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Spire Advances Agriculture Intelligence with Integrated Soil Moisture Data and Weather Forecasts

Satellite-derived solution combines 40 years of historical data with near real-time observations and AI-driven forecasts to support climate-resilient agriculture at global scale

VIENNA, Va.--(BUSINESS WIRE)-- [Spire Global, Inc.](#) (NYSE: SPIR) (“Spire” or “the Company”), a global provider of satellite data, analytics and intelligence, announced its expanded agriculture intelligence offering with integrated soil moisture data and weather forecasting capabilities. The solution delivers a continuous “past-present-future” soil moisture and weather intelligence framework, integrating more than 40 years of historical records with daily satellite observations, site-specific forecasts extending up to 45 days, and AI-driven sub-seasonal guidance.

Agriculture remains one of the most climate-exposed industries globally, yet soil moisture and weather intelligence remain fragmented, sensor-dependent, and limited in spatial coverage. As droughts, floods, and shifting seasonal patterns intensify, scalable environmental visibility is becoming critical to crop performance, capital allocation, and risk management.

Leveraging its proprietary Global Navigation Satellite System (GNSS) radio occultation and reflectometry data, the integrated solution provides:

- **Plant Water Availability Insights:** Near real-time global soil moisture observations and anomaly detection that identify early signs of crop stress, up to a week before visible canopy damage, supporting more efficient irrigation and water management.
- **Predictive Outlooks:** Site-specific soil moisture and weather forecasts extending up to 45 days, enabling improved irrigation scheduling, input timing, and longer-term risk mitigation.
- **AI-Driven Seasonal Guidance:** High-resolution and AI-based sub-seasonal forecasts that provide extended visibility into shifting weather and soil conditions up to six weeks ahead, helping optimize planting and harvest timing.

Spire’s integrated solution enables earlier detection of crop stress, more efficient irrigation and input timing, and improved crop and yield modeling. Delivered via API, it allows digital farming platforms, insurers, agribusinesses, and government agencies to embed environmental intelligence directly into operational workflows—reducing reliance on hardware-based sensors and enabling scalable deployment across global agricultural portfolios.

“Climate volatility is increasing agricultural and economic risk, while much of the environmental data infrastructure supporting the industry remains fragmented and hardware-

dependent,” said Shawn Mechelke, General Manager, Weather, Climate and Aviation at Spire. “Timely, globally consistent insight is essential for modern agronomic decision-making. By integrating satellite-derived soil moisture insights with advanced forecasting, we enable earlier intervention, more efficient resource use, and stronger operational resilience across global agricultural systems.”

Learn more about [Spire’s global, satellite-derived soil moisture data and forecasts for agriculture](#).

About Spire Global, Inc.

Spire (NYSE: SPIR) is a global provider of space-based data, analytics and space services, offering unique datasets and powerful insights about Earth so that organizations can make decisions with confidence in a rapidly changing world. Spire builds, owns, and operates a fully deployed satellite constellation that observes the Earth in real time using radio frequency technology. The data acquired by Spire’s satellites provides global weather intelligence, ship and plane movements, and spoofing and jamming detection to better predict how their patterns impact economies, global security, business operations and the environment. Spire also offers Space as a Service solutions that empower customers to leverage its established infrastructure to put their business in space. Spire has offices across the U.S., Canada, UK, Luxembourg and Germany. To learn more, visit spire.com.

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