

CASE STUDY:

ClimateAi Helps Advanta Climate-Proof its Business from End-to-End





At a Glance

- + Leading Australian seed company Advanta Seeds was experiencing climate change-fueled weather variability, which was hurting its seed production and sales.
- + Publicly available data and out-of-the-box climate tools weren't meeting Advanta's need for granular and actionable insights at specific time scales.
- + ClimateAi's platform and suite of tools, including seasonal and climate forecasting, as well as its climate analogs search function, allowed Advanta to understand key risks to its seasonal production, across its supply chain, and to sales territories.
- + With these insights, Advanta could make better informed decisions that enabled viable quality seed production, prevented losses, captured new sales, assessed capital expenditures, and optimized R&D.

About Advanta

Advanta Seeds is a global company that combines the most advanced techniques in conventional plant breeding with biotechnology to deliver world-class seed. As a part of UPL Group (the fifth largest agrochemicals company in the world), it is an international leader in the research, development, production, processing, marketing and sale of high-performance hybrid seeds. The company partners with growers across Australia to produce and grow the seeds that will become tomorrow's high-quality grain sorghum, hybrid canola, field corn, wheat, and forage seed.





A TWOFOLD CHALLENGE

Challenge 1:

Climate-Proofing Advanta's Supply Chain

The success of seed production at large is dependent on favorable weather conditions, particularly adequate rainfall. Adverse weather during growing seasons can damage seed quality, making it harder to establish seedlings that grow into high-yielding mature crops — for example, a heat wave during flowering or a drought at any point could ruin an entire crop.

As climate change accelerates, the frequency of severe extreme weather events has increased, meaning that managing crops using historical averages has become untenable. Advanta was looking for more visibility into seasonal weather and long-term climate conditions in order to optimize these decisions. It needed a better solution to provide growers with more accurate climate information so they could plant their seeds at the right times and in the right locations to ensure a successful harvest.



IN THE SEED INDUSTRY, DECISIONS MUST BE MADE FAR IN ADVANCE, BECAUSE SEED PRODUCTION OCCURS 12 TO 18 MONTHS AHEAD OF PLANTING, WHILE RESEARCH AND DEVELOPMENT FOR SEED BREEDING TYPICALLY OCCURS A DECADE AHEAD OF PRODUCTION.

Advanta also needed reliable forecasts to design climate-proof seed varieties for the future. It was still seeing that in a given year, there was 30-50% revenue volatility based on whether the right product was on the market. What's even scarier is that it takes Advanta ten years to develop a product — so if the team misunderstands the future market (including future climate), the company could see losses of 30-50% every year.

Advanta had considered a number of climate products and services over the years in an attempt to get more reliable information. However, none of them quite fit the team's need for a seasonal tool that would cover both planning and in-season monitoring, and its desire for a partner that understood the industry and could offer flexibility, rather than an out-of-the-box product.

THE QUESTIONS ADVANTA WAS LOOKING TO ANSWER INCLUDED:

- + What climate conditions should we expect in our fields this season during key windows such as planting, applying inputs, and harvesting?
- + What could we improve in planning and managing our seed production crops, for this season, in five years, and in 20 years?
- + Where could we test products today that might already exhibit the climatic factors of the future so that we have confidence that the products will be viable?
- + Would our current seed production locations continue to be sustainable for our business long-term?
- + What type of attributes would our products need in the future to continue to be profitable for Australian farmers and international customers?



A TWOFOLD CHALLENGE

Challenge 2:

Understanding Future Sales and Marketing Opportunities

In addition, to help with supply chain complexities, Advanta also needed climate insights to ensure future success on the sales and marketing front. Publicly available climate data was not helpful to inform these decisions: It was not specific enough and not tuned into key risks that affected buyers' decisions. In fact, in the past few years, drought had cut Advanta's sales expectations in half. The team needed more actionable insights that could help it understand the metrics that moved markets, in order to determine market size and find optimal markets to target for the coming years.

THEY HAD SEVERAL QUESTIONS:

- + What does demand look like next year for Advanta products? If we are producing 12 to 18 months ahead, how can we better manage inventory?
- + Where should we put our stock to capture and capitalize on sales opportunities?
- + What will climate conditions look like for the upcoming seasons in areas we're considering expanding into?
- + Will the geographic markets in which we sell today evolve, and if they're not going to be sustainable longer term, what sort of products does Advanta need to offer so that growers in those regions can continue to grow that crop profitably into the future?





The Solution:

ClimateAi's Climate Insights Platform Helps Advanta Thrive Amid a Changing Climate

Advanta made full use of ClimateAi's enterprise climate insights platform to begin planning and adaptation both across its supply chain and on business development sides.

The company used **ClimateAi's seasonal forecast tool** to assess current and near-term conditions at its planned production locations, including water availability, to understand optimal planting timing. It combined this information with its risk appetite, so it could alter its production mix by location. For example, if a heat wave was expected in one area, it could choose to move production to other less risky areas. It could also continually monitor environmental conditions and adjust operational decisions as necessary.

Advanta also used **ClimateAi's climate analogs tool** for crops currently growing in high-risk areas to find alternative locations with optimal climates, similar soils and pest/disease profiles, and secure water availability for the next 15 years. The tool also helps the team find potential export locations to climates that may become optimal for its seeds over time.

For more long-term decision-making, Advanta used **ClimateAi's climate forecast tool** to understand the factors it was likely to encounter before making significant capital expenditures. The team could see how sales territories and production regions would evolve and identify challenges its crops may face going into the future. It could prioritize regions for its breeding teams to focus on, and where it might be able to invest in research projects with other partners to try and overcome the challenges of the future. Advanta was also able to understand the conditions their seeds would face and breed the needed characteristics accordingly.





Results

Advanta Today: Reaping the Benefits of Accurate Climate Forecasting



CLIMATEAI HELPED ADVANTA TO BOOST SALES BY 5-10%:

ClimateAi's highly accurate predictive modeling identified an unexpected precipitation event two months out in a key location before any other tools. As a result, Advanta was able to bag and transport seed there before its competitors, with the faster time to market leading to a 5-10% sales increase.

"In late 2020 where the ClimateAi forecast indicated an imminent rainfall event in a key sorghum growing region in Northern New South Wales, we were able to move inventory into this region in advance and as a result we believe we potentially captured an additional 5-10% in sales."

Barry Croker, Managing Director at Advanta subsidiary Pacific Seeds (Quoted from The Wall Street Journal)



SECURED ADVANTA'S POSITION AS A MARKET LEADER FOR YEARS TO COME BY ENABLING THEM TO BREED, TEST, AND PRODUCE RESILIENT SEEDS.

Advanta can now breed for the precise traits necessary to perform optimally in their target markets in the future. According to Andrew, the company has already found safer outcomes for their business going forward in a rapidly changing climate.



INCREASED GROWER LOYALTY:

Advanta's high level of confidence in ClimateAi's tools led to the decision to offer them externally to partner growers and agronomists: it launched a version of the platform called "SKIP," which includes a planting tool in which growers and agronomists can run seasonal planting scenarios. They can input different proposed planting dates, see what type of risks they might encounter through the season, and adjust their operations prior to planting, to improve their outcomes. "Our thoughts are that if we're seeing such success, we should be sharing that with our customers so that they can see the benefits and grow their crops more successfully as well," Andrew said.

"Our growers were absolutely thrilled when we showed them what they could do."



PREVENTED LOSSES:

In 2021, ClimateAi's seasonal forecast accurately projected wet conditions at harvest, which informed Advanta's decision to harvest the seed early, maintaining its quality and sellability. "Putting that in dollar terms, depending on the volume, we can be talking anywhere from hundreds of thousands of dollars to essentially millions of dollars, in just one season," said Andrew Short, marketing manager at Advanta. "As a planning function, when we extrapolate this over each production cycle, year in, year out, and can adjust our production mix and production locations, it doesn't take long to start realizing value."



Results

Advanta Tomorrow: Making Better Investment Decisions with Climate Insights



INFORMED CAPITAL DECISIONMAKING ON MULTI-MILLION DOLLAR INVESTMENTS:

Advanta was able to understand the risks and opportunities it was likely to encounter in new locations before making significant capital expenditures and identify which high-risk locations it should consider leaving within the next decade or so. The team could see how sales territories and production regions would evolve and identify challenges its crops may face going into the future.



IDENTIFIED NEW AREAS FOR INVESTMENT:

With the climate analogs tool, Advanta identified novel areas for seed production that hadn't been on their radar. The tool found locations comparable to the ones Advanta operates in today, with optimal climates, similar soils and pest/disease profiles, and secure water availability for the next 15 years. It could then prioritize those regions for its breeding teams to focus on, and see where it might be able to invest in research projects with other partners to overcome the challenges of the future.

According to Andrew, the level of customizability and advanced insights that Advanta has been able to generate through ClimateAi has become invaluable to its operations and strategy. ClimateAi has been able to support both Advanta's business and the sustainability of food and agriculture by building resilience to extreme weather events and helping it turn climate risk into a competitive advantage.



About ClimateAi

ClimateAi is a climate resilience platform, pioneering the application of artificial intelligence to mitigate the impact of climate change and uncover new opportunities that may arise as a result. By applying AI to climate risk modeling, it provides short and long-term insights into weather and climate impact, helping businesses identify the actions needed today to adapt to the climate change disruptions of tomorrow. Its client roster includes Advanta, Driscoll's, Nuveen, Ocean Spray, and The Wonderful Company. For more information or to schedule a demo, please visit climate.ai.





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