UN Project Climate Smart – A Global Agricultural Weather Program

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An overview of how the United Nations project Climate Smart, an initiative to expand surface weather and soil observations on farms in rural areas that are not well observed today, is progressing. The overview includes a description of the project, its sponsors from the private and public sectors, and plans to deploy thousands of weather stations in 2019. Also included is an overview of the 5,000 station DTN North American Agricultural Weather Network (all built since 2013 and privately funded and operated), along with the types of stations and parameters observed. The use of local weather observations in precision agriculture applications is explained, along with their value to the farmers and producers who have installed the stations. Recent studies conducted by DTN showing the impact of local weather observations on farming, and the improvements that a local farm or field can realize when local weather observations are available are discussed. An overview of the current countries in which Project Climate Smart is underway or planned will be provided, along with the current status of those deployments. Future plans for expansion of the project will also be discussed.

DTN has compared the accuracy of estimated (by spatial interpolation) weather observations used in many precision agriculture applications to observations from on-farm local weather stations. This study has shown that the estimated observations are much less accurate, and may lead to bad decisions when using downstream applications. This finding is significant because many precision agriculture applications, such as crop growth stage, nitrogen use, and crop yield, which are used to recommend fertilizer and chemical treatments where the weather data is the most important input into the applications.