK, NY, UNITED STATES, January 9, 2026 /EINPresswire.com/ -- Sinansys, a next-generation supply chain resilience platform, today announced the results of a comprehensive [validation study](#) demonstrating how quantum-driven solutions for extreme weather intelligence, can help highly climate-exposed industries anticipate disruption earlier and respond more effectively. Dynex, a global leader in developing quantum-driven solutions together with Dynex Moonshots

High Accuracy of Quantum Enhanced Extreme Weather Model

Foundation, the family office of Dynex and the investment, strategic and ethical steward of the Dynex Ecosystem, and in close collaboration with Sinansys, a RecycleGO company, developed the extreme weather inference solution.

The study evaluated event-level extreme weather inference integrated into supply-chain risk workflows and emulated scenarios at scale through Dynex's proprietary Quantum-as-a-Service (QaaS) technology available on a cloud-based qubit-agnostic computing platform, which provides the infrastructure and API access required to run quantum-driven inference workloads in real world environments. Conducted in collaboration with the Dynex Moonshots Foundation, the study confirms that integrating Dynex's extreme-weather inference outputs into Sinansys workflows can materially improve the early identification of high-impact weather events that drive operational, asset, and financial disruption across global supply chains. Using the co-developed Dynex QaaS API, Sinansys evaluated 241 historical extreme weather events across the United States during 2025, spanning 48 event categories relevant to logistics, manufacturing, agriculture, energy, and critical infrastructure.

> As climate volatility accelerates, organizations need time to act before disruption cascades across suppliers, operations, and financial exposure."
> *Stan Chen, Founder & CEO, Sinansys*

Validation Results

Under blind testing conditions and explicit spatiotemporal matching criteria—requiring correct event type, location (±50 km), and timing (±1 day)—the Dynex QaaS–enabled framework achieved an overall event-level detection accuracy of 94.61% (228 of 241 events). High-confidence detections were observed at lead times extending up to fourteen days, depending on event type and confidence thresholds. The system also demonstrated a low false alarm rate of 2.5%, supporting more reliable operational decision-making and reducing unnecessary mitigation actions.

Unlike many traditional forecasting approaches, performance did not degrade predictably as lead time increased. Instead, accuracy reflected event-type variability and confidence-based filtering rather than simple temporal decay—an approach better aligned with real-world operational decision-making.

Why Extreme Weather Intelligence Matters by Industry

Automotive Industry

Automotive supply chains depend on globally distributed tier-1 and tier-2 suppliers, just-in-time manufacturing, and tightly sequenced logistics. Extreme weather—such as floods, winter storms, heatwaves, and high winds—can shut down component production, disrupt inbound logistics, and halt assembly lines with little notice. Earlier identification of extreme events enables automakers and suppliers to rebalance production, secure alternative sourcing, pre-position inventory, and reduce costly plant stoppages that ripple across global vehicle output.

Aviation & Aerospace Industry

Aviation and aerospace operations are highly sensitive to weather volatility affecting airports, flight operations, ground handling, maintenance facilities, fuel supply chains, and launch infrastructure. Storms, icing conditions, heat extremes, and high winds drive delays, cancellations, ground stops, and safety risks. Event-level foresight allows airlines, airport operators, and aerospace firms to reposition aircraft and crews earlier, protect critical ground assets, manage fuel logistics, and reduce cascading disruptions across passenger and cargo networks.

Consumer Goods

Consumer goods supply chains rely on predictable production cycles, stable transportation

networks, and reliable last-mile delivery to meet seasonal and promotional demand. Extreme weather events can disrupt manufacturing facilities, ports, distribution centers, and retail logistics—leading to stockouts, excess inventory, and missed revenue opportunities. Earlier identification of high-impact weather risks allows companies to adjust production schedules, reposition inventory closer to demand centers, protect warehouse operations, and maintain service levels during climate-driven volatility.

Natural Disasters & Emergency Services

For organizations responsible for disaster preparedness, response, and emergency services, timing is critical. Extreme weather events such as floods, wildfires, hurricanes, and heatwaves often escalate rapidly, overwhelming local capacity. Event-level early identification supports pre-positioning of supplies, staging of emergency personnel, evacuation planning, and inter-agency coordination. More reliable foresight improves response effectiveness, reduces human and economic losses, and supports faster recovery.

From Forecasting to Decision Intelligence

Extreme weather increasingly affects not just transportation routes, but also suppliers, facilities, workforce safety, and asset integrity across industries. While traditional forecasting systems provide essential situational awareness, they are not designed to consistently identify rare, high-impact events at the event level, particularly at extended lead times.

Sinansys addresses this gap by operating as a decision-intelligence layer, translating atmospheric uncertainty into actionable risk signals. By integrating quantum-enhanced inference outputs into operational workflows, the Sinansys–Dynex framework helps organizations shift from reactive crisis management to proactive resilience planning—reducing disruption, protecting assets, and supporting financial risk management.

"Supply chain resilience today is not just about visibility—it's about foresight," said Stan Chen, Lead Author of the Validation Report and Founder of Sinansys. "As climate volatility accelerates, organizations need time to act before disruption cascades across suppliers, operations, and financial exposure. This validation shows that quantum-enhanced inference can provide that time."

"The independent validation conducted by Sinansys highlights the importance of rigorous assessment in applied quantum research," said Daniela Herrmann, Co-Founder of Dynex and Mission Leader of Dynex Moonshots. "It confirms that quantum-driven approaches implemented on Dynex's qubit-agnostic Quantum-as-a-Service architecture can be evaluated under real-world conditions, contributing to the responsible exploration of quantum technologies in operational contexts."

Ahead of World Economic Forum, Davos

The validation report will be featured as part of Sinansys' engagement at the World Economic Forum (WEF) Davos, where climate risk, resilience, and supply chain stability are central themes. Sinansys will share insights from the study with industry leaders, policymakers, and partners exploring next-generation approaches to managing systemic risk.

Read the full Validation Report:
 www.sinansys.com

About Sinansys

Sinansys, a RecycleGo technology company, is a next-generation supply chain resilience platform focused on transforming climate and operational uncertainty into actionable intelligence. Built for asset-intensive, globally distributed networks, Sinansys integrates advanced analytics and quantum-enhanced inference to help organizations anticipate disruption, protect critical assets, and strengthen resilience across supply chains.

About Dynex & Dynex Moonshots Foundation

Dynex (https://dynex.co/) is an award-winning global leader in developing quantum-driven solutions at scale through its proprietary Quantum-as-a-Service (QaaS) technology. It provides access to Dynex's emulation of up to 1 million algorithmic qubits and, with Dynex's quantum-driven neuromorphic chip "Apollo", up to 10,000 physical p-qubits. Through its unique cloud-based qubit-agnostic platform architecture, it enables accessibility to solving real-world problems at scale and supports the acceleration toward mainstream adoption.

From day one, mainstream adoption of Dynex's quantum-driven computing has been underpinned by focus on ethical integrity. This is led and safeguarded by Dynex Moonshots Foundation (https://www.dynexmoonshots.com/), steward of the Ethical Committee and an investor in pioneers shaping the future in health, society, nature, and space. Dynex Moonshots is also the investor and founder of the quantum educational programs Q:Edu (https://www.qedu.co/).

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