The West Texas Mesonet

The West Texas Mesonet (WTM) serves the greater West Texas region by providing accurate and timely agricultural and meteorological data to a wide variety of users. Originally intended as a pilot project towards the establishment of a statewide mesonet, the WTM currently consists of 98 automated surface stations distributed across 65 counties in two states, seven boundary layer SCINTEC SODAR units, one atmospheric profiler and one upper-air sounding system. Each surface station communicates via cell modem or internet connection with the base station located at Reese Technology Center where data is ingested and distributed through a variety of methods (Web, SFTP, LDM, APP, etc.). Meteorological parameters are updated every one or five minutes depending on the station, and agricultural parameters are updated every fifteen minutes. A quality controlled archive is also for both mesonet and SODAR data for post-event analysis. Real-time SODAR data with wind speed and direction data (up to 350-meters above ground level with 10-meter bin spacing) are available from the mesonet website every thirty minutes.

The WTM website (www.mesonet.ttu.edu) averages over 74,000 hits each day.

Beyond weather forecasting applications, the WTM plays an important role in various industries including agricultural, education, emergency management, energy, and transportation. Continued operation and even expansion of the WTM has the potential to save lives, enable more efficient water conservation, yield better planting, harvesting/spraying recommendations, aid in determining the potential output from renewable energy resources in the area and make immeasurable contributions to various research projects and operational meteorology. The WTM is a project making a difference for Texas Tech University and surrounding communities of eastern New Mexico and West Texas.

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