The Iowa Environmental Mesonet: Integrating Atmospheric Datasets for Agricultural Applications. (A03-todey160150-Oral)

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Abstract:

Several states and organizations around the country have or are developing networks to specifically support agriculture in their region. Iowa State University (ISU) similarly maintains an automated weather station network at ISU research farms across the state. But the station density from these sites is still too low to depict many features of the atmosphere and soil for agricultural use. Over 400 other stations in the state collect some type of atmospheric data, which can be used to supplement data for agricultural purposes. The Iowa Environmental Mesonet (IEM) is developing a web site and data server to collect, archive, compare and disseminate data and products from all stations in Iowa. The data gathered are used to create maps, such as the current seasonal GDDs, daily and seasonal precipitation totals and deviations of these values from average. Increased spatial and temporal resolution have been the main agricultural benefits. Soil temperature and soil moisture monitoring is being expand across the state. Improved state-wide soil erosion estimates and soil moisture forecasts are two research areas spurred by the IEM development.

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