

Regional Air and Rainfall Monitoring Study

STONE
ENVIRONMENTAL
100% EMPLOYEE-OWNED

Services / Expertise

Air and Rainfall Monitoring
Study Design and Directorship
Study Management
Sampler Training
Field Data Applications
Database Management

Market

Crop Protection

Project Location

South Dakota
Minnesota
Iowa
Illinois
Indiana
Missouri
Arkansas
Texas

Dates Completed

2022-2023

Project Owner

Confidential Industry Client

Project Manager

Brent Toth
btoth@stone-env.com



Solar powered monitoring stations included air and rainfall samplers, refrigerated autosamplers, and weather stations.

STONE developed and executed a comprehensive regional field study to monitor ambient air and rainwater quality in primarily agricultural areas across the Midwest and Southern United States over two consecutive growing seasons.

Our team was responsible for the study design, including creation of remotely monitored rainfall sampling methods and the development of a robust sampling protocol tailored to the project's specific objectives. To ensure data consistency and accuracy across all monitoring locations, we meticulously trained numerous local partners on the precise methods for maintaining the sampling stations, collecting and shipping field samples, and entering data using our ArcGIS Survey123 field data entry system.

Upon collection, individual samples were instantly paired with the local weather sensor data recorded over their unique sampling interval. To monitor and share data as it was collected, we implemented a sophisticated data management and visualization system that used a dynamic ArcGIS dashboard. It provided both the study managers and client organization a shared platform for visualizing data as the study was being conducted.

Stone's expertise in environmental monitoring, study design, and data management enabled the successful integration of diverse data streams, ensuring high-quality data collection that met rigorous scientific standards. Our robust implementation provided the client with a scientifically defensible and trusted understanding of chemical movement and behavior in the environment.

