

## **Weather Forecasting Services - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029**

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### **Report description:**

The weather forecasting services market is valued at USD 2.70 billion in the current year and is expected to reach USD 4.03 billion over five years, growing at a CAGR of 8.35% during the forecast period. The factors expected to drive the growth of the global weather forecasting services market are expanding due to the occurrence of catastrophic events secondary to undesired climatic changes and resulting security concerns. The progressed and authentic weather forecasting accomplished within the stipulated time can prompt significant cost investment funds and help with security against calamities and cataclysmic events. Advanced weather forecasting help to reduce uncertainty like floods, droughts, and other natural disasters. It improved agriculture productivity and was implemented by the industry to track their profitability.

#### Key Highlights

-Weather forecasting services are essential for aviation safety and efficiency. They provide pilots with information about the current weather conditions and forecasts of future conditions. This enables pilots to decide when to take off or land, what route to fly, and how much fuel they need to carry. Weather forecasts also help air traffic controllers plan routes that avoid hazardous weather systems such as thunderstorms or turbulence. In addition, airlines use weather data to optimize their operations by scheduling flights around expected delays due to bad weather. Finally, meteorologists use this data to research climate change and other environmental issues. Media and consumer outlets use weather forecasting services to provide accurate information about current weather conditions and predictions for future weather events. This information can be used in various ways, such as helping people plan their daily activities or providing news reports with up-to-date forecasts.

-Facilities for weather forecasting frequently use advanced, energy-consuming devices and infrastructure. Environmental observation information is a subset of big data that has recently increased exponentially. As a result, weather forecasting centers are mandated to provide integrated solutions that manage weather forecasters' computing needs, data transfer and management, and ownership of the whole cost of these operations. Additionally, the development of supercomputer processing

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power is projected to make it more comfortable to integrate a combination of high-resolution weather predictions and climate models, producing extraordinarily accurate and exact forecasts.

-Short-range weather forecasting services provide forecasts of conditions up to two weeks in the future. These services provide detailed weather predictions, such as hourly or daily temperature forecasts, precipitation, wind, and other meteorological variables. They are usually based on numerical weather prediction models that use data from weather stations, satellites, and other sources to predict the future state of the atmosphere. Short-range weather forecasting services are used to inform decisions such as when to plant crops, when to schedule outdoor events, and when to take precautions against severe weather.

-On the flip side, since weather conditions vary frequently, weather forecasting models must use contemporary oceanic and atmospheric conditions to resolve future weather. Weather prediction considers humidity, temperature, air pressure, wind speed, and cloud cover. Numerous variables are taken into consideration by weather forecasting models, including latitude and longitude elevation, as well as proximity to water sources, geographic position, and urban constructions.

-The United Nations' World Meteorological Organization raised considerations about the COVID-19 pandemic's effects on weather forecasting and climate change research. Commercial flights take measurements as they soar through the atmospheres, and scientists normally hitched rides on container ships to track conditions over the oceans. With flights grounded and scientists kept off the ships, weather forecasts were made with less data than usual. Climate research also took a hit, as researchers stayed home instead of conducting planned fieldwork, at the University of California.

## Weather Forecasting Services Market Trends

### Agriculture Segment is Expected to Hold a Significant Share of the Market

- Farming is a complex yet important process that is practiced in villages. There are many factors that farmers need to take into consideration while farming. Farming involves soil, irrigational facilities, and other farming tools and techniques. Apart from the mentioned factors, weather forecasting is an important factor that farmers must also consider. To have a successful crop, a farmer needs to be well prepared and aware of the approaching weather conditions or climatic changes, as the overall output of the crop is highly dependent upon the weather conditions.

- Further, weather forecasting helps farmers to know when is the correct time to apply fertilizer, along with the applying rate and type of fertilizer. The bad timing of fertilizer and its application may spoil the crop's growth. The field must be dry enough for the fertilizer to not wash away but moist enough to penetrate the soil. Working in the field has its good and terrible days. This is dependent on the moisture and temperature of the soil. Accurate weather data can assist farmers in determining when they should work most efficiently in their day-to-day operations.

- In April 2023, India Meteorological Department (IMD) operated an Agrometeorological Advisory Services (AAS) such as Gramin Krishi Mausam Sewa (GKMS) scheme for the advantage of the farming community in India. Under the scheme, a medium-range weather forecast for the next five days is developed at the district and block levels. Based on the estimates, 130 Agromet Field Units (AMFUs) located at and District Agromet Units (DAMUs) and state agricultural universities (SAUs) at Krishi Vigyan Kendras (KVKs), institutes of the Indian Council of Agricultural Research (ICAR) and Indian Institute of Technology (IIT), etc. Under ICAR network schedule Agromet Advisories on every Friday and Tuesday for the districts beneath their jurisdiction and the blocks of the community of their location and communicate to the farmers to decide on day-to-day agricultural operations.

- The vast scope and need for weather forecasting services in agriculture are pushing new players to enter the market. For instance, in May 2022, Sencrop, a startup providing weather analytics services for agriculture, has just raised USD 18 million in Series B funding. Jerusalem Venture Partners led the round. EU-backed EIT Food, Stellar Impact, IRD Management, and Sencrop's existing shareholders, including NCI Waterstart, BPIfrance, and Demeter IM, also invested. Counting farmers, winegrowers, and fruit growers among its clientele, Sencrop can supply its ultra-local weather data through its network of internet-connected weather stations. With the insights emanated from this network, farmers are better placed to mitigate the hazards faced by their crops - while limiting the impact of their processes on the environment by optimizing their chemical and water usage.

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- Weather forecasting is important for driving agricultural production by influencing crop growth, development, and yield, including pest and disease incidence, coordinating water and nutrient or fertilizer uptake, etc. For instance, According to the US Department of Agriculture, In 2022/2023, the United States is expected to be the largest producer of corn worldwide, with a production volume amounting to about 348.75 million metric tons. China and Brazil rounded off the top corn-producing countries.

#### North America is Expected to Hold Significant Share of the Market

- The North American weather forecasting services market is a highly competitive and lucrative sector expected to witness significant growth in the coming years. The market is driven by growing demand for accurate weather forecasts, rising demand for weather-based applications and services, an increasing number of weather-based applications and services, and technological advancements. The market is further driven by the rising demand for energy-efficient solutions, increasing awareness about the benefits of weather-based applications and services, and rising investments in research and development.

- Further, The Weather Research and Forecasting Innovation Act of 2017 (Public Law 115-25), often referred to as 'The Weather Act,') was marked into law in April 2017, with goals to enhance NOAA's weather research via investments in computing, observational, and modeling capabilities, to support progress in weather forecasting and prediction of high-impact weather events, and to expand commercial opportunities for providing weather data. In collaboration with the U.S. weather industry and appropriate academic entities, and through the National Weather Service (NWS), NOAA must plan and maintain a project to improve hurricane forecasting

- In June 2023, National Oceanic and Atmospheric Administration (NOAA) upgraded the model to estimate these geoelectric fields to improve nowcasts of regional space weather impact information for electric power operators. Improvements in the model, now called the U.S.-Canada Geoelectric Field Model, include more accurate outputs of the geoelectric field at the Earth's surface and expanded coverage to Canada, which increases situational awareness for the operation of the 37 major power transmission lines that connect the two countries. Jointly developed by NOAA, the U.S. Geological Survey (USGS), and the Natural Resources Canada/Canadian Hazards Information Service (NRCan/CHIS), this is the primary model that electric power managers can use for regional assessment of space weather hazards over the US-Canada operating domain.

- The players in the region are collaborating to provide better services to its customer. For instance, in May 2023, AccuWeather, a global media publisher and undisputed leader in Superior Accuracy in weather forecasts and warnings, announced a first-of-its-kind partnership with global advertising technology player, The Trade Desk. Marketers and media buyers can now directly leverage the AccuWeather Data Suite in The Trade Desk platform. The Trade Desk is the first DSP to gain access to the global AccuWeather Data Suite. It is available in many world regions, including North America, Europe, the Middle East, Asia Pacific, Latin America, and more.

- In June 2023,Supernal LLC (the Company) announced a minority investment in TruWeather Solutions to leverage its weather data analytics and forecasting technology in Supernal's electric vertical take-off and landing (eVTOL) vehicle and operations testing. Weather forecasting is the latest factor of the extensive Advanced Air Mobility (AAM) ecosystem that Supernal addresses while developing its eVTOL vehicle for 2028 entry into service. As part of the investment, Supernal will pilot TruWeather's comprehensive V360 software-as-a-service product in the Company's vehicle and surrounding operations to collect and integrate real-time distributed sensor weather data.

#### Weather Forecasting Services Industry Overview

The global weather forecasting services market is moderately consolidated with the presence of several players like AccuWeather Inc., AerisWeather, BMT Group, DTN, etc. The companies continuously invest in strategic partnerships and product developments to gain substantial market share.

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In July 2023, DTN, a global data, analytics, and technology company, announced they were selected by AusNet, one of the largest electricity distribution and transmission providers in Australia, to support and improve the organization's outage response management. DTN Storm Impact Analytics is a state-of-the-art outage planning and prediction solution that combines hyperlocal weather intelligence, regional and historical weather data, and AusNet operational data with machine learning tools that better equip AusNet to prepare and respond to extreme weather events

In April 2023, StormGeo, a weather intelligence and functional decision support player and part of Alfa Laval, collaborated with Closelink, a Hamburg-based digital bunker platform provider connecting buyers and suppliers. The partnership brings together the expertise and abilities of the two firms to better serve existing and future clients and drive innovation in the maritime industry. As a first step, Closelink has incorporated the AI-driven capabilities of StormGeo's s-Insight, bunker planning tool into its bunker procurement platform. s-Insight bunker supports bunker buyers in choosing the best port and volume for bunkering.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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