

CEO TIME

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CFAN: Empowering Businesses to Manage Weather and Climate Risks with Innovative Forecast Tools

Climate Forecast Applications Network (**CFAN**) is a company that develops tools and provides services to help people manage risks related to the weather and climate. They have different products that help manage weather-related risks for different industries. For example, their OmniCast product helps energy companies manage their operations during extreme weather events. They also have a product called TropiCast that helps clients prepare and respond to potential weather-related disasters in the tropical cyclone regions. Another product, AgriCast, helps farmers and other stakeholders in the agriculture industry better manage their operations and optimize crop yields by making informed decisions based on weather forecasts.

CFAN also provides climate services that respond to specific client needs. These services help clients make informed decisions about their business operations and develop effective climate adaptation strategies. They also have interactive web-based dashboards that help clients easily and quickly interpret forecast information and make informed decisions based on real-time weather and climate data.

CFAN: Developing Innovative Weather and Climate Forecast Tools to Help Clients Manage Risks

Climate Forecast Applications Network (**CFAN**) was founded in 2006 by Judith Curry and Peter Webster and launched under The Georgia Institute of Technology's VentureLab program. **CFAN** was initially created to coordinate their humanitarian work on flood forecasting in Bangladesh, which was funded by USAID and CARE. **CFAN**'s initial opportunities and clients

motivated the development of innovative extended-range forecasts of extreme weather events.

CFAN recognized early on that the key to market adoption was working with clients to provide forecast solutions that support effective decision-making. Thus, the company's vision was to develop a suite of innovative weather and climate forecast tools that could help businesses and governments better manage their weather- and climate-related risks.

CFAN's scientific team members are world leaders in research on weather and climate dynamics, as well as extended-range prediction of weather and extreme weather events. With this foundational expertise, the company's mission was to translate cutting-edge weather and climate research into forecast products that could provide clients with actionable insights to mitigate risks and enhance decision-making.

CFAN has continued to focus on developing innovative solutions to help clients manage their weather and climate-related risks. The company's products and services have evolved over time, but the commitment to providing clients with actionable insights based on the latest scientific research continues.

CFAN's success can be attributed to its ability to stay ahead of the curve in the weather and climate forecasting industry. By leveraging the latest scientific research and working closely with clients to tailor their solutions to their specific needs, **CFAN** has established itself as a trusted partner for businesses and governments looking to manage their weather and climate-related risks effectively.

As a leading provider of weather and climate services **CFAN** is playing a critical role in helping businesses thrive. **CFAN** has quickly evolved into a cutting-edge

provider of weather and climate services, with a mission to translate research into products that help businesses manage weather and climate risks.

CFAN's innovative approach to forecasting has earned the company a reputation as pioneers in the field. By working closely with its clients, **CFAN** has been able to tailor its services to meet their specific needs. This has allowed **CFAN** to empower businesses by not just providing superior forecasts but also by providing services to customize and integrate those forecasts into their own risk assessment models.

Synergy between Research, Forecasts, and Decision Support



CFAN's service portfolio is not just about providing forecasts; it's about creating a true synergy between research, forecasts, and decision support. The company's team members are world leaders in research on weather and climate dynamics extended-range prediction of weather and extreme weather events. **CFAN** collaborates closely with its clients to develop new products and address their most complex weather- and climate-related problems lucrative opportunities. This collaboration is an iterative process of education and feedback, in which **CFAN** communicates the value of their innovation to potential clients while also listening to feedback and adjusting their approach as needed.

CFAN has created a culture of innovation and client support that is unique among weather and climate forecast providers. The company's innovative approach to forecasting has helped clients open up a new world of possibilities. By collaborating with **CFAN**, businesses have been able to develop new products, identify new markets, and explore new opportunities.

Quality is Key How CFAN Ensures High-Quality Services

From short-term weather forecasts to long-term climate projections, **CFAN** offers a wide range of products and services designed to meet the needs of their clients.

At **CFAN**, quality is always a top priority. They understand that accurate forecasts and reliable services are essential to their clients, and they take a number of steps to ensure high-quality services.

One of the ways **CFAN** ensures quality is through the use of real-time observations. Each forecast product is evaluated in real time using observations, allowing clients and **CFAN** staff to carefully monitor forecast accuracy.

CFAN works closely with clients to receive feedback and suggestions. This helps them to understand their clients' needs better and make any necessary improvements to their products and services. By listening to their clients and continually striving to improve, **CFAN** maintains a high level of service that sets them apart from other companies in the industry.

R&D: The Driving Force Behind CFAN's Growth

Another key factor in **CFAN**'s success is their investment in research and development (R&D). Approximately half of **CFAN**'s employee salaries go towards R&D, highlighting the importance they place on innovation.

By investing in R&D, **CFAN** is continually improving their products and services. Each of their legacy forecast products undergoes a major development cycle every two years, ensuring that they stay up-to-date with the latest advances in technology and science. Additionally, **CFAN** has received several grants from U.S. government agencies to support research and new product developments.

One of the ways **CFAN** leverages R&D to take their company to the next level is through their interactions with clients. They continually work with clients to develop new forecast products that meet their needs. This collaborative approach ensures that **CFAN**'s products and services remain at the forefront of a constantly evolving industry.

CFAN's Competitive Edge: Innovation in Weather and Climate Services

CFAN is at the forefront of advancing new ideas and approaches in weather and climate services. The company's team is committed to constantly pushing the envelope and driving innovation in the field of weather and climate services. **CFAN** leverages the



latest technological advancements in the market to create innovative solutions for its clients.

CFAN's commitment to innovation is a key factor in their competitive edge in weather and climate services. They're recognized as innovators in pushing the boundaries of skillful forecasting and advancing the understanding of weather and climate prediction and predictability.

The company's competitive edge is associated with its advanced forecast calibration and ensemble interpretation techniques, integration of Artificial Intelligence and Machine Learning techniques, and forecast uncertainty characterization. These techniques provide skillful forecasts of extreme weather events at longer lead times, giving their clients more time to prepare and respond.

CFAN also uses advanced visual analytics and cognitive computing techniques to support effective use of the forecast information. Their forecast dashboards are designed to be user-friendly and easy to understand, ensuring that clients can quickly and easily access the information they need.

Meet the Leadership: Dr. Judith Curry, President and Co-founder of CFAN

Dr. Judith Curry, the President and Co-founder of **CFAN**, is a renowned expert in the fields of weather and climate. Her vast knowledge and expertise have been recognized by numerous professional societies, and she has testified before the U.S. Congress and served as an

expert witness on numerous occasions. Dr. Curry holds a Ph.D. in Geophysical Sciences from the University of Chicago and held the position of Chair of Earth and Atmospheric Sciences at the Georgia Institute of Technology for 13 years. As a Professor Emerita, Dr. Curry has now shifted her focus to leading the team at **CFAN** and driving innovation in the industry.

CFAN Co-Founder Receives International Water Creativity Prize from UN Secretary-General

Peter Webster, the co-founder of **CFAN**, received the International Creativity Prize for Water from the former UN Secretary-General Ban-ki Moon for his outstanding work in Bangladesh. Webster's innovative and creative approach to water management has transformed the lives of millions of people in the country. He developed a pioneering flood forecasting system that uses satellite technology to predict floods, enabling the government and local communities to take proactive measures to protect lives and livelihoods. Webster's work is a testament to the power of creativity and innovation in addressing some of the world's most pressing challenges, and he is a true inspiration to all those working in the field of water management.

Maintaining Employee Enthusiasm

CFAN's leadership team empowers employees to achieve their full potential. This approach emphasizes the development of individual capabilities and career

advancement within the framework of project teams. The company invests significant effort in training and developing its employees, ensuring that they are equipped with the skills and knowledge needed to succeed in their roles and to advance professionally.

CFAN's employees enjoy a flexible work environment that encourages work-life balance. The company recognizes the importance of maintaining a healthy work-life balance to ensure that employees remain enthusiastic, motivated, and productive. By prioritizing employee well-being, CFAN's leadership team has created a culture that fosters collaboration, creativity, and success.

CFAN's Meteorological Milestones: From Tropical Cyclones to Climate Change

CFAN (Climate Forecast Applications Network) is a pioneering company that has made significant achievements in the field of meteorology. Since its inception, CFAN has focused on delivering innovative solutions to complex weather challenges, from tropical cyclone forecasting to climate change projections. Here are some of the significant milestones CFAN has achieved over the years.

✓ Revolutionizing Tropical Cyclone Forecasting

One of CFAN's most notable accomplishments was its development of an extended-range, better-than-market tropical cyclone forecast system following Hurricane Katrina. CFAN's innovative approach included a dynamic cone of track forecast uncertainty, Rapid Intensification index, and probabilistic forecasts of Integrated Kinetic Energy and Cyclone Damage Potential. These products have helped electric utilities providers to drive outage models, and pre-position emergency crews in affected areas, leading to more efficient restoration of electricity following cyclone landfalls. CFAN's tropical cyclone forecasts have also found application in the insurance sector, particularly for catastrophe bonds.

✓ Flood Forecasting for Underdeveloped Countries

CFAN is committed to supporting underdeveloped countries and smallholder farmers. One of its noteworthy achievements in this regard was the development of an extended-range probabilistic flood forecasting system for the Ganges and Brahmaputra Rivers in Bangladesh, with funding from USAID and CARE. CFAN's flood warnings were disseminated directly to residents in rural provinces in Bangladesh via cell phone networks. As a result of these forecasts, entire areas were evacuated ahead of the floods, crops were harvested early, and livestock, seeds, and belongings were saved.

✓ Weather Forecasting for Small-Scale Farmers

CFAN's commitment to supporting small-scale farmers in developing nations continues with the launch of a new weather forecast platform in partnership with Precision Development (PxD). The platform provides farmers with weather forecasts and critical crop-specific information via cell phone, enabling them to make informed decisions and improve their yields while reducing costs and resource use. CFAN is working with a team of crop scientists and local farmers to optimize its forecasts to support decision-making on cropping, planting, irrigation, and harvesting.

✓ Innovative Climate Change Projections

CFAN's climate services are based on an innovative network-based climate dynamics approach to developing regional scenarios of future climate change that integrate human-caused climate change with natural modes of climate variability. The company has developed extreme event scenarios that provide characteristics of regional extreme events over the target time interval and plausible worst-case scenarios of compound event types. These projections have found application in vulnerability assessments of storm surge and sea level rise, future profitability of wind farms,

water resources planning, stress testing of proposed renewable-based electricity systems, and insurance risks.

Paving the Way for Future Innovations in Weather and Climate Services

In the next five years, CFAN aims to expand its services to include more sub-seasonal forecasts, as well as realistic scenarios for regional climate change. CFAN's President Judith Curry sees tremendous opportunities for Machine Learning and AI to be incorporated into weather forecast products and climate scenarios.

CFAN is working with several firms in the risk management field to develop innovative strategies, tools, and information systems. With an eye towards growth and innovation, CFAN is also partnering with multiple startup companies that have novel ideas categorized under "climate tech."

Judith Curry's upcoming book, *Climate Uncertainty and Risk*, showcases her vision for advancing the climate services sector. According to Judith, the book "helps us rethink the climate change problem, the risks we are facing, and our response. It provides a road map for formulating pragmatic solutions that can improve our well-being in the 21st century." By collaborating with various organizations and experts, CFAN is taking a holistic approach towards tackling the challenges posed by weather and climate change.

With its commitment to innovation, collaboration, and excellence, CFAN is making a real difference – one forecast at a time.

Words of Wisdom for Aspiring Entrepreneurs: Taking Calculated Risks and Fostering Innovation

CFAN's President Judith Curry provides the following insights. Effective leaders need to have the courage to take calculated risks and make difficult decisions, as well as the ability to adapt and learn from their experiences. It is important to inspire and motivate others and

foster a culture of innovation and creativity within their organization.

There are important differentiators between leaders who move a field or industry forward, versus fast followers. A leader looks beyond the obvious and what everyone else is doing, with vision, inspiration, creativity, and strategic thinking. Leaders who are able to drive their field or industry forward are often characterized by their ability to think outside the box and anticipate future trends and needs. They are able to develop a vision for their organization that inspires others and attracts top talent. They also tend to be highly strategic, focusing on the long-term goals and opportunities for their business.

Entrepreneurs in the tech industry often face the challenge of creating demand for their new products or services. This requires an iterative process of education and feedback, in which the entrepreneur must communicate the value of their innovation to potential users while also listening to feedback and adjusting their approach as needed.

