

(Reference Item: Experimentation Description)

This application is for a wind profiling radar system. This system was developed in a cooperative research and development agreement between the National Oceanic and Atmospheric Administration (NOAA) and the wind profiler business unit of Vaisala Inc. Wind profiling radar depends on the scattering of a transmitted signal by irregularities in the index of refraction of the air. The irregularities are caused by turbulent eddies created by the wind. By receiving the scattered signal and determining the Doppler frequency, the speed of the wind can be determined. The hardware involved will be a receiver/modulator, a final amp/preamp, a digital control and data processor, and an antenna system. These items were developed at NOAA and fabricated by Vaisala Inc. Data from the profiler under this license will provide hourly and sub-hourly profiles of low level wind between 100m and 5,000m.

The system to be owned and operated by Sonoma Technology, Inc. under this request will collect wind profiles of the atmosphere above Bena Landfill (35.346915°N, 118.757995°W) for the University of California (UCD). The purpose of the study is to provide upper-air meteorological data in the Tehachapi region of Southern California to support meteorological modeling and forecasting. These data will also be saved into the meteorological information database and used as input into future event prediction models.