

Weather Intelligence for Agriculture Market Forecasts to 2034 – Global Analysis By Solution Type (Weather Forecasting Solutions, Climate Risk Analytics Solutions, Field Weather Monitoring Solutions, Crop Advisory Solutions and Other Solution Types), Component, Technology, Application, End User, and By Geography

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Abstracts

According to Statistics MRC, the Global Weather Intelligence for Agriculture Market is accounted for \$5.5 billion in 2026 and is expected to reach \$18.9 billion by 2034 growing at a CAGR of 16.7% during the forecast period. Weather intelligence for agriculture refers to the use of advanced meteorological data, predictive analytics, and digital technologies to support farming decisions and risk management. These systems provide real-time and forecasted information related to rainfall, temperature, humidity, wind, and extreme weather events. Farmers use weather intelligence to optimize planting schedules, irrigation, fertilization, pest control, and harvesting activities. Integration with artificial intelligence and IoT platforms further improves forecasting accuracy and operational efficiency. Rising climate variability and the need for precision agriculture are increasing demand for weather-driven agricultural decision-support systems globally.

Market Dynamics:

Driver:

Rising climate variability concerns

Farmers are increasingly facing unpredictable rainfall patterns, temperature fluctuations, and seasonal instability. This is creating strong demand for accurate weather forecasting tools to support farm planning and risk management. Agricultural stakeholders are shifting toward data-driven decision-making systems. Governments and agri-tech companies are investing in climate resilience technologies. Integration of real-time weather analytics is becoming essential for productivity optimization. These factors are driving strong market growth.

Restraint:

Limited rural digital infrastructure

Limited digital infrastructure in rural regions continues to restrict the adoption of weather intelligence solutions. Many farming areas still lack stable internet connectivity and reliable digital access. This limits real-time data delivery and system efficiency. High infrastructure development costs further slow down deployment in emerging economies. Farmers in remote regions face difficulties in accessing advanced forecasting tools. Technology adoption gaps between urban and rural areas remain significant. These factors collectively restrain market expansion.

Opportunity:

AI-powered weather prediction tools

Advanced machine learning models are improving forecasting accuracy and early warning systems. This is driving AI-powered weather prediction tools as companies integrate artificial intelligence algorithms, satellite data analytics, and real-time sensor networks to deliver highly precise agricultural weather forecasts that support crop planning, irrigation management, and risk mitigation strategies across diverse farming regions. Demand for predictive agriculture solutions is rising rapidly. Technology innovation is accelerating. Adoption of smart farming practices is expanding. These trends are unlocking significant growth potential.

Threat:

Forecast accuracy reliability issues

Sudden atmospheric changes and data inconsistencies can reduce prediction accuracy. Inaccurate forecasts may lead to poor agricultural decision-making. Farmers may face

financial losses due to incorrect weather predictions. Dependence on complex data models increases operational uncertainty. Technical limitations in remote sensing systems also contribute to inaccuracies. These factors act as a major market threat.

Covid-19 Impact:

The COVID-19 pandemic increased reliance on digital agricultural solutions due to labor shortages and restricted field access. Farmers adopted remote monitoring tools to manage agricultural operations efficiently. Demand for weather intelligence platforms increased during this period. Supply chain disruptions highlighted the need for predictive farming tools. Investments in digital agriculture technologies gained momentum. Awareness of climate-resilient farming practices improved significantly. Overall, the pandemic supported long-term market growth.

The software segment is expected to be the largest during the forecast period

The software segment is expected to account for the largest market share during the forecast period as it provides essential platforms for data processing, visualization, and real-time weather analytics that support agricultural decision-making across diverse farming operations globally. Increasing adoption of cloud-based solutions is further strengthening segment dominance. Integration of AI and big data analytics enhances forecasting capabilities. Farmers and agribusinesses rely heavily on software tools for operational planning. Continuous innovation in agricultural analytics platforms is driving growth. These factors ensure strong market leadership.

The artificial intelligence segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the artificial intelligence segment is predicted to witness the highest growth rate due to increasing demand for highly accurate and predictive weather modeling solutions in agriculture. AI technologies enable advanced data interpretation and pattern recognition for climate forecasting. This is driving artificial intelligence segment growth as companies integrate machine learning algorithms, deep learning models, and predictive analytics systems to enhance forecasting precision, optimize farming decisions, and improve agricultural risk management across global farming regions. Adoption of smart agriculture is accelerating. Data availability is expanding rapidly.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to advanced agricultural technology adoption and strong digital infrastructure in countries such as the United States and Canada. The region has high penetration of precision agriculture solutions. Strong presence of leading agri-tech companies supports innovation. Farmers actively use weather intelligence platforms for decision-making. Government support for smart farming enhances adoption. These factors ensure regional dominance.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by rising agricultural modernization, increasing climate variability challenges, and growing adoption of digital farming solutions in countries such as China, India, Japan, and South Korea. Expanding internet connectivity in rural areas is improving technology access. Government initiatives are supporting smart agriculture development. Awareness of climate risks is increasing among farmers. Rapid digital transformation is accelerating adoption. These factors drive the fastest regional growth.

Key players in the market

Some of the key players in Weather Intelligence for Agriculture Market include The Weather Company, DTN, LLC, Tomorrow.io, AccuWeather, Inc., Trimble Inc., IBM Corporation, Climate LLC, Fujitsu Limited, Descartes Labs, Inc., Spire Global, Inc., Planet Labs PBC, Iteris, Inc., Hexagon AB, aWhere, Inc. and Skymet Weather Services Pvt. Ltd.

Key Developments:

In March 2026, Tomorrow.io announced a strategic technology integration with national infrastructure entities, including a direct showcase to the Philippine government regarding automated irrigation management. This partnership-led initiative utilizes the company's proprietary satellite-derived radar networks and AI-driven weather modeling to secure predictive analytics for localized crop protection, protecting critical agricultural assets against increasingly volatile monsoon patterns.

In February 2026, The Weather Company expanded its strategic B2B footprint by embedding its enterprise API infrastructure directly into global autonomous farm management platforms. This collaborative effort powers over 200 billion daily API calls

to sync evapotranspiration and real-time weather metrics with GPS-guided field machinery, allowing commercial pivots to automatically skip irrigation cycles before predicted rains to boost water efficiency by up to 60%.

Solution Types Covered:

Weather Forecasting Solutions

Climate Risk Analytics Solutions

Field Weather Monitoring Solutions

Crop Advisory Solutions

Other Solution Types

Components Covered:

Software

Hardware

Services

Sensors & Weather Stations

Other Components

Technologies Covered:

Artificial Intelligence

Remote Sensing Technology

Big Data Analytics

IoT & Connected Devices

Cloud-Based Platforms

Other Technologies

Applications Covered:

Crop Planning

Irrigation Management

Disaster Risk Management

Pest & Disease Forecasting

Harvest Planning

Other Applications

End Users Covered:

Farmers

Agricultural Enterprises

Government Agricultural Agencies

Research Organizations

Other End Users

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free

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customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

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