Testimony of Bruce Lev, Vice Chairman, AirDat, LLC
March 28, 2012

Chairman Harris, Ranking Member, Mr. Miller and distinguished members of the Subcommittee on Energy and Environment of the House Committee on Science, Space and Technology. My name is Bruce Lev and I am Vice-Chairman of AirDat. I am deeply honored and grateful for the opportunity to appear before this Subcommittee to discuss the need to improve our country's weather forecasting capability.

Accurate and timely weather information can save lives, reduce injuries, and save the federal, state and local governments billions of dollars in costs associated with the misallocation of resources resulting from inaccurate or untimely weather forecasts.

The single most critical component of the forecasting process is the ability to collect a vast quantity of very accurate lower-atmospheric observations with high space-time resolution. Despite the numerous data collection systems deployed by NOAA, our country is still extremely under-sampled.

NOAA's forecast models are very sophisticated, but the success of even the most advanced forecasting system depends entirely on the quality and quantity of the observations used as input. Without accurate data from critical regions, even the most cutting-edge computer models and the most talented forecasters can be significantly limited in their ability to provide a reliable forecast.

AirDat addresses this observational space-time deficiency by deploying an atmospheric observing system called TAMDAR (Tropospheric Airborne Meteorological Data Reporting).

The TAMDAR system delivers unique real-time high-resolution meteorological data for improved analysis and weather forecasting. The TAMDAR system is comprised of a multi-function sensor, which has been installed on several hundred commercial aircraft, real-time global SATCOM, which provides aircraft tracking, and computer processing, which rapidly extracts knowledge from extremely large data sets. TAMDAR was developed in collaboration with NOAA, NASA and the FAA, and augments the National Weather Service's balloon program.

The limited number of balloon sites in the US (69), which only launch twice daily, produces an average geographical data void of approximately 46,000 square miles, and a temporal void of 12 hours. This space-time observational data gap can result in inaccurate and untimely forecasts.

Despite advancements in satellite technology, remotely sensed satellite profiles have limited value in high-resolution numerical weather prediction compared to aircraft or balloon data.

In a four-year FAA funded study, TAMDAR has been fully vetted by NOAA, and exceeds all of NOAA's rigorous quality assurance standards. TAMDAR data are as accurate as balloon data, and the study has demonstrated those data significantly improve weather forecasting. The volume of TAMDAR data is 40 times greater than the weather balloons at less than 1/10th of the cost per sounding.

Mr. Chairman, Our TAMDAR system has been fully operational since 2005, and stands immediately ready to help NOAA improve its weather forecasting.

Respectfully, I would request the right to submit a more detailed statement for the record. Thank you.