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The Present and Future Role for sUAS in Atmospheric Sciences

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The scientific community is beginning to see how our environment reacts to changes on an unprecedented time and space scale with the utilization of small Unmanned Aircraft Systems or sUAS. These new observation platforms can be utilized for flood forecasting, local weather forecasting, monitor wildlife, improve hurricane forecasts and this the tip of the iceberg. This technology is a new tool that will allow the scientific community to observe the environment on time and space scales that are unprecedented. This particular talk will primarily address the future of these observing platforms as it relates to advancing the atmospheric sciences. UAS's are rapidly becoming the new technology that can acquire low-level environment information more frequently, in support of higher-resolution model forecasts of severe thunderstorm and tornado potential, improvement in Environmental Model Prediction, provide environmental information to provide better support the spread of wildfires and smoke, as well as wildfire imagery for Incident Command and more complete/accurate storm damage surveys. One of the end goals would be to have a nationwide network of sUAS providing near-continuous observations of thermodynamic parameters, NDVI, surface sensible heat and wind speed and direction. Most of these observations are being done on a regular basis and some will be attainable in the future as technology progresses and National Airspace becomes more accessible.